

3. Hardware Installation

3.1 Common Item of Installation and De-Installation

3.1.1 How to open/close the cover

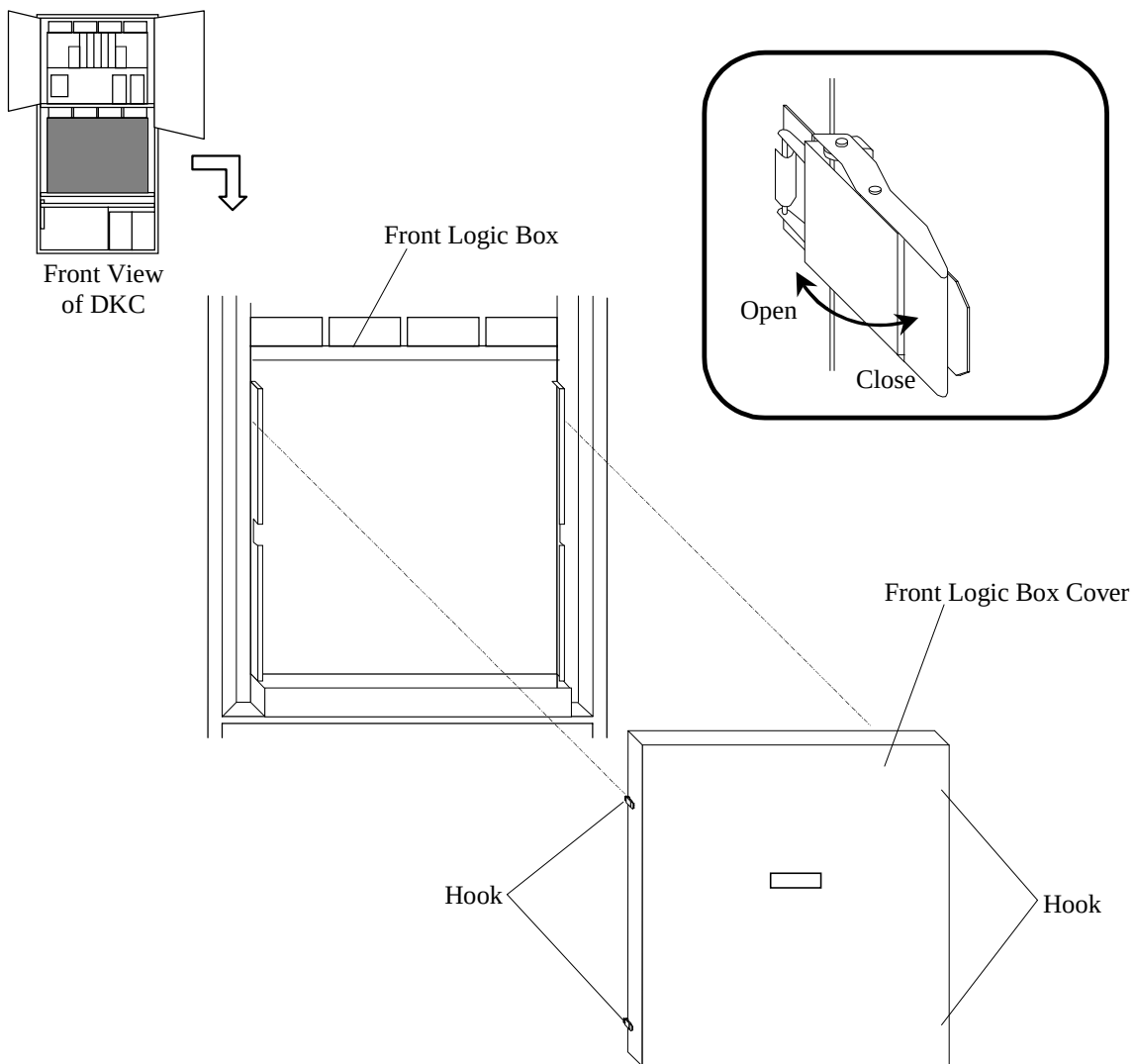
1. Front Logic Box Cover

Attachment

- a. Attach the Front Logic Box Cover to the Frame.
- b. Close the four hooks.

Removal

- a. Open the four hooks.
- b. Remove the Front Logic Box Cover from the Frame.



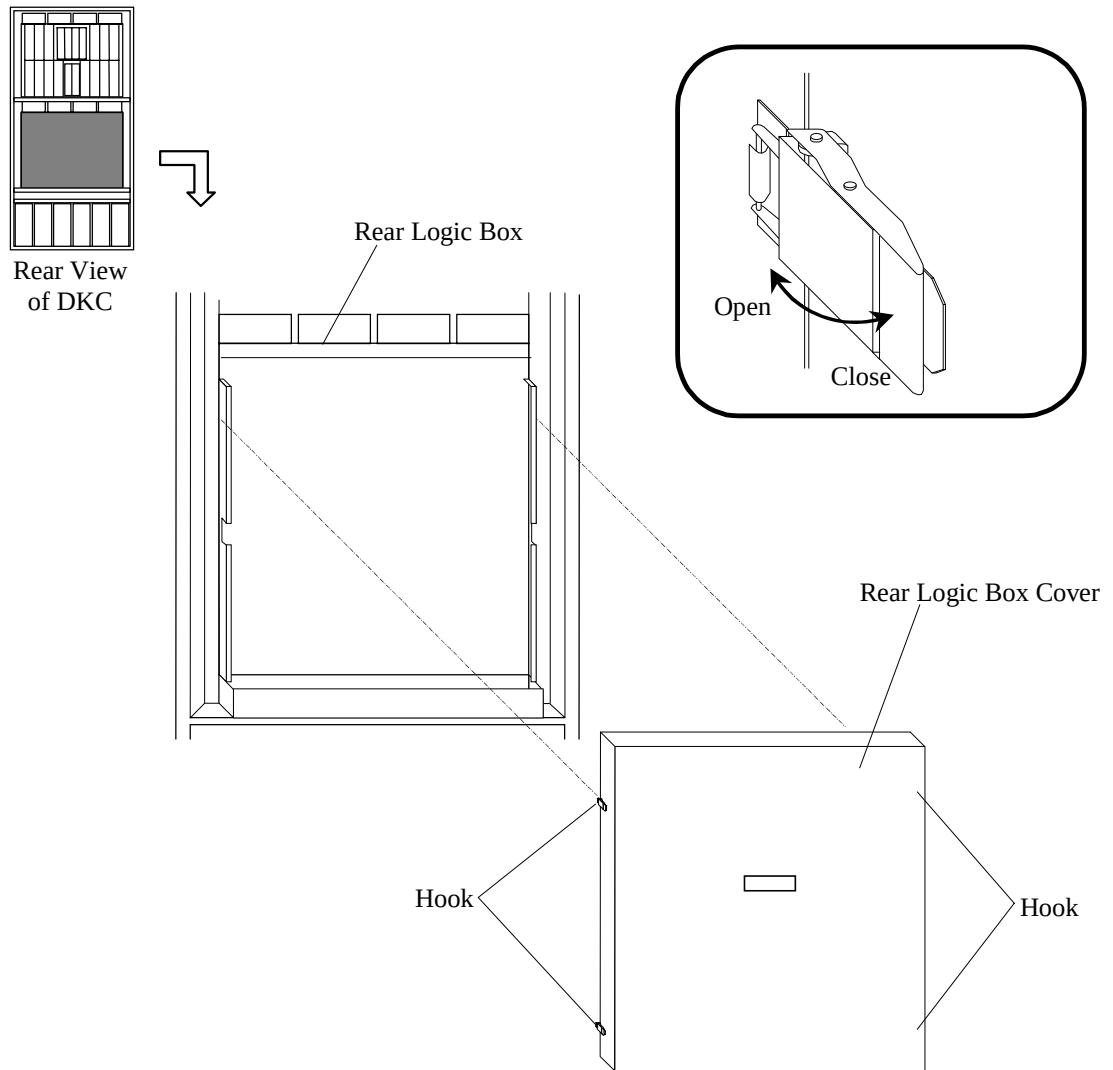
2. Rear Logic Box Cover

Attachment

- a. Attach the Rear Logic Box Cover to the Frame.
- b. Close the four hooks.

Removal

- a. Open the four hooks.
- b. Remove the Rear Logic Box Cover from the Frame.



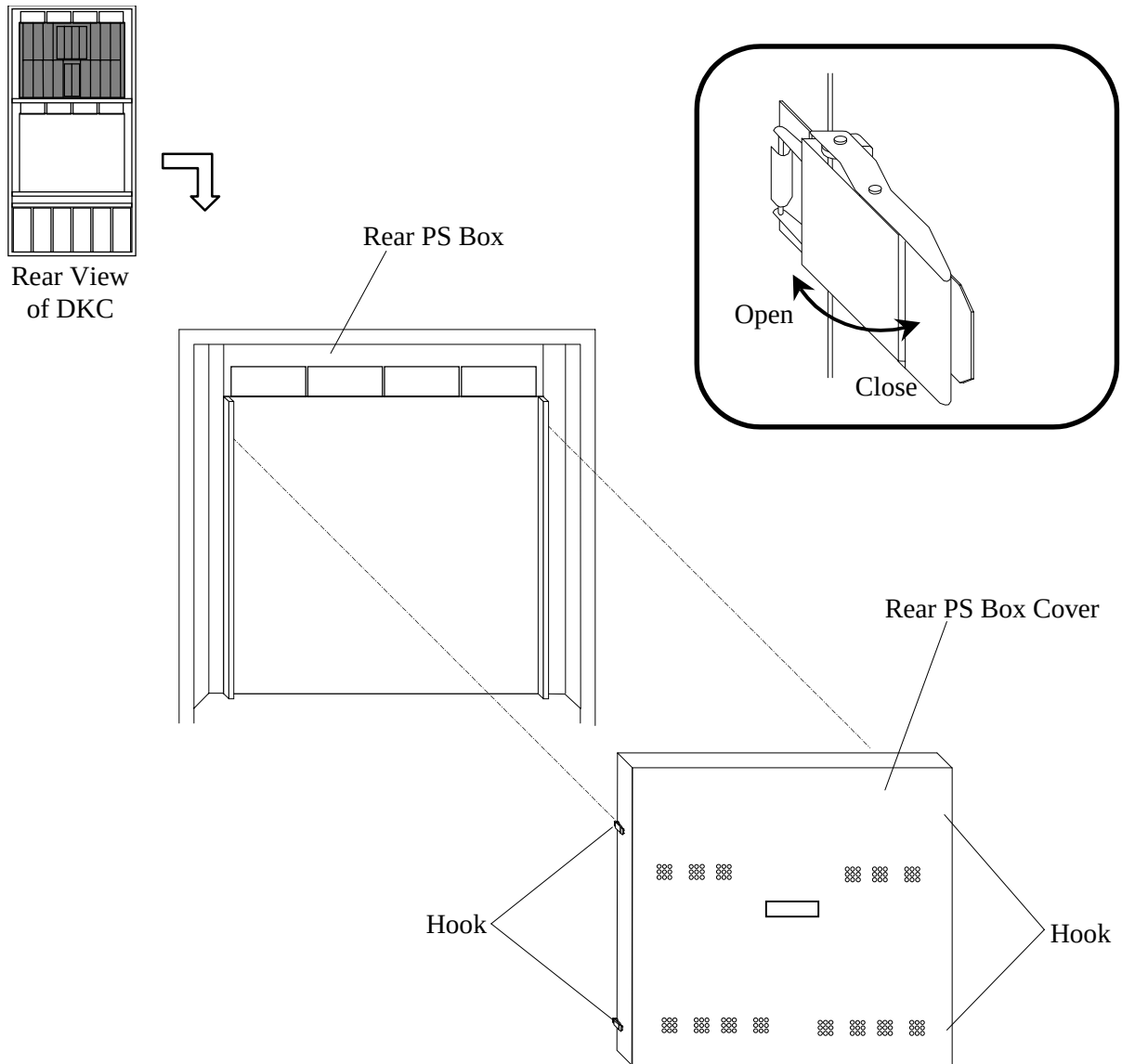
3. Rear PS Box Cover

Attachment

- a. Attach the Rear PS Box Cover to the Frame.
- b. Close the four hooks.

Removal

- a. Open the four hooks.
- b. Remove the Rear PS Box Cover from the Frame.



3.1.2 Attaching the Wrist Strap

- (1) To protect the IC and LSI on the PCB from static electricity damage, put on the wrist straps and connect them into the ground wires on the DKU and connect them into the ground wires on the DKC before starting work (see Fig. 3.1.2-1 and 3.1.2-2).

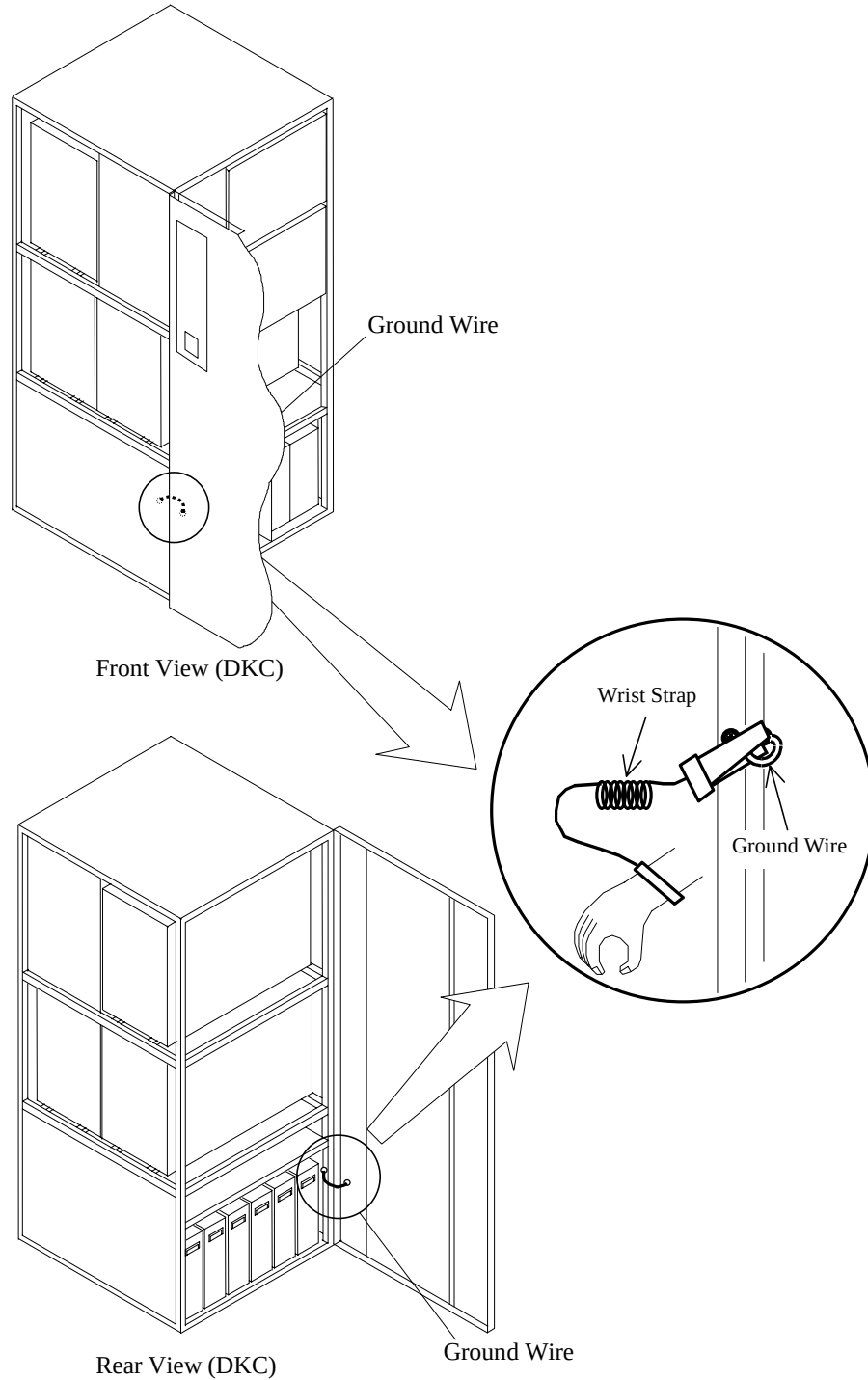


Fig. 3.1.2-1 Location of Ground Wire on the DKC

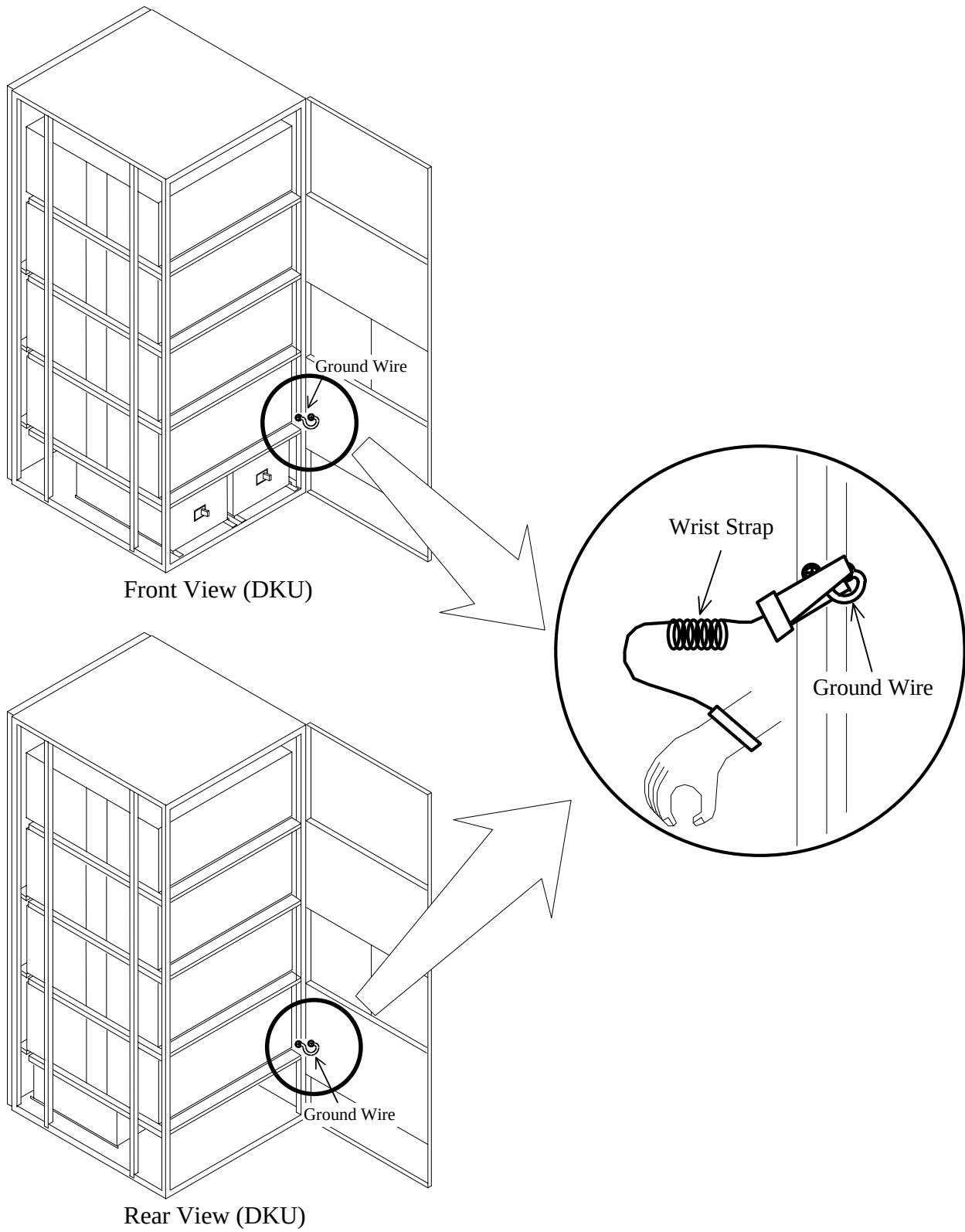


Fig. 3.1.2-2 Location of Ground Wire on the DKU

3.2 UNPACKING AND INSPECTION

Receiving and Inspection

Before unpacking the unit, check the physical condition of the packed unit.

1. Prior to unpacking, check the container for visible damage or any indication of excessive shock, tilt or anything else abnormal during transportation and handling.
2. Obtain and check shipping manifest for missing units.
3. If anything abnormal is found, appropriate action should be taken before starting an installation.

Unpacking Procedure

NOTICE:

- Be very careful when handling the equipment.
- Do not drop the equipment from a height more than 5 mm (0.2in.) high.
- Floor unevenness must be less than 10 mm (0.4in.). Move slowly and lift the four screw jacks at the bottom of each frame to the highest position to prevent contact with the ramp.

3.2.1 Unpacking

3.2.1.1 Disk Controller (DKC460I)

1. Card board crate overview is shown in Fig. 3.2.1.1-1.
2. Cut the polyester bands.
3. Remove the nails.

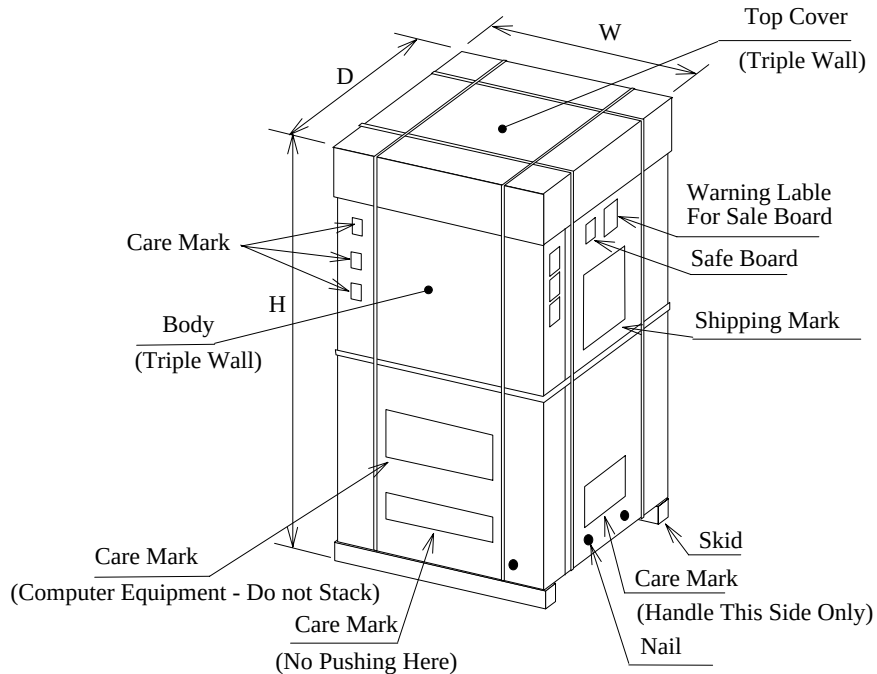


Fig. 3.2.1.1-1 Card Board Crate Overview

4. Remove Top Cover and Side Covers.

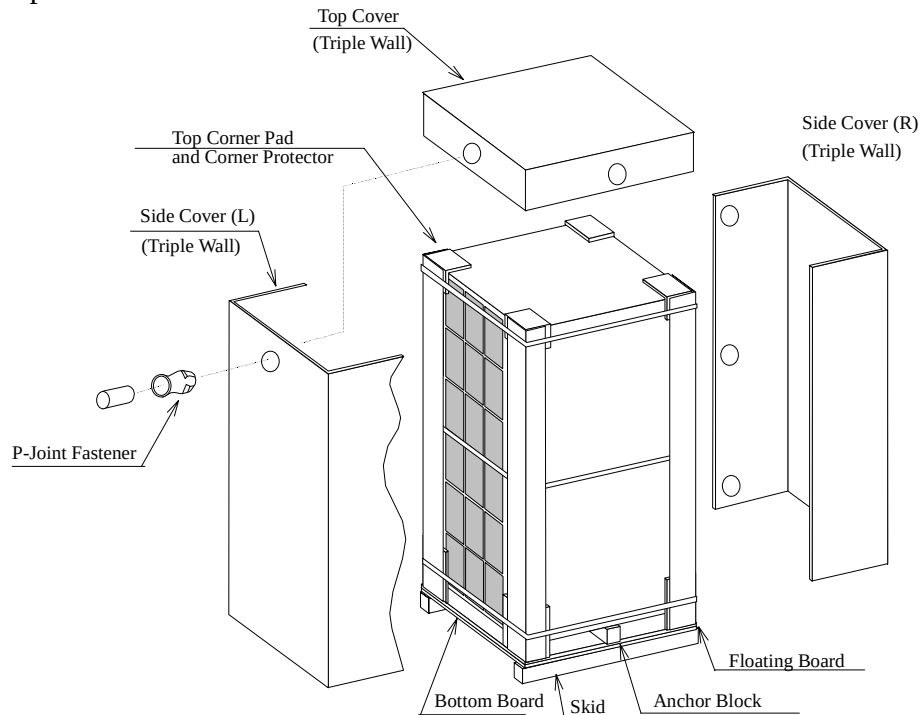


Fig. 3.2.1.1-2 Breakdown of CARD BOARD Crate

5. Take the equipment down from FLOATER by lifting the equipment with forklift a minimum amount needed to remove the FLOATER/DECK/SKID assembly.
6. Gently lower the equipment onto floor.
7. Remove adhesive tape and corner protectors.

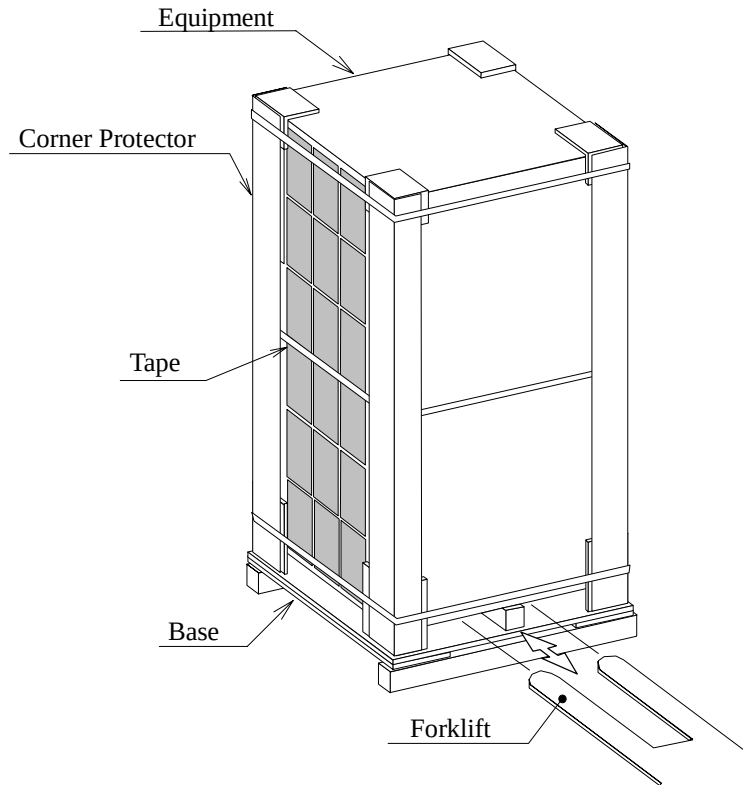


Fig. 3.2.1.1-3 Lift of Equipment

8. Remove the polyethylene bag and adhesive tape.

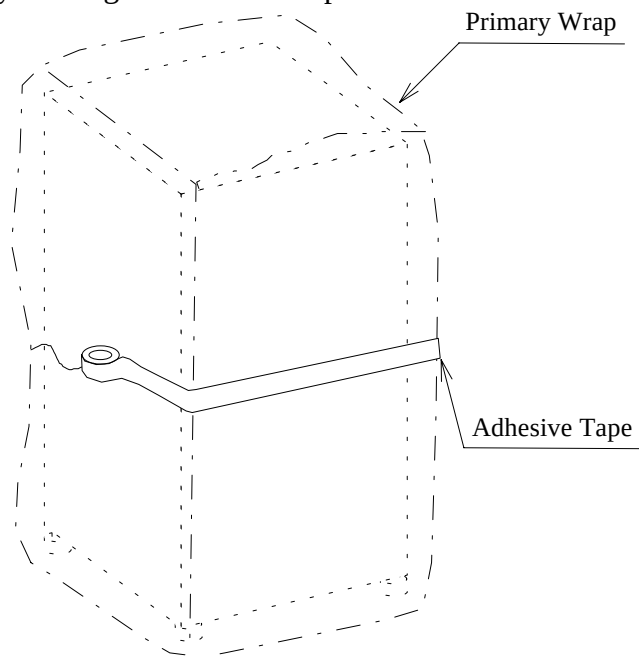


Fig. 3.2.1.1-4 Removal of Wrap Material

9. Remove the band.
10. Remove the adhesive tape and cushions from Operator Panel Cover.

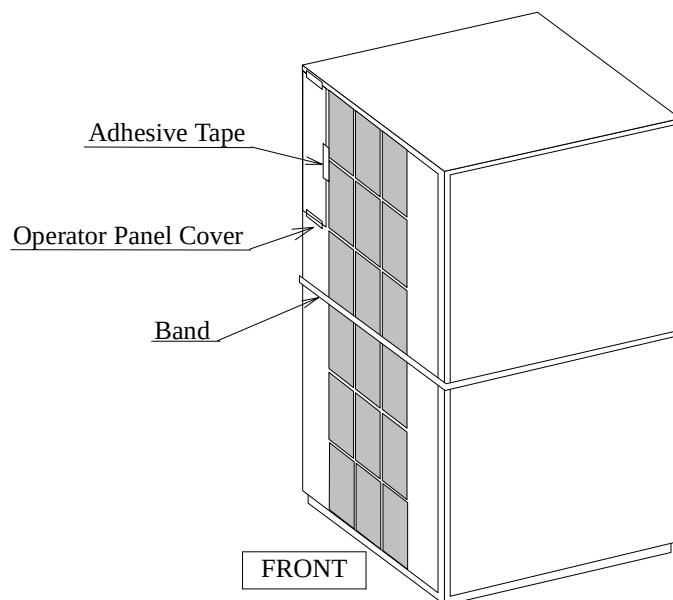


Fig. 3.2.1.1-5 Surface Unpacking

11. Open the front and rear door, remove the shipping cushions and tapes from the container.
12. Visually check the unit for any damage.

3.2.1.2 Disk Unit (DKU455I)

1. The container overview is shown in Fig. 3.2.1.2-1.
2. Cut the polyester bands.
3. Remove the nails and washers on the lower part of the crate.
4. The container breakdown is shown in Fig. 3.2.1.2-2
5. Unfasten P-JOINT Fasteners.
6. Remove the cap by lifting.
7. Remove the sleeves.
8. Cut polypropylene tapes.
9. Remove the corner protectors.
10. Break the seal of polyethylene bag and open it.
11. Take the unit down from the FLOATER by lifting the unit with forklift a minimum amount needed to remove FLOATER/DECK/SKID assembly.
12. Gently lower the equipment onto floor.
13. Remove adhesive tape and cushions from the unit.
14. Visually check the unit for any damage.

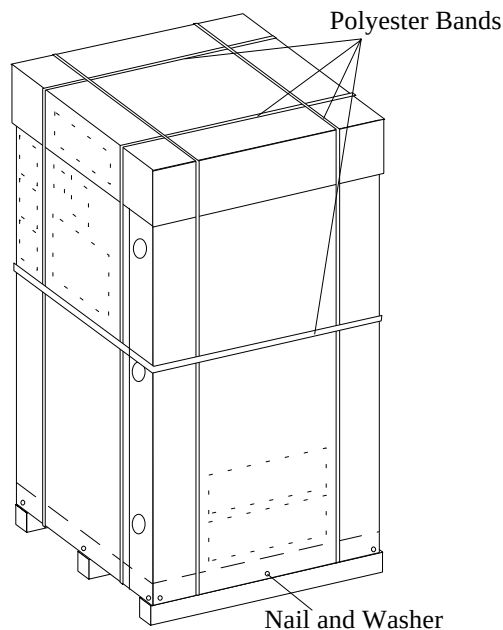


Fig. 3.2.1.2-1 Container Overview

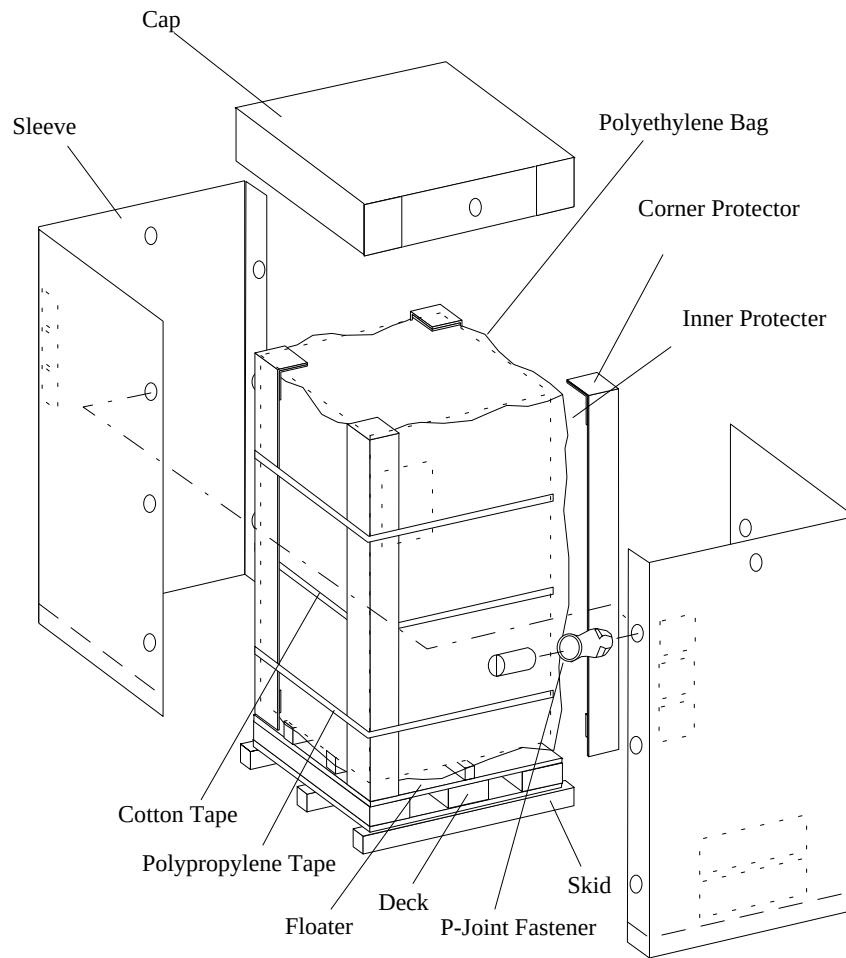


Fig. 3.2.1.2-2 Breakdown of Container

3.2.2 Inspection of Packaged Parts and Accessories

1. Match the unpacked parts against the parts lists in Tables 3.2.2-1 and 3.2.2-2 to verify that all parts are supplied.

DKC460I

Table 3.2.2-1 List of Packaged Parts and Accessories (Disk Controller)
(Basic)

No.	Name of parts	Parts number	Quantity/Unit	Remarks
1	Disk Controller	-----	1	
2	Kick Plate (Side)	3263389-2	2	
3	Kick Plate (F/R)	3263388-2	2	
4	Screw (Black)	5411531-2	4	
5	Side Cover	3263280-A	1	
6	Screw (M5×36)	SB536N	6	
7	LL-Washer	5513553-532	6	

DKU455I

Table 3.2.2-2 List of Packaged Parts and Accessories (Disk Unit)

No.	Name of parts	Parts number	Quantity/Unit	Remarks
1	Disk Unit	-----	1	
2	Kick Plate	3263388-2	2	Note 1
3	Connecting Bolt Assy	5437962-A	4	
4	Screw (Black)	5409006-1	7	
5	Connecting Screw Assy	5487372-A	2	
6	Conductive Sheet	5510501-1	10	
7	LABEL (V/HZ/PH.)	2103307-1	1	

Note 1: This is packed with drive unit.

3.3 Basic Subsystem Installation

See SECTION 3.4 INSTALLATION OF DISK UNIT (DKU455I-18) when there are two or more Disk Units. [\[INST03-DKU-10\]](#)

3.3.1 Flowchart

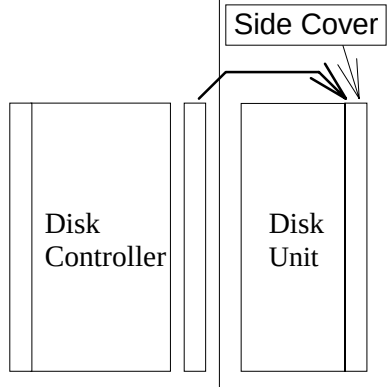
(1) Cabinet Setting	[INST03-SUB-10]
↓	
(2) Frame Connection	[INST03-SUB-90]
↓	
(3) Installation of Switches and Jumper Plugs	[INST03-SUB-130]
↓	
(4) Cabling	[INST03-SUB-170]
↓	
(5) Labeling	[INST03-SUB-240]
↓	
(6) Check of Jumper Settings	[INST03-SUB-240]

3.3.2 Cabinet Setting

- Refer to Table 3.3.2-1 when laying out the DKU-R1 with respect to the DKC and relocating the side cover.

- Place the Disk Controller and Disk Unit in the required position.

Table 3.3.2-1 Removal and Re-installation of Side Cover

Configuration	DKC	DKU-R1
Disk Controller (DKC460I) and Disk Unit (DKU455I-18)		

2. Open the front and rear doors on the DKC and the DKU.
3. Remove the screws for transporting the movable rack, and then fasten the screws.

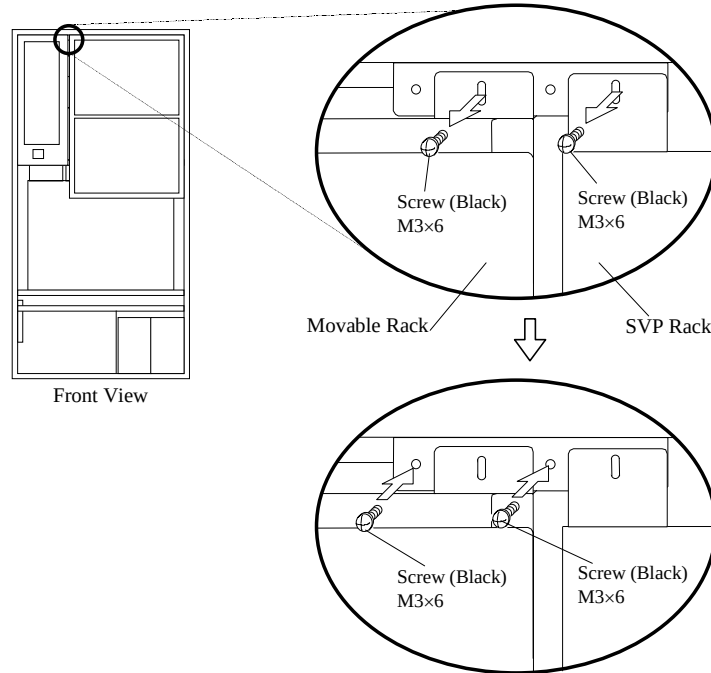


Fig. 3.3.2-1 Removal of Screw for Transporting the Movable Rack

- 3A. Loosen the screws fastening the SVP stopper, slide the stopper toward the left, and tighten the screws again. When no SVP is to be added, it is not required to shift the stopper.

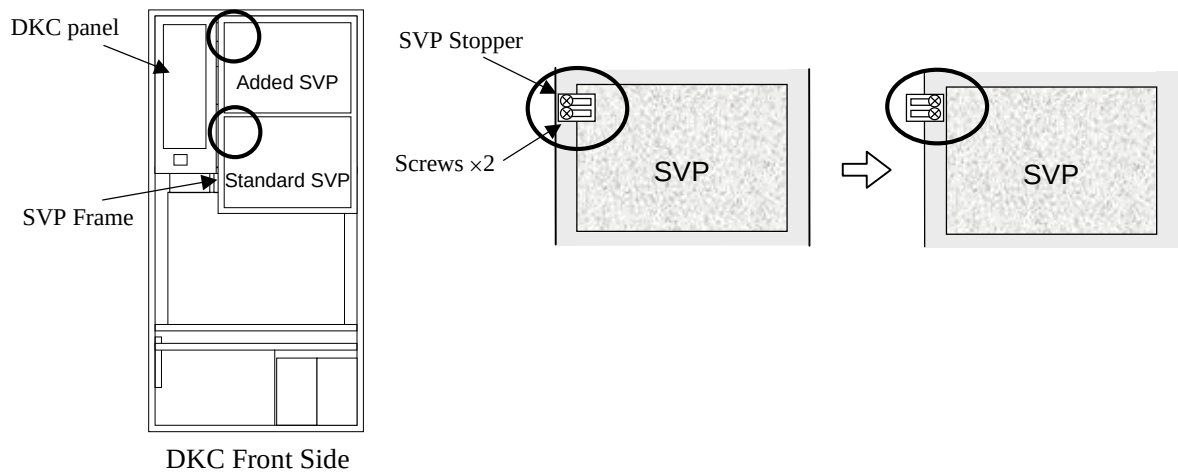


Fig. 3.3.2-1A Shifting SVP Stopper

3B. Remove the screws fastening the SVP frame.

In the case of the SVP frame type 1

- (1) Open the DKC panel.
- (2) Remove the screws fastening the SVP frame.

In the case of the SVP frame type 2

- (1) Open the SVP ASSY.
- (2) Remove the screws fastening the SVP frame.
- (3) Close the SVP ASSY.

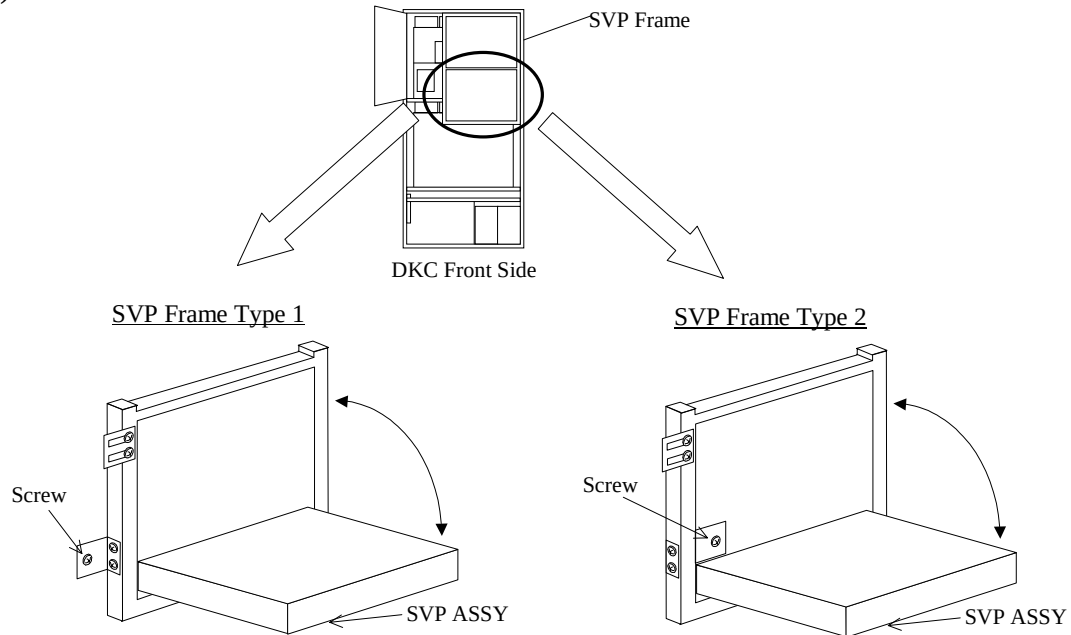


Fig. 3.3.2-1B Removal of Screws Fastening SVP Frame

4. Loosen the repeat binders which secure the DEV interface cables and the AC power cables for the DKC.

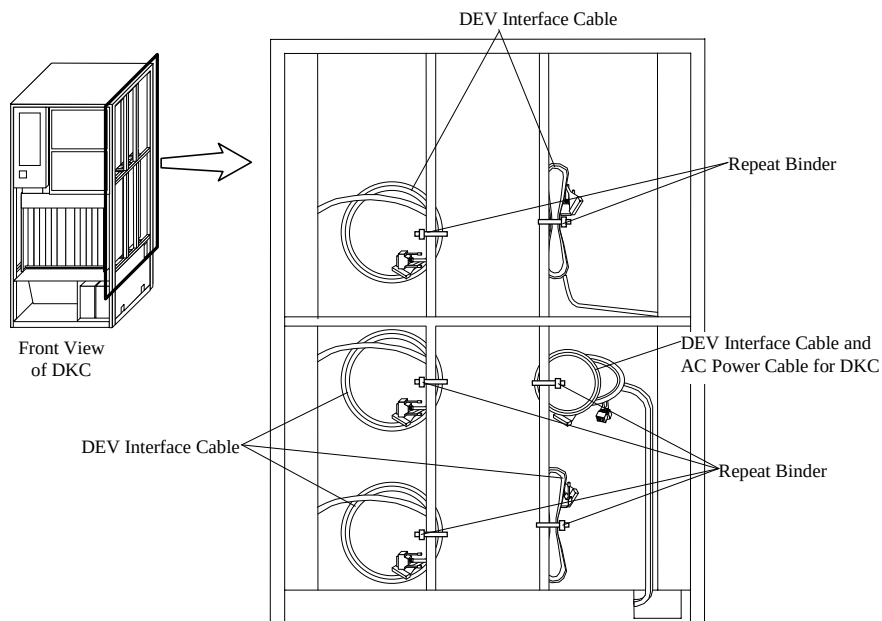


Fig. 3.3.2-2 Removal of Cables

5. Loosen the screws and remove the cable covers.

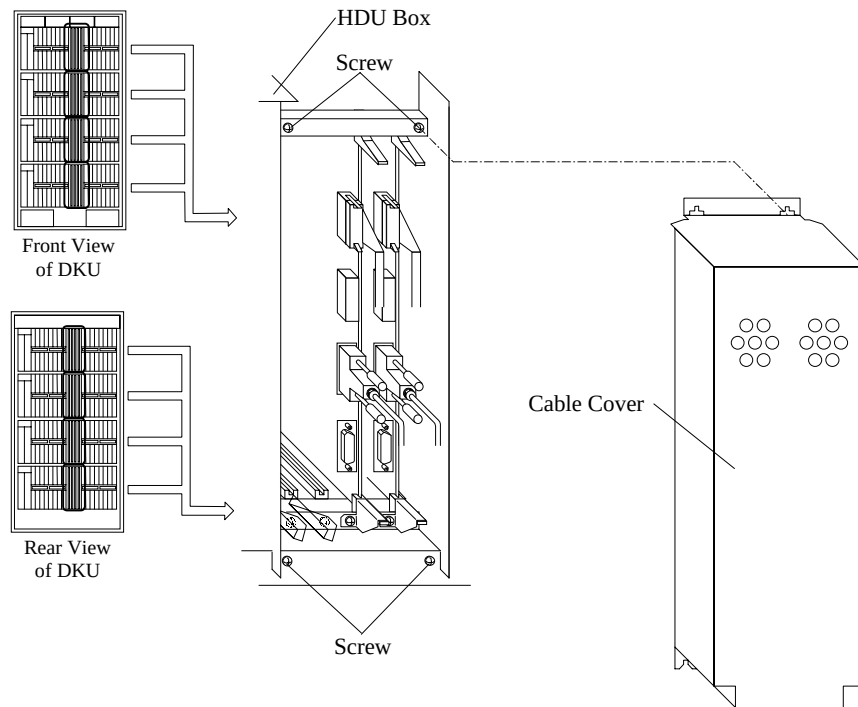


Fig. 3.3.2-3 Removal of Cable Covers

6. Loosen the screws and remove the cable covers.

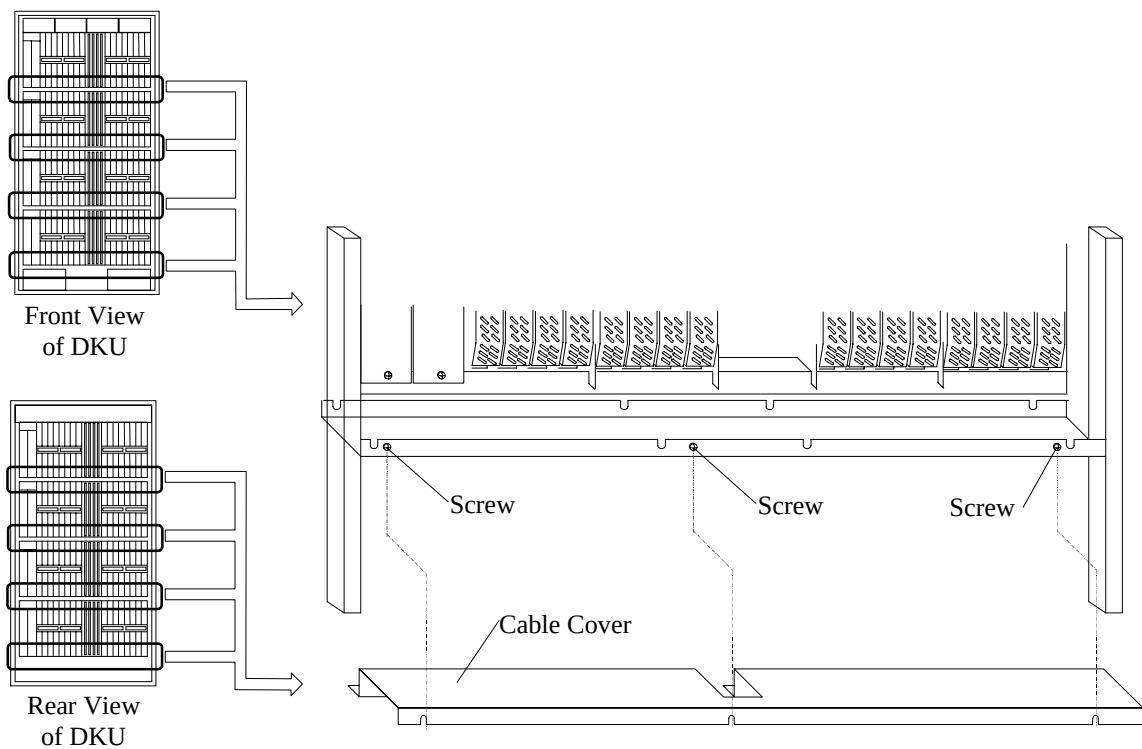


Fig. 3.3.2-4 Removal of Cable Covers

7. Pass the DEV interface cables and the AC power cables for the DKC through the DKU-R1 frame. Refer to Fig. 3.3.2-5. Be extremely careful not to pinch the inter-frame cable when coupling the frames to each other.

Note: For Locations of FSW PCBs and DEV interface cables, refer to the labels inside the DKU doors.

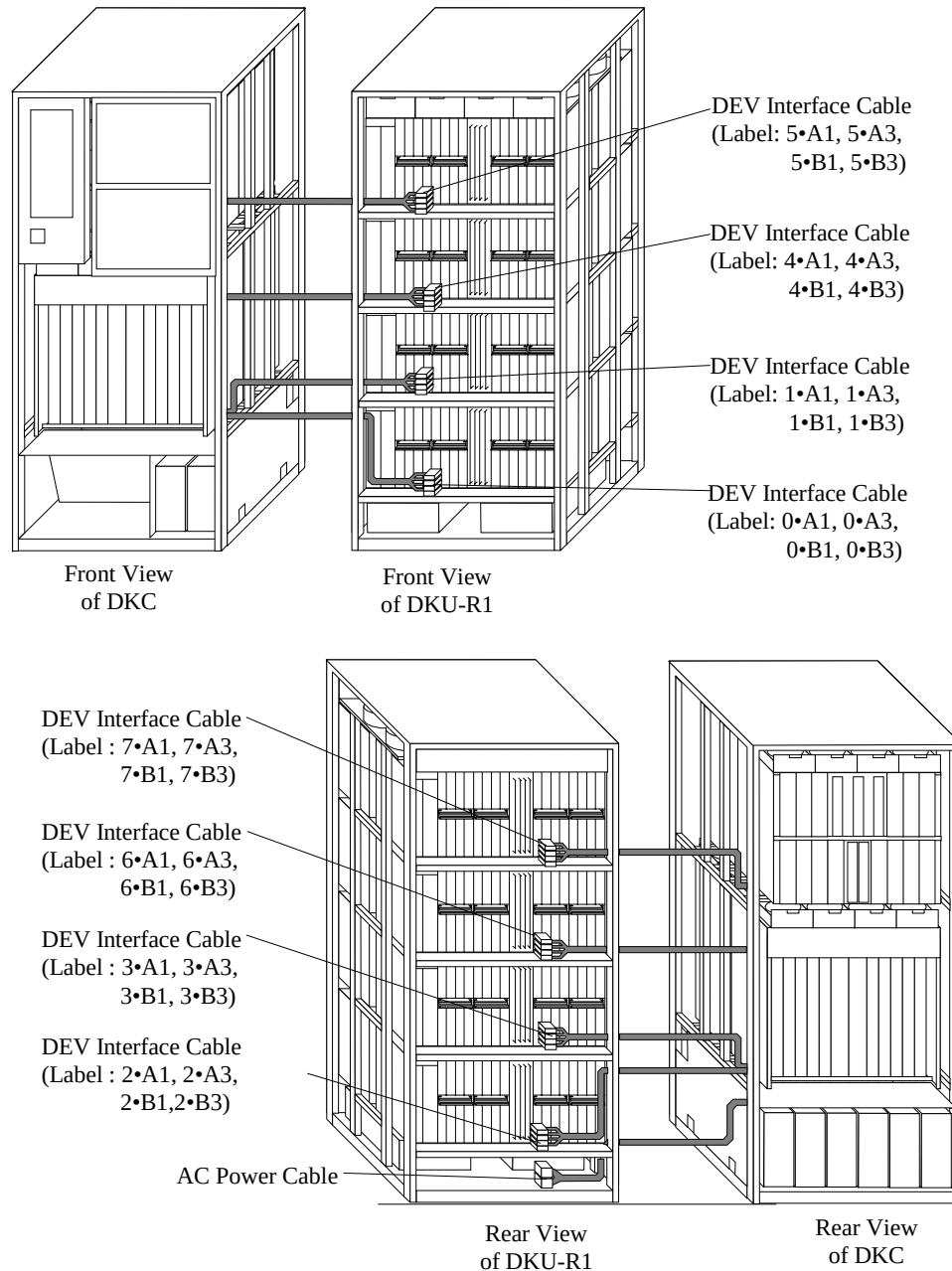
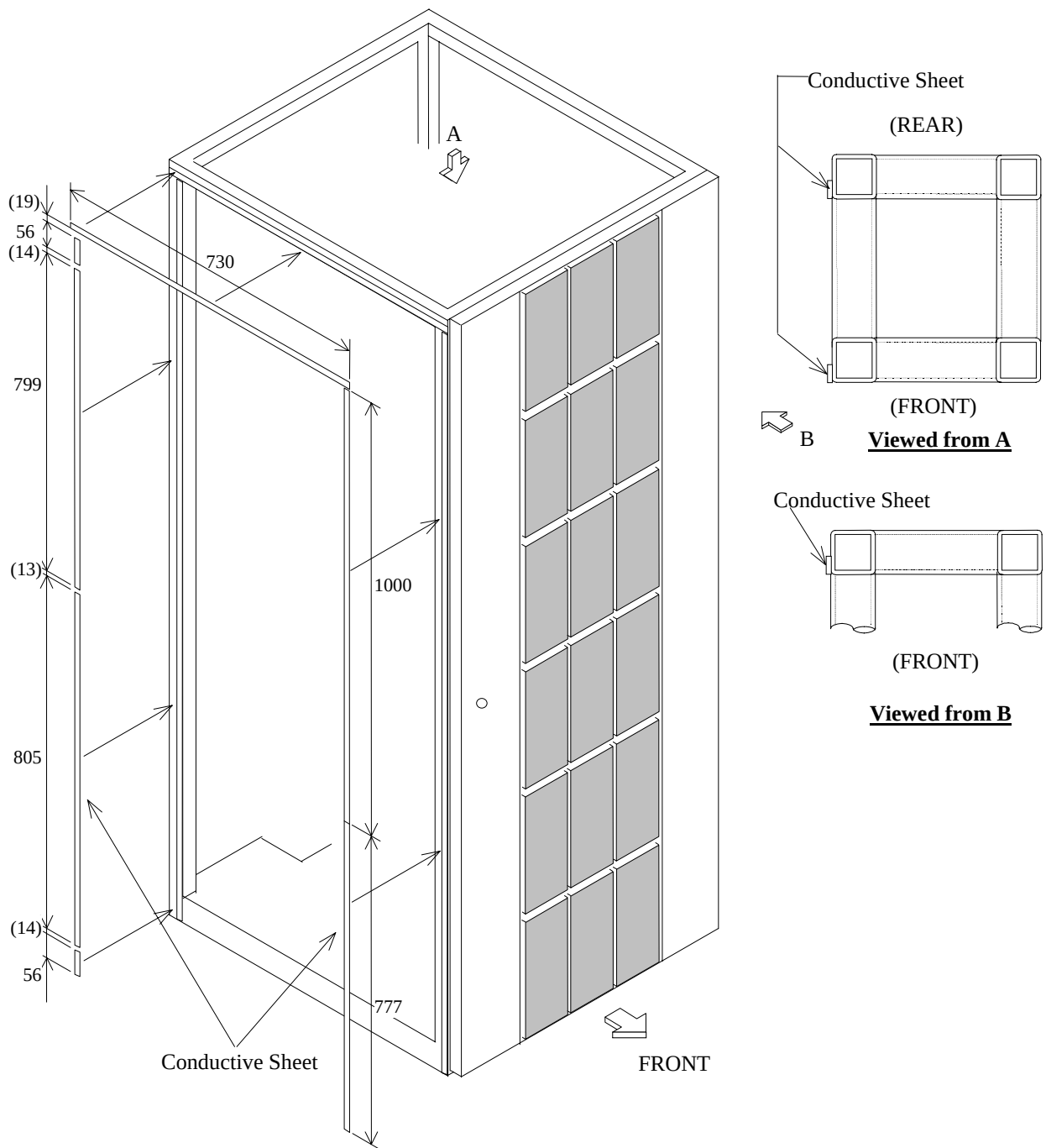


Fig. 3.3.2-5 Attachment of Cables

8. Attach the conductiove sheets to the DKU frame referring to Fig. 3.3.2-6 and Fig. 3.3.2-7.



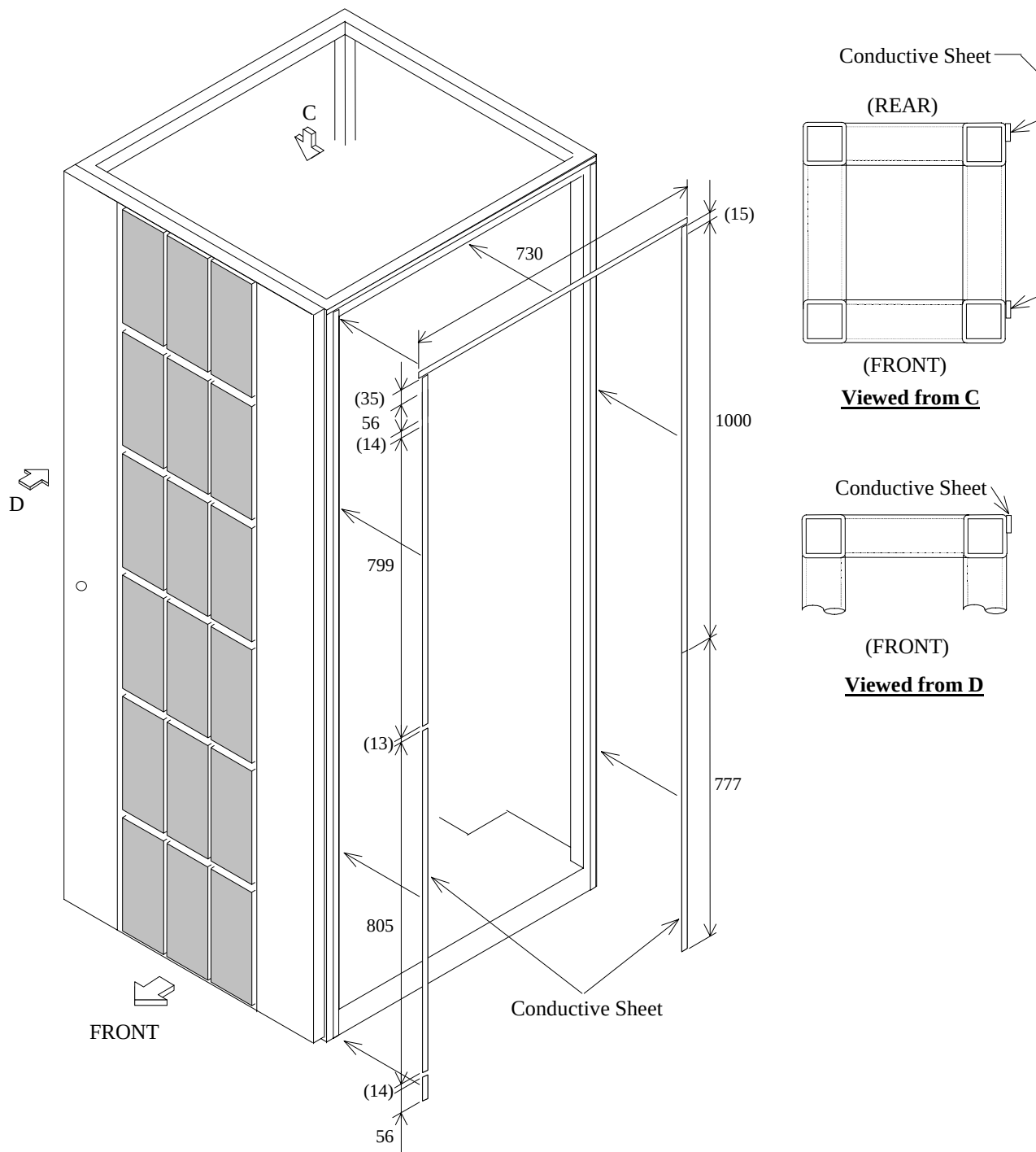


Fig. 3.3.2-7 Attachment of Conductive Sheets

CAUTION

Prevention of tumble and screw jack damage.

When adjusting the height of the device, 4 screw jacks must be turned with 1/4 turns for each alternately.

Prevention of screw jack damage.

When the screw jacks are turned, put oil into the screw jacks.

9. Lower the screw jacks until caster is 2.5mm (0.1in.) from the floor before connecting frames.
10. Level the device as shown Fig. 3.3.2-8b.

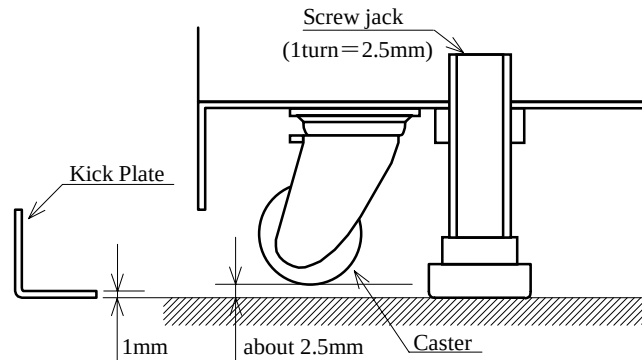


Fig. 3.3.2-8a Gap between Caster and Floor

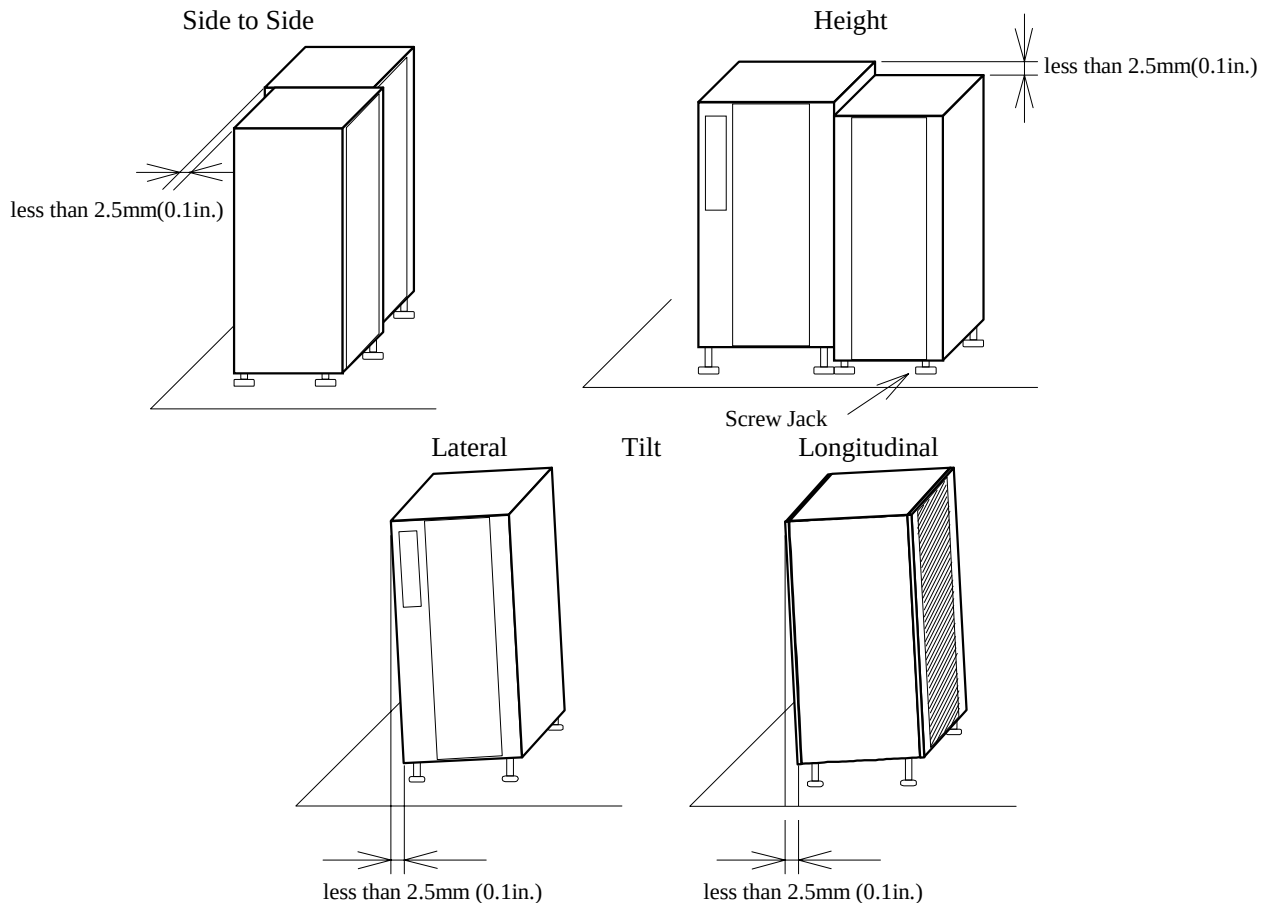


Fig. 3.3.2-8b Unit Layout, Height, and Tilt

11. Fix the DEV interface cable with clamp.

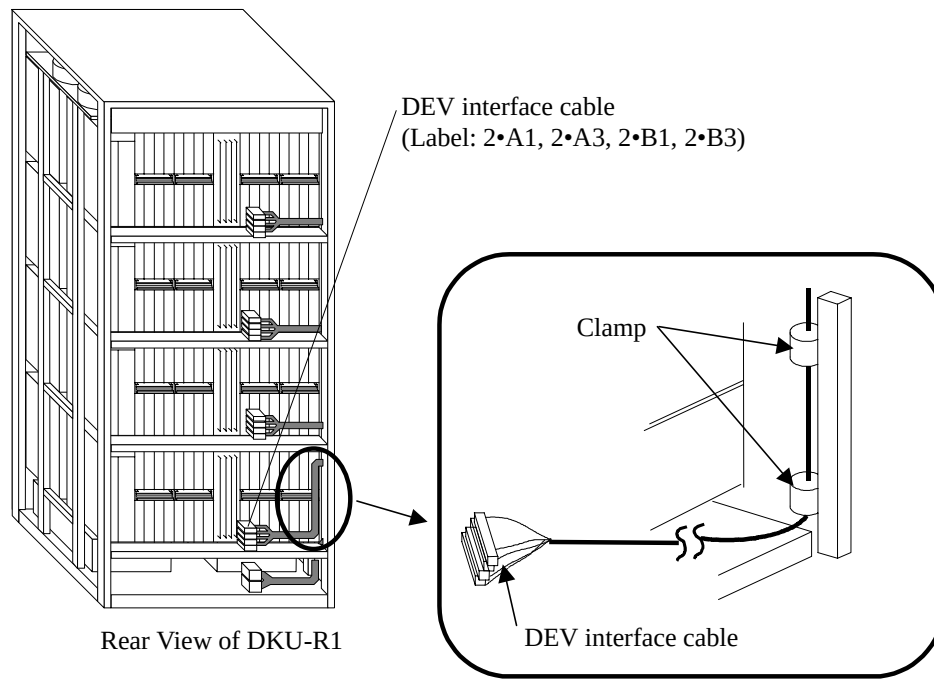


Fig. 3.3.2-9 Fixation of DEV interface cable

12. Remove the Front Logic Box cover from the DKC. (Refer to [INST03-COM-10.](#))
 13. Remove the two screws and open the Cable Cover.

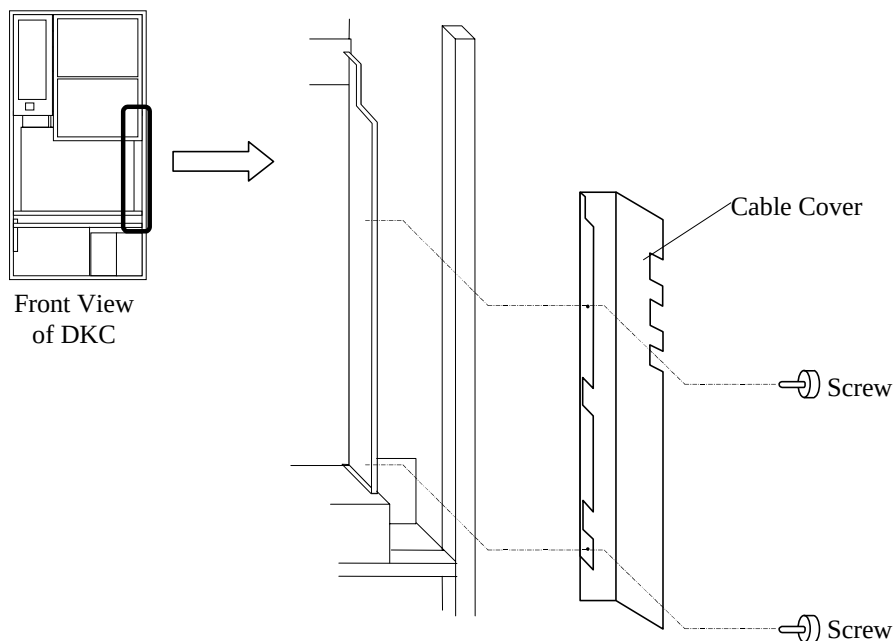


Fig. 3.3.2-10 How to open the Cover (DKC front side)

14. Remove the Rear Logic Box cover. (Refer to [INST03-COM-20.](#))

3.3.3 Frame Connection

3.3.3.1 Frame Connection

Connect the devices together using six of connecting bolt assemblies, three in front and three in rear. See Fig. 3.3.3.1-1.

The direction of hexagon socket head bolts, binding screws and connecting nuts must be the same as shown in the figure.

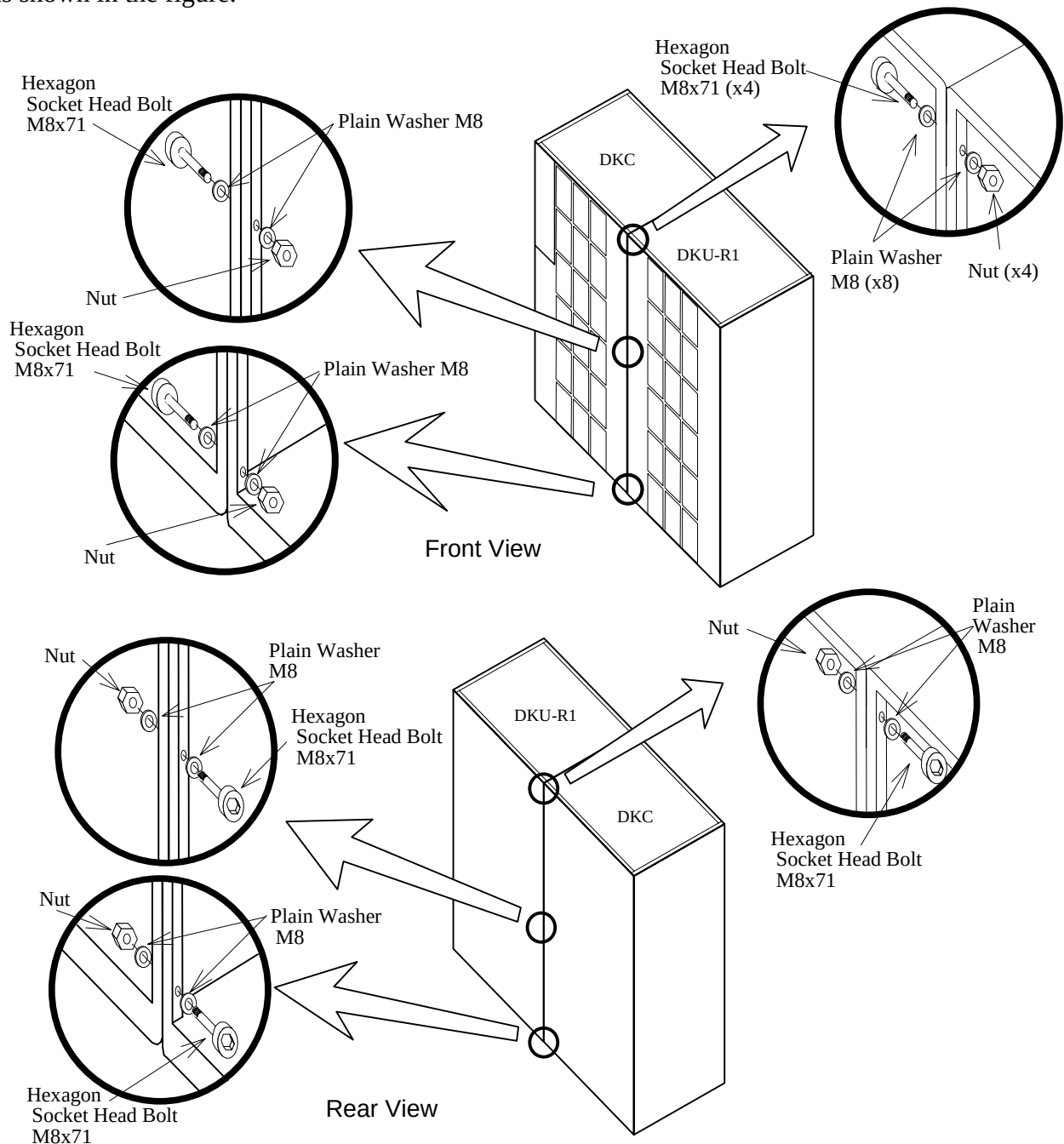
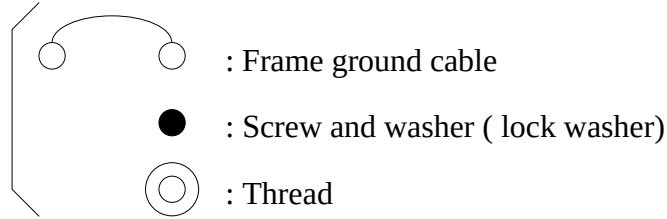


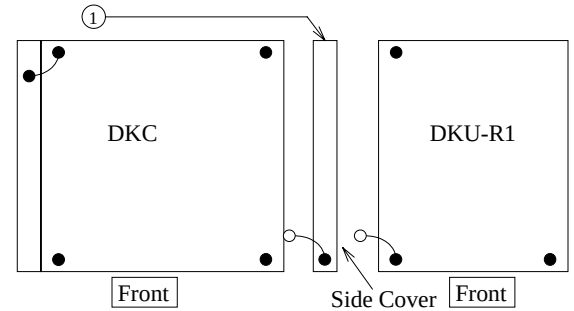
Fig. 3.3.3.1-1 Frame Connection

3.3.3.2 Frame Ground Cable Attachment

Note



1. Remove the right side cover of the DKC.
2. Connect the cabinets.



3. Attach the side cover to the DKU. Refer to SECTION 3.3.3.3 Side Cover Re-installation.
4. Attach the frame ground cable with the screw and lock washer.
5. Attach the front and rear logic box covers to the DKC in the reverse order of SECTION 3.3.2 item 12 through 14 [[INST03-SUB-80](#)].

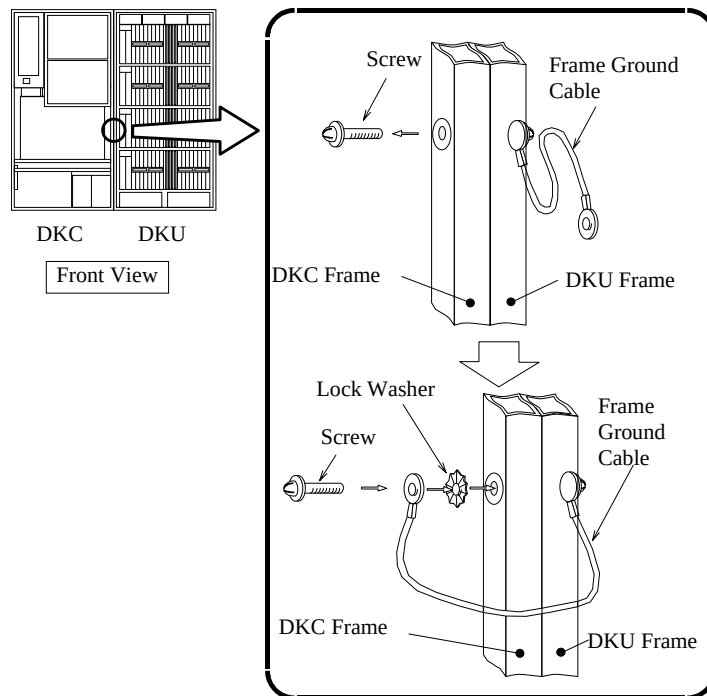
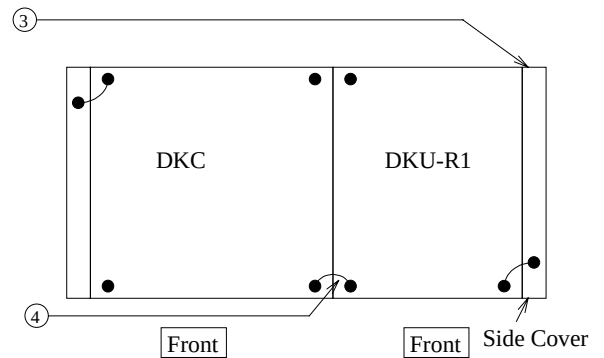


Fig. 3.3.3.2-1 Attachment of Frame Ground Cable

3.3.3.3 Side Cover Re-installation

Attach the side cover to the end of the string with the four binding screws and washers.

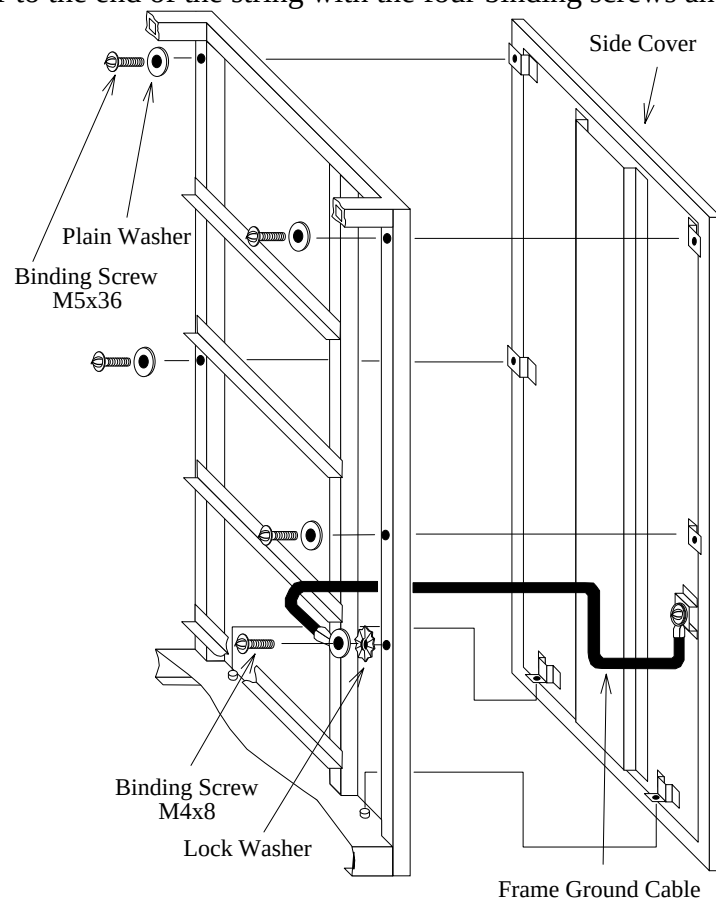


Fig. 3.3.3.3-1 Re-installation of Side Cover

3.3.3.4 Installation of Kick Plate

Attach the kick plates with the binding screws.

NOTICE:

Contact the kick plate to the floor to prevent static electricity.

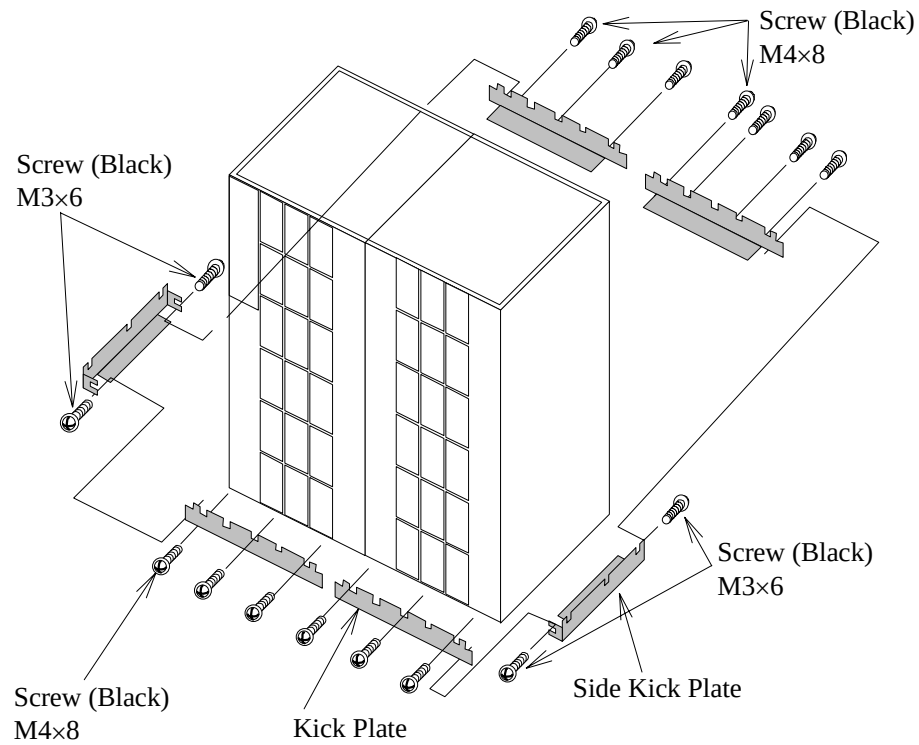


Fig. 3.3.3.4-1 Installation of Kick Plate

3.3.4 Installation of Switches and Jumper Plugs

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3.3.4.1 Installation of Jumper Plugs in MPS

CAUTION

A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

Install the jumper plugs in the MPS as indicated in the Fig. 3.3.4.1-1, Table 3.3.4.1-1 and Table 3.3.4.1-2.

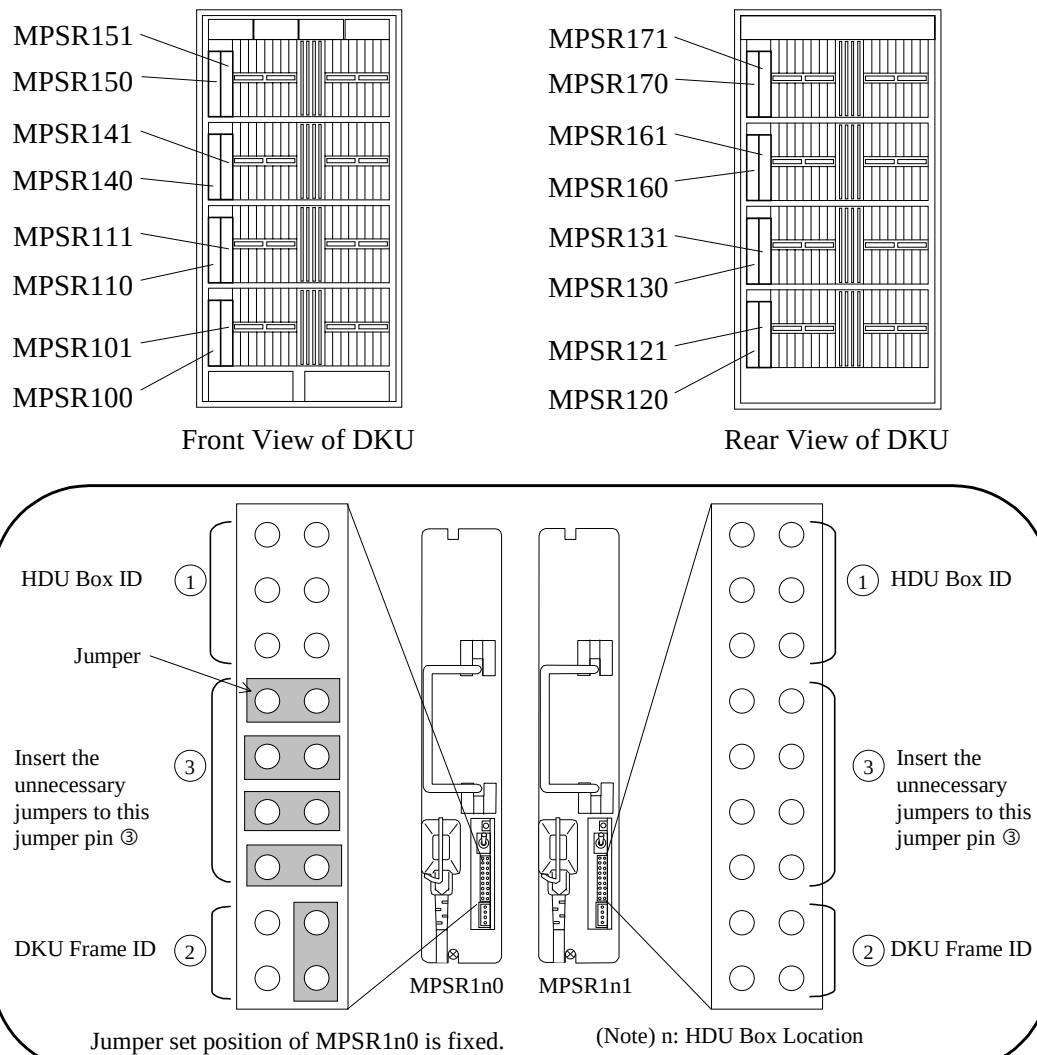
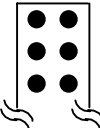
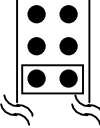
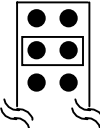
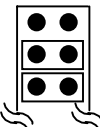
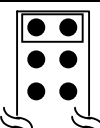
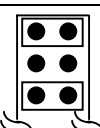
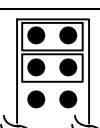
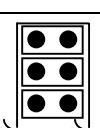


Fig. 3.3.4.1-1 Installation of Jumper Plugs in MPS

Table 3.3.4.1-1 Specification of HDU Box ID

Setting	MPS Location	HDU BOX Location	Jumper Setting
Specification of HDU Box ID (①) (Switch settings corresponding to ① in Fig. 3.3.4.1-1)	MPSR101	HDU-R10	
	MPSR111	HDU-R11	
	MPSR121	HDU-R12	
	MPSR131	HDU-R13	
	MPSR141	HDU-R14	
	MPSR151	HDU-R15	
	MPSR161	HDU-R16	
	MPSR171	HDU-R17	

(Note) Insert the unnecessary jumpers to this jumper pin ③.

Table 3.3.4.1-2 Specification of DKU Frame ID

Setting	MPS Location	DKU Location	Jumper Setting
Specification of DKU Frame ID (②) (Switch settings corresponding to ② in Fig. 3.3.4.1-1)	MPSR1#1	R1 DKU	

(Note) #: HDU BOX Location (0, 1, 2, ..., 7)

3.3.4.2 Installation of Switch in JMP PCB

! CAUTION

A serious failure occurs if a wrong setting is made.

Operate very carefully referring to the setting table not to make a mistake in the setting.

Set the switch in the JMP PCB as indicated in the Fig. 3.3.4.2-1 and Table 3.3.4.2-1.

Switch settings must be made at 32 places in total per frame, that is, at 16 places in the front side and at 16 places in the rear side.

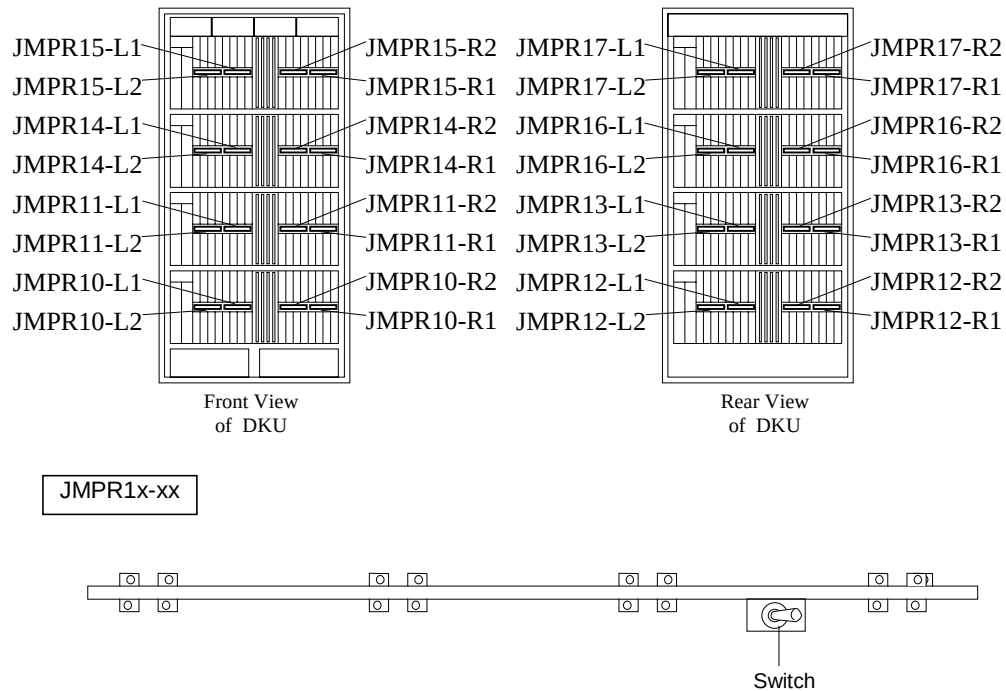


Fig. 3.3.4.2-1 Switch Setting of JMP

Table 3.3.4.2-1 Switch Setting of the JMP PCB

Setting	Function Name	Location	Switch Setting
Specification of DKU Frame ID	JMPR1#-xx	DKU-R1	Set all switches to the right side position in the DKU-R1. →Right 

(Note) JMPR1#-xx

→JMP Location: R1, R2, L1, L2

→HDU Box Location: 0, 1, 2, ..., 6, 7

3.3.4.3 Installation of Jumper Plugs in PCI CON PCB

Install the jumper plugs in the PCI CON PCB as indicated in the table below.

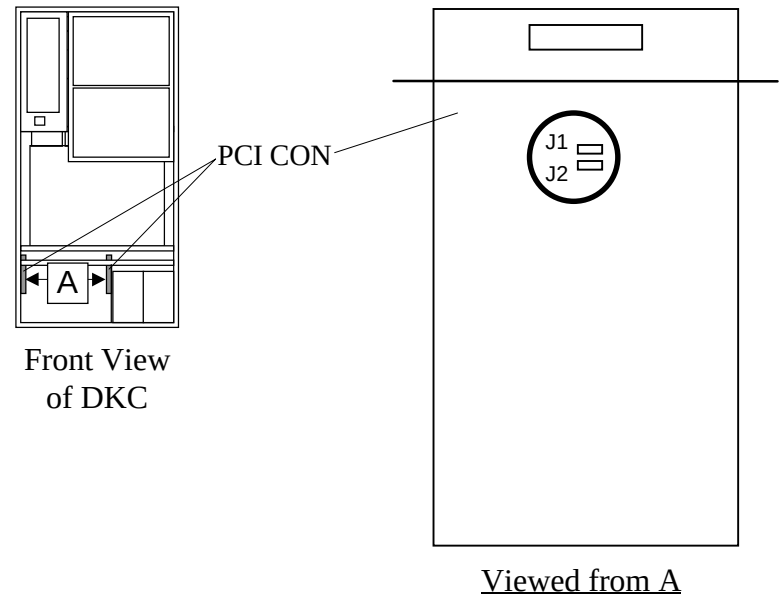


Fig. 3.3.4.3-1 Installation of Jumper Plugs in PCI CON PCB

Table 3.3.4.3-1 Installation of Jumper Plugs in PCI CON PCB

No.	Description	Installing status J1 and J2
1	When power is controlled from the host(at least one PCI cable attached to JP1-JP8 on PCI CON PCB), set the jumpers as shown.	1 2 3 JP1 1 2 3 JP2
2	When power is not controlled from the host, no PCI cable attached to JP1-JP8 PCI CON PCB or to disable the EPO of host, set the jumpers as shown.	1 2 3 JP1 1 2 3 JP2

3.3.4.4 Installation of Jumper Connectors in BAT CTR PCB

1. Open the four locking clamps and remove the two jumper connectors.

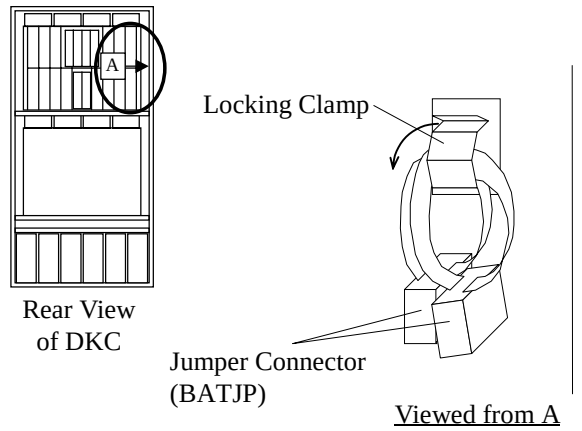


Fig. 3.3.4.4-1 Removal of Jumper Connectors

2. Install the jumper connectors in the BAT CTR PCBs as indicated in the figure below.

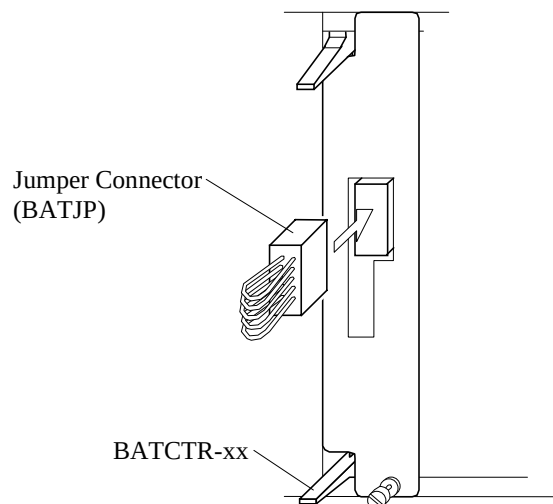
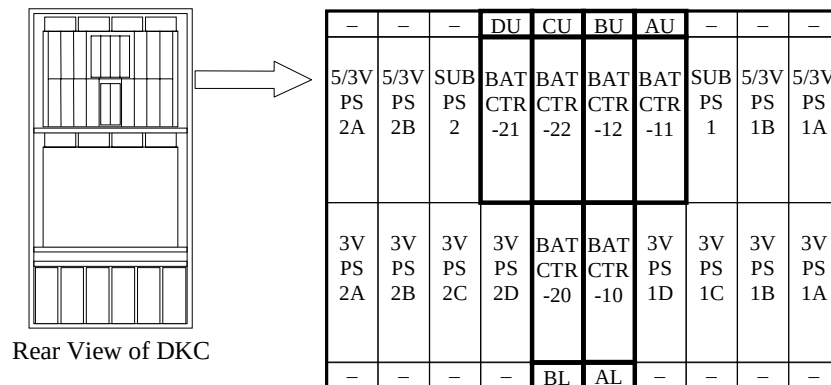


Fig. 3.3.4.4-2 Installation of Jumper Connectors in BAT CTR PCB

3.3.5 Cabling

3.3.5.1 Cabling Procedure of AC Power Cables for DKC

Connect the AC power cables for DKC. Refer to Table 3.3.5.1-1 and Fig. 3.3.5.1-1.

Table 3.3.5.1-1 Connection of AC Power Cables (3 Phase Model)

No.	DKU-R1			DKC			Remarks
	Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.	
1	AC Box-R10	JC111	PC111-1	Breaker Box-1	JIN1	PIN1-1	
2		JC112	PC112-1		JIN2	PIN2-1	
3	AC Box-R11	JC111	PC111-2	Breaker Box-2	JIN1	PIN1-2	
4		JC112	PC112-2		JIN2	PIN2-2	

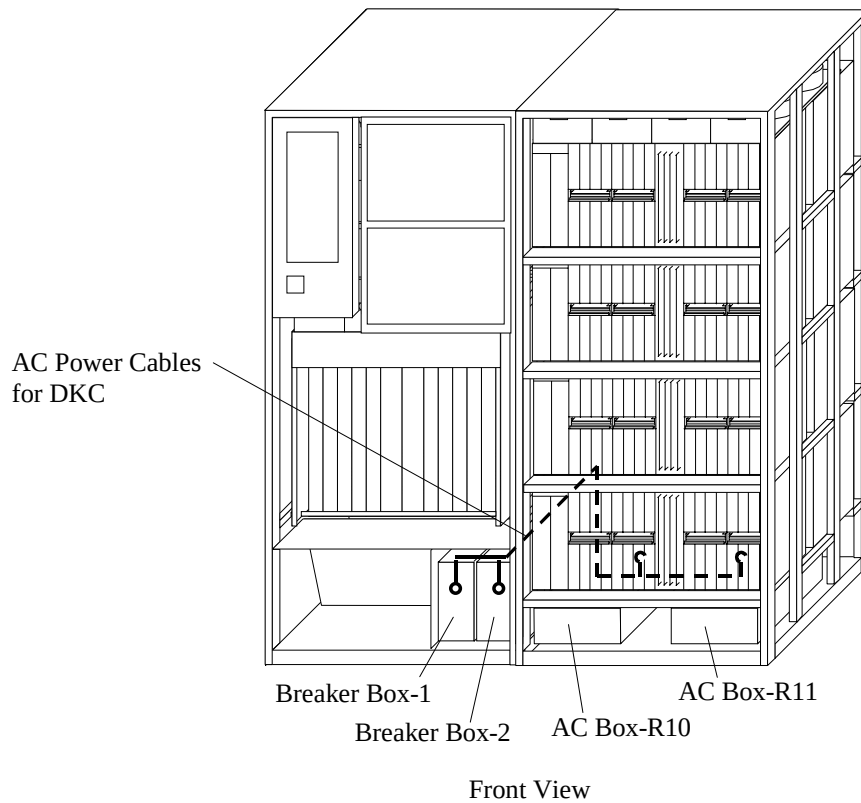


Fig. 3.3.5.1-1 Connection of AC Power Cables for Disk Controller (3 Phase Model)

1. Fix the power cable assy.
 - a. Loose the four screws

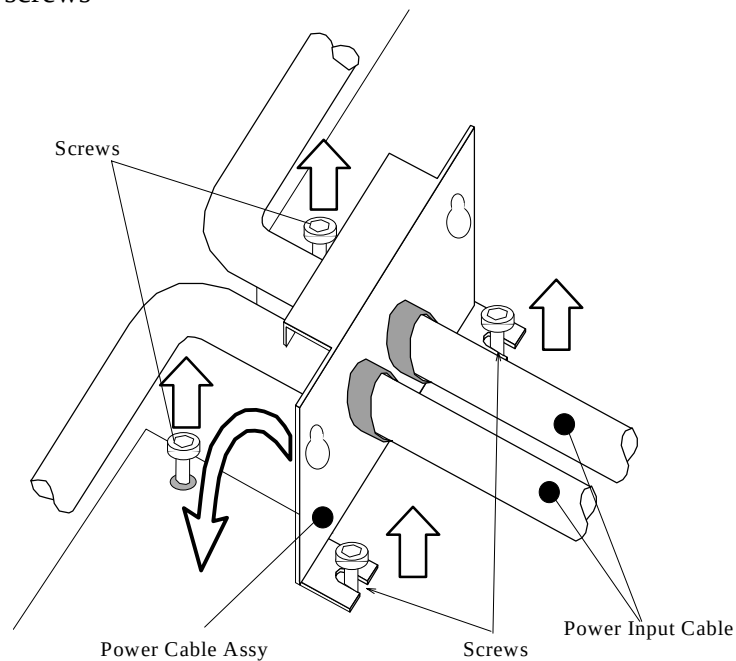


Fig. 3.3.5.1-2 Fixation of Power Cable Assy

- b. Fix the power cable Assy with screws.

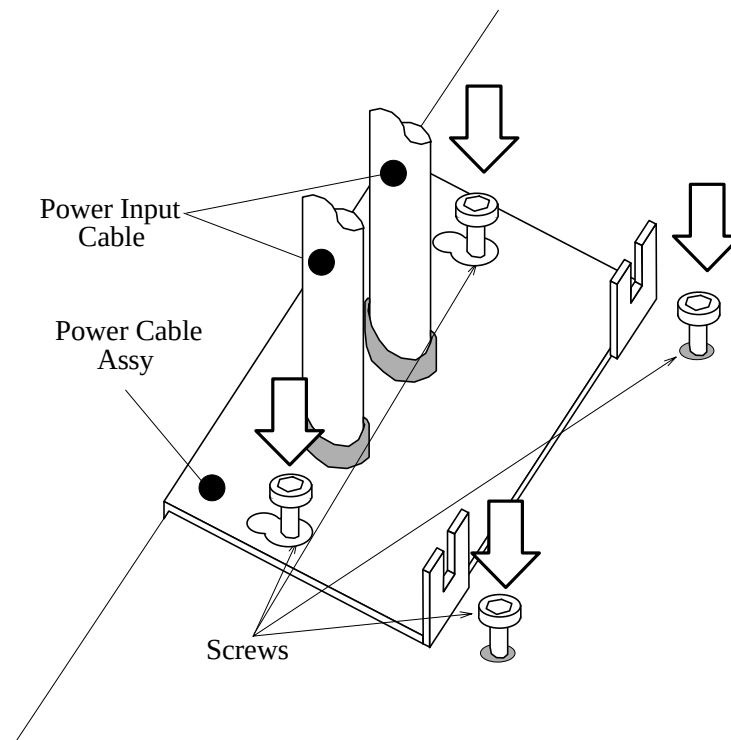


Fig. 3.3.5.1-3 Fixation of Power Cable Assy

2. When the AC Box Kit for 3 Phase (DKU-F455I-3PS) is installed, connect the AC power cables for Disk Controller.

When the AC Box Kit for Single Phase (DKU-F455I-1PS) is installed, go to Section 3.3.5.2 Cabling Procedure of DEV Interface Cables.

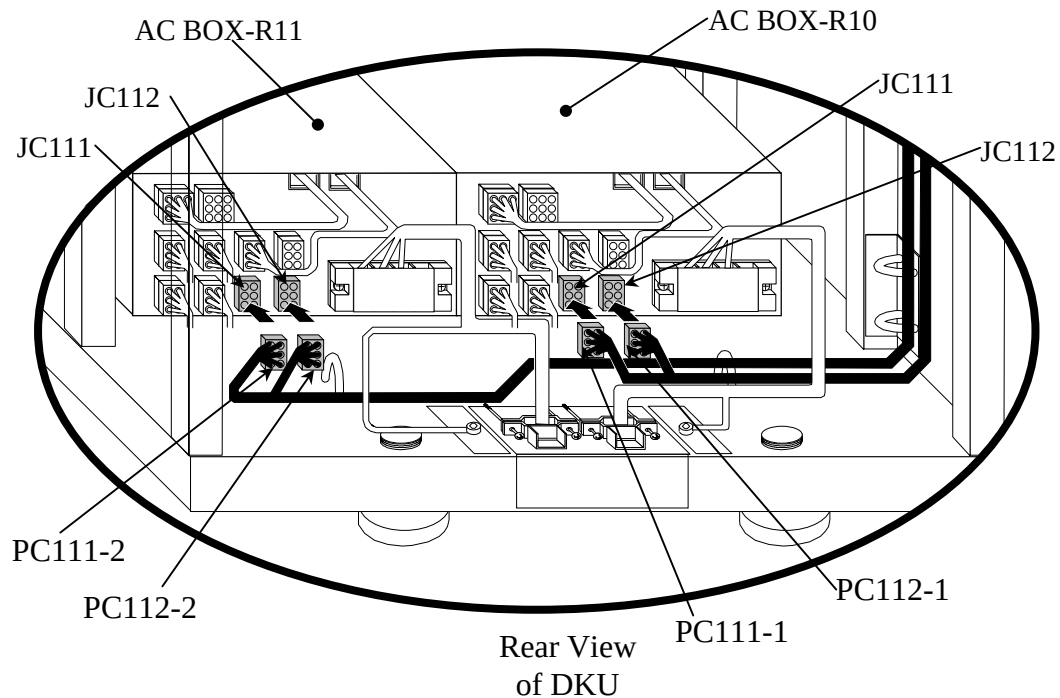


Fig. 3.3.5.1-4 Connection of AC Power Cables for Disk Controller

3. Bind the cables with the repeat binders.

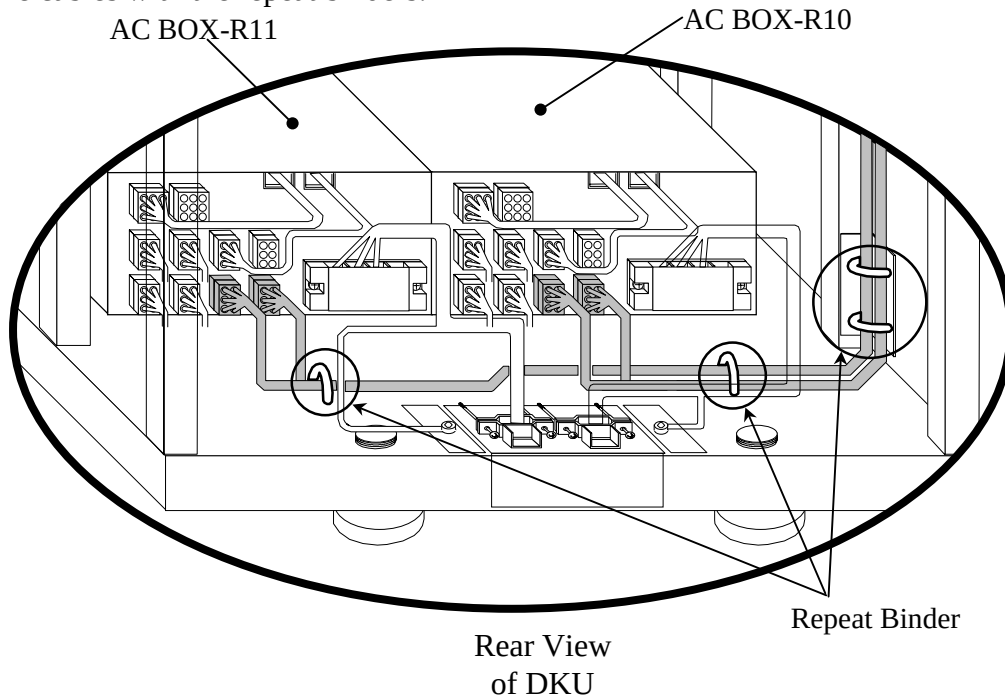


Fig. 3.3.5.1-5 Fastening of AC Power Cables for the Disk Controller

3.3.5.2 Cabling Procedure of DEV Interface Cables

1. Connect the DEV interface cables to the sub-edges on the FSW PCBs located in the HDU box.

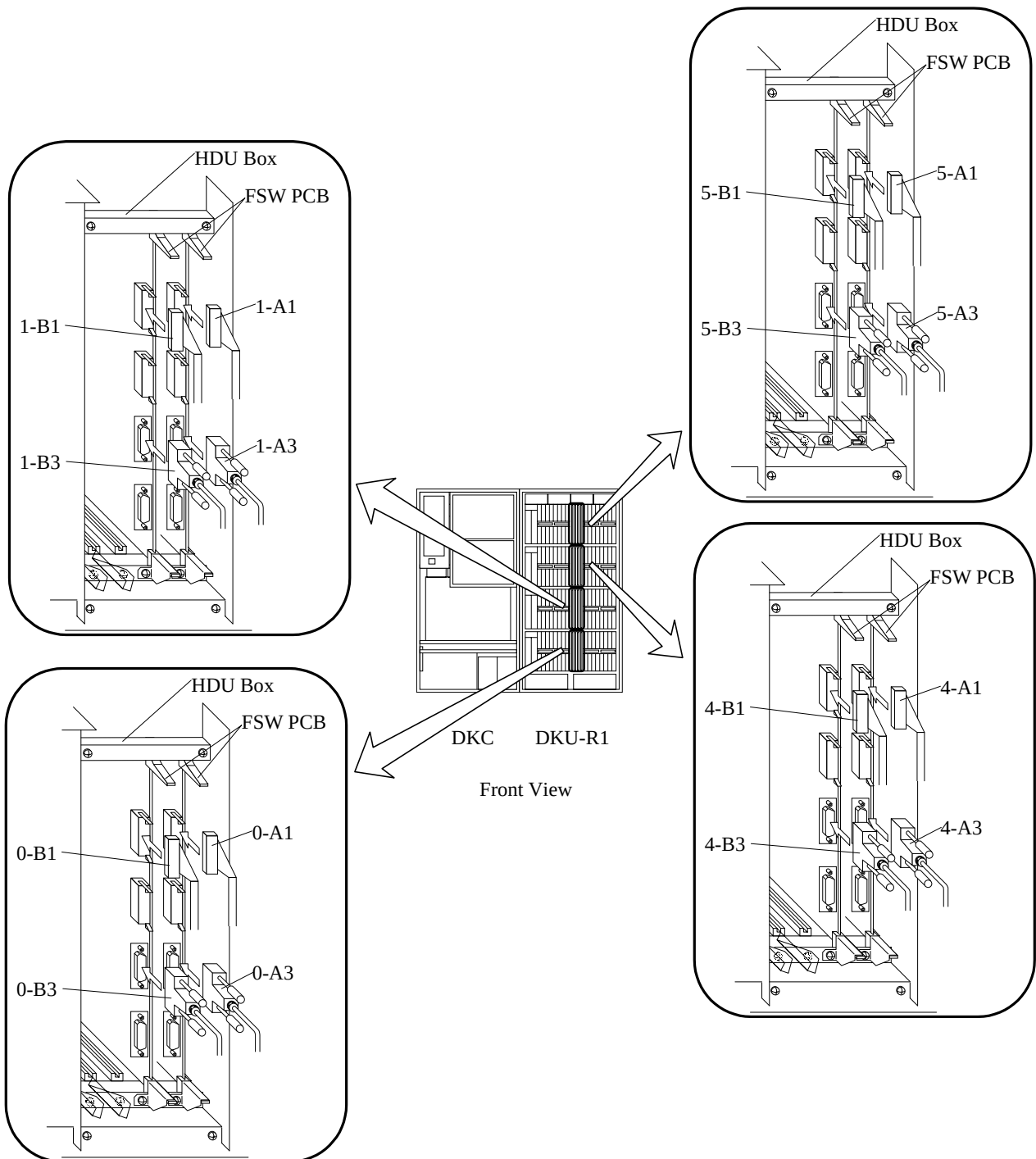


Fig. 3.3.5.2-1 Connection of DEV Interface Cables

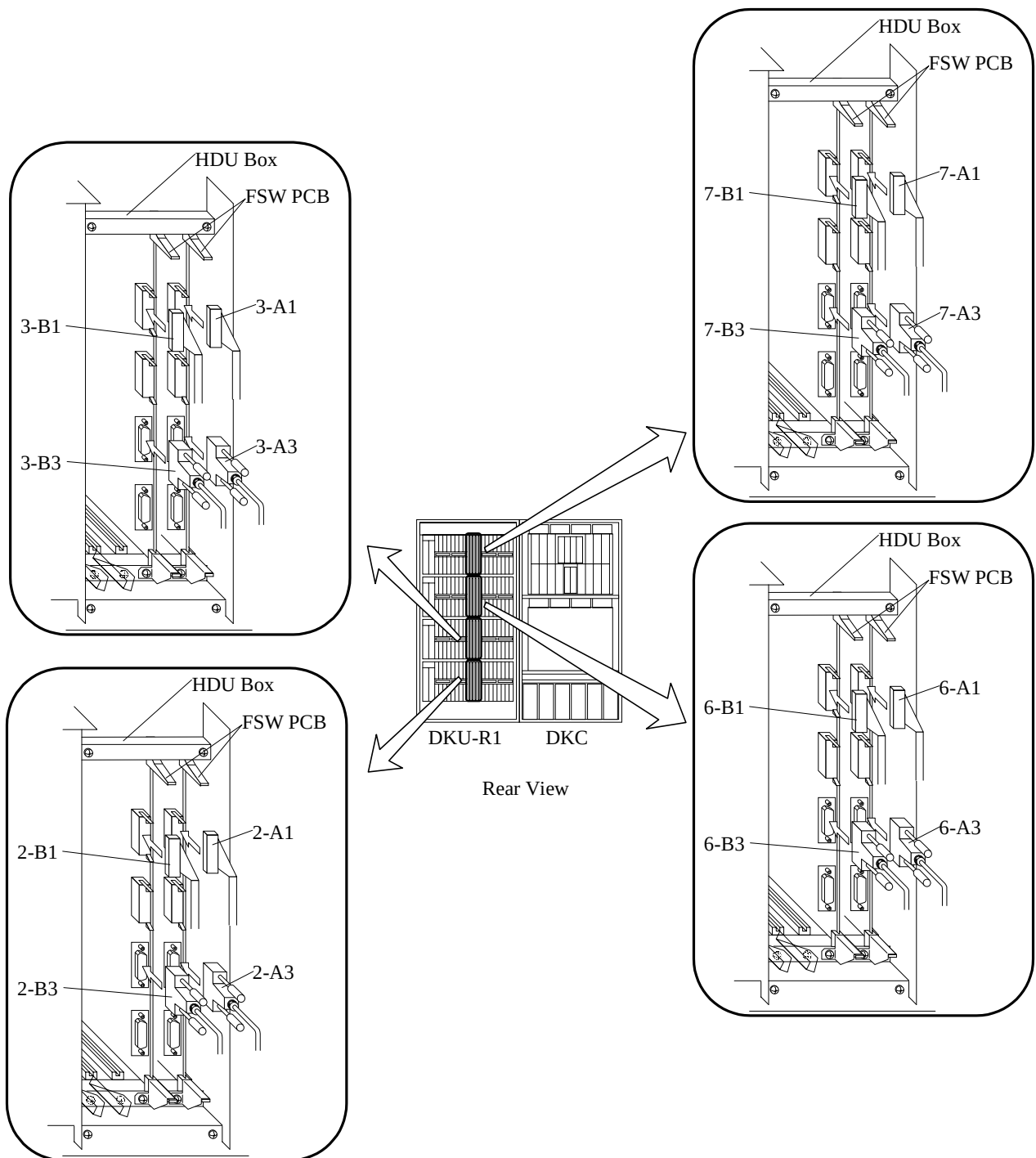


Fig. 3.3.5.2-2 Connection of DEV Interface Cables

2. Attach the cable covers with the screws.

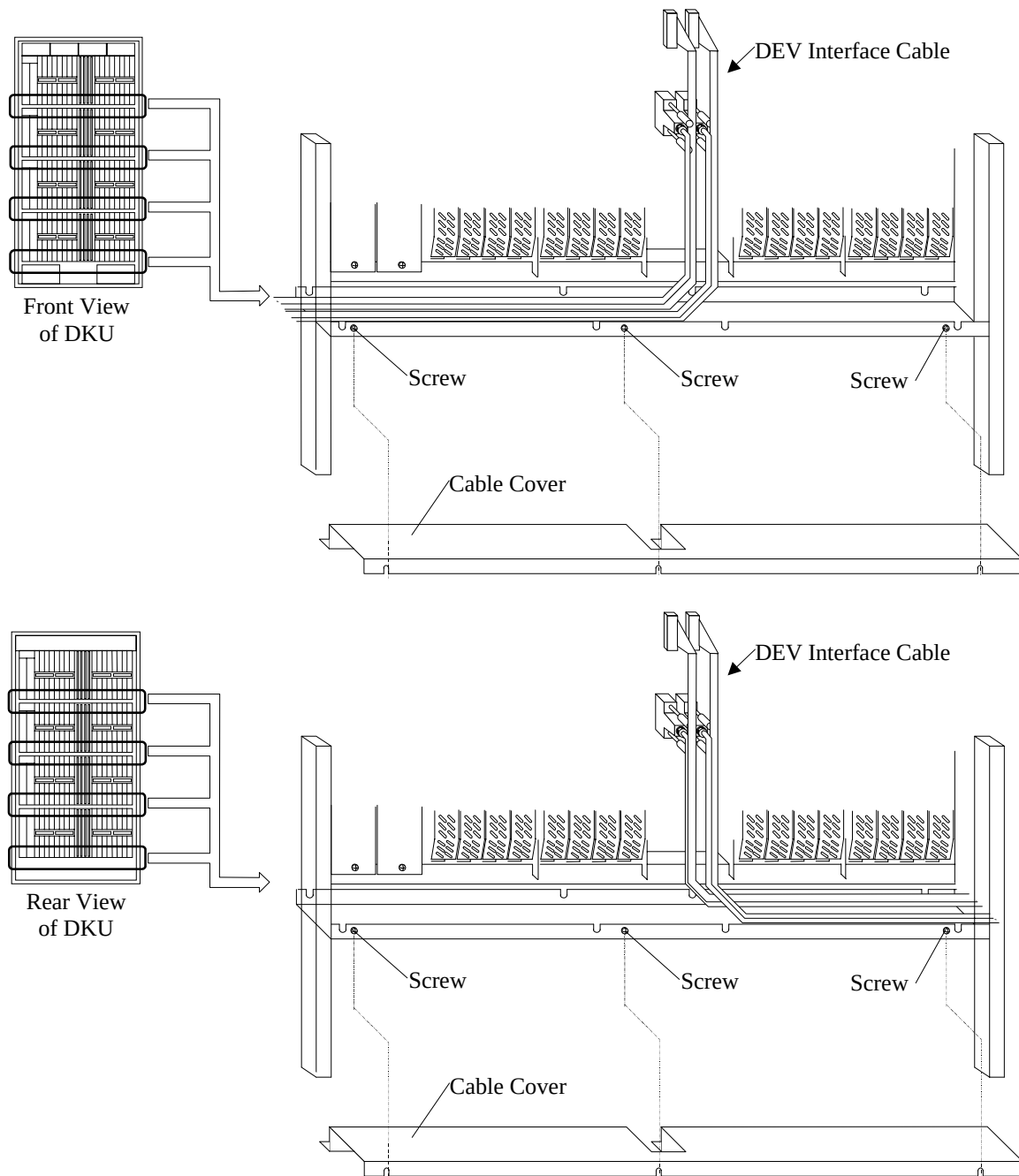


Fig. 3.3.5.2-3 Attachment of Cable Covers

3. Attach the cable covers with the screws.

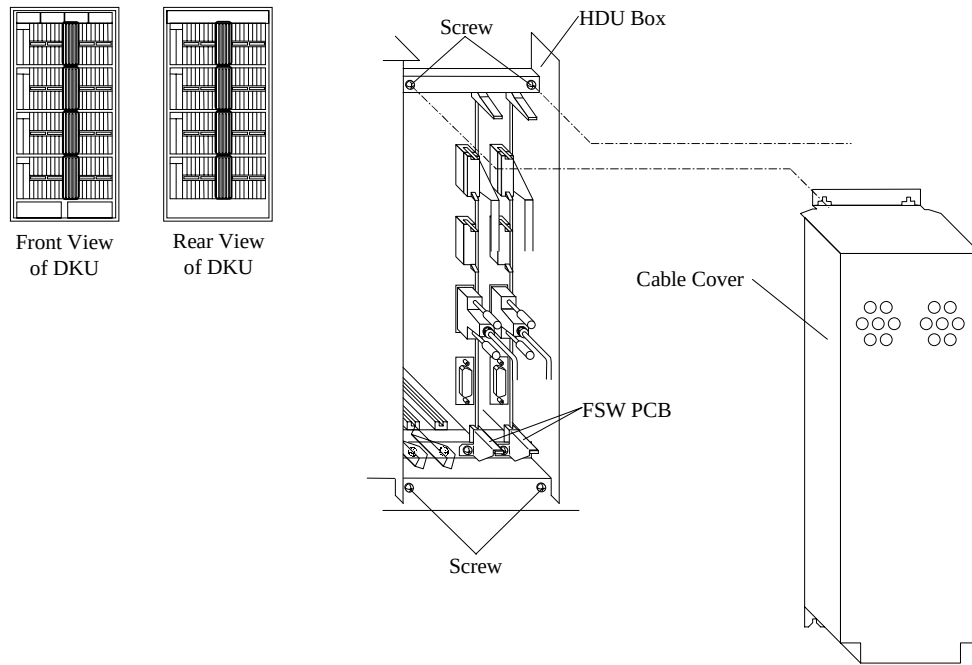


Fig. 3.3.5.2-4 Attachment of Cable Covers

4. Attach the screws fastening the SVP frame.

In the case of the SVP frame type 1

- (1) Open the DKC panel.
- (2) Attach the screws fastening the SVP frame.

In the case of the SVP frame type 2

- (1) Open the SVP ASSY.
- (2) Attach the screws fastening the SVP frame.
- (3) Close the SVP ASSY.

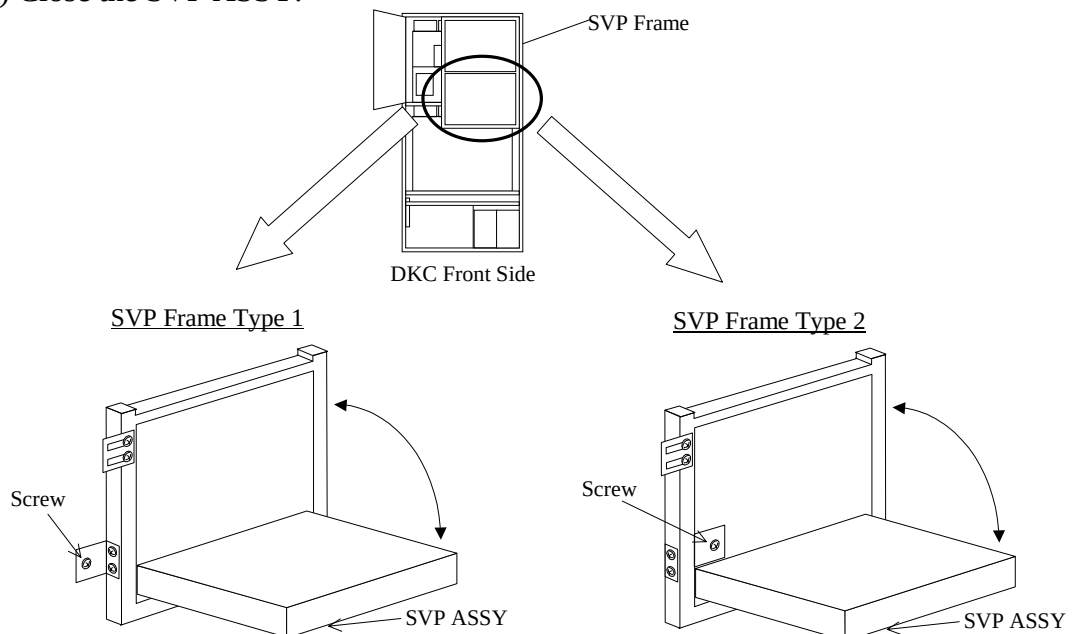


Fig. 3.3.5.2-5 Removal of Screws Fastening SVP Frame

3.3.6 Labeling

1. Attach the label (V/Hz/PH.) to the DKC. Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.

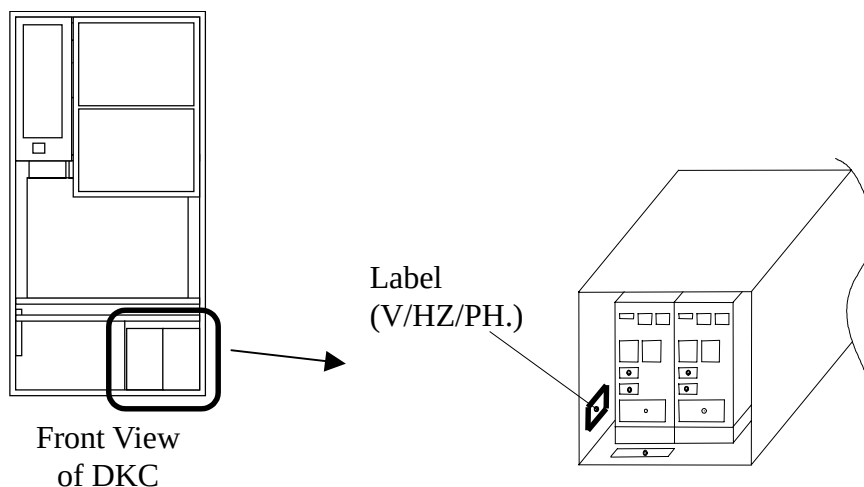


Fig. 3.3.6-1 Attachment of Label (V/Hz/PH.)

2. Attach the label (V/Hz/PH.) to the DKU bottom base of rear side. Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.

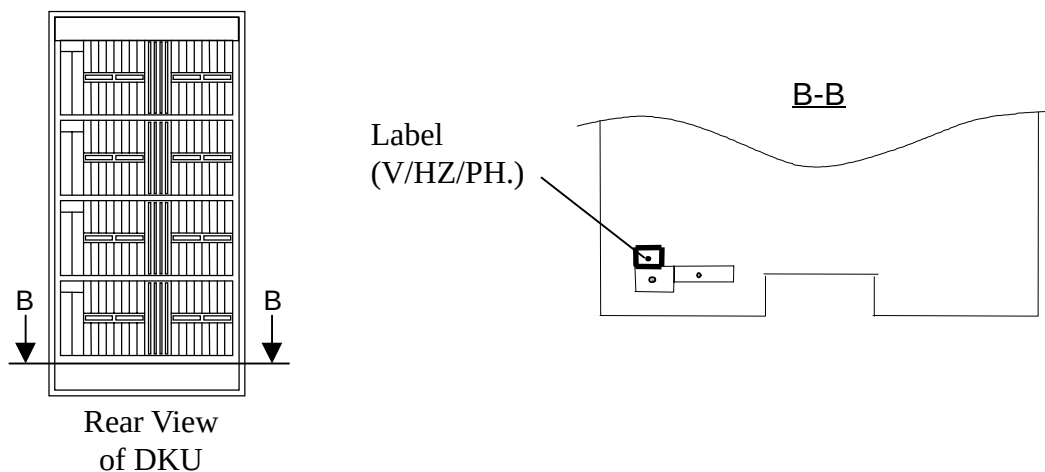


Fig. 3.3.6-2 Attachment of Label (V/Hz/PH.)

3.3.7 Check of Jumper Settings

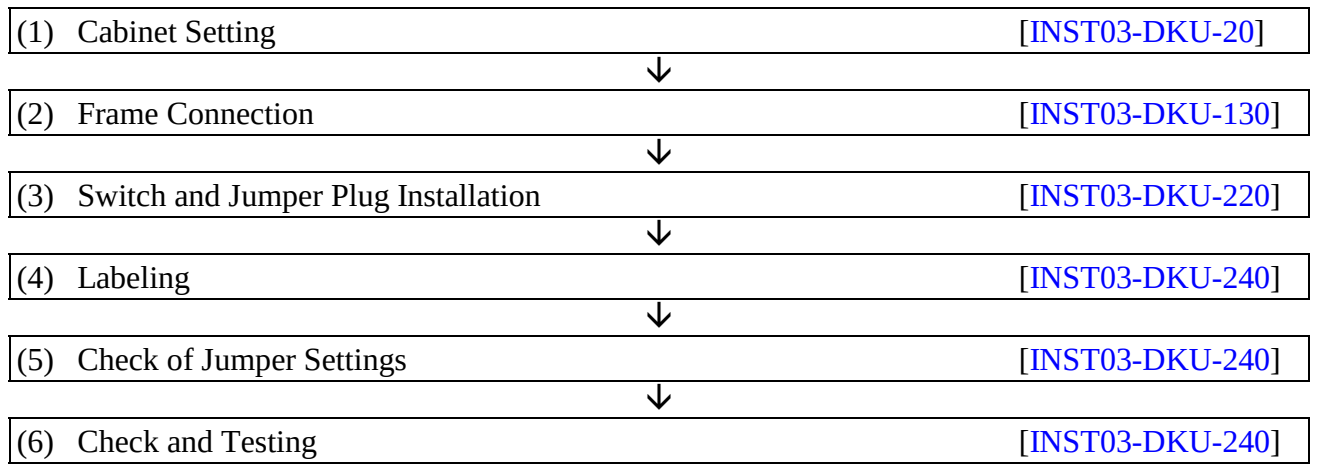
CAUTION

A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

1. Check the jumper settings and switches on the PCBs. Refer to Section 3.3.4 Installation of Switches and Jumper Plugs [INST03-SUB-130 through 160].
When the jumper plugs and switches are not installed to the correct locations, install the jumper plugs and switches to the correct locations.

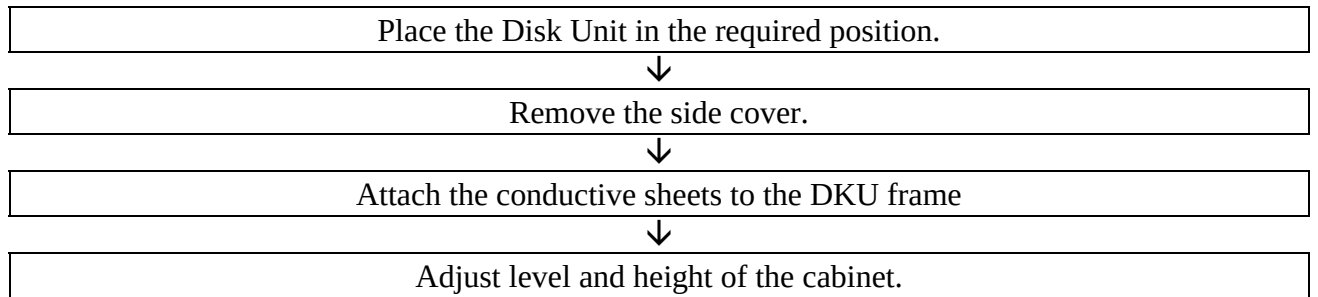
3.4 Installation of Disk Unit (DKU455I-18)

3.4.1 Flowchart



3.4.2 Cabinet Setting (Adjusting the Cabinet Height)

3.4.2.1 Flowchart

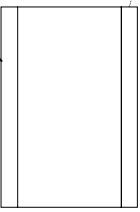
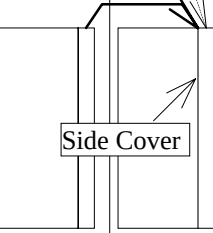
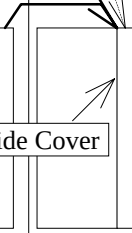
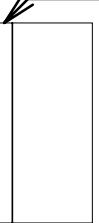
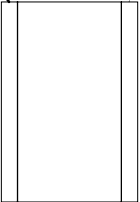
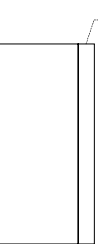
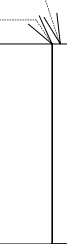
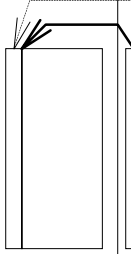
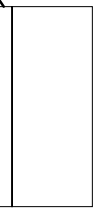
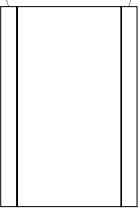
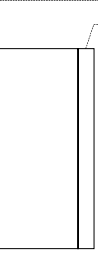
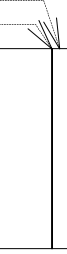


3.4.2.2 Disk Unit(s) Layout

Refer to Table 3.3.2-1 when laying out the DKU-R1 with respect to the DKC and relocating the side cover.

Install the Disk Unit(s) in one of the locations shown in Table 3.4.2.2-1.

Table 3.4.2.2-1 Removal and Re-installation of Side Cover

Configuration	DKU-L2	DKU-L1	DKC	DKU-R1	DKU-R2
Disk Controller and Two Disk Units	—	—			
Disk Controller and Three Disk Units	—				
Disk Controller and Four Disk Units					

3.4.2.3 Side Cover Removal

Remove the side covers shown in Table 3.4.2.2-1 from the installed DKC or DKU(s).

Note: When the left side cover is removed from the DKC, must be removed the Front and Rear Logic Box Covers beforehand. Refer to SECTION 3.4.2.6 Logic Box Covers Removal.

3.4.2.4 Conductive Sheet Attachment

1. Attach the conductive sheets to the DKU frame referring to Fig. 3.4.2.4-1 and Fig. 3.4.2.4-2.

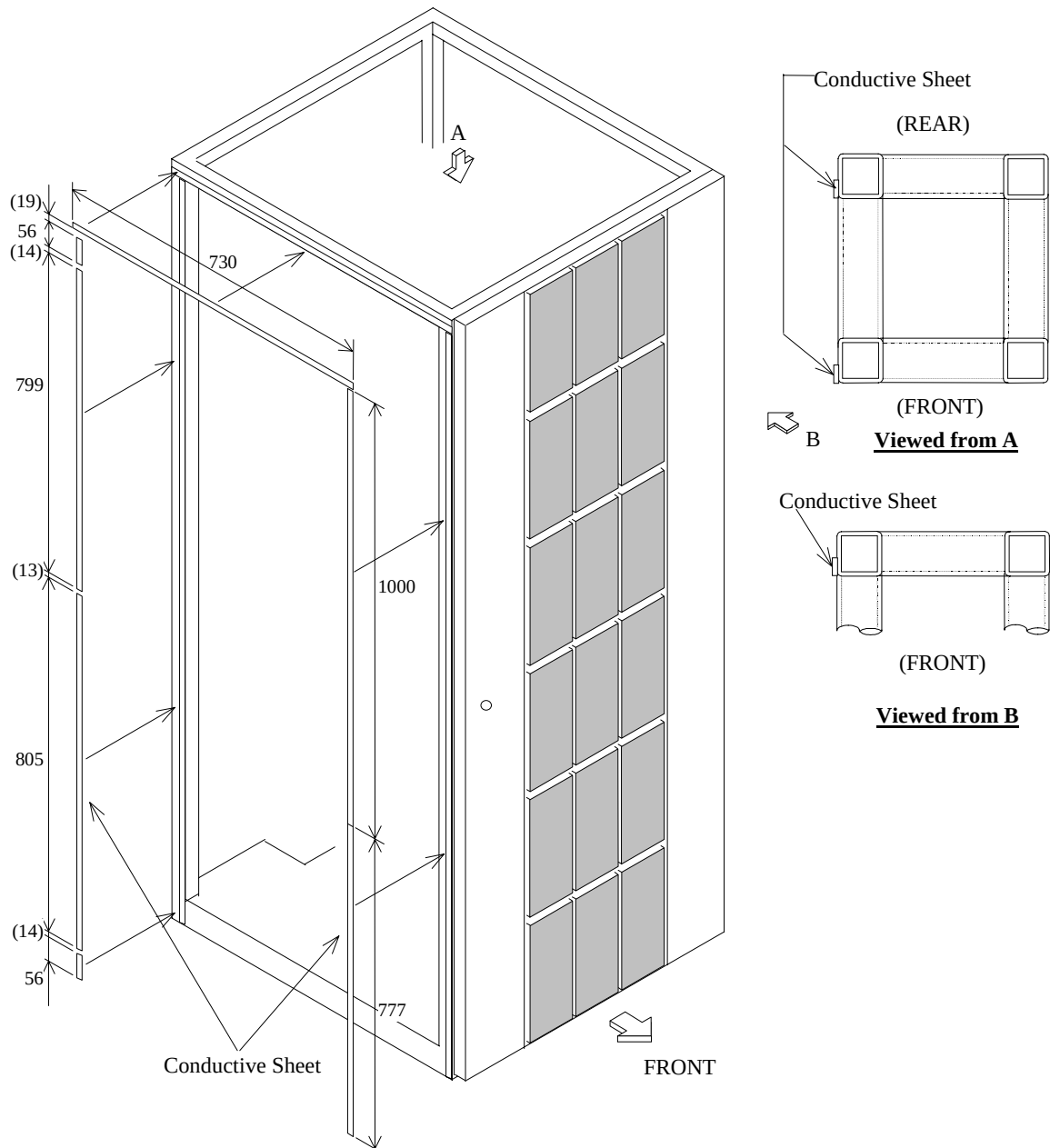


Fig. 3.4.2.4-1 Attachment of Conductive Sheets

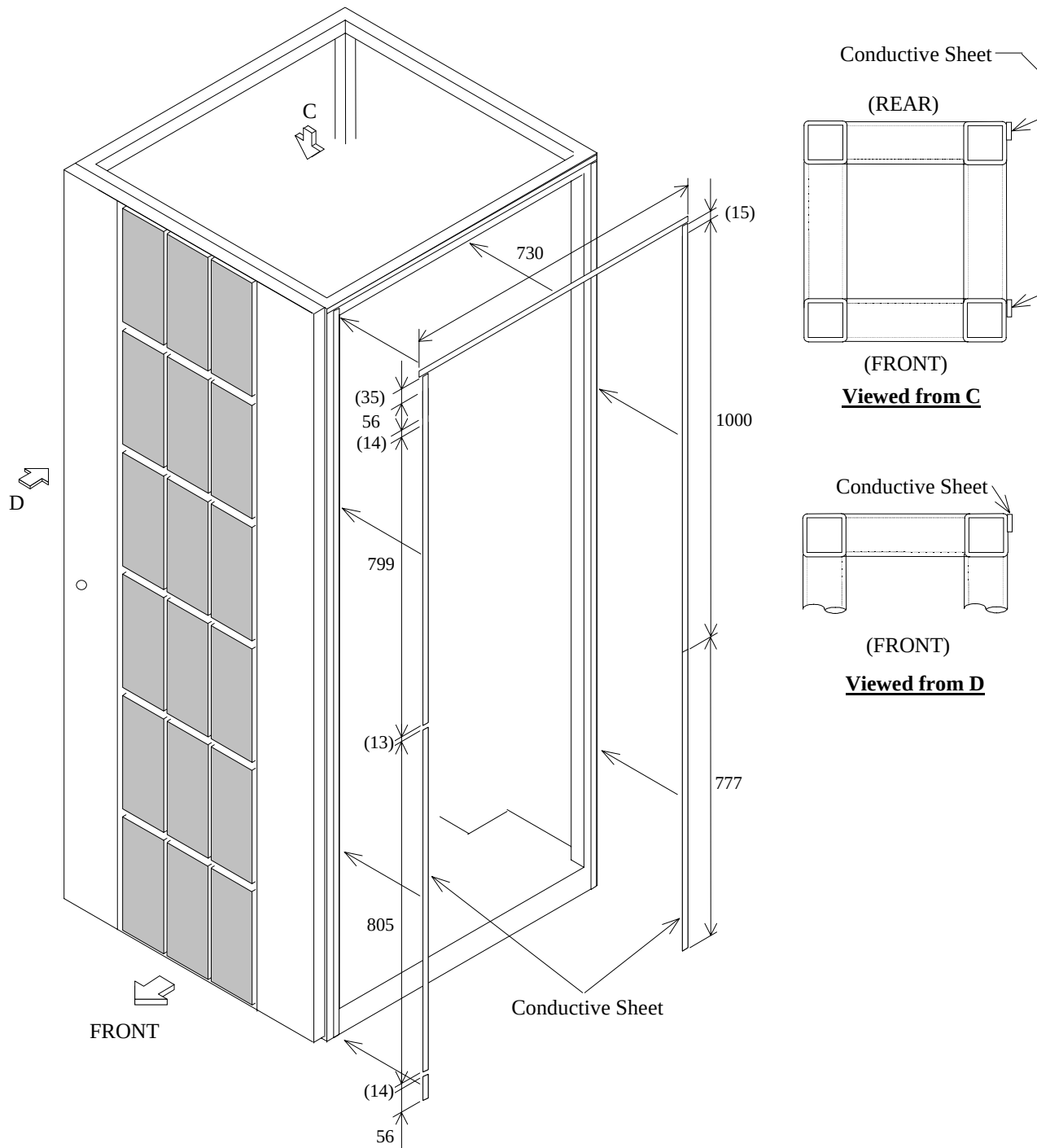


Fig. 3.4.2.4-2 Attachment of Conductive Sheets

3.4.2.5 Installing DEV interface cable for the DKU-L1

When the frame to be added is other than the DKU-L1, go to Paragraph 3.4.2.6, “Adjusting the Cabinet Height and Level” on page [INST03-DKU-120](#).

1. Remove the Front Logic Box Cover from the DKC.
2. Remove the two screws and remove the cable cover.

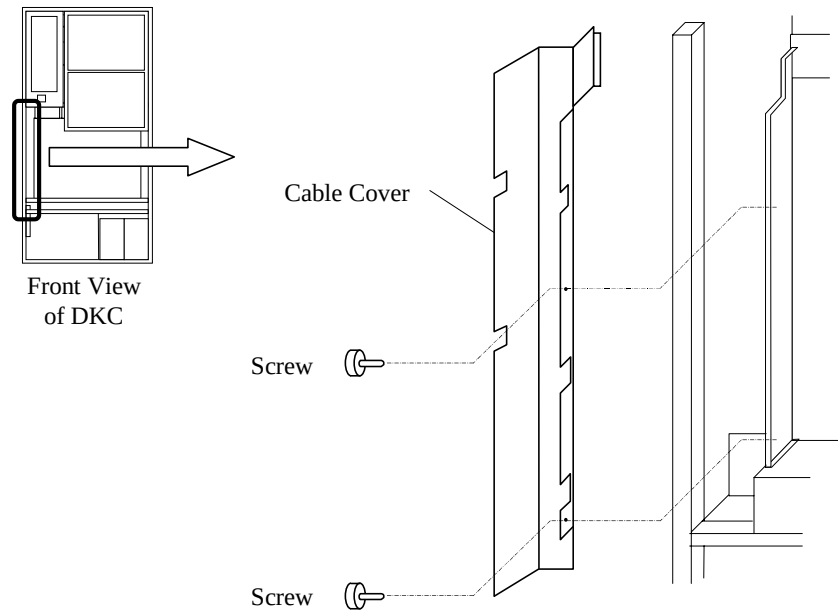


Fig. 3.4.2.5-1 Removing Cover

3. Remove the Rear Logic Box Cover.
4. Remove the three screws and remove the cable cover.

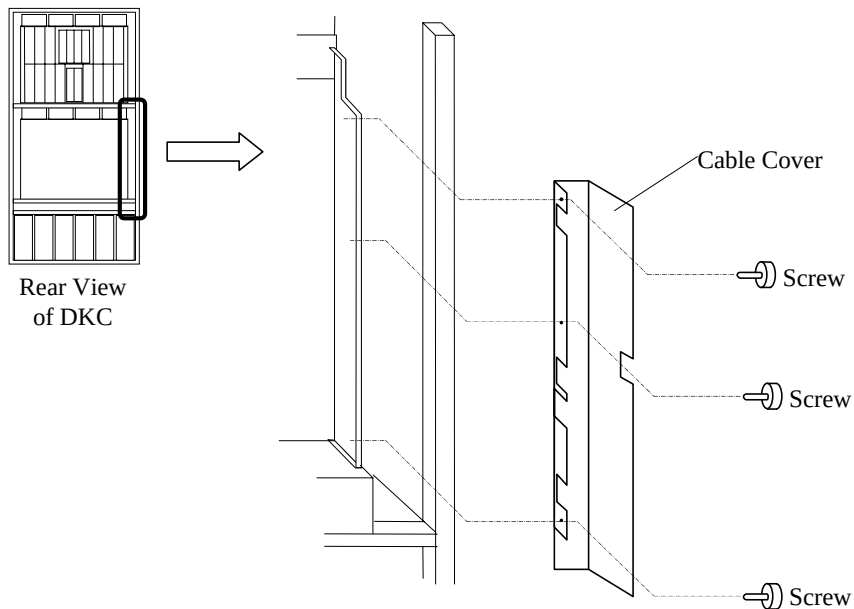


Fig. 3.4.2.5-2 Removing Cover

5. Loosen the three screws① and remove the cable cover①. Then, loosen the two screws② and remove the cable cover②.

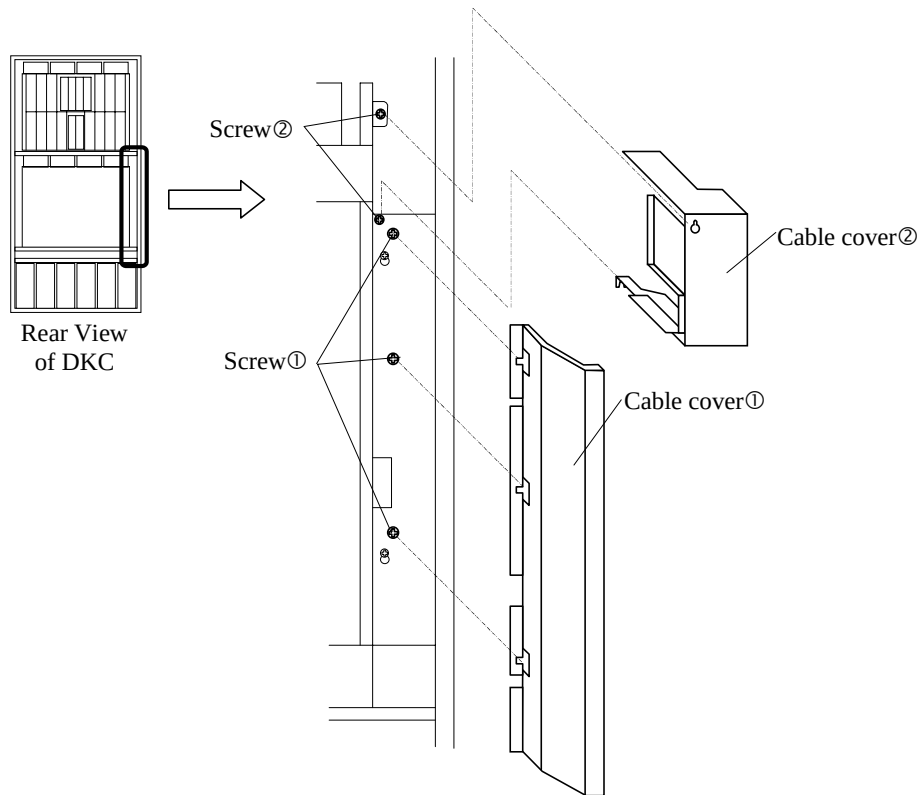


Fig. 3.4.2.5-3 Removing Cover

6. Loosen the two screws and remove the cable cover.

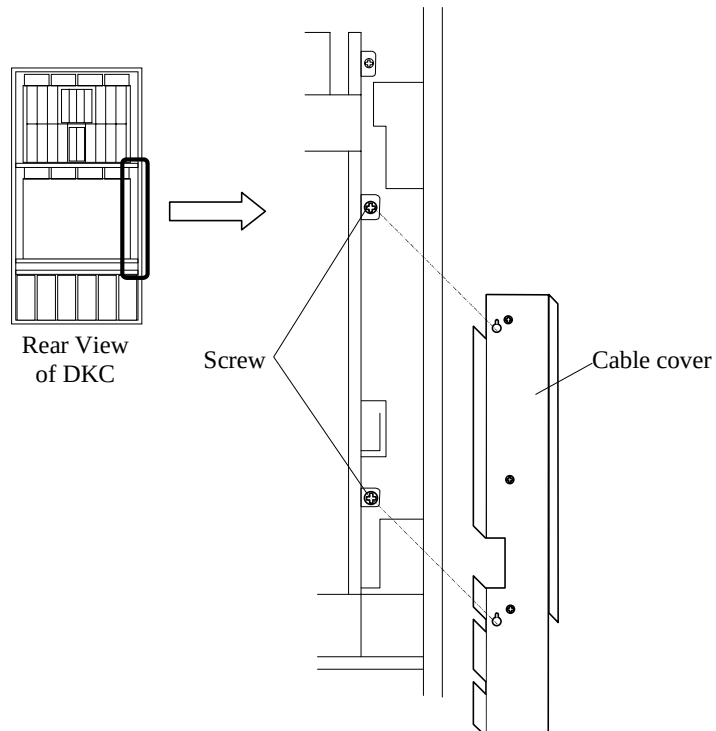


Fig. 3.4.2.5-4 Removing Cover

7. Loosen the three screws and remove the cable cover from the cable clamp located at the top of the Rear Logic Box.

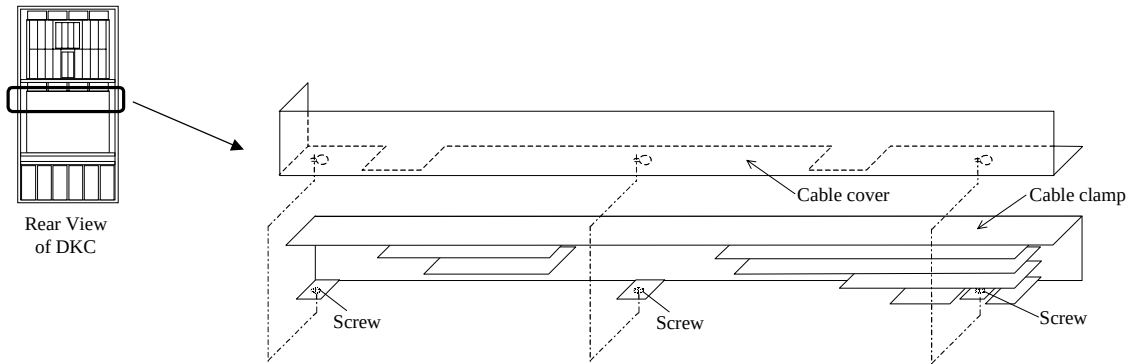


Fig. 3.4.2.5-5 Removing Cover

8. Insert the DEV interface cables for the DKU-L1 into the cable clamp located at the top of the Rear Logic Box. When doing this, position the binder that bundles the cables at the end of the cable clamp.

Note:

Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

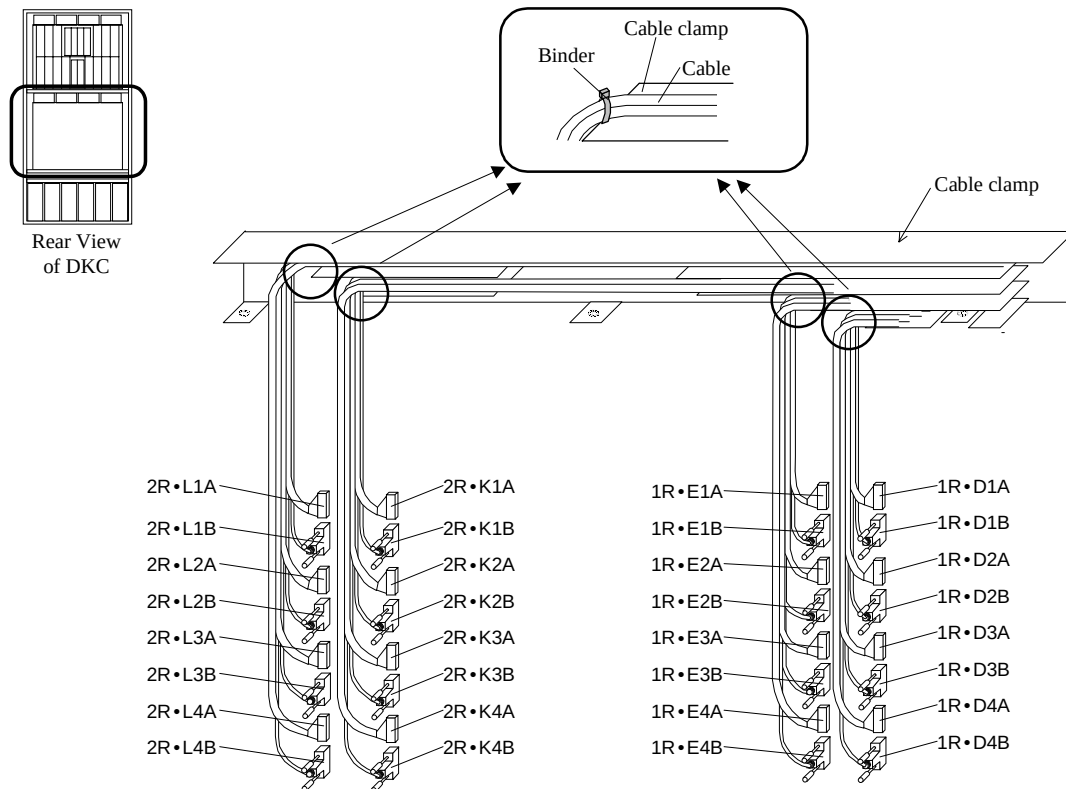


Fig. 3.4.2.5-6 Attachment of DEV Interface Cable

9. Insert the DEV interface cables for the DKU-L1 into the cable duct. When doing this, position the binder that bundles the DEV interface cables at the cable exit of the cable duct and insert the surplus cables into the cable duct.

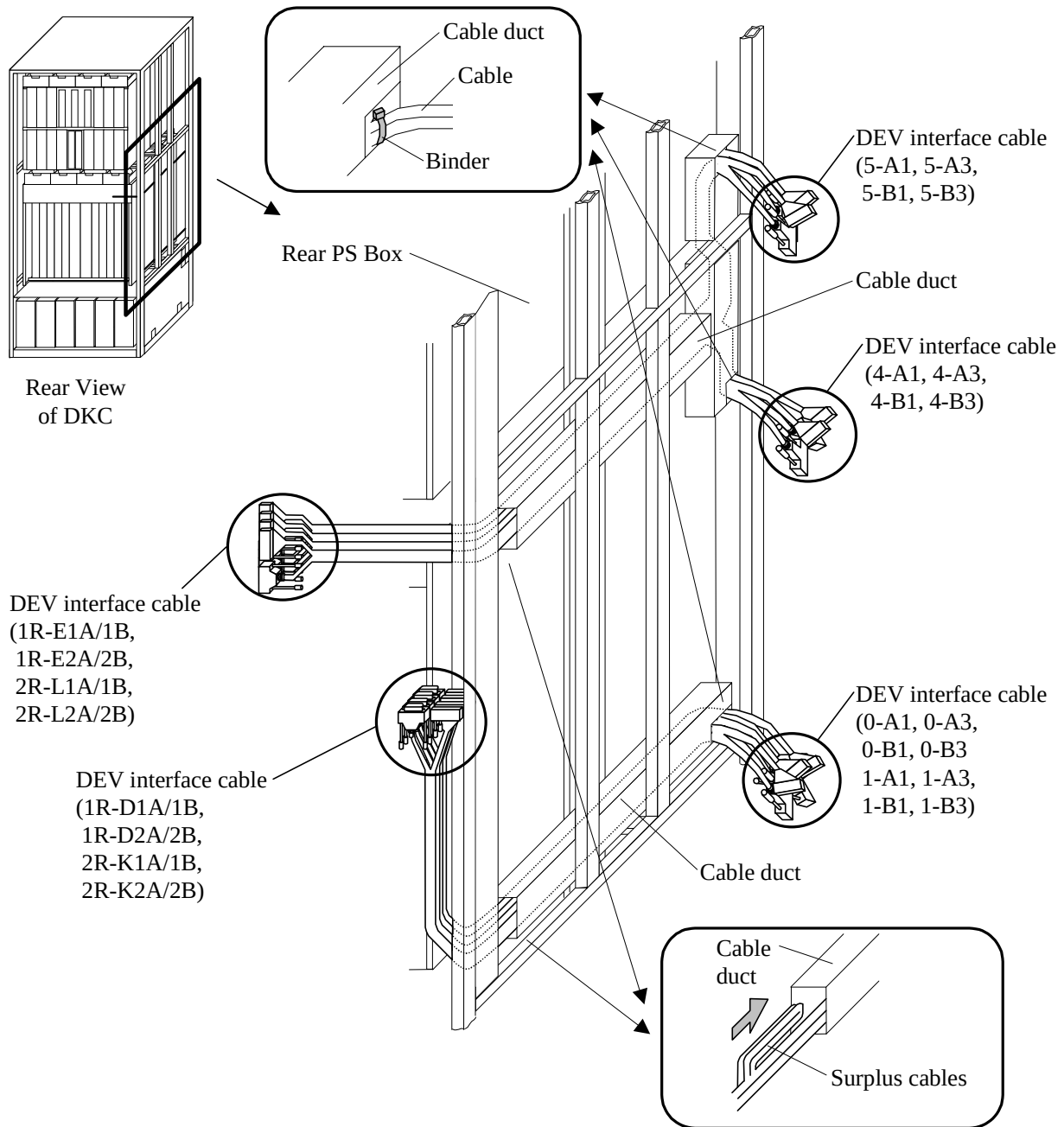


Fig. 3.4.2.5-7 Attachment of DEV Interface Cable

10. Pass the DEV interface cables for the DKU-L1 through the cable entrance on the sheet steel part. When doing this, position the binder that bundles the DEV interface cables at the cable entrance on the sheet steel part and put the surplus cables away between the Rear Logic Box and the frame.

Note:

Do not connect the cable to the connector of the FSW PCB in this procedure. Connect the connector in the procedure explained in "Installation of DEV Interface Cable, Additional Disk Adapter and HDD Canister" on page [INST03-DKA-10](#).

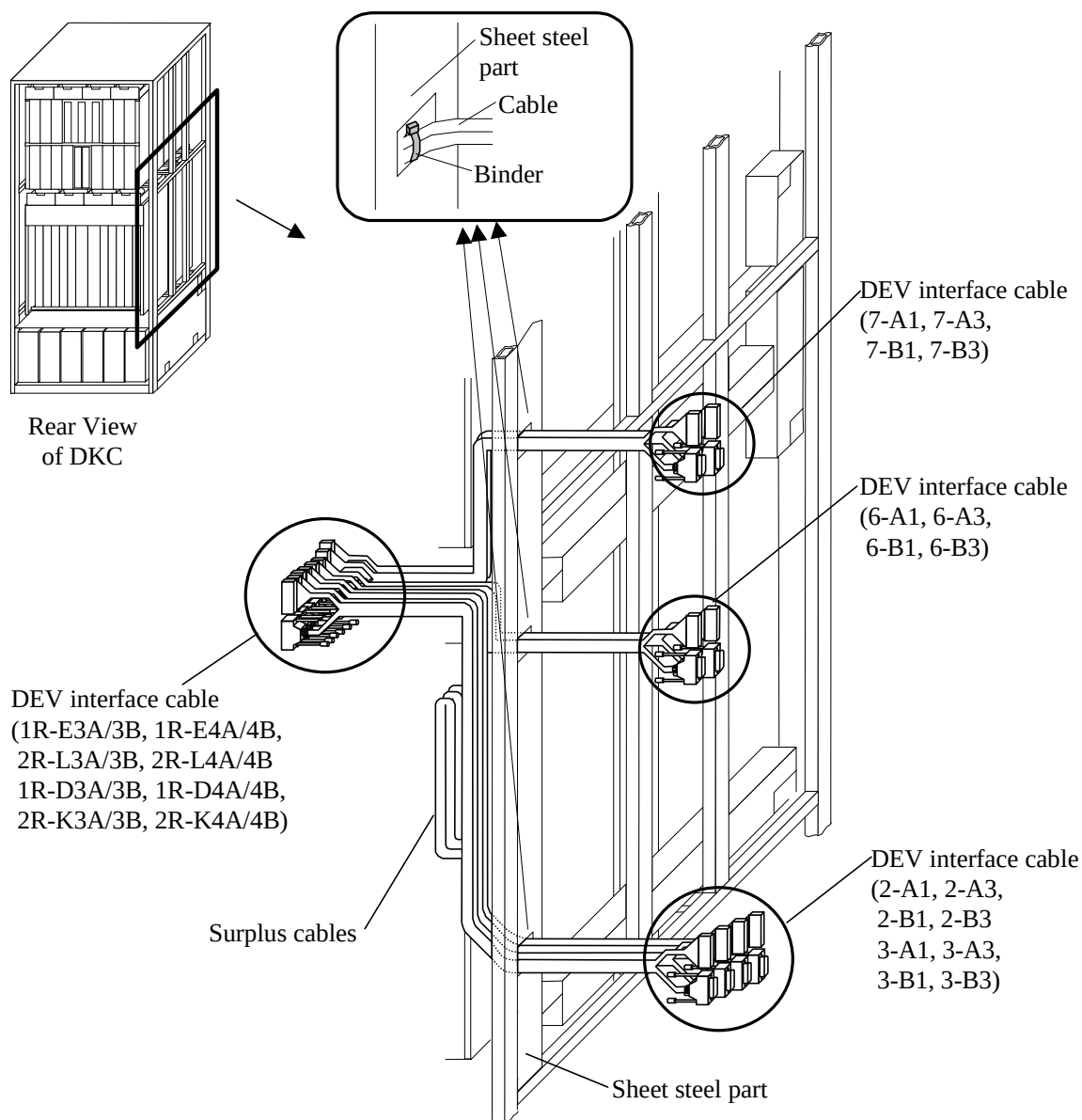


Fig. 3.4.2.5-8 Attachment of DEV Interface Cable

11. Get the DEV interface cables into the DKU-L1 and gently move the DKU-L1 close to the DKC. When coupling the frames, fully take care not to have the inter-frame cables caught between the frames.

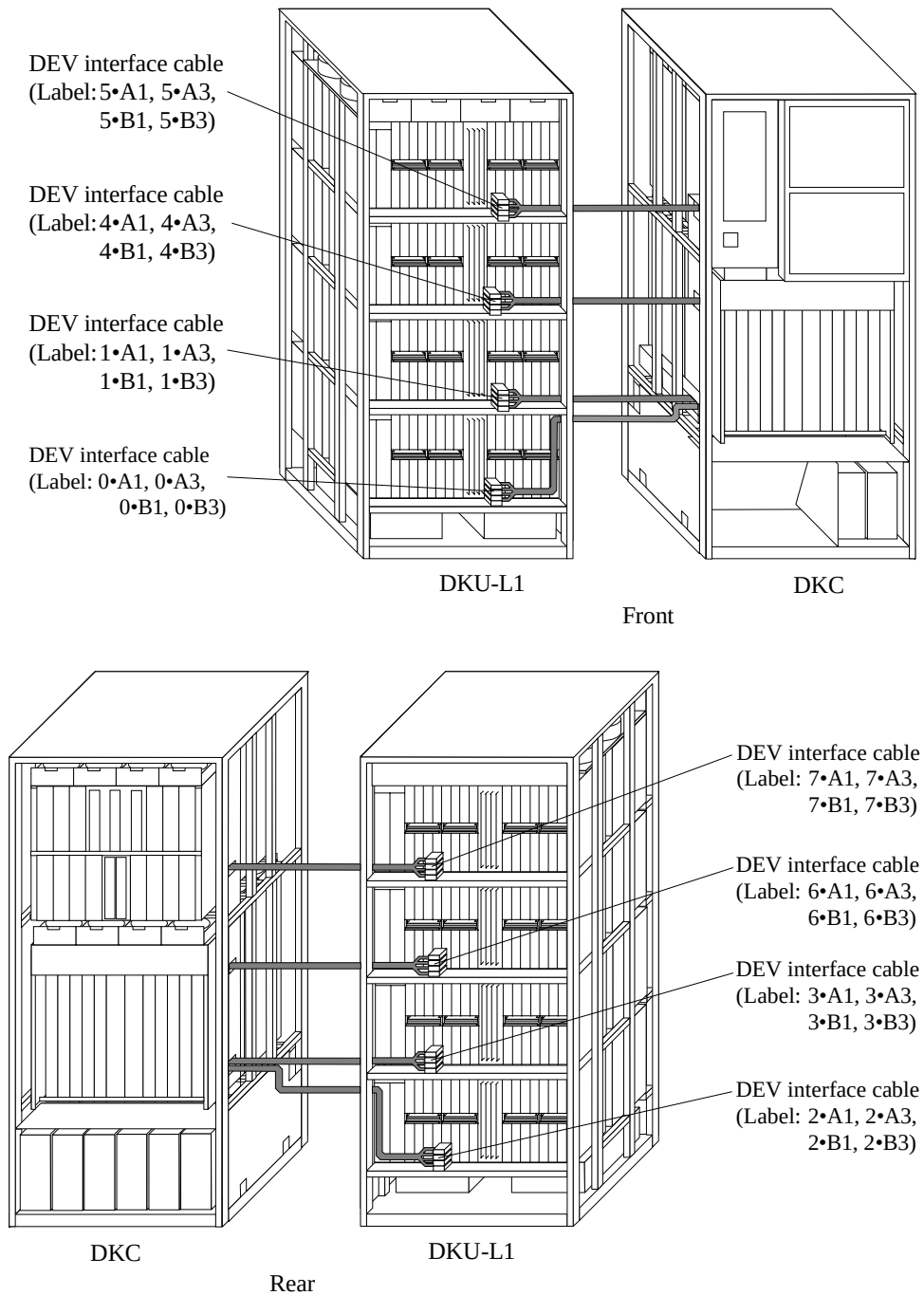


Fig. 3.4.2.5-9 Removal of Cables

3.4.2.6 Adjusting the Cabinet Height and Level

1. Lower the screw jacks until the frame is 57 mm (2.25 in.) from the floor before connecting the frames.
2. Level the device as shown on Fig. 3.4.2.6-1.
3. When adjusting the cabinet height, make sure that there is a clearance of approximately 2.5 mm (0.1 in.) between the casters and the floor.

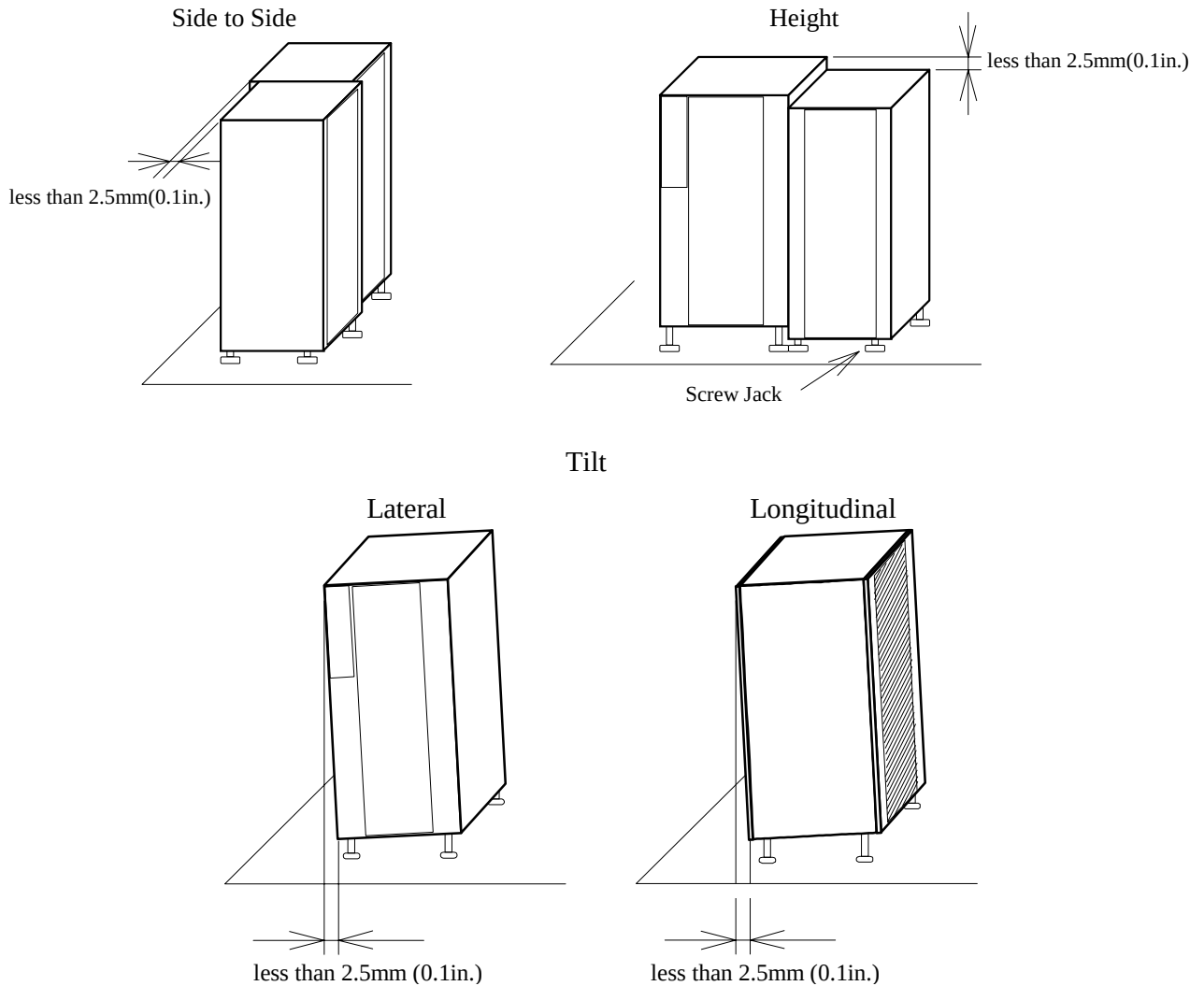
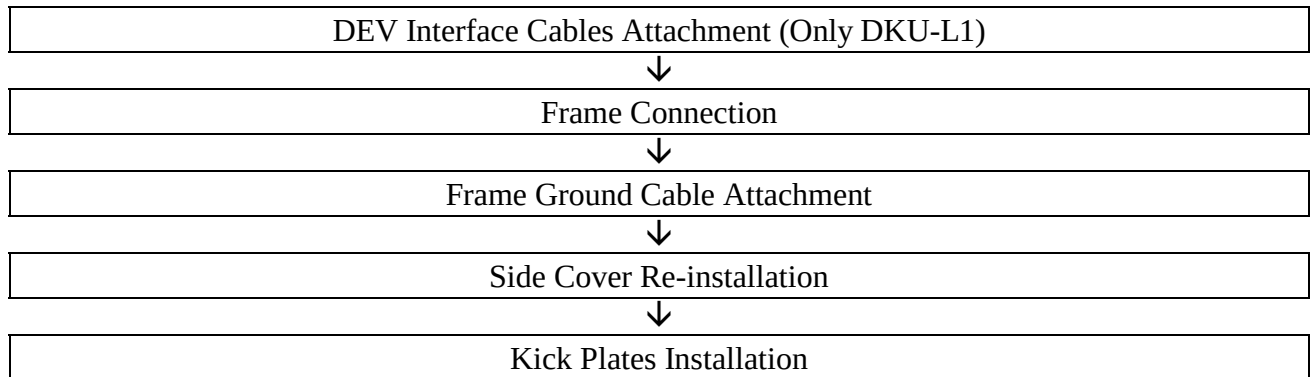


Fig. 3.4.2.6-1 Cabinet Setting

3.4.3 Frame Connection

3.4.3.1 Flowchart



3.4.3.2 Frame Connection

Connect the devices together using four of the Connecting Bolt Assy. Place two at the front and two at the rear. See figures 3.4.3.2-1 and 3.4.3.2-2. The direction of the hexagon socket head bolts must be the same as shown in the figure.

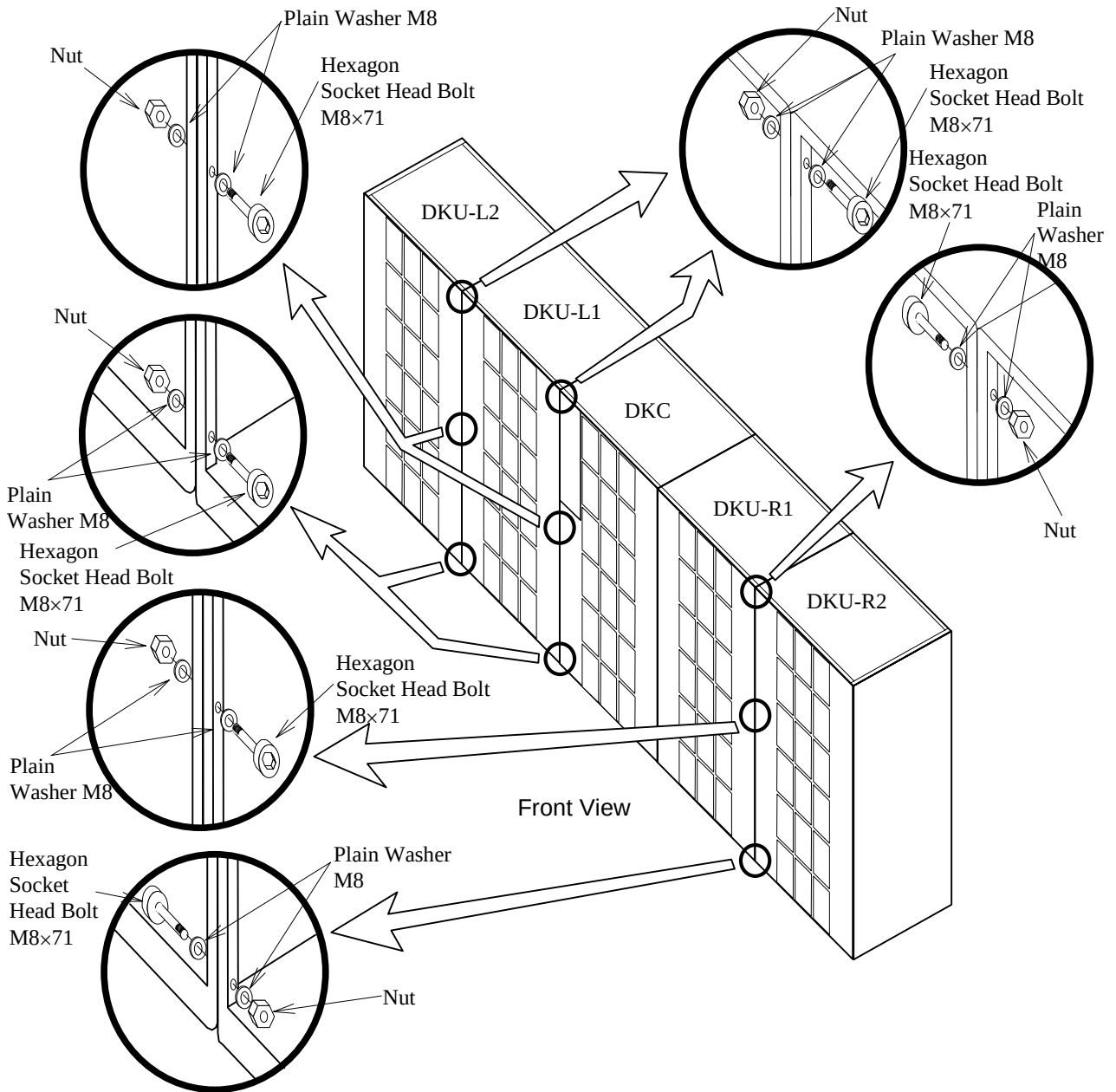


Fig. 3.4.3.2-1 Connection of Frame

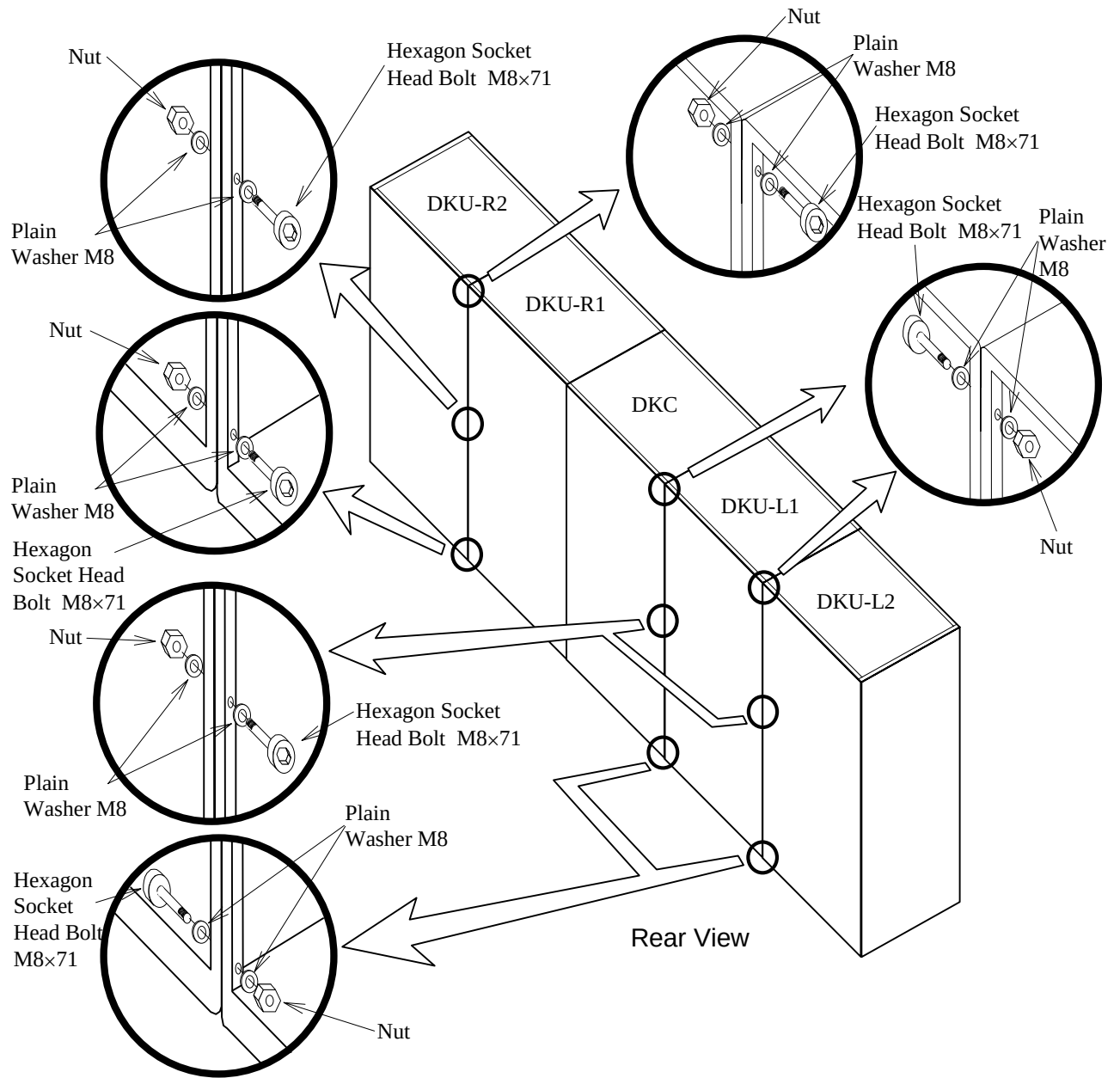
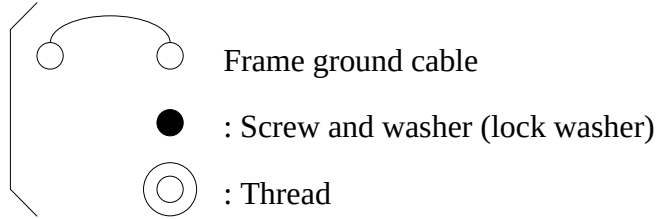


Fig. 3.4.3.2-2 Connection of Frame

3.4.3.3 Frame Ground Cable Attachment

Note



DKU-R2

1. Attach the Frame Ground Cable with the screw and washer (Lock washer).

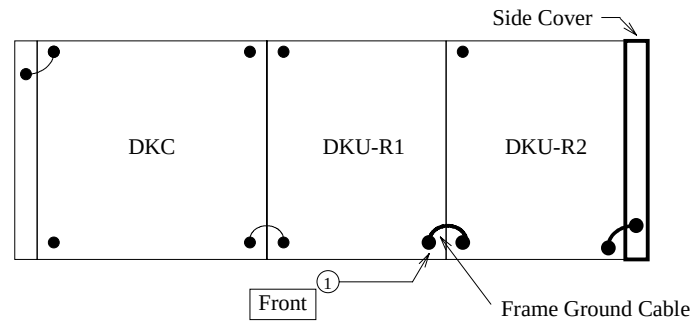


Fig. 3.4.3.3-1 Attachment of Frame Ground Cable

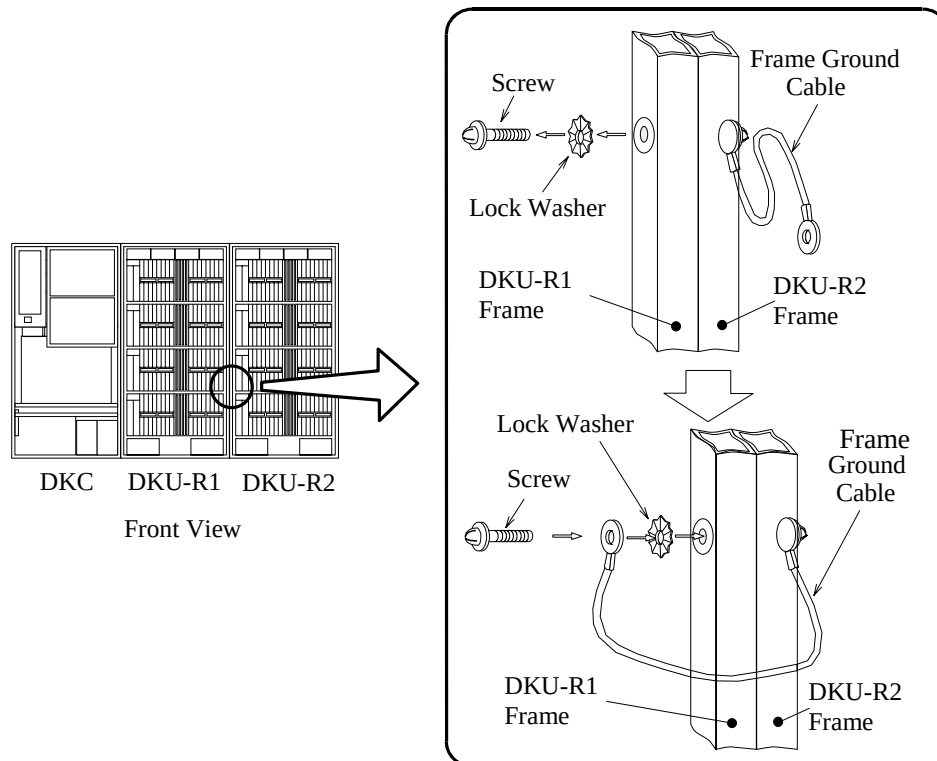


Fig. 3.4.3.3-2 Attachment of Frame Ground Cable

DKU-L1

1. Remove the frame ground cable from the DKU-L1.
2. Attach frame ground cable with the screw and lock washer between DKC and DKU-L1.
3. Attach the cover to the DKC frame in the reverse order of SECTION 3.4.2.5 Installing DEV interface cable for the DKU-L1.

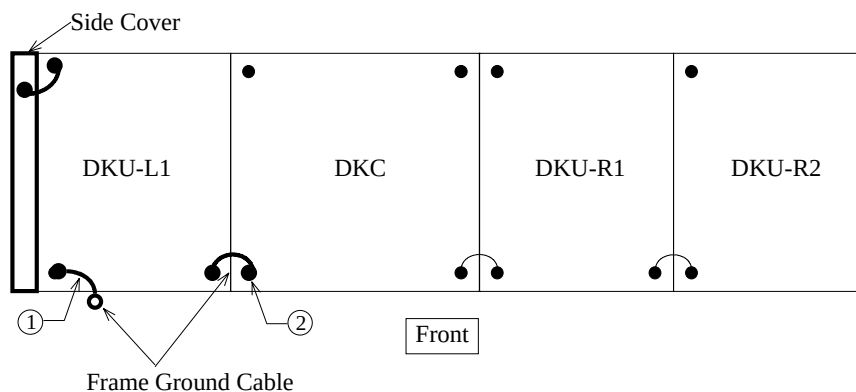


Fig. 3.4.3.3-3 Attachment of Frame Ground Cable

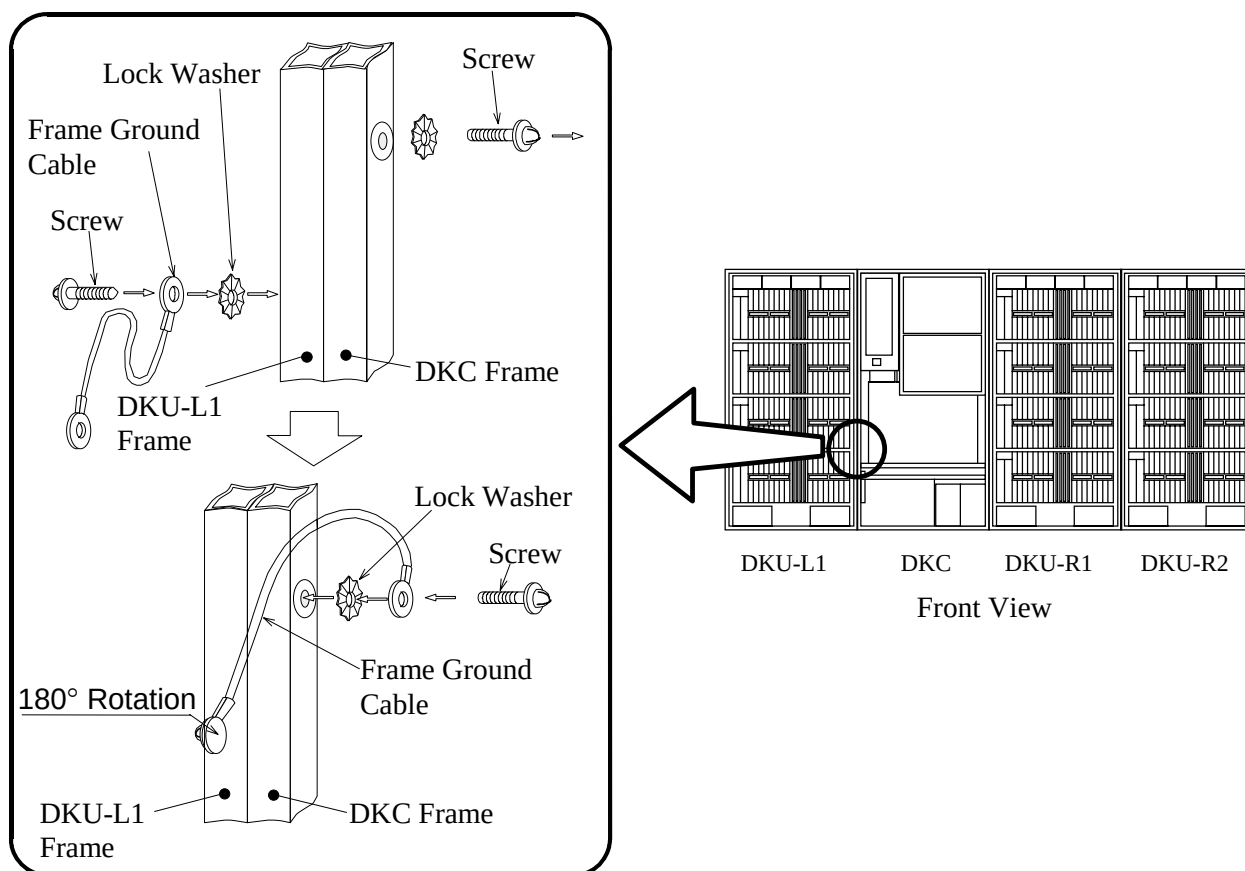


Fig. 3.4.3.3-4 Attachment of Frame Ground Cable

DKU-L2

1. Remove the frame ground cable from the DKU-L2.
2. Attach the frame ground cable with the screw and lock washer between DKU-L1 and DKU-L2.

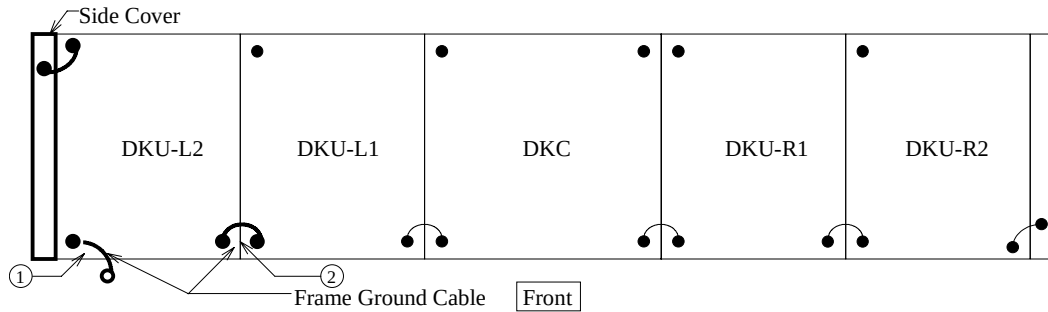


Fig. 3.4.3.3-5 Attachment of Frame Ground Cable

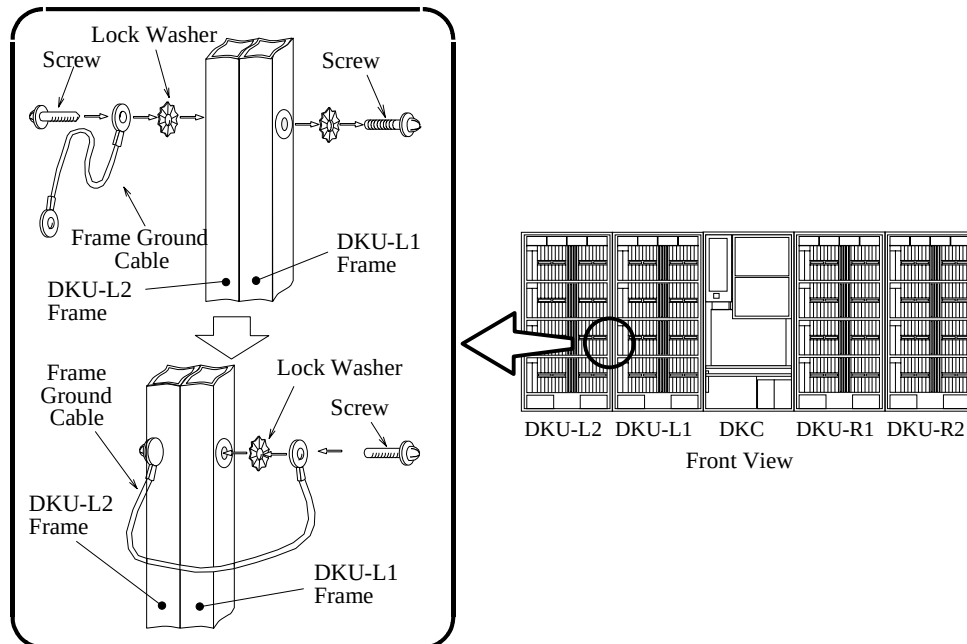


Fig. 3.4.3.3-6 Attachment of Frame Ground Cable

3.4.3.4 Side Cover Re-Installation

Attach the side cover to the end of the string with the four binding screws and washers.
See Fig. 3.4.3.4-1 and Table 3.4.2.2-1.

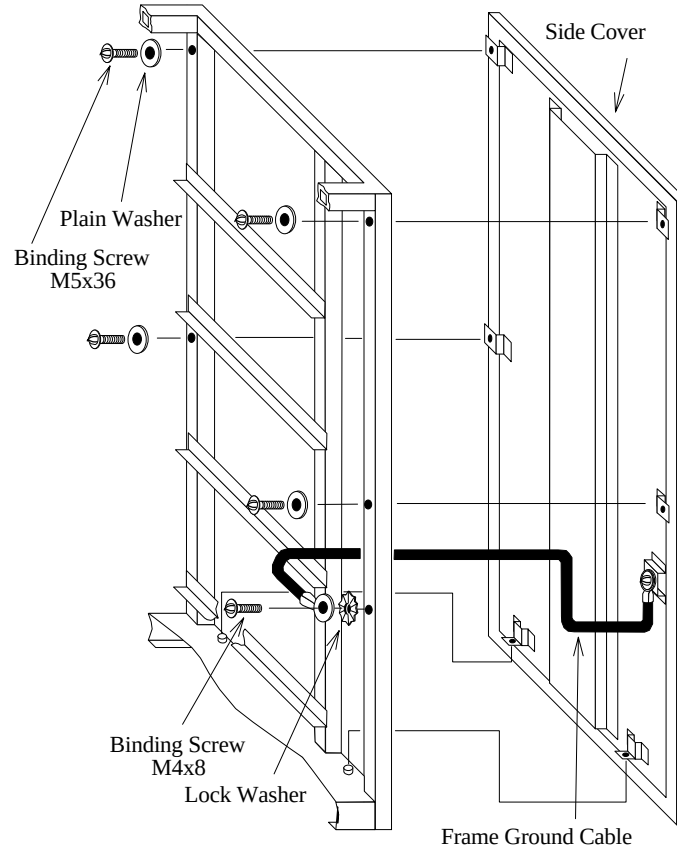


Fig. 3.4.3.4-1 Re-Installation of Side Cover

3.4.3.5 Kick Plate Installation

Secure the kick plates with screws, as shown in figures. 3.4.3.5-1 through 3.4.3.5-3.
Remove the side kick plates from the Disk Controller and replace them on the cabinets at both ends.

NOTICE:

Contact the Kick Plate to the floor to prevent static electricity.

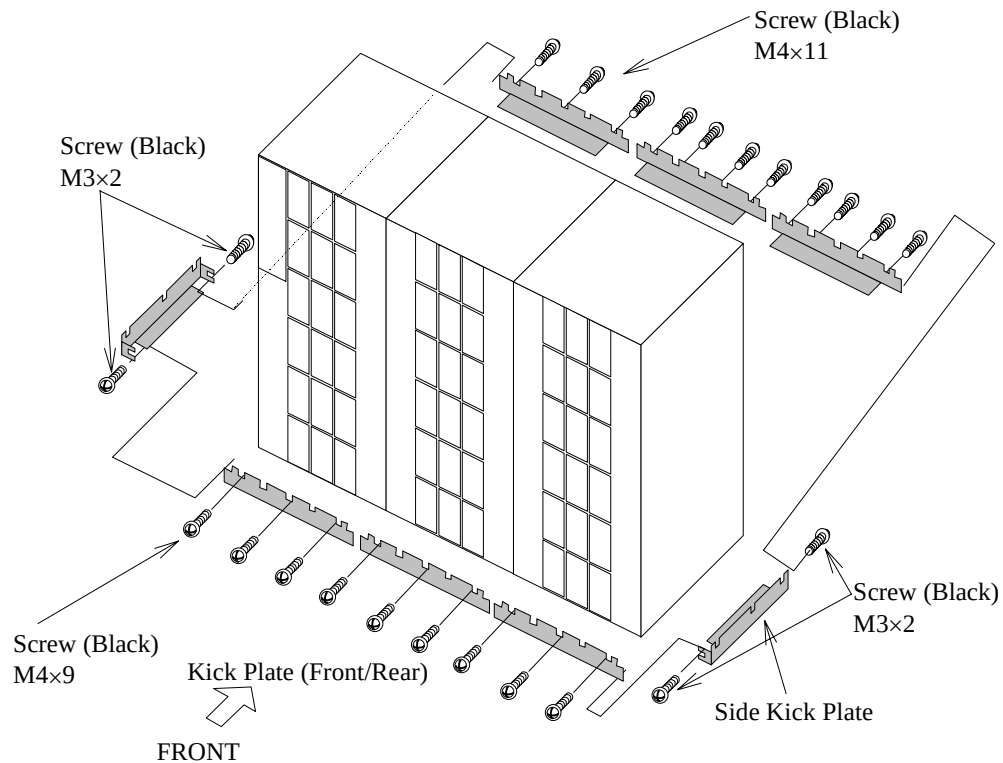


Fig. 3.4.3.5-1 Installation of Kick Plate (Two Disk Units)

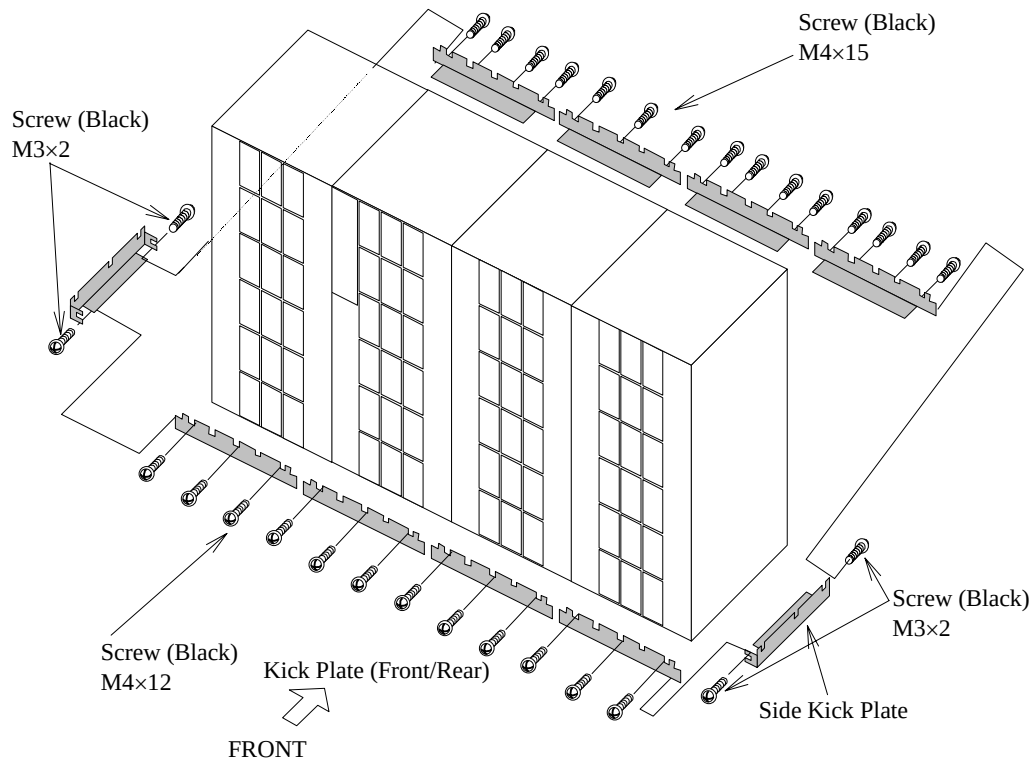


Fig. 3.4.3.5-2 Installation of Kick Plate (Three Disk Units)

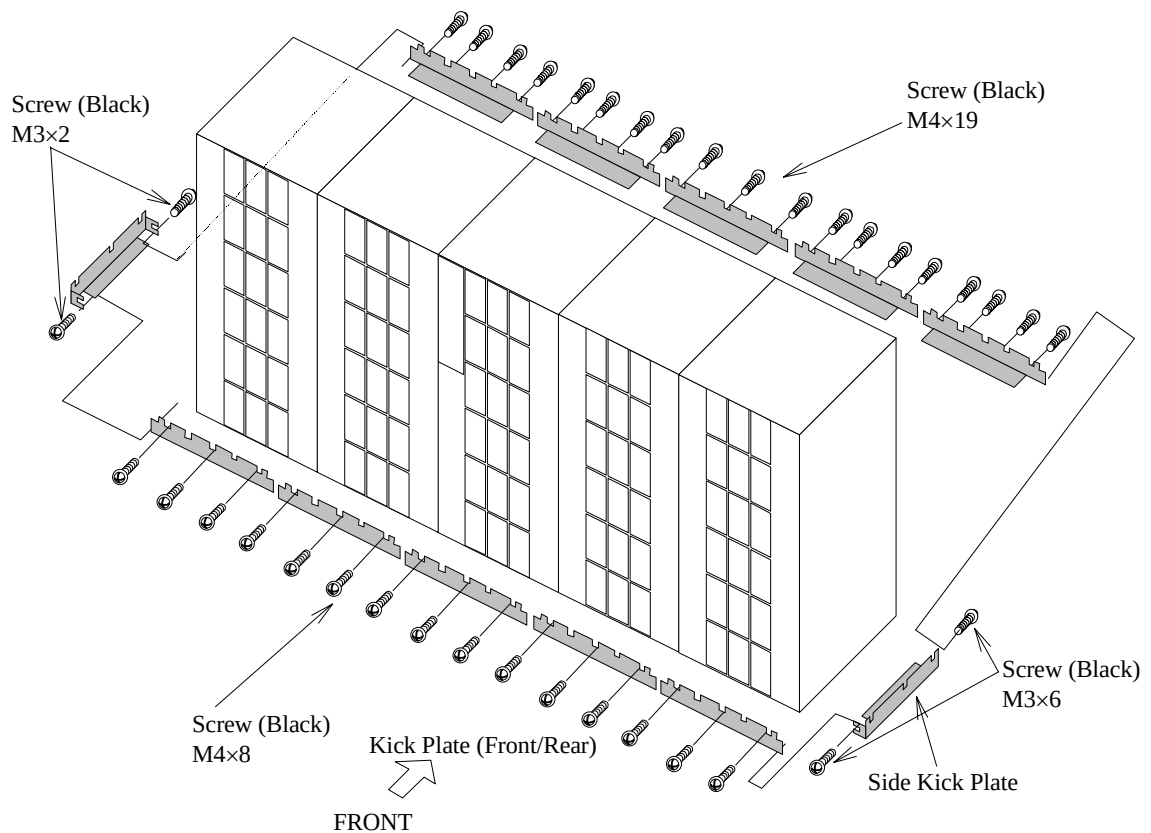


Fig. 3.4.3.5-3 Installation of Kick Plate (Four Disk Units)

3.4.4 Switch and Jumper Plug Installation

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3.4.4.1 MPS Setting

CAUTION

A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

Set the switches and install the jumper plugs in the MPSs as indicated in the Fig. 3.3.4.1-1, Table 3.3.4.1-1 and Table 3.3.4.1-2.

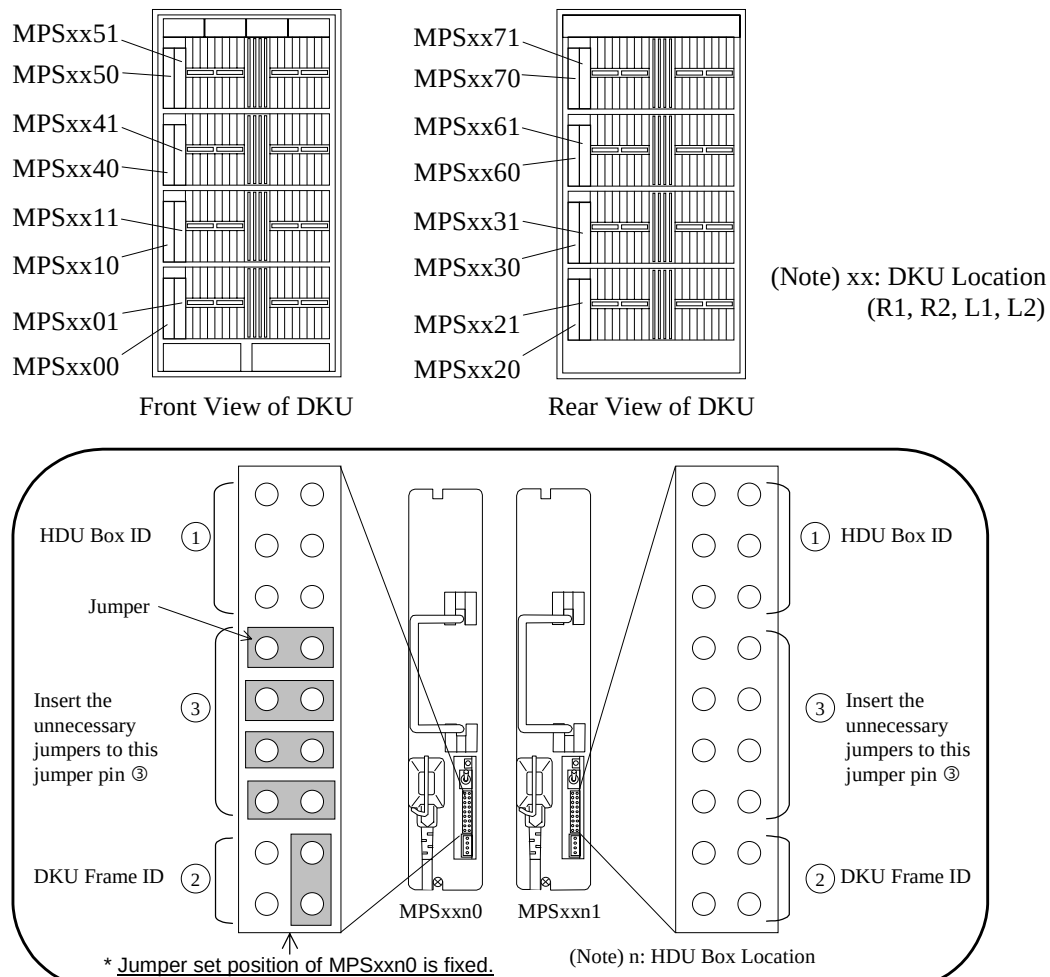
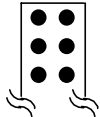
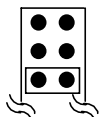
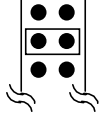
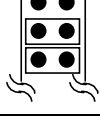
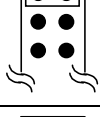
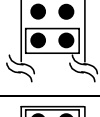
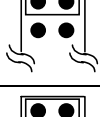
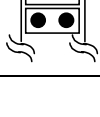


Fig. 3.3.4.1-1 Installation of Jumper Plugs in MPS

Table 3.4.4.1-1 Specification of HDU Box ID

Setting	MPS Location	HDU BOX Location	Jumper Setting
Specification of HDU Box ID ① (Switch settings corresponding to ① in Fig. 3.3.4.1-1)	MPSxx01	HDU-xx0	
	MPSxx11	HDU-xx1	
	MPSxx21	HDU-xx2	
	MPSxx31	HDU-xx3	
	MPSxx41	HDU-xx4	
	MPSxx51	HDU-xx5	
	MPSxx61	HDU-xx6	
	MPSxx71	HDU-xx7	

(Note1) xx: DKU Location (R1, R2, L1, L2)

(Note2) Insert the unnecessary jumpers to this jumper pin ③.

Table 3.4.4.1-2 Specification of DKU Frame ID ②

Setting	MPS Location	DKU Location	Jumper Setting
Specification of DKU Frame ID ② (Switch settings corresponding to ② in Fig. 3.3.4.1-1)	MPSR2n1	DKU-R2	
	MPSL1n1	DKU-L1	
	MPSL2n1	DKU-L2	

(Note3) n: HDU Box Location (0, 1, 2, 7)

3.4.4.2 Installation of Switch in JMP PCB

CAUTION

A serious failure occurs if a wrong setting is made.

Operate very carefully referring to the setting table not to make a mistake in the setting.

Set the switch in the JMP PCB as indicated in the Fig. 3.4.4.2-1 and Table 3.4.4.2-1.

Switch settings must be made at 32 places in total per frame, that is, at 16 places in the front side and at 16 places in the rear side.

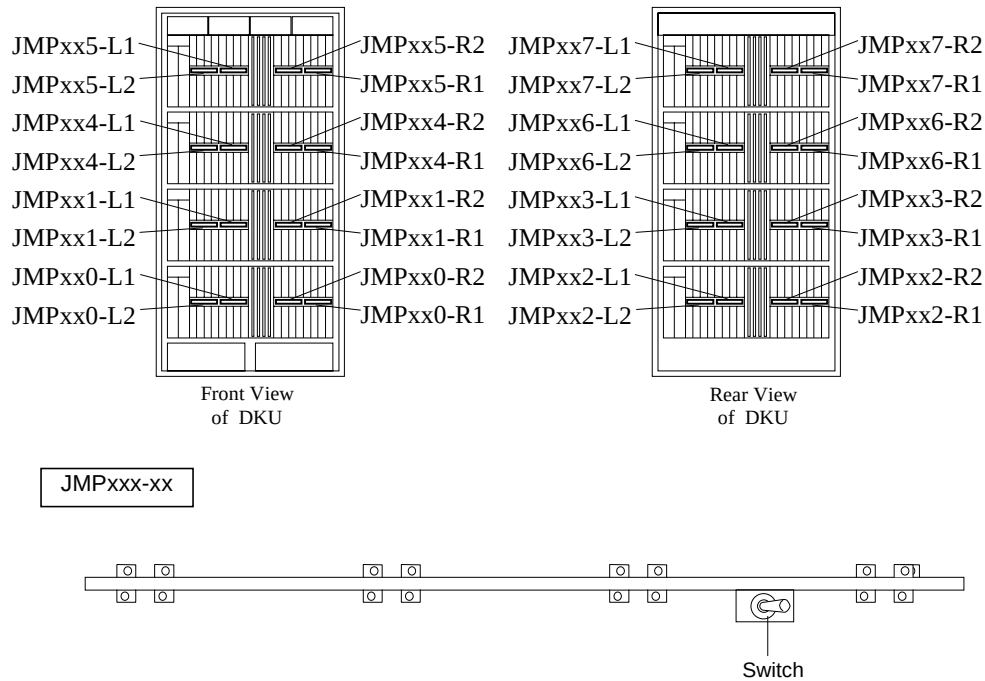


Fig. 3.4.4.2-1 Switch Setting of JMP

Table 3.4.4.2-1 Switch Setting of the JMP PCB

Setting	Function Name	Location	Switch Setting
Specification of DKU Frame ID	JMPR2#-xx	DKU-R2	Set all switches to the left side position in the DKU-R2. Left ← 
	JMPL1#-xx	DKU-L1	Set all switches to the right side position in the DKU-L1. → Right 
	JMPL2#-xx	DKU-L2	Set all switches to the left side position DKU-L2. Left ← 

(Note) JMPR1#-xx

→ JMP Location: R1, R2, L1, L2

→ HDU Box Location: 0, 1, 2, ..., 6, 7

3.4.5 Labeling

1. Attach the Label (V/Hz/PH.) to the DKU bottom base of Rear side.
Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.

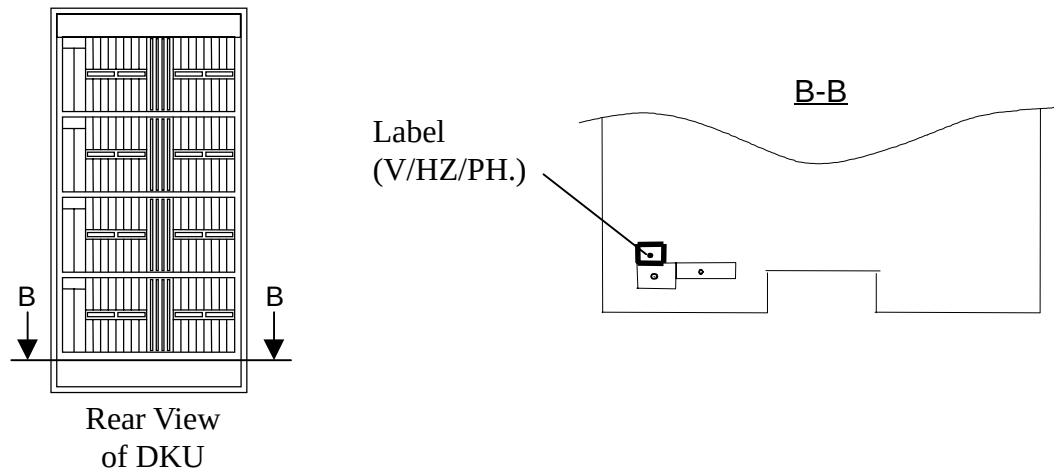


Fig. 3.4.5-1 Attachment of Label (V/Hz/PH.)

3.4.6 Check of Jumper Settings

CAUTION

A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

1. Check the jumper settings and switches. Refer to Section 3.4.4 Switch and jumper plug Installation [INST03-DKU-220, 230].
When the jumper plugs and switches are not installed to the correct locations, install the jumper plugs and switches to the correct locations.

3.4.7 Check and Testing

3.4.7.1 AC Input Voltage Check

WARNING

Do not touch the internal parts of the AC power cable, the AC Box, or the Breaker Box.
Line voltage is present even if the circuit breaker is off.

1. Check the AC input voltage using a voltmeter at the customer's AC power source (at the distribution board or receptacle for R & S connectors).

3.4.7.2 Checking the AC Input Cable, and AC Input Voltage Select Jumper Cable

3 Phase Model

1. Check the input power cable and jumper cables (PU105 and PU113) at the AC Boxes in DKUs.
See Table 3.4.7.2-1, Fig. 3.4.7.2-1, and Fig. 3.4.7.2-2 for items.

Table 3.4.7.2-1 AC Input Cable Conditions and Jumper Cables Positions

Input Voltage	AC Input Cable Conditions	Jumper Cables Position	Dummy Connectors Position	Remarks
200-240Vac	4 conductors (R,S,T,FG)	JU105-1	JU105-2	Jumper Cable (PU105)
		JU113-1	JU113-2	Jumper Cable (PU113)
380-415Vac	5 conductors (R,S,T,N,FG)	JU105-2	JU105-1	Jumper Cable (PU105)
		JU113-2	JU113-1	Jumper Cable (PU113)

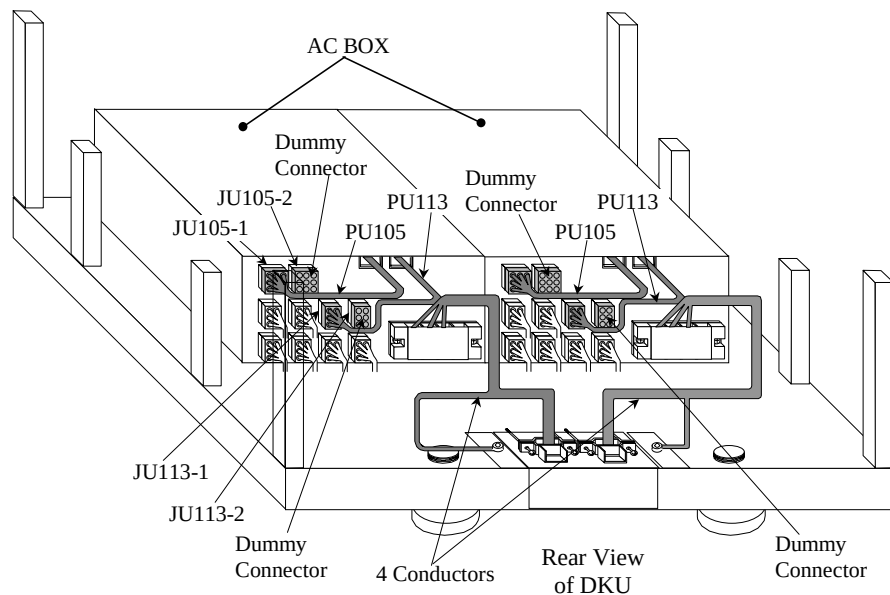


Fig. 3.4.7.2-1 AC Input Cable Conductors and Jumper Cables Positions 200-240Vac

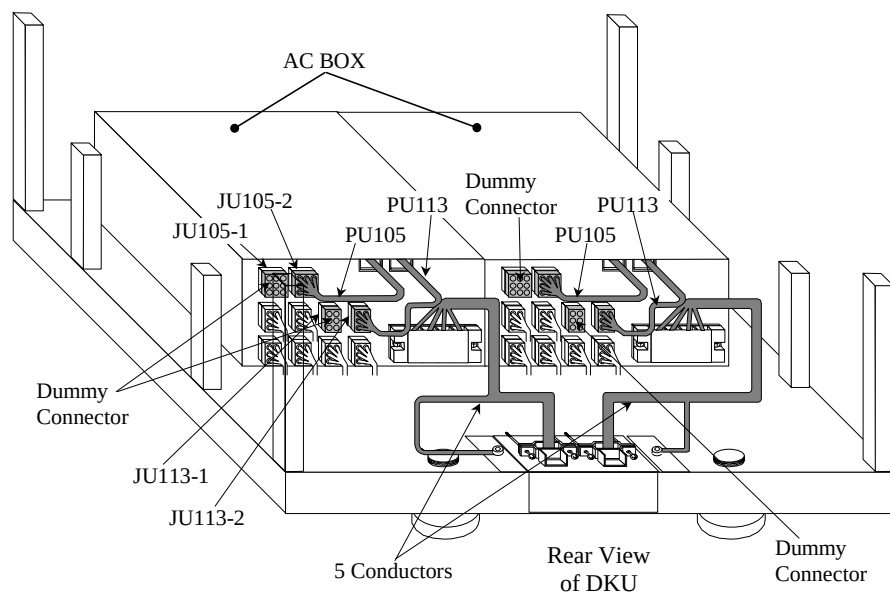


Fig. 3.4.7.2-2 AC Input Cable Conductors and Jumper Cables Positions 380-415Vac

Single Phase Model

1. Check the input power cable at the AC BOXes in the DKC and DKU. See table 3.4.8.2-2 and figures 3.4.7.2-3 and 3.4.7.2-4 for check items.

Table 3.4.7.2-2 AC Input Cable Conductors

UNIT	AC BOX	Input Voltage	AC Input Cable Conductors	Remarks
DKC	DKC AC BOX (AC BOX-C1, C2)	200-240Vac	3 conductors (U, V, FG)	
DKU	DKU AC BOX (AC BOX-##0, ##1)	200-240Vac	3 conductors (U, V, FG)	

(Note) ## : DKU Location No. (R1, R2, L1, L2)

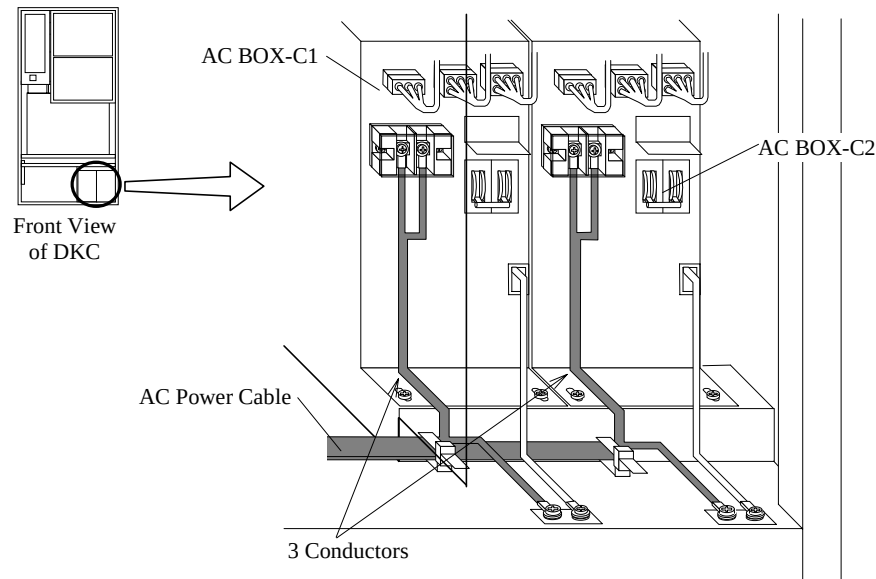


Fig. 3.4.7.2-3 AC Input Cable Conductors (DKC)

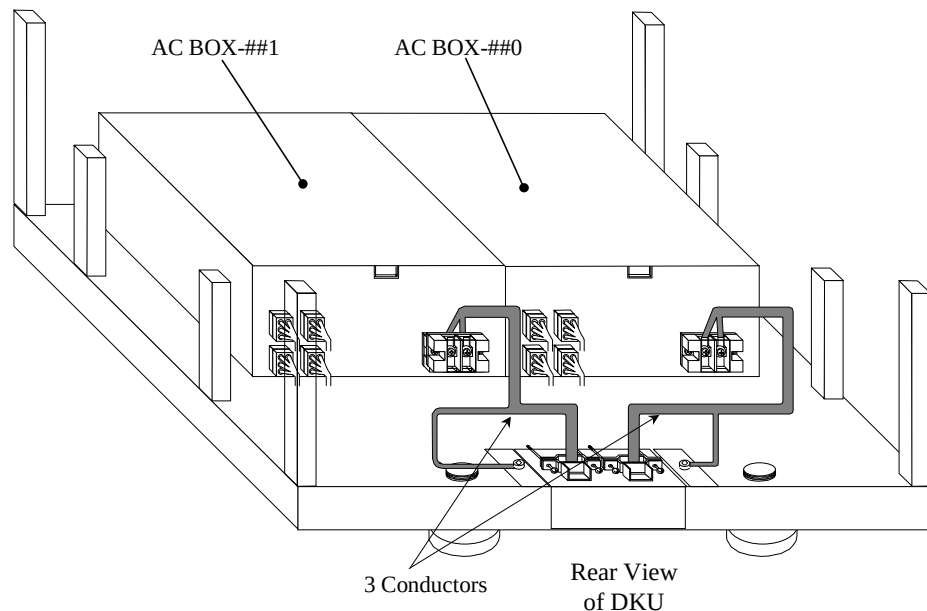
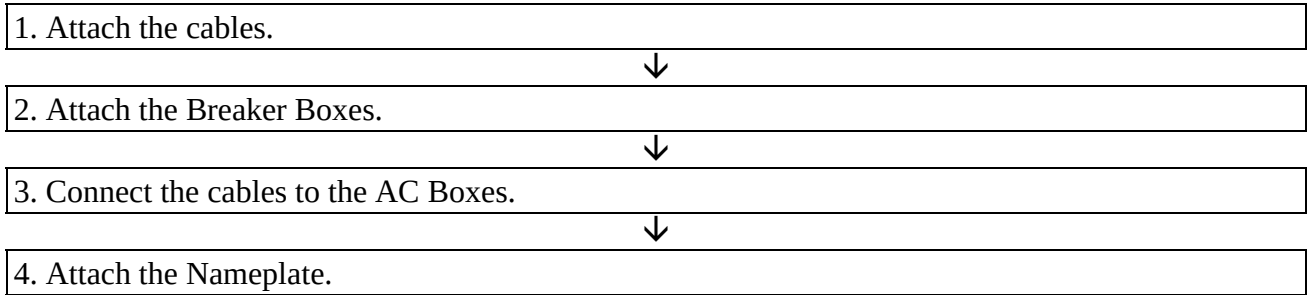


Fig. 3.4.7.2-4 AC Input Cable Conductors (DKU)

3.5 Installation of Breaker Box Kit for 3 Phase (DKC-F460I-3PS)

3.5.1 Flowchart



3.5.2 Parts list

Table 3.5-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-3PS	Breaker Box	5513517-A	2	
		Screw	SB306N	4	
		Cable	3261822-A	1	Label: PIN1-1, PC111-1
		Cable	3261822-B	1	Label: PIN2-1, PC112-1
		Cable	3261822-C	1	Label: PIN1-2, PC111-2
		Cable	3261822-D	1	Label: PIN2-2, PC112-2
		Nameplate (HDS)	2105902-122	1	RSD
			2105903-122		HICAM
			2105903-222		HICEF
		Nameplate (HP)	2105902-222	1	RSD
			2105903-322		HICAM
			2105903-422		HICEF

3.5.3 Installation Procedure of Breaker Box Kit for 3 Phase

1. Attach the cables.
 - a. Attach the cables for the Breaker Boxes.

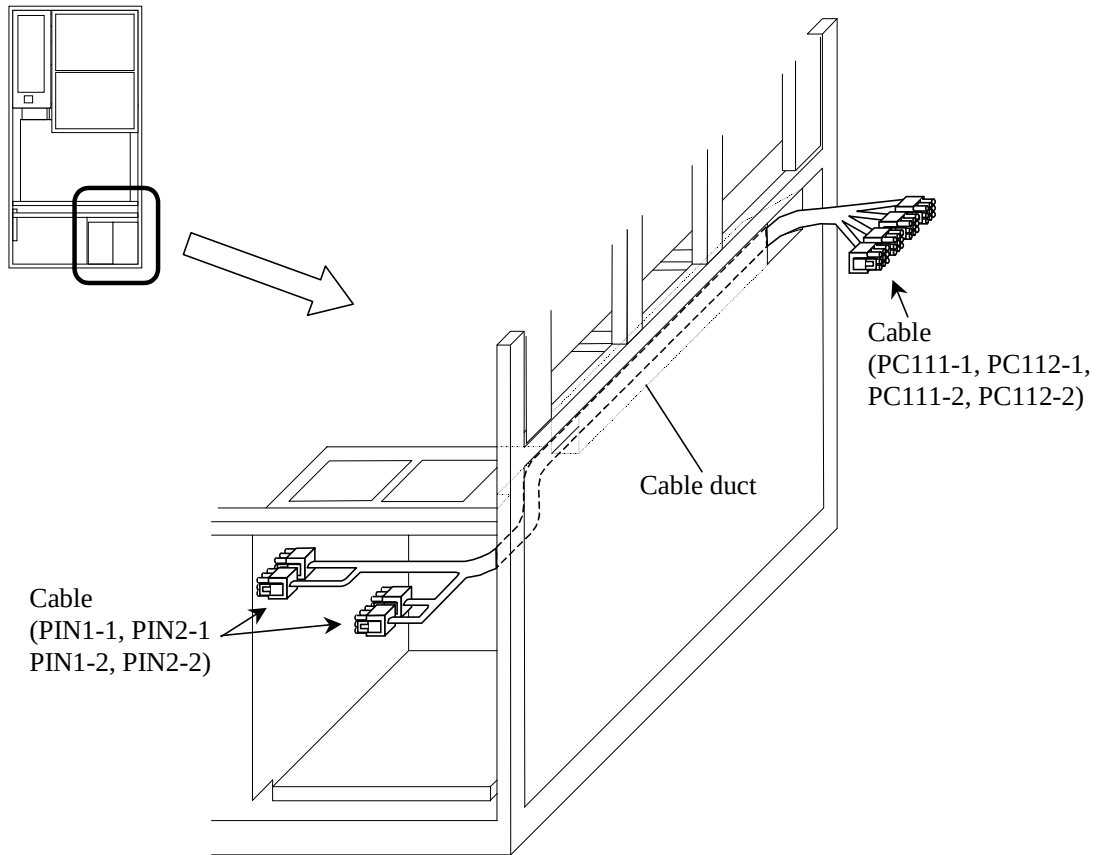


Fig. 3.5.3-1 Attachment of Cables

2. Attach the Breaker Boxes.

- a. Attach the two Breaker Boxes with the four screws.

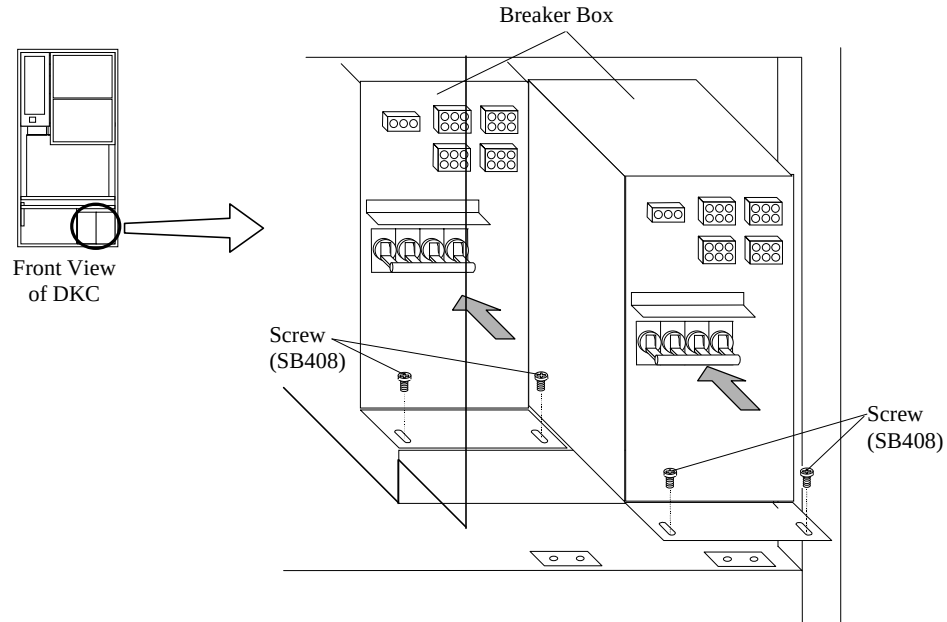


Fig. 3.5.3-2 Attachment of Breaker Boxes

- b. Connect the cables (POUT0-1, POUT1-1, POUT2-1, PIN1-1, PIN2-1, POUT0-2, POUT1-2, POUT2-2, PIN1-2 and PIN2-2) to the Breaker Boxes.

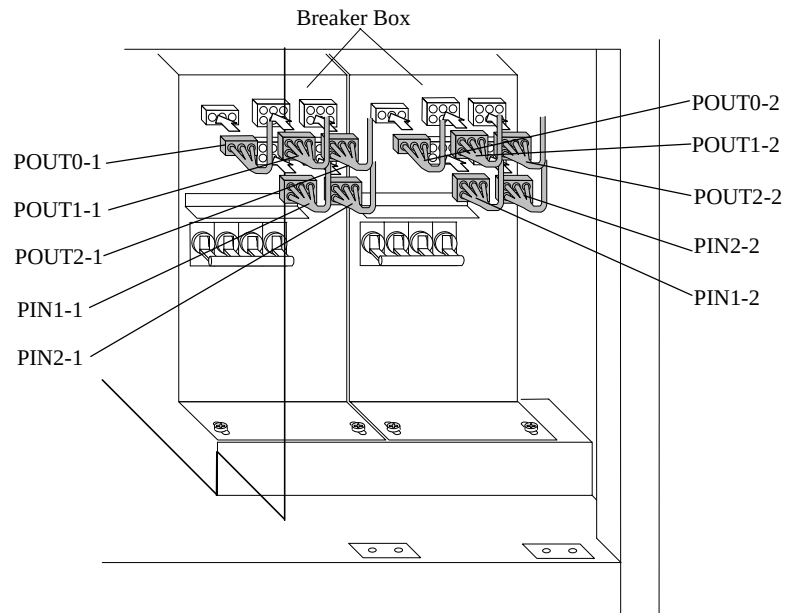


Fig. 3.5.3-3 Connection of Cables

3. Connect the cables to the AC Boxes.

- a. Connect the cables (PC111-1, PC112-2, PC111-2 and PC112-2) to the DKU AC Boxes.

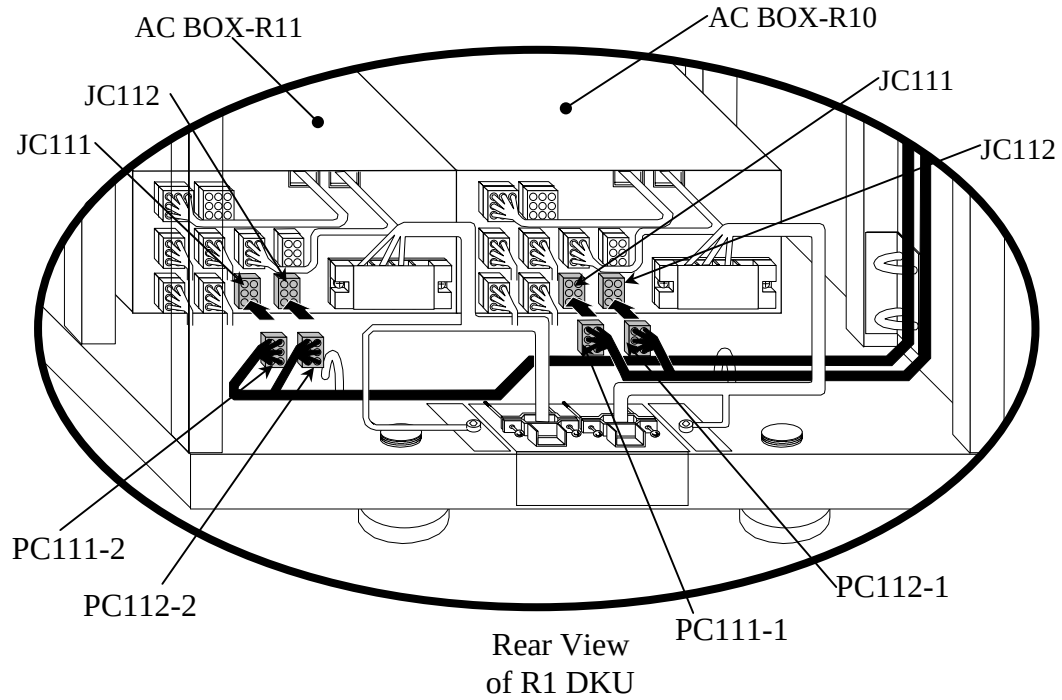


Fig. 3.5.3-4 Connection of Cables for DKC

- b. Bind the cables with the repeat binders.

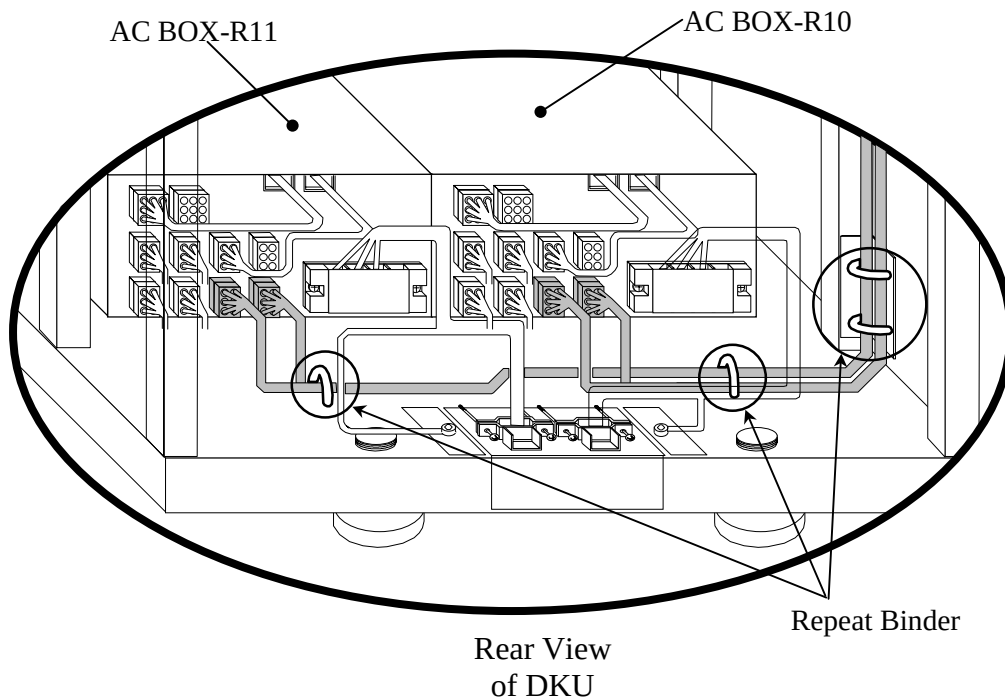


Fig. 3.5.3-5 Fastening of Cables for DKC

4. Attach the Nameplate.
 - a. Attach the nameplate to the Rear Logic Box cover.

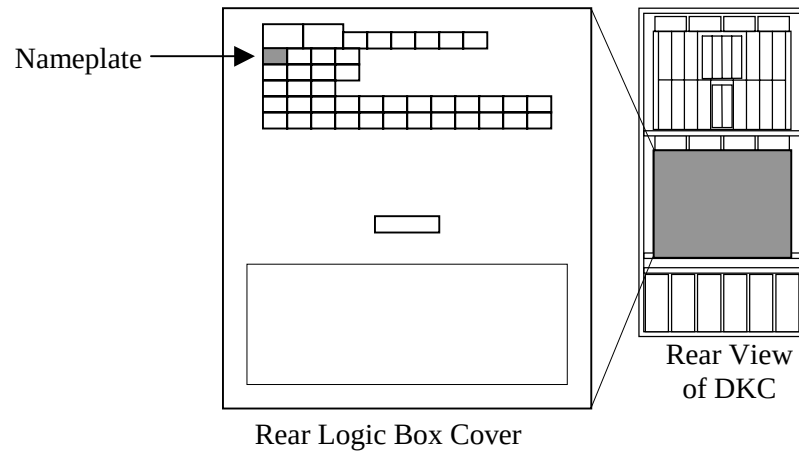


Fig. 3.5.3-6 Attachment of Nameplate

3.6 Installation of AC Box Kit

3.6.1 Installation of AC Box Kit for 3 Phase/60A or Single Phase/50A (DKU-F455I-3PS/1PS)

Table 3.6.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3PS	DKU AC Box	5513851-A	2	
		Nameplate (HDS)	2105912-1/2/3	1	RSD/HICAM/HICEF
		Nameplate (HP)	2105912-7/8/9	1	RSD/HICAM/HICEF
2	DKU-F455I-1PS	DKU AC Box	5513852-A	2	
		Nameplate (HDS)	2105912-21/22/23	1	RSD/HICAM/HICEF
		Nameplate (HP)	2105912-27/28/29	1	RSD/HICAM/HICEF

1. Remove the plate.
 - a. Remove the two screws and remove the plate.

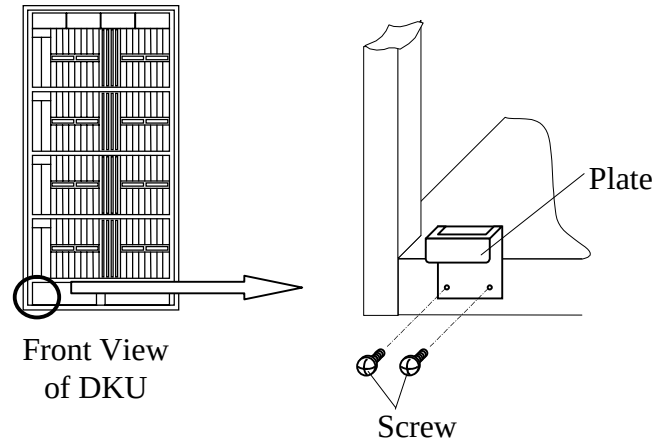


Fig. 3.6.1-1 Remove of Plate

2. Attach the DKU AC Boxes.
 - a. Slide the DKU AC Boxes from the front to the rear.

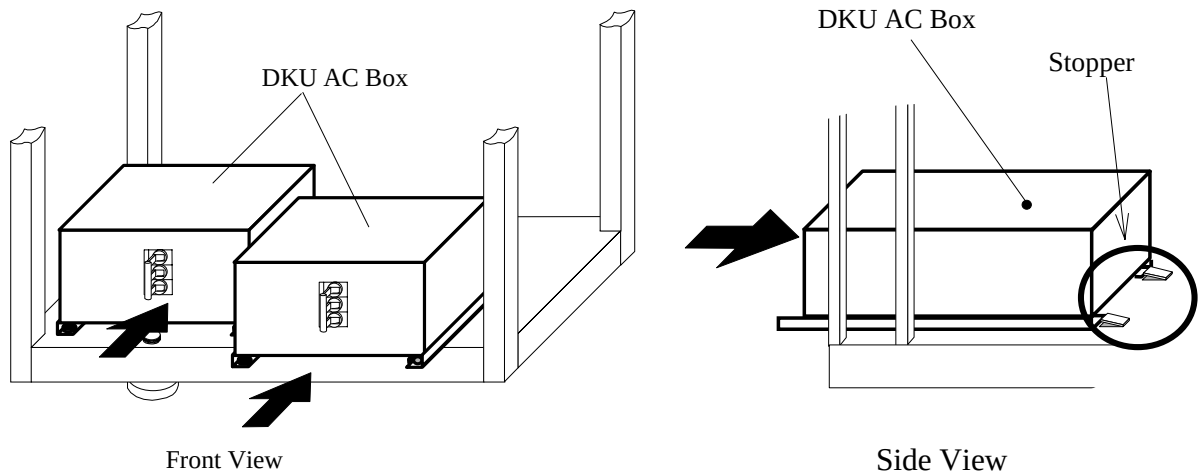
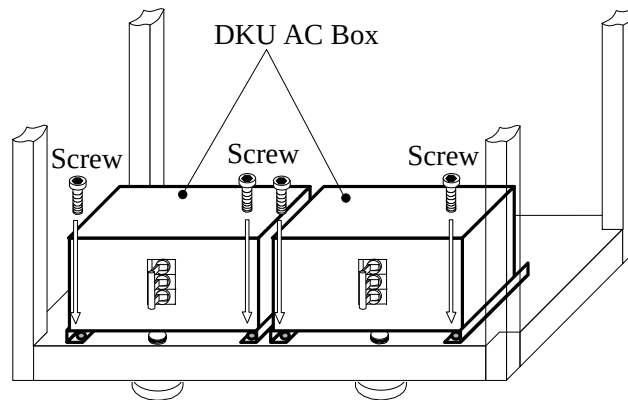


Fig. 3.6.1-2 Attachment of DKU AC Boxes

b. Secure the DKU AC Boxes with the screws.



Front View
of DKU

Fig. 3.6.1-3 Attachment of Screws

3. Connect the Cables.

DKU-F455I-3PS

- Secure the frame ground cables with the screws, LL washers and toothed washers.
- Connect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2, P104-2, PU105 and PC113) and dummy connectors to the DKU AC Boxes.

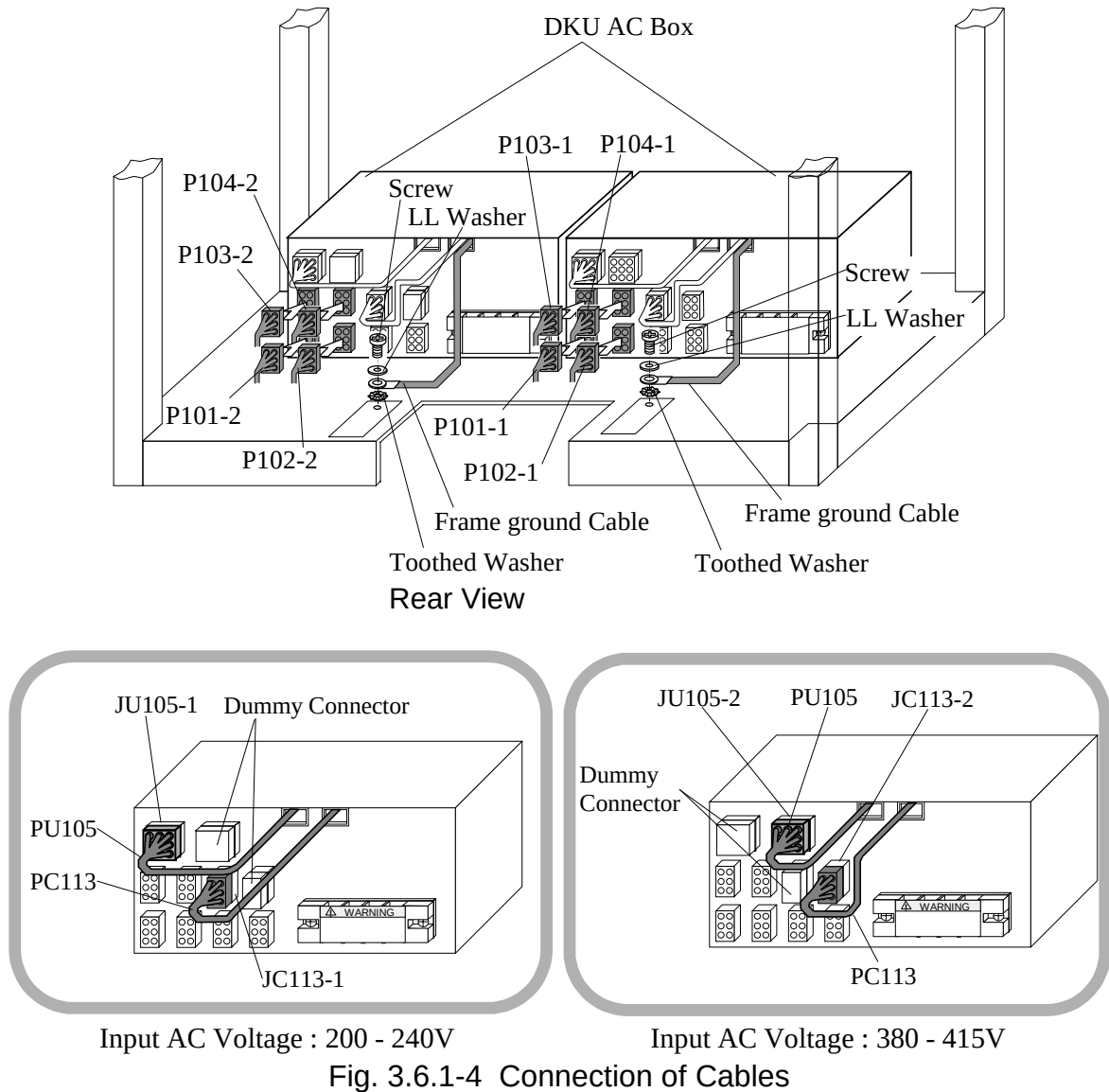
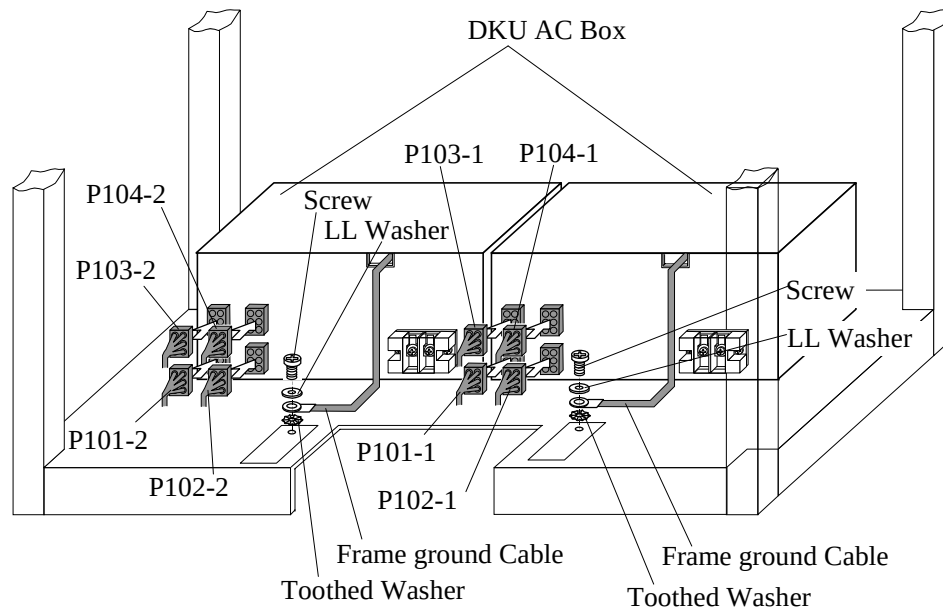


Fig. 3.6.1-4 Connection of Cables

DKU-F455I-1PS

- a. Secure the frame ground cables with the screws, LL washers and toothed washers.
- b. Connect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) to the DKU AC Boxes.



Rear View

Fig. 3.6.1-5 Connection of Cables

4. Attach the plate.
 - a. Attach the plate with the two screws. Refer to Fig. 3.6.1.3-1.
5. Attach the Nameplate.
 - a. Attach the corresponding nameplate to the left DKU AC Box.

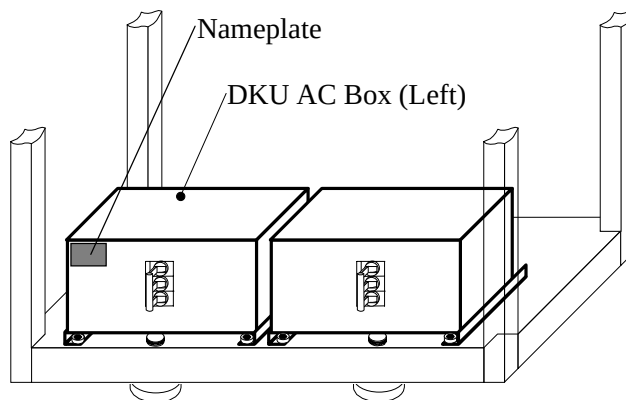
Front View
of DKU

Fig. 3.6.1-6 Attachment of Nameplate

3.6.2 Installation of AC Box Kit for Single Phase/40A (DKC-F460I-1PS)

Table 3.6.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1PS	DKC AC Box	5513519-A	2	
		Screw	SB408N	4	
		Screw	SB510N	4	
		Lock Washer	WT005N	4	Lock Washer
		Label(UL5)	5466325-1	2	
		Nameplate (HDS)	2105902-119	1	RSD
			2105903-119		HICAM
			2105903-219		HICEF
		Nameplate (HP)	2105902-219	1	RSD
			2105903-319		HICAM
			2105903-419		HICEF

1. Attach the DKC AC Boxes.
 - a. Attach the two DKC AC Boxes with the four screws.

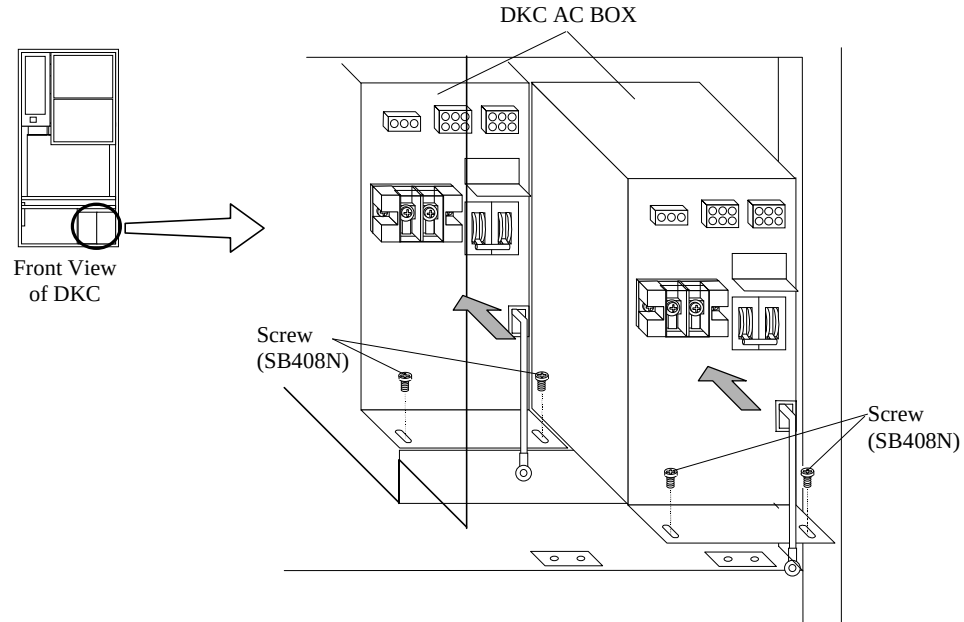


Fig. 3.6.2-1 Attachment of DKC AC Boxes

- b. Attach the frame ground cables with the two screws and the two lock washers. And attach the two screws and the two lock washers for Power Cable Unit.

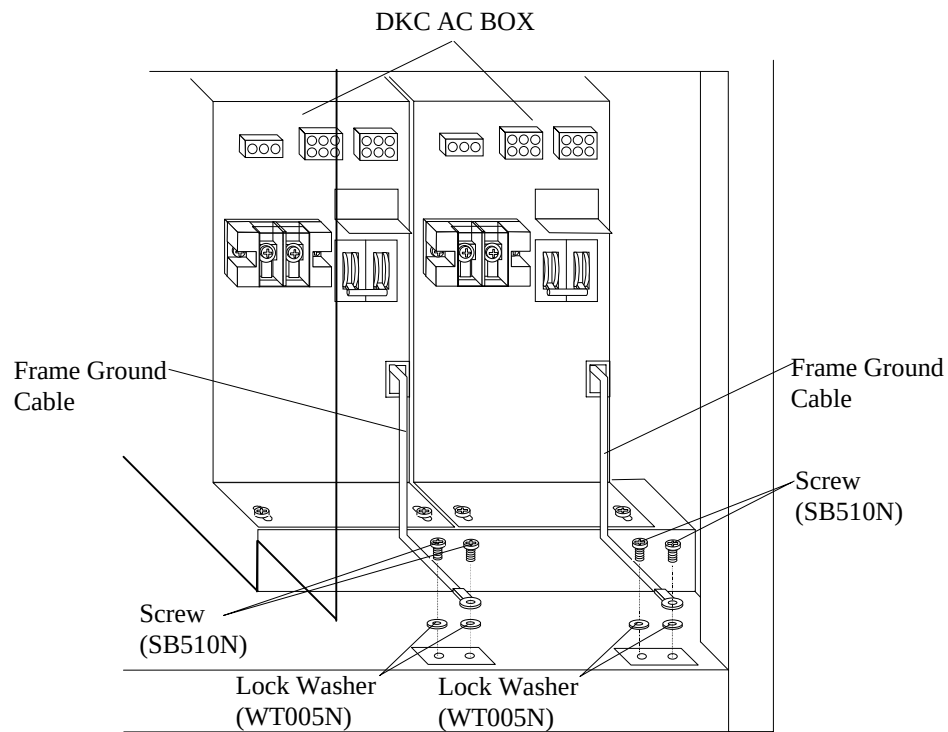


Fig. 3.6.2-2 Attachment of Screws

- c. Connect the cables (POUT0-1, POUT1-1, POUT2-1, POUT0-2, POUT1-2 and POUT2-2) to the DKC AC Boxes.

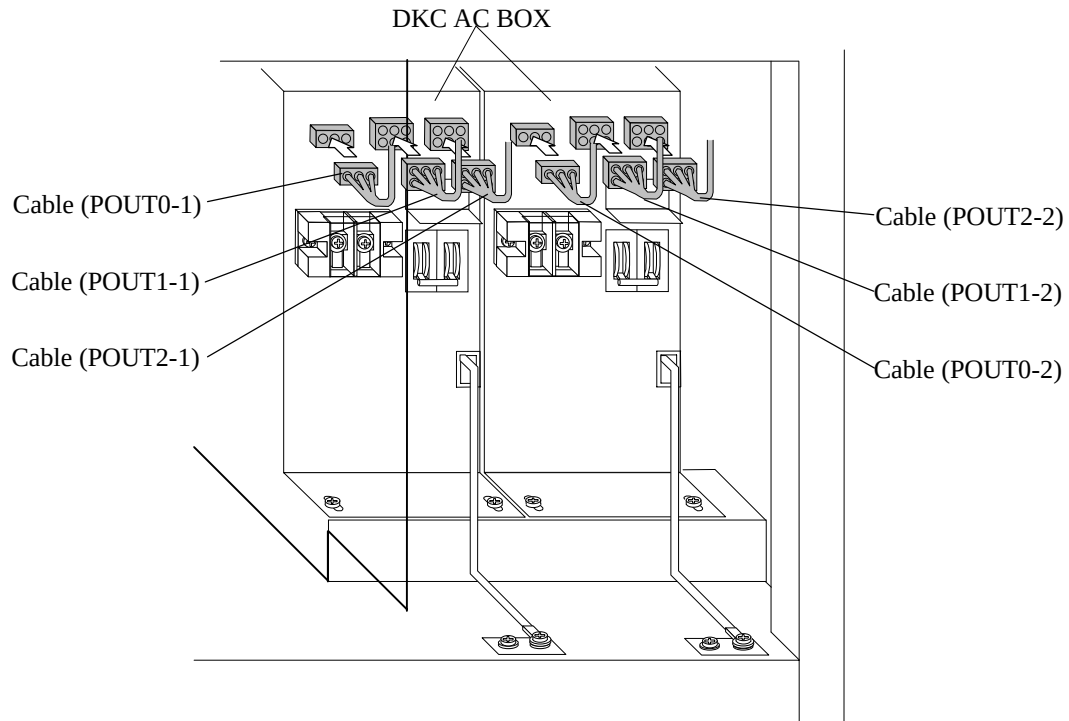


Fig. 3.6.2-3 Connection of Cables

2. Attach the Nameplate and the Labels.
 - a. Attach the nameplate to the Rear Logic Box cover.

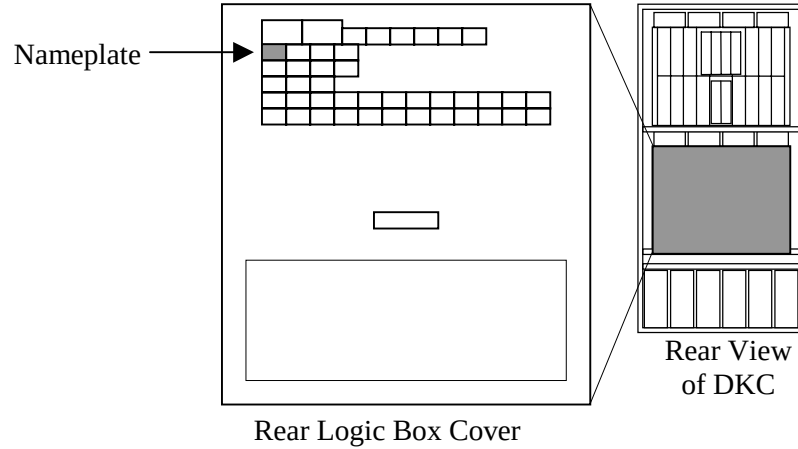


Fig. 3.6.2-4 Attachment of Nameplate

- b. Attach the label (V/Hz/PH.). Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.
 - c. Attach the labels (UL5) to the frame.

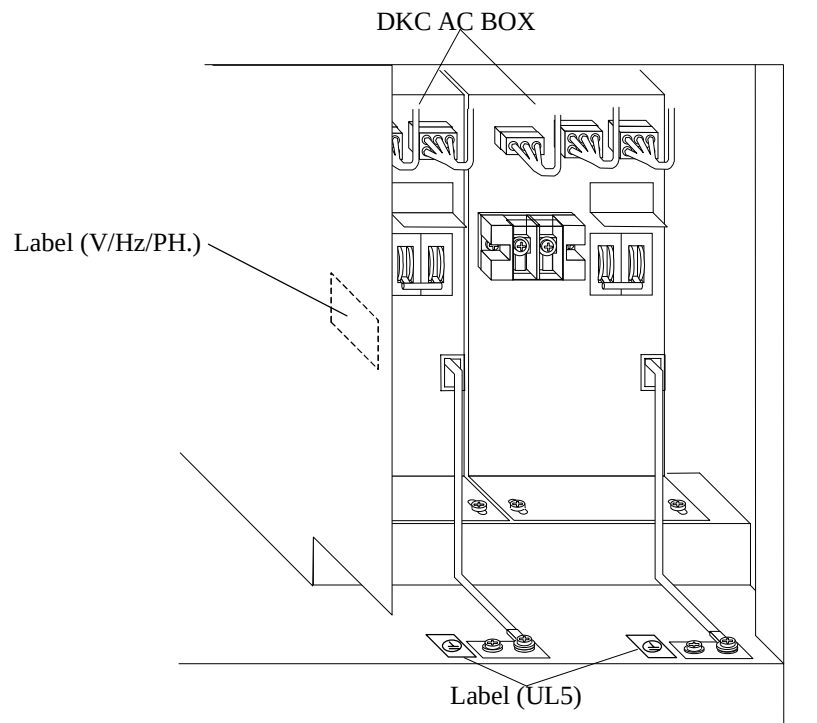


Fig. 3.6.2-5 Attachment of labels

3.6.3 Installation of AC Box Kit for 3 Phase/30A or Single Phase/30A (DKU-F455I-3PSD/1PSD)

Table 3.6.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3PSD	DKU AC Box	5518051-A	2	
		Bracket	3265680-1	1	
		Label(V.Hz.PH.A.W)	2105966-2	1	
		Nameplate (HDS)	2105912-47/-/-	1	RSD/HICAM/HICEF
		Nameplate (HP)	-	1	RSD/HICAM/HICEF
2	DKU-F455I-1PSD	DKU AC Box	5518052-A	2	
		Bracket	3265680-1	1	
		Label(V.Hz.PH.A.W)	2105966-2	1	
		Nameplate (HDS)	2105912-67/-/-	1	RSD/HICAM/HICEF
		Nameplate (HP)	-	1	RSD/HICAM/HICEF

1. Remove the plate.
 - a. Remove the two screws and remove the plate.

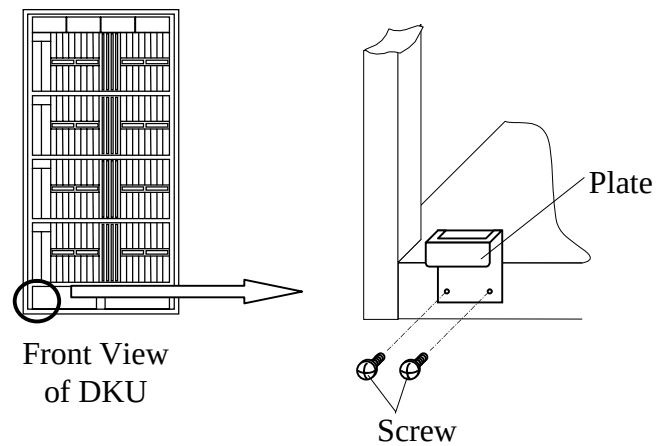


Fig. 3.6.3-1 Remove of Plate

2. Attach the DKU AC Boxes.
 - a. Slide the DKU AC Boxes from the front to the rear.

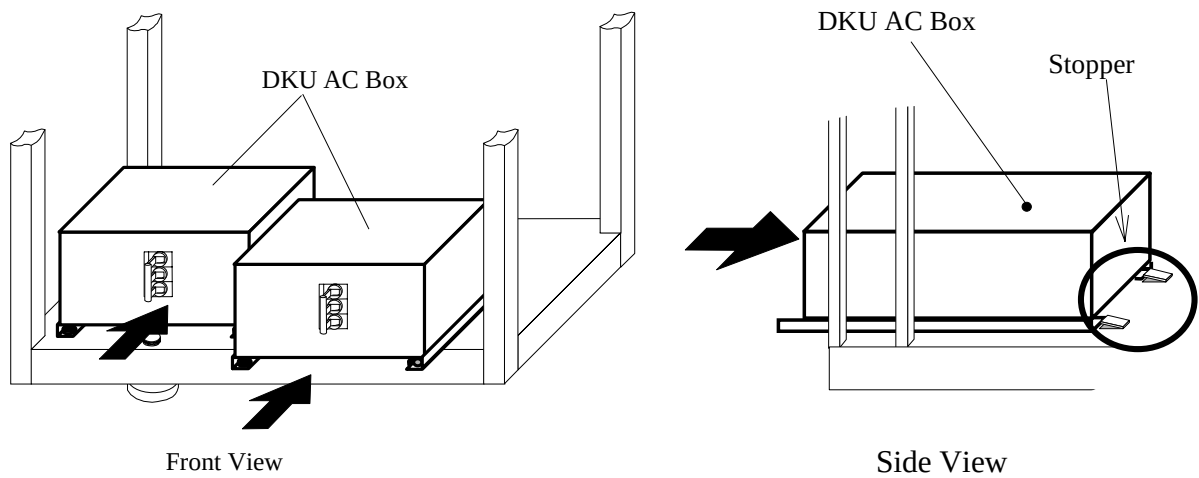


Fig. 3.6.3-2 Attachment of DKU AC Boxes

- b. Secure the DKU AC Boxes with the screws.

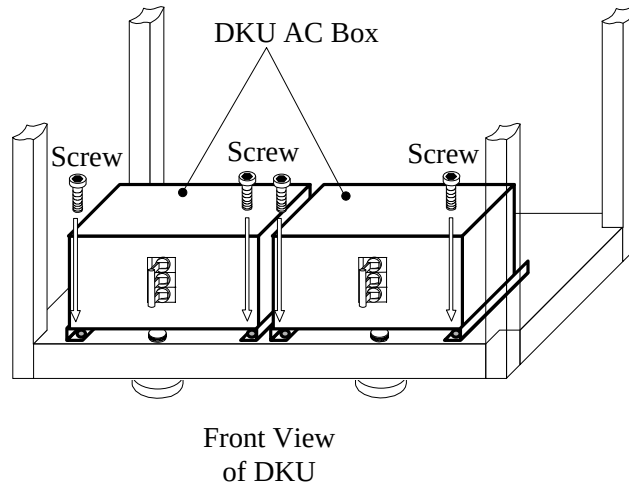


Fig. 3.6.3-3 Attachment of Screws

3. Connect the Cables.

DKU-F455I-1PSD

- Secure the frame ground cables with the screws, LL washers and toothed washers.
- Connect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) to the DKU AC Boxes.

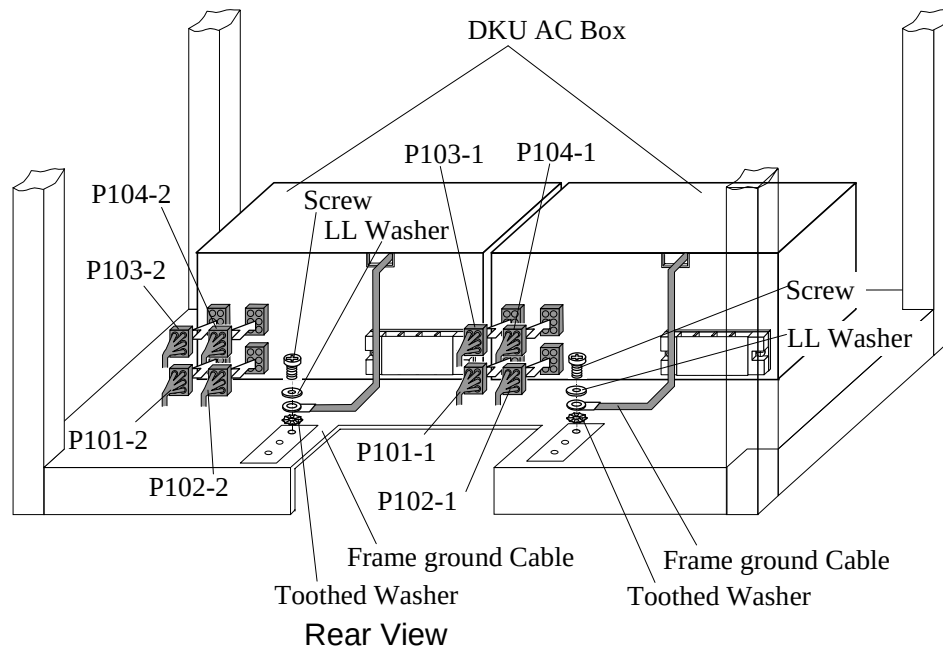
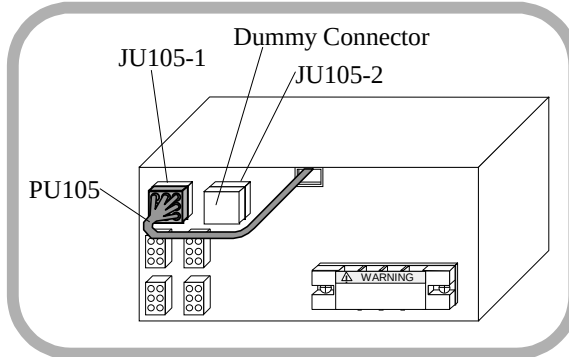
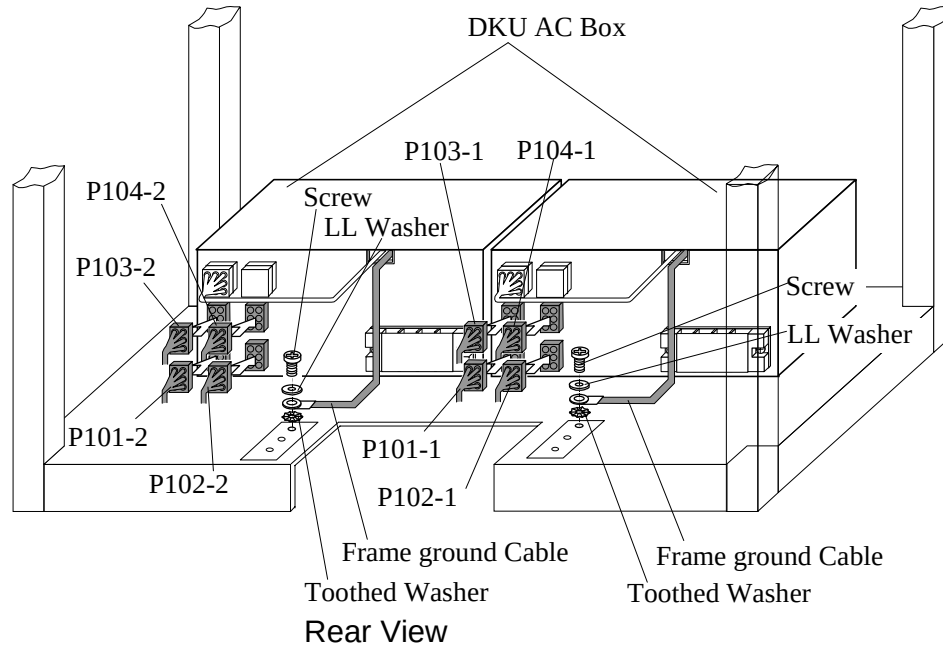


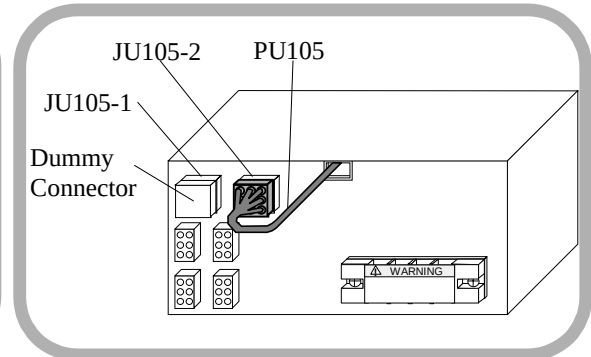
Fig. 3.6.3-4 Connection of Cables

DKU-F455I-3PSD

- Secure the frame ground cables with the screws, LL washers and toothed washers.
- Connect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2, P104-2 and PU105) and dummy connectors to the DKU AC Boxes.



Input AC Voltage : 200 - 240V



Input AC Voltage : 380 - 415V

Fig. 3.6.3-5 Connection of Cables

4. Attach the plate.
 - a. Attach the plate with the two screws. Refer to Fig. 3.6.3-1.
5. Attach the Nameplate and Labels.
 - a. Attach the corresponding nameplate to the left DKU AC Box.

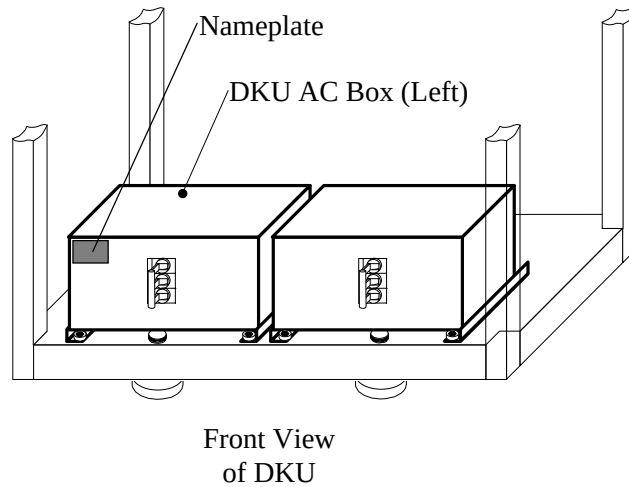


Fig. 3.6.3-6 Attachment of Nameplate

- b. Attach the label (V/Hz/PH.) to the DKU bottom base of rear side. Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.
 - c. Attach the label (V/Hz/PH.A.W) to the DKU bottom base of rear side.

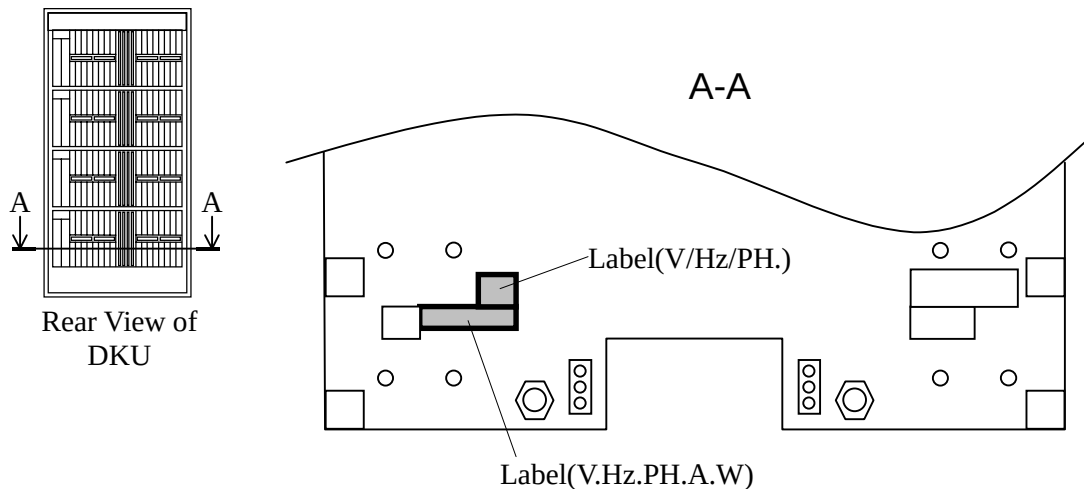
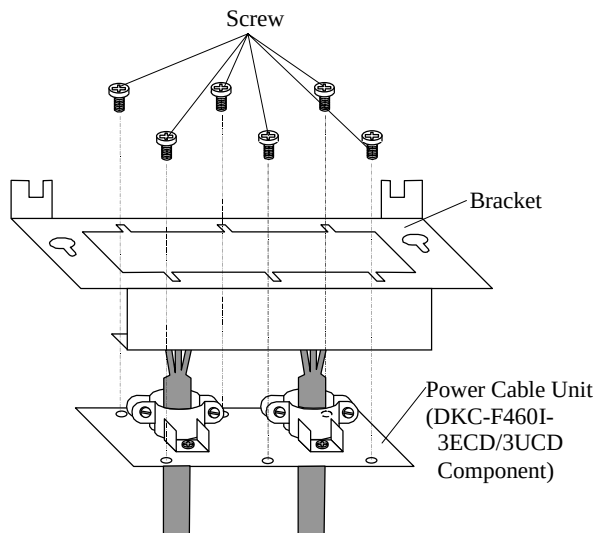


Fig. 3.6.3-7 Attachment of Labels

6. Attach the Bracket.

- a. Attach the power cable unit to the bracket and fasten the six screws.

DKU-F455I-3PSD



DKU-F455I-1PSD

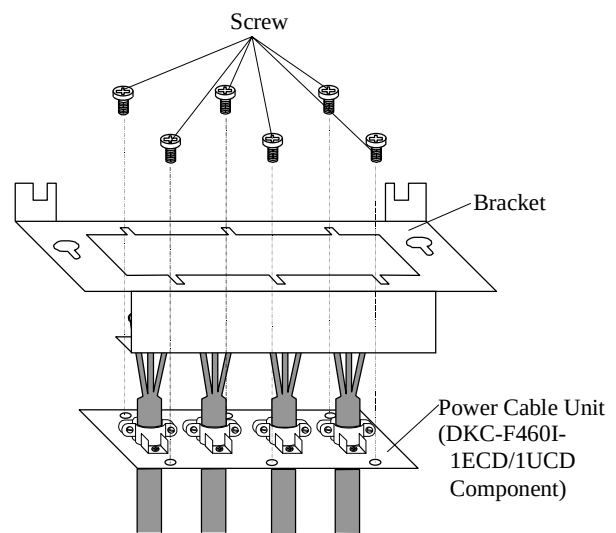


Fig. 3.6.3-8 Attachment of Power Cable Unit

- b. Attach the bracket to the DKU frame and fasten the two screws.

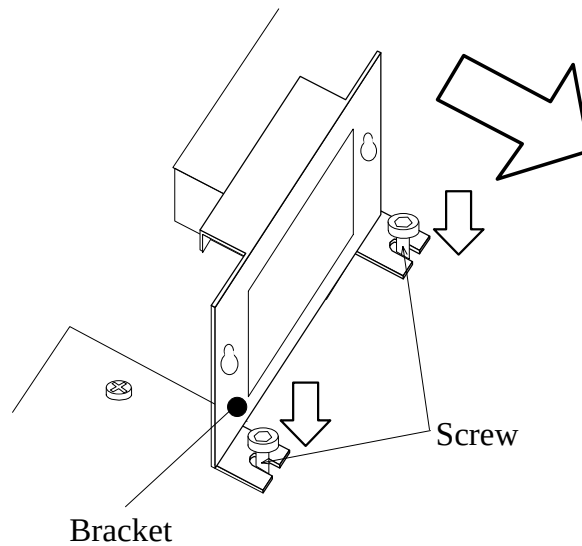


Fig. 3.6.3-9 Attachment of Bracket

3.6.4 Installation of AC Box Kit for 3 Phase/30A or Single Phase/30A (DKC-F460I-1PSD/3PSD)

Table 3.6.4-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1PSD	DKC AC Box	5517802-C	2	
		Bracket	3265681-1	1	
		Cover	3265679-1	1	
		Screw	SB306N	2	
		Screw	SB408N	6	
		Screw	SB510N	6	
		Lock Washer	WT005N	6	
		Label(UL5)	5466325-1	2	
		Label(V.Hz.PH.A.W)	3265706-1	1	
		Nameplate (HDS)	2105902-129	1	RSD
			2105903-129		HICAM
			2105903-229		HICEF
		Nameplate (HP)	-	1	RSD
			-		HICAM
			-		HICEF
2	DKC-F460I-3PSD	DKC AC Box	5517802-A	2	
		Bracket	2106296-A	1	
		Cover	3264038-1	1	
		Screw	SB306N	2	
		Screw	SB408N	6	
		Screw	SB510N	4	
		Lock Washer	WT005N	4	
		Label(UL5)	5466325-1	2	
		Label(V.Hz.PH.A.W)	3265706-1	1	
		Nameplate (HDS)	2105902-132	1	RSD
			2105903-132		HICAM
			2105903-232		HICEF
		Nameplate (HP)	-	1	RSD
			-		HICAM
			-		HICEF

Notice:

There are some DKCs in which the AC Box Kit for Single Phase/30A (DKC-F460I-1PSD) cannot be installed depending on the serial numbers (S#) of the DKCs because they have no connector for connecting the FG cable.

Serial Numbers of subsystem in which the AC Box Kit above cannot be installed:
10033-10169, 40001-40065, and 60001-60019

Serial Numbers of subsystem in which the AC Box Kit above can be installed:
10170 and over, 40066 and over, and 60020 and over

1. Attach the DKC AC Boxes.
 - a. Attach the two DKC AC Boxes with the four screws.

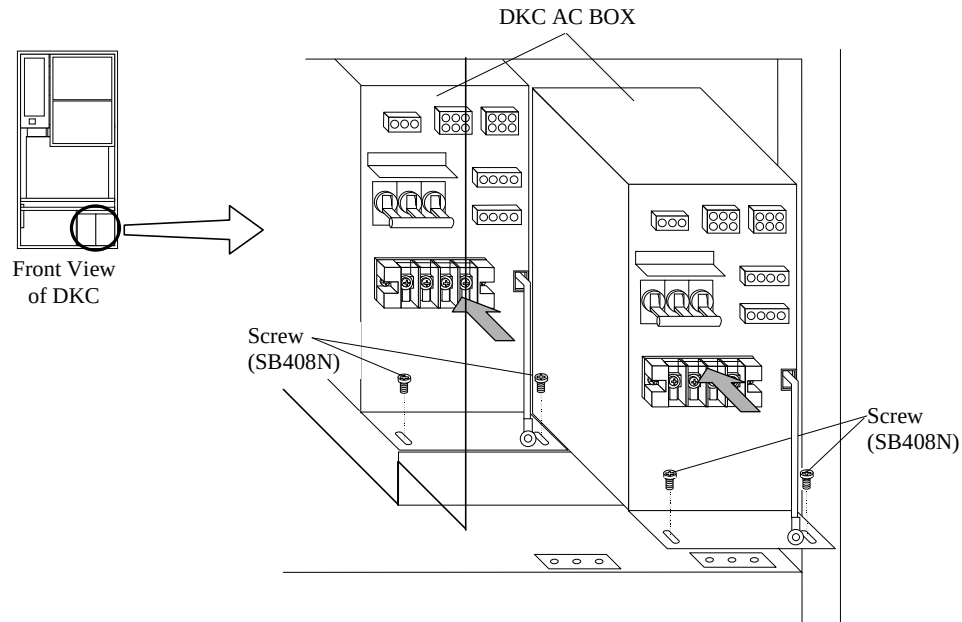


Fig. 3.6.4-1 Attachment of DKC AC Boxes

- b. Attach the frame ground cables with the two screws and the two lock washers. And attach the four screws and the four lock washers for Power Cable Unit.

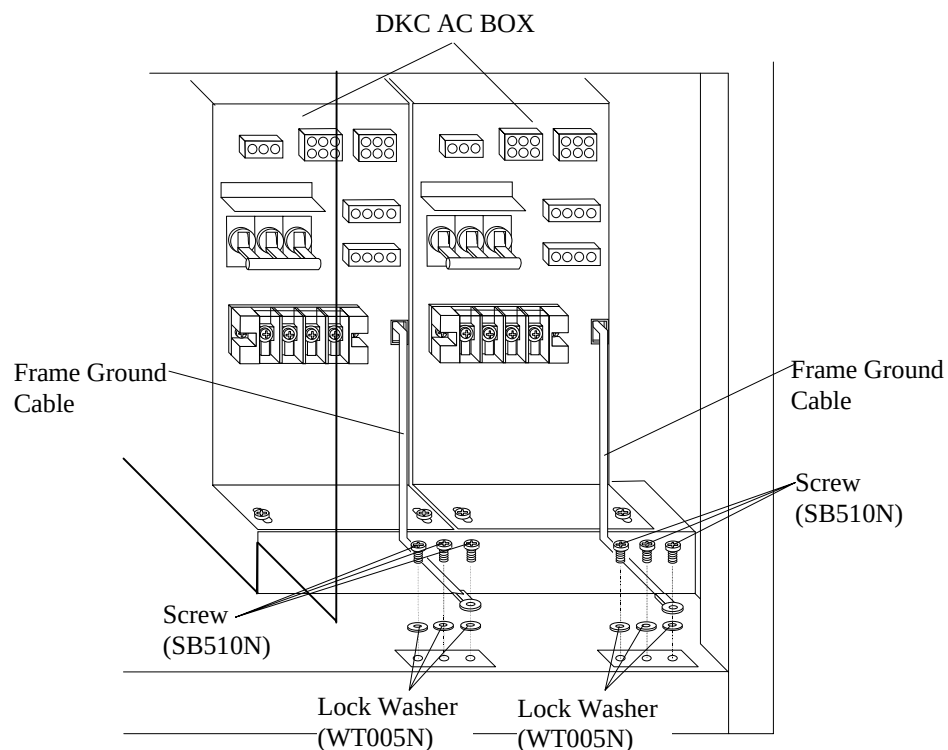
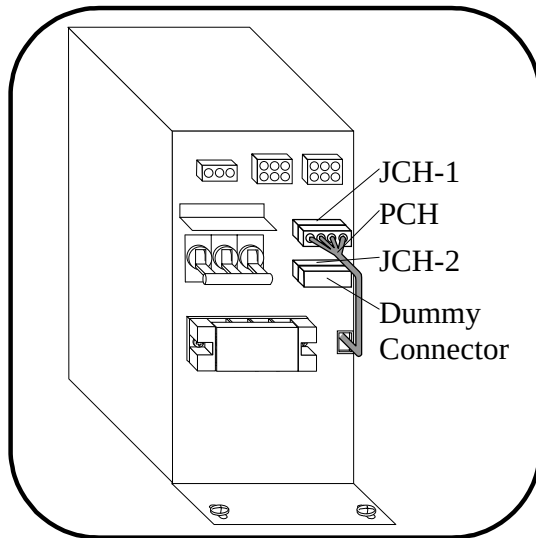
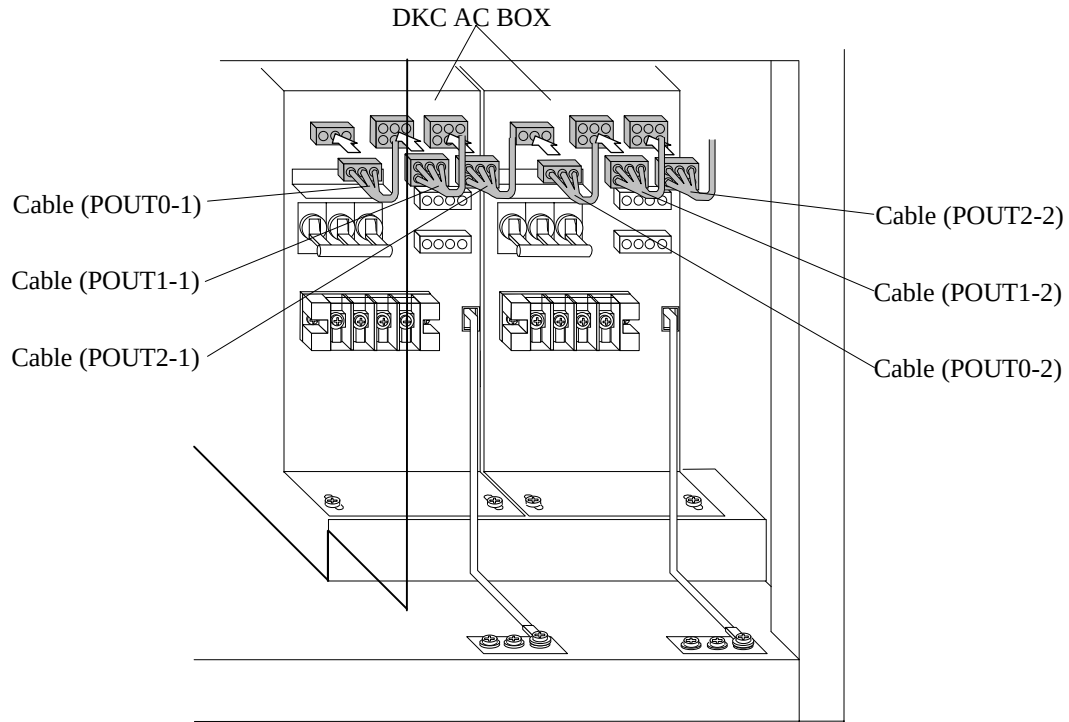


Fig. 3.6.4-2 Attachment of Screws

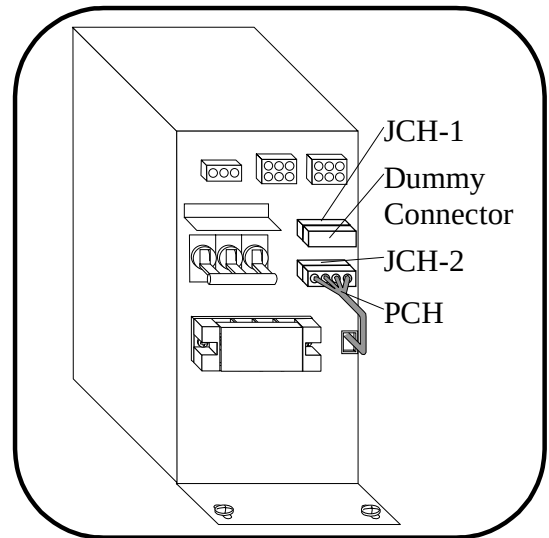
2. Connect the cables.

DKC-F460I-3PSD

- a. Connect the cables (POUT0-1, POUT1-1, POUT2-1, POUT0-2, POUT1-2, POUT2-2 and PCH) and dummy connectors to the DKC AC Boxes.



Input AC Voltage: 200-240V



Input AC Voltage: 380-415V

Fig. 3.6.4-3 Connection of Cables

DKC-F460I-1PSD

- a. Connect the cables (POUT0-1, POUT1-1, POUT2-1, POUT0-2, POUT1-2 and POUT2-2) to the DKC AC Boxes.

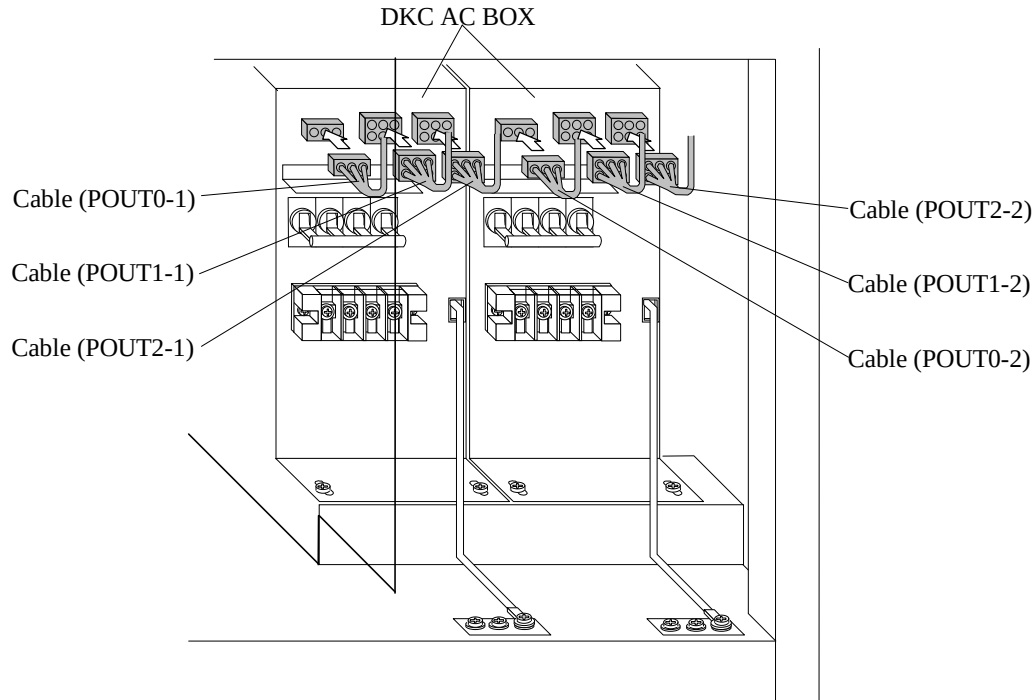


Fig. 3.6.4-4 Connection of Cables

3. Attach the Bracket.

- a. Attach the power cable unit to the bracket and fasten the six screws.

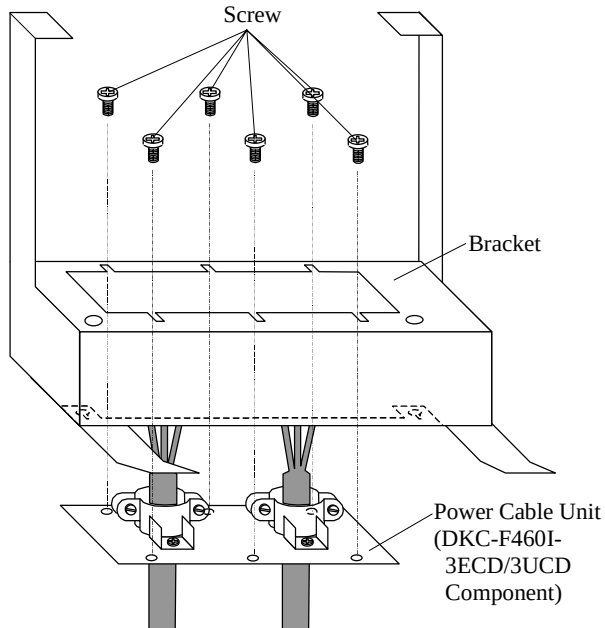
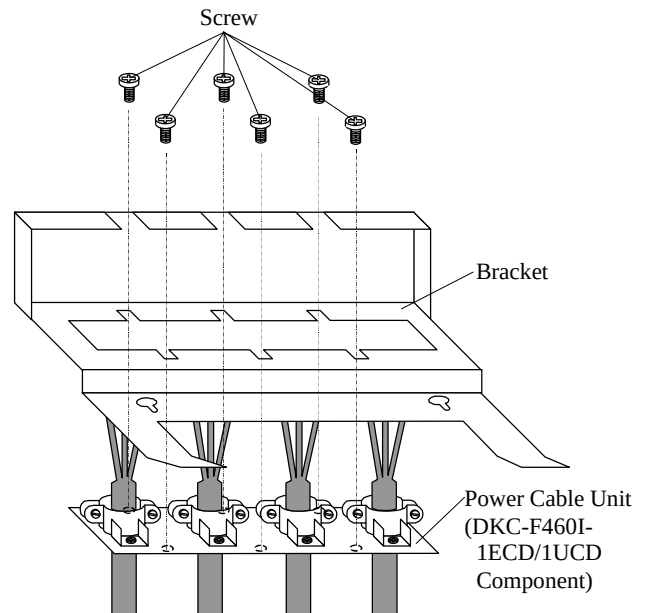
DKC-F460I-3PSD**DKC-F460I-1PSD**

Fig. 3.6.4-5 Attachment of Power Cable Unit

- b. Attach the bracket with the two screws ①.
c. Attach the cover with the two screws ②.

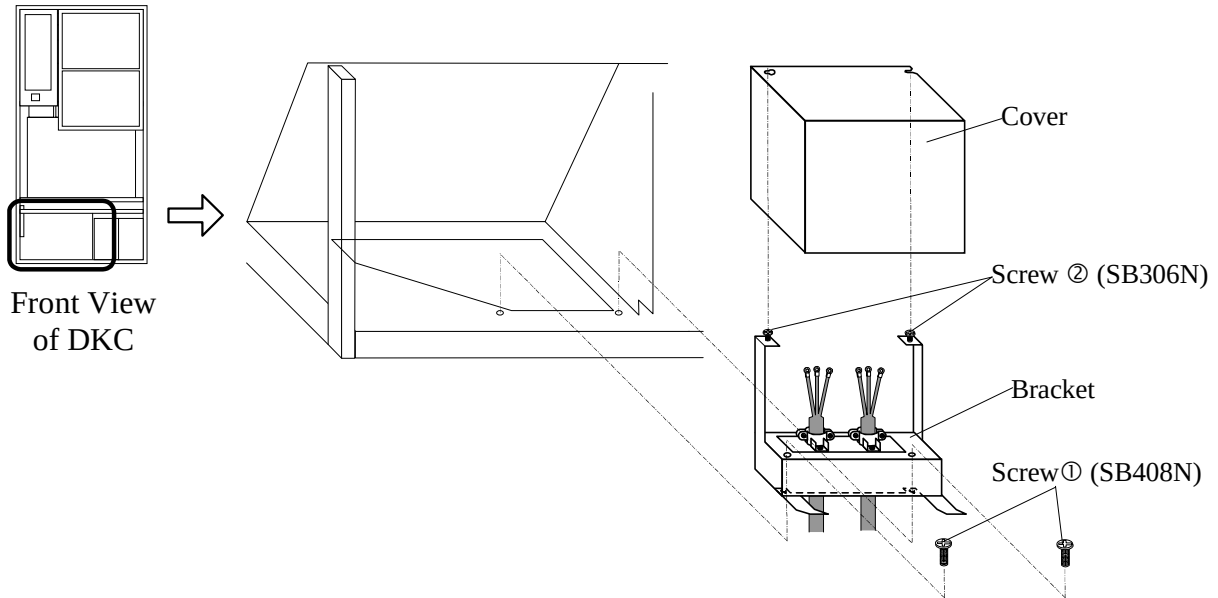


Fig. 3.6.4-6 Attachment of Bracket (DKC-F460I-3PSD)

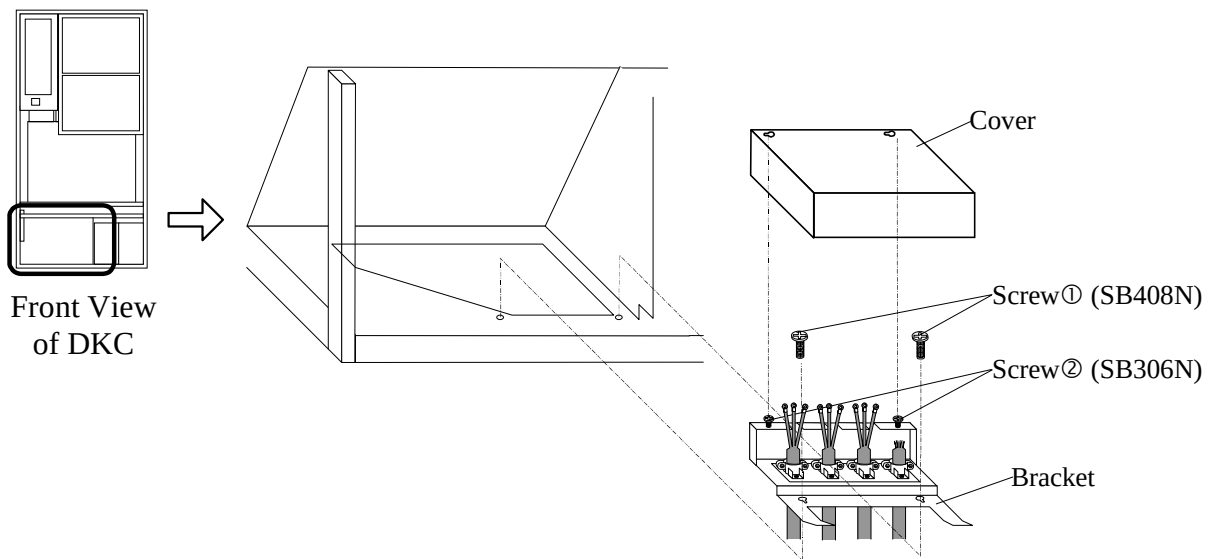


Fig. 3.6.4-7 Attachment of Bracket (DKC-F460I-1PSD)

4. Attach the Nameplate and the Labels.
 - a. Attach the nameplate to the Rear Logic Box cover.

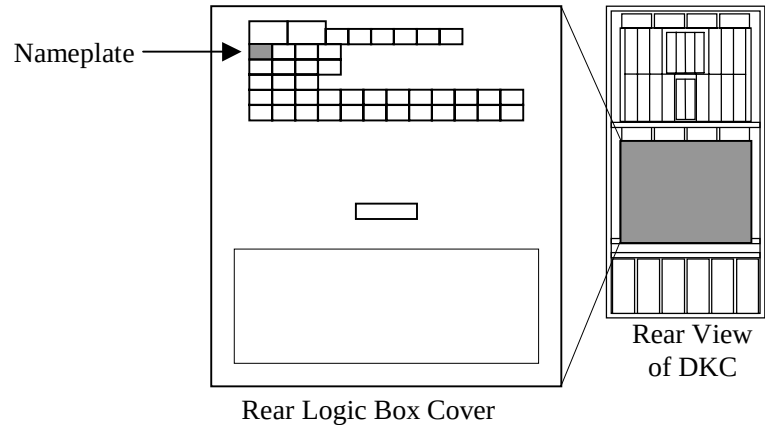


Fig. 3.6.4-8 Attachment of Nameplate

- b. Attach the label (V/Hz/PH.). Label (V/Hz/PH.) should be selected among the sheet of Label (V/Hz/PH.) corresponding to the operating voltage and frequency.
 - c. Attach the labels (UL5) and label (V.Hz.PH.A.W) to the frame.

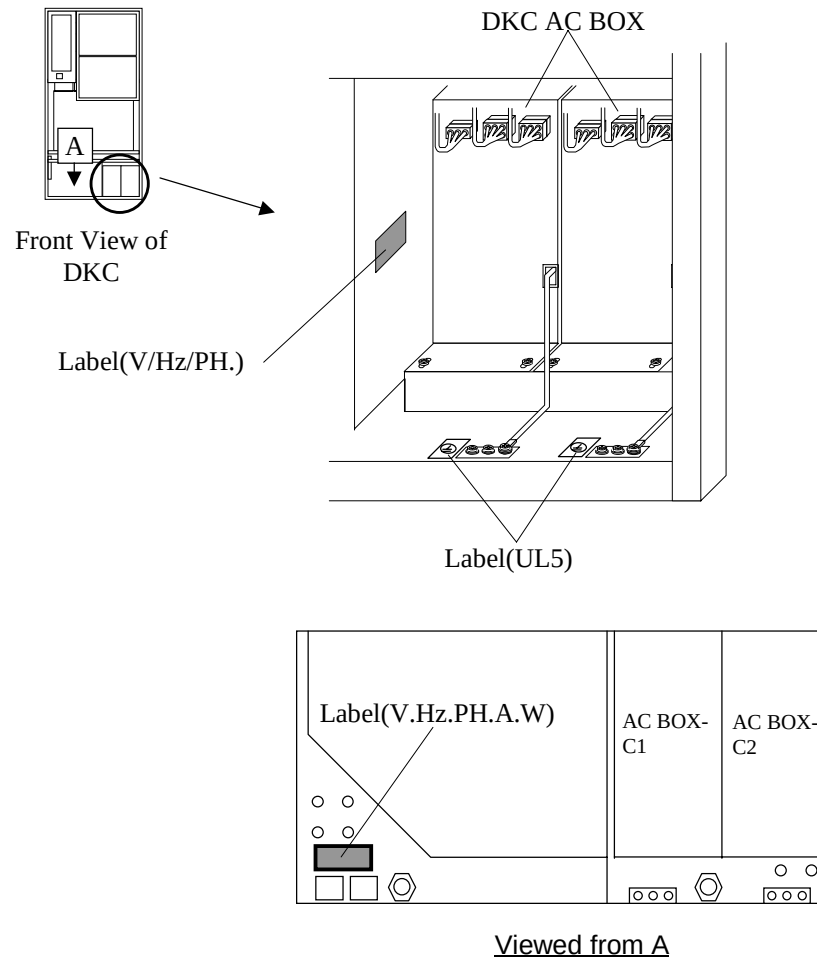


Fig. 3.6.4-9 Attachment of Labels

3.7 Installation of Power Cable Kit

3.7.1 Installation of Power Cable Kit for 3 Phase/60A or Single Phase/50A (DKU-F455I-3EC/3UC/1EC/1UC)

CAUTION

Perform The Power Cable Kit with care.
This Power Cable Kit is concerned with Primary Circuit.
Perform this procedure before connecting the Power Cable Assy.
(Turn off the circuit breakers on the power distribution panel)
Turn off the main circuit breaker CB101 located in the AC Box.

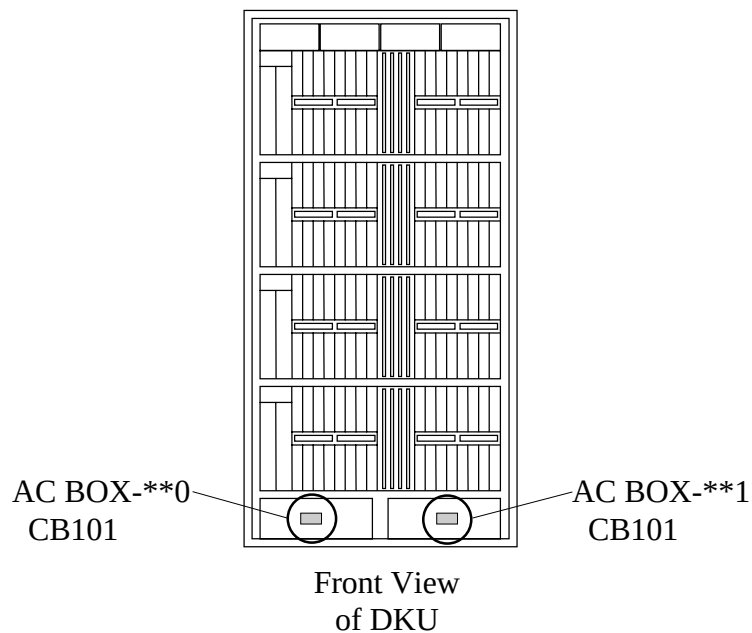


Fig. 3.7.1-1 Location of the Disk Unit Circuit Breakers

Table 3.7.1-1 Disk Unit Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-**0	CB101	
2	AC BOX-**1	CB101	

Table 3.7.1-2 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3UC	Power Cable Assy (IU)	3263010-A	1	
		Nameplate (HDS)	2105913-1/3	1	RSD/HICAM
		Nameplate (HP)	2105913-9/11	1	RSD/HICAM
2	DKU-F455I-3EC	Power Cable Assy (IE)	3263010-B	1	
		Nameplate (HDS)	2105913-2/4	1	RSD/HICEF
		Nameplate (HP)	2105913-10/12	1	RSD/HICEF
3	DKU-F455I-1UC	Power Cable Assy (IU)	3263485-A	1	
		Nameplate (HDS)	2105913-17/19	1	RSD/HICAM
		Nameplate (HP)	2105913-25/27	1	RSD/HICAM
4	DKU-F455I-1EC	Power Cable Assy (IE)	3263485-B	1	
		Nameplate (HDS)	2105913-18/20	1	RSD/HICEF
		Nameplate (HP)	2105913-26/28	1	RSD/HICEF

1. Remove the terminal block covers.
 - a. Remove the terminal block covers and the screws.

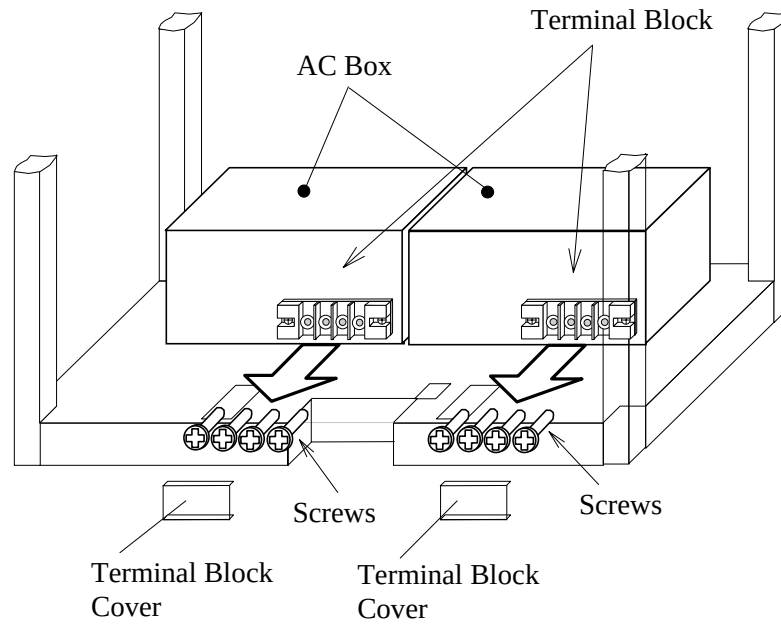


Fig. 3.7.1-2 Removal of Power Cable Assy (DKU-F455I-3EC)

2. Attach the Nameplate.
 - a. Attach the corresponding nameplate to the Power Cable Assy.

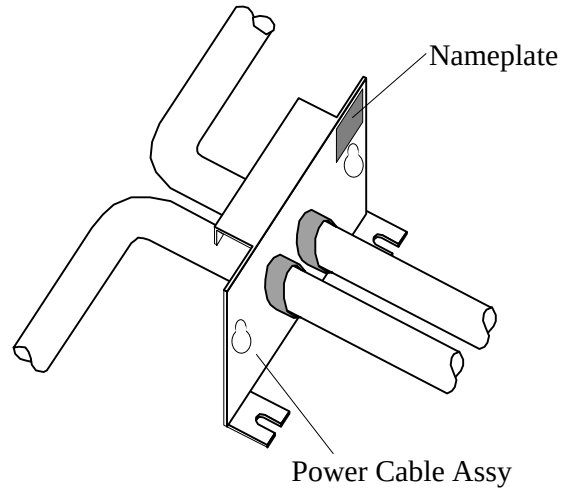


Fig. 3.7.1-3 Attachment of Nameplate

3. Install the Power Cable Assy.
 - a. Attach the Power Cable Assy and secure two screws.

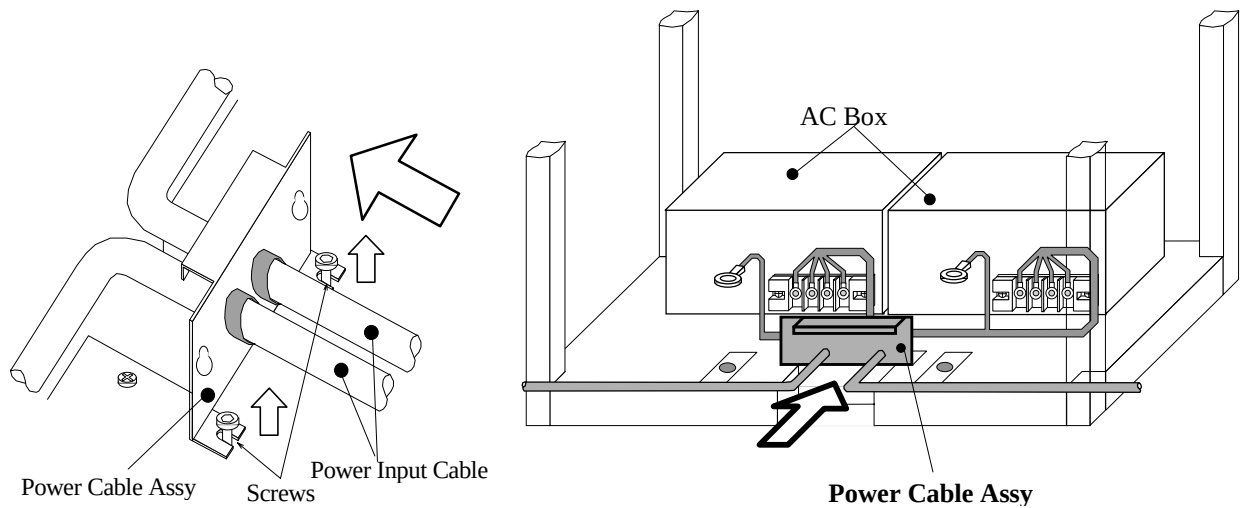


Fig. 3.7.1-4 Installation of Power Cable Assy (DKU-F455I-3EC)

- b. Attach frame ground cable with the screw, plain washer and lock washer.

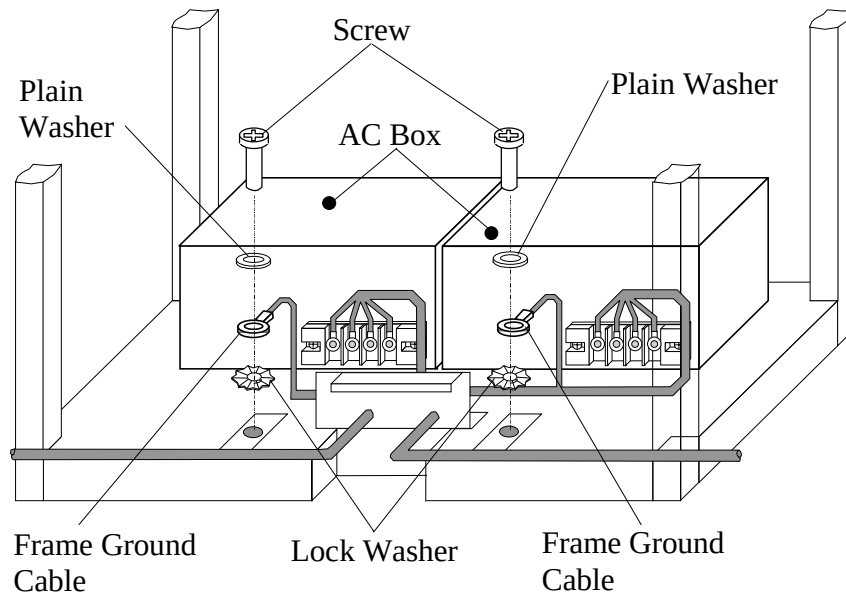


Fig. 3.7.1-5 Attachment of Frame Ground Cable (DKU-F455I-3EC)

- c. Connect the AC power cables to the terminal block and attach terminal block cover. Refer to Fig 3.7.1-6, Fig. 3.7.1-7 and Table 3.7.1-2.

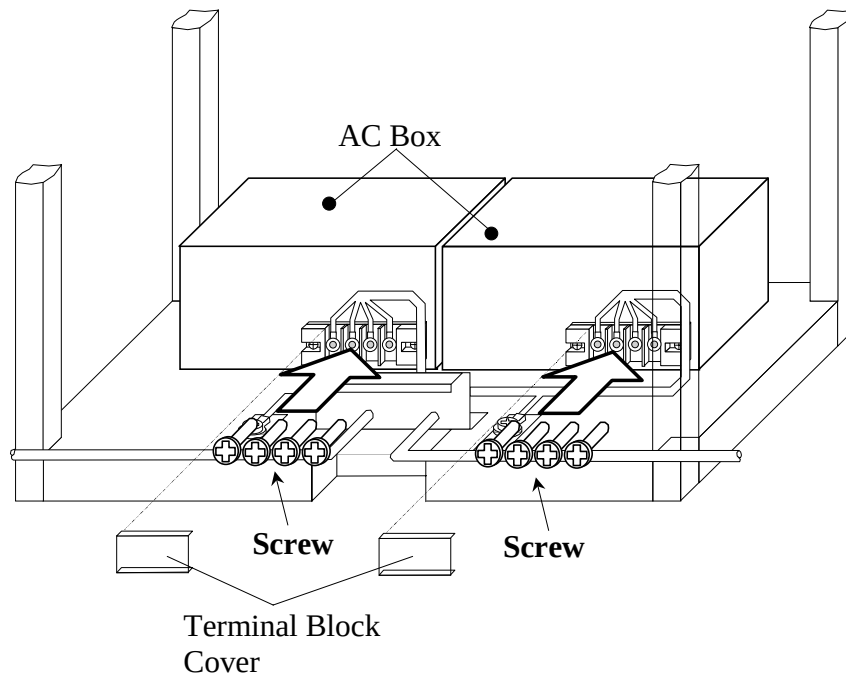


Fig. 3.7.1-6 Connection of AC Power Cable (DKU-F455I-3EC)

Table 3.7.1-2 AC Power Cable Conductors Numbers

No.	Model Number	Input Voltage	AC Power Cable Conductors	Remarks
1	DKU-F455I-3UC	200-230Vac	4 conductors (L1, L2, L3, FG)	
2	DKU-F455I-3EC	380-415Vac	5 conductors (L1, L2, L3, N, FG)	
3	DKU-F455I-1UC	200-230Vac	3 conductors (U/L1, V/L2, FG)	
4	DKU-F455I-1EC	200-240Vac	3 conductors (U/L1, V/L2, FG)	

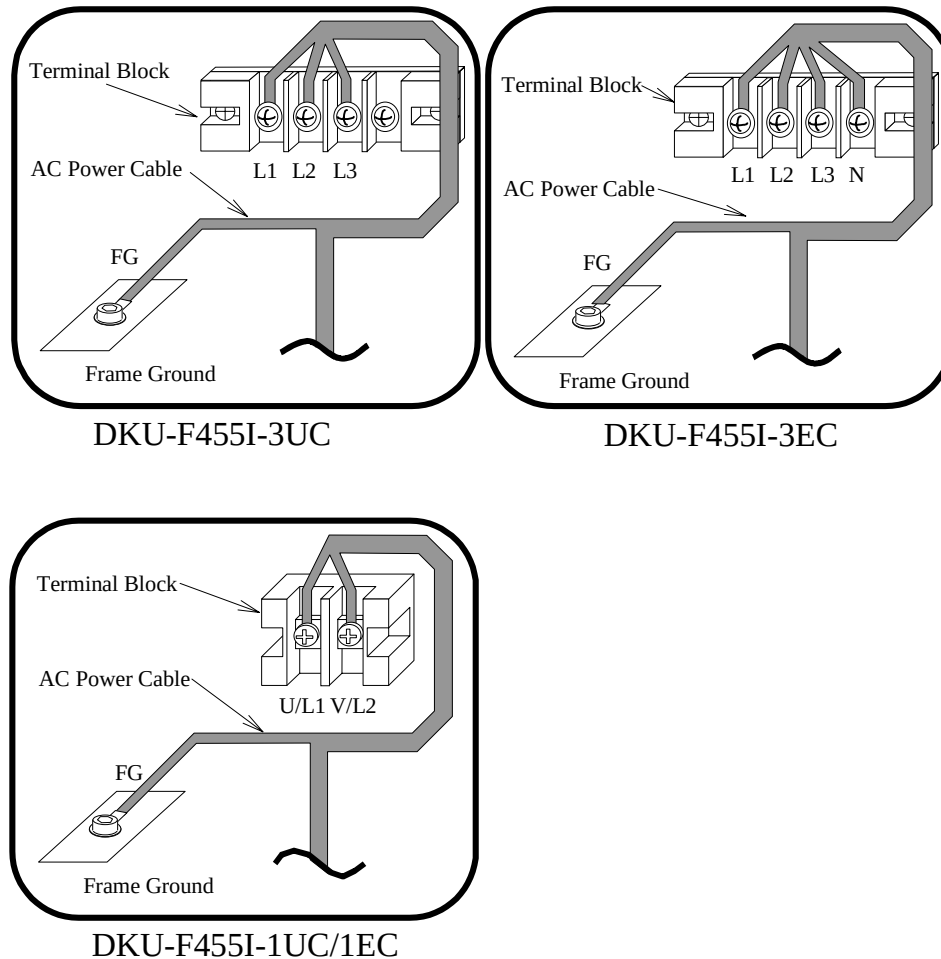


Fig. 3.7.1-7 Connection of AC Power Cables to the Terminal Block

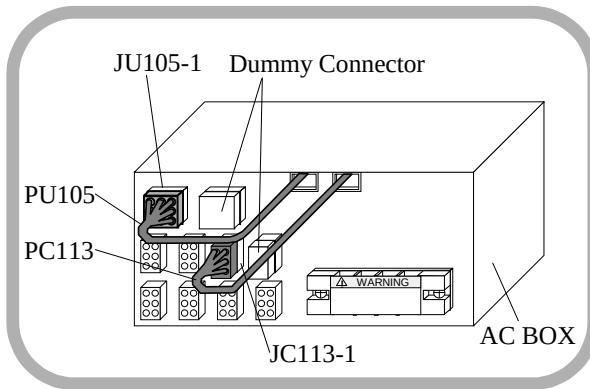
4. Reset the Jumper Cables Setting

- a. When the 3 Phase Model (DKU-F455I-3UC/3EC) is installed, connect the jumper cables (PU105 and PC113) as indicated in the table below.

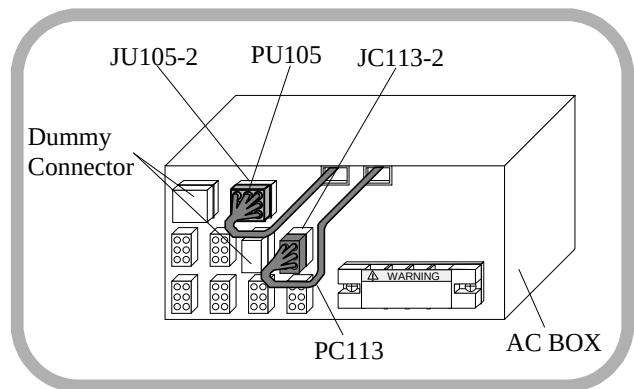
When the Single Phase Model (DKU-F455I-1UC/1EC) is installed, go to next procedure.

Table 3.7.1-3 Jumper Cables Locations

No.	Model Number	Input Voltage	Jumper Cable Location		Remarks
			PU105	PC113	
1	DKU-F455I-3UC	200-230Vac	PU105-1	PC113-1	JU105-2, JC113-2: Dummy Connectors
2	DKU-F455I-3EC	380-415Vac	PU105-2	PC113-2	JU105-1, JC113-1: Dummy Connectors



Input AC Voltage : 200 - 240V



Input AC Voltage : 380 - 415V

Fig. 3.7.1-8 Jumper Cables Setting

3.7.2 Installation of Power Cable Kit for Single Phase/50A (DKC-F460I-1EC/1UC)

CAUTION

Perform the Power Cable Kit with care.
 This Power Cable Kit is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable Assy.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB200 located in the AC Box.

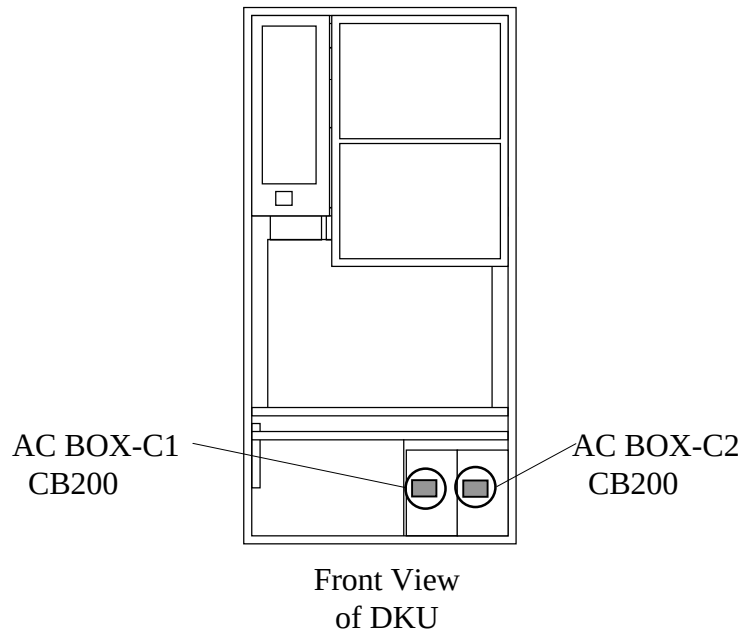


Fig. 3.7.2-1 Location of the DKC Circuit Breakers

Table 3.7.2-1 DKC Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-C1	CB200	
2	AC BOX-C2	CB200	

Table 3.7.2-2 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1UC	Power Cable ASSY	3264044-A	1	
		Screw	SB408N	2	
		Nameplate (HDS)	2105902-121	1	RSD
			2105903-121		HICAM
			2105903-221		HICEF
		Nameplate (HP)	2105902-221	1	RSD
			2105903-321		HICAM
			2105903-421		HICEF
2	DKC-F460I-1EC	Power Cable ASSY	3264044-B	1	
		Screw	SB408N	2	
		Nameplate (HDS)	2105902-120	1	RSD
			2105903-120		HICAM
			2105903-220		HICEF
		Nameplate (HP)	2105902-220	1	RSD
			2105903-320		HICAM
			2105903-420		HICEF

1. Attach the Power Cable ASSY.
 - a. Loosen the two screws and remove the cover form the Power Cable Unit.

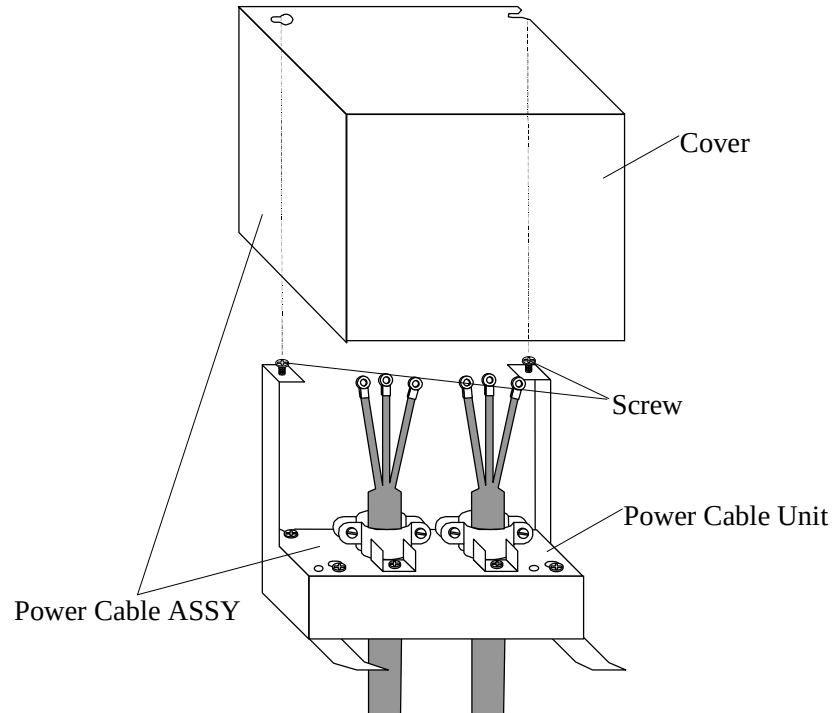


Fig. 3.7.2-2 Removal of Cover

- b. Attach the Power Cable Unit with the two screws.

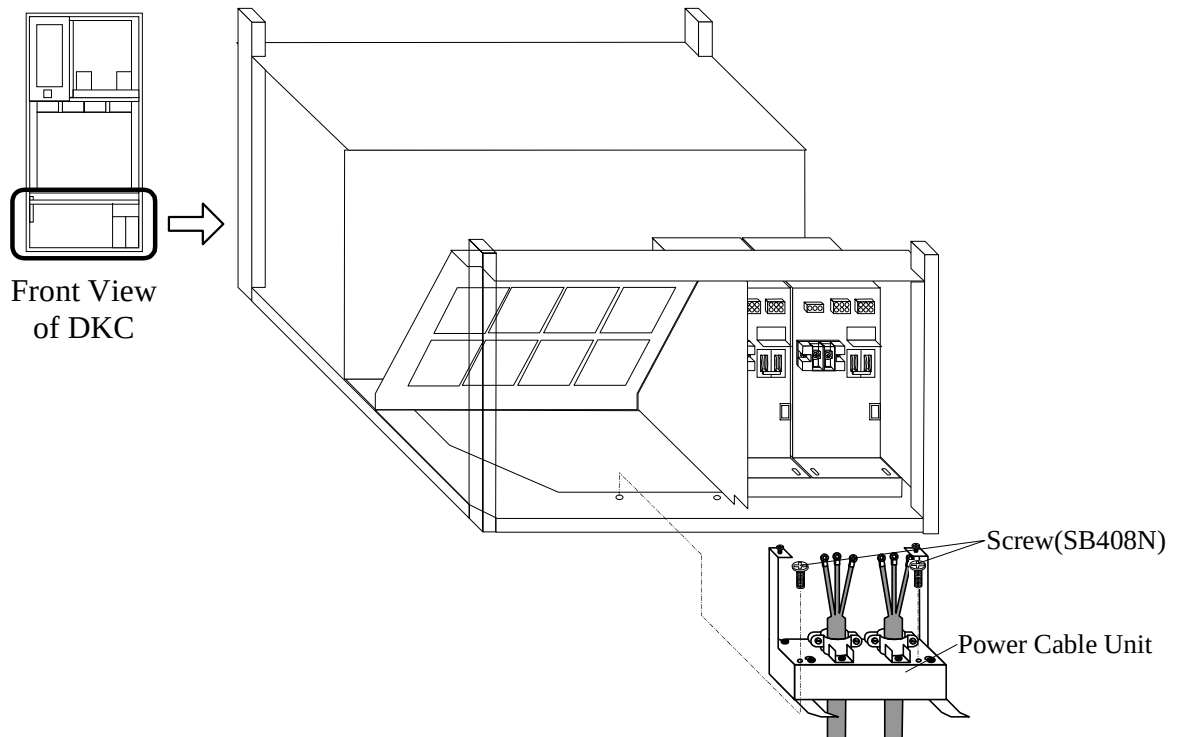
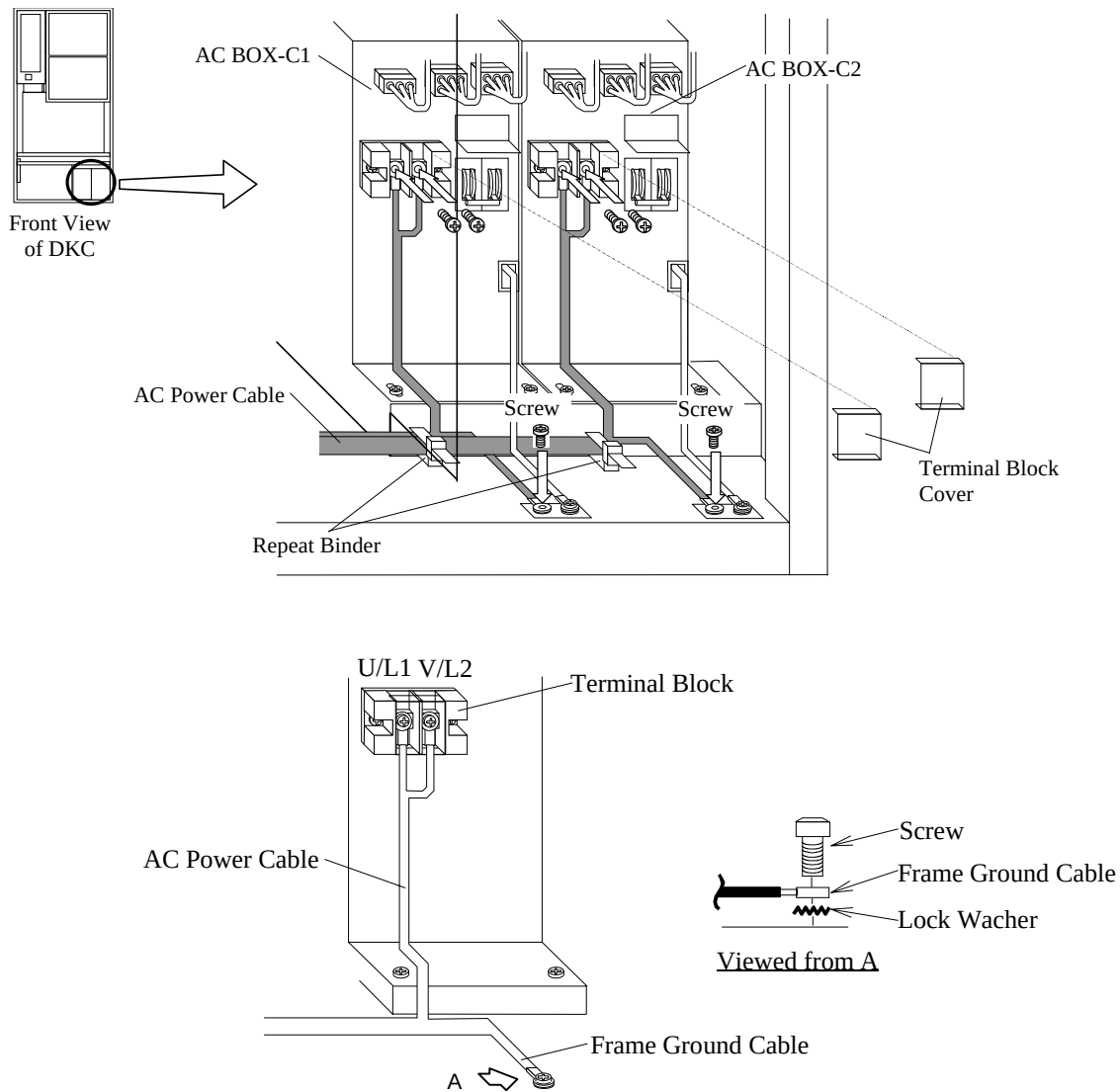


Fig. 3.7.2-3 Attachment of Power Cable Unit

- c. Remove terminal block covers.
- d. Attach the AC power cables to AC Boxes and fasten the six screws.
- e. Attach the terminal block covers to AC Boxes.
- f. Fasten the two repeat binders.



Connection of AC Power Cable

Letters indicated on the terminal block	Connecting LINE	Cable Color	
		DKC-F460I-1UC	DKC-F460I-1EC
U/L1	Phase U	White	Brown
V/L2	Phase V	Black	Blue

Fig. 3.7.2-4 Attachment of AC Power Cables

g. Attach the cover with the two screws.

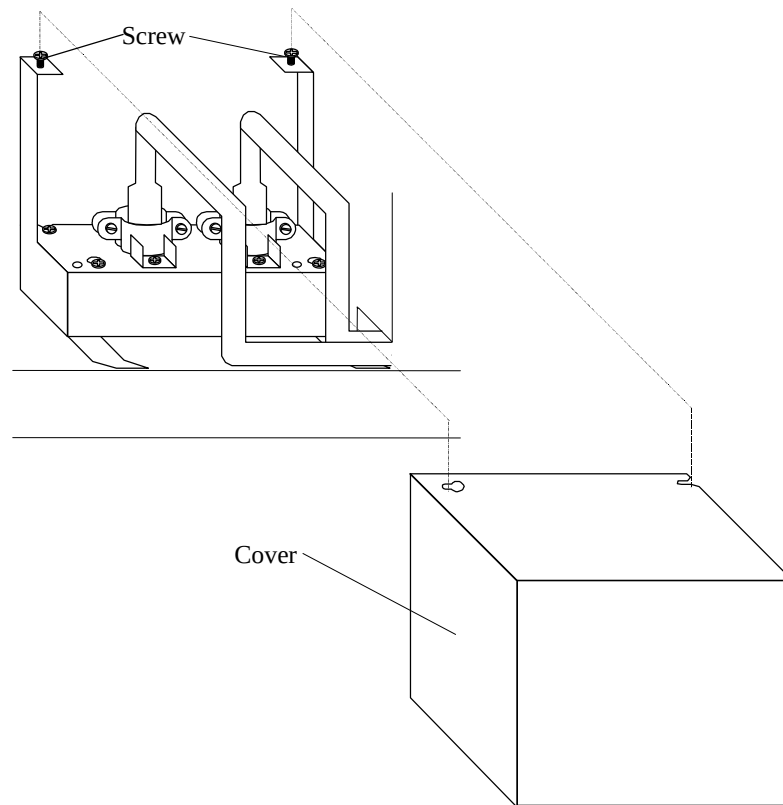


Fig. 3.7.2-5 Attachment of Cover

2. Attach the Nameplate.
 - a. Attach the nameplate to the cover.

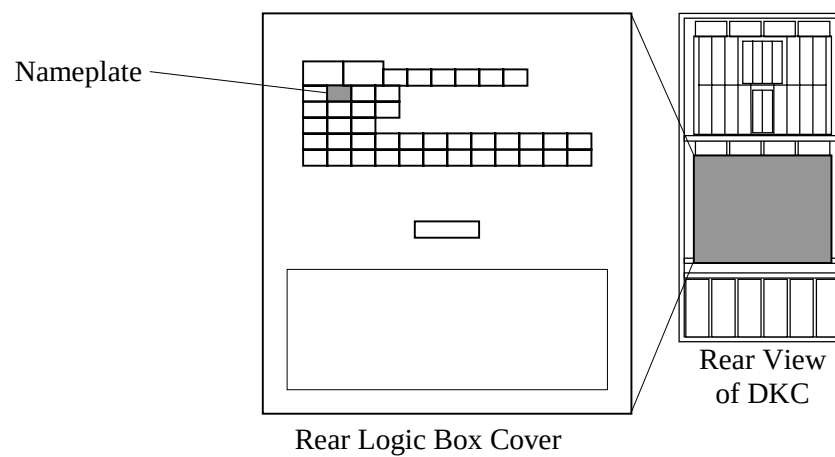


Fig. 3.7.2-6 Attachment of Nameplate

3.7.3 Installation of Power Cable Kit for Single Phase/30A or 3 Phase/30A (DKC-F460I-3ECD/3UCD/1ECD/1UCD)

Table 3.7.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1UCD	Power Cable Unit	3265665-A	1	
		Screw	SB408N	8	
		Screw	SB510N	4	
		Toothed Washer	WT005N	4	
		LL Washer	5513553-532	4	
		Nameplate (HDS)	2105902-131	1	RSD
			2105903-131/231		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
2	DKC-F460I-1ECD	Power Cable Unit	3265664-A	1	
		Screw	SB408N	8	
		Screw	SB510N	4	
		Toothed Washer	WT005N	4	
		LL Washer	5513553-532	4	
		Nameplate (HDS)	2105902-130	1	RSD
			2105903-130/230		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
3	DKC-F460I-3UCD	Power Cable Unit	3265683-A	1	
		Screw	SB408N	8	
		Screw	SB510N	2	
		Toothed Washer	WT005N	2	
		LL Washer	5513553-532	2	
		Nameplate (HDS)	2105902-134	1	RSD
			2105903-134/234		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
4	DKC-F460I-3ECD	Power Cable Unit	3265682-A	1	
		Screw	SB408N	8	
		Screw	SB510N	2	
		Toothed Washer	WT005N	2	
		LL Washer	5513553-532	2	
		Nameplate (HDS)	2105902-133	1	RSD
			2105903-133/233		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF

3.7.3.1 When the Power Cable Kit is installed in the DKU

CAUTION

Perform The Power Cable Kit with care.
 This Power Cable Kit is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable Assy.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB101 located in the AC Box.

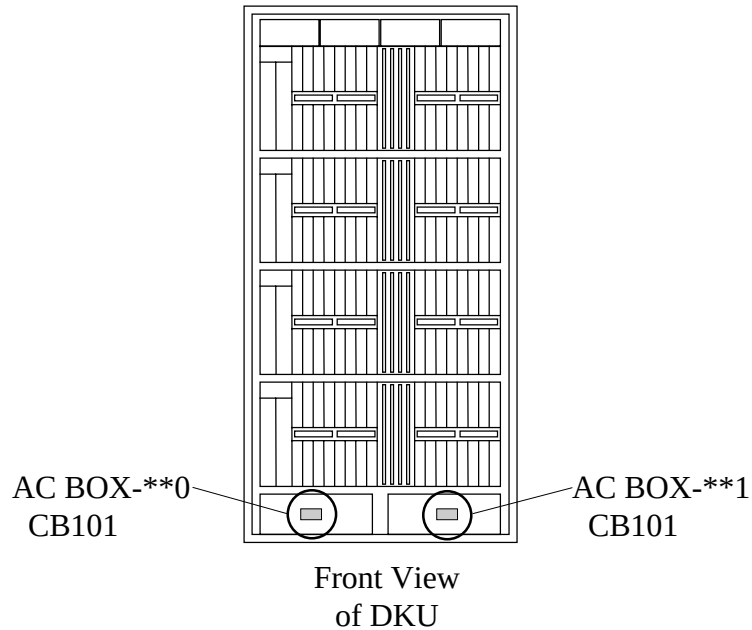


Fig. 3.7.3.1-1 Location of the Disk Unit Circuit Breakers

Table 3.7.3.1-1 Disk Unit Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-**0	CB101	
2	AC BOX-**1	CB101	

1. Remove the terminal block covers.
 - a. Remove the terminal block covers and the screws.

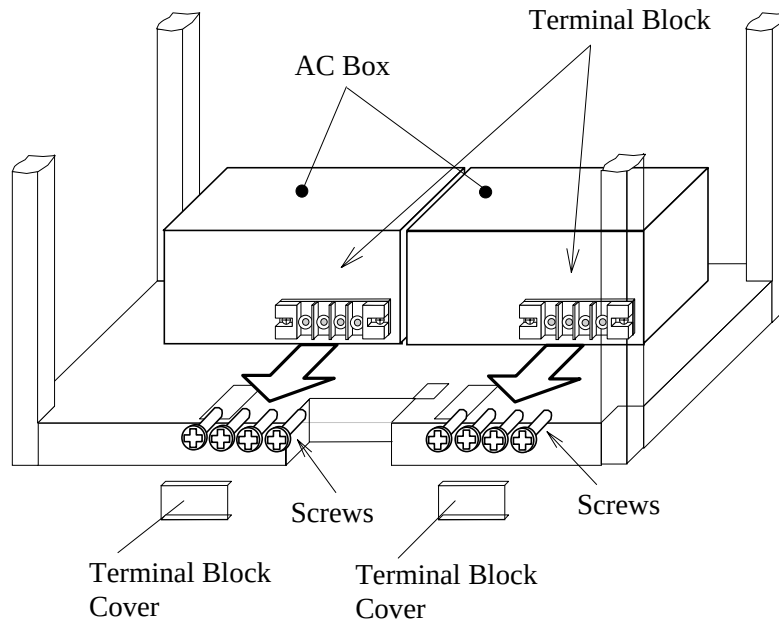


Fig. 3.7.3.1-2 Removal of Power Cable Assy

2. Attach the Nameplate.
 - a. Attach the corresponding nameplate to the bracket.

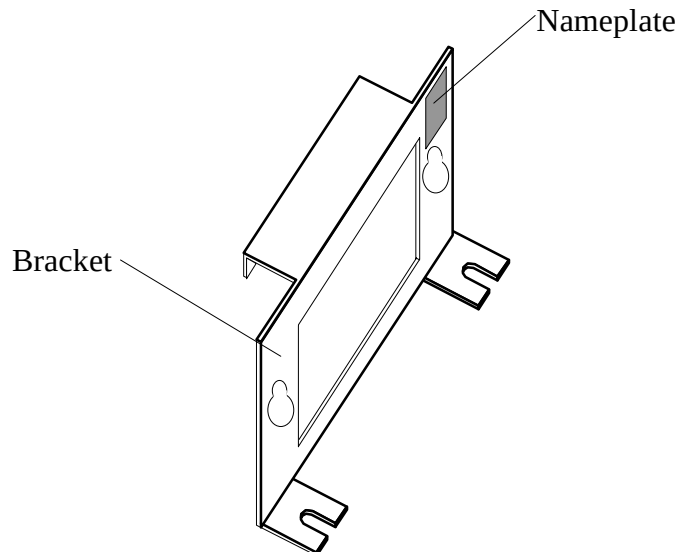
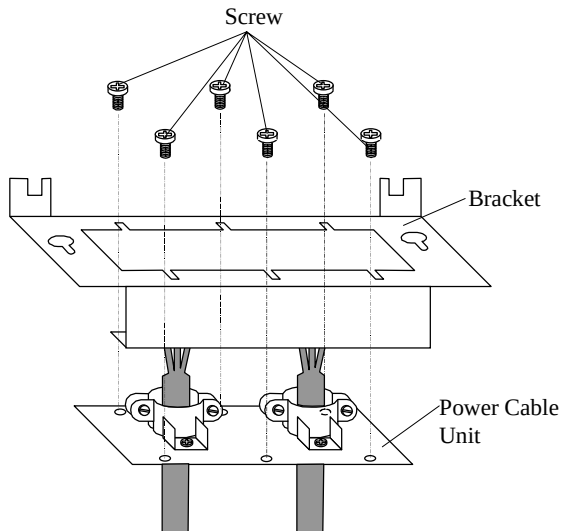


Fig. 3.7.3.1-3 Attachment of Nameplate

3. Install the Power Cable Unit.

- a. Attach the Power Cable Unit to the bracket and fasten the six screws.

DKC-F460I-3ECD/3UCD



DKC-F460I-1ECD/1UCD

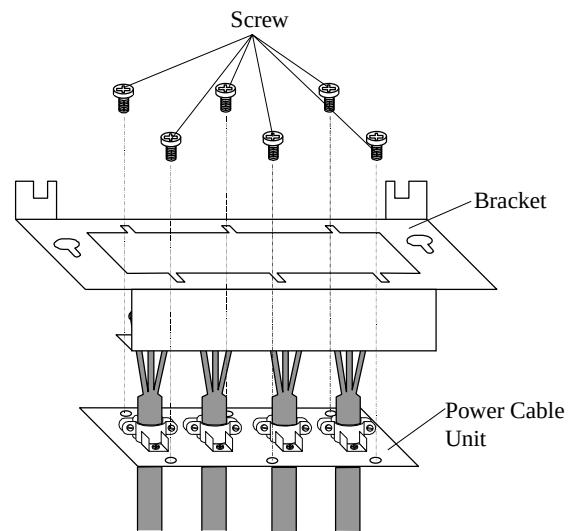


Fig. 3.7.3.1-4 Attachment of Power Cable Unit

- b. Attach the Power Cable Assy and secure two screws.

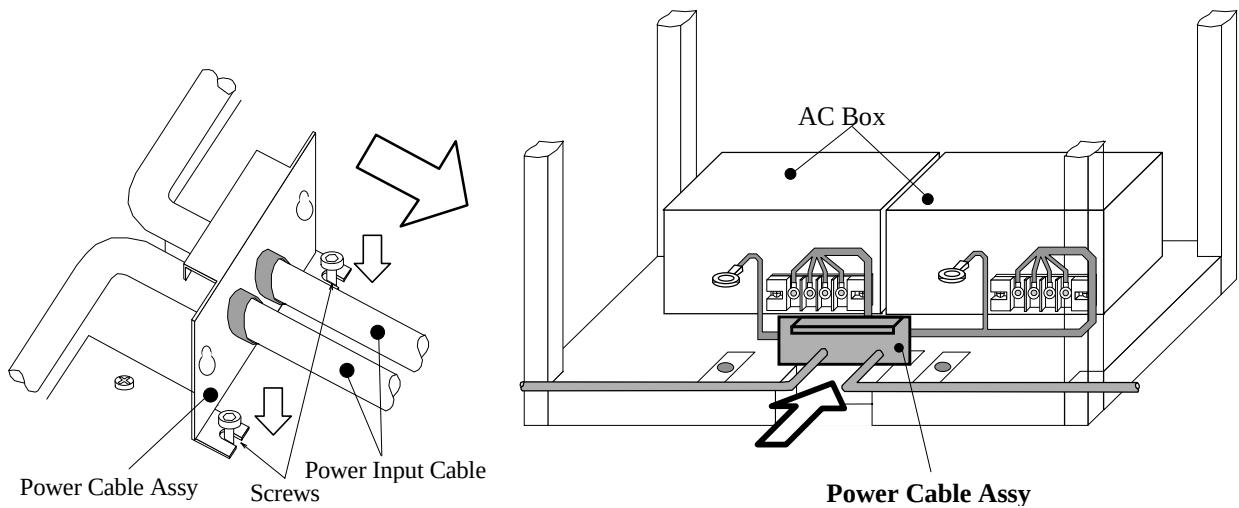


Fig. 3.7.3.1-5 Installation of Power Cable Assy (DKC-F460I-3ECD/3UCD)

c. Attach frame ground cable with the screw, lock washer and plain washer.

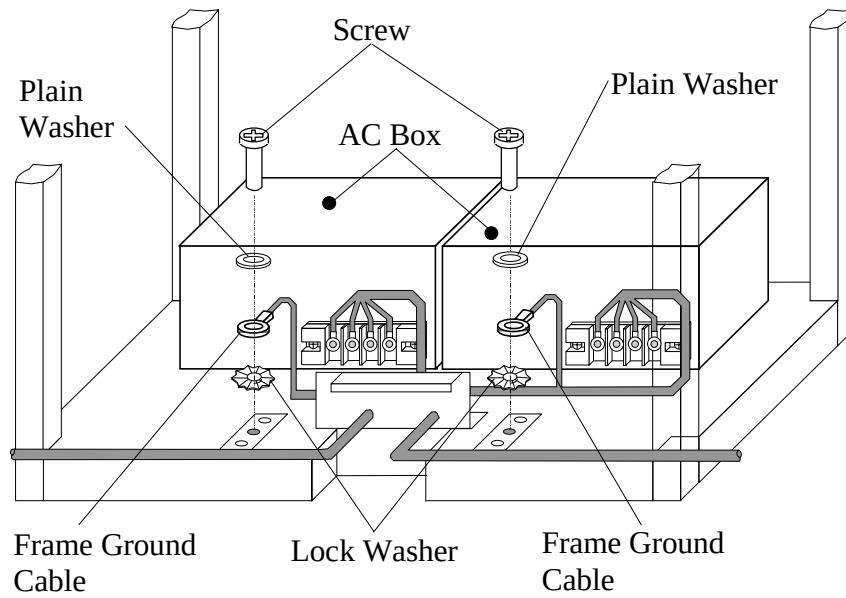


Fig. 3.7.3.1-6 Attachment of Frame Ground Cable (DKC-F460I-3ECD/3UCD)

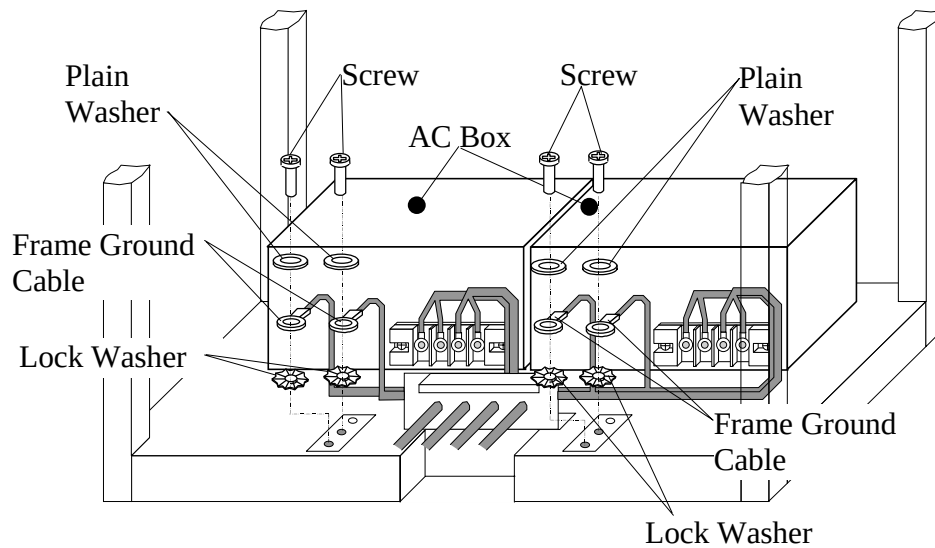


Fig. 3.7.3.1-7 Attachment of Frame Ground Cable (DKC-F460I-1UCD/1ECD)

- d. Connect the AC power cables to the terminal block and attach terminal block cover. Refer to Fig. 3.7.3.1-8 and Table 3.7.3.1-2.

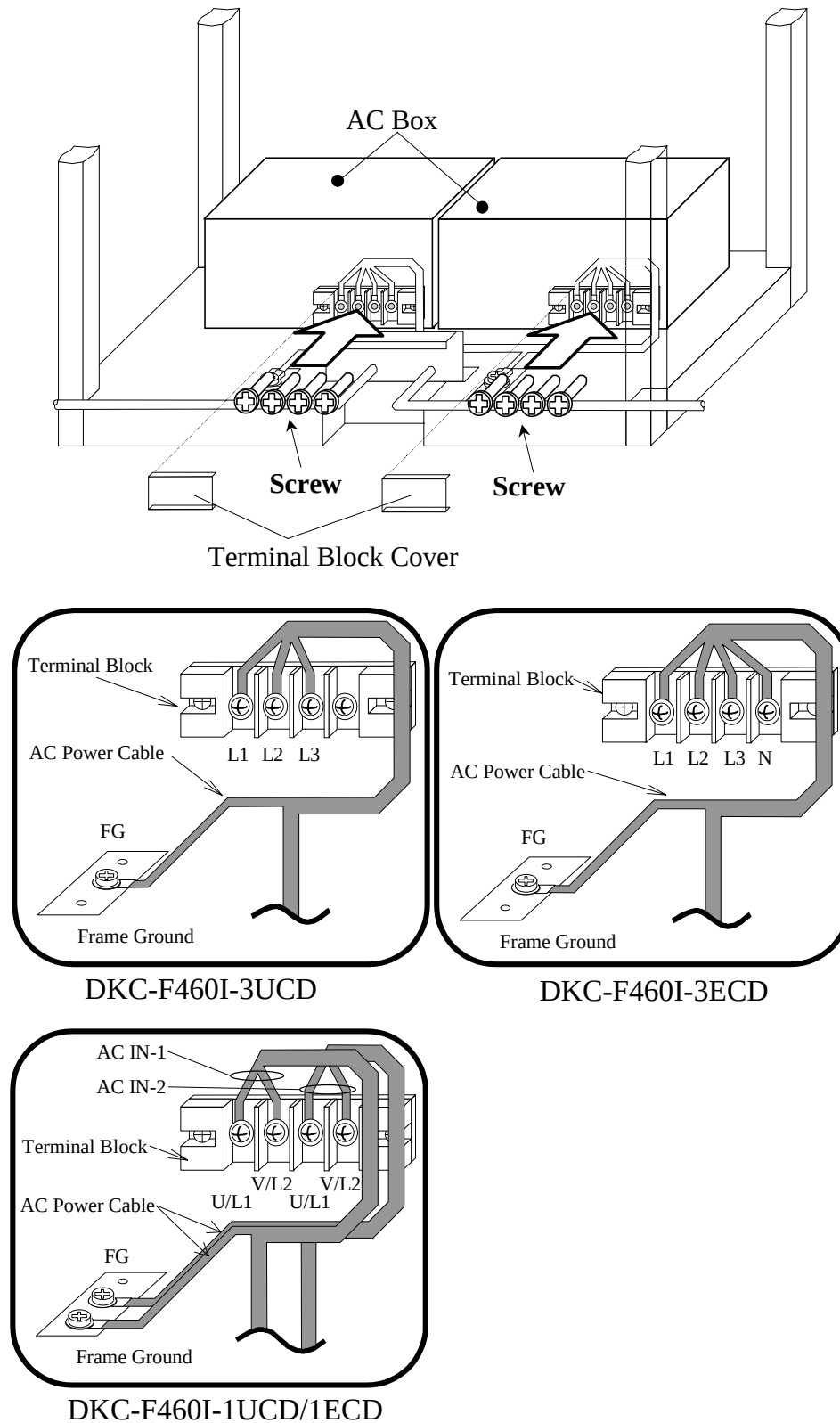


Fig. 3.7.3.1-8 Connection of AC Power Cables to the Terminal Block

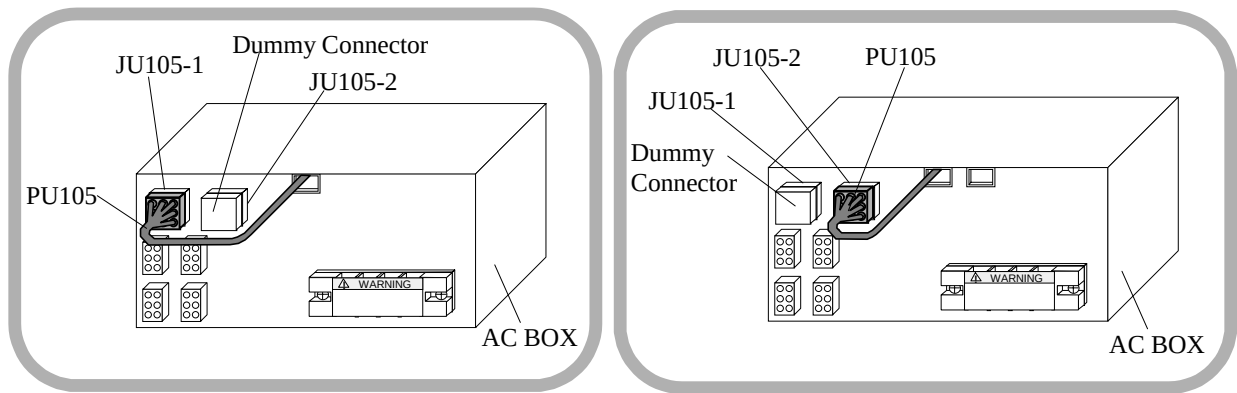
Table 3.7.3.1-2 AC Power Cable Conductors Numbers

No.	Model Number	Input Voltage	AC Power Cable Conductors	Remarks
1	DKC-F460I-3UCD	200-230Vac	4 conductors (L1, L2, L3, FG)	
2	DKC-F460I-3ECD	380-415Vac	5 conductors (L1, L2, L3, N, FG)	
3	DKC-F460I-1UCD	200-230Vac	6 conductors (U/L1, V/L2, FG) ×2	
4	DKC-F460I-1ECD	200-240Vac	6 conductors (U/L1, V/L2, FG) ×2	

4. Reset the Jumper Cables Setting (only DKC-F460I-3UCD/3ECD)
- a. Connect the jumper cable (PU105) as indicated in the table below.

Table 3.7.3.1-3 Jumper Cables Locations

No.	Model Number	Input Voltage	Jumper Cable Location	Remarks
			PU105	
1	DKC-F460I-3UCD	200-230Vac	JU105-1	JU105-2: Dummy Connector
2	DKC-F460I-3ECD	380-415Vac	JU105-2	JU105-1: Dummy Connector



Input AC Voltage : 200 - 240V

Input AC Voltage : 380 - 415V

Fig. 3.7.3.1-9 Jumper Cables Setting

3.7.3.2 When the power cable kit is installed in the DKC

CAUTION

Perform the Power Cable Kit with care.
 This Power Cable Kit is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable Assy.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB200 located in the AC Box.

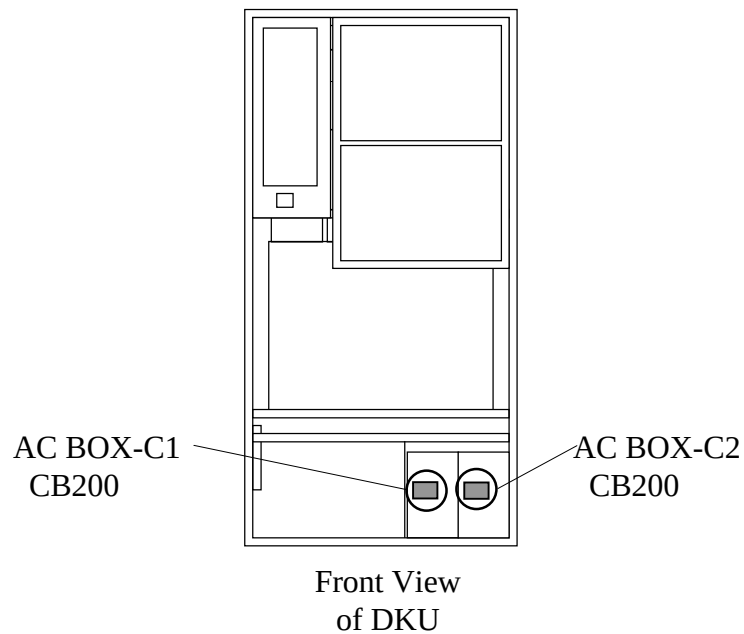


Fig. 3.7.3.2-1 Location of the DKC Circuit Breakers

Table 3.7.3.2-1 DKC Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-C1	CB200	
2	AC BOX-C2	CB200	

1. Attach the Power Cable Unit.
 - a. Attach the Power Cable Unit to the bracket and fasten the six screws.

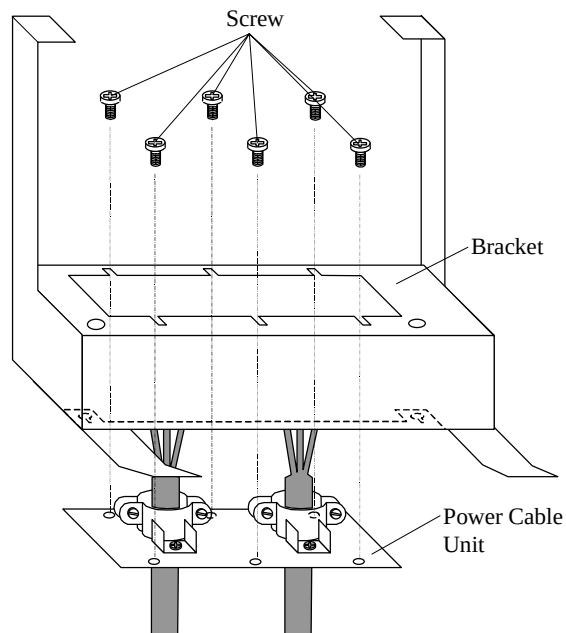
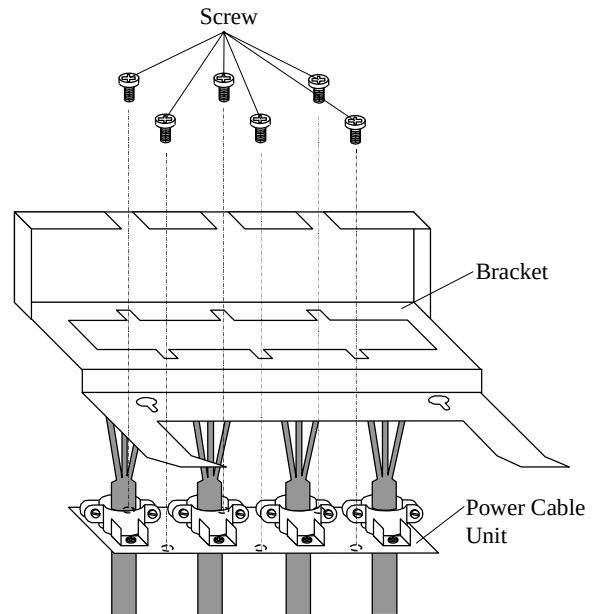
DKC-F460I-3ECD/3UCDDKC-F460I-1ECD/1UCD

Fig. 3.7.3.2-2 Attachment of Power Cable Unit

b. Attach the bracket with the two screws.

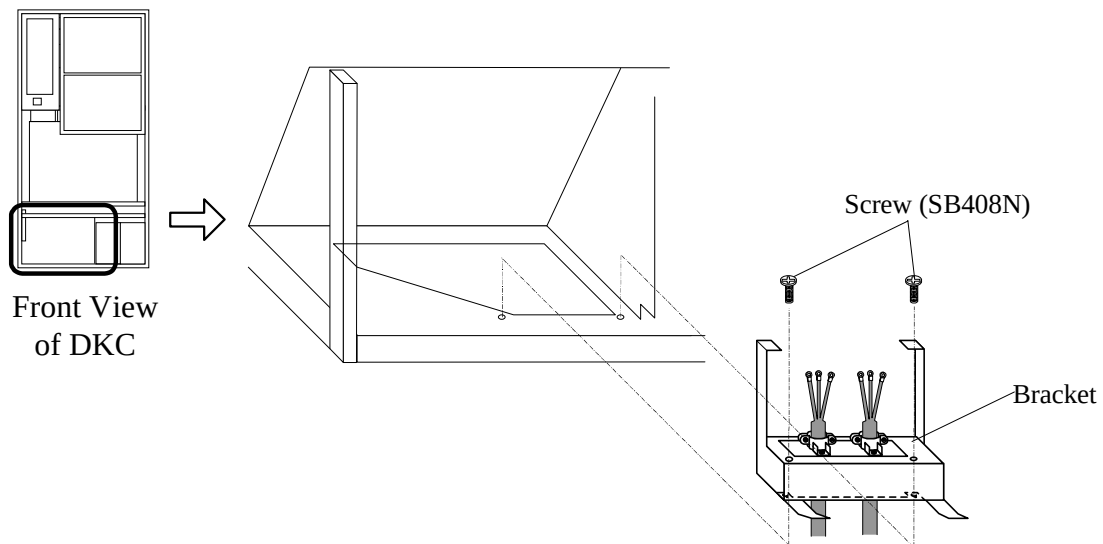


Fig. 3.7.3.2-3 Attachment of Bracket (DKC-F460I-3ECD/3UCD)

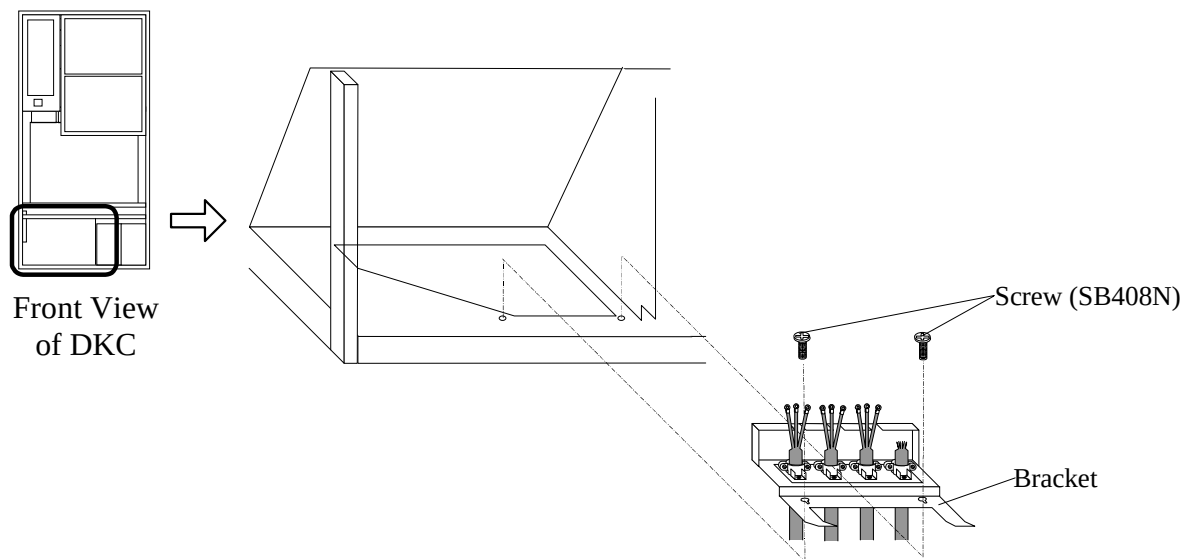
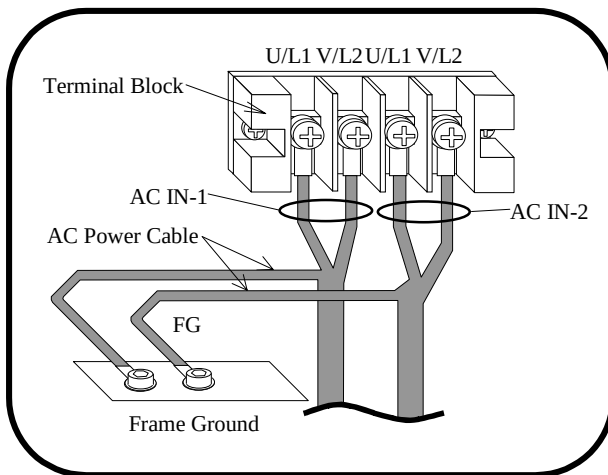
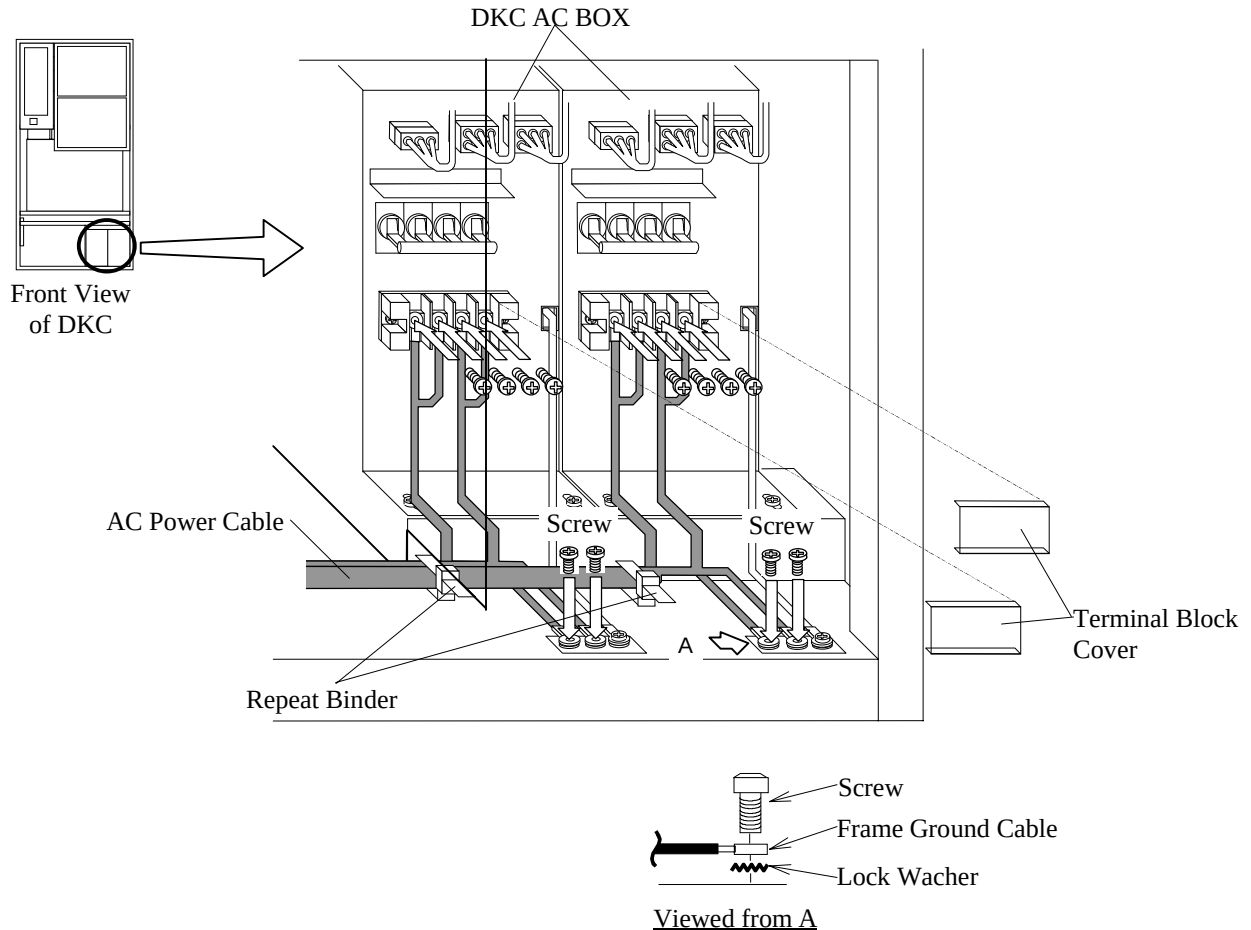


Fig. 3.7.3.2-4 Attachment of Bracket (DKC-F460I-1ECD/1UCD)

2. Connect the AC Power Cables.

DKC-F460I-1ECD/1UCD

- Remove terminal block covers.
- Attach the AC power cables to AC Boxes and fasten the twelve screws.
- Attach the terminal block covers to AC Boxes.
- Fasten the two repeat binders.

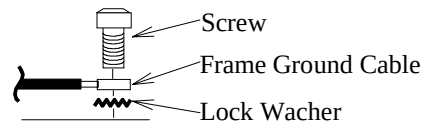
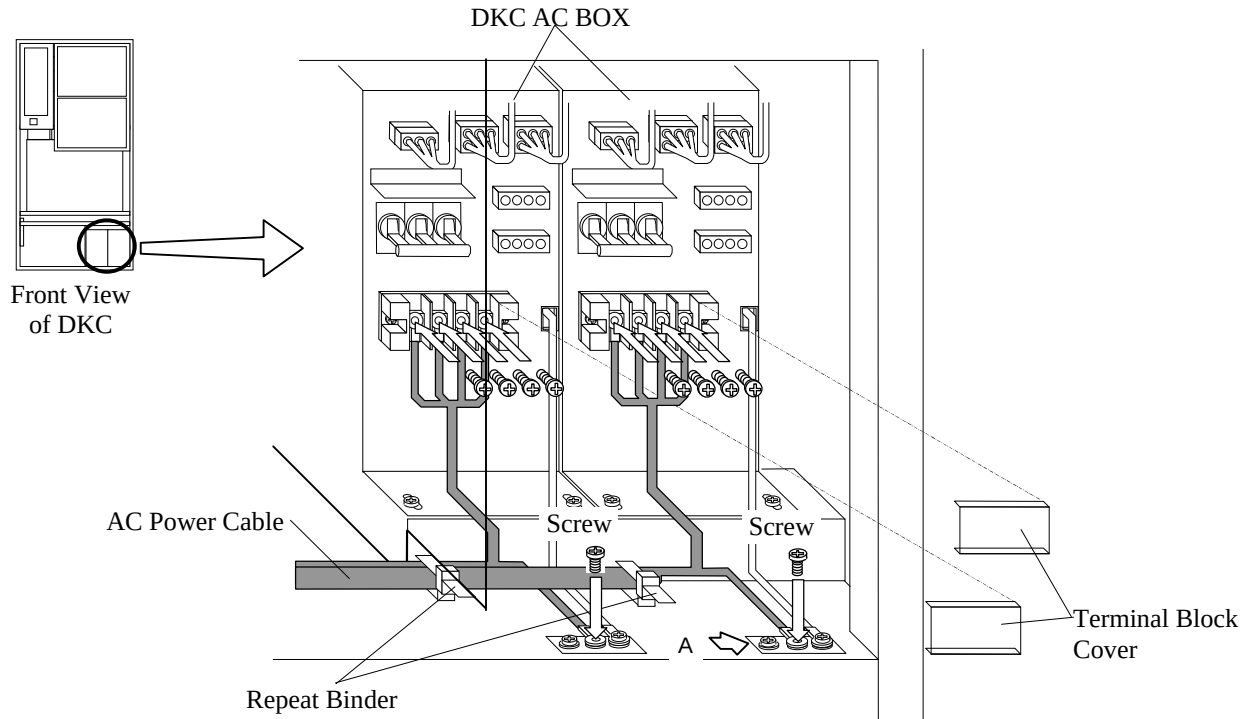


DKC-F460I-1UCD/1ECD

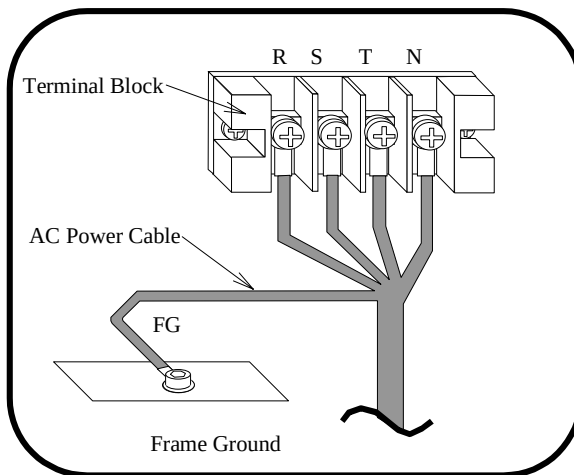
Fig. 3.7.3.2-5 Attachment of AC Power Cables

DKC-F460I-3ECD/3UCD

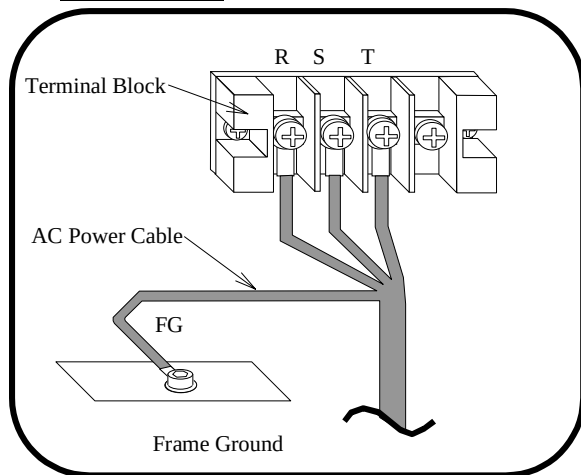
- Remove terminal block covers.
- Attach the AC power cables to AC Boxes and fasten the ten screws.
- Attach the terminal block covers to AC Boxes.
- Fasten the two repeat binders.



Viewed from A



DKC-F460I-3ECD



DKC-F460I-3UCD

Fig. 3.7.3.2-6 Attachment of AC Power Cables

- e. Connect the cable (PCH) and dummy connector to the AC Box.

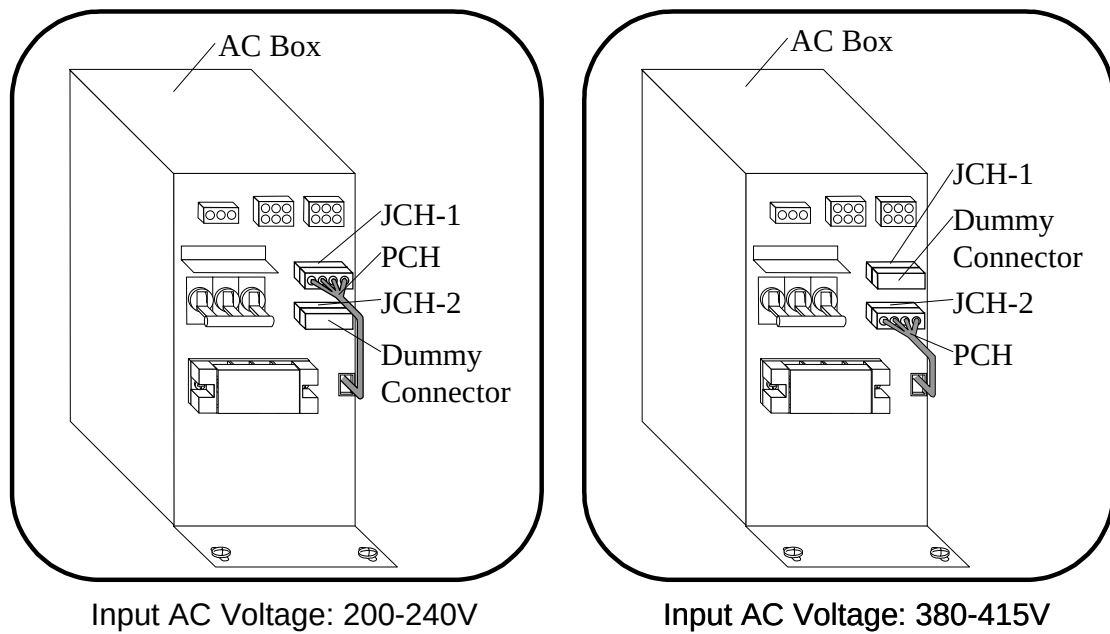


Fig. 3.7.3.2-7 Connection of Cable

3. Attach the Cover.
a. Attach the cover with the two screws.

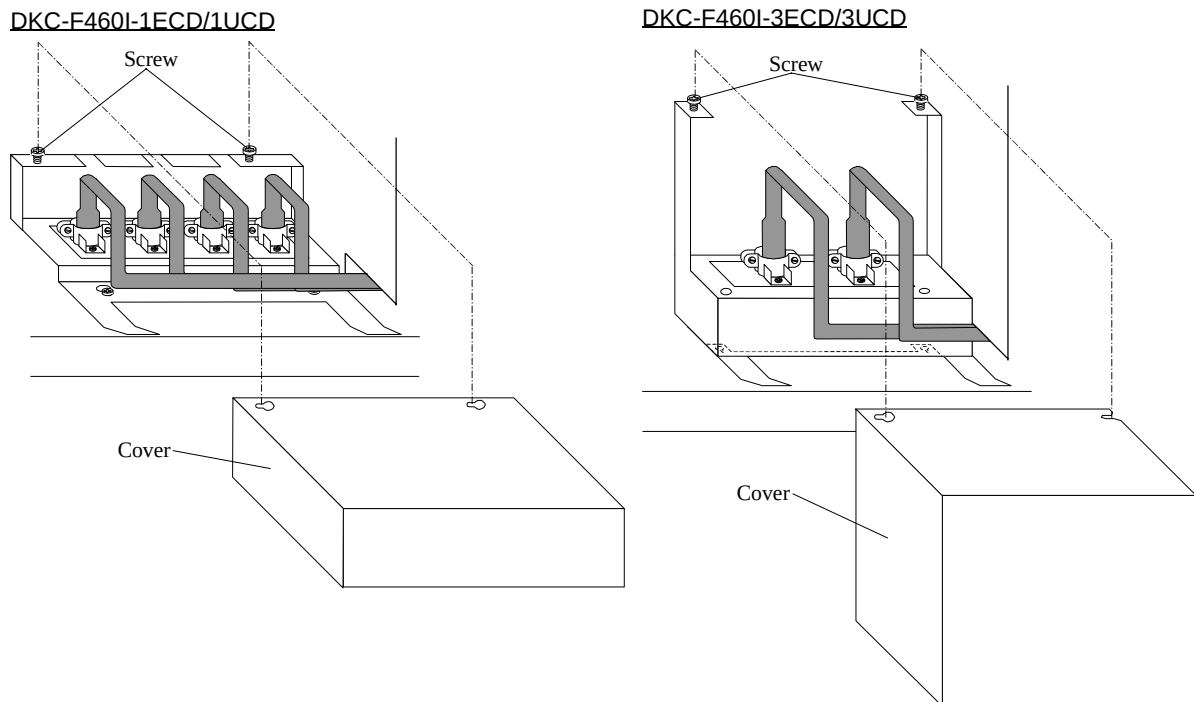


Fig. 3.7.3.2-8 Attachment of Cover

4. Attach the Nameplate.
 - a. Attach the nameplate to the Rear Logic Box cover.

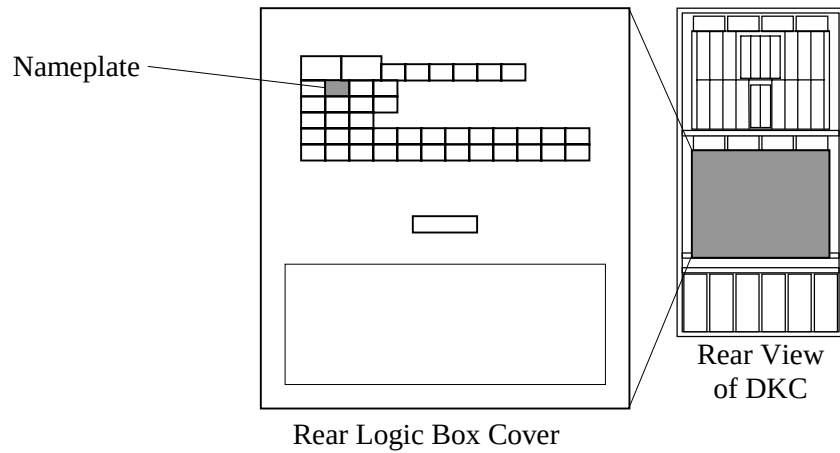


Fig. 3.7.3.2-9 Attachment of Nameplate

3.8 Installation of Channel Adapter

3.8.1 Installation of Serial 8-port Adapter (DKC-F460I-8S)

Note: When a total number of the CHA and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed. Be sure to check it before performing the addition.

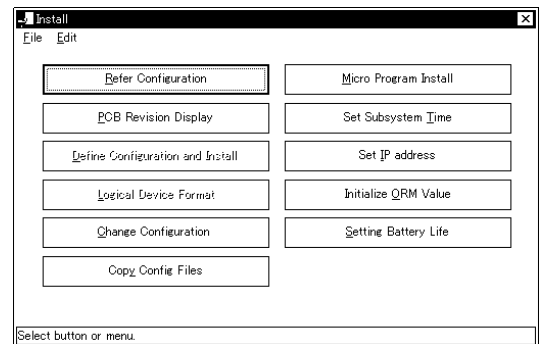
Table 3.8.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8S	Serial 4-port Adapter PCB	5513983-A	2	Color of PCB lever: Blue
		Holder	2084816-1	8	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-106	1	RSD
			2105903-106		HICAM
			2105903-206		HICEF
		Nameplate (HP)	2105902-206	1	RSD
			2105903-306		HICAM
			2105903-406		HICEF

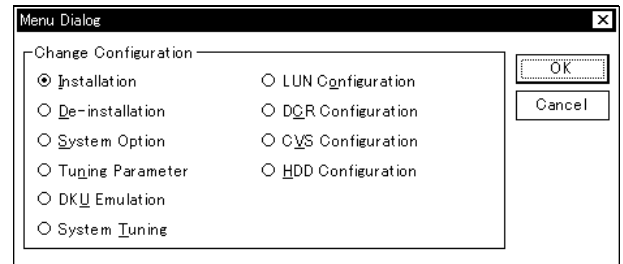
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

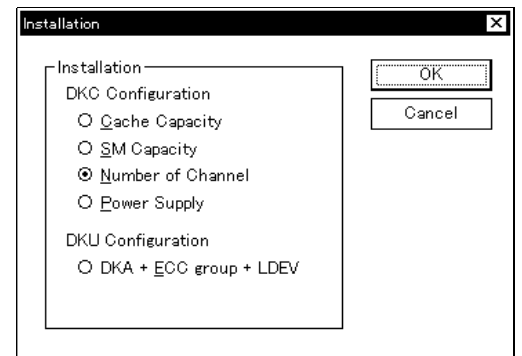
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



2. SVP pre procedure

1. <Update Configuration Information>

Enter the item to CHA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

The DKC Configuration window contains the following sections:

- DKC:** Serial ID (09525), Number of CUs (04), System Option, Power Supply.
- IP Address:** IP Address (126.255.255.15), Subnet Mask (255.0.0.0), IP Address Configuration button.
- Cache:** Basic CMG/512MB Size/512MB/2, On-Demand/6MB/2, Option: Not installed, Total cache size: 512MB/2, DCR available: 256MB/2, Cache Configuration button.
- CHA:** ☒ Basic, ☐ Option, ☒ Option 2, ☐ Option 3.
- DKC:** Number of DKC (2), Cancel, >> Next buttons.

2-1. <Defining channel type>

Input each item in the "Host Interface Configuration" window.

Repeat the operation above as many times as the number of channels installed.

Select (CL) [Serial 4ch]. When setting the HRC/HORC, select (CL) [RCP Set...] and go to step 2-2.

The Host Interface Configuration window shows the Interface Type set to "Serial 4ch" and a button labeled "RCP Set...". Navigation buttons "Before <<", ">> Next", and "Cancel" are at the bottom.

Verify that the inputted item is correct and select (CL) [>>Next].

Go to step 3.

2-2. <Defining RCP port>

When setting the HRC/HORC, select (CL) the item defined as an RCP port and select (CL) [OK].

The routine returns to step 2-1.

When [Cancel] is selected (CL), the routine returns to step 2-1.

The CHA-1Q/CHA-2W RCP Configuration window shows two columns of RCP ports:

- CHA-1Q:** ☒ RCP1, ☐ RCP2, ☐ RCP3, ☐ RCP4.
- CHA-2W:** ☐ RCP1, ☐ RCP2, ☐ RCP3, ☐ RCP4.

Buttons "Cancel" and "OK" are at the bottom.

3. <Defining DKC emulation type>

Define the DKC emulation type in the "DKC Emulation Configuration" window.

After the setting is completed, select (CL) [>>Next].

The DKC Emulation Configuration window shows the DKC Emulation type set to "i-3990-3" under the CHA-1P/CHA-2V section. It also shows Cluster 1 and Cluster 2 settings. Navigation buttons "Before <<" and ">> Next" are at the bottom.

4. <Setting CU number>
CU number is displayed.
After the setting is completed, select (CL) [$\gg$ Next].

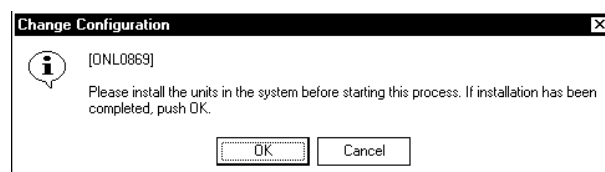
5. <SVP message>
Select (CL) [OK] in response to the confirmation message “Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port.”.

6. <Start installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.
- When [No] is selected (CL), returns to [INST03-8S-20](#) step 3.

7. <Download microprogram>
Microprograms are automatically downloaded for shared memory.

8. <Install CHA >
“Upgrading of the CHA...”

9. <Check that hardware components are installed>
“Please install the units in the system before starting this process. If installation has been completed, push OK.”
is displayed.



3. Installation Procedure of Serial 8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.8.1-1.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.8.1-2.
- c. Fasten the two screws referring to Fig. 3.8.1-2.

Table 3.8.1-2 Inserting Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 4 serial 8-port adapters can be installed in the subsystem.

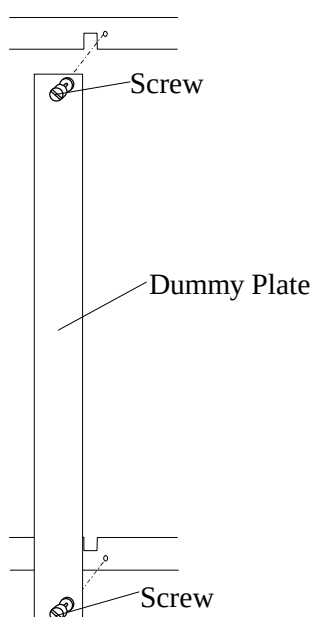


Fig. 3.8.1-1 Removal of Dummy Plate

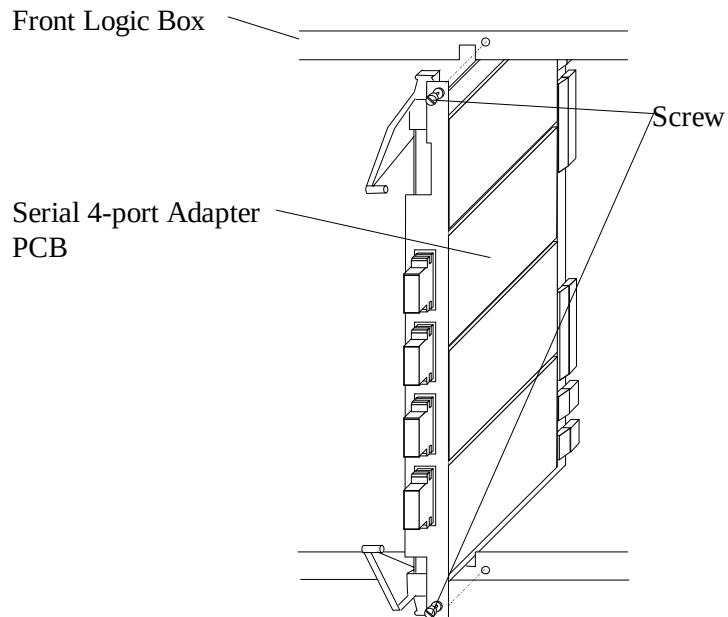
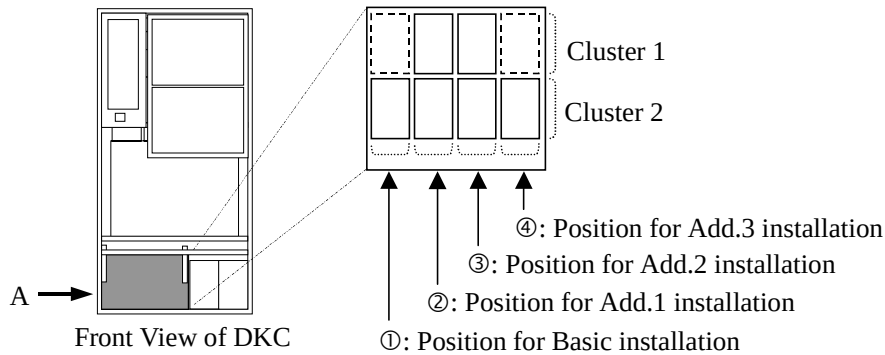


Fig. 3.8.1-2 Insertion of PCB

3-2 Remove the brackets and fiber cable routing.

- Loosen the four screws and remove the two brackets. Refer to Fig. 3.8.1-3.
- Pull the optical fiber cable into the DKC through the I/F connector panel.



Refer to the following figure for how to attach the cable clamp and cable routing.

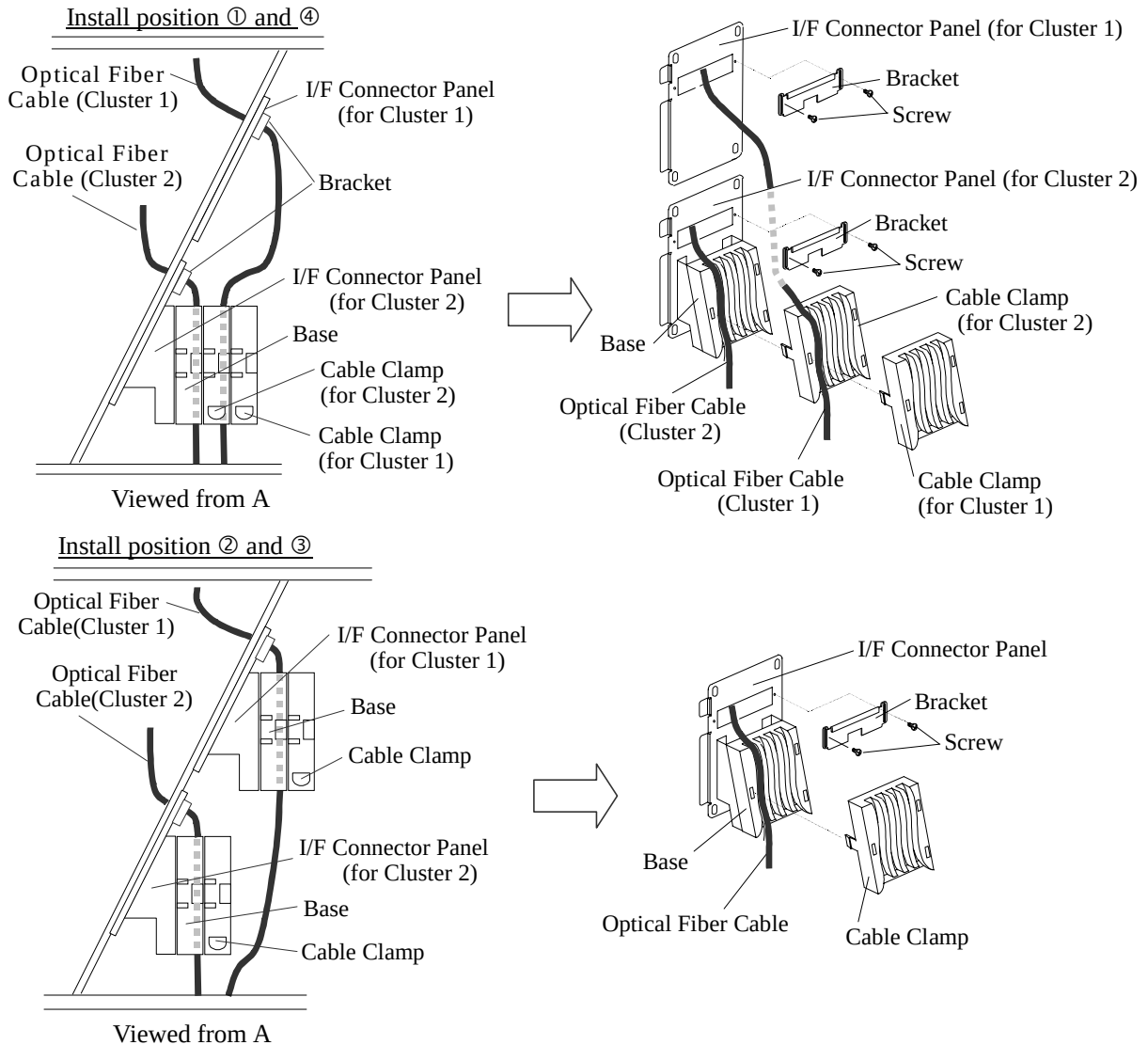


Fig. 3.8.1-3 Installation of Optical Fiber Cable

3-3 Cleaning the fiber cable connectors.

For the tools needed for the cleaning, refer to the tool list on page [PARTS07-10](#).

- Blow compressed gas against the connector using an air sprayer (for about five seconds).
- Wipe the connector lightly with a piece of cut gauze wet with ethyl alcohol.
- Blow compressed air again and check the result of the cleaning. (None of dust, sticking of foreign matter, and dirt must be observed.)

3-4 Connection of the optical fibre cables.

- Connect the optical fiber cable to the PCB referring to Fig. 3.8.1-4.
- Fix the cable with Holder.
- Fix the cable to base and attach the cable clamp and bracket referring to Fig. 3.8.1-3.

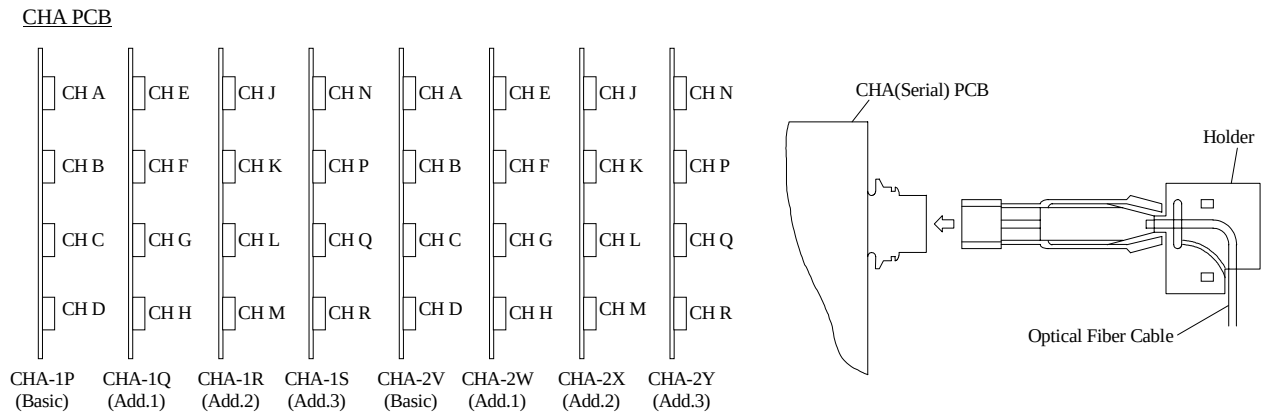


Fig. 3.8.1-4 Connection of Optical Fiber Cable

3-5 Attachment of the nameplate

- Attach the nameplate referring to Fig. 3.8.1-5.

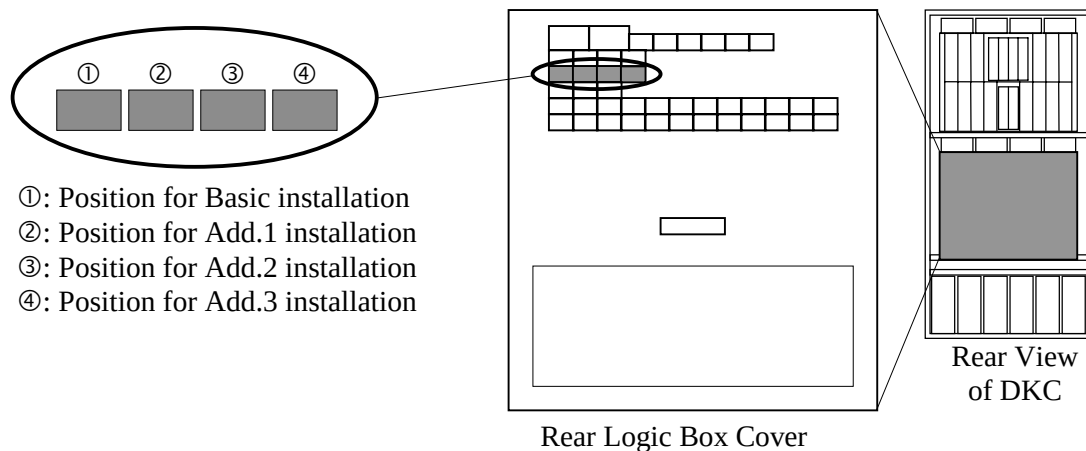
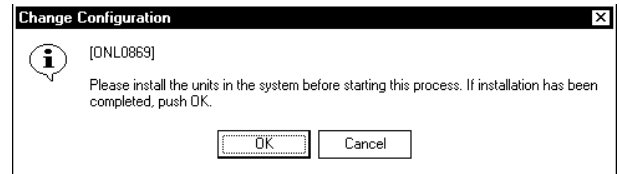


Fig. 3.8.1-5 Attachment of Nameplate

4. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



When [Cancel] is selected (CL), returns to [INST03-8S-20](#) step 3.

2.

“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <End of system update processing>

“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

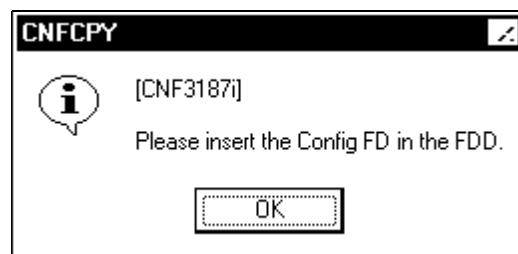


5.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

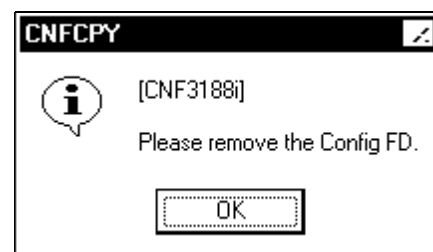
Insert the configuration FD into FDD, and select (CL) [OK].



6.

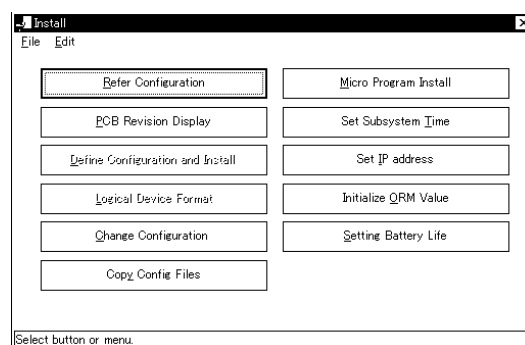
When this procedure is completed, the message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



7.

After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



8. <Mode Change>

Change the mode to View Mode.

3.8.2 Installation of Fibre 4/8-port Adapter

(DKC-F460I-8GSE/4HSE/8HSE/8HLE/8GSF/4HSF/8HSF/8HLF)

Note: When a total number of the CHA and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed. Be sure to check it before performing the addition.

Table 3.8.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8GSE	Fibre 4-port Adapter PCB	5513980-B	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-107	1	RSD
			2105903-107		HICAM
			2105903-207		HICEF
		Nameplate (HP)	2105902-207	1	RSD
			2105903-307		HICAM
			2105903-407		HICEF
2	DKC-F460I-4HSE (Short Wavelength)	Fibre 2-port Adapter PCB	5513981-C	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-108	1	RSD
			2105903-108		HICAM
			2105903-208		HICEF
		Nameplate (HP)	2105902-208	1	RSD
			2105903-308		HICAM
			2105903-408		HICEF
3	DKC-F460I-8HSE (Short Wavelength)	Fibre 4-port Adapter PCB	5513981-A	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-109	1	RSD
			2105903-109		HICAM
			2105903-209		HICEF
		Nameplate (HP)	2105902-209	1	RSD
			2105903-309		HICAM
			2105903-409		HICEF
4	DKC-F460I-8HLE (Long Wavelength)	Fibre 4-port Adapter PCB	5513981-B	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-110	1	RSD
			2105903-110		HICAM
			2105903-210		HICEF

(To be continued)

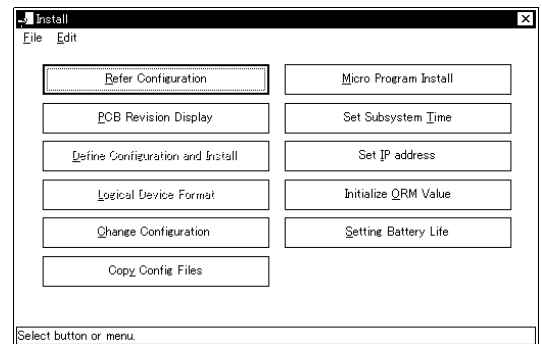
(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
5	DKC-F460I-8GSF (Check data assist support)	Fibre 4-port Adapter PCB	5518079-C	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-136	1	RSD
			2105903-136		HICAM
			2105903-236		HICEF
		Nameplate (HP)	2105902-236	1	RSD
			2105903-336		HICAM
			2105903-436		HICEF
6	DKC-F460I-4HSF (Short Wavelength, Check data assist support)	Fibre 2-port Adapter PCB	5518079-D	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-137	1	RSD
			2105903-137		HICAM
			2105903-237		HICEF
		Nameplate (HP)	2105902-237	1	RSD
			2105903-337		HICAM
			2105903-437		HICEF
7	DKC-F460I-8HSF (Short Wavelength, Check data assist support)	Fibre 4-port Adapter PCB	5518079-A	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-138	1	RSD
			2105903-138		HICAM
			2105903-238		HICEF
		Nameplate (HP)	2105902-238	1	RSD
			2105903-338		HICAM
			2105903-438		HICEF
8	DKC-F460I-8HLF (Long Wavelength, Check data assist support)	Fibre 4-port Adapter PCB	5518079-B	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-139	1	RSD
			2105903-139		HICAM
			2105903-239		HICEF

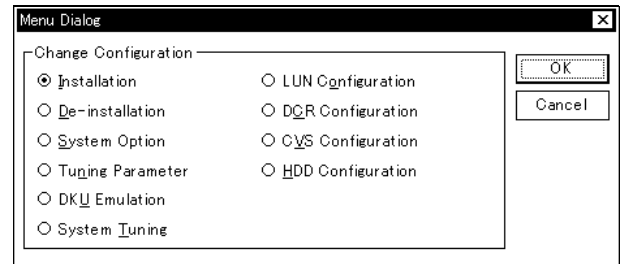
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

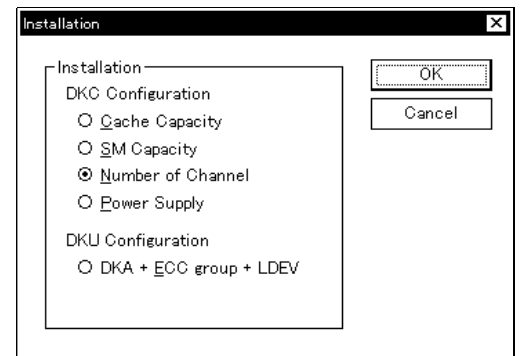
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



2. SVP pre procedure

1. <Update Configuration Information>

Enter the item to CHA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

The DKC Configuration window contains the following sections:

- DKC:** Serial No. (09595), Number of CUA (06), System Option, and Power Supply.
- IP Address:** IP Address (126.255.255.15), Subnet Mask (255.0.0.0), and an IP Address Configuration button.
- Cache:** Basic CMG/512MB Super/512MB/2, On-Demand/0MB/2, Option: Not installed, Total cache size: 512MB/2, DCA available: 256MB/2, and a Cache Configuration button.
- CHA:** Basic (checked), Option (checked), Option 2, and Option 3.
- DKA:** Number of DKA (2).

Buttons at the bottom include Cancel and >> Next.

2-1. <Defining channel type>

Input each item in the "Host Interface Configuration" window.

Repeat the operation above as many times as the number of channels installed.

Select (CL) [Fibre *]. When setting the HRC/HORC, select (CL) [Mode Set...]

Verify that the inputted item is correct and select (CL) [>>Next].

Go to step 3.

The Host Interface Configuration window shows the following settings:

- CHA-1P/CHA-2V
- Interface Type: 4HSE/F Fibre 2ch-2mp (selected)
- Buttons: Mode Set..., Before <<, >> Next, and Cancel.

2-2. <Defining Fibre Mode>

Select (CL) the item defined as an Fibre Mode (set the 'Target/Initiator' only when setting the 'Fibre PCB Mode' or HRC/HORC) and select (CL) [OK].

The routine returns to step 2-1.

When [Cancel] is selected (CL), the routine returns to step 2-1.

The CHA-1Q/CHA-2W Fibre Mode Configuration window shows settings for two channels:

- CHA-1Q:** Fibre PCB Mode: Standard, Target/Initiator: Port E (Target), Port F (Target), Port G (Target), Port H (Target).
- CHA-2W:** Fibre PCB Mode: Standard, Target/Initiator: Port E (Target), Port F (Target), Port G (Target), Port H (Target).

Buttons at the bottom include Cancel and OK.

3. <Setting Channel>

Set the 'Channel Speed'.

After setting up, select (CL) [>>Next].

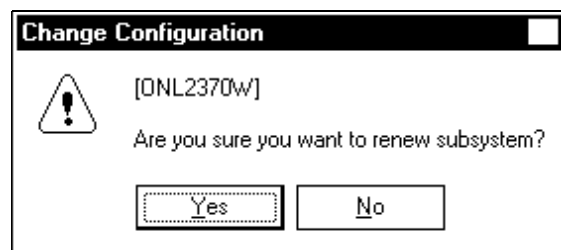
The Channel Configuration window shows settings for four ports:

- Port E:** Channel Speed: Auto (selected), Channel Speed: [] (checked).
- Port F:** Channel Speed: Auto (selected), Channel Speed: [] (checked).
- Port G:** Channel Speed: Auto (selected), Channel Speed: [] (checked).
- Port H:** Channel Speed: Auto (selected), Channel Speed: [] (checked).

Buttons at the bottom include Before <<, >> Next, and Cancel.

4. <Start installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

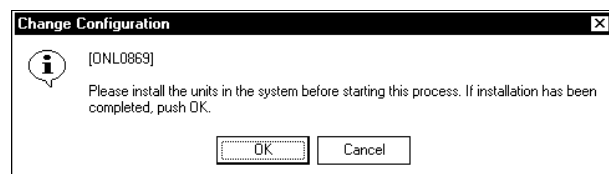
When [No] is selected (CL), returns to
[INST03-FIB-20](#) step 3.



5. <Download microprogram>
Microprograms are automatically downloaded for shared memory.

6. <Install CHA >
“Upgrading of the CHA...”

7. <Check that hardware components are installed>
“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



3. Installation Procedure of Fibre 4/8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.8.2-1.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.8.2-2.
- c. Fasten the two screws referring to Fig. 3.8.2-2.

Table 3.8.2-2 Inserting Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 4 Fibre 4/8-port adapters can be installed in the subsystem.

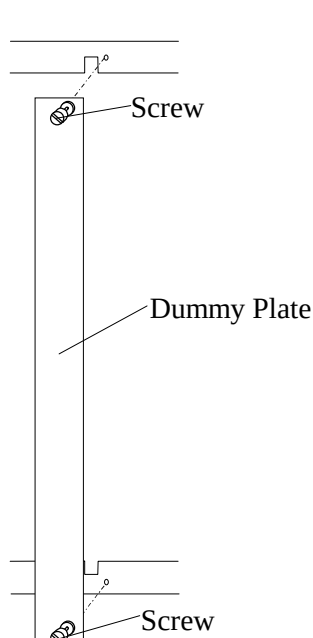


Fig. 3.8.2-1 Removal of Dummy Plate

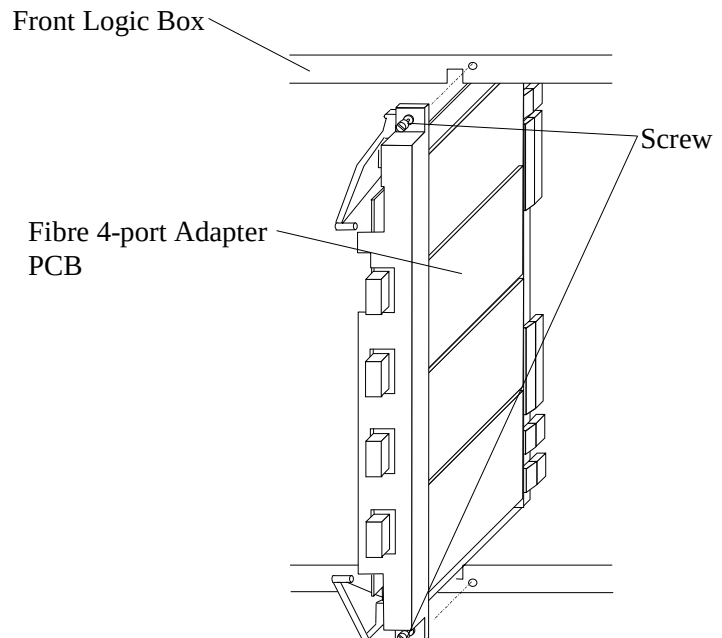
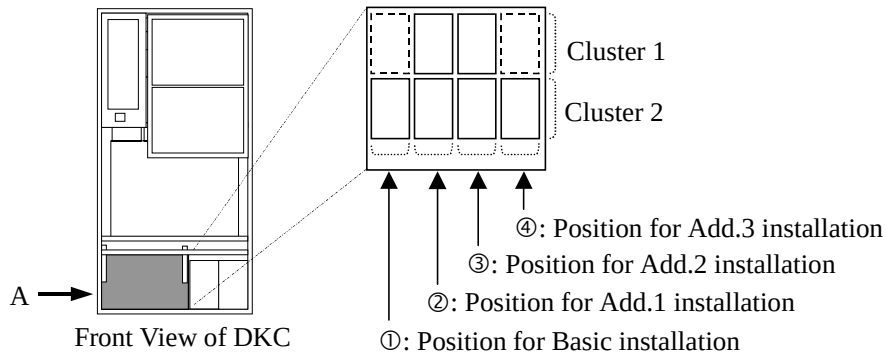


Fig. 3.8.2-2 Insertion of PCB

3-2 Remove the brackets and fiber cable routing.

- Loosen the four screws and remove the two brackets. Refer to Fig. 3.8.2-3.
- Pull the optical fiber cable into the DKC through the I/F connector panel.



Refer to the following figure for how to attach the cable clamp and cable routing.

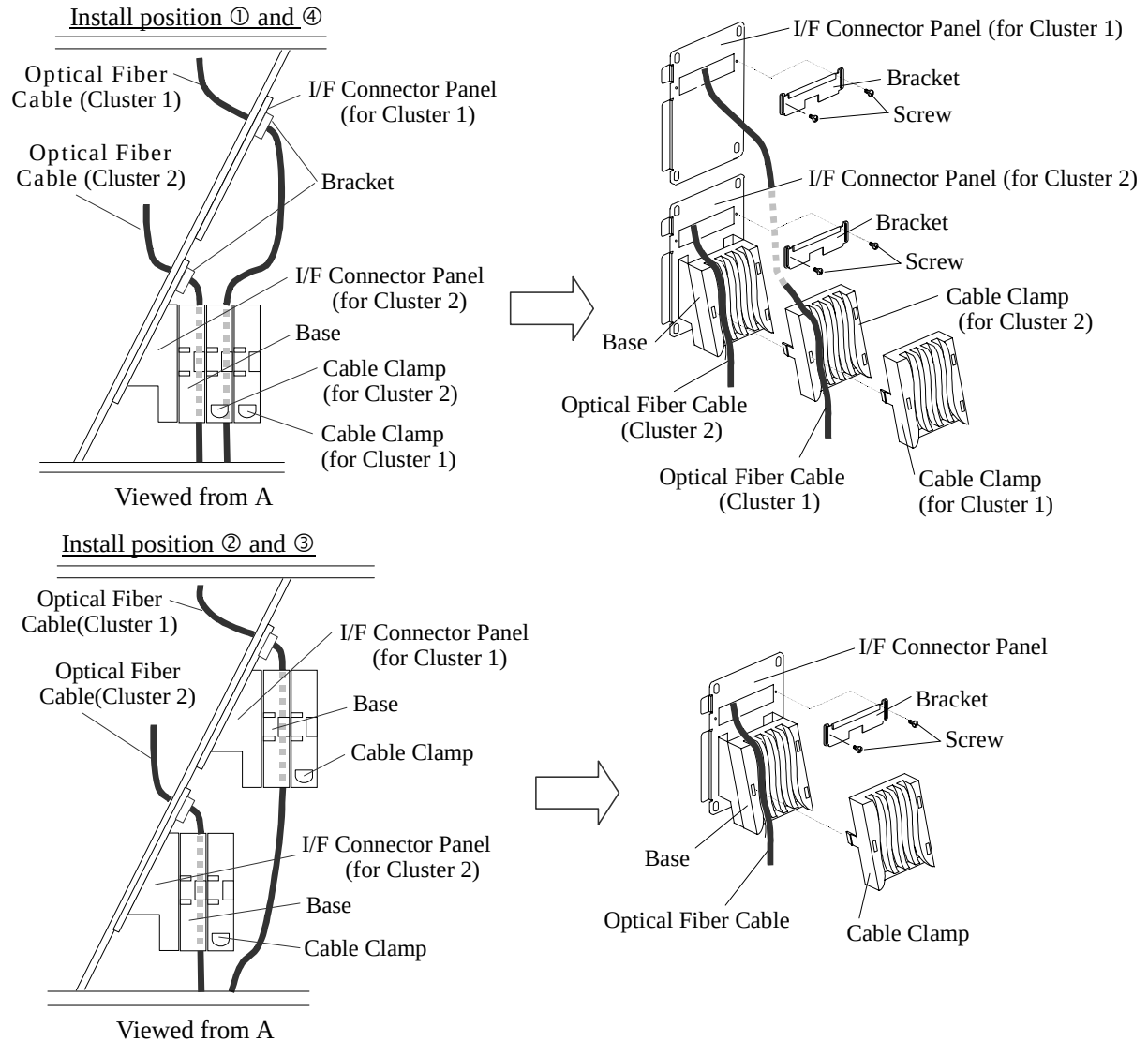


Fig. 3.8.2-3 Installation of Optical Fiber Cable

3-3 Cleaning the fiber cable connectors.

For the tools needed for the cleaning, refer to the tool list on page [PARTS07-10](#).

- Blow compressed gas against the connector using an air sprayer (for about five seconds).
- Wipe the connector lightly with a piece of cut gauze wet with ethyl alcohol.
- Blow compressed air again and check the result of the cleaning. (None of dust, sticking of foreign matter, and dirt must be observed.)

CAUTION

When Installation of PCB in HIGH PERFORMANCE MODE, some LOOP ID (FC-AL) volumes of the parts on the PCB may conflict. So you must operate LUN Management ([INST05-610](#)) to change the values, and then insert Optical Fibre cable. If you operate in the reverse order, SIM=2190XY (ALPA conflict) will be logged on SVP.

3-4 Connection of the optical fibre cable

- Connect the optical fiber cable to the PCB referring to Fig. 3.8.2-4.
- Fix the cable to base and attach the cable clamp and bracket referring to Fig. 3.8.2-3.

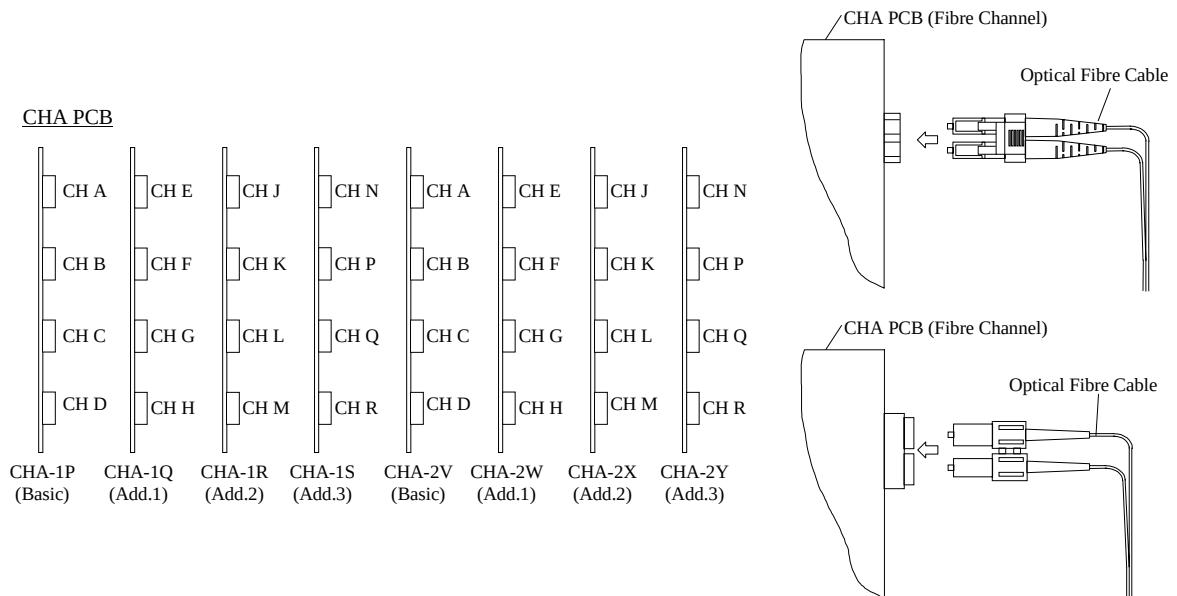


Fig. 3.8.2-4 Connection of Optical Fiber Cable

3-5 Attachment of the nameplate

- Attach the nameplate referring to Fig. 3.8.2-5.

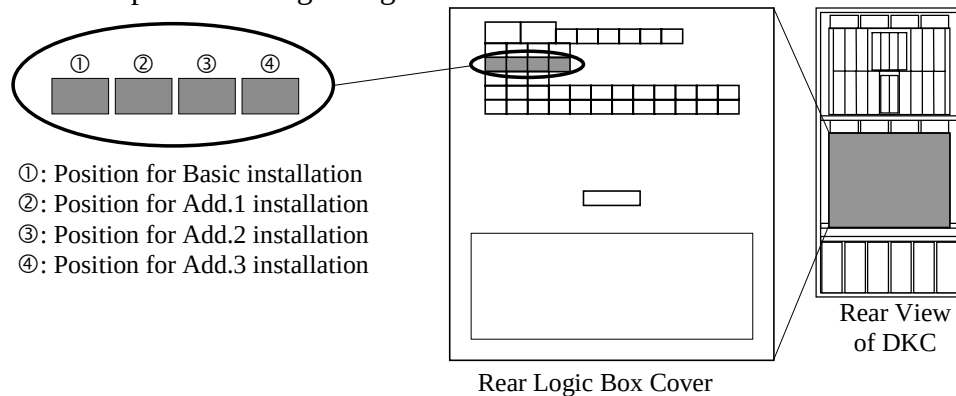
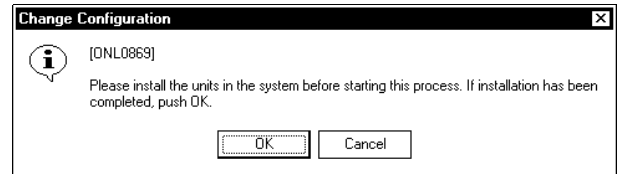


Fig. 3.8.2-5 Attachment of Nameplate

4. SVP post procedure

1. <Check that hardware components are installed>
Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



When [Cancel] is selected (CL), returns to [INST03-FIB-20](#) step 3.

2.
“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>
When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <End of system update processing>
“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

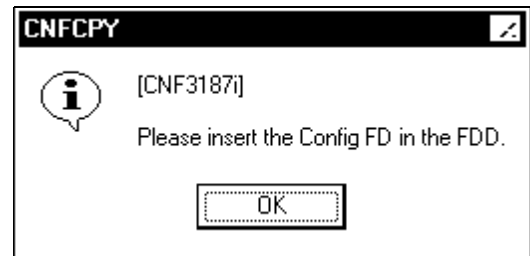


5.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

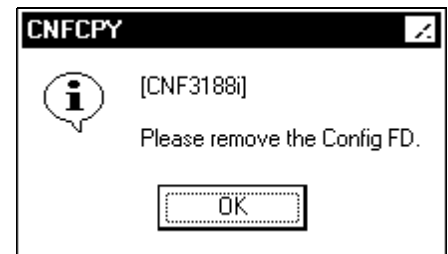
Insert the configuration FD into FDD, and select (CL) [OK].



6.

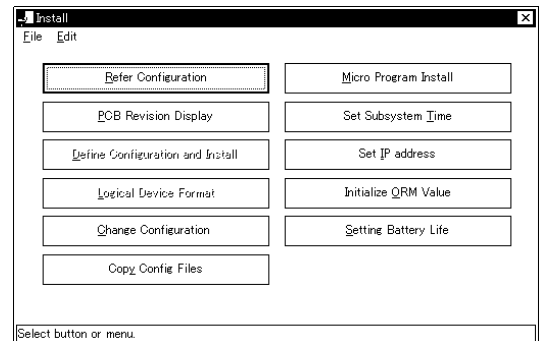
When this procedure is completed, the message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



7.

After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



8.

<Mode Change>

Change the mode to View Mode.

3.8.3 Installation of Mainframe Fibre 8-port Adapter (DKC-F460I-8MS/8ML)

Note: When a total number of the CHA and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed. Be sure to check it before performing the addition.

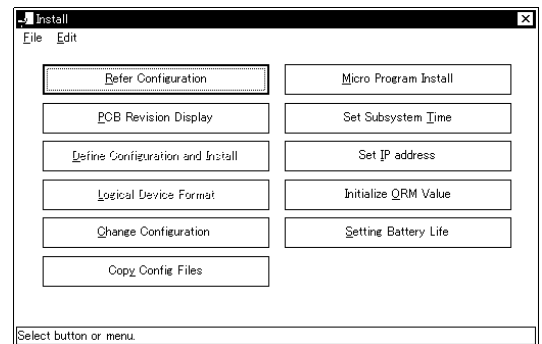
Table 3.8.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8MS (Short Wavelength)	Fibre 4-port Adapter PCB	5513984-A	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-112	1	RSD
			2105903-112		HICAM
			2105903-212		HICEF
2	DKC-F460I-8ML (Long Wavelength)	Fibre 4-port Adapter PCB	5513984-B	2	Color of PCB lever : PCB
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-113	1	RSD
			2105903-113		HICAM
			2105903-213		HICEF

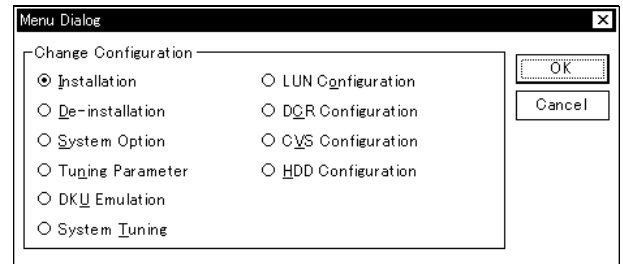
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

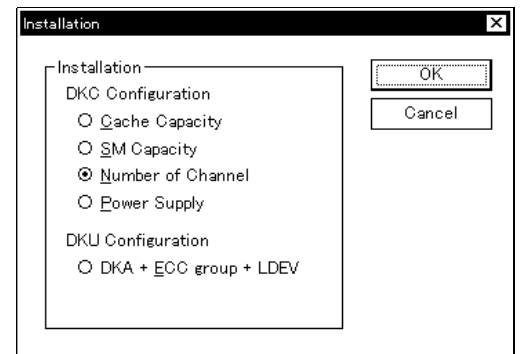
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



2. SVP pre procedure

1. <Update Configuration Information>

Enter the item to CHA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

The DKC Configuration window contains the following sections:

- DKC:** Serial No. (09525), Number of CUs (04), System Option, Power Supply.
- IP Address:** IP Address (126.255.255.15), Subnet Mask (255.0.0.0), IP Address Configuration.
- Cache:** Basic CMG/512MB Size/512MBx2, On-Demand/6MBx2, Option: Not installed, Total cache size: 512MBx2, DCR available: 256MBx2, Cache Configuration.
- CHA:** Basic (checked), Option (unchecked), Option 2 (unchecked), Option 3 (unchecked).
- DKA:** Number of DKA (2), Cancel, >> Next.

2. <Defining channel type>

Input each item in the "Host Interface Configuration" window.

Repeat the operation above as many times as the number of channels installed.

Select (CL) [Mfibre *].

The Host Interface Configuration window shows:

- Please select the interface type of CHA.
- CHA-1Q/CHA-2W
- Interface Type: 8MS Mfibre 4ch (selected from a dropdown menu)
- ROP Set... button
- Navigation buttons: Before <<, >> Next, Cancel.

Verify that the inputted item is correct and select (CL) [>>Next].

Go to step 3.

3. <Defining DKC emulation type>

Define the DKC emulation type in the "DKC Emulation Configuration" window.

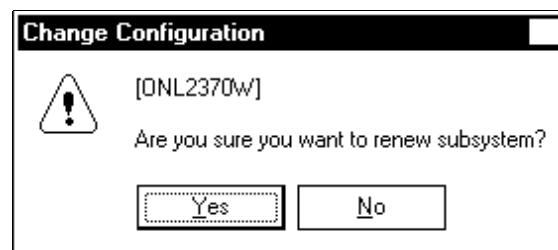
After the setting is completed, select (CL) [>>Next].

The DKC Emulation Configuration window shows:

- Please Select the DKC Emulation type.
- CHA-1P/CHA-2V
- DKC Emulation section with two clusters:
 - [Cluster 1]: CHA-1P, I-2105-F20 (selected from a dropdown menu)
 - [Cluster 2]: CHA-2V, = Cluster 1 (selected from a dropdown menu)
- Navigation buttons: Before <<, >> Next.

4. <Start installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

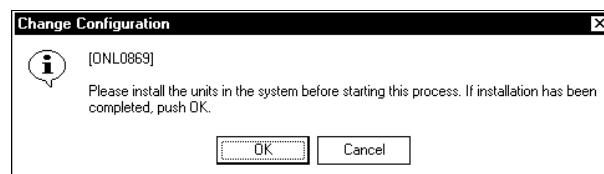
When [No] is selected (CL), returns to
[INST03-MF-20](#) step 3.



5. <Download microprogram>
Microprograms are automatically downloaded for shared memory.

6. <Install CHA >
“Upgrading of the CHA...”

7. <Check that hardware components are installed>
“Please install the units in the system before starting this process. If installation has been completed, push OK.”.
is displayed.



Blank Sheet

REV.1	Oct.2001	Jun.2002				

3. Installation Procedure of Mainframe Fibre 8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.8.3-1.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.8.3-2.
- c. Fasten the two screws referring to Fig. 3.8.3-2.

Table 3.8.3-2 Inserting Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 4 Mainframe Fibre 8-port adapters can be installed in the subsystem.

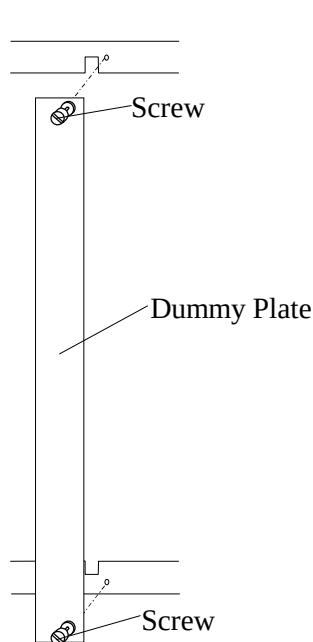


Fig. 3.8.3-1 Removal of Dummy Plate

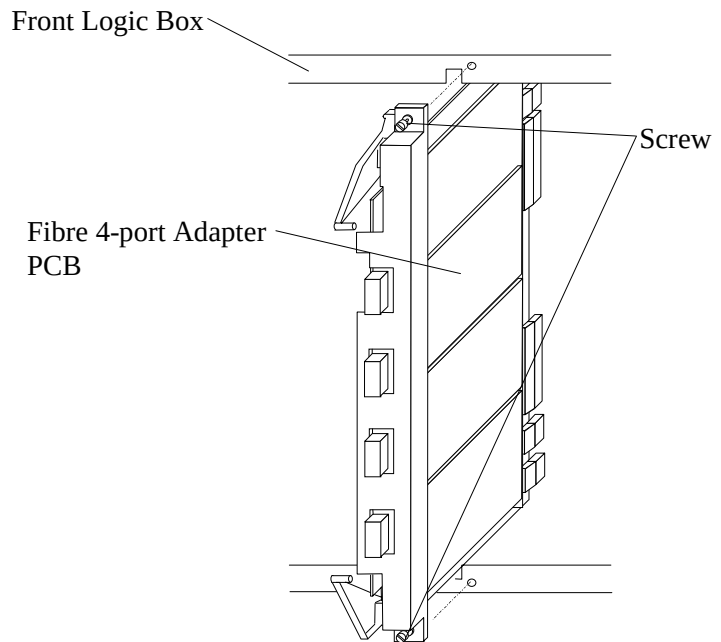
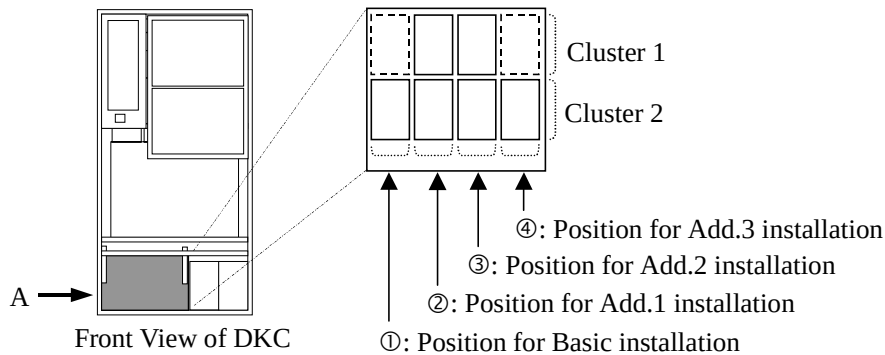


Fig. 3.8.3-2 Insertion of PCB

3-2 Remove the brackets and fiber cable routing.

- Loosen the four screws and remove the two brackets. Refer to Fig. 3.8.3-3.
- Pull the optical fiber cable into the DKC through the I/F connector panel.



Refer to the following figure for how to attach the cable clamp and cable routing.

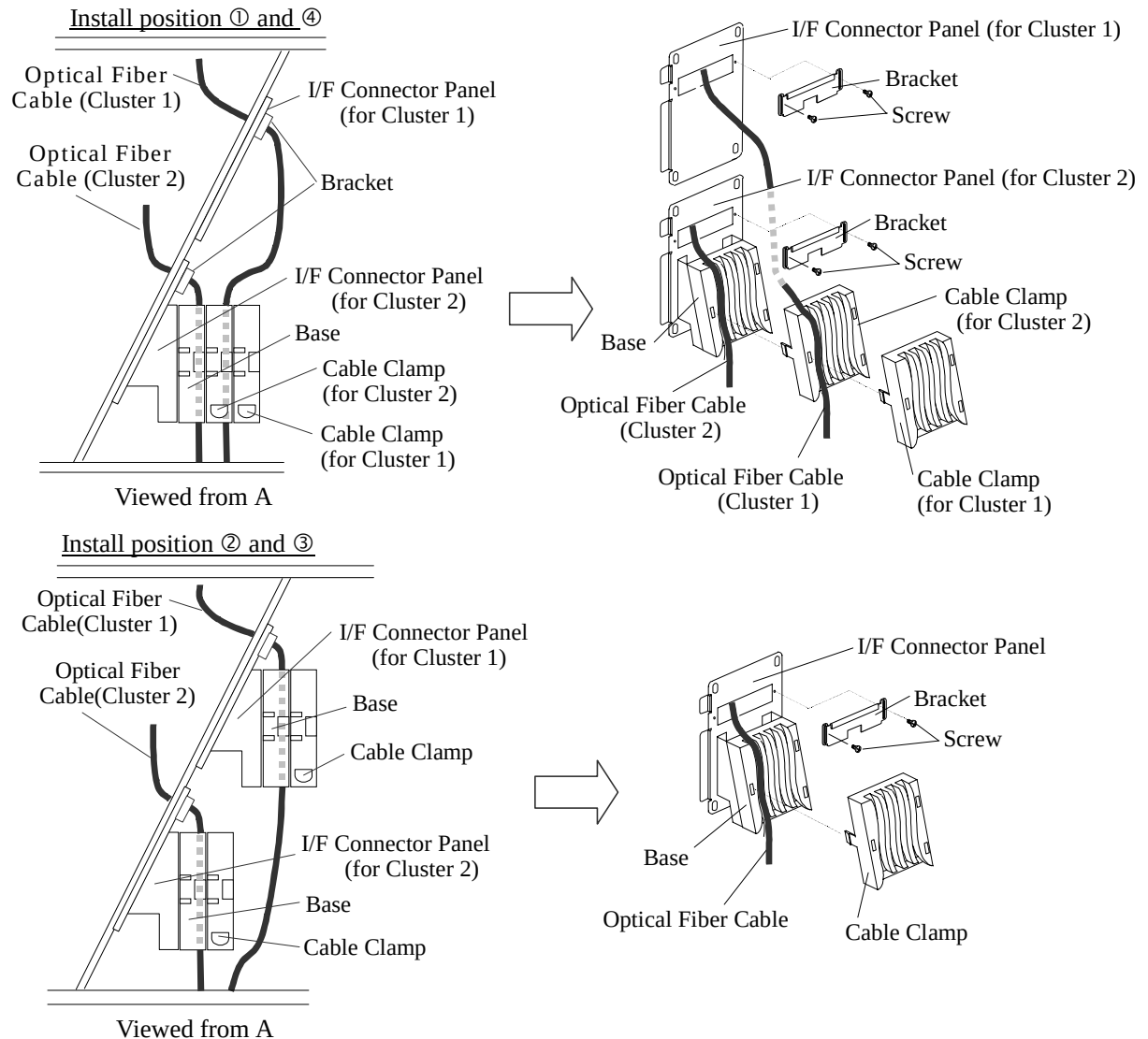


Fig. 3.8.3-3 Installation of Optical Fiber Cable

3-3 Cleaning the fiber cable connectors.

For the tools needed for the cleaning, refer to the tool list on page [PARTS07-10](#).

- Blow compressed gas against the connector using an air sprayer (for about five seconds).
- Wipe the connector lightly with a piece of cut gauze wet with ethyl alcohol.
- Blow compressed air again and check the result of the cleaning. (None of dust, sticking of foreign matter, and dirt must be observed.)

CAUTION

When Installation of PCB in HIGH PERFORMANCE MODE, some LOOP ID (FC-AL) volumes of the parts on the PCB may conflict. So you must operate LUN Management ([INST05-610](#)) to change the values, and then insert Optical Fibre cable. If you operate in the reverse order, SIM=2190XY (ALPA conflict) will be logged on SVP.

3-4 Connection of the optical fiber cable.

- Connect the optical fiber cable to the PCB referring to Fig. 3.8.3-4.
- Fix the cable to base and attach the cable clamp and bracket referring to Fig. 3.8.3-3.

CHA PCB

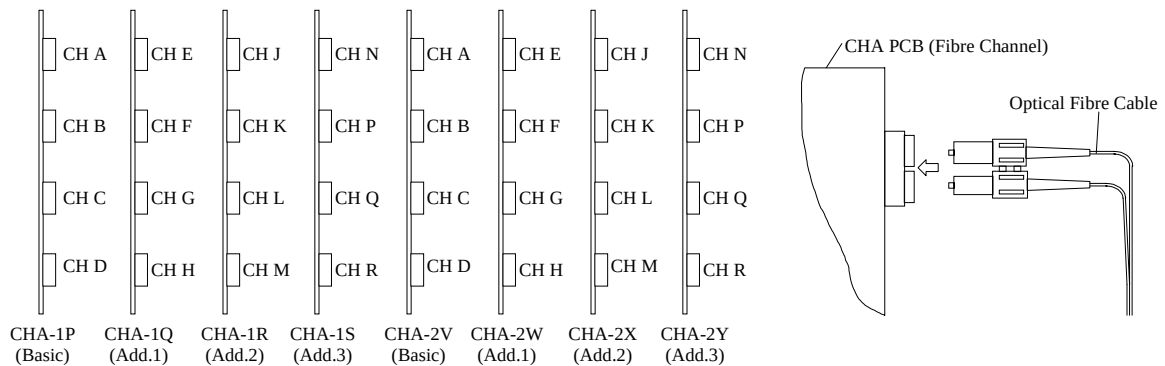


Fig. 3.8.3-4 Connection of Optical Fiber Cable

3-5 Attachment of the nameplate

- Attach the nameplate referring to Fig. 3.8.3-5.

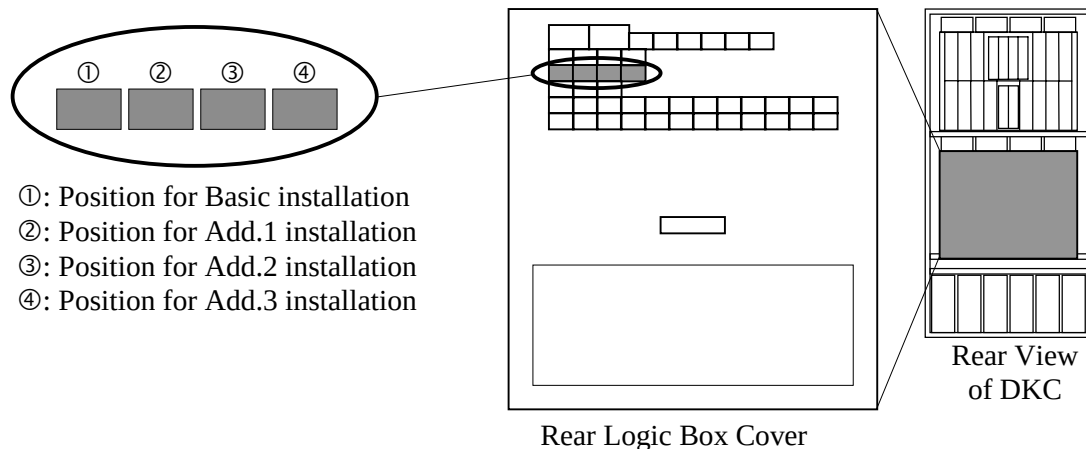
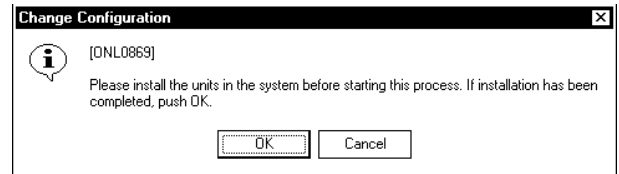


Fig. 3.8.3-5 Attachment of Nameplate

4. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



When [Cancel] is selected (CL), returns to [INST03-MF-20](#) step 3.

2.

“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <End of system update processing>

“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

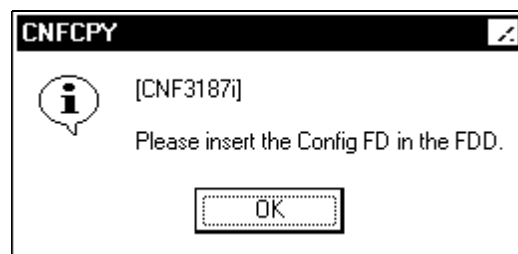


5.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

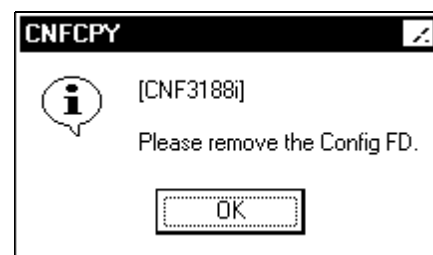
Insert the configuration FD into FDD, and select (CL) [OK].



6.

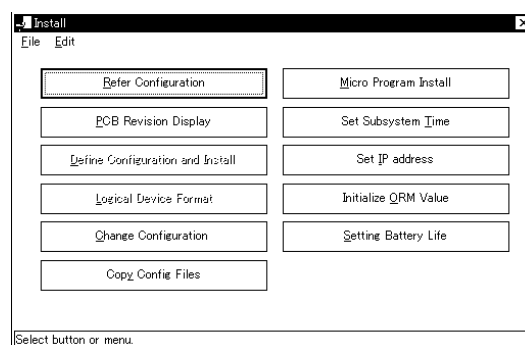
When this procedure is completed, the message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



7.

After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



8. <Mode Change>

Change the mode to View Mode.

3.9 Installation of Shared Memory and Cache Memory

NOTICE:

The installed Shared Memory capacity and maximum Cache Memory capacity with using HMRCF/HOMRCF/HRC/HORC/HHSM functions is different from ones without using these functions.

(1) Refer to the "[INST01-80] Table 1.1.2-3B" in these functions use.

(Note1) When you use these functions, you need to install more Shared Memory.

(Note2) When you use these functions with over 8CUs, the maximum Cache Memory capacity you can install is up to 58GB.

(2) Refer to the "[INST01-70] Table 1.1.2-3A" in these functions non-use.

3.9.1 Installation of Additional Shared Memory (DKC-F460I-S512)

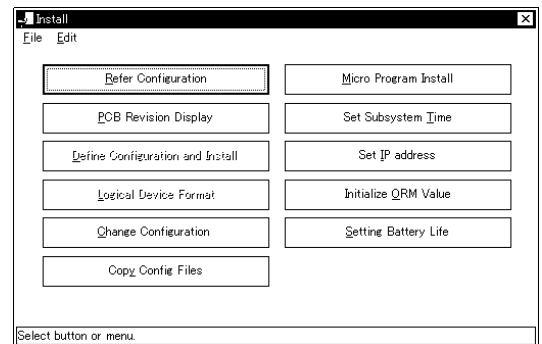
Table 3.9.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-S512	SH287-B	5513978-B	2	Shared Memory Module (256MB)

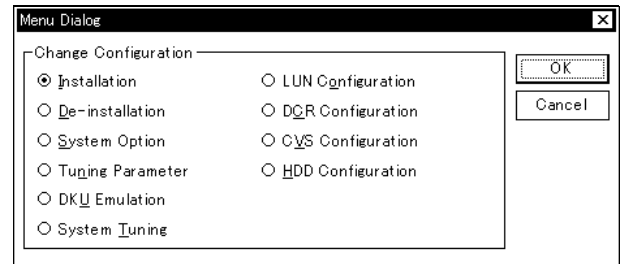
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

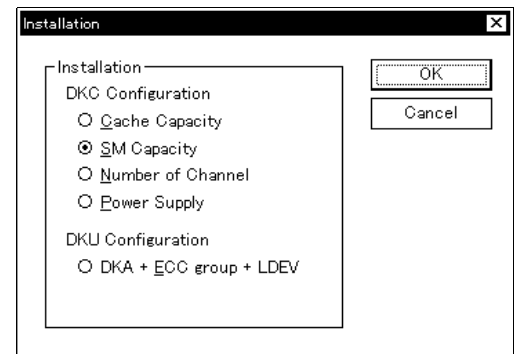
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [SM Capacity], and select (CL) [OK].



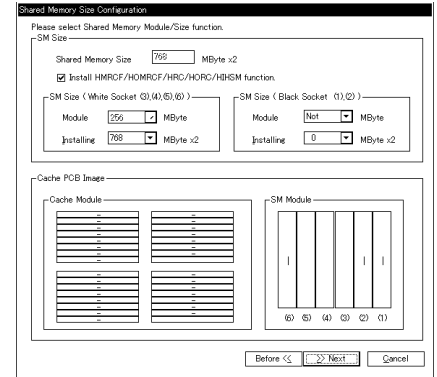
2. SVP pre procedure on the Cluster 1.

(1) <Define Shared Memory Size>

Define the shared memory size in the 'Shared Memory Size Configuration' dialog box.

When you want to add the SM for the HMRCF/HOMRCF/HRC/HORC/HIMSM function, check the "Install HMRCF/HOMRCF/HRC/HORC/HIMSM Function.". (There may be no change in SM capacity.)

If the installed SM after the addition conforms to that shown in the "Cache PCB Image", select (CL) the [>>Next] button.

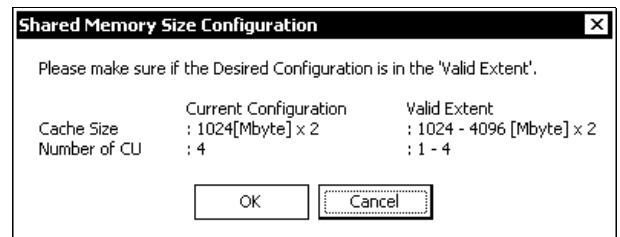


(1-1)

Make sure if the desired configuration is in the valid extent.

In the valid extent: Select (CL) [OK].

Out of the valid extent: Select (CL) [Cancel].

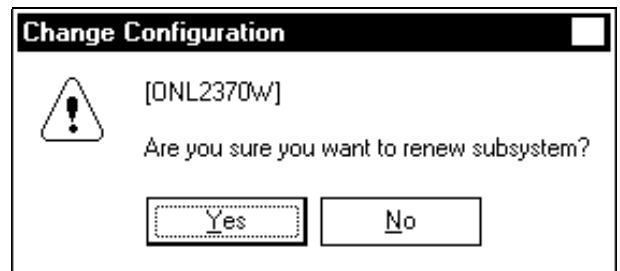


(2) <Start installation>

Select (CL) [Yes] in response to "Are you sure you want to renew subsystem?".

If there is change in SM capacity, go to INST03-SM-30 step 3.

If there is no change in SM capacity, go to [INST03-SM-160](#) step 3.



When [No] is selected (CL), returns to [INST03-SM-20](#) step 2.

(3)

"The Shared Memory PCB is being blocked..." is displayed.

"Lighting LED of the PCB..." is displayed.

(4) <Perform cache hardware installation>

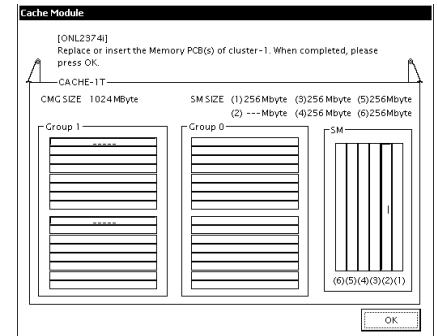
At this point refrain from pressing the [OK] button.

When “Replace or insert the Memory PCB(s) of cluster-1.

When completed, please press OK.” is displayed, install hardware components according to the cache hardware installation procedure.

Make sure of the installation location and size of the module to be added and insert the correct module in the correct location.

(Uninstalled module is displayed as looks depressed.)



3-1 Install the Shared Memory on the Cluster 1.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1. Remove the PCB.

- a. While referring to Fig. 3.9.1-1 and Table 3.9.1-2, check the Shut Down LED on the Cache Memory PCB in the Front Logic Box. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on. (This procedure [3-1. a.] is not valid for a New Installation.)

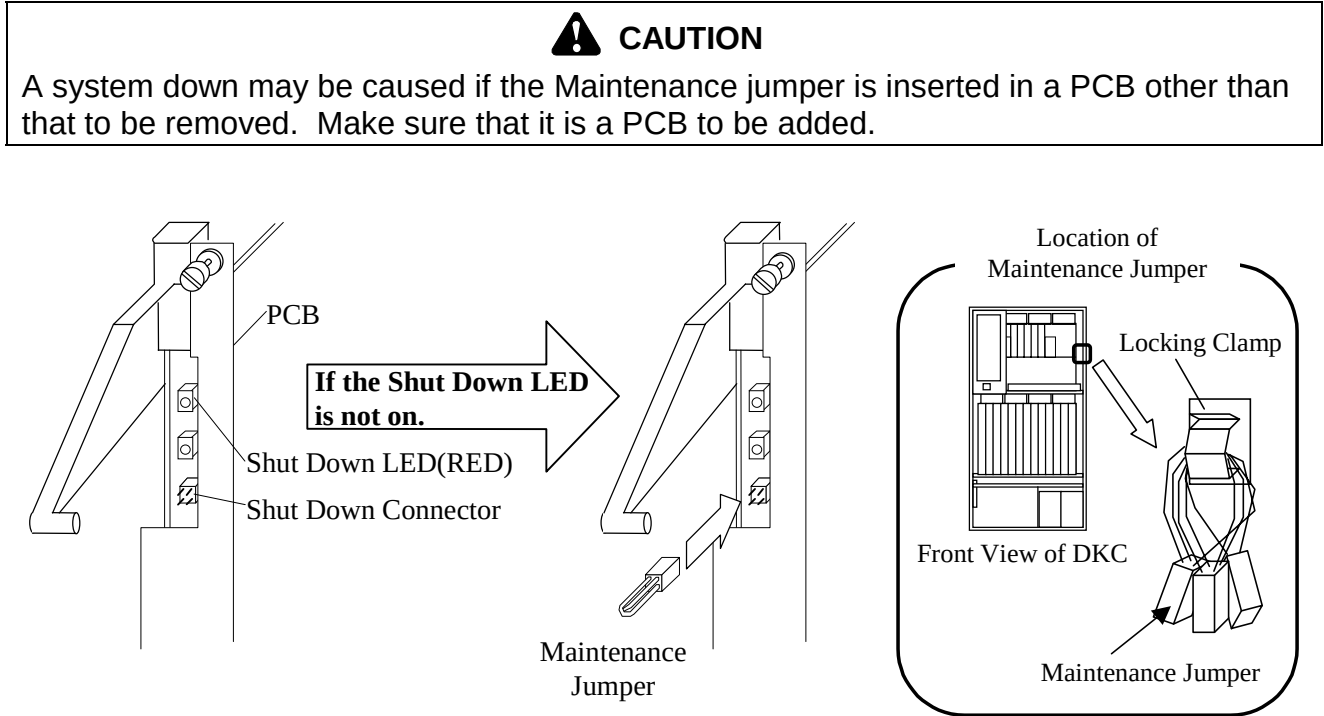


Fig. 3.9.1-1 Location of the Shut Down LED

Table 3.9.1-2 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB.

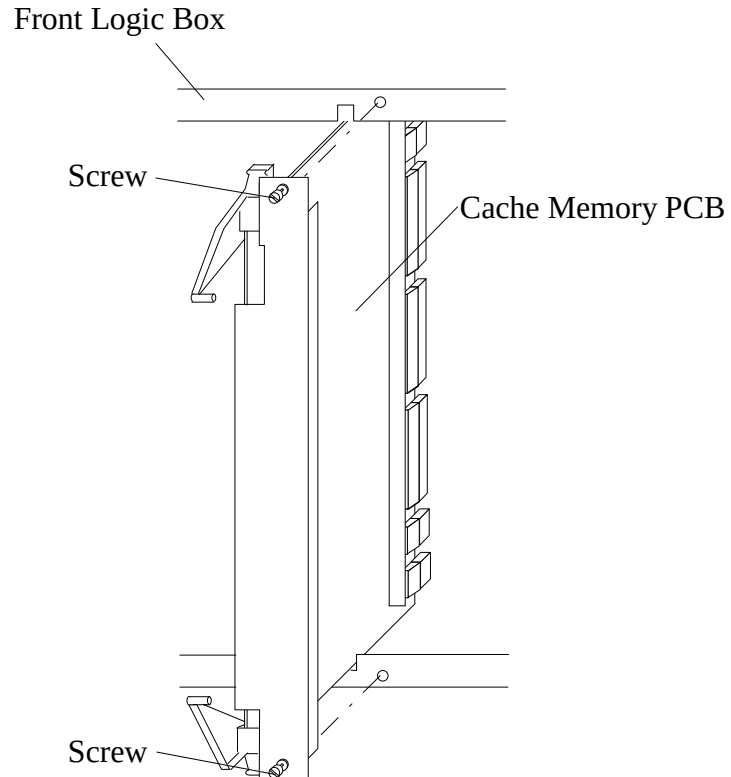


Fig. 3.9.1-2 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

3-2. Insert the Shared Memory Modules.

Notice

The required capacity of the shared memory varies depending on whether the HRC/HORC/HMRCF/HOMRCF/HHSM function is supported or not.

Calculate the required shared memory capacity referring to Table 3.9.1-3 when none of the functions is supported (in the case of basic configuration) or Table 3.9.1-4 when at least one of the functions is supported.

- Remove the dust covers that match the required Shared Memory capacity referring to Fig. 3.9.1-3, Table 3.9.1-3 and Table 3.9.1-4.
- Insert the Shared Memory Modules that match the required Shared Memory capacity.

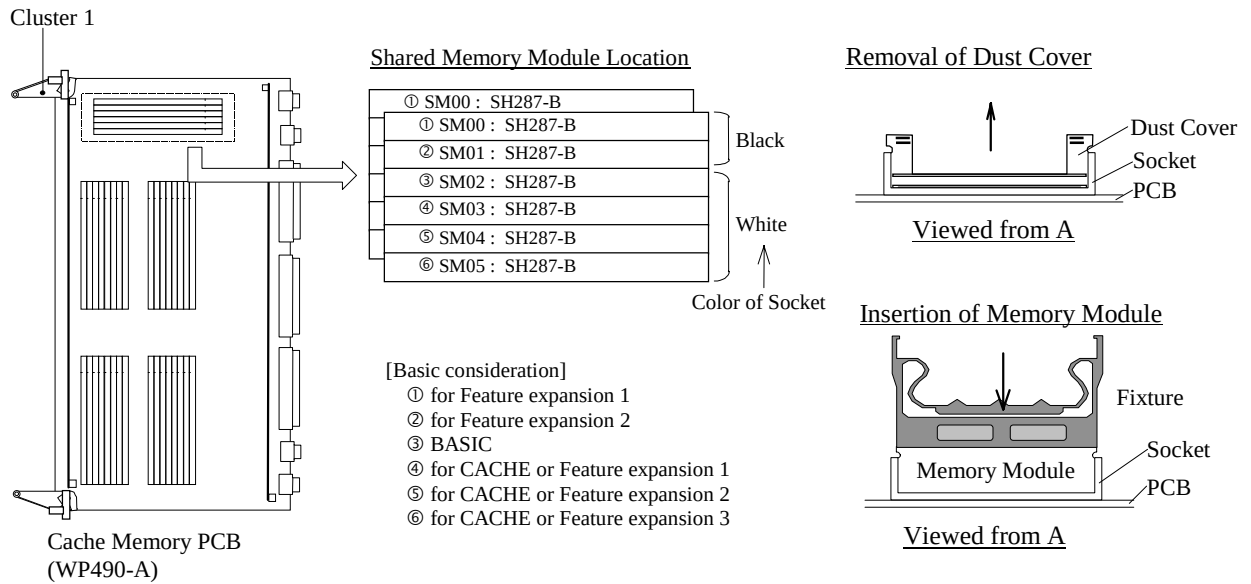


Fig. 3.9.1-3 Inserting Location of the Shared Memory Module

Table 3.9.1-3 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMRCF/HOMRCF/HHSM not support)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
2GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
4GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
6GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
8GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
10GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
12GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
14GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
16GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
18GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
20GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
22GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
24GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
26GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
28GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
30GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
32GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
34GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
36GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
38GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
40GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
42GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
44GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
46GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
48GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
50GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
52GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
54GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
56GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
62GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
64GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128	DKU-F455I-72J4: 64	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4
	DKU-F405I-47J4: 98 *4	DKU-F405I-72J4: 64 *4	DKU-F405I-180H4: 24 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 96 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 128 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 128 *4

*5

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 3.9.1-3.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

*5: When HRC/HMRCF supported, cache memory must be de-installed refer to Table 3.9.1-4.

Table 3.9.1-4 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMR CF/HOMRCF/HHSM supported)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 & TPF (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
2GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
4GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
6GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
8GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
10GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
12GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
14GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
16GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
18GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
20GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
22GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
24GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
26GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
28GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
30GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
32GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
34GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
36GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
38GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
40GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
42GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
44GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
46GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
48GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
50GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
52GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
54GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
56GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
62GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
64GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128 DKU-F455I-72J4: 64 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 98 *4 DKU-F405I-72J4: 64 *4 DKU-F405I-180H4: 24 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 96 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4		

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 3.9.1-3.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

*5: When HRC/HMR CF supported, cache memory (over 60 G bytes) can't set up in the '-' mark.

3-3. Insert the PCB.

- a. Insert the Cache Memory PCB into the Front Logic Box referring to Table 3.9.1-5.
- b. Fasten the two screws.

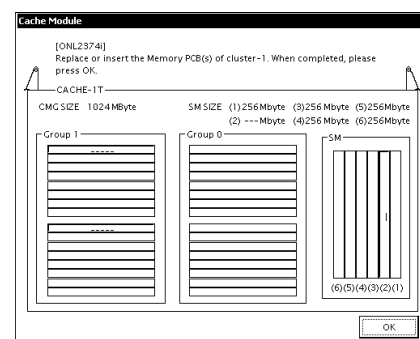
Table 3.9.1-5 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB

4. SVP post procedure on the Cluster 1.

(1)

After installation of shared memory on one side is completed, select (CL) [OK] in response to “Replace or insert the Memory PCB(s) of cluster-1. When completed, please press OK.”.



(2)

“Changing the configuration date, for equipment of shared/cache memory...” is displayed.
 “INLINE CUDG is now running...” is displayed.
 “Restoring the Cache Memory PCB...” is displayed.
 “Restoring the Shared Memory PCB...” is displayed.

5. SVP pre procedure on the Cluster 2.

(1) <Recover one side of cache>

When recovery processing is completed,

“The Shared Memory PCB is being blocked.” message appears.

Processing proceeds to blocking of the other side of Shared Memory.

(2) <Perform cache hardware installation>

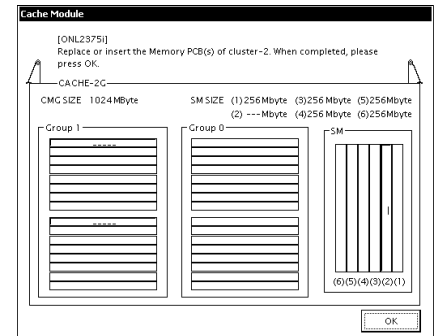
At this point refrain from pressing the [OK] button.

When “Replace or insert the Memory PCB(s) of cluster-2.

When completed, please press OK.” is displayed, install hardware components according to the cache hardware installation procedure.

Make sure of the installation location and size of the module to be added and insert the correct module in the correct location.

(Uninstalled module is displayed as looks depressed.)



6 Install the Shared Memory on the Cluster 2.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1. Remove the PCB.

- a. While referring to Fig. 3.9.1-4 and Table 3.9.1-6, check the Shut Down LED on the Cache Memory PCB in the Front Logic Box. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on. (This procedure [6-1. a.] is not valid for a New Installation.)

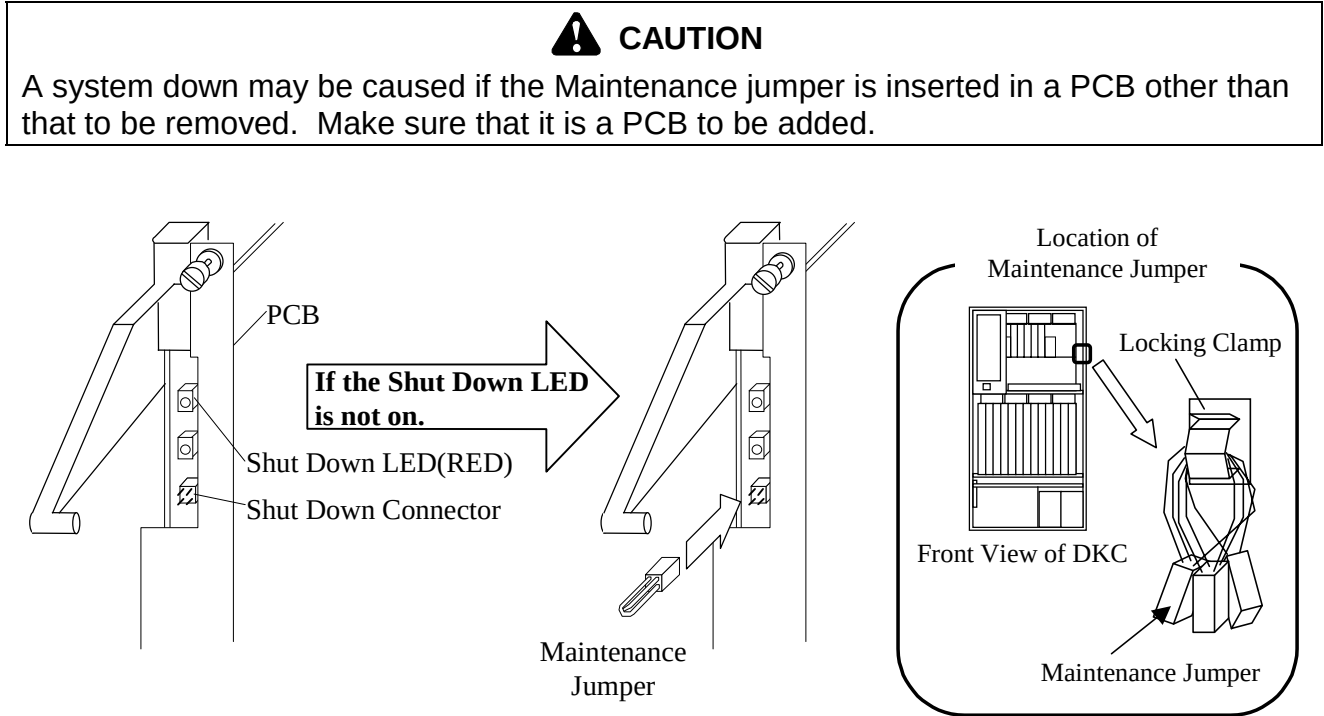


Fig. 3.9.1-4 Location of the Shut Down LED

Table 3.9.1-6 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB.

Rear Logic Box

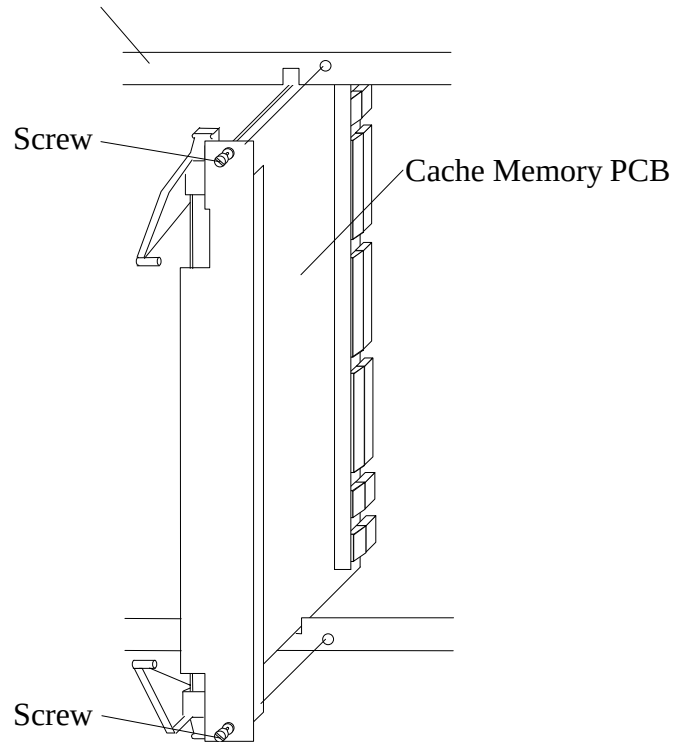


Fig. 3.9.1-5 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

6-2. Insert the Shared Memory Modules.

Notice

The required capacity of the shared memory varies depending on whether the HRC/HORC/HMRCF/HOMRCF/HHSM function is supported or not.

Calculate the required shared memory capacity referring to Table 3.9.1-7 when none of the functions is supported (in the case of basic configuration) or Table 3.9.1-8 when at least one of the functions is supported.

- Remove the dust covers that match the required Shared Memory capacity referring to Fig. 3.9.1-6, Table 3.9.1-7 and Table 3.9.1-8.
- Insert the Shared Memory Modules that match the required Shared Memory capacity.

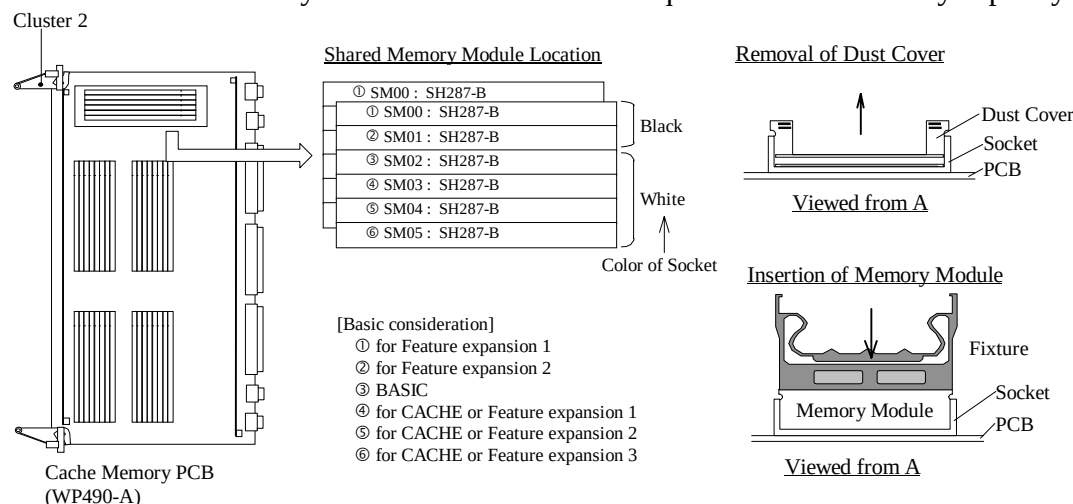


Fig. 3.9.1-6 Inserting Location of the Shared Memory Module

Table 3.9.1-7 Number of SMs and Corresponding Shared Memory Capacity (BASIC)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
2GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
4GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
6GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
8GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
10GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
12GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
14GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
16GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
18GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
20GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
22GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
24GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
26GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
28GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
30GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
32GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
34GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
36GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
38GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
40GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
42GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤

(To be continued.)

(Continued from the preceding sheet.)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
44GB	1024	2	㊸㊹	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
46GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
48GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
50GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
52GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
54GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻
56GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻	3072	6	㊸㊹㊺㊻㊼
58GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻	3072	6	㊸㊹㊺㊻㊼
60GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻	3072	6	㊸㊹㊺㊻㊼
62GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻	3072	6	㊸㊹㊺㊻㊼
64GB	1536	3	㊸㊹㊺	2048	4	㊸㊹㊺	2560	5	㊸㊹㊺㊻	3072	6	㊸㊹㊺㊻㊼
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD	DKU-F455I-36K4: 128			DKU-F455I-36K4: 256			DKU-F455I-36K4: 256			DKU-F455I-36K4: 256		
Canister Options *3	DKU-F455I-72J4: 64			DKU-F455I-72J4: 256			DKU-F455I-72J4: 256			DKU-F455I-72J4: 256		
	DKU-F405I-18J4: 256 *4			DKU-F405I-18J4: 256 *4			DKU-F405I-18J4: 256 *4			DKU-F405I-18J4: 256 *4		
	DKU-F405I-47J4: 98 *4			DKU-F405I-47J4: 256 *4			DKU-F405I-47J4: 256 *4			DKU-F405I-47J4: 256 *4		
	DKU-F405I-72J4: 64 *4			DKU-F405I-72J4: 256 *4			DKU-F405I-72J4: 256 *4			DKU-F405I-72J4: 256 *4		
	DKU-F405I-180H4: 24 *4			DKU-F405I-180H4: 96 *4			DKU-F405I-180H4: 128 *4			DKU-F405I-180H4: 128 *4		

Note. *1: Location ㊸ through ㊻ represent the Shared Memory Module locations shown in Fig. 3.9.1-6.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

Table 3.9.1-8 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMR CF/HOMRCF/HHSM supported)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 & TPF (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
2GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
4GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
6GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
8GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
10GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
12GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
14GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
16GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
18GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
20GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
22GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
24GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
26GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
28GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
30GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
32GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
34GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
36GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
38GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
40GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
42GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
44GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
46GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
48GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
50GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
52GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
54GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
56GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
62GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
64GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128 DKU-F455I-72J4: 64 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 98 *4 DKU-F405I-72J4: 64 *4 DKU-F405I-180H4: 24 *4				DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 96 *4				DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4			

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 3.9.1-6.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

*5: A Shared Memory can't be set up in the '-' mark.

6-3. Insert the PCB.

- Insert the Cache Memory PCB into the Rear Logic Box referring to Table 3.9.1-9.
- Fasten the two screws.

Table 3.9.1-9 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB

6-4 Change the nameplate.

- Refer to Fig. 3.9.1-7 and Table 3.9.1-10 to paint out necessary numbers on the nameplate.

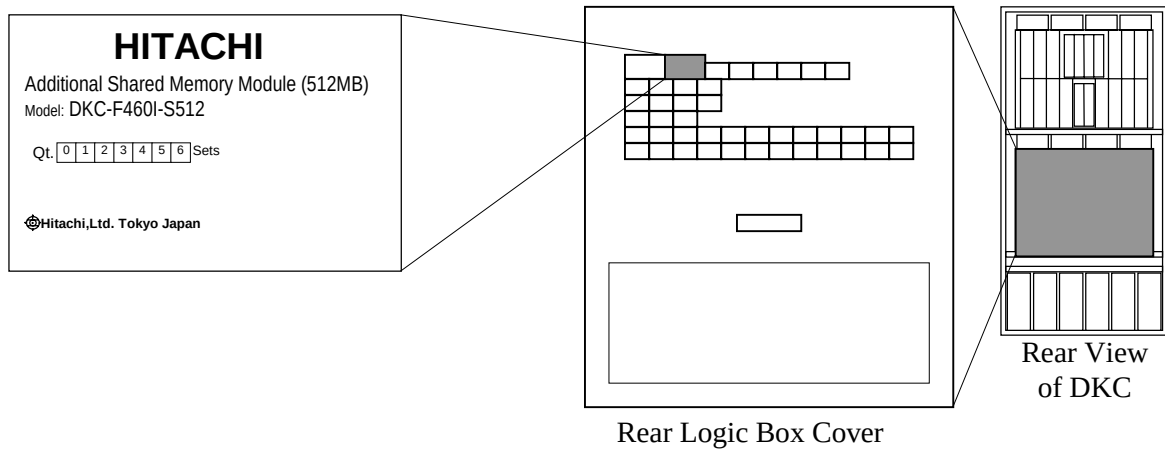
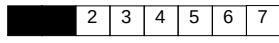
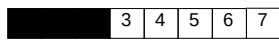


Fig. 3.9.1-7 Location of the Nameplate

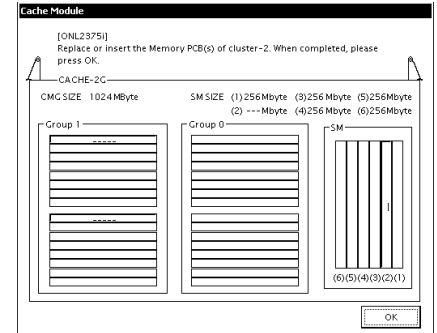
Table 3.9.1-10 Quantity Marking

No.	Quantity Marking	
	Number of DKC-F460I-S512 sets	Qt.
1	1 set	
2	2 sets	
3	3 sets	
4	4 sets	
5	5 sets	
6	6 sets	

7. SVP post procedure on the Cluster 2.

(1)

After installation of shared memory on one side is completed, select (CL) [OK] in response to “Replace or insert the Memory PCB(s) of cluster-2. When completed, please press OK.”.

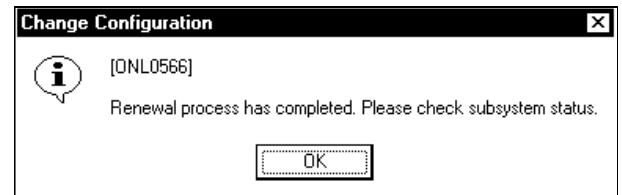


(2)

“Changing the configuration date, for equipment of shared/cache memory...” is displayed.
 “INLINE CUDG is now running...” is displayed.
 “Restoring the Cache Memory PCB...” is displayed.
 “Restoring the Shared Memory PCB...” is displayed.

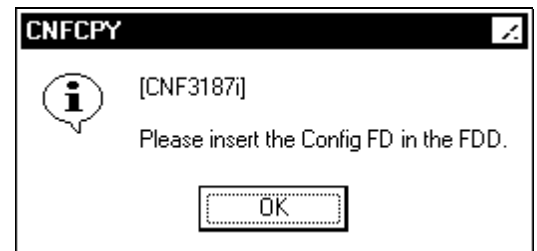
(3) <End of system update processing>

“Renewal process has completed. Please check subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



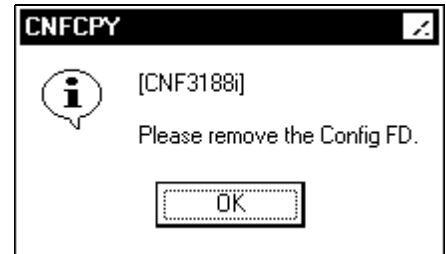
(4)

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



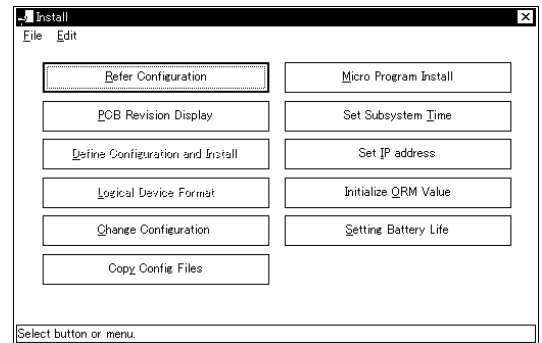
(5)

When this procedure is completed, the message “Please remove the Config FD.” is displayed.
Remove the FD, and select (CL) [OK].



(6)

After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



(7) <Mode Change>

Change the mode to View Mode.

3.9.2 Installation of Additional Cache Memory (DKC-F460I-41/42/2048)

NOTICE:

The installed Shared Memory capacity and maximum Cache Memory capacity with using HMRCF/HOMRCF/HRC/HORC/HHSM functions is different from ones without using these functions.

(1) Refer to the “[[INST01-80](#)] Table 1.1.2-3B” in these functions use.

(Note1) When you use these functions, you need to install more Shared Memory.

(Note2) When you use these functions with over 8CUs, the maximum Cache Memory capacity you can install is up to 58GB.

(2) Refer to the “[[INST01-70](#)] Table 1.1.2-3A” in these functions non-use.

Table 3.9.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-41	WP490-B	5513976-B	2	Cache Memory PCB Color of PCB lever: Blue
		Nameplate (HDS)	2105902-115	1	RSD
			2105903-115		HICAM
			2105903-215		HICEF
		Nameplate (HP)	2105902-215	1	RSD
			2105903-315		HICAM
			2105903-415		HICEF
2	DKC-F460I-42	Battery Box	5513990-A	2	
		SH200-A	5509126-A	2	BATCTR PCB
		Nameplate (HDS)	2105902-116	1	RSD
			2105903-116		HICAM
			2105903-216		HICEF
		Nameplate (HP)	2105902-216	1	RSD
			2105903-316		HICAM
			2105903-416		HICEF
3	DKC-F460I-2048	SH288-B	5513977-B	4	Cache Memory Module (512 MB)

Matters to be checked before adding the cache memory

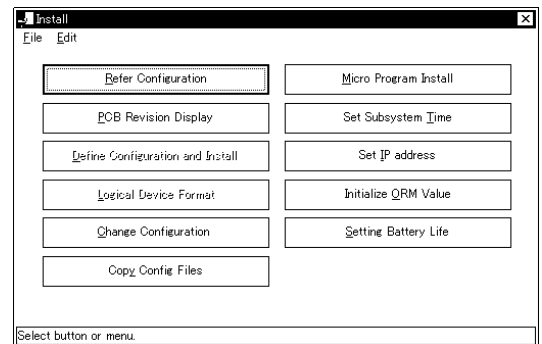
Before starting the addition of the cache memory, determine the necessary number of the shared memories by referring to “Relation between Shared Memory and Cache Memory” on pages [INST01-70](#) to [INST01-80](#).

When the shared memory or memories must be added, perform the addition of it (them) beforehand referring to “Installation of Additional Shared Memory (DKC-F460I-S512)” on page [INST03-SM-10](#).

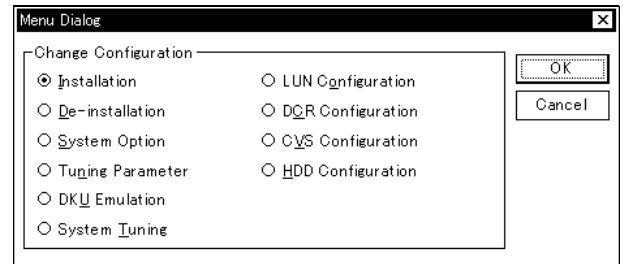
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

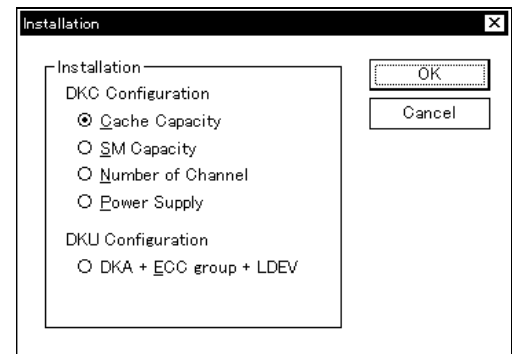
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [Cache Capacity], and select (CL) [OK].



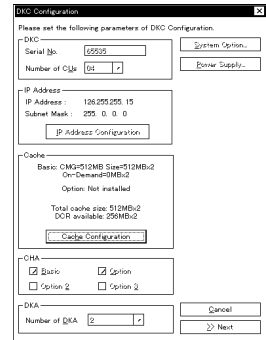
5. <Update Configuration Information>

Select (CL) [Cache Configuration] in the 'DKC Configuration' window.
(Go to step 5-1.)

Note: It is not possible to install or de-install plural parts at the same time.

Make sure that all entered items are correct and select (CL) [>>>Next].

Go to step 6.



5-1. <Define Cache>

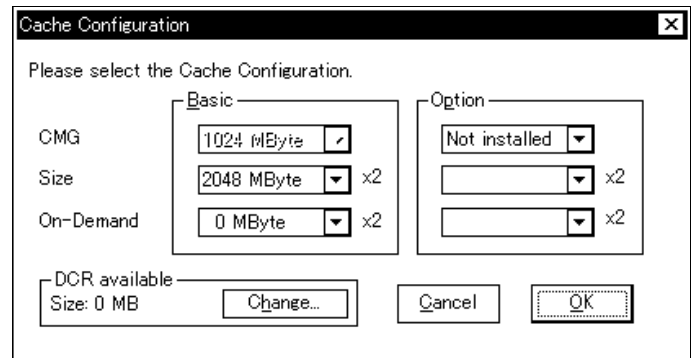
Define each item in the 'Cache Configuration' windows.

When a change in the DCR setting is necessary, select (CL) [Change...].

(Go to step 5-2.)

(See SSD Optional Function Section)

Note: For Single Cabinet Model,
Option is not displayed.



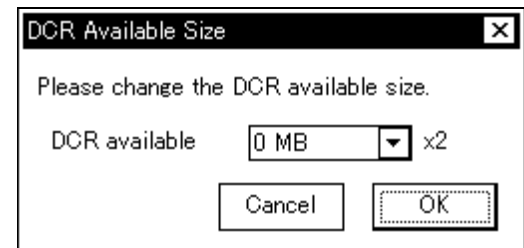
After setting up all items, select (CL) [OK].

Return to step 5.

5-2. <Setting DCR size>

Set the DCR Available size in the 'DCR Available Size' dialog box and select (CL) the [OK] button.

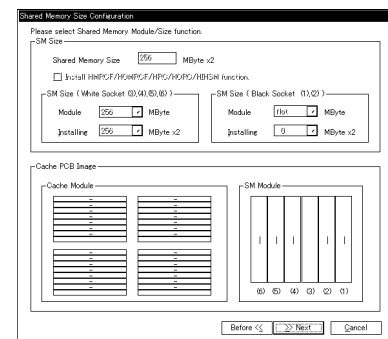
Return to Step 5-1.



6. <Display SM size>

The 'Shared Memory size Configuration' dialog box is displayed.

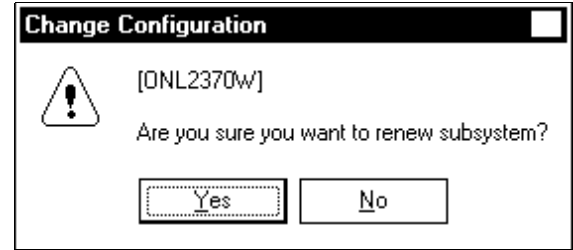
Select (CL) [>>>Next].



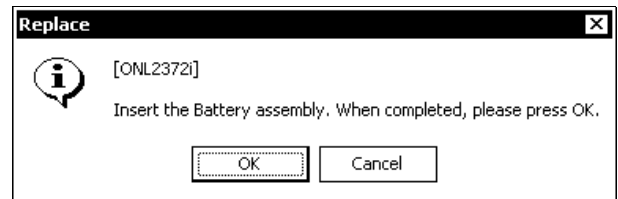
2. SVP pre procedure on the Cluster 1.

1. <Start installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-CM-20](#) step 3.



2. <Perform Battery hardware installation>
“Insert the Battery assembly. When completed, please press OK.” is displayed, when battery install is required.



When a message is displayed, perform the install hardware components according to the cache hardware installation procedure.

When a message is not displayed, go to step 4. SVP pre procedure on the Cluster1.

3. Install the Additional Battery for Cache Memory

3-1. When Additional Battery for Cache Memory (DKC-F460I-42) is installed, install the Battery Boxes and BATCTR PCBs.

When the Additional Battery for Cache Memory (DKC-F460I-42) is not installed, go to step 4. SVP pre procedure on the Cluster1.

a. Insert the Battery Boxes (BATTERY-12 and BATTERY-22). Fasten the screws.

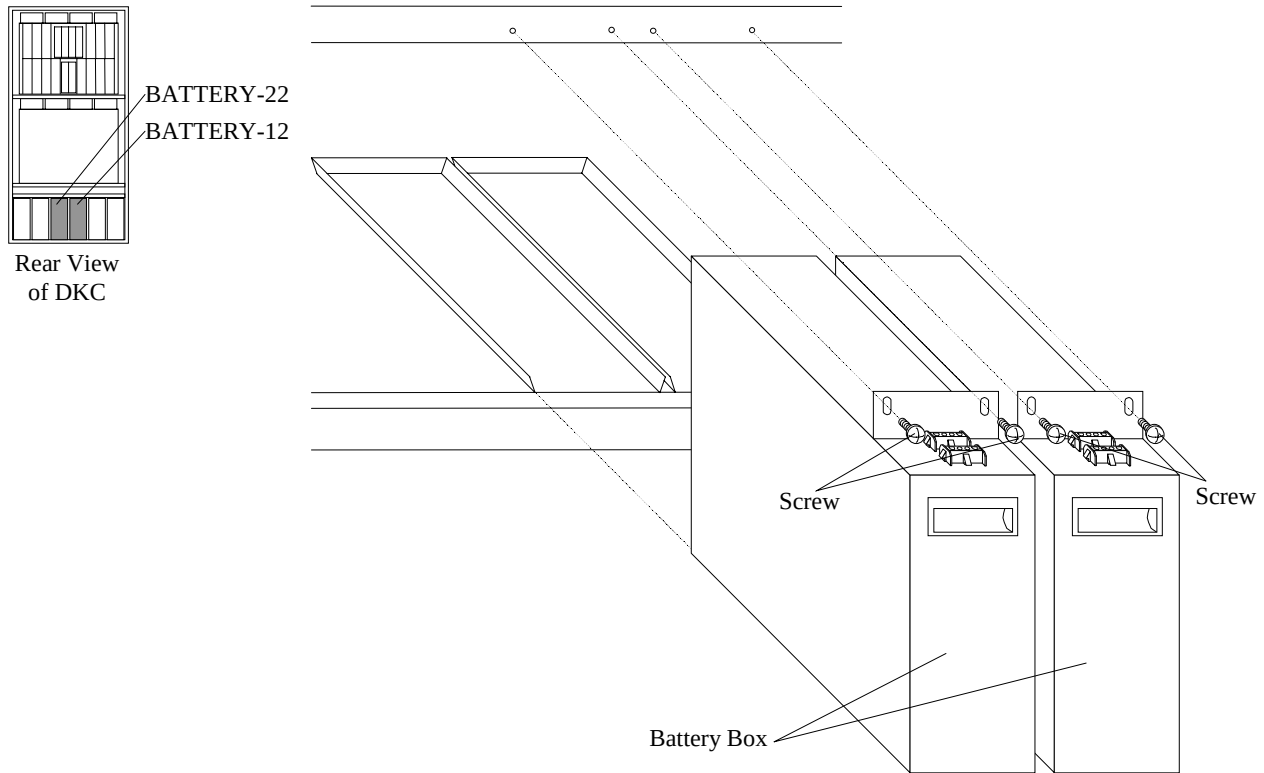


Fig. 3.9.2-1 Insertion of the Battery Box

b. Connect the cables (PB12 and PB22) to the Battery Boxes.

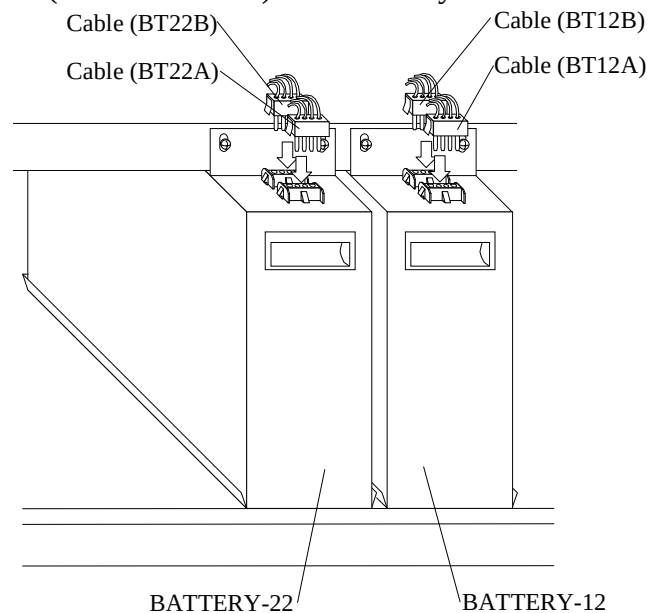


Fig. 3.9.2-2 Connection of the cables

⚠ CAUTION

You must insert the PCB without Jumper Connector and then connect the Jumper Connector. Otherwise the Cache PCB will be blocked.

- c. Insert the BATCTR PCBs (BATCTR-12 and BATCTR-22). Fasten the screws.
- d. Remove the Jumper Connectors (BATJP) from the locking clamp.
- e. Connect the Jumper Connectors (BATJP).

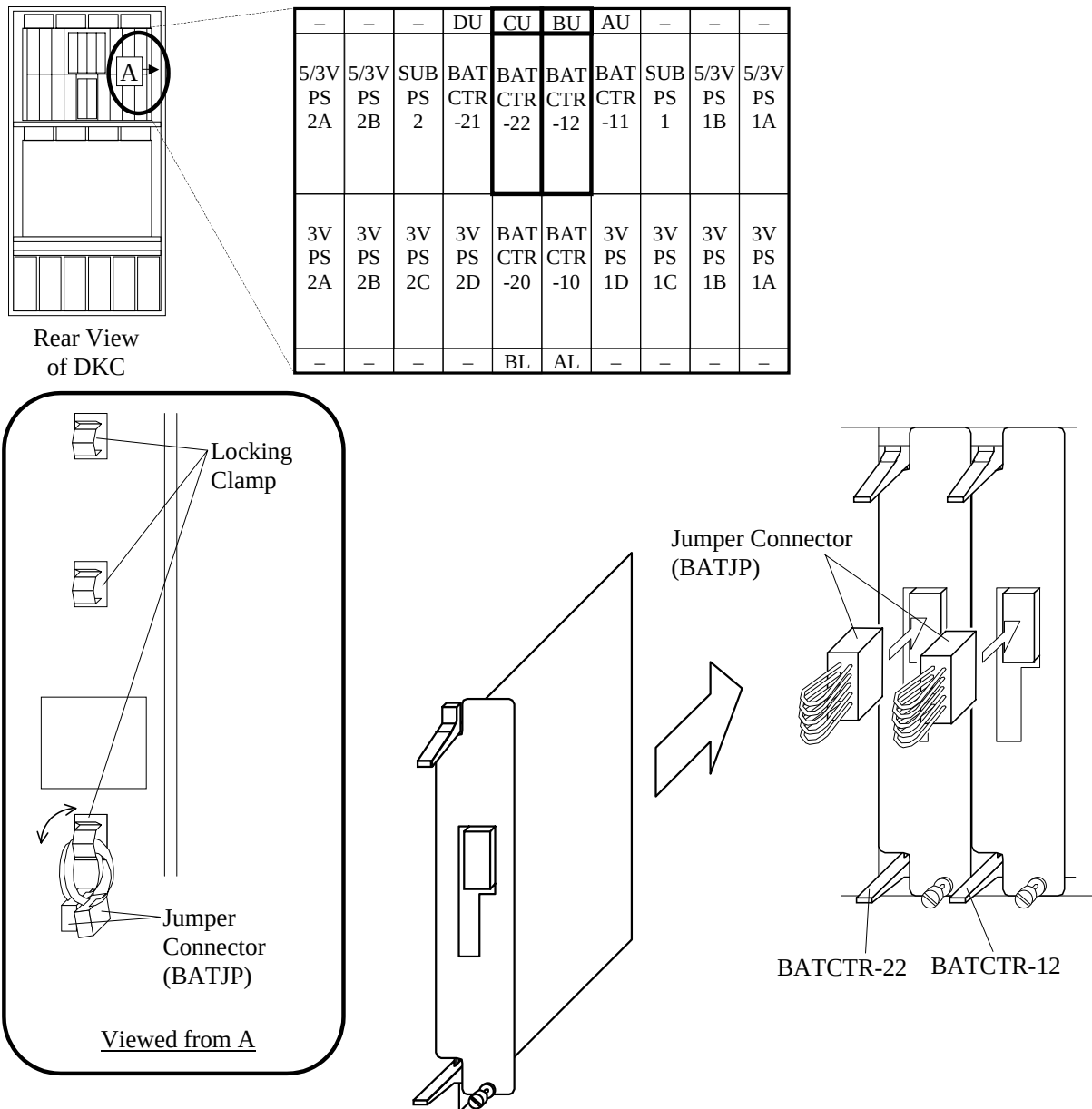
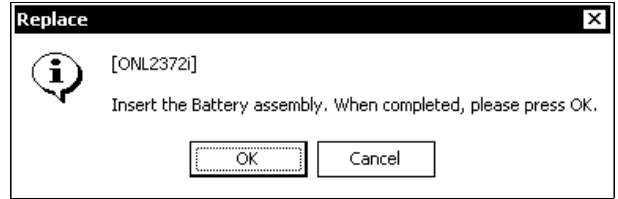


Fig.3.9.2-3 Insertion of the BATCTR

4. SVP pre procedure on the Cluster 1.

1.

After installation of Battery is completed, select (CL) [OK] in response to “Insert the Battery assembly. When completed, please press OK.”



2.

“The Shared Memory PCB is being blocked...”
 “The Cache Memory PCB is being blocked...”
 “Lighting LED of the PCB...” is displayed.

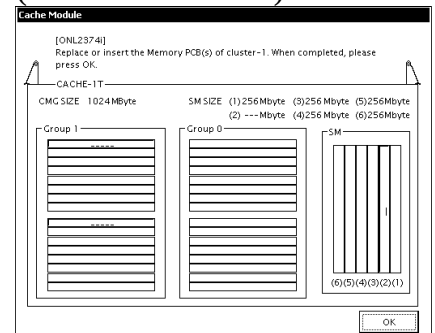
3. <Perform cache hardware installation>

At this point refrain from pressing the [OK] button.
 When “Replace or insert the Memory PCB(s) of cluster-x.
 When completed, please press OK.” is displayed, install
 hardware components according to the cache hardware
 installation procedure.

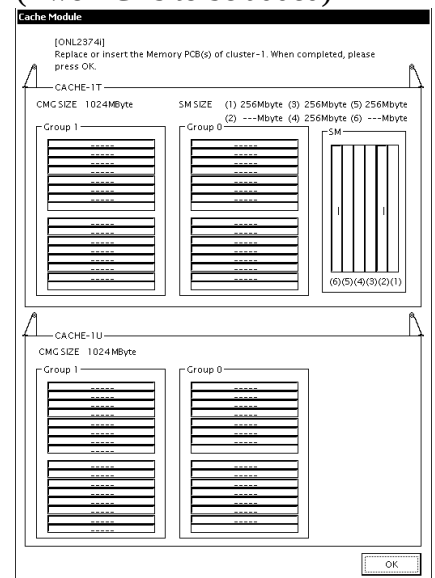
Make sure of the installation location and size of the module
 to be added and insert the correct module in the correct
 location.

(Uninstalled module is displayed as looks depressed.)

(A PCB to be added)



(Two PCBs to be added)



5. Install the Cache Memory on the cluster 1.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

5-1. Remove the PCB.

- a. While referring to Fig. 3.9.2-4, Table 3.9.2-2 and Table 3.9.2-3, check the Shut Down LED on the Cache Memory PCB. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on. (This procedure [5-1 a.] is not valid for a New Installation.)

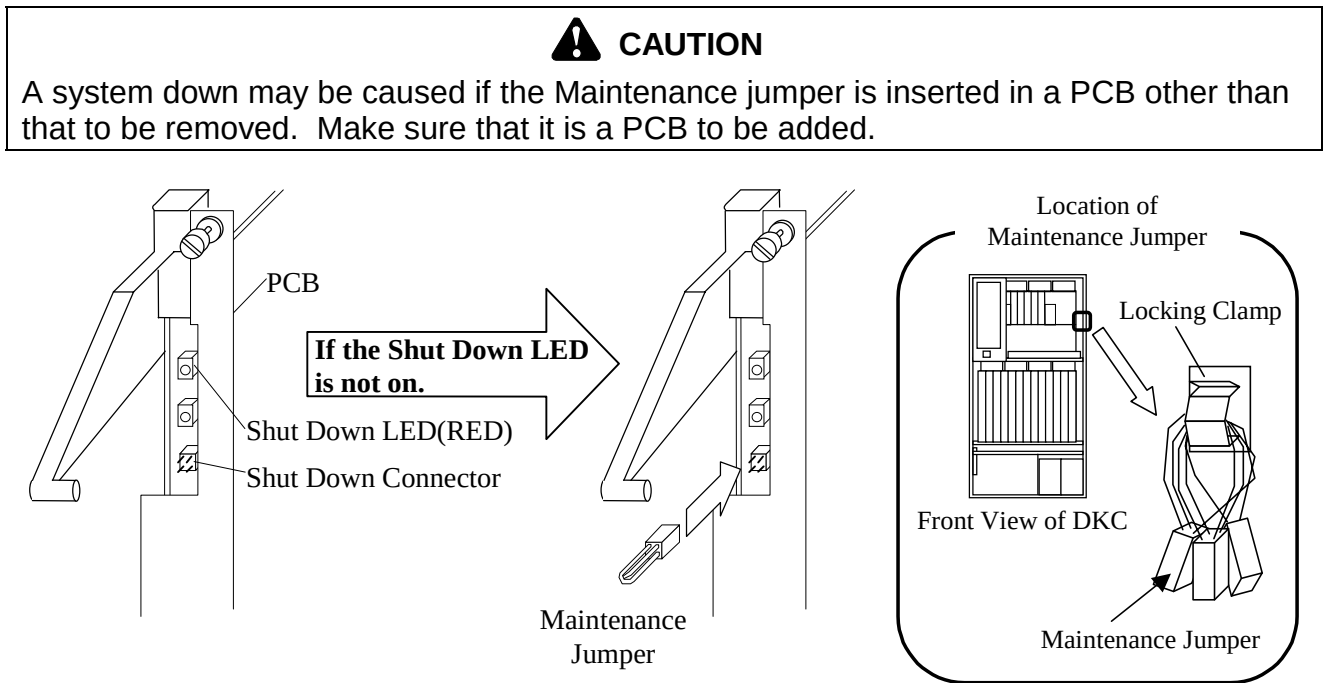


Fig. 3.9.2-4 Location of the Shut Down LED

Table 3.9.2-2 Location of the Cache Memory PCB (Standard Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB (Note 1)
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB (Note 2)

Note 1: No PCB needs to be removed if 16 or more DKC-F460I-2048 sets are installed, except when installing DKC-F460I-S512 sets.

Note 2: Remove the PCB only when it is installed.

Table 3.9.2-3 Location of the Cache Memory PCB (High Performance Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB.

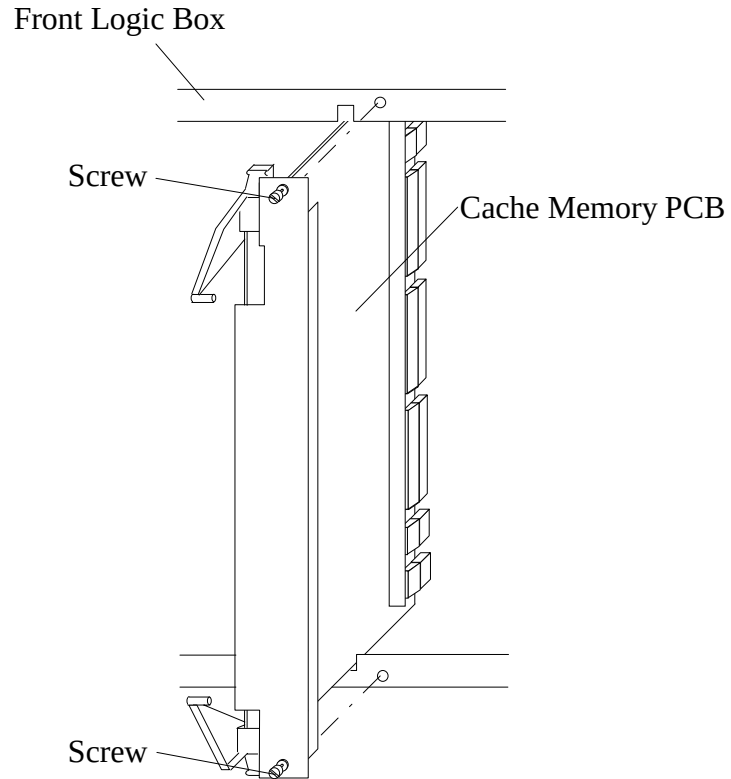
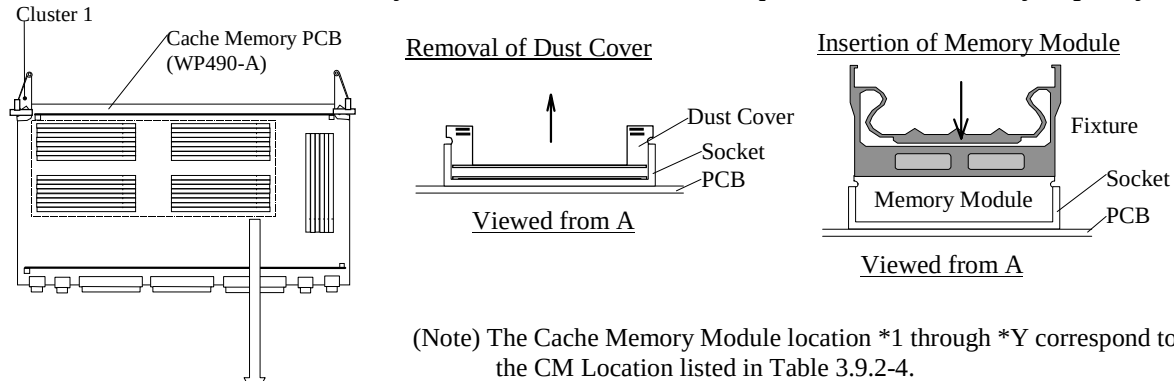


Fig. 3.9.2-5 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

5-2. Insert the Cache Memory Modules.

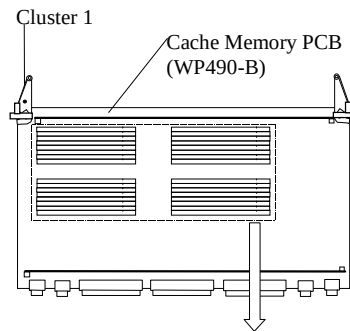
- Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.9.2-6 and Table 3.9.2-4.
- Insert the Cache Memory Modules that match the required Cache Memory capacity.



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*G	ACM007 (MG#14): SH288-B	*F
BCM006 (MG#13): SH288-B	*E	ACM006 (MG#12): SH288-B	*D
BCM005 (MG#11): SH288-B	*C	ACM005 (MG#10): SH288-B	*B
BCM004 (MG#9): SH288-B	*A	ACM004 (MG#8): SH288-B	*9
BCM003 (MG#7): SH288-B	*8	ACM003 (MG#6): SH288-B	*7
BCM002 (MG#5): SH288-B	*6	ACM002 (MG#4): SH288-B	*5
BCM001 (MG#3): SH288-B	*4	ACM001 (MG#2): SH288-B	*3
BCM000 (MG#1): SH288-B	*2	ACM000 (MG#0): SH288-B	*1

BCM107 (MG#15): SH288-B	*G	ACM107 (MG#14): SH288-B	*F
BCM106 (MG#13): SH288-B	*E	ACM106 (MG#12): SH288-B	*D
BCM105 (MG#11): SH288-B	*C	ACM105 (MG#10): SH288-B	*B
BCM104 (MG#9): SH288-B	*A	ACM104 (MG#8): SH288-B	*9
BCM103 (MG#7): SH288-B	*8	ACM103 (MG#6): SH288-B	*7
BCM102 (MG#5): SH288-B	*6	ACM102 (MG#4): SH288-B	*5
BCM101 (MG#3): SH288-B	*4	ACM101 (MG#2): SH288-B	*3
BCM100 (MG#1): SH288-B	*2	ACM100 (MG#0): SH288-B	*1



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*Y	ACM007 (MG#14): SH288-B	*X
BCM006 (MG#13): SH288-B	*W	ACM006 (MG#12): SH288-B	*V
BCM005 (MG#11): SH288-B	*U	ACM005 (MG#10): SH288-B	*T
BCM004 (MG#9): SH288-B	*S	ACM004 (MG#8): SH288-B	*R
BCM003 (MG#7): SH288-B	*Q	ACM003 (MG#6): SH288-B	*P
BCM002 (MG#5): SH288-B	*N	ACM002 (MG#4): SH288-B	*M
BCM001 (MG#3): SH288-B	*L	ACM001 (MG#2): SH288-B	*K
BCM000 (MG#1): SH288-B	*J	ACM000 (MG#0): SH288-B	*H

BCM107 (MG#15): SH288-B	*Y	ACM107 (MG#14): SH288-B	*X
BCM106 (MG#13): SH288-B	*W	ACM106 (MG#12): SH288-B	*V
BCM105 (MG#11): SH288-B	*U	ACM105 (MG#10): SH288-B	*T
BCM104 (MG#9): SH288-B	*S	ACM104 (MG#8): SH288-B	*R
BCM103 (MG#7): SH288-B	*Q	ACM103 (MG#6): SH288-B	*P
BCM102 (MG#5): SH288-B	*N	ACM102 (MG#4): SH288-B	*M
BCM101 (MG#3): SH288-B	*L	ACM101 (MG#2): SH288-B	*K
BCM100 (MG#1): SH288-B	*J	ACM100 (MG#0): SH288-B	*H

Fig. 3.9.2-6 Inserting Location of the Cache Memory Module

Table 3.9.2-4 Number of CMs and Corresponding Cache Memory Capacity

Cache Memory Capacity	Standard Model				High Performance Model				DKC-F460I -42 Additional Battery
	DKC-F460I-2048			DKC-F460I -41	DKC-F460I-2048			DKC-F460I -41	
	Install PCB		CM		Install PCB		CM		
	Basic PCB	Add. PCB	Location (Note 1)		Basic PCB	Add. PCB	Location (Note 1)		
2GB	1	0	*1	0	-	-	-	-	0
4GB	2	0	*2	0	1	1	*1, *H	1	0
6GB	3	0	*3	0	-	-	-	1	0
8GB	4	0	*4	0	2	2	*2, *J	1	0
10GB	5	0	*5	0	-	-	-	1	0
12GB	6	0	*6	0	3	3	*3, *K	1	0
14GB	7	0	*7	0	-	-	-	1	0
16GB	8	0	*8	0	4	4	*4, *L	1	0
18GB	9	0	*9	0	-	-	-	1	0
20GB	10	0	*A	0	5	5	*5, *M	1	0
22GB	11	0	*B	0	-	-	-	1	0
24GB	12	0	*C	0	6	6	*6, *N	1	0
26GB	13	0	*D	0	-	-	-	1	0
28GB	14	0	*E	0	7	7	*7, *P	1	0
30GB	15	0	*F	0	-	-	-	1	0
32GB	16	0	*G	0	8	8	*8, *Q	1	0
34GB	16	1	*H	1	-	-	-	1	1
36GB	16	2	*J	1	9	9	*9, *R	1	1
38GB	16	3	*K	1	-	-	-	1	1
40GB	16	4	*L	1	10	10	*A, *S	1	1
42GB	16	5	*M	1	-	-	-	1	1
44GB	16	6	*N	1	11	11	*B, *T	1	1
46GB	16	7	*P	1	-	-	-	1	1
48GB	16	8	*Q	1	12	12	*C, *U	1	1
50GB	16	9	*R	1	-	-	-	1	1
52GB	16	10	*S	1	13	13	*D, *V	1	1
54GB	16	11	*T	1	-	-	-	1	1
56GB	16	12	*U	1	14	14	*E, *W	1	1
58GB	16	13	*V	1	-	-	-	1	1
60GB	16	14	*W	1	15	15	*F, *X	1	1
62GB	16	15	*X	1	-	-	-	1	1
64GB	16	16	*Y	1	16	16	*G, *Y	1	1

Note 1: The CM locations (*1 through *Y) represent the Cache Memory Module locations shown in Fig. 3.9.2-3.

Note 2: A cache memory can't be set up in the ' - ' mark.

5-3. Insert the PCB.

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. If the Cache Access Throughput Expansion Kit (DKC-F460I-41) is installed, remove the two screws and remove the dummy plate. Refer to Fig. 3.9.2-7.
If not, go to step b.
- b. Install the Cache Memory PCB referring to Table 3.9.2-5.
- c. Fasten the two screws.

Note: Dummy plate should be stored for future use in De-installation.

Table 3.9.2-5 Location of the Cache Memory PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB (Note)

Note : Insert the PCB when DKC-F460I-41 is installed.

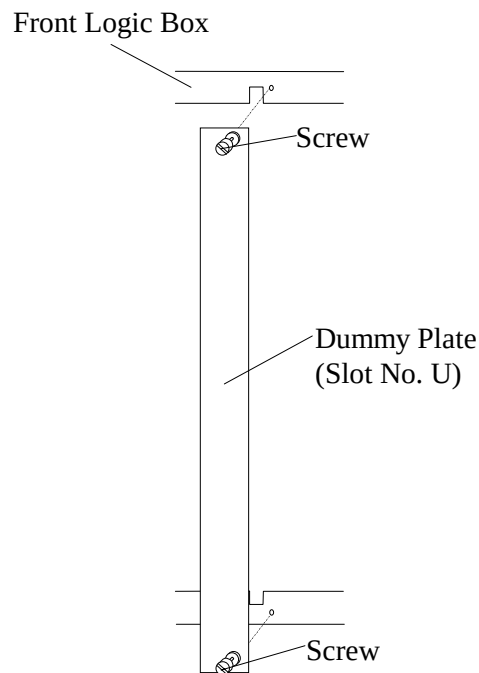


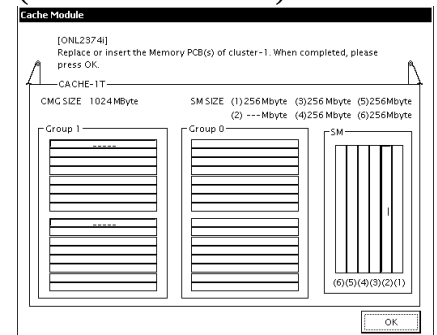
Fig. 3.9.2-7 Removal of the Dummy Plate

6. SVP post procedure on the Cluster 1.

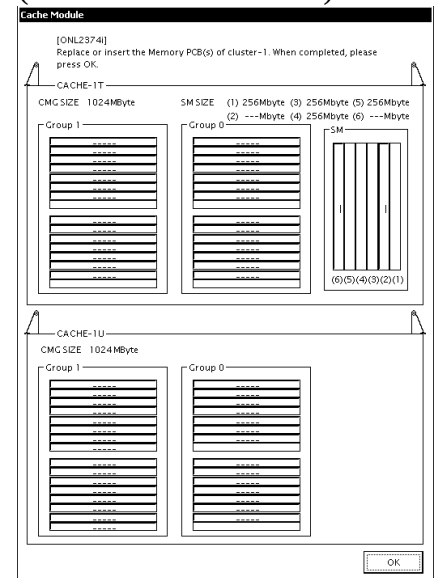
1.

After installation of cache memory on one side is completed, select (CL) [OK] in response to “Replace or insert the Memory PCBs of cluster-1. When completed, please press [OK].”.

(A PCB to be added)



(Two PCBs to be added)



2. <Cache CUDG executes>
“INLINE CUDG is now running...” is displayed.

3.

“Changing the configuration date, for equipment of shared/cache memory...”
“Restoring the Cache Memory PCB...”
“Restoring the Shared Memory PCB...” is displayed.

7. SVP pre procedure on the Cluster 2.

1. <Recover one side of cache>

When recovery processing is completed,
 “The Cache Memory PCB is being blocked...”
 “The Shared Memory PCB is being blocked...”
 “Lighting LED of the PCB...” message appears.
 Processing proceeds to blocking of the other side of Cache Memory.

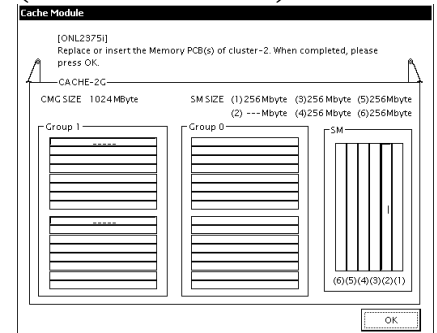
2. <Perform cache hardware installation>

At this point refrain from pressing the [OK] button.
 When “Replace or insert the Memory PCB(s) of cluster-2.
 When completed, please press OK.” is displayed, install
 hardware components according to the cache hardware
 installation procedure.

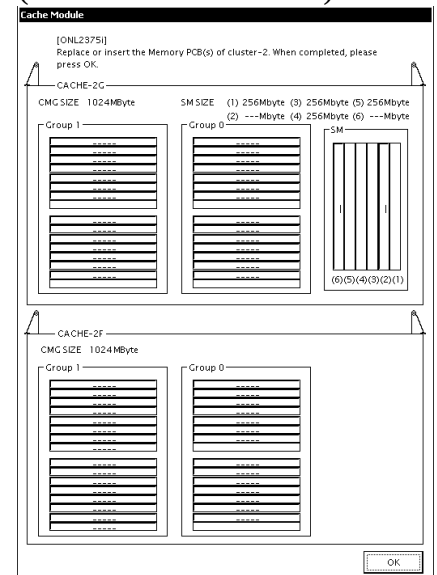
Make sure of the installation location and size of the module
 to be added and insert the correct module in the correct
 location.

(Uninstalled module is displayed as looks depressed.)

(A PCB to be added)



(Two PCBs to be added)



8. Install the Cache Memory on the cluster 2.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

8-1. Remove the PCB.

- a. While referring to Fig. 3.9.2-8, Table 3.9.2-6 and Table 3.9.2-7, check the Shut Down LED on the Cache Memory PCB. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on. (This procedure [8-1. a.] is not valid for a New Installation.)

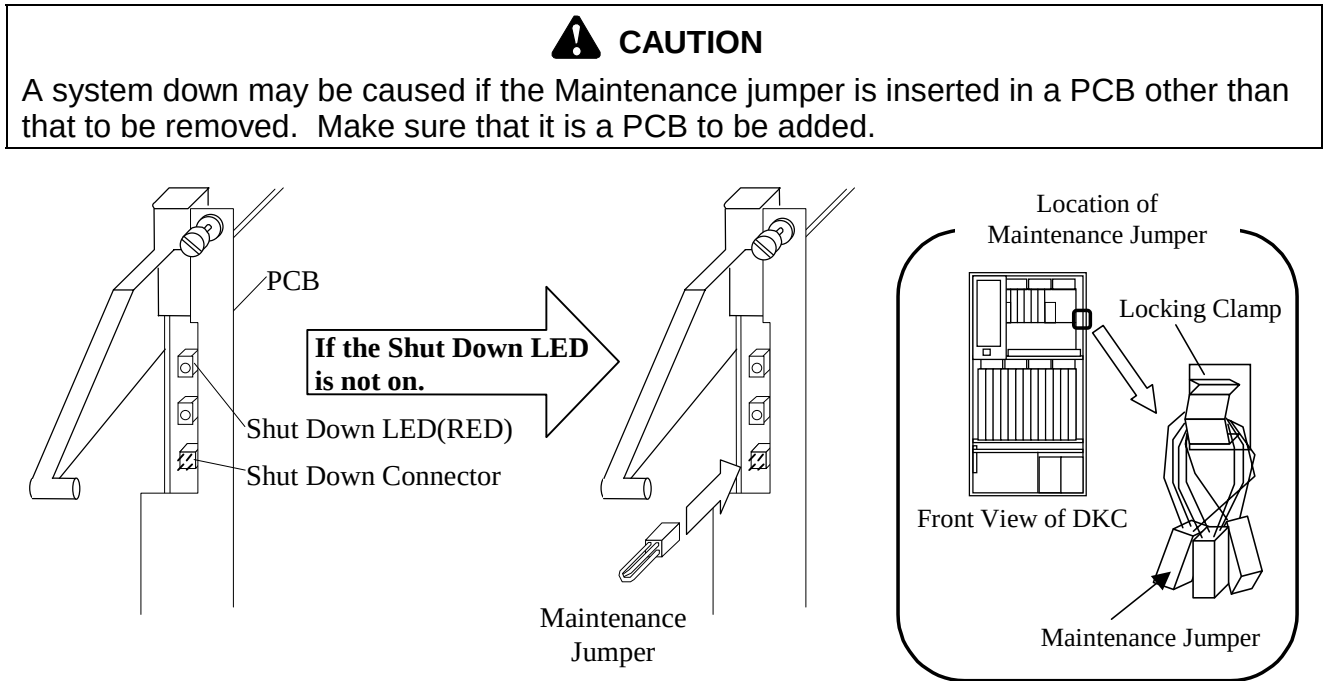


Fig. 3.9.2-8 Location of the Shut Down LED

Table 3.9.2-6 Location of the Cache Memory PCB (Standard Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB (Note 1)
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB (Note 2)

Note 1: No PCB needs to be removed if 16 or more DKC-F460I-2048 sets are installed, except when installing DKC-F460I-S512 sets.

Note 2: Remove the PCB only when it is installed.

Table 3.9.2-7 Location of the Cache Memory PCB (High Performance Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB.

Rear Logic Box

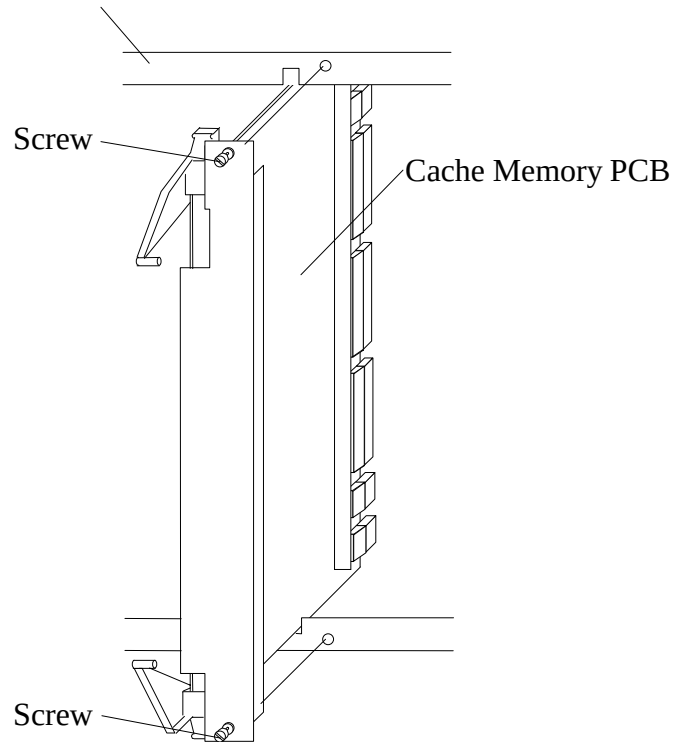
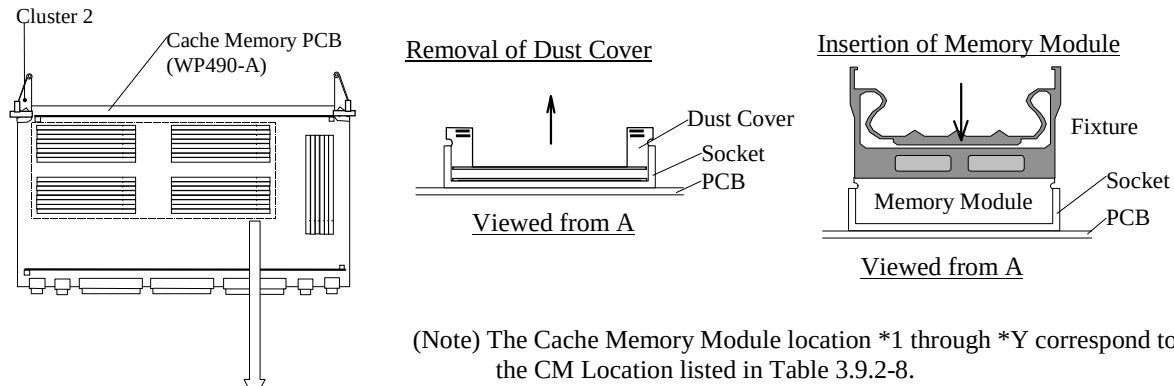


Fig. 3.9.2-9 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

8-2. Insert the Cache Memory Modules.

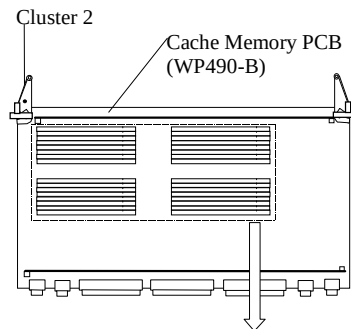
- Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.9.2-10 and Table 3.9.2-8.
- Insert the Cache Memory Modules that match the required Cache Memory capacity.



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*G	ACM007 (MG#14): SH288-B	*F
BCM006 (MG#13): SH288-B	*E	ACM006 (MG#12): SH288-B	*D
BCM005 (MG#11): SH288-B	*C	ACM005 (MG#10): SH288-B	*B
BCM004 (MG#9): SH288-B	*A	ACM004 (MG#8): SH288-B	*9
BCM003 (MG#7): SH288-B	*8	ACM003 (MG#6): SH288-B	*7
BCM002 (MG#5): SH288-B	*6	ACM002 (MG#4): SH288-B	*5
BCM001 (MG#3): SH288-B	*4	ACM001 (MG#2): SH288-B	*3
BCM000 (MG#1): SH288-B	*2	ACM000 (MG#0): SH288-B	*1

BCM107 (MG#15): SH288-B	*G	ACM107 (MG#14): SH288-B	*F
BCM106 (MG#13): SH288-B	*E	ACM106 (MG#12): SH288-B	*D
BCM105 (MG#11): SH288-B	*C	ACM105 (MG#10): SH288-B	*B
BCM104 (MG#9): SH288-B	*A	ACM104 (MG#8): SH288-B	*9
BCM103 (MG#7): SH288-B	*8	ACM103 (MG#6): SH288-B	*7
BCM102 (MG#5): SH288-B	*6	ACM102 (MG#4): SH288-B	*5
BCM101 (MG#3): SH288-B	*4	ACM101 (MG#2): SH288-B	*3
BCM100 (MG#1): SH288-B	*2	ACM100 (MG#0): SH288-B	*1



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*Y	ACM007 (MG#14): SH288-B	*X
BCM006 (MG#13): SH288-B	*W	ACM006 (MG#12): SH288-B	*V
BCM005 (MG#11): SH288-B	*U	ACM005 (MG#10): SH288-B	*T
BCM004 (MG#9): SH288-B	*S	ACM004 (MG#8): SH288-B	*R
BCM003 (MG#7): SH288-B	*Q	ACM003 (MG#6): SH288-B	*P
BCM002 (MG#5): SH288-B	*N	ACM002 (MG#4): SH288-B	*M
BCM001 (MG#3): SH288-B	*L	ACM001 (MG#2): SH288-B	*K
BCM000 (MG#1): SH288-B	*J	ACM000 (MG#0): SH288-B	*H

BCM107 (MG#15): SH288-B	*Y	ACM107 (MG#14): SH288-B	*X
BCM106 (MG#13): SH288-B	*W	ACM106 (MG#12): SH288-B	*V
BCM105 (MG#11): SH288-B	*U	ACM105 (MG#10): SH288-B	*T
BCM104 (MG#9): SH288-B	*S	ACM104 (MG#8): SH288-B	*R
BCM103 (MG#7): SH288-B	*Q	ACM103 (MG#6): SH288-B	*P
BCM102 (MG#5): SH288-B	*N	ACM102 (MG#4): SH288-B	*M
BCM101 (MG#3): SH288-B	*L	ACM101 (MG#2): SH288-B	*K
BCM100 (MG#1): SH288-B	*J	ACM100 (MG#0): SH288-B	*H

Fig. 3.9.2-10 Inserting Location of the Cache Memory Module

Table 3.9.2-8 Number of CMs and Corresponding Cache Memory Capacity

Cache Memory Capacity	Standard Model				High Performance Model				DKC-F460I -42 Additional Battery
	DKC-F460I-2048			DKC- F460I -41	DKC-F460I-2048			DKC- F460I -41	
	Install PCB		CM		Install PCB		CM		
	Basic PCB	Add. PCB	Location (Note 1)		Basic PCB	Add. PCB	Location (Note 1)		
2GB	1	0	*1	0	-	-	-	-	0
4GB	2	0	*2	0	1	1	*1, *H	1	0
6GB	3	0	*3	0	-	-	-	1	0
8GB	4	0	*4	0	2	2	*2, *J	1	0
10GB	5	0	*5	0	-	-	-	1	0
12GB	6	0	*6	0	3	3	*3, *K	1	0
14GB	7	0	*7	0	-	-	-	1	0
16GB	8	0	*8	0	4	4	*4, *L	1	0
18GB	9	0	*9	0	-	-	-	1	0
20GB	10	0	*A	0	5	5	*5, *M	1	0
22GB	11	0	*B	0	-	-	-	1	0
24GB	12	0	*C	0	6	6	*6, *N	1	0
26GB	13	0	*D	0	-	-	-	1	0
28GB	14	0	*E	0	7	7	*7, *P	1	0
30GB	15	0	*F	0	-	-	-	1	0
32GB	16	0	*G	0	8	8	*8, *Q	1	0
34GB	16	1	*H	1	-	-	-	1	1
36GB	16	2	*J	1	9	9	*9, *R	1	1
38GB	16	3	*K	1	-	-	-	1	1
40GB	16	4	*L	1	10	10	*A, *S	1	1
42GB	16	5	*M	1	-	-	-	1	1
44GB	16	6	*N	1	11	11	*B, *T	1	1
46GB	16	7	*P	1	-	-	-	1	1
48GB	16	8	*Q	1	12	12	*C, *U	1	1
50GB	16	9	*R	1	-	-	-	1	1
52GB	16	10	*S	1	13	13	*D, *V	1	1
54GB	16	11	*T	1	-	-	-	1	1
56GB	16	12	*U	1	14	14	*E, *W	1	1
58GB	16	13	*V	1	-	-	-	1	1
60GB	16	14	*W	1	15	15	*F, *X	1	1
62GB	16	15	*X	1	-	-	-	1	1
64GB	16	16	*Y	1	16	16	*G, *Y	1	1

Note 1: The CM locations (*1 through *Y) represent the Cache Memory Module locations shown in Fig. 3.9.2-10.

Note 2: A cache memory can't be set up in the ' - ' mark.

8-3. Insert the PCB.

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. If the Cache Access Throughput Expansion Kit (DKC-F460I-41) is installed, remove the two screws and remove the dummy plate. Refer to Fig. 3.9.2-11.
If not, go to step b.
- b. Install the Cache Memory PCB referring to Table 3.9.2-9.
- c. Fasten the two screws.

Note : Dummy plate should be stored for future use in De-installation.

Table 3.9.2-9 Location of the Cache Memory PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB (Note)

Note : Insert the PCB when DKC-F460I-41 is installed.

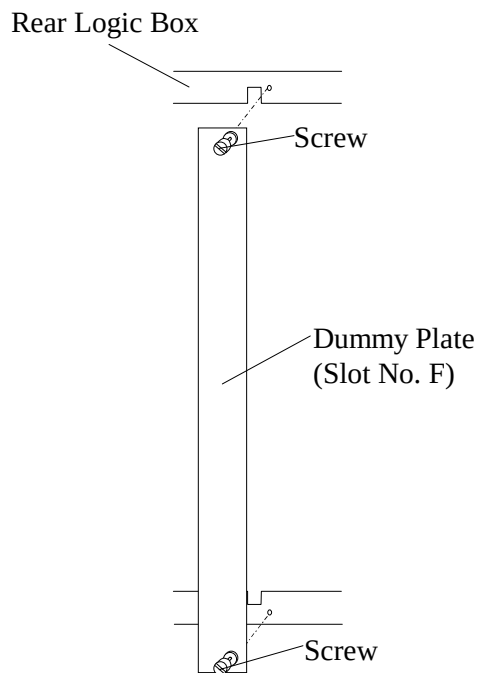


Fig. 3.9.2-11 Removal of the Dummy Plate

8-4. Change the nameplate.

- a. Refer to Fig. 3.9.2-12 to paint out mounting numbers of the nameplate.

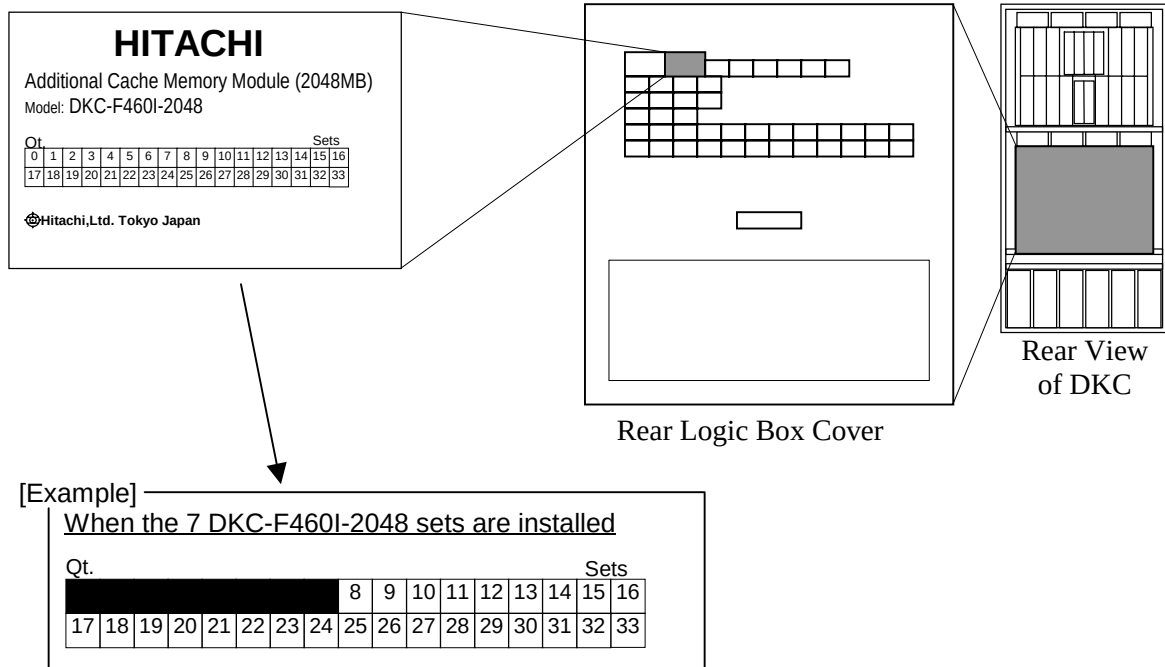


Fig. 3.9.2-12 Location of the Nameplate

- b. When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is installed, attach the DKC-F460I-41 nameplate regardless of the model number from the left of the cover.
When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is not installed, go to step c.
- c. When the Additional Battery for Cache Memory (DKC-F460I-42) is installed, attach the DKC-F460I-42 nameplate regardless of the model number from the left of the cover.
When the Additional Battery for Cache Memory (DKC-F460I-42) is not installed, go to step 9. SVP post procedure on the Cluster2.

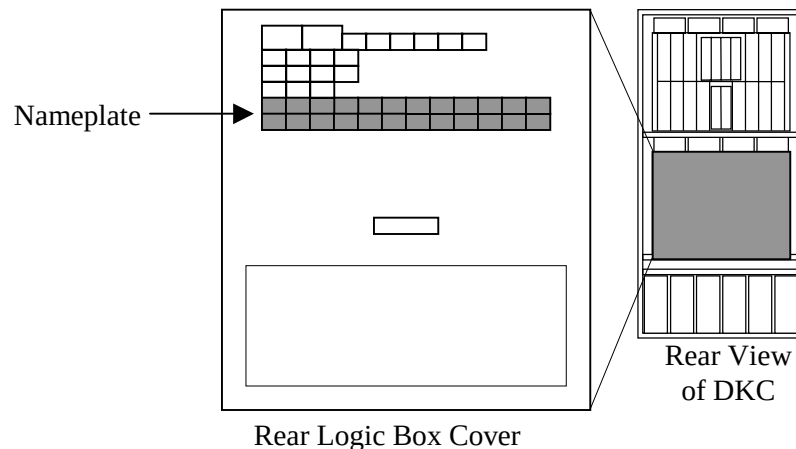


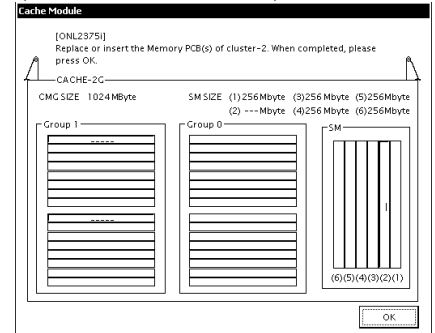
Fig. 3.9.2-13 Location of the Nameplate

9. SVP post procedure on the Cluster 2.

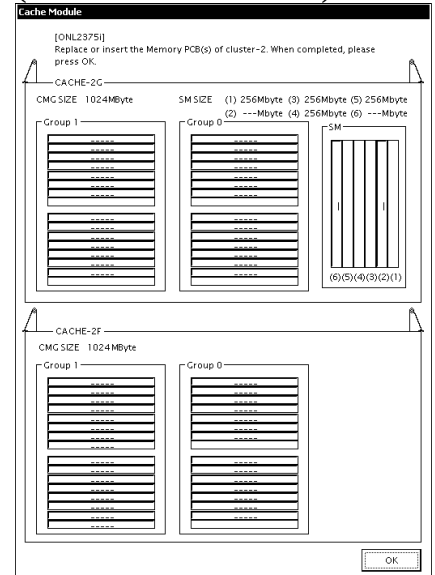
1.

After installation of cache memory on one side is completed, select (CL) [OK] in response to “Replace or insert the Memory PCBs of cluster-2. When completed, please press [OK].”.

(A PCB to be added)



(Two PCBs to be added)



2. <Cache CUDG executes>
“INLINE CUDG is now running...” is displayed.

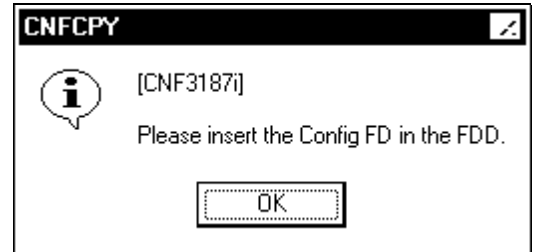
3.

“Changing the configuration date, for equipment of shared/cache memory...”
“Restoring the Cache Memory PCB...”
“Restoring the Shared Memory PCB...” is displayed.

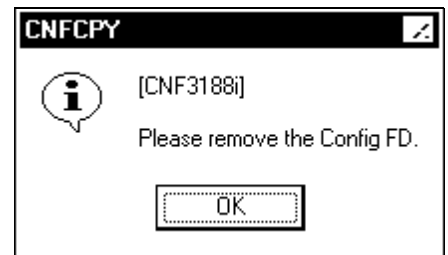
4. <End of system update processing>
 “Renewal process has completed. Please check subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



5. “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].

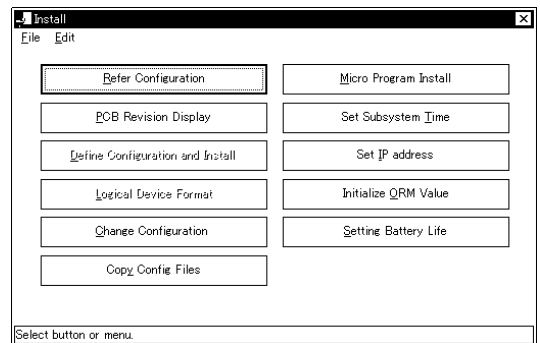


6. When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, and select (CL) [OK].



7

After the procedure is completed, return to “Install”.
 Select (CL) [File]-[Exit].



- 8 <Mode Change>
 Change the mode to View Mode.

3.10 Installation of the DKC Additional Power Supply (DKC-F460I-80)

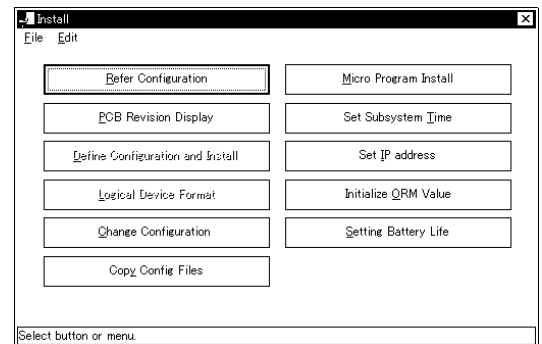
Table 3.10-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-80	3VPS	5513969-A	4	PPD03130
					HS0429
		Nameplate (HDS)	2105902-123	1	RSD
			2105903-123		HICAM
			2105903-223		HICEF
		Nameplate (HP)	2105902-223	1	RSD
			2105903-323		HICAM
			2105903-423		HICEF

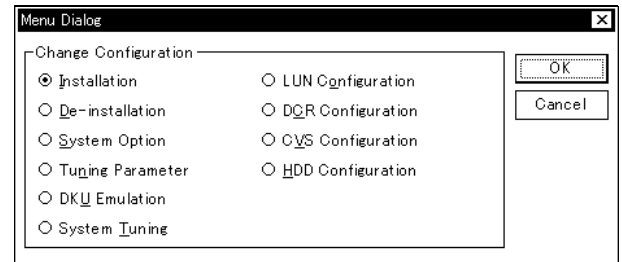
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

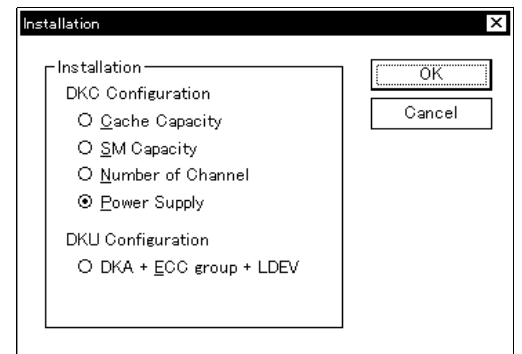
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



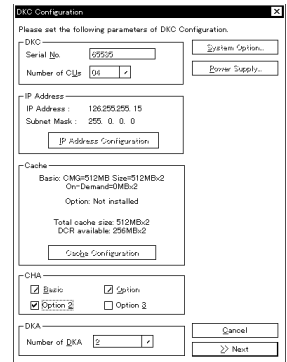
4. <Select a part to be changed>
Select (CL) [Power Supply], and select (CL) [OK].



2. SVP pre procedure

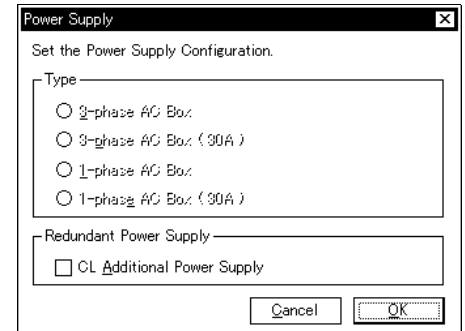
1. <Update Configuration Information>
Select (CL) [Power Supply] in the 'DKC Configuration' screen.
Make sure that the entered item is correct and select (CL) [$\gg$ Next].

Note: In case of Single Cabinet Model,
[Power Supply] is not displayed.

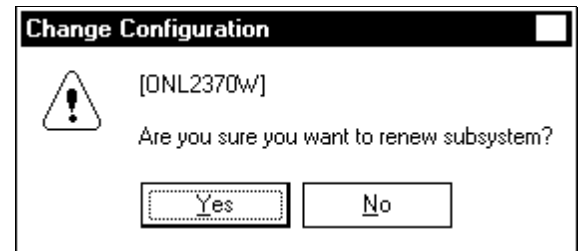


2. <Define Redundant Power Supply>
Select (CL) redundant power supply to be added in the 'Redundant Power Supply'.
Select (CL) [OK]. Return to step (1).

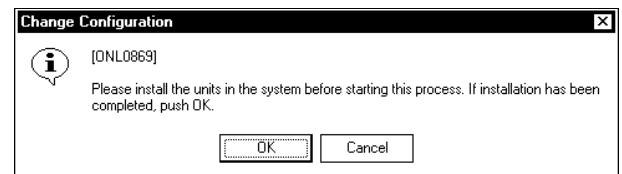
Note: If entered item is wrong, the part not
to be installed or de-installed may be
blocked.



3. <Start installation>
Select (CL) [Yes] in response to "Are you sure you want to renew subsystem?".



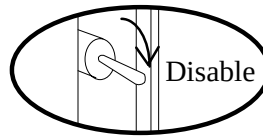
4. The message shown in the right figure is displayed.



1. Installation Procedure of the DKC Additional Power Supply

1-1 Confirmation of the PS Enable/Disable Switch

- a. Confirm the PS Enable/Disable Switch is turned to (DOWN) **Disable**. Refer to Fig. 3.10-1.



PS Enable/Disable Switch

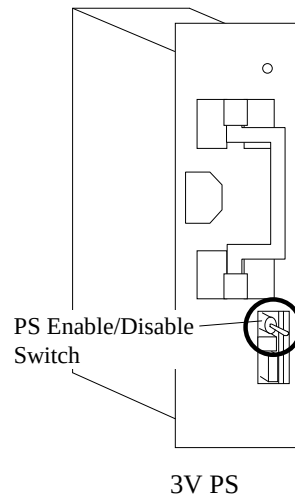


Fig. 3.10-1 Switch

1-2 Installation of the additional power supply

- Open the locking clamps and remove the inlet cables from the inserting locations. Refer to Table 3.10-1, Fig. 3.10-2, and Fig. 3.10-3.
- Loosen the screws and remove the dummy plates.
- Install the additional power supplies in the correct locations and fasten the screws. Refer to Table 3.10-1, Fig. 3.10-2, and Fig. 3.10-4.

Note: Dummy plates should be stored for future use in De-installation.

Table 3.10-2 Inserting Location

No.	Part Name	PS Location		Remarks
		Cluster 1	Cluster 2	
1	3V Power Supply	3VPS1C	3VPS2C	
2	3V Power Supply	3VPS1D	3VPS2D	

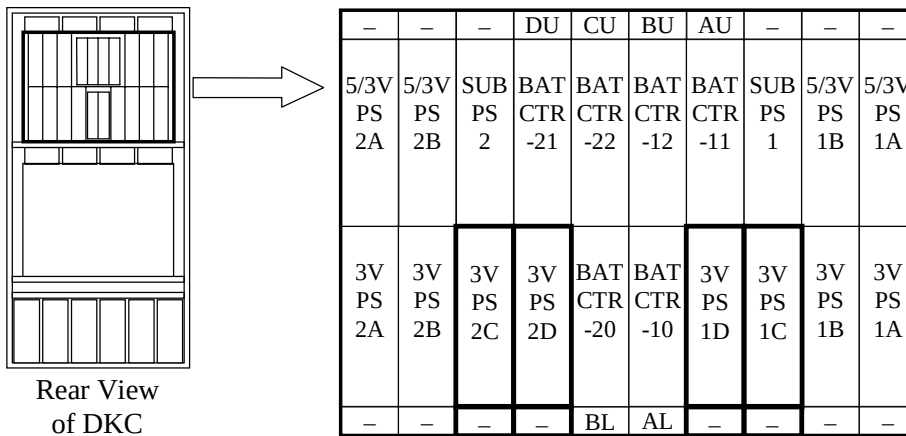


Fig. 3.10-2 Inserting Location

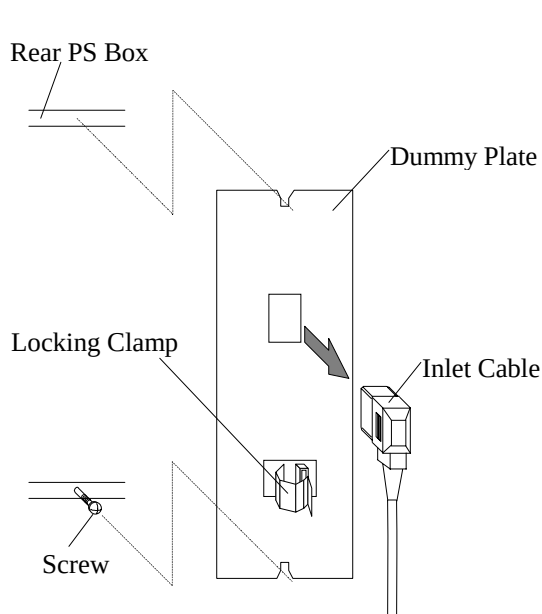


Fig. 3.10-3 Removal of Dummy Plate

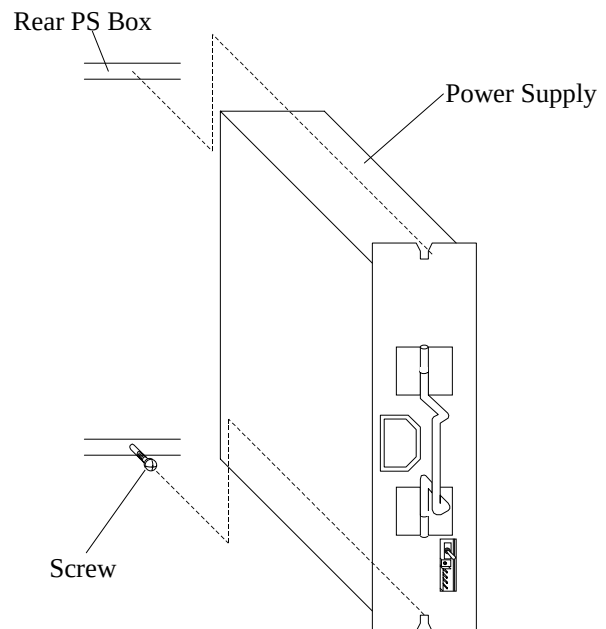


Fig. 3.10-4 Installation of Power Supply

1-3 Connection of the inlet cable

- a. Connect the inlet cables to the power supply and fix them with the lever. Refer to Fig. 3.10-5.

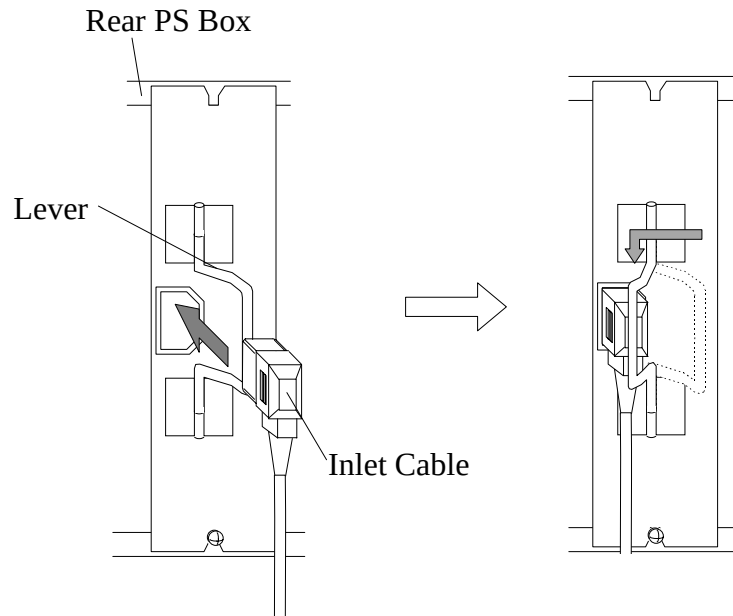
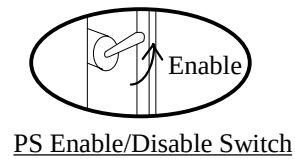


Fig. 3.10-5 Connection of Inlet Cable

1-4 Turn on the Additional Power Supply

- a. Turn the PS Enable/Disable Switch to (UP) **Enable**. Refer to Fig. 3.10-6.



PS Enable/Disable Switch

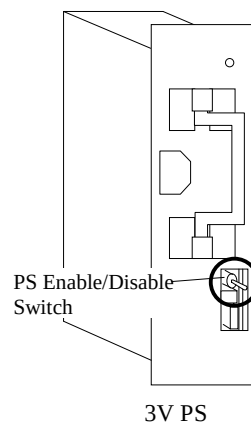


Fig. 3.10-6 Switch

1-5 Attachment of the nameplate

- a. Attach the nameplate regardless of the model number from the left of the cover.

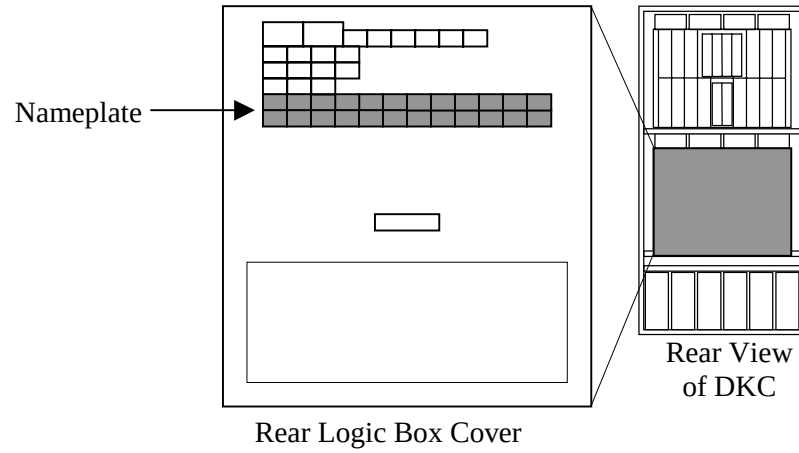


Fig. 3.10-7 Attachment of Nameplate

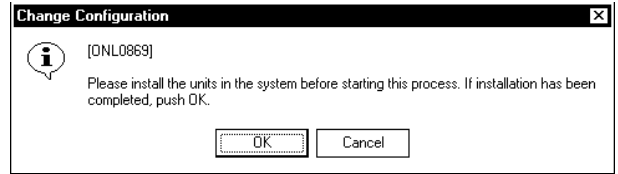
1-6 Check of DC voltage

- a. See CHECK OF DC VOLTAGE in PERIODIC SECTION.

5. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process.”



If installation has been completed, push OK.”.

2. <End of system update processing>

“Renewal process has completed. Please check subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

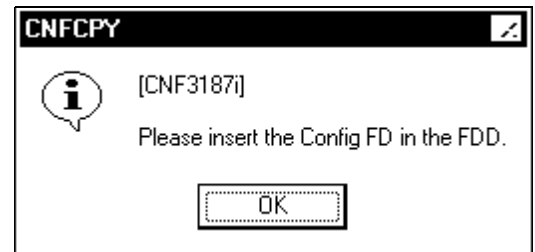


3.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

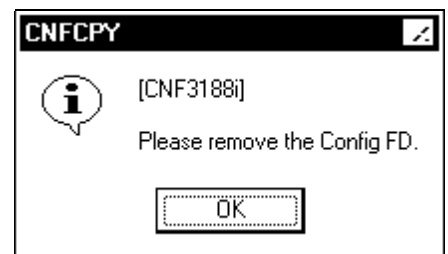
Insert the configuration FD into FDD, select (CL) [OK].



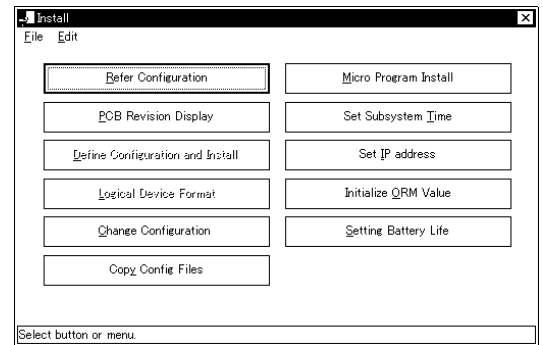
4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to “Install”.
Select (CL) [File]-[Exit].



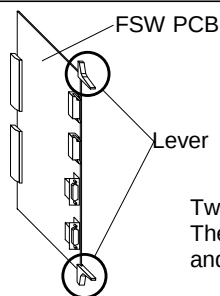
6. <Mode Change>
Change the mode to View Mode.

3.11 Installation of DEV Interface Cable, Additional Disk Adapter and HDD Canister (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

Table 3.11-1 Parts List

No.	Model Number	Parts Name	Parts No.	Quantity	Remarks
1	DKC-F460I-200	Disk Adapter PCB	5513979-B	2	Color of PCB Lever: Blue
		Nameplate (HDS)	2105902-103	1	RSD
			2105903-103		HICAM
			2105903-203		HICEF
		Nameplate (HP)	2105902-203	1	RSD
			2105903-303		HICAM
			2105903-403		HICEF
2	DKC-F460I-L1C	DEV Interface Cable	5513878-A-R	16	
		Nameplate (HDS)	2105902-118	1	RSD
			2105903-118		HICAM
			2105903-218		HICEF
		Nameplate (HP)	2105902-218	1	RSD
			2105903-318		HICAM
			2105903-418		HICEF
3	DKU-F455I-36K4	HDU450-36K1FC	5515544-A	4	
		Nameplate(HDS)	2105914-6/14/22	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-50/54/58	1	RSD/HICAM/HICEF
4	DKU-F455I-36K1	HDU450-36K1FC	5515544-A	1	
		Nameplate(HDS)	2105914-5/13/21	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-49/53/57	1	RSD/HICAM/HICEF
5	DKU-F455I-72J4	HDU450-72J1FC	5513873-A	4	
		Nameplate(HDS)	2105914-8/16/24	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-52/56/60	1	RSD/HICAM/HICEF
6	DKU-F455I-72J1	HDU450-72J1FC	5513873-A	1	
		Nameplate(HDS)	2105914-7/15/23	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-51/55/59	1	RSD/HICAM/HICEF
7	DKU-F455I-EXC	DEV I/F Cable 2	5513860-A-R	16	
		Nameplate(HDS)	2105913-33/34/35	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105913-39/40/41	1	RSD/HICAM/HICEF

NOTICE:



Two types of levers for inserting/ removing the FSW, large and small ones, are used. The levers were enlarged to make the operation easier, accordingly their performance and function are the same.

3.11.1 Flowchart

There are ten cases (① to ⑩) of these addition works as shown in the following table because two or more options are to be added at the same time. Perform the work referring to the flowchart of each work.

Case	Option Installation Procedure	Page
①	When performing addition of the data/spare HDD canister (DKU-F455I-36K1/36K4/72J1/72J4)	INST03-DKA-30
②	When performing addition of the DKA (DKC-F460I-200)	INST03-DKA-30
③	When performing addition of the data/spare HDD and DKA (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4)	INST03-DKA-30
④	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 frame (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-40
⑤	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 frame (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4)	INST03-DKA-40
⑥	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L2 frame (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-50
⑦	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L1 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-60
⑧	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L2 frames (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-70
⑨	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-80
⑩	When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2, DKU-L1, and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST03-DKA-90

① When performing addition of the data/spare HDD canister -- [[INST03-DKA-100 through 270](#)]

1. Setting up the New Device Structure Information



2. Installation Procedure of HDD Canister



3. SVP post procedure

② When performing addition of the DKA ----- [[INST03-DKA-280 through 390](#)]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
Be sure to check it before performing the addition.

1. Setting up the New Device Structure Information



2. Installation Procedure of Additional Disk Adapter



3. SVP post procedure

③ When performing addition of the data/spare HDD and DKA
----- [[INST03-DKA-400 through 600](#)]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
Be sure to check it before performing the addition.

1. Setting up the New Device Structure Information



2. Installation Procedure of Additional Disk Adapter



3. Installation Procedure of HDD Canister



4. SVP post procedure

④ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 frame----- [[INST03-DKA-610 through 900](#)]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
**(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
* In this step, do not connect the DEV interface cable with operating DKU.**



2. Setting up the New Device Structure Information



3. Installation Procedure of Additional Disk Adapter



4. Installation Procedure of HDD Canister



5. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



6. SVP post procedure



7. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

⑤ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 frame ----- [[INST03-DKA-910 through 1160](#)]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)



2. Setting up the New Device Structure Information



3. Installation Procedure of Additional Disk Adapter



4. Installation Procedure of HDD Canister



5. SVP post procedure

⑥ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L2 frame ----- [[INST03-DKA-1170 through 1460](#)]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
*** In this step, do not connect the DEV interface cable with operating DKU.**



2. Setting up the New Device Structure Information



3. Installation Procedure of Additional Disk Adapter



4. Installation Procedure of HDD Canister



5. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



6. SVP post procedure



7. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

- ⑦ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L1 frames
 ----- [INST03-DKA-1470 through 1810]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
 Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)



2. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
*** In this step, do not connect the DEV interface cable with operating DKU.**



3. Setting up the New Device Structure Information



4. Installation Procedure of Additional Disk Adapter



5. Installation Procedure of HDD Canister



6. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



7. SVP post procedure



8. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

- ⑧ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L2 frames
 ----- [INST03-DKA-1820 through 2200]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
 Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
*** In this step, do not connect the DEV interface cable with operating DKU.**



2. Setting up the New Device Structure Information



3. Installation Procedure of Additional Disk Adapter



4. Installation Procedure of HDD Canister



5. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



6. SVP post procedure



7. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

- ⑨ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 and DKU-L2 frames
 ----- [INST03-DKA-2210 through 2550]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
 Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)



2. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
*** In this step, do not connect the DEV interface cable with operating DKU.**



3. Setting up the New Device Structure Information



4. Installation Procedure of Additional Disk Adapter



5. Installation Procedure of HDD Canister



6. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



7. SVP post procedure



8. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

- ⑩ When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2, DKU-L1, and DKU-L2 frames
 ----- [INST03-DKA-2560 through 2990]

Note: When a total number of the channel and DKA options to be installed is four or more, the additional disk controller power supply (DKC-F460I-80) must be installed.
 Be sure to check it before performing the addition.

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)



2. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Connect the DEV interface cable only with installed Disk Unit (DKU455I-18).
*** In this step, do not connect the DEV interface cable with operating DKU.**



3. Setting up the New Device Structure Information



4. Installation Procedure of Additional Disk Adapter



5. Installation Procedure of HDD Canister



6. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Connect the DEV interface cable with operating DKU.



7. SVP post procedure



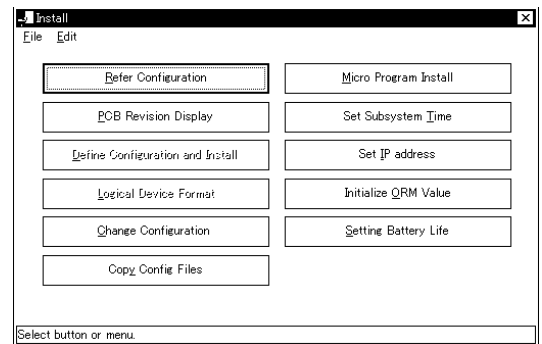
8. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Attach the cable covers for DEV interface cable.

3.11.2 When performing addition of the data/spare HDD canister (DKU-F455I-36K4/36K1/72J4/72J1)

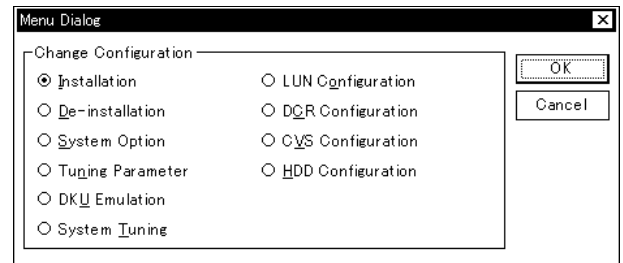
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

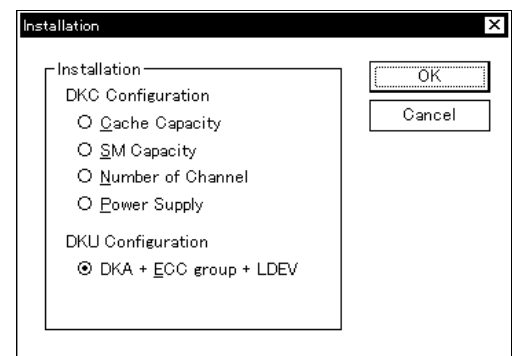
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window. Select (CL) [>>Next].

8. <Change Drive Configuration Information>

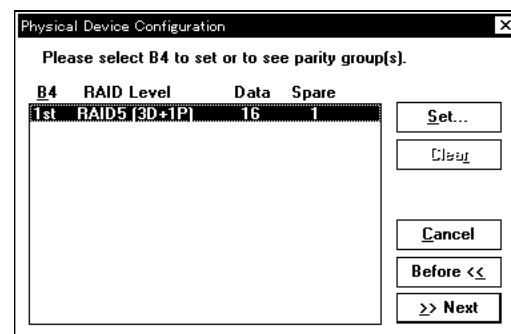
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

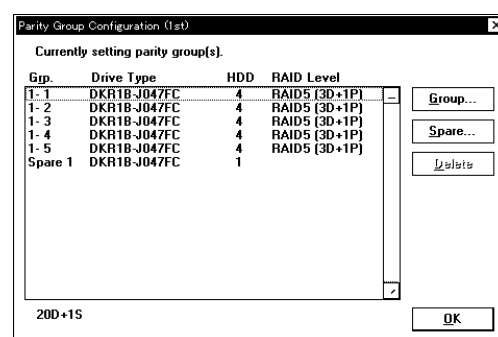
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

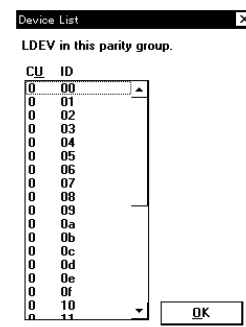
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

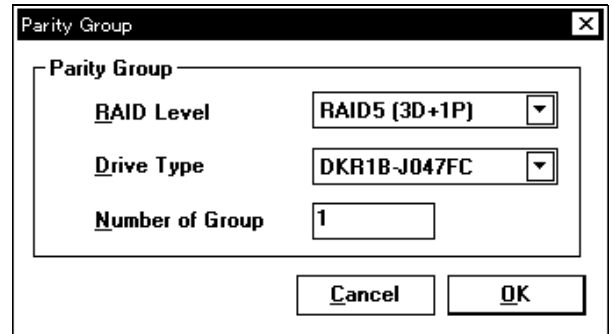
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

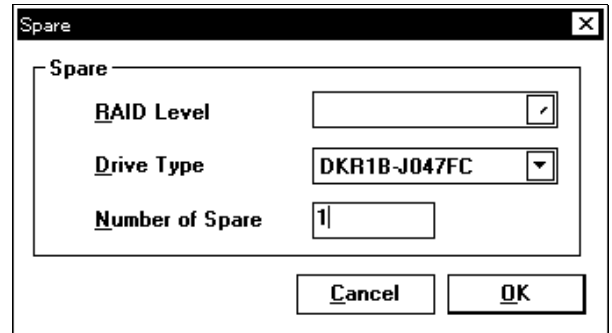
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

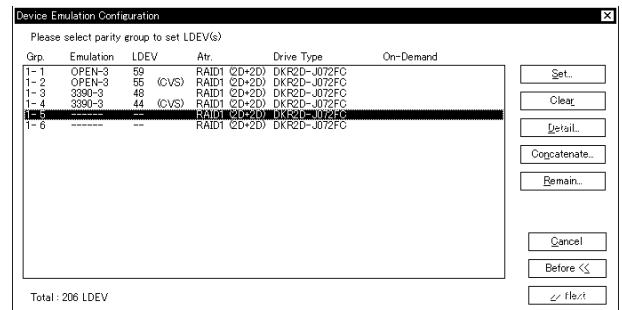
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

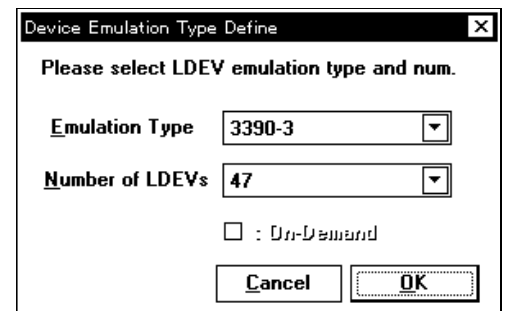
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

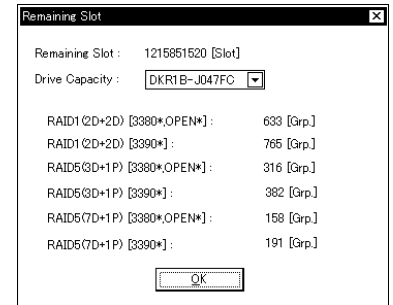
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

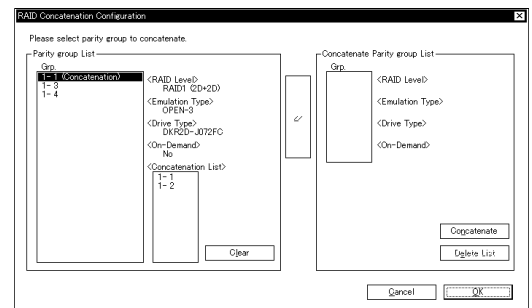
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

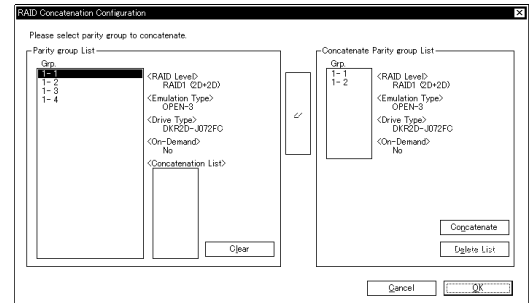
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

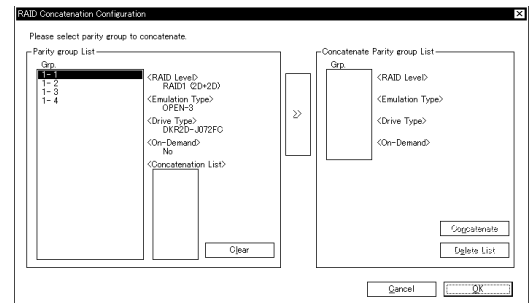


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

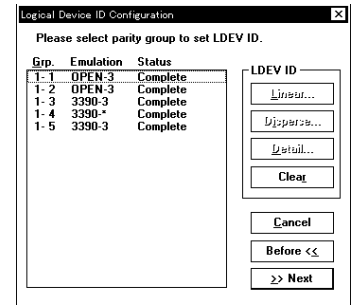
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

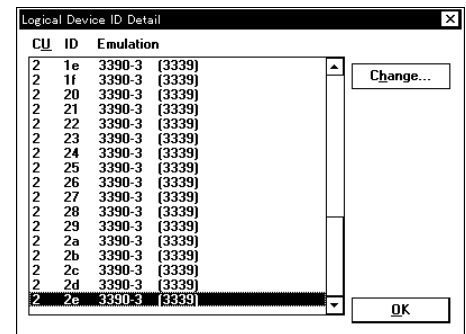
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

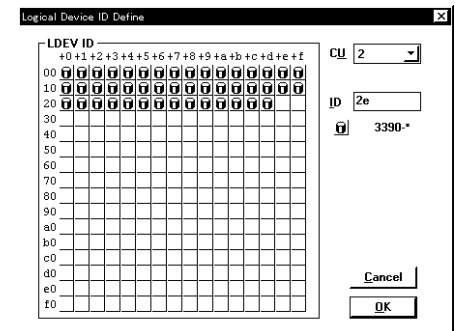
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

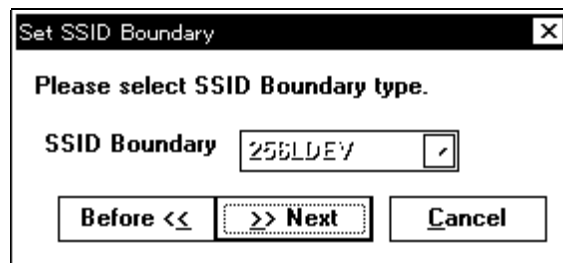
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

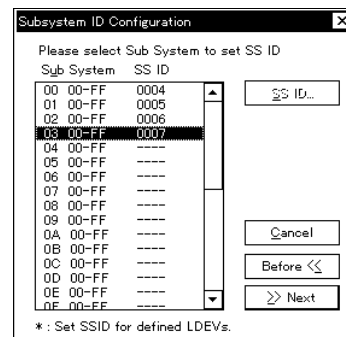
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

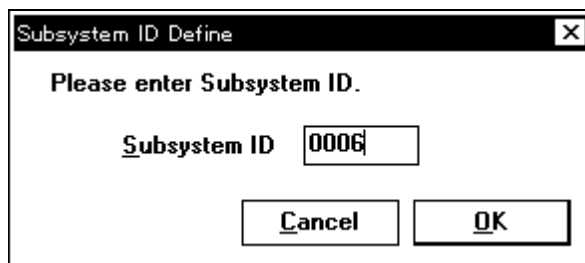
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

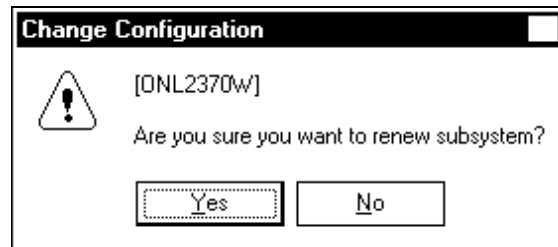
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-100](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

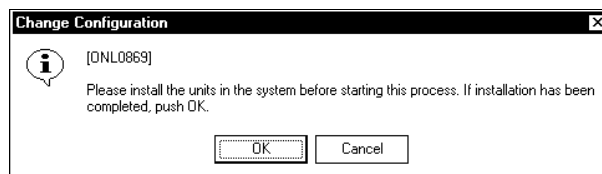
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



2. Installation Procedure of HDD Canister

2-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-1.

Table 3.11.2-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

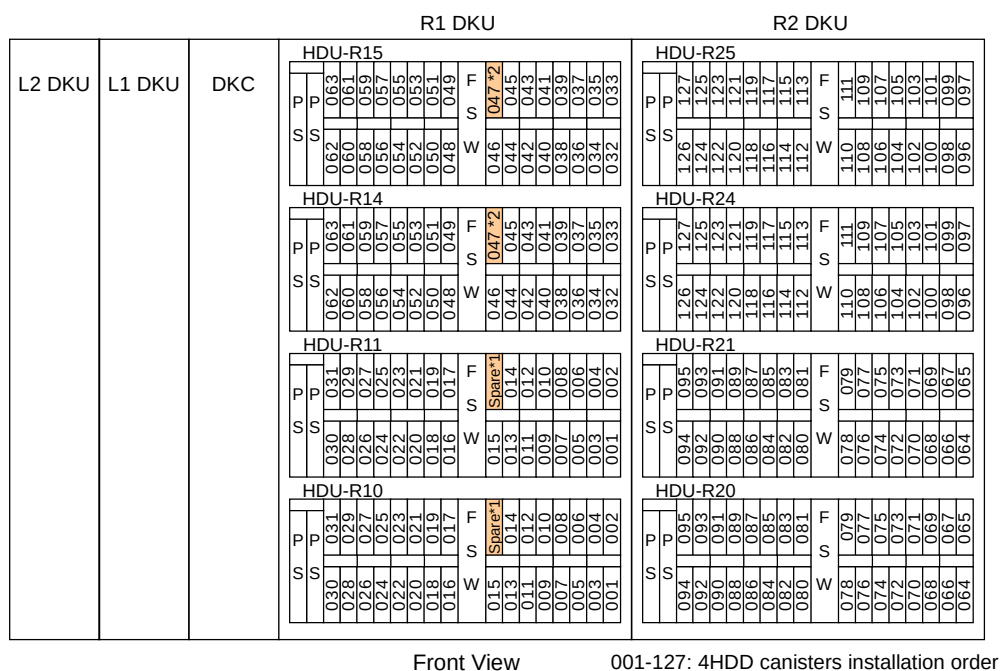
	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

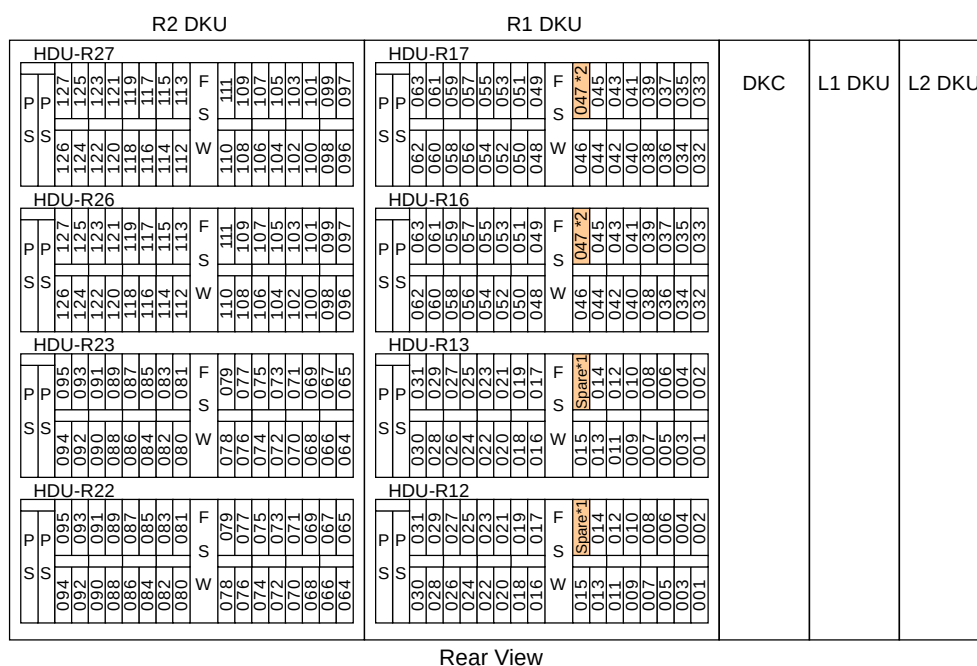
*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive



001-127: 4HDD canisters installation order



*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.2-1 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.2-1.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	177	178	175	176			
W	W	W	W	W	W	W	W			
235	236	233	234	173	174*2	171	172			
231	232	229	230	169	170	167	168			
227	228	225	226	165	166	163	164			
223	224	221	222	161	162	159	160			
HDU-L24				HDU-L14						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	177	178	175	176			
W	W	W	W	W	W	W	W			
235	236	233	234	173	174*2	171	172			
231	232	229	230	169	170	167	168			
227	228	225	226	165	166	163	164			
223	224	221	222	161	162	159	160			
HDU-L21				HDU-L11						
S	S	P	P	S	S	P	P			
221	222	219	220	157	158	155	156			
217	218	215	216	153	154	151	152			
213	214	211	212	149	150	147	148			
209	210	207	208	145	146	143	144			
W	W	W	W	W	W	W	W			
205	206	203	204	142	Spare*1	140	141			
201	202	199	200	138	139	136	137			
197	198	195	196	134	135	132	133			
193	194	191	192	130	131	128	129			
HDU-L20				HDU-L10						
S	S	P	P	S	S	P	P			
221	222	219	220	157	158	Spare*1	141			
217	218	215	216	153	154	151	152			
213	214	211	212	149	150	147	148			
209	210	207	208	145	146	143	144			
W	W	W	W	W	W	W	W			
205	206	203	204	142	143	140	141			
201	202	199	200	138	139	136	137			
197	198	195	196	134	135	132	133			
193	194	191	192	130	131	128	129			

Front View

128-254: 4HDD canisters installation ord

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17	S		P		W		
			189	190	187	188	173	174*2	171	172
			185	186	183	184	169	170	167	168
			181	182	179	180	165	166	163	164
			177	178	175	176	161	162	159	160
			173	174*2	171	172	157	158	155	156
			169	170	167	168	153	154	151	152
			165	166	163	164	149	150	147	148
			161	162	159	160	145	146	143	144
			157	158	155	156	141	142	138	139
HDU-L16	S		P		W					
189	190	187	188	173	174*2	171	172			
185	186	183	184	169	170	167	168			
181	182	179	180	165	166	163	164			
177	178	175	176	161	162	159	160			
173	174*2	171	172	157	158	155	156			
169	170	167	168	153	154	151	152			
165	166	163	164	149	150	147	148			
161	162	159	160	145	146	143	144			
157	158	155	156	141	142	138	139			
HDU-L13	S		P		W					
157	158	155	156	141	142	138	139			
153	154	151	152	137	138	135	136			
149	150	147	148	133	134	131	132			
145	146	143	144	129	130	128	129			
141	142	138	139	125	126	123	124			
137	138	135	136	121	122	119	120			
133	134	131	132	117	118	115	116			
129	130	128	129	113	114	111	112			
125	126	123	124	109	110	107	108			
121	122	119	120	105	106	103	104			
117	118	115	116	101	102	99	100			
113	114	111	112	97	98	95	96			
109	110	107	108	93	94	91	92			
105	106	103	104	89	90	87	88			
101	102	99	100	85	86	83	84			
97	98	95	96	81	82	79	80			
93	94	91	92	77	78	75	76			
91	92	89	90	73	74	71	72			
89	90	87	88	69	70	67	68			
85	86	83	84	65	66	63	64			
81	82	79	80	61	62	59	60			
77	78	75	76	57	58	55	56			
73	74	71	72	53	54	51	52			
69	70	67	68	49	50	47	48			
65	66	63	64	45	46	43	44			
61	62	59	60	41	42	39	40			
57	58	55	56	37	38	35	36			
53	54	51	52	33	34	31	32			
49	50	47	48	29	30	27	28			
45	46	43	44	25	26	23	24			
41	42	39	40	21	22	19	20			
37	38	35	36	17	18	15	16			
33	34	31	32	13	14	11	12			
29	30	27	28	9	10	7	8			
25	26	23	24	5	6	3	4			
21	22	19	20	1	2	0	1			
17	18	15	16	0	1	0	1			
13	14	11	12	0	1	0	1			
9	10	7	8	0	1	0	1			
5	6	3	4	0	1	0	1			
1	2	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
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0	1	0	1	0	1	0	1			
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0	1	0	1	0	1	0	1			
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0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
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0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0	1			
0	1	0	1	0	1	0</				

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.2-1 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.2-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-2.

Table 3.11.2-2 Relation between HDDs installation order and RAID number (7D+1P)

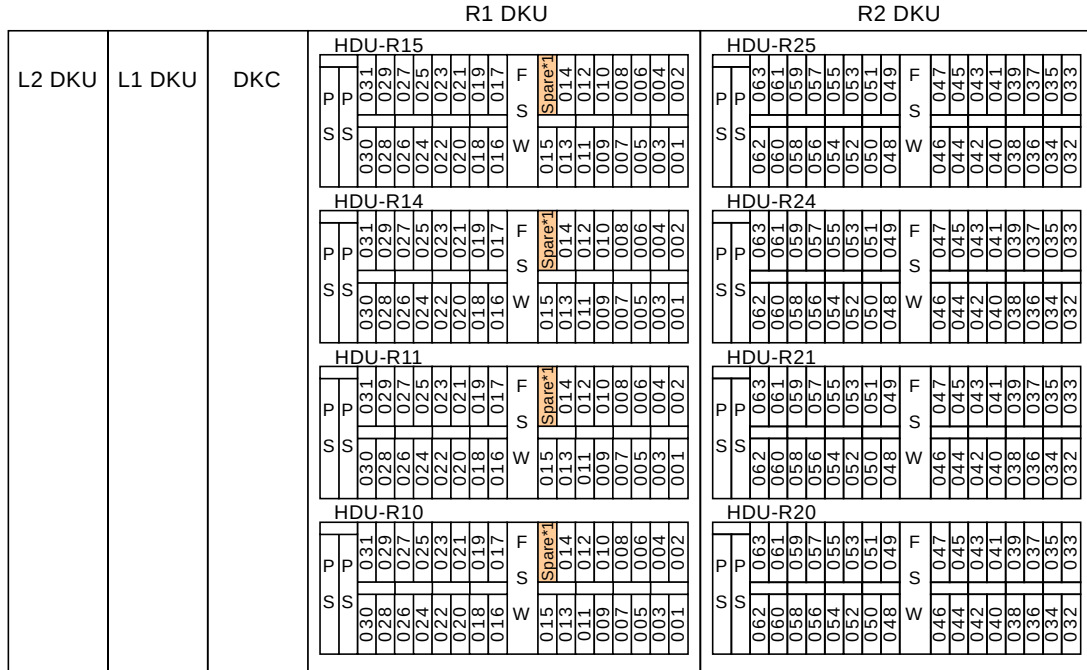
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

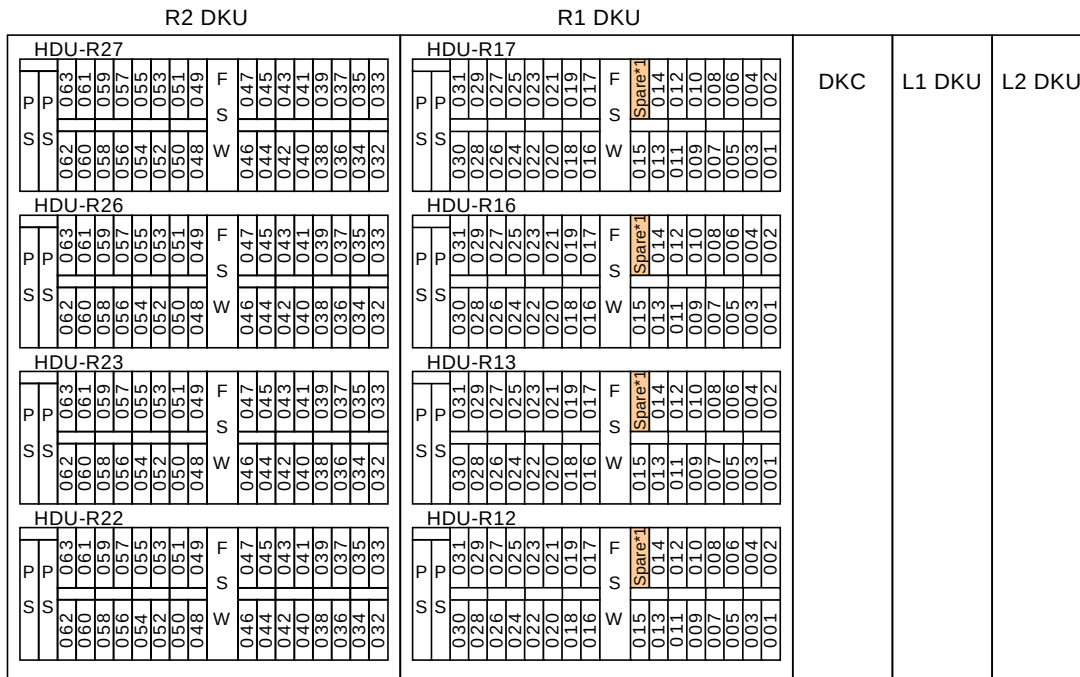
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left
vacant or a
spare disk
is to be
installed.

Fig. 3.11.2-2 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.2-2.

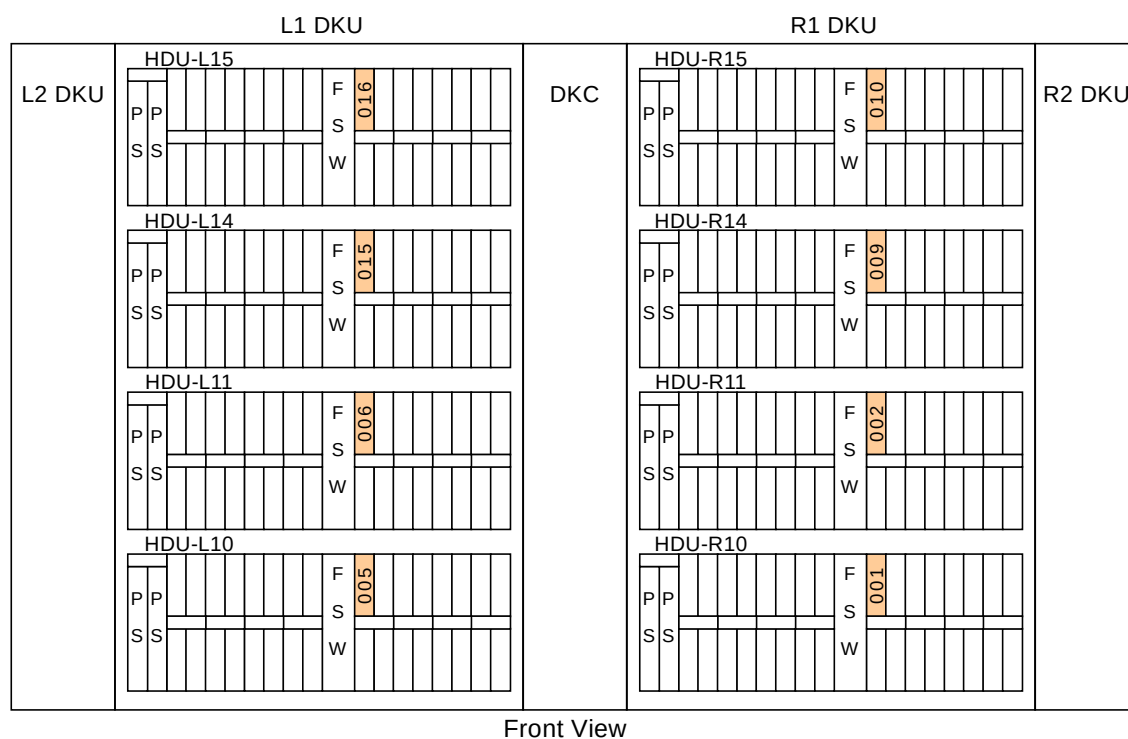
Fig. 3.11.2-2 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

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INST03-DKA-220

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

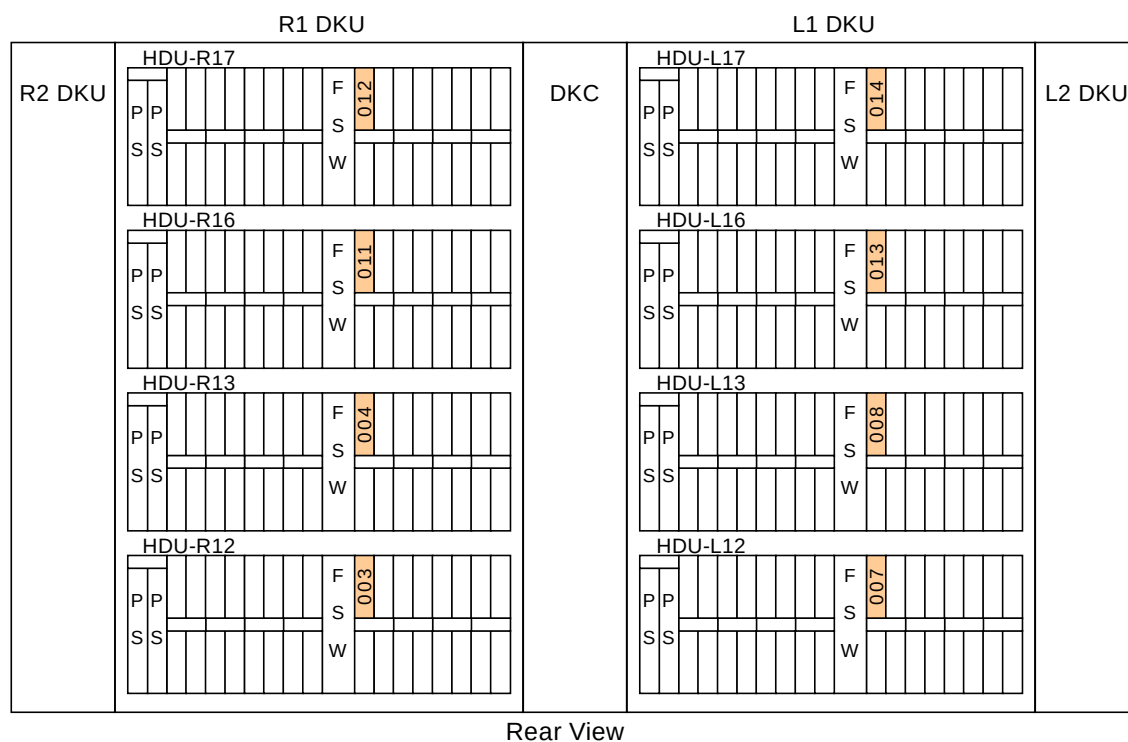


Fig. 3.11.2-3 Spare Drive Expansion Sequence

2-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

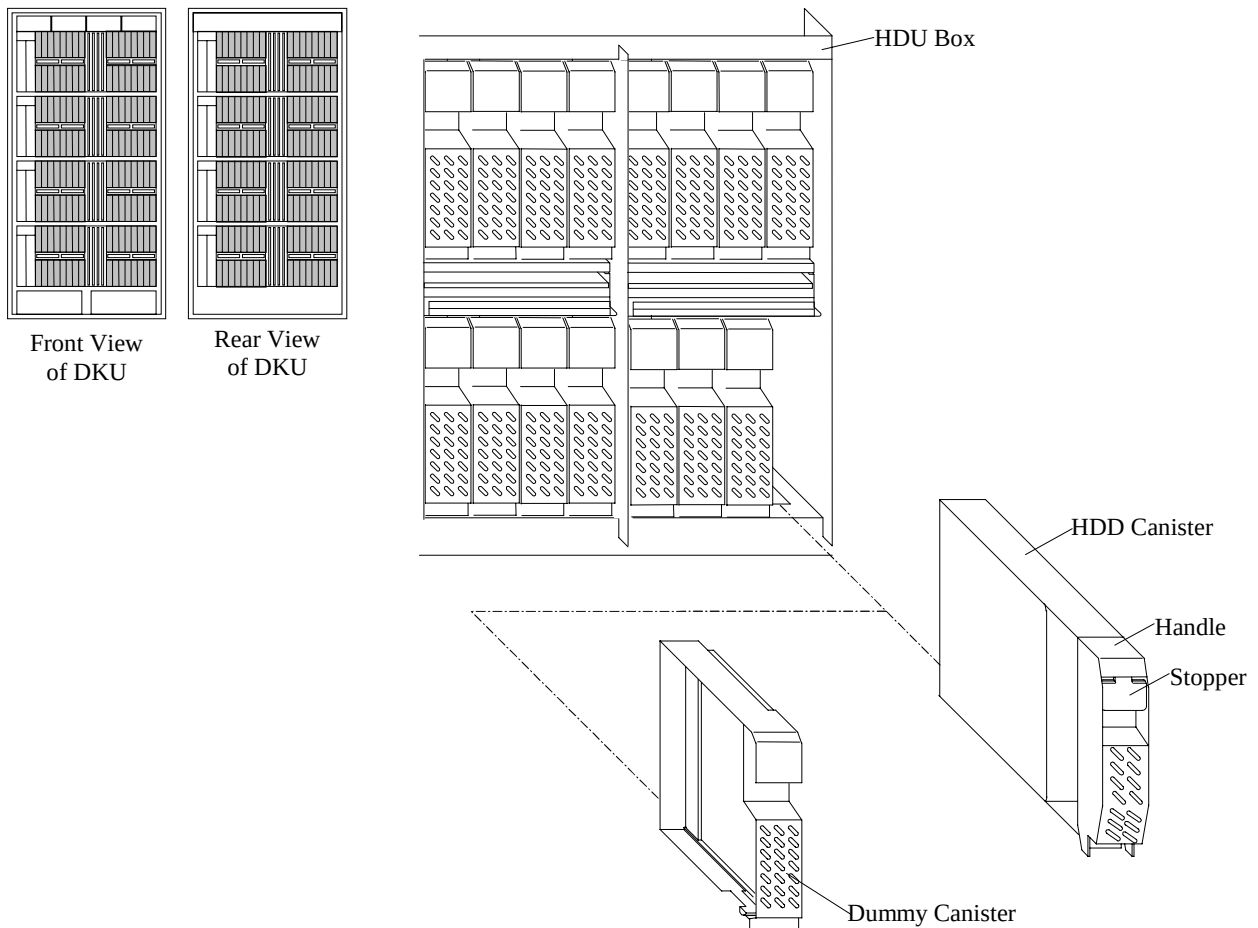
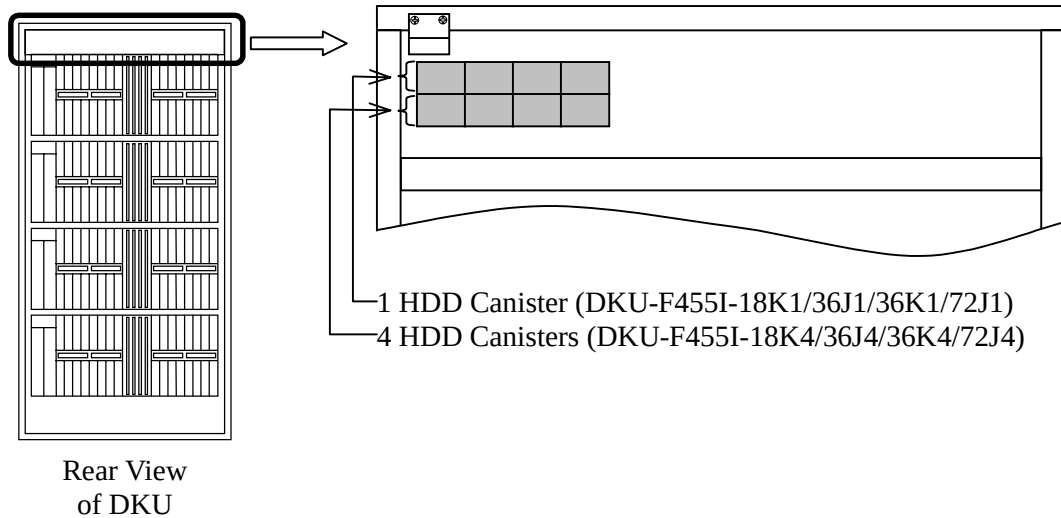


Fig. 3.11.2-4 Installation of HDD Canister

2-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

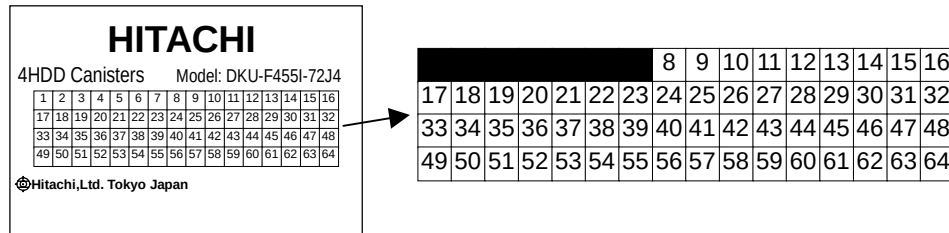
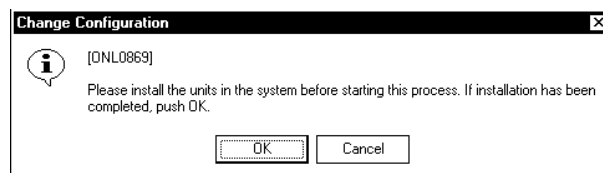


Fig. 3.11.2-5 Attachment of Nameplate

3. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.

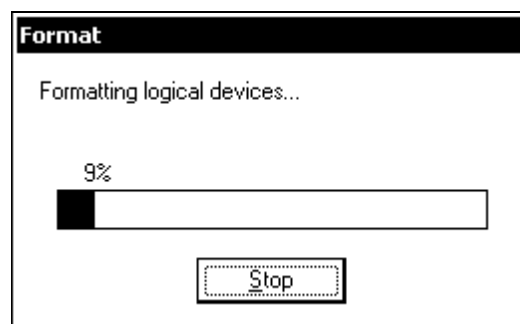


2. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

3. <LDEV FORMAT>

“Formatting the logical device...” is displayed when Parity Group is defined.

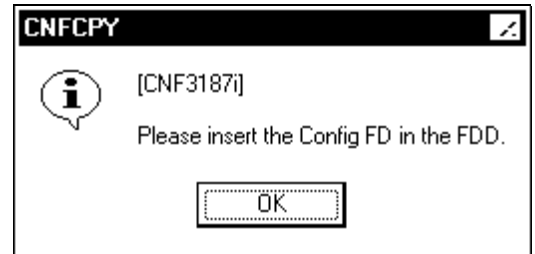


4. <End of system update processing>

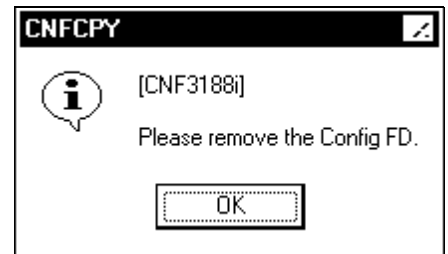
“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



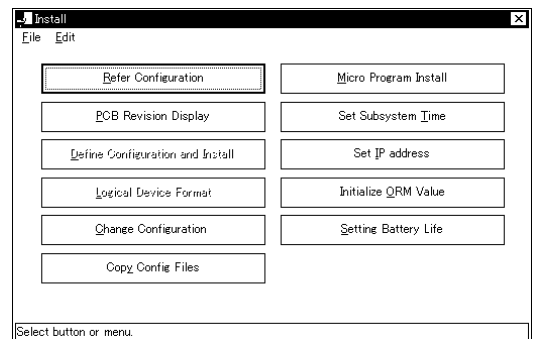
5. “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



6. When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



7. After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



8. <Mode Change>
 Change the mode to View Mode.

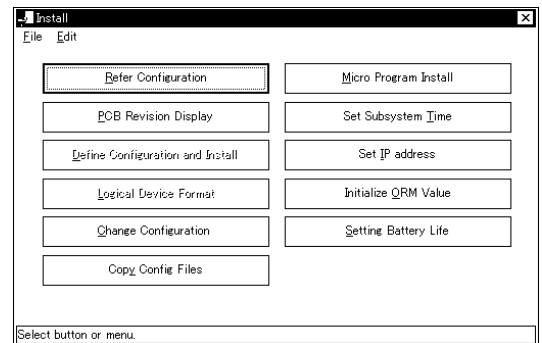
Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.3 When performing addition of the DKA (DKC-F460I-200)

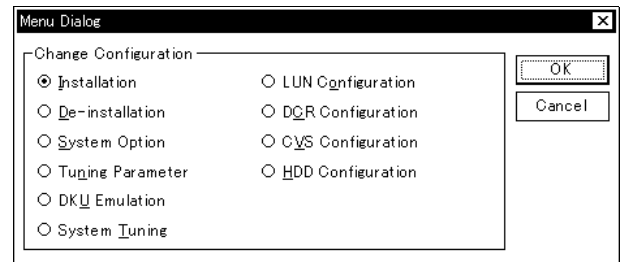
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

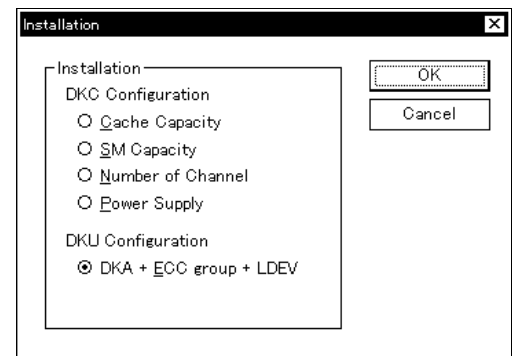
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of DKA in DKC in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

DKC Configuration

Please set the following parameters of DKC Configuration.

Serial No. System Option:

Number of CU Power Supply:

IP Address:
Subnet Mask:

Cache:
On-Demand-5MBx2
Option: Not installed
Total cache size: 512MBx2
DCR available: 256MBx2

CHA: ☒ Basic ☒ Option
☐ Option 2 ☐ Option 3

DKA:
Number of DKA:

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Disk Interface Configuration

Please select the interface type of DKF

DKA-1B/DKA-2H
DKF Type: ☒

DKA-1C/DKA-2J
DKF Type: ☒

DKA-1D/DKA-2K
DKF Type: ☒

DKA-1E/DKA-2L
DKF Type: ☒

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window. Select (CL) [>>Next].

DKU Equipment Configuration

Please select DKU equipment pattern.

DKU Equipment: ☒

DKU Type: ☒ Left: ☒ Right: ☒

8. <Change Drive Configuration Information>

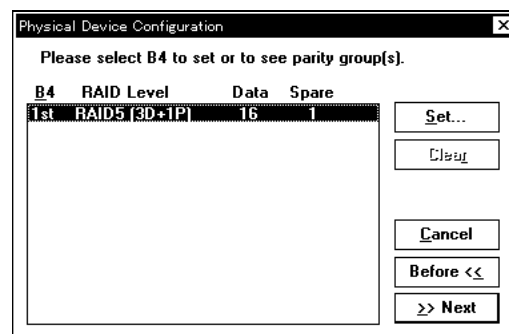
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

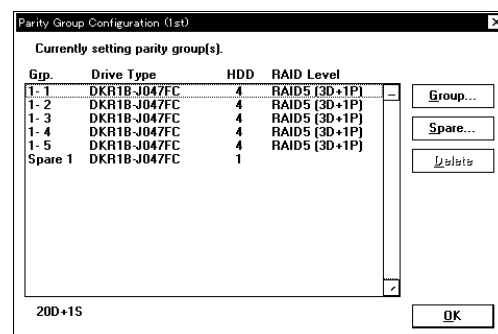
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

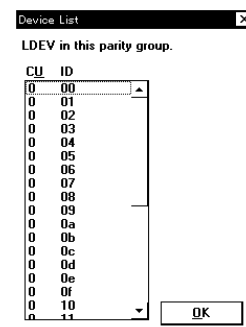
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

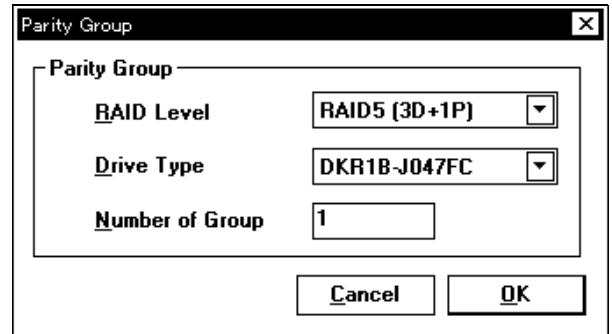
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

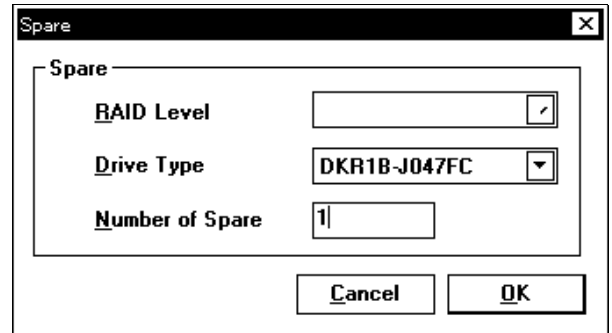
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

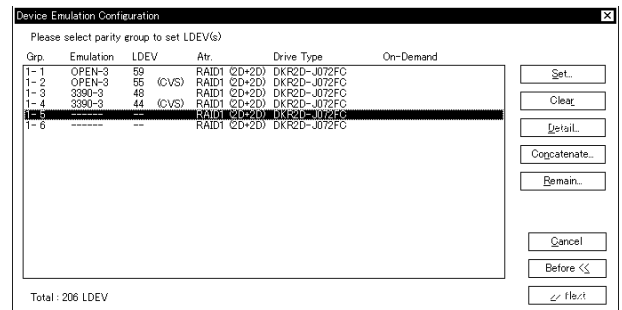
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

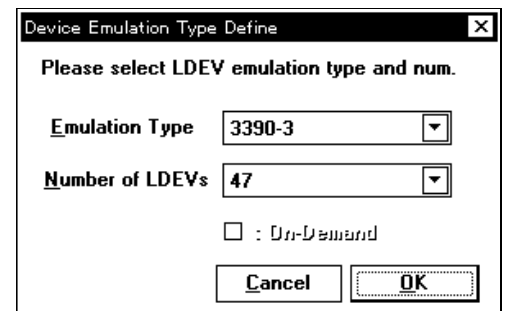
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

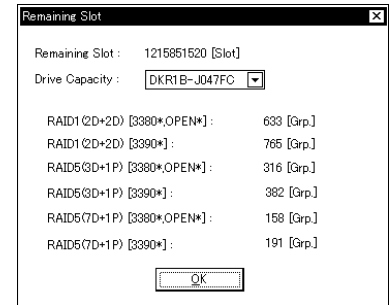
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

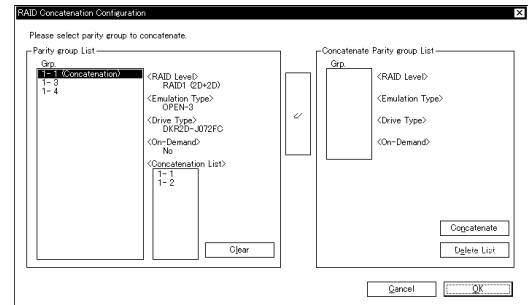
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

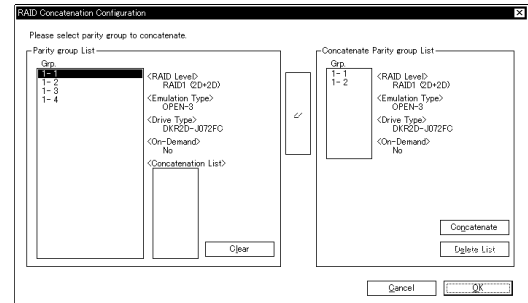
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

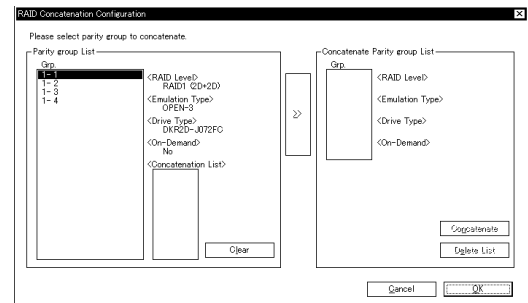


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

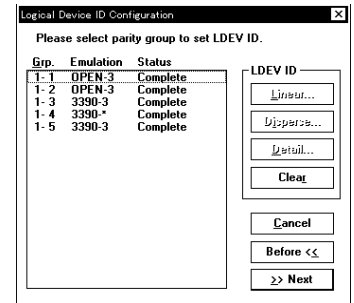
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

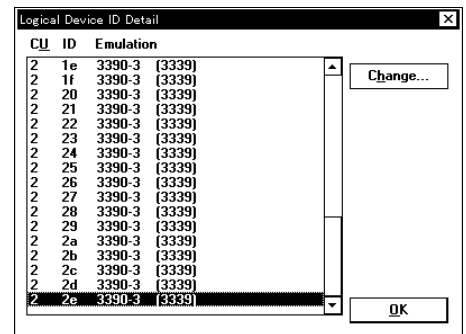
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

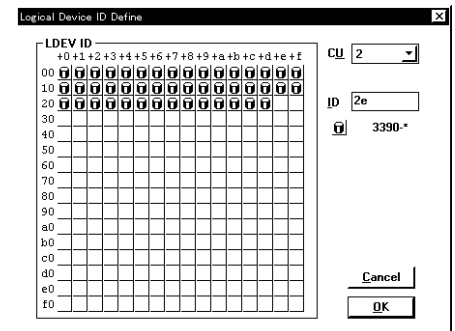
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

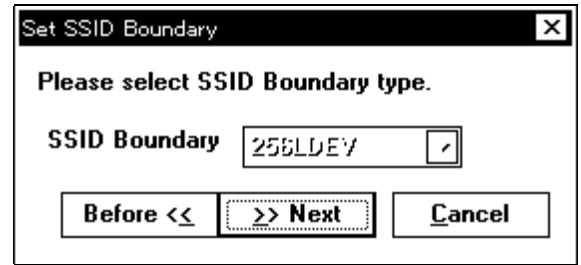
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

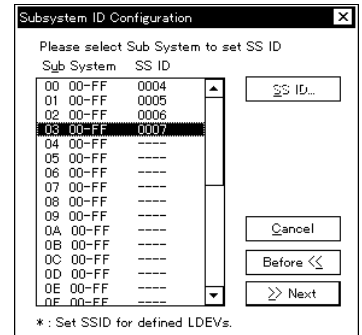
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

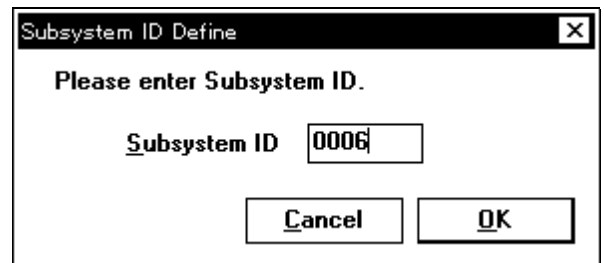
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

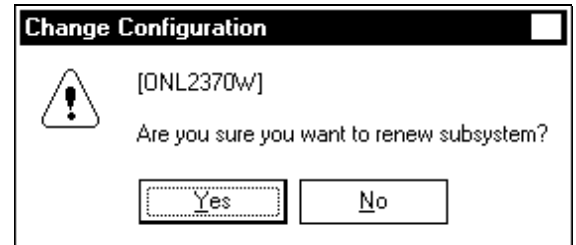
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-280](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

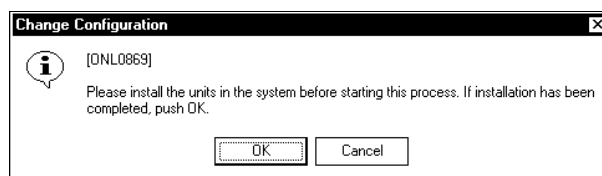
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



2 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

2-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.3-1.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.3-1.
- c. Fasten the two screws referring to Fig. 3.11.3-2.

Table 3.11.3-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

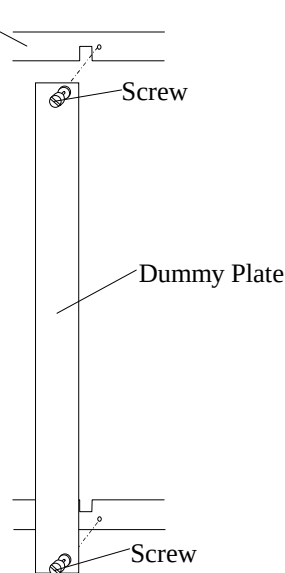


Fig. 3.11.3-1 Removal of Dummy Plate

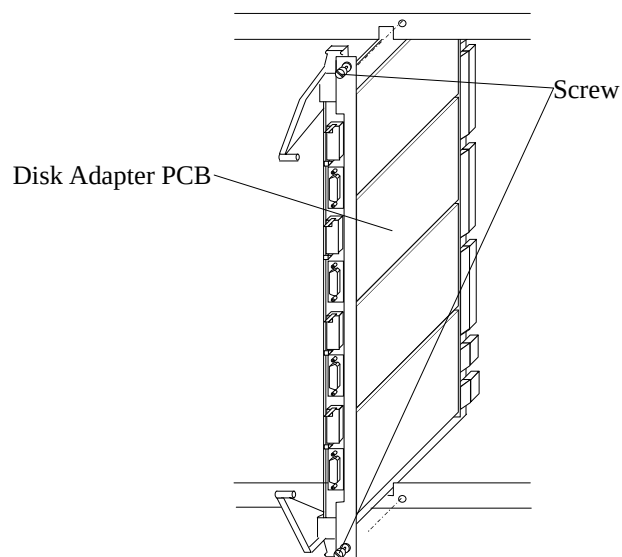


Fig. 3.11.3-2 Insertion of PCB

2-2 Connection of cables

In case of Add.1



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.3-3.)

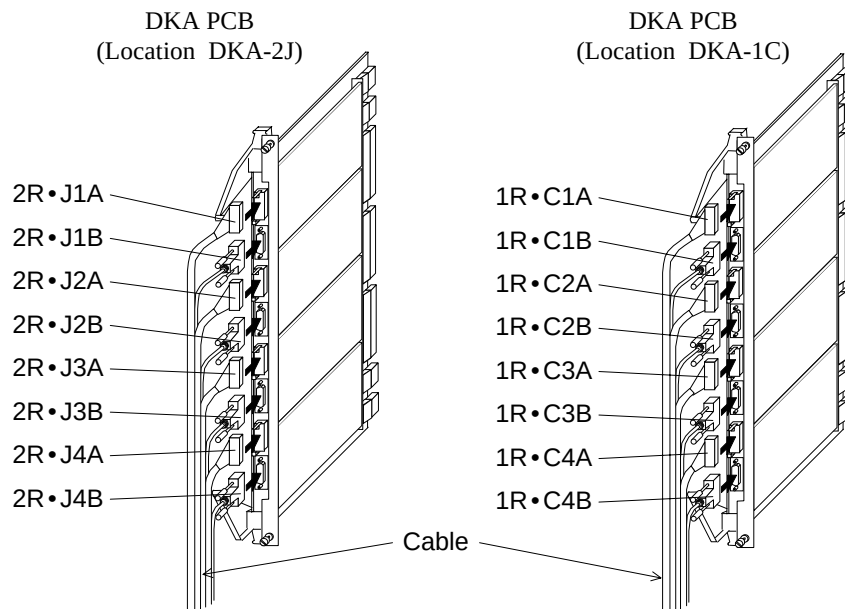


Fig.3.11.3-3 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

 CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

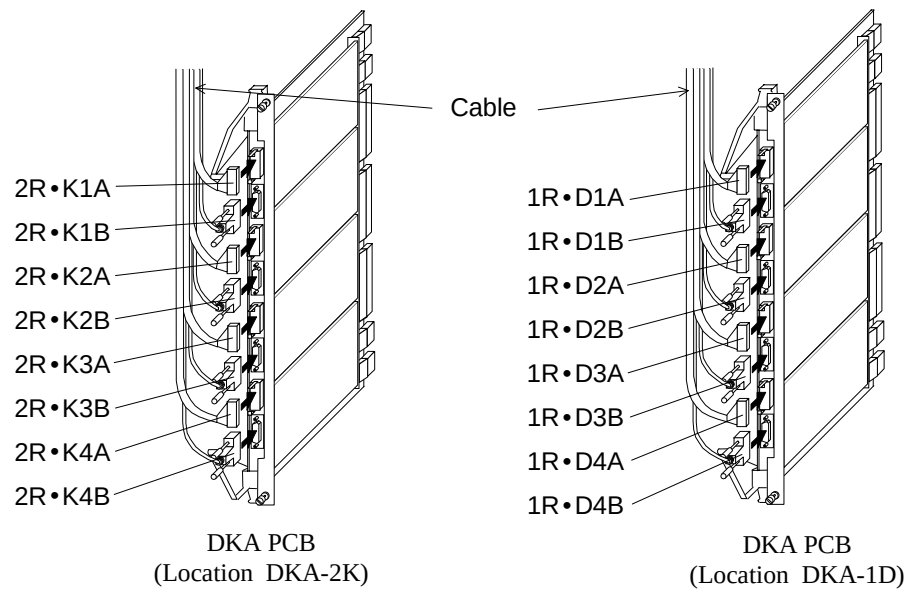


Fig.3.11.3-4 Connection of cable (Add.2)

In case of Add.3

Caution:

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

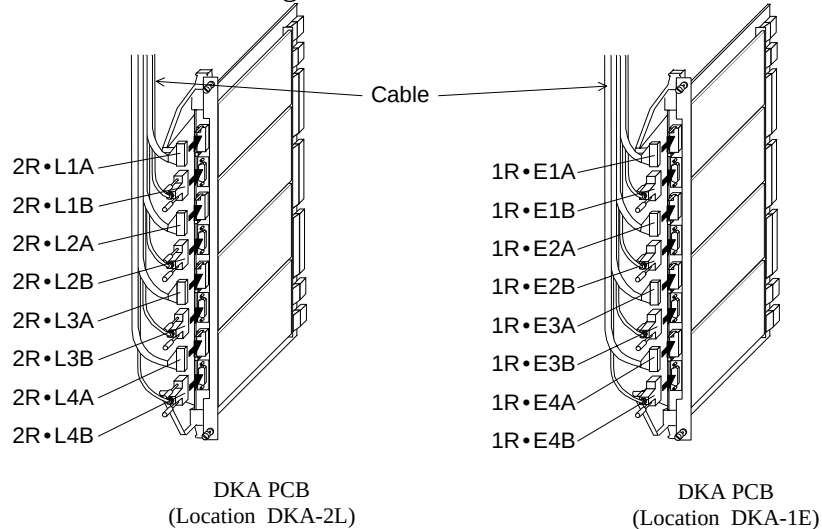


Fig.3.11.3-5 Connection of cable (Add.3)

2-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.3-6.

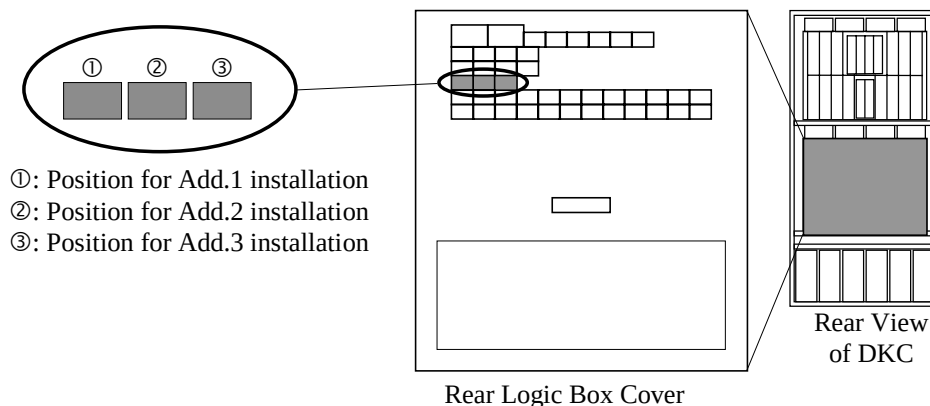
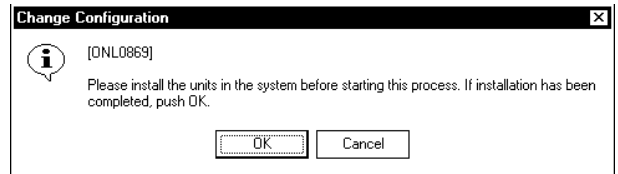


Fig. 3.11.3-6 Attachment of Nameplate

3. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <End of system update processing>

“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

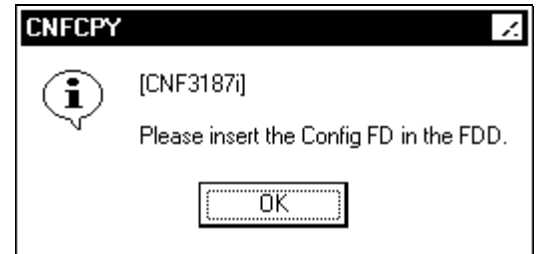


5.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

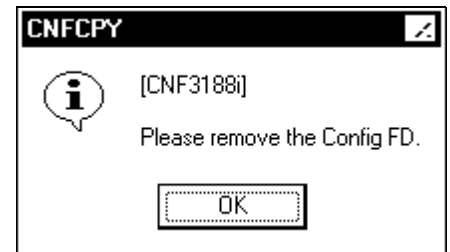
Insert the configuration FD into FDD, and select (CL) [OK].



6.

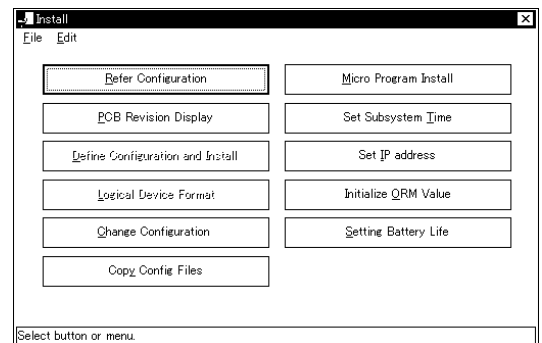
When this procedure is completed, the message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



7.

After the procedure is completed, return to ‘Install’.
Select (CL) [File]-[Exit].



8.

<Mode Change>

Change the mode to View Mode.

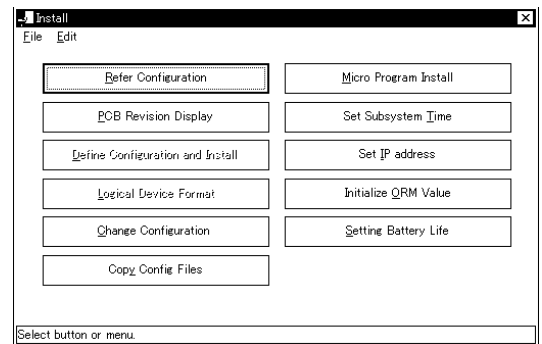
Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.4 When performing addition of the data/spare HDD and DKA (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1)

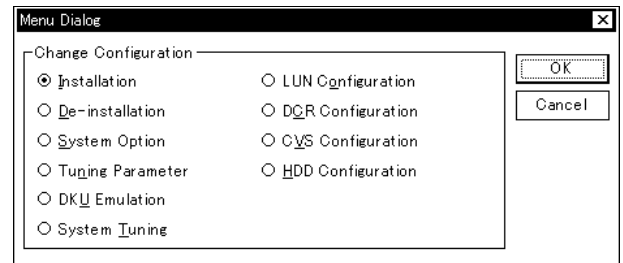
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

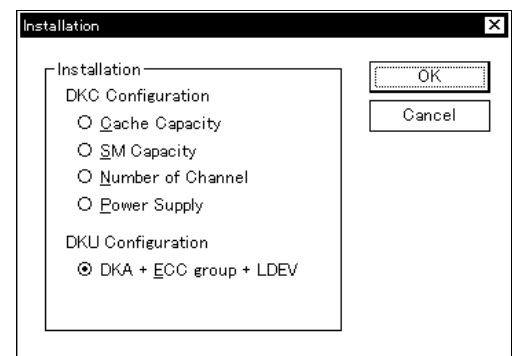
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window. Select (CL) [>>Next].

8. <Change Drive Configuration Information>

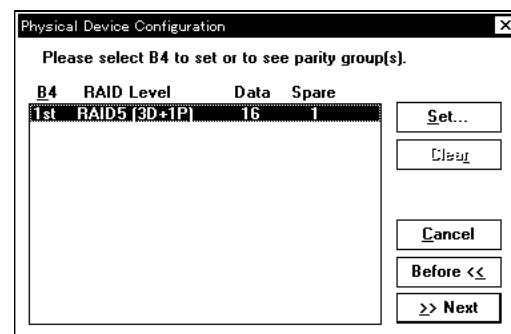
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

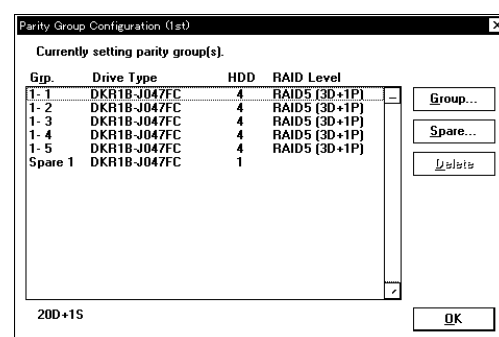
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

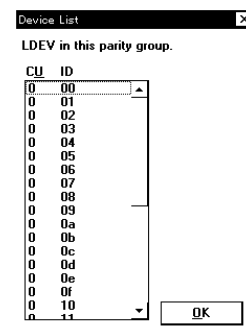
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

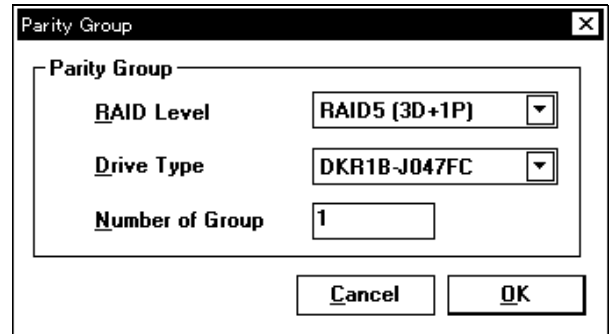
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

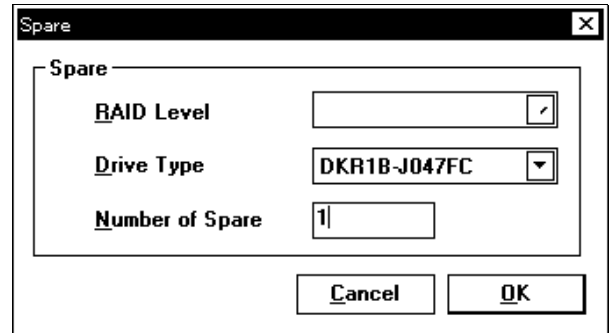
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

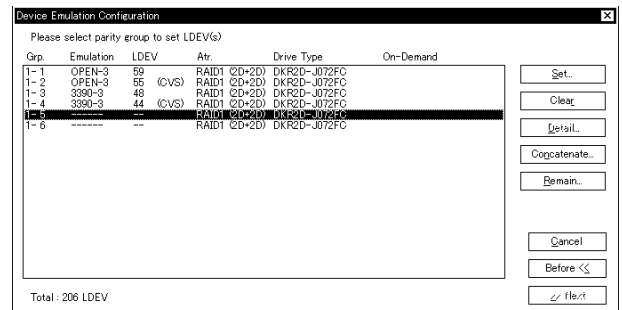
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

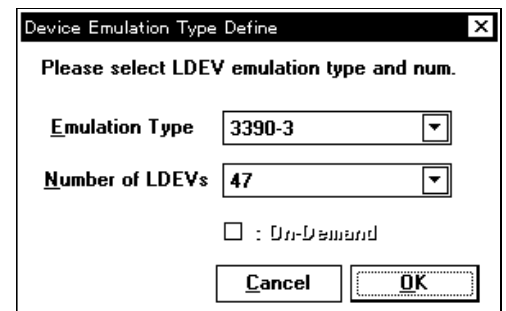
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copypaste..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

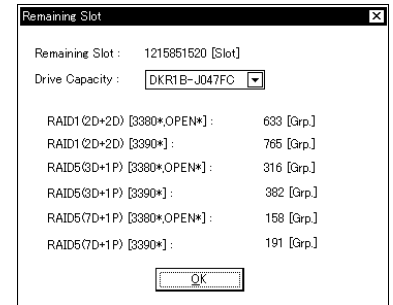
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

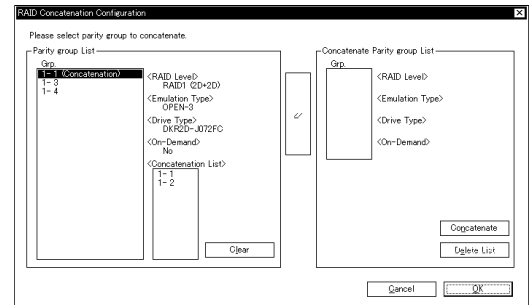
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

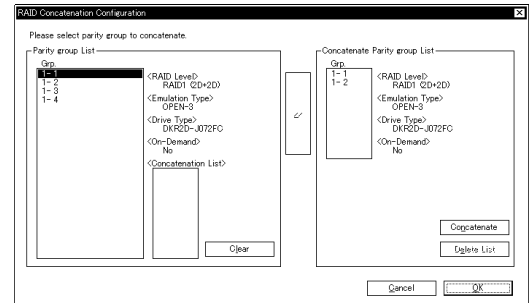
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

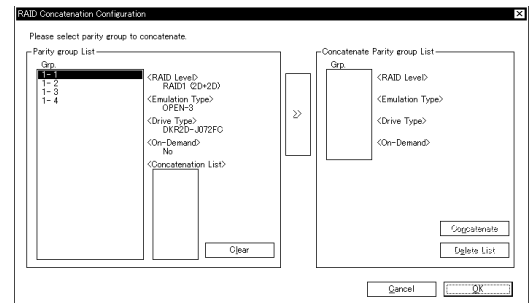


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

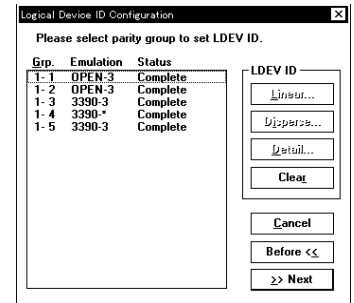
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

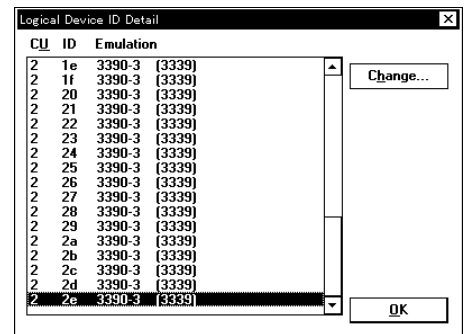
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

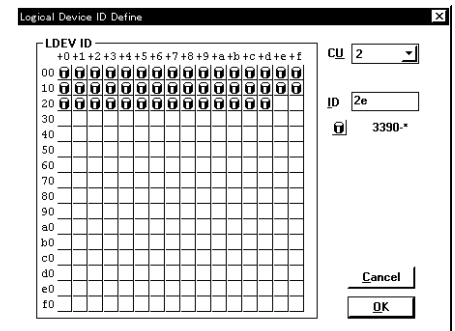
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

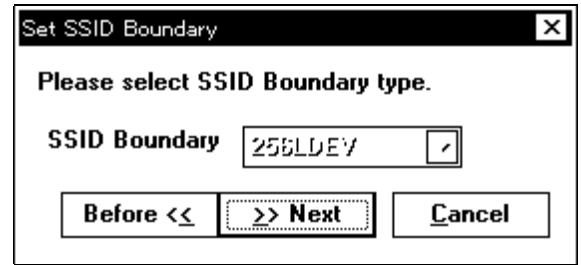
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

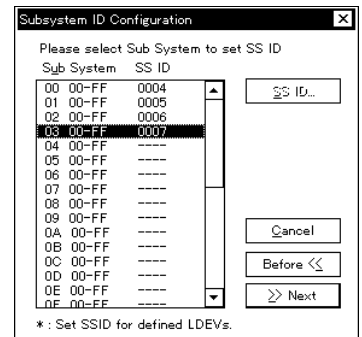
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

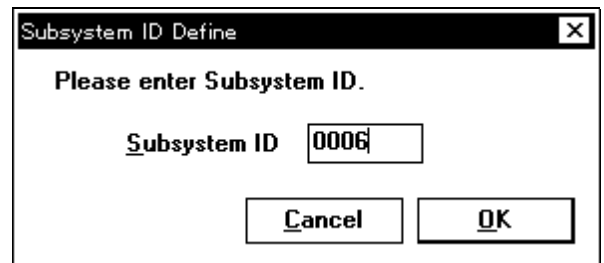
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

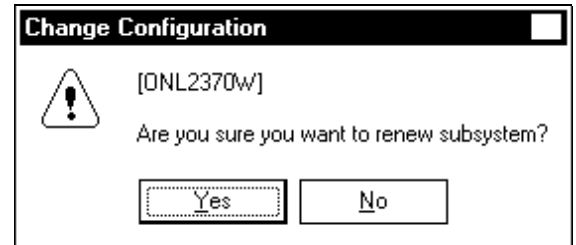
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-400](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

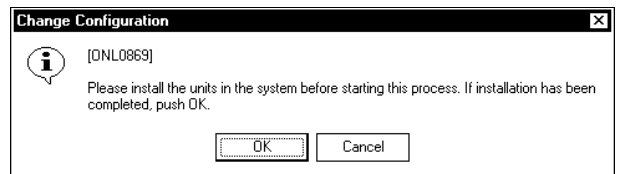
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



2 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

2-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.4-1.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.4-1.
- c. Fasten the two screws referring to Fig. 3.11.4-2.

Table 3.11.4-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

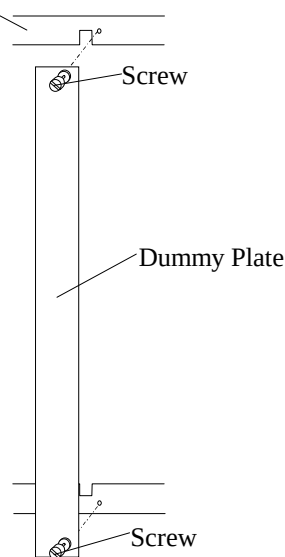


Fig. 3.11.4-1 Removal of Dummy Plate

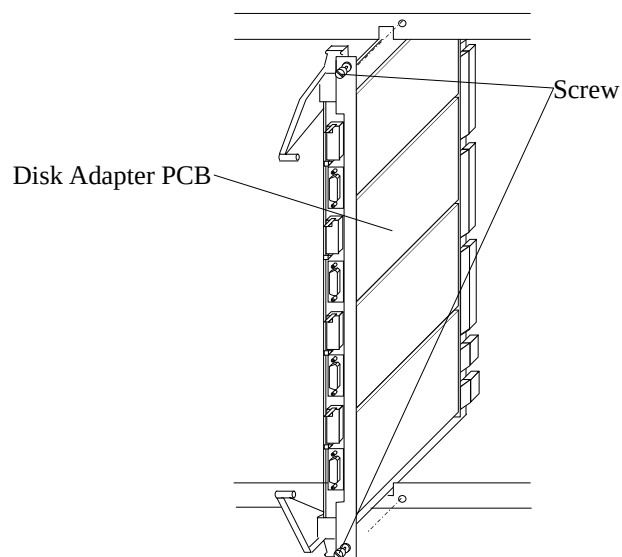


Fig. 3.11.4-2 Insertion of PCB

2-2 Connection of cables

In case of Add.1



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.4-3.)

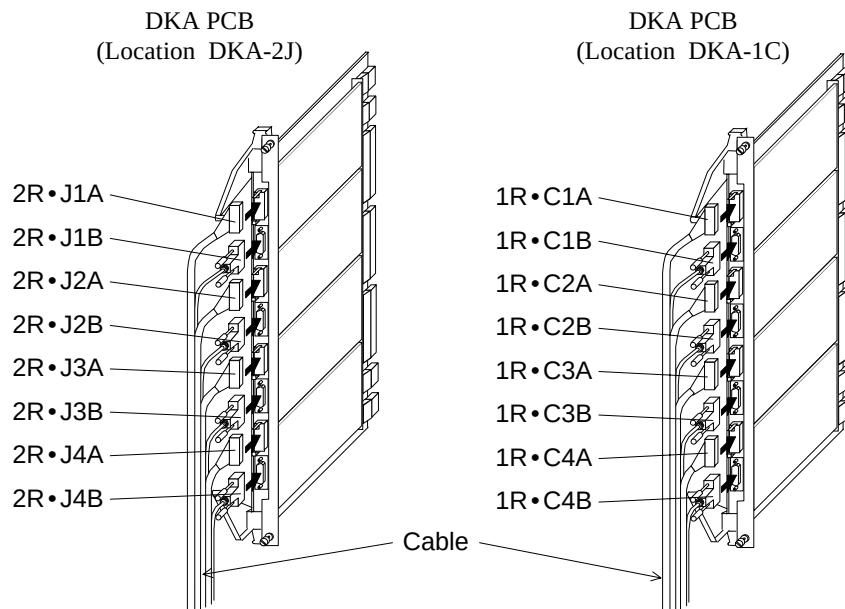


Fig.3.11.4-3 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

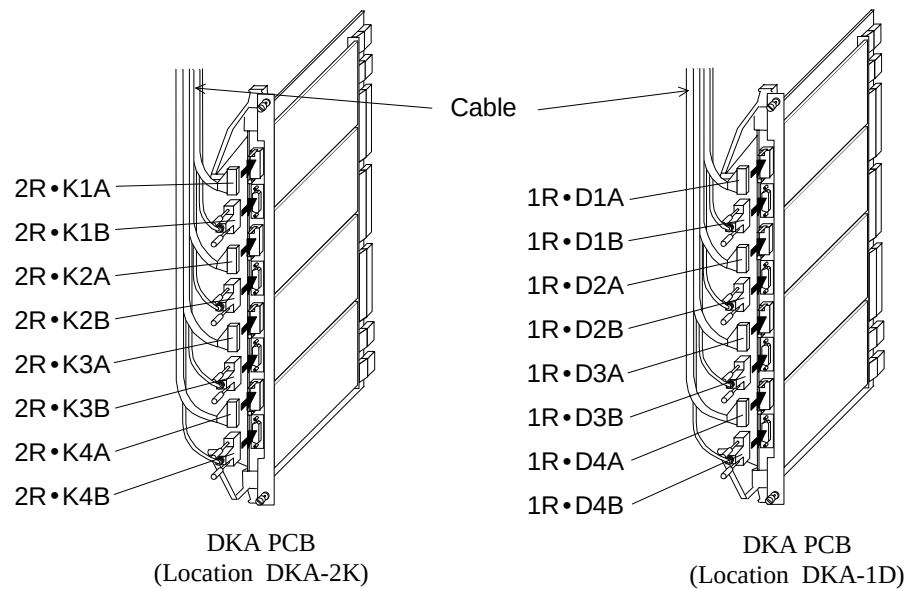


Fig.3.11.4-4 Connection of cable (Add.2)

In case of Add.3**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

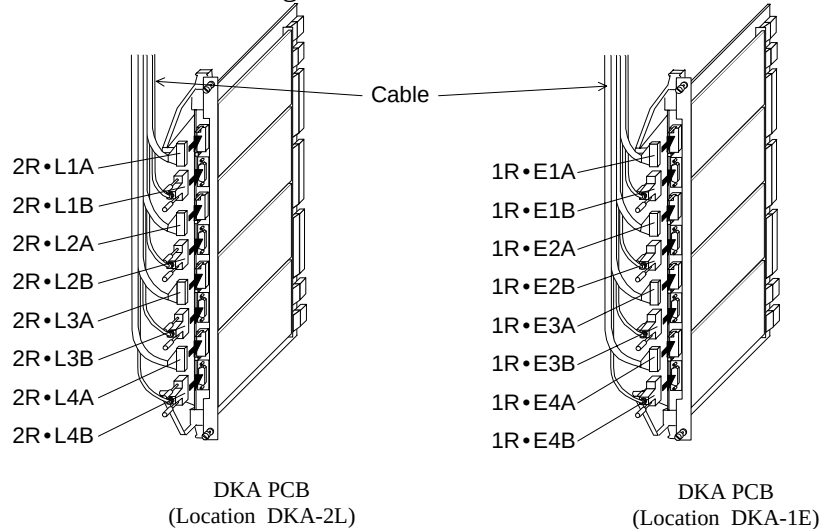


Fig.3.11.4-5 Connection of cable (Add.3)

2-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.4-6.

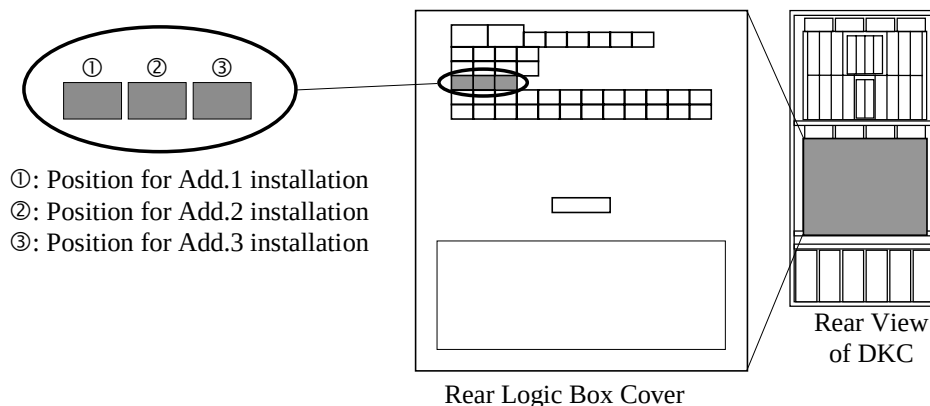


Fig. 3.11.4-6 Attachment of Nameplate

3. Installation Procedure of HDD Canister

3-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4-2.

Table 3.11.4-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU		R2 DKU						
L2 DKU	L1 DKU	DKC	HDU-R15				HDU-R25			
			P	S	T	W	P	S	T	W
			063	062	047*2	046	127	110	111	
			061	060	044	044	125	108	109	
			059	058	042	042	123	106	107	
			057	056	040	040	121	104	105	
			055	054	038	038	119	102	103	
			053	052	036	036	117	100	101	
			051	050	034	034	115	098	099	
			049	048	032	032	113	096	097	
			HDU-R14				HDU-R24			
			P	S	T	W	P	S	T	
			063	062	047*2	046	127	110	111	
			061	060	044	044	125	108	109	
			059	058	042	042	123	106	107	
			057	056	040	040	121	104	105	
			055	054	038	038	119	102	103	
			053	052	036	036	117	100	101	
			051	050	034	034	115	098	099	
			049	048	032	032	113	096	097	
			HDU-R11				HDU-R21			
			P	S	T	W	P	S	T	
			031	030	Spare*1	015	095	078	079	
			029	028	013	013	093	076	077	
			027	026	011	011	091	074	075	
			025	024	009	009	089	072	073	
			023	022	007	007	087	070	071	
			021	020	005	005	085	068	069	
			019	018	003	003	083	066	067	
			017	016	001	001	081	064	065	
			HDU-R10				HDU-R20			
			P	S	T	W	P	S	T	
			031	030	Spare*1	015	095	078	079	
			029	028	013	013	093	076	077	
			027	026	011	011	091	074	075	
			025	024	009	009	089	072	073	
			023	022	007	007	087	070	071	
			021	020	005	005	085	068	069	
			019	018	003	003	083	066	067	
			017	016	001	001	081	064	065	

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU							
HDU-R27				HDU-R17				DKC			
P	127	T		P	063	T					
P	125	S		P	061	S					
S	126	W		S	062	W					
S	124	110		S	060	047*2					
S	123	108		S	058	044					
S	122	109		S	057	042					
S	121	106		S	056	043					
S	119	104		S	054	040					
S	118	105		S	053	041					
S	117	102		S	052	038					
S	116	103		S	051	039					
S	115	100		S	050	036					
S	114	101		S	049	037					
S	113	098		S	048	034					
S	112	099		S	047	035					
S	111	096		S	046	032					
S	110	097		S	045	033					
S	109			S	044						
S	108			S	043						
S	107			S	042						
S	106			S	041						
S	105			S	040						
S	104			S	039						
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S	102			S	037						
S	101			S	036						
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S	082			S	017						
S	081			S	016						
S	080			S	015						
S	079			S	014						
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Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.4-7 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.4-2.

Front View 128-254: 4HDD canisters installation order

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.4-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4-3.

Table 3.11.4-3 Relation between HDDs installation order and RAID number (7D+1P)

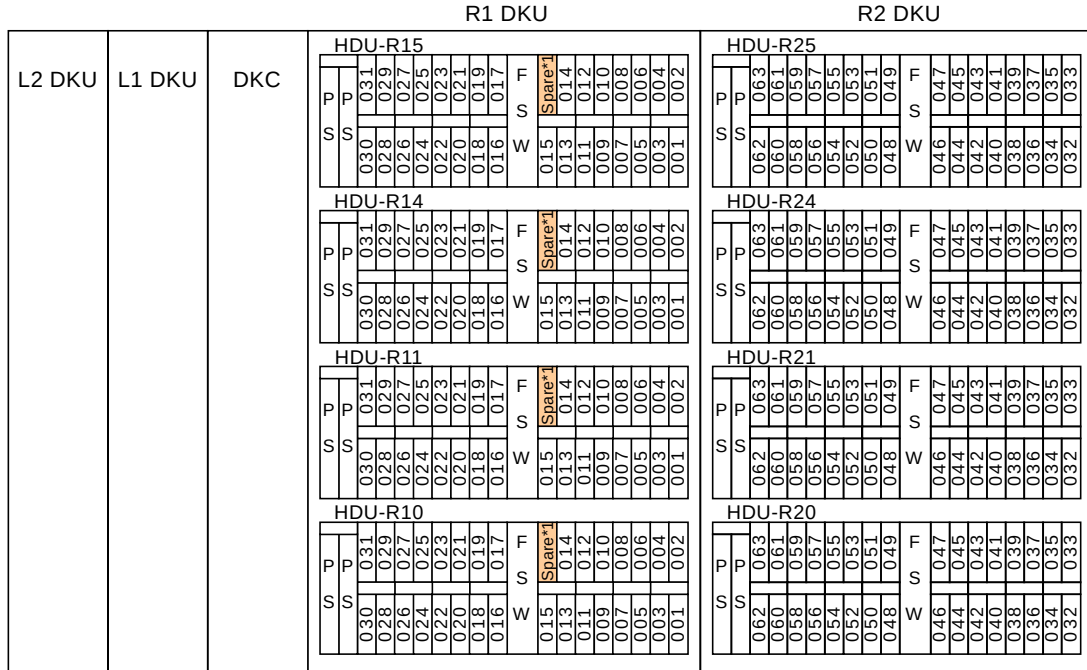
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

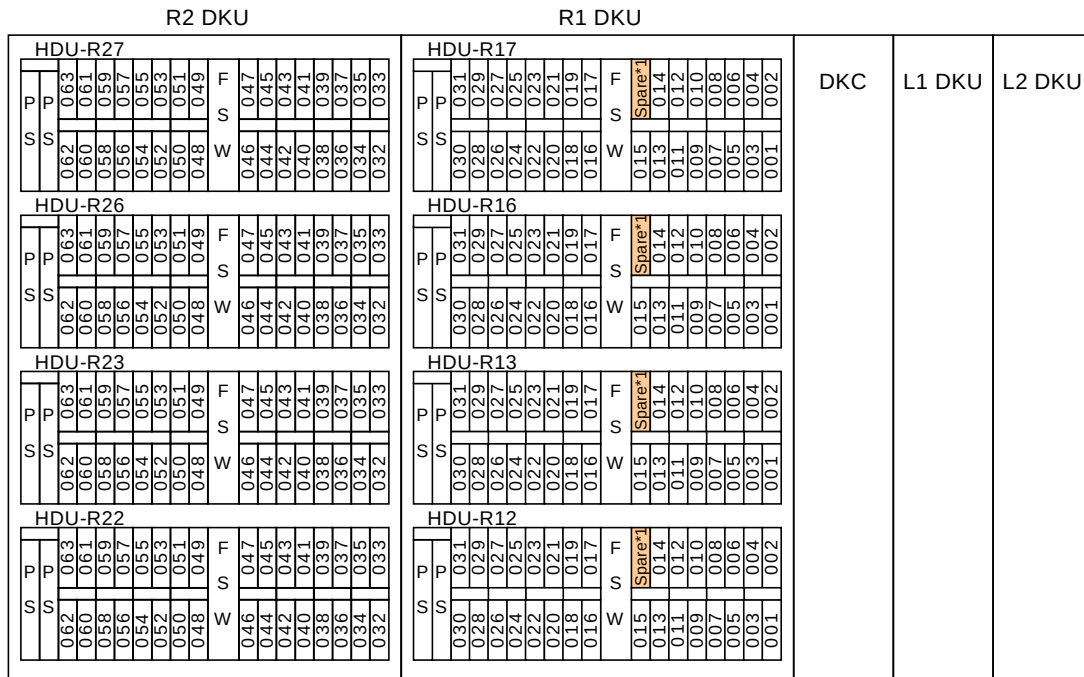
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.4-8 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.4-3.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU	
HDU-L25				HDU-L15							
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101
S	S	P	P	125	126	123	124	S	S	T	
				121	122	119	120				117
S	S	P	P	109	110	107	108	S	S	T	
				105	106	103	104				101

Front View

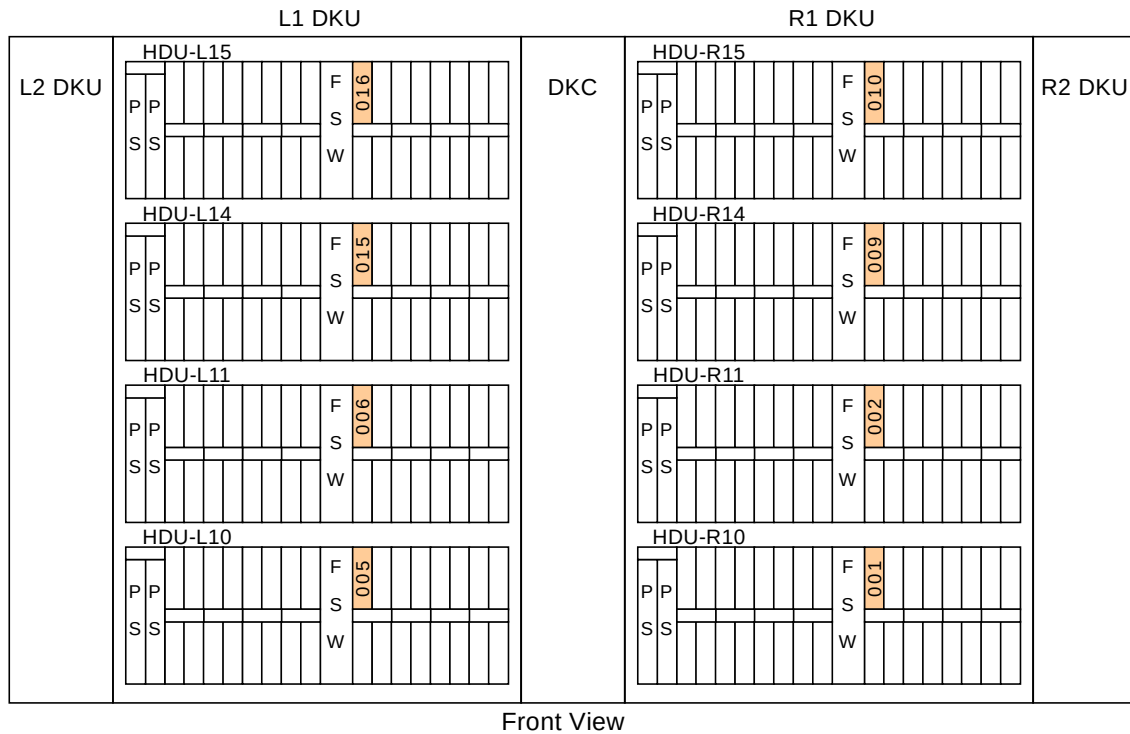
064-126: 8HDD canisters installation order

L1 DKU				L2 DKU			
R2 DKU	R1 DKU	DKC	HDU-L17	P	P	094	F
			S	S	093	S	
					091	092	
					089	090	
					087	088	
					085	086	
					083	084	
					081	082	
					079	080	
				W			
				S			
					078	Spare*1	
		076	077				
		074	075				
		072	073				
		070	071				
		068	069				
		066	067				
		064	065				
		HDU-L16	P	P	094	F	
		S	S	093	S		
				091	092		
				089	090		
				087	088		
				085	086		
				083	084		
				081	082		
				079	080		
			W				
			S				
				Spare*1			
				077			
				075			
				073			
				071			
				069			
				067			
				064	065		
			HDU-L13	P	P	094	F
			S	S	093	S	
					091	092	
					089	090	
					087	088	
					085	086	
					083	084	
					081	082	
					079	080	
				W			
				S			
					Spare*1		
					077		
					075		
					073		
					071		
					069		
					067		
					064	065	
			HDU-L12	P	P	094	F
			S	S	093	S	
					091	092	
					089	090	
					087	088	
					085	086	
					083	084	
					081	082	
					079	080	
				W			
				S			
					Spare*1		
					077		
					075		
					073		
					071		
					069		
					067		
					064	065	
			HDU-L27	P	P	126	F
			S	S	125	S	
					123	124	
					121	122	
					119	120	
					117	118	
					115	116	
					113	114	
					111	112	
				W			
				S			
					110	110	
					108	108	
					106	106	
					105	105	
					104	104	
					103	103	
					102	102	
					101	101	
					100	100	
					099	099	
					098	098	
					097	097	
					096	096	
			HDU-L26	P	P	126	F
			S	S	125	S	
					123	124	
					121	122	
					119	120	
					117	118	
					115	116	
					113	114	
					111	112	
				W			
				S			
					110	110	
					108	108	
					106	106	
					105	105	
					104	104	
					103	103	
					102	102	
					101	101	
					100	100	
					099	099	
					098	098	
					097	097	
					096	096	
			HDU-L23	P	P	126	F
			S	S	125	S	
					123	124	
					121	122	
					119	120	
					117	118	
					115	116	
					113	114	
					111	112	
				W			
				S			
					110	110	
					108	108	
					106	106	
					105	105	
					104	104	
					103	103	
					102	102	
					101	101	
					100	100	
					099	099	
					098	098	
					097	097	
					096	096	
			HDU-L22	P	P	126	F
			S	S	125	S	
					123	124	
					121	122	
					119	120	
					117	118	
					115	116	
					113	114	
					111	112	
				W			
				S			
					110	110	
					108	108	
					106	106	
					105	105	
					104	104	
					103	103	
					102	102	
					101	101	
					100	100	
					099	099	
					098	098	
					097	097	
					096	096	

Rear View

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

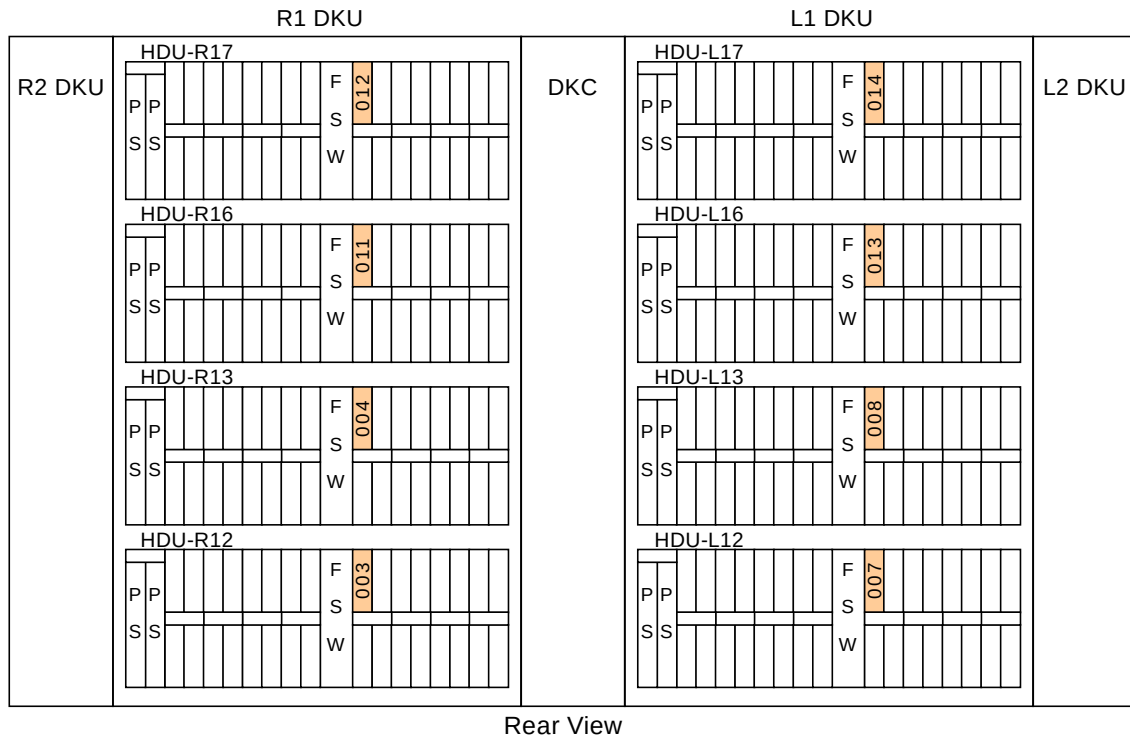


Fig. 3.11.4-9 Spare Drive Expansion Sequence

3-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

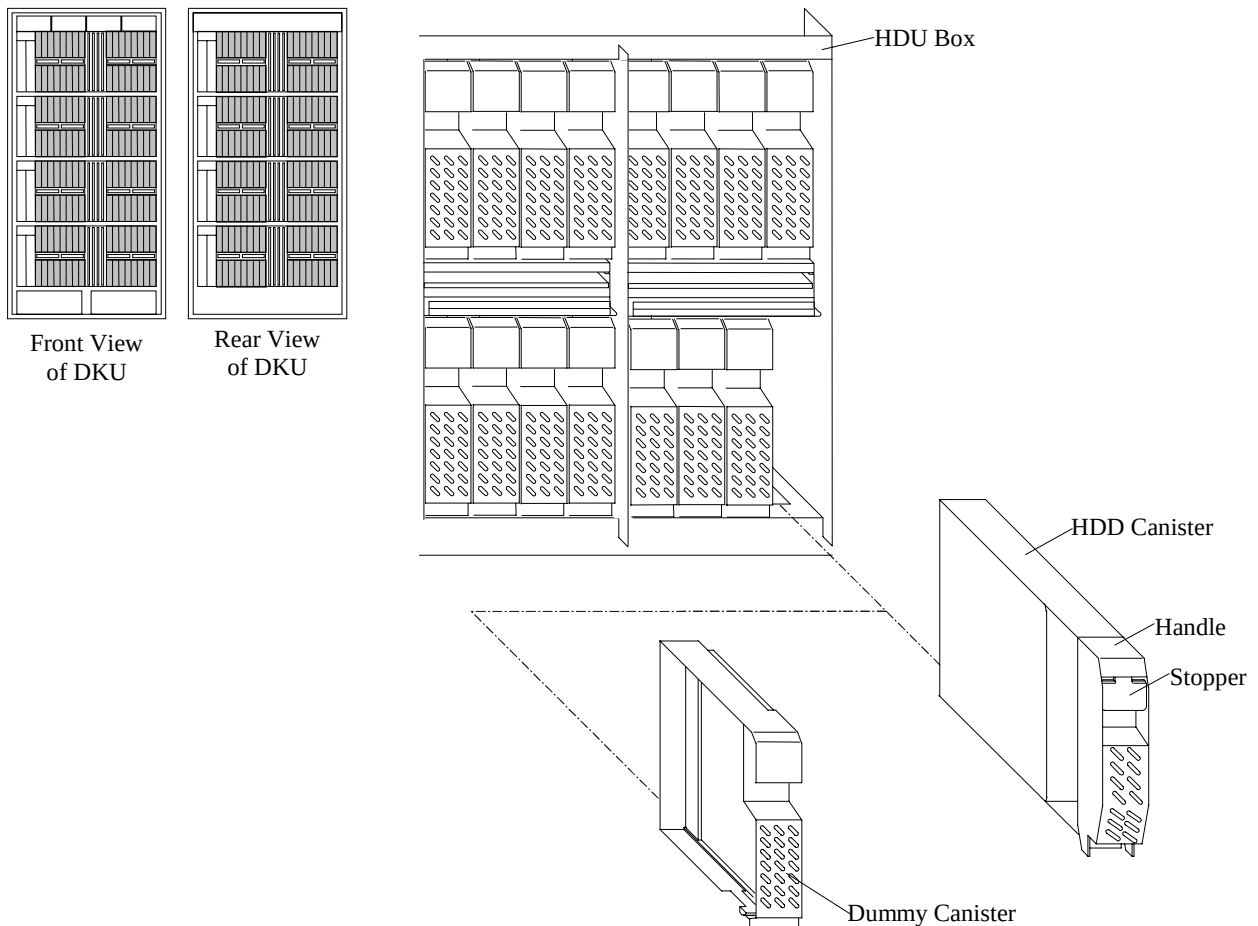
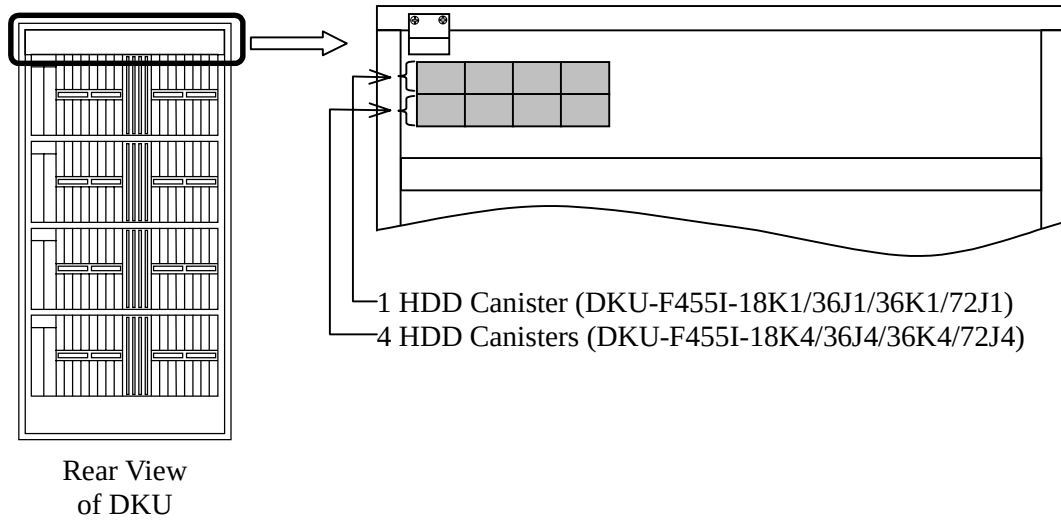


Fig. 3.11.4-10 Installation of HDD Canister

3-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

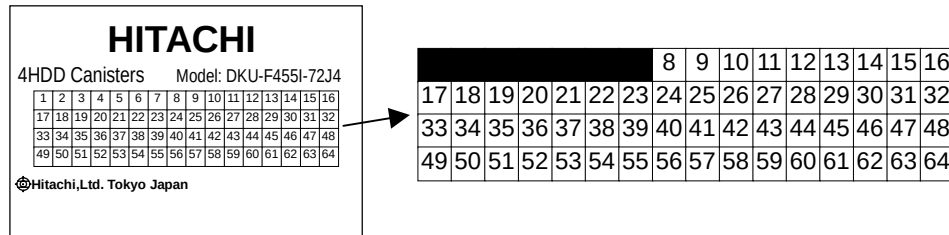
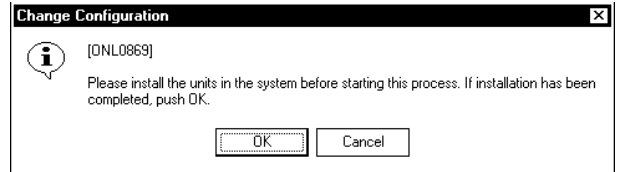


Fig. 3.11.4-11 Attachment of Nameplate

4. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

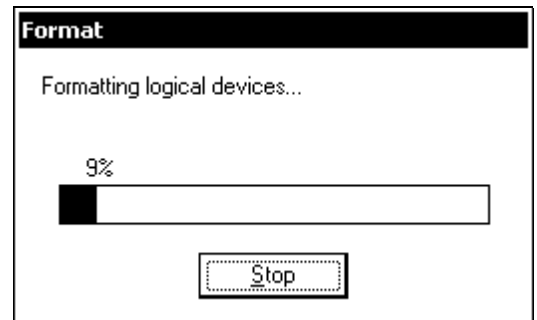
“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

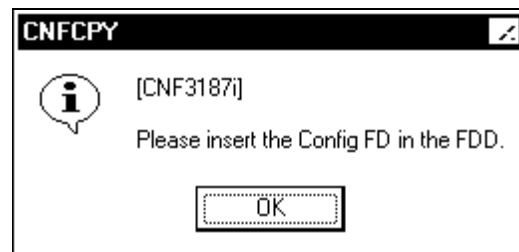
“Formatting the logical device...” is displayed when Parity Group is defined.



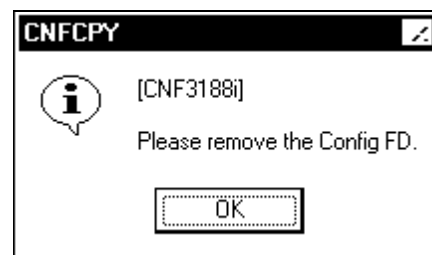
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



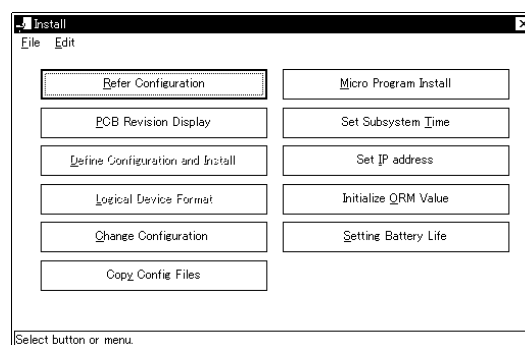
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.5 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 frame (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

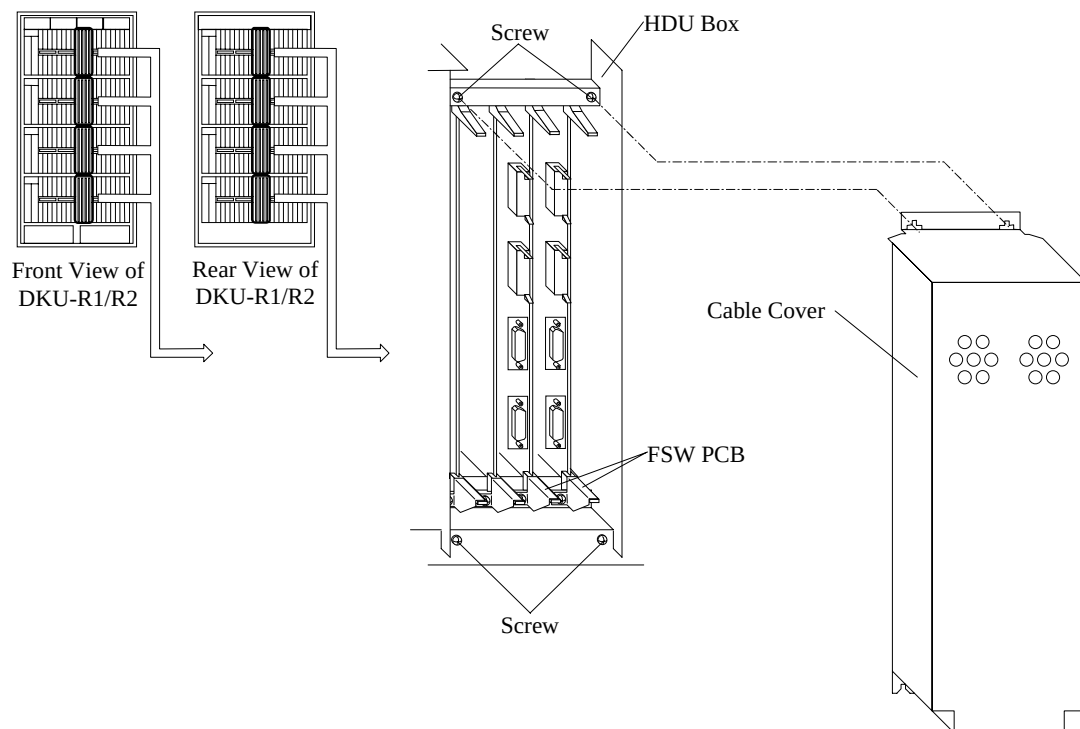


Fig. 3.11.5-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

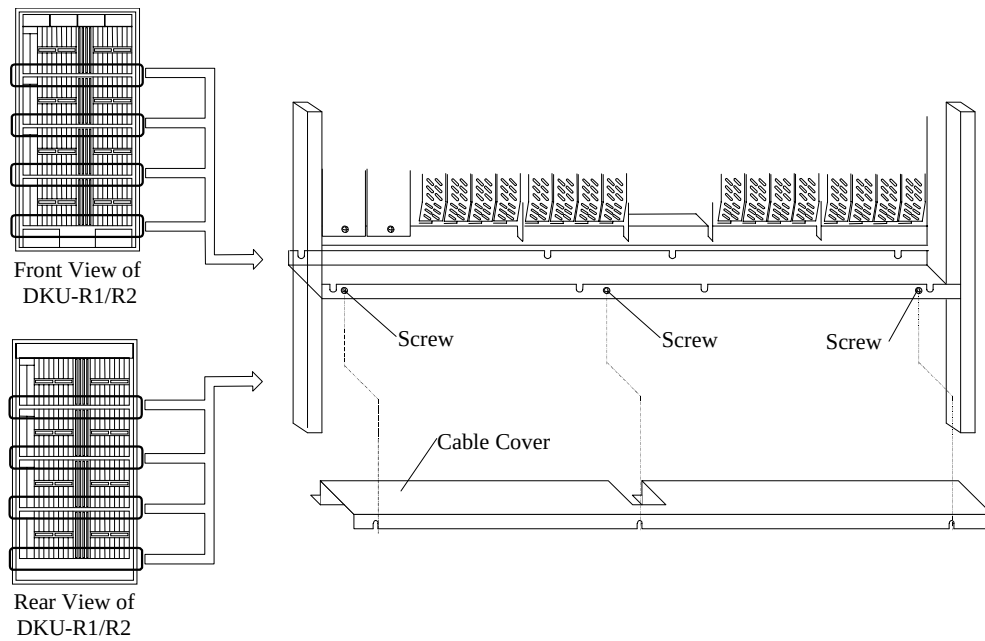


Fig. 3.11.5-2 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-R2 frame referring to Fig. 3.11.5-3 through Fig. 3.11.5-6.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the operating DKU in this procedure. The cable is to be connected later in another procedure.

! CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

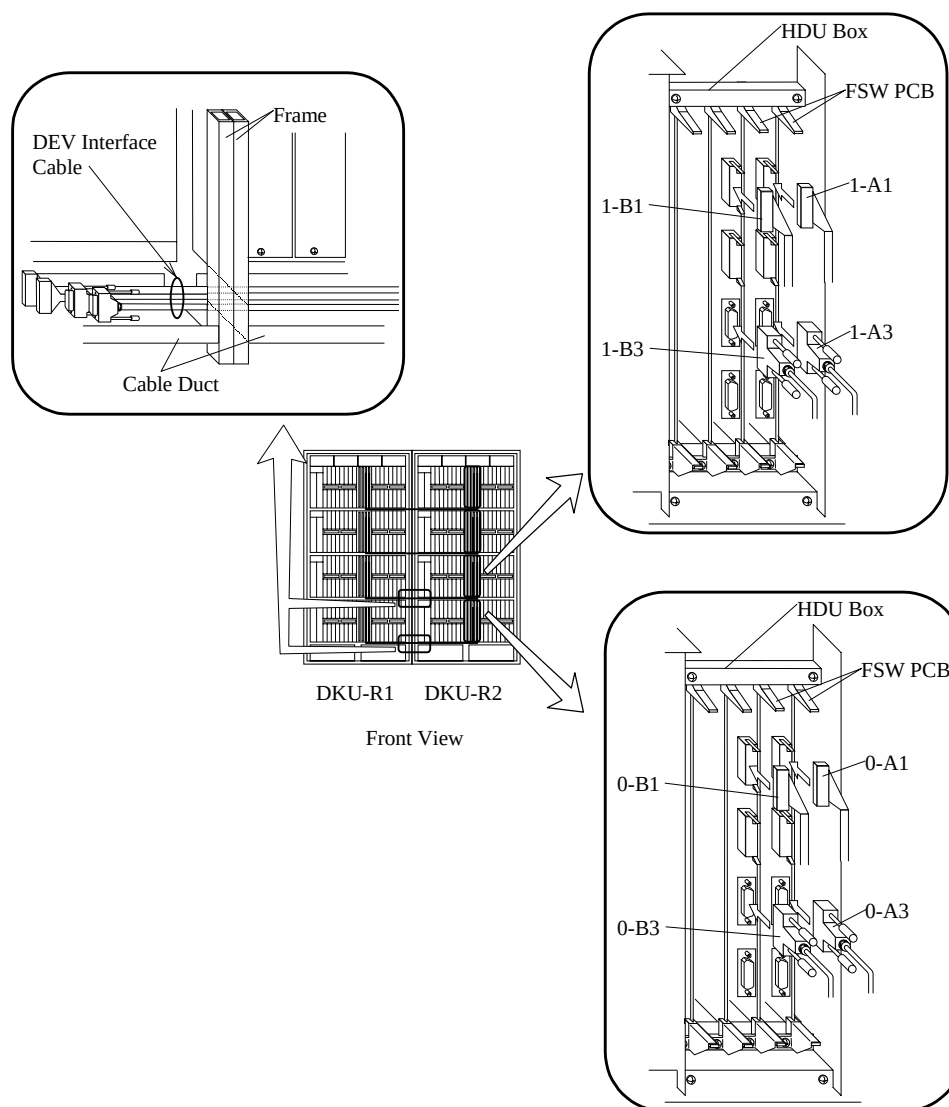


Fig. 3.11.5-3 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

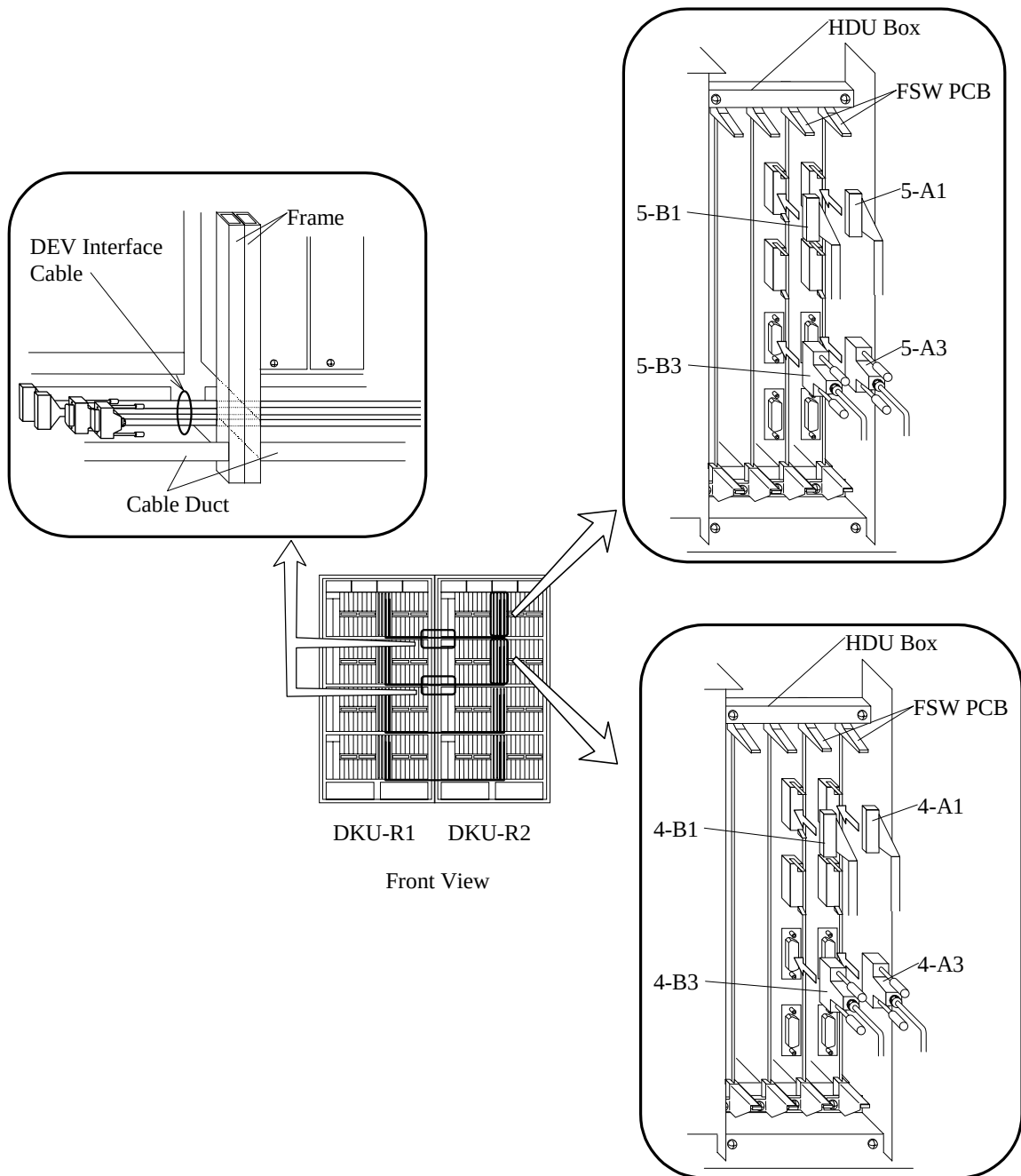


Fig. 3.11.5-4 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

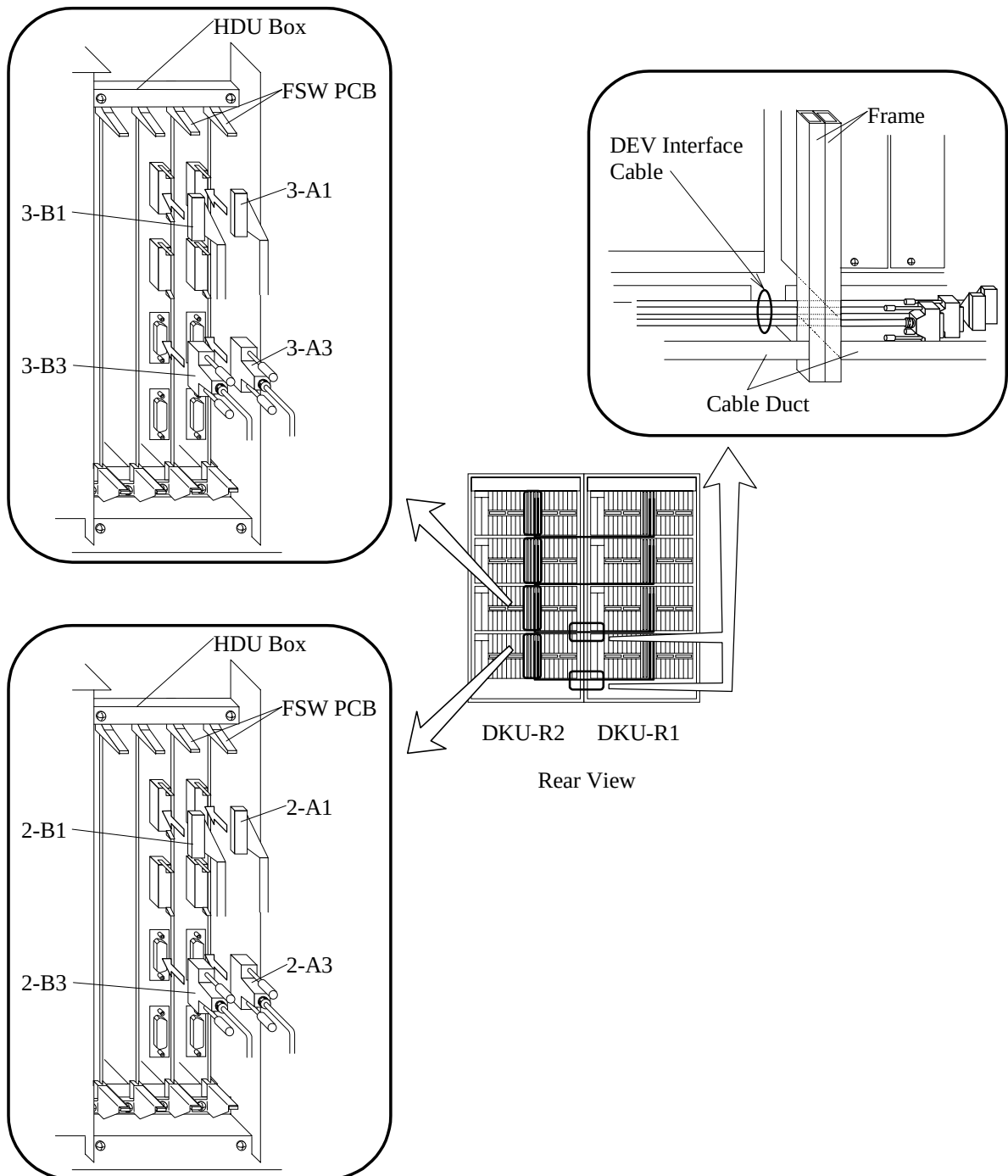


Fig. 3.11.5-5 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

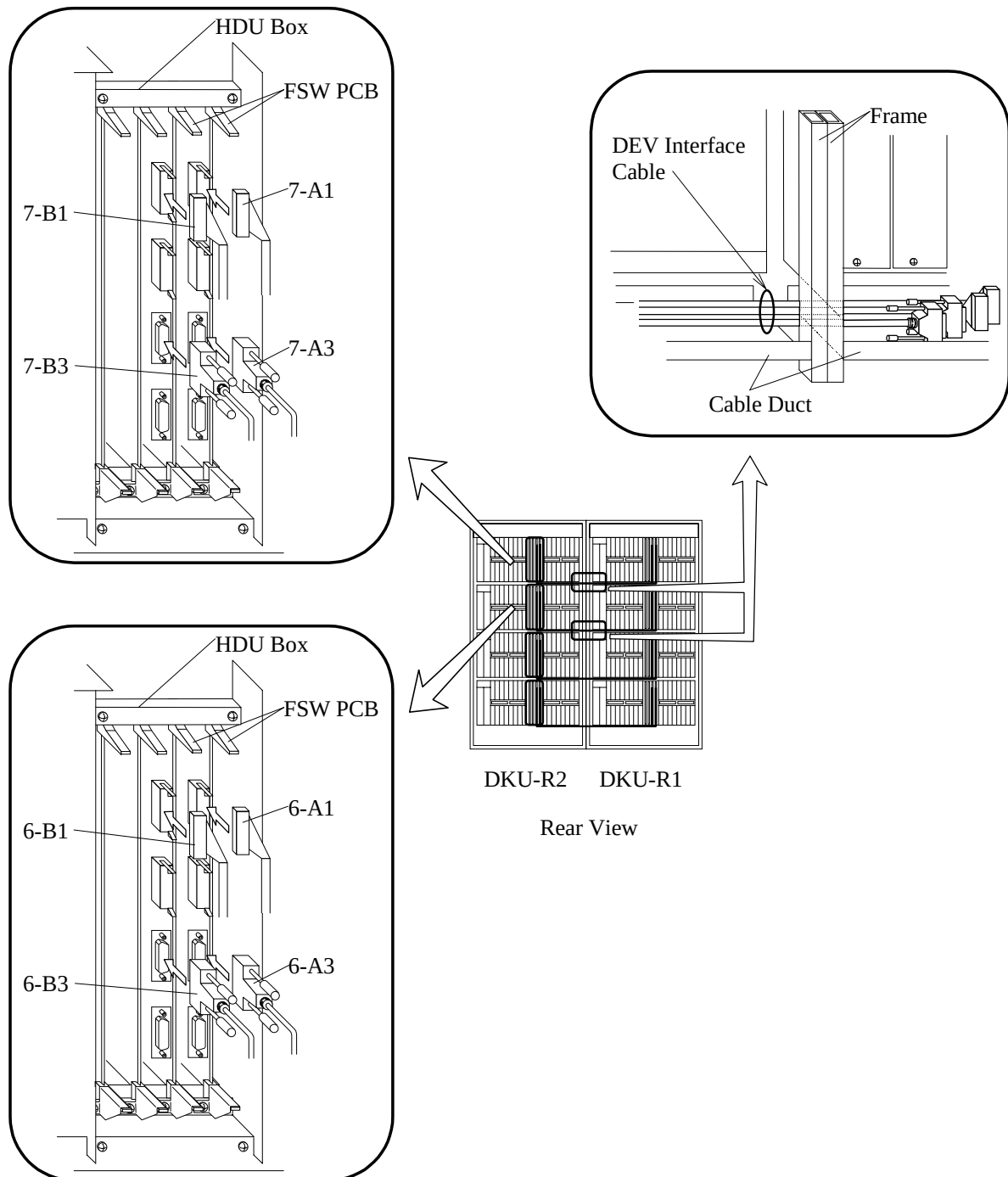
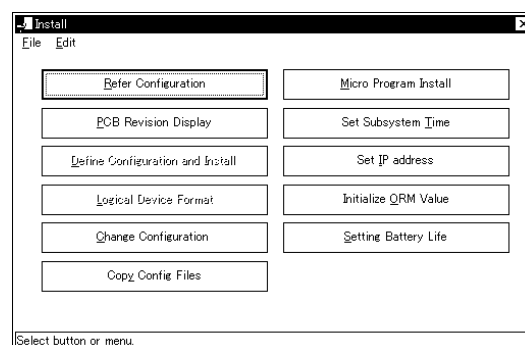


Fig. 3.11.5-6 Connection of the DEV Interface Cables

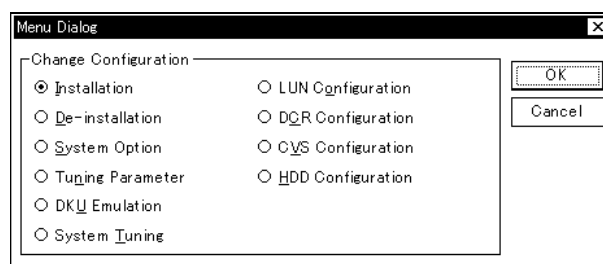
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

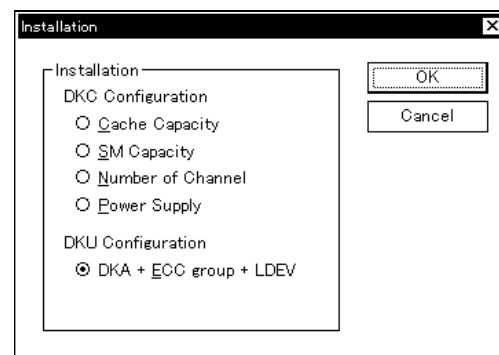
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-R2 is added to the DKUs currently set.

Current setting	Altered setting
1DKU (R1)	2DKUs (R1, R2)
2DKUs (R1, L1)	3DKUs (R1, L1, R2)
3DKUs (R1, L1, L2)	4DKUs (R1, L1, R2, L2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

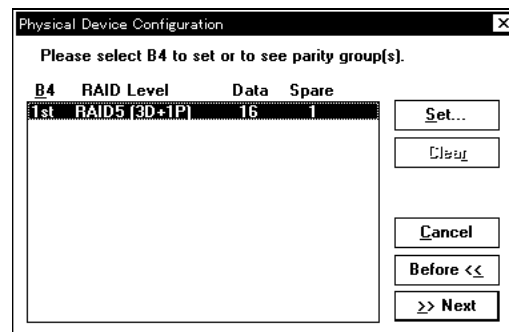
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

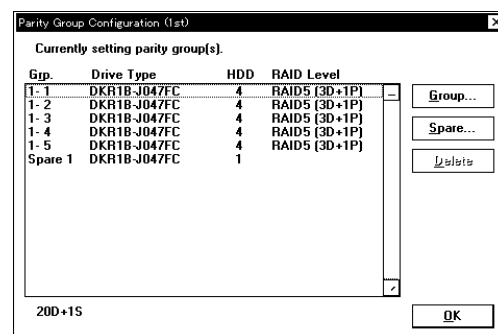
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

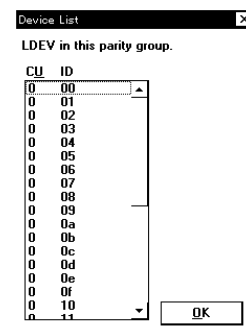
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

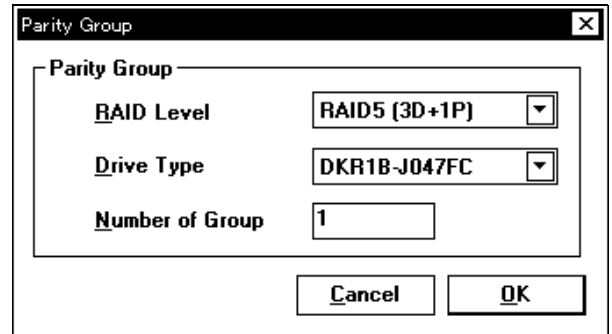
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

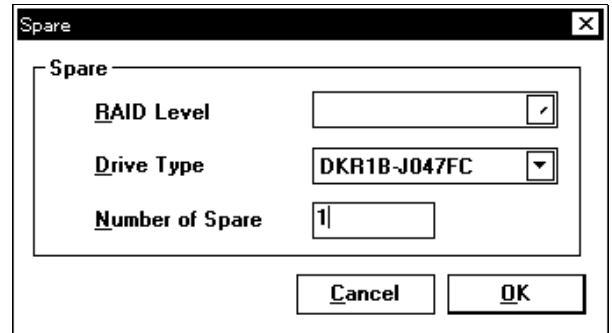
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

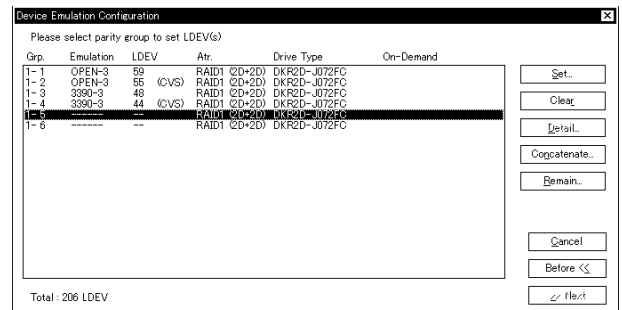
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

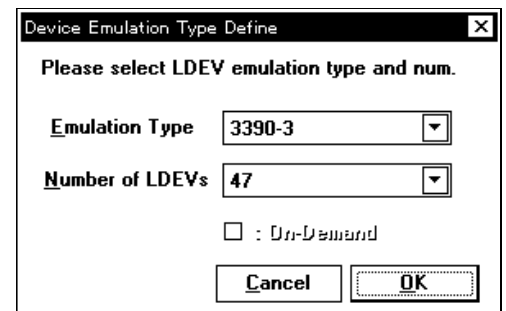
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

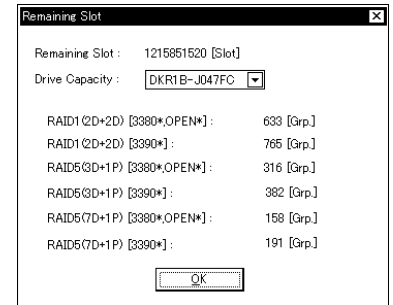
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

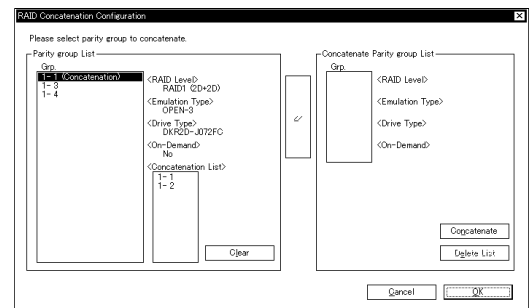
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

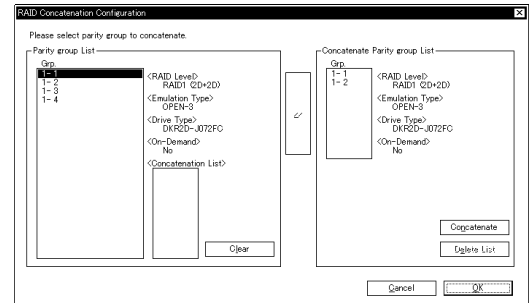
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

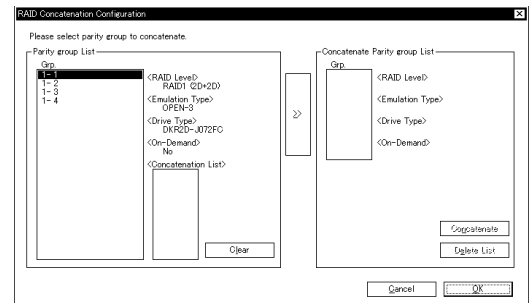


9-6.

When the RAID concatenation is completed, “(Concatenation)” is displayed in the Parity group List. Selecting the “(Concatenation)” displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

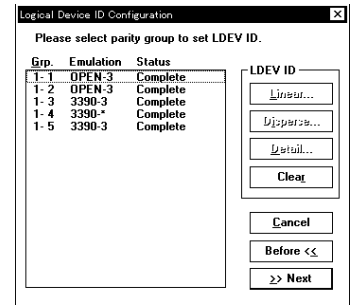
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

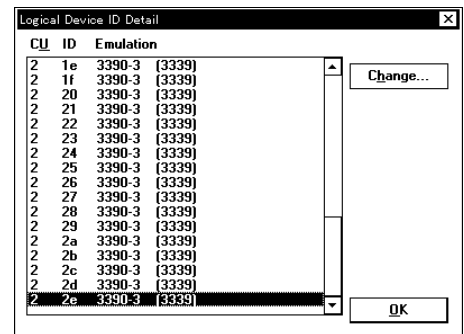
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

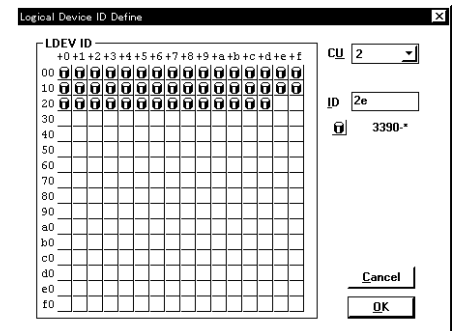
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

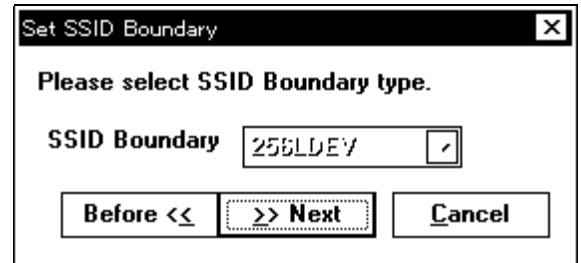
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

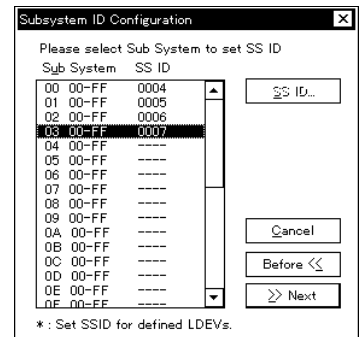
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

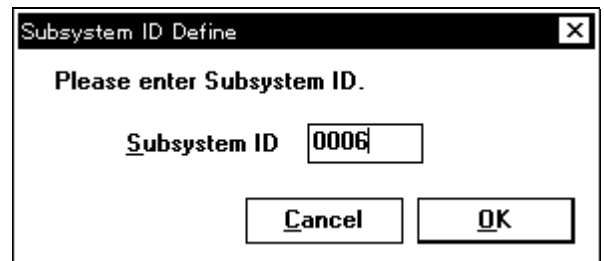
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

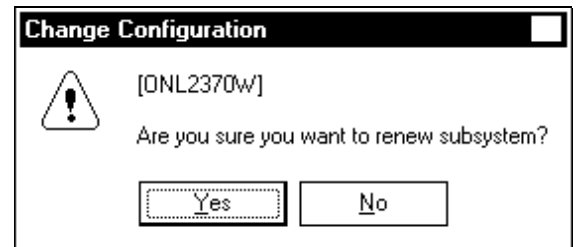
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-660](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

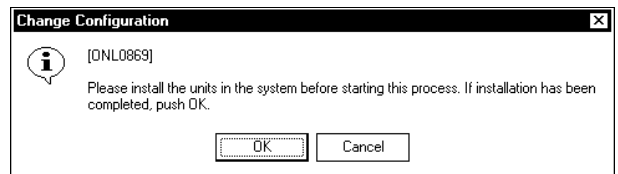
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



3 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

When the additional disk adapter is not to be added, go to Step 4, "Installation Procedure of HDD Canister".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue. Never insert a PCB whose lever is not blue.

- Remove the dummy plate installed in the installation location referring to the Fig. 3.11.5-7.
(Note) Dummy plates should be stored for future use in De-installation.
- Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.5-1.
- Fasten the two screws referring to Fig. 3.11.5-8.

Table 3.11.5-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

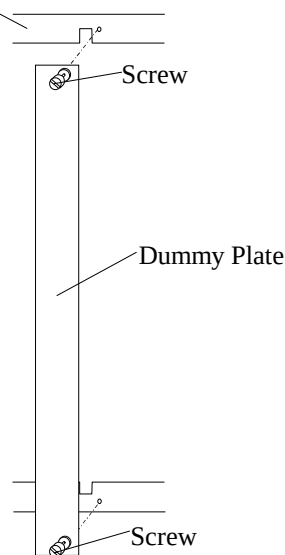


Fig. 3.11.5-7 Removal of Dummy Plate

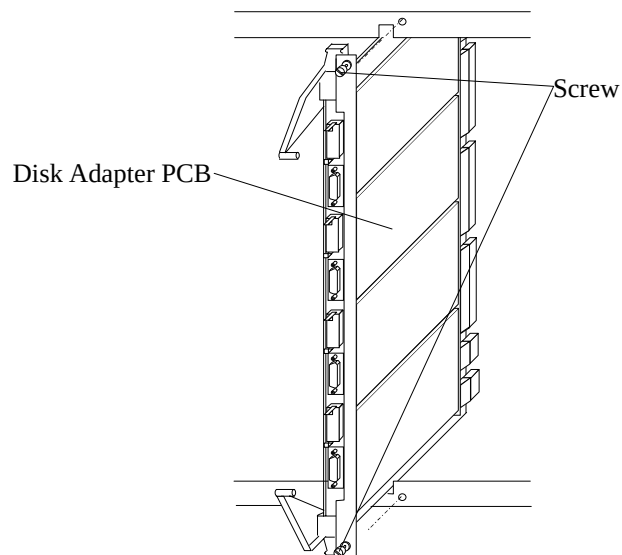


Fig. 3.11.5-8 Insertion of PCB

3-2 Connection of cables

In case of Add.1



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.5-9.)

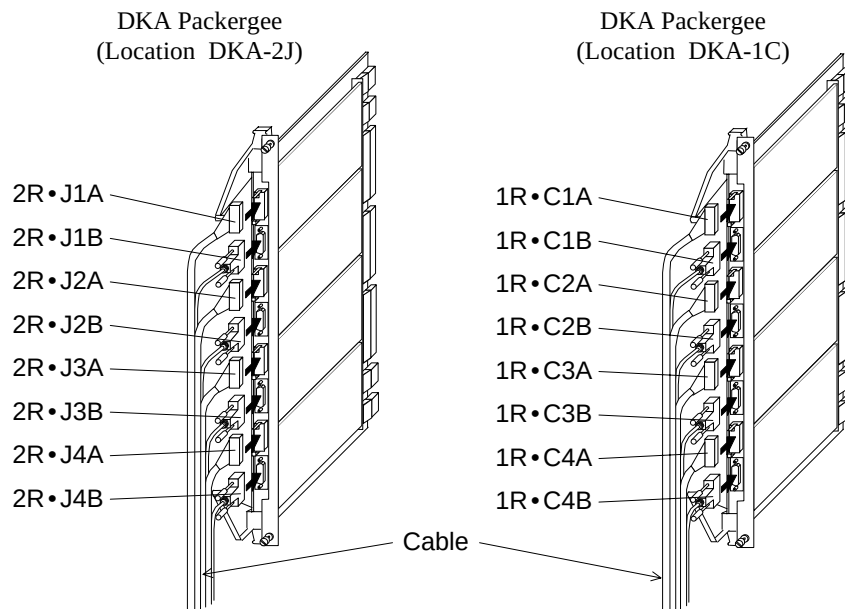


Fig.3.11.5-9 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

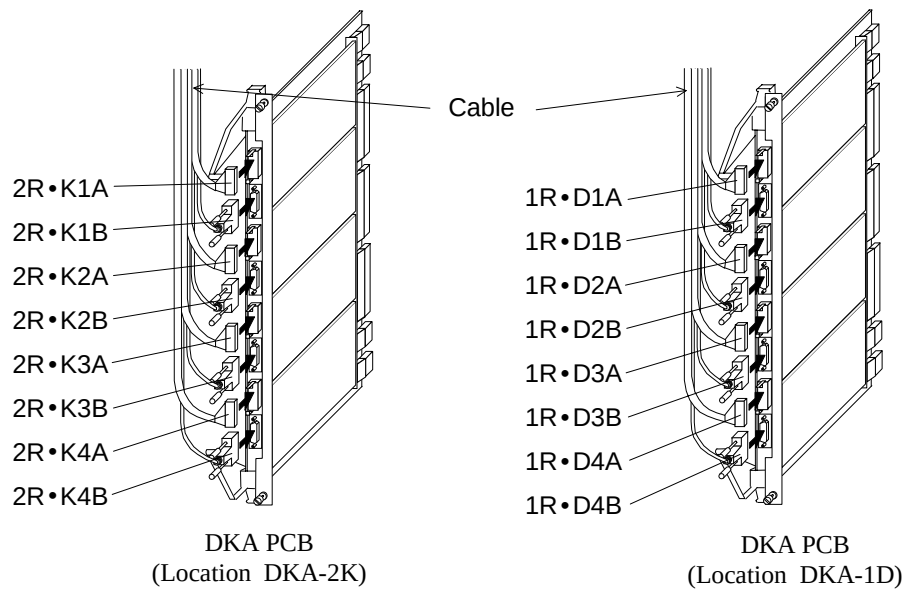


Fig.3.11.5-10 Connection of cable (Add.2)

In case of Add.3

Caution:

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

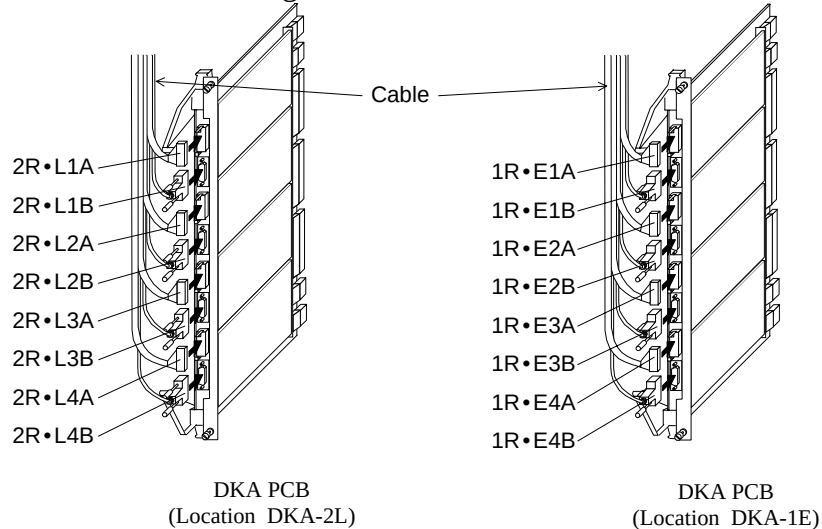


Fig.3.11.5-11 Connection of cable (Add.3)

3-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.5-12.

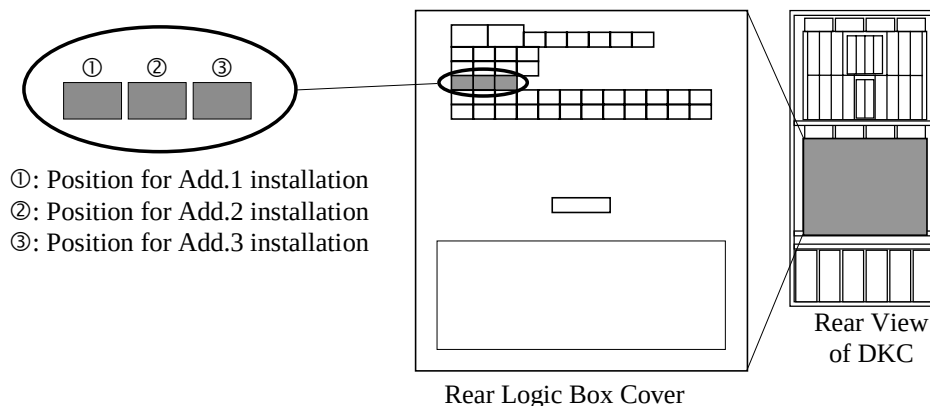


Fig. 3.11.5-12 Attachment of Nameplate

4. Installation Procedure of HDD Canister

4-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.5-2.

Table 3.11.5-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC				DKC			
		HDU-R15 S P T W 062 063 060 058 061 059 057 055 054 053 052 051 050 049 048 047				HDU-R25 S P T W 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113			
		HDU-R14 S P T W 062 063 060 058 061 059 057 055 054 053 052 051 050 049 048 047				HDU-R24 S P T W 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113			
		HDU-R11 S P T W 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017				HDU-R21 S P T W 094 095 092 093 088 089 086 087 084 085 082 083 080 081 078 079			
		HDU-R10 S P T W 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017				HDU-R20 S P T W 094 095 092 093 088 089 086 087 084 085 082 083 080 081 078 079			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU				DKC		L1 DKU	L2 DKU
HDU-R27 S P T W 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113				HDU-R17 S P T W 062 063 060 058 061 059 057 055 054 053 052 051 050 049 048 047							
HDU-R26 S P T W 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113				HDU-R16 S P T W 062 063 060 058 061 059 057 055 054 053 052 051 050 049 048 047							
HDU-R23 S P T W 094 095 092 093 088 089 086 087 084 085 082 083 080 081 078 079				HDU-R13 S P T W 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017							
HDU-R22 S P T W 094 095 092 093 088 089 086 087 084 085 082 083 080 081 078 079				HDU-R12 S P T W 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017							

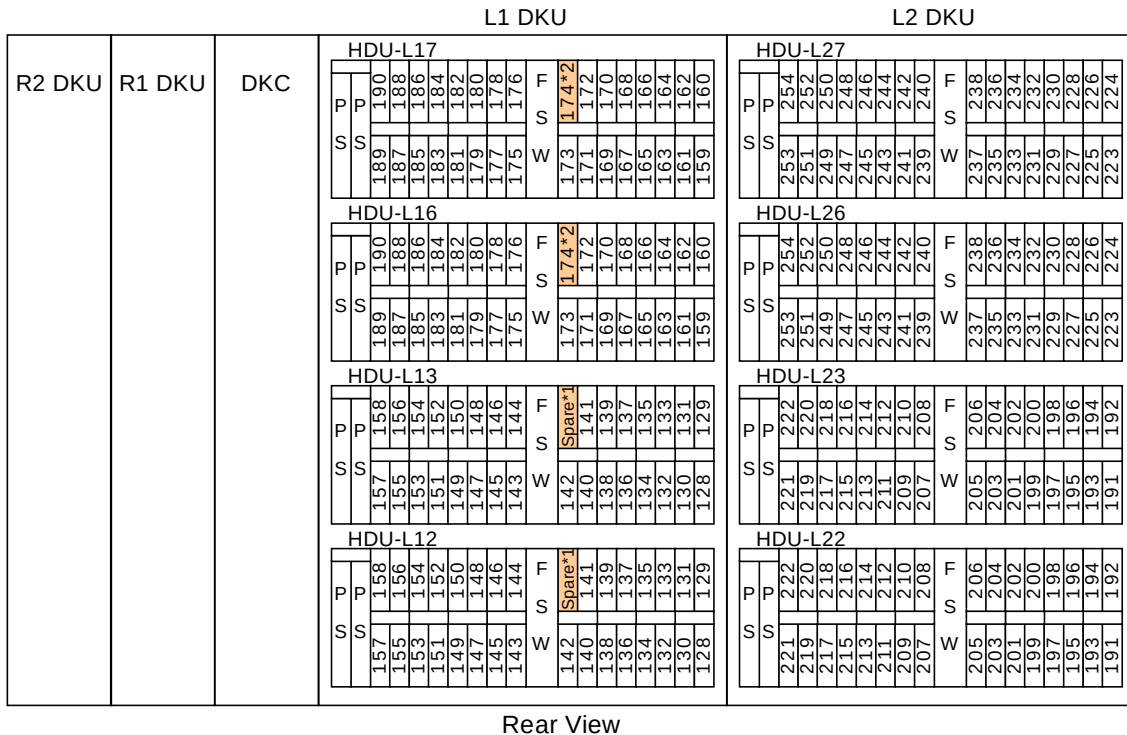
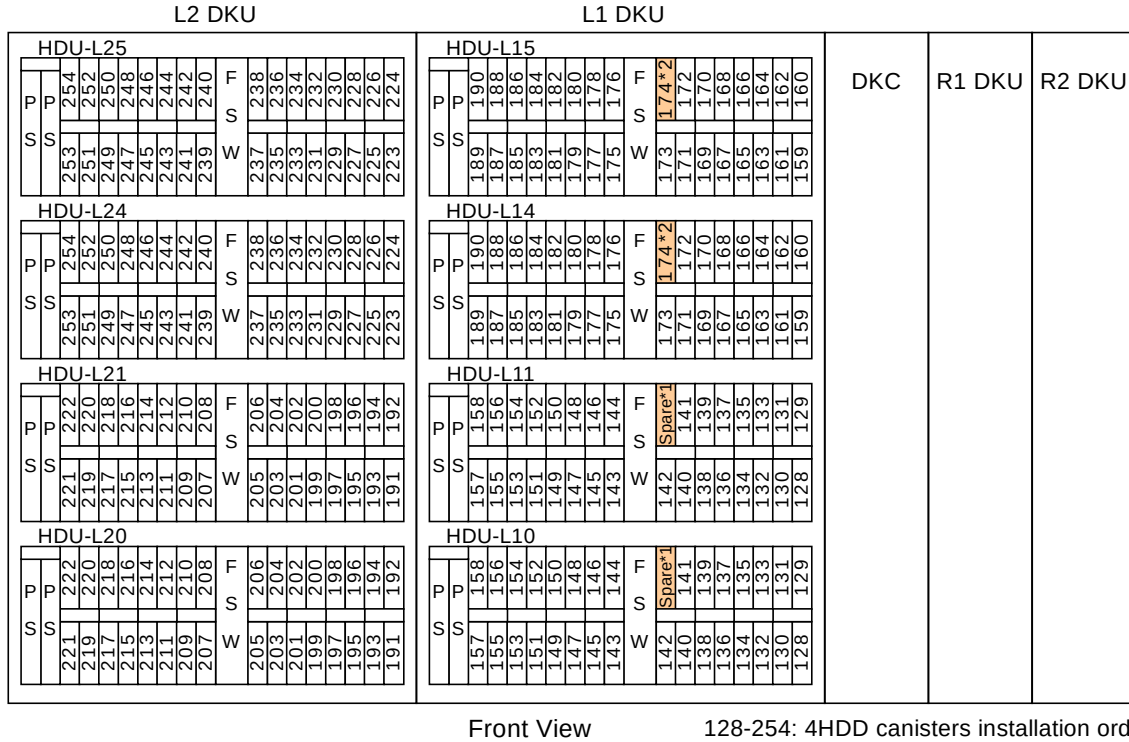
Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.5-13 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.5-2.



*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.5-13 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.5-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.5-3.

Table 3.11.5-3 Relation between HDDs installation order and RAID number (7D+1P)

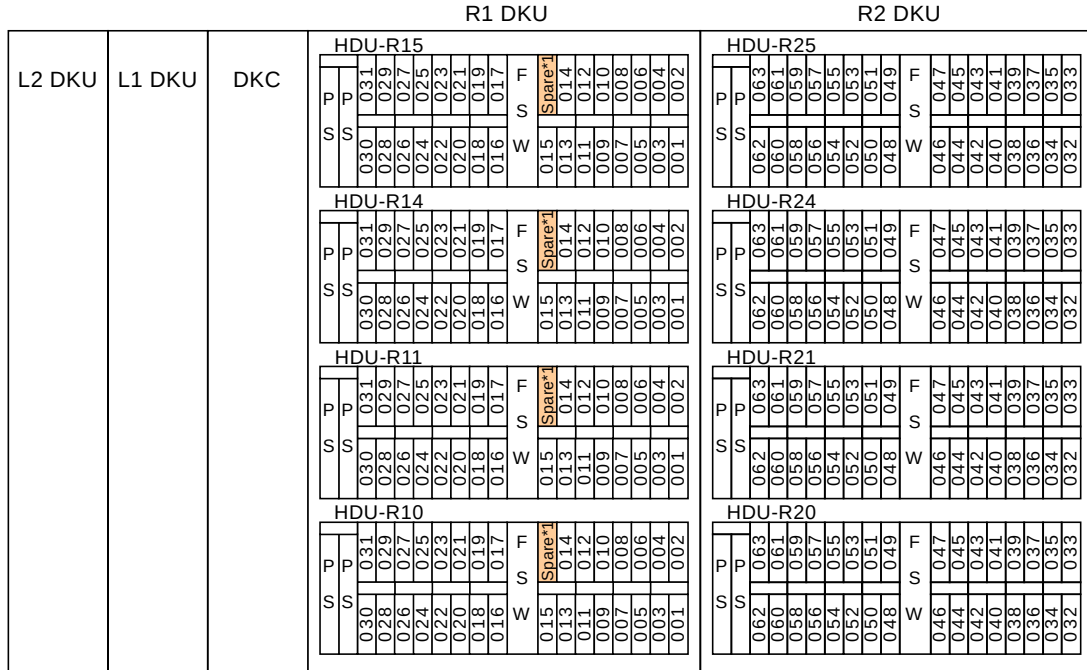
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

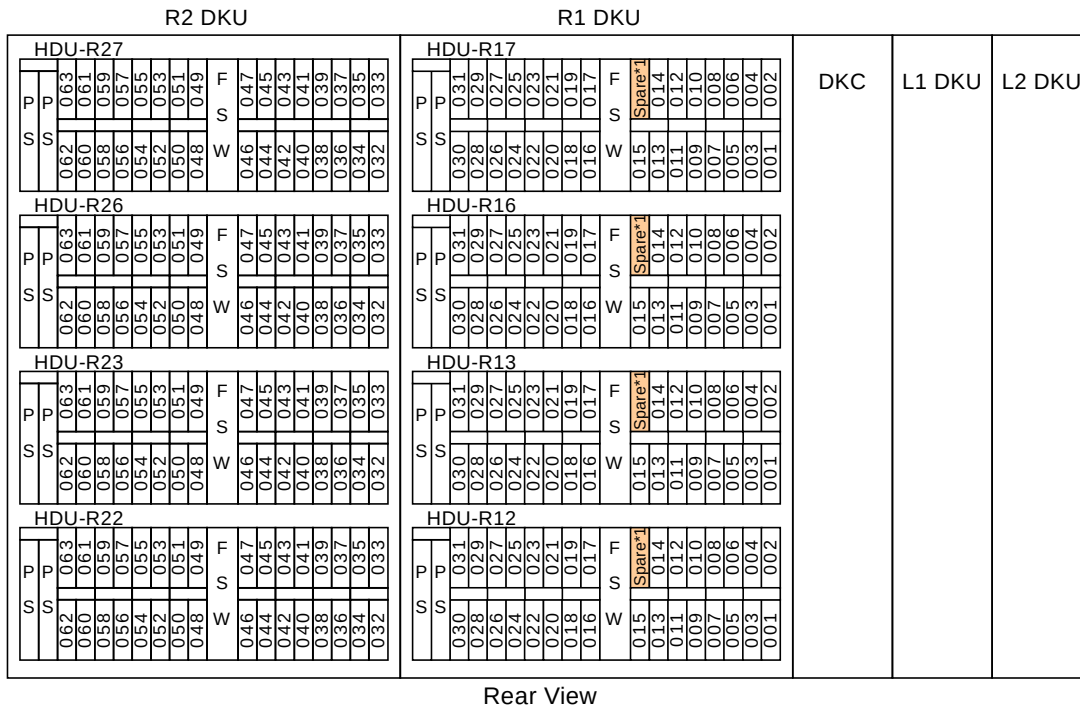
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left
vacant or a
spare disk
is to be
installed.

Fig. 3.11.5-14 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.5-3.

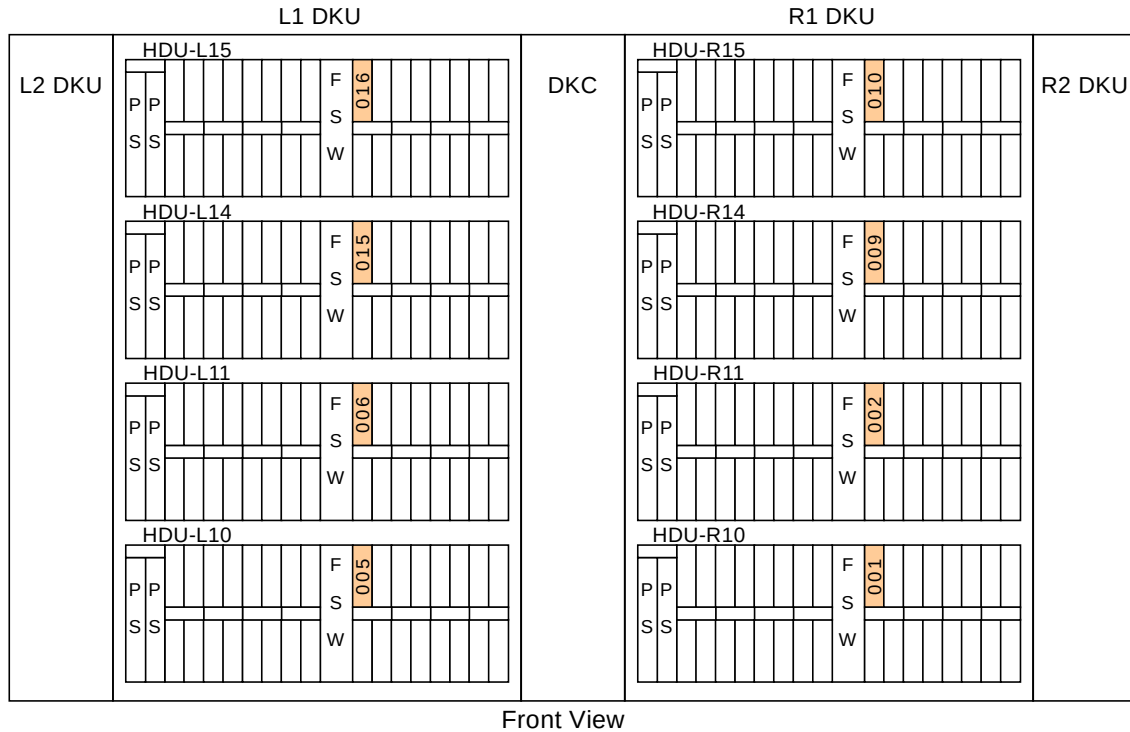
Fig. 3.11.5-14 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

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INST03-DKA-810

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

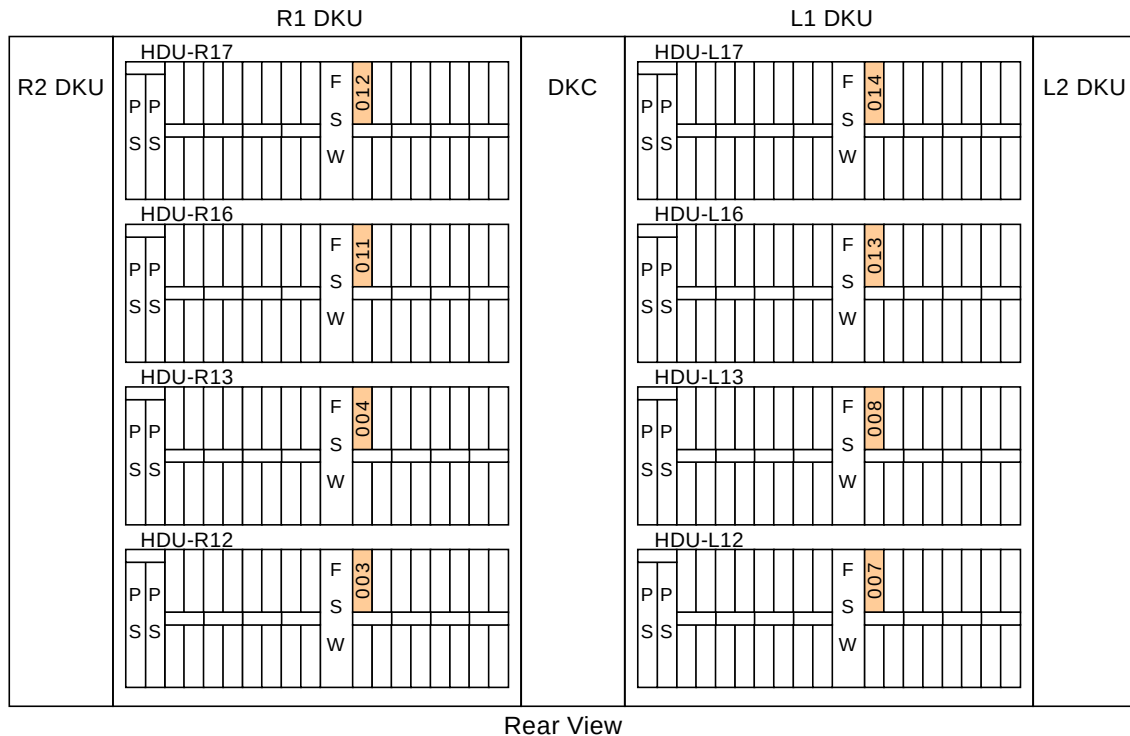


Fig. 3.11.5-15 Spare Drive Expansion Sequence

4-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

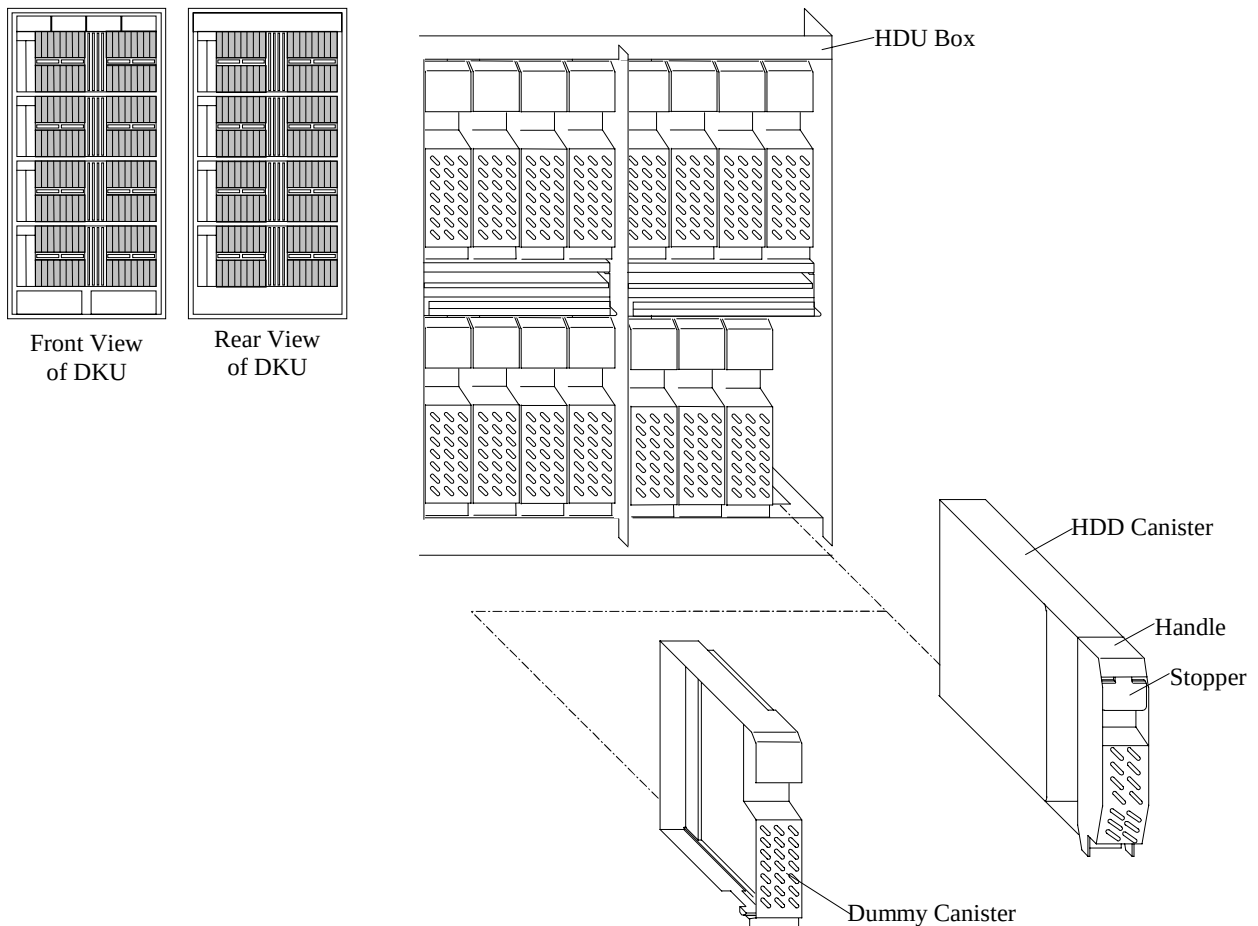
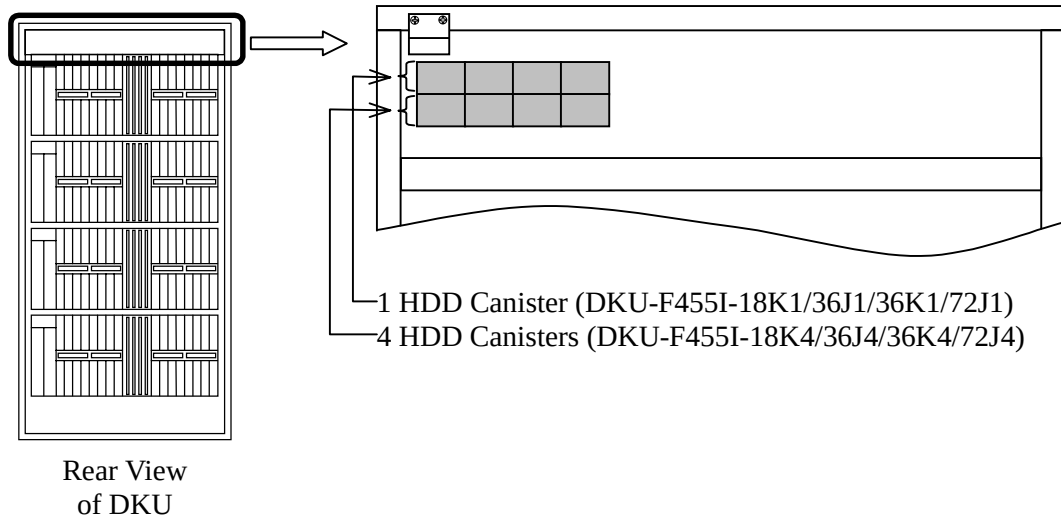


Fig. 3.11.5-16 Installation of HDD Canister

4-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

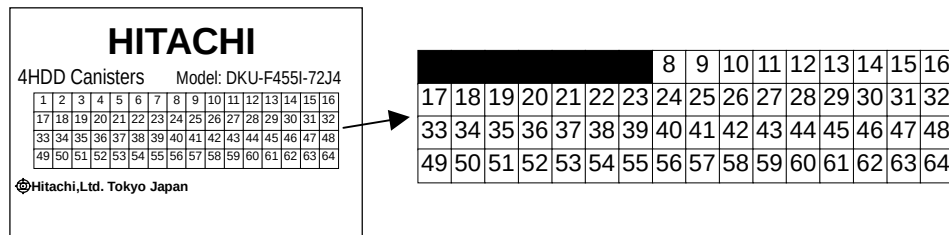


Fig. 3.11.5-17 Attachment of Nameplate

5. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Caution:

The addition cannot be done unless the AC power is applied to the added DKU and the main breaker of the DKU is turned on.

Between HDU-R10-R17 and HDU-R20-R27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-R1 frame referring to figures 3.11.5-18 and 3.11.5-19.



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

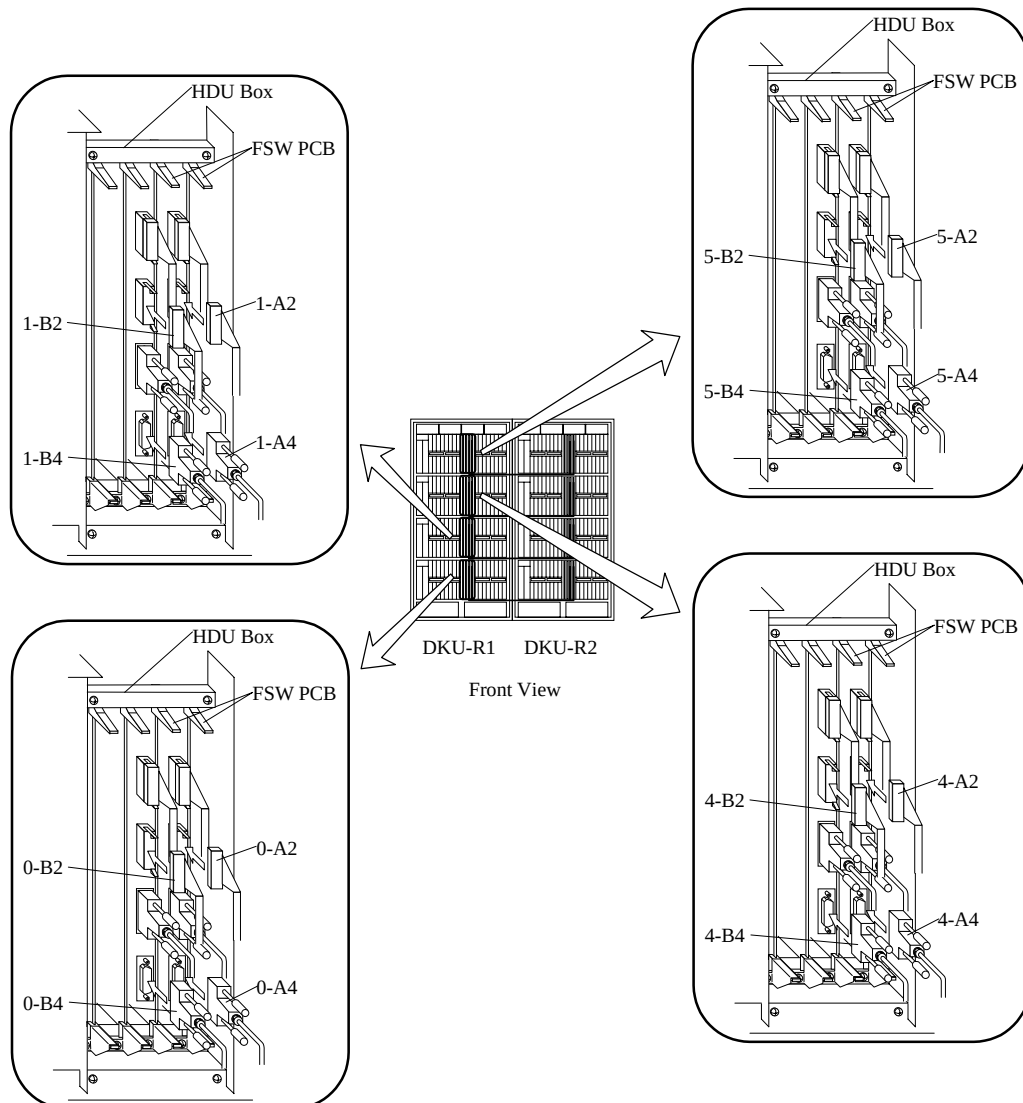


Fig. 3.11.5-18 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

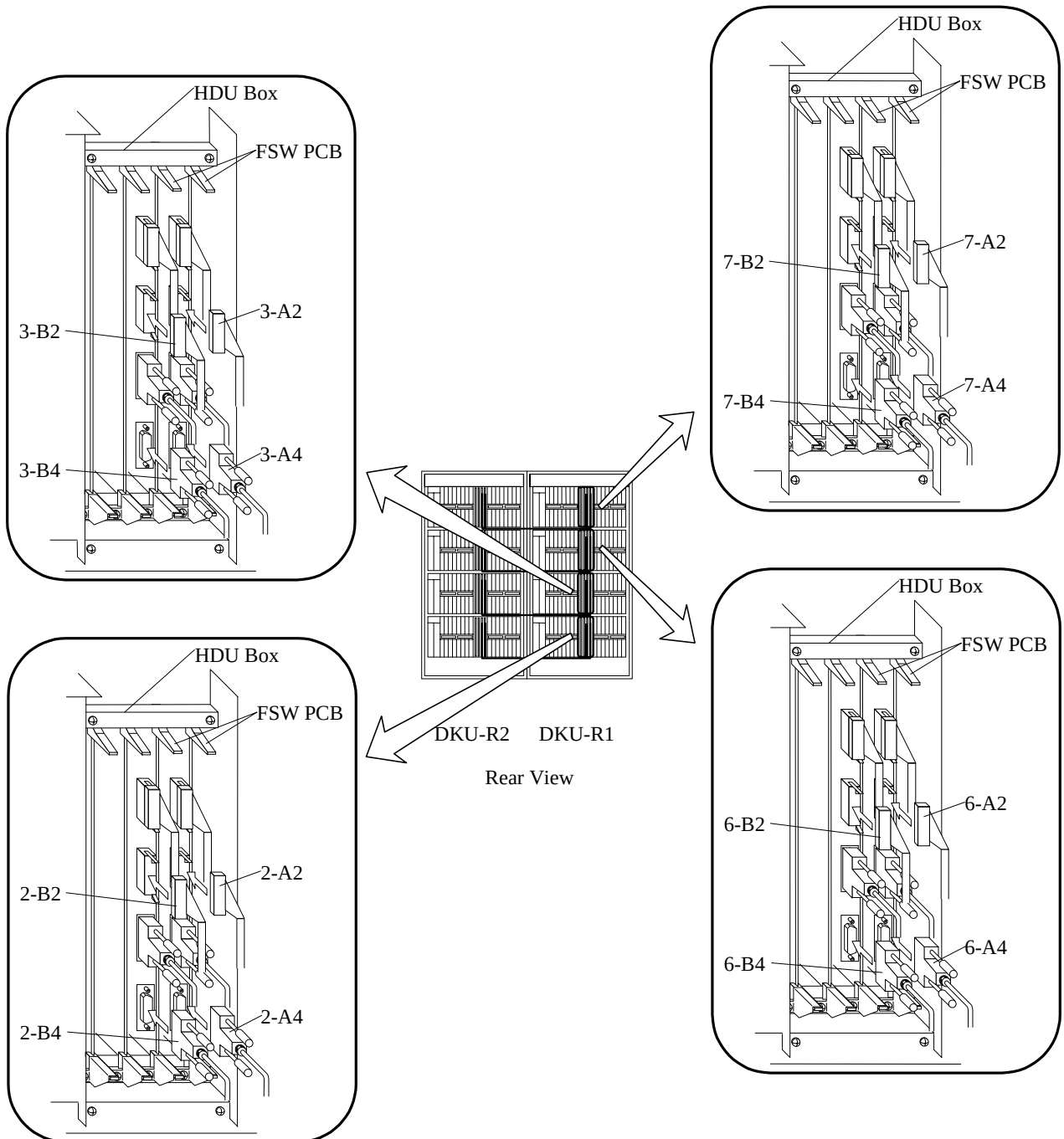
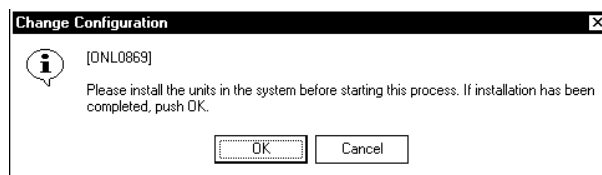


Fig. 3.11.5-19 Connection of the DEV Interface Cables

6. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

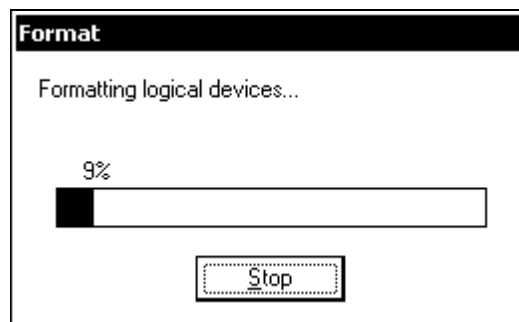
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

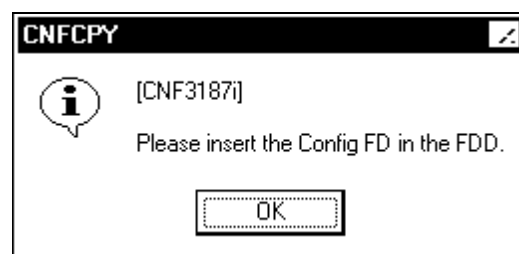
“Formatting the logical device...” is displayed when Parity Group is defined.



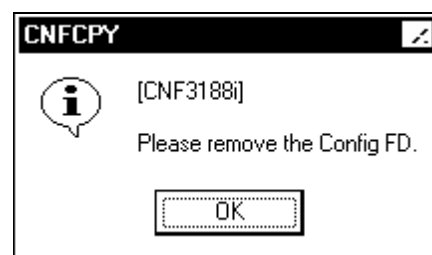
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



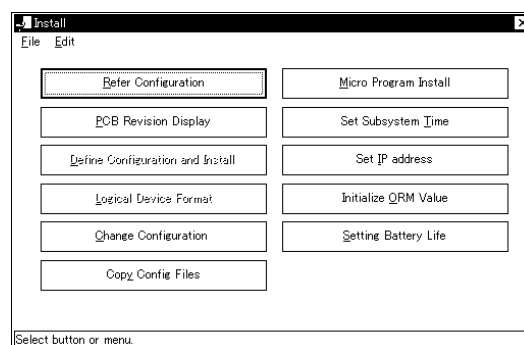
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

7. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

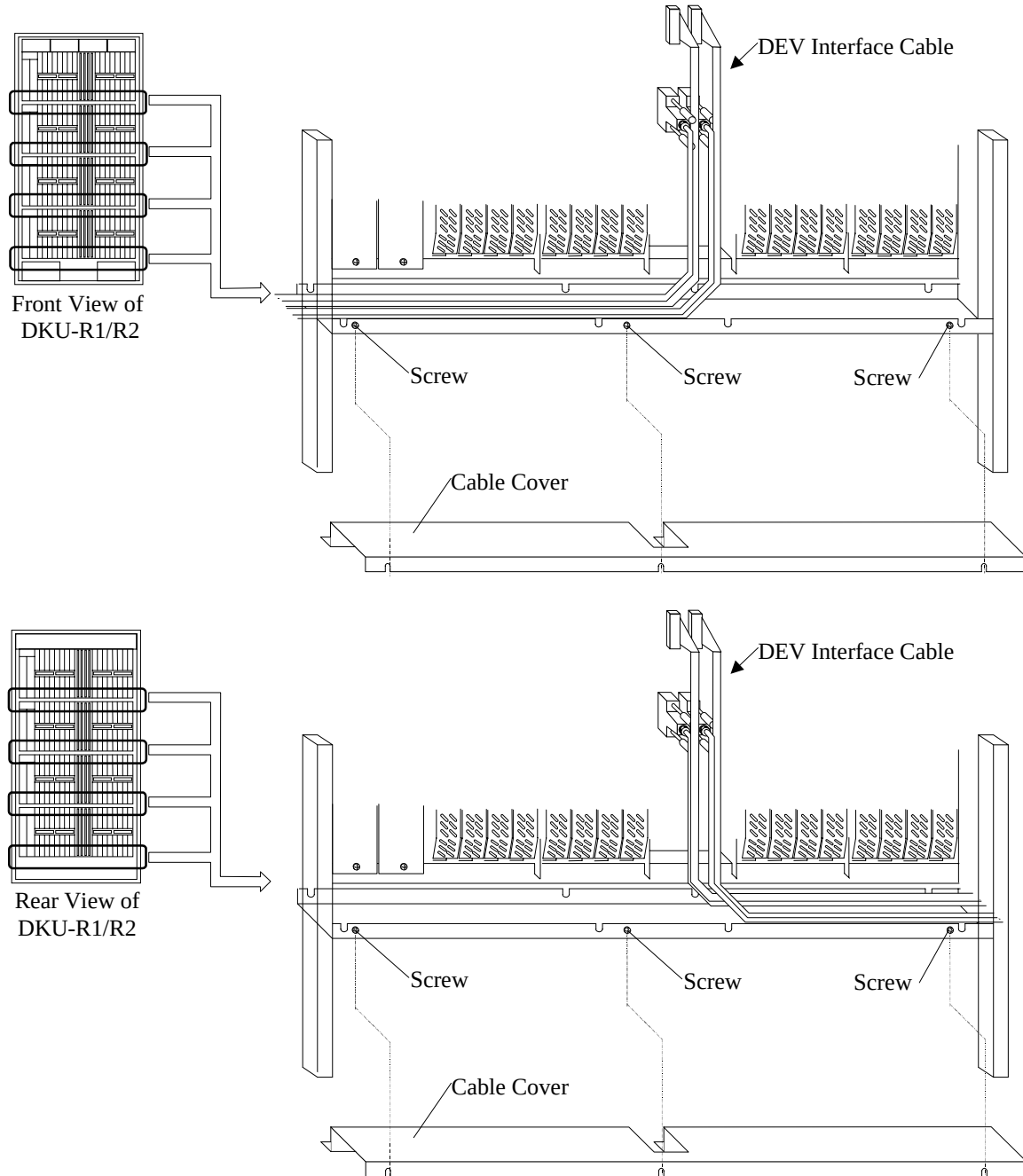


Fig. 3.11.5-20 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

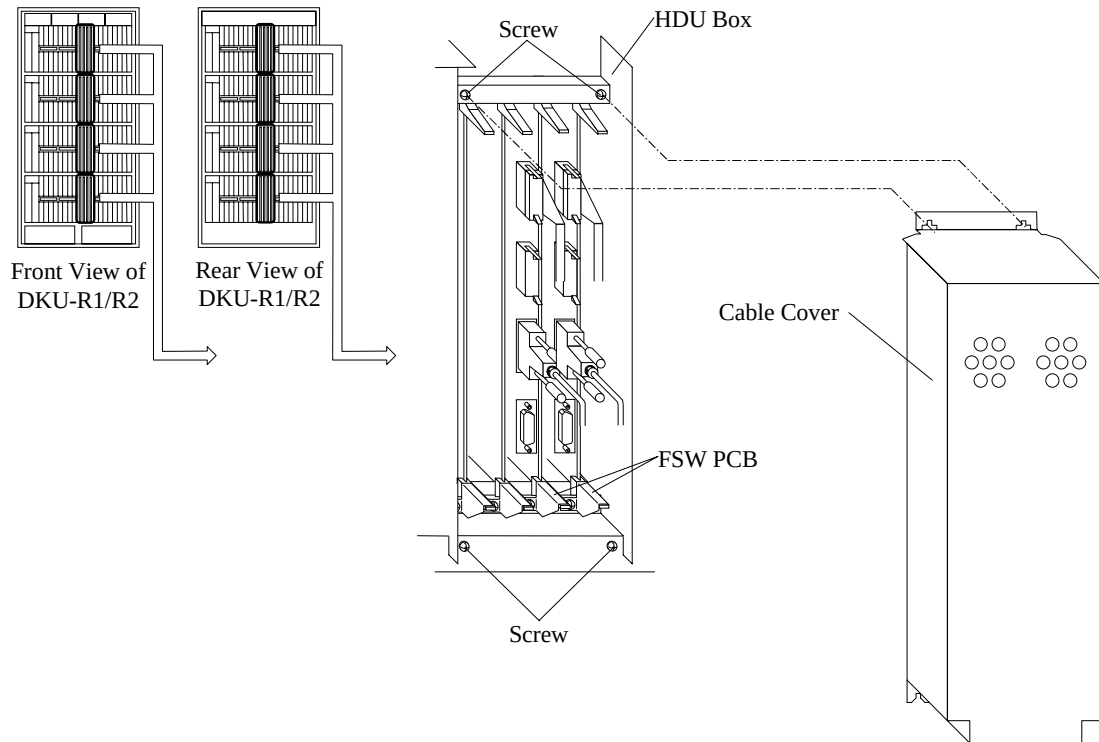


Fig. 3.11.5-21 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-R2 frame.

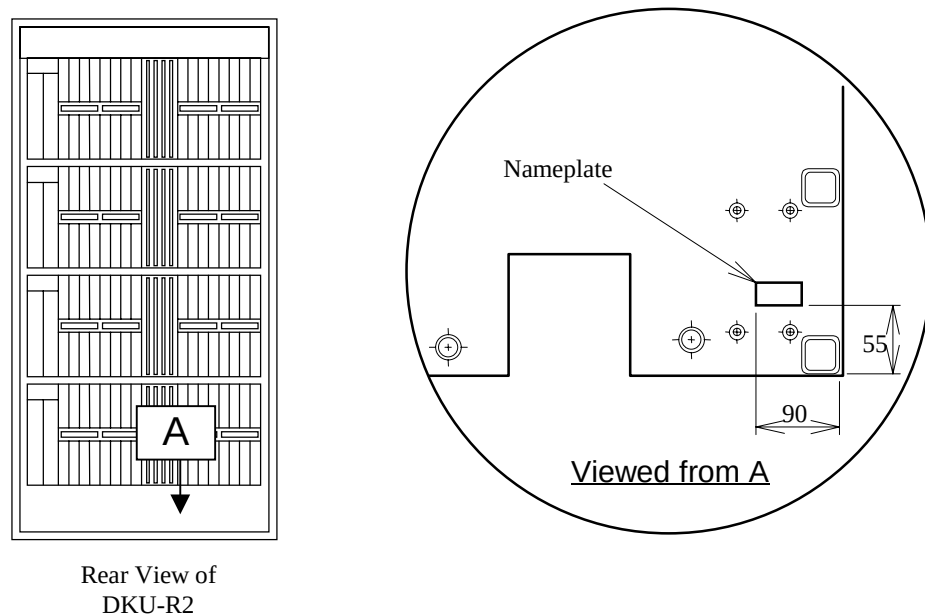


Fig. 3.11.5-22 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.6 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 frame (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1)

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)

1-1 Connect the DEV Interface cables to the FSW.

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

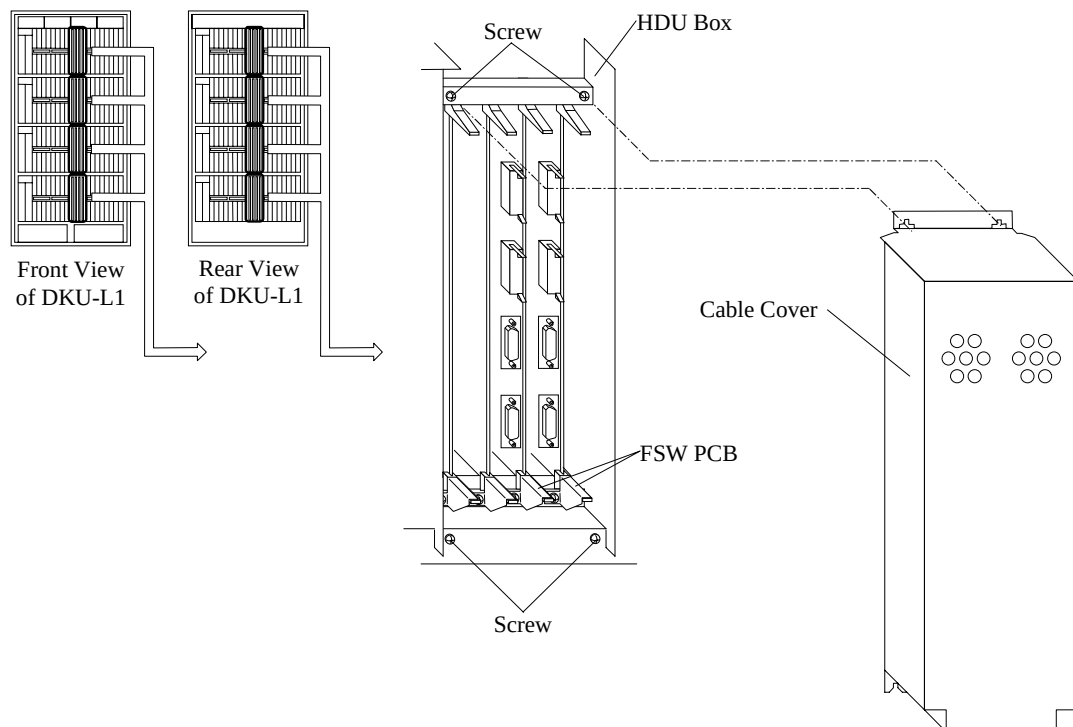


Fig. 3.11.6-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

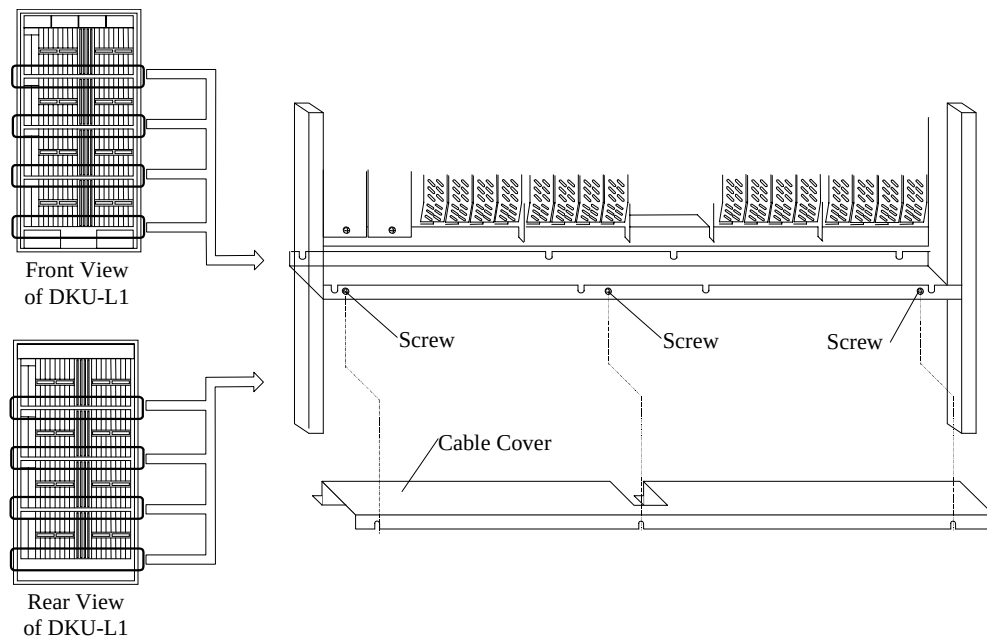


Fig. 3.11.6-2 Removal of Cable Covers

- c. Refer to Fig. 3.11.6-3 and Fig. 3.11.6-4. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the DKA in this procedure. The cable is to be connected later in another procedure.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

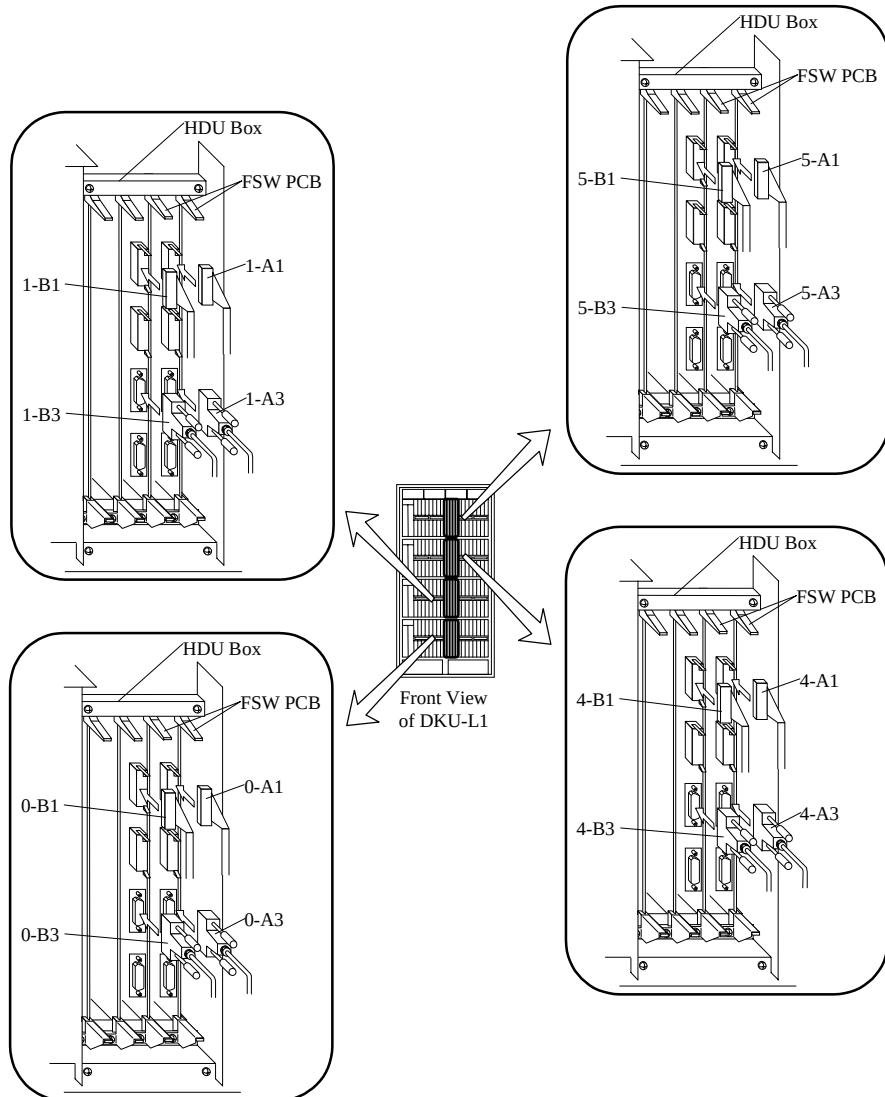


Fig. 3.11.6-3 DEV Interface Cabling Diagram (FSW PCB Side)

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

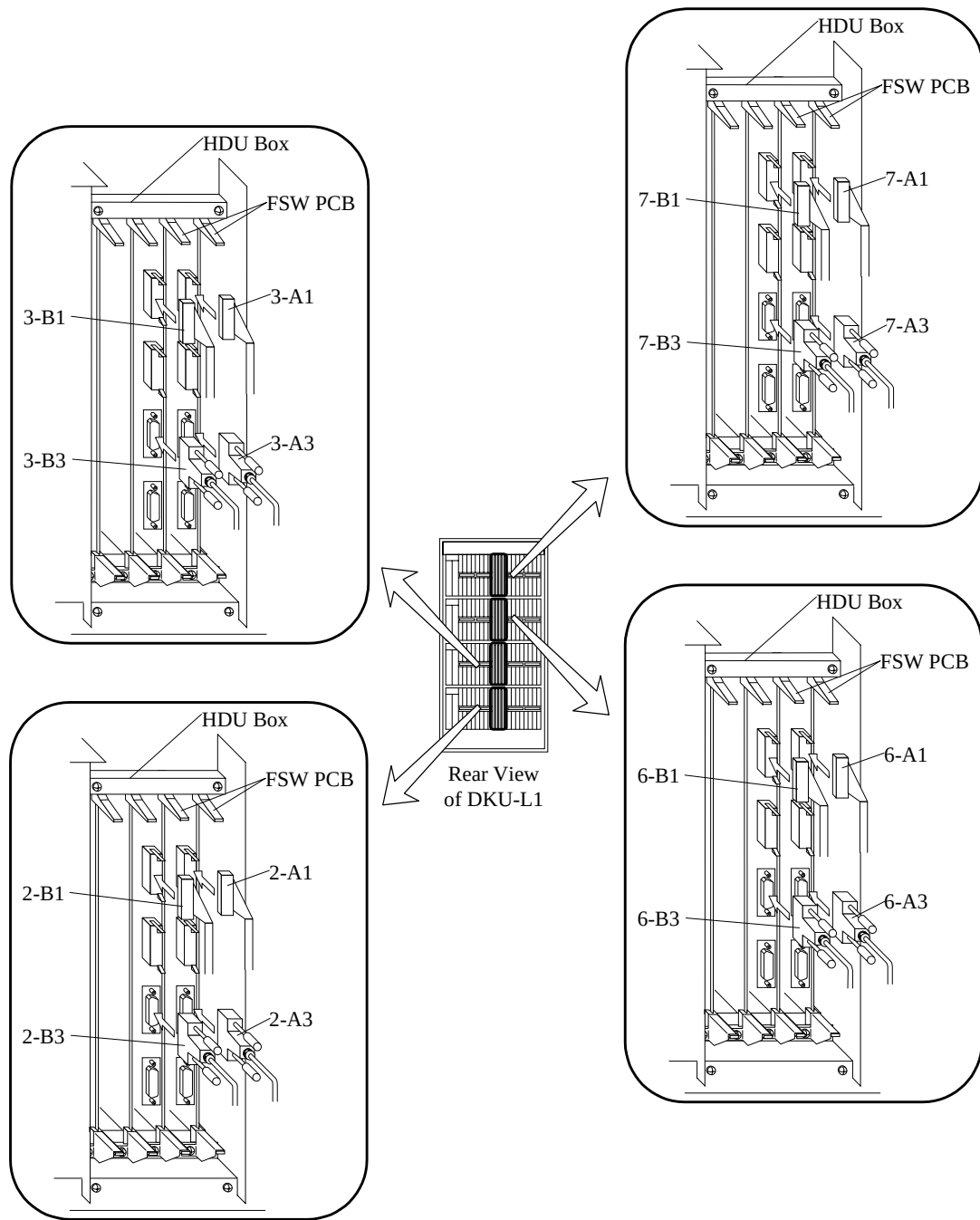


Fig. 3.11.6-4 DEV Interface Cabling Diagram (FSW PCB Side)

- d. Attach the cable covers with the screw to fix the DEV Interface Cables.

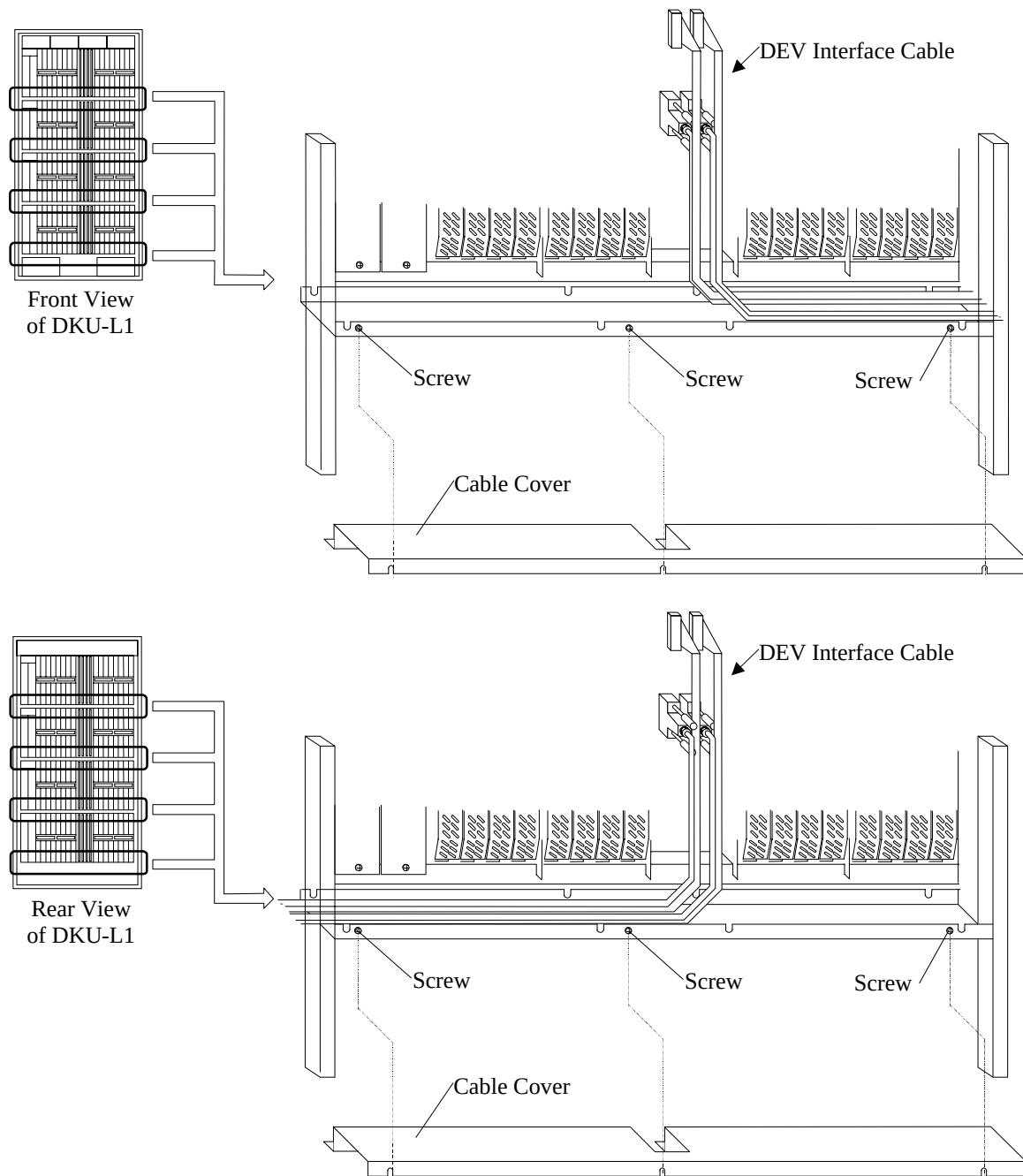


Fig. 3.11.6-5 Fixation of the DEV Interface Cables

- e. Attach the cable covers with the screw to fix the DEV Interface Cables.

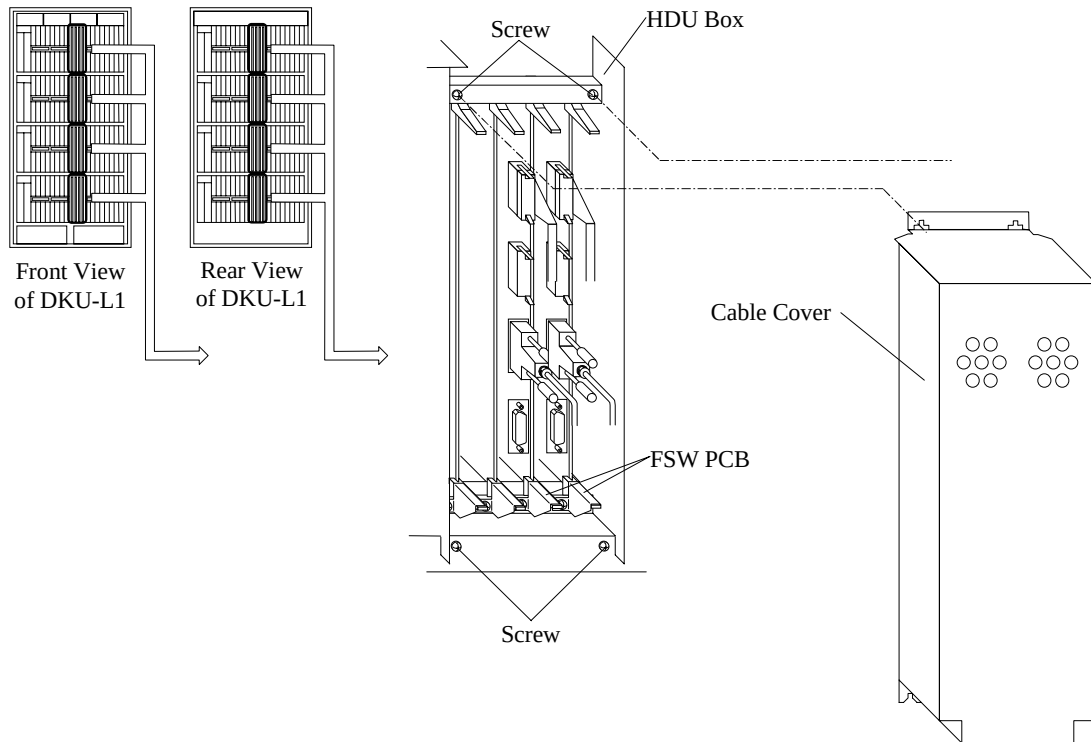


Fig. 3.11.6-6 Fixation of the DEV Interface Cables

1-2 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

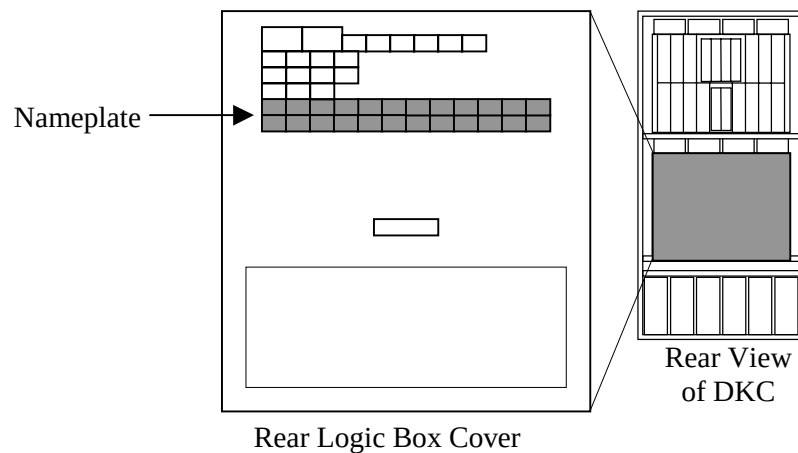
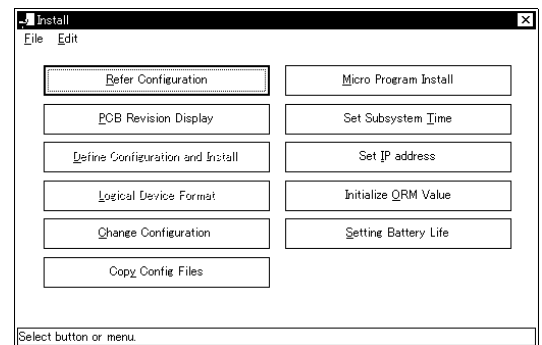


Fig. 3.11.6-7 Attachment of Nameplate

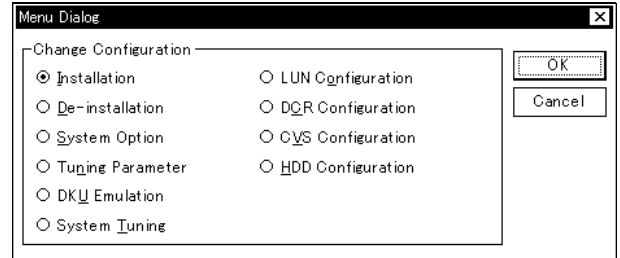
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

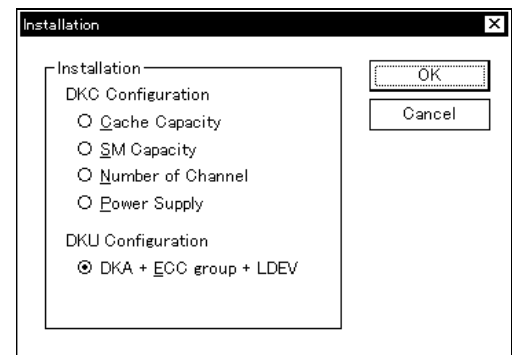
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note1: To add the DKU-L1, the six or more DKAs are required.

Note2: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-L1 is added to the DKUs currently set.

Current setting	Altered setting
1DKU (R1)	2DKUs (R1, L1)
2DKUs (R1, R2)	3DKUs (R1, L1, R2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

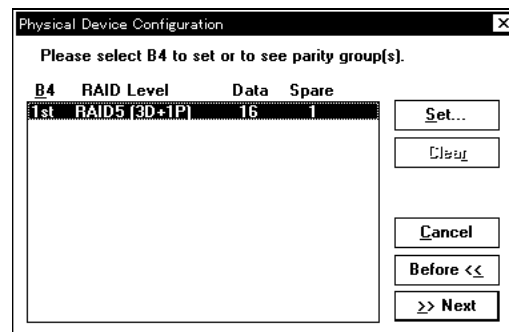
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

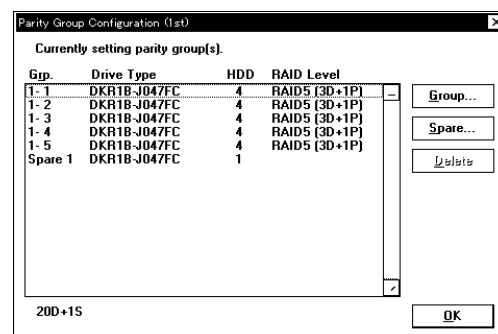
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

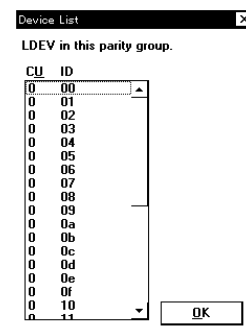
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

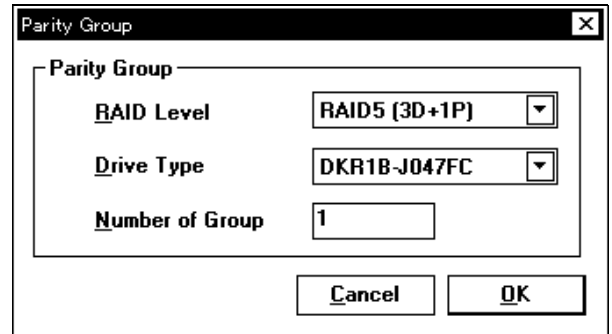
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

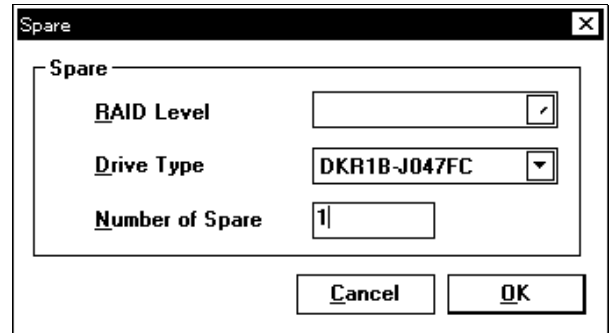
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

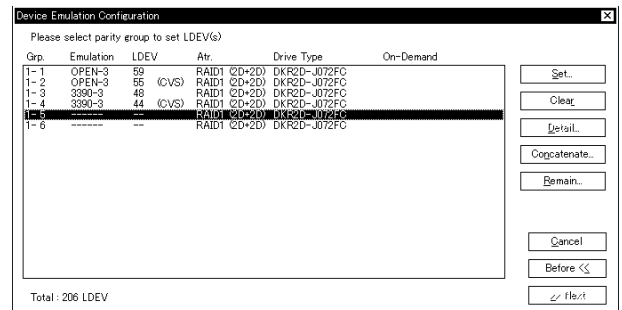
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	48		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

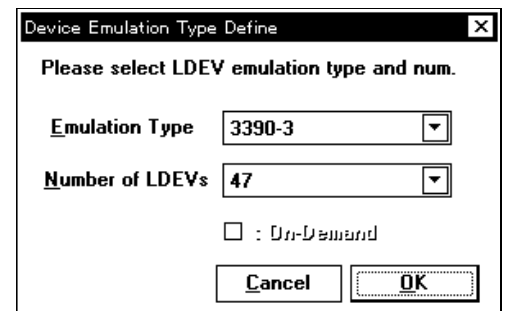
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

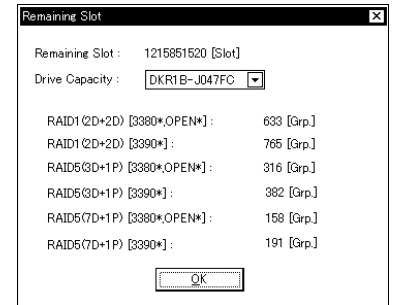
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

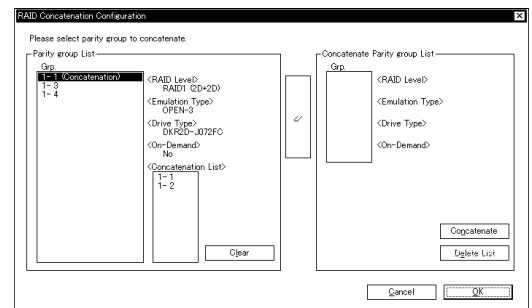
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

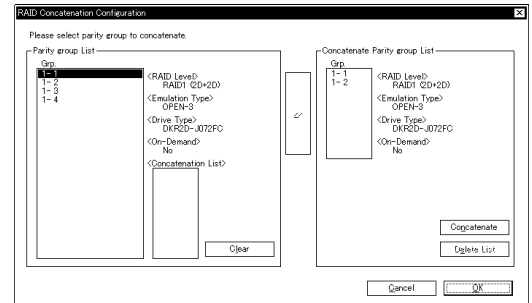
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

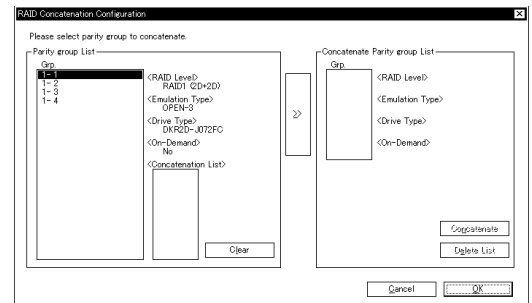


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

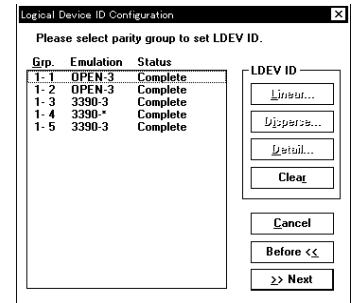
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

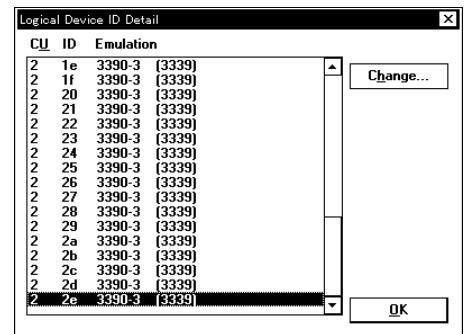
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

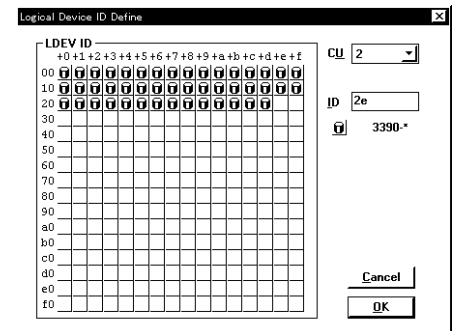
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

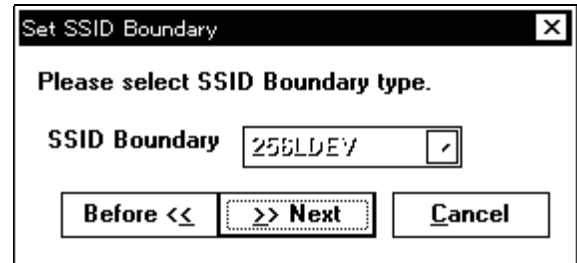
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

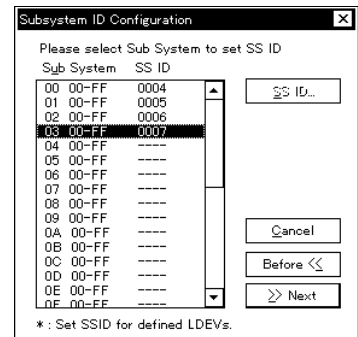
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

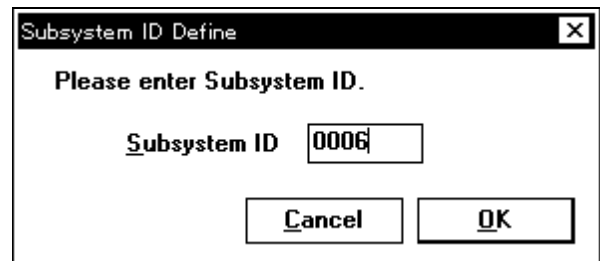
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

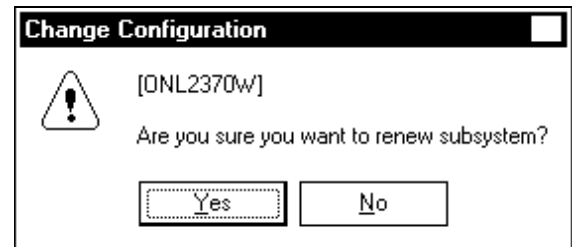
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-960](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

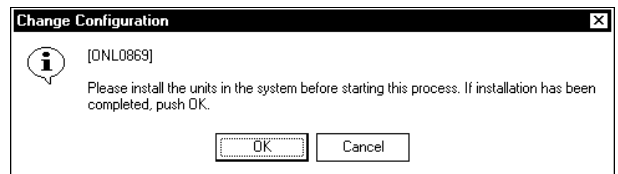
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



3. Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.6-8.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.6-1.
- c. Fasten the two screws referring to Fig. 3.11.6-9.

Table 3.11.6-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

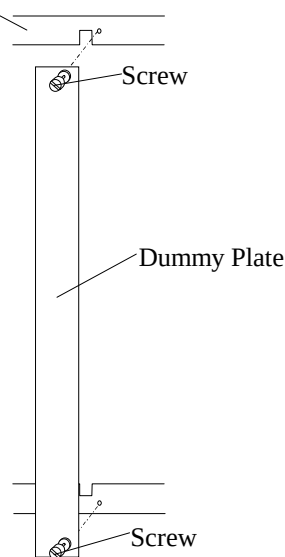


Fig. 3.11.6-8 Removal of Dummy Plate

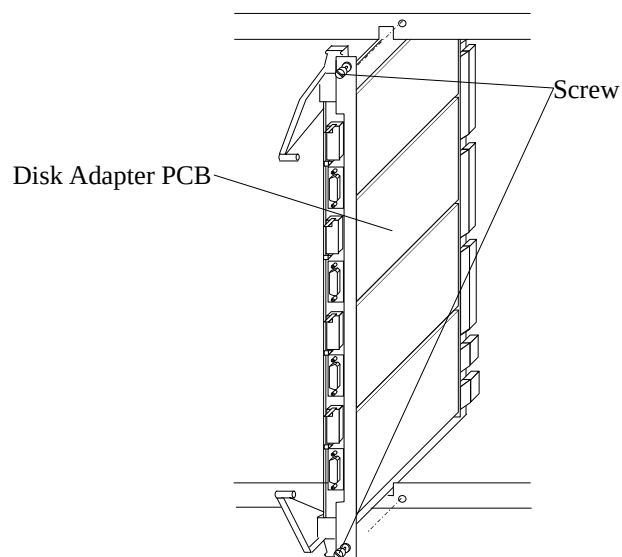


Fig. 3.11.6-9 Insertion of PCB

3-2 Connection of cables

In case of Add.1

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.6-10.)

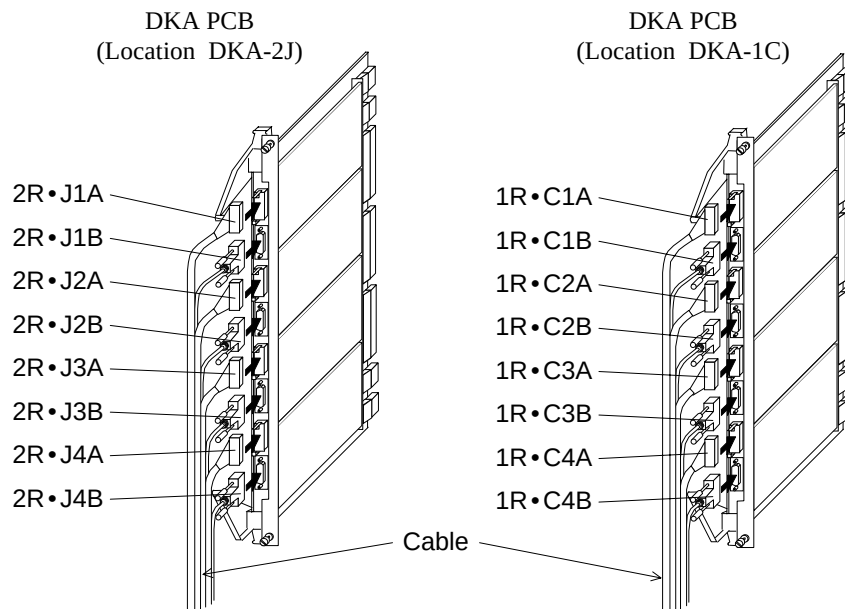


Fig.3.11.6-10 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

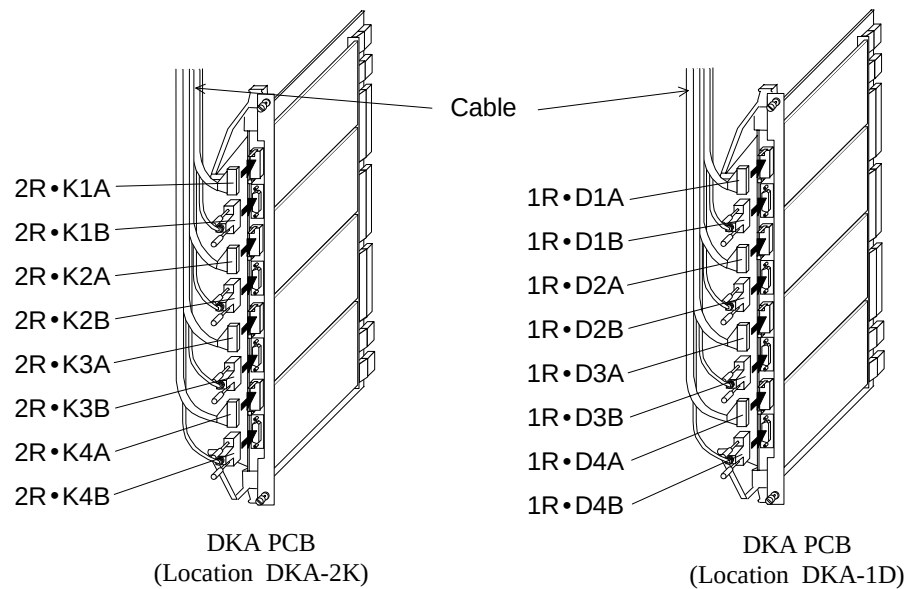


Fig.3.11.6-11 Connection of cable (Add.2)

In case of Add.3**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

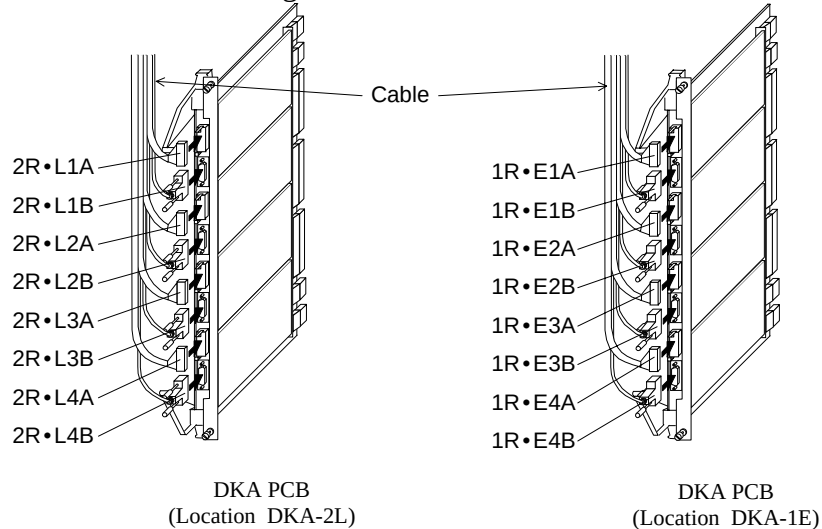


Fig.3.11.6-12 Connection of cable (Add.3)

3-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.6-13.

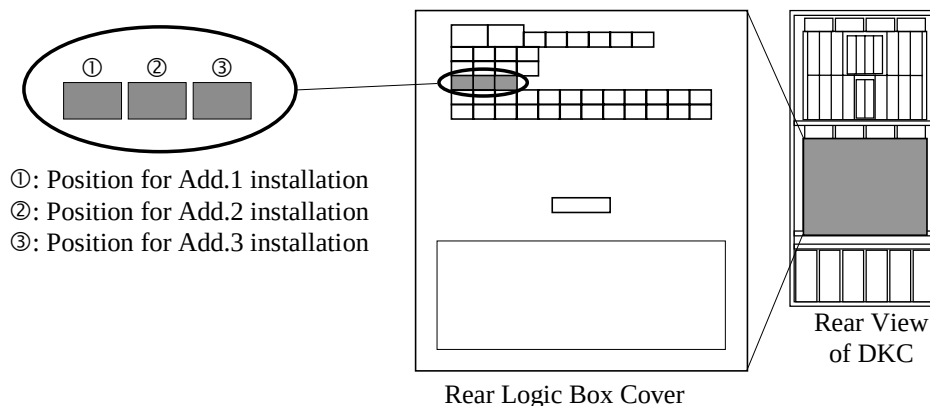


Fig. 3.11.6-13 Attachment of Nameplate

4. Installation Procedure of HDD Canister

4-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.6-2.

Table 3.11.6-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15							
		P		S		P		S	
		063		062		047 *2		046	
		061		060		045		044	
		059		058		043		042	
		057		056		041		040	
		055		054		039		038	
		053		052		037		036	
		051		050		035		034	
		049		048		032		031	
		047		046		030		029	
		045		044		033		032	
	HDU-R14								
	P		S		P		S		
	063		062		047 *2		046		
	061		060		045		044		
	059		058		043		042		
	057		056		041		040		
	055		054		039		038		
	053		052		037		036		
	051		050		035		034		
	049		048		032		031		
	047		046		030		029		
	045		044		033		032		
	HDU-R11								
	P		S		P		S		
	031		030		Spare*1		015		
	029		028		014		013		
	027		026		012		011		
	025		024		010		009		
	023		022		008		007		
	021		020		006		005		
	019		018		004		003		
	017		016		002		001		
	015		014		012		011		
		HDU-R10							
P		S		P		S			
031		030		Spare*1		015			
029		028		014		013			
027		026		012		011			
025		024		010		009			
023		022		008		007			
021		020		006		005			
019		018		004		003			
017		016		002		001			
015		014		012		011			
		HDU-R25							
	P		S		P		S		
	127		126		113		112		
	125		124		111		110		
	123		122		109		108		
	121		120		107		106		
	119		118		105		104		
	117		116		103		102		
	115		114		101		100		
	113		112		099		098		
	111		110		097		096		
	109		108		095		094		
	HDU-R24								
	P		S		P		S		
	127		126		113		112		
	125		124		111		110		
	123		122		109		108		
	121		120		107		106		
	119		118		105		104		
	117		116		103		102		
	115		114		101		100		
	113		112		099		098		
	111		110		097		096		
	109		108		095		094		
	HDU-R21								
	P		S		P		S		
	095		094		081		080		
	093		092		079		078		
	091		090		077		076		
	089		088		075		074		
	087		086		073		072		
	085		084		071		070		
	083		082		069		068		
	081		080		067		066		
	079		078		065		064		
		HDU-R20							
P		S		P		S			
095		094		081		080			
093		092		079		078			
091		090		077		076			
089		088		075		074			
087		086		073		072			
085		084		071		070			
083		082		069		068			
081		080		067		066			
079		078		065		064			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU							
HDU-R27				HDU-R17				DKC	L1 DKU	L2 DKU	
T	127	126	125	T	063	062	061				T
P	124	122	123	P	060	058	059	S	044	042	043
S	120	121	119	S	056	057	057	W	040	041	041
S	118	117	117	S	054	055	054	S	038	039	039
W	116	117	116	W	052	053	052	W	036	037	037
W	114	115	114	W	050	051	050	W	034	035	035
W	112	113	111	W	048	049	048	W	032	033	033
W	110	108	109	W	046	047	046	W	030	031	031
W	106	107	107	W	044	045	044	W	028	029	029
W	104	105	104	W	042	043	042	W	026	027	027
W	102	103	102	W	040	041	040	W	024	025	024
W	100	101	100	W	038	039	038	W	022	023	022
W	098	099	098	W	036	037	036	W	020	021	020
W	096	097	096	W	034	035	034	W	018	019	018
W	094	095	094	W	032	033	032	W	016	017	016
W	092	093	092	W	030	031	030	W	014	015	014
W	090	091	090	W	028	029	028	W	012	013	012
W	088	089	088	W	026	027	026	W	010	011	010
W	086	087	086	W	024	025	024	W	008	009	008
W	084	085	084	W	022	023	022	W	006	007	006
W	082	083	082	W	020	021	020	W	004	005	004
W	080	081	080	W	018	019	018	W	002	003	002
W	078	079	078	W	016	017	016	W	001	002	001
W	076	077	076	W	014	015	014	W	000	001	000
W	074	075	074	W	012	013	012	W	000	001	000
W	072	073	072	W	010	011	010	W	000	001	000
W	070	071	070	W	008	009	008	W	000	001	000
W	068	069	068	W	006	007	006	W	000	001	000
W	066	067	066	W	004	005	004	W	000	001	000
W	064	065	064	W	002	003	002	W	000	001	000
W	062	063	062	W	001	002	001	W	000	001	000
W	060	061	060	W	000	001	000	W	000	001	000
W	058	059	058	W	000	001	000	W	000	001	000
W	056	057	056	W	000	001	000	W	000	001	000
W	054	055	054	W	000	001	000	W	000	001	000
W	052	053	052	W	000	001	000	W	000	001	000
W	050	051	050	W	000	001	000	W	000	001	000
W	048	049	048	W	000	001	000	W	000	001	000
W	046	047	046	W	000	001	000	W	000	001	000
W	044	045	044	W	000	001	000	W	000	001	000
W	042	043	042	W	000	001	000	W	000	001	000
W	040	041	040	W	000	001	000	W	000	001	000
W	038	039	038	W	000	001	000	W	000	001	000
W	036	037	036	W	000	001	000	W	000	001	000
W	034	035	034	W	000	001	000	W	000	001	000
W	032	033	032	W	000	001	000	W	000	001	000
W	030	031	030	W	000	001	000	W	000	001	000
W	028	029	028	W	000	001	000	W	000	001	000
W	026	027	026	W	000	001	000	W	000	001	000
W	024	025	024	W	000	001	000	W	000	001	000
W	022	023	022	W	000	001	000	W	000	001	000
W	020	021	020	W	000	001	000	W	000	001	000
W	018	019	018	W	000	001	000	W	000	001	000
W	016	017	016	W	000	001	000	W	000	001	000
W	014	015	014	W	000	001	000	W	000	001	000
W	012	013	012	W	000	001	000	W	000	001	000
W	010	011	010	W	000	001	000	W	000	001	000
W	008	009	008	W	000	001	000	W	000	001	000
W	006	007	006	W	000	001	000	W	000	001	000
W	004	005	004	W	000	001	000	W	000	001	000
W	002	003	002	W	000	001	000	W	000	001	000
W	001	002	001	W	000	001	000	W	000	001	000
W	000	001	000	W	000	001	000	W	000	001	000

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.6-14 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.6-2.

Front View 128-254: 4HDD canisters installation order

Rear View

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.6-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.6-3.

Table 3.11.6-3 Relation between HDDs installation order and RAID number (7D+1P)

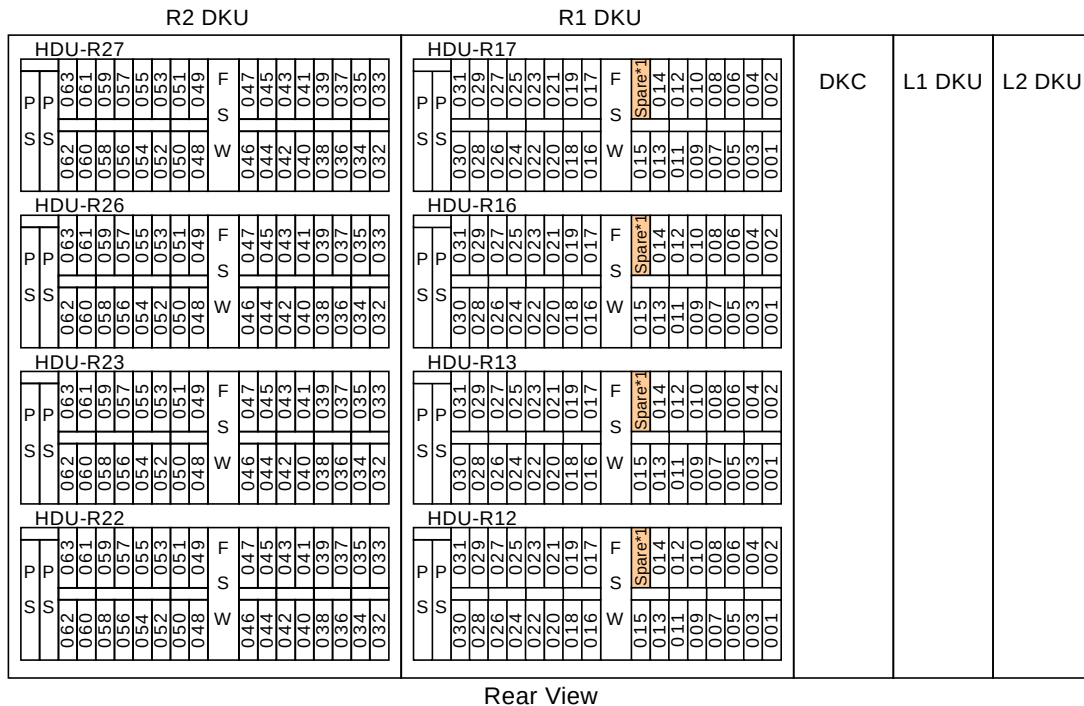
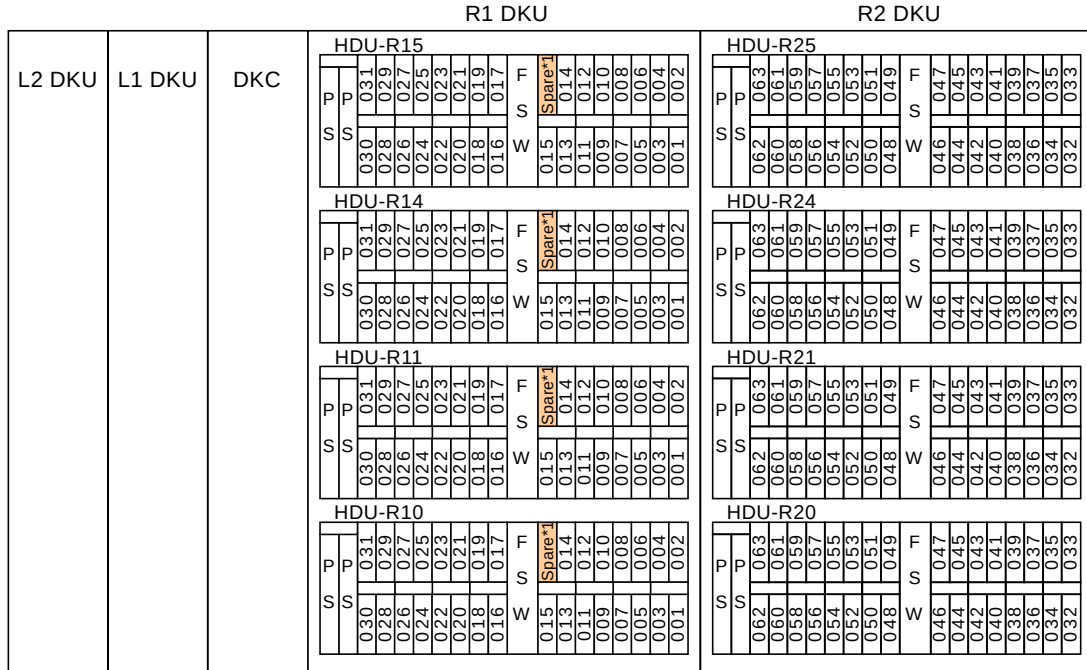
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.6-15 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

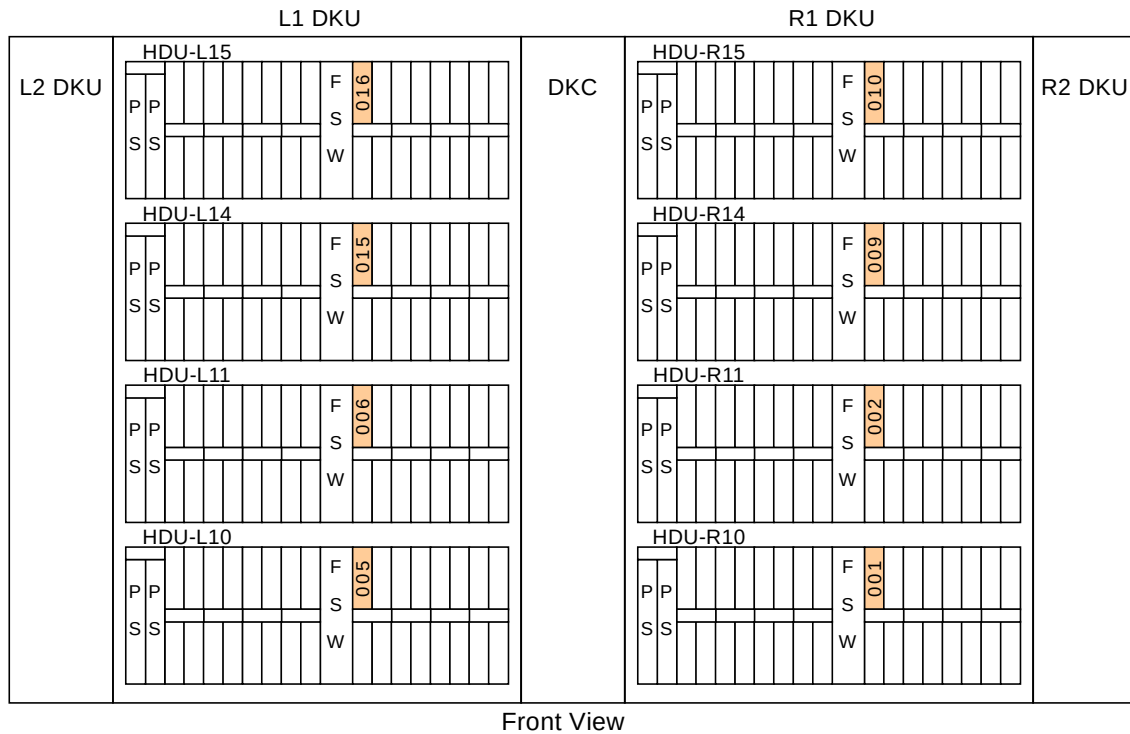
The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.6-3.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU		
HDU-L25										HDU-L15														
HDU-L24										HDU-L14														
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														
HDU-L25										HDU-L15										Front View				
HDU-L24										HDU-L14										064-126: 8HDD canisters installation order				
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17				HDU-L27			
			P		S		P		S	
			094		093		126		125	
			091		089		124		121	
090		087		123		120				
088		085		122		119				
086		083		121		118				
084		081		120		117				
082		079		119		116				
080		078		118		115				
F		W		117		114				
Spare*1		S		116		113				
078		076		115		112				
077		074		114		111				
075		072		113		110				
073		070		112		109				
071		068		111		108				
069		066		110		107				
067		064		109		106				
065				108		105				
				107		104				
				106		103				
				105		102				
				104		101				
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				034		031				
				033		030				
				032		029				
				031		028				
				030		027				
				029		026				
				028		025				
				027		024				
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(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

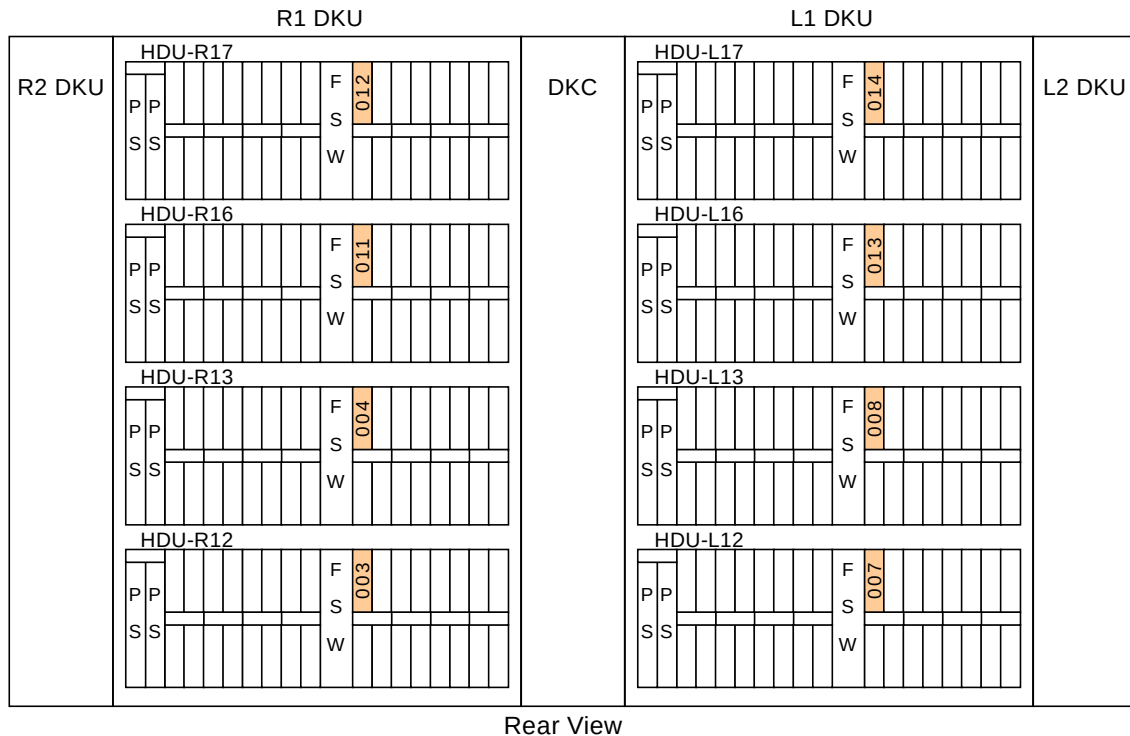


Fig. 3.11.6-16 Spare Drive Expansion Sequence

4-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

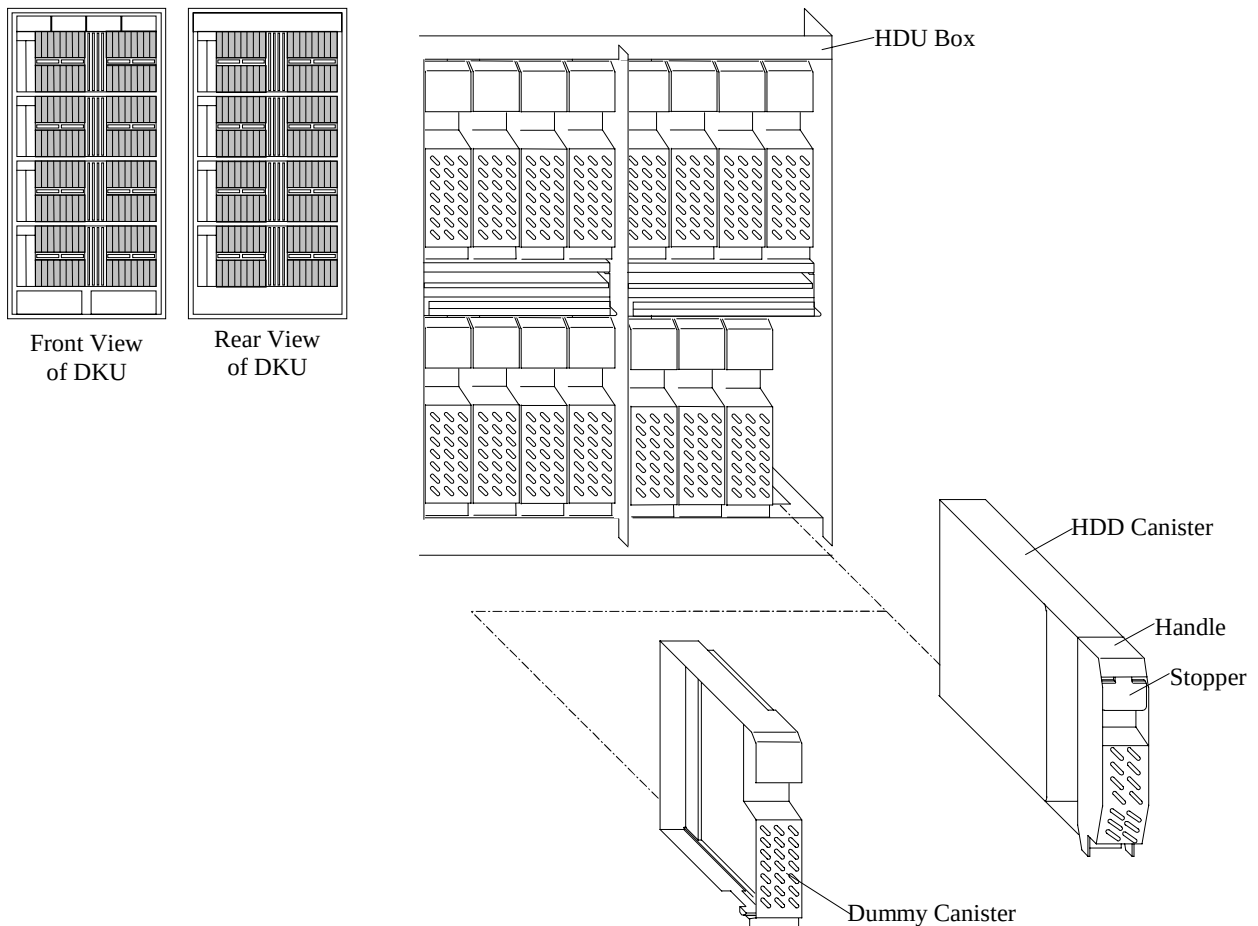
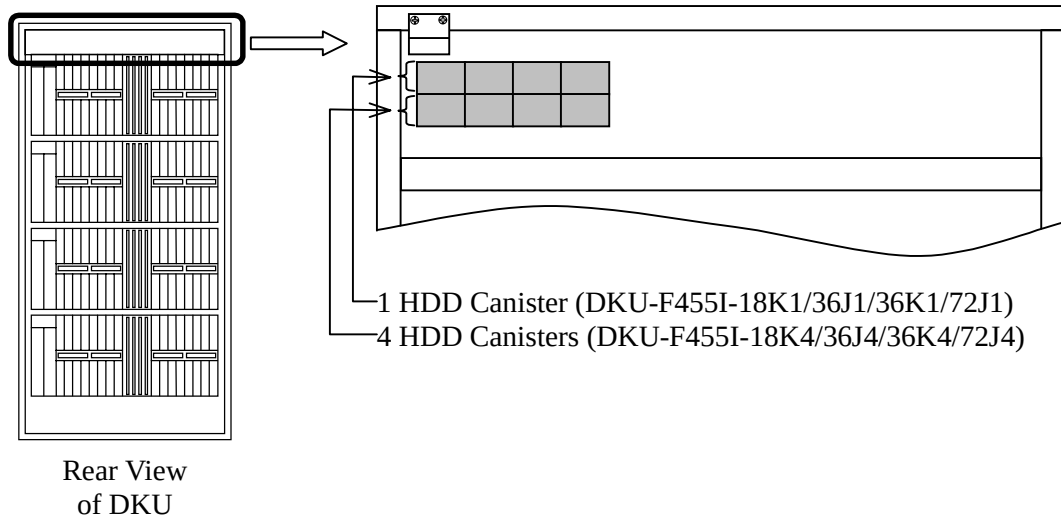


Fig. 3.11.6-17 Installation of HDD Canister

4-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

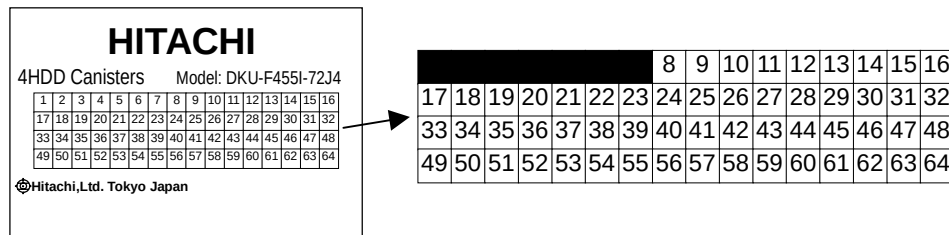
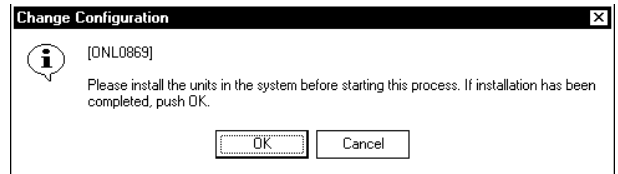


Fig. 3.11.6-18 Attachment of Nameplate

5. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

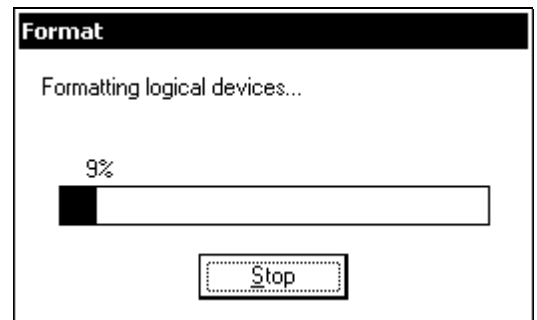
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

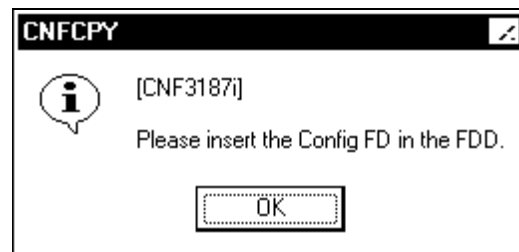
“Formatting the logical device...” is displayed when Parity Group is defined.



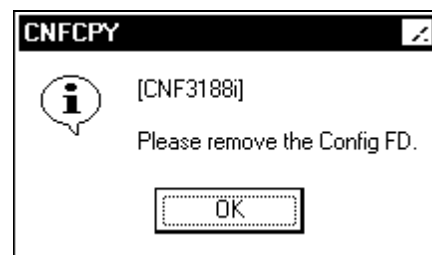
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



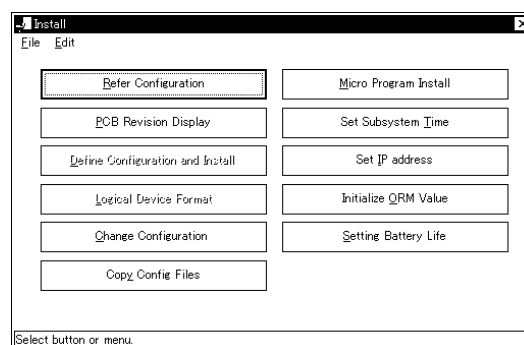
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.7 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L2 frame (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

Note: 1. When the DEV interface cable is connected with the FSW while the subsystem (DKC460I-5) is powered on, each HDU Box is powered on at the same time of the connection.

2. When the DEV interface cable is connected in the state in which the main circuit breaker of the disk unit is not turned on, the "DKU Voltage Alarm" is detected (the ALARM LED on the OP panel comes on; SIM = BF20XX or BF22XX).

Therefore, power on the disk unit before connecting the DEV interface cable.

- a. Loosen the screws and remove the cable covers from the DKU frames.

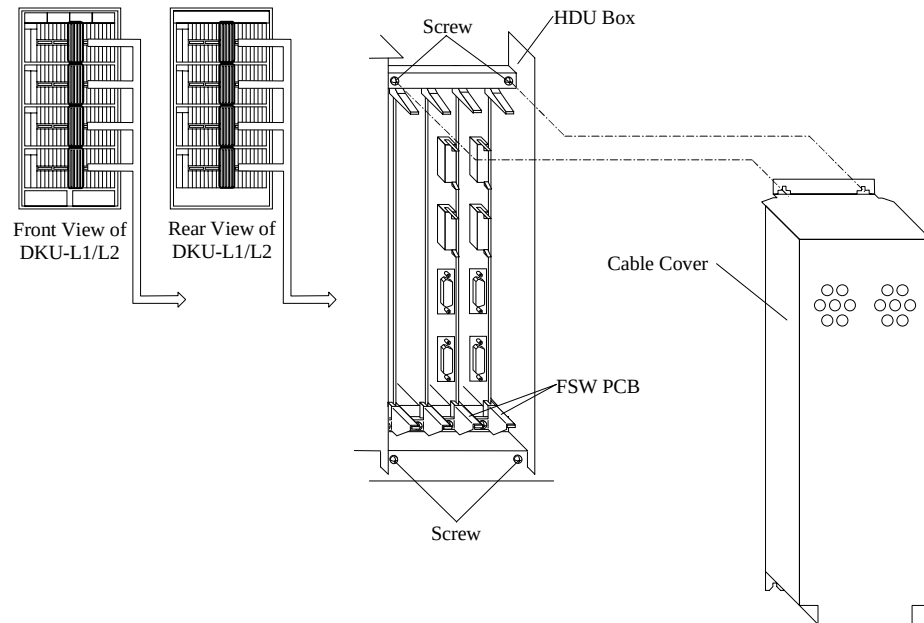


Fig. 3.11.7-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

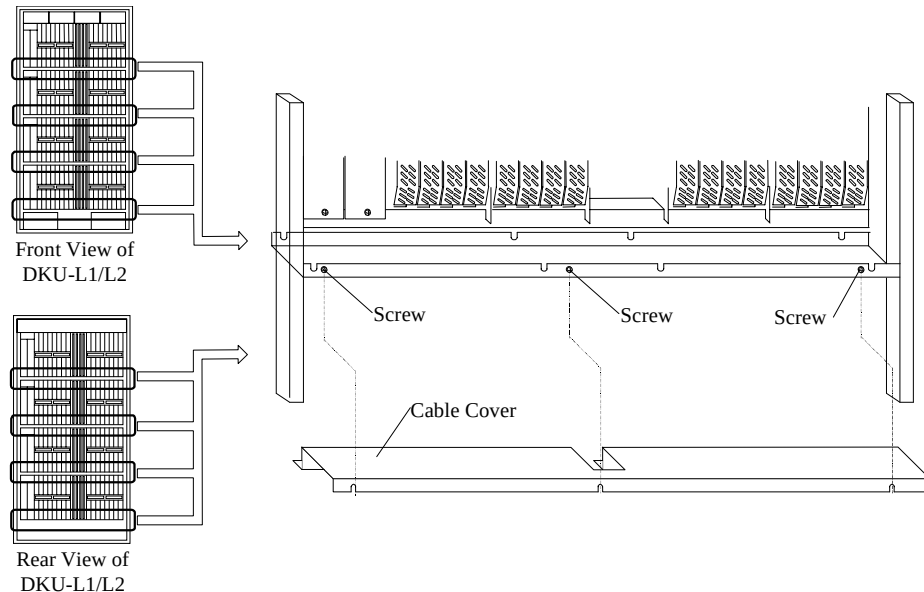


Fig. 3.11.7-2 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-L2 frame referring to Fig. 3.11.7-3 through Fig. 3.11.7-6.

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

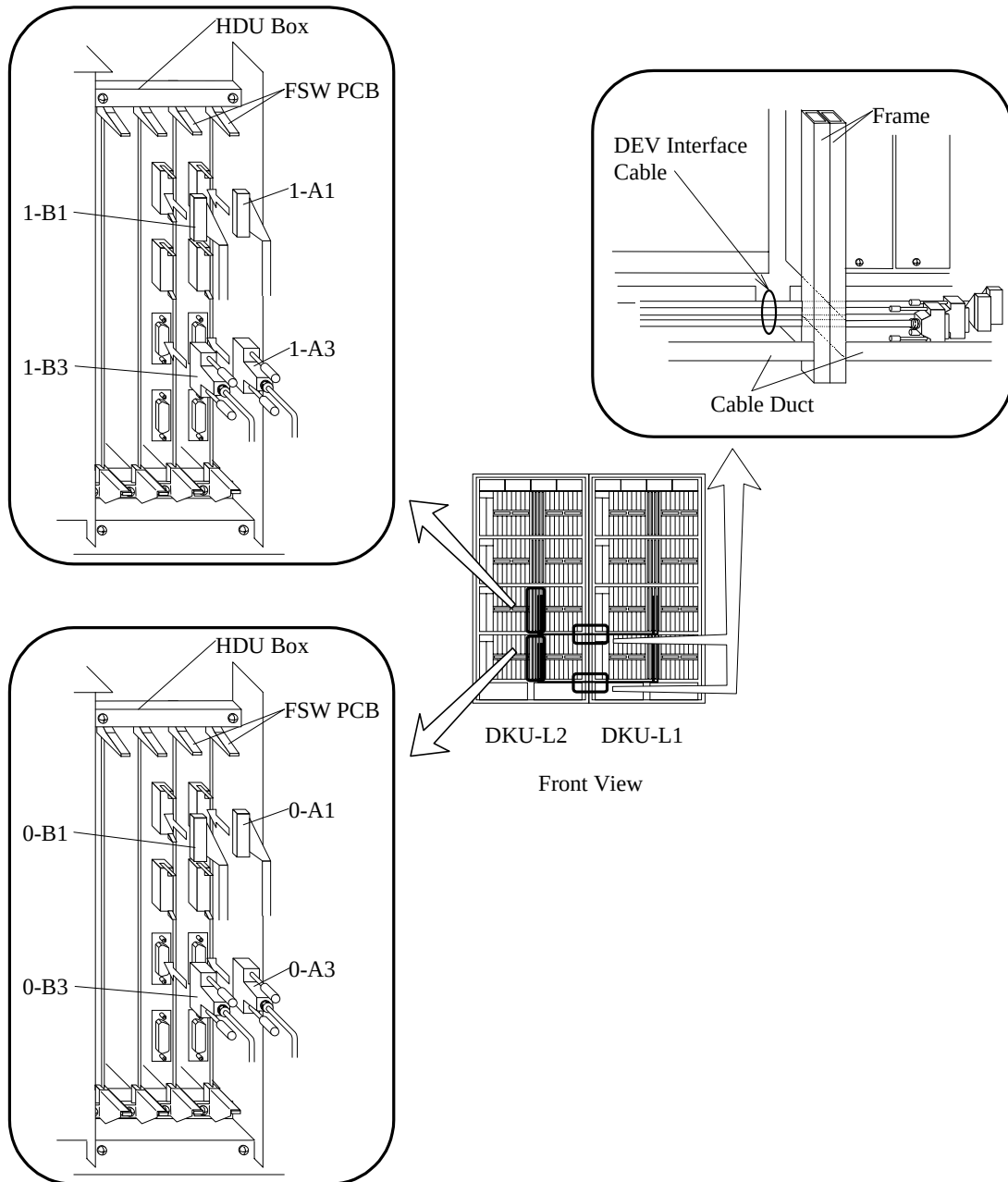


Fig. 3.11.7-3 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

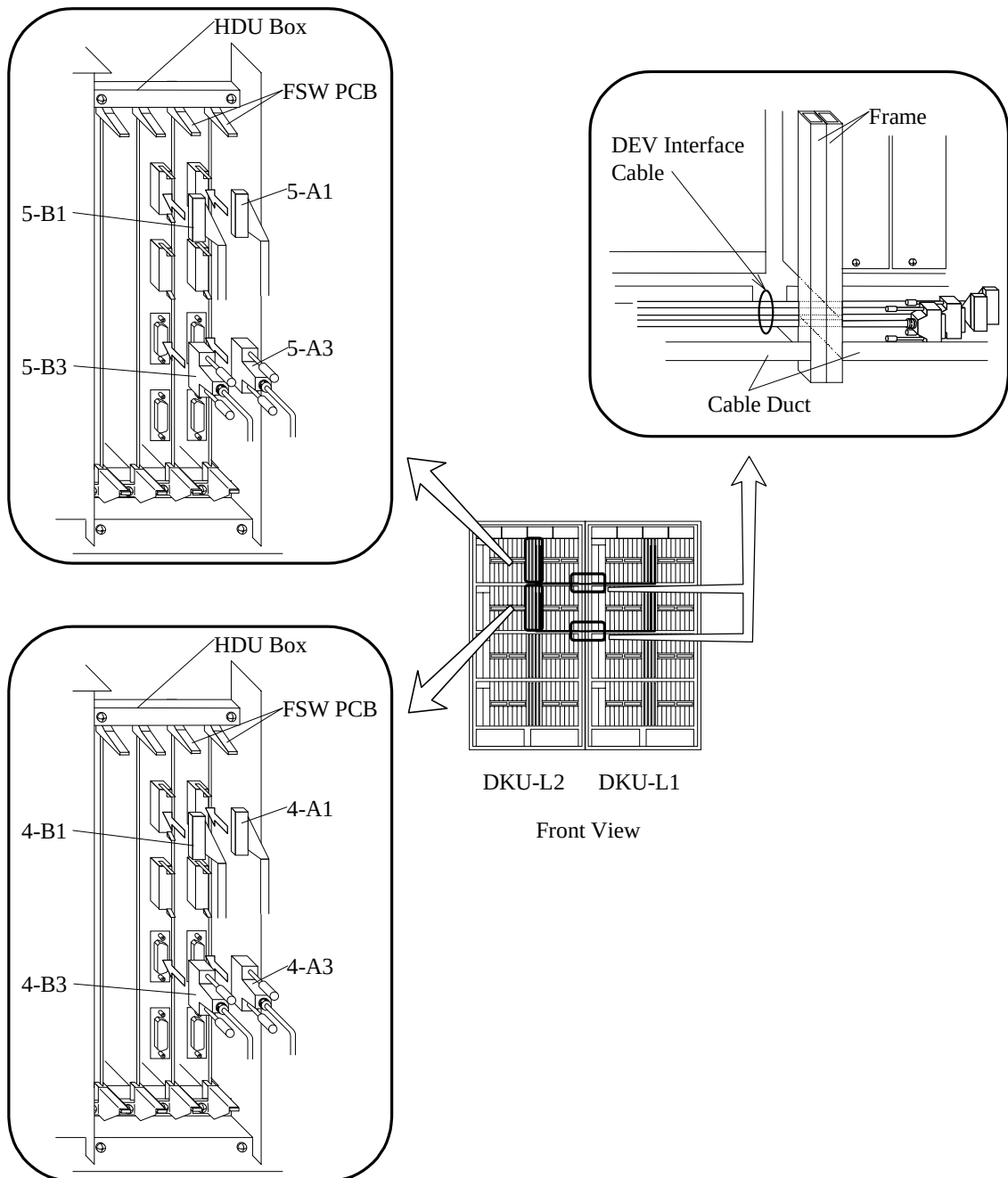


Fig. 3.11.7-4 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

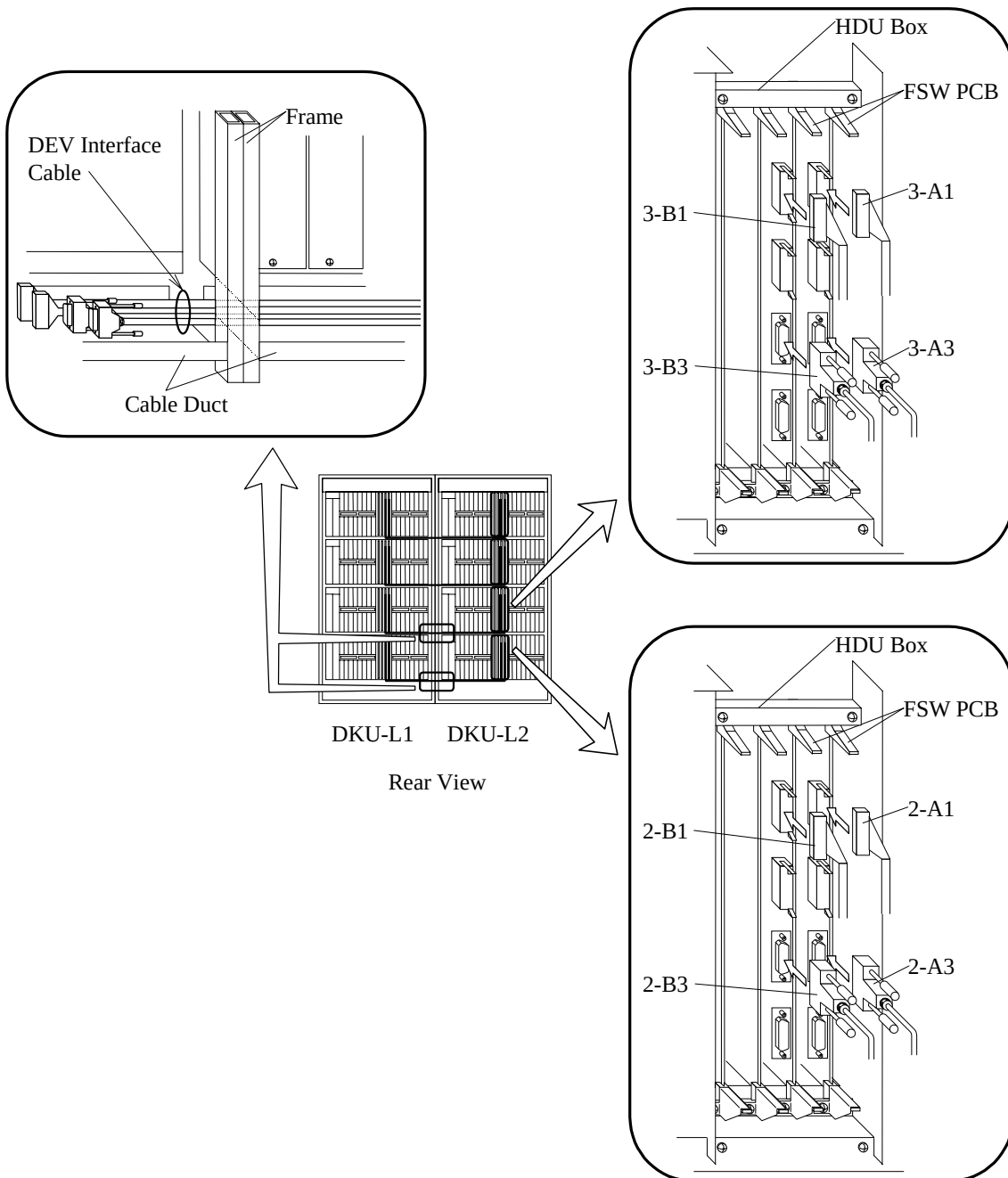


Fig. 3.11.7-5 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

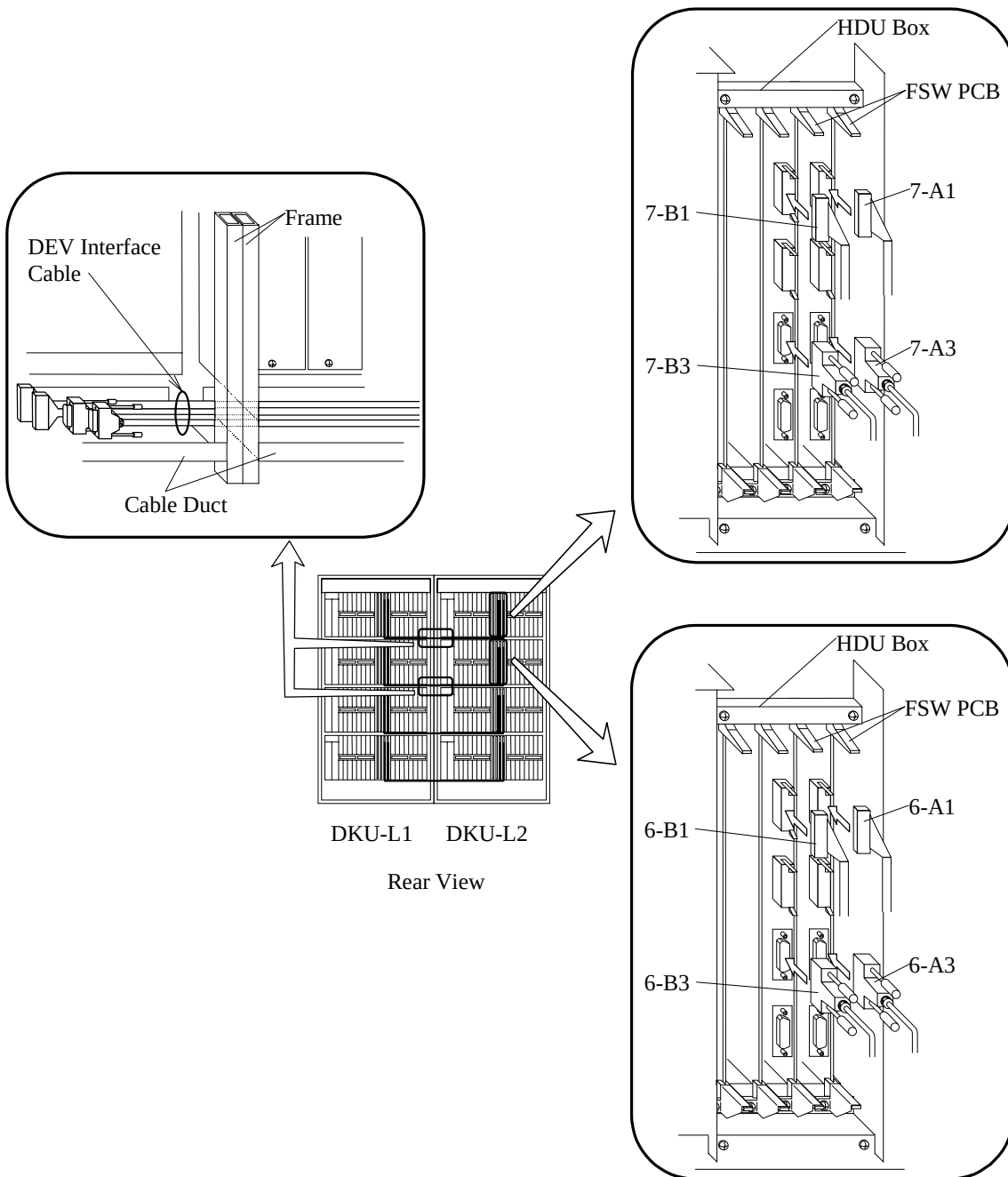
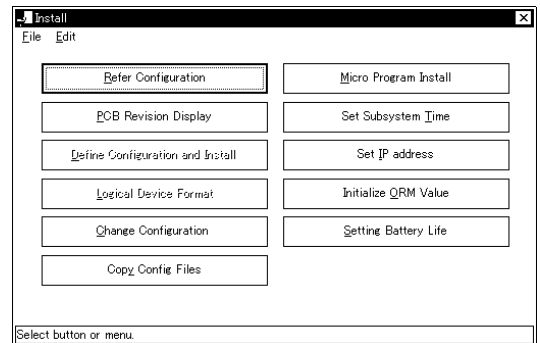


Fig. 3.11.7-6 Connection of the DEV Interface Cables

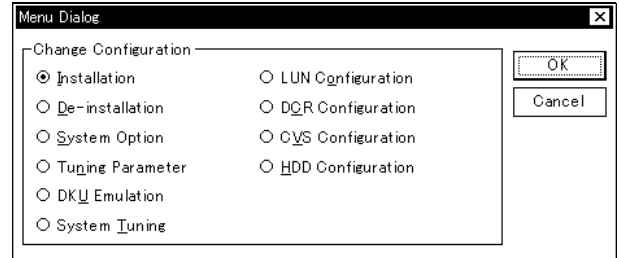
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

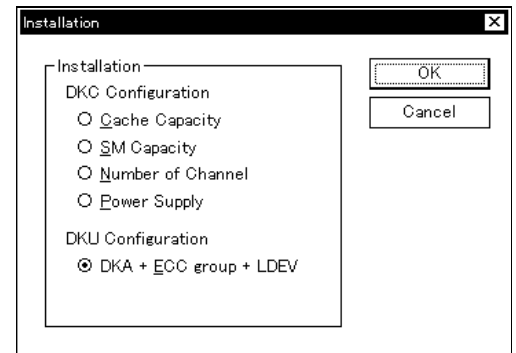
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-L2 is added to the DKUs currently set.

Current setting	Altered setting
2DKUs (R1, L1)	3DKUs (R1, L1, L2)
3DKUs (R1, L1, R2)	4DKUs (R1, L1, R2, L2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

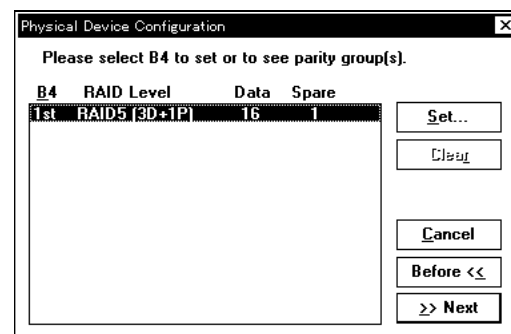
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

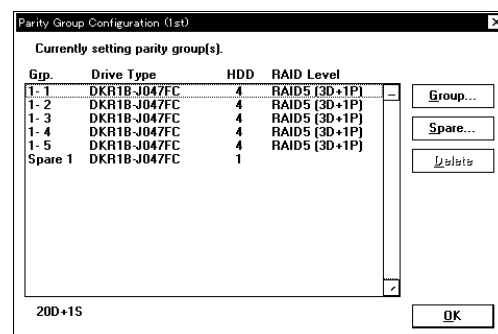
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

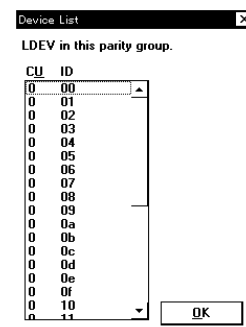
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

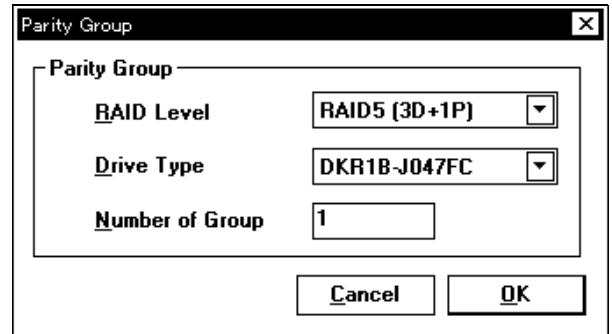
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

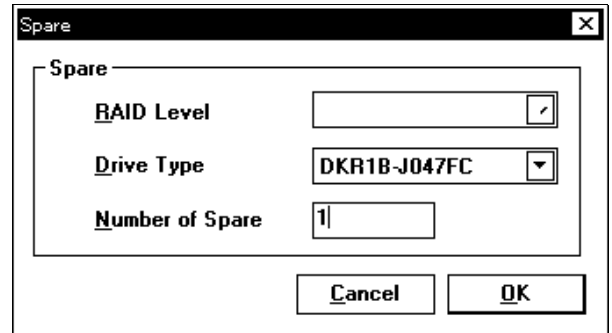
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

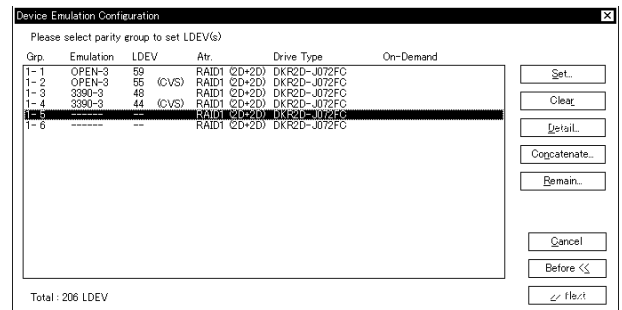
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55	(CVS)	RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	48		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44	(CVS)	RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44	(CVS)	RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44	(CVS)	RAID1 (2D+2D)	DKR2D-J072FC

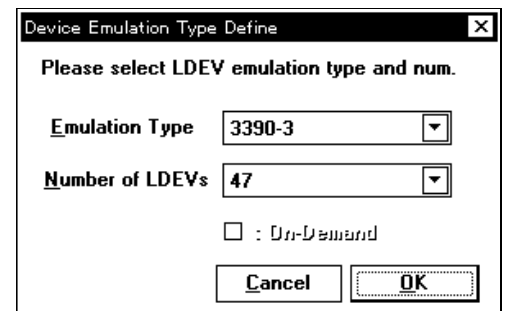
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

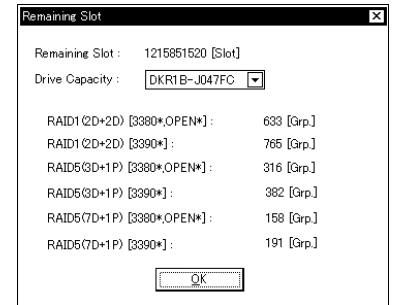
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

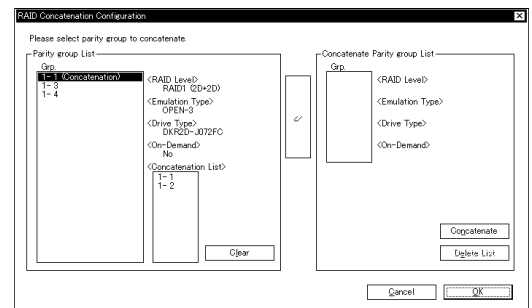
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

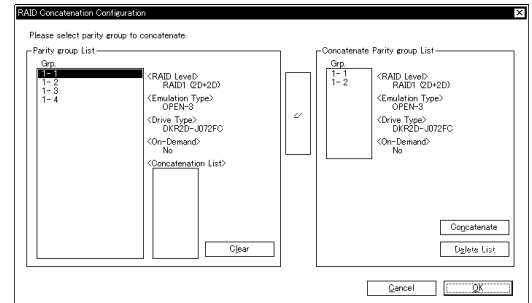
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

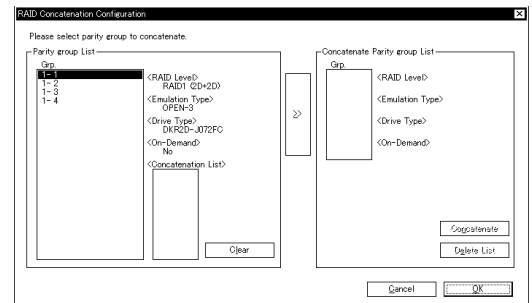


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

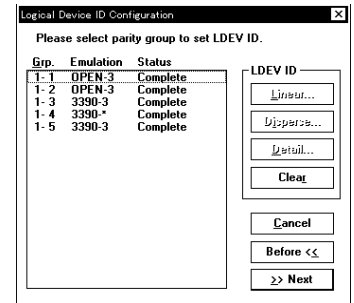
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

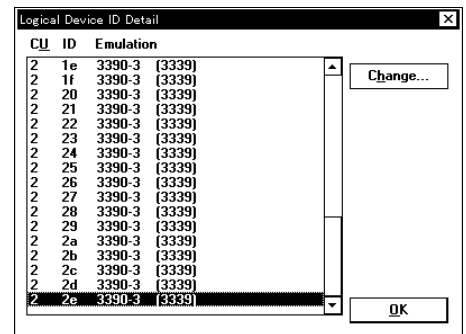
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

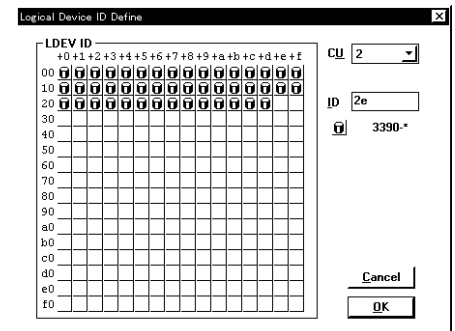
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

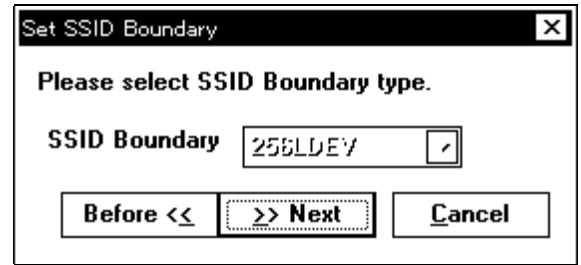
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

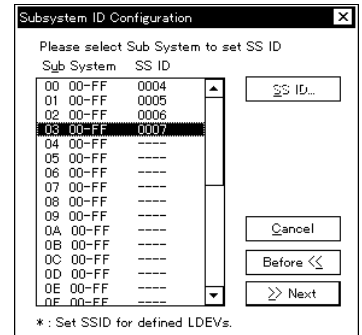
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

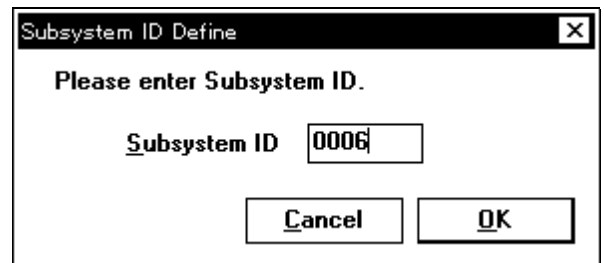
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

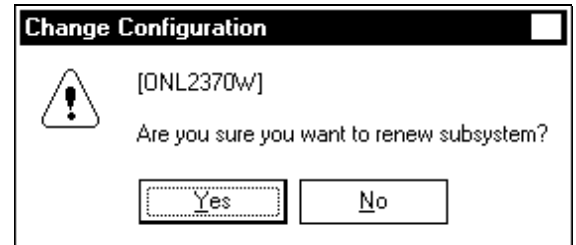
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-1220](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

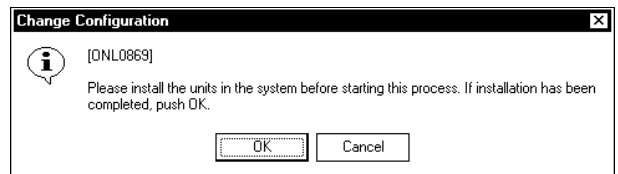
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



3 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

When the additional disk adapter is not to be added, go to Step 4, "Installation Procedure of HDD Canister".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue. Never insert a PCB whose lever is not blue.

- Remove the dummy plate installed in the installation location referring to the Fig. 3.11.7-7.
(Note) Dummy plates should be stored for future use in De-installation.
- Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.7-1.
- Fasten the two screws referring to Fig. 3.11.7-8.

Table 3.11.7-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

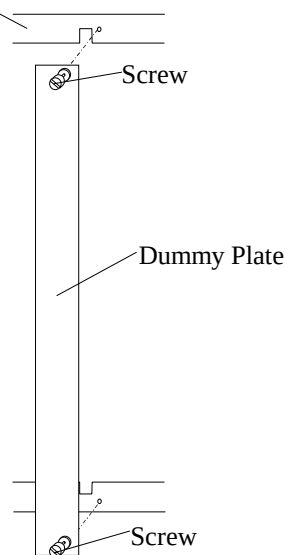


Fig. 3.11.7-7 Removal of Dummy Plate

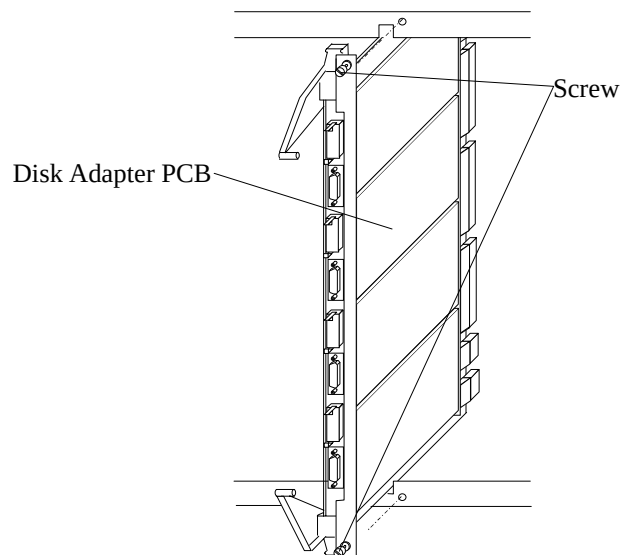


Fig. 3.11.7-8 Insertion of PCB

3-2 Connection of cables

In case of Add.1

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.7-9.)

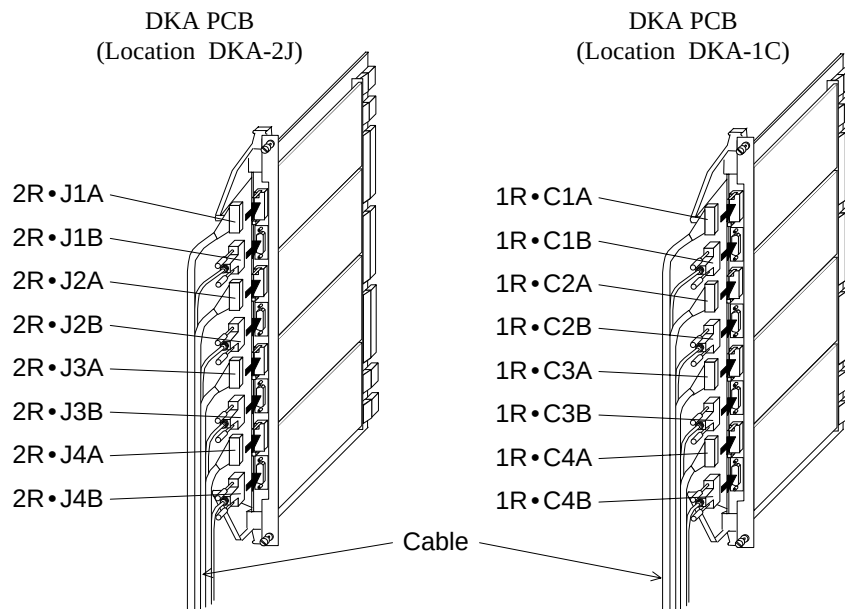


Fig.3.11.7-9 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

 CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

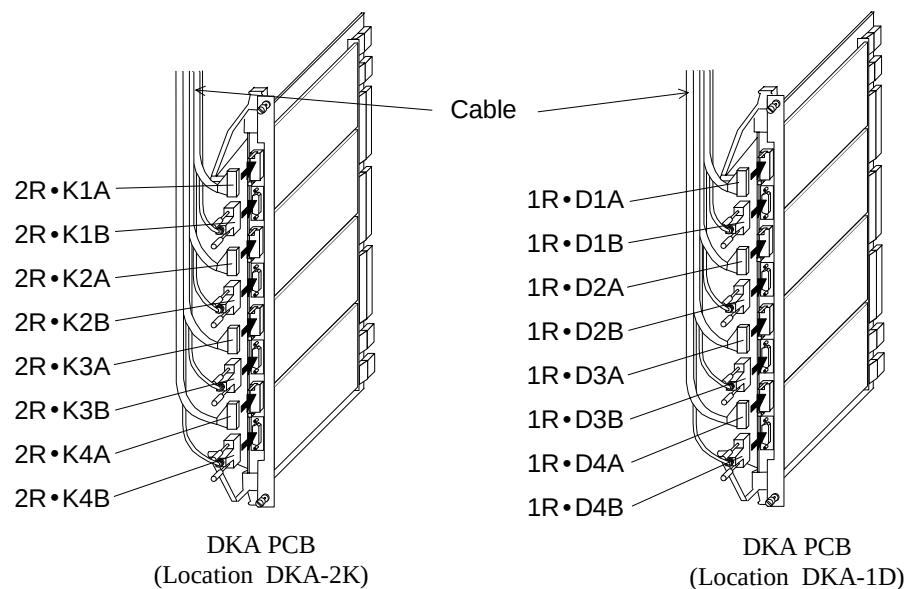


Fig.3.11.7-10 Connection of cable (Add.2)

In case of Add.3

Caution:

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

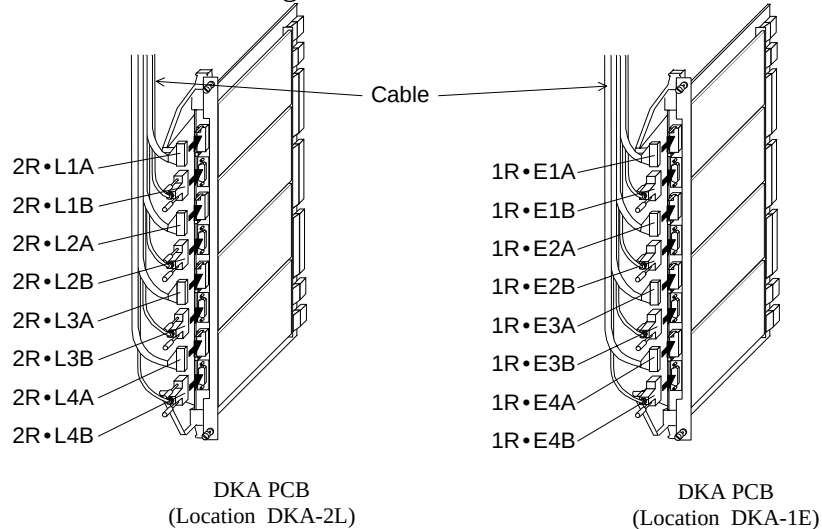


Fig.3.11.7-11 Connection of cable (Add.3)

3-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.7-12.

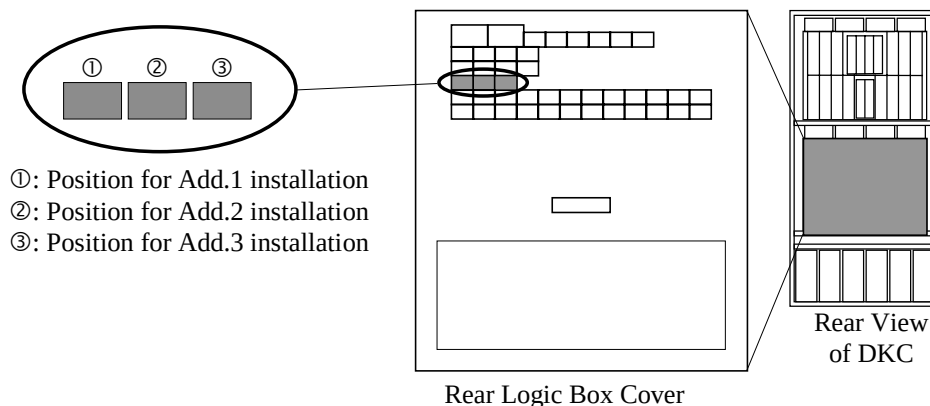


Fig. 3.11.7-12 Attachment of Nameplate

4. Installation Procedure of HDD Canister

4-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.7-2.

Table 3.11.7-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare)	4-16			047(Spare)	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare	3-16			Spare	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		HDU-R14				HDU-R24			
		HDU-R11				HDU-R21			
		HDU-R10				HDU-R20			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU					
DKC				L1 DKU				L2 DKU	
HDU-R27				HDU-R17					
HDU-R26				HDU-R16					
HDU-R23				HDU-R13					
HDU-R22				HDU-R12					

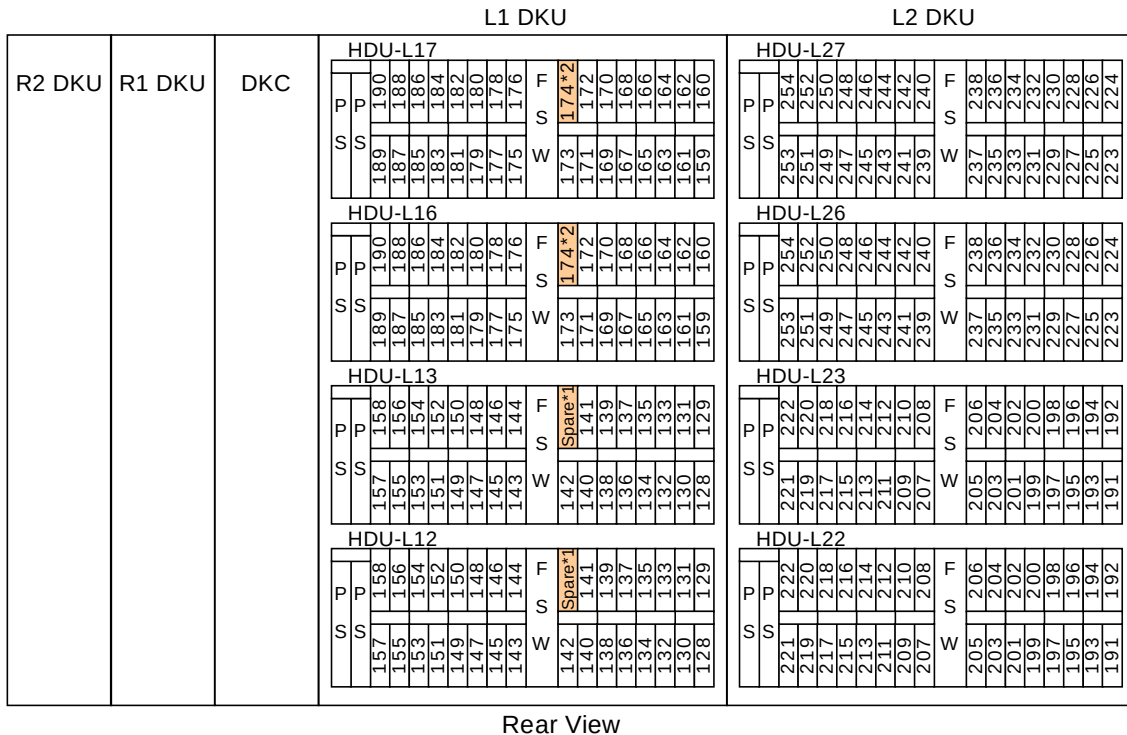
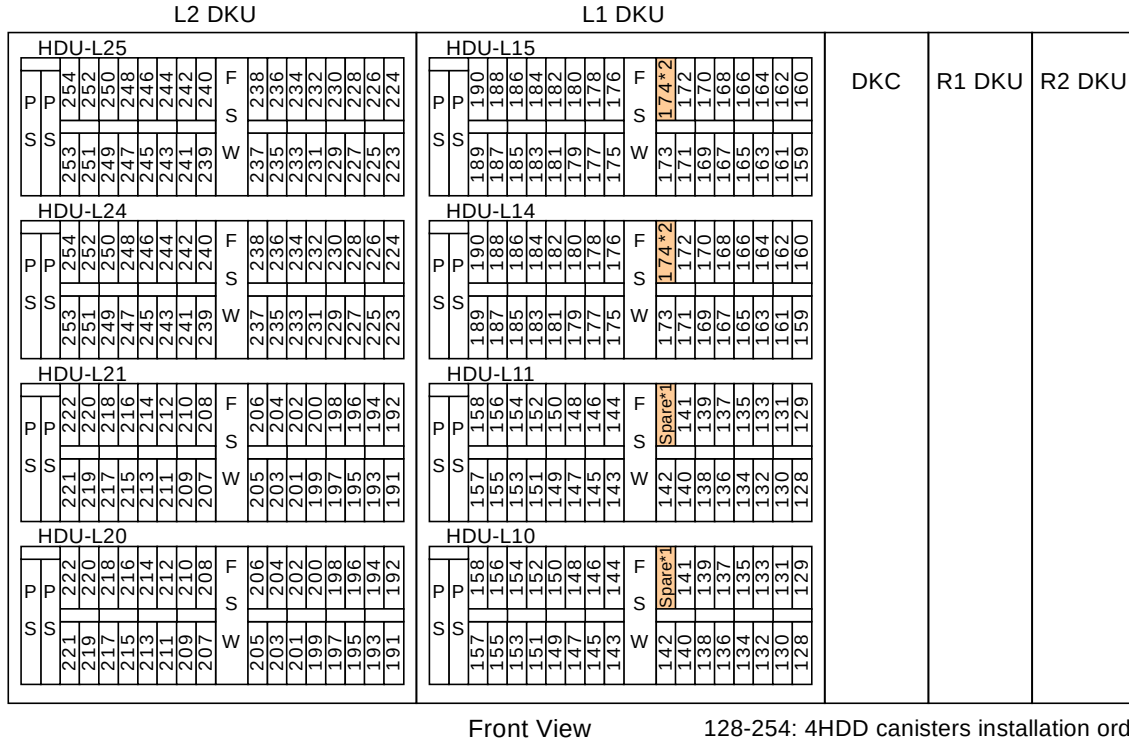
Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.7-13 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.7-2.



*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.7-13 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.7-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.7-3.

Table 3.11.7-3 Relation between HDDs installation order and RAID number (7D+1P)

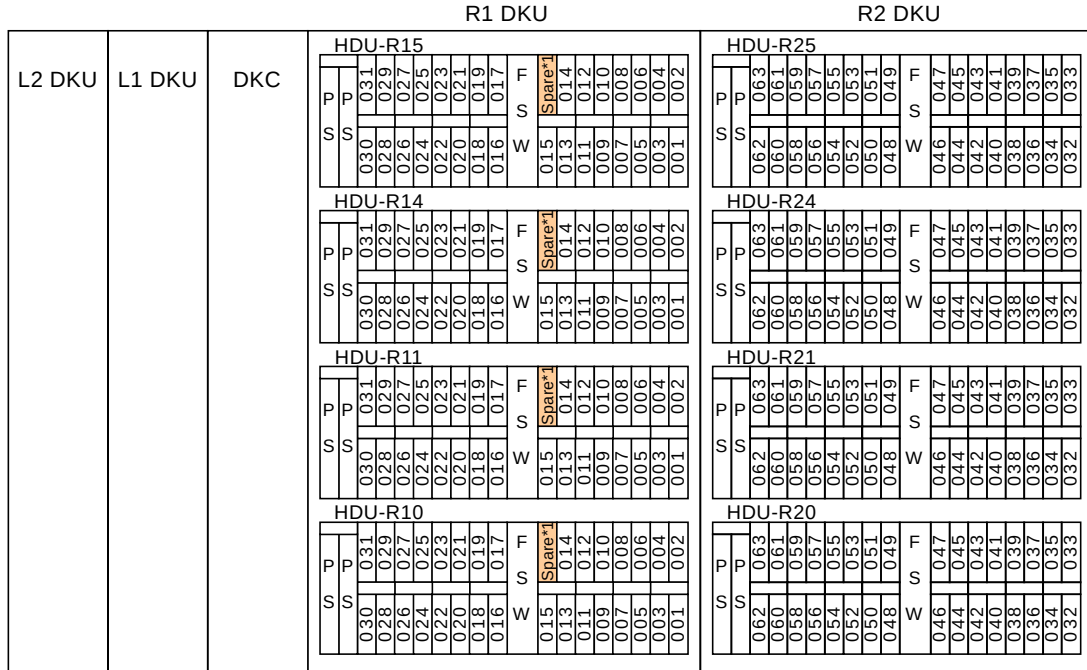
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

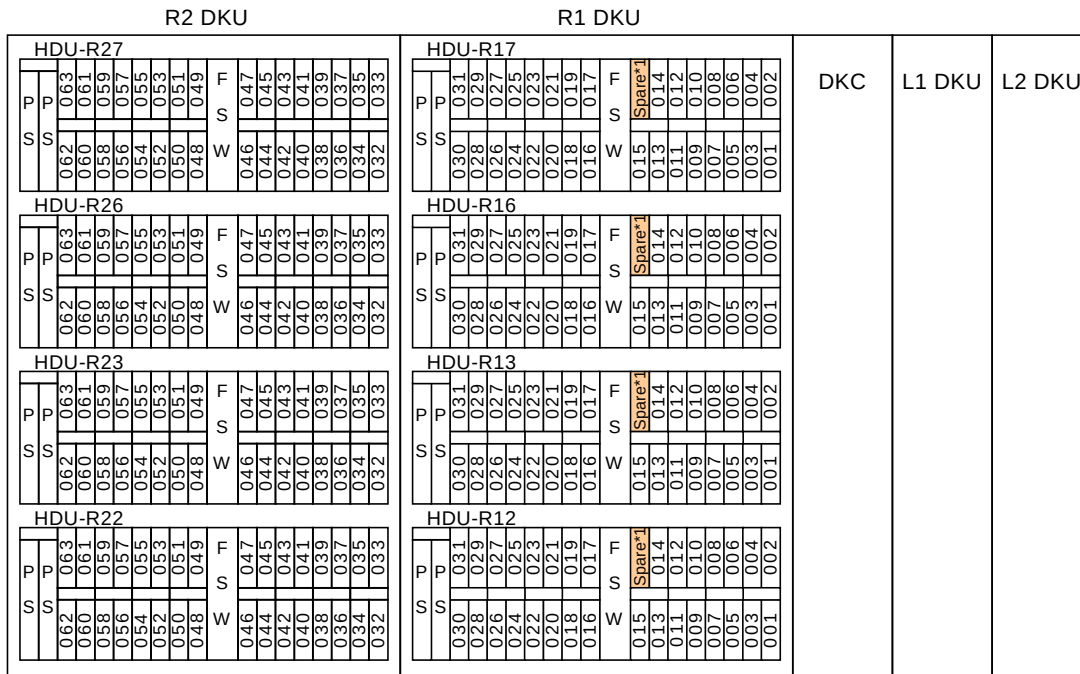
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left
vacant or a
spare disk
is to be
installed.

Fig. 3.11.7-14 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.7-3.

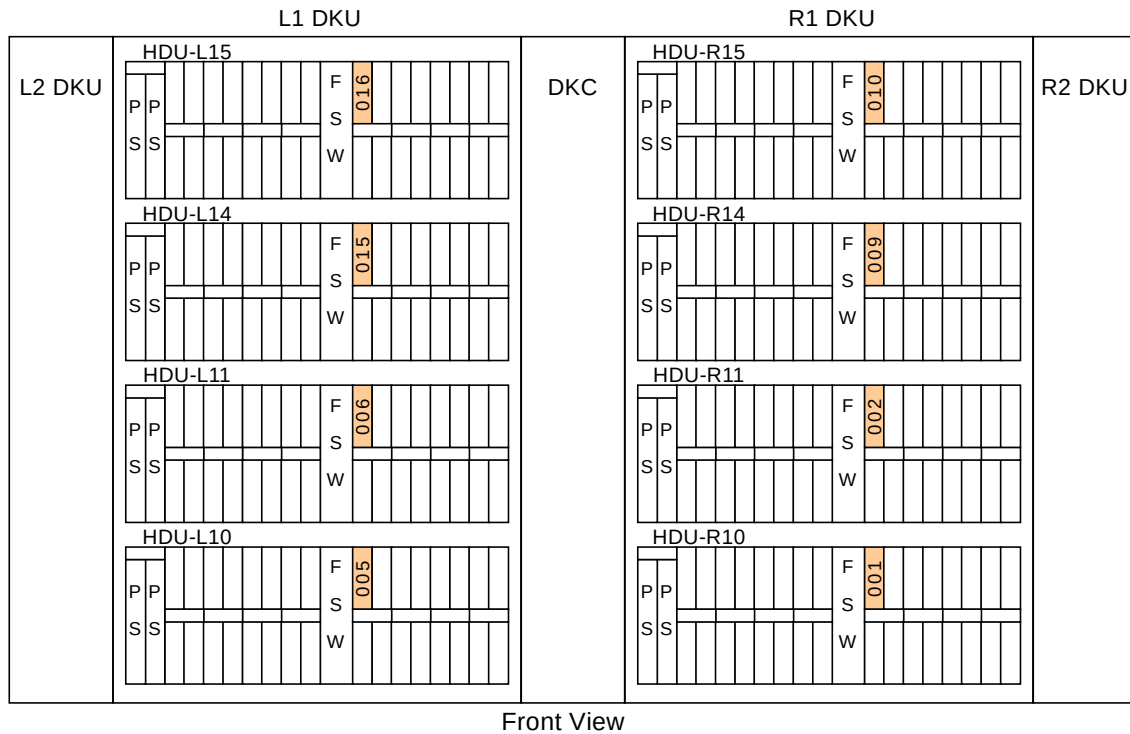
L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU		
HDU-L25										HDU-L15														
HDU-L24										HDU-L14														
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														
HDU-L25										HDU-L15										Front View				
HDU-L24										HDU-L14										064-126: 8HDD canisters installation order				
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17				HDU-L27			
			P		S		P		S	
			094		093		126		125	
			092		091		124		123	
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
W		S		W		S				
078		078		109		108				
Spare*1		Spare*1		107		106				
077		077		105		104				
075		074		103		102				
073		072		101		100				
071		070		99		98				
069		068		97		96				
067		066		95		94				
065		064		93		92				
HDU-L16				HDU-L26						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
W		S		W		S				
078		078		110		109				
Spare*1		Spare*1		108		107				
077		077		106		105				
075		074		104		103				
073		072		102		101				
071		070		100		99				
069		068		98		97				
067		066		96		95				
065		064		94		93				
HDU-L13				HDU-L23						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
W		S		W		S				
078		078		110		109				
Spare*1		Spare*1		108		107				
077		077		106		105				
075		074		104		103				
073		072		102		101				
071		070		100		99				
069		068		98		97				
067		066		96		95				
065		064		94		93				
HDU-L12				HDU-L22						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
W		S		W		S				
078		078		110		109				
Spare*1		Spare*1		108		107				
077		077		106		105				
075		074		104		103				
073		072		102		101				
071		070		100		99				
069		068		98		97				
067		066		96		95				
065		064		94		93				

Rear View

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

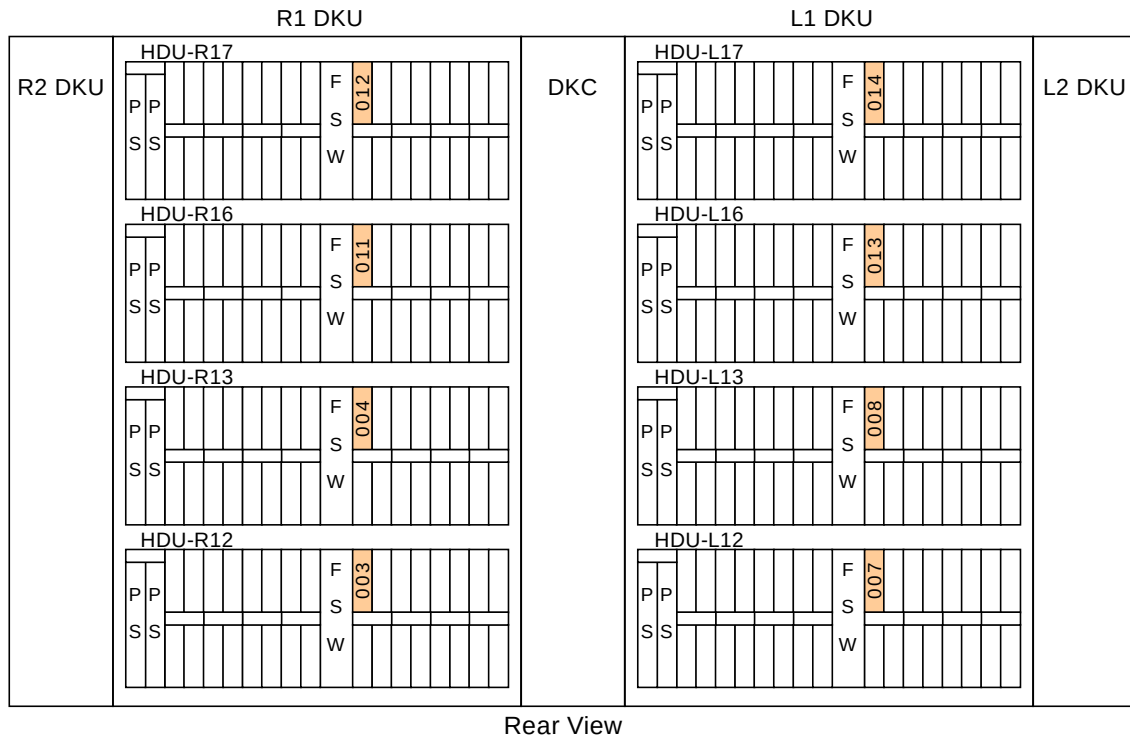


Fig. 3.11.7-15 Spare Drive Expansion Sequence

4-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

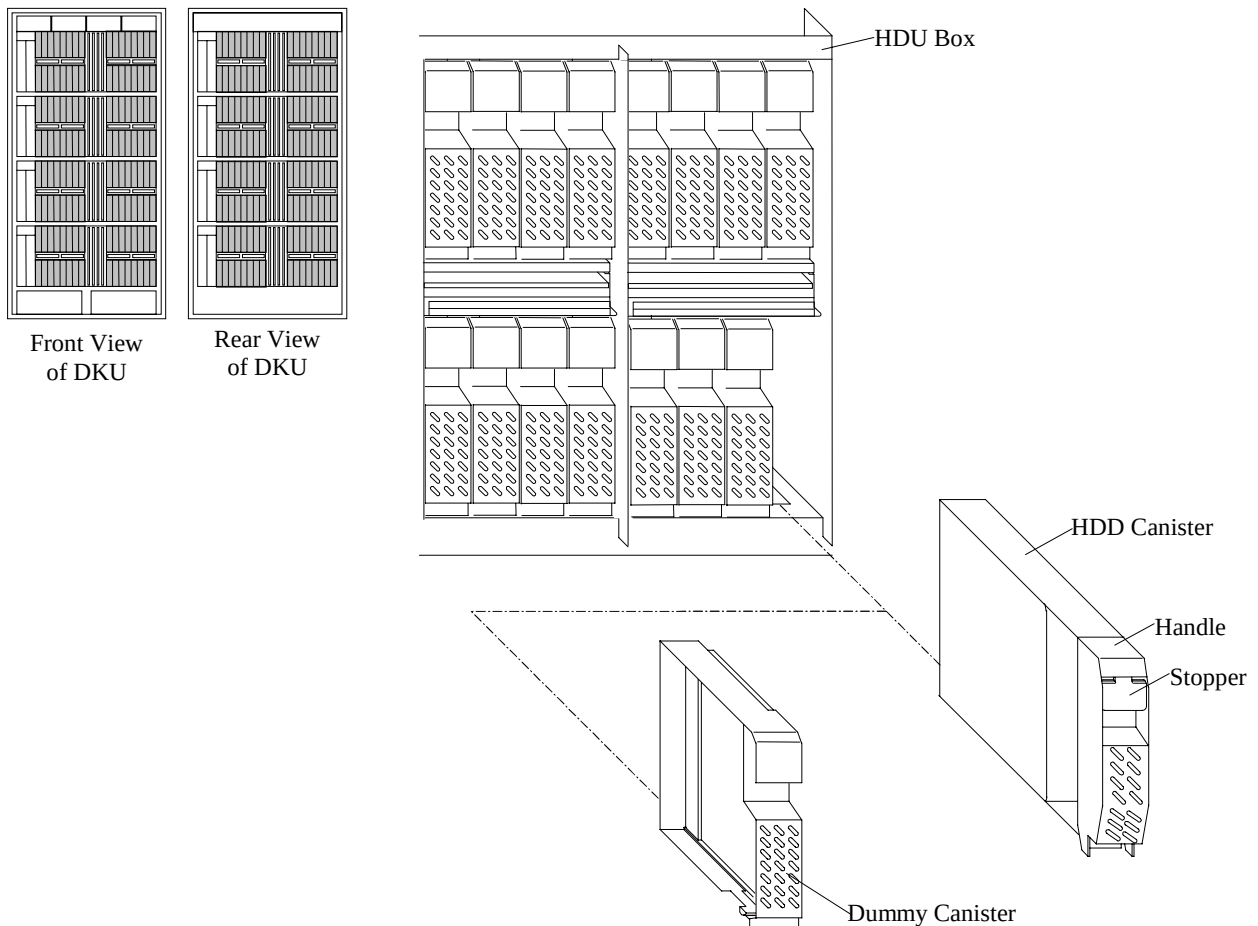
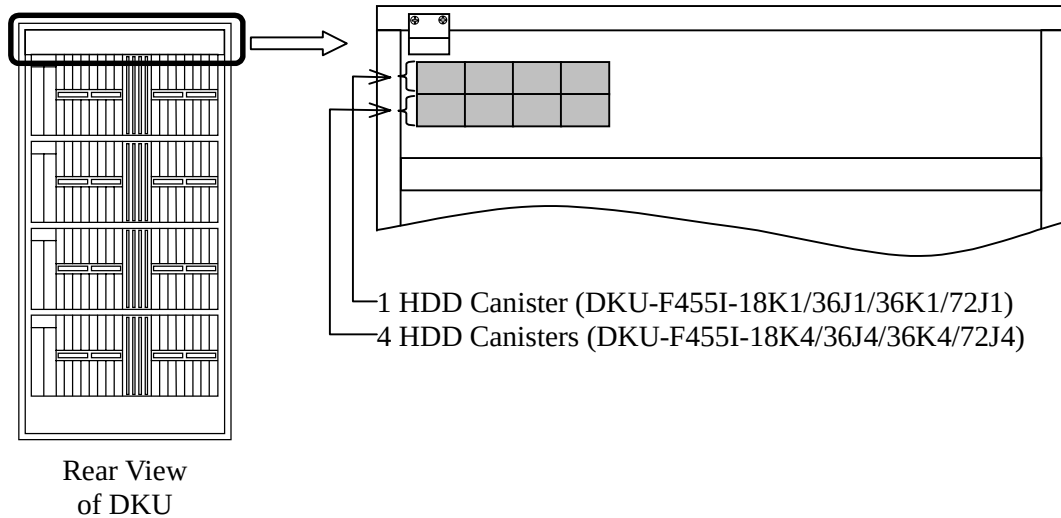


Fig. 3.11.7-16 Installation of HDD Canister

4-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

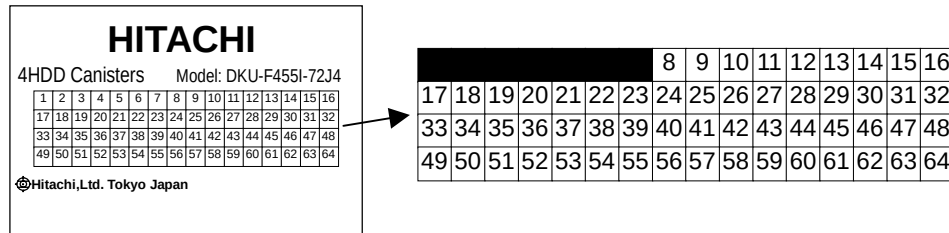


Fig. 3.11.7-17 Attachment of Nameplate

6. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-L1 frame referring to figures 3.11.7-17 and 3.11.7-18.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

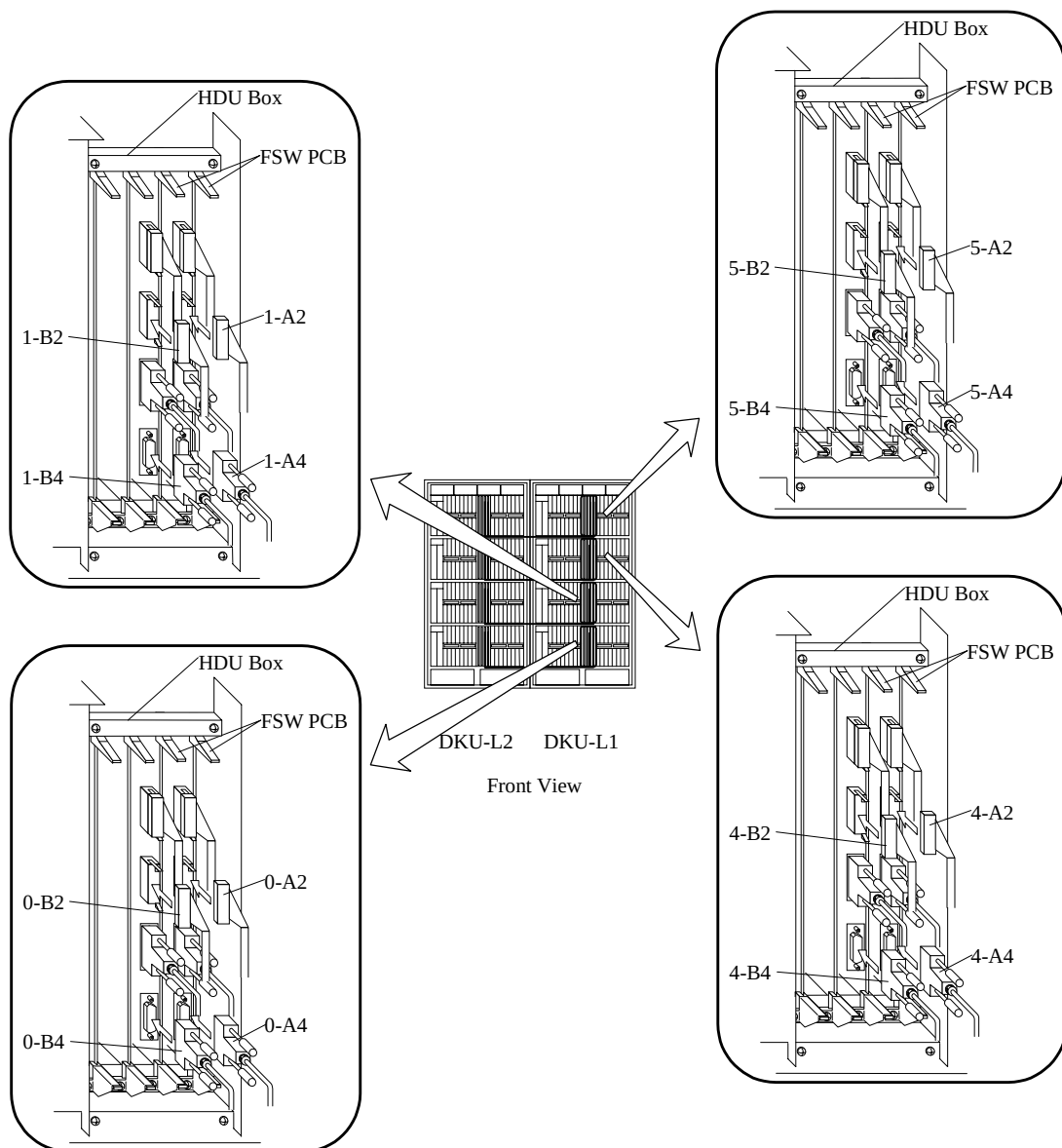


Fig. 3.11.7-18 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

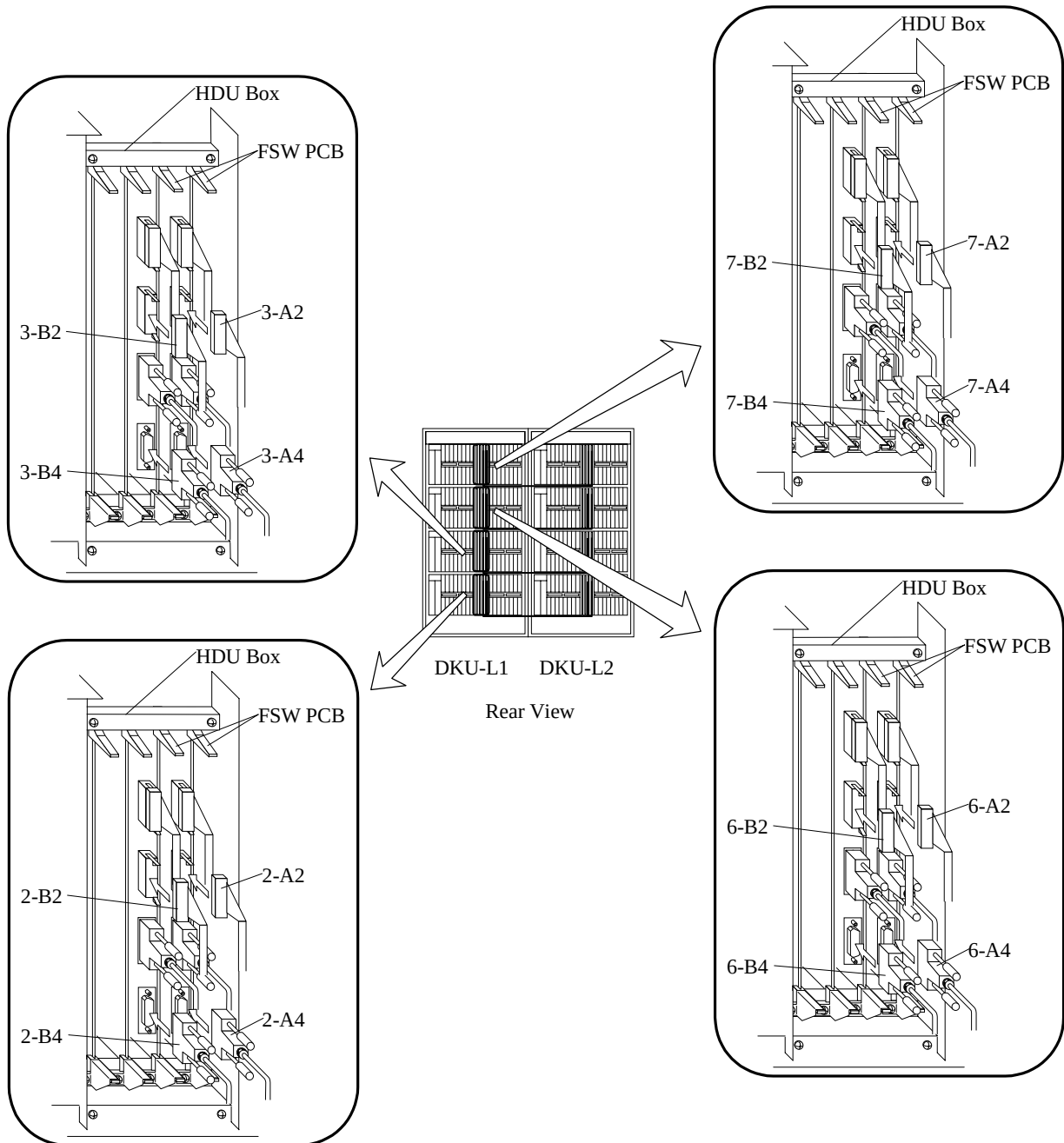
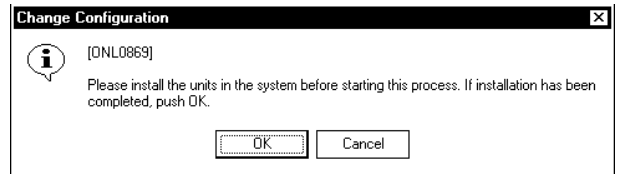


Fig. 3.11.7-19 Connection of the DEV Interface Cables

7. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

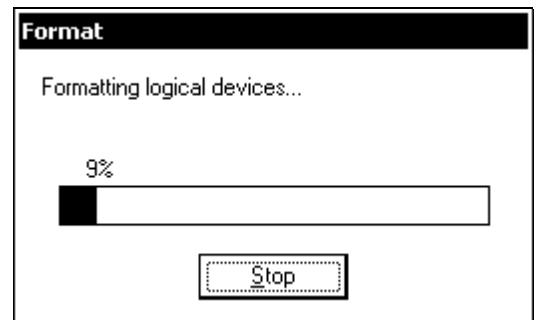
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

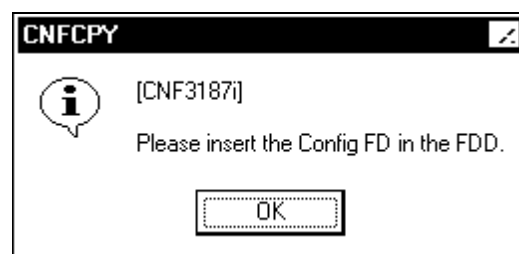
“Formatting the logical device...” is displayed when Parity Group is defined.



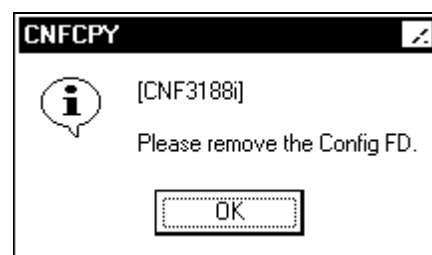
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



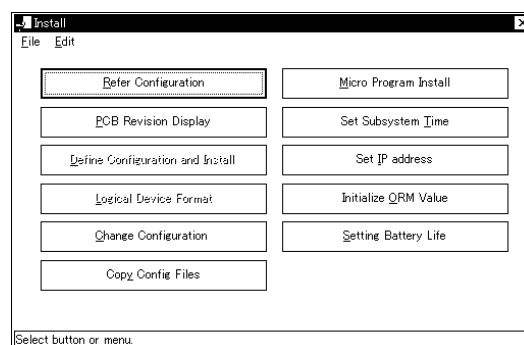
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

8. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

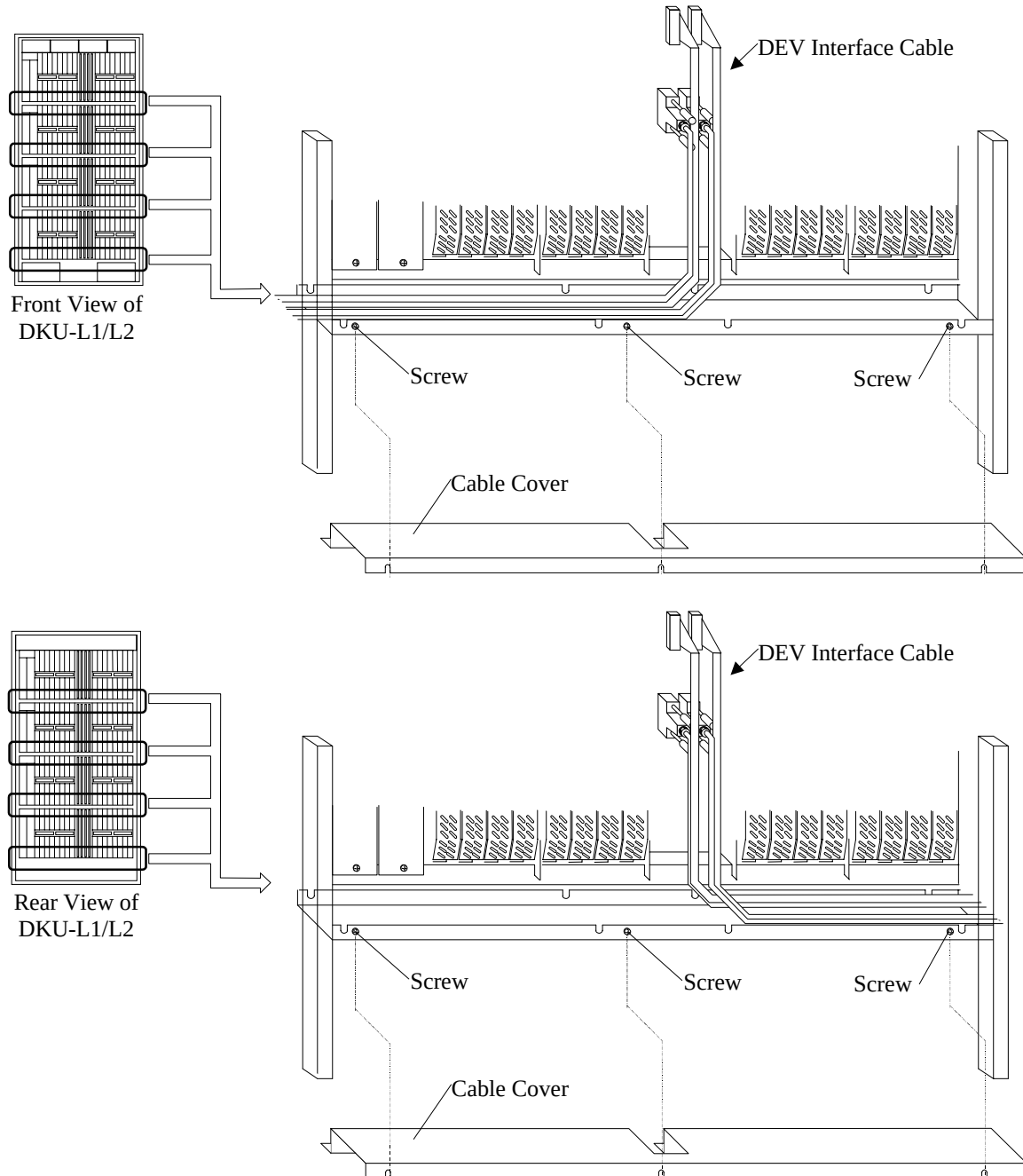


Fig. 3.11.7-20 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

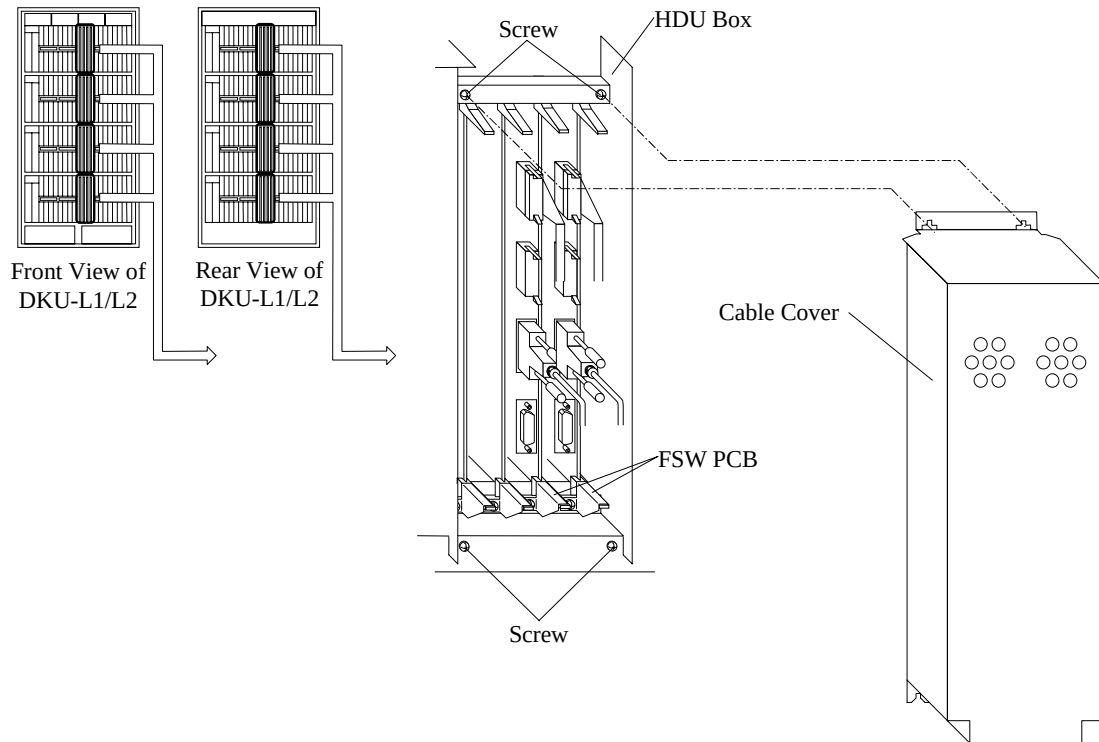


Fig. 3.11.7-21 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-L2 frame.

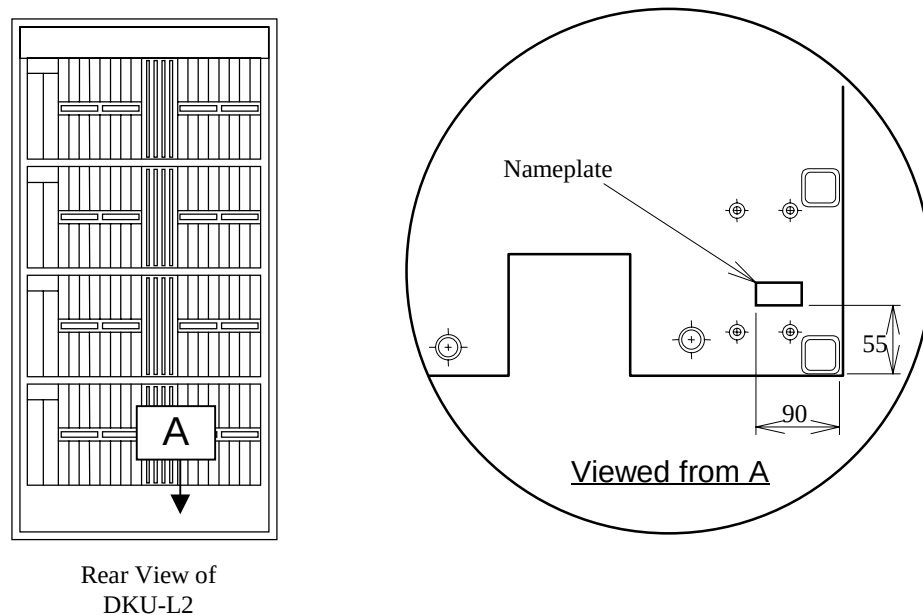


Fig. 3.11.7-22 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.8 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L1 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)

1-1 Connect the DEV Interface cables to the FSW.

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

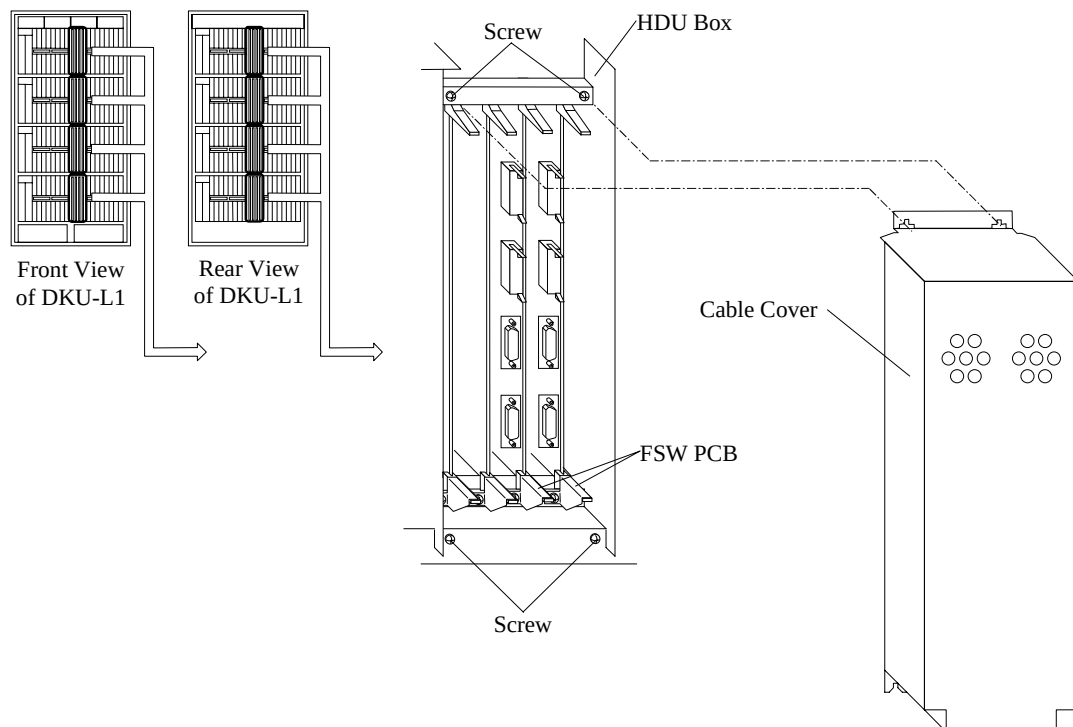


Fig. 3.11.8-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

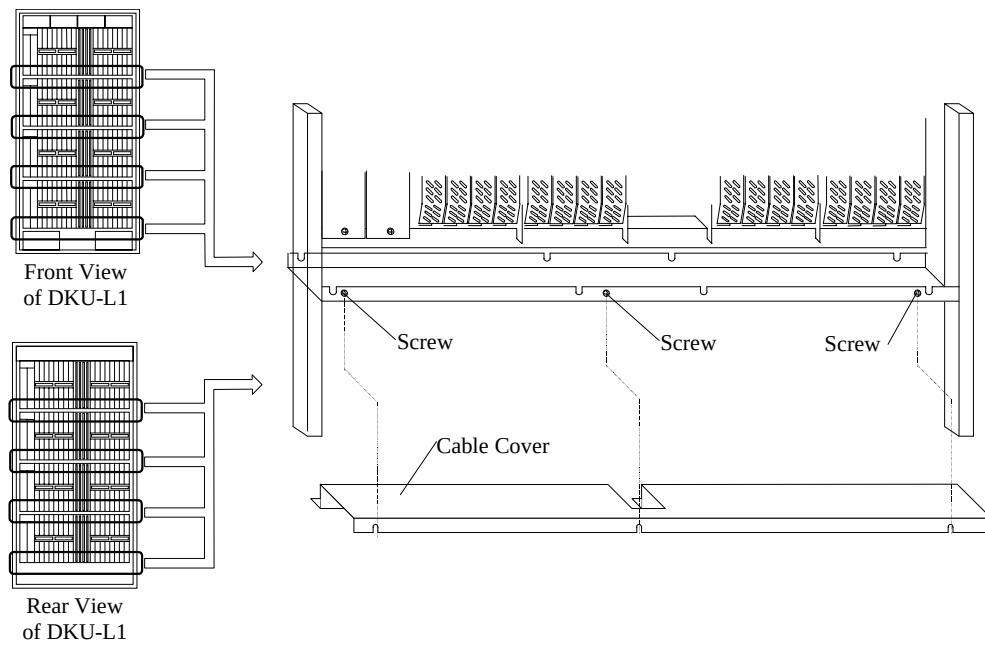


Fig. 3.11.8-2 Removal of Cable Covers

- c. Refer to Fig. 3.11.8-3 and Fig. 3.11.8-4. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the DKA in this procedure. The cable is to be connected later in another procedure.



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.

Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

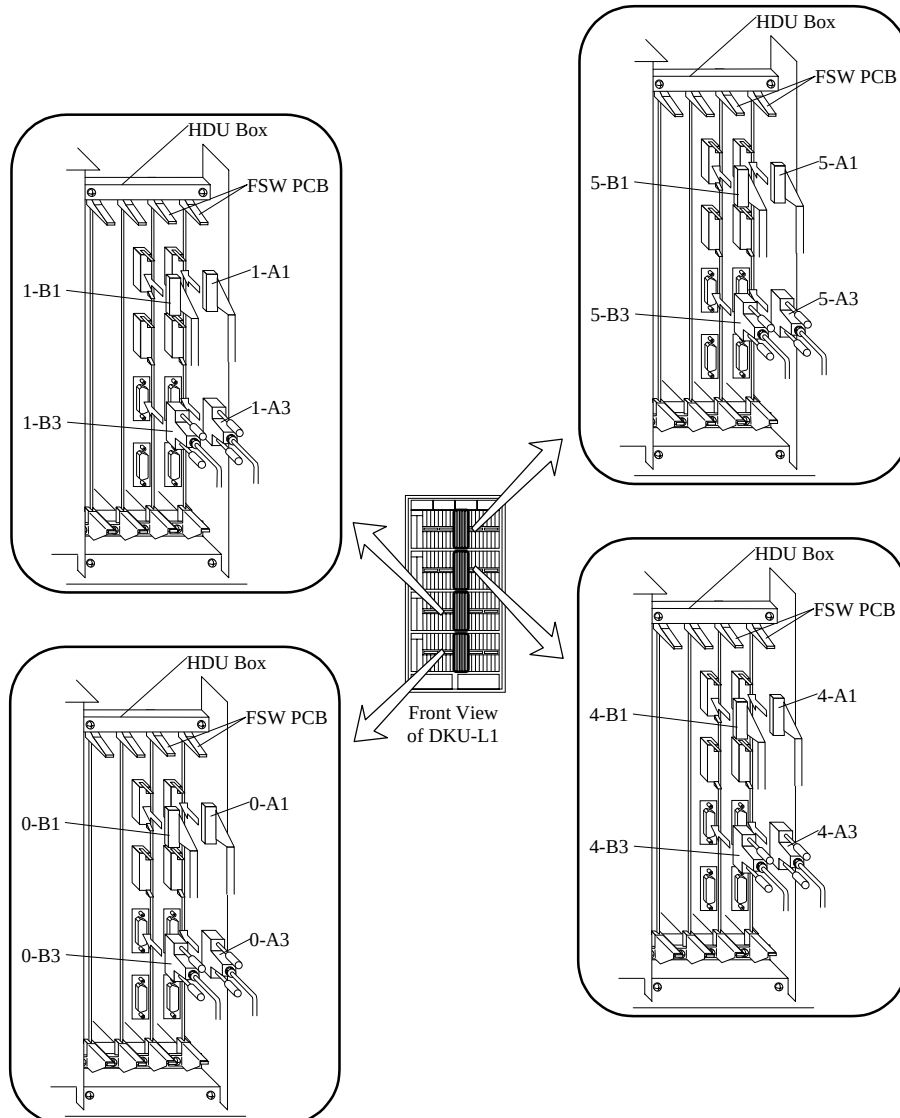


Fig. 3.11.8-3 DEV Interface Cabling Diagram (FSW PCB Side)

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

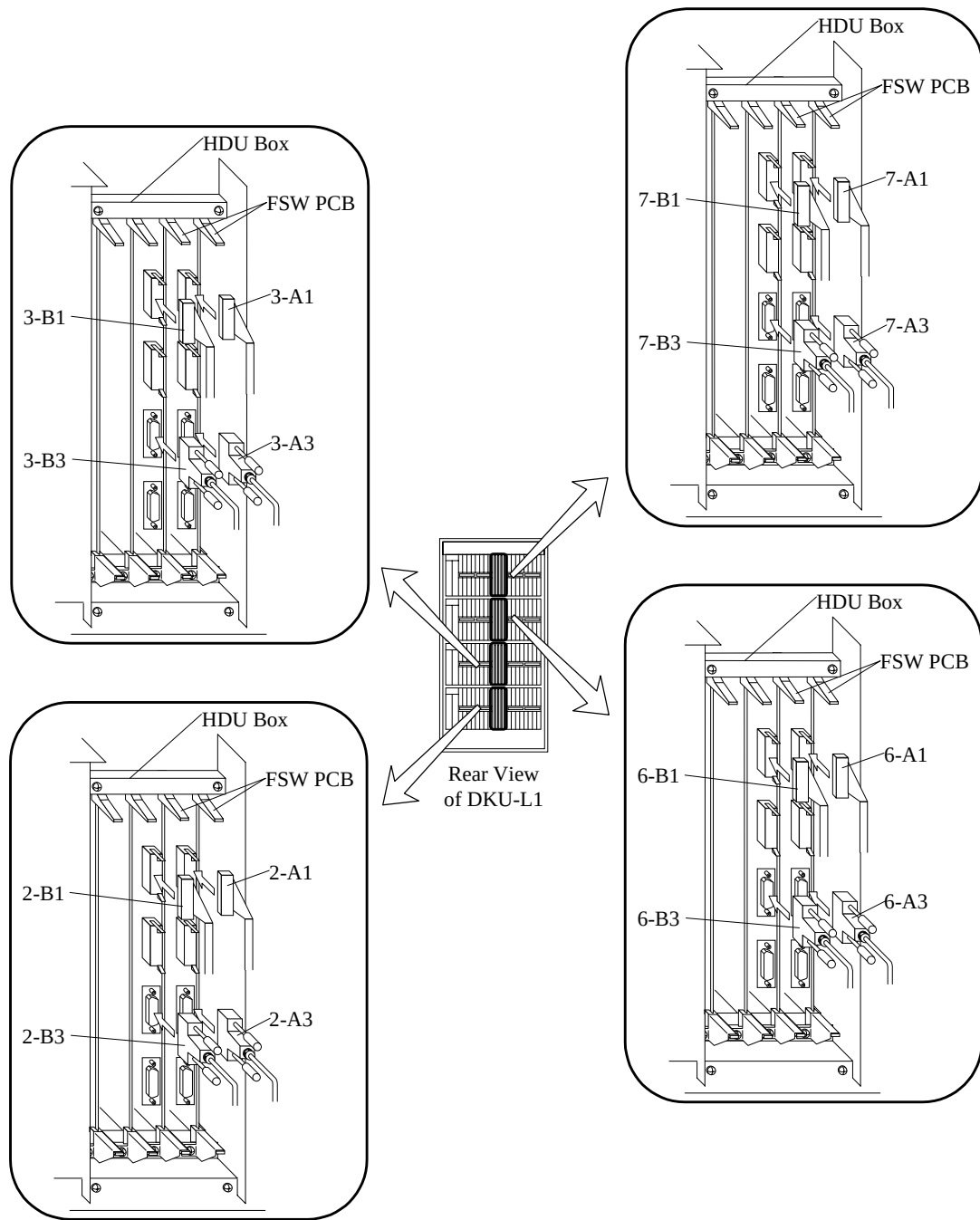


Fig. 3.11.8-4 DEV Interface Cabling Diagram (FSW PCB Side)

- d. Attach the cable covers with the screw to fix the DEV Interface Cables.

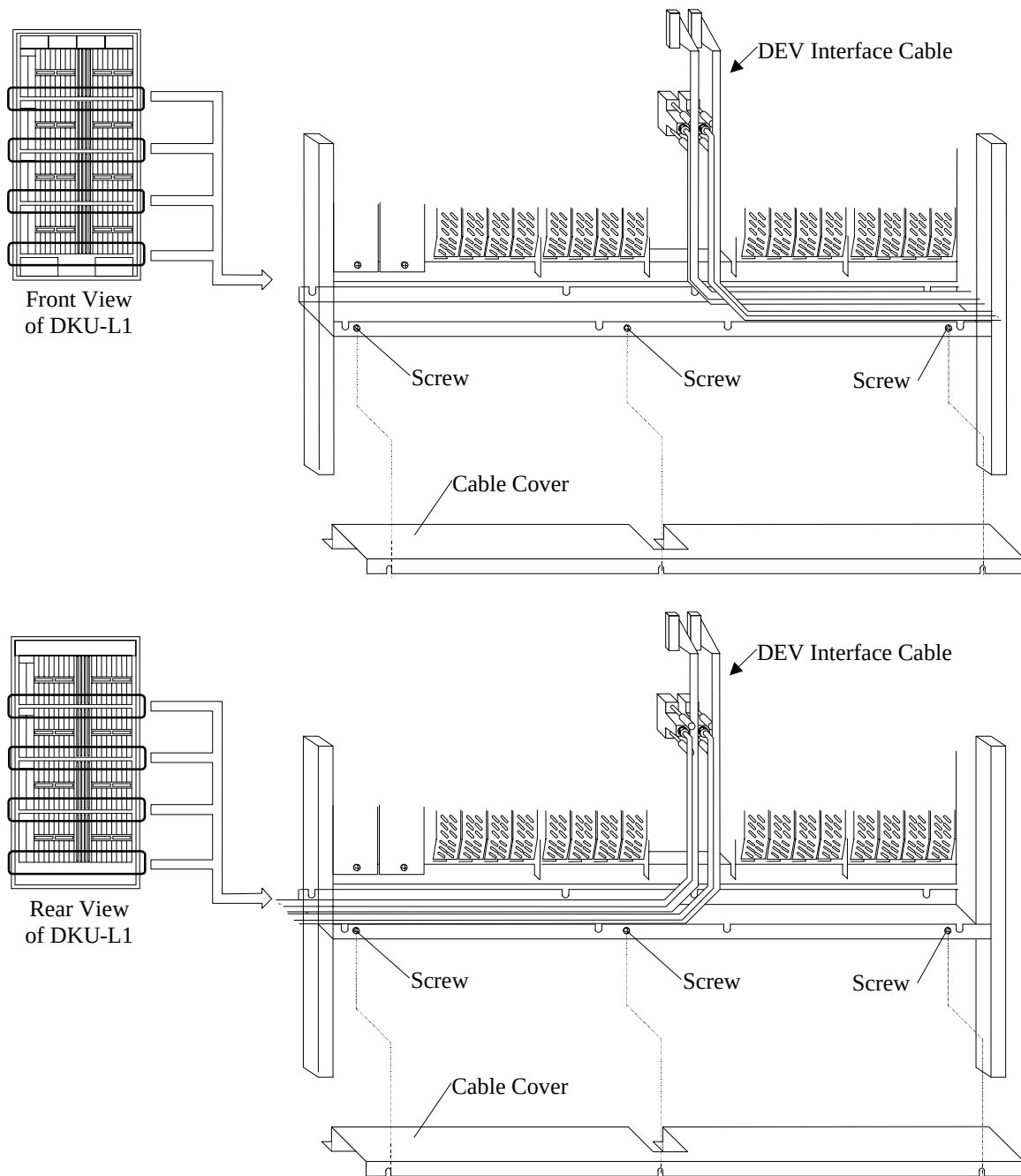


Fig. 3.11.8-5 Fixation of the DEV Interface Cables

- e. Attach the cable covers with the screw to fix the DEV Interface Cables.

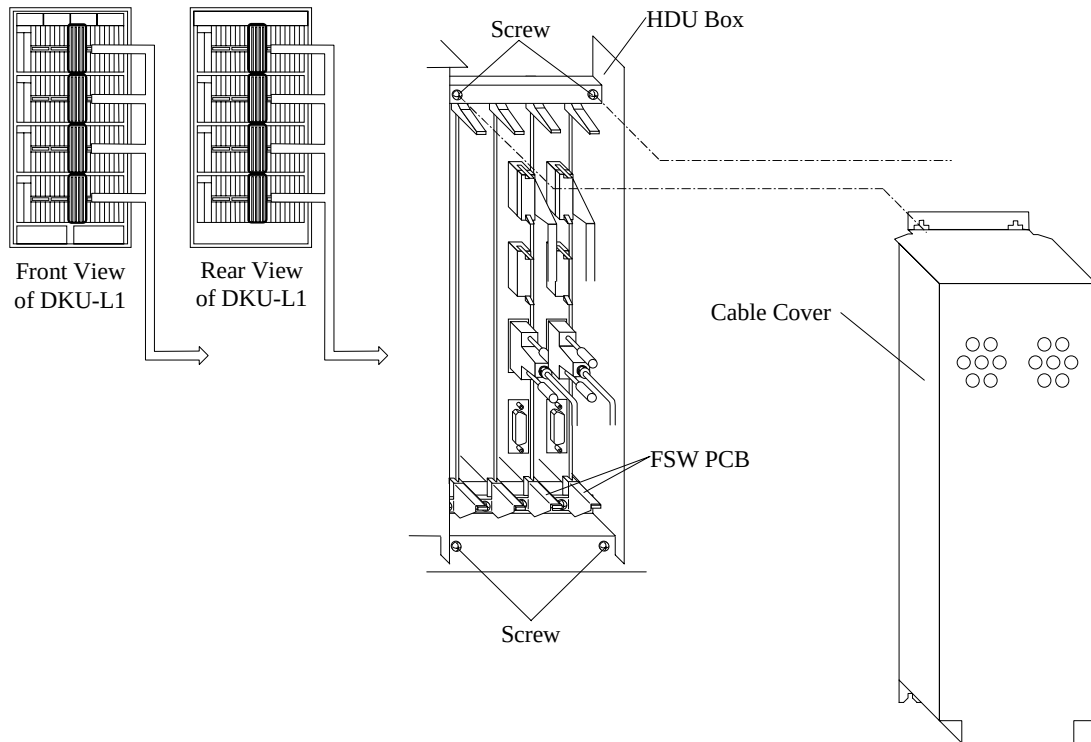


Fig. 3.11.8-6 Fixation of the DEV Interface Cables

1-2 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

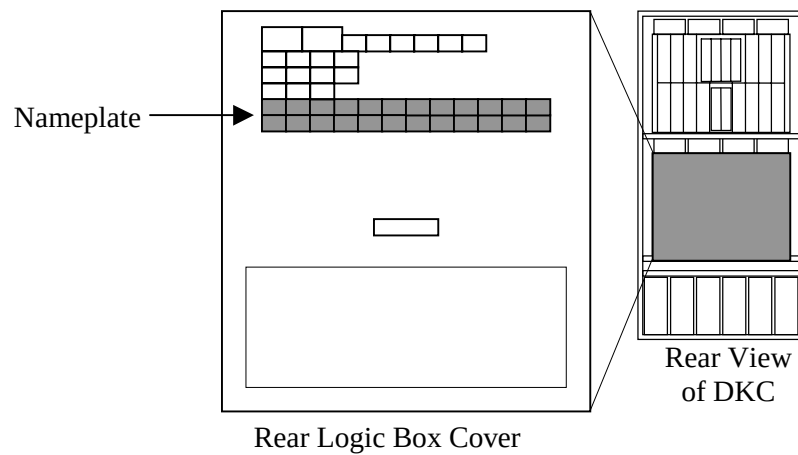


Fig. 3.11.8-7 Attachment of Nameplate

2. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC) Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

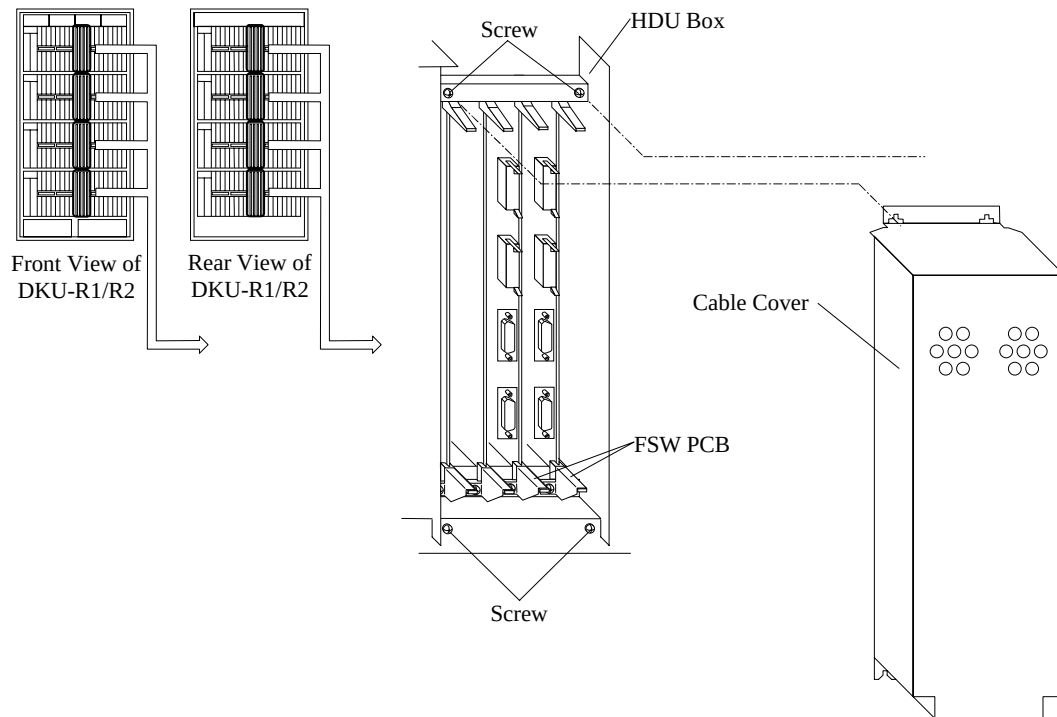


Fig. 3.11.8-8 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

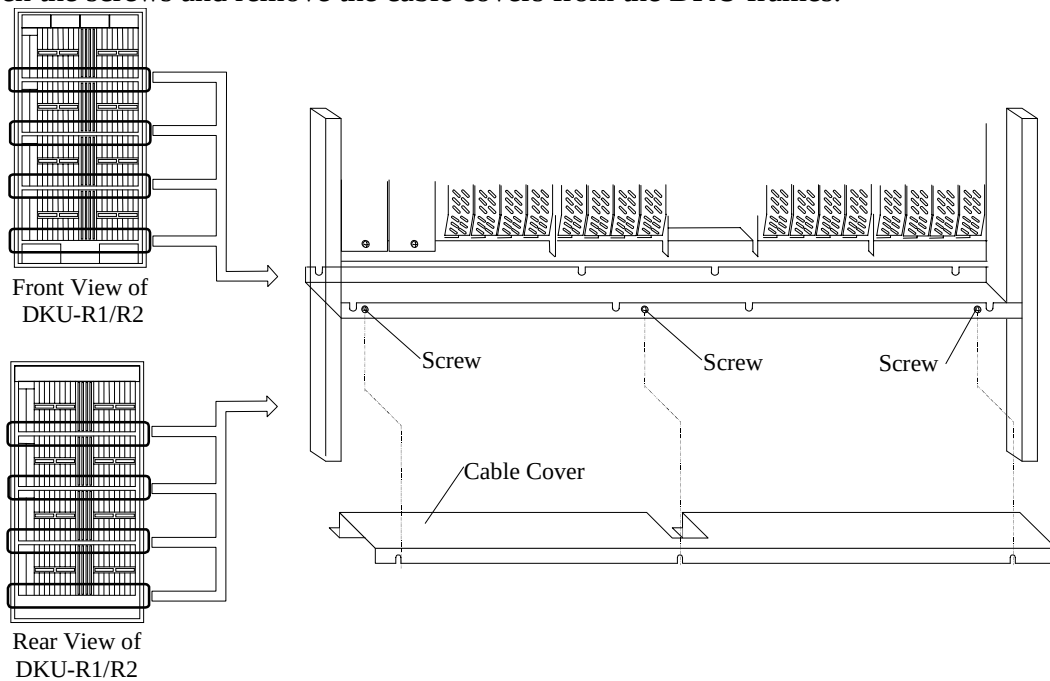


Fig. 3.11.8-9 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-R2 frame referring to Fig. 3.11.8-10 through Fig. 3.11.8-13.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the operating DKU in this procedure. The cable is to be connected later in another procedure.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

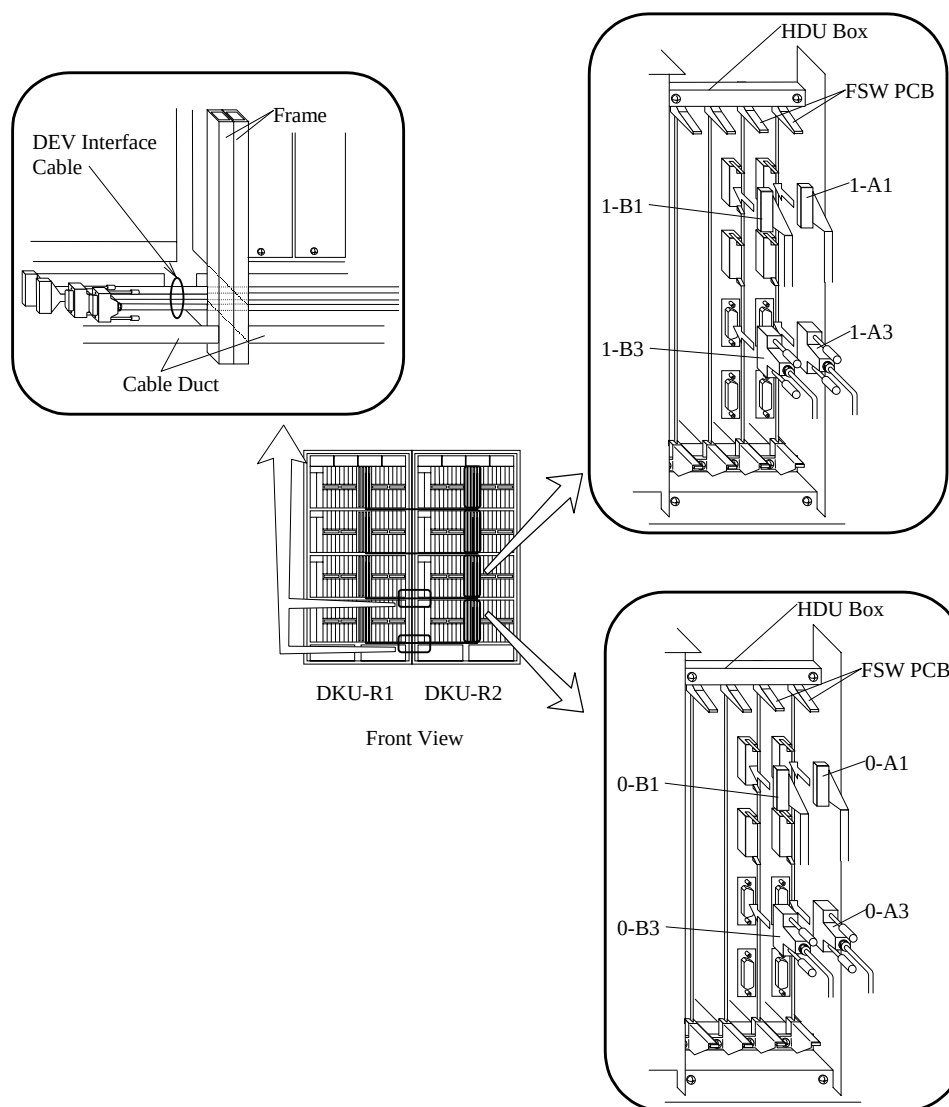


Fig. 3.11.8-10 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

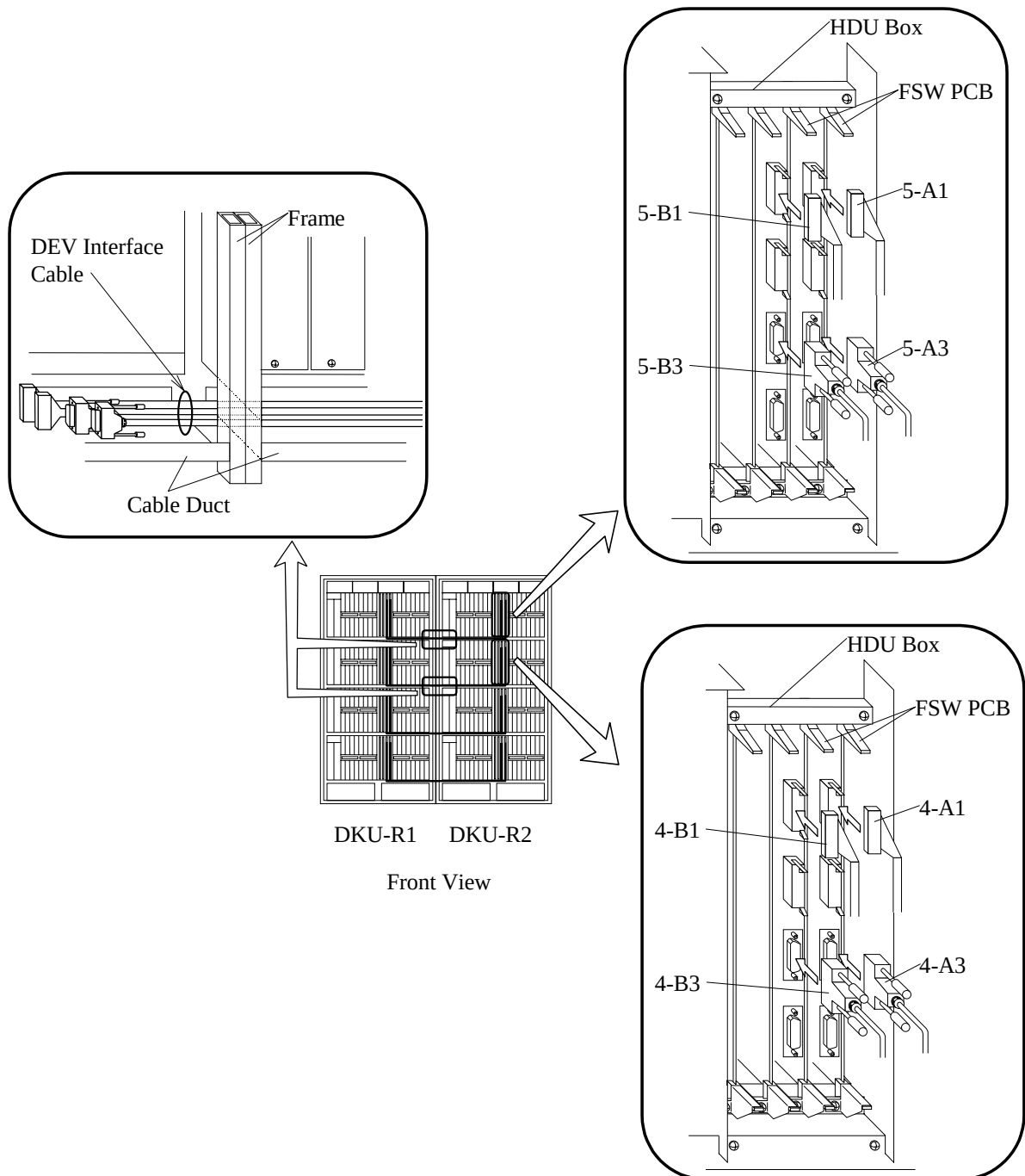


Fig. 3.11.8-11 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

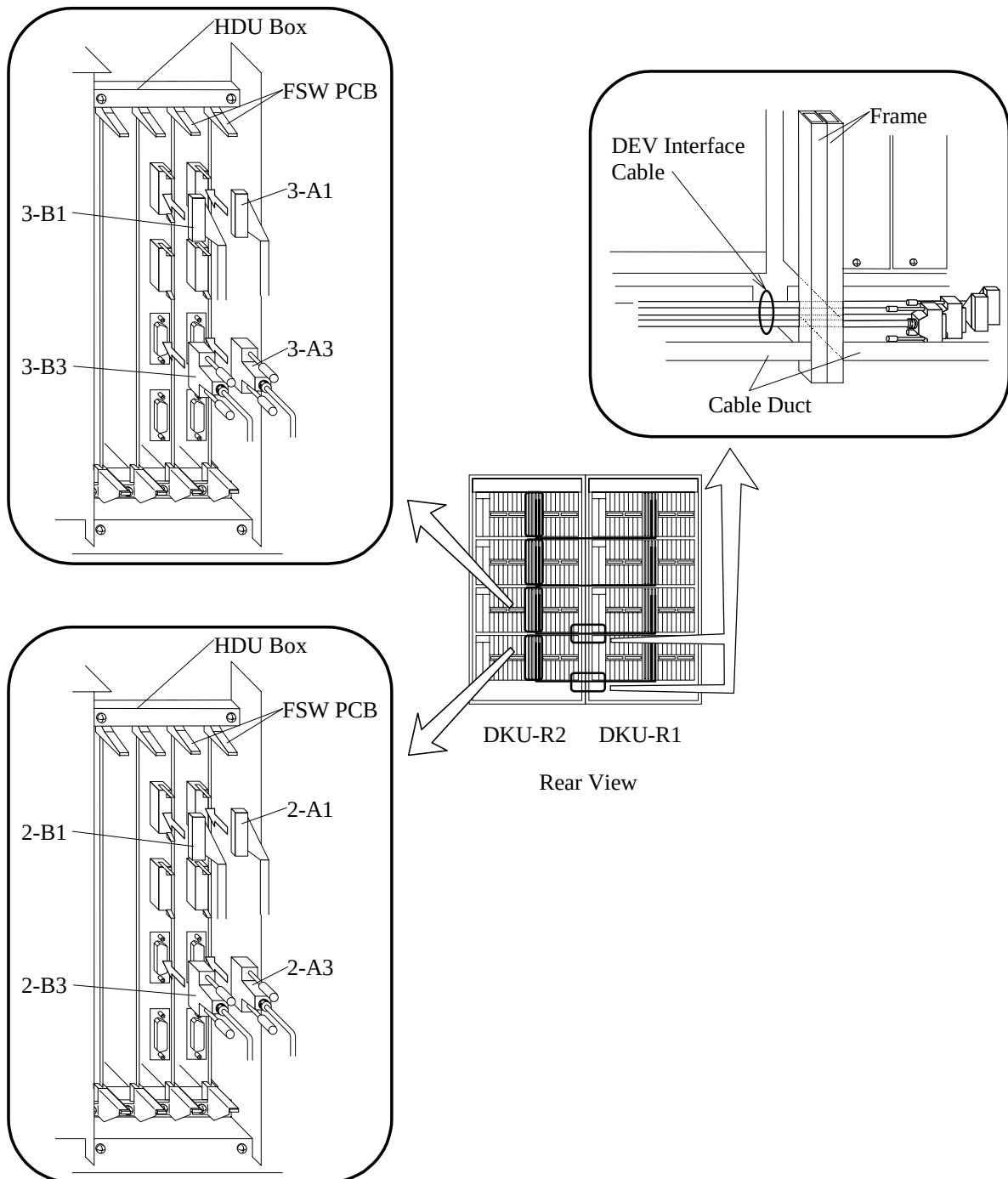


Fig. 3.11.8-12 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

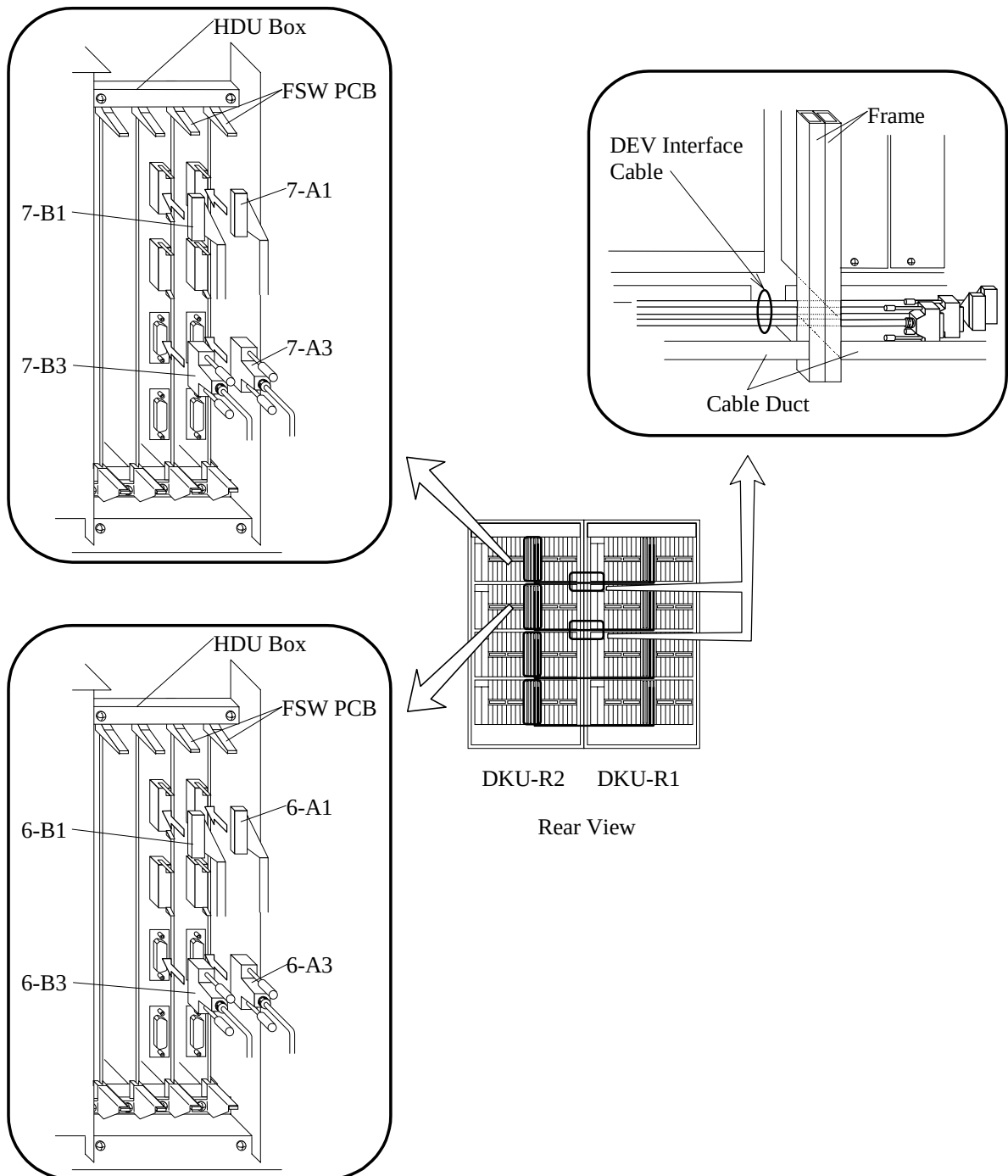
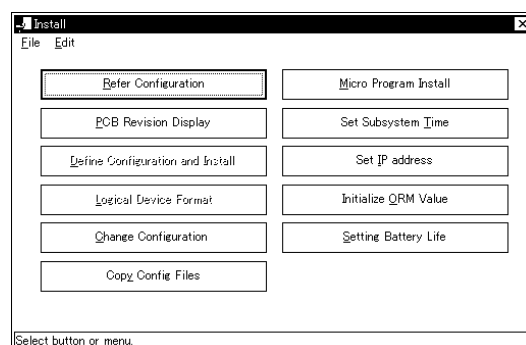


Fig. 3.11.8-13 Connection of the DEV Interface Cables

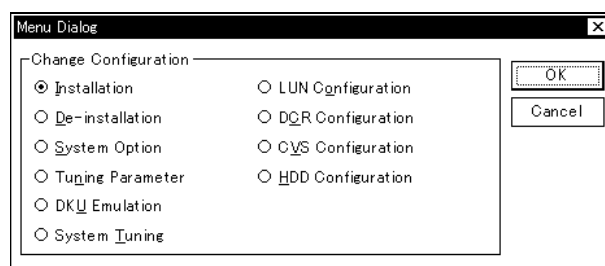
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

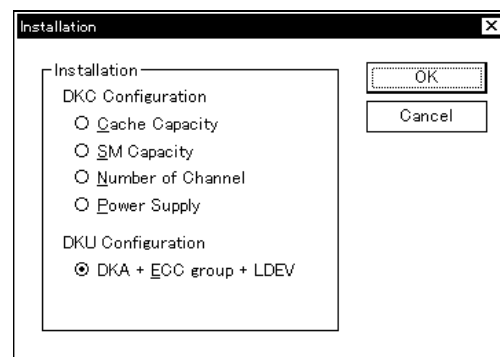
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note1: To add the DKU-L1, the six or more DKAs are required.

Note2: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-R2 and DKU-L1 is added to the DKUs currently set.

Current setting	Altered setting
1DKU (R1)	3DKUs (R1, L1, R2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

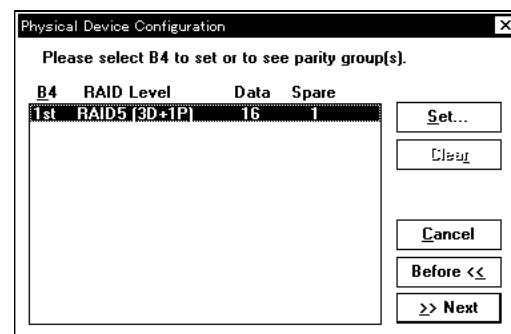
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

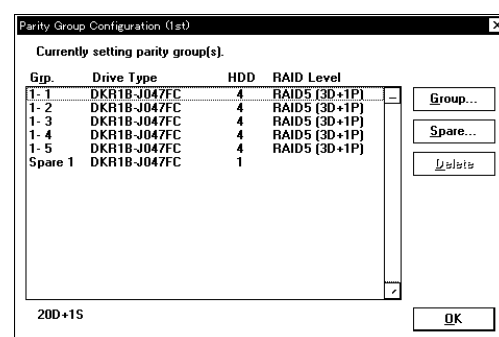
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

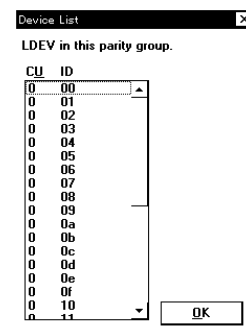
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

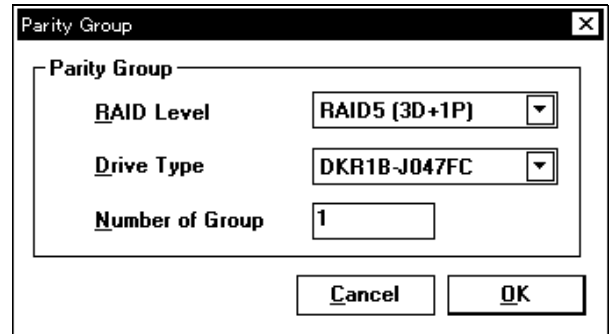
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

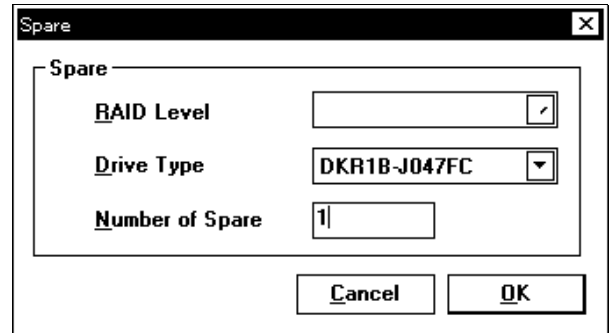
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

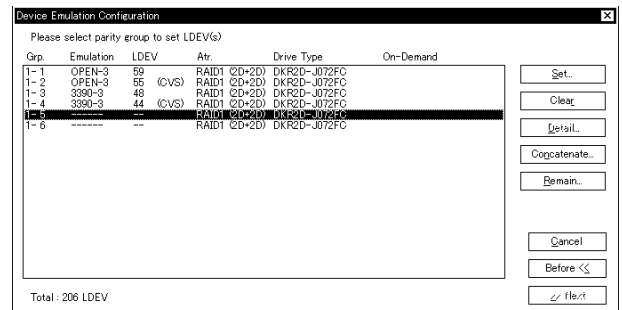
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

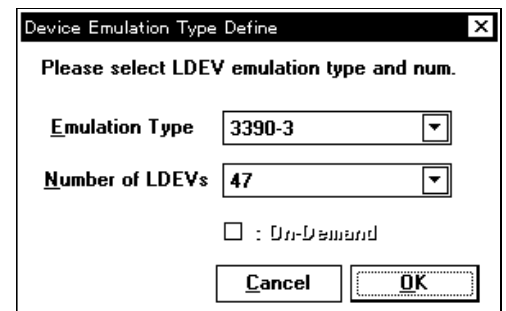
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

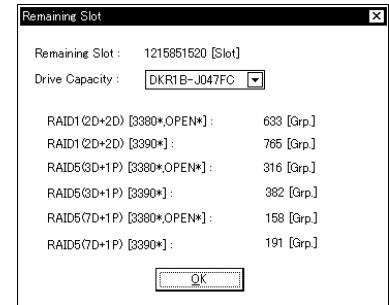
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

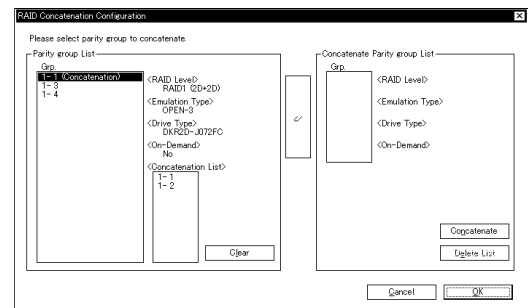
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

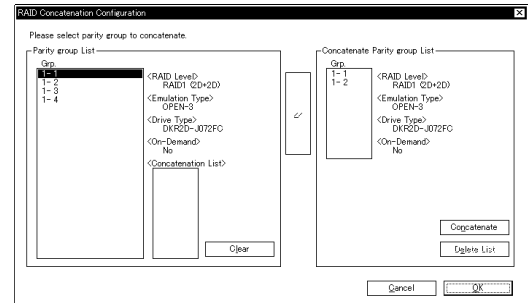
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

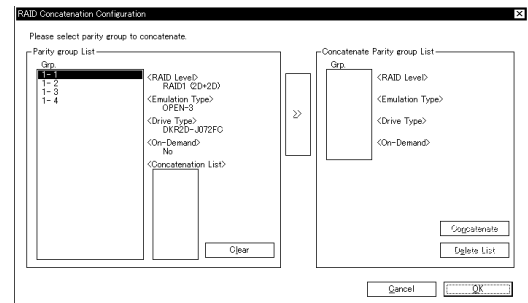


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

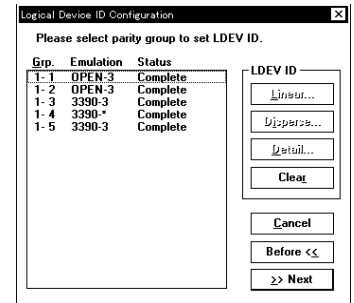
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

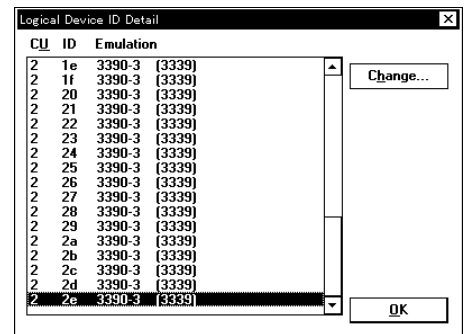
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

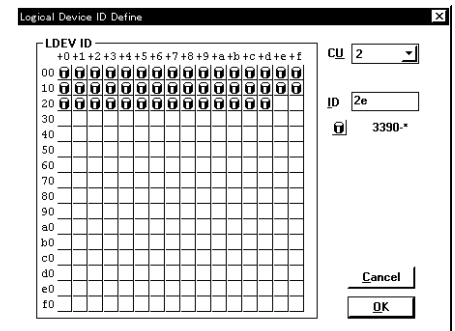
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

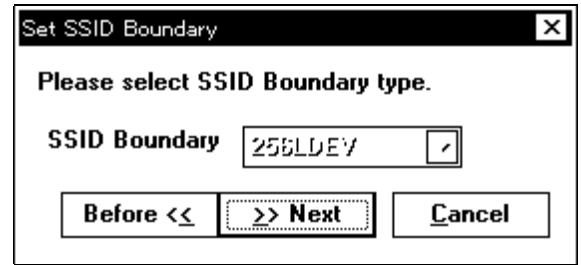
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

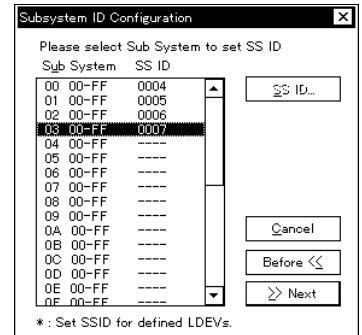
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

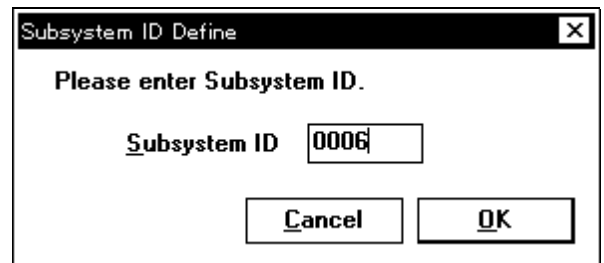
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

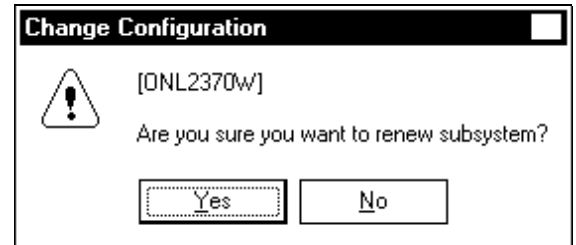
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-1570](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

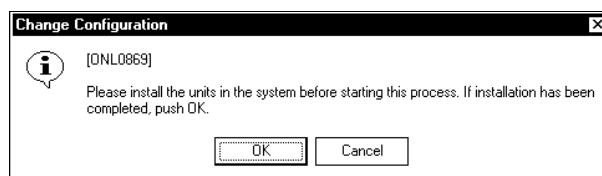
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



4 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

4-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.8-14.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.8-1.
- c. Fasten the two screws referring to Fig. 3.11.8-15.

Table 3.11.8-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

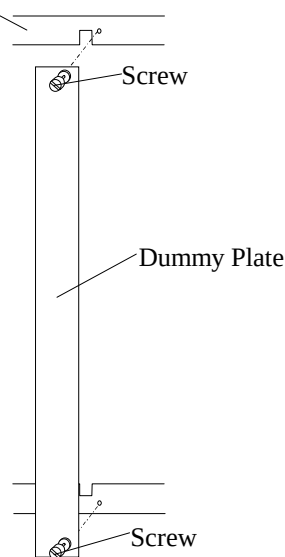


Fig. 3.11.8-14 Removal of Dummy Plate

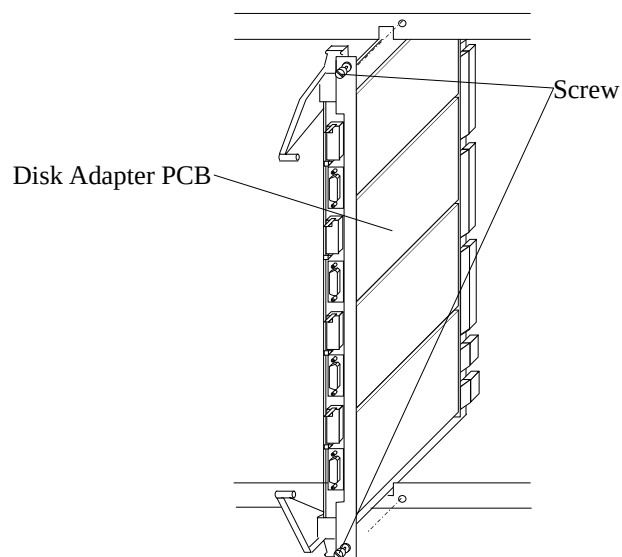


Fig. 3.11.8-15 Insertion of PCB

4-2 Connection of cables

In case of Add.1**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.8-16.)

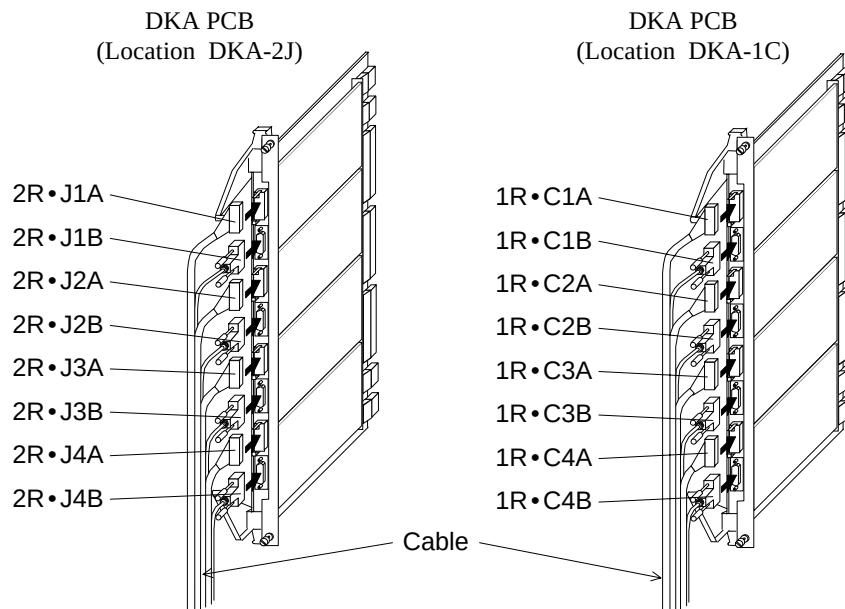


Fig.3.11.8-16 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

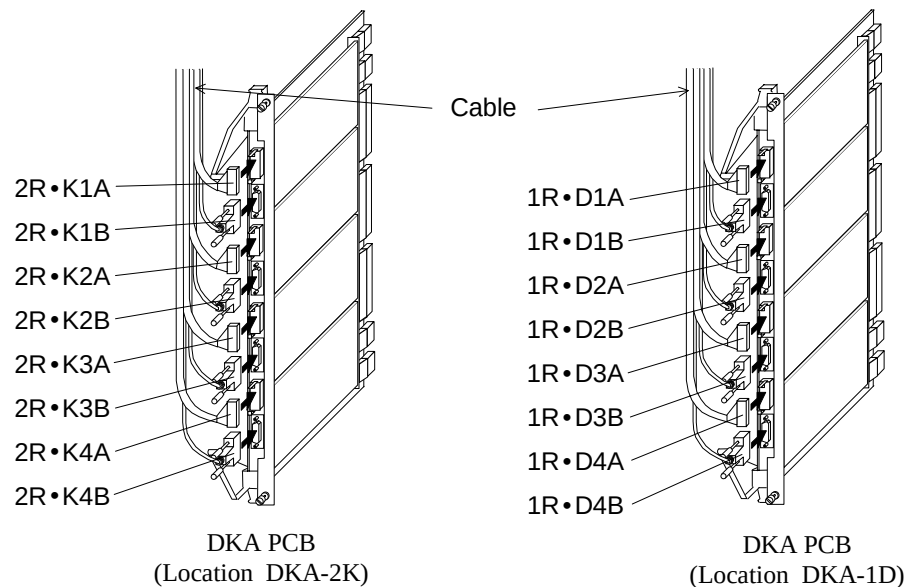


Fig.3.11.8-17 Connection of cable (Add.2)

In case of Add.3**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

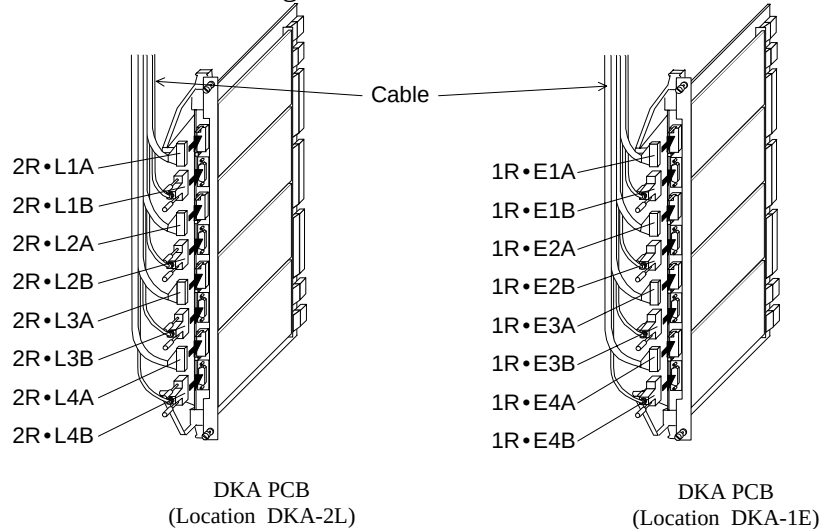


Fig.3.11.8-18 Connection of cable (Add.3)

4-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.8-19.

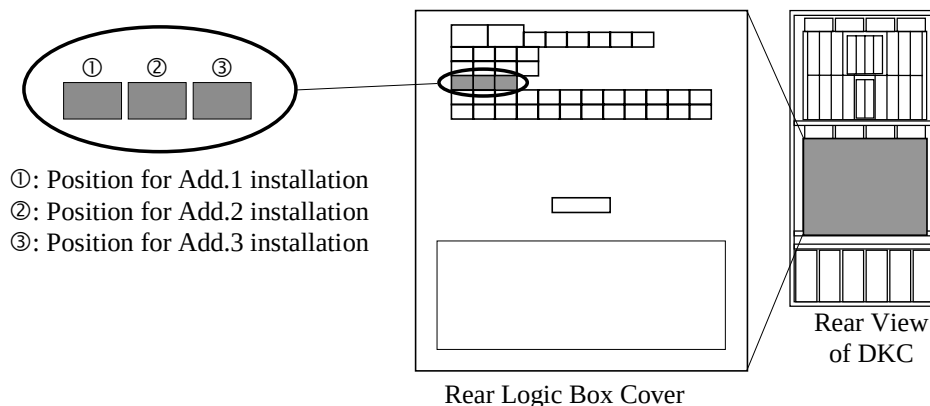


Fig. 3.11.8-19 Attachment of Nameplate

5. Installation Procedure of HDD Canister

5-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.8-2.

Table 3.11.8-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

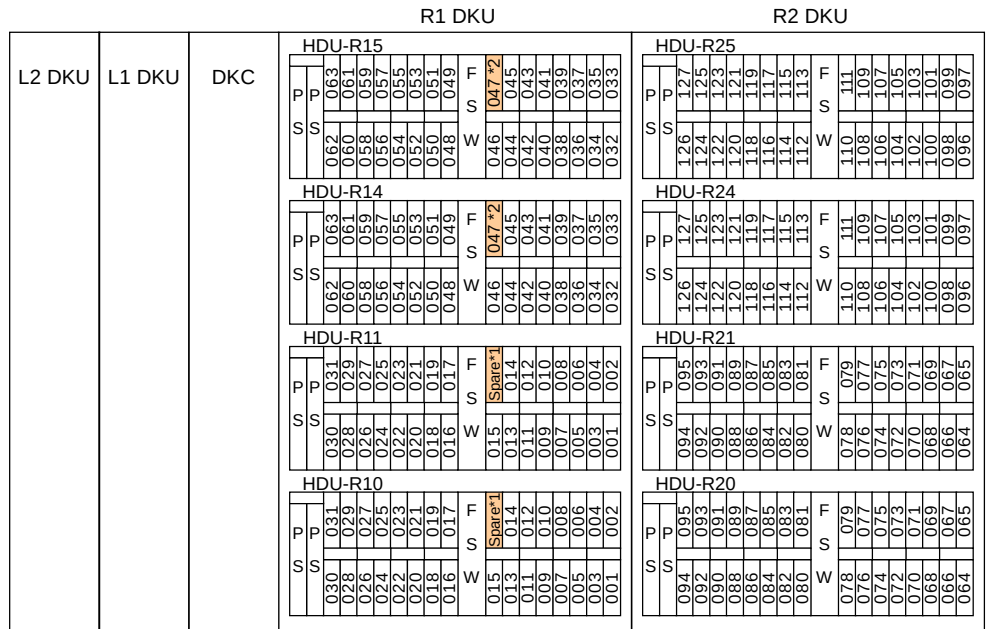
	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

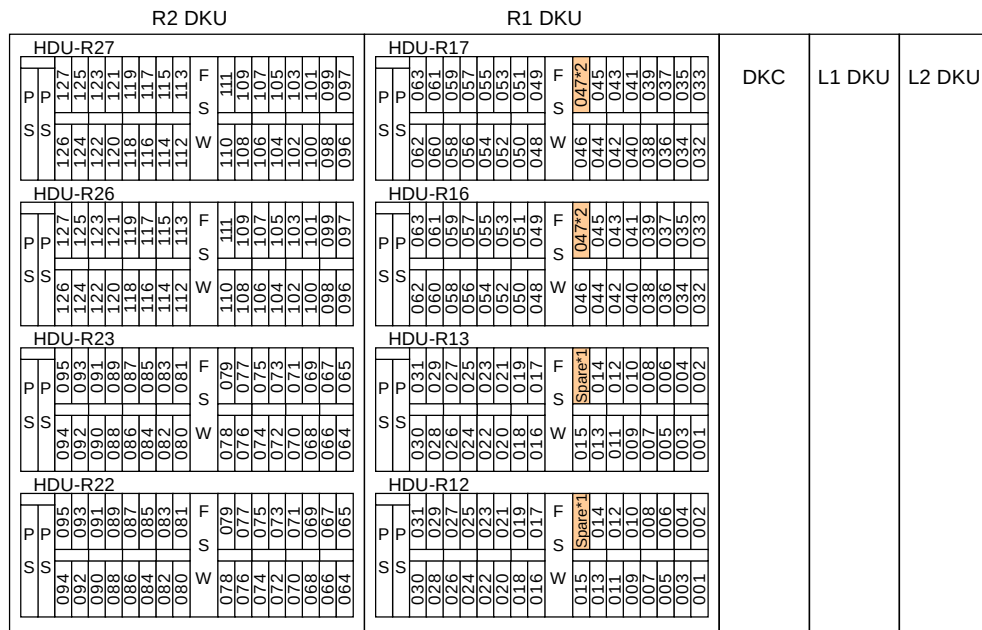
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive



Front View

001-127: 4HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.8-20 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.8-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	175	176	173	174*2			
235	236	233	234	169	170	167	168			
231	232	229	230	165	166	163	164			
227	228	225	226	161	162	159	160			
223	224	221	222	157	158	155	156			
219	220	217	218	153	154	151	152			
215	216	213	214	149	150	147	148			
211	212	209	210	145	146	143	144			
207	208	205	206	141	142	139	140			
203	204	201	202	137	138	135	136			
199	200	197	198	133	134	131	132			
195	196	193	194	129	130	128	129			
191	192	189	190	125	126	123	124			
187	188	185	186	121	122	119	120			
183	184	181	182	117	118	115	116			
117	118	115	116	113	114	111	112			
109	110	107	108	105	106	103	104			
101	102	99	100	97	98	95	96			
93	94	91	92	89	90	87	88			
85	86	83	84	81	82	79	80			
73	74	71	72	69	70	67	68			
65	66	63	64	61	62	59	60			
53	54	51	52	49	50	47	48			
45	46	43	44	41	42	39	40			
37	38	35	36	33	34	31	32			
29	30	27	28	25	26	23	24			
21	22	19	20	17	18	15	16			
13	14	11	12	9	10	7	8			
5	6	3	4	1	2	0	0			

HDU-L24				HDU-L14			
S	S	P	P	S	S	P	P
253	254	251	252	189	190	187	188
249	250	247	248	185	186	183	184
245	246	243	244	181	182	179	180
239	240	237	238	175	176	173	174*2
235	236	233	234	169	170	167	168
231	232	229	230	165	166	163	164
227	228	225	226	161	162	159	160
223	224	221	222	157	158	155	156
219	220	217	218	153	154	151	152
215	216	213	214	149	150	147	148
211	212	209	210	145	146	143	144
207	208	205	206	141	142	139	140
203	204	201	202	137	138	135	136
199	200	197	198	133	134	131	132
195	196	193	194	129	130	128	129
191	192	189	190	125	126	123	124
187	188	185	186	121	122	119	120
183	184	181	182	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

HDU-L21				HDU-L11			
S	S	P	P	S	S	P	P
221	222	219	220	157	158	155	156
217	218	215	216	153	154	151	152
213	214	211	212	149	150	147	148
209	210	207	208	145	146	143	144
205	206	203	204	141	142	139	140
201	202	199	200	137	138	135	136
197	198	195	196	133	134	131	132
193	194	191	192	129	130	128	129
189	190	187	188	125	126	123	124
185	186	183	184	121	122	119	120
181	182	179	180	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

HDU-L20				HDU-L10			
S	S	P	P	S	S	P	P
221	222	219	220	157	158	155	156
217	218	215	216	153	154	151	152
213	214	211	212	149	150	147	148
209	210	207	208	145	146	143	144
205	206	203	204	141	142	139	140
201	202	199	200	137	138	135	136
197	198	195	196	133	134	131	132
193	194	191	192	129	130	128	129
189	190	187	188	125	126	123	124
185	186	183	184	121	122	119	120
181	182	179	180	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

Front View				128-254: 4HDD canisters installation order			

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
175	176	173	174	241	242	239	240
169	170	167	168	237	238	235	236
165	166	163	164	233	234	231	232
161	162	159	160	229	230	227	228
157	158	155	156	225	226	223	224
153	154	151	152	221	222	219	220
149	150	147	148	217	218	215	216
145	146	143	144	213	214	211	212
141	142	139	140	209	210	207	208
137	138	135	136	205	206	203	204
133	134	131	132	201	202	199	200
129	130	128	129	197	198	195	196
125	126	123	124	193	194	191	192
121	122	119	120	189	190	187	188
117	118	115	116	185	186	183	184
113	114	111	112	181	182	179	180
109	110	107	108	175	176	173	174
105	106	103	104	169	170	167	168
101	102	99	100	165	166	163	164
97	98	95	96	161	162	159	160
93	94	91	92	157	158	155	156
89	90	87	88	153	154	151	152
85	86	83	84	149	150	147	148
81	82	79	80	145	146	143	144
77	78	75	76	141	142	139	140
73	74	71	72	137	138	135	136
69	70	67	68	133	134	131	132
65	66	63	64	129	130	128	129
61	62	59	60	125	126	123	124
57	58	55	56	121	122	119	120
53	54	51	52	117	118	115	116
49	50	47	48	113	114	111	112
45	46	43	44	109	110	107	108
41	42	39	40	105	106	103	104
37	38	35	36	101	102	99	100
33	34	31	32	97	98	95	96
29	30	27	28	93	94	91	92
25	26	23	24	89	90	87	88
21	22	19	20	85	86	83	84
17	18	15	16	81	82	79	80
13	14	11	12	77	78	75	76
9	10	7	8	73	74	71	72
5	6	3	4	69	70	67	68
1	2	0	0	65	66	63	64

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.8-20 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.8-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.8-3.

Table 3.11.8-3 Relation between HDDs installation order and RAID group number (7D+1P)

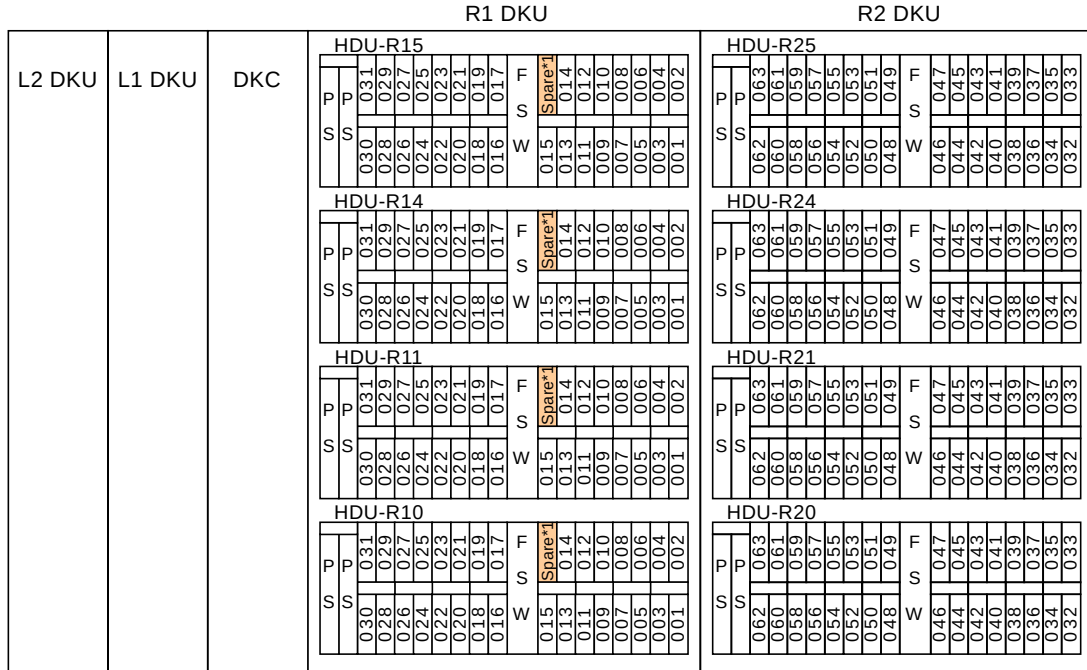
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

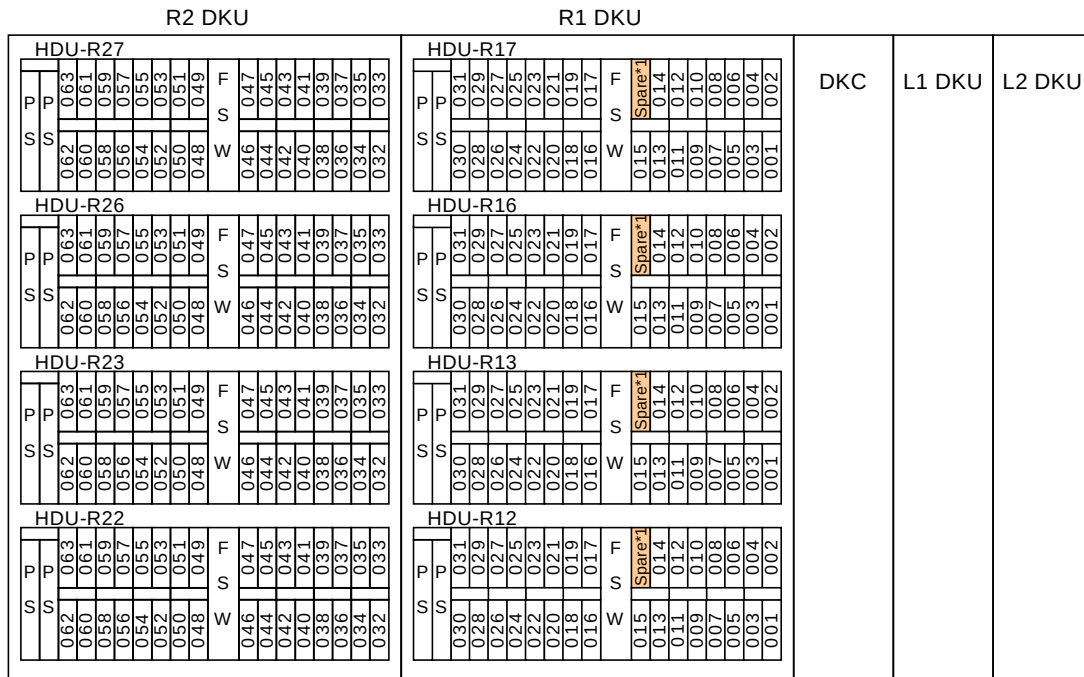
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.8-21 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.8-3.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU
HDU-L25										HDU-L15												
P		P		S		S		T		P		P		S		S		T				
125		126		123		124		109		093		094		078		Spare*1		077				
121		122		119		120		107		091		092		076		074		075				
117		118		115		116		105		087		088		072		070		071				
113		114		111		112		103		085		086		068		069		067				
109		110		107		108		099		083		084		066		064		065				
097		098		095		096				079		080										
095		096																				
HDU-L24										HDU-L14												
P		P		S		S		T		P		P		S		S		T				
125		126		123		124		109		093		094		078		Spare*1		077				
121		122		119		120		107		091		092		076		074		075				
117		118		115		116		105		087		088		072		070		071				
113		114		111		112		103		085		086		068		069		067				
109		110		107		108		099		083		084		066		064		065				
097		098		095		096				079		080										
095		096																				
HDU-L21										HDU-L11												
P		P		S		S		T		P		P		S		S		T				
125		126		123		124		109		093		094		078		Spare*1		077				
121		122		119		120		107		091		092		076		074		075				
117		118		115		116		105		087		088		072		070		071				
113		114		111		112		103		085		086		068		069		067				
109		110		107		108		099		083		084		066		064		065				
097		098		095		096				079		080										
095		096																				
HDU-L20										HDU-L10												
P		P		S		S		T		P		P		S		S		T				
125		126		123		124		109		093		094		078		Spare*1		077				
121		122		119		120		107		091		092		076		074		075				
117		118		115		116		105		087		088		072		070		071				
113		114		111		112		103		085		086		068		069		067				
109		110		107		108		099		083		084		066		064		065				
097		098		095		096				079		080										
095		096																				
Front View										064-126: 8HDD canisters installation order												

L1 DKU				L2 DKU																																																																																																															
R2 DKU	R1 DKU	DKC	HDU-L17								HDU-L27																																																																																																								
			P				S				P				S																																																																																																				
			094				093				126				125																																																																																																				
			092				091				124				123																																																																																																				
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085				084				083				082				081				080				W				S				F				078				Spare*1				077				076				075				074				073				072				071				070				069				068				067				066				065			
090				089				088				087				086				085																																																																																															

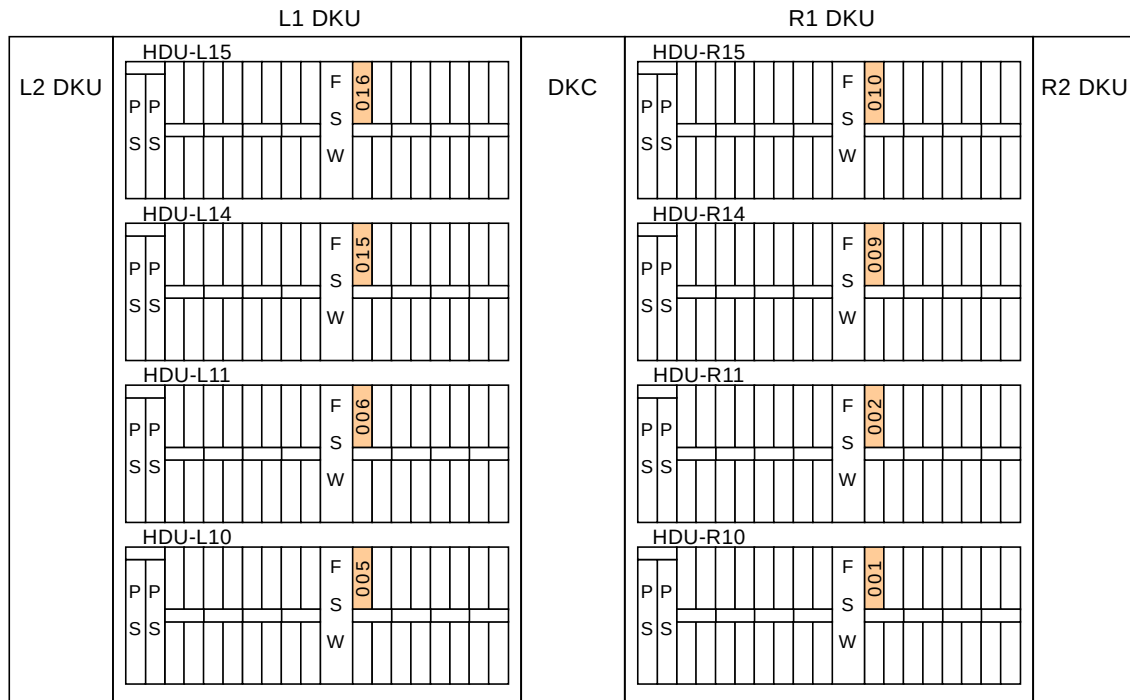
*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.8-21 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.8-3.

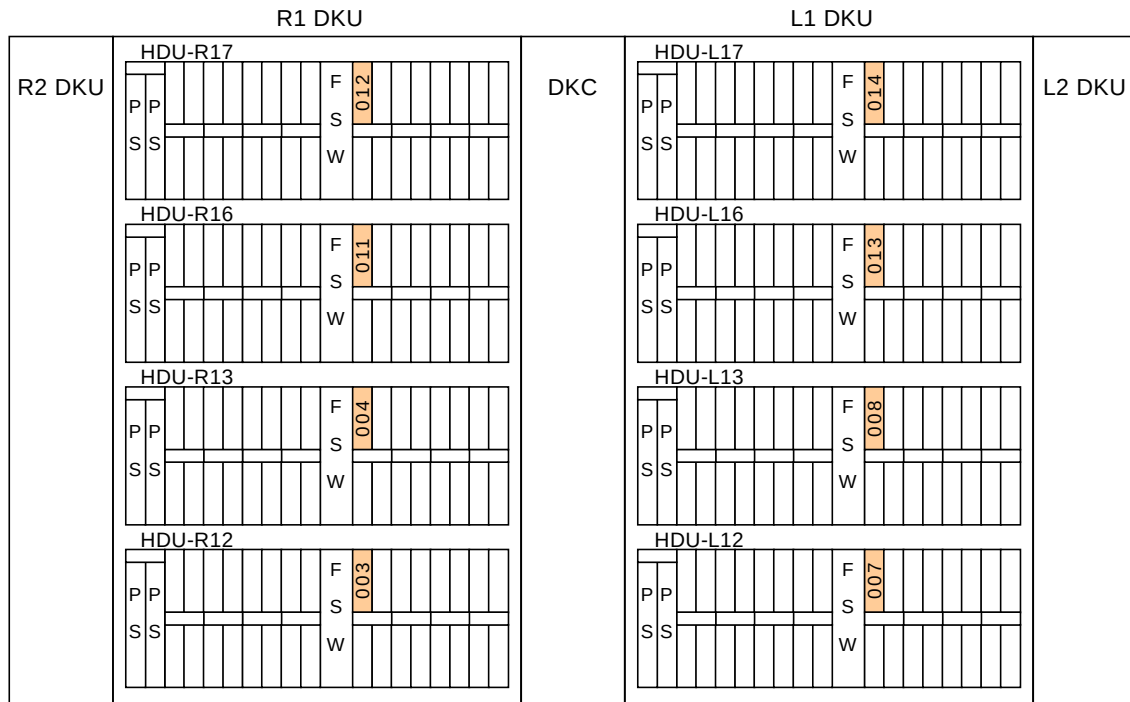
(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



Front View

001-016: Spare HDD canister installation order



Rear View

Fig. 3.11.8-22 Spare Drive Expansion Sequence

5-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

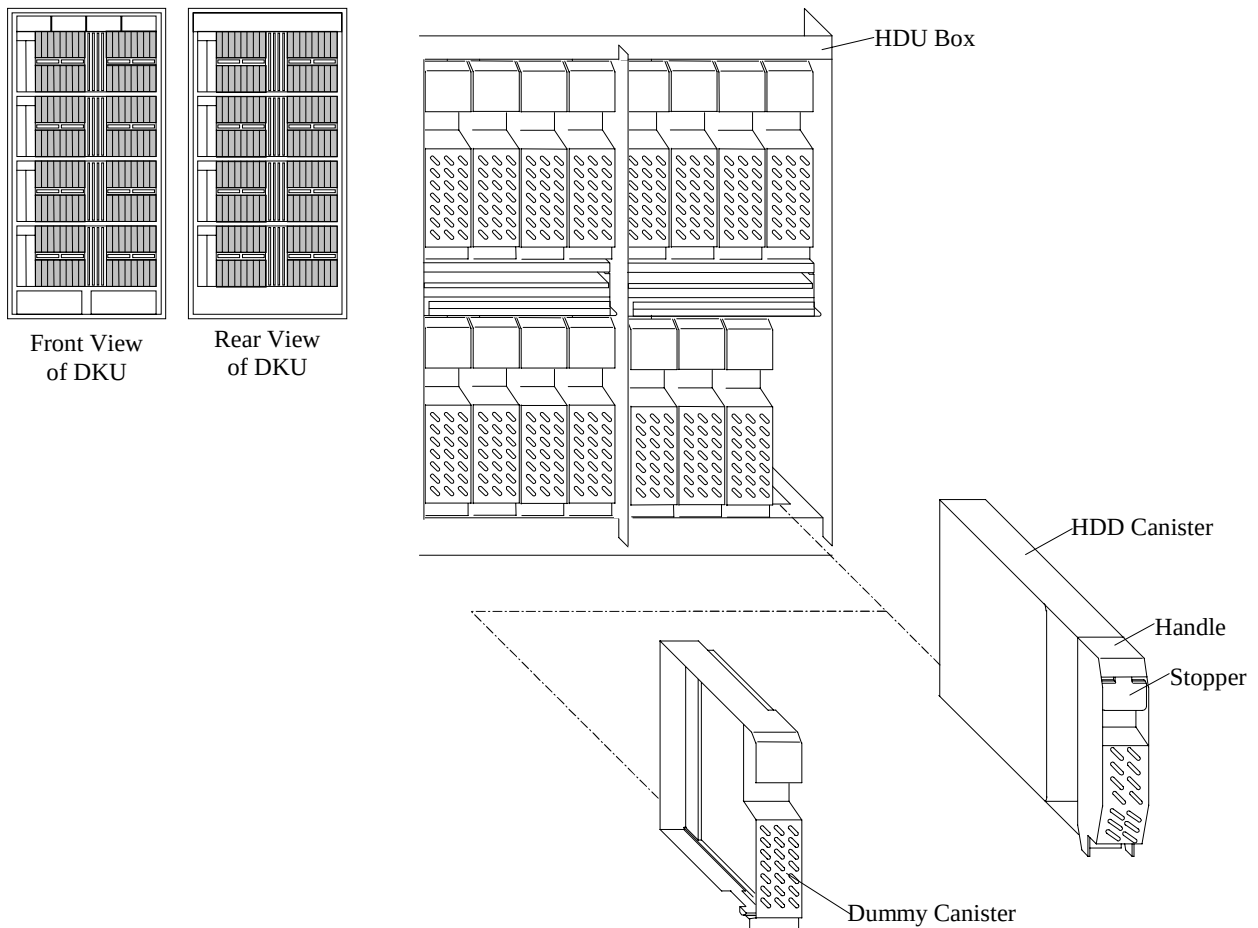
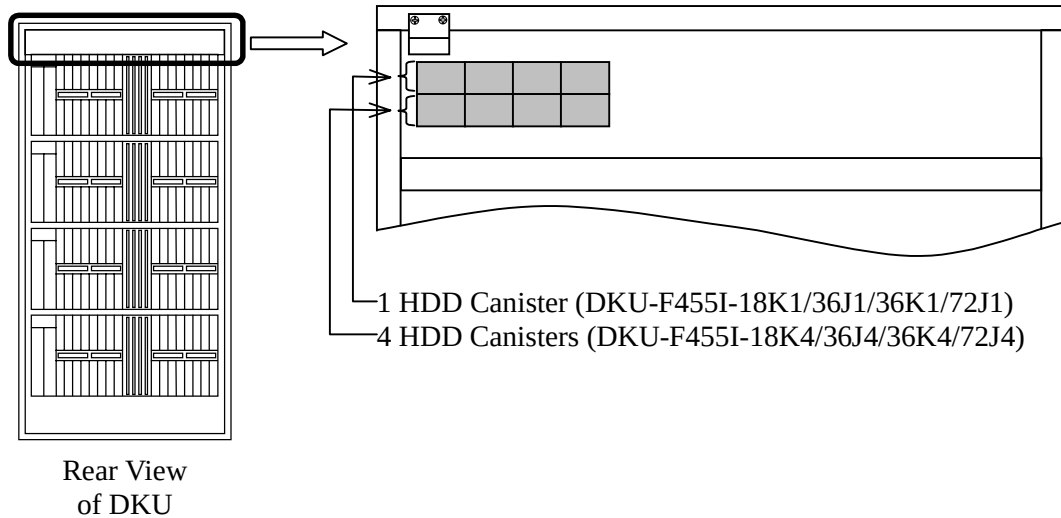


Fig. 3.11.8-23 Installation of HDD Canister

5-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

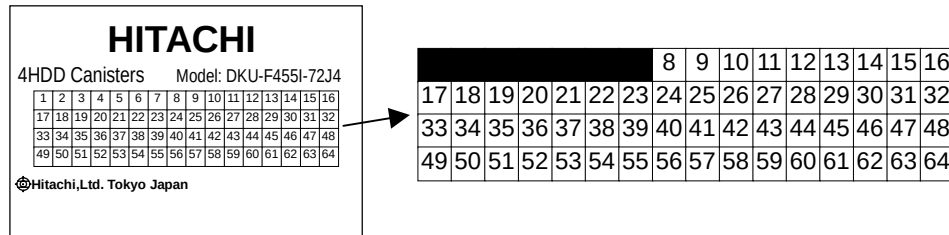


Fig. 3.11.8-24 Attachment of Nameplate

6. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Caution:

The addition cannot be done unless the AC power is applied to the added DKU and the main breaker of the DKU is turned on.

Between HDU-R10-R17 and HDU-R20-R27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-R1 frame referring to figures 3.11.8-25 and 3.11.8-26.



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

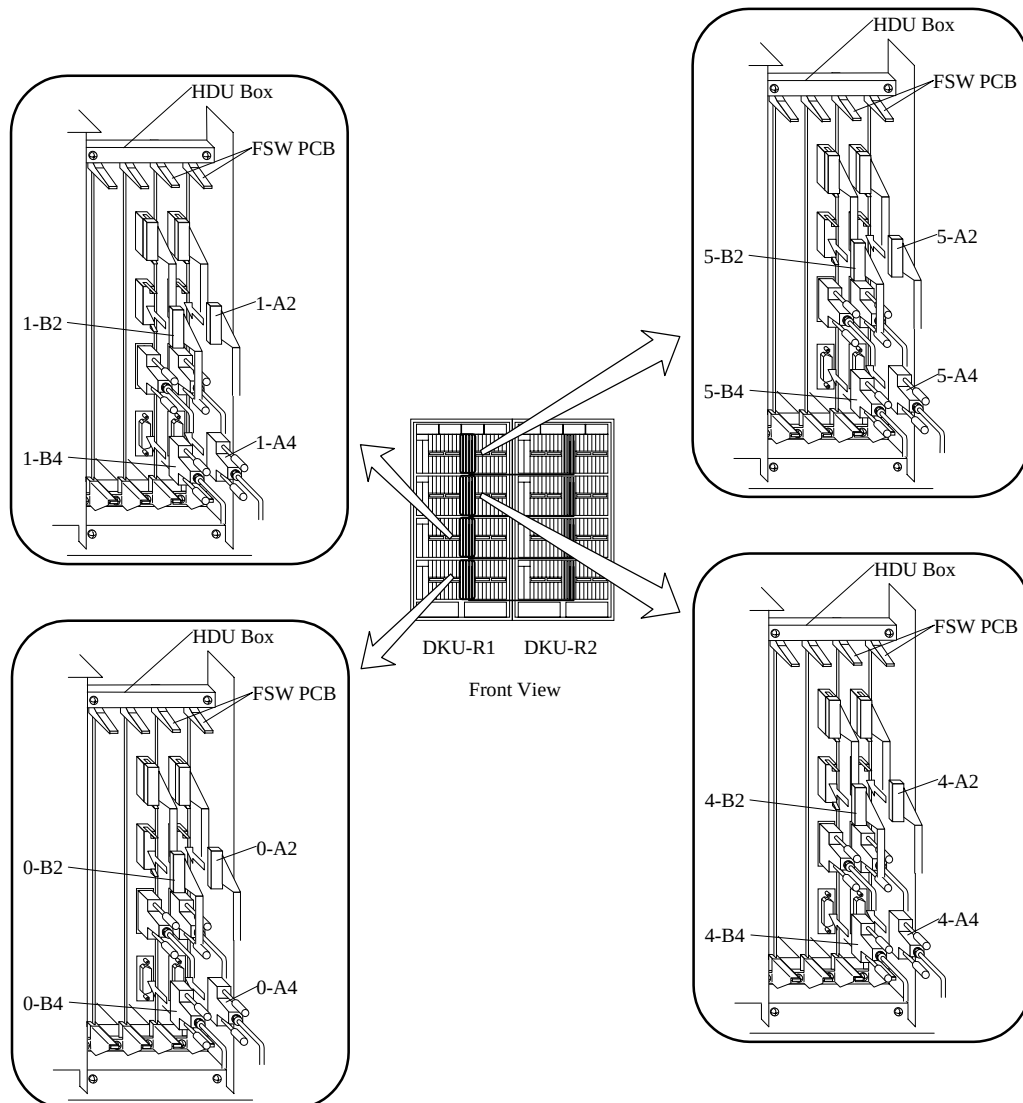


Fig. 3.11.8-25 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

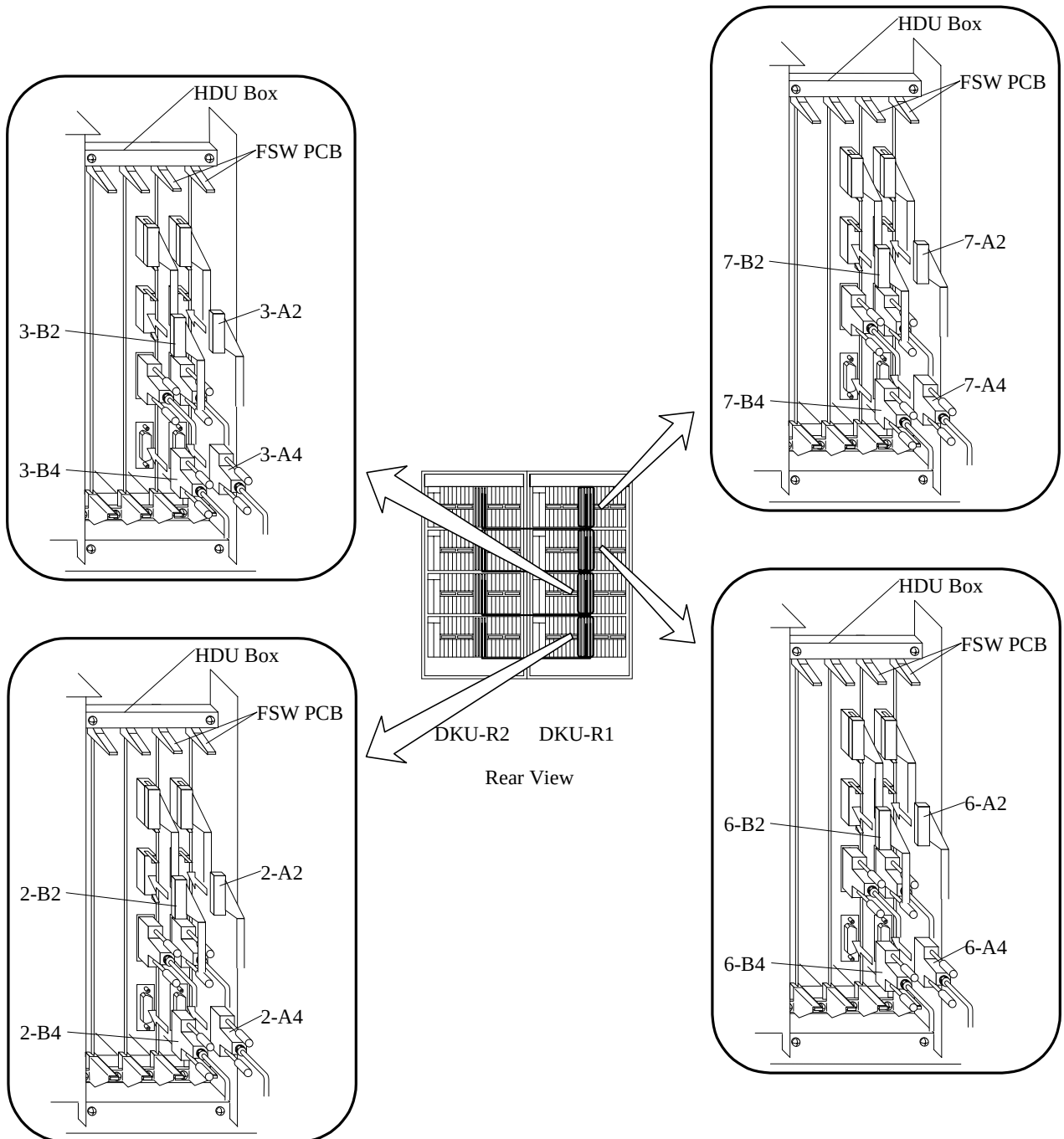
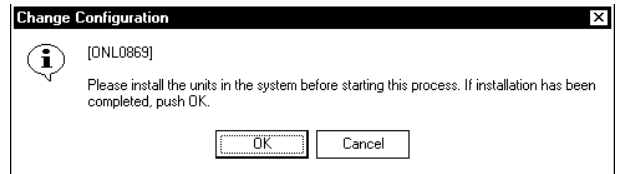


Fig. 3.11.8-26 Connection of the DEV Interface Cables

7. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

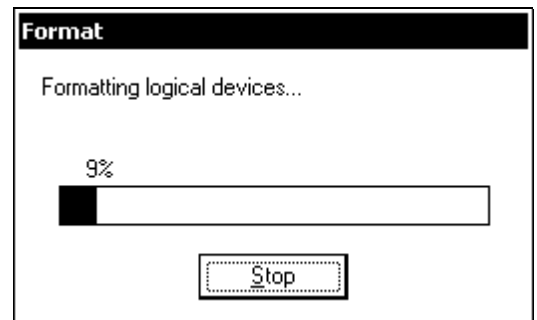
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

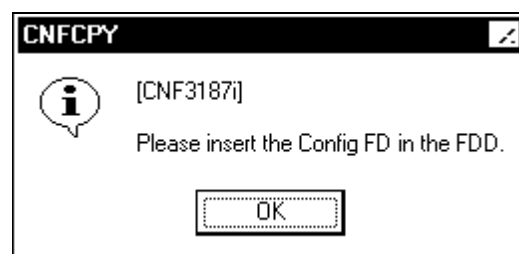
“Formatting the logical device...” is displayed when Parity Group is defined.



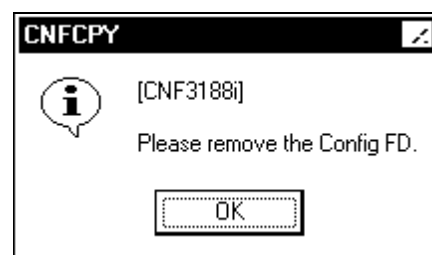
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



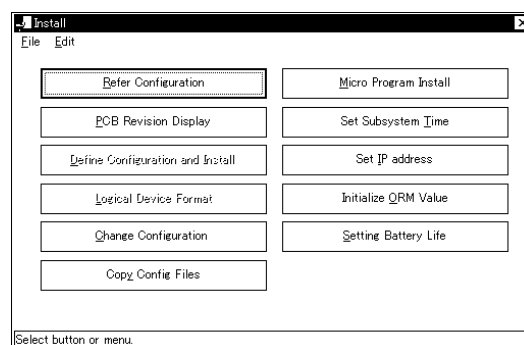
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

8. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

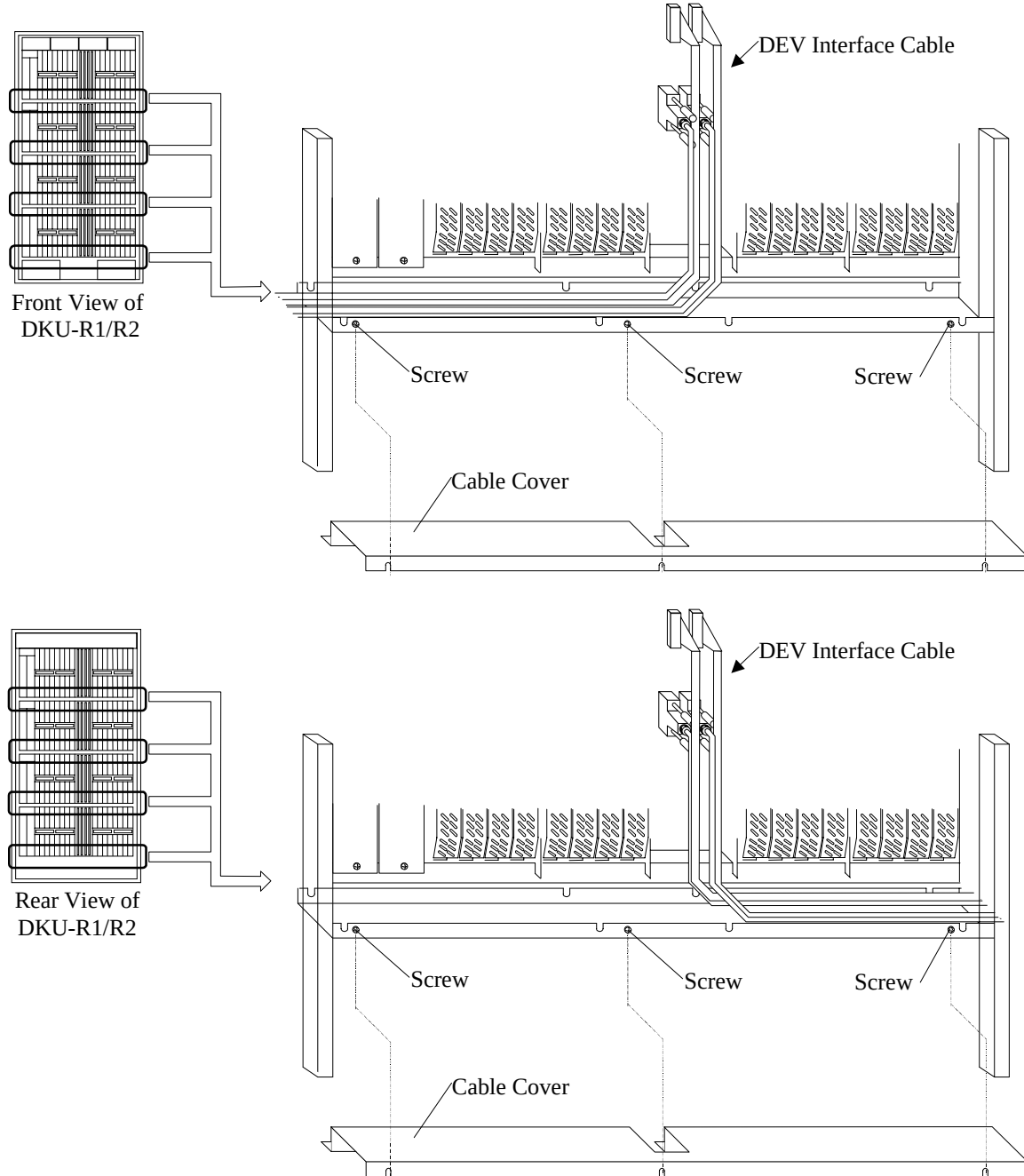


Fig. 3.11.8-27 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

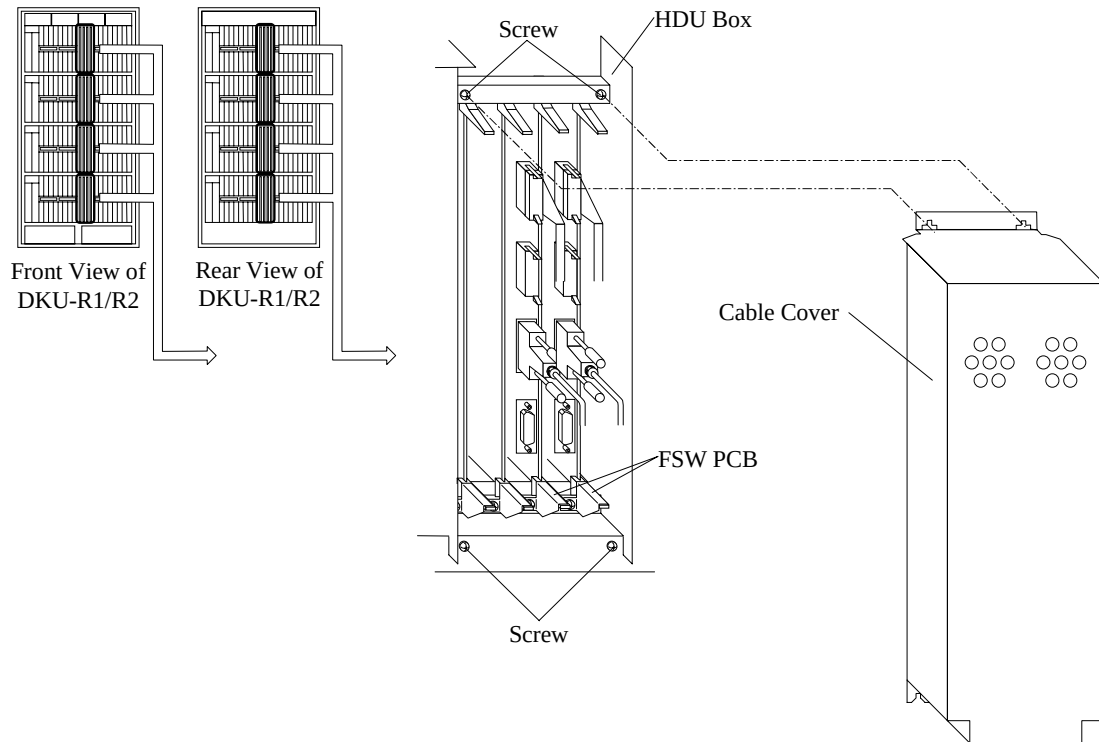


Fig. 3.11.8-28 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-R2 frame.

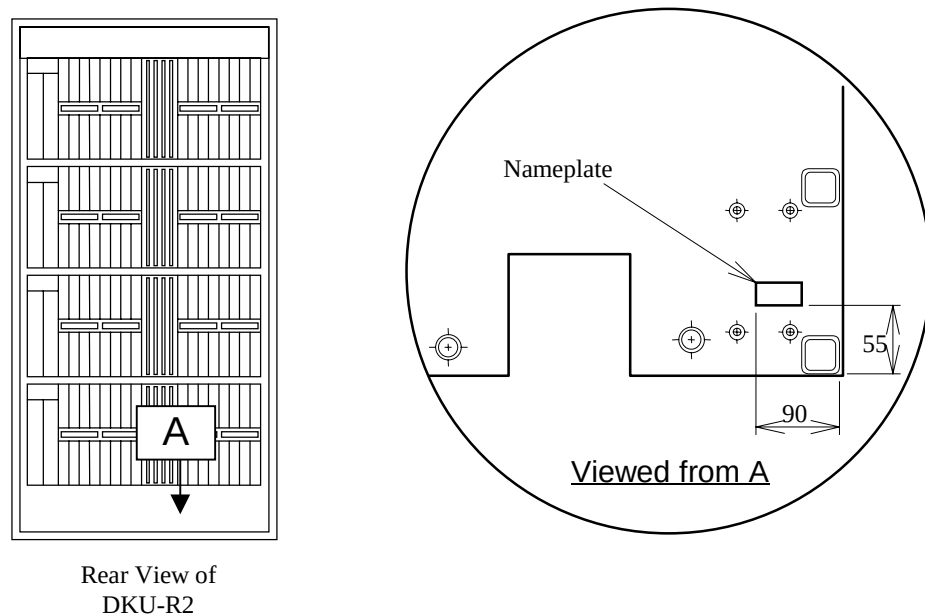


Fig. 3.11.8-29 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.9 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2 and DKU-L2 frames (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

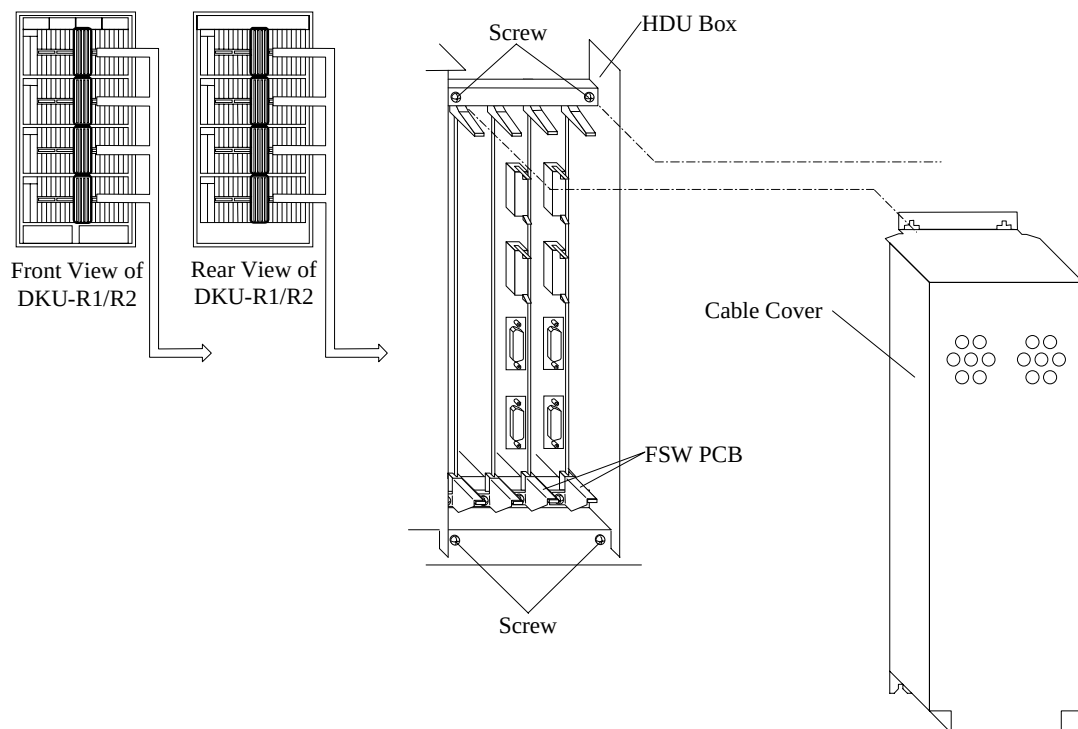


Fig. 3.11.9-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

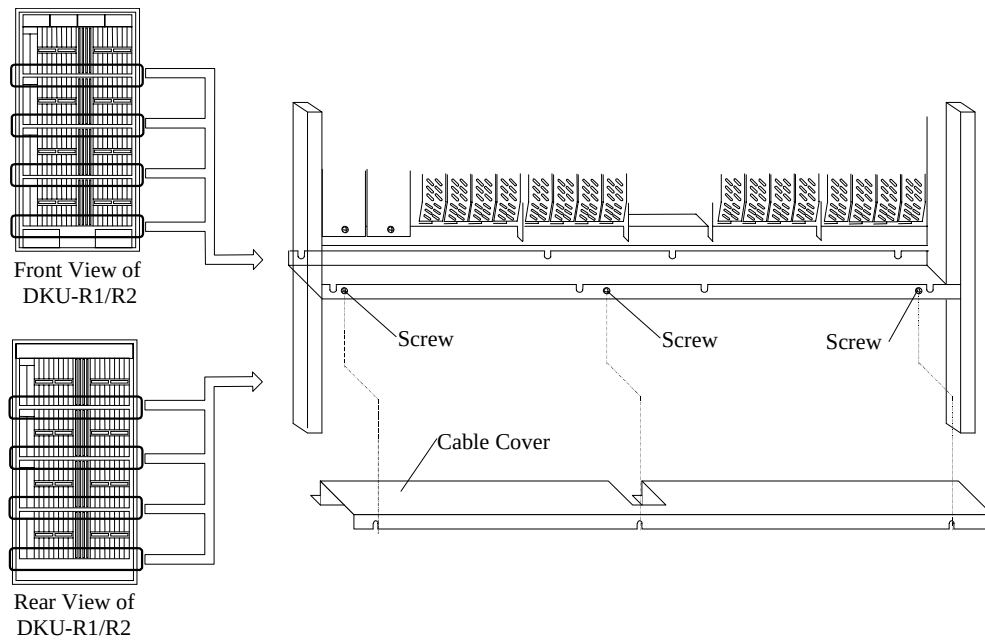


Fig. 3.11.9-2 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-R2 frame referring to Fig. 3.11.9-3 through Fig. 3.11.9-6.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the operating DKU in this procedure. The cable is to be connected later in another procedure.

! CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

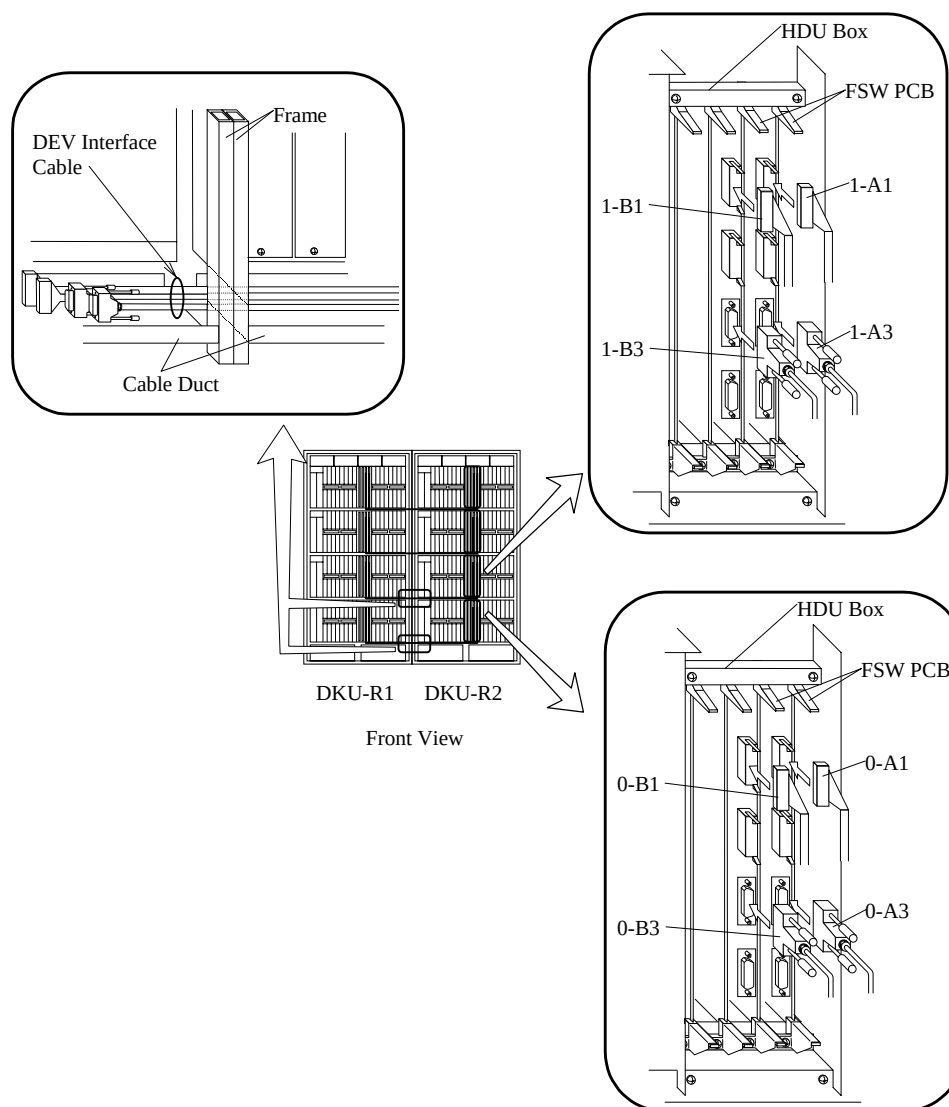


Fig. 3.11.9-3 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

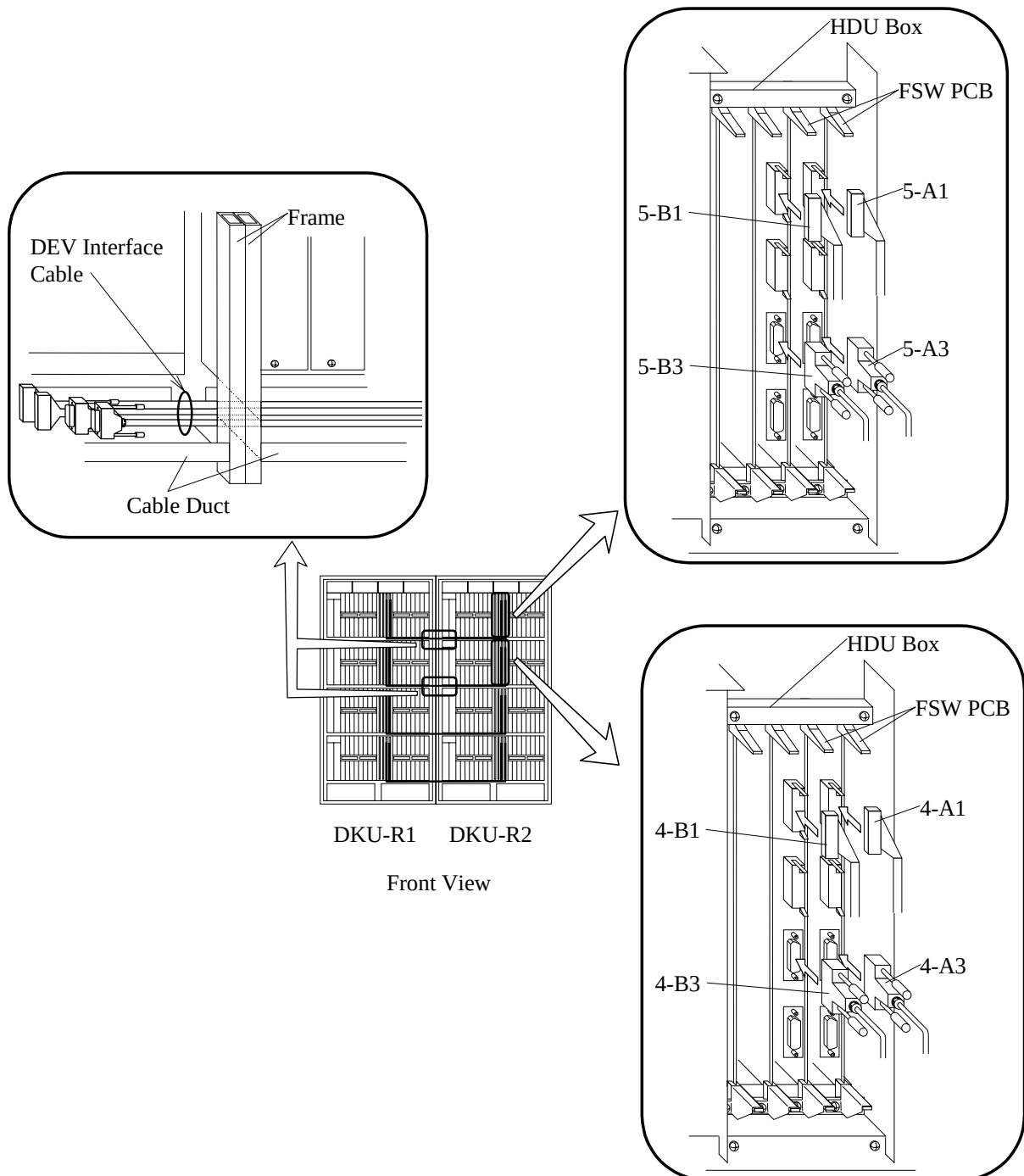


Fig. 3.11.9-4 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

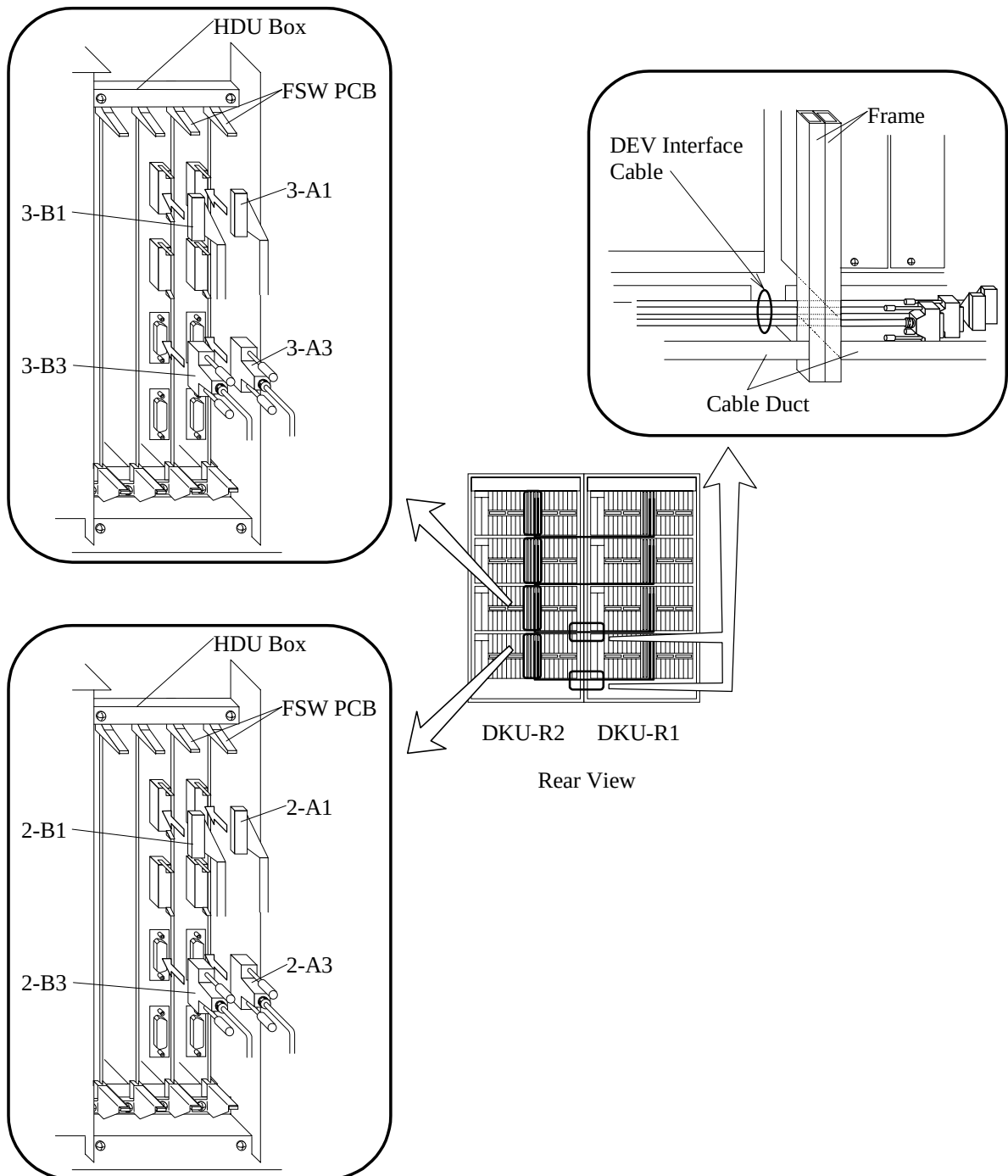


Fig. 3.11.9-5 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

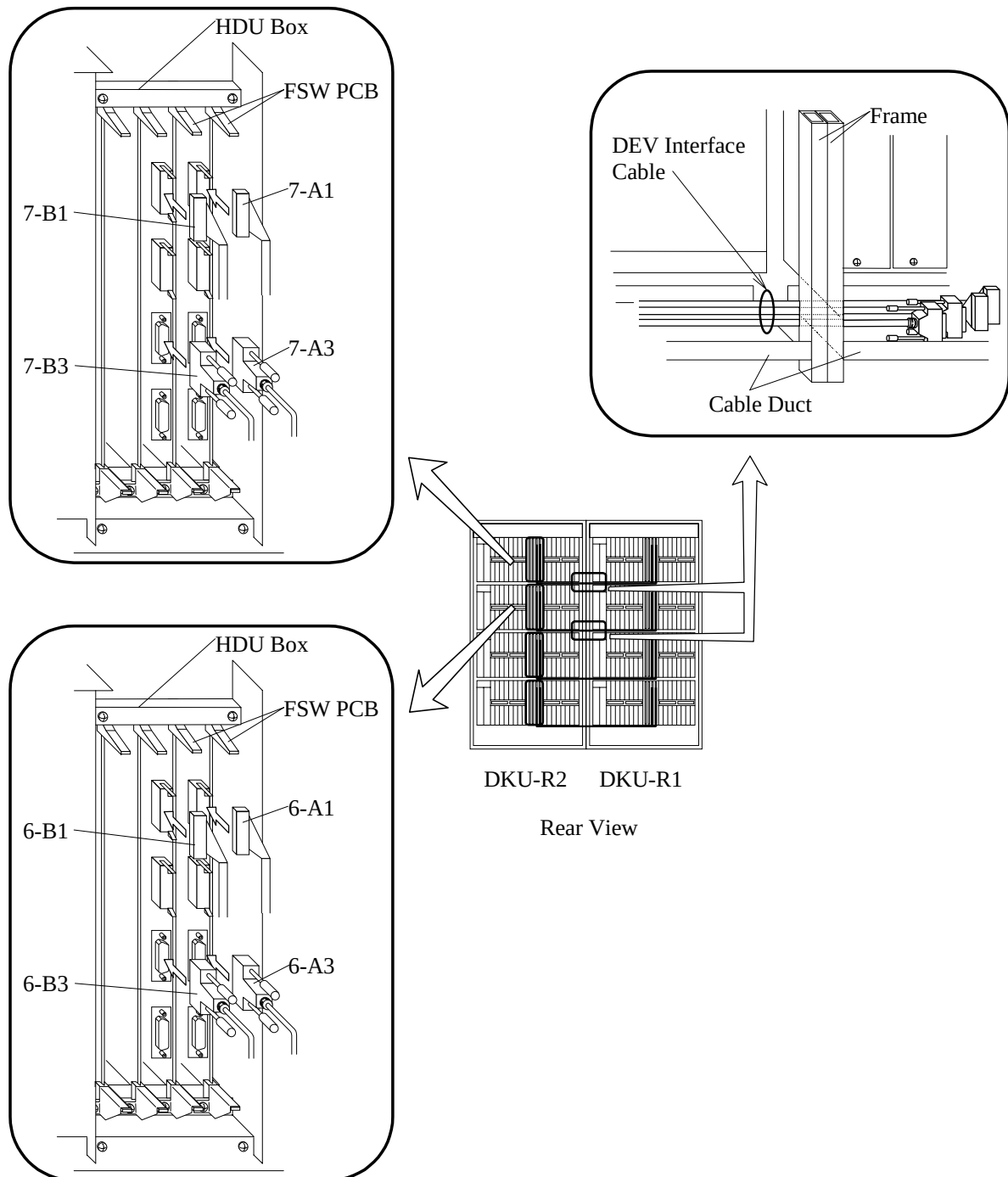


Fig. 3.11.9-6 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

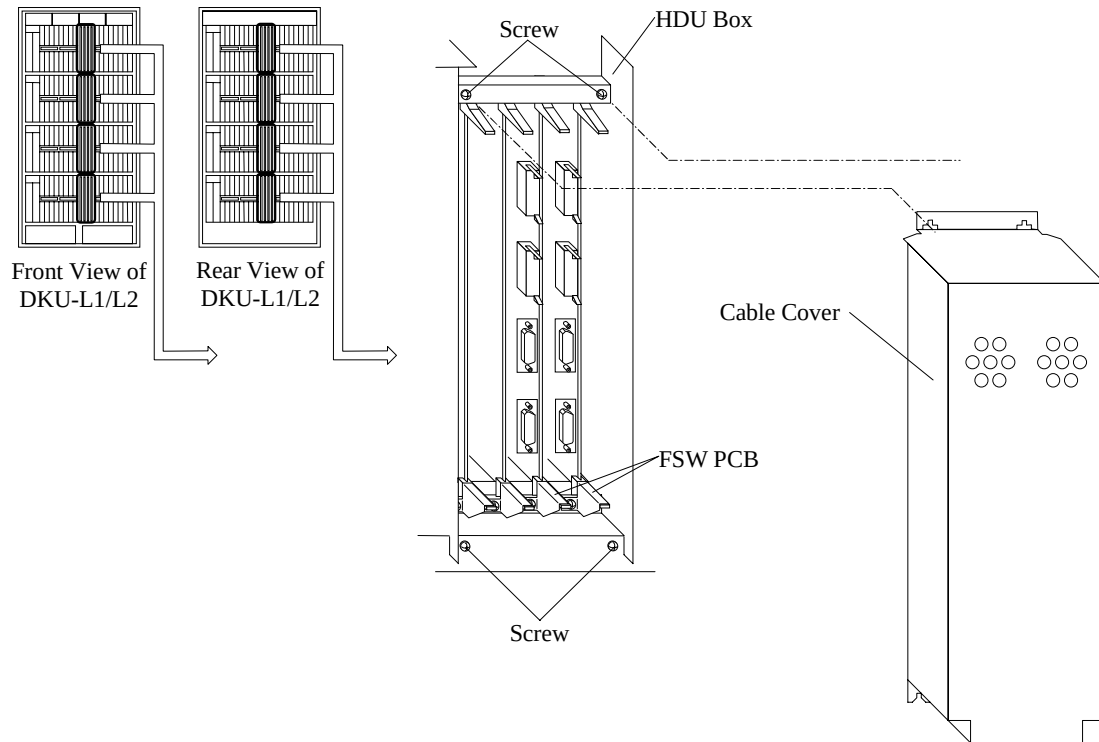


Fig. 3.11.9-7 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

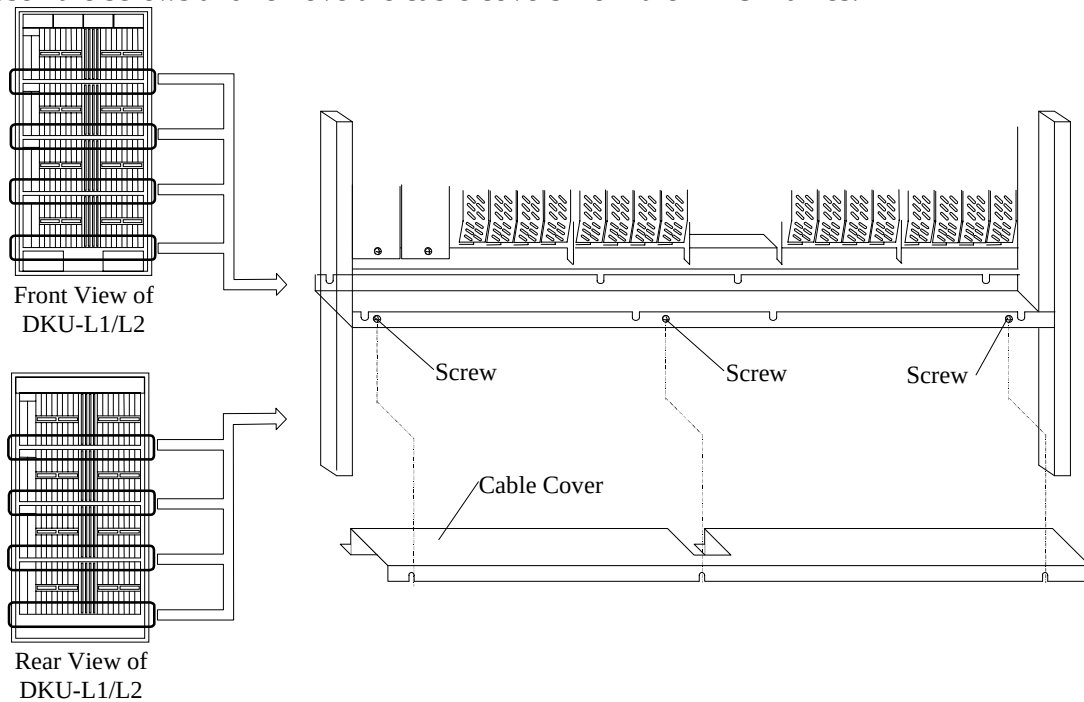


Fig. 3.11.9-8 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-L2 frame referring to Fig. 3.11.9-9 through Fig. 3.11.9-12.

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

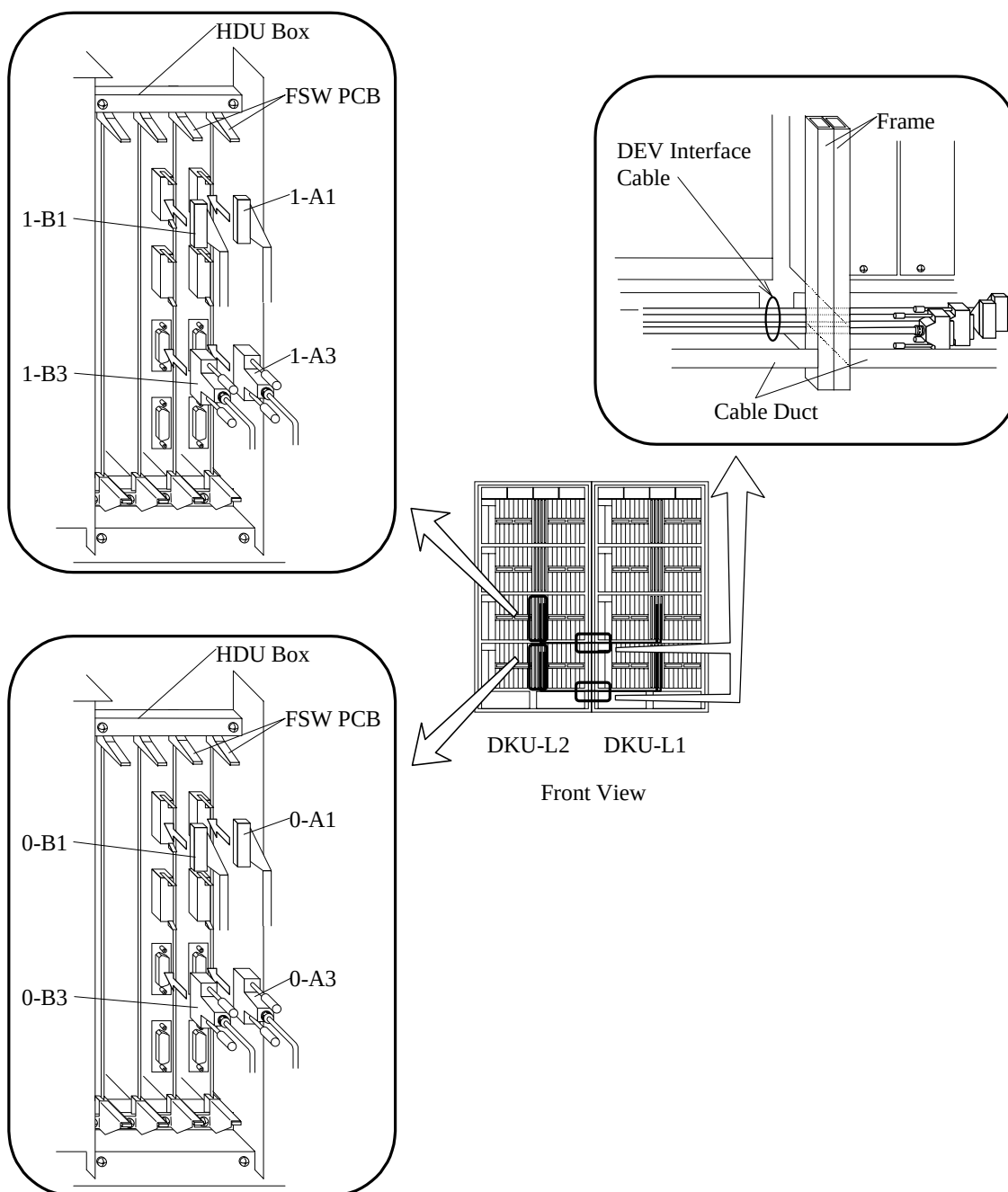


Fig. 3.11.9-9 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

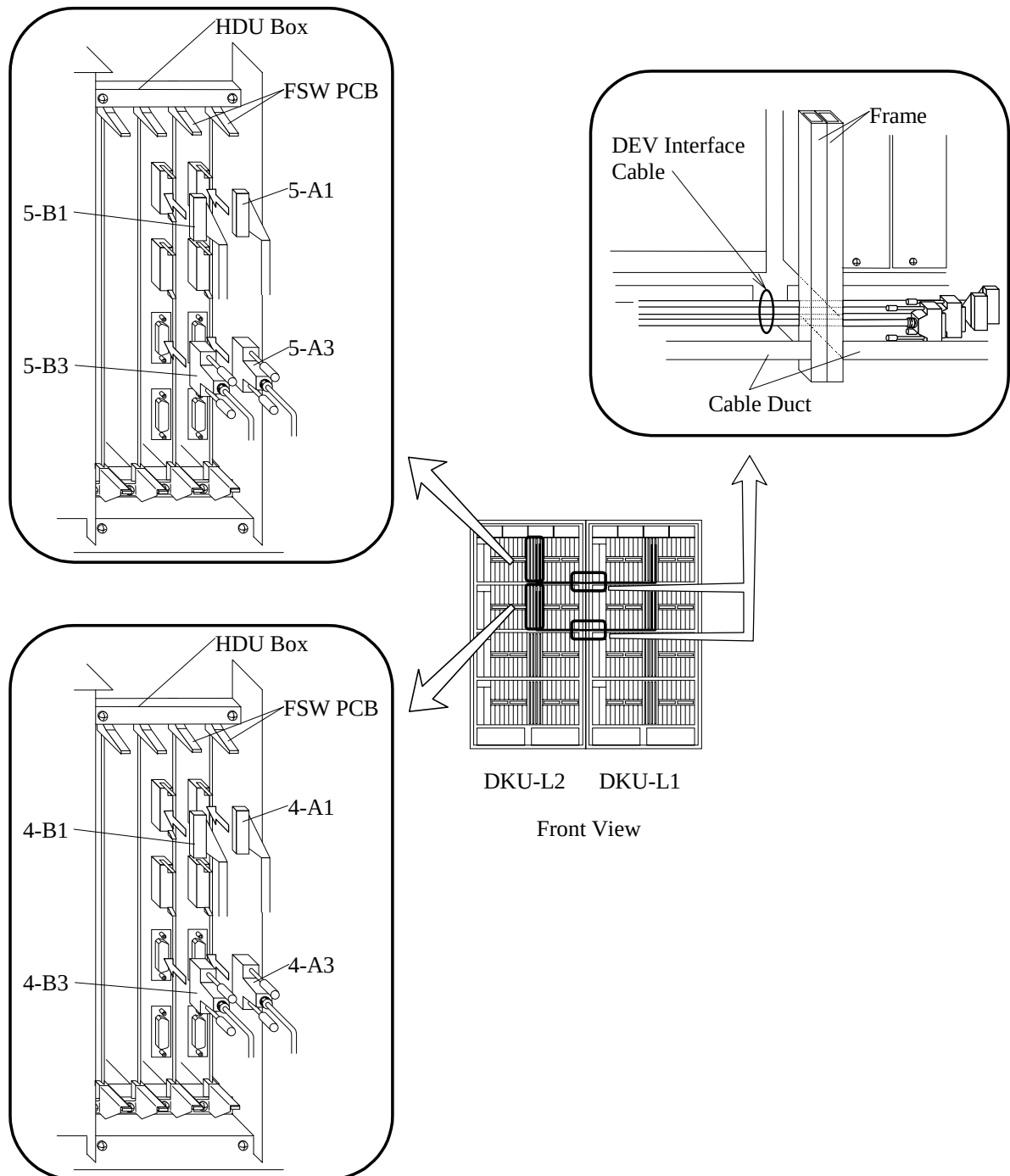


Fig. 3.11.9-10 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

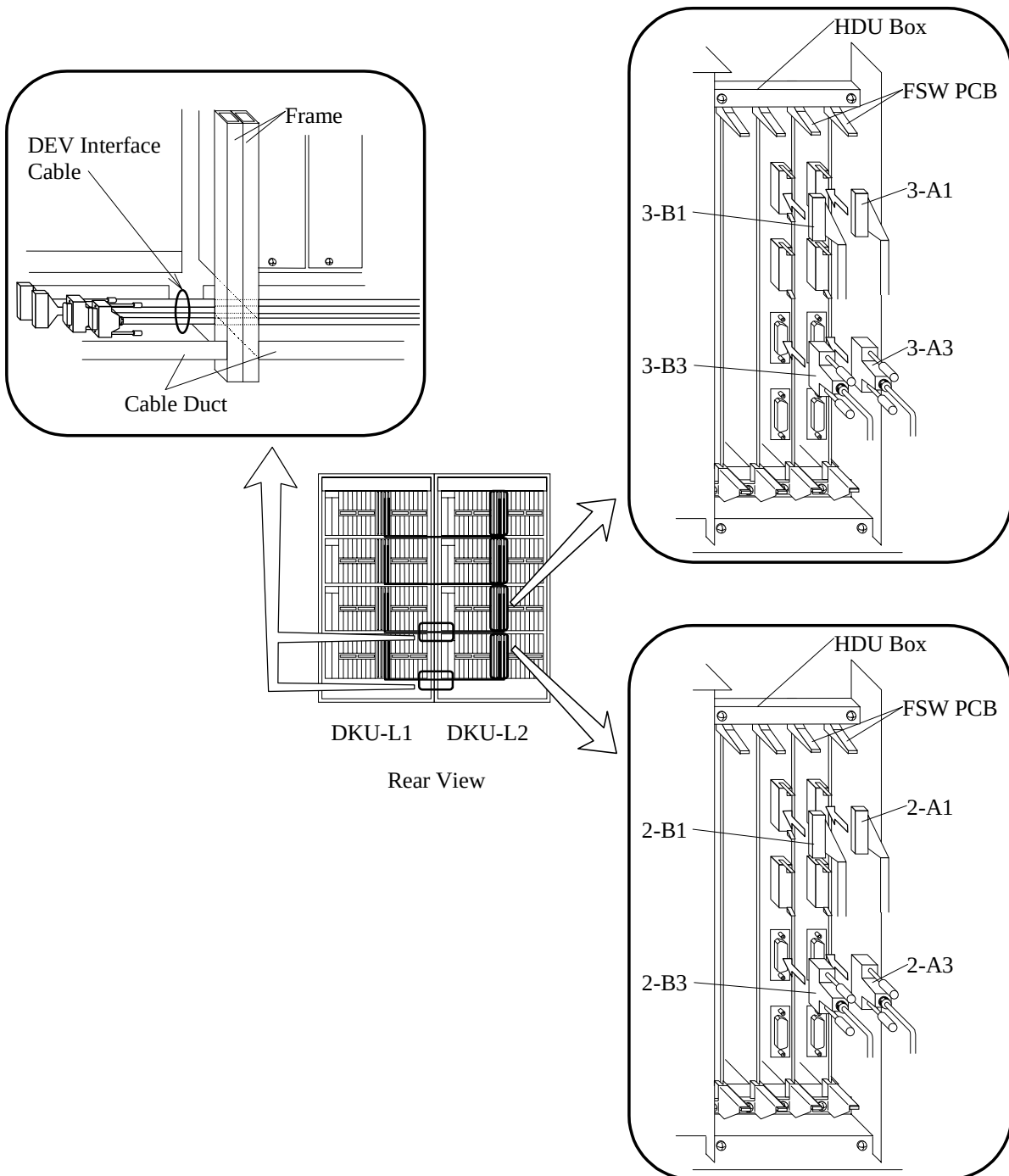


Fig. 3.11.9-11 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

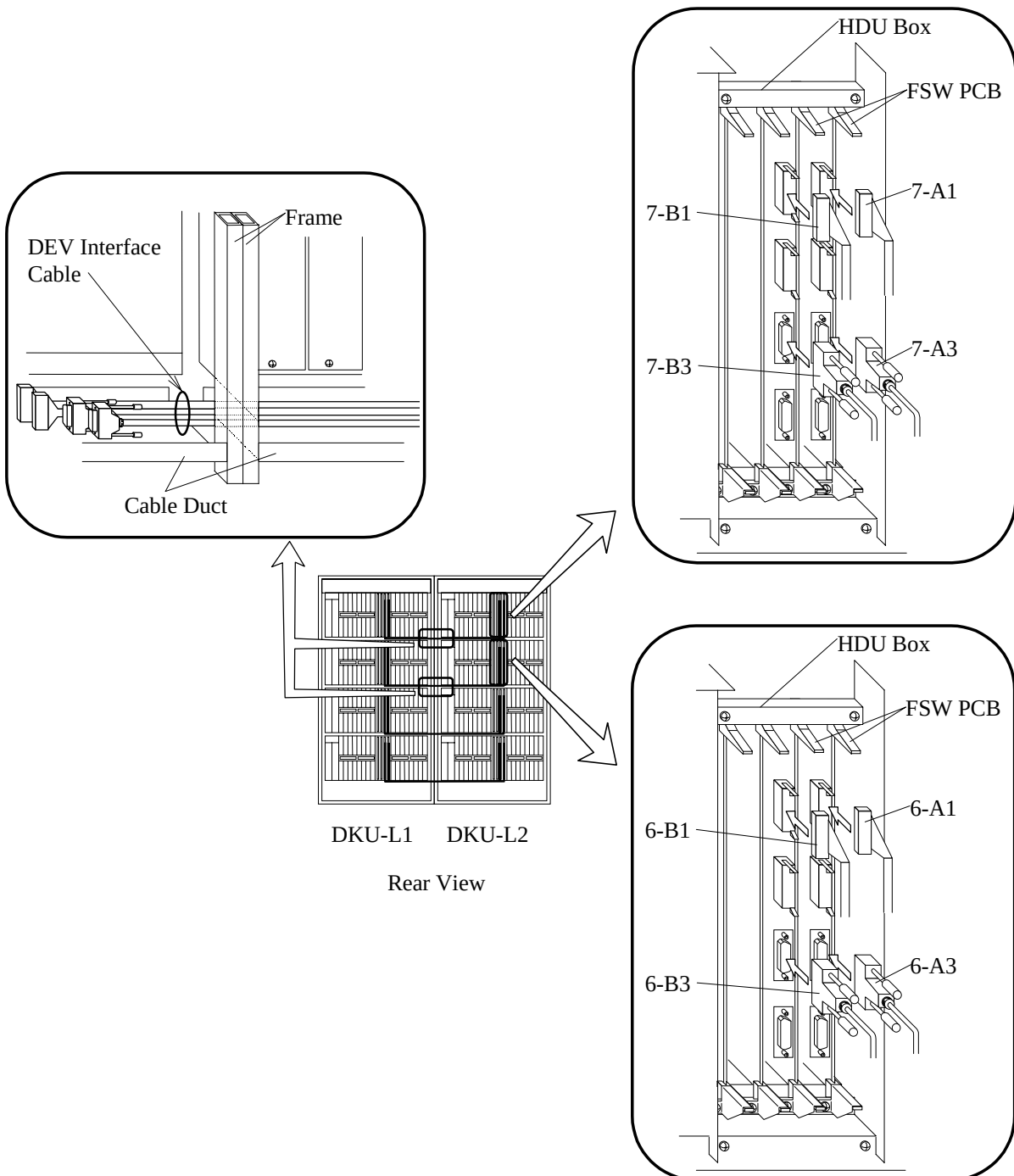
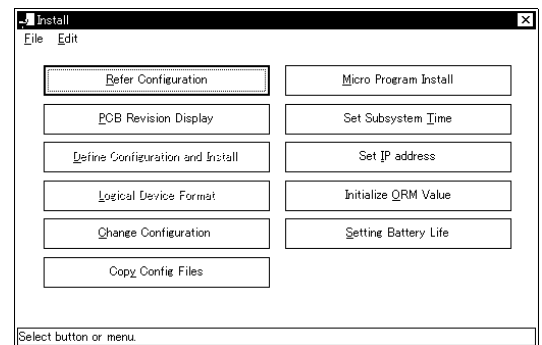


Fig. 3.11.9-12 Connection of the DEV Interface Cables

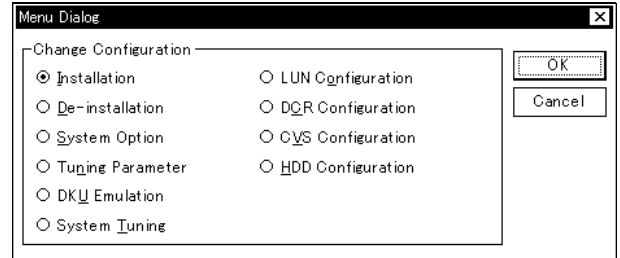
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

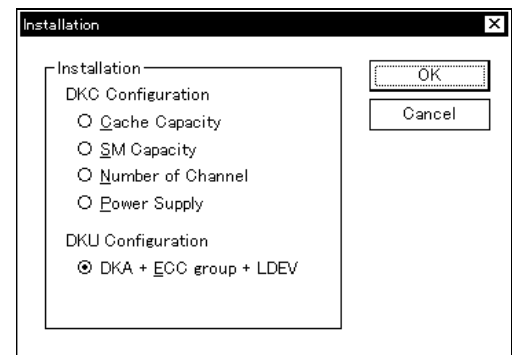
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-R2 and DKU-L2 are added to the DKUs currently set.

Current setting	Altered setting
2DKUs (R1, L1)	4DKUs (R1, L1, R2, L2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

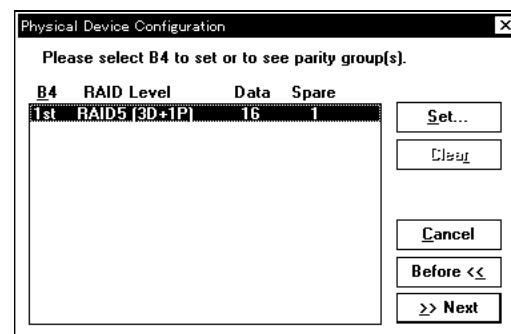
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

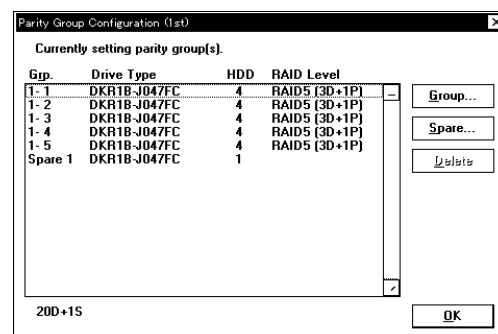
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

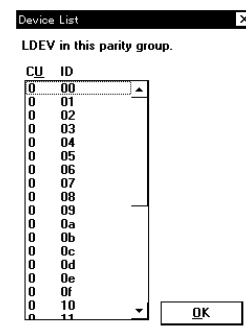
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

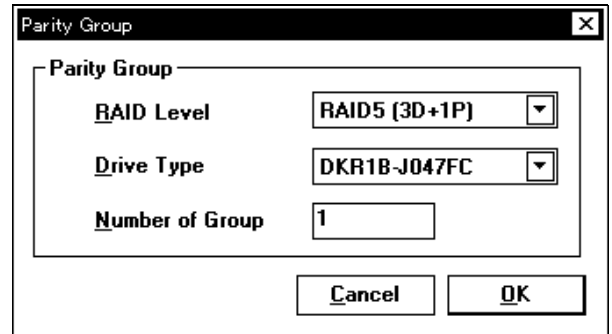
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

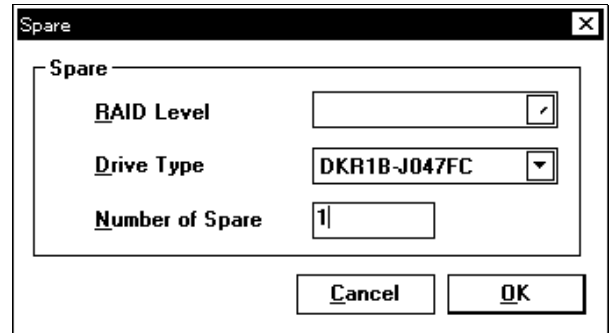
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

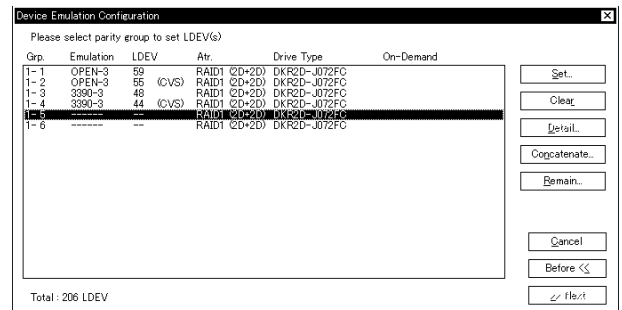
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

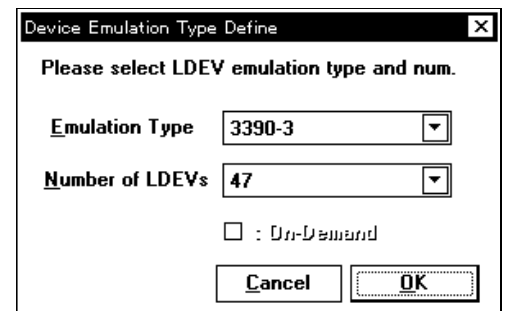
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

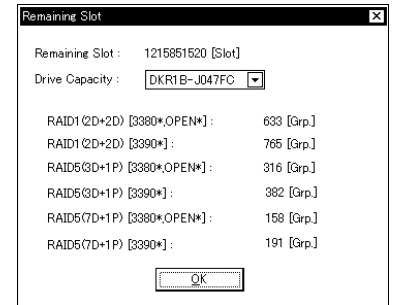
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

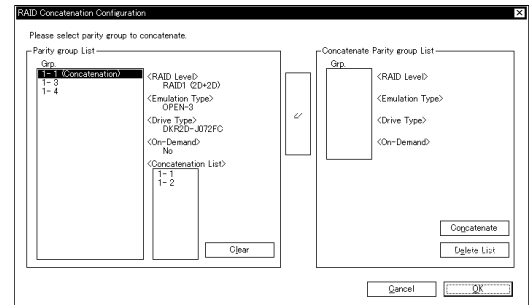
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

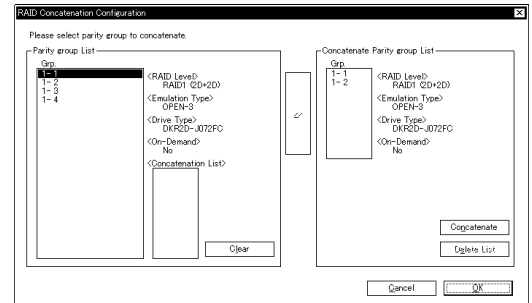
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

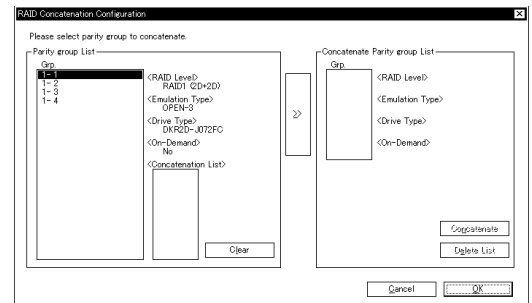


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

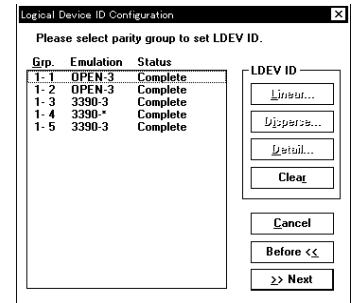
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

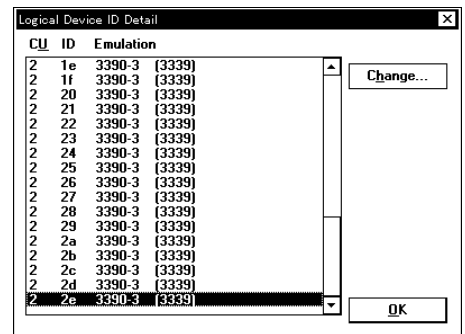
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

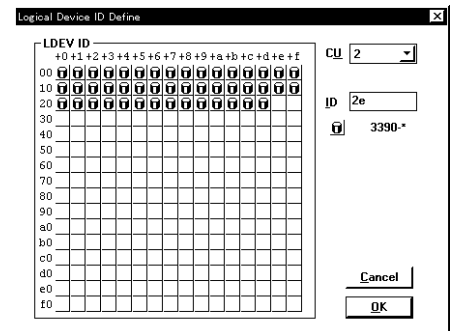
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

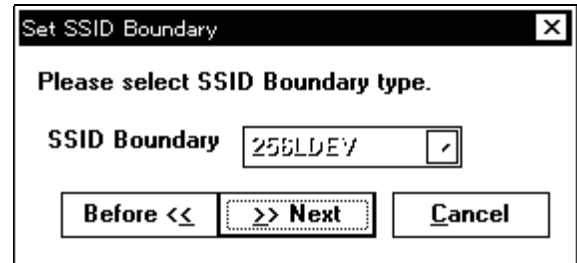
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

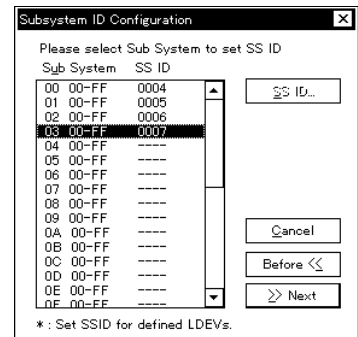
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

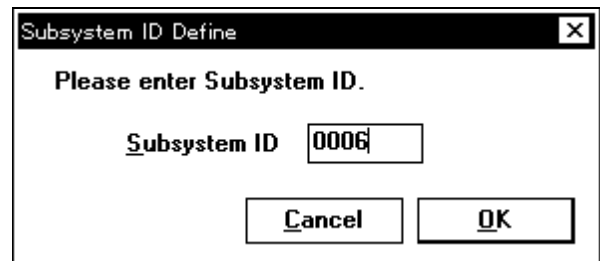
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

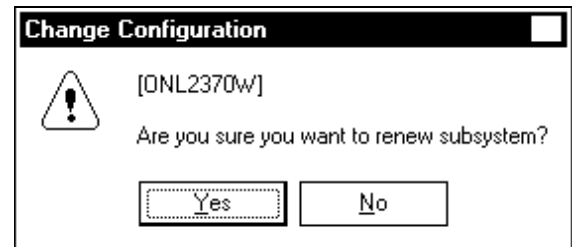
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-1920](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

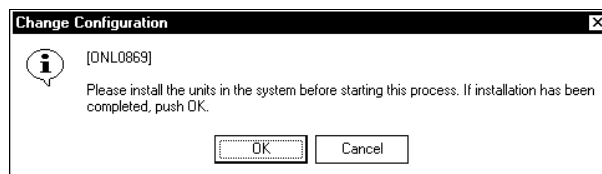
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



3. Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

When the additional disk adapter is not to be added, go to Step 4, "Installation Procedure of HDD Canister".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue. Never insert a PCB whose lever is not blue.

- Remove the dummy plate installed in the installation location referring to the Fig. 3.11.9-13.
(Note) Dummy plates should be stored for future use in De-installation.
- Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.9-1.
- Fasten the two screws referring to Fig. 3.11.9-14.

Table 3.11.9-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

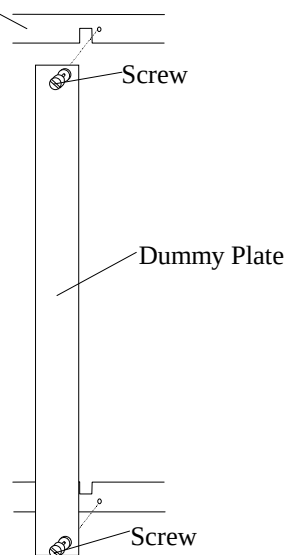


Fig. 3.11.9-13 Removal of Dummy Plate

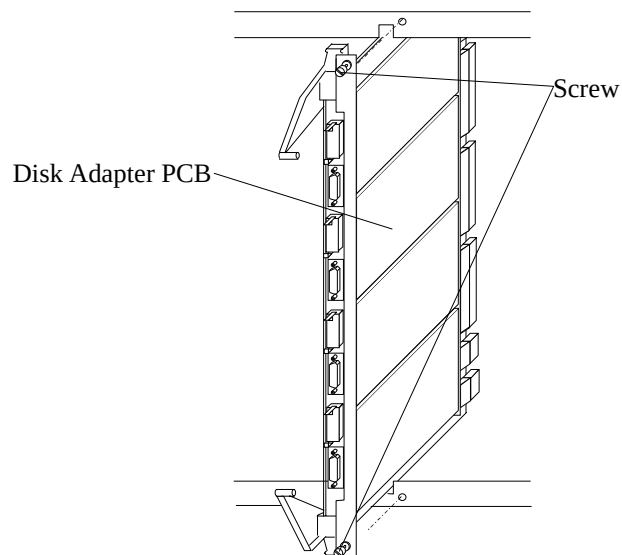


Fig. 3.11.9-14 Insertion of PCB

3-2 Connection of cables

In case of Add.1



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.9-15.)

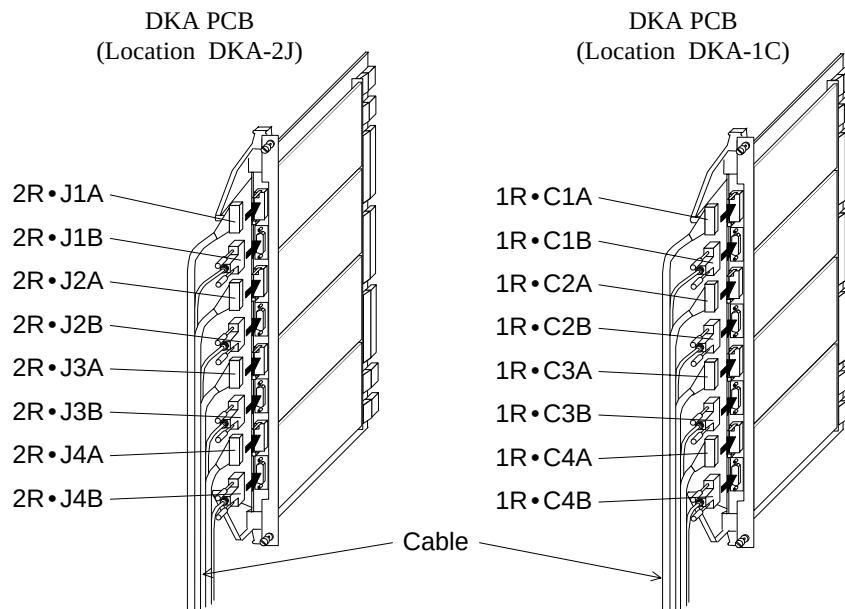


Fig.3.11.9-15 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

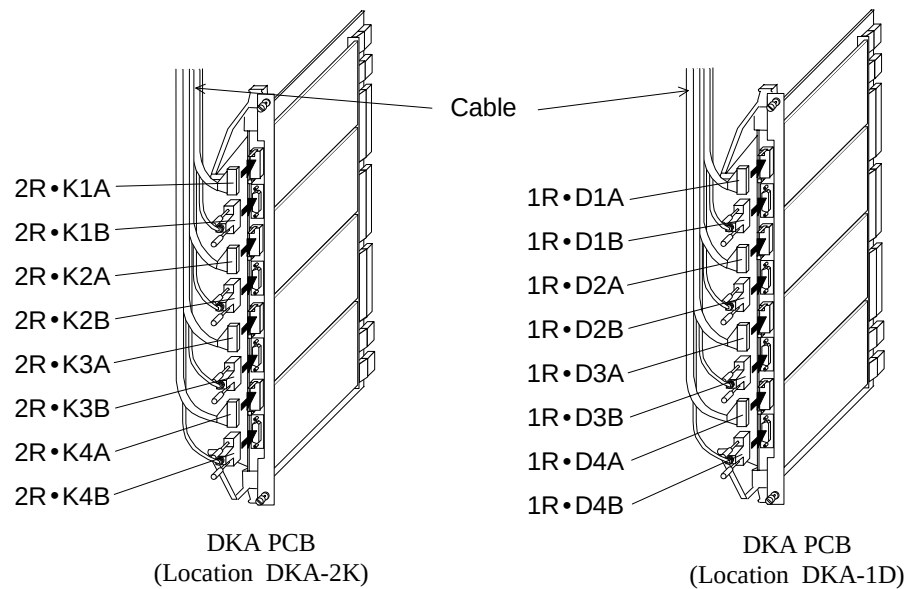


Fig.3.11.9-16 Connection of cable (Add.2)

In case of Add.3

Caution:

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

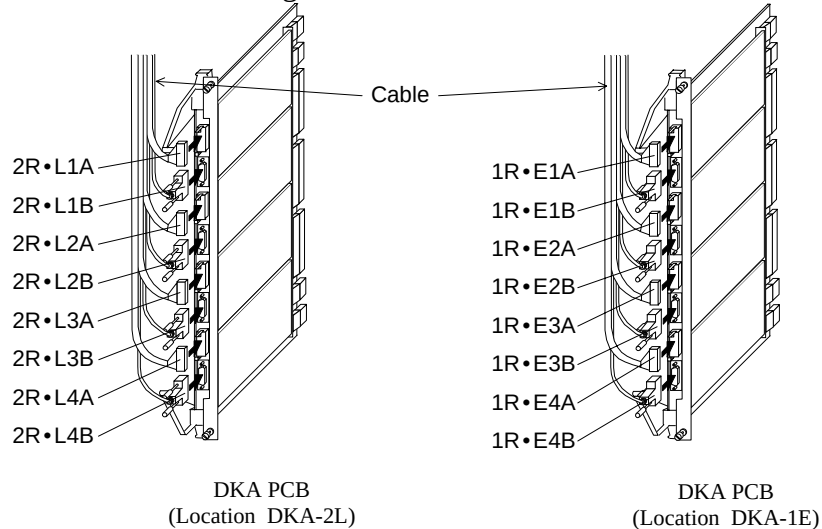


Fig.3.11.9-17 Connection of cable (Add.3)

3-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.9-18.

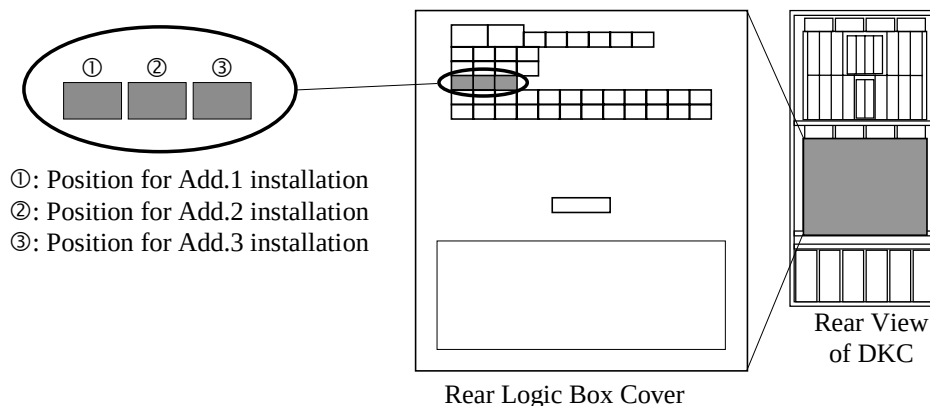


Fig. 3.11.9-18 Attachment of Nameplate

4. Installation Procedure of HDD Canister

4-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.9-2.

Table 3.11.9-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15 T P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 W S 046 047 *2 044 045 042 043 040 041 038 039 036 037 034 035 032 033				HDU-R25 T P S S 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113 W S 110 111 108 109 106 107 104 105 102 103 100 101 098 099 096 097			
		HDU-R14 T P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 W S 046 047 *2 044 045 042 043 040 041 038 039 036 037 034 035 032 033				HDU-R24 T P S S 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113 W S 110 111 108 109 106 107 104 105 102 103 100 101 098 099 096 097			
		HDU-R11 T P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 W S 015 Spare*1 013 014 011 012 009 010 007 008 005 006 003 004 001 002				HDU-R21 T P S S 094 095 092 093 090 091 088 089 086 087 084 085 082 083 080 081 W S 078 079 076 077 074 075 072 073 070 071 068 069 066 067 064 065			
		HDU-R10 T P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 W S 015 Spare*1 013 014 011 012 009 010 007 008 005 006 003 004 001 002				HDU-R20 T P S S 094 095 092 093 090 091 088 089 086 087 084 085 082 083 080 081 W S 078 079 076 077 074 075 072 073 070 071 068 069 066 067 064 065			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU					
DKC				L1 DKU				L2 DKU	
HDU-R27 T P S S 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113 W S 110 111 108 109 106 107 104 105 102 103 100 101 098 099 096 097				HDU-R17 T P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 W S 046 047 *2 044 045 042 043 040 041 038 039 036 037 034 035 032 033					
HDU-R26 T P S S 126 127 124 125 122 123 120 121 118 119 116 117 114 115 112 113 W S 110 111 108 109 106 107 104 105 102 103 100 101 098 099 096 097				HDU-R16 T P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 W S 046 047 *2 044 045 042 043 040 041 038 039 036 037 034 035 032 033					
HDU-R23 T P S S 094 095 092 093 090 091 088 089 086 087 084 085 082 083 080 081 W S 078 079 076 077 074 075 072 073 070 071 068 069 066 067 064 065				HDU-R13 T P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 W S 015 Spare*1 013 014 011 012 009 010 007 008 005 006 003 004 001 002					
HDU-R22 T P S S 094 095 092 093 090 091 088 089 086 087 084 085 082 083 080 081 W S 078 079 076 077 074 075 072 073 070 071 068 069 066 067 064 065				HDU-R12 T P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 W S 015 Spare*1 013 014 011 012 009 010 007 008 005 006 003 004 001 002					

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.9-19 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.9-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	177	178	175	176			
W	W	W	W	W	W	W	W			
235	236	233	234	173	174*2	171	172			
231	232	229	230	169	170	167	168			
227	228	225	226	165	166	163	164			
223	224	221	222	161	162	159	160			
HDU-L24				HDU-L14						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	177	178	175	176			
W	W	W	W	W	W	W	W			
235	236	233	234	173	174*2	171	172			
231	232	229	230	169	170	167	168			
227	228	225	226	165	166	163	164			
223	224	221	222	161	162	159	160			
HDU-L21				HDU-L11						
S	S	P	P	S	S	P	P			
221	222	219	220	157	158	155	156			
217	218	215	216	153	154	151	152			
213	214	211	212	149	150	147	148			
209	210	207	208	145	146	143	144			
W	W	W	W	W	W	W	W			
205	206	203	204	142	Spare*1	140	141			
201	202	199	200	138	139	136	137			
197	198	195	196	134	135	132	133			
193	194	191	192	130	131	128	129			
HDU-L20				HDU-L10						
S	S	P	P	S	S	P	P			
221	222	219	220	157	158	Spare*1	141			
217	218	215	216	153	154	151	152			
213	214	211	212	149	150	147	148			
209	210	207	208	145	146	143	144			
W	W	W	W	W	W	W	W			
205	206	203	204	142	Spare*1	140	141			
201	202	199	200	138	139	136	137			
197	198	195	196	134	135	132	133			
193	194	191	192	130	131	128	129			

Front View

128-254: 4HDD canisters installation ord

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
177	178	175	176	241	242	239	240
W	W	W	W	W	W	W	W
173	174*2	171	172	237	238	235	236
169	170	167	168	233	234	231	232
165	166	163	164	229	230	227	228
161	162	159	160	225	226	223	224
157	158	155	156	221	222	219	220
153	154	151	152	217	218	215	216
149	150	147	148	213	214	211	212
145	146	143	144	209	210	207	208
W	W	W	W	W	W	W	W
141	142	139	140	205	206	203	204
137	138	135	136	201	202	199	200
133	134	131	132	197	198	195	196
129	130	128	129	193	194	191	192
125	126	123	124	189	190	187	188
121	122	119	120	185	186	183	184
117	118	115	116	181	182	179	180
113	114	111	112	177	178	175	176
109	110	107	108	173	174*2	171	172
105	106	103	104	169	170	167	168
101	102	99	100	165	166	163	164
97	98	95	96	161	162	159	160
93	94	91	92	157	158	155	156
89	90	87	88	153	154	151	152
85	86	83	84	149	150	147	148
81	82	79	80	145	146	143	144
77	78	75	76	141	142	139	140
73	74	71	72	137	138	135	136
69	70	67	68	133	134	131	132
65	66	63	64	129	130	128	129
61	62	59	60	125	126	123	124
57	58	55	56	121	122	119	120
53	54	51	52	117	118	115	116
49	50	47	48	113	114	111	112
45	46	43	44	109	110	107	108
41	42	39	40	105	106	103	104
37	38	35	36	101	102	99	100
33	34	31	32	97	98	95	96
29	30	27	28	93	94	91	92
25	26	23	24	89	90	87	88
21	22	19	20	85	86	83	84
17	18	15	16	81	82	79	80
13	14	11	12	77	78	75	76
9	10	7	8	73	74	71	72
5	6	3	4	69	70	67	68
1	2	1	2	65	66	63	64

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.9-19 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.9-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.9-3.

Table 3.11.9-3 Relation between HDDs installation order and RAID number (7D+1P)

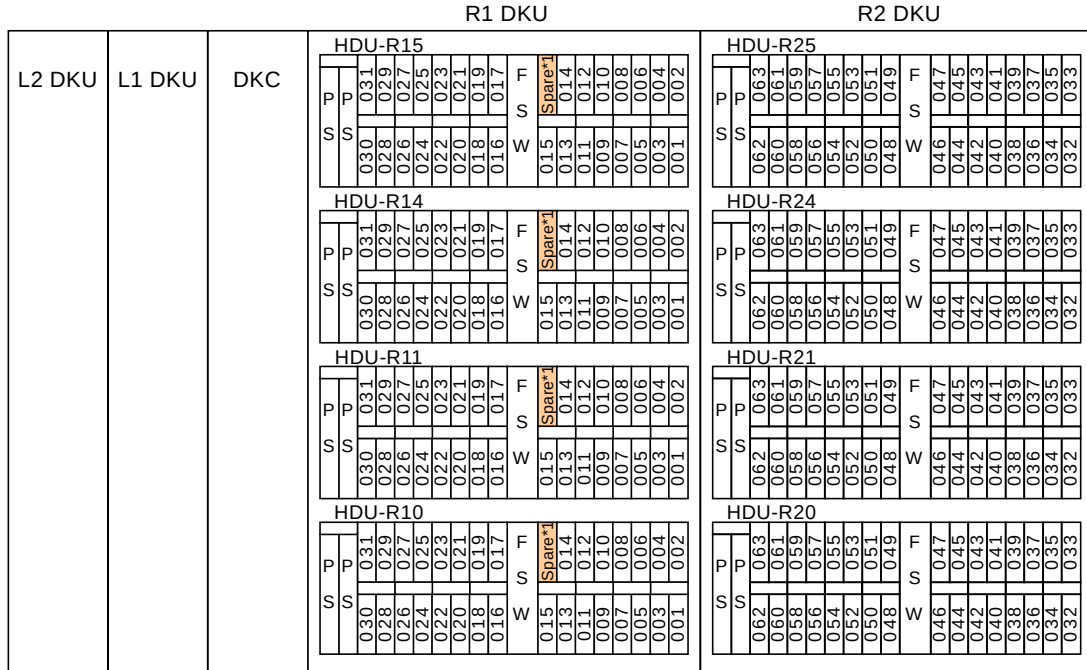
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

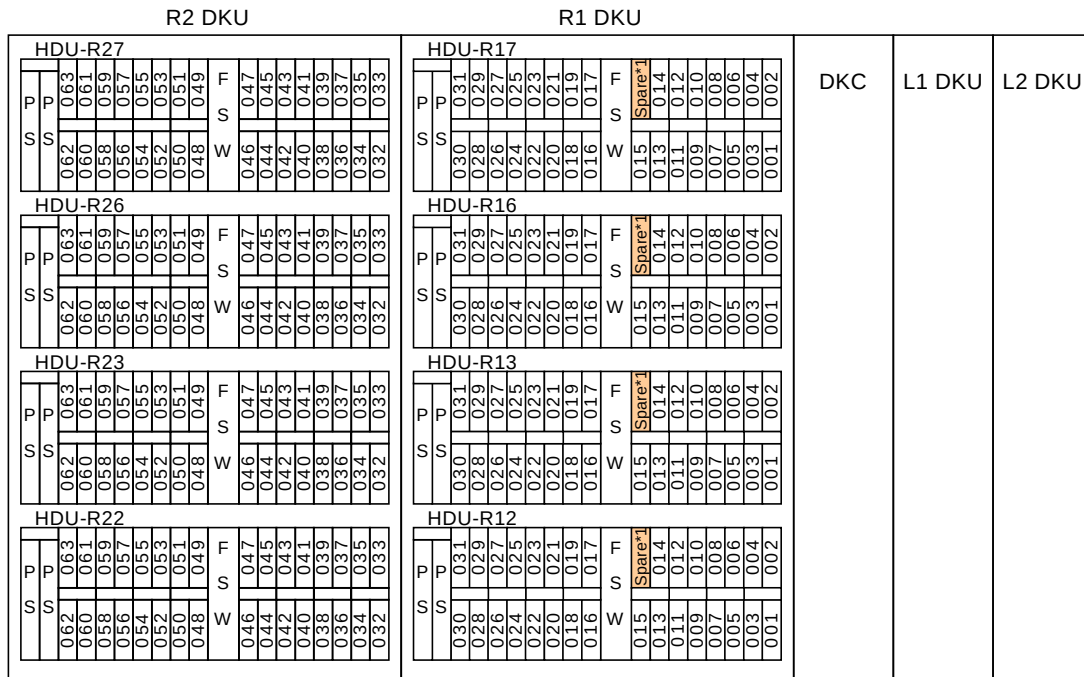
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.9-20 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.9-3.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
S	S	P	P	125	126	S	T	078	Spare*1	077
				123	124					
				121	122					074
				119	120					075
				117	118					072
				115	116					073
				113	114					070
				111	112					071
										068
										069
										067
										066
										064
										065
HDU-L24				HDU-L14						
S	S	P	P	125	126	S	T	078	Spare*1	077
				123	124					
				121	122					074
				119	120					075
				117	118					072
				115	116					073
				113	114					070
				111	112					071
										068
										069
										067
										066
										064
										065
HDU-L21				HDU-L11						
S	S	P	P	125	126	S	T	078	Spare*1	077
				123	124					
				121	122					074
				119	120					075
				117	118					072
				115	116					073
				113	114					070
				111	112					071
										068
										069
										067
										066
										064
										065
HDU-L20				HDU-L10						
S	S	P	P	125	126	S	T	078	Spare*1	077
				123	124					
				121	122					074
				119	120					075
				117	118					072
				115	116					073
				113	114					070
				111	112					071
										068
										069
										067
										066
										064
										065

Front View

064-126: 8HDD canisters installation ord

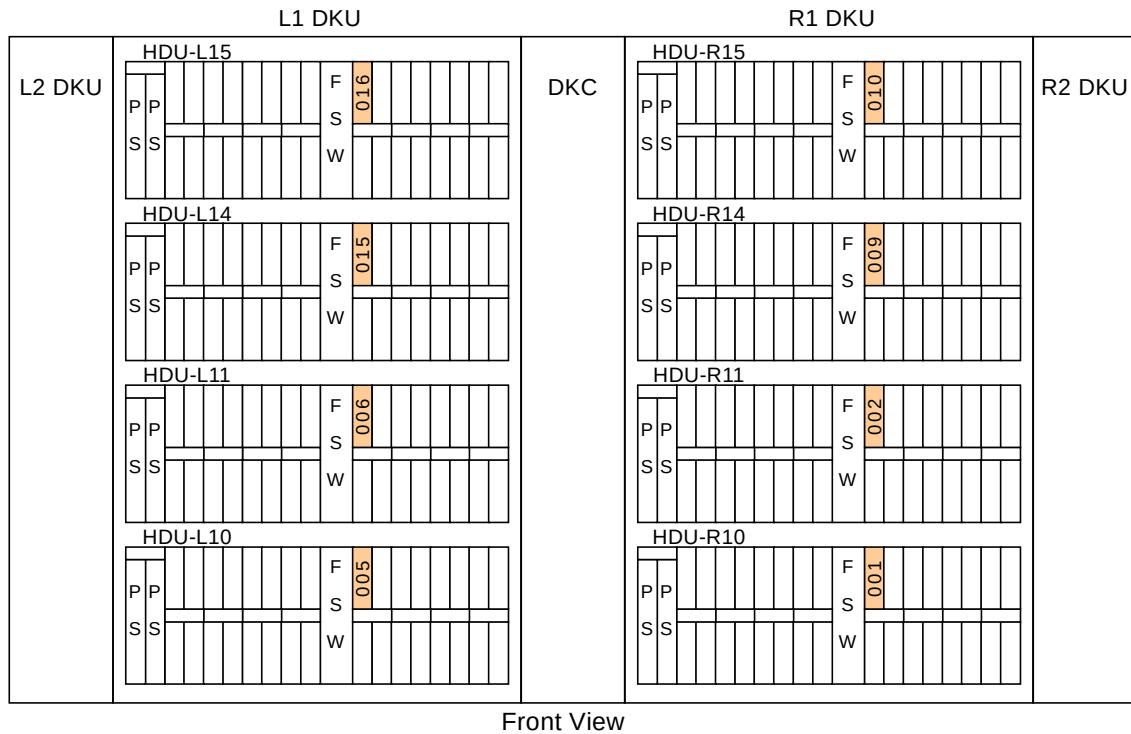
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU														
R2 DKU	R1 DKU	DKC	HDU-L17								HDU-L27							
			P				S				P				S			
			094				093				126				125			
			092				091				124				123			
			090				089				122				121			
			088				087				118				117			
			086				085				116				115			
			084				083				114				113			
			082				081				112				111			
			080				079				110				109			
			F				W				F				W			
			Spare*1				078				Spare*1				078			
			077				076				077				076			
			075				074				075				074			
			073				072				073				072			
			071				070				071				070			
069				068				069				068						
067				066				067				066						
065				064				065				064						
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064				065														

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

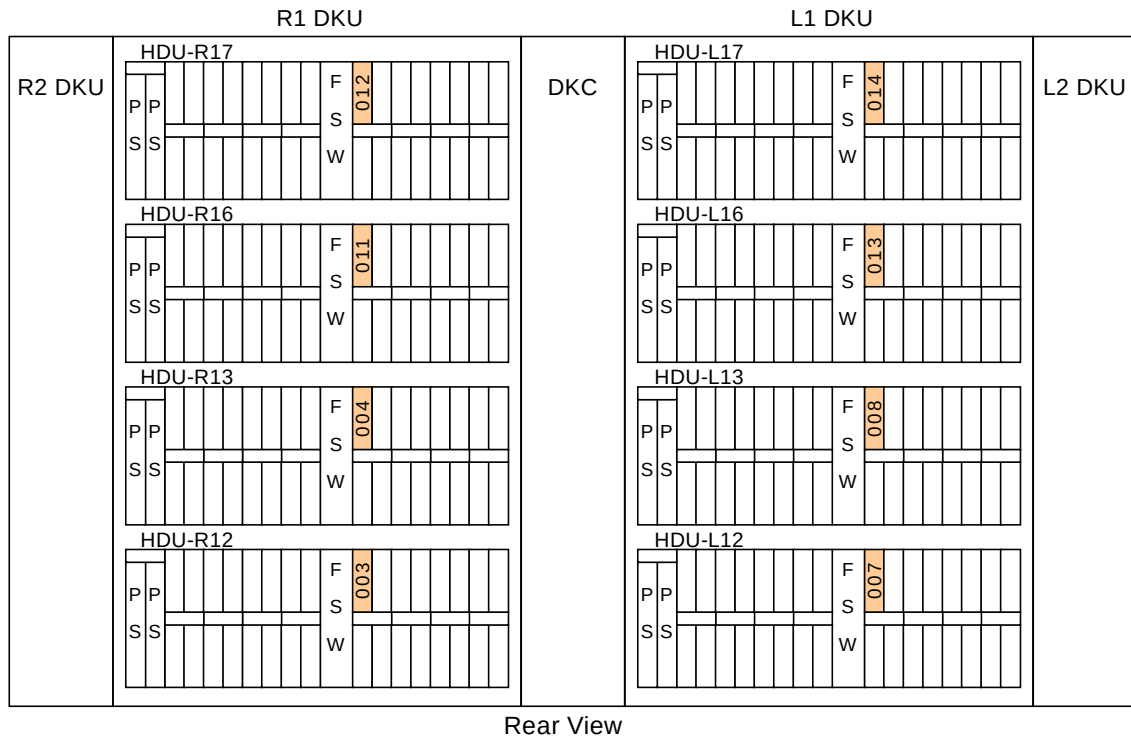


Fig. 3.11.9-21 Spare Drive Expansion Sequence

4-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

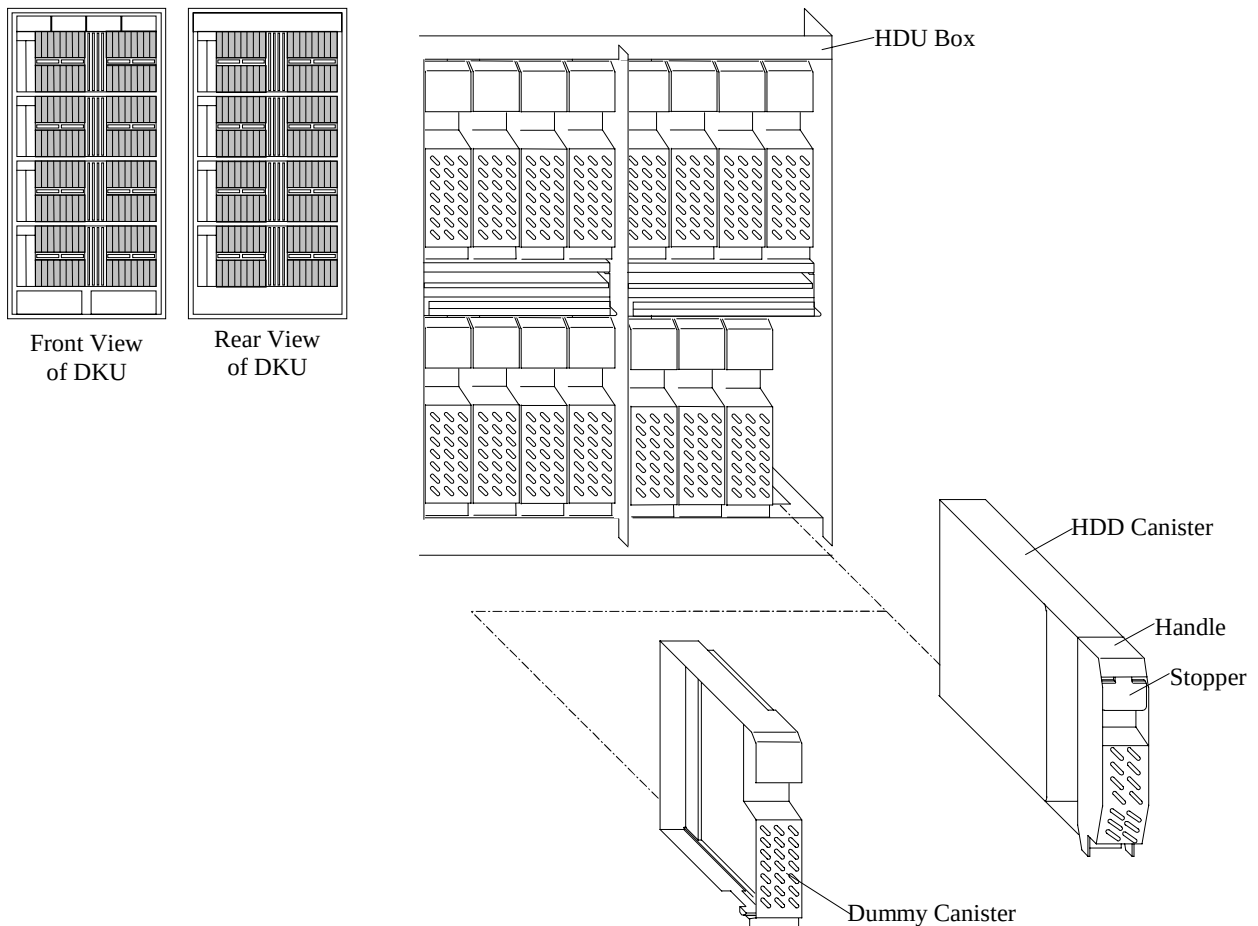
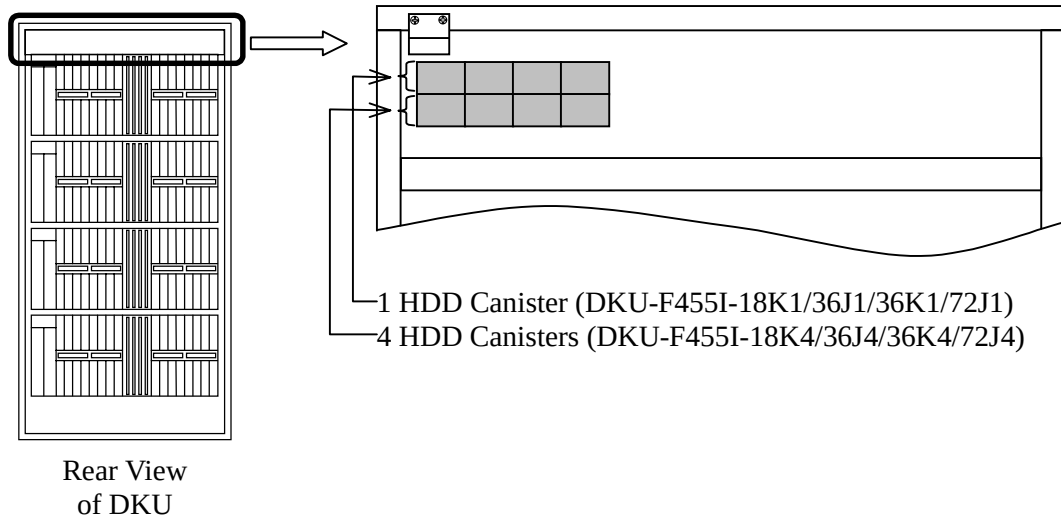


Fig. 3.11.9-22 Installation of HDD Canister

4-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

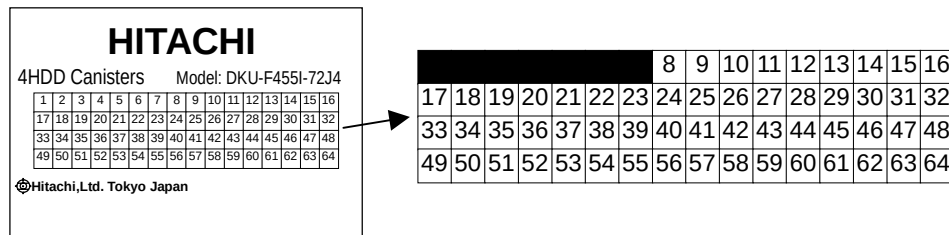


Fig. 3.11.9-23 Attachment of Nameplate

5. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Caution:

The addition cannot be done unless the AC power is applied to the added DKU and the main breaker of the DKU is turned on.

Between HDU-R10-R17 and HDU-R20-R27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-R1 frame referring to figures 3.11.9-24 and 3.11.9-25.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

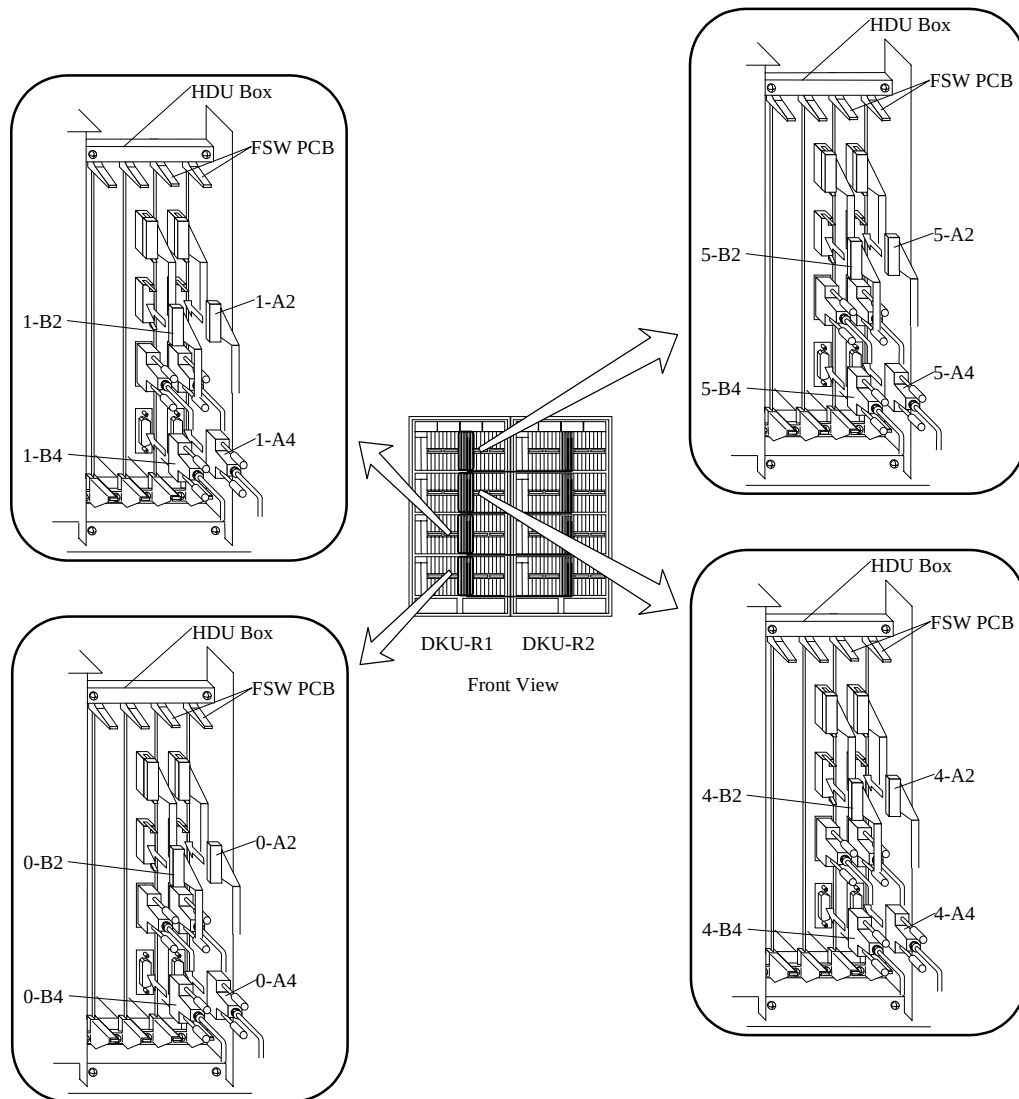


Fig. 3.11.9-24 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

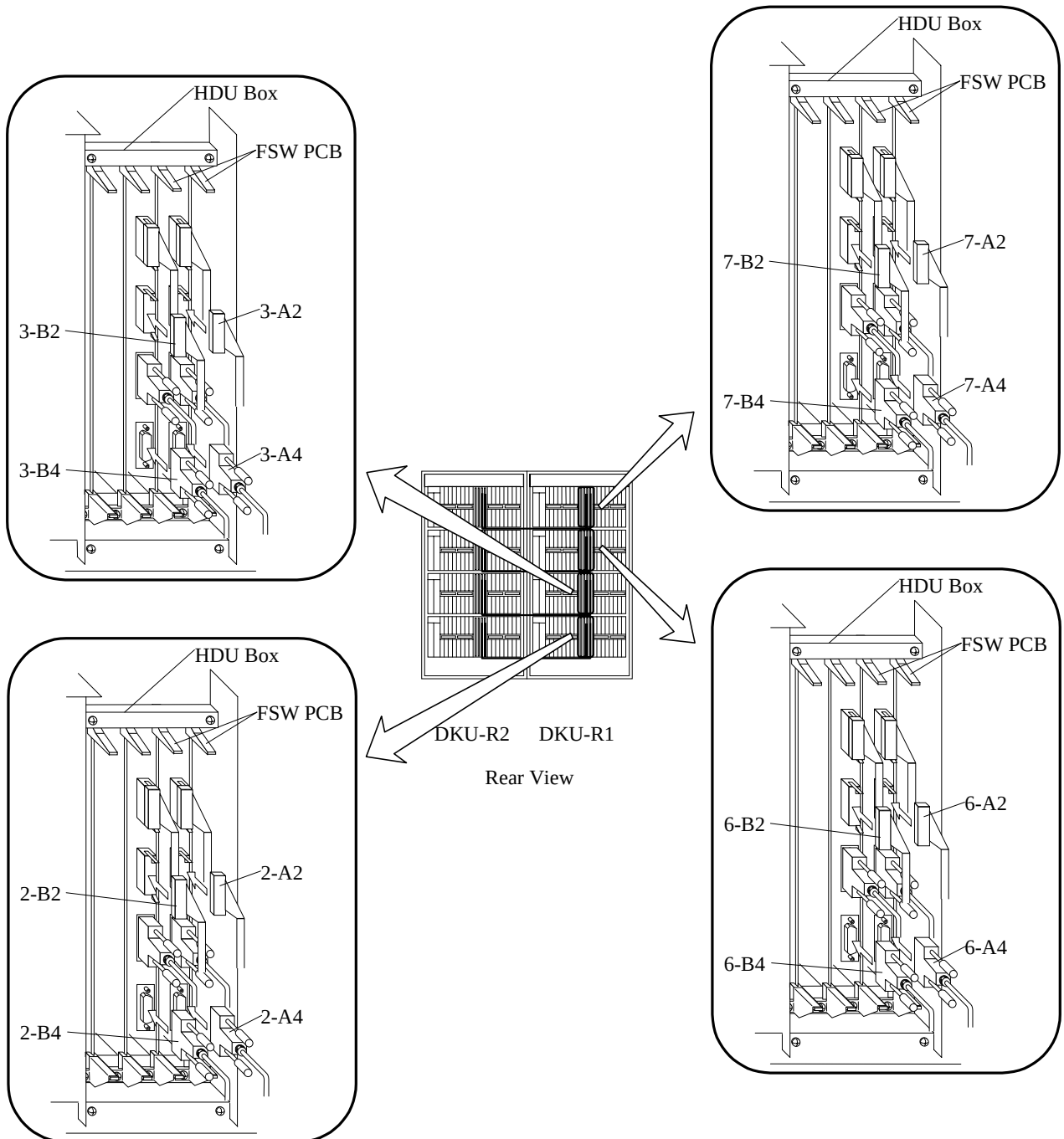


Fig. 3.11.9-25 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-L1 frame referring to figures 3.11.9-26 and 3.11.9-27.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

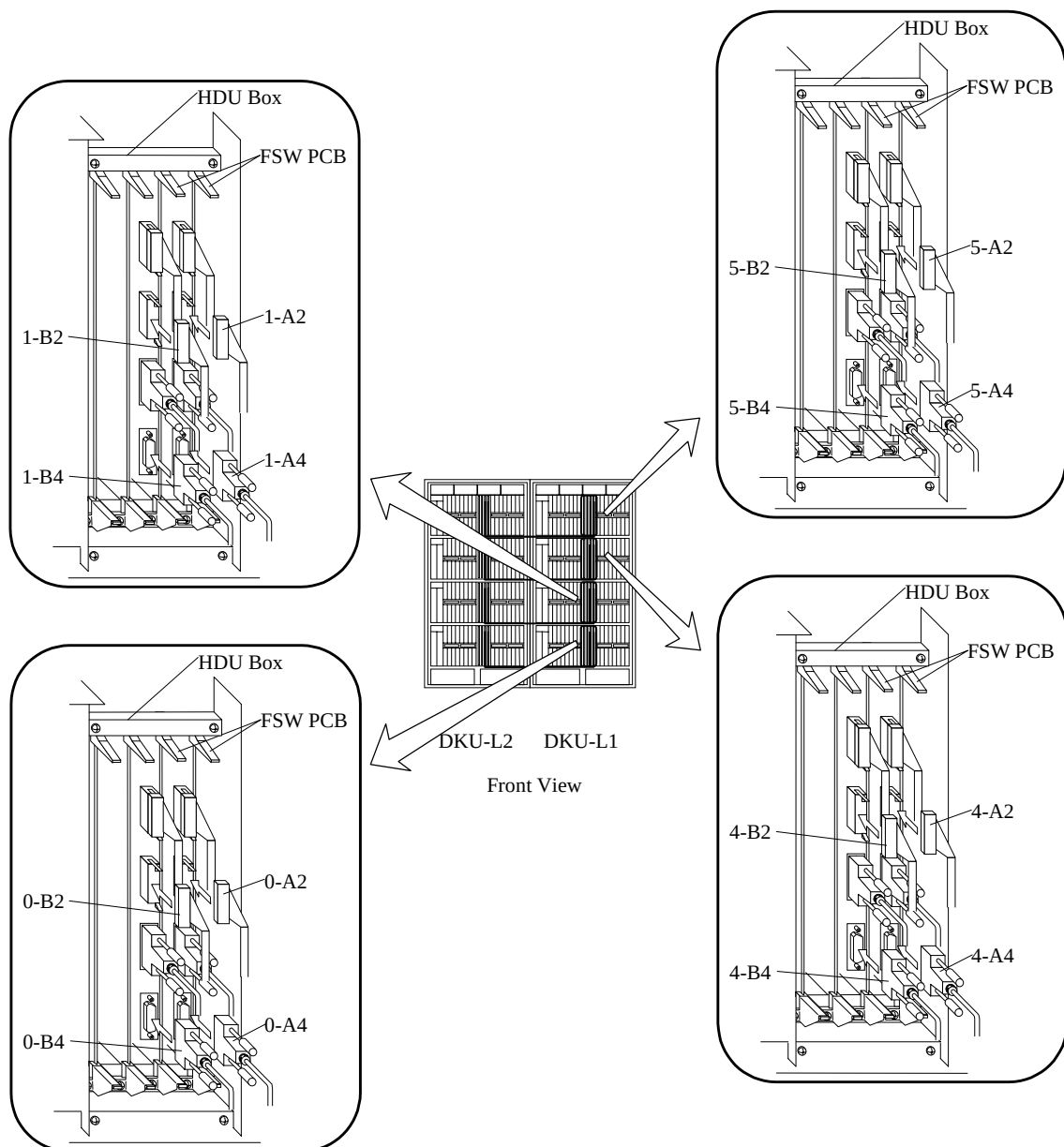


Fig. 3.11.9-26 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

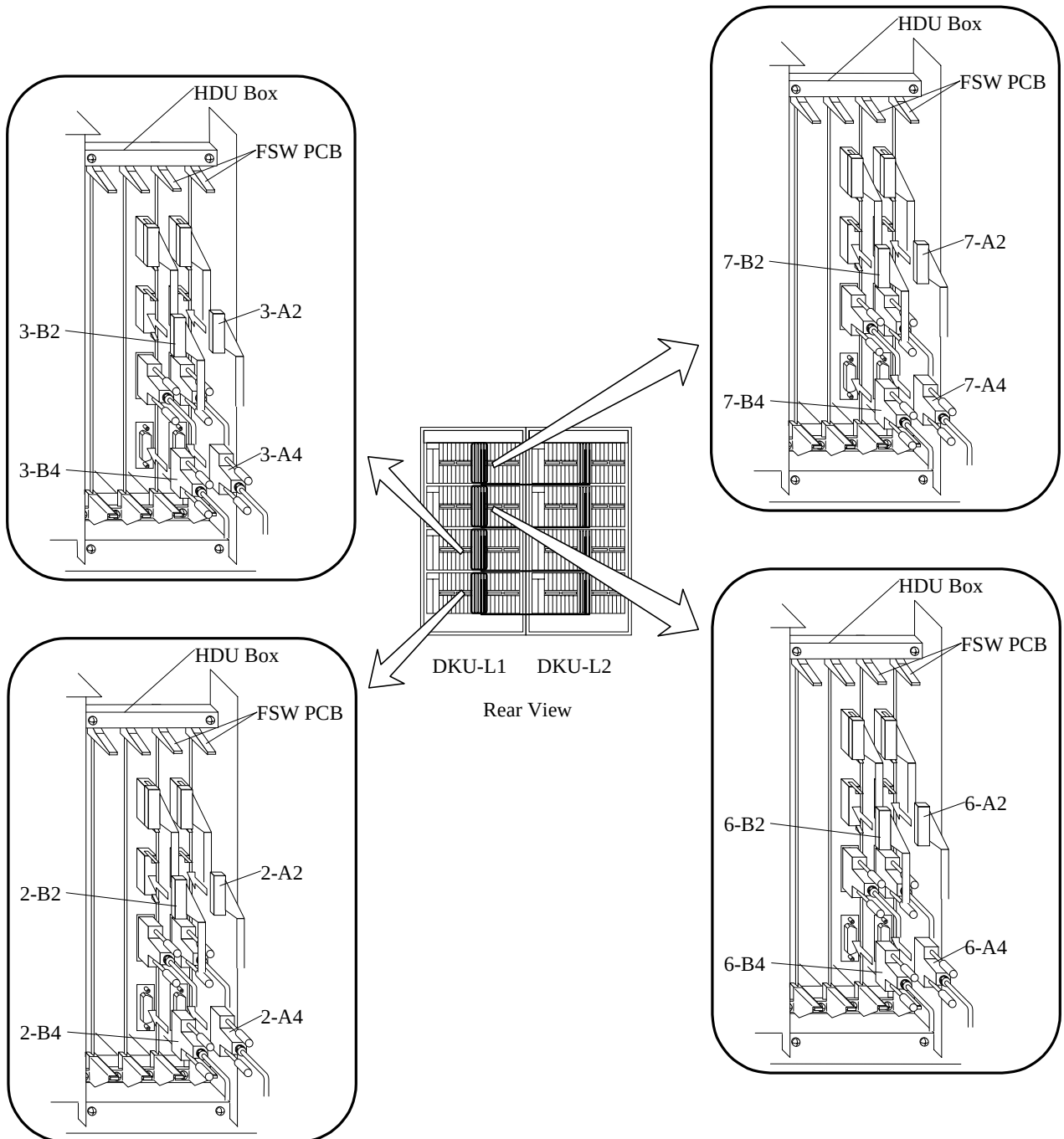
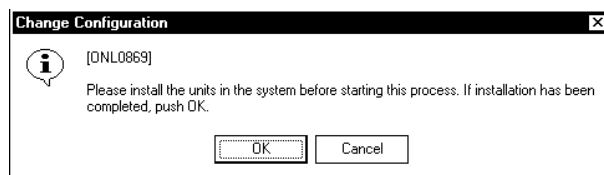


Fig. 3.11.9-27 Connection of the DEV Interface Cables

6. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

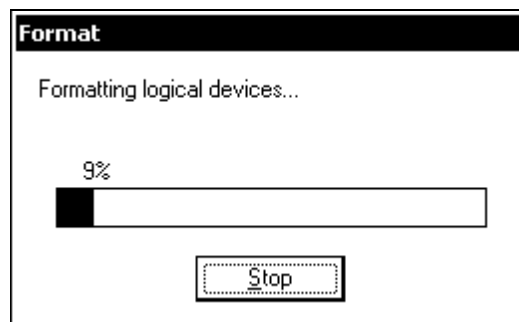
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

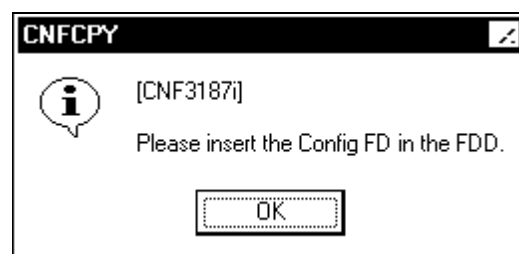
“Formatting the logical device...” is displayed when Parity Group is defined.



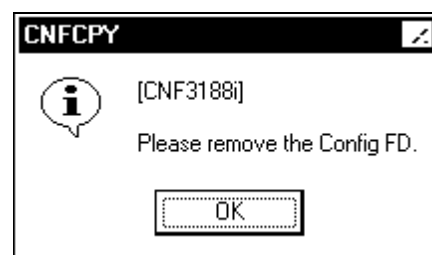
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



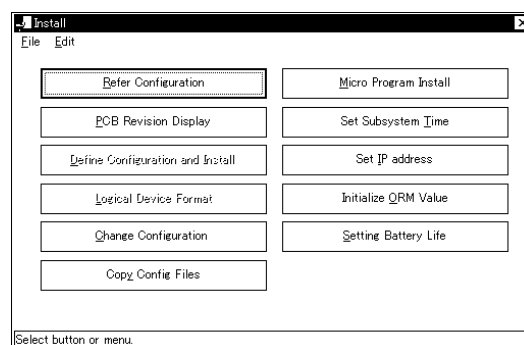
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

7. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

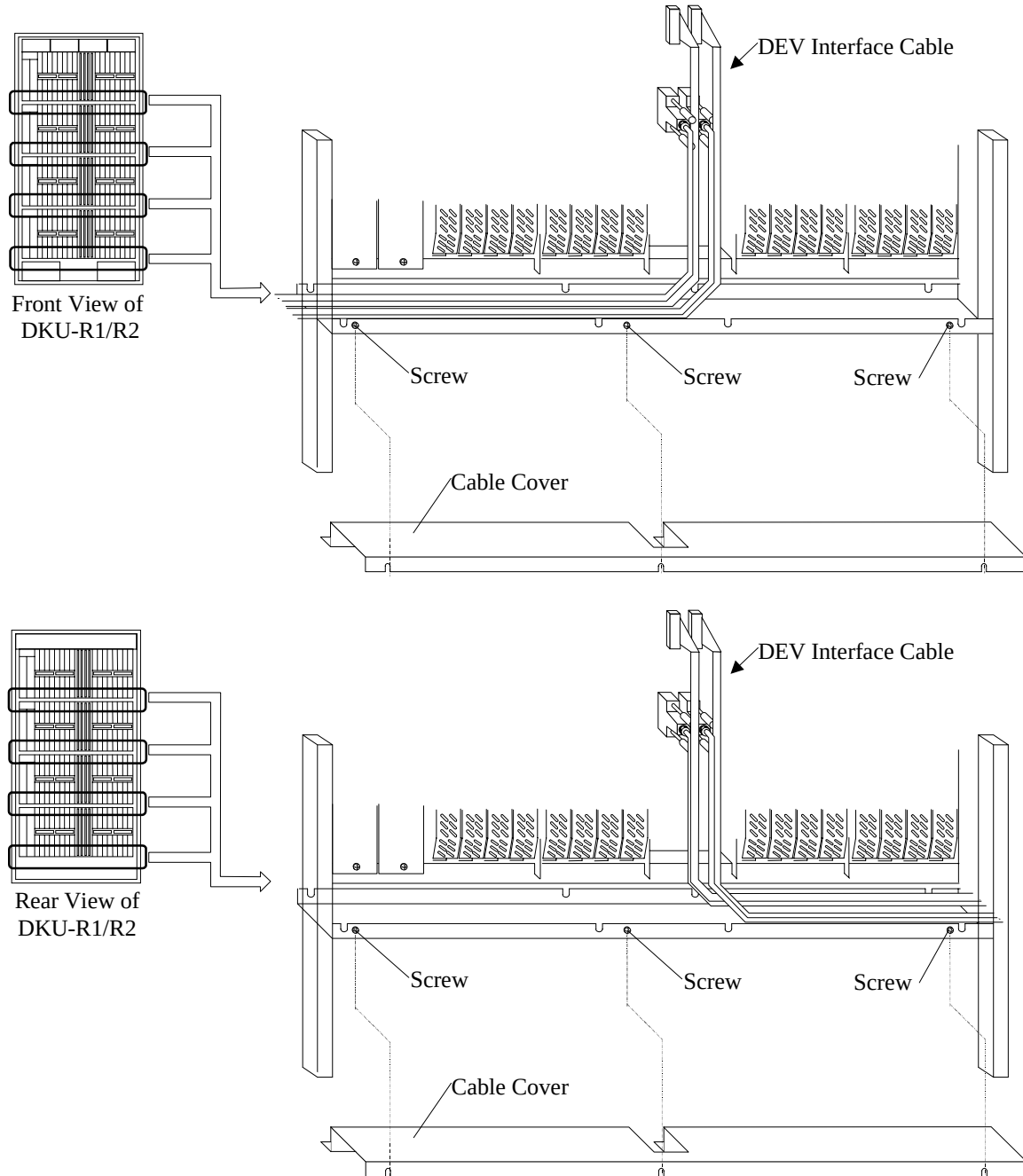


Fig. 3.11.9-28 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

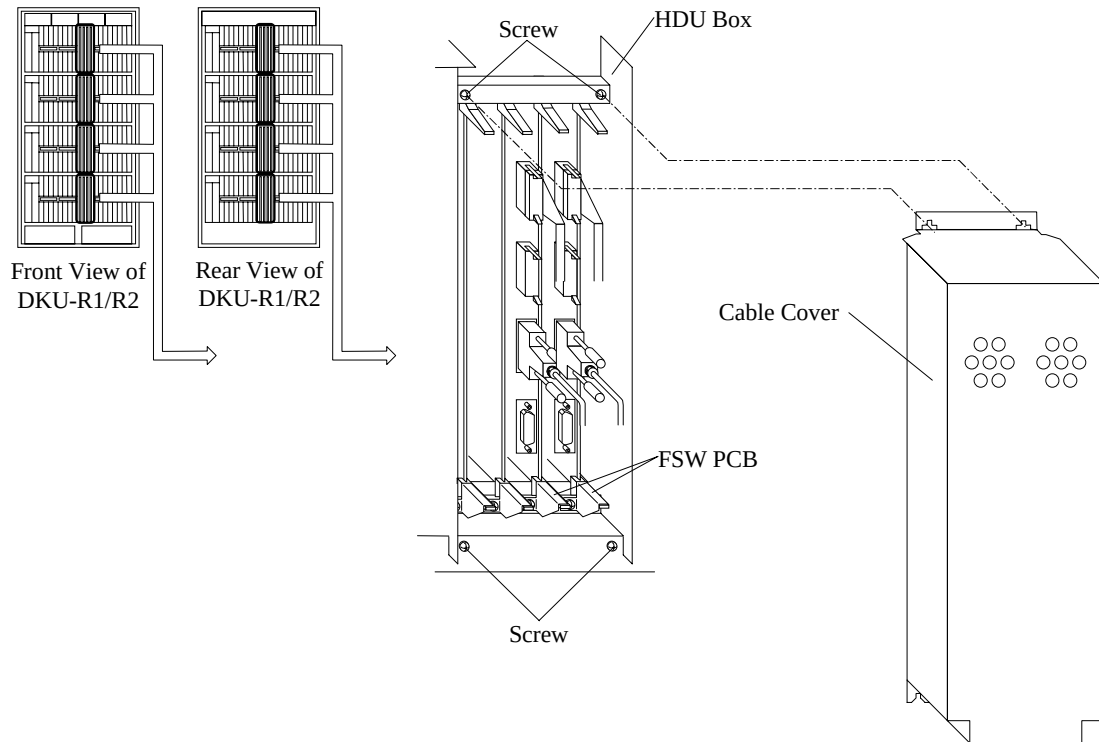


Fig. 3.11.9-29 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-R2 frame.

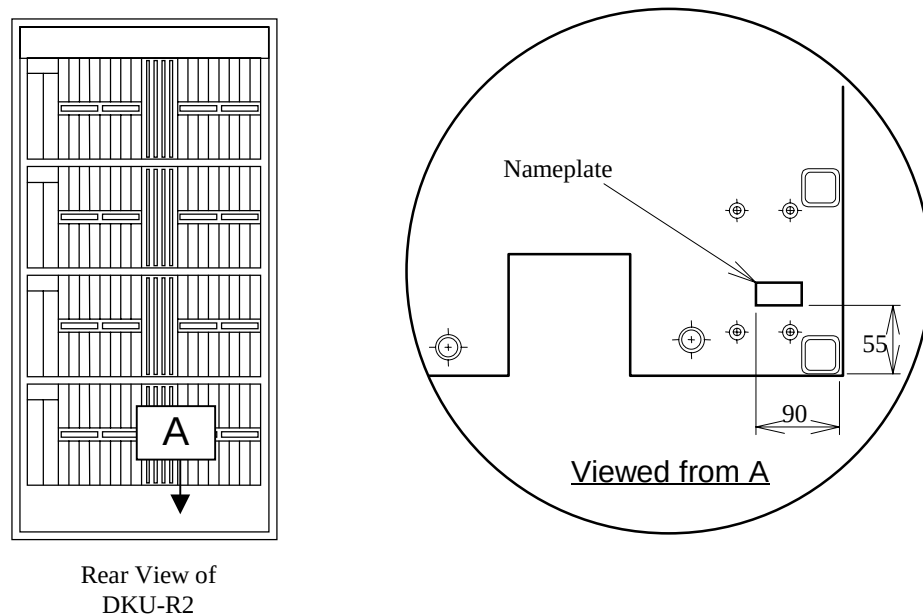


Fig. 3.11.9-30 Attachment of the Nameplate

Between HDU-L10-L17 and HDU-L20-L27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

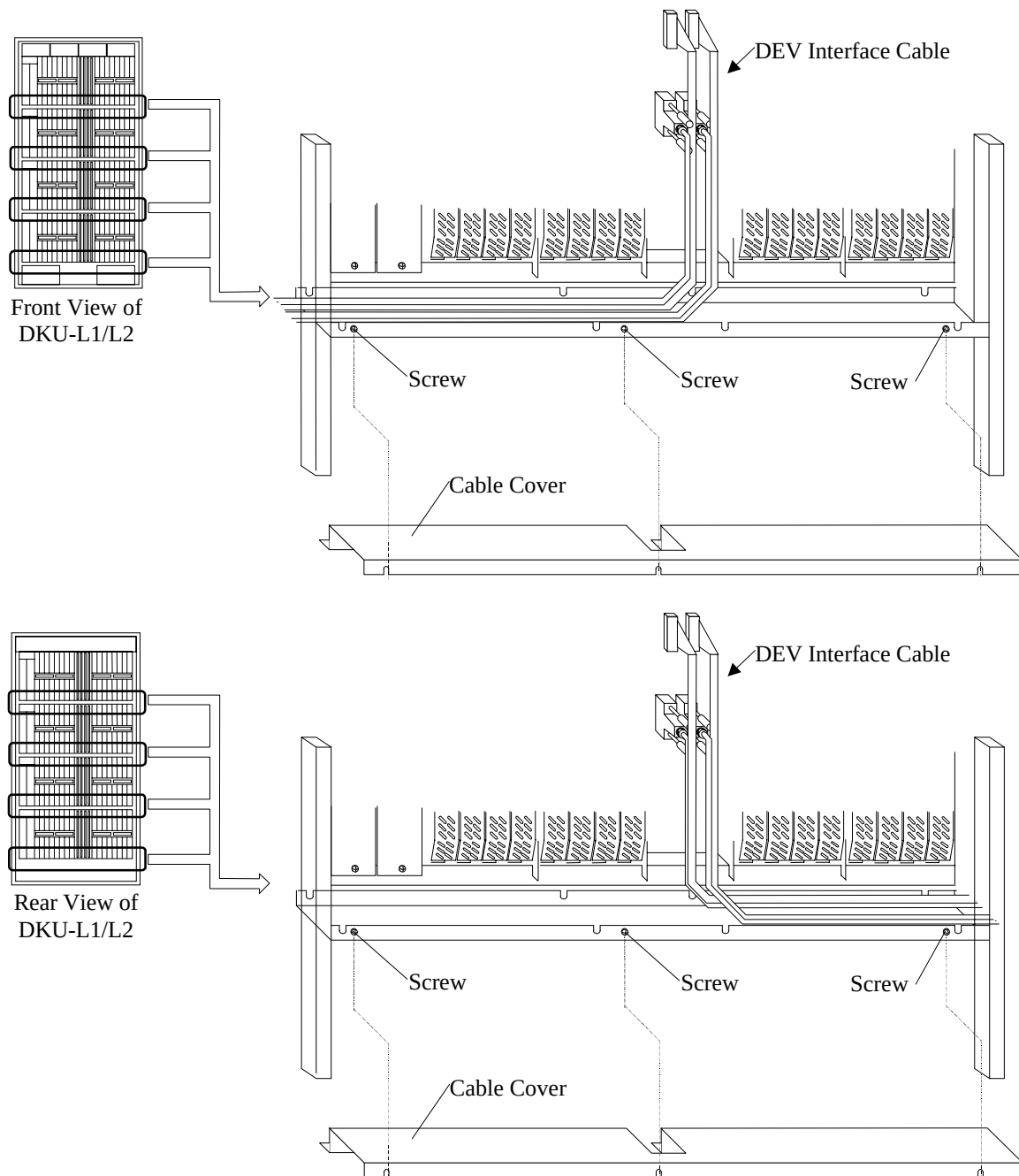


Fig. 3.11.9-31 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

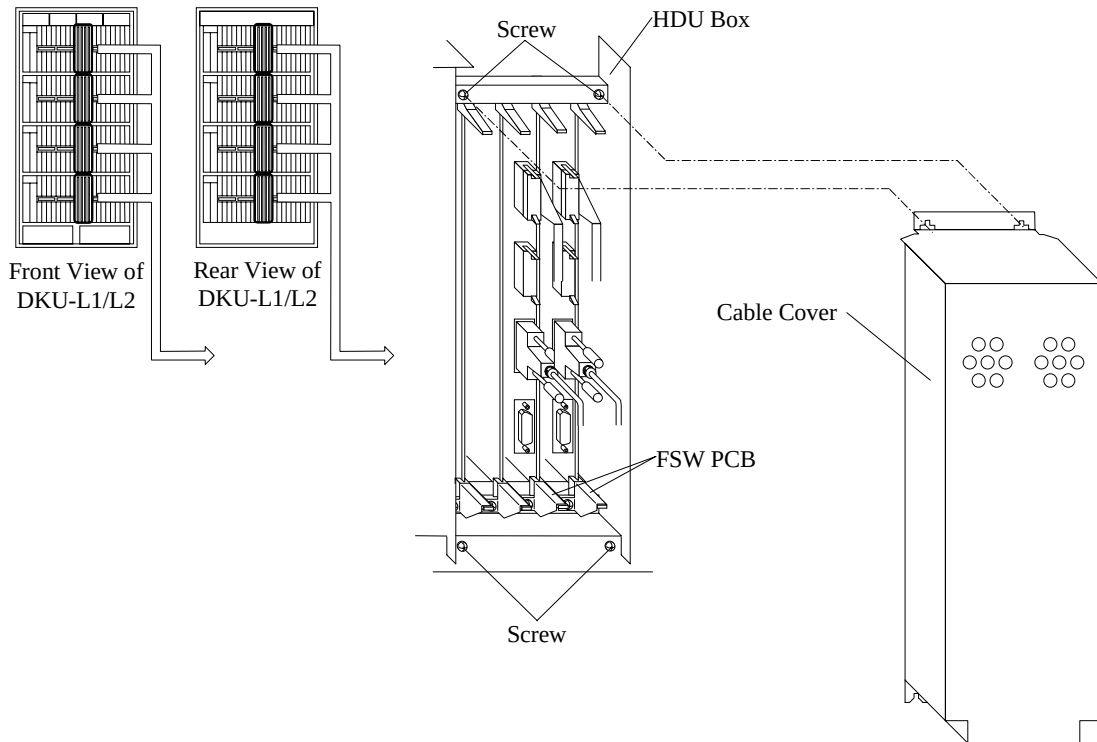


Fig. 3.11.9-32 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-L2 frame.

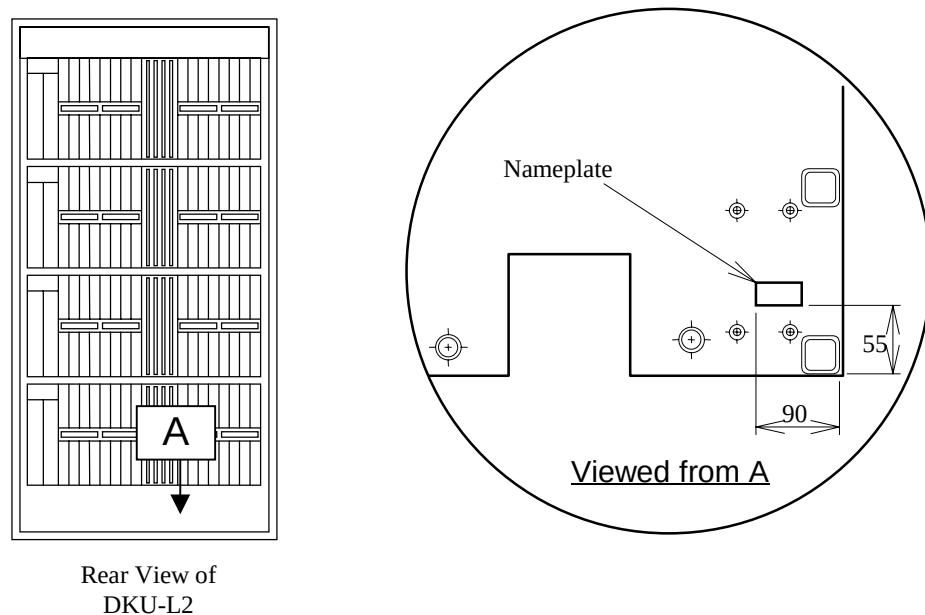


Fig. 3.11.9-33 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.10 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-L1 and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)

1-1 Connect the DEV Interface cables to the FSW.

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

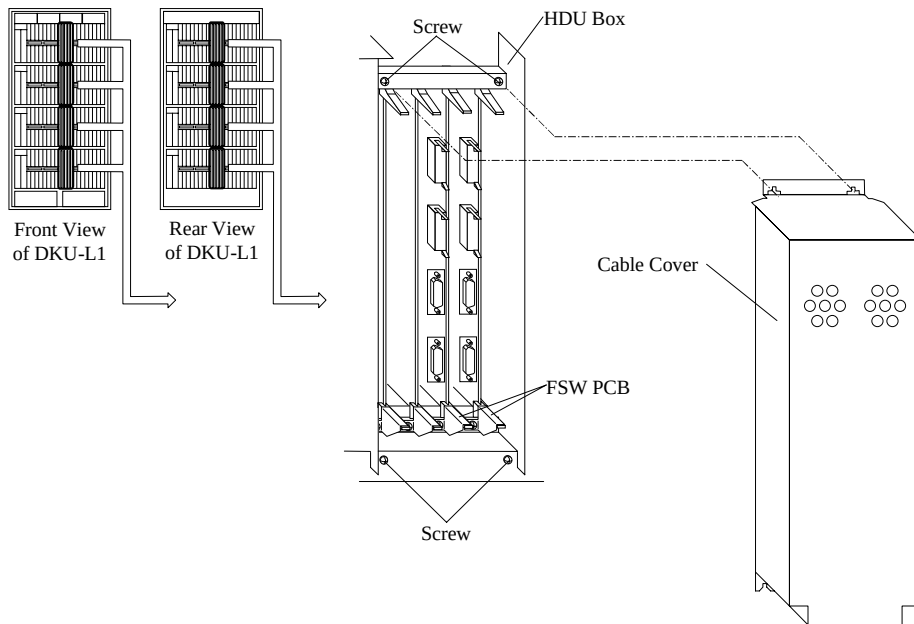


Fig. 3.11.10-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

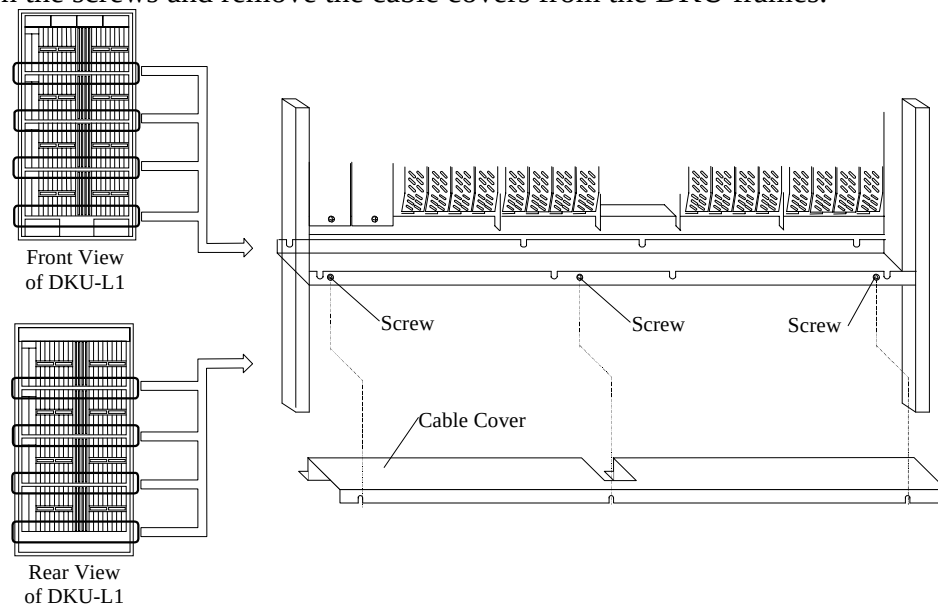


Fig. 3.11.10-2 Removal of Cable Covers

- c. Refer to Fig. 3.11.10-3 and Fig. 3.11.10-4. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the DKA in this procedure. The cable is to be connected later in another procedure.

! CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

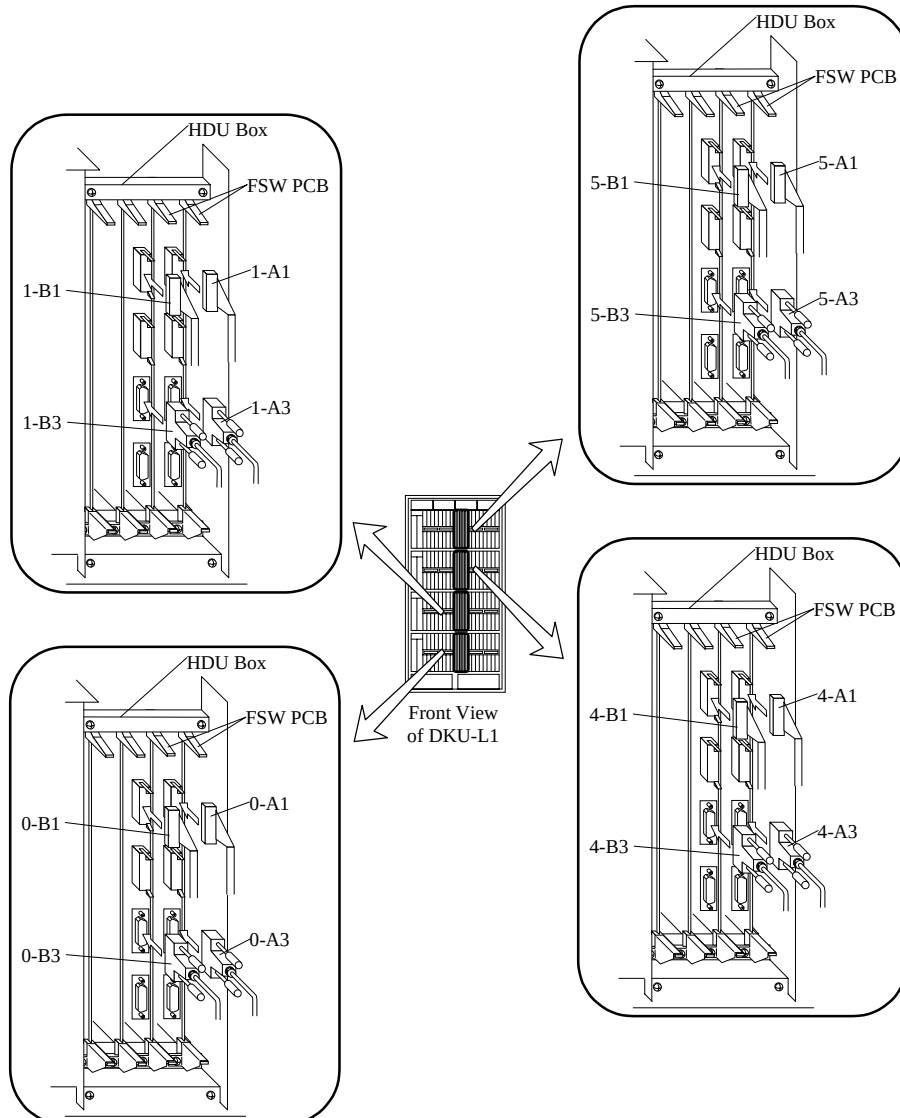


Fig. 3.11.10-3 DEV Interface Cabling Diagram (FSW PCB Side)

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

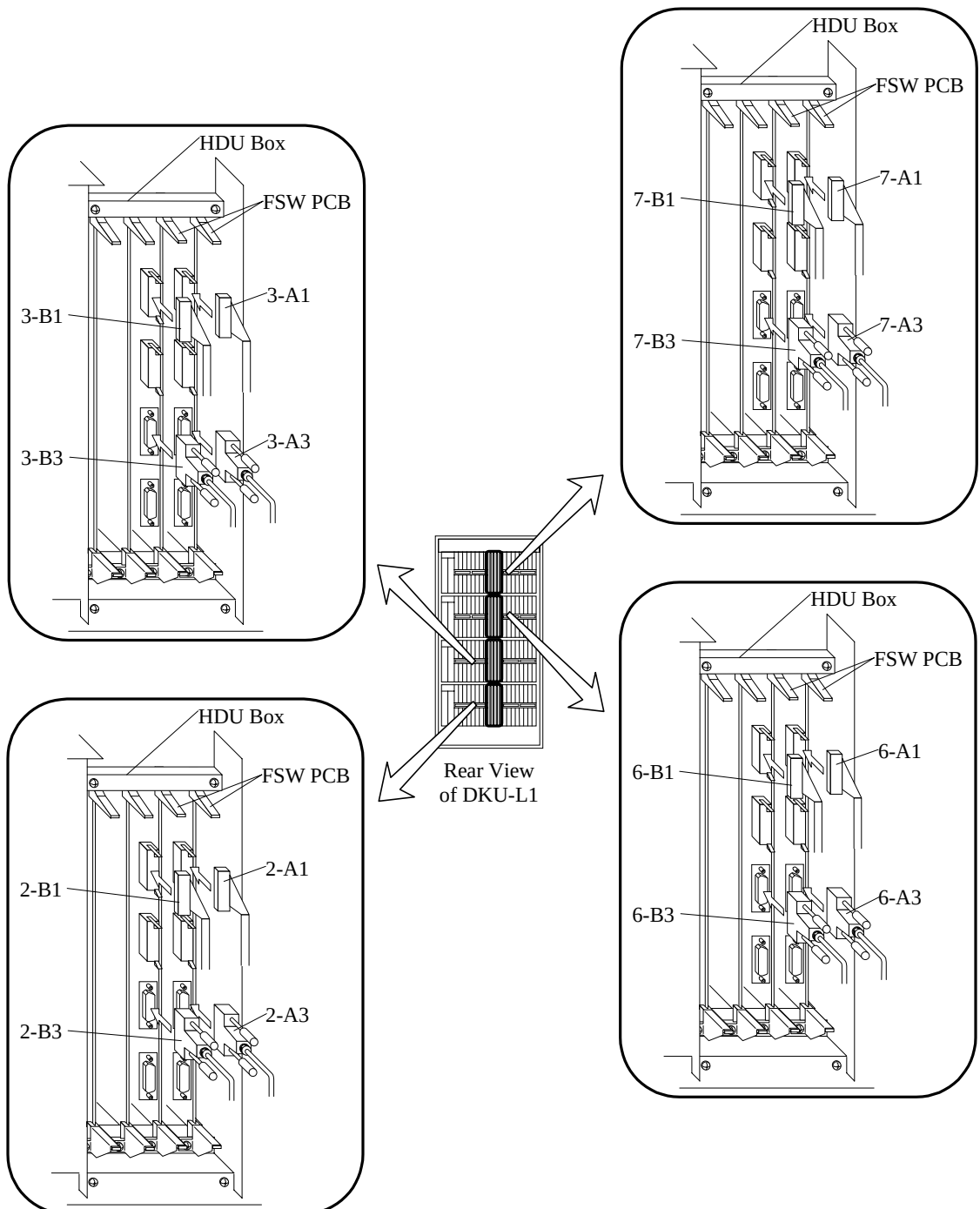


Fig. 3.11.10-4 DEV Interface Cabling Diagram (FSW PCB Side)

- d. Attach the cable covers with the screw to fix the DEV Interface Cables.

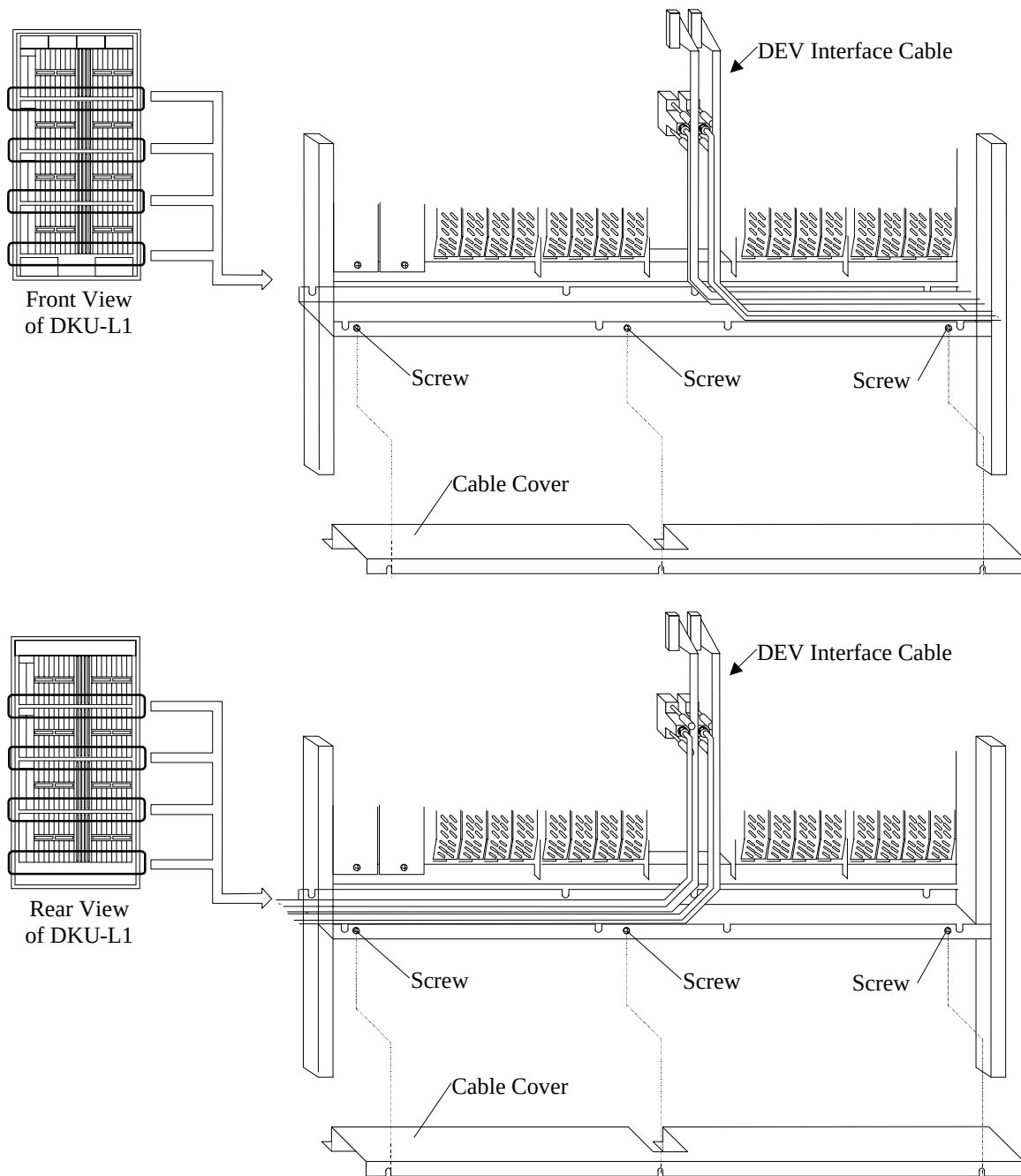


Fig. 3.11.10-5 Fixation of the DEV Interface Cables

- e. Attach the cable covers with the screw to fix the DEV Interface Cables.

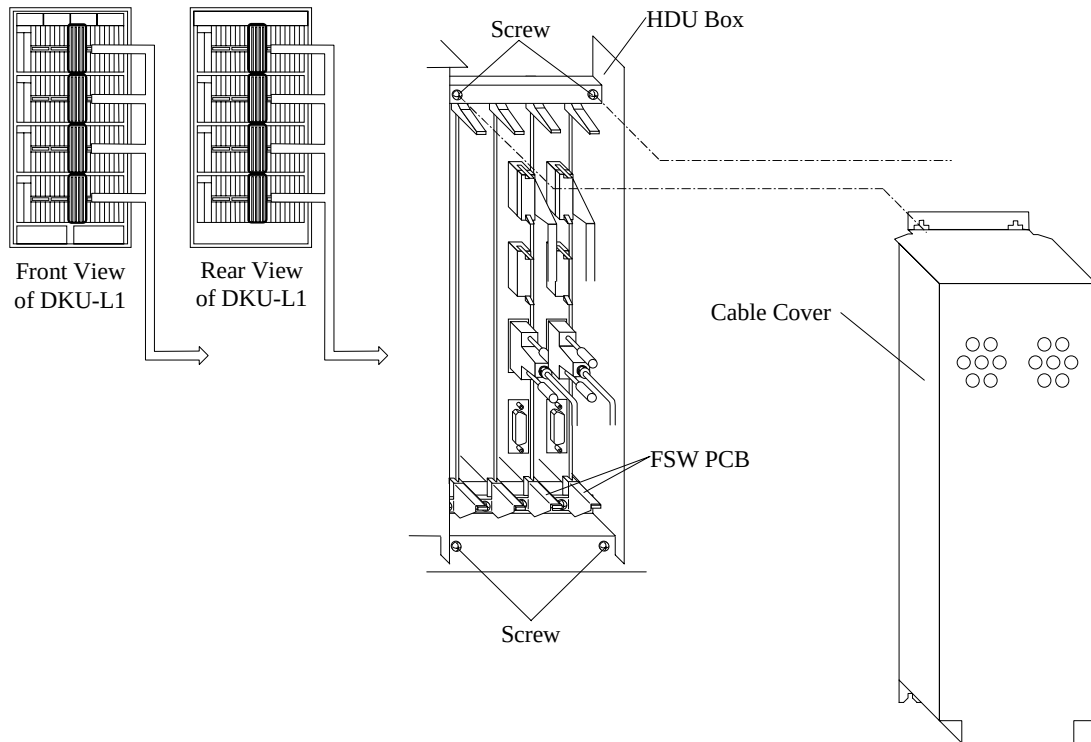


Fig. 3.11.10-6 Fixation of the DEV Interface Cables

- 1-2 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

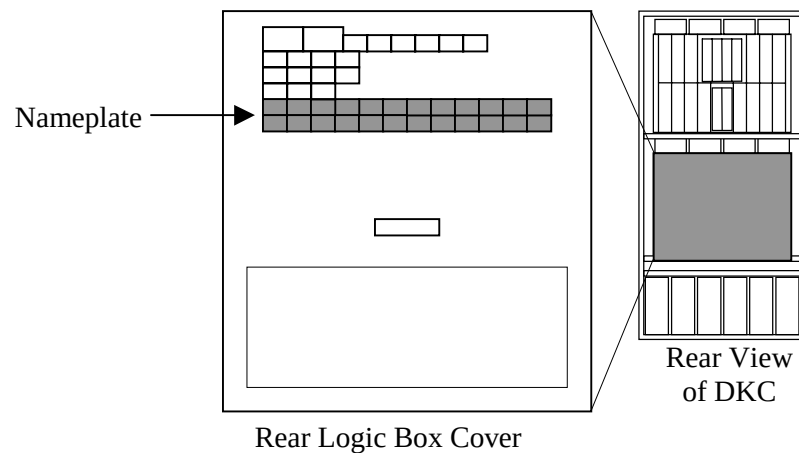


Fig. 3.11.10-7 Attachment of Nameplate

2. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC) Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

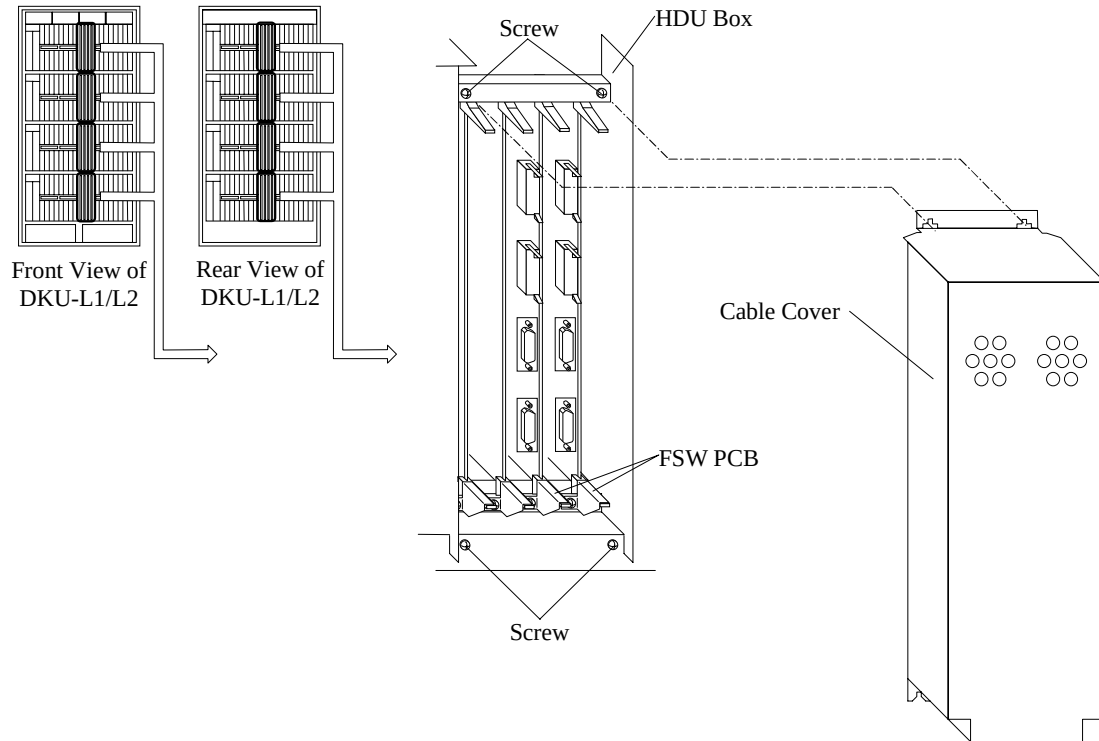


Fig. 3.11.10-8 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

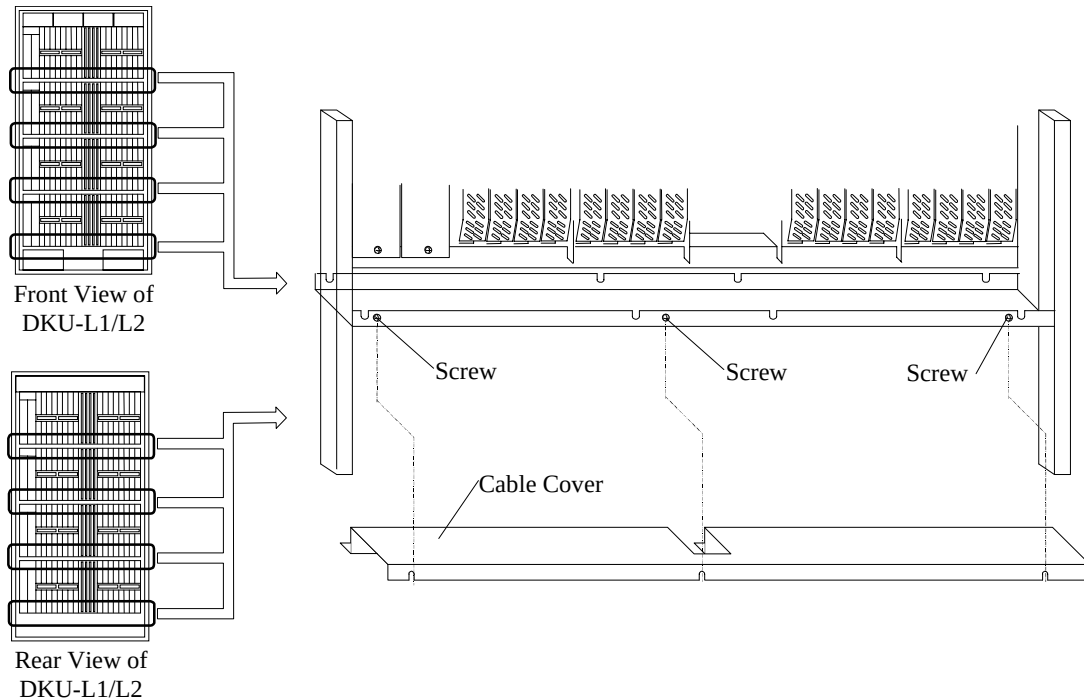


Fig. 3.11.10-9 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-L2 frame referring to Fig. 3.11.10-10 through Fig. 3.11.10-13.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the operating DKU in this procedure. The cable is to be connected later in another procedure.



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.

Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

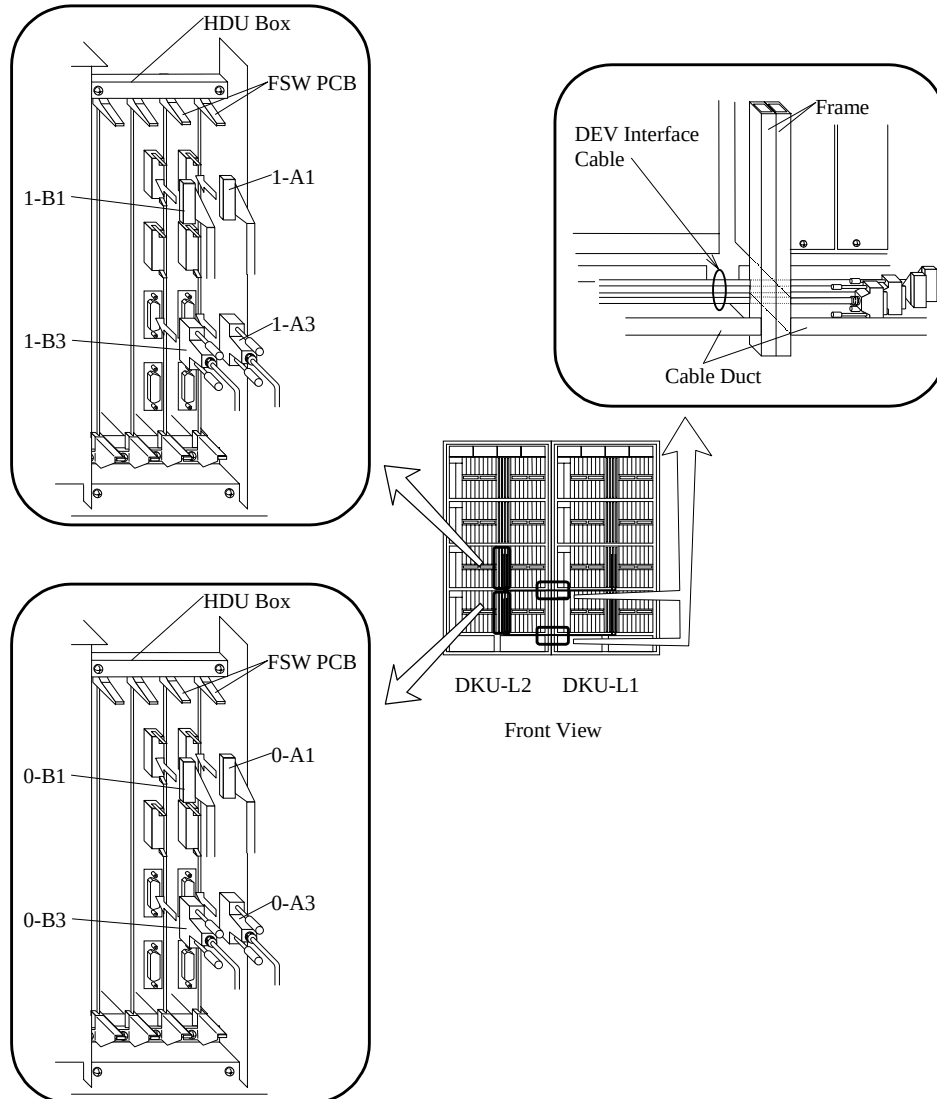


Fig. 3.11.10-10 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

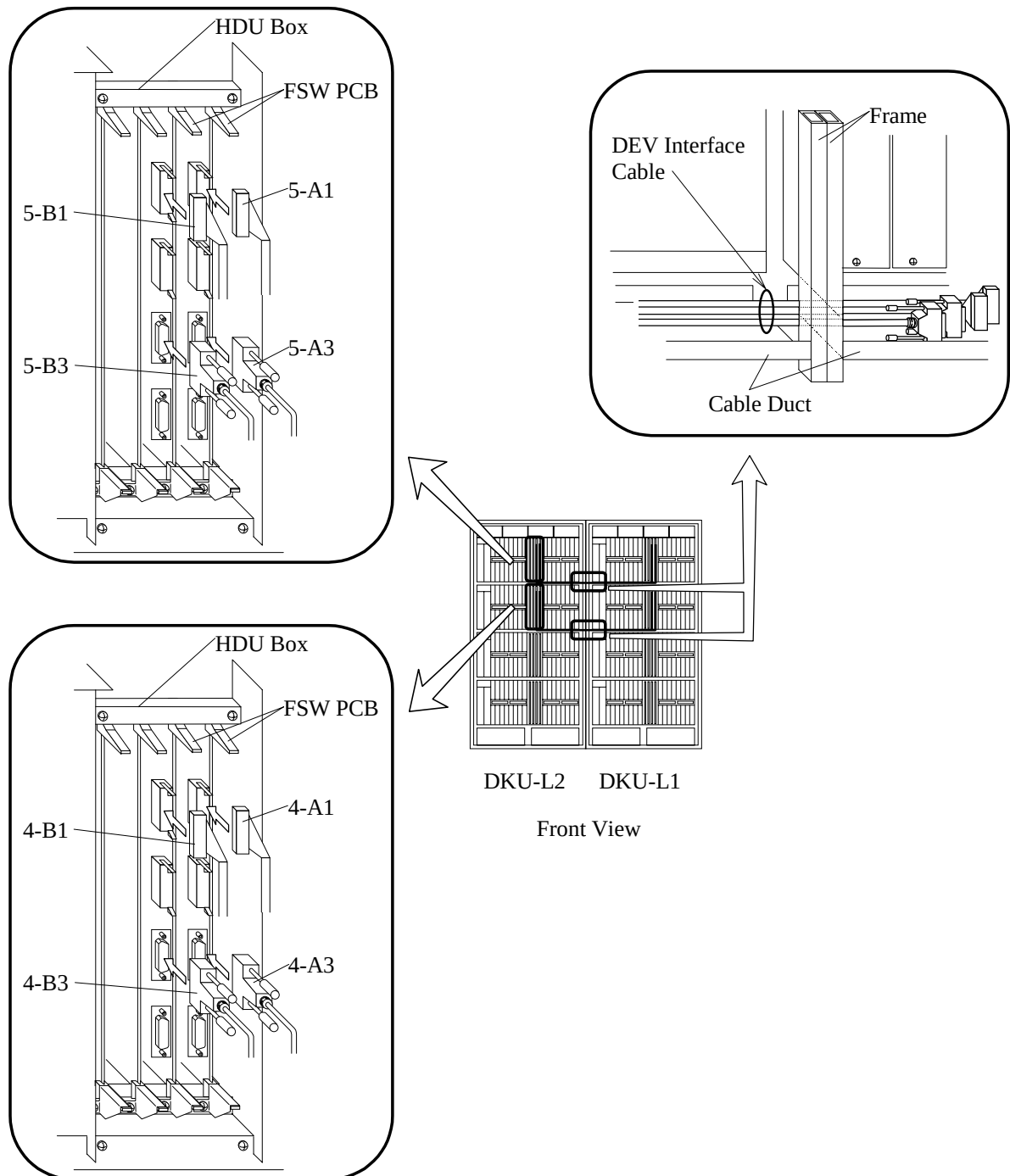


Fig. 3.11.10-11 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

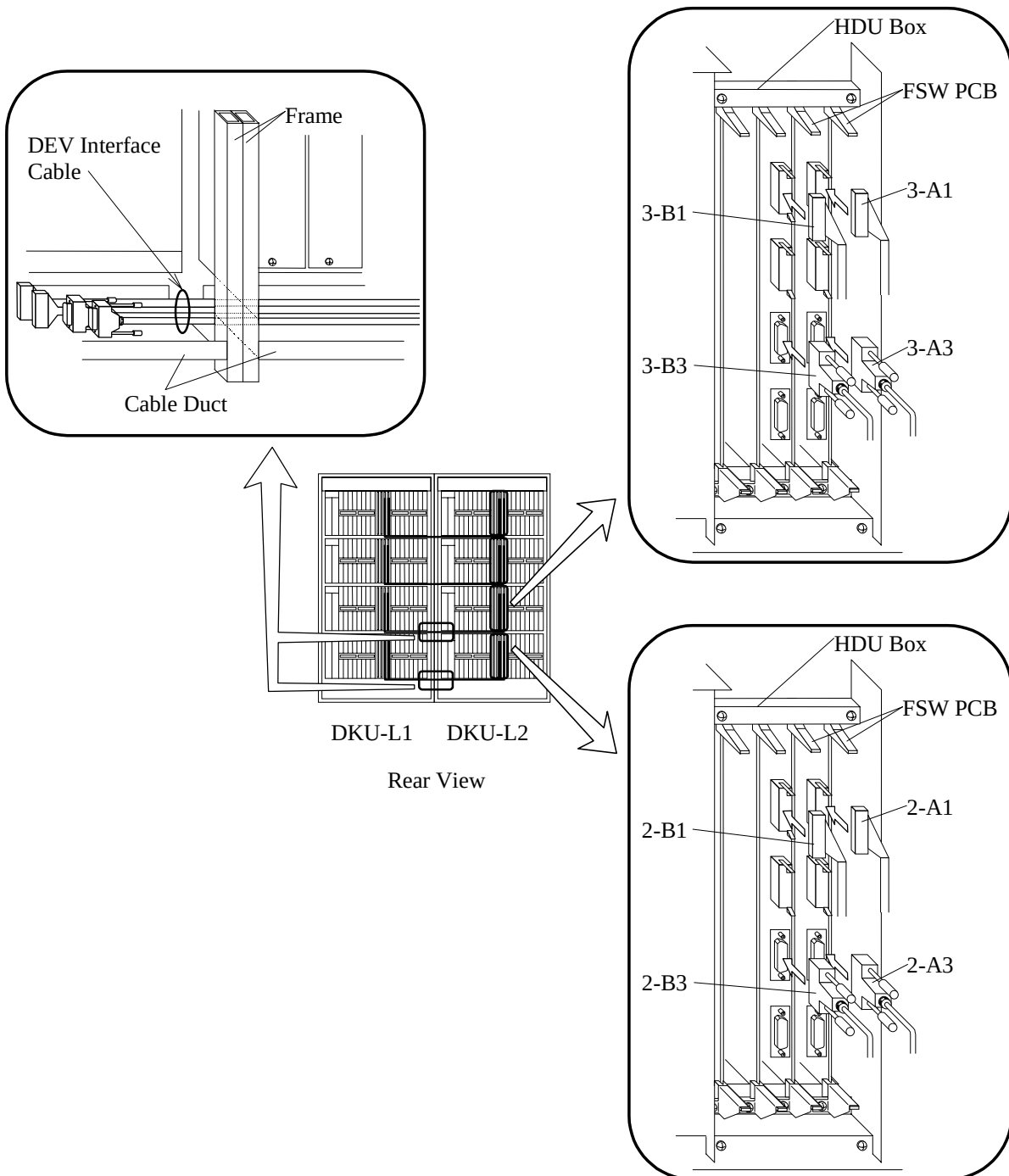


Fig. 3.11.10-12 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

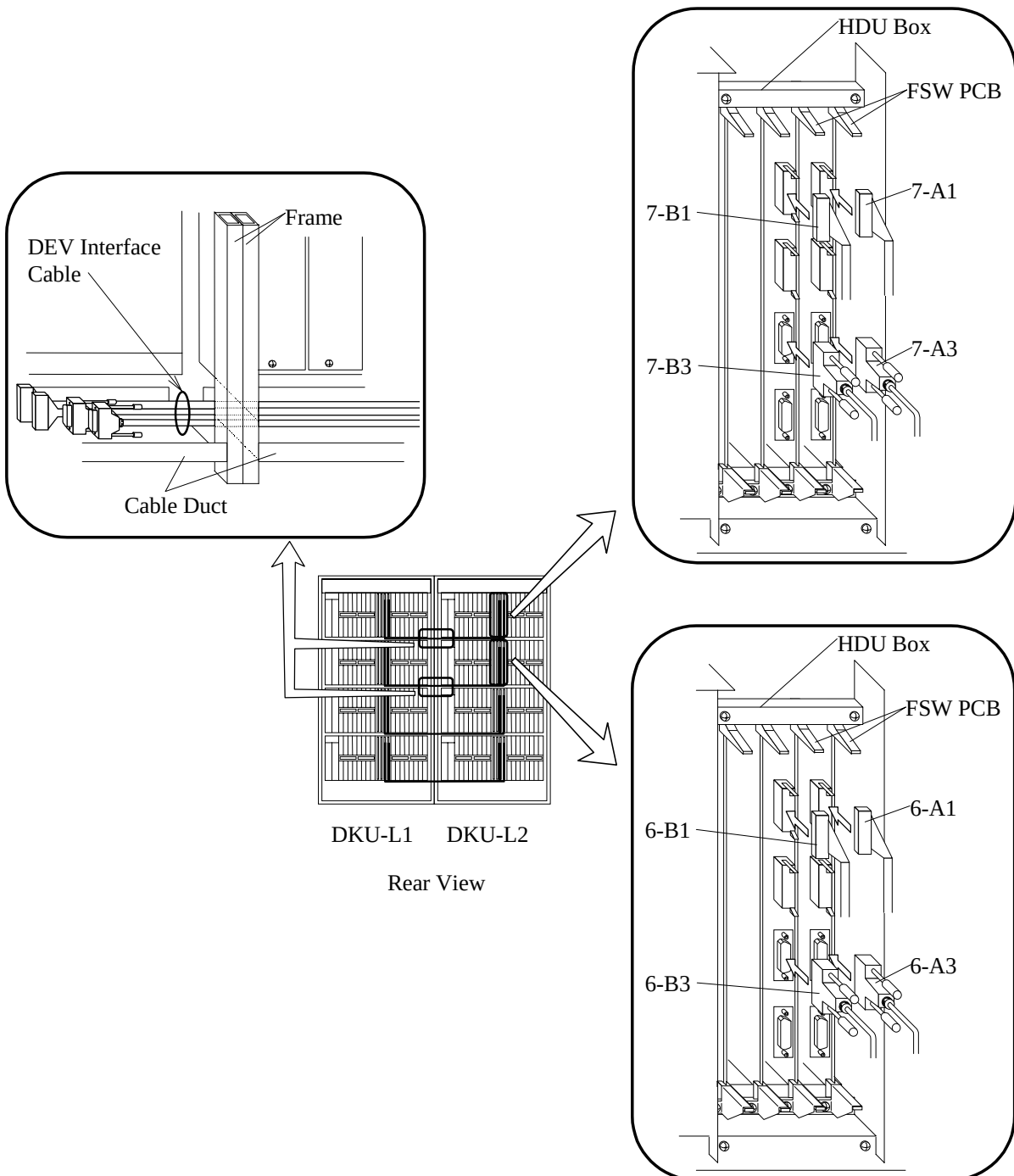
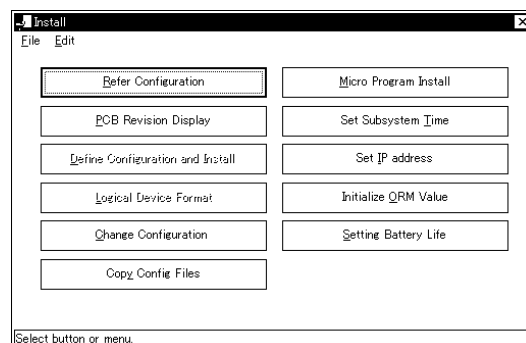


Fig. 3.11.10-13 Connection of the DEV Interface Cables

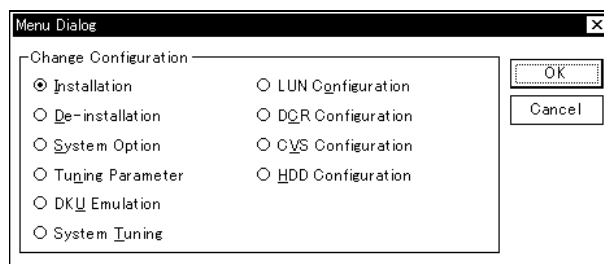
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

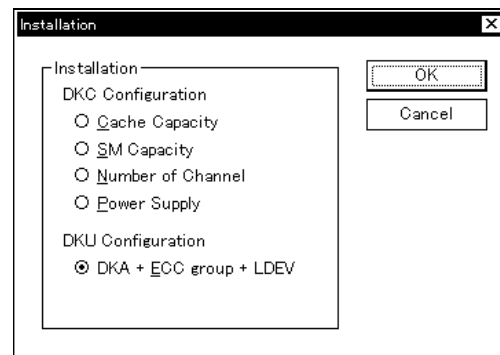
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note1: To add the DKU-L1, the six or more DKAs are required.

Note2: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-L1 and DKU-L2 are added to the DKUs currently set.

Current setting	Altered setting
1DKU (R1)	3DKUs (R1, L1, L2)
2DKUs (R1, R2)	4DKUs (R1, L1, R2, L2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

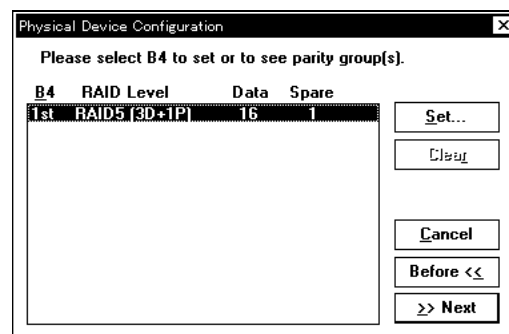
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

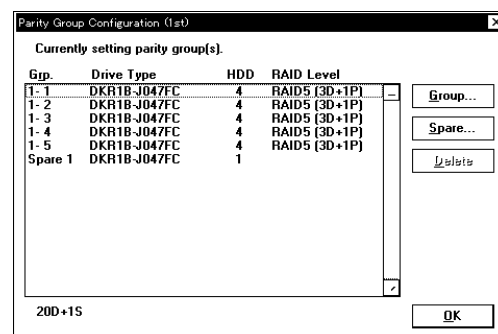
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

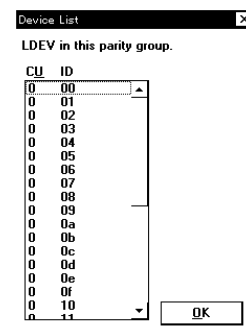
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

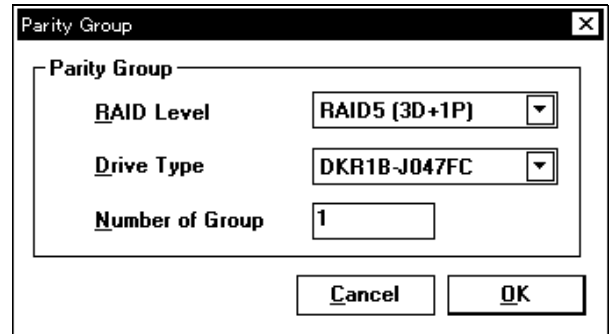
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing the following fields:

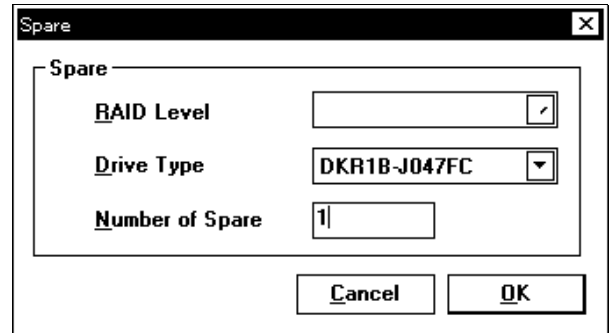
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing the following fields:

- RAID Level:** (empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

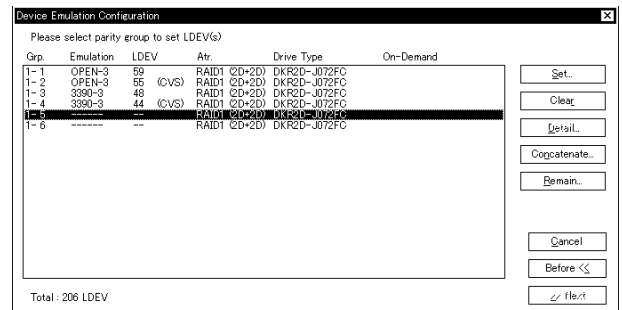
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

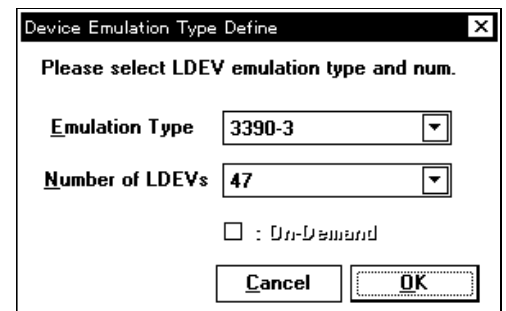
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing the following fields:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

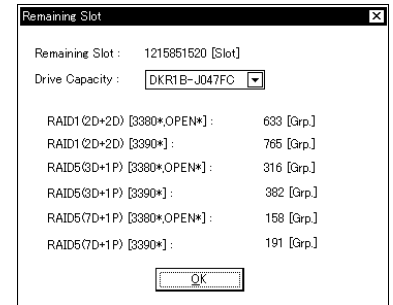
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

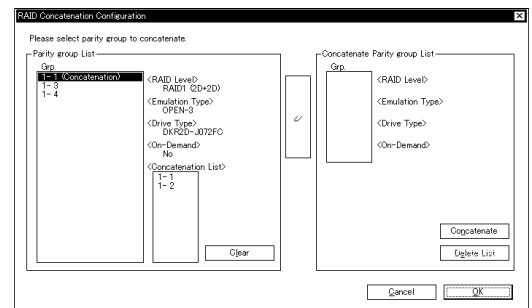
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

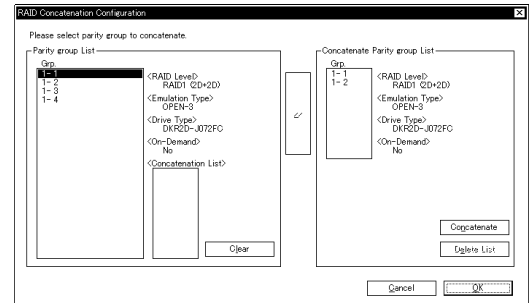
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

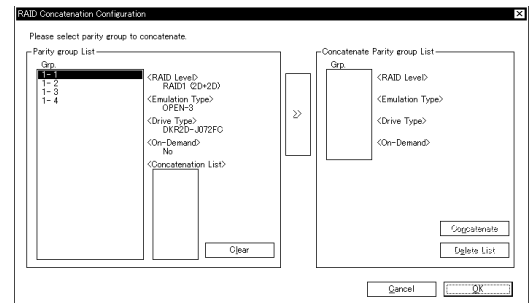


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

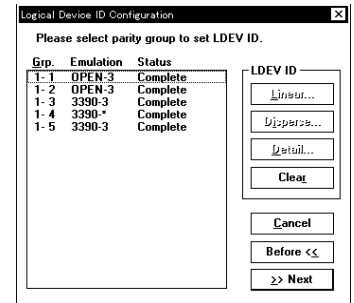
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

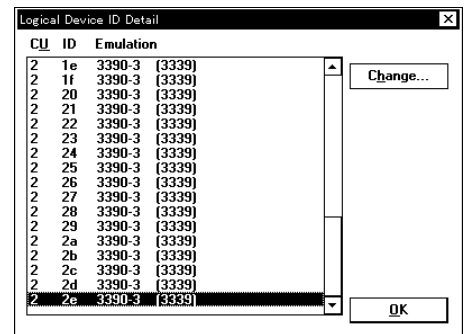
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

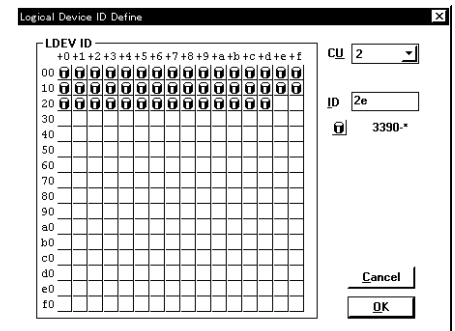
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

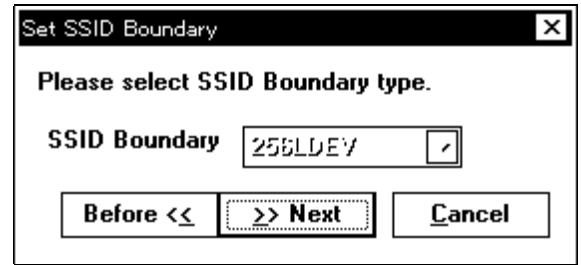
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

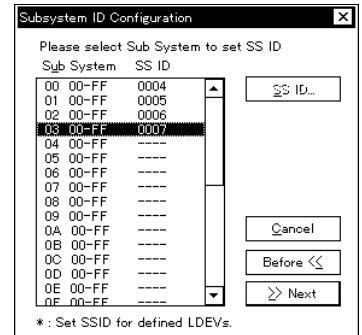
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

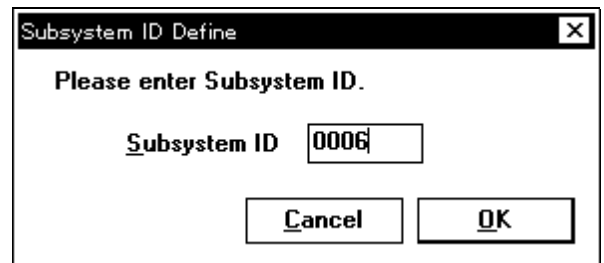
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

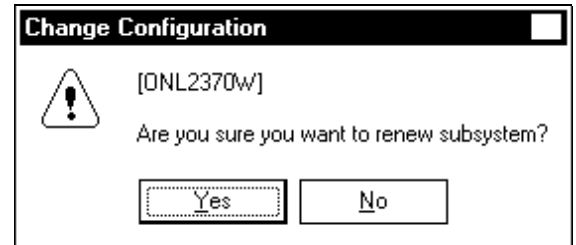
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-2310](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

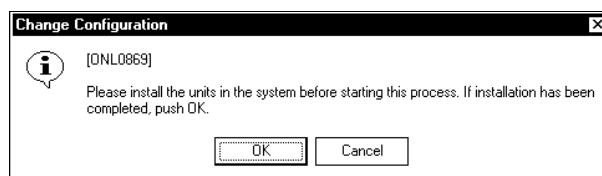
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



4 Installation Procedure of Additional Disk Adapter (DKC-F460I-200)

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

4-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue.
Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.10-14.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.10-1.
- c. Fasten the two screws referring to Fig. 3.11.10-15.

Table 3.11.10-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

Rear Logic Box

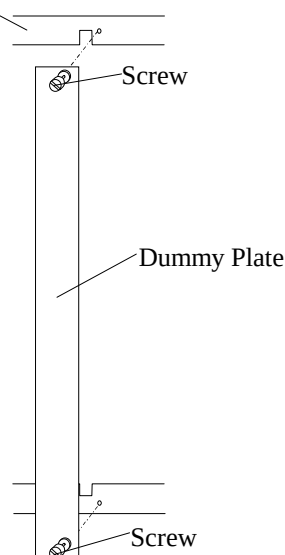


Fig. 3.11.10-14 Removal of Dummy Plate

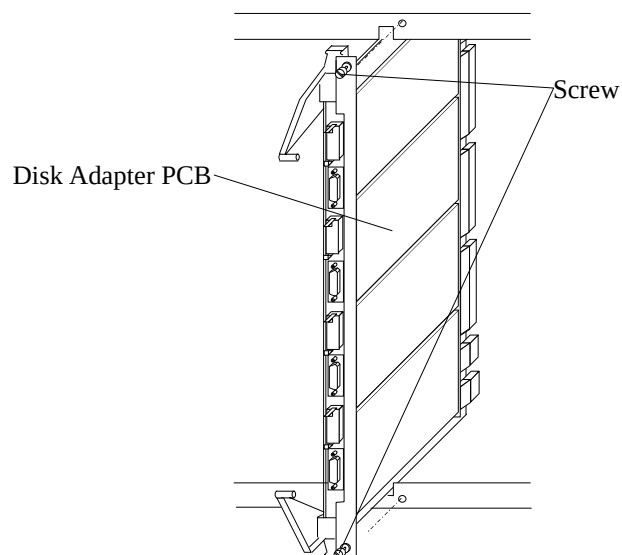


Fig. 3.11.10-15 Insertion of PCB

4-2 Connection of cables

In case of Add.1**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.10-16.)

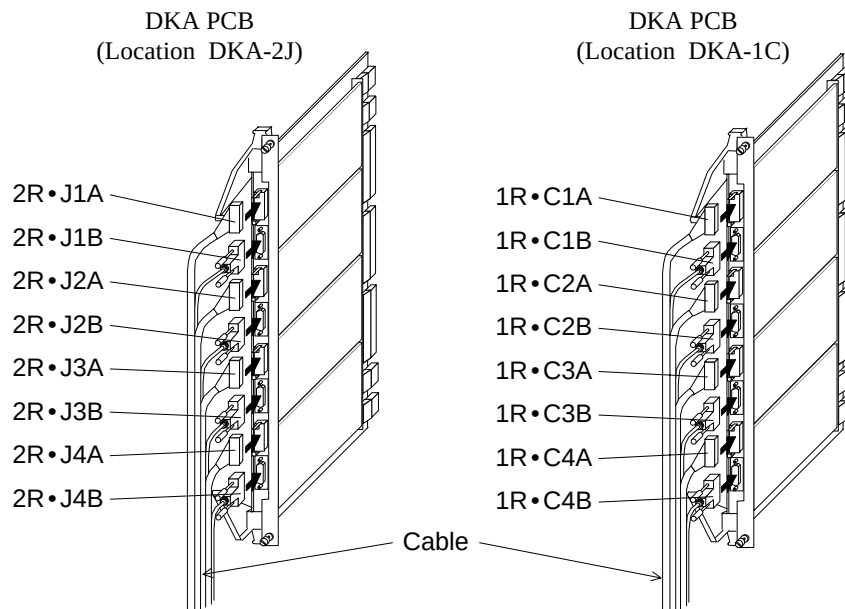


Fig.3.11.10-16 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

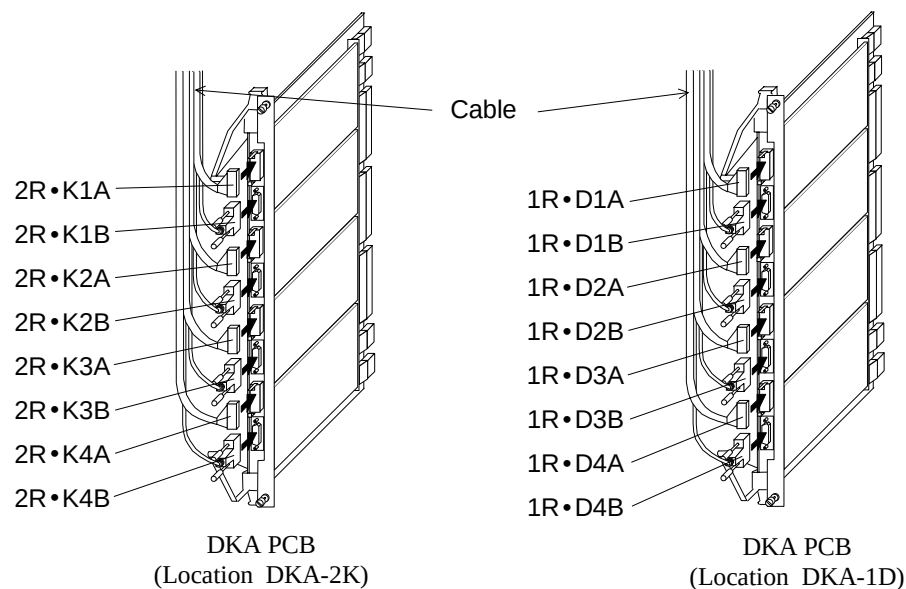


Fig.3.11.10-17 Connection of cable (Add.2)

In case of Add.3**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

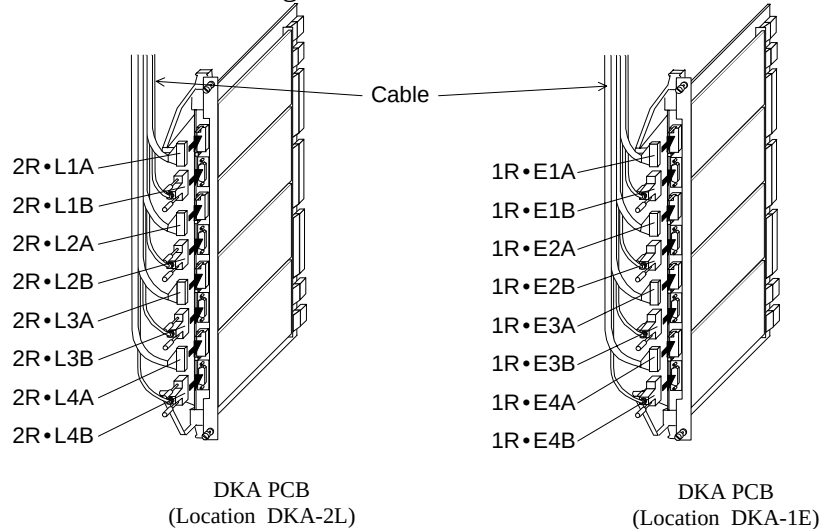


Fig.3.11.10-18 Connection of cable (Add.3)

4-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.10-19.

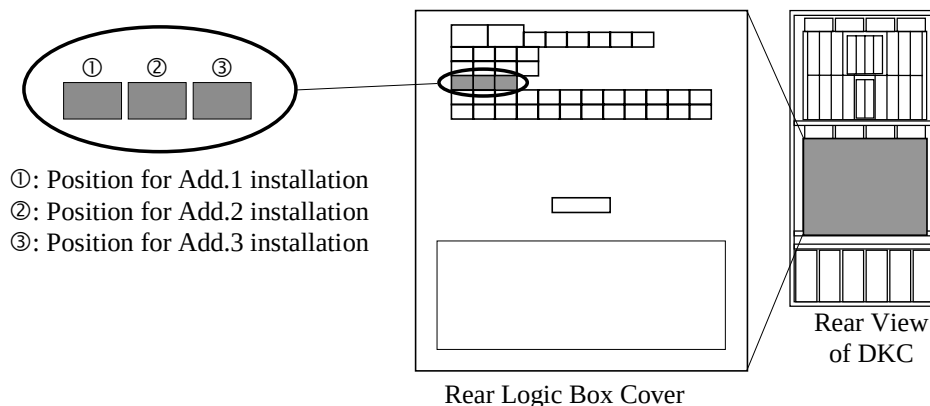


Fig. 3.11.10-19 Attachment of Nameplate

5. Installation Procedure of HDD Canister

5-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.10-2.

Table 3.11.10-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

(1) RAID5(3D+1P)/RAID1(2D+2D)

			R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC	HDU-R15				HDU-R25			
			P	D	P	D	P	D	P	D
			062	063	060	061	026	027	024	025
			S	S	S	S	S	S	S	S
			HDU-R14				HDU-R24			
			P	D	P	D	P	D	P	D
			062	063	060	061	026	027	024	025
			S	S	S	S	S	S	S	S
			HDU-R11				HDU-R21			
			P	D	P	D	P	D	P	D
			030	031	028	029	094	095	092	093
			S	S	S	S	S	S	S	S
			HDU-R10				HDU-R20			
			P	D	P	D	P	D	P	D
			030	031	028	029	094	095	092	093
			S	S	S	S	S	S	S	S

Front View

001-127: 4HDD canisters installation order

R2 DKU								R1 DKU								DKC	L1 DKU	L2 DKU				
HDU-R27								HDU-R17														
P		D		P		D		P		D		P		D					P		D	
S		S		S		S		S		S		S		S					S		S	
126		127		126		127		062		063		046		047 * 2					046		047 * 2	
124		125		124		125		060		061		058		059					044		045	
122		123		122		123		056		057		054		055					042		043	
120		121		120		121		054		055		052		053					040		041	
118		119		118		119		052		053		050		051					038		039	
116		117		116		117		048		049		048		049					036		037	
114		115		114		115		098		099		098		099					034		035	
112		113		112		113		096		097		096		097					032		033	
HDU-R26								HDU-R16														
P		D		P		D		P		D		P		D		P		D				
S		S		S		S		S		S		S		S		S		S				
126		127		126		127		062		063		046		047 * 2		046		047 * 2				
124		125		124		125		060		061		044		045		044		045				
122		123		122		123		056		057		042		043		042		043				
120		121		120		121		054		055		040		041		038		039				
118		119		118		119		052		053		036		037		036		037				
116		117		116		117		048		049		034		035		032		033				
114		115		114		115		098		099		098		099		034		035				
112		113		112		113		096		097		096		097		032		033				
HDU-R23								HDU-R13														
P		D		P		D		P		D		P		D		P		D				
S		S		S		S		S		S		S		S		S		S				
094		095		078		079		030		031		015		Spare*1		015		002				
092		093		076		077		028		029		013		014		013		001				
090		091		074		075		026		027		011		012		011		000				
088		089		072		073		024		025		009		010		007		008				
086		087		070		071		022		023		007		008		005		006				
084		085		068		069		020		021		005		006		003		004				
082		083		066		067		018		019		003		004		001		002				
080		081		064		065		016		017		001		002								
HDU-R22								HDU-R12														
P		D		P		D		P		D		P		D		P		D				
S		S		S		S		S		S		S		S		S		S				
094		095		078		079		030		031		015		Spare*1		015		002				
092		093		076		077		028		029		013		014		013		001				
090		091		074		075		026		027		011		012		011		000				
088		089		072		073		024		025		009		010		007		008				
086		087		070		071		022		023		007		008		005		006				
084		085		068		069		020		021		005		006		003		004				
082		083		066		067		018		019		003		004		001		002				
080		081		064		065		016		017		001		002								

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.10-20 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.10-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU				
HDU-L25				HDU-L15										
S		P		S		P					S		P	
253		254		189		190					173		174*2	
251		252		187		188					171		172	
249		250		185		186					169		170	
247		248		183		184					167		168	
245		246		181		182					165		166	
243		244		179		180					163		164	
241		242		177		178					161		162	
239		240		175		176					159		160	
W		S		W		S					W		S	
237		238		237		238					173		174*2	
235		236		235		236					171		172	
233		234		233		234					169		170	
231		232		231		232					167		168	
229		230		229		230					165		166	
227		228		227		228					163		164	
225		226		225		226					161		162	
223		224		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234					169		170	
247		248		231		232					167		168	
245		246		229		230					165		166	
243		244		227		228					163		164	
241		242		225		226					161		162	
239		240		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234					169		170	
247		248		231		232					167		168	
245		246		229		230					165		166	
243		244		227		228					163		164	
241		242		225		226					161		162	
239		240		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234					169		170	
247		248		231		232					167		168	
245		246		229		230					165		166	
243		244		227		228					163		164	
241		242		225		226					161		162	
239		240		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234					169		170	
247		248		231		232					167		168	
245		246		229		230					165		166	
243		244		227		228					163		164	
241		242		225		226					161		162	
239		240		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234					169		170	
247		248		231		232					167		168	
245		246		229		230					165		166	
243		244		227		228					163		164	
241		242		225		226					161		162	
239		240		223		224					159		160	
W		S		W		S					W		S	
253		254		237		238					173		174*2	
251		252		235		236					171		172	
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242		225		226		161		162				
239		240		223		224		159		160				
W		S		W		S		W		S				
253		254		237		238		173		174*2				
251		252		235		236		171		172				
249		250		233		234		169		170				
247		248		231		232		167		168				
245		246		229		230		165		166				
243		244		227		228		163		164				
241		242												

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
177	178	175	176	241	242	239	240
W	W	W	W	W	W	W	W
173	174*2	171	172	237	238	235	236
169	170	167	168	233	234	231	232
165	166	163	164	229	230	227	228
161	162	159	160	225	226	223	224
157	158	155	156	221	222	219	220
153	154	151	152	217	218	215	216
149	150	147	148	213	214	211	212
145	146	143	144	209	210	207	208
W	W	W	W	W	W	W	W
141	142	139	140	205	206	203	204
137	138	135	136	201	202	199	200
133	134	131	132	197	198	195	196
129	130	128	129	193	194	191	192
125	126	123	124	189	190	187	188
121	122	119	120	185	186	183	184
117	118	115	116	181	182	179	180
113	114	111	112	177	178	175	176
109	110	107	108	W	W	W	W
105	106	103	104	173	174*2	171	172
101	102	99	100	169	170	167	168
97	98	95	96	165	166	163	164
93	94	91	92	161	162	159	160
89	90	87	88	157	158	155	156
85	86	83	84	153	154	151	152
81	82	79	80	149	150	147	148
77	78	75	76	145	146	143	144
73	74	71	72	141	142	139	140
69	70	67	68	137	138	135	136
65	66	63	64	133	134	131	132
61	62	59	60	129	130	128	129
57	58	55	56	125	126	123	124
53	54	51	52	121	122	119	120
49	50	47	48	117	118	115	116
45	46	43	44	113	114	111	112
41	42	39	40	109	110	107	108
37	38	35	36	105	106	103	104
33	34	31	32	101	102	99	100
29	30	27	28	97	98	95	96
25	26	23	24	93	94	91	92
21	22	19	20	89	90	87	88
17	18	15	16	85	86	83	84
13	14	11	12	81	82	79	80
9	10	7	8	77	78	75	76
5	6	3	4	73	74	71	72
1	2	0	0	69	70	67	68
0	0	0	0	65	66	63	64
0	0	0	0	61	62	59	60
0	0	0	0	57	58	55	56
0	0	0	0	53	54	51	52
0	0	0	0	49	50	47	48
0	0	0	0	45	46	43	44
0	0	0	0	41	42	39	40
0	0	0	0	37	38	35	36
0	0	0	0	33	34	31	32
0	0	0	0	29	30	27	28
0	0	0	0	25	26	23	24
0	0	0	0	21	22	19	20
0	0	0	0	17	18	15	16
0	0	0	0	13	14	11	12
0	0	0	0	9	10	7	8
0	0	0	0	5	6	3	4
0	0	0	0	1	2	0	0
0	0	0	0	0	0	0	0

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.10-20 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.10-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.10-3.

Table 3.11.10-3 Relation between HDDs installation order and RAID group number (7D+1P)

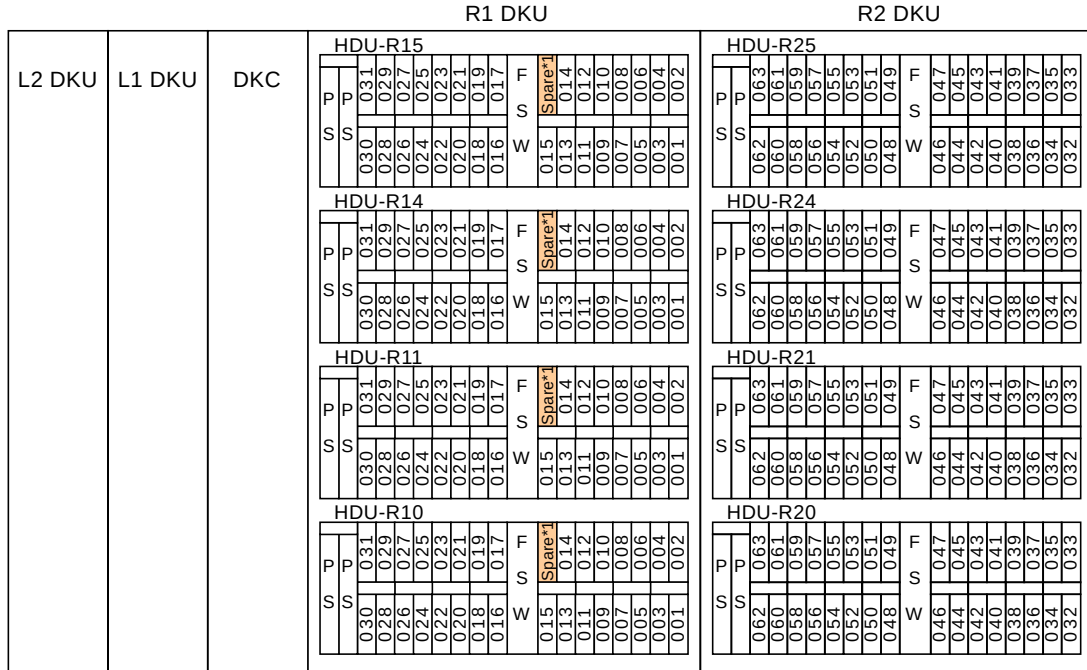
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

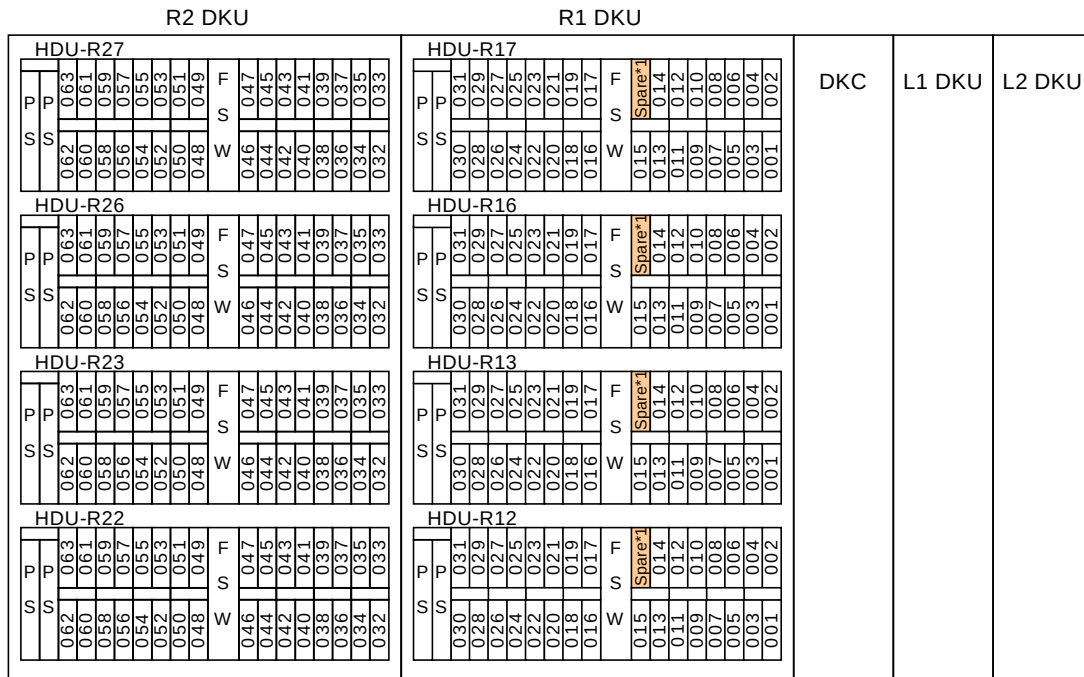
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.10-21 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.10-3.

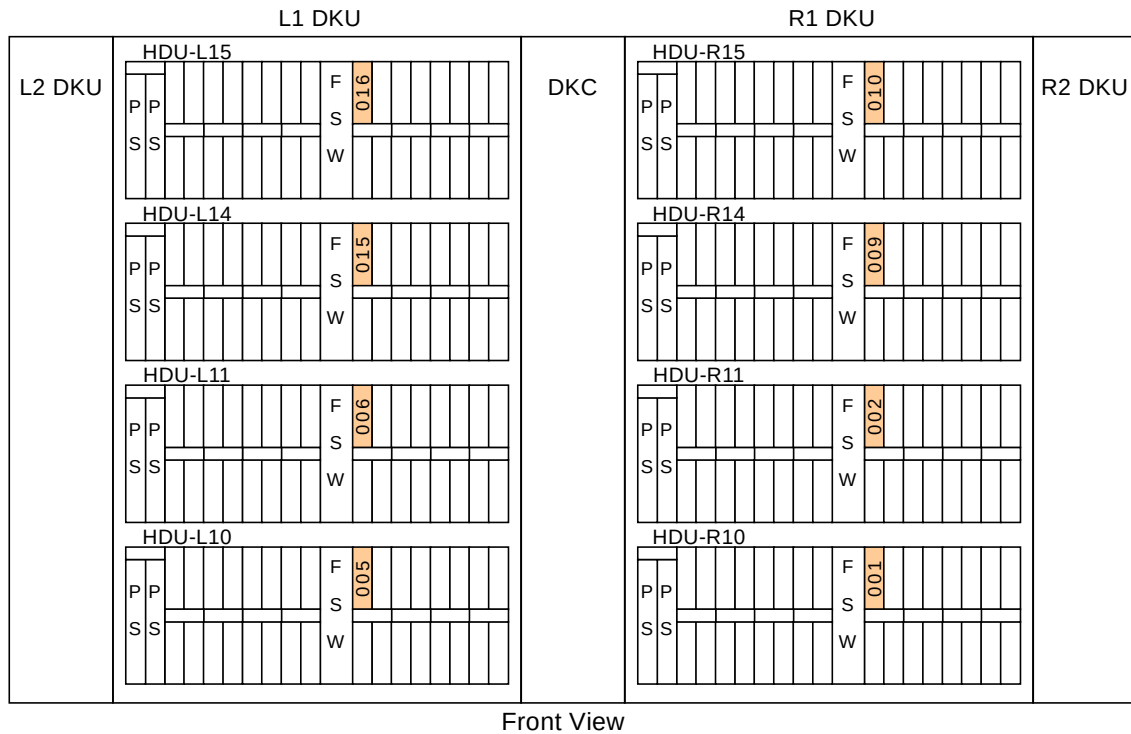
L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU		
HDU-L25										HDU-L15														
HDU-L24										HDU-L14														
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														
HDU-L25										HDU-L15										Front View				
HDU-L24										HDU-L14										064-126: 8HDD canisters installation order				
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														

L1 DKU				L2 DKU																																																																																																																																																
R2 DKU	R1 DKU	DKC	HDU-L17	HDU-L27																																																																																																																																																
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Rear View

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

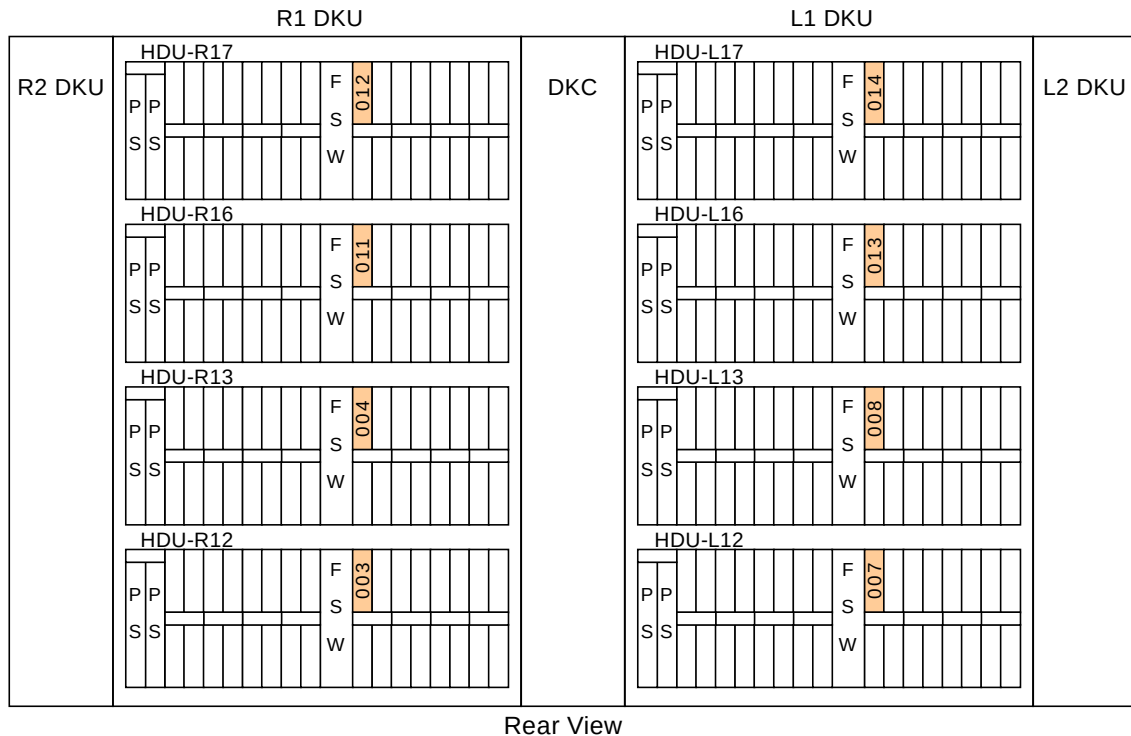


Fig. 3.11.10-22 Spare Drive Expansion Sequence

5-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

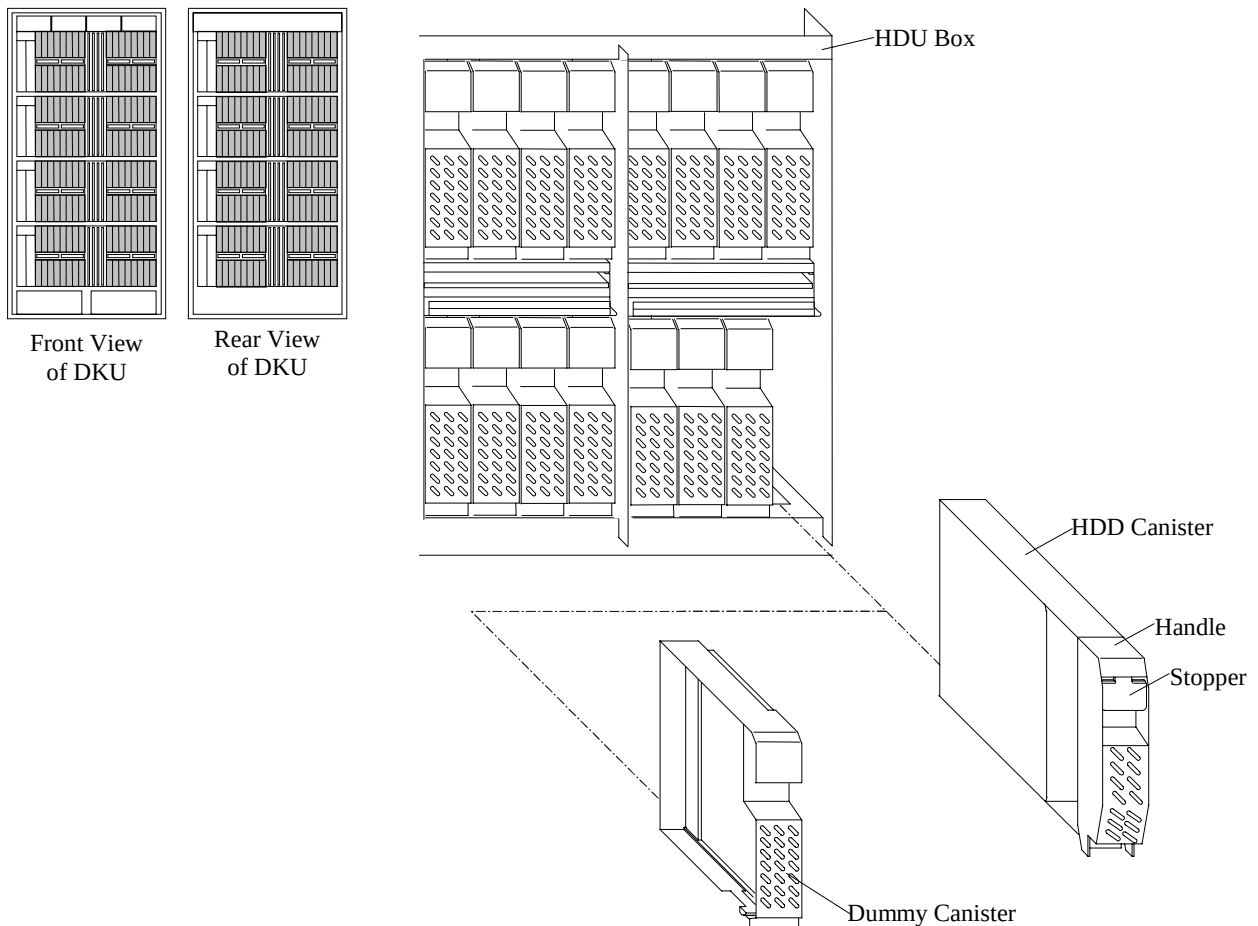
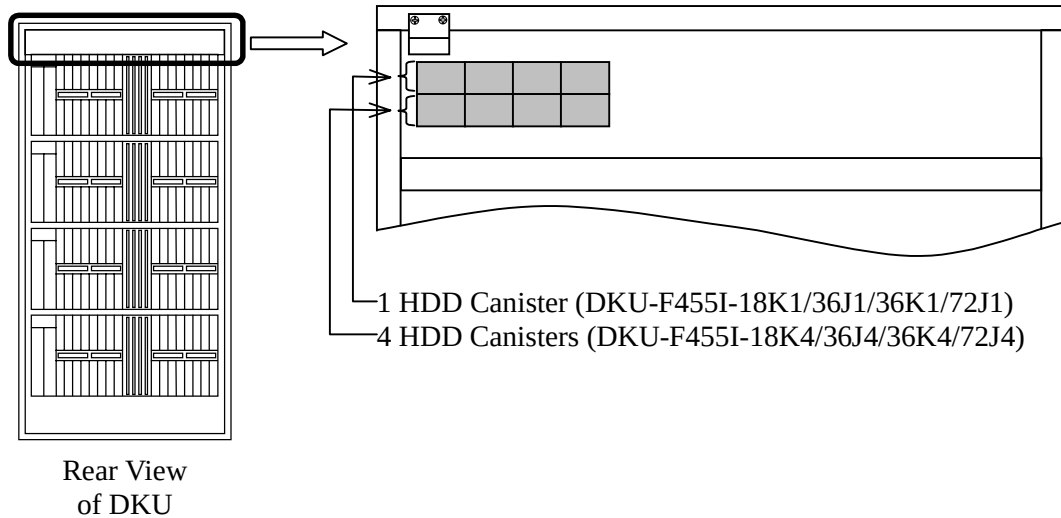


Fig. 3.11.10-23 Installation of HDD Canister

5-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

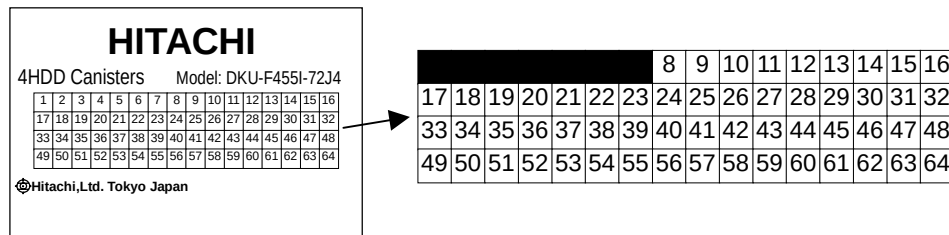


Fig. 3.11.10-24 Attachment of Nameplate

6. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Caution:

The addition cannot be done unless the AC power is applied to the added DKU and the main breaker of the DKU is turned on.

Between HDU-L10-L17 and HDU-L20-L27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-L1 frame referring to figures 3.11.10-25 and 3.11.10-26.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

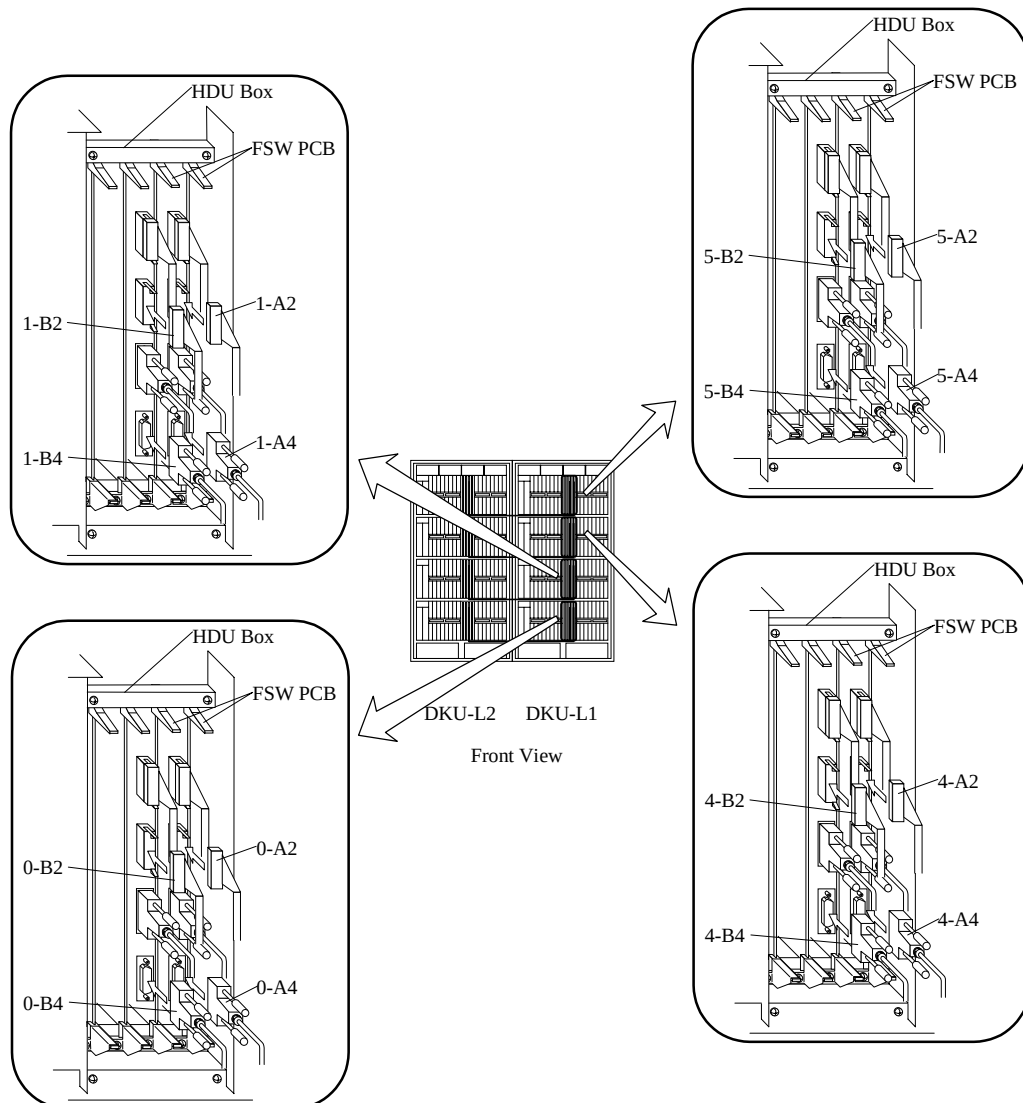


Fig. 3.11.10-25 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

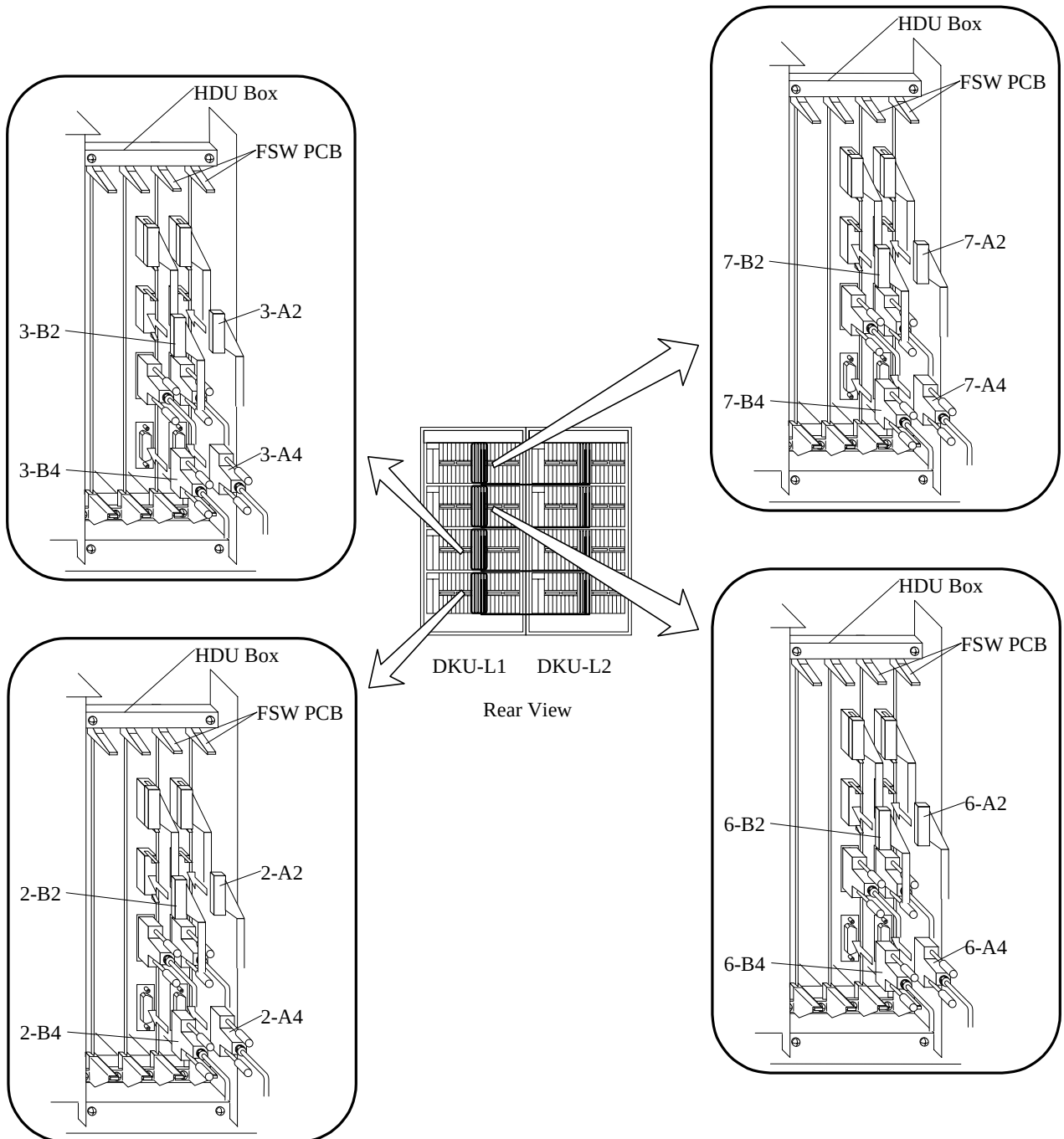
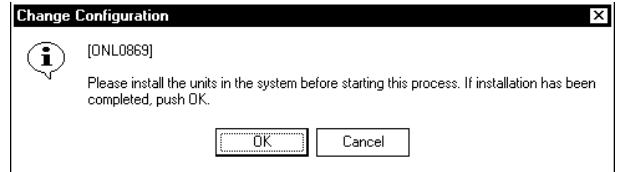


Fig. 3.11.10-26 Connection of the DEV Interface Cables

7. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



2.

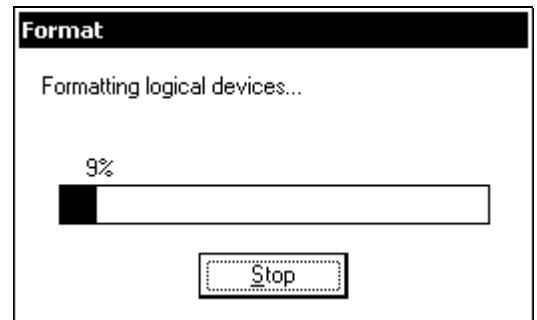
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

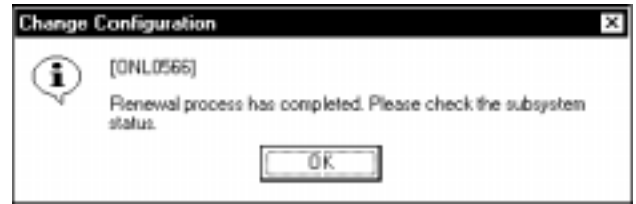
When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

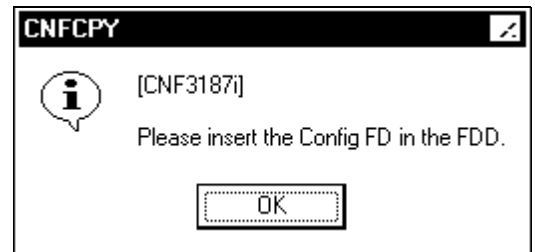
“Formatting the logical device...” is displayed when Parity Group is defined.



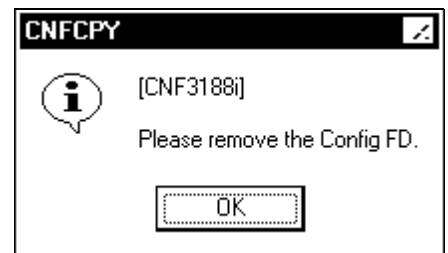
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



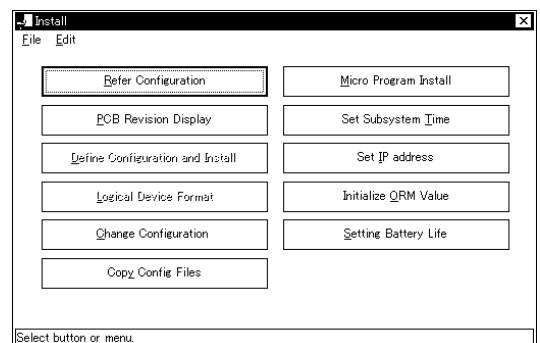
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

8. Installation Procedure of DEV Interface Cable 2 (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

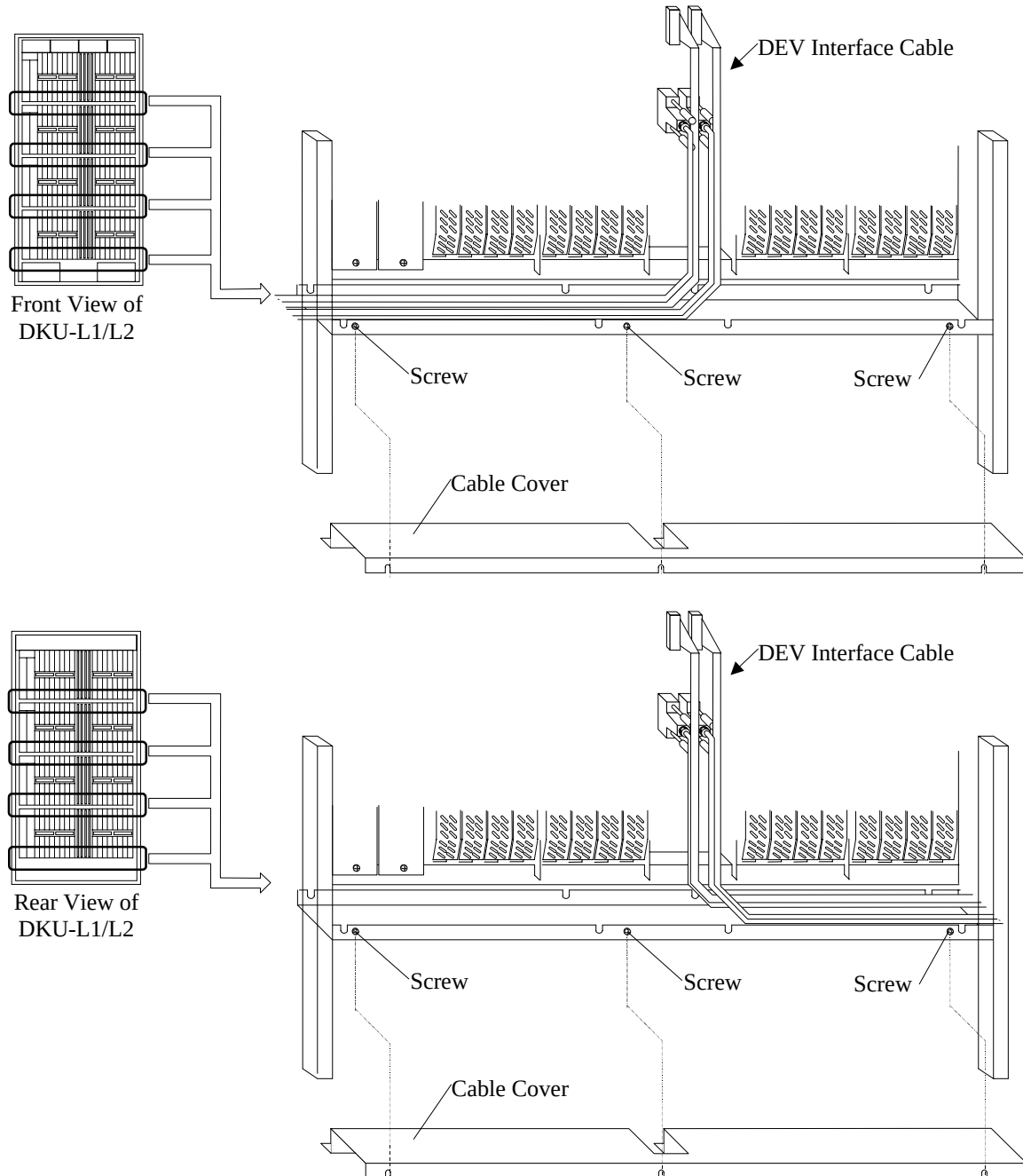


Fig. 3.11.10-27 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

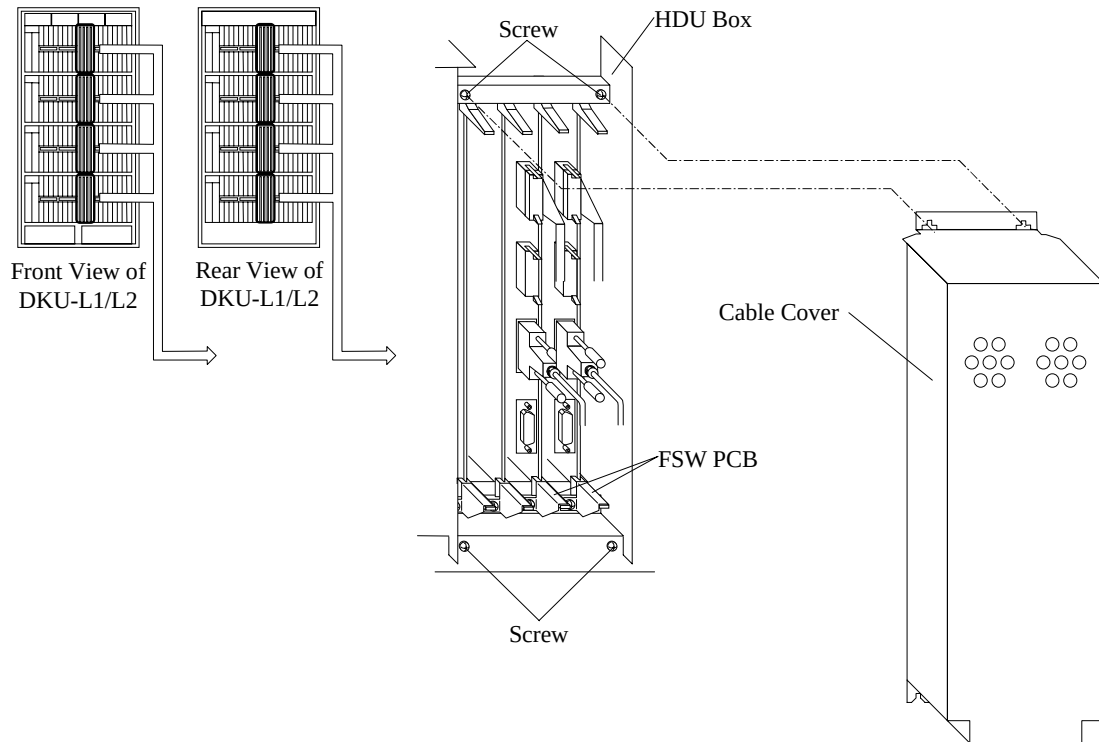


Fig. 3.11.10-28 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-L2 frame.

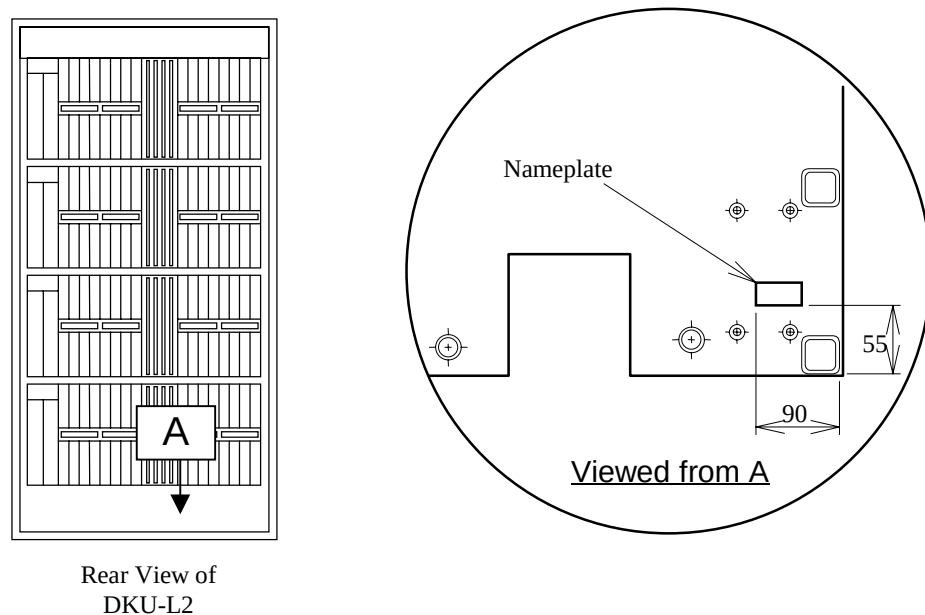


Fig. 3.11.10-29 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

3.11.11 When performing addition of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the addition of the DKU-R2, DKU-L1, and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. Installation Procedure of DEV Interface Cable 1 (DKC-F460I-L1C)

1-1 Connect the DEV Interface cables to the FSW.

Note:

1. When the DEV interface cable is connected to the FSW in the state in which the subsystem power is on, the each HDU Box is powered on at the same time of the connection.
2. When the DEV interface cable is connected in the state in which the main circuit breaker of the DKU is not turned on, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn on the main circuit breaker of the DKU before connecting the DEV interface cable.

Matters to be checked:

Check the settings of the switches on the JMP PCB and multi power supply (MPS) and the jumper socket. (Refer to Subsection 3.4.4, "Switch and Jumper Plug Installation" on pages [INST03-DKU-220](#) and [INST03-DKU-230](#).)

If any of the switches and jumper socket is not set correctly, reset it correctly.

- a. Loosen the screws and remove the cable covers from the DKU frames.

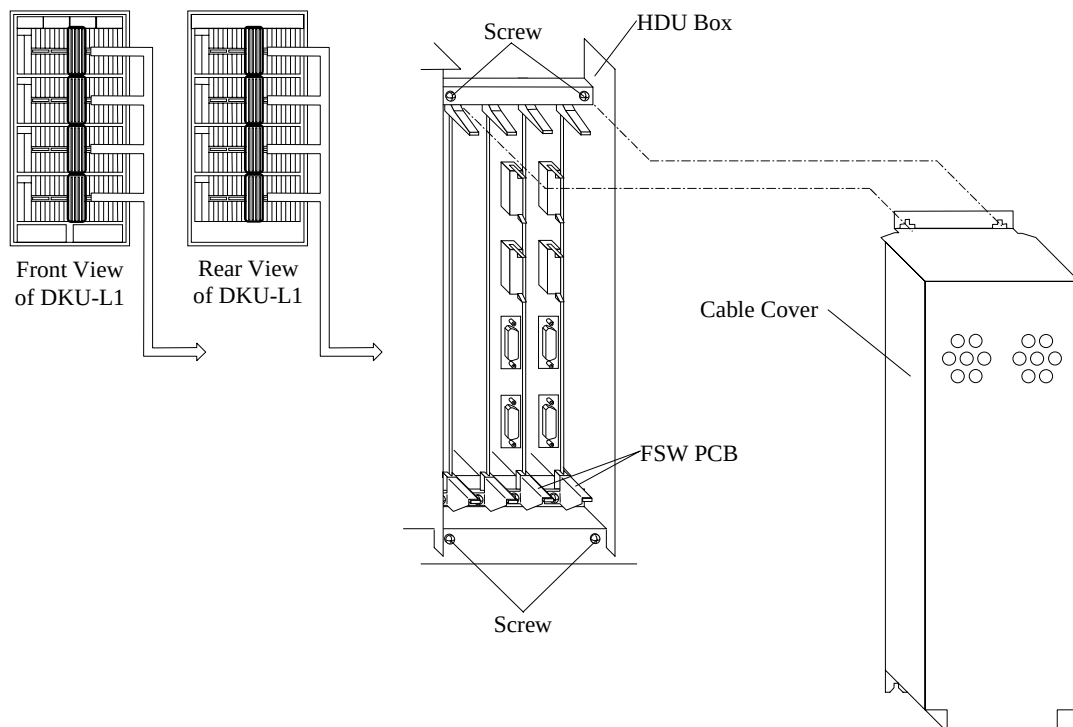


Fig. 3.11.11-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

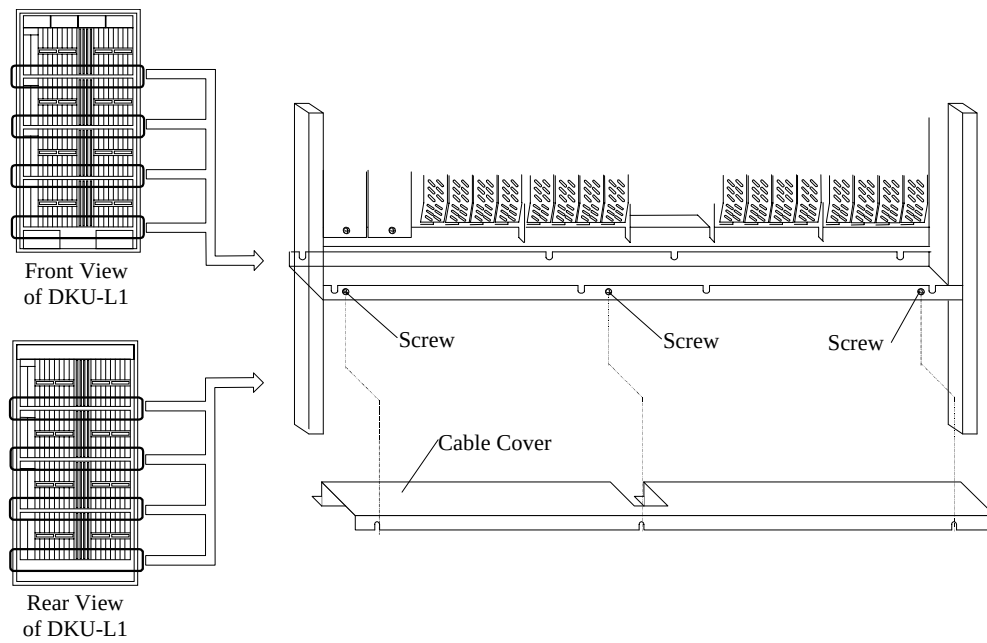


Fig. 3.11.11-2 Removal of Cable Covers

- c. Refer to Fig. 3.11.11-3 and Fig. 3.11.11-4. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the DKA in this procedure. The cable is to be connected later in another procedure.



CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.

Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

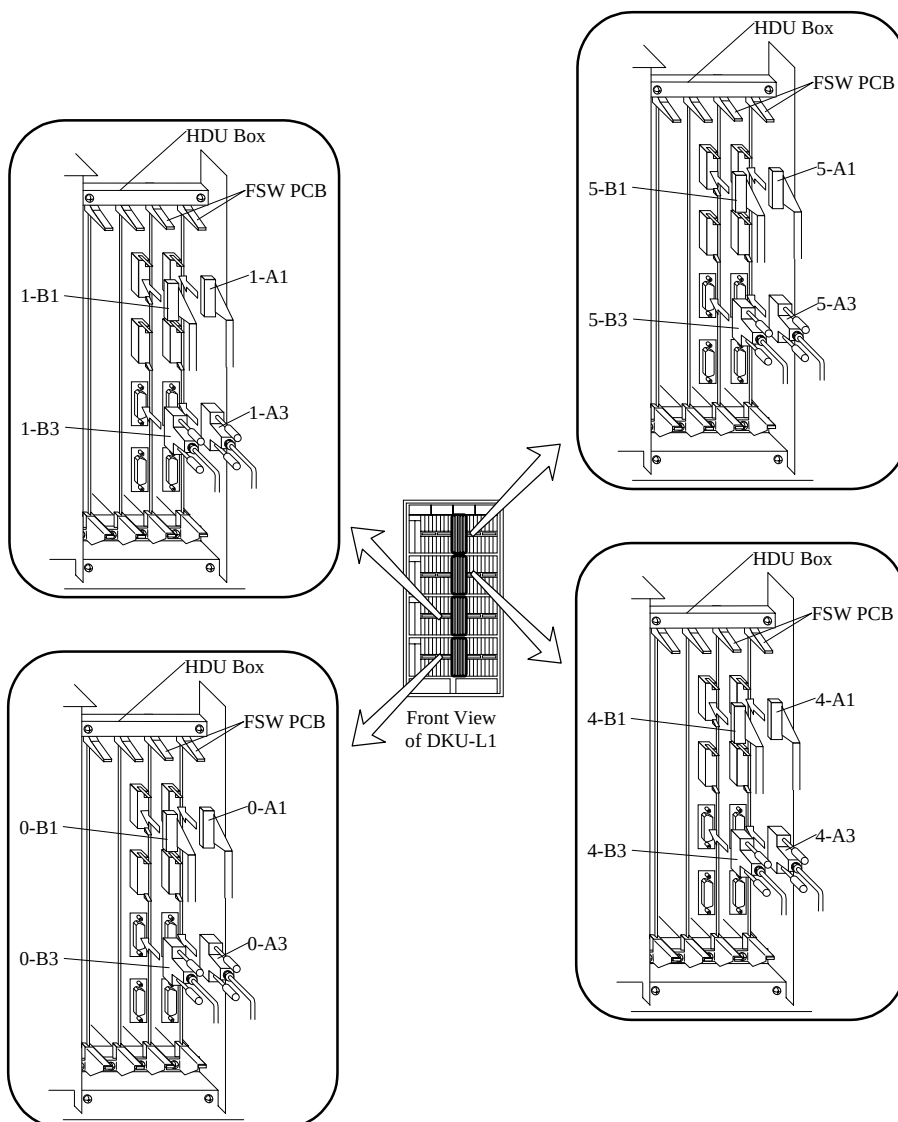


Fig. 3.11.11-3 DEV Interface Cabling Diagram (FSW PCB Side)

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

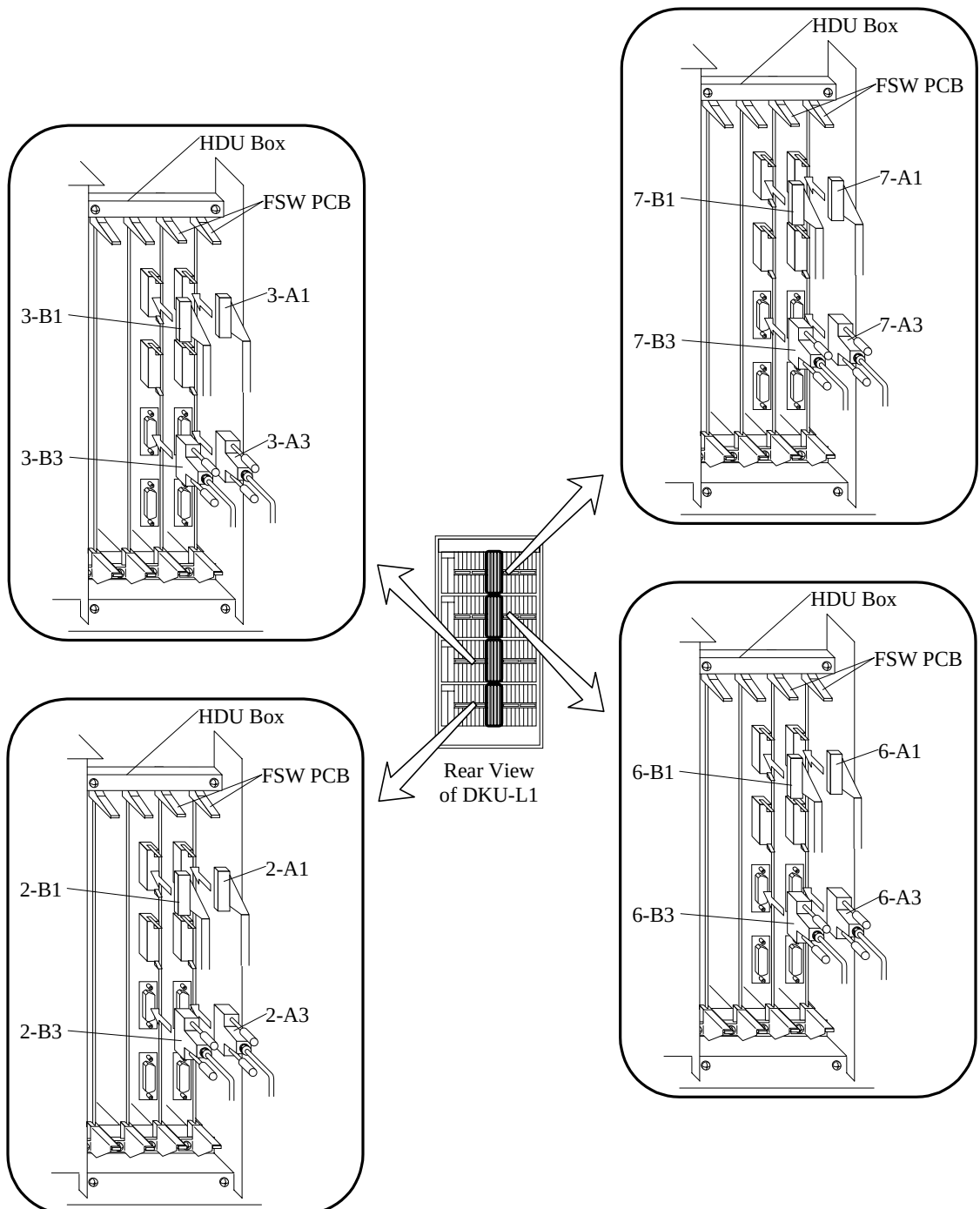


Fig. 3.11.11-4 DEV Interface Cabling Diagram (FSW PCB Side)

d. Attach the cable covers with the screw to fix the DEV Interface Cables.

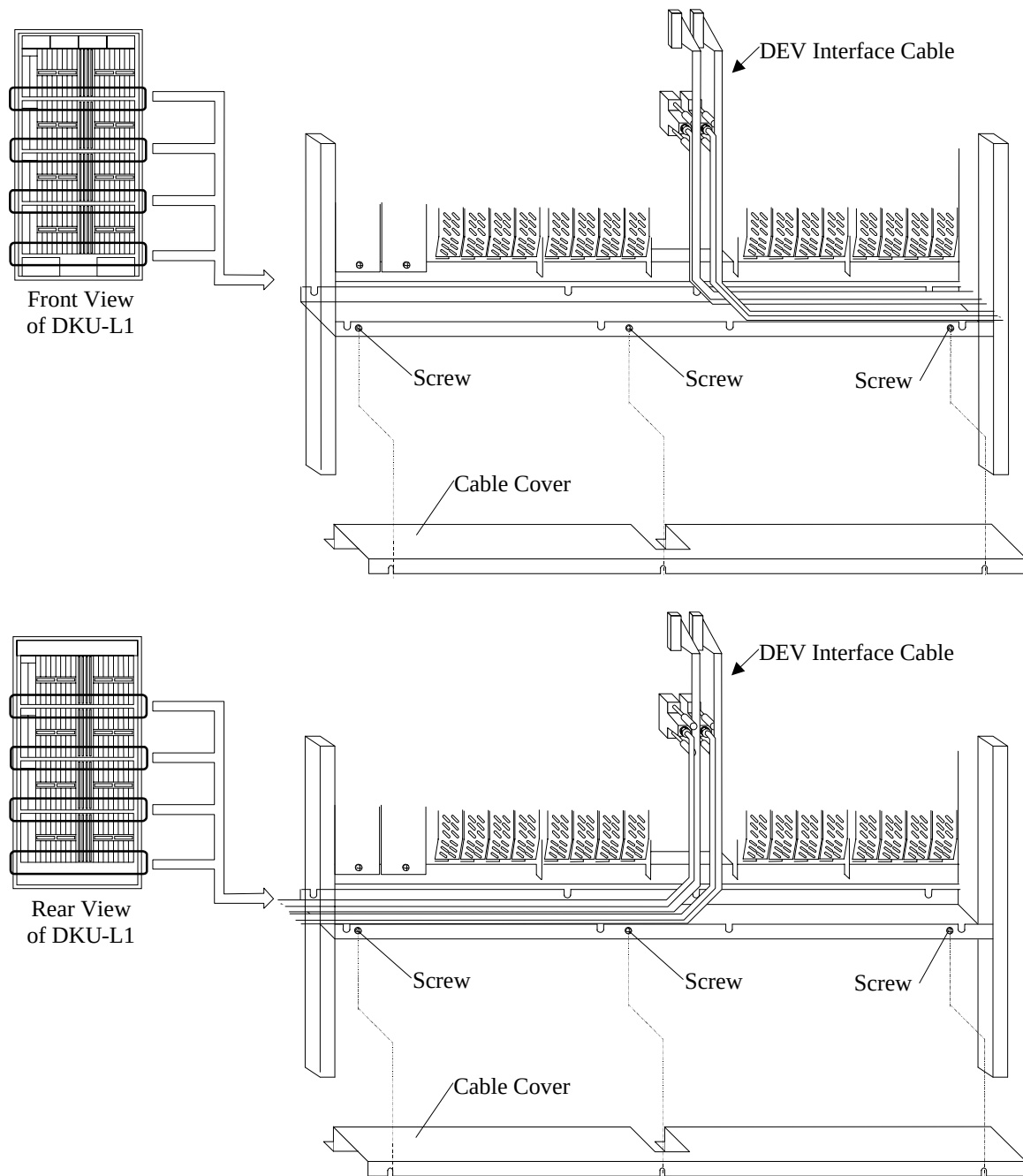


Fig. 3.11.11-5 Fixation of the DEV Interface Cables

- e. Attach the cable covers with the screw to fix the DEV Interface Cables.

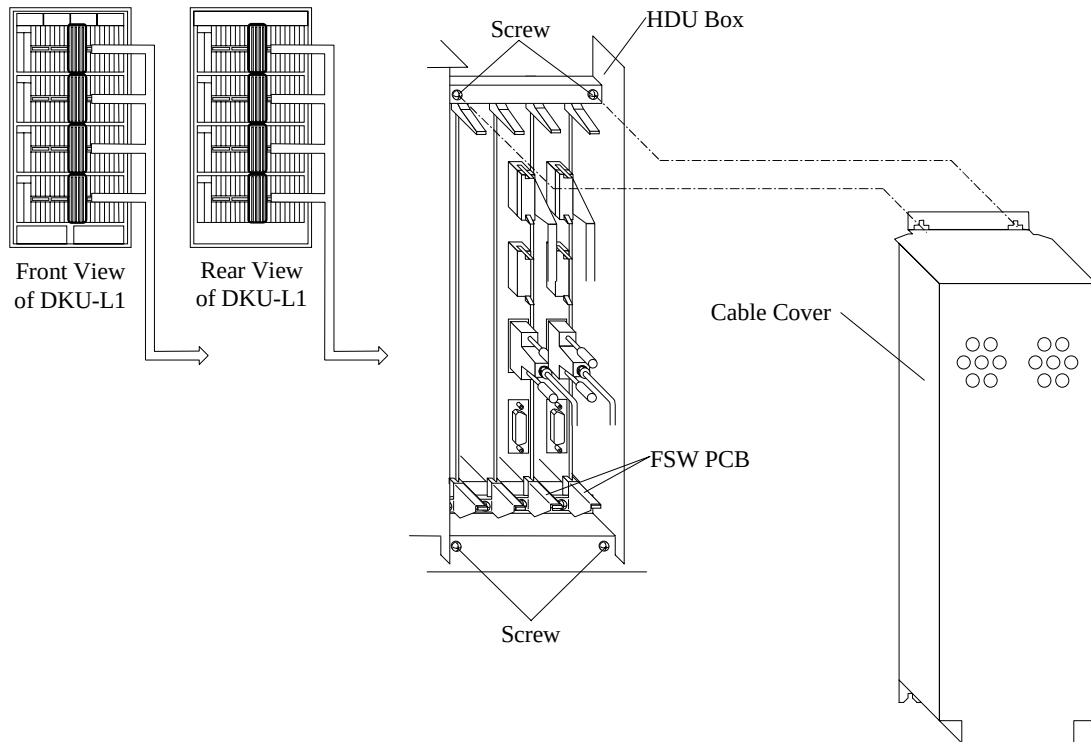


Fig. 3.11.11-6 Fixation of the DEV Interface Cables

- 1-2 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

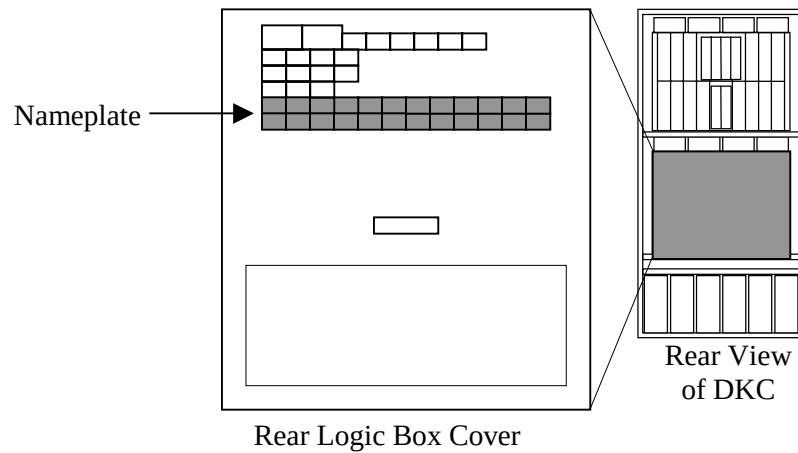


Fig. 3.11.11-7 Attachment of Nameplate

2. Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

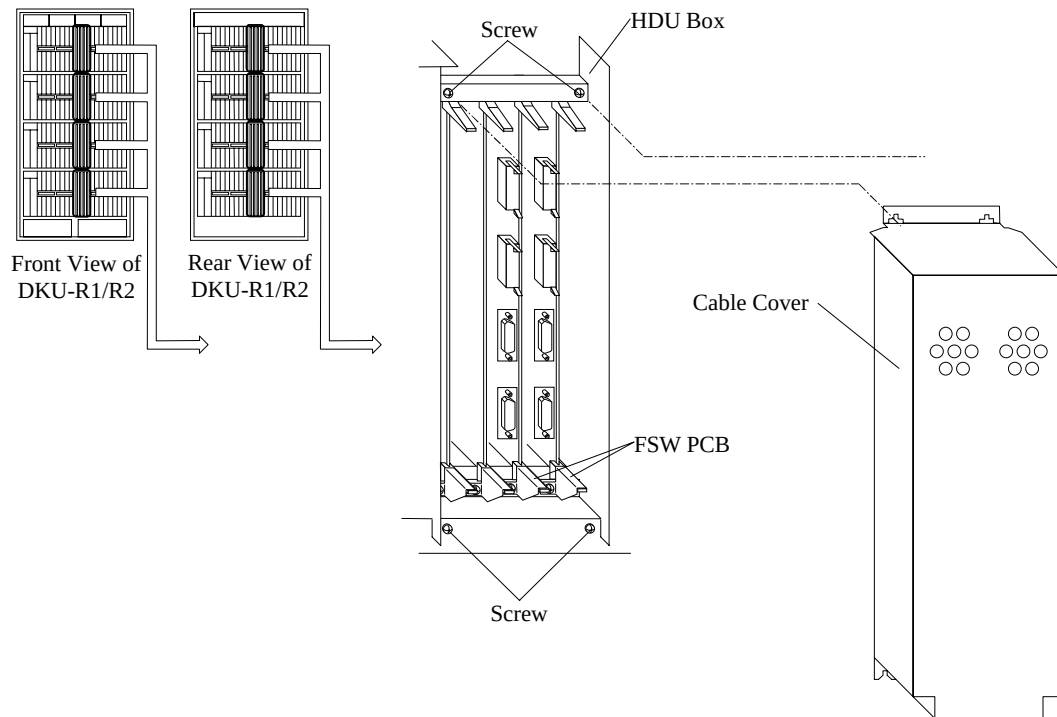


Fig. 3.11.11-8 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

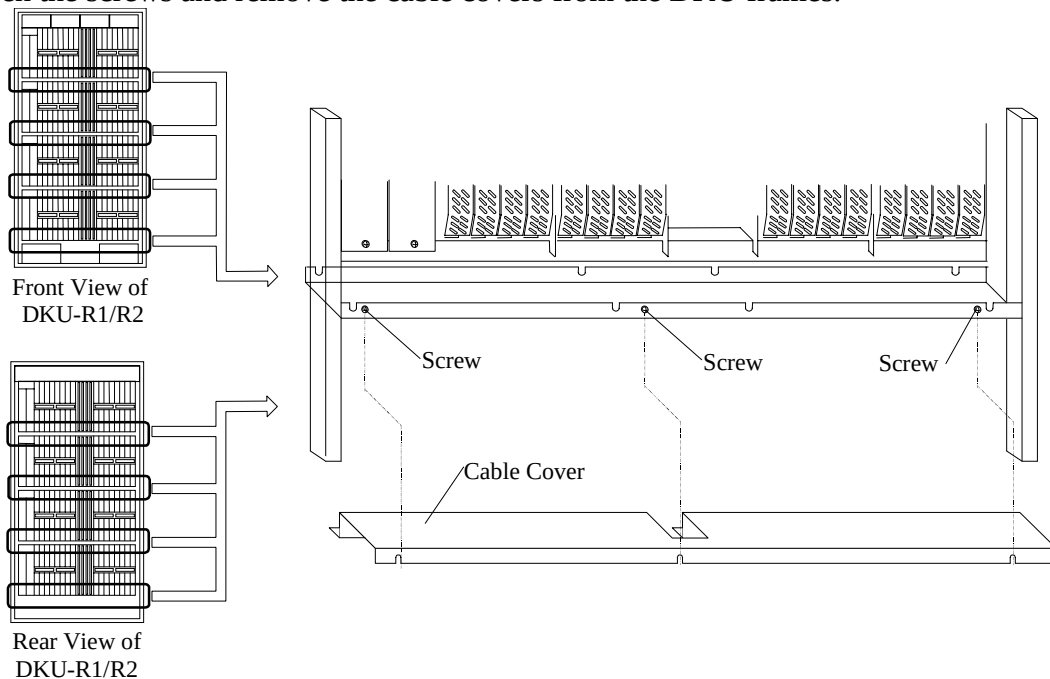


Fig. 3.11.11-9 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-R2 frame referring to Fig. 3.11.11-10 through Fig. 3.11.11-13.

Caution:

1. Do not perform the work unless the AC power is supplied to the additional DKU and the main breaker of the DKU is not turned on.
2. Do not connect the DEV interface cable to the operating DKU in this procedure. The cable is to be connected later in another procedure.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

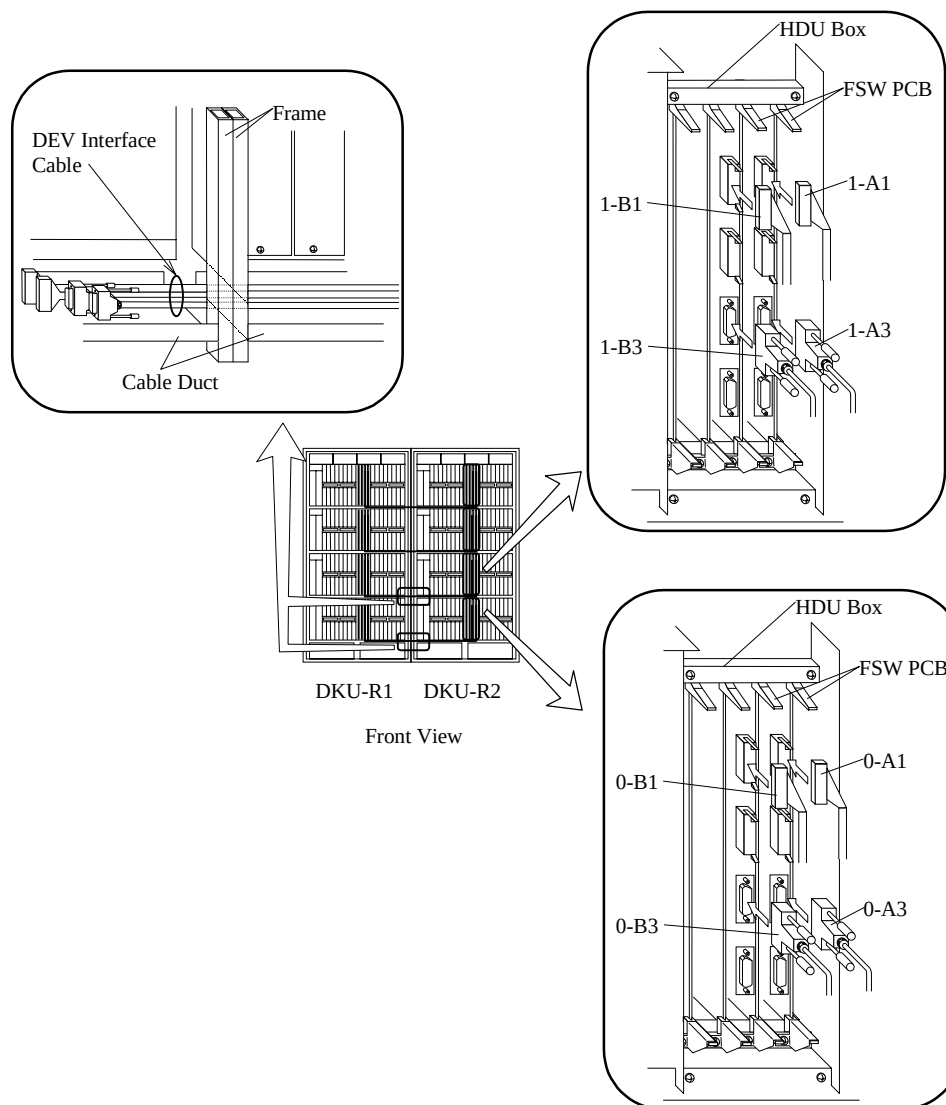


Fig. 3.11.11-10 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

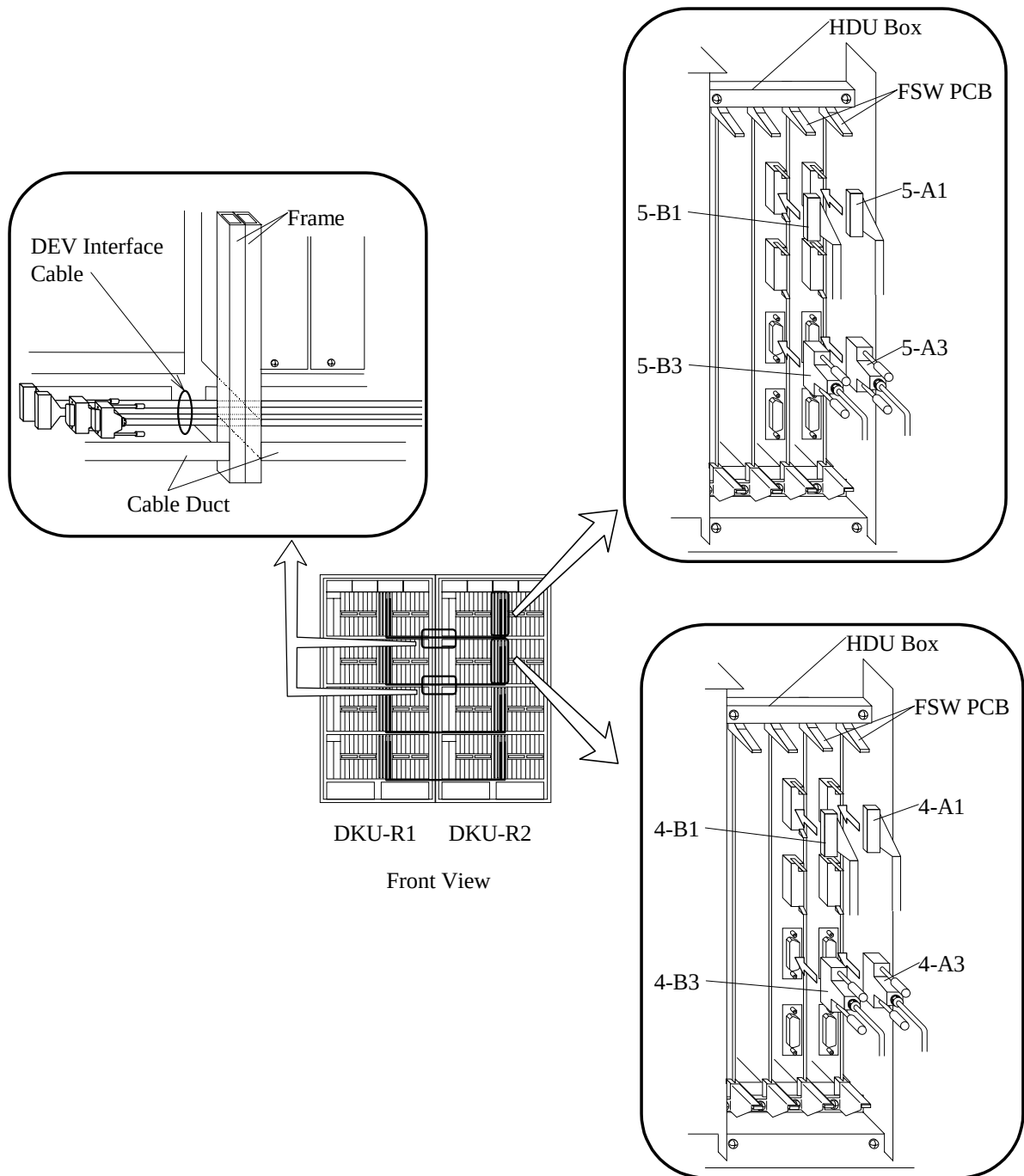


Fig. 3.11.11-11 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

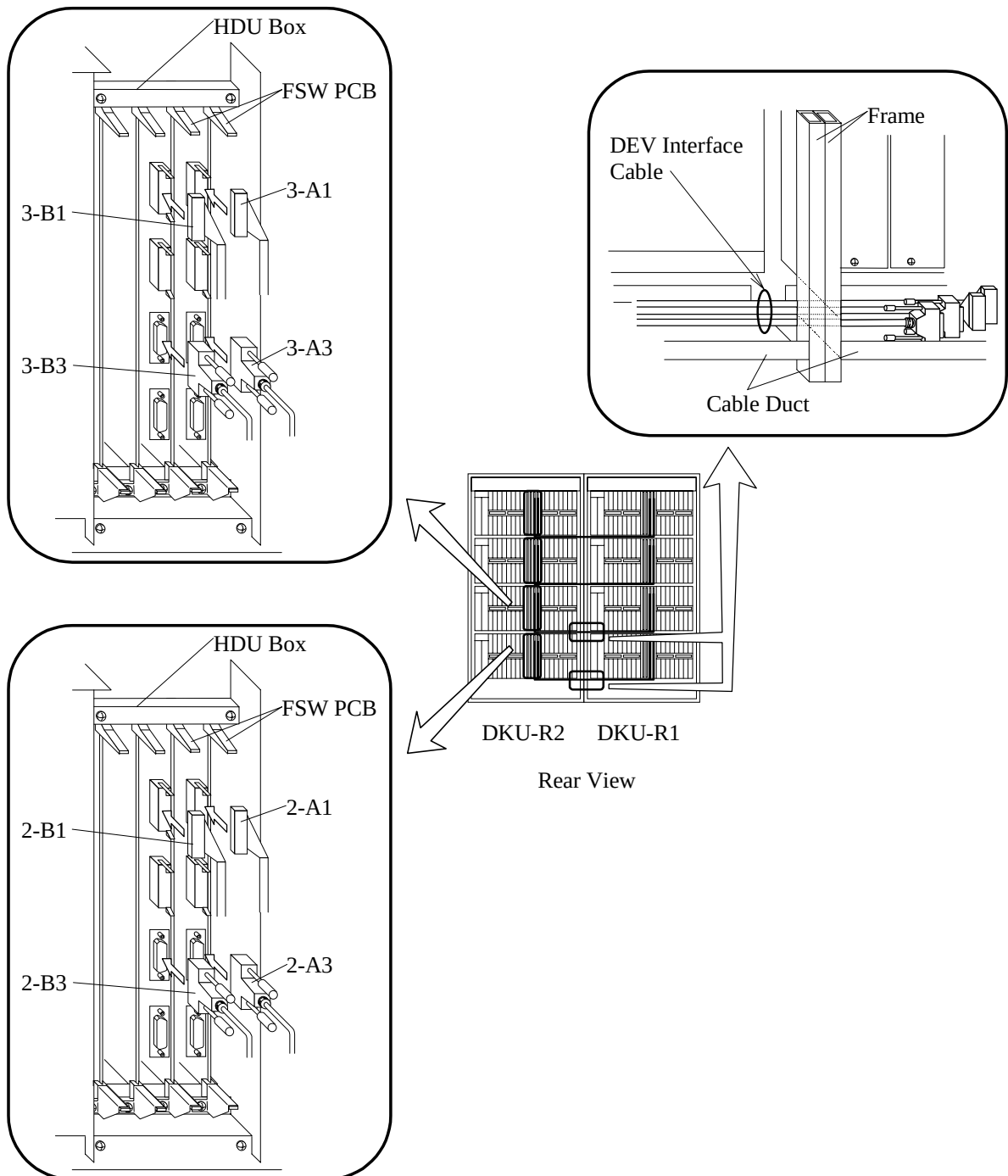


Fig. 3.11.11-12 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

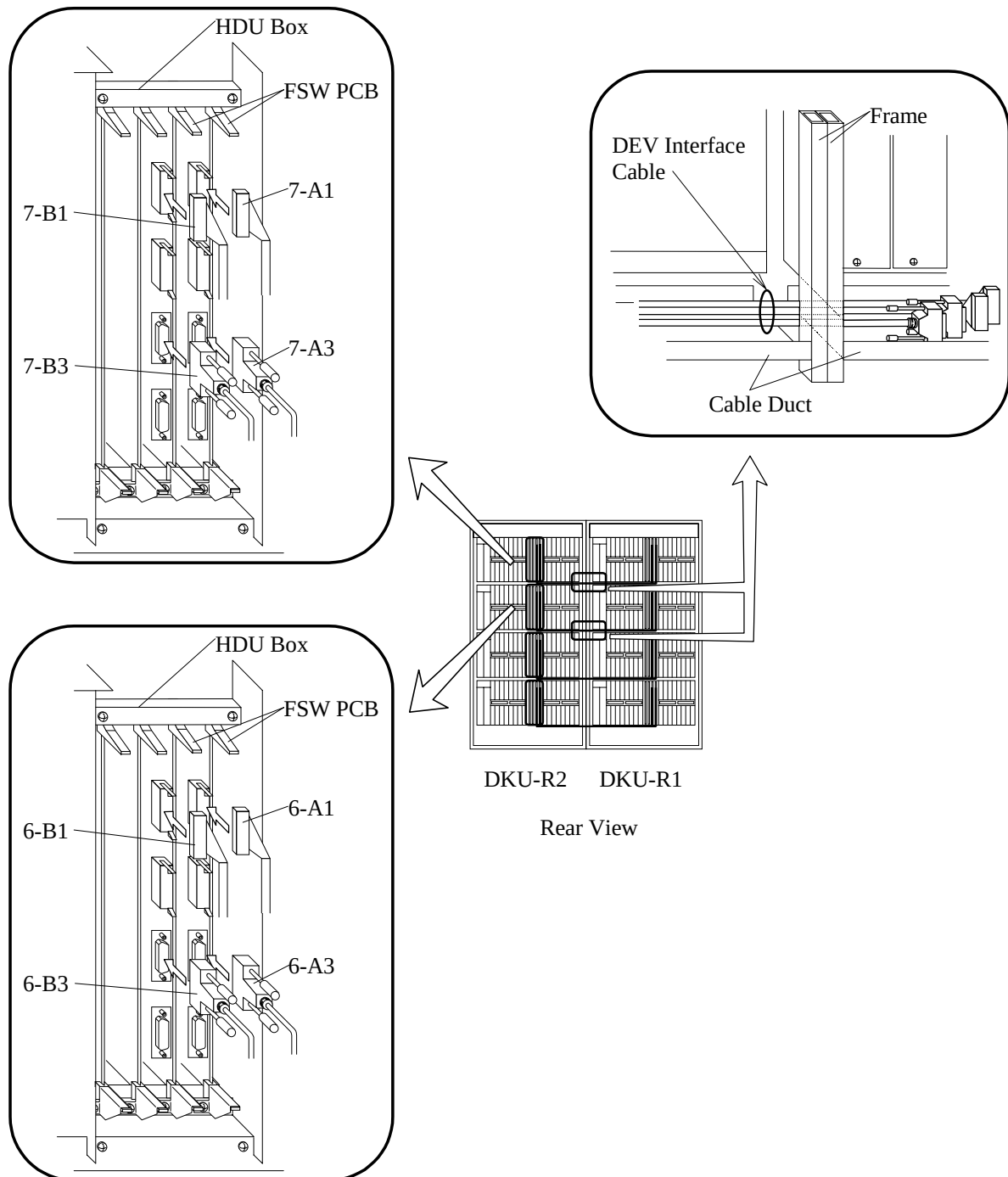


Fig. 3.11.11-13 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

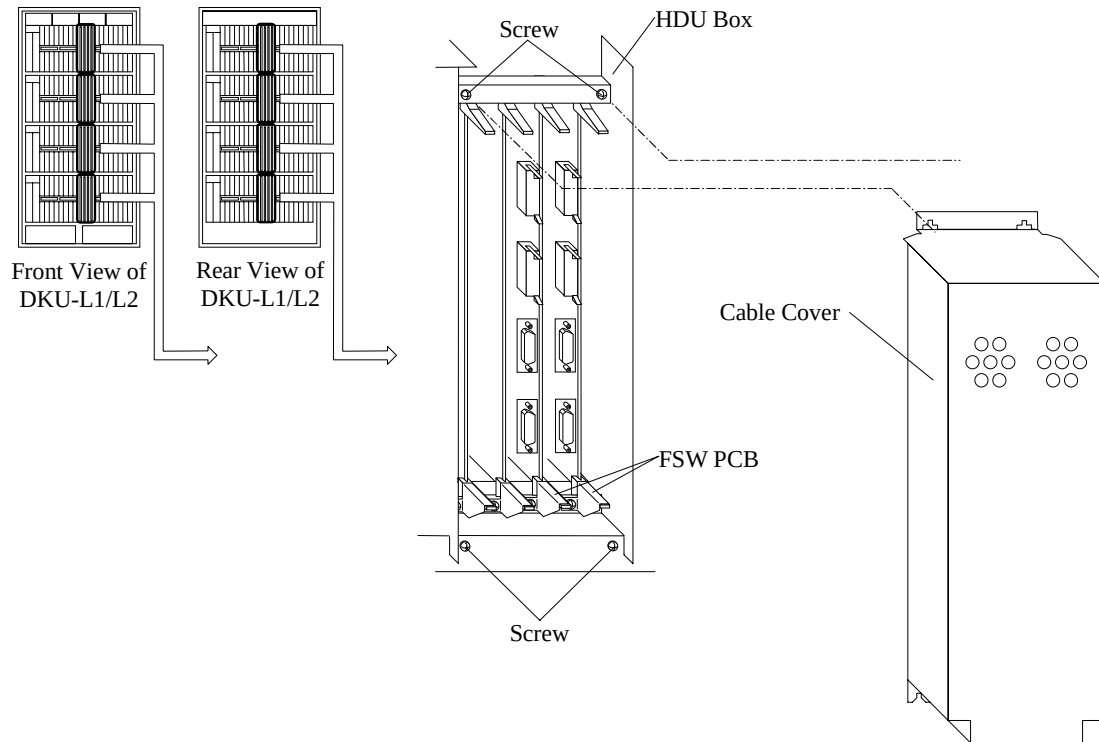


Fig. 3.11.11-14 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

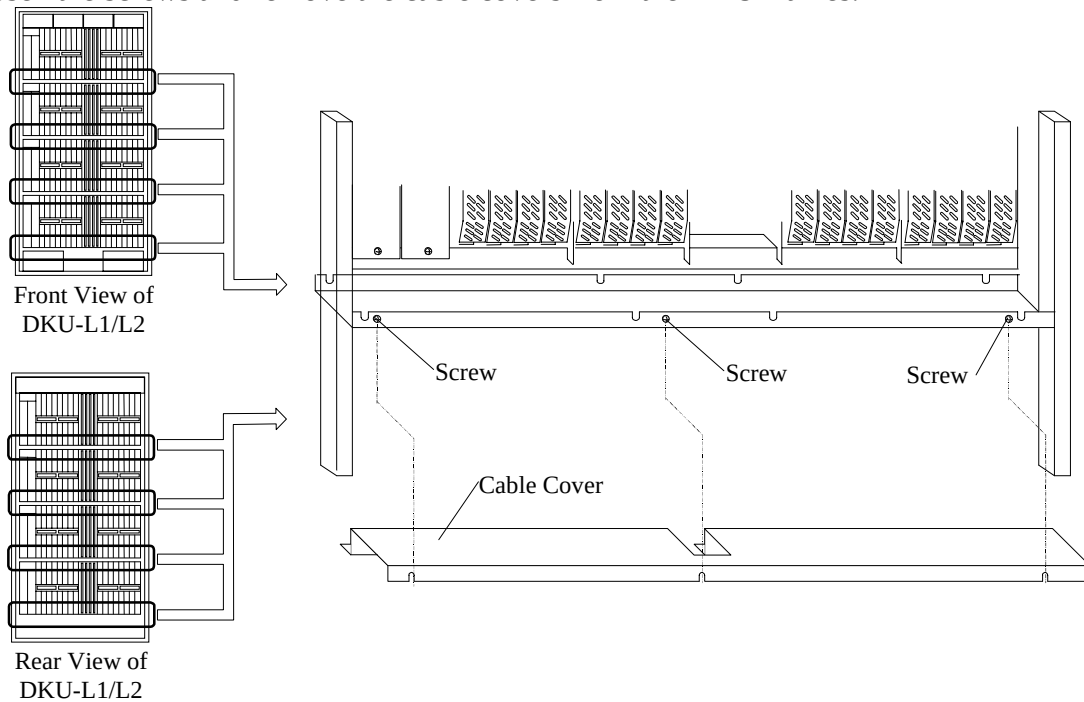


Fig. 3.11.11-15 Removal of Cable Covers

- c. Connect the DEV interface cables to the FSW PCBs in the DKU-L2 frame referring to Fig. 3.11.11-16 through Fig. 3.11.11-19.

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

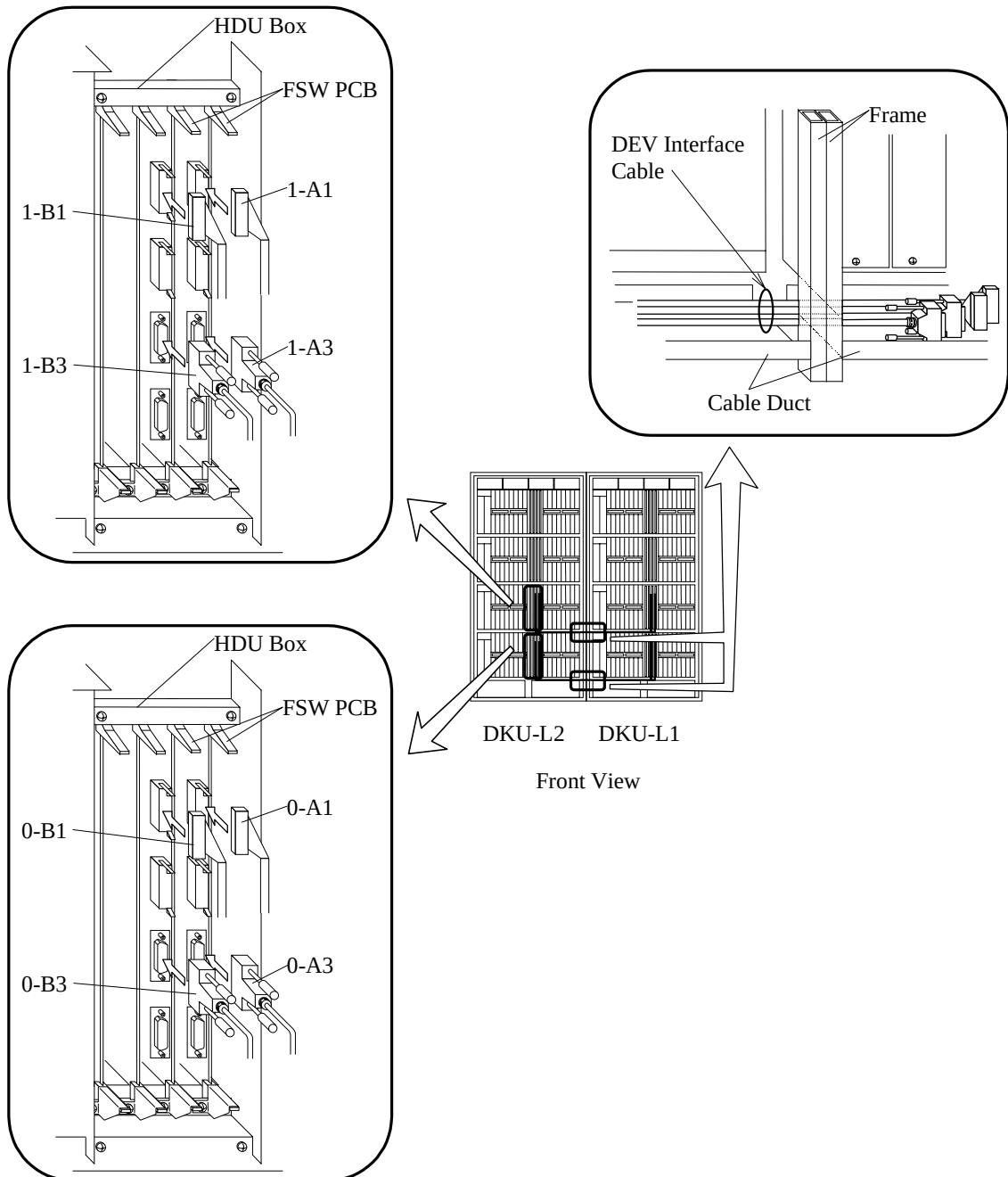


Fig. 3.11.11-16 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

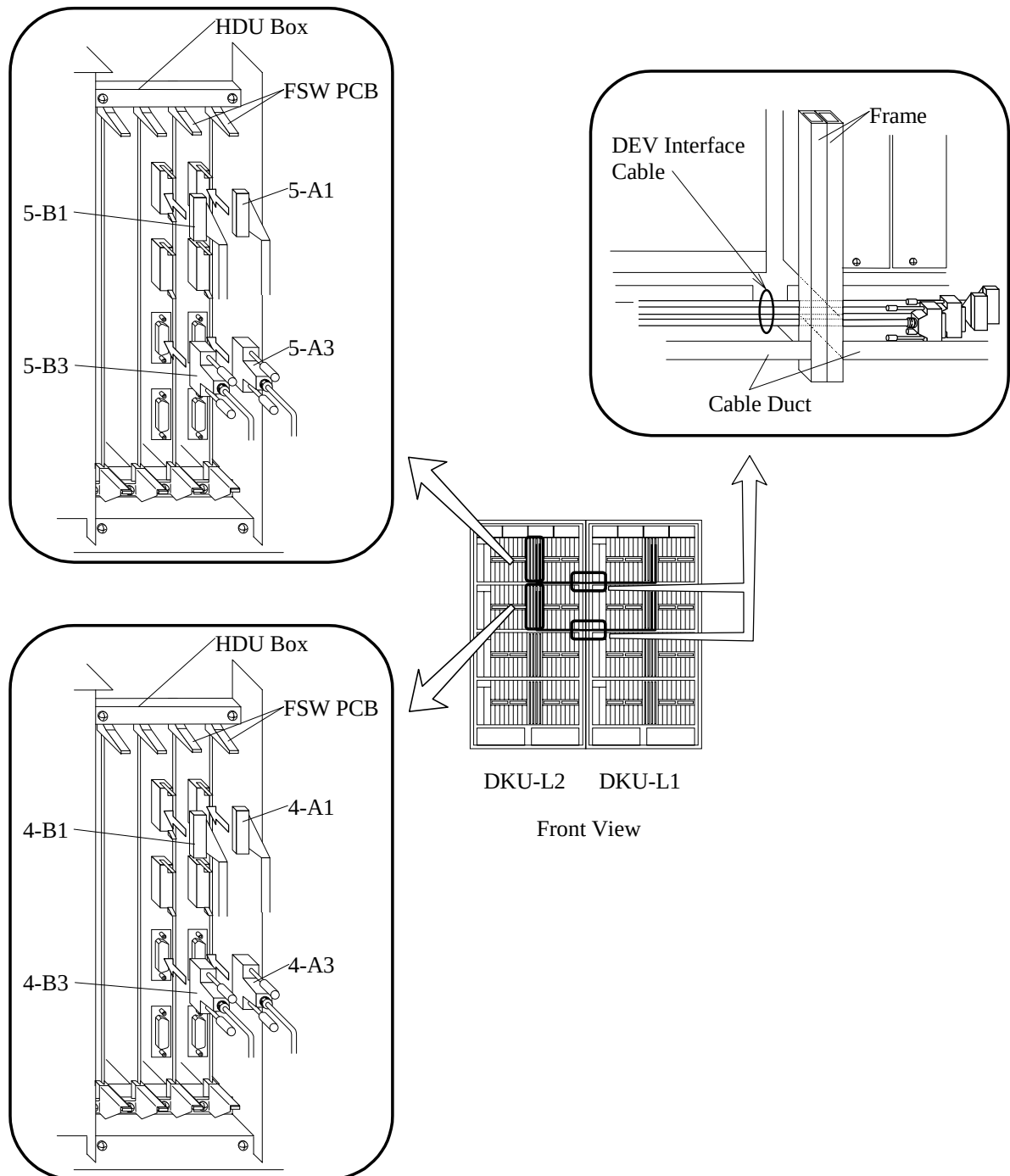


Fig. 3.11.11-17 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

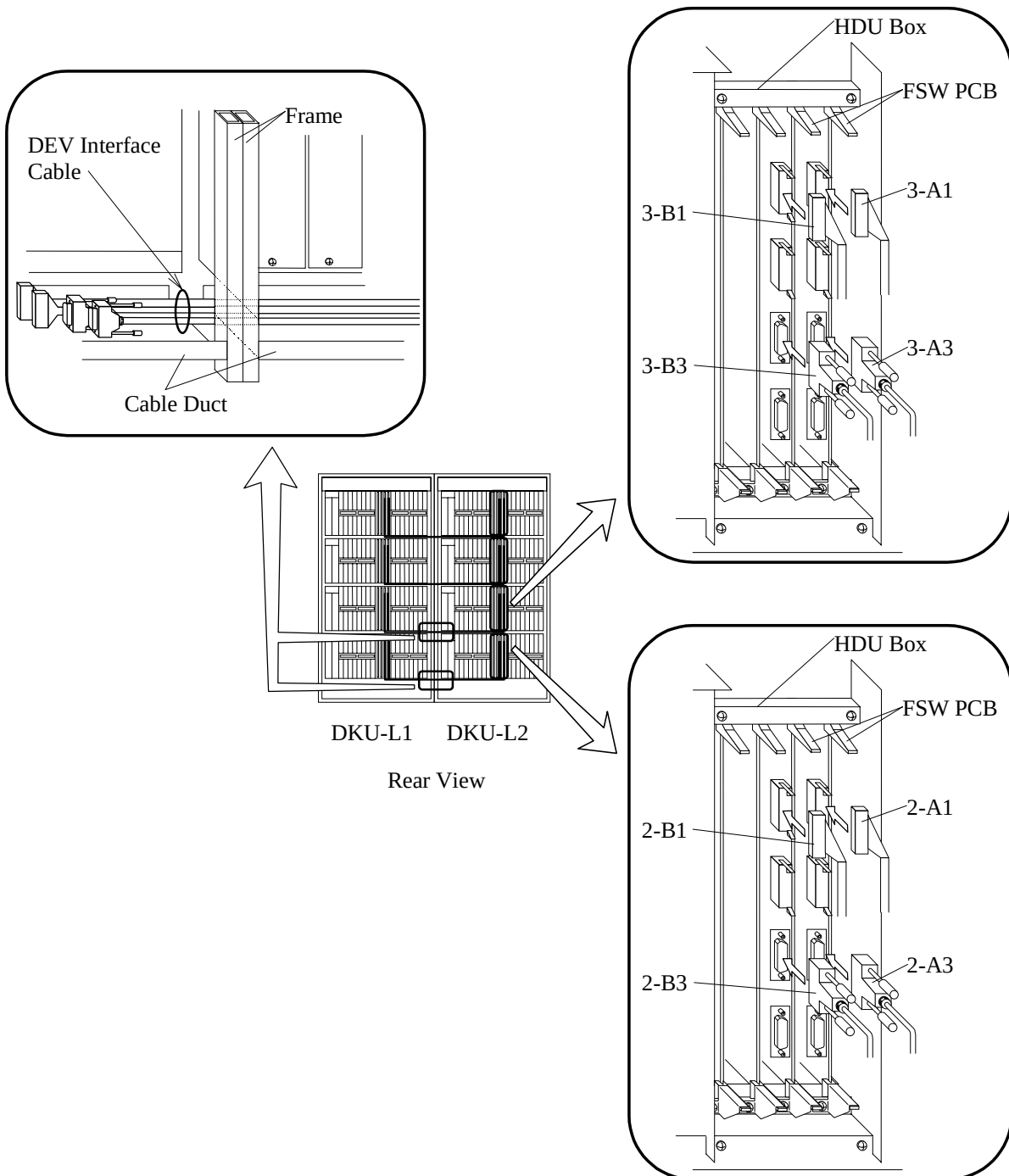


Fig. 3.11.11-18 Connection of the DEV Interface Cables

**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

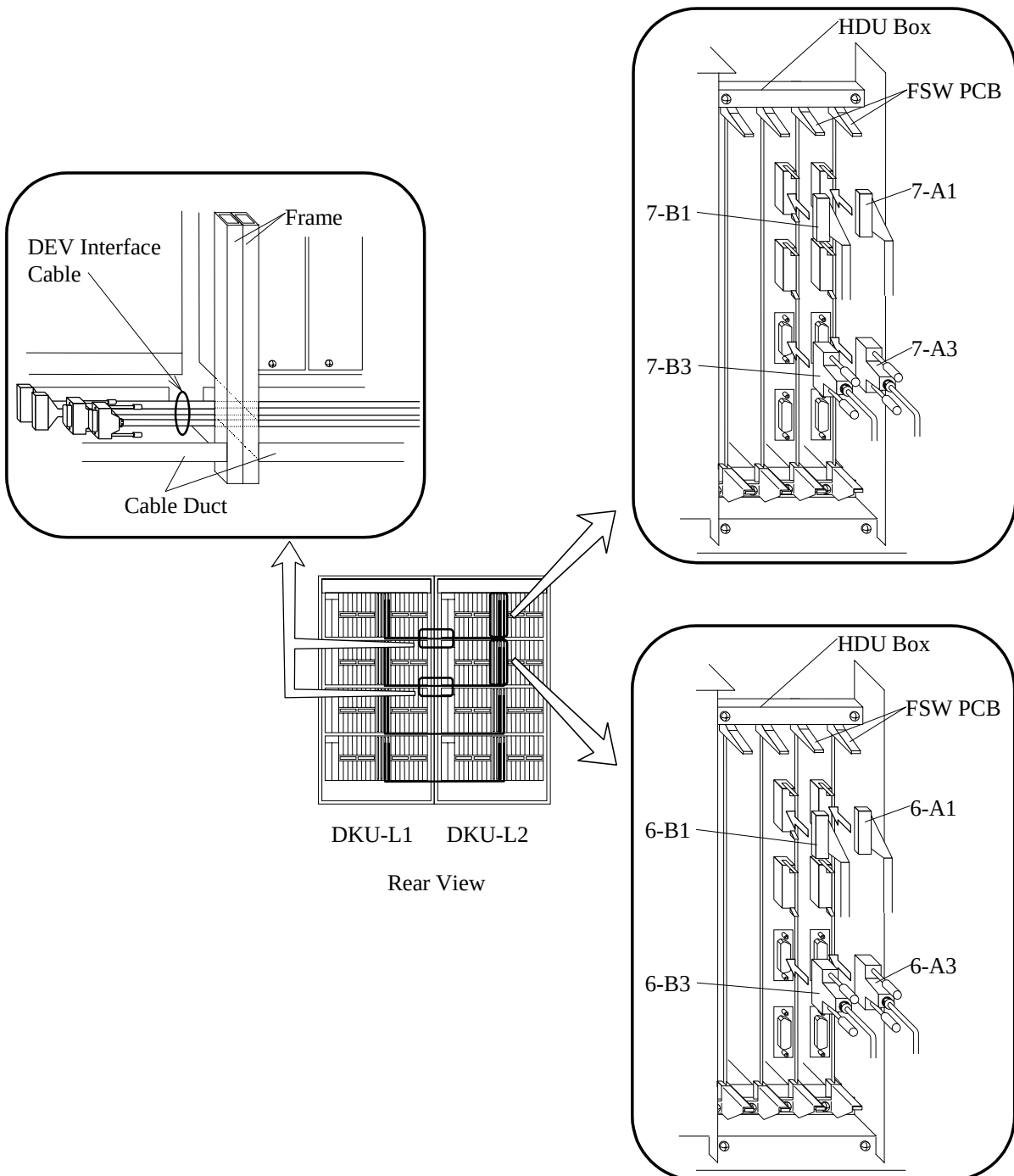
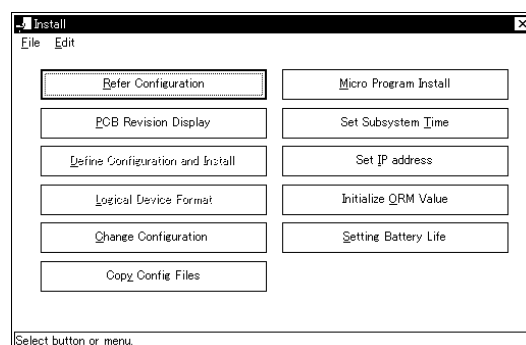


Fig. 3.11.11-19 Connection of the DEV Interface Cables

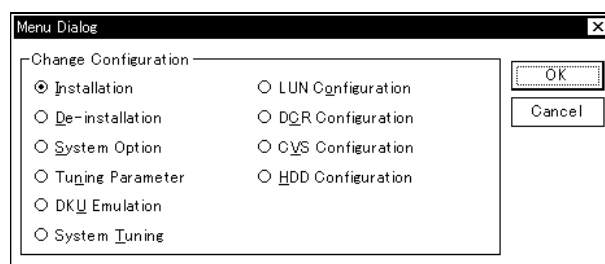
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

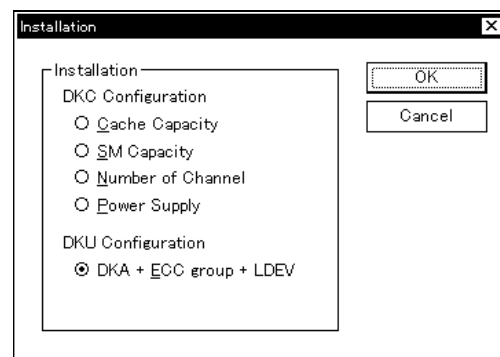
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. <Update Configuration Information>

Define the number of CU in DKC and the number of DKA in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

Note1: To add the DKU-L1, the six or more DKAs are required.

Note2: There may be a case where an addition of the SM is required to add the CU.

When adding the SM, refer to page [INST03-SM-10](#).

6. <Setting DKA type>

Define the DKA type in the 'Disk Interface Configuration' dialog box. After setting it, select (CL) the [>>Next] button.

Note: When no DKA is to be added, the 'Disk Interface Configuration' dialog box is not displayed.

7. <DKU Equipment>

The DKU equipment pattern and DKU type is displayed in the 'DKU Equipment' configuration window.

Make an altered setting in which the DKU-L1 and DKU-L2 are added to the DKUs currently set.

Current setting	Altered setting
1DKU (R1)	4DKUs (R1, L1, R2, L2)

Select (CL) [>>Next].

8. <Change Drive Configuration Information>

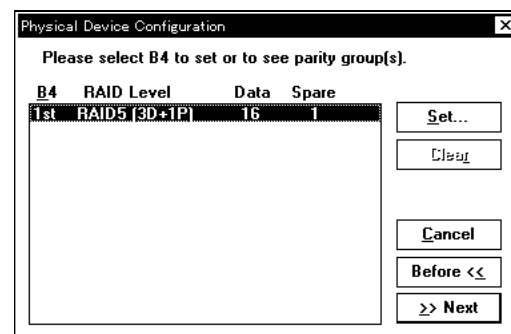
Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next]. Go to step 9.



Selecting (CL) [Before<<] returns you to the previous screen.

[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

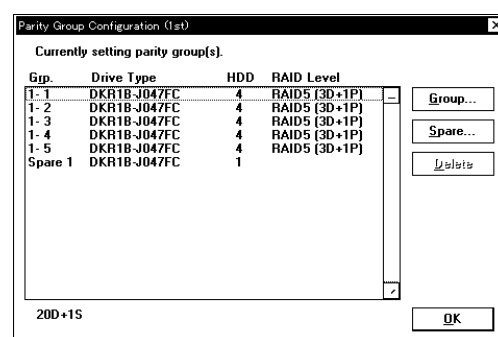
[Group...]: Defines the parity group. See Step 8-1-1.

[Spare...]: Defines the spare drive. See Step 8-1-2.

[Delete]: Deletes the added parity group or spare drive.

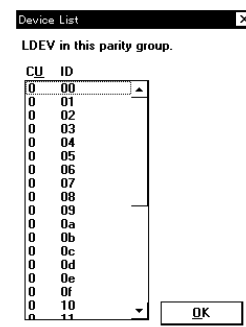
Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Return to step 8.



- To display LDEV ID in Parity group, select an item to be displayed and select (DC) this item on list box. The 'Device List' dialog box will appear.

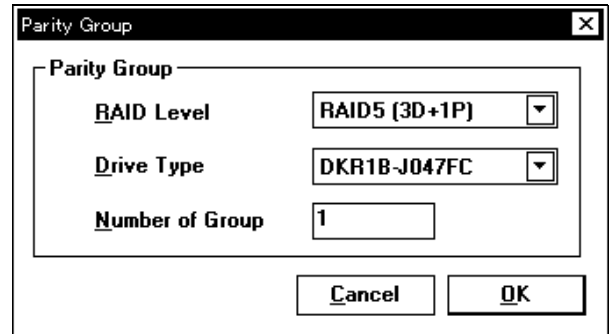
“(no LDEV)” is displayed for the added parity group.



8-1-1.

Define the RAID Level and the Drive Type and the Number of Group in the 'Parity Group' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Parity Group dialog box showing configuration options:

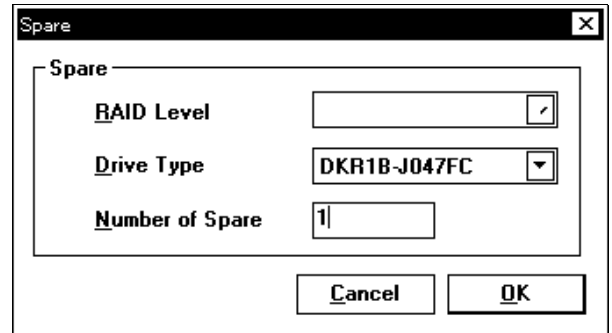
- RAID Level:** RAID5 (3D+1P)
- Drive Type:** DKR1B-J047FC
- Number of Group:** 1

Buttons: Cancel, OK

8-1-2.

Define the RAID Level and the Drive Type and the Number of Spare in the 'Spare' dialog box.

Then select (CL) [OK]. Return to step 8-1.



Spare dialog box showing configuration options:

- RAID Level:** (Empty)
- Drive Type:** DKR1B-J047FC
- Number of Spare:** 1

Buttons: Cancel, OK

9. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

For defining Device Emulation:

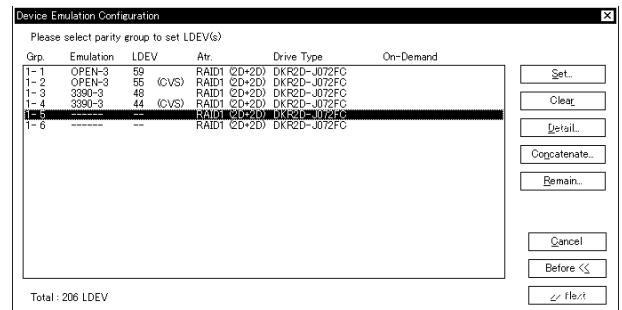
Select (CL) parity group and select (CL) [Set...].

Go to step 9-1

For detailed display:

Select (CL) parity group and select (CL) [Detail...].

The detailed information is displayed.



Device Emulation Configuration dialog box showing a table of configurations:

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	59		RAID1 (2D+2D)	DKR2D-J072FC
1-2	OPEN-3	55 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-3	3390-3	46		RAID1 (2D+2D)	DKR2D-J072FC
1-4	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-5	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC
1-6	3390-3	44 (CVS)		RAID1 (2D+2D)	DKR2D-J072FC

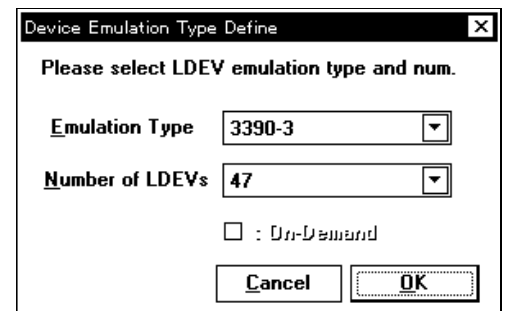
Total : 206 LDEV

Buttons: Set..., Clear, Detail..., Copagate..., Remain..., Cancel, Before <<, Next >>

9-1.

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK].

Selecting (CL) [Cancel] returns you to step 9.



Device Emulation Type Define dialog box showing configuration options:

- Emulation Type:** 3390-3
- Number of LDEVs:** 47
- ☐ : On-Demand

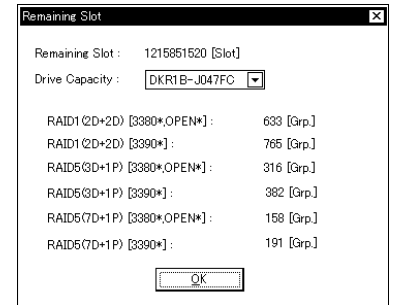
Buttons: Cancel, OK

9-2. <Displaying remaining slot(s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 9.



9-3. <Setting RAID concatenation>

Select (CL) [Concatenate...].

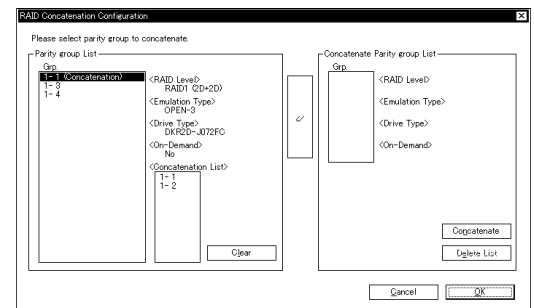
When you do not perform the RAID concatenation, return to Step 9.

9-4.

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

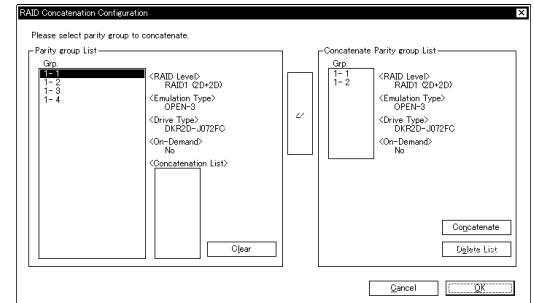
Note: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.



9-5.

The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

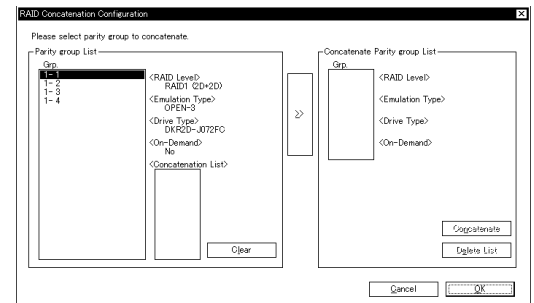


9-6.

When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, press (CL) the [OK] button.

Pressing (CL) the [Cancel] button returns the routine to Step 9.



10. <Define LDEV ID>

Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See step 10-1.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See step 10-1.

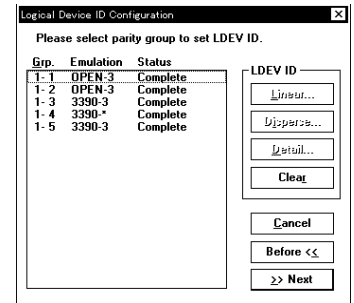
[Detail...]: A screen to define LDEV in detail is displayed.

See step 10-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

- '-----' is displayed in the Status area for the parity group to which LDEV ID is not assigned.

After setting up all items, select (CL) [>>Next]. (Go to Step 11)



10-1. Detailed Definition Screen for LDEV ID

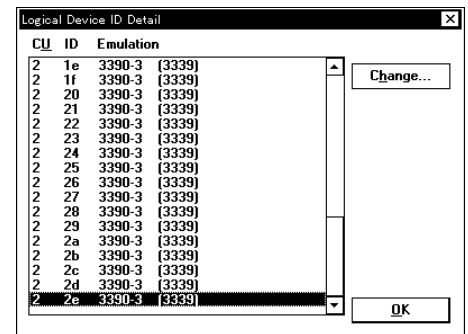
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Return to step 10

- '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



10-2. Input LDEV ID

Select CU ID in the CU combo box.

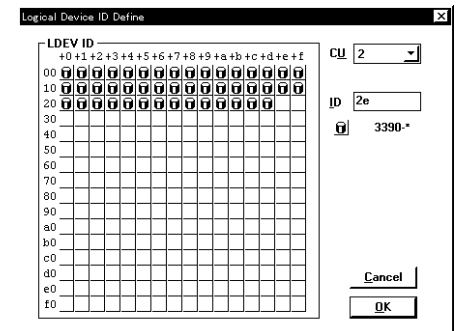
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Patterned disk of panel: using

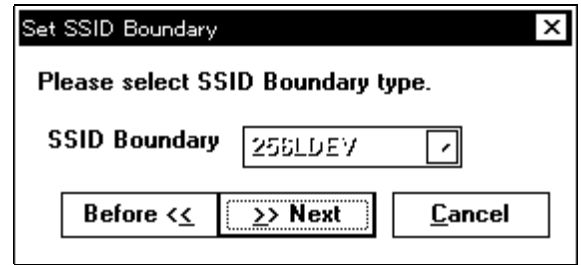
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 10-1



11. <Define Subsystem ID Boundary>

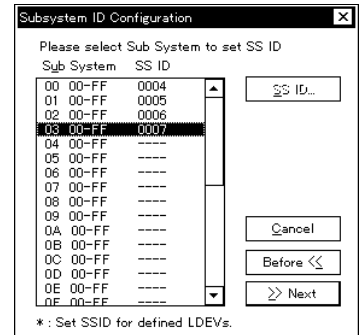
Press (CL) the [>>>Next] button to change the screen to the “Set SSID Boundary” screen.



12. <Define Subsystem ID>

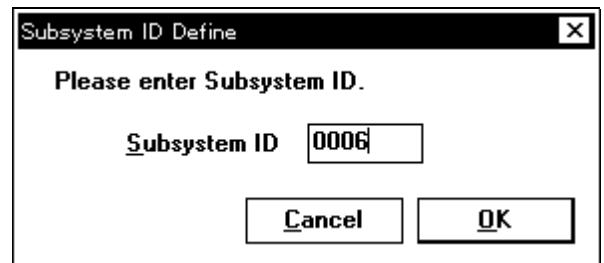
To define Subsystem ID, select (CL) the item from the list box and select (CL) [SSID]. See step 12-1.

After setting, select (CL) [>>>Next].



12-1. Define Subsystem ID and select (CL) [OK].

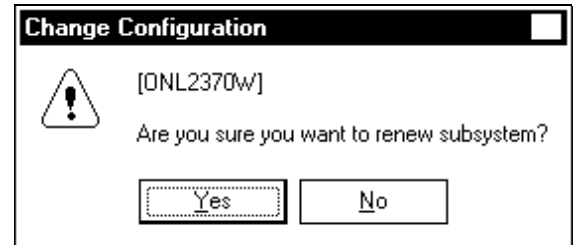
Return to step 12.



13. <Start installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST03-DKA-2710](#) step 3.



14. <Download microprogram>

Microprograms are automatically downloaded for each processor.

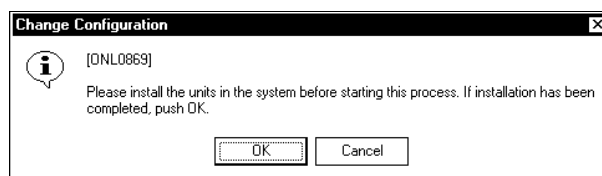
15. <Install DKA>

“Upgrading of the DKA...”

16. <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Please install the units in the system before starting this process. If installation has been completed, push OK.” is displayed.



4 Installation Procedure of Additional Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

4-1 Insertion of the PCBs

Note: Make sure that a color of the levers of the PCB to be installed is blue. Never insert a PCB whose lever is not blue.

- a. Remove the dummy plate installed in the installation location referring to the Fig. 3.11.11-20.
(Note) Dummy plates should be stored for future use in De-installation.
- b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.11.11-1.
- c. Fasten the two screws referring to Fig. 3.11.11-21.

Table 3.11.11-1 Inserting Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

Up to 4 disk adapters can be installed in the subsystem.

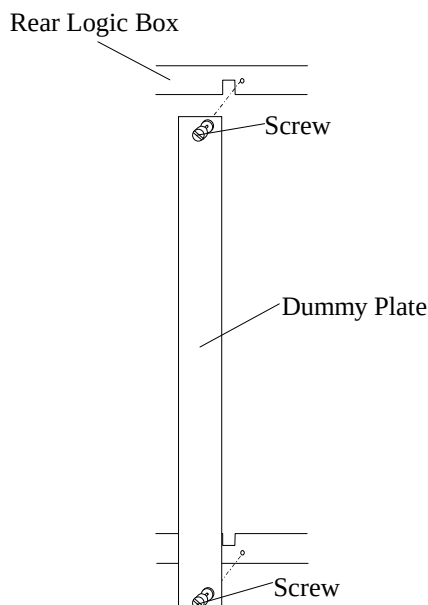


Fig. 3.11.11-20 Removal of Dummy Plate

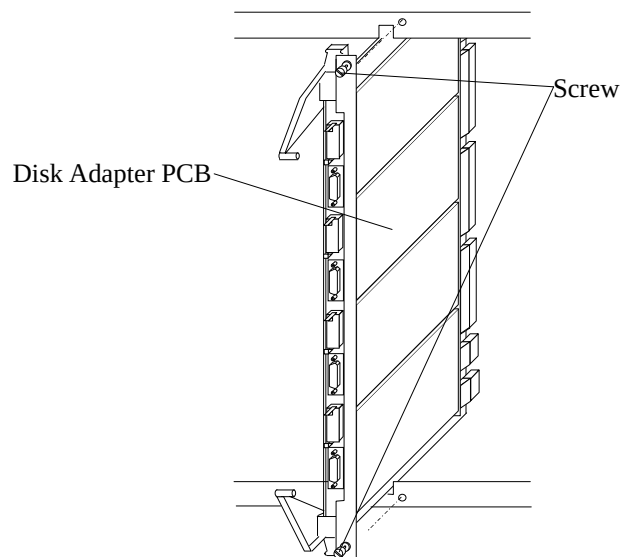


Fig. 3.11.11-21 Insertion of PCB

4-2 Connection of cables

In case of Add.1**CAUTION**

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs. (Refer to Fig. 3.11.11-22.)

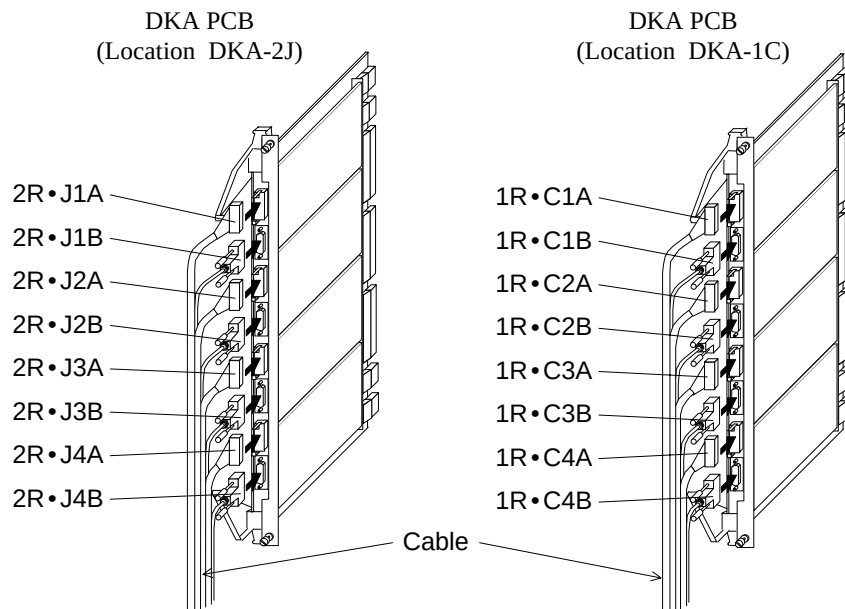


Fig.3.11.11-22 Connection of cable (Add.1)

In case of Add.2**Caution:**

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

a. Connect the cables to the sub-edge of PCBs.

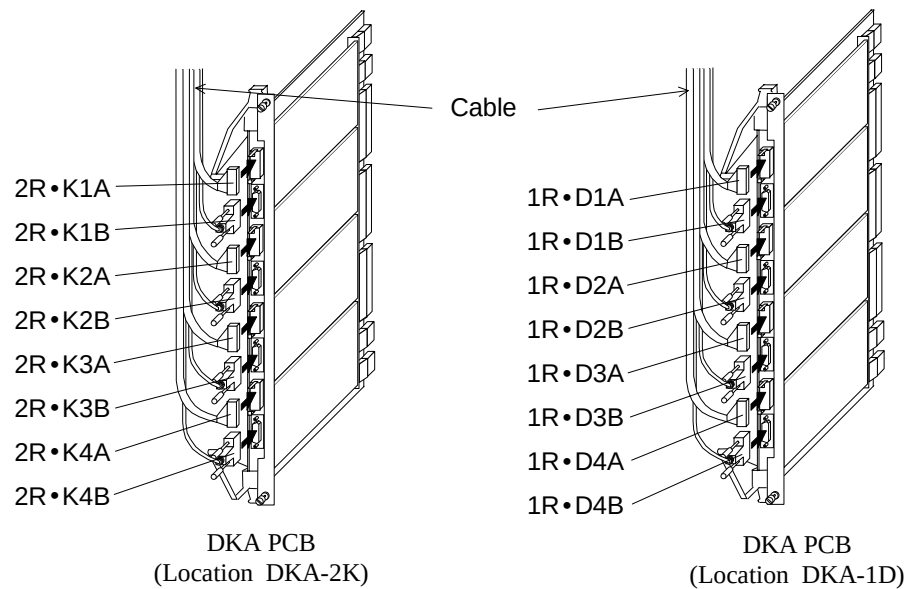


Fig.3.11.11-23 Connection of cable (Add.2)

In case of Add.3

Caution:

Make sure that the AC power is applied to the added DKUs (DKU-L1 and DKU-L2) and the main breakers of the DKUs (DKU-L1 and DKU-L2) are turned on.
The DKU is automatically powered on when the DEV interface cable is connected to the DKA.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

- a. Connect the cables to the sub-edge of PCBs.

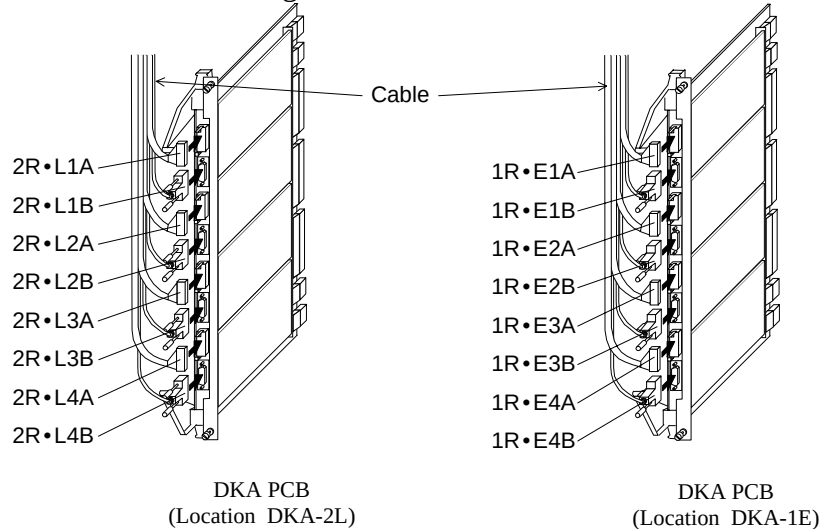


Fig.3.11.11-24 Connection of cable (Add.3)

4-3 Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.11.11-25.

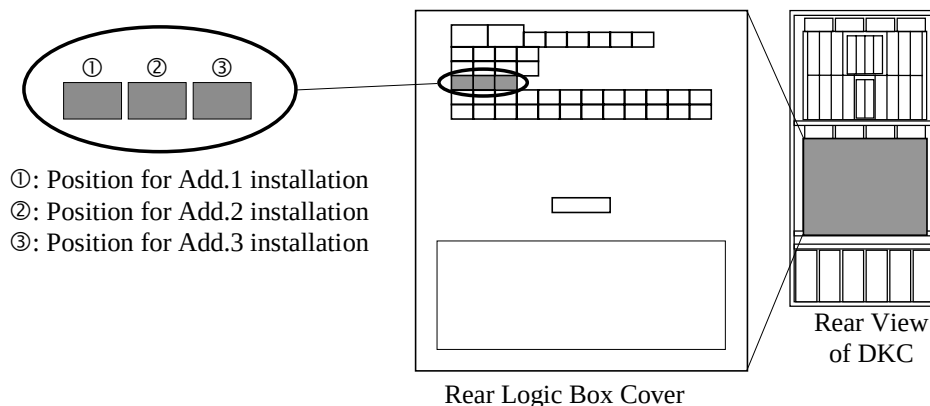


Fig. 3.11.11-25 Attachment of Nameplate

5. Installation Procedure of HDD Canister

5-1 Confirmation of position to install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.11-2.

Table 3.11.11-2 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D)

	L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
	Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
Upper	223	8-1	159	4-1	4th DKA Pair	2nd DKA Pair	032	2-1	096	6-1
	224	8-2	160	4-2			033	2-2	097	6-2
	225	8-3	161	4-3			034	2-3	098	6-3
	226	8-4	162	4-4			035	2-4	099	6-4
	227	8-5	163	4-5			036	2-5	100	6-5
	228	8-6	164	4-6			037	2-6	101	6-6
	229	8-7	165	4-7			038	2-7	102	6-7
	230	8-8	166	4-8			039	2-8	103	6-8
	231	8-9	167	4-9			040	2-9	104	6-9
	232	8-10	168	4-10			041	2-10	105	6-10
	233	8-11	169	4-11			042	2-11	106	6-11
	234	8-12	170	4-12			043	2-12	107	6-12
	235	8-13	171	4-13			044	2-13	108	6-13
	236	8-14	172	4-14			045	2-14	109	6-14
	237	8-15	173	4-15			046	2-15	110	6-15
	238	8-16	174(Spare) *2	4-16			047(Spare) *2	2-16	111	6-16
	239	8-17	175	4-17			048	2-17	112	6-17
	240	8-18	176	4-18			049	2-18	113	6-18
	241	8-19	177	4-19			050	2-19	114	6-19
	242	8-20	178	4-20			051	2-20	115	6-20
	243	8-21	179	4-21			052	2-21	116	6-21
	244	8-22	180	4-22			053	2-22	117	6-22
	245	8-23	181	4-23			054	2-23	118	6-23
	246	8-24	182	4-24			055	2-24	119	6-24
	247	8-25	183	4-25			056	2-25	120	6-25
	248	8-26	184	4-26			057	2-26	121	6-26
	249	8-27	185	4-27			058	2-27	122	6-27
	250	8-28	186	4-28			059	2-28	123	6-28
	251	8-29	187	4-29			060	2-29	124	6-29
	252	8-30	188	4-30			061	2-30	125	6-30
	253	8-31	189	4-31			062	2-31	126	6-31
	254	8-32	190	4-32			063	2-32	127	6-32
Lower	191	7-1	128	3-1	3rd DKA Pair	1st DKA Pair	001	1-1	064	5-1
	192	7-2	129	3-2			002	1-2	065	5-2
	193	7-3	130	3-3			003	1-3	066	5-3
	194	7-4	131	3-4			004	1-4	067	5-4
	195	7-5	132	3-5			005	1-5	068	5-5
	196	7-6	133	3-6			006	1-6	069	5-6
	197	7-7	134	3-7			007	1-7	070	5-7
	198	7-8	135	3-8			008	1-8	071	5-8
	199	7-9	136	3-9			009	1-9	072	5-9
	200	7-10	137	3-10			010	1-10	073	5-10
	201	7-11	138	3-11			011	1-11	074	5-11
	202	7-12	139	3-12			012	1-12	075	5-12
	203	7-13	140	3-13			013	1-13	076	5-13
	204	7-14	141	3-14			014	1-14	077	5-14
	205	7-15	142	3-15			015	1-15	078	5-15
	206	7-16	Spare *1	3-16			Spare *1	1-16	079	5-16
	207	7-17	143	3-17			016	1-17	080	5-17
	208	7-18	144	3-18			017	1-18	081	5-18
	209	7-19	145	3-19			018	1-19	082	5-19
	210	7-20	146	3-20			019	1-20	083	5-20
	211	7-21	147	3-21			020	1-21	084	5-21
	212	7-22	148	3-22			021	1-22	085	5-22
	213	7-23	149	3-23			022	1-23	086	5-23
	214	7-24	150	3-24			023	1-24	087	5-24
	215	7-25	151	3-25			024	1-25	088	5-25
	216	7-26	152	3-26			025	1-26	089	5-26
	217	7-27	153	3-27			026	1-27	090	5-27
	218	7-28	154	3-28			027	1-28	091	5-28
	219	7-29	155	3-29			028	1-29	092	5-29
	220	7-30	156	3-30			029	1-30	093	5-30
	221	7-31	157	3-31			030	1-31	094	5-31
	222	7-32	158	3-32			031	1-32	095	5-32

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC				DKC			
		HDU-R15				HDU-R25			
		HDU-R14				HDU-R24			
		HDU-R11				HDU-R21			
		HDU-R10				HDU-R20			

Front View

001-127: 4HDD canisters installation order

R2 DKU										R1 DKU										DKC	L1 DKU	L2 DKU
HDU-R27										HDU-R17												
P					S					P					S							
127					126					063					062							
125					124					061					060							
123					122					059					058							
121					120					057					056							
119					118					055					054							
117					116					053					052							
115					114					051					050							
113					112					049					048							
111					110					047*2					046							
109					108					045					044							
107					106					043					042							
105					104					041					040							
103					102					039					038							
101					100					037					036							
099					098					035					034							
097					096					033					032							
HDU-R26										HDU-R16												
P					S					P					S							
127					126					063					062							
125					124					061					060							
123					122					059					058							
121					120					057					056							
119					118					055					054							
117					116					053					052							
115					114					051					050							
113					112					049					048							
111					110					047*2					046							
109					108					045					044							
107					106					043					042							
105					104					041					040							
103					102					039					038							
101					100					037					036							
099					098					035					034							
097					096					033					032							
HDU-R23										HDU-R13												
P					S					P					S							
095					094					031					030							
093					092					029					028							
091					090					027					026							
089					088					025					024							
087					086					023					022							
085					084					021					020							
083					082					019					018							
081					080					017					016							
079					078					015					014							
077					076					013					012							
075					074					011					010							
073					072					009					008							
071					070					007					006							
069					068					005					004							
067					066					003					002							
065					064					001					000							
HDU-R22										HDU-R12												
P					S					P					S							
095					094					031					030							
093					092					029					028							
091					090					027					026							
089					088					025					024							
087					086					023					022							
085					084					021					020							
083					082					019					018							
081					080					017					016							
079					078					015					014							
077					076					013					012							
075					074					011					010							
073					072					009					008							
071					070					007					006							
069					068					005					004							
067					066					003					002							
065					064					001					000							

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.11-26 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.11-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
S	S	P	P	S	S	P	P			
253	254	251	252	189	190	187	188			
249	250	247	248	185	186	183	184			
245	246	243	244	181	182	179	180			
239	240	237	238	175	176	173	174*2			
235	236	233	234	169	170	167	168			
231	232	229	230	165	166	163	164			
227	228	225	226	161	162	159	160			
223	224	221	222	157	158	155	156			
219	220	217	218	153	154	151	152			
215	216	213	214	149	150	147	148			
211	212	209	210	145	146	143	144			
207	208	205	206	141	142	139	140			
203	204	201	202	137	138	135	136			
199	200	197	198	133	134	131	132			
195	196	193	194	129	130	128	129			
191	192	189	190	125	126	123	124			
187	188	185	186	121	122	119	120			
183	184	181	182	117	118	115	116			
117	118	115	116	113	114	111	112			
109	110	107	108	105	106	103	104			
101	102	99	100	97	98	95	96			
93	94	91	92	89	90	87	88			
85	86	83	84	81	82	79	80			
73	74	71	72	69	70	67	68			
65	66	63	64	61	62	59	60			
53	54	51	52	49	50	47	48			
45	46	43	44	41	42	39	40			
37	38	35	36	33	34	31	32			
29	30	27	28	25	26	23	24			
21	22	19	20	17	18	15	16			
13	14	11	12	9	10	7	8			
5	6	3	4	1	2	0	0			

HDU-L24				HDU-L14			
S	S	P	P	S	S	P	P
253	254	251	252	189	190	187	188
249	250	247	248	185	186	183	184
245	246	243	244	181	182	179	180
239	240	237	238	175	176	173	174*2
235	236	233	234	169	170	167	168
231	232	229	230	165	166	163	164
227	228	225	226	161	162	159	160
223	224	221	222	157	158	155	156
219	220	217	218	153	154	151	152
215	216	213	214	149	150	147	148
211	212	209	210	145	146	143	144
207	208	205	206	141	142	139	140
203	204	201	202	137	138	135	136
199	200	197	198	133	134	131	132
195	196	193	194	129	130	128	129
191	192	189	190	125	126	123	124
187	188	185	186	121	122	119	120
183	184	181	182	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

HDU-L21				HDU-L11			
S	S	P	P	S	S	P	P
221	222	219	220	157	158	155	156
217	218	215	216	153	154	151	152
213	214	211	212	149	150	147	148
209	210	207	208	145	146	143	144
205	206	203	204	141	142	139	140
201	202	199	200	137	138	135	136
197	198	195	196	133	134	131	132
193	194	191	192	129	130	128	129
189	190	187	188	125	126	123	124
185	186	183	184	121	122	119	120
181	182	179	180	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

HDU-L20				HDU-L10			
S	S	P	P	S	S	P	P
221	222	219	220	157	158	155	156
217	218	215	216	153	154	151	152
213	214	211	212	149	150	147	148
209	210	207	208	145	146	143	144
205	206	203	204	141	142	139	140
201	202	199	200	137	138	135	136
197	198	195	196	133	134	131	132
193	194	191	192	129	130	128	129
189	190	187	188	125	126	123	124
185	186	183	184	121	122	119	120
181	182	179	180	117	118	115	116
117	118	115	116	113	114	111	112
109	110	107	108	105	106	103	104
101	102	99	100	97	98	95	96
93	94	91	92	89	90	87	88
85	86	83	84	81	82	79	80
73	74	71	72	69	70	67	68
65	66	63	64	61	62	59	60
53	54	51	52	49	50	47	48
45	46	43	44	41	42	39	40
37	38	35	36	33	34	31	32
29	30	27	28	25	26	23	24
21	22	19	20	17	18	15	16
13	14	11	12	9	10	7	8
5	6	3	4	1	2	0	0

Front View				128-254: 4HDD canisters installation order			

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
175	176	173	174	241	242	239	240
171	172	169	170	237	238	235	236
167	168	165	166	233	234	231	232
163	164	161	162	229	230	227	228
159	160	157	158	225	226	223	224
155	156	153	154	221	222	219	220
151	152	149	150	217	218	215	216
147	148	145	146	213	214	211	212
143	144	141	142	209	210	207	208
139	140	137	138	205	206	203	204
135	136	133	134	201	202	199	200
131	132	129	130	197	198	195	196
127	128	125	126	193	194	191	192
123	124	121	122	189	190	187	188
119	120	117	118	185	186	183	184
115	116	113	114	181	182	179	180
111	112	109	110	175	176	173	174
107	108	105	106	171	172	169	170
103	104	101	102	167	168	165	166
99	100	97	98	163	164	161	162
95	96	93	94	159	160	157	158
91	92	89	90	155	156	153	154
87	88	85	86	151	152	149	150
83	84	81	82	147	148	145	146
79	80	77	78	143	144	141	142
75	76	73	74	139	140	137	138
71	72	69	70	135	136	133	134
67	68	65	66	131	132	129	130
63	64	61	62	127	128	125	126
59	60	57	58	123	124	121	122
55	56	53	54	119	120	117	118
51	52	49	50	115	116	113	114
47	48	45	46	111	112	109	110
43	44	41	42	107	108	105	106
39	40	37	38	103	104	101	102
35	36	33	34	99	100	97	98
31	32	29	30	95	96	93	94
27	28	25	26	91	92	89	90
23	24	21	22	87	88	85	86
19	20	17	18	83	84	81	82
15	16	13	14	79	80	77	78
11	12	9	10	75	76	73	74
7	8	5	6	71	72	69	70
3	4	1	2	67	68	65	66
0	0	0	0	63	64	61	62

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 3.11.11-26 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.11-2.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.11-3.

Table 3.11.11-3 Relation between HDDs installation order and RAID group number (7D+1P)

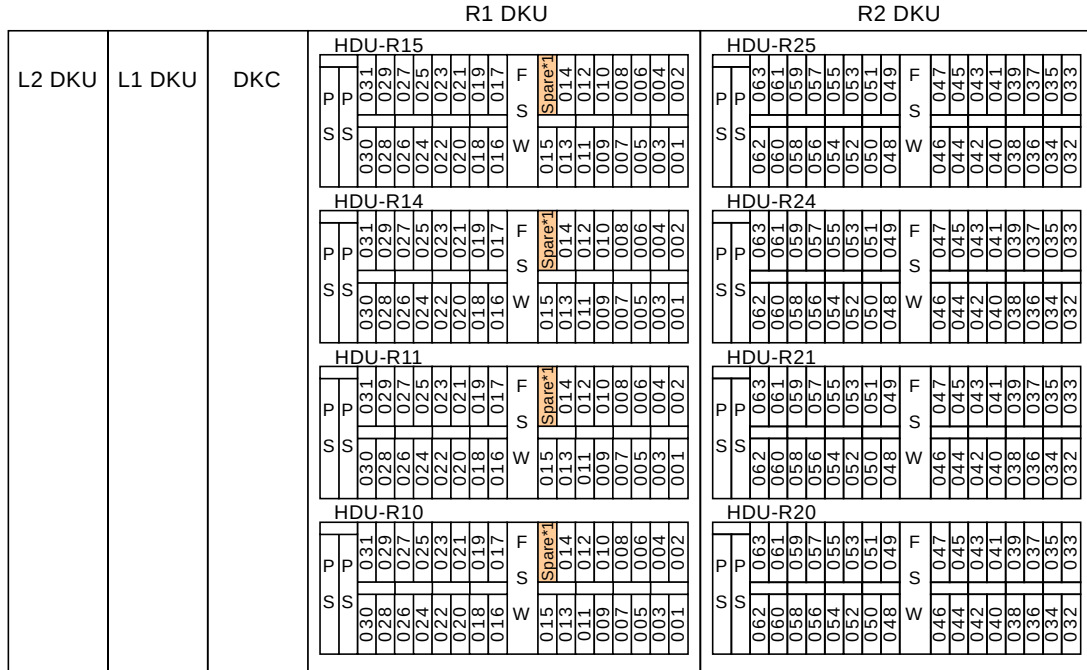
L2 DKU		L1 DKU		DKC		R1 DKU		R2 DKU	
Installation Order	RAID Group No.	Installation Order	RAID Group No.			Installation Order	RAID Group No.	Installation Order	RAID Group No.
095	7-1, (8-1)	064	3-1, (4-1)	3rd / 4th DKA Pairs	1st / 2nd DKA Pairs	001	1-1, (2-1)	032	5-1, (6-1)
096	7-2, (8-2)	065	3-2, (4-2)			002	1-2, (2-2)	033	5-2, (6-2)
097	7-3, (8-3)	066	3-3, (4-3)			003	1-3, (2-3)	034	5-3, (6-3)
098	7-4, (8-4)	067	3-4, (4-4)			004	1-4, (2-4)	035	5-4, (6-4)
099	7-5, (8-5)	068	3-5, (4-5)			005	1-5, (2-5)	036	5-5, (6-5)
100	7-6, (8-6)	069	3-6, (4-6)			006	1-6, (2-6)	037	5-6, (6-6)
101	7-7, (8-7)	070	3-7, (4-7)			007	1-7, (2-7)	038	5-7, (6-7)
102	7-8, (8-8)	071	3-8, (4-8)			008	1-8, (2-8)	039	5-8, (6-8)
103	7-9, (8-9)	072	3-9, (4-9)			009	1-9, (2-9)	040	5-9, (6-9)
104	7-10, (8-10)	073	3-10, (4-10)			010	1-10, (2-10)	041	5-10, (6-10)
105	7-11, (8-11)	074	3-11, (4-11)			011	1-11, (2-11)	042	5-11, (6-11)
106	7-12, (8-12)	075	3-12, (4-12)			012	1-12, (2-12)	043	5-12, (6-12)
107	7-13, (8-13)	076	3-13, (4-13)			013	1-13, (2-13)	044	5-13, (6-13)
108	7-14, (8-14)	077	3-14, (4-14)			014	1-14, (2-14)	045	5-14, (6-14)
109	7-15, (8-15)	078	3-15, (4-15)			015	1-15, (2-15)	046	5-15, (6-15)
110	7-16, (8-16)	(Spare)*1	3-16, (4-16)			(Spare)*1	1-16, (2-16)	047	5-16, (6-16)
111	7-17, (8-17)	079	3-17, (4-17)			016	1-17, (2-17)	048	5-17, (6-17)
112	7-18, (8-18)	080	3-18, (4-18)			017	1-18, (2-18)	049	5-18, (6-18)
113	7-19, (8-19)	081	3-19, (4-19)			018	1-19, (2-19)	050	5-19, (6-19)
114	7-20, (8-20)	082	3-20, (4-20)			019	1-20, (2-20)	051	5-20, (6-20)
115	7-21, (8-21)	083	3-21, (4-21)			020	1-21, (2-21)	052	5-21, (6-21)
116	7-22, (8-22)	084	3-22, (4-22)			021	1-22, (2-22)	053	5-22, (6-22)
117	7-23, (8-23)	085	3-23, (4-23)			022	1-23, (2-23)	054	5-23, (6-23)
118	7-24, (8-24)	086	3-24, (4-24)			023	1-24, (2-24)	055	5-24, (6-24)
119	7-25, (8-25)	087	3-25, (4-25)			024	1-25, (2-25)	056	5-25, (6-25)
120	7-26, (8-26)	088	3-26, (4-26)			025	1-26, (2-26)	057	5-26, (6-26)
121	7-27, (8-27)	089	3-27, (4-27)			026	1-27, (2-27)	058	5-27, (6-27)
122	7-28, (8-28)	090	3-28, (4-28)			027	1-28, (2-28)	059	5-28, (6-28)
123	7-29, (8-29)	091	3-29, (4-29)			028	1-29, (2-29)	060	5-29, (6-29)
124	7-30, (8-30)	092	3-30, (4-30)			029	1-30, (2-30)	061	5-30, (6-30)
125	7-31, (8-31)	093	3-31, (4-31)			030	1-31, (2-31)	062	5-31, (6-31)
126	7-32, (8-32)	094	3-32, (4-32)			031	1-32, (2-32)	063	5-32, (6-32)

*1: To be left vacant or a spare disk is to be installed.

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

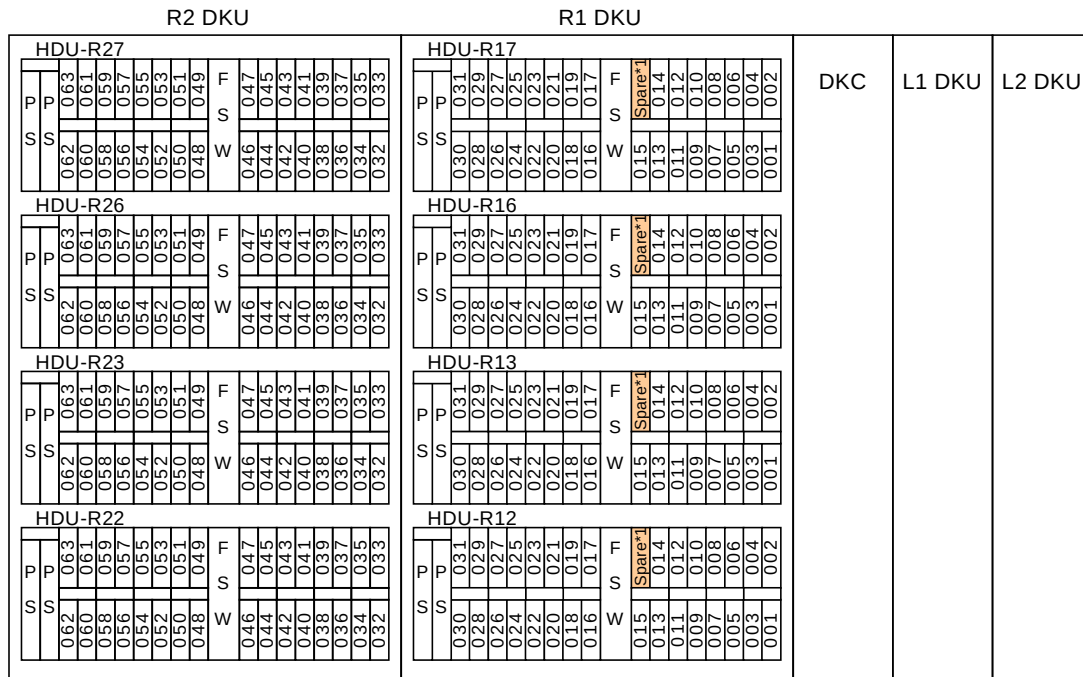
- (1) Make sure of the location where the RAID group is installed and that where the HDD canister is to be added.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



Front View

001-063: 8HDD canisters installation order



Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 3.11.11-27 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

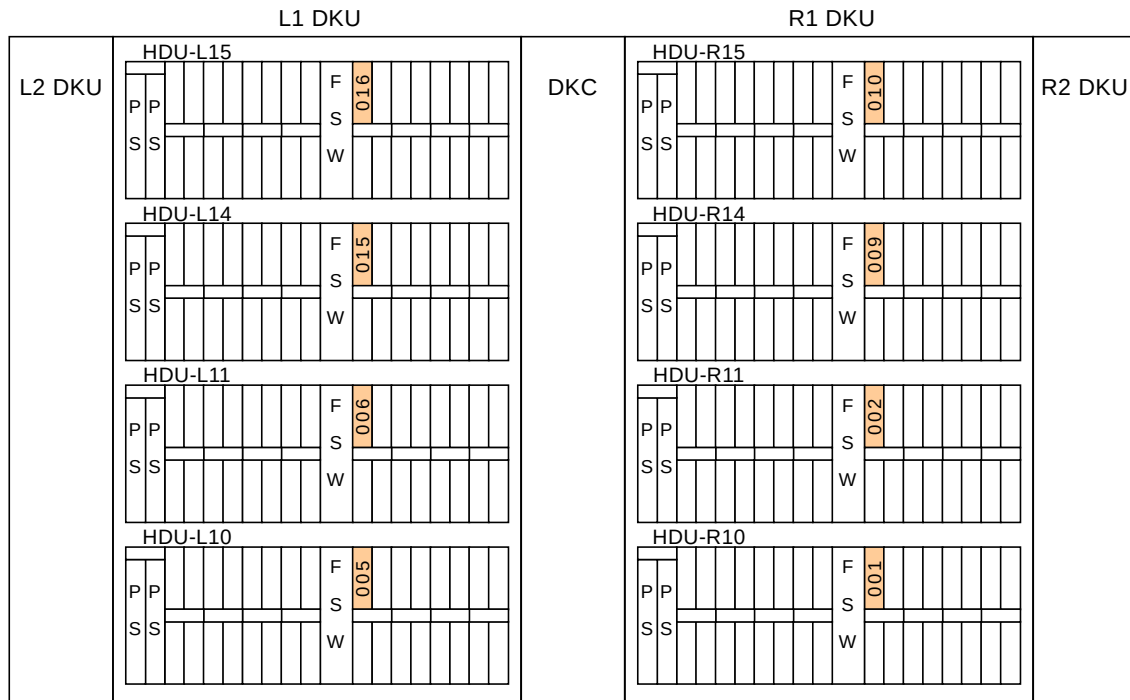
The relationship between HDDs installation order and RAID group number is shown in the Table 3.11.11-3.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU		
HDU-L25										HDU-L15														
HDU-L24										HDU-L14														
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														
HDU-L25										HDU-L15										Front View				
HDU-L24										HDU-L14										064-126: 8HDD canisters installation order				
HDU-L21										HDU-L11														
HDU-L20										HDU-L10														

L1 DKU				L2 DKU																																																																																																															
R2 DKU	R1 DKU	DKC	HDU-L17								HDU-L27																																																																																																								
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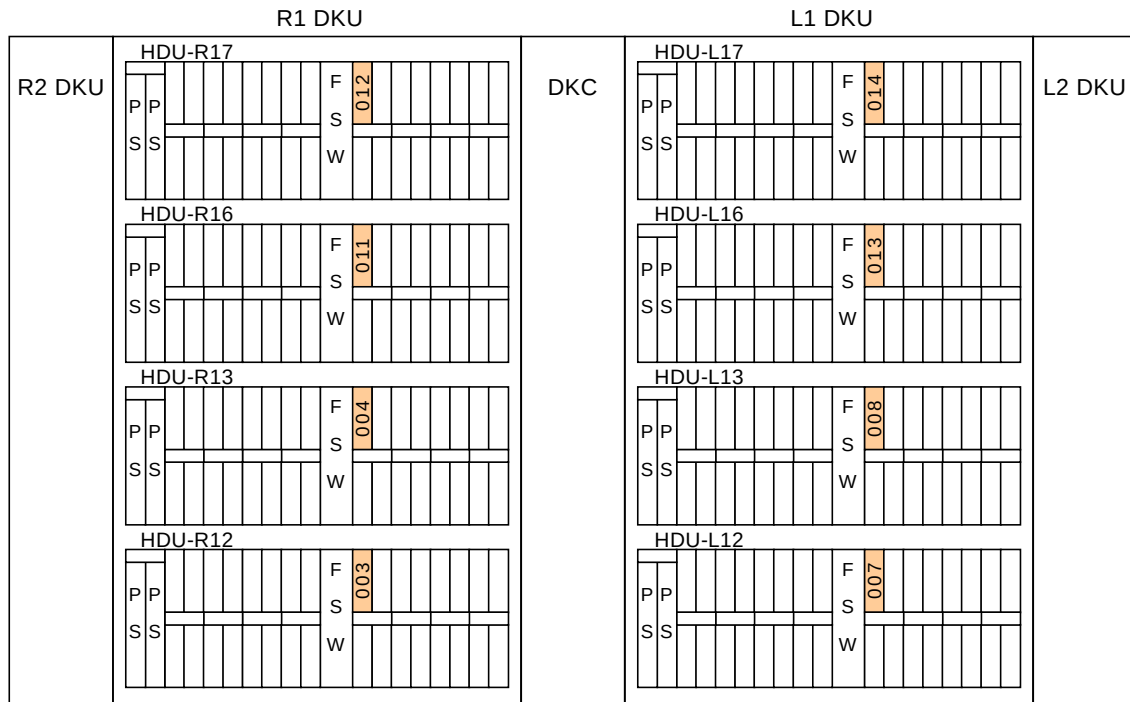
(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



Front View

001-016: Spare HDD canister installation order



Rear View

Fig. 3.11.11-28 Spare Drive Expansion Sequence

5-2 Installation of the HDD Canister.

Notice: Since the HDD is a precision component, handle it very carefully not to apply a vibration or shock to it.

- a. Remove the dummy canister from the HDU Box.

When the dummy canister cannot be removed by pulling of it only, remove it referring to page [INST03-DKA-3000](#).

- b. Install the HDD canister. (For the detailed procedure for installation, refer to the procedure for installing HDD canister on page [INST03-DKA-3010](#).)

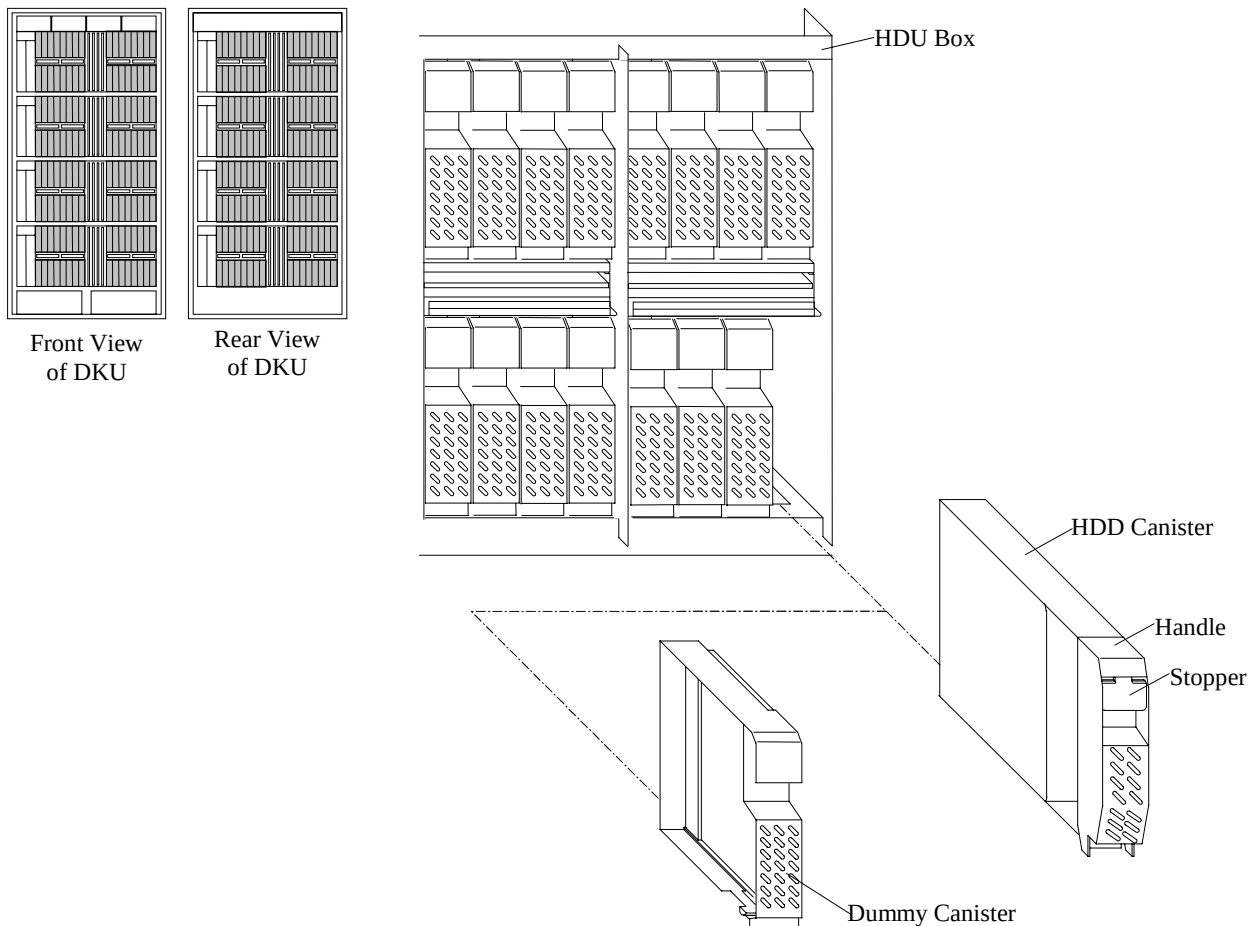
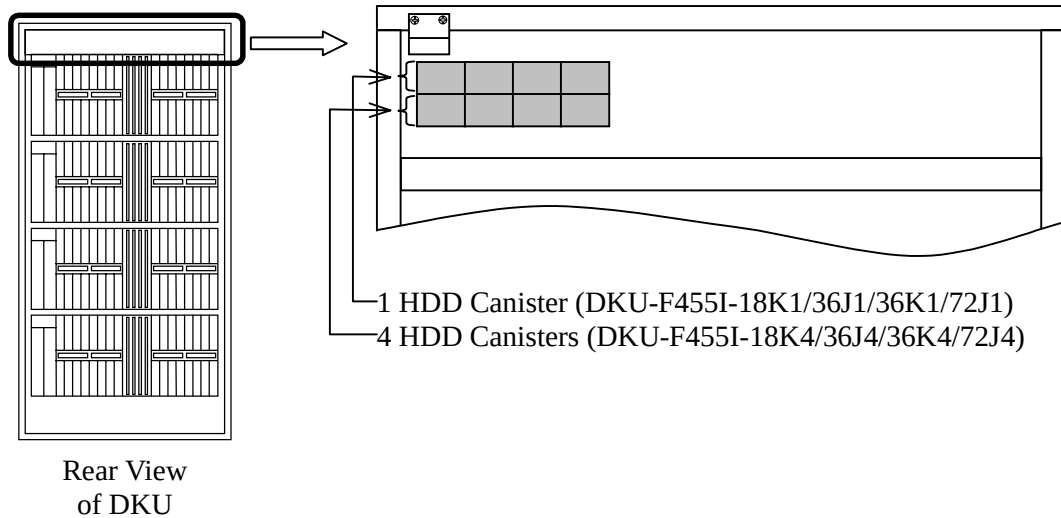


Fig. 3.11.11-29 Installation of HDD Canister

5-3 Attachment of the nameplate.

- a. When the nameplate is not attached, attach the nameplate regardless of the model number from the left of the unit. Paint out mounting numbers on the nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed

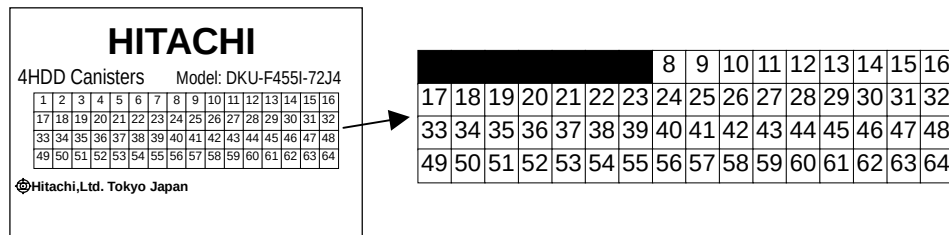


Fig. 3.11.11-30 Attachment of Nameplate

6. Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

The addition cannot be done unless the AC power is applied to the added DKU and the main breaker of the DKU is turned on.

Between HDU-R10-R17 and HDU-R20-R27

- a. Connect the DEV interface cables to the FSW PCBs in the DKU-R1 frame referring to figures 3.11.11-31 and 3.11.11-32.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

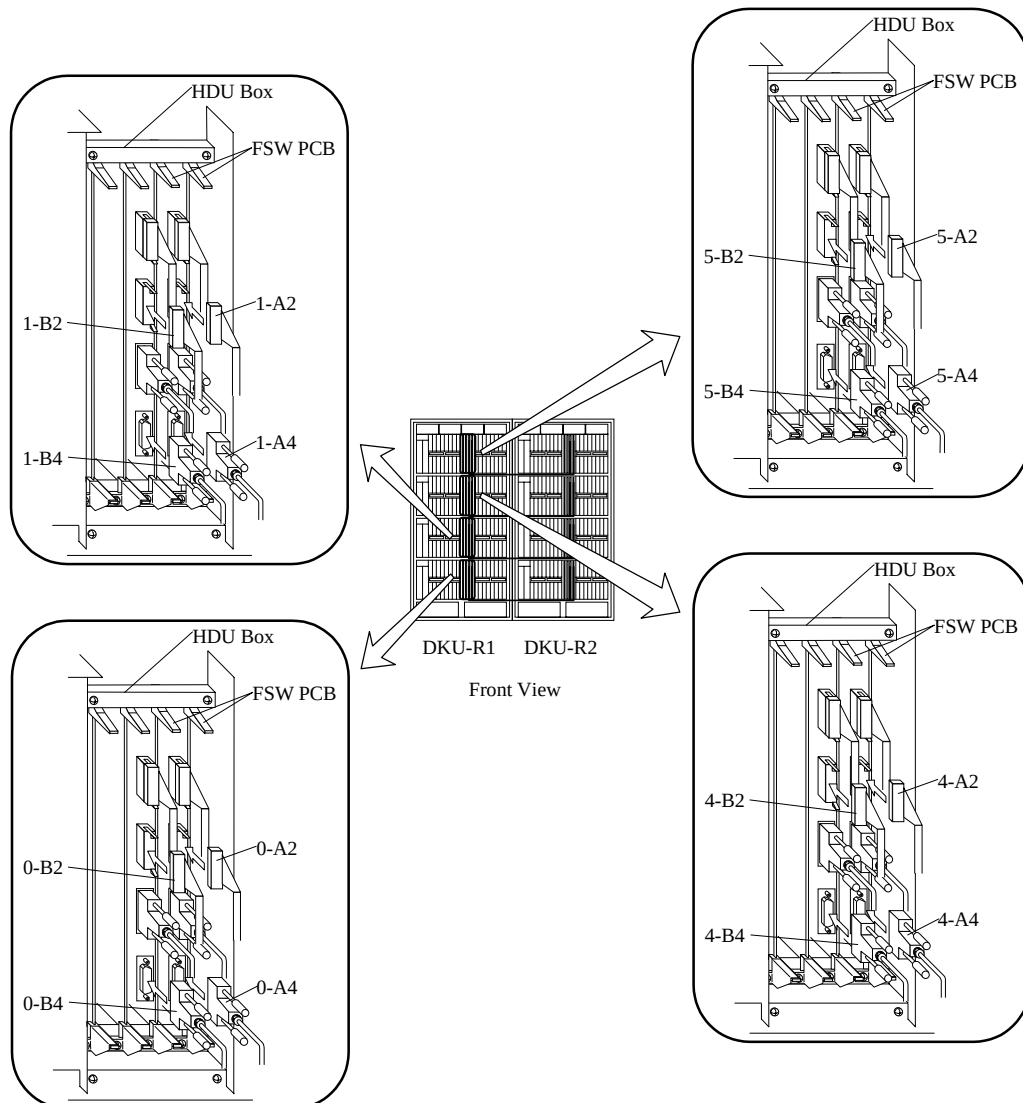


Fig. 3.11.11-31 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

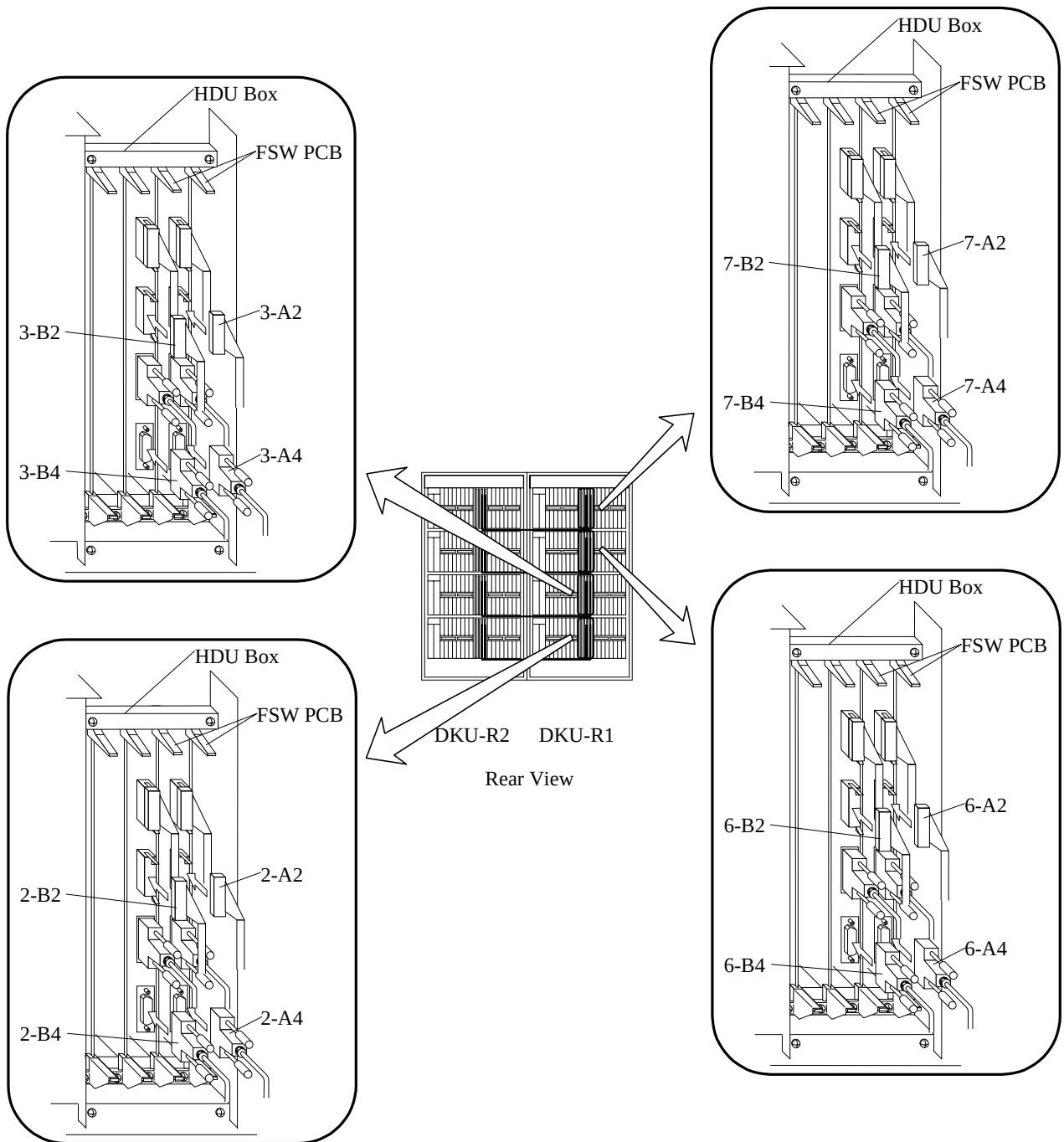


Fig. 3.11.11-32 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Connect the DEV interface cables to the FSW PCBs in the L1 DKU frame referring to figures 3.11.11-33 and 3.11.11-34.

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

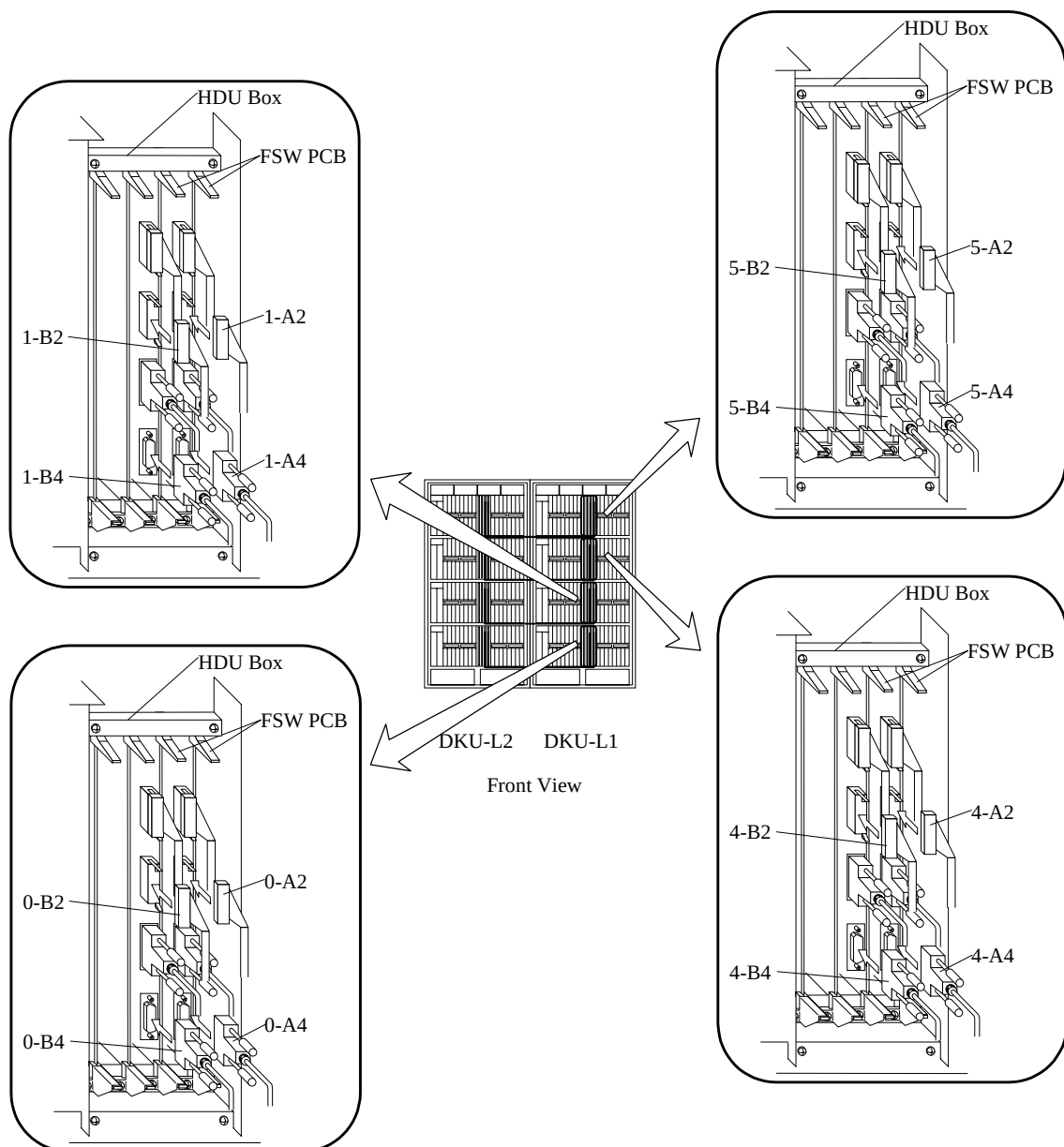


Fig. 3.11.11-33 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected. Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

- Colors of the labels of the subsystem shipped from the factory from June of 2002 and on are as follows. Labels on the cluster1 (CL1) side and the cluster2 (CL2) side are white and yellow respectively.

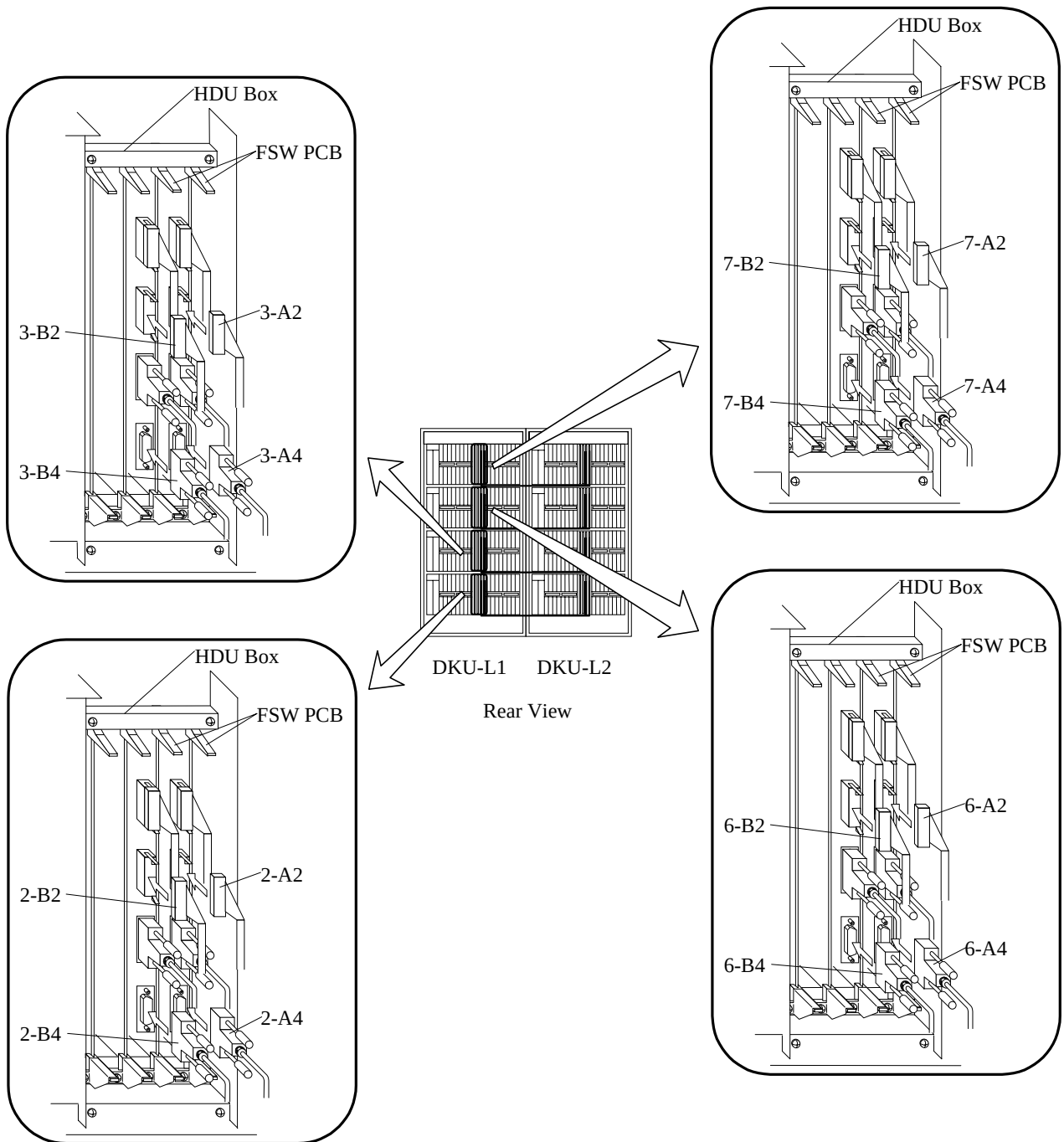
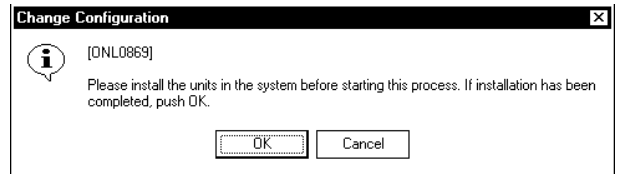


Fig. 3.11.11-34 Connection of the DEV Interface Cables

7. SVP post procedure

1. <Check that hardware components are installed>

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Please install the units in the system before starting this process. If installation has been completed, push OK.”.



- 2.

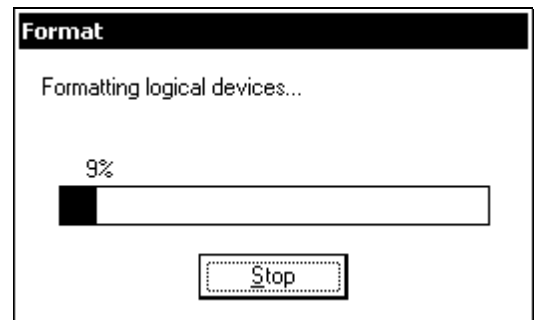
When DKA is installed, “Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

3. <DKU PATH INLINE>

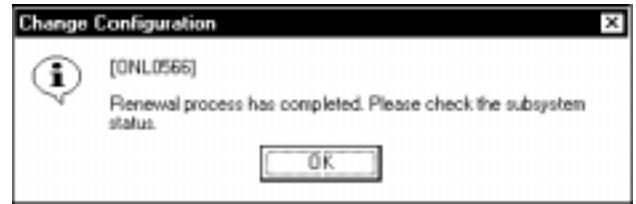
When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

4. <LDEV FORMAT>

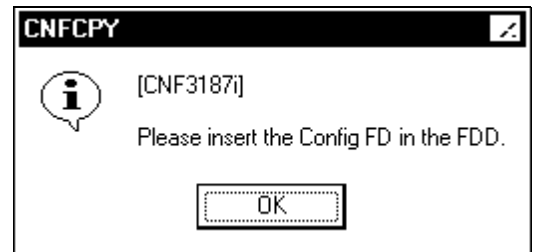
“Formatting the logical device...” is displayed when Parity Group is defined.



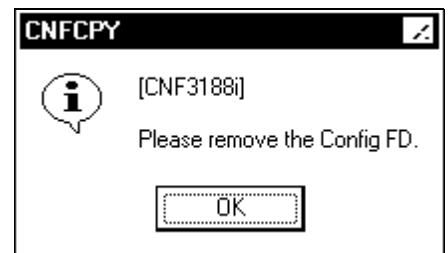
5. <End of system update processing>
 “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



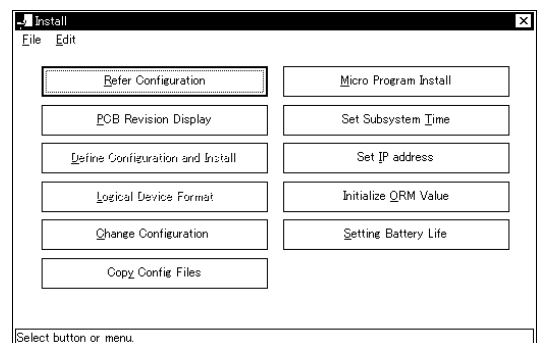
6.
 “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



7.
 When this procedure is completed, the message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



8.
 After the procedure is completed, return to ‘Install’.
 Select (CL) [File]-[Exit].



9. <Mode Change>
 Change the mode to View Mode.

8. Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

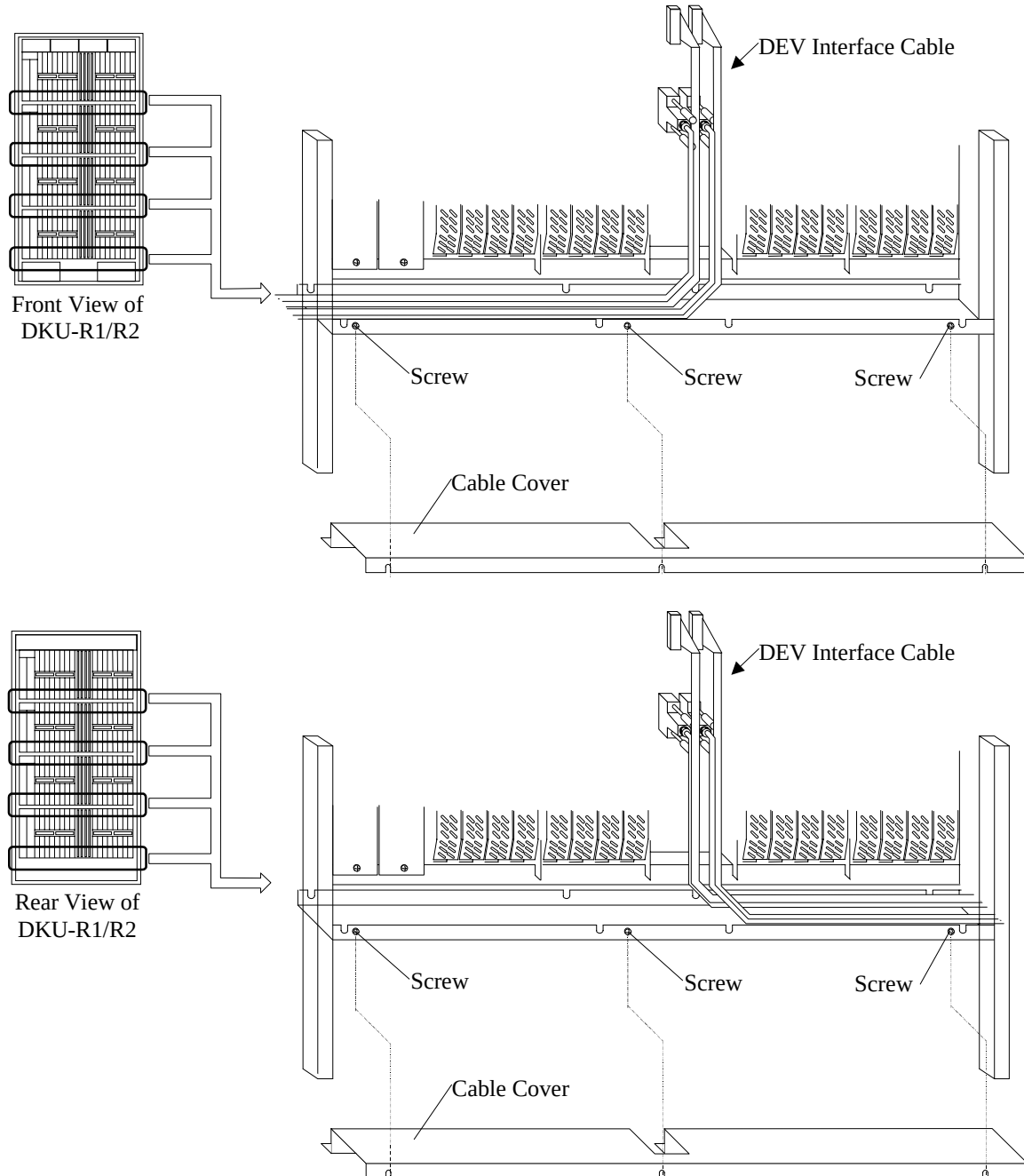


Fig. 3.11.11-35 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

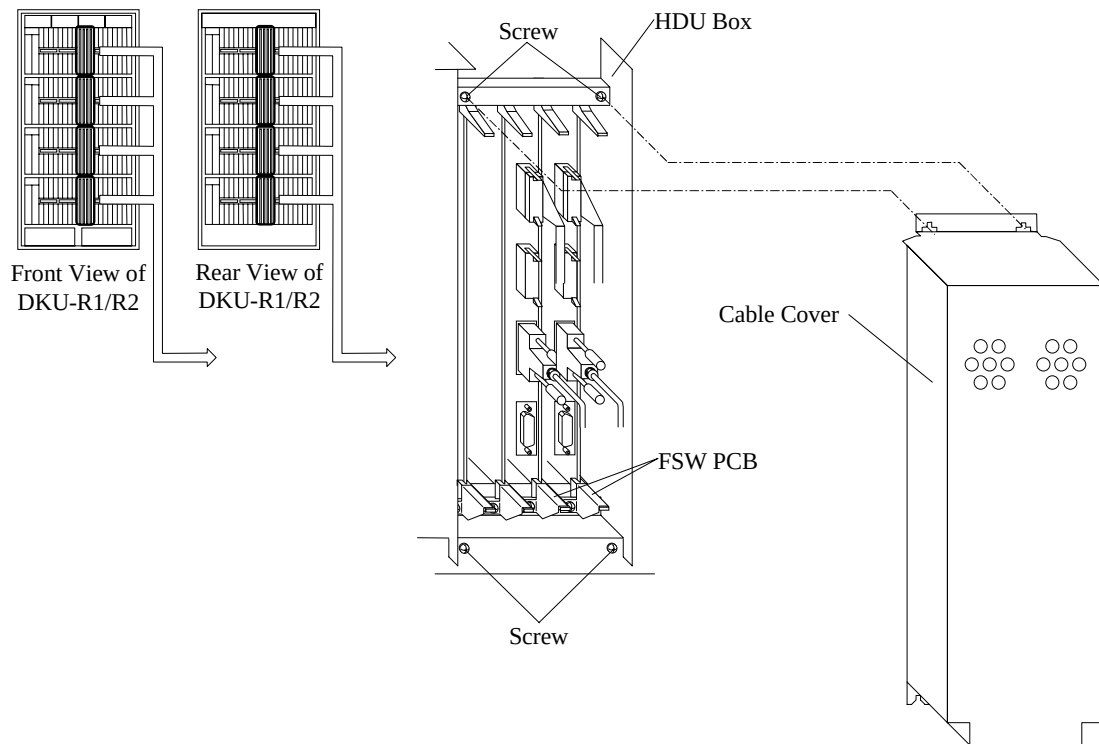


Fig. 3.11.11-36 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-R2 frame.

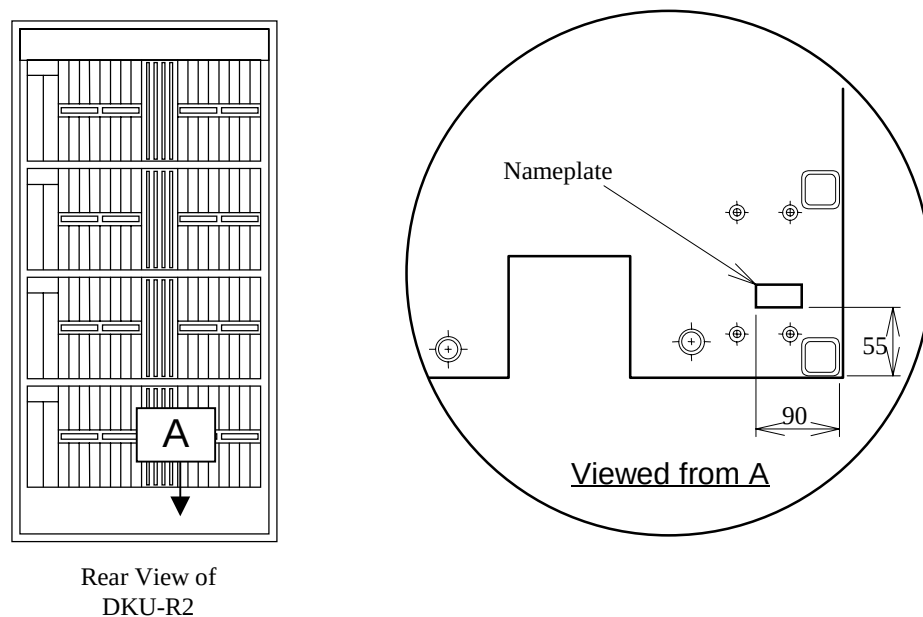


Fig. 3.11.11-37 Attachment of the Nameplate

Between HDU-L10-L17 and HDU-L20-L27

- a. Attach the cable covers with the screw to fix the DEV Interface Cables.

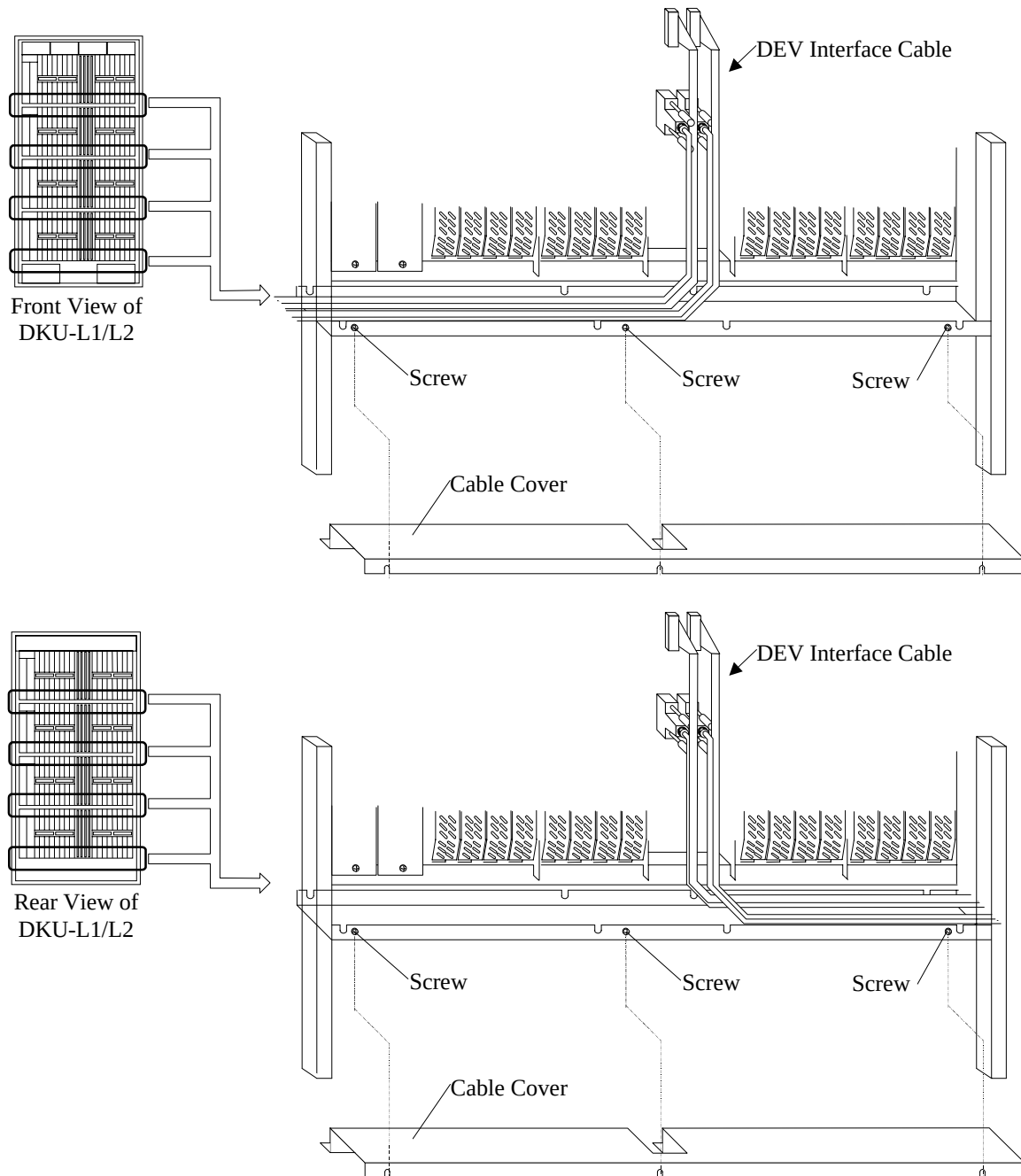


Fig. 3.11.11-38 Fixation of the DEV Interface Cables

- b. Attach the cable covers with the screw to fix the DEV Interface Cables.

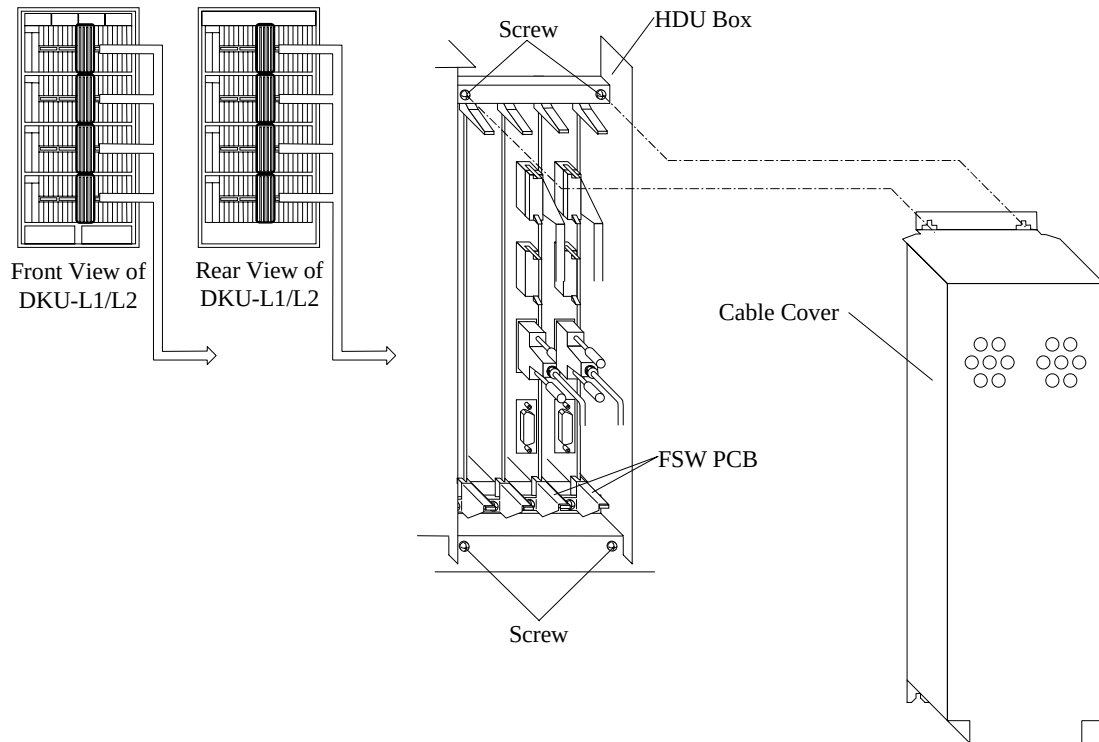


Fig. 3.11.11-39 Fixation of the DEV Interface Cables

- c. Attach the nameplate to the DKU-L2 frame.

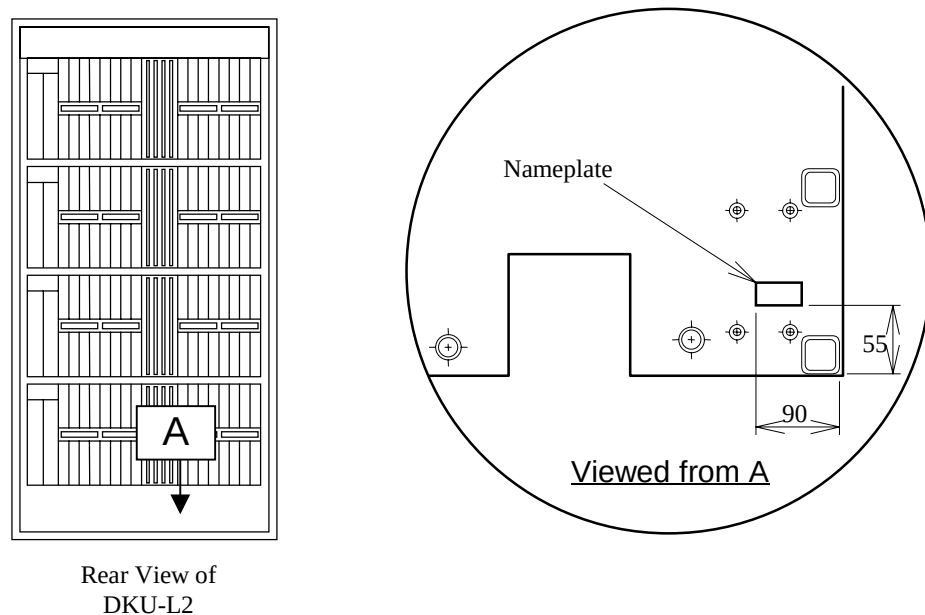
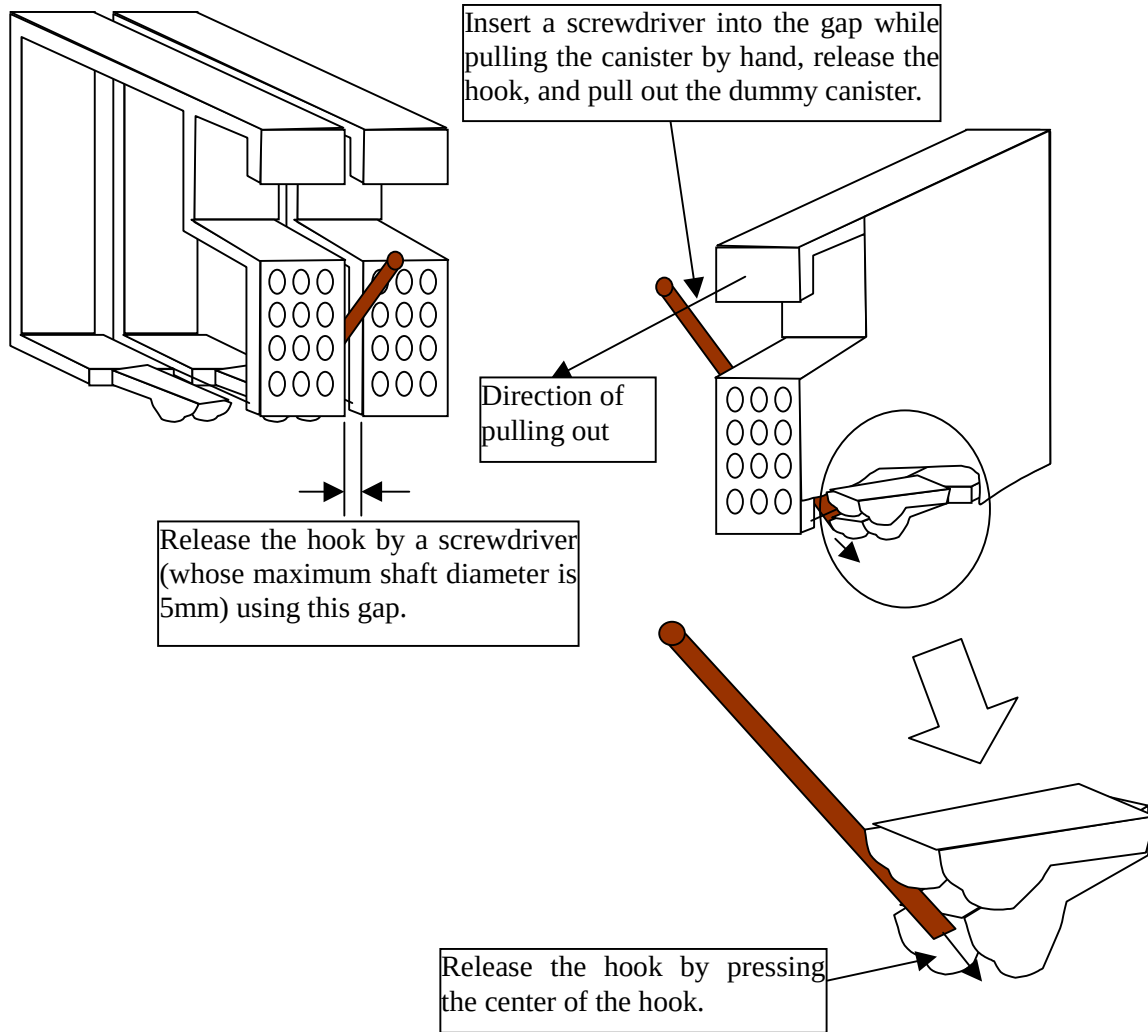


Fig. 3.11.11-40 Attachment of the Nameplate

- d. Return to the work table ([INST02-50](#)) and perform rest of the works.

Procedure for removing the dummy canisters when they cannot be removed by pulling only.

- a. While pulling the dummy canister by hand, insert a screwdriver (whose maximum shaft diameter is 5mm) into the gap of the canisters.
- b. Release the hook using the screwdriver and remove the dummy canister.



HDD canister install procedure

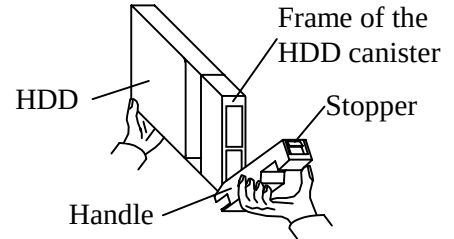
Note on the installation: Do not insert the HDD canister by pushing its frame.

- (1) Insert the HDD canister into the HDU Box holding its handle.

(Insert the canister until the claws that are located at the bottom of the handle come in contact with the front side of the HDU Box.)

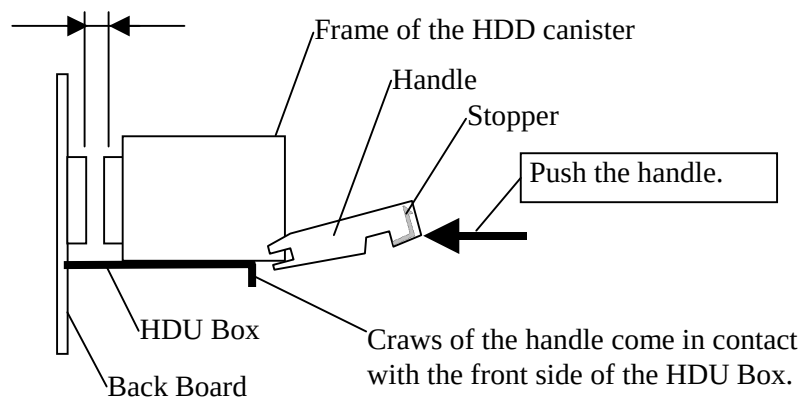
- (2) Turn the handle at a stroke by pushing its top with your thumb.
(Turn the handle until it latches with the stopper. Do not stop the handle on its way of turning.)

Handling of the canister



- (1) Insert the HDD canister into the HDU Box holding its handle.

A gap exists between the connectors.



- (2) Turn the handle at a stroke by pushing its top with your thumb.
(Do not stop the lever on its way of turning.)

The connectors have been coupled.

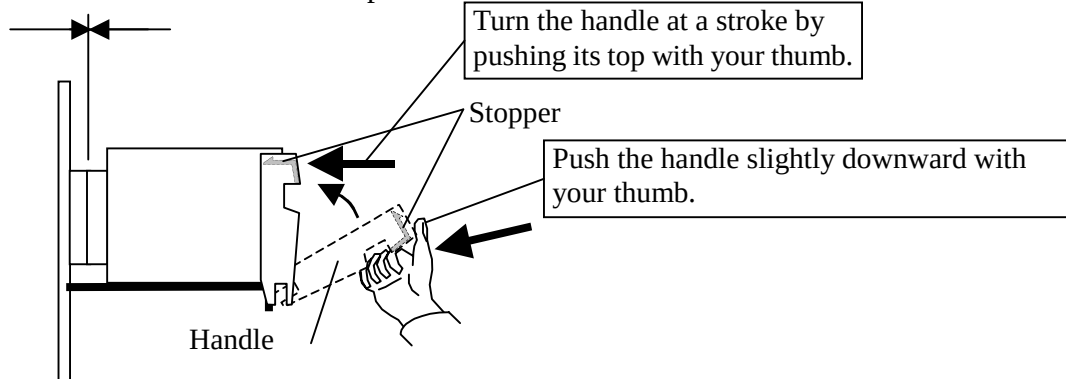


Fig. 3.11.11-41 Method of Installing HDD Canister

3.12 Installation of SVP High Reliability Kit (DKC-F460I-SVP)

Table 3.12-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-SVP	SVP ASSY	2105598-B	1	
		SVPPS BOX	5513997-A	1	
		Stopper (SVP-WR)	5515587-1	1	
		Rubber (SVP-WR)	5515588-1	1	
		Stopper (SVP-WF)	5515586-1	1	
		Screw	BS306N	4	
		Screw	SB408N	3	
		Screw (Stopper)	5513661-408	2	
		Hinge (SVP)	3254970-1	2	
		Nameplate (HDS)	2105902-105	1	RSD
			2105903-105		HICAM
			2105903-205		HICEF
		Nameplate (HP)	2105902-205	1	RSD
			2105903-305		HICAM
			2105903-405		HICEF

1. Installation Procedure of SVP High Reliability Kit

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

1-1 Attach the stopper.

- a. Attach the Hinges (SVP) with the four screws.

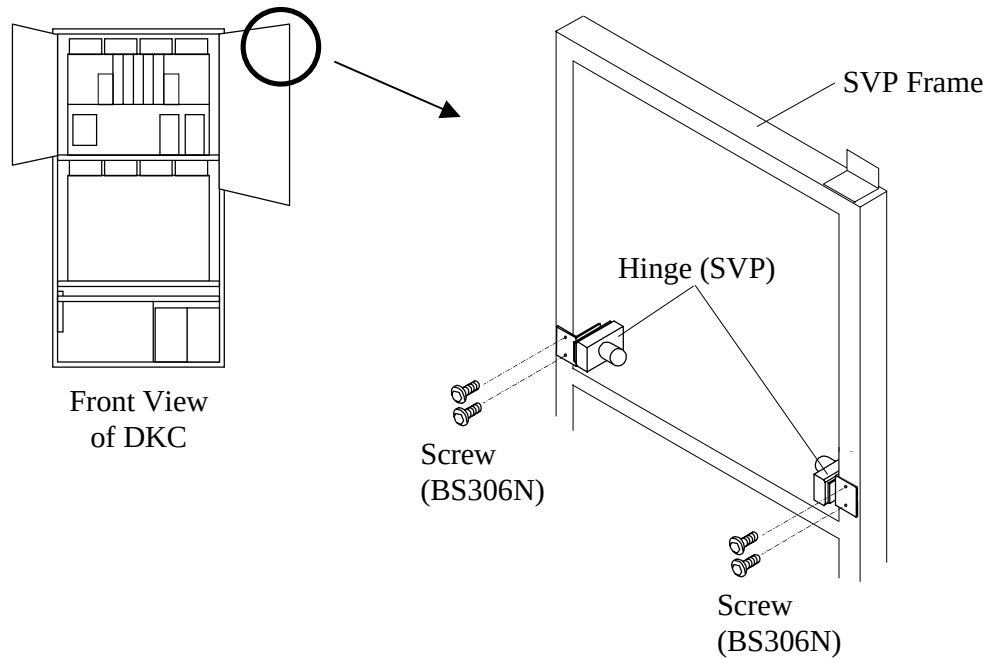


Fig. 3.12-1 Attachment of Hinges

- b. Stick the Rubber (SVP-WR) to the Stopper (SVP-WR).
- c. Attach the Stopper (SVP-WR) with the two screws.

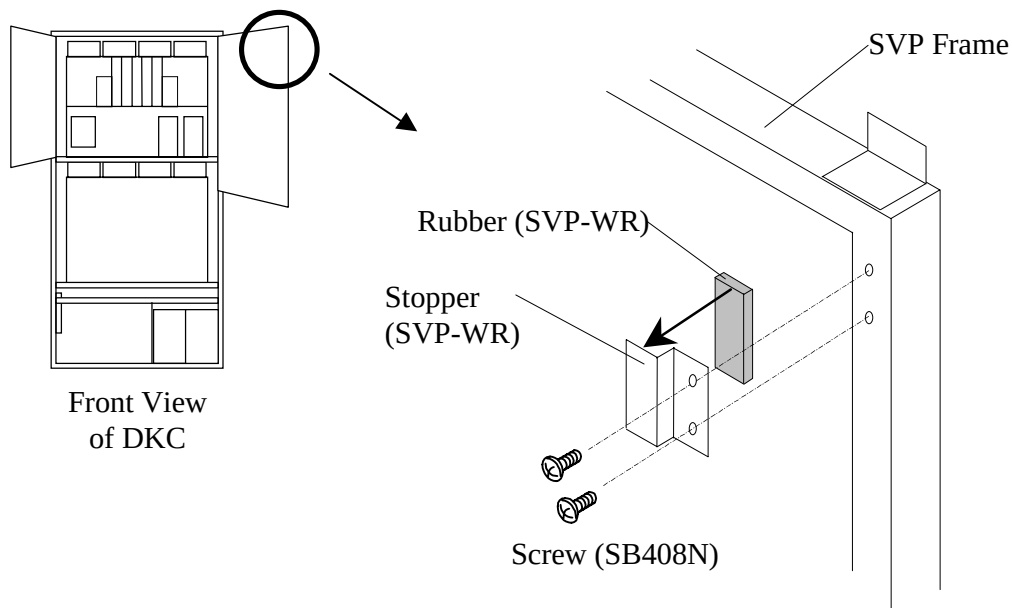


Fig. 3.12-2 Attachment of Stopper

d. Attach the Stopper (SVP-WF) with the two screws.

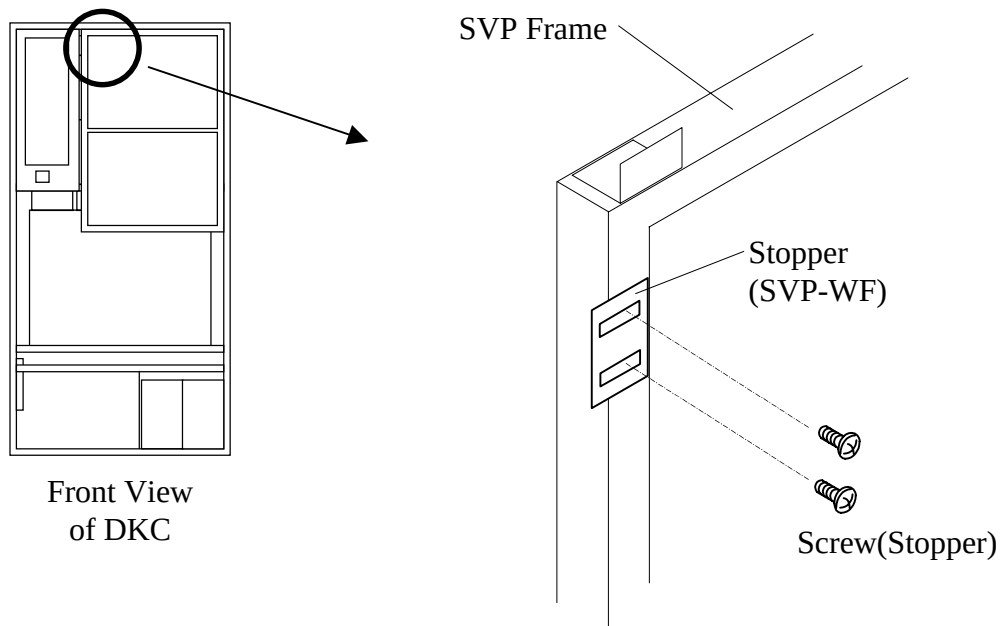


Fig. 3.12-3 Attachment of Stopper

1-2 Attach the SVP Assy.

- a. Loosen the two screws and remove the SVP cover.
- b. Install the SVP Assy to the cabinet and attach the stoppers with screws.
- c. Attach the SVP cover with the screws.

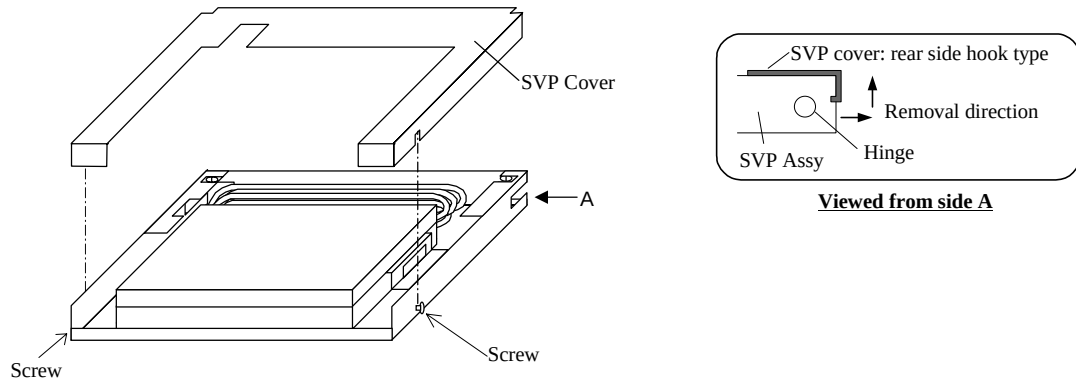


Fig. 3.12-4 Removal of SVP Cover

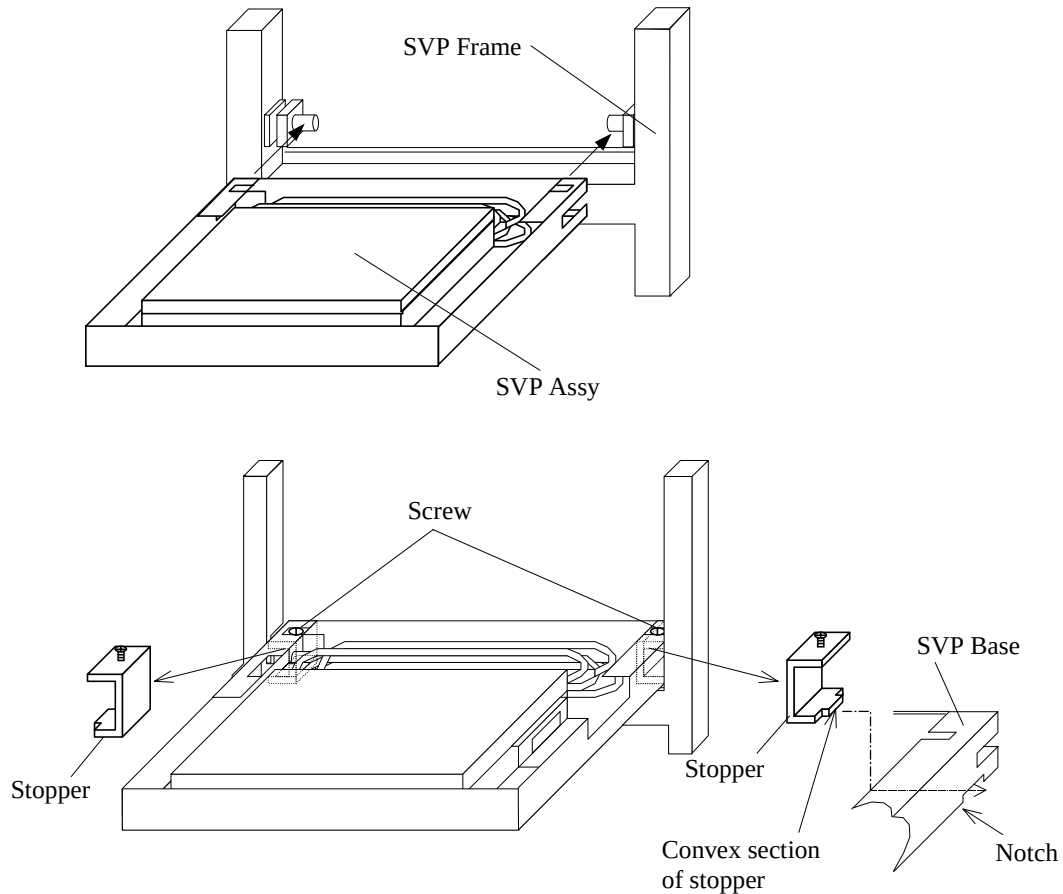


Fig. 3.12-5 Insertion of SVP ASSY

1-3 Attach the SVPPS BOX.

- a. Attach the SVPPS BOX with the screw.

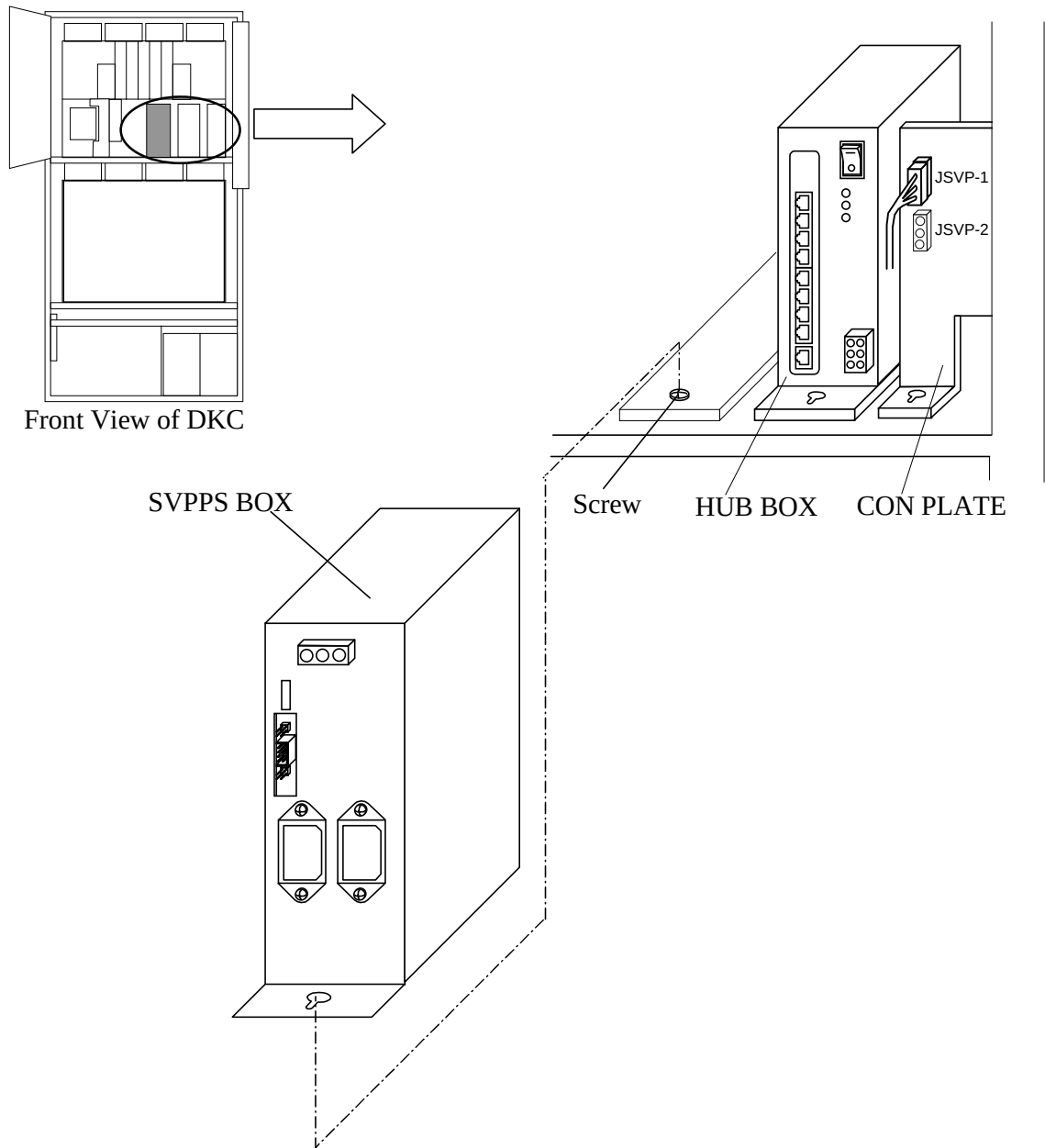


Fig. 3.12-6 Attachment of SVPPS BOX

1-4 Fix the cables.

- a. Fix the cables with the repeat binder.

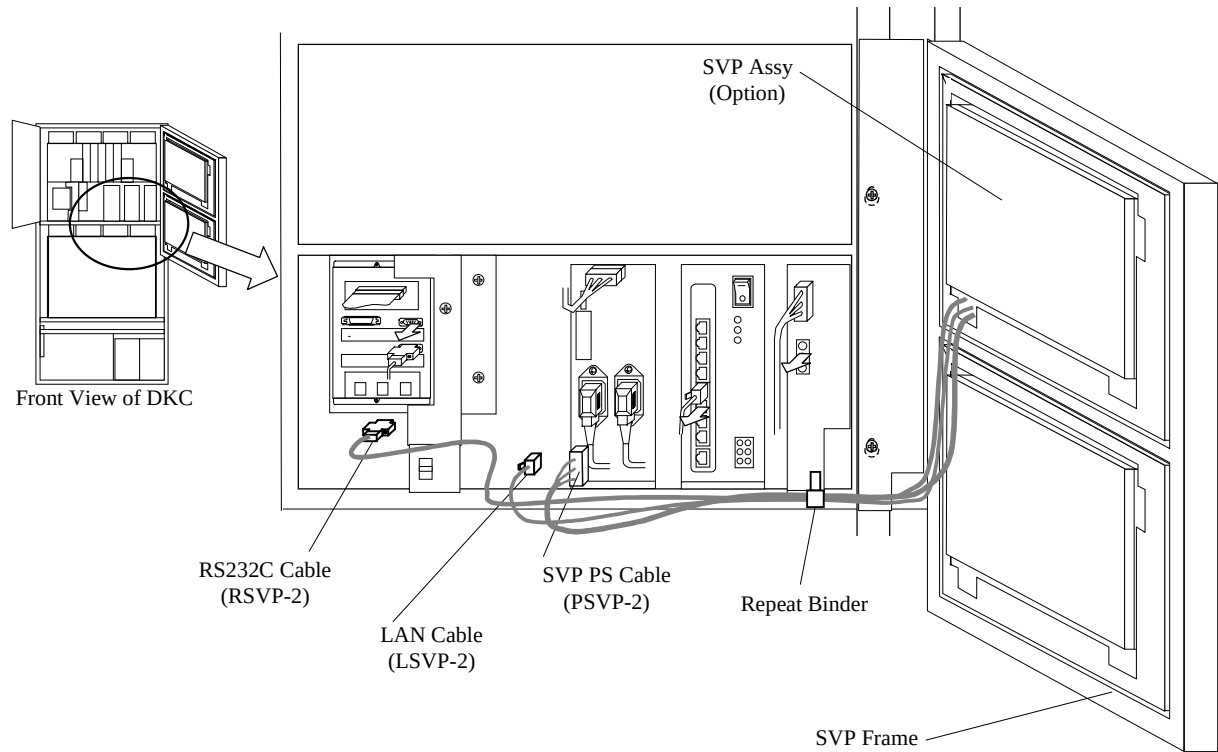


Fig. 3.12-7 Fixation of Cables

1-5 Connect the cables (1).

- a. Connect the cables (P40, PS-BOX-1, PS-BOX-2) to the SVPPS BOX.
The cable (P41) is not to be connected at this time, however.

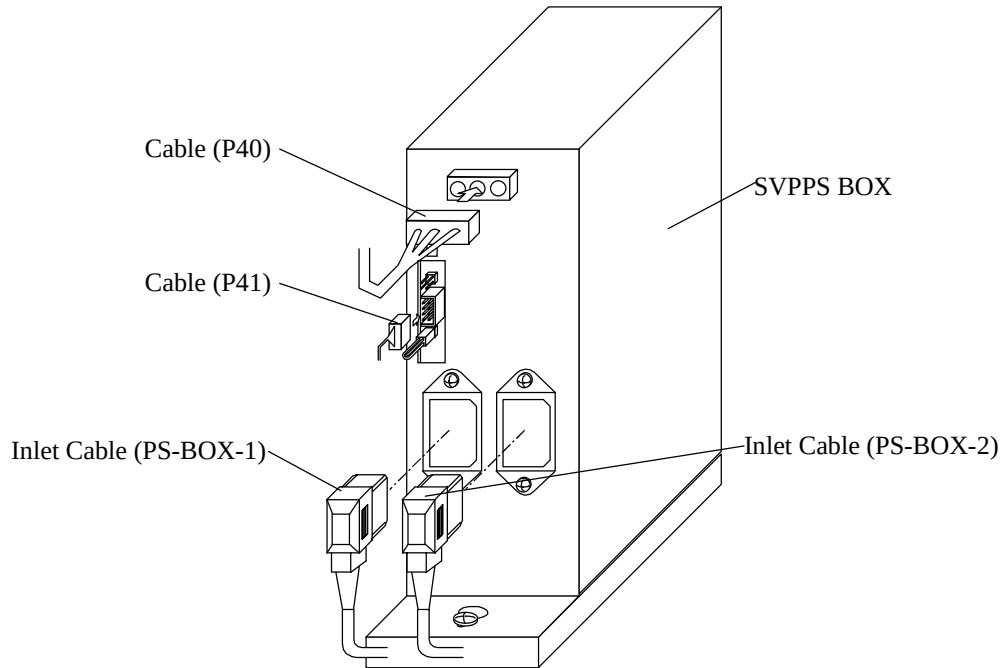


Fig. 3.12-8 Connection of Cables

- b. Connect the SVP PS cable (PSVP-2) to the CON plate.
The LAN cable (LSVP-2) to the HUB BOX is not to be connected.

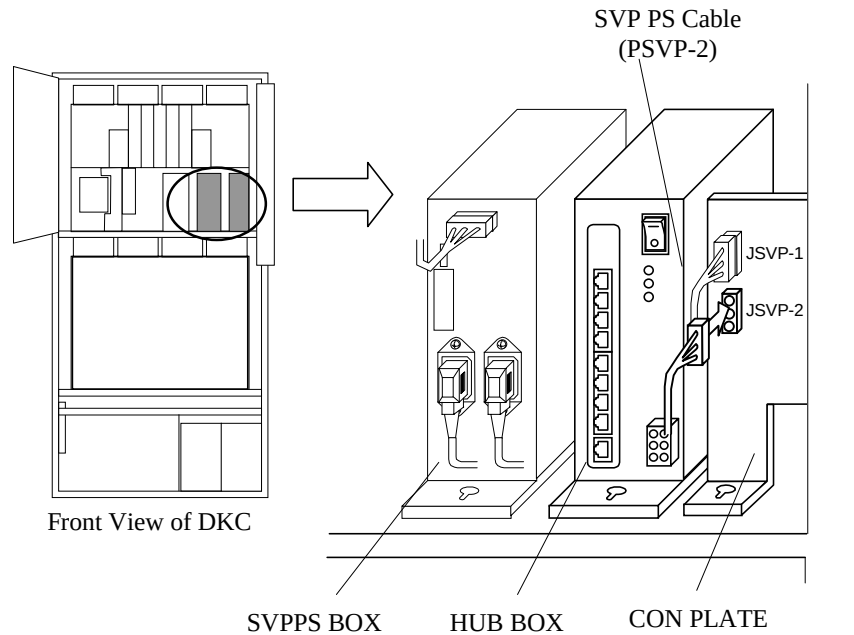


Fig. 3.12-9 Connection of Cables

- d. Connect the cable to the RS CON.

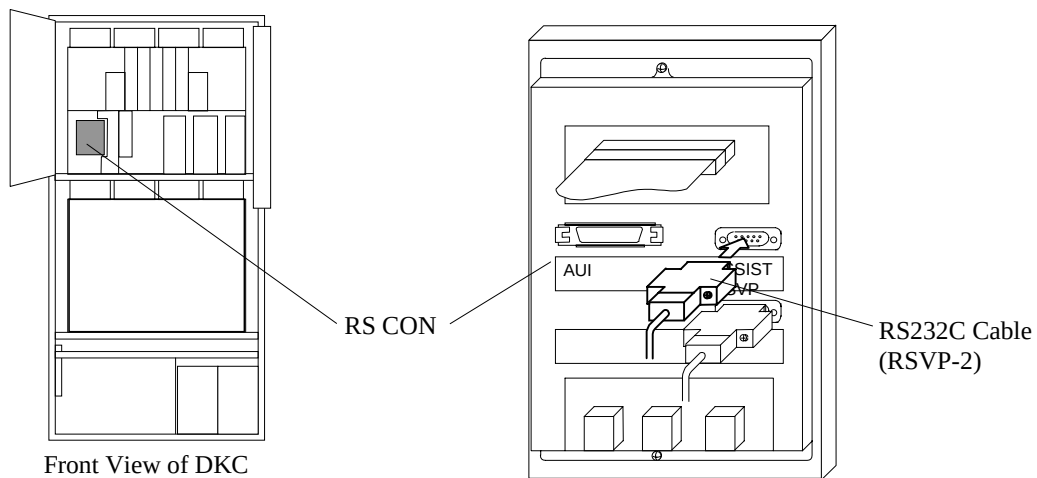


Fig. 3.12-10 Connection of Cables

- 1-6 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

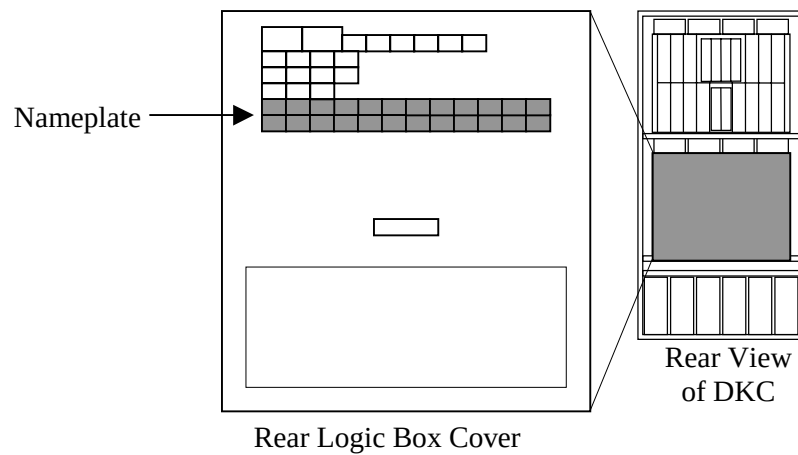


Fig. 3.12-11 Location of the Nameplate

2. Operating Additional SVP

Operate the additional SVP as shown below.

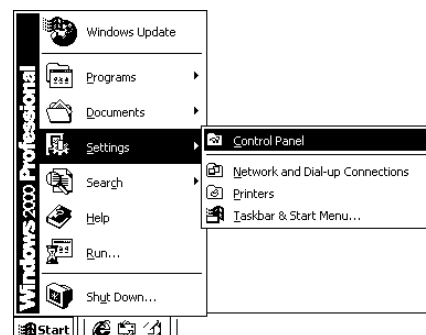
CAUTION

The SIMRC = 7410ff/7ff200/7ff201 may occur during this operation. But that is not a problem.

2-1 Set Date/Time

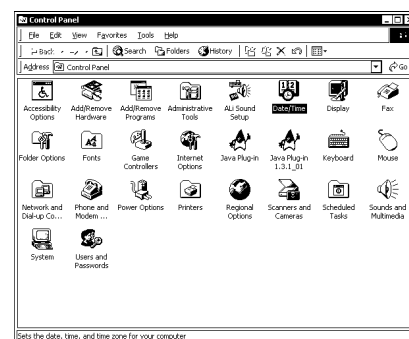
(1) <Open [Control Panel]>

Select (DR) [Settings] and then [Control Panel] from [Start].

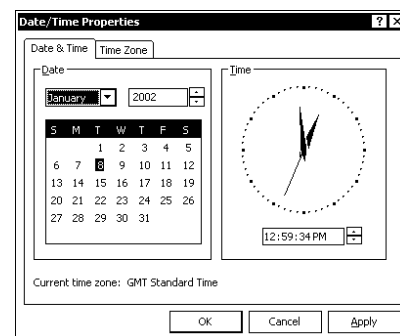


(2) <Open [Date/Time]>

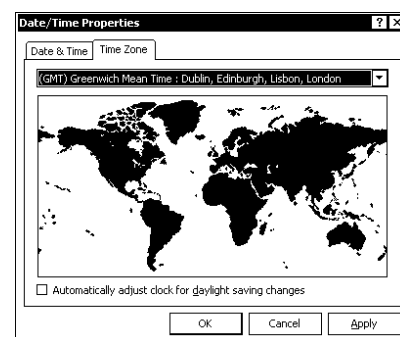
Select (DC) [Date/Time] from [Control Panel].



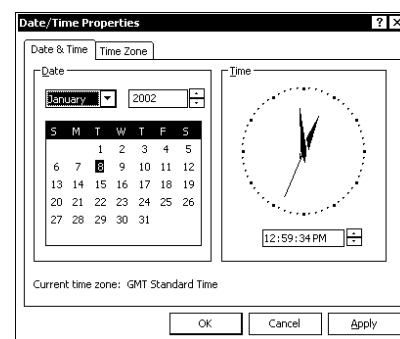
- (3) <Select [Time Zone]>
Select (CL) [Time Zone].



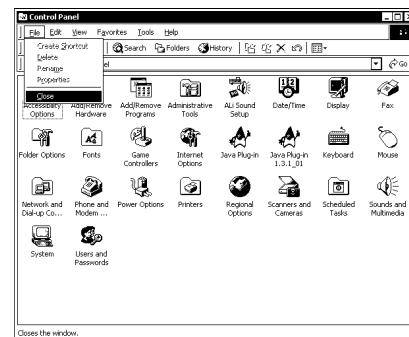
- (4) <Check the setting of [Time Zone]>
Make sure that the setting of [Time Zone] is without the relation of a subsystem position “[GMT] Greenwich Mean Time; Dublin, Edinburgh, Lisbon, London”. Also, make sure that a check box on the left of “Automatically adjust clock for daylight saving changes” is ☐ (without a check mark). Then, select (CL) [Date/Time].



- (5) <Set the [Date/Time]>
Check if the [Date/Time] is set to the current time and date. If not, reset it correctly. Then, select (CL) [OK].



- (6) <Close “Control Panel”>
Select (CL) [File] on “Control Panel”.
Select (CL) [Close].



2-2 Installation of Micro-program

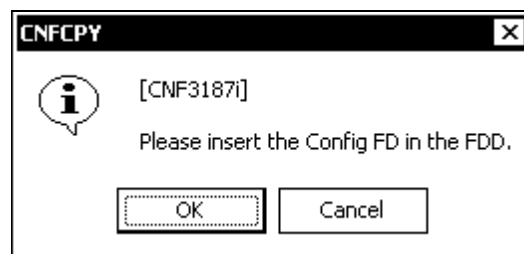
- ① Insert the CD-ROM disk into the CD-ROM drive and then wait one minute.
- ② Select (CL) [Run...] from the [Start]. Enter “e:/setup.exe” and press the [Enter] key.

2-3 Installation of Configuration

(1) Inserting the Config FD

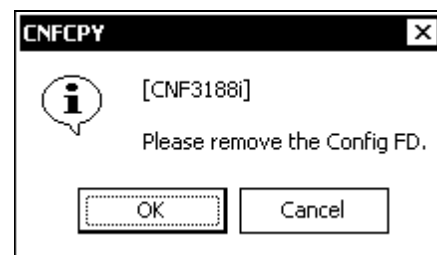
- ① A message “Please insert the Config FD into the FDD.” is displayed.
- ② Insert the Config FD into the FDD and select (CL) [OK].

If you insert the previously backed-up Config FD, the original configuration is recovered.



(2) Removing the Config FD

- ① When the copying of the Config is completed, a message “Please remove the Config FD.” is displayed.
- ② Remove the Config FD from the FDD and select (CL) [OK].



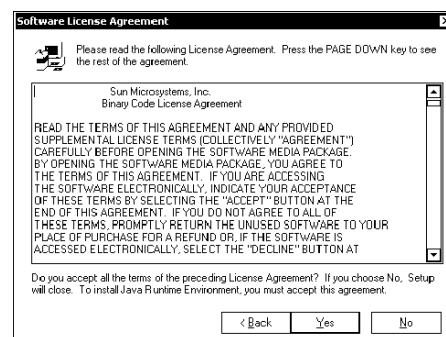
2-4 JAVA Setup

2-4-1 JAVA Setup

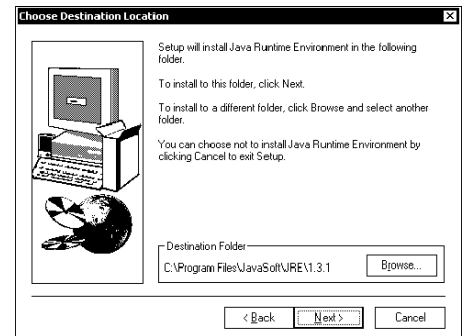
Java Setup is executed. When Java has already been installed, proceed to Step 2-4-2.

(1)

Select (CL) [Yes].



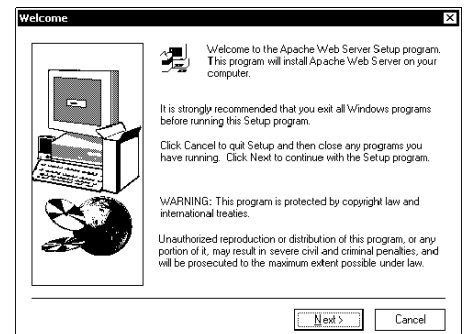
- (2)
Select (CL) [Next].



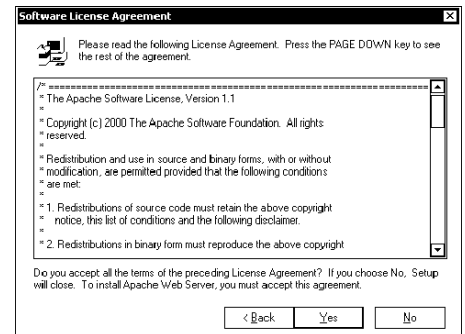
2-4-2 APACHE Setup

APACHE Setup is executed. When APACHE has already been installed, proceed to Step 2-5.

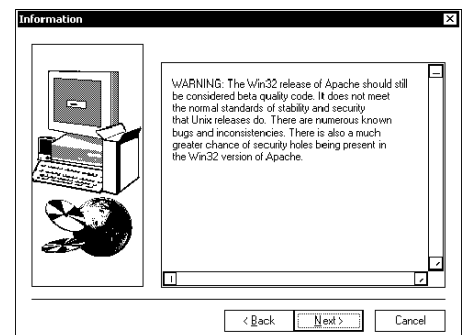
- (1)
Select (CL) [Next].



- (2)
Select (CL) [Yes].

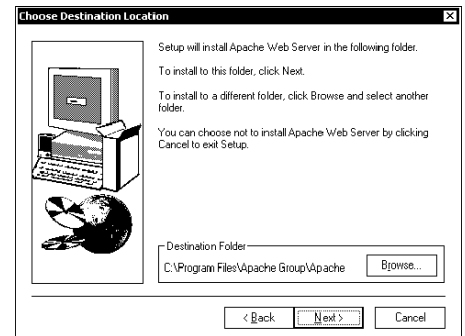


- (3)
Select (CL) [Next].



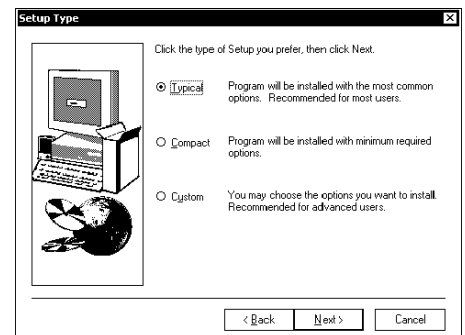
(4)

Select (CL) [Next].



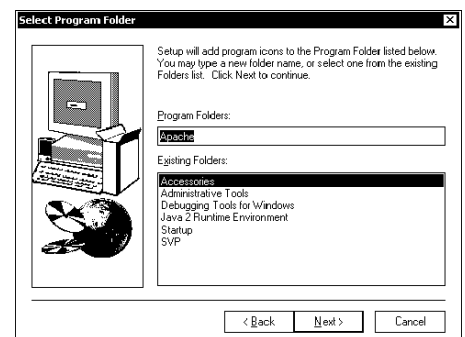
(5)

Select (CL) [Next].



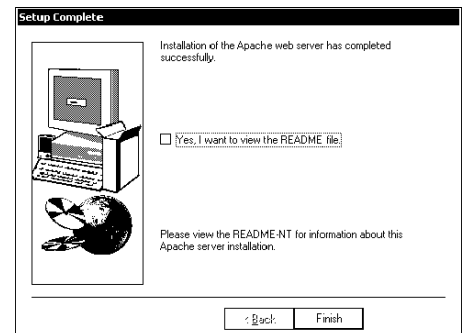
(6)

Select (CL) [Next].



(7)

Remove the check box of "Yes and I want to view the README file.", and select (CL) [Finish].



2-5 Restarting the SVP

When the setup is completed, the SVP restarts automatically.

2-6 <Setting an IP Address and Duplication of Optional SVP>

(1) <Changing the mode>

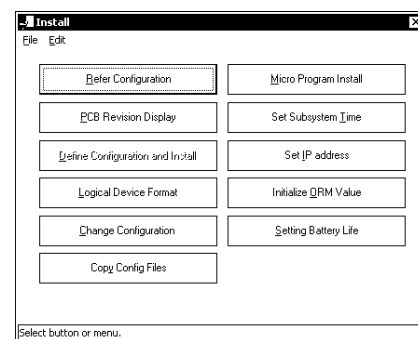
Change the mode by selecting [Modify Mode].

(2) <Opening the Install window>

Select (CL) [Install] from the [SVP] menu.

(3) <Selecting [Set SVP IP Address]>

Select (CL) [Set IP Address] in the [Install] window.



(4) <Setting an IP address>

Select (CL) [SVP] in the Internal IP Address box and enter an IP address and subnet mask of the internal IP address.

The 'Set IP Address' dialog box contains the following fields and options:

- Internal IP Address:**
 - Target: ☒ SVP, ☐ SVP and D/KC
 - IP Address: [] [] [] [] 15
 - Subnet Mask: [] [] [] [] 0
 - IP Address source: ☒ Based on Serial Number, ☐ Based on Magic Number, ☐ Specified
- External IP Address:**
 - ☒ Use Duplex SVP
 - SVP Kind: ☒ Master SVP, ☐ Standby SVP
 - Master SVP:** IP Address [158] [214] [127] [170], Subnet Mask [255] [255] [255] [0]
 - Standby SVP:** IP Address [158] [214] [127] [172], Subnet Mask [255] [255] [255] [0]

Buttons: OK, Cancel

(5) <Setting the SVP duplication>

- Select (CL) [Use Duplex SVP] in the External IP address box.
- Select (CL) [Standby SVP] in the SVP Kind box.
- Enter the IP addresses and subnet masks of the Master and Standby SVPs, and then select (CL) [OK].

* You do not have to enter the information of Item (c) above when the setting of the external IP address is not required.

This is the same 'Set IP Address' dialog box as above, but with the 'SVP Kind' set to ☒ Standby SVP.

(6) <Confirming the external IP address setting>

When a message, "After finishing this operation, you must use the Windows Control Panel to change the external IP address." is displayed, select (CL) the [OK] button.

The 'SVP' dialog box displays a warning icon and the text: "[INS3325W] After finishing this operation, you must use the Windows Control Panel to change the external IP address." with an OK button.

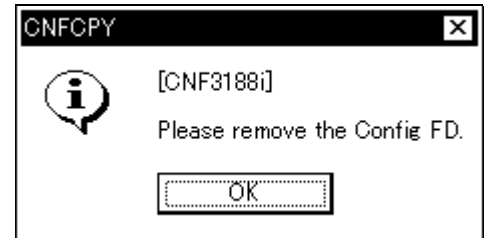
(7) <Inserting the Config FD>

Insert the Config FD into the FDD and select (CL) [OK].

The 'CNFCPY' dialog box displays an information icon and the text: "[CNF3187i] Please insert the Config FD in the FDD." with an OK button.

(8) <Removing the Config FD>

When the copying of the Config is completed, a message, “Please remove the Config FD.” is displayed. Remove the FD and select (CL) [OK].



(9) <Confirming rebooting of the SVP>

Select (CL) [OK] in response to a message, “This will reboot SVP.”.

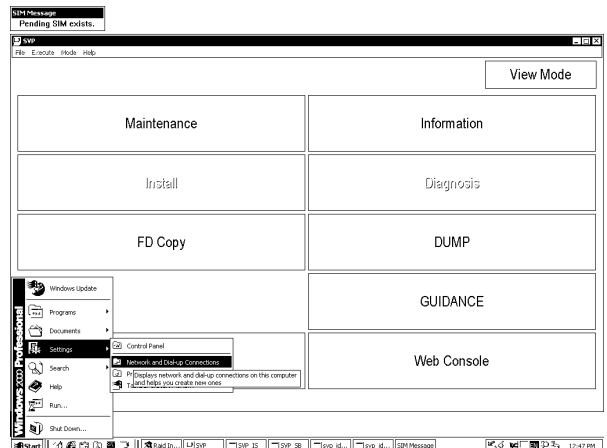


2-7 <Setting an external IP address>

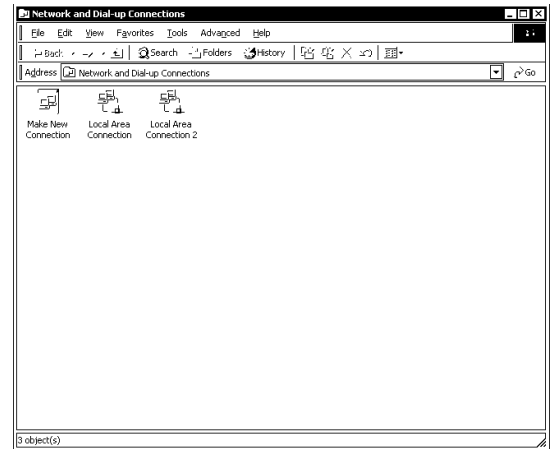
When the setting of the external IP address is not required, go to Step 2-8.

(1) <Opening the Network and Dial-up Connections window>

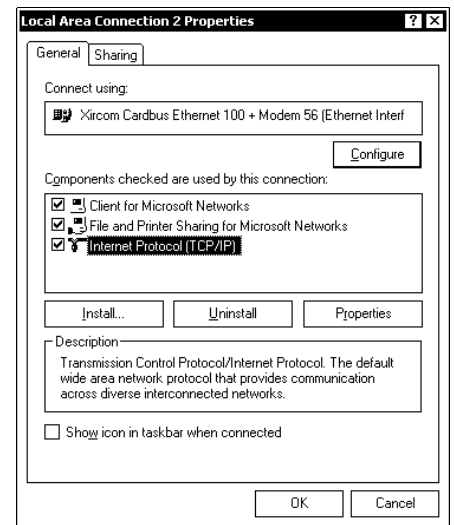
Select (CL) [Settings] and [Network and Dial-up Connections] in this order from the [Start].



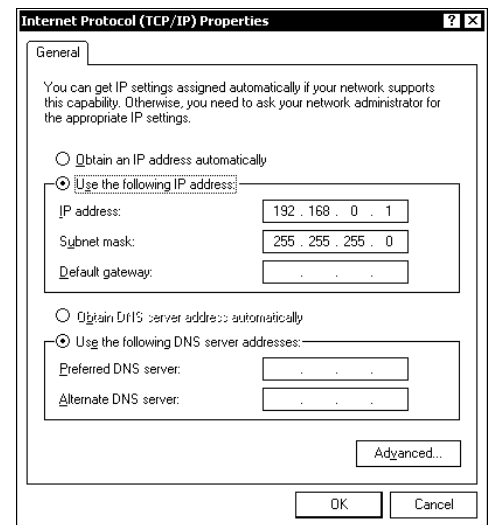
- (2) <Opening the Local Area Connection 2 window>
Select (CL) [Local Area Connection 2] in the Network and Dial-up Connections window.



- (3) <Opening the Local Area Connection 2 Properties window>
Select (CL) [Internal Protocol (TCP/IP)] in the Local Area Connection 2 Properties window, and then select the [Properties] button.



- (4) <Setting an external IP address>
Set the IP address and subnet mask, and then select (CL) the [OK] button.



2-8 Setting Web Console

Make a setting of the Web Console according to [Web Station] section. ([WEB01-10](#))

i) Copy the following files under c:\program files\apache group\apache\cgi-bin\Utility\CSV.

- USERLIST.CSV
- STRLIST.CSV
- ENV.CSV

ii) Please perform the following procedure, when you use SNMP Agent.

1. Push Web Console button.
2. Open the SNMP Information Tab.
3. Remove the check mark of Extension SNMP and push Apply button.
4. Add the check mark of Extension SNMP and push Apply button again.

iii) Please perform the following procedure, when you don't use SNMP Agent.

1. Push Web Console button.
2. Specify Name, Contact and Location on Information Tab again.

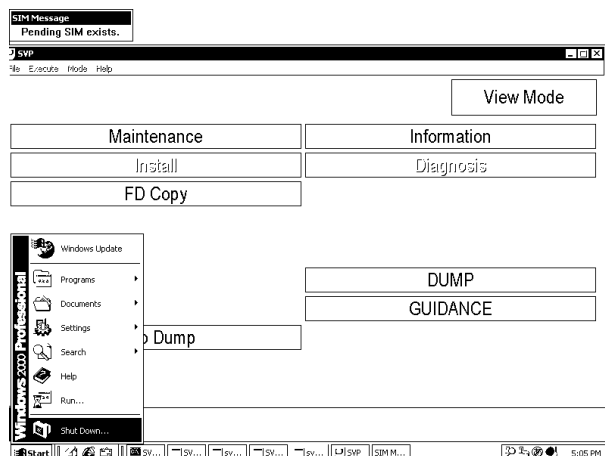
2-9 <Erasing logs>

Erase all logs that were made during operation of the SVP.

2-10 <Shutting down the Additional SVP>

(1) <Quitting Windows>

Select (CL) [Shut Down...] from the [Start] menu.



(2) <Shutting down the SVP>

Select (CL) "Shut down" in the Closing window of Windows. When a message, "What do you want the computer to do?" is displayed, select (CL) the [OK] button.



3. Operating the Basic SVP

Operate the basic SVP as follows.

3-1 Setting duplication of the Basic SVP

Operate the basic SVP as follows.

(1) <Changing the mode>

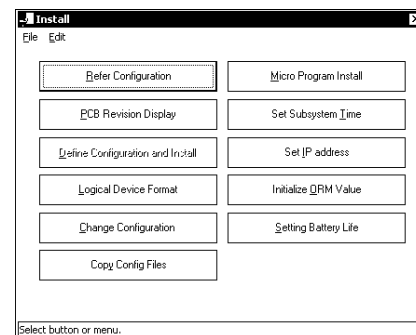
Change the mode by selecting [Modify Mode].

(2) <Opening the Install window>

Select (CL) [Install] from the [SVP] menu.

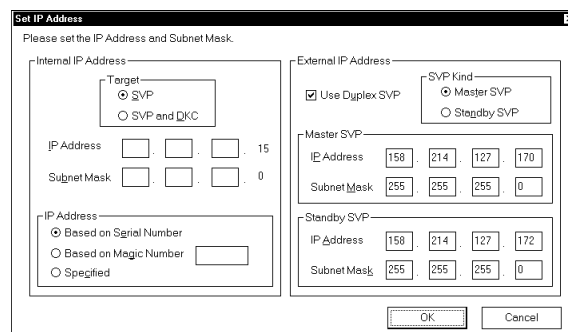
(3) <Selecting [Set SVP IP Address]>

Select (CL) [Set IP Address] in the Install window.



- (4) <Setting the SVP duplication>
- Select (CL) [Use Duplex SVP] in the External IP Address box.
 - Select (CL) [Master SVP] in the SVP Kind box.
 - Enter the IP addresses and subnet masks of the Master and Standby SVPs, and then select (CL) [OK].

* You do not have to enter the information of Item (c) above when the setting of the external IP address is not required.



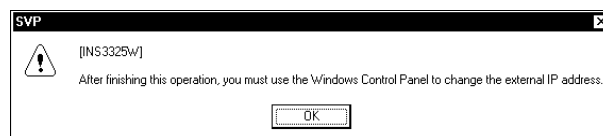
The 'Set IP Address' dialog box is titled 'Set IP Address' and contains the instruction 'Please set the IP Address and Subnet Mask.' It is divided into three main sections:

- Internal IP Address:** Includes a 'Target' section with radio buttons for 'SVP' (selected) and 'SVP and D/C'. Below are input fields for 'IP Address' (with a value of 15) and 'Subnet Mask' (with a value of 0).
- External IP Address:** Includes a checkbox for 'Use Duplex SVP' (checked). To its right is the 'SVP Kind' section with radio buttons for 'Master SVP' (selected) and 'Standby SVP'. Below are input fields for 'Master SVP' IP Address (158, 214, 127, 170) and Subnet Mask (255, 255, 255, 0), and 'Standby SVP' IP Address (158, 214, 127, 172) and Subnet Mask (255, 255, 255, 0).
- IP Address:** Includes radio buttons for 'Based on Serial Number' (selected), 'Based on Magic Number', and 'Specified'.

At the bottom right are 'OK' and 'Cancel' buttons.

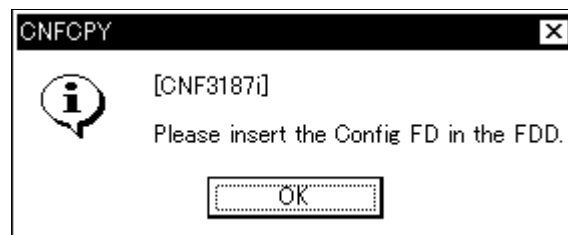
- (5) <Confirming the external IP address setting>

When a message, "After finishing this operation, you must use the Windows Control Panel to change the external address." is displayed, select (CL) the [OK] button.



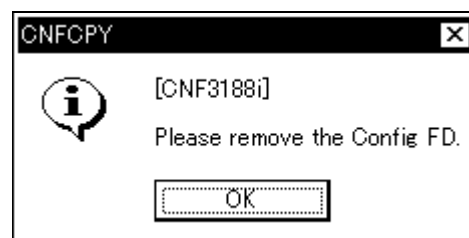
- (6) <Inserting the Config FD>

Insert the Config FD into the FDD and select (CL) [OK].



- (7) <Removing the Config FD>

When the copying of the Config is completed, a message, "Please remove the Config FD." is displayed. Remove the FD and select (CL) [OK].



- (8) <Confirming rebooting of the SVP>
Select (CL) [OK].

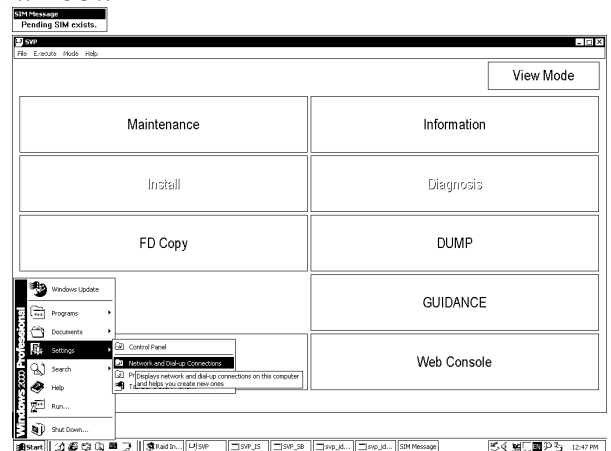


3-2 <Setting an external IP address>

When the setting of the external IP address is not required, go to Step 2-12.

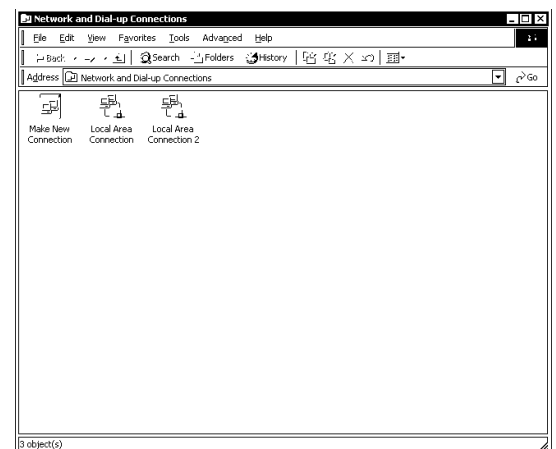
- (1) <Opening the Network and Dial-up Connections window>

Select (CL) [Settings] and [Network and Dial-up Connections] in this order from the [Start] menu.

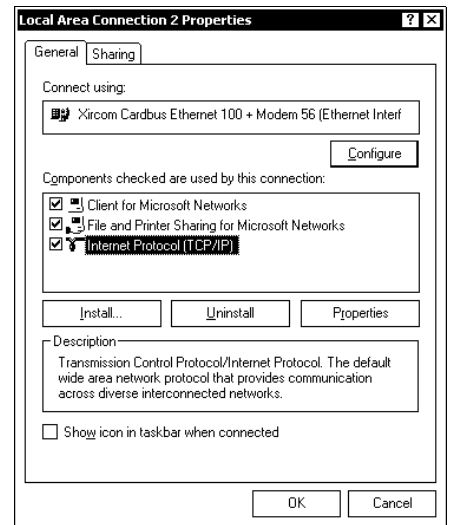


- (2) <Opening the Local Area Connection 2 window>

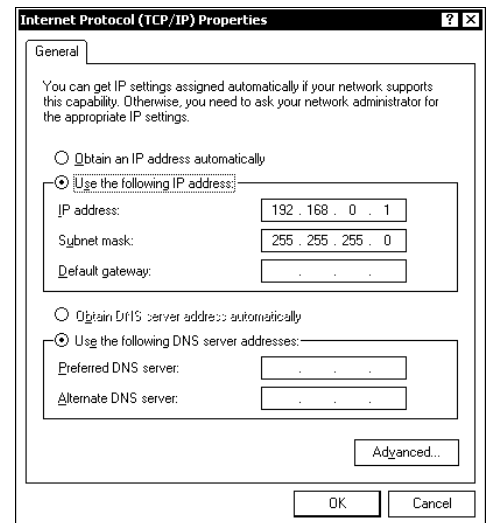
Select (CL) [Local Area Connection 2] in the Network and Dial-up Connections window.



- (3) <Opening the Local Area Connection 2 Properties window>
Select (CL) [Internal Protocol (TCP/IP)] in the [Local Area Connection 2 Properties] window, and then select (CL) the [Properties] button.



- (4) <Setting an external IP address>
Set the IP address and subnet mask, and then select (CL) the [OK] button.



4. Connect the cables (2).

4-1 Connect the cables to the SVPPS BOX.

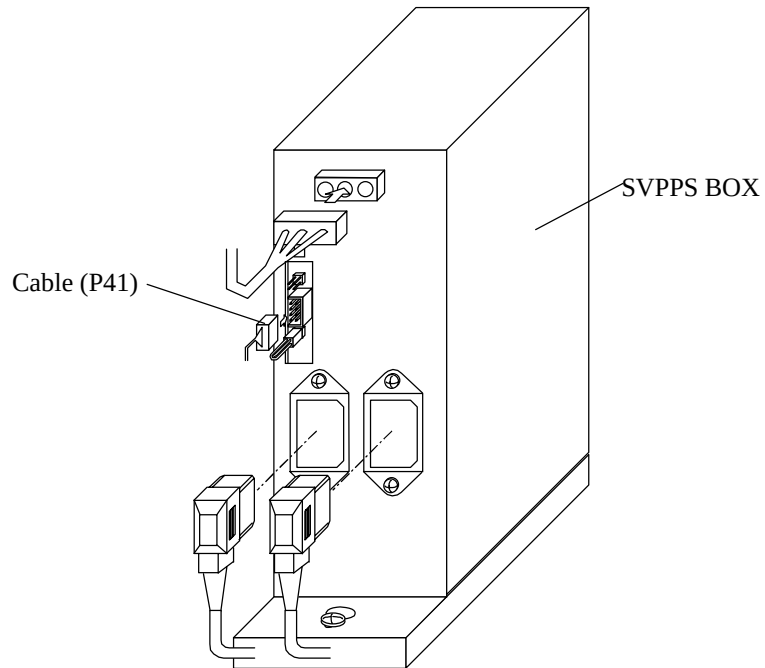


Fig. 3.12-12 Connection of Cables

4-2 Connect the LAN cable to the HUB BOX.

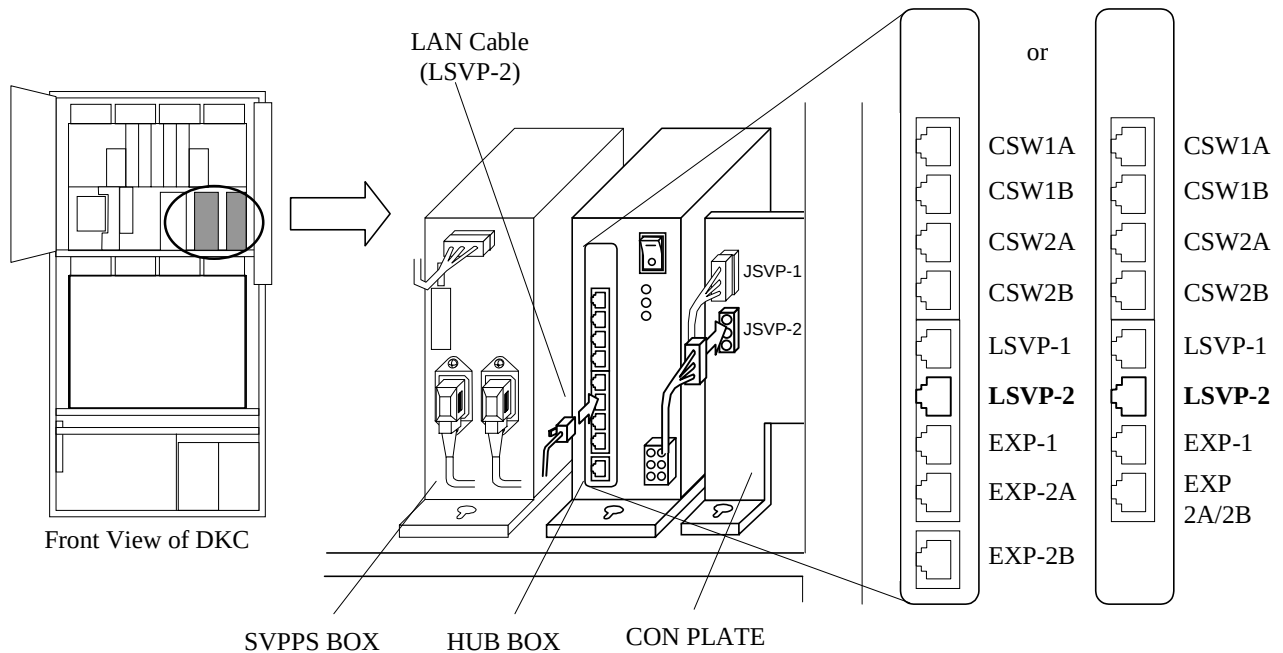


Fig. 3.12-13 Connection of Cables

5. Executing SSVP Reset

5-1 Execute the SSVP reset by pressing the SSVP ALARM RESET switch.

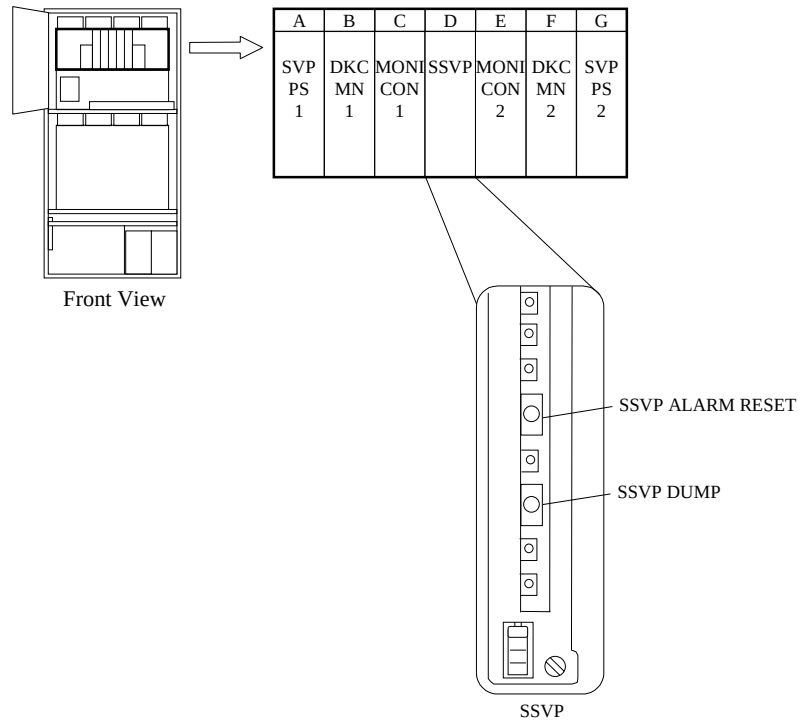


Fig. 3.9-14 SSVP Reset

5-2 Make sure that the additional SVP is powered on about eight minutes after the SSVP reset. Further, make sure that it enters the standby status about 20 minutes later.

3.13 Installation of PCI I/F Connector (DKC-F460I-18)

Table 3.13-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-18	PCI CON	3257397-A	1	
		Bracket (460)	5517954-1	1	for DKC460I
		Bracket (465)	5513818-1	1	for DKC465I
		Nameplate (HDS)	2105902-104	1	RSD
			2105903-104		HICAM
			2105903-204		HICEF

Notes:

- Up to the two PCI connection functions shown above can be installed.
- The subsystem is powered on when it is given an powering on instruction by any one of the host devices connected to it.
The subsystem performs the EPO or powering off when all the EPO or powering off instructions from all the host devices connected to it are given.

1 Installation Procedure of PCI I/F Connector

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

1-1 Confirm that the REMOTE/LOCAL Switch of DKC Panel is set to LOCAL. If not, set the REMOTE/LOCAL Switch to LOCAL.

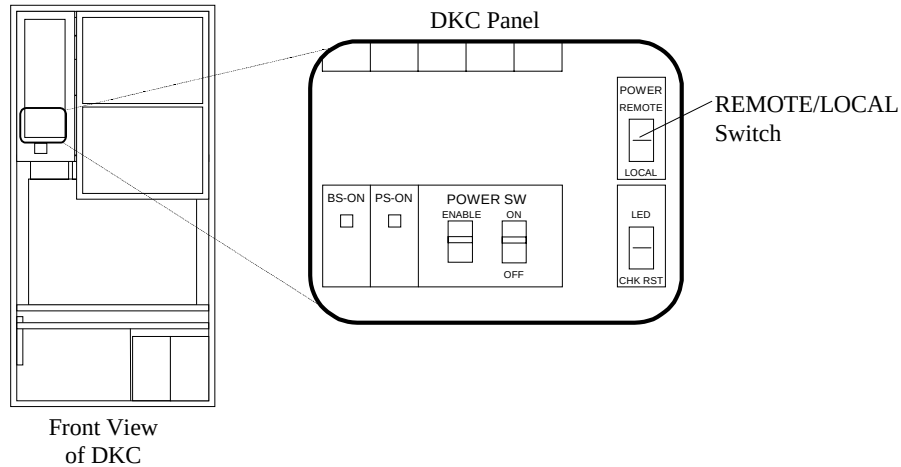


Fig. 3.13-1 Setting of REMOTE/LOCAL Switch

1-2 Connect the Maintenance jumper to the sockets on the DKCMN1 and DKCMN2.

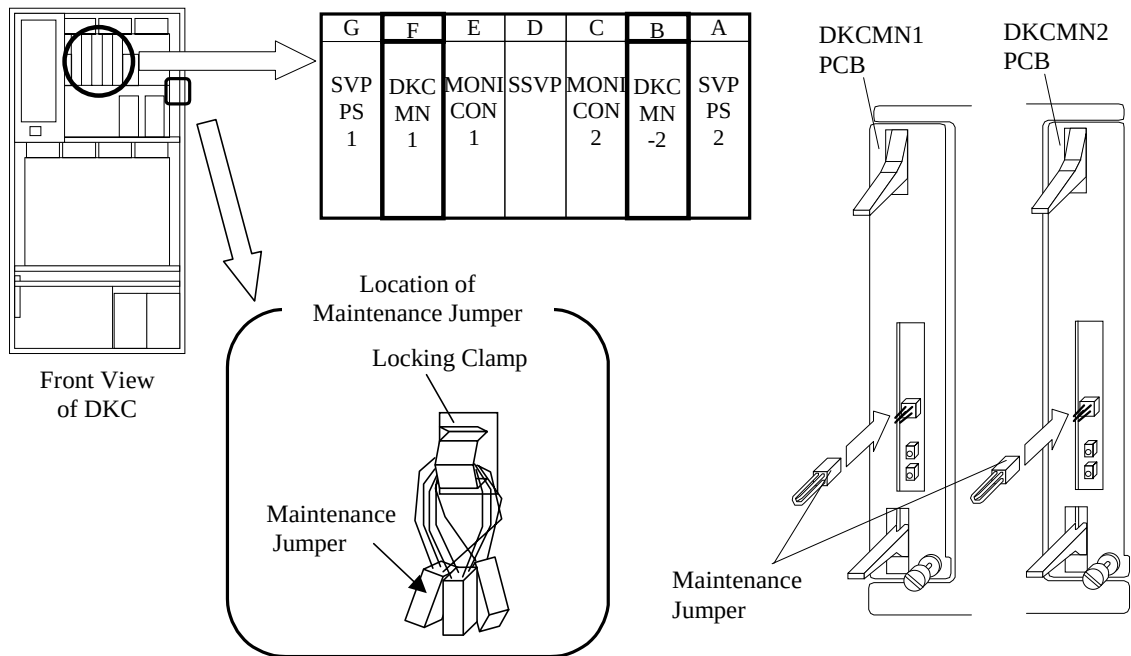


Fig. 3.13-2 Insertion of Jumper Plug

1-3 Attach the PCI CON PCB.

- a. Remove the screw and remove the bracket.
- b. Attach the bracket (460) with the screw.

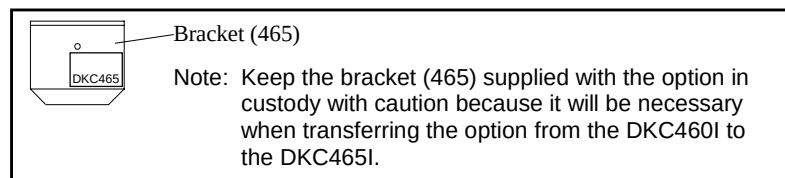
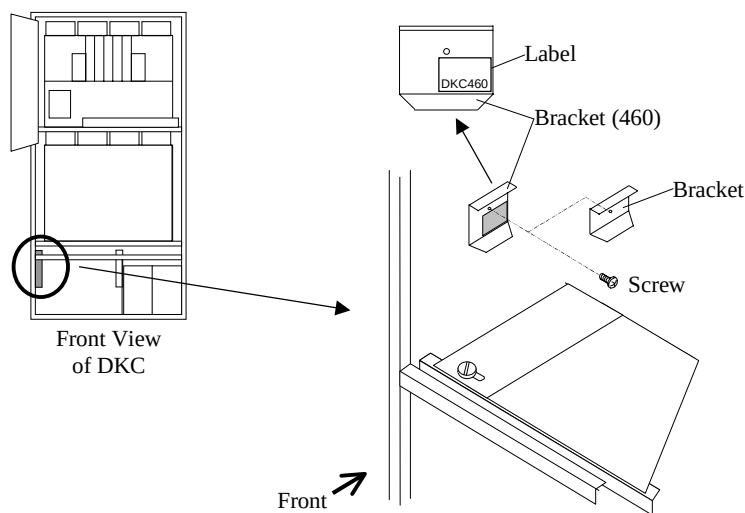


Fig. 3.13-2A Attachment of Bracket

- c. Remove the screw① and remove the plate.
- d. Attach the PCI CON PCB and fasten the screw②.
- e. Attach the plate and fasten the screw①.
- f. Connect the cable.

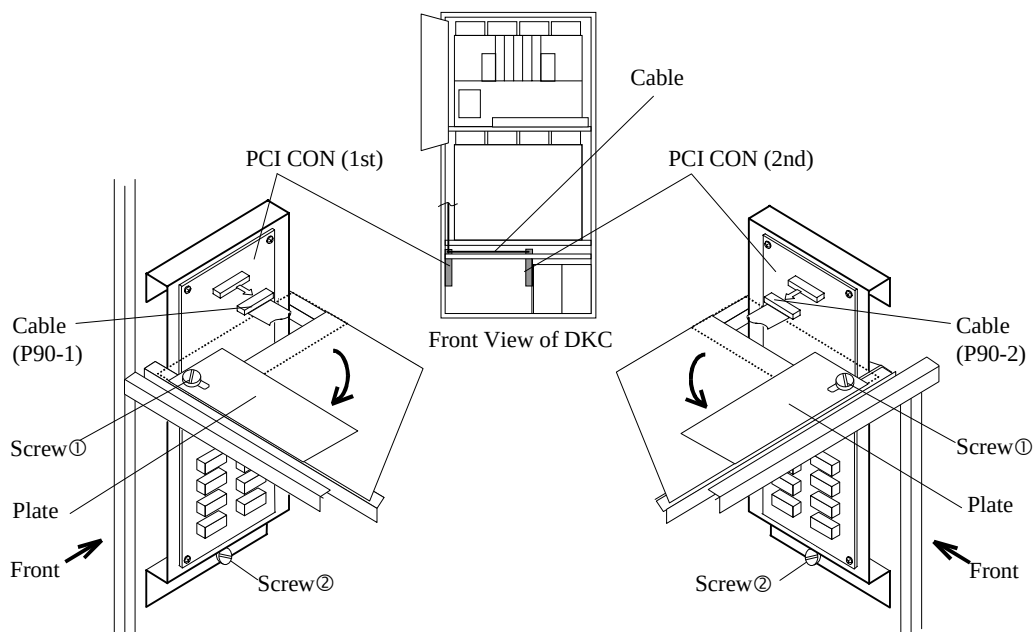


Fig. 3.13-3 Attachment of PCI CON PCB

1-4 Set the REMOTE/LOCAL switch and jumper plugs (JP1 and JP2).

- a. Set the REMOTE/LOCAL switch to REMOTE when the upper PCI is already operating.
Set the REMOTE/LOCAL switch to LOCAL when the upper PCI does not operate yet.
However, reset it to REMOTE when the upper PCI starts its operation.
- b. Set the jumper plugs (JP1 and JP2) of the PCI CON referring to Fig. 3.13-4 and Table 3.13-2.

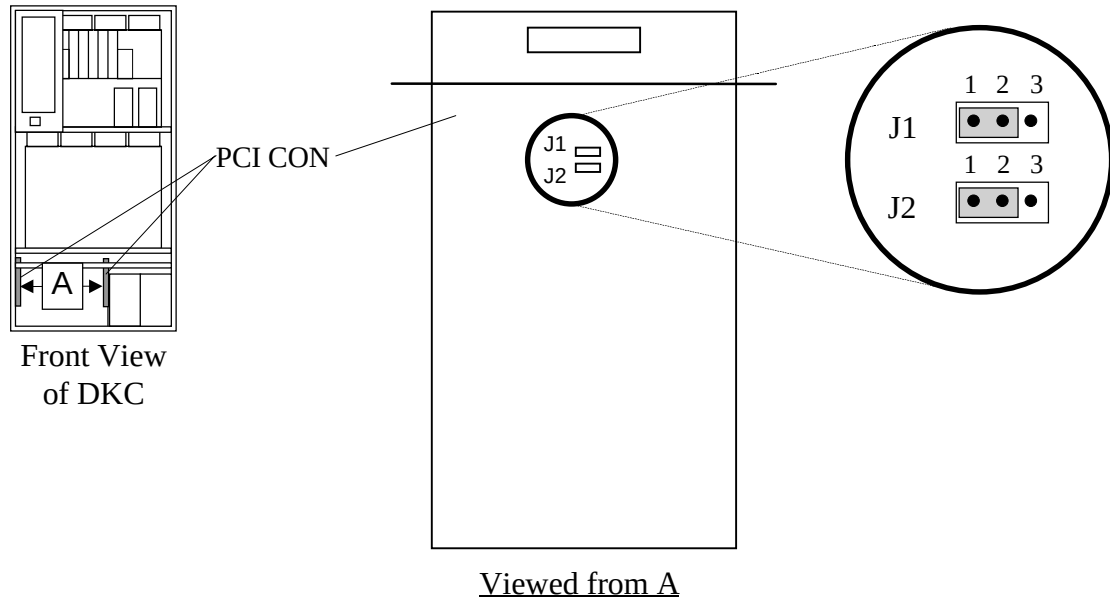


Fig. 3.13-4 Setting of Jumper Plugs

Table 3.13-2 Jumper setting of PCI CON

No.	Description	JP1 and JP2 Setting
1	When power is controlled from the host (at least one PCI cable attached to JP1-JP8 on PCI CON PCB and the upper PCI is operating), set the jumpers as shown.	○ ● ● 1 2 3 JP1 ○ ● ● 1 2 3 JP2
2	When power is not controlled from the host, no PCI Cable attached to JP1-JP8 PCI CON PCB, to disable the EPO of host, set the jumpers as shown.	● ● ○ 1 2 3 JP1 ● ● ○ 1 2 3 JP2

1-5 Disconnect the Maintenance jumper from the socket on the DKCMN.

1-6 Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

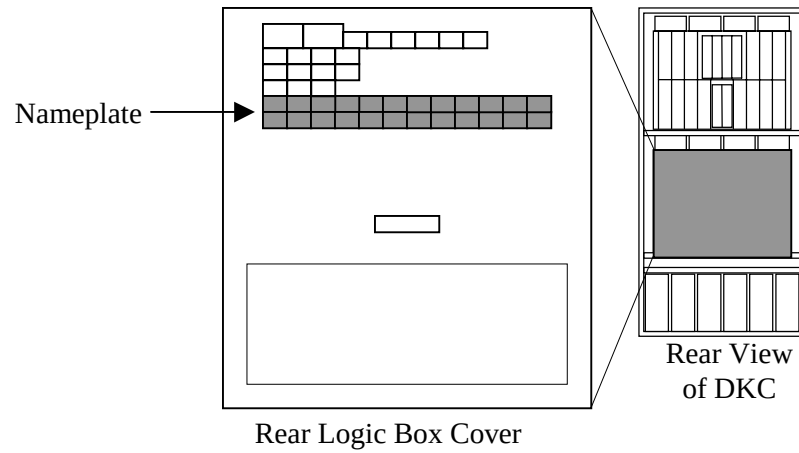


Fig. 3.13.1-5 Location of the Nameplate

3.14 Installation of UPS Connection Kit (DKC-F460I-UPS)

Table 3.14-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-UPS	SH307-B	5513986-B	2	DKCMN
		SH298-A	5513547-A	1	UPS CON
		SH302-C	5513988-C	1	DKC Panel
		DSUB Cable	5485510-15	4	
		Cable	3261826-D	1	Label: PA-1 – P5
		Repeat Binder	5409042-2	2	Single Cabinet Model
		Bracket (460)	5517954-1	1	for DKC460I
		Bracket (465)	5513818-1	1	for DKC465I
		Nameplate (HDS)	2105902-114	1	RSD
			2105903-114		HICAM
			2105903-214		HICEF
		Nameplate (HP)	2105902-214	1	RSD
			2105903-314		HICAM
			2105903-414		HICEF

1. Installation Procedure of UPS Connection Kit

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

1-1 Replace the DKC Panel.

- a. Loosen the screw. Pull the plate forward, then lift up and remove it.

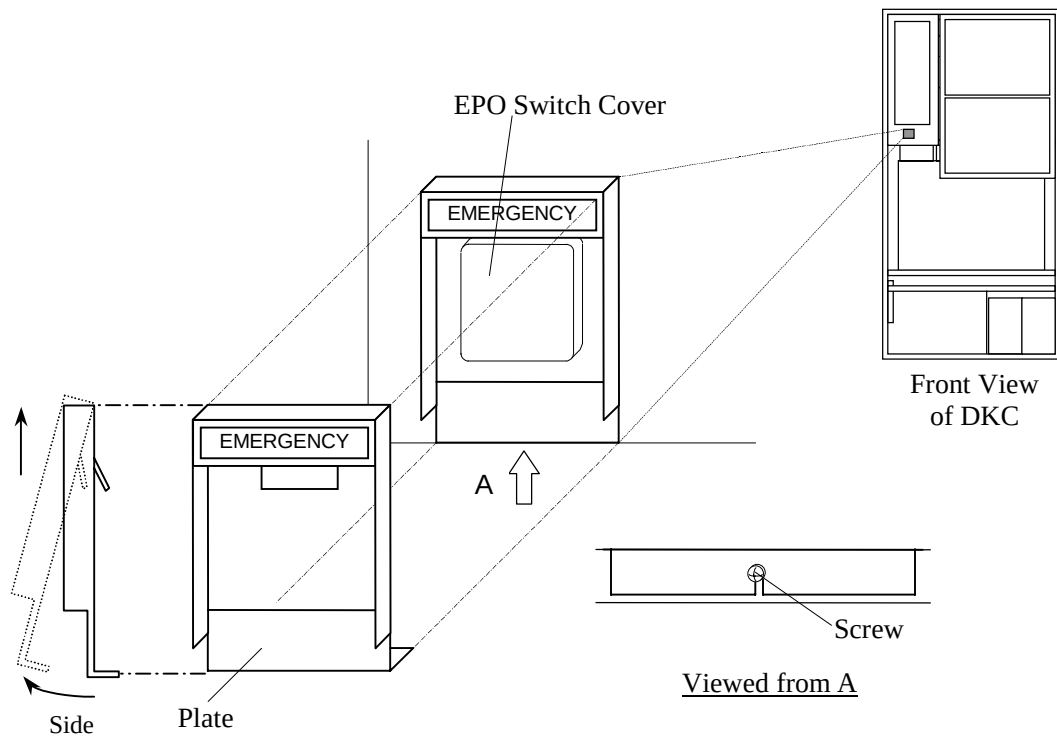


Fig. 3.14-1 Removal of Plate

- b. Remove the EPO Switch cover.

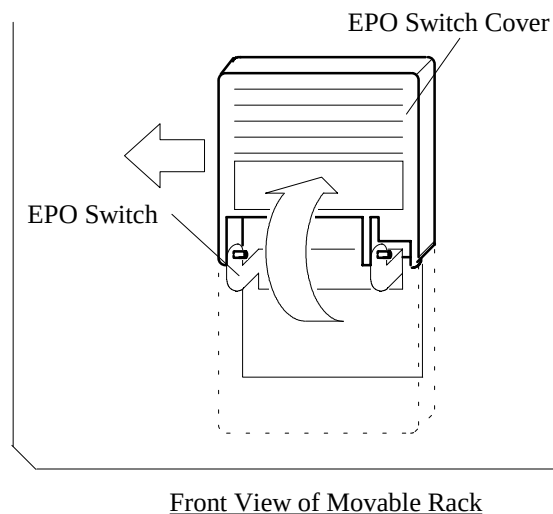


Fig. 3.14-2 Removal of EPO Switch Cover

- c. Loosen the three screws and remove the plate.

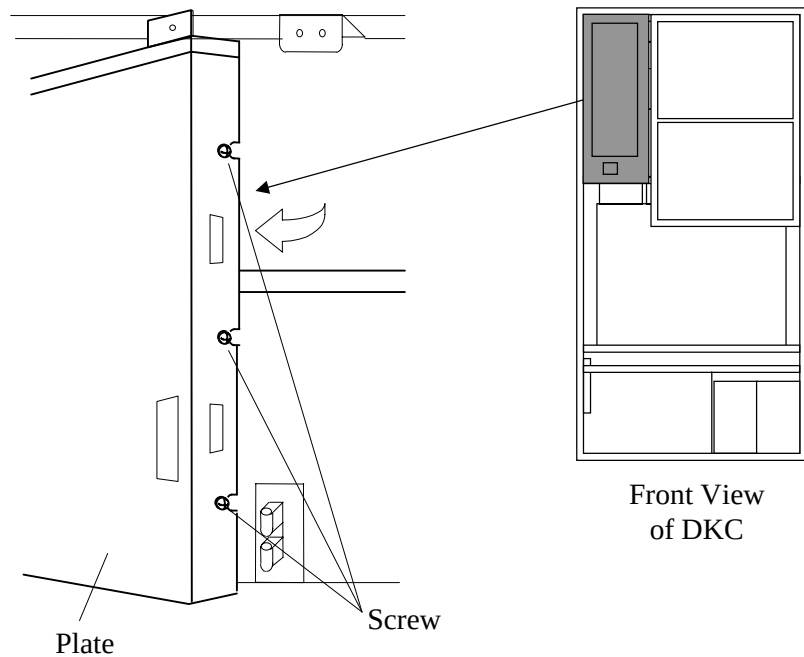


Fig. 3.14-3 Removal of Plate

- d. Disconnect the cables from the DKC Panel PCB.
 e. Loosen the six screws and remove the DKC Panel PCB from the Movable rack.
 f. Install the DKC Panel PCB for UPS by fastening it with the screws.
 g. Connect the cables to the new PCB.

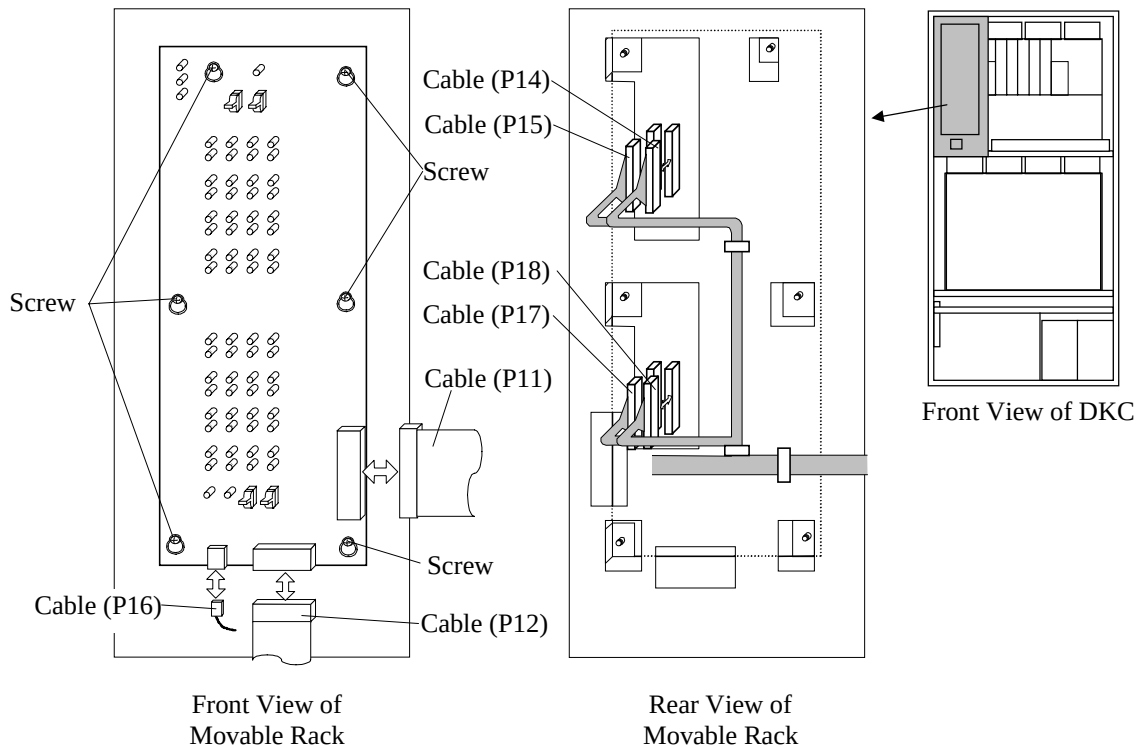


Fig. 3.14-4 Removal of PCB

- h. Attach the plate to the Movable rack and fasten the three screws. Refer to Fig. 3.14-3.
- i. Attach the EPO Switch cover. Refer to Fig. 3.14-2.
- j. Attach the plate and fasten the screw. Refer to Fig. 3.14-1.

1-2 Replace the DKCMN.

- a. Set the jumper plugs in the DKCMN PCBs referring to Fig. 3.14-5, Table 3.14-2.
(Both DKCMN1 and DKCMN2)

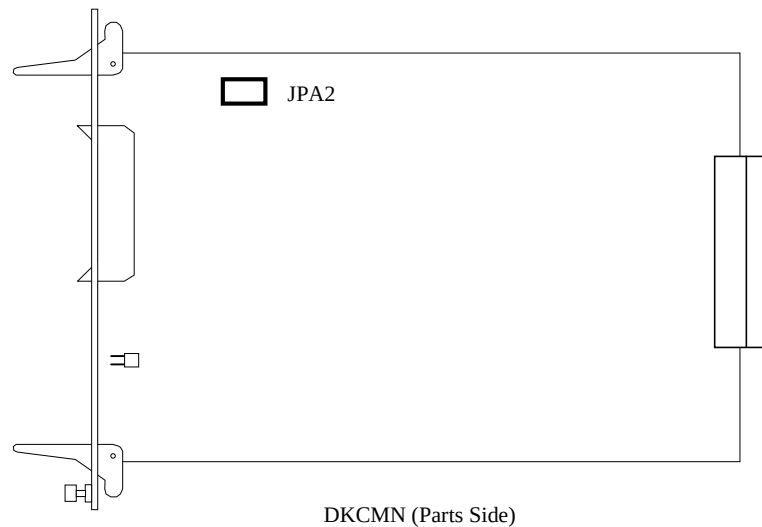


Fig. 3.14-5 Location of Jumper Plugs

Table 3.14-2 Setting of Server Shutdown Setup Jumper

	Setting of Server Shutdown Setup Jumper			
	2.5 minutes	5 minutes	10 minutes	20 minutes
JPA2				

Select the necessary time from four kinds of Jumper setting and set it up to shutdown a server.

- b. Loosen the screw and remove the DKCMN PCB (SH307-A).

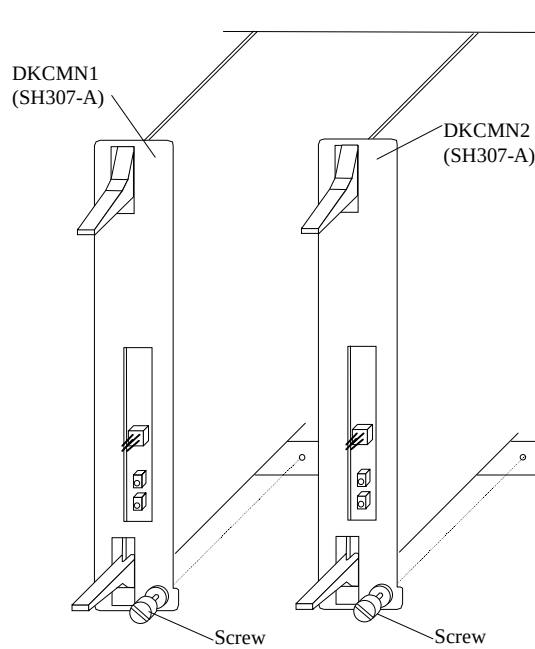


Fig. 3.14-6 Removal of DKCMN PCBs

- c. Install the DKCMN PCB (SH307-B) for UPS by fastening it with the screws.
d. Connect the cable to the new DKCMN PCB.

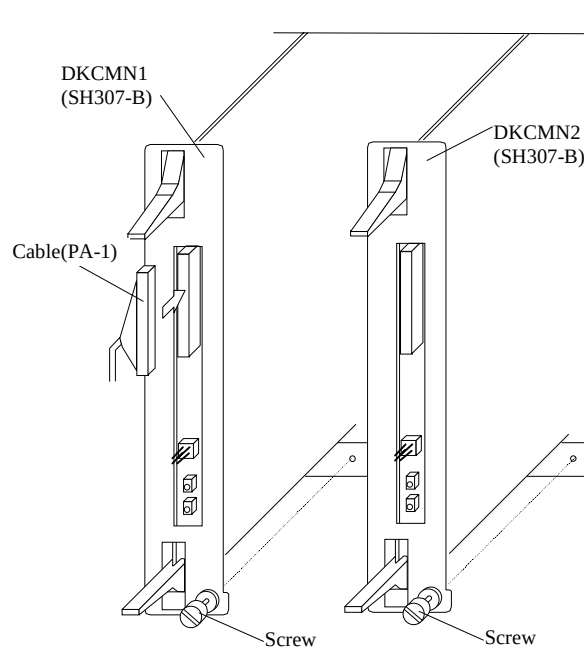


Fig. 3.14-7 Insertion of DKCMN PCBs

1-3 Attach the Cable.

- Remove the Front Logic Box cover. (Refer to [INST03-COM-10](#).)
- Loosen the screw① then remove the Upper SH Box cover.
- Loosen the two screws② then remove the SH side plate.
- Remove the two screws③ then remove the cable cover.
- Wiring the cable and fix the cable with three repeat binders.
- Attach the covers in the reverse order of step d through a.

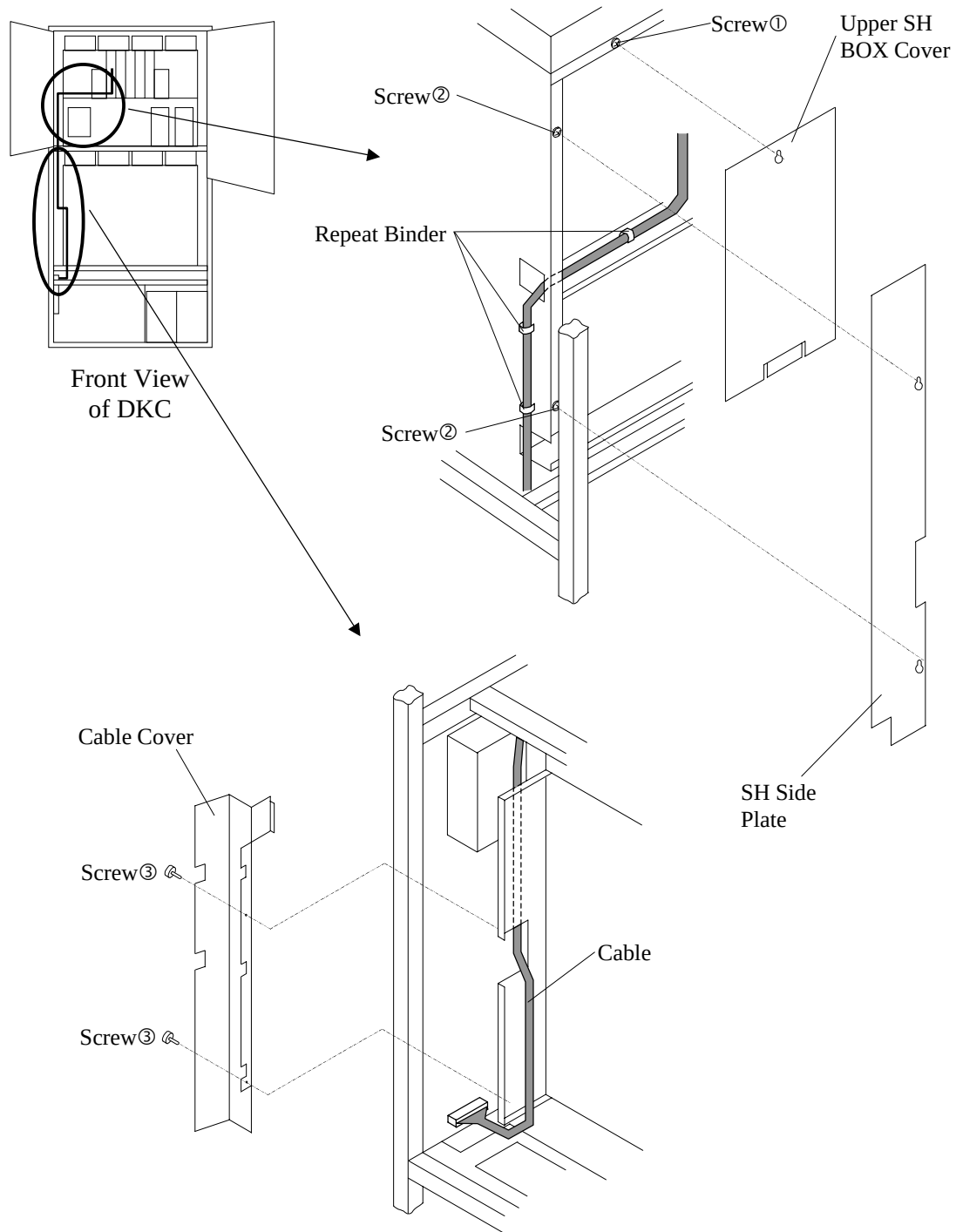


Fig. 3.14-8 Fixing of Cable

1-4 Attach the UPS CON.

- a. Remove the screw and remove the bracket.
- b. Attach the bracket (460) with the screw.

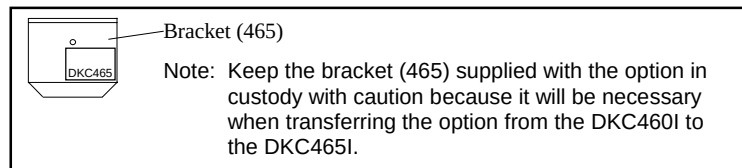
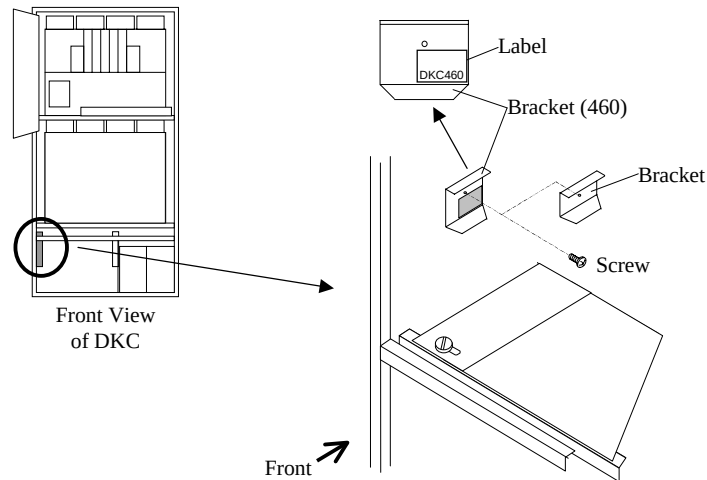


Fig. 3.14-8A Attachment of Bracket

- c. Loosen the screw① and remove the screw② from the base plate.
- d. Slide the plate and turn it using the screw① as an axis.
- e. Install the UPS CON by fastening it with the screw③.
- f. Return the plate as it was and tighten the screws① and ②.
- g. Connect the cable(P5) to the UPS CON.

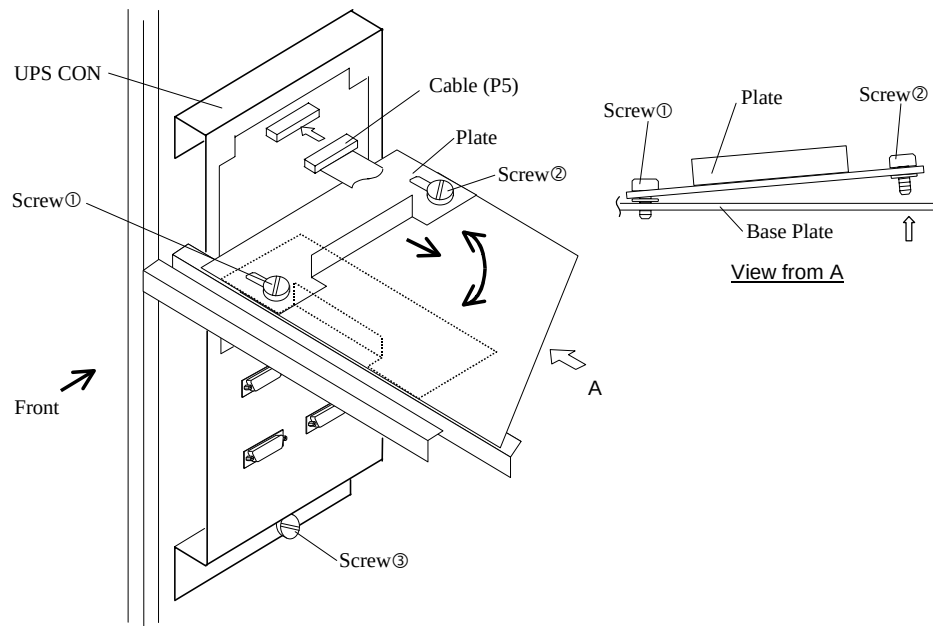


Fig. 3.14-9 Attachment of UPS CON

1-5 Connect the DSUB Cables.

a. Connect the DSUB cables to the UPS CON.

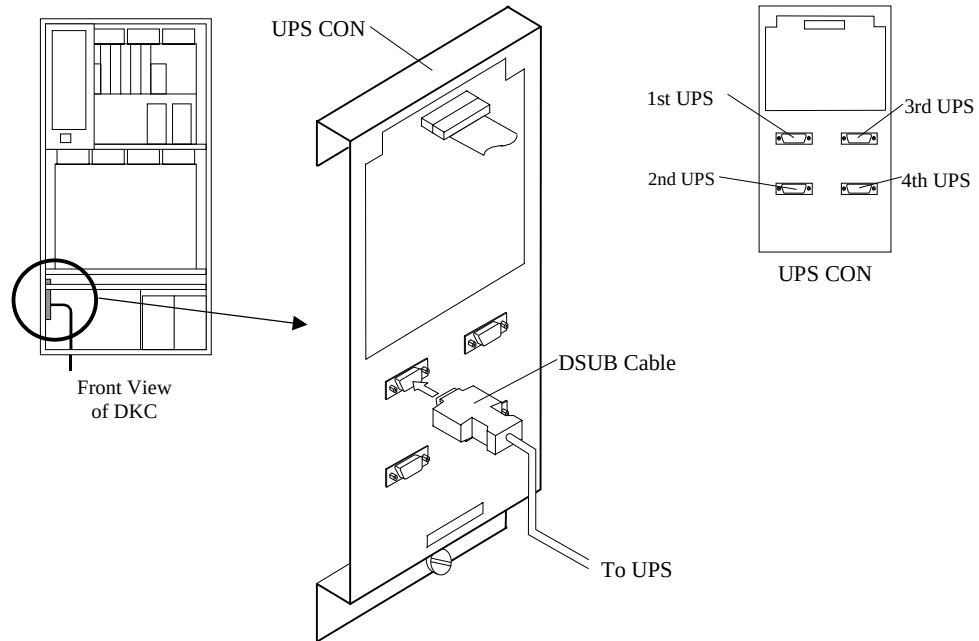


Fig. 3.14-10 Connection of DSUB Cables

1-6 Connect the AC Power Cables.

3 Phase Model

CAUTION

Perform the UPS Connection Kit with care
 Perform this procedure before connecting the AC Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breakers (CB101) located in the AC Boxes.

- Disconnect the AC power cables from the distribution board
- Connect the ac power cables to the branch distribution box.

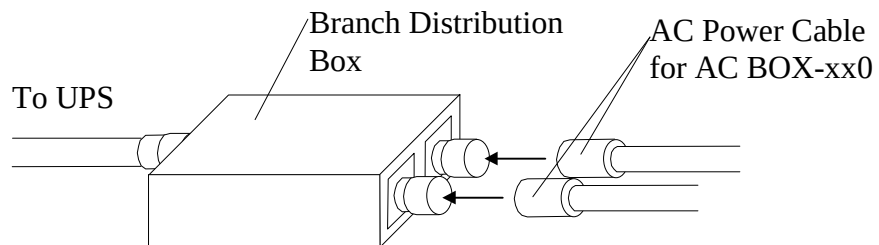
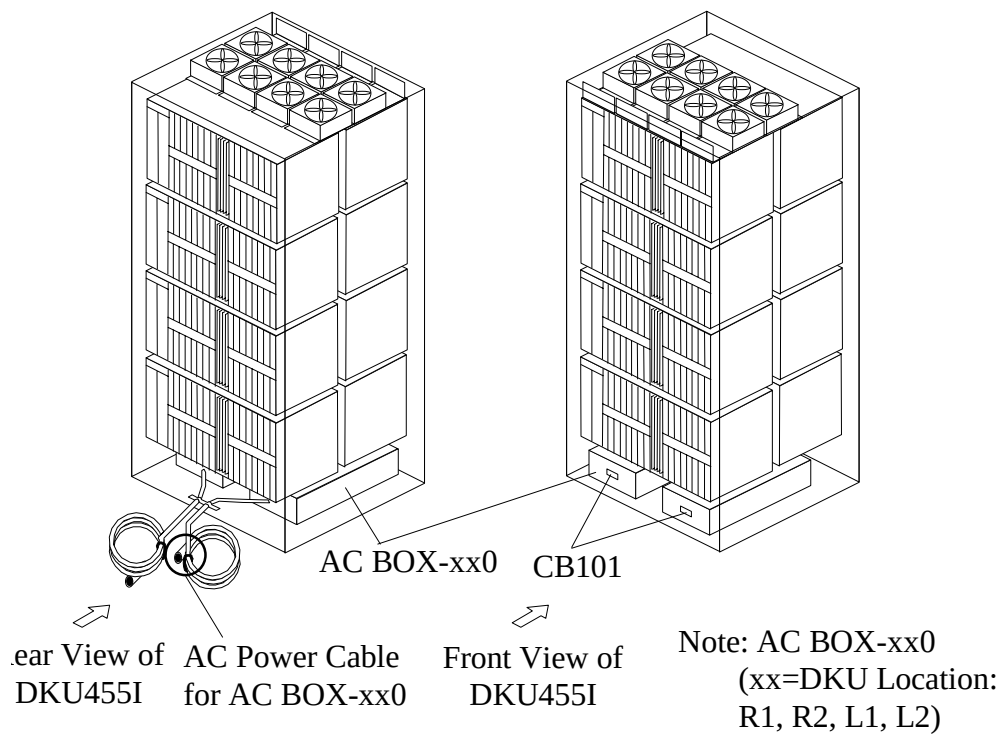


Fig. 3.14-11 Connection of AC Power Cables (3 Phase Model)

Single Phase Model

CAUTION

Perform the UPS Connection Kit with care
 Perform this procedure before connecting the AC Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breakers (CB200 and CB101) located in the AC Boxes.

- Disconnect the AC power cables from the distribution board
- Connect the ac power cables to the branch distribution box.

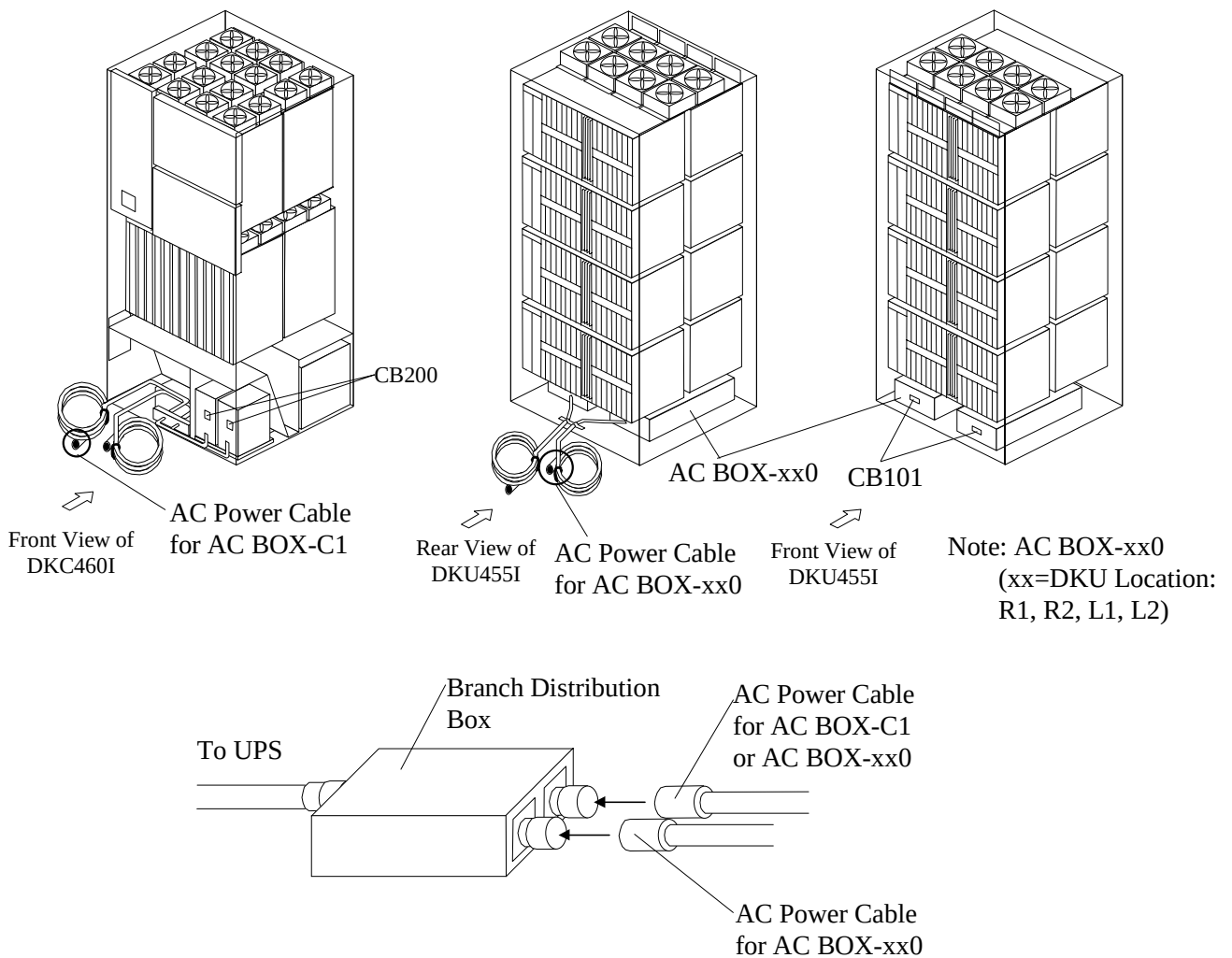


Fig. 3.14-12 Connection of AC Power Cables (Single Phase Model)

1-7 Attach the Nameplate

- a. Attach the nameplate regardless of the model number from the left of the cover.

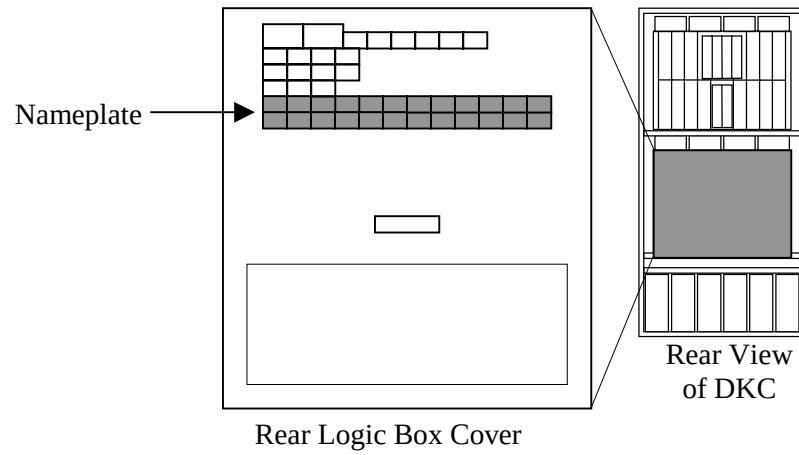


Fig. 3.14-13 Attachment of Nameplate

1-8 Overview

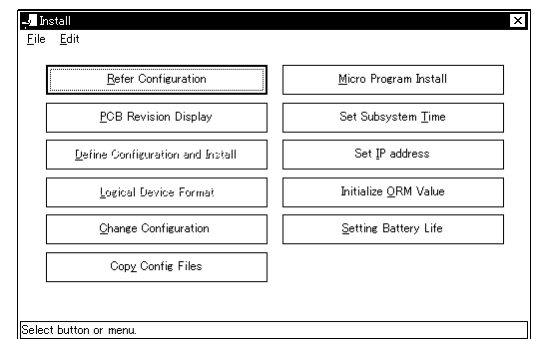
Change the following system option when the system operates.

- <1> PS Off Timer ----- Enters the Destage time. (25 [min])
- OFF : The Destage time is effectively.
 - ON : The Destage time is ineffectively, and change the Destage time.

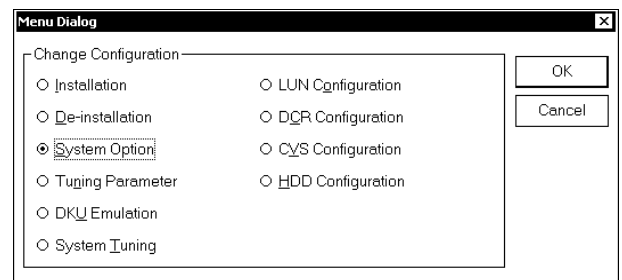
1-9 SVP procedure

(1) Select (CL) [Install].

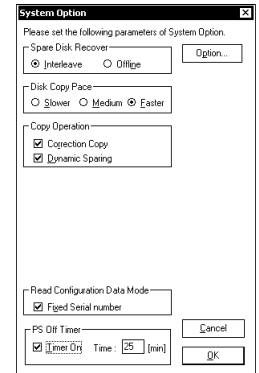
(2) Select (CL) the [Change Configuration] menu in the 'Install' window.



(3) Select (CL) the [System Option] menu in the 'Menu Dialog' window and select (CL) [OK].

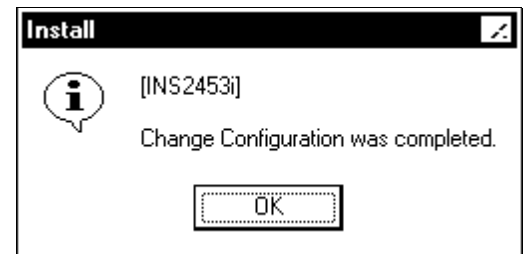


- (4) Select (CL) [Timer On] check box, and then enters the destage time (25 [min]) in the 'System Option' dialog box. And select (CL) [OK].

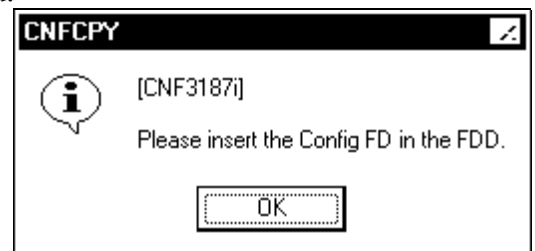


- (5) "Loading configuration..." is displayed.

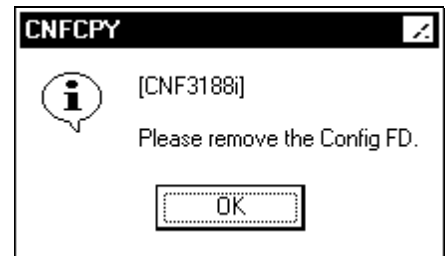
- (6) "Change configuration was completed." is displayed. Select (CL) [OK].



- (7) "Reading subsystem configuration data..." is displayed. "Please insert the Config FD in the FDD." is displayed. Insert the configuration FD into FDD, select (CL) [OK].



- (8) When this procedure is completed, the message “Please remove the Config FD.” is displayed. Remove the FD, select (CL) [OK].



- (9) Close the 'Install' window.

3.15 Check and Testing

NOTICE:
Install all of the remaining optional parts.

3.15.1 Checking Input Voltage

**WARNING**

Do not touch the internal parts of the AC power cable the AC Box or the Breaker Box.
Line voltage is present even if the circuit breaker is off.

1. Check the AC input voltage using a voltmeter at the customer's AC power source (at the distribution board or receptacle for R & S connectors).

3.15.2 Checking Input Power Cable and Voltage Select Jumper Cable

3 Phase Model

Check the input power cable and jumper cables (PU105 and PC113) at the AC BOXes in the DKU.
See Table 3.15.2-1 and figures 3.15.2-1 and 3.15.2-2 for check items.

Table 3.15.2-1 AC Input Cable Conductors and Jumper Cables Positions

Input Voltage	AC Input Cable Conditions	Jumper Cables Position	Dummy Connectors Position	Remarks
200-240Vac	4 conductors (R,S,T,FG)	JU105-1	JU105-2	Jumper Cable (PU105)
		JC113-1	JC113-2	Jumper Cable (PC113)
380-415Vac	5 conductors (R,S,T,N,FG)	JU105-2	JU105-1	Jumper Cable (PU105)
		JC113-2	JC113-1	Jumper Cable (PC113)

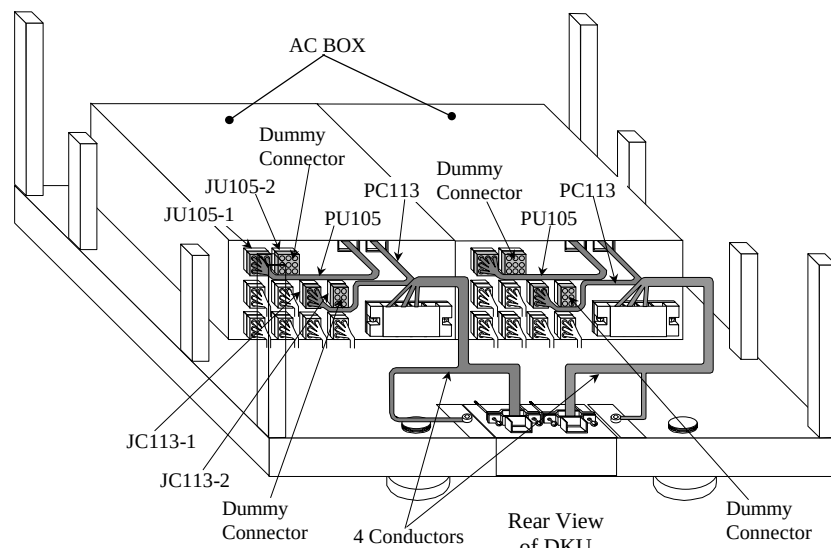


Fig. 3.15.2-1 AC Input Cable Conductors and Jumper Cables Positions
200-240Vac

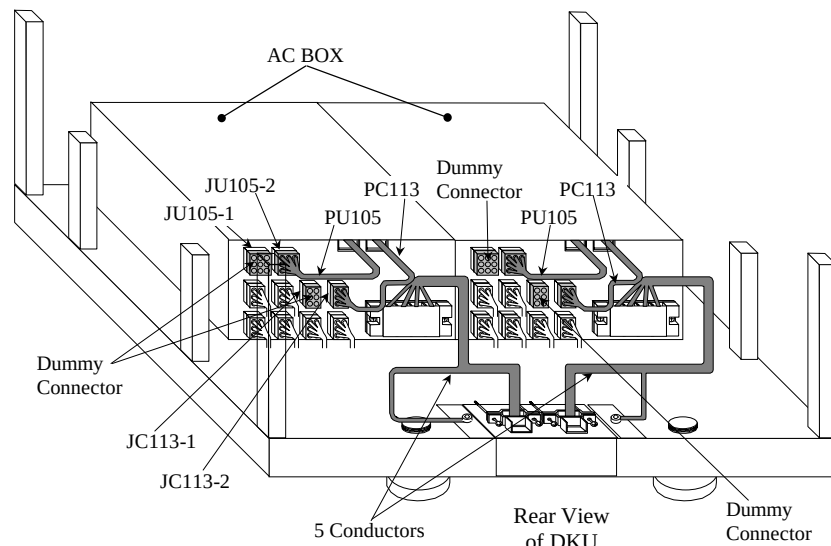


Fig. 3.15.2-2 AC Input Cable Conductors and Jumper Cables Positions
380-415Vac

Single Phase Model

Check the input power cable at the AC BOXes in the DKC and DKU. See table 3.15.2-2 and figures 3.15.2-3 and 3.15.2-4 for check items.

Table 3.15.2-2 AC Input Cable Conductors

UNIT	AC BOX	Input Voltage	AC Input Cable Conductors	Remarks
DKC	DKC AC BOX (AC BOX-C1, C2)	200-240Vac	3 conductors (U, V, FG)	
DKU	DKU AC BOX (AC BOX-##0, ##1)	200-240Vac	3 conductors (U, V, FG)	

(Note) ## : DKU Location No. (R1, R2, L1, L2)

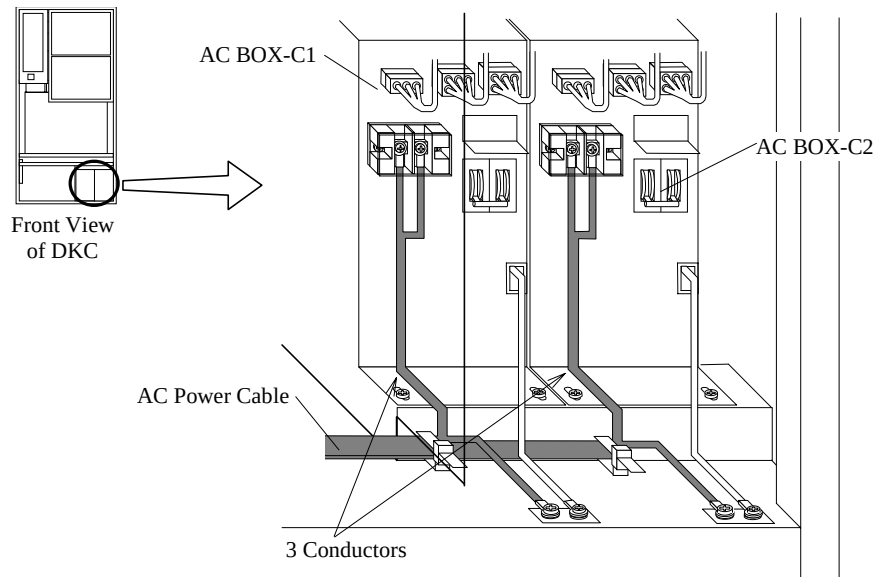


Fig. 3.15.2-3 AC Input Cable Conductors (DKC)

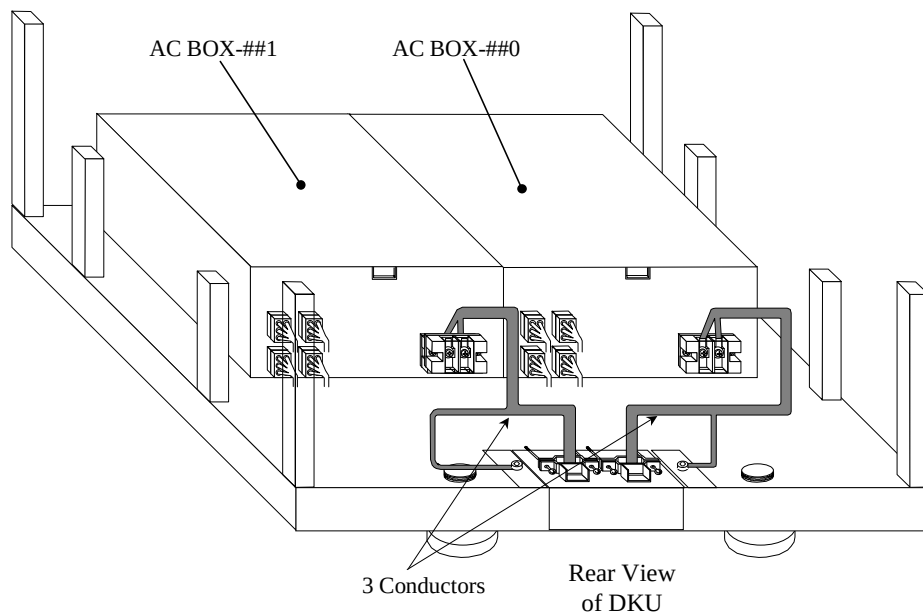


Fig. 3.15.2-4 AC Input Cable Conductors (DKU)

3.15.3 Power On/Off Check

1. Turn on the disk controller according to the procedure shown in SECTION 3.16 POWER ON/OFF PROCEDURE. Refer to [INST03-PWR-10 through 50](#).
2. Check the power supply output voltage to verify that it indicates the required level. Refer to PERIOD.
3. Turn off the Disk Subsystem according to the procedure shown in SECTION 3.16 POWER ON/OFF PROCEDURE. Refer to [INST03-PWR-70 through 90](#).

3.16 Power ON/OFF Procedure

3.16.1 Power ON Procedure

3.16.1.1 Power ON Procedure of Disk Subsystem

Power on procedures are shown below. Refer to the details and start the operation.

1. Turn on the main circuit breaker at the AC Box on the DKU.

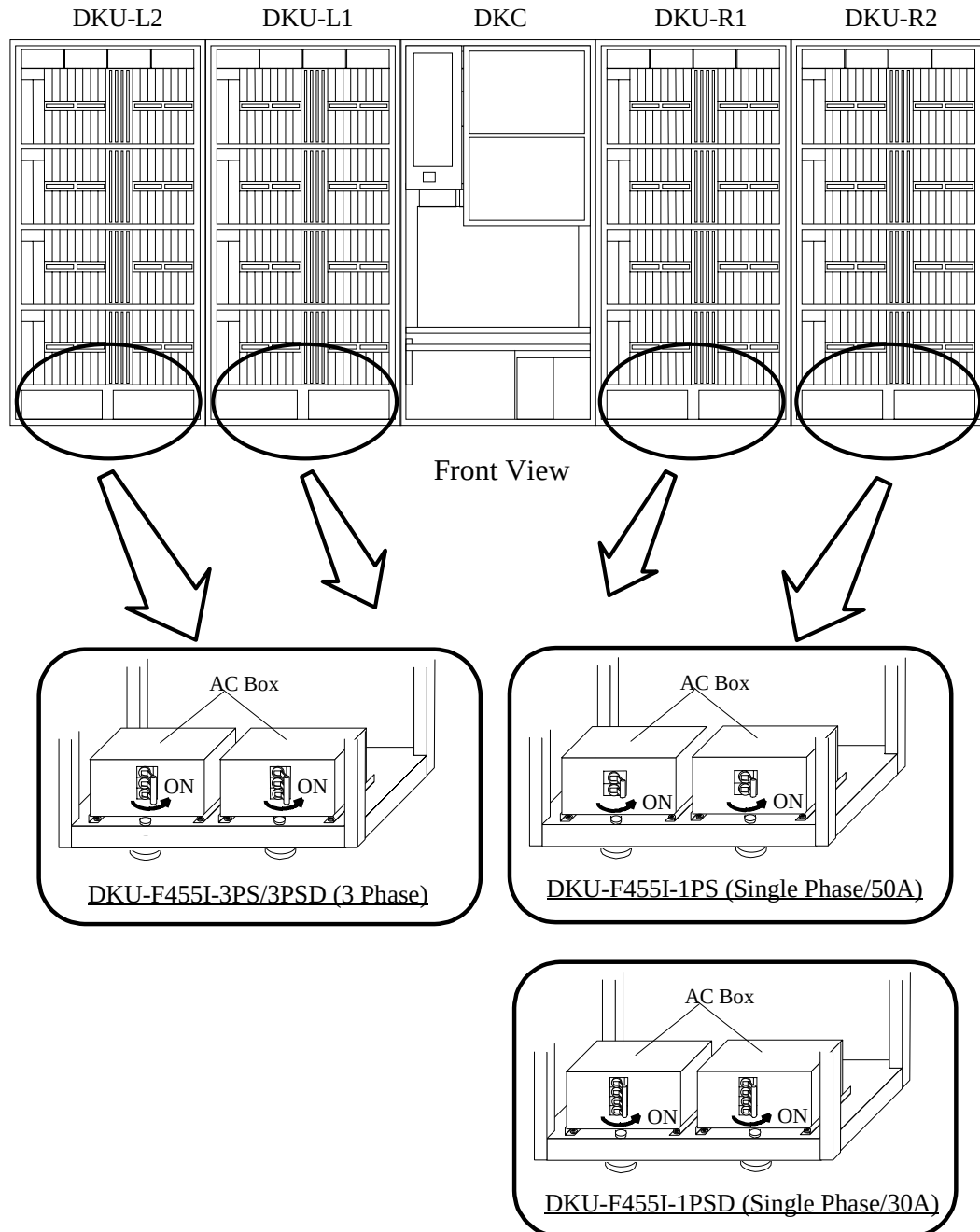


Fig. 3.16.1.1-1 Main Circuit Breaker on AC Box

2. When the AC Box Kit for Single Phase/40A (DKC-F460I-1PS) is installed, turn on the circuit breaker at AC Box on the DKC.
When the AC Box Kit for Single Phase/40A (DKC-F460I-1PS) is not installed, go to step 3.

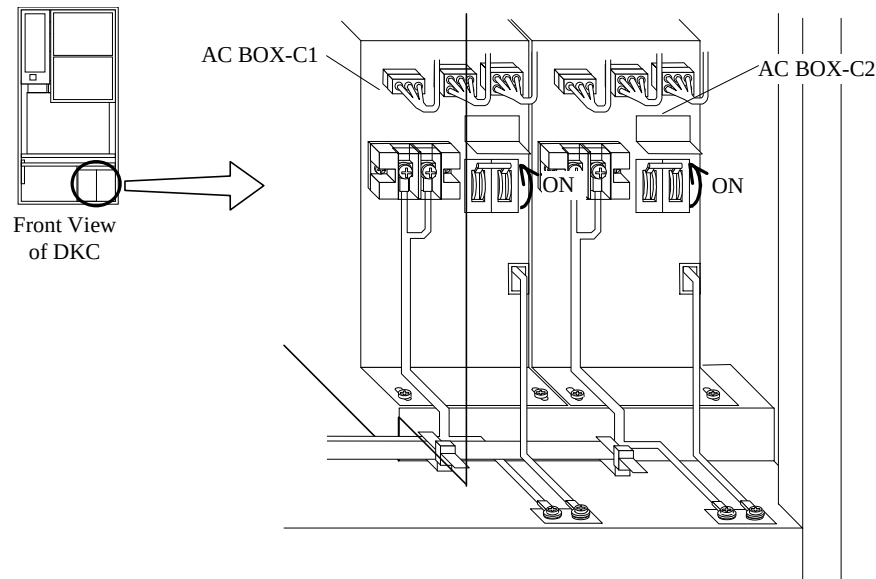


Fig. 3.16.1.1-2 Circuit Breaker on DKC AC Box

3. When the Breaker Box Kit for 3 Phase (DKC-F460I-3PS) is installed, turn on the circuit breaker at Breaker Box on the DKC.
When the Breaker Box Kit for 3 Phase (DKC-F460I-3PS) is not installed, go to step 4.

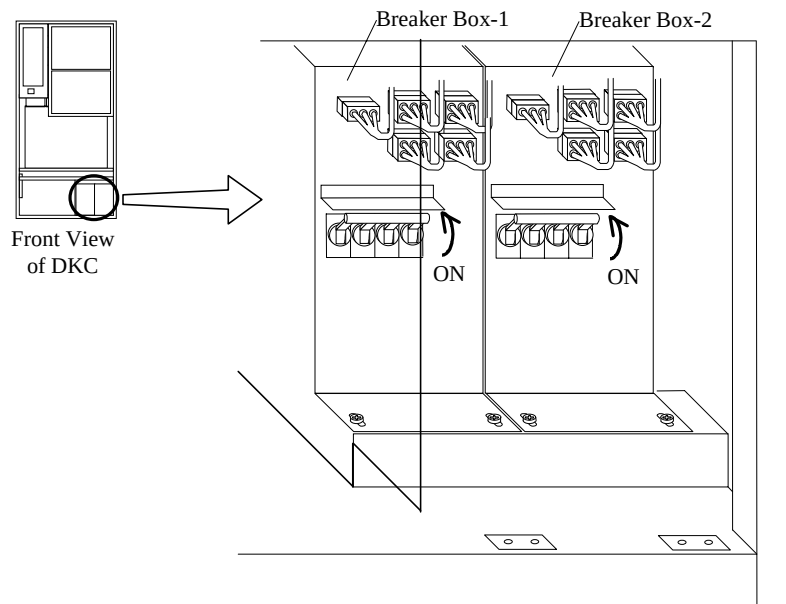


Fig. 3.16.1.1-3 Circuit Breaker in Breaker Box-1 and 2

3A. When the AC Box Kit for Single Phase/30A (DKC-F460I-1PSD) is installed, turn on the circuit breaker at AC Box on the DKC.

When the AC Box Kit for Single Phase/30A (DKC-F460I-1PSD) is not installed, go to step 3B.

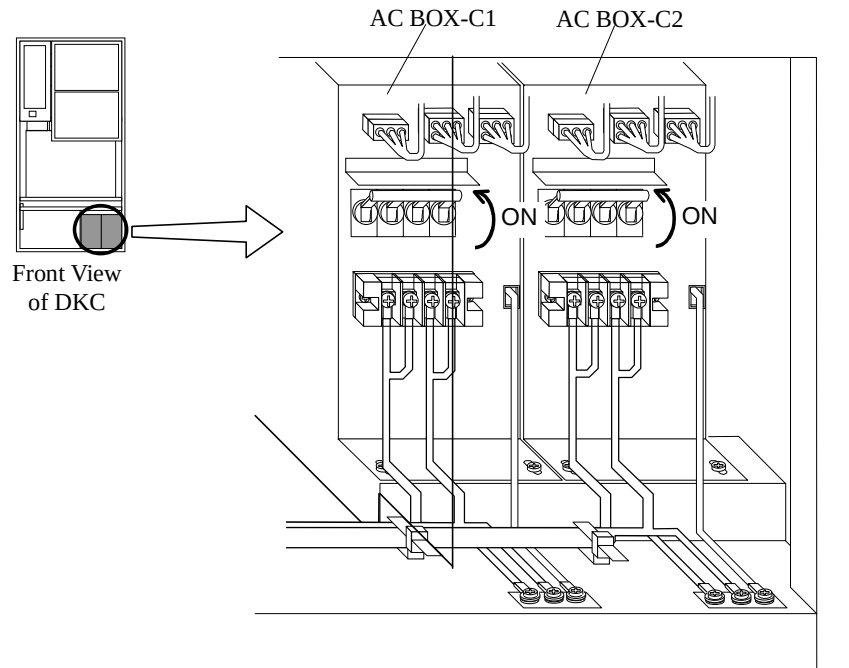


Fig. 3.16.1.1-3A Circuit Breaker on DKC AC Box

3B. When the AC Box Kit for 3 Phase/30A (DKC-F460I-3PSD) is installed, turn on the circuit breaker at AC Box on the DKC.

When the AC Box Kit for 3 Phase/30A (DKC-F460I-3PSD) is not installed, go to step 4.

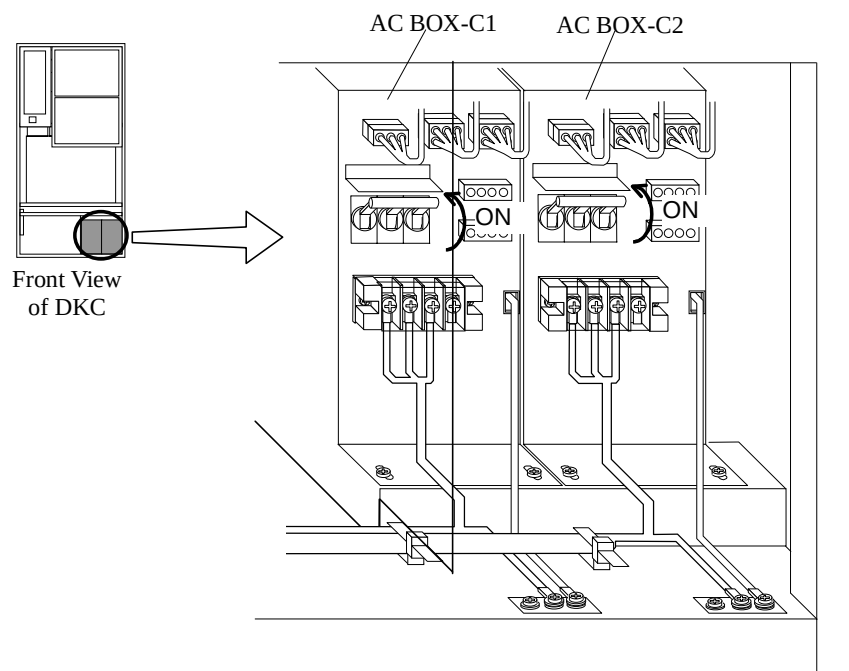


Fig. 3.16.1.1-3B Circuit Breaker in DKC AC Box

4. Check battery charge voltage and fuse blow up on Battery Controller PCBs.
Check charge voltage on BATTERY 10 through 12 and BATTERY 20 through 22.
 - a. Disconnect the cables.
 - b. Insert the pins of the digital voltmeter into the cables removed from battery to make sure that battery charge voltage is within the allowable charge voltage.
If the battery charge voltage is not within the allowable charge voltage, replace the BATCTR PCB.
 - c. Connect the cables.

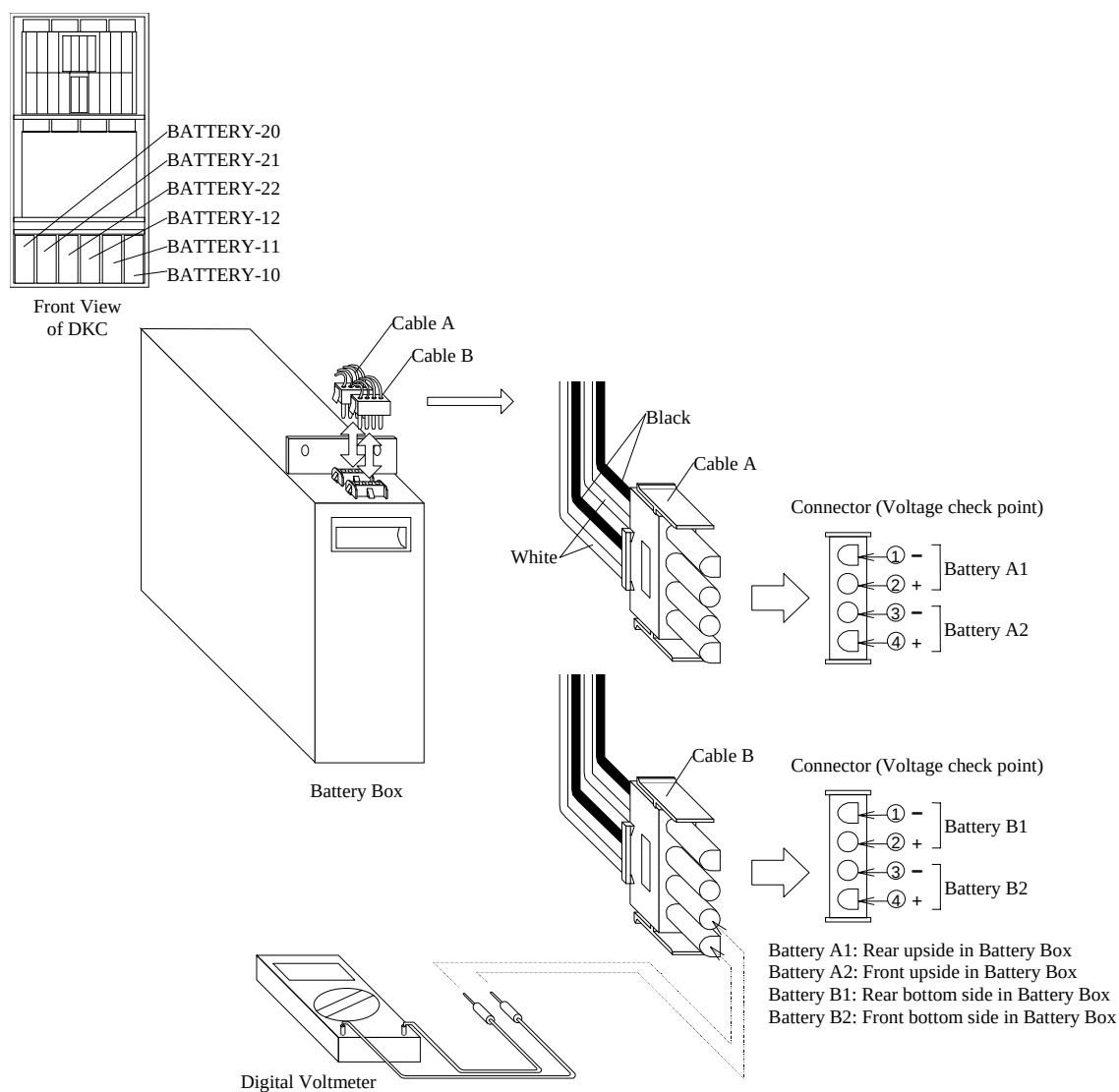


Fig. 3.16.1.1-4 Voltage Checkpoint

Table 3.16.1.1-1 Voltage Checkpoint and Allowable Voltage

No.	Pin No.		Allowable charge voltage
	+	-	
1	②	①	DC13V through DC13.8V
2	④	③	DC13V through DC13.8V

5. Check battery voltage.

Check battery voltage of the BATTERY 10 through 12 and BATTERY 20 through 22.

- Disconnect the cables.
- Insert the pins of the digital voltmeter into the connector on battery box to make sure that battery voltage is within the allowable battery voltage.
- If the battery voltage is not within the allowable battery voltage, replace the battery assembly.
- Connect the cables.

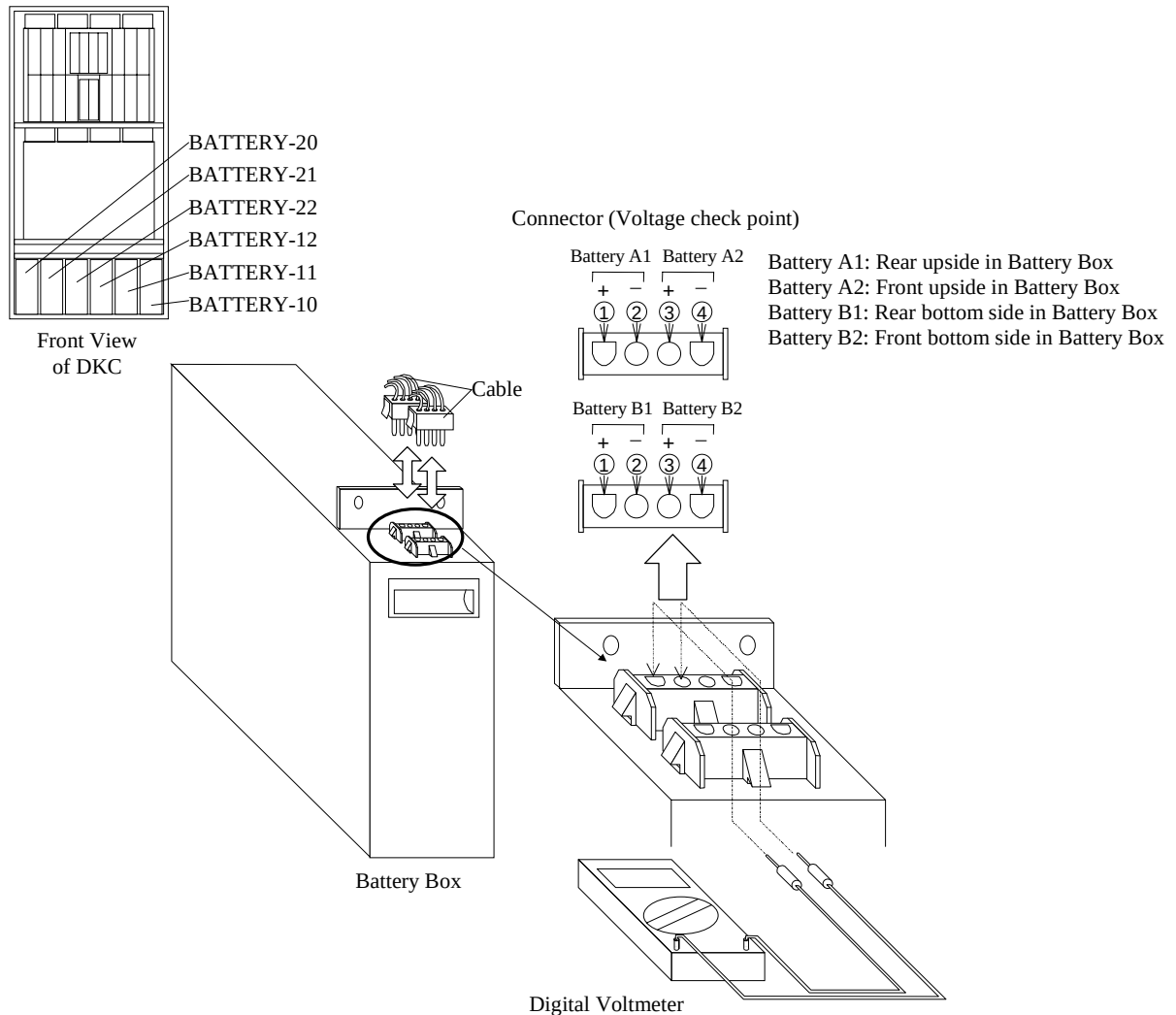


Fig. 3.16.1.1-5 Voltage Checkpoint

Table 3.16.1.1-2 Voltage Checkpoint and Allowable battery Voltage

No.	Pin No.		Allowable battery voltage
	+	-	
1	①	②	DC11.6V through DC13.8V
2	③	④	DC11.6V through DC13.8V

6. [Case as custom engineer operates]

Turn the “REMOTE/LOCAL” switch to “LOCAL”.

Turn the “POWER ON/OFF” switch to “ON”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position.

[Case as that operate from CPU]

Turn the “REMOTE/LOCAL” switch to “REMOTE”.

Turn on the power supply from CPU.

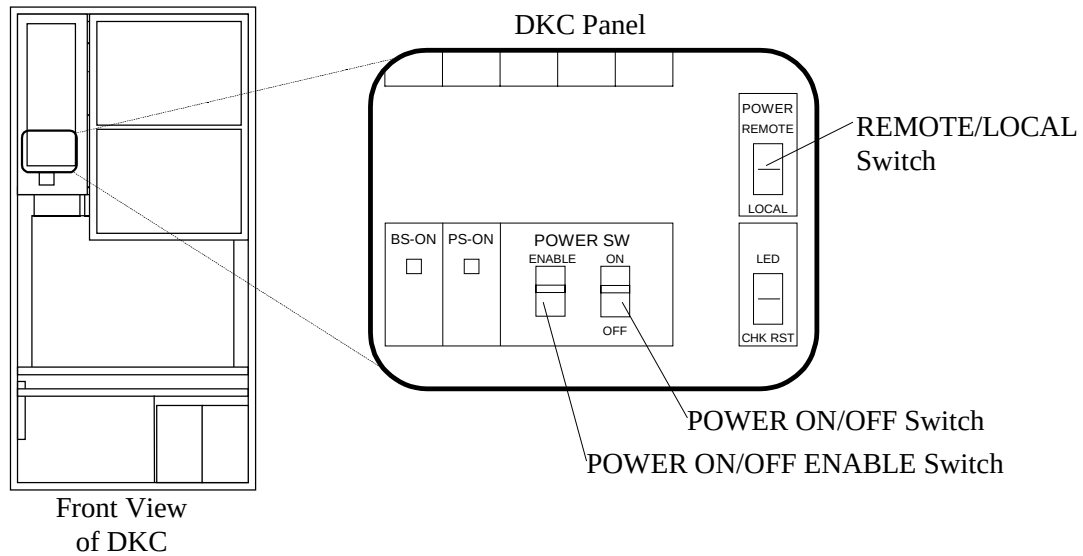


Fig. 3.16.1.1-6 DKC Panel PCB

3.16.1.2 Power ON Procedure of Additional Disk Unit

1. Power on procedures are shown below. Refer to the details and start the operation.
 - a. Turn on the main circuit breaker at the AC Box on the Disk Unit.

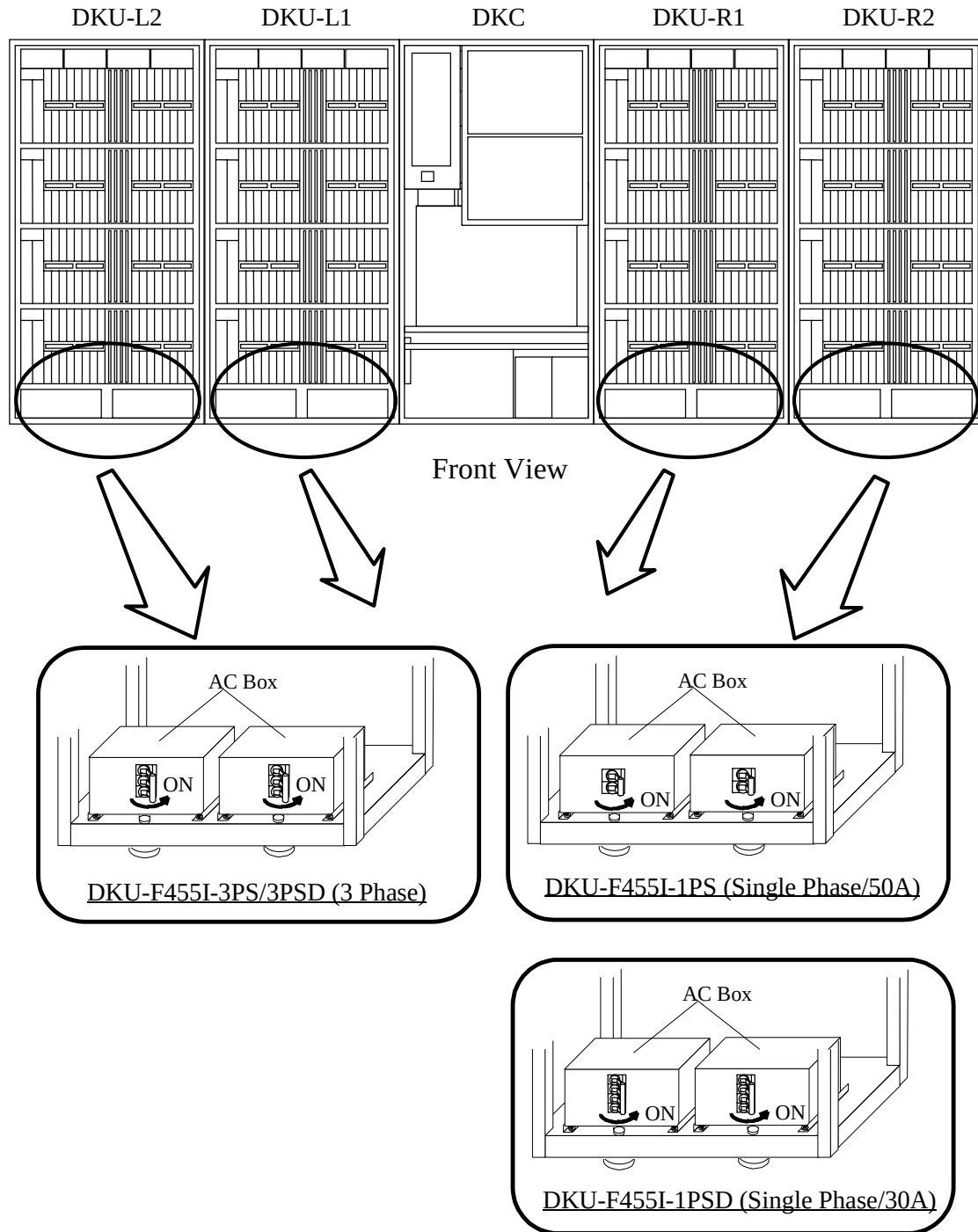


Fig. 3.16.1.2-1 Main Circuit Breaker on AC Box

3.16.2 Power OFF Procedure

3.16.2.1 Power OFF Procedure of Disk Subsystem

1. Power off procedures are shown below. Refer to the details and start the operation.
If the SVP is already shutdown, go to step b.
 - a. Stop the SVP.
 - b. [Case as custom engineer operates]
Turn the “REMOTE/LOCAL” switch to “LOCAL”.
Turn the “POWER ON/OFF” switch to “OFF”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position.
[Case as that operate from CPU]
Turn the “REMOTE/LOCAL” switch to “REMOTE”.
Turn off the power supply from CPU.

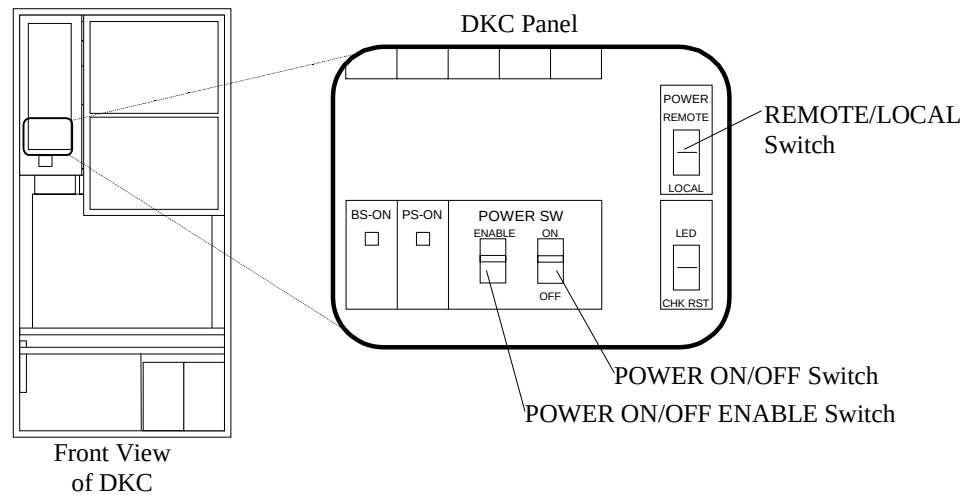


Fig. 3.16.2.1-1 DKC Panel PCB

- c. When the Breaker Box Kit for 3 Phase (DKC-F460I-3PS) is installed, turn off the circuit breaker at the Breaker Box-1 and 2 in the DKC.

When the Breaker Box Kit for 3 Phase (DKC-F460I-3PS) is not installed, go to step d.

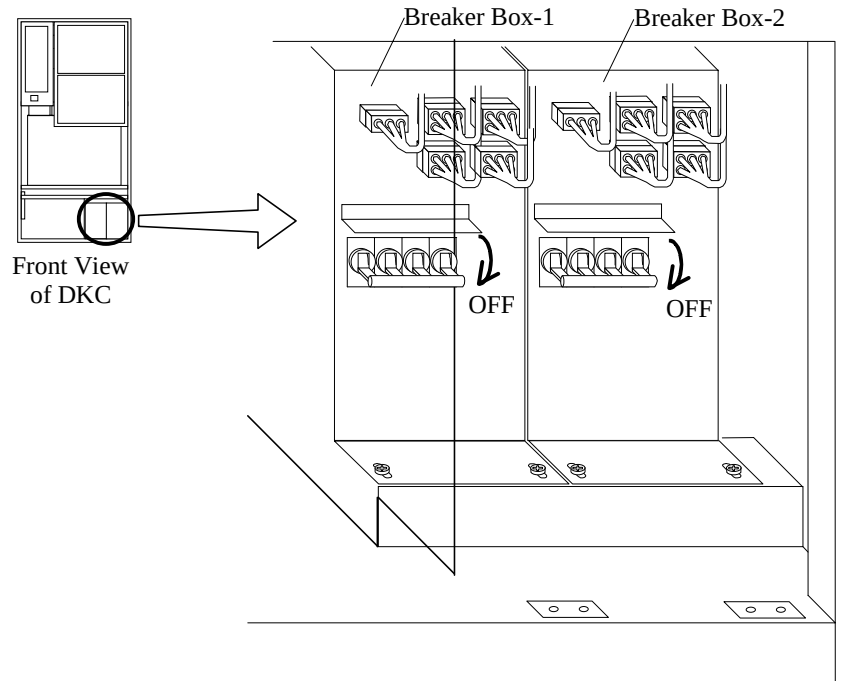


Fig. 3.16.2.1-2 Circuit Breaker on Breaker Box

- d. When the AC Box Kit for Single Phase/40A (DKC-F460I-1PS) is installed, turn off the circuit breaker at AC Box on the DKC.

When the AC Box Kit for Single Phase/40A (DKC-F460I-1PS) is not installed, go to step e.

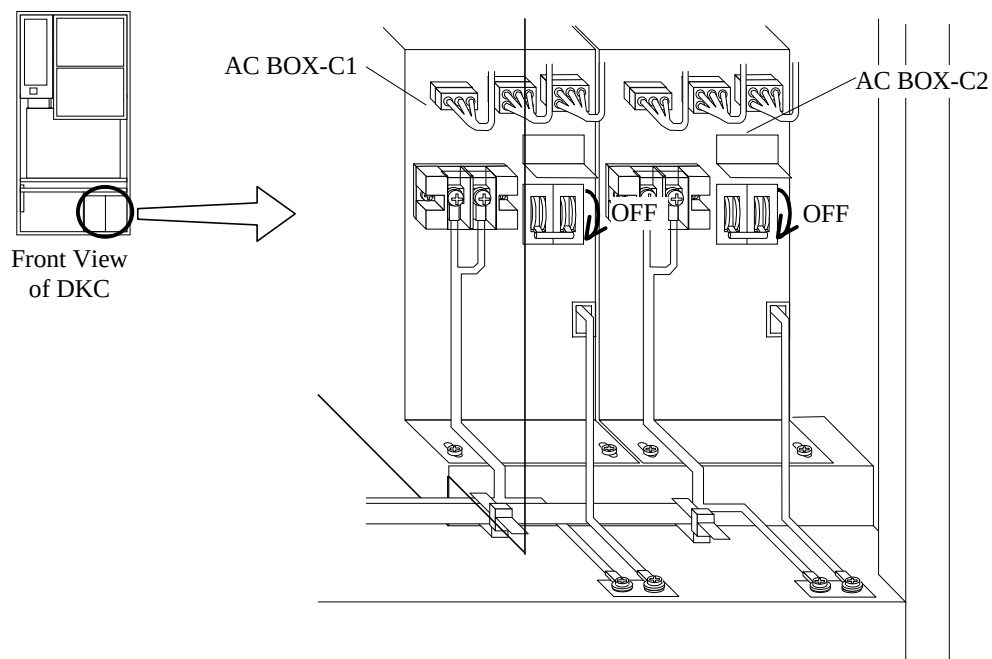


Fig. 3.16.2.1-3 Circuit Breaker on DKC AC Box

- e. When the AC Box Kit for 3 Phase/30A (DKC-F460I-3PSD) is installed, turn off the circuit breaker at the AC BOX-C1 and C2 in the DKC.

When the AC Box Kit for 3 Phase/30A (DKC-F460I-3PSD) is not installed, go to step f.

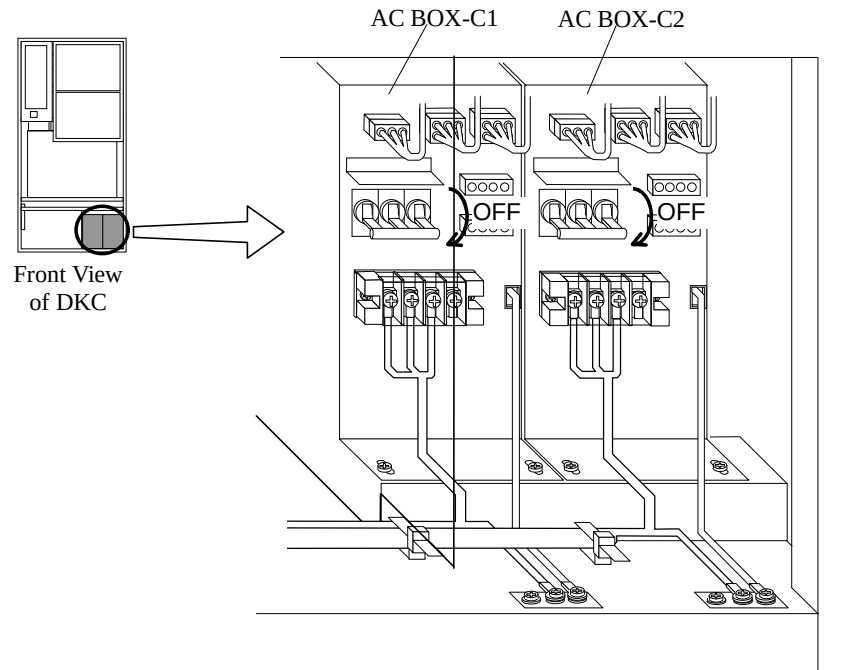


Fig. 3.16.2.1-4 Circuit Breaker on DKC AC Box

- f. When the AC Box Kit for Single Phase/30A (DKC-F460I-1PSD) is installed, turn off the circuit breaker at AC Box on the DKC.

When the AC Box Kit for Single Phase/30A (DKC-F460I-1PSD) is not installed, go to step g.

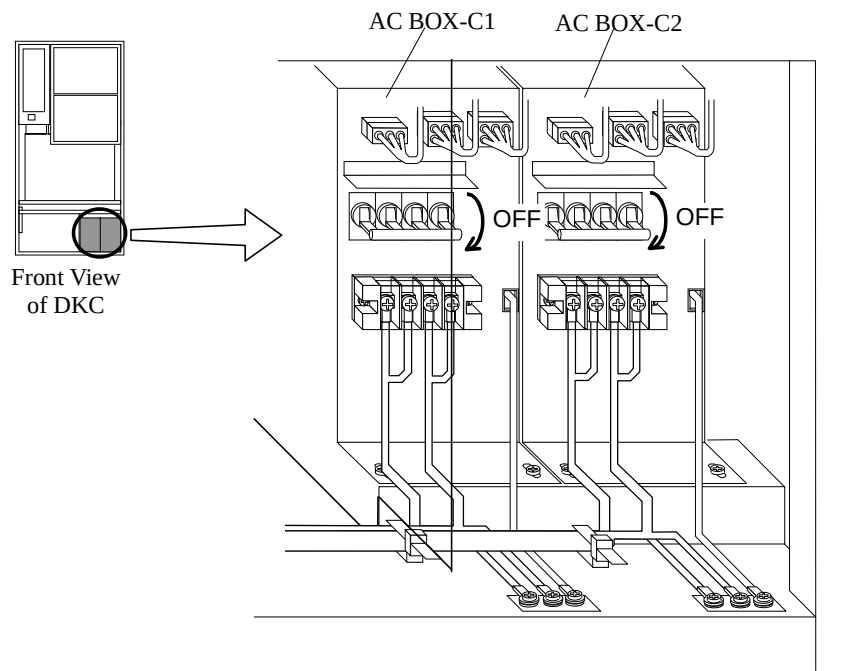


Fig. 3.16.2.1-5 Circuit Breaker on DKC AC Box

g. Turn off the main circuit breaker at the AC Box on the DKU.

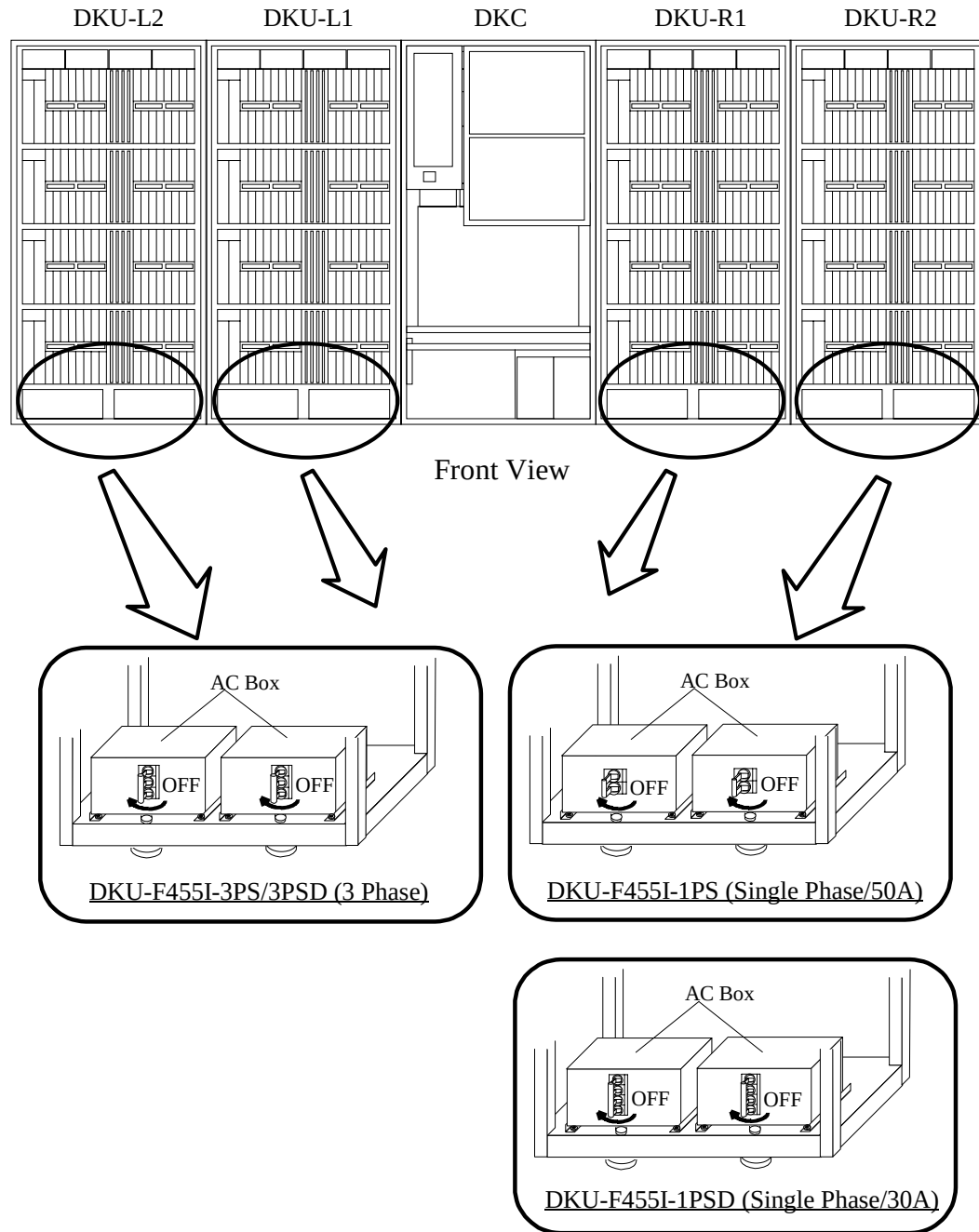


Fig. 3.16.2.1-6 Main Circuit Breaker on AC Box

3.16.2.2 Power OFF Procedure of Additional Disk Unit

1. Power off procedures are shown below. Refer to the details and start the operation.
 - a. Turn off the main circuit breaker at the AC Box on the DKU.

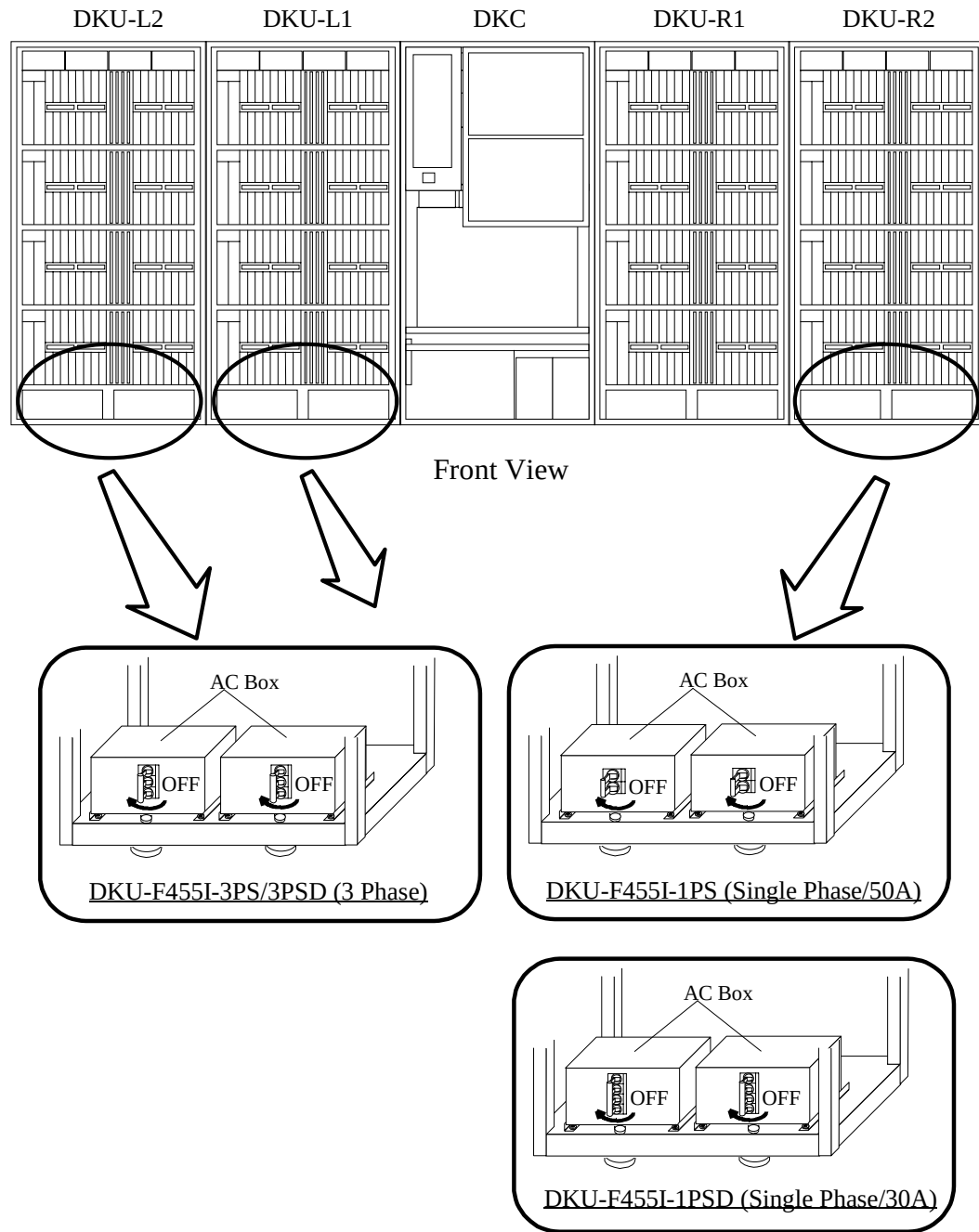


Fig. 3.16.2.2-1 Main Circuit Breaker on AC Box

3.17 Routing of External Connection Cable

1. Open the front door and then open the DKC panel.
2. Open the SVP frame.

SVP frame type 1

- a. Loosen the screw ① and open the SVP frame.

SVP frame type 2

- a. Loosen the screw ① and the SVP stopper is slide to the left.
- b. Open the SVP ASSY (Basic).
- c. Loosen the screw ② and open the SVP frame.

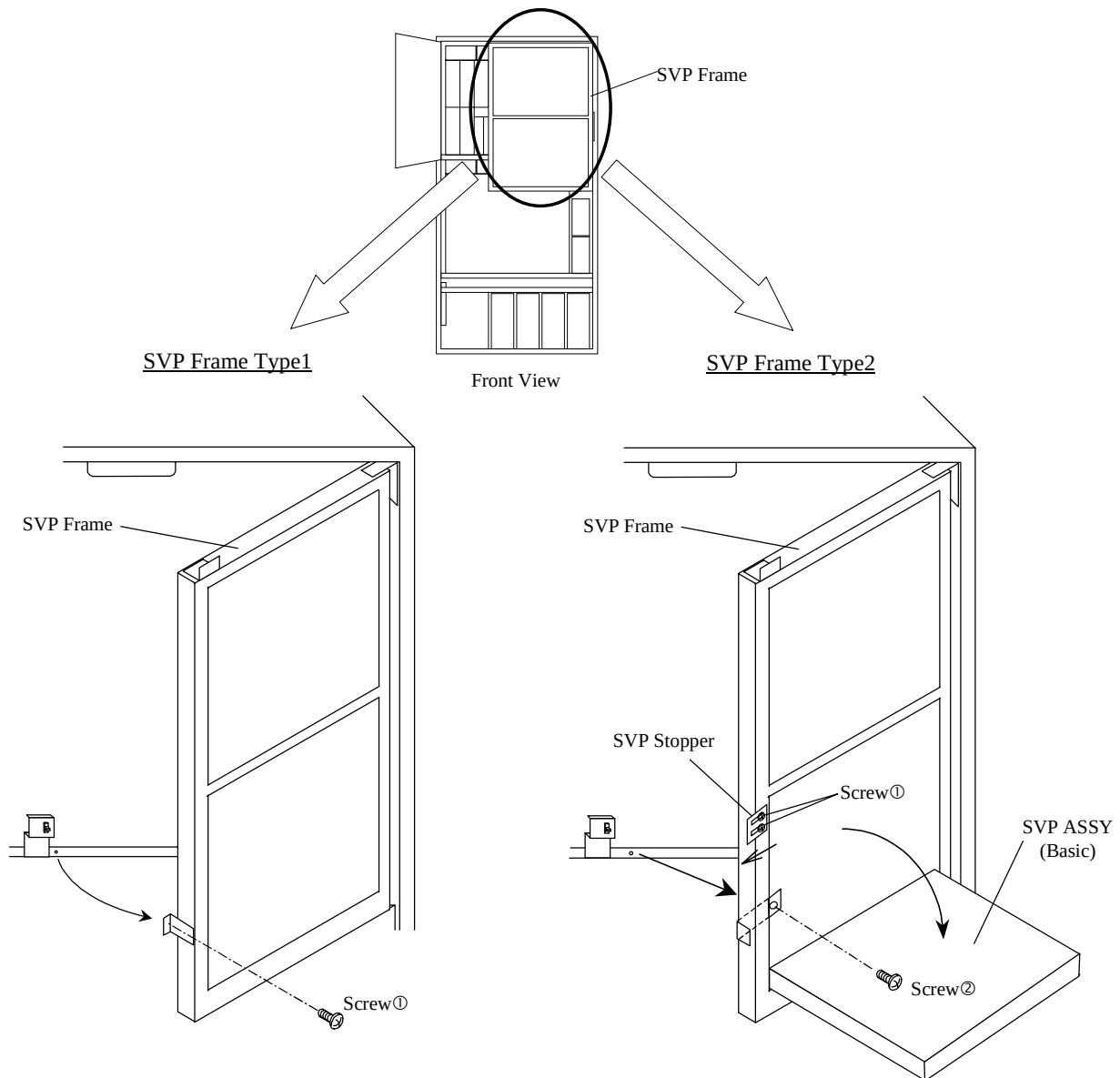


Fig. 3.17-1 Open the SVP Frame

3. Remove the Front Logic Box cover.
4. Loosen the screw ① and remove the cover ①.
5. Loosen the screw ② and remove the cover ②.
6. Loosen the screw ③ and slide the plate.
7. Take in the external connection cable, that has been pulled in through the opening on the bottom plate, through the gap of the sheet steel parts and route it.
8. Reinstall the covers by reversing the Steps 1 to 6 of the removal procedure.

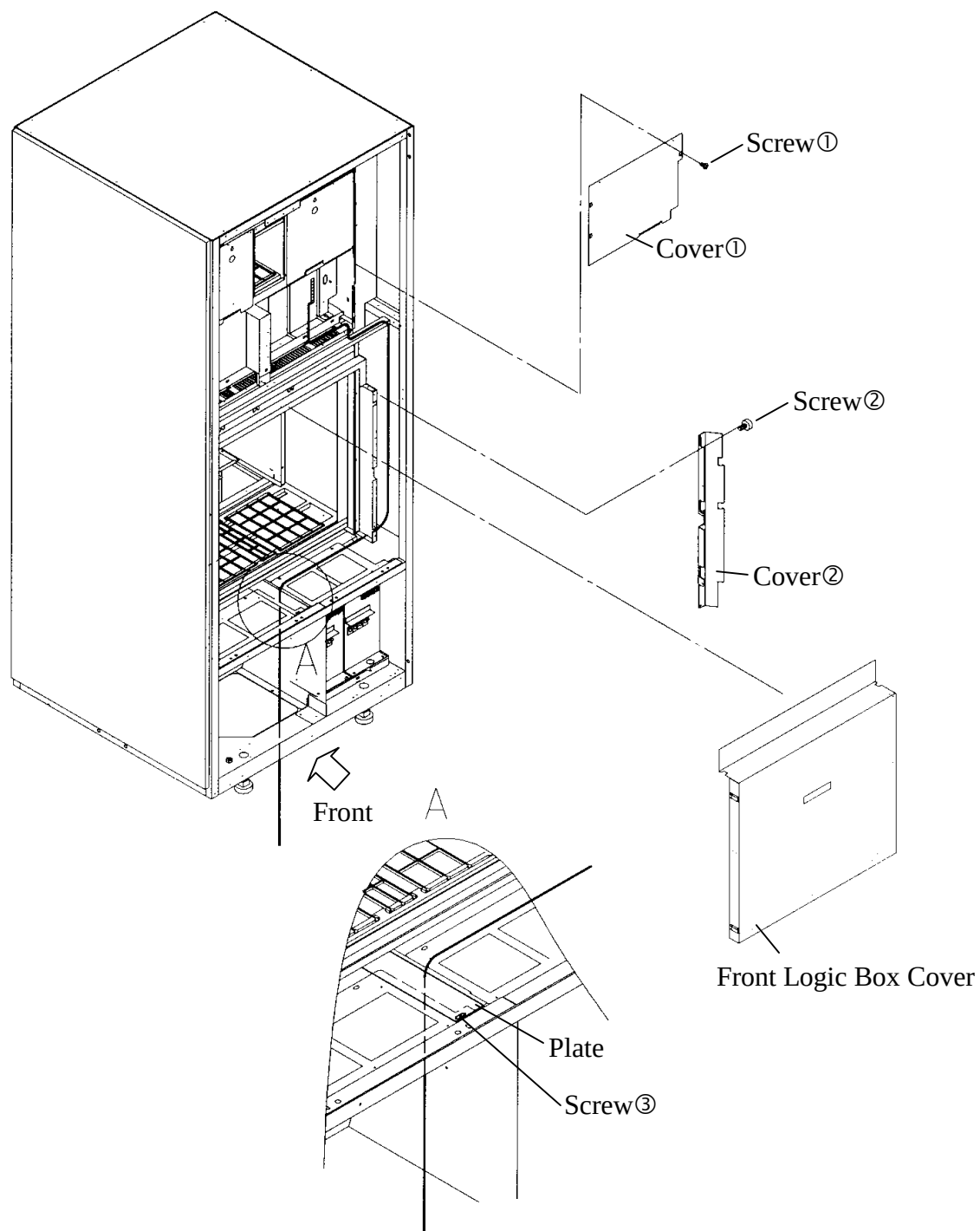


Fig. 3.17-2 Routing of External Connection Cable

3.18 Installation of 256MB Additional Memory for SVP (DKC-F460I-256M)

Table 3.18-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-256M	Additional SVP Memory	5518055-A	1	
		LABEL		1	
		Nameplate(HP)	2105902-235	1	RSD
			2105903-335	1	HICAM
			2105903-435	1	HICEF

3.18.1 Installation Procedure of 256MB Additional Memory for SVP

1. Open the front door and then open the DKC panel.
2. Turn the SVP Assy and turn off the power for the SVP.
3. Loosen the screw and open the SVP frame, and remove the lower SH box cover.

(1) Open the SVP frame.

SVP frame type1

- a. Remove the screw① and open the SVP frame.

SVP frame type2

- a. Loosen the screw② and the SVP stopper is slide to the left.
- b. Open the SVP ASSY (Basic).
- c. Remove the screw③ and open the SVP frame.

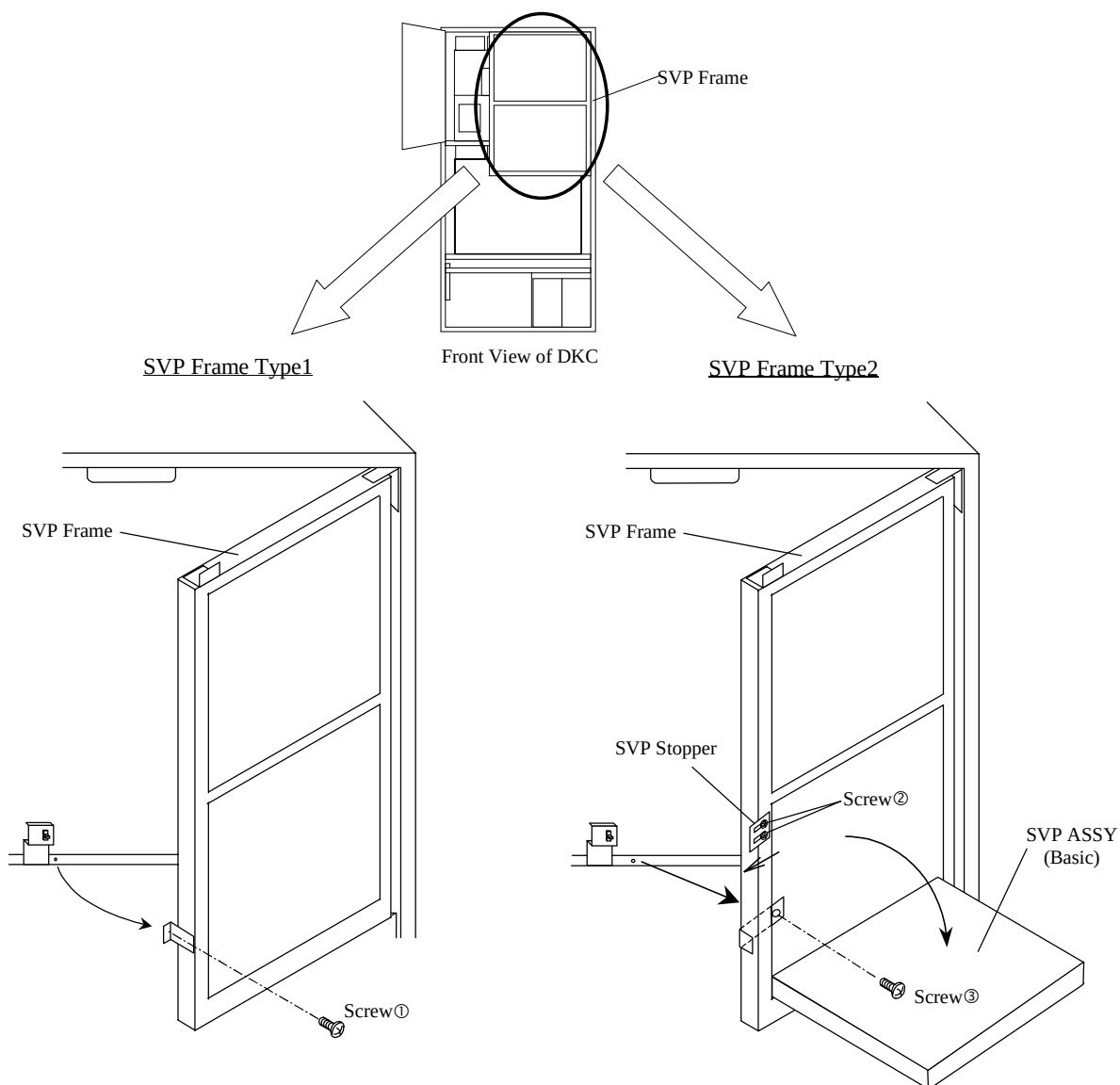


Fig. 3.18-1 Open the SVP Frame

- (2) Loosen the screws and remove the lower SH box covers.

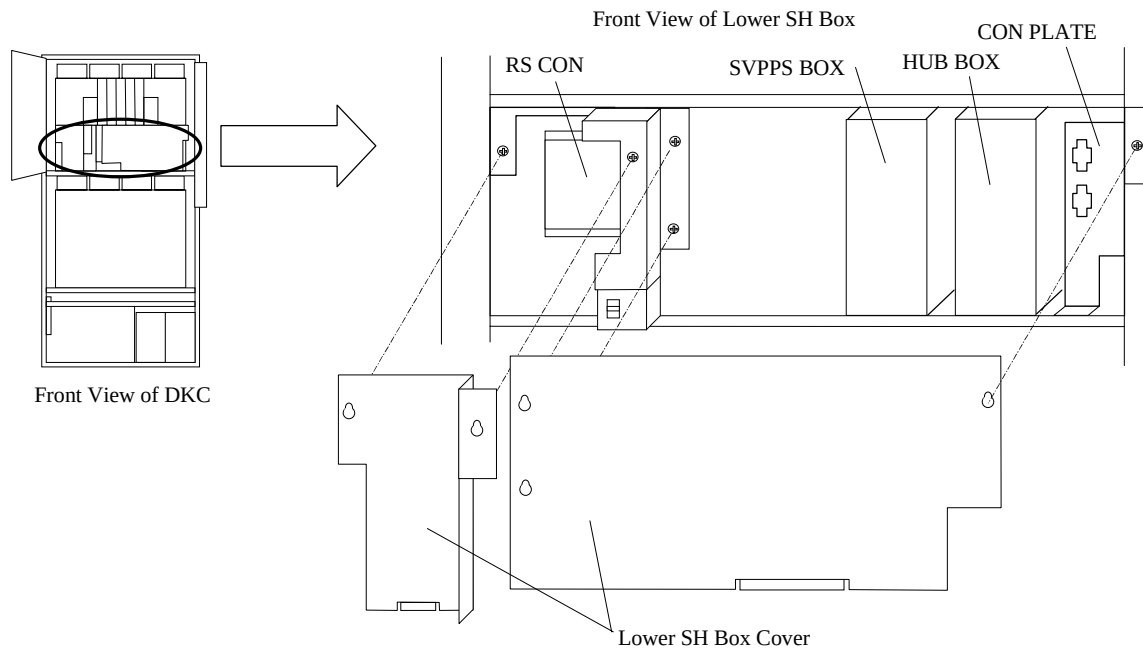


Fig. 3.18-2 Open the Lower SH Box Cover

4. Insert the Jumper.

Replacement of Basic SVP ASSY

- a. Insert the maintenance jumper into JP1 on the RS CON PCB.

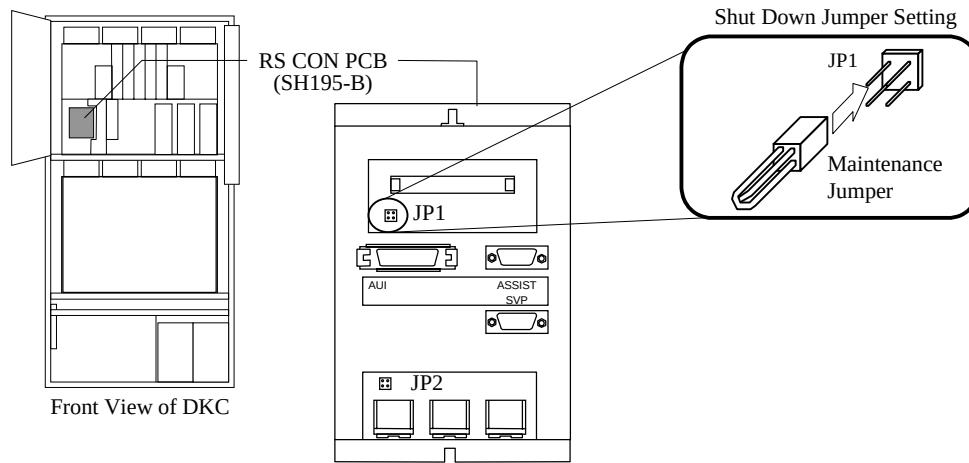


Fig. 3.18-3 Jumper settings of RS CON PCB

Replacement of Option SVP ASSY

- a. Insert the maintenance jumper into PS SD on the SVPPS BOX.

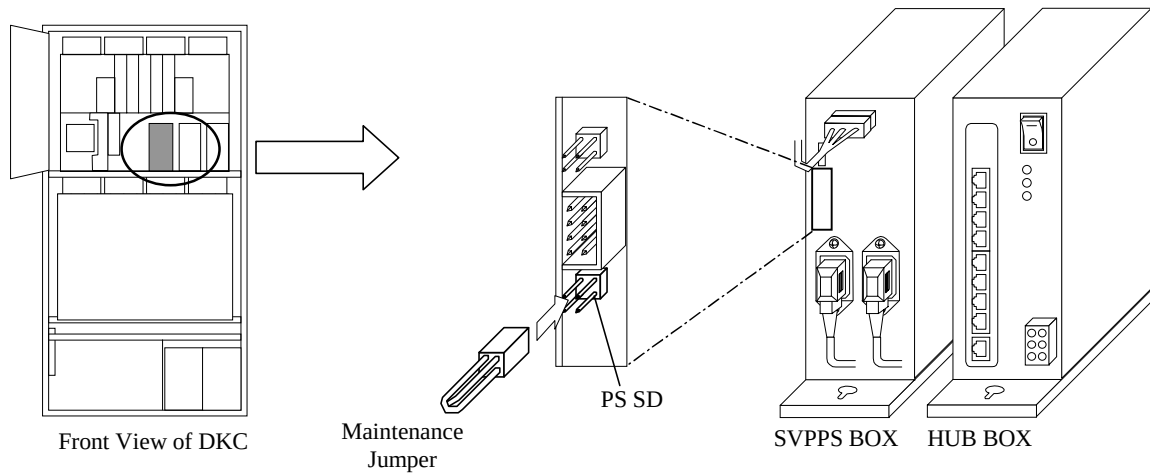


Fig. 3.18-4 Jumper settings of SVPPS BOX

5. Remove the cables.

Additional Memory of Basic SVP

- a. Disconnect the RS232C cable (RSVP-1) from the RS CON PCB.

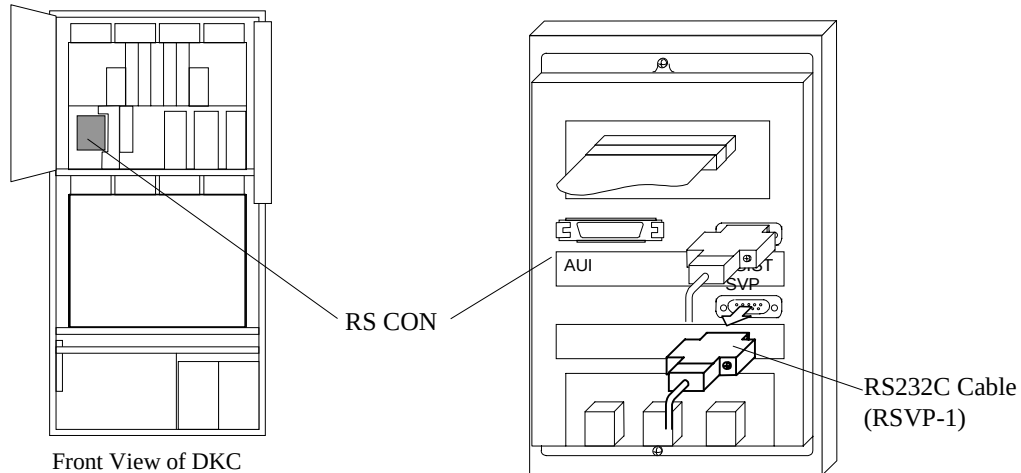


Fig. 3.18-5 Disconnection of RS232C Cable

- b. Disconnect the LAN cable (LSVP-1) from the HUB BOX.
Disconnect the SVP PS cable (PSVP-1) from the CON PLATE.

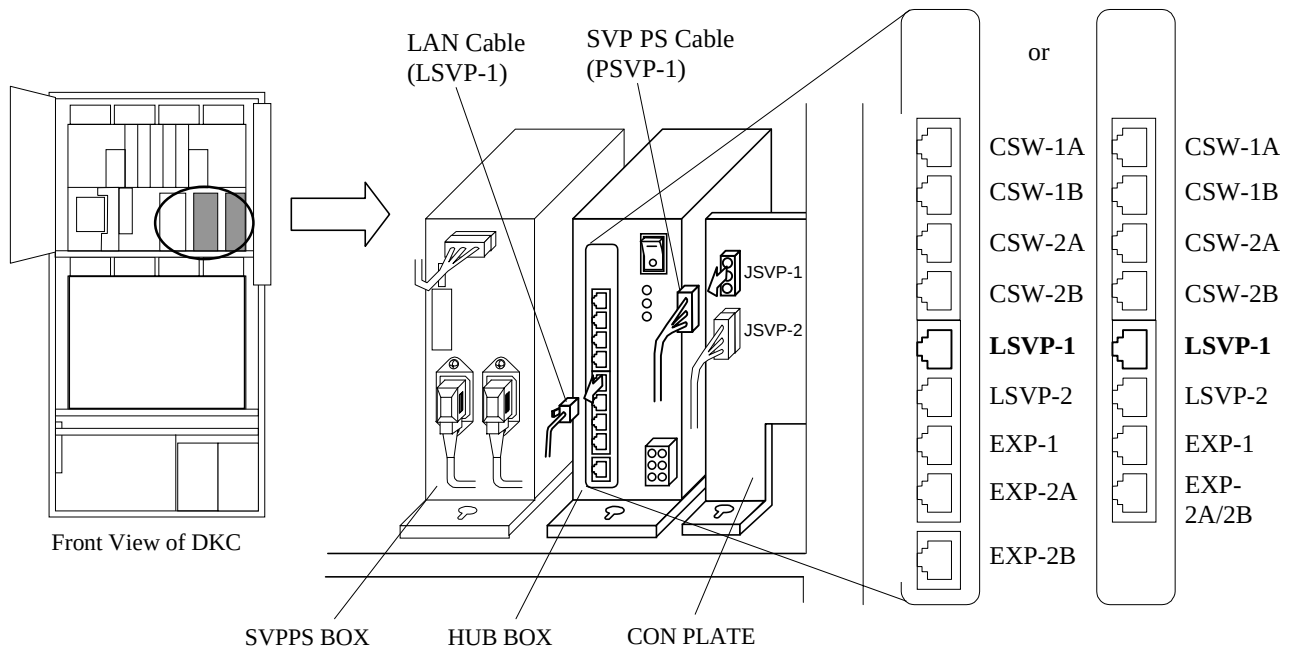


Fig. 3.18-6 Disconnection of LAN Cable and SVP-PS Cable

c. Open the repeat binder and remove the cables.

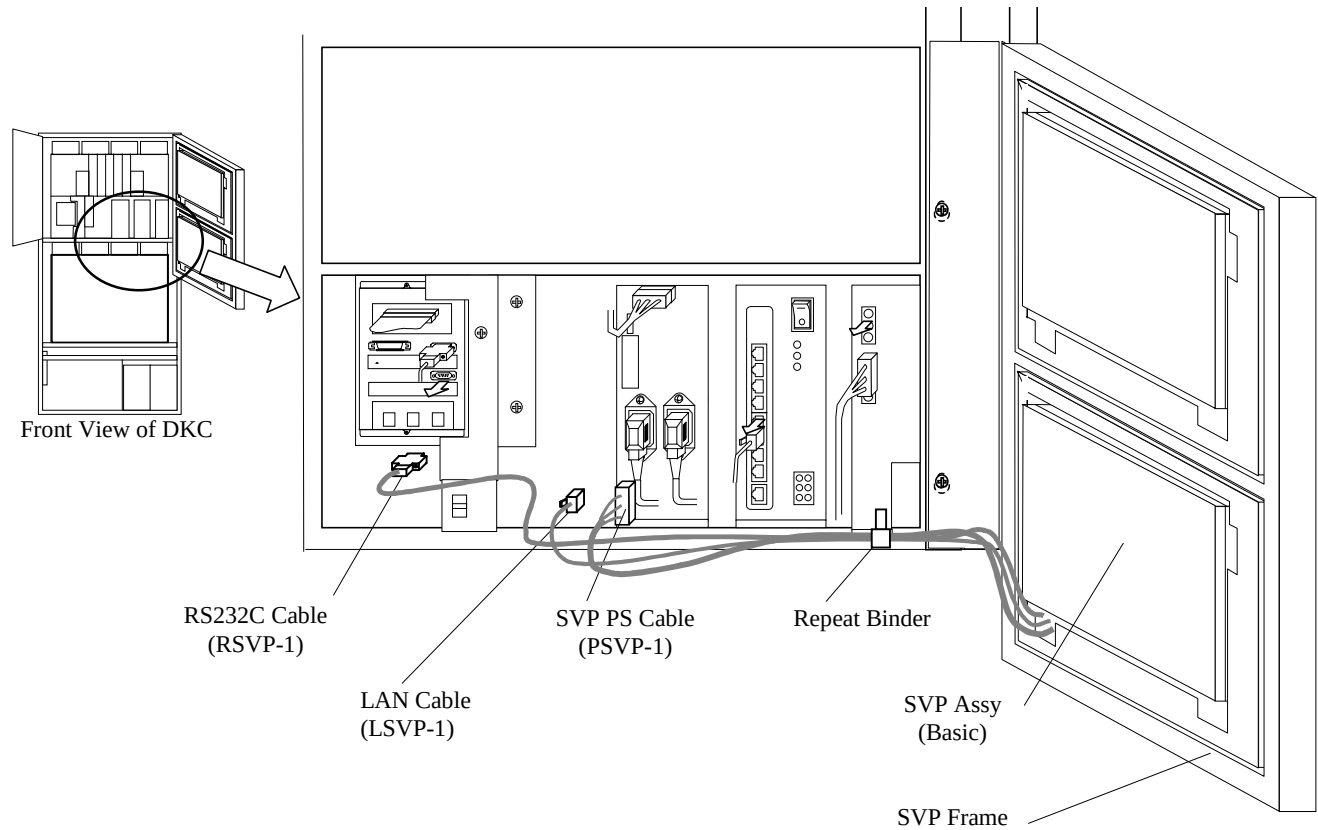


Fig. 3.18-7 Removal of Cables

Additional Memory of Option SVP ASSY

- a. Disconnect the RS232C cable (RSVP-2) from the RS CON PCB.

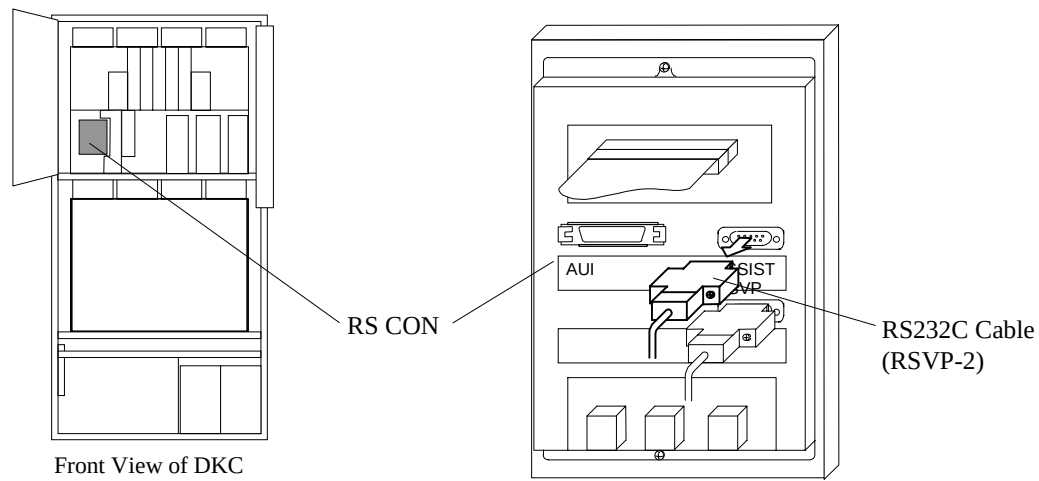


Fig. 3.18-8 Disconnection of RS232C Cable

- b. Disconnect the LAN cable (LSVP-2) from the HUB BOX.
Disconnect the SVP PS cable (PSVP-2) from the CON PLATE.

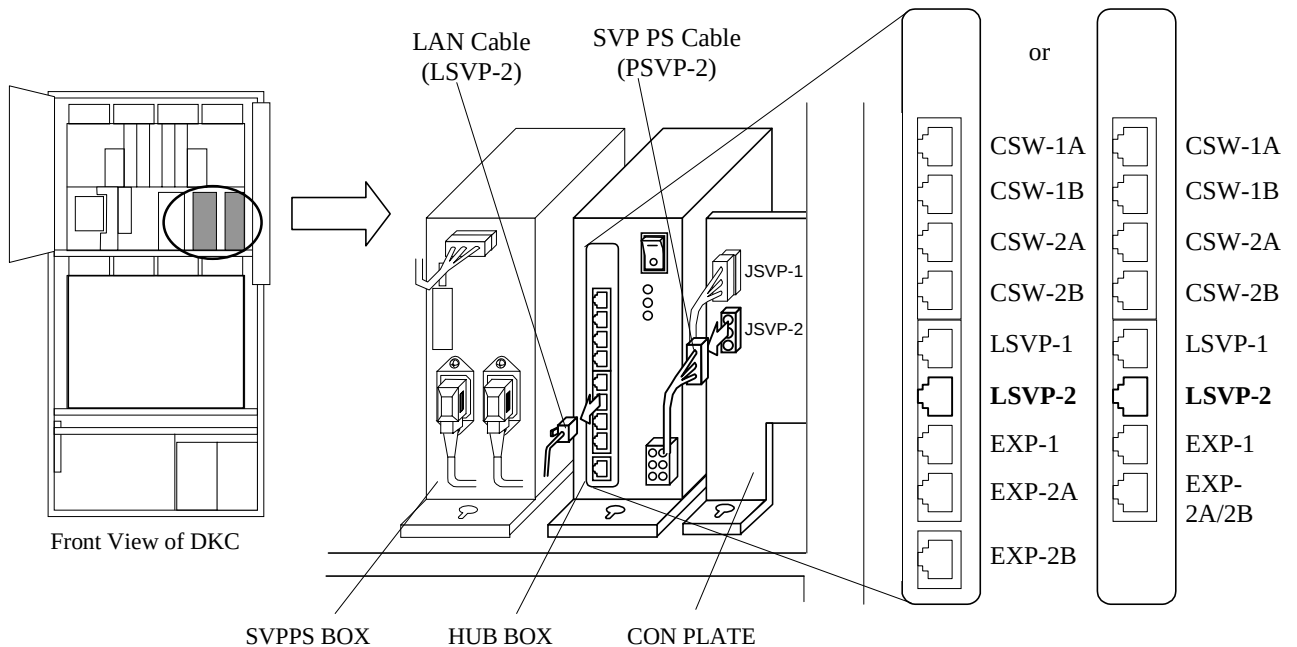


Fig. 3.18-9 Disconnection of LAN Cable and SVP PS Cable

c. Open the repeat binder and remove the cables.

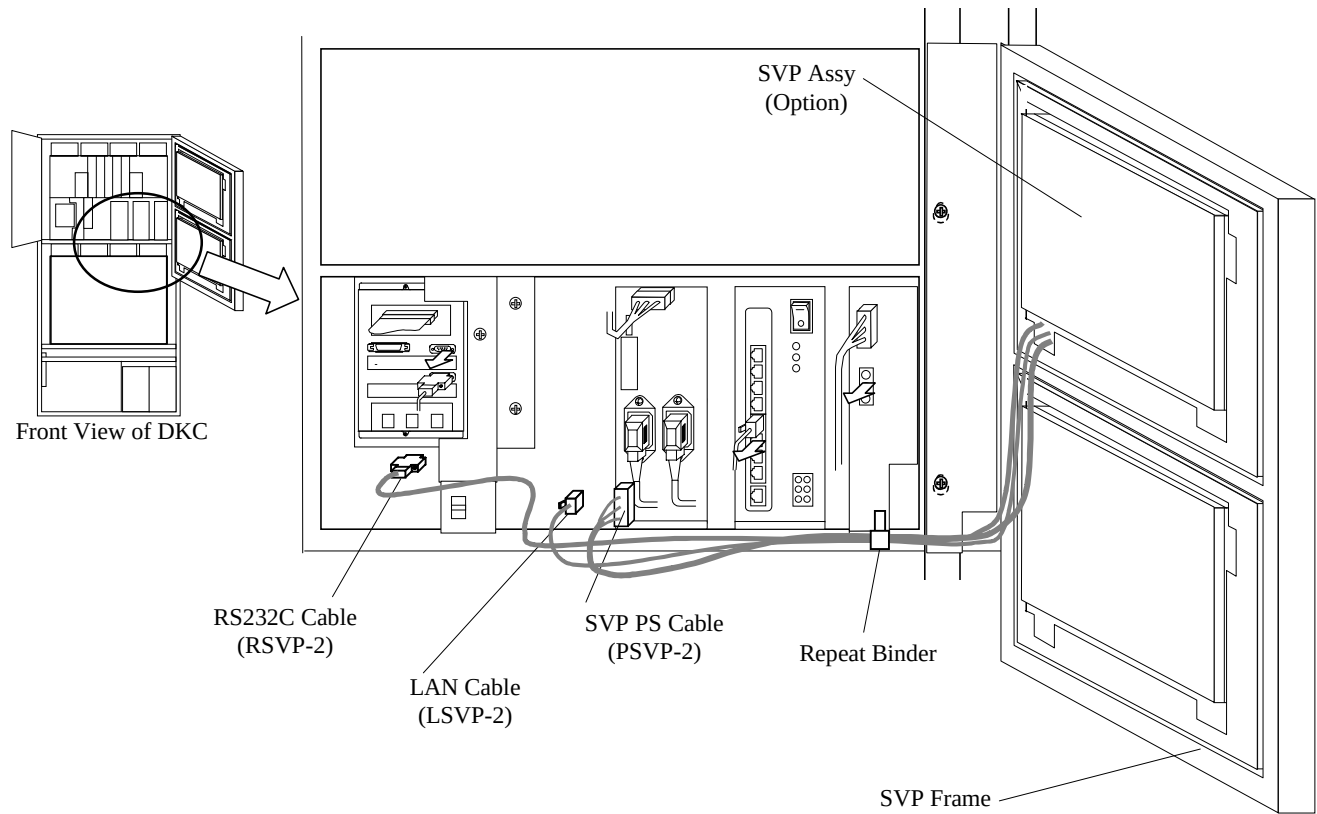


Fig. 3.18-10 Removal of Cables

6. Remove the SVP cover.
 - a. Close the SVP frame.
 - b. Loosen the screws and remove the SVP cover.

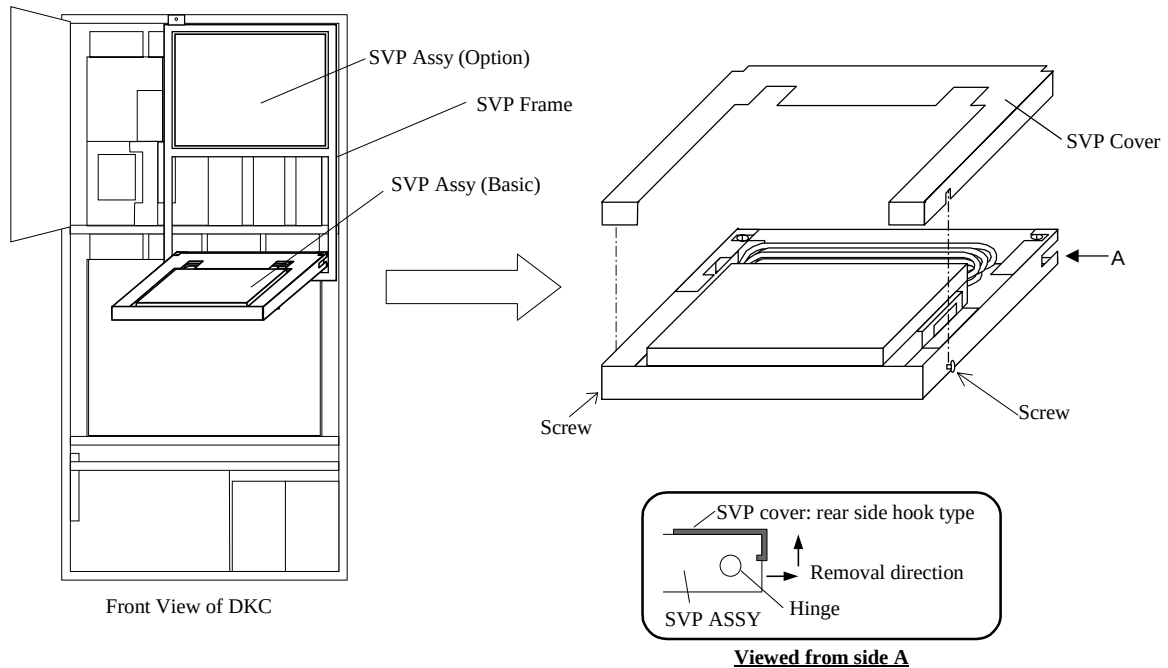


Fig. 3.18-11 Removing SVP cover

7. Loosen the screws and remove the stopper.
8. Pull out the SVP Assy.

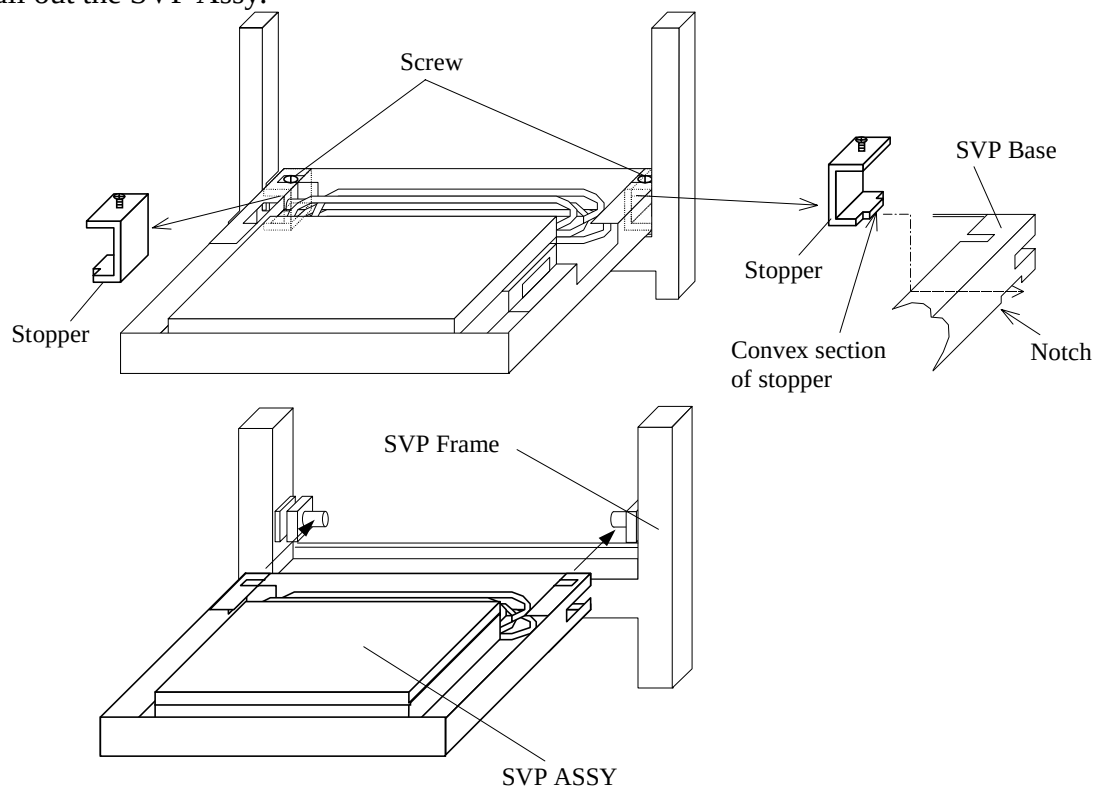


Fig. 3.18-12 Removing and installing the SVP Assy

9. Remove the DC Cable and LAN Cable from the SVP.

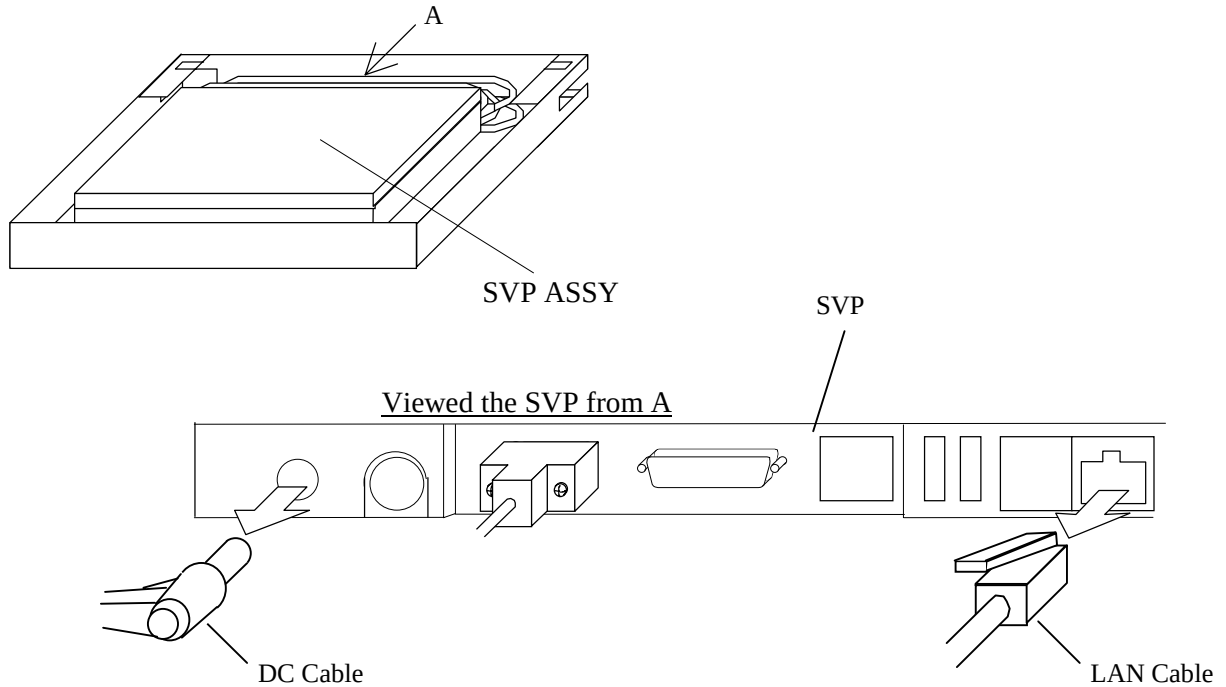


Fig. 3.18-13 Removing and installing Cables

10. Loosen the screws and remove the SVP stoppers.

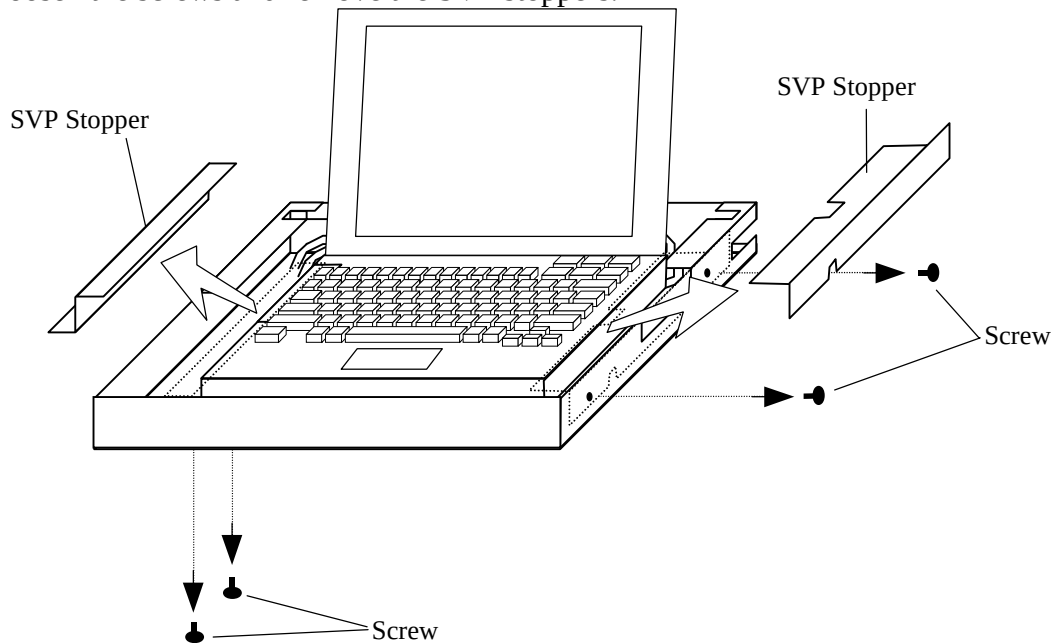


Fig. 3.18-14 Removing and installing the SVP Stoppers

11. Remove the SVP and RS232C Cable.

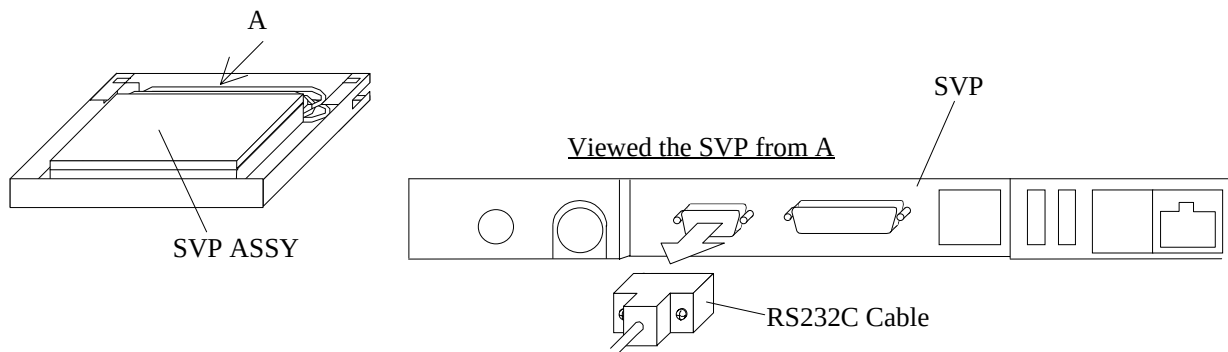


Fig. 3.18-15 Removing and installing RS232C Cable

12. Install the Memory module.

- a. Loosen the screw and remove the Memory cover.
- b. Insert the Memory module to the slot 2.
- c. Attach the Memory cover with screw.

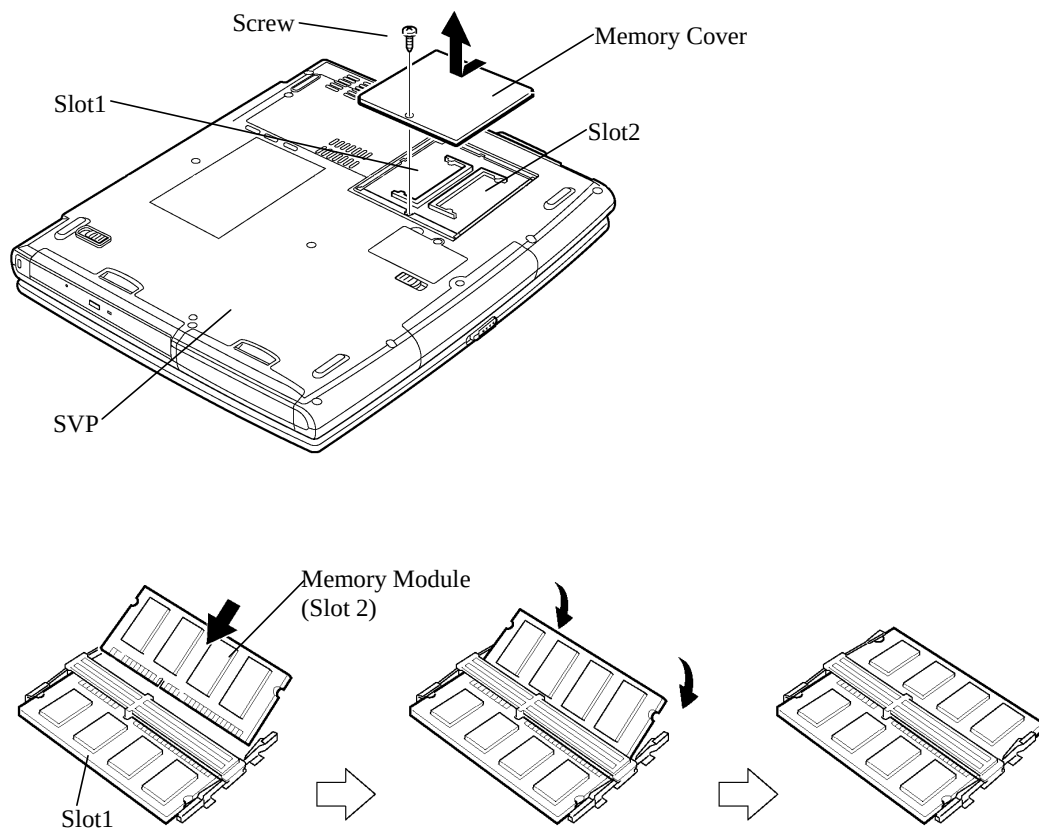


Fig. 3.18-16 Installing Memory Module

13. Attach the Label.

- a. Attach the Label of "256MB".

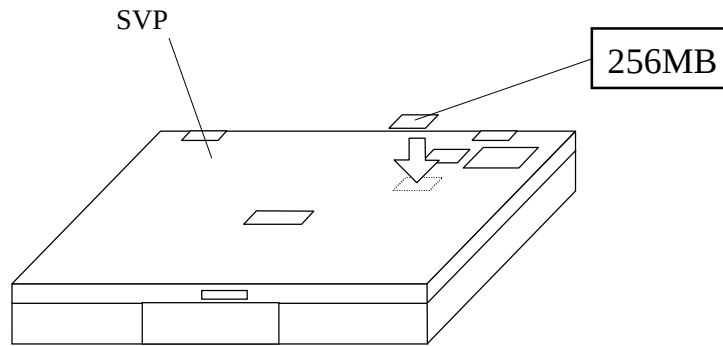


Fig. 3.18-17 Attachment of Label

14. Install a SVP.

- a. Attach the SVP and RS232C Cable. (See Fig. 3.18-15.)
- b. Install the SVP to the SVP ASSY and attach the SVP stoppers with screws. (See Fig. 3.18-14.)
- c. Connect the LAN cable and DC cable to the SVP. (See Fig. 3.18-13.)

15. Install a SVP Assy.

- a. Install the SVP to the SVP ASSY and attach the SVP stoppers with screws. (See Fig. 3.18-12.)
- b. Attach the SVP ASSY cables to the RS CON PCB, HUB BOX and CON PLATE. And then close the repeat binder. (See Fig. 3.18-7 and 3.18-10.)
- c. Attach the SVP cover. (See Fig. 3.18-11.)

16. Remove the Jumper.

Replacement of Basic SVP ASSY

- a. Remove the maintenance jumper of the JP1 on the RS CON PCB. (See Fig. 3.18-3.)

Replacement of Option SVP ASSY

- a. Remove the maintenance jumper of the PS SD on the SVPPS BOX. (See Fig. 3.18-4.)

17. Attach the nameplate.

- a. Attach the nameplate regardless of the model number from the left of the cover.

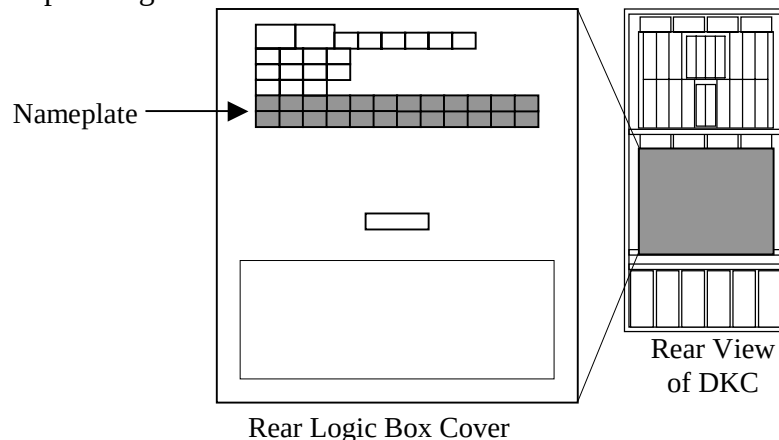


Fig. 3.18-18 Location of Nameplate

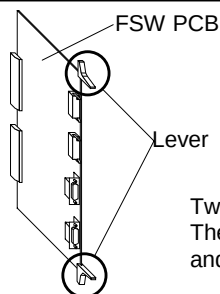
4. Hardware De-Installation

4.1 De-Installation of DEV Interface Cable, HDD Canister and Additional Disk Adapter (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

Table 4.1-1 Parts List

No.	Model Number	Parts Name	Parts No.	Quantity	Remarks
1	DKC-F460I-200	Disk Adapter PCB	5513979-B	2	Color of PCB Lever: Blue
		Nameplate (HDS)	2105902-103	1	RSD
			2105903-103		HICAM
			2105903-203		HICEF
		Nameplate (HP)	2105902-203	1	RSD
			2105903-303		HICAM
			2105903-403		HICEF
2	DKC-F460I-L1C	DEV Interface Cable	5513878-A-R	16	
		Nameplate (HDS)	2105902-118	1	RSD
			2105903-118		HICAM
			2105903-218		HICEF
		Nameplate (HP)	2105902-218	1	RSD
			2105903-318		HICAM
			2105903-418		HICEF
3	DKU-F455I-36K4	HDU450-36K1FC	5515544-A	4	
		Nameplate(HDS)	2105914-6/14/22	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-50/54/58	1	RSD/HICAM/HICEF
4	DKU-F455I-36K1	HDU450-36K1FC	5515544-A	1	
		Nameplate(HDS)	2105914-5/13/21	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-49/53/57	1	RSD/HICAM/HICEF
5	DKU-F455I-72J4	HDU450-72J1FC	5513873-A	4	
		Nameplate(HDS)	2105914-8/16/24	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-52/56/60	1	RSD/HICAM/HICEF
6	DKU-F455I-72J1	HDU450-72J1FC	5513873-A	1	
		Nameplate(HDS)	2105914-7/15/23	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105914-51/55/59	1	RSD/HICAM/HICEF
7	DKU-F455I-EXC	DEV I/F Cable 2	5513860-A-R	16	
		Nameplate(HDS)	2105913-33/34/35	1	RSD/HICAM/HICEF
		Nameplate(HP)	2105913-39/40/41	1	RSD/HICAM/HICEF

NOTICE:



Two types of levers for inserting/ removing the FSW, large and small ones, are used. The levers were enlarged to make the operation easier, accordingly their performance and function are the same.

4.1.1 Flowchart

There are ten cases (① to ⑩) of these removal works as shown in the following table because two or more options are to be removed at the same time. Perform the work referring to the flowchart of each work.

Case	Option De-Installation Procedure	Page
①	When performing removal of the data/spare HDD canister (DKU-F455I-36K1/36K4/72J1/72J4)	INST04-DKA-30
②	When performing removal of the DKA (DKC-F460I-200)	INST04-DKA-30
③	When performing removal of the data/spare HDD and DKA (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4)	INST04-DKA-30
④	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 frame (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-40
⑤	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 frame (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4)	INST04-DKA-40
⑥	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L2 frame (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-50
⑦	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L1 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-60
⑧	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L2 frames (DKC-F460I-200, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-70
⑨	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-80
⑩	When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2, DKU-L1, and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K1/36K4/72J1/72J4/EXC)	INST04-DKA-90

① When performing removal of the data/spare HDD canister -- [[INST04-DKA-100 through 250](#)]

1. Setting up the New Device Structure Information



2. SVP pre procedure



3. De-Installation Procedure of HDD Canister



4. SVP post procedure

② When performing removal of the DKA ----- [[INST04-DKA-260 through 350](#)]

1. Setting up the New Device Structure Information



2. SVP pre procedure



3. De-Installation Procedure of Disk Adapter



4. SVP post procedure

③ When performing removal of the data/spare HDD and DKA
----- [[INST04-DKA-360 through 550](#)]

1. Setting up the New Device Structure Information



2. SVP pre procedure



3. De-Installation Procedure of HDD Canister



4. De-Installation Procedure of Disk Adapter



5. SVP post procedure



④ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 frame----- [[INST04-DKA-560 through 840](#)]

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Remove the cable covers to disconnect the DEV interface cables.
*** In this step, do not disconnect the DEV interface cable from operating DKU.**



2. Setting up the New Device Structure Information



3. SVP pre procedure



4. De-Installation Procedure of HDD Canister



5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Disconnect the DEV interface cable from operating DKU.



6. De-Installation Procedure of Disk Adapter



7. SVP post procedure



8. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Remove the DEV interface cable from DKU and attach the cable covers.

⑤ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 frame ----- [[INST04-DKA-850 through 1100](#)]

1. De-Installation Procedure of DEV Interface Cable 1 (1/3) (DKC-F460I-L1C)



2. Setting up the New Device Structure Information



3. SVP pre procedure



4. De-Installation Procedure of HDD Canister



5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKC-F460I-L1C)



6. De-Installation Procedure of Disk Adapter



7. SVP post procedure



8. De-Installation Procedure of DEV Interface Cable 1 (3/3) (DKC-F460I-L1C)

⑥ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L2 frame ----- [\[INST04-DKA-1110 through 1390\]](#)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)
(Note 1) Remove the cable covers to disconnect the DEV interface cables.
*** In this step, do not disconnect the DEV interface cable from operating DKU.**



2. Setting up the New Device Structure Information



3. SVP pre procedure



4. De-Installation Procedure of HDD Canister



5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)
(Note 2) Disconnect the DEV interface cable from operating DKU.



6. De-Installation Procedure of Disk Adapter

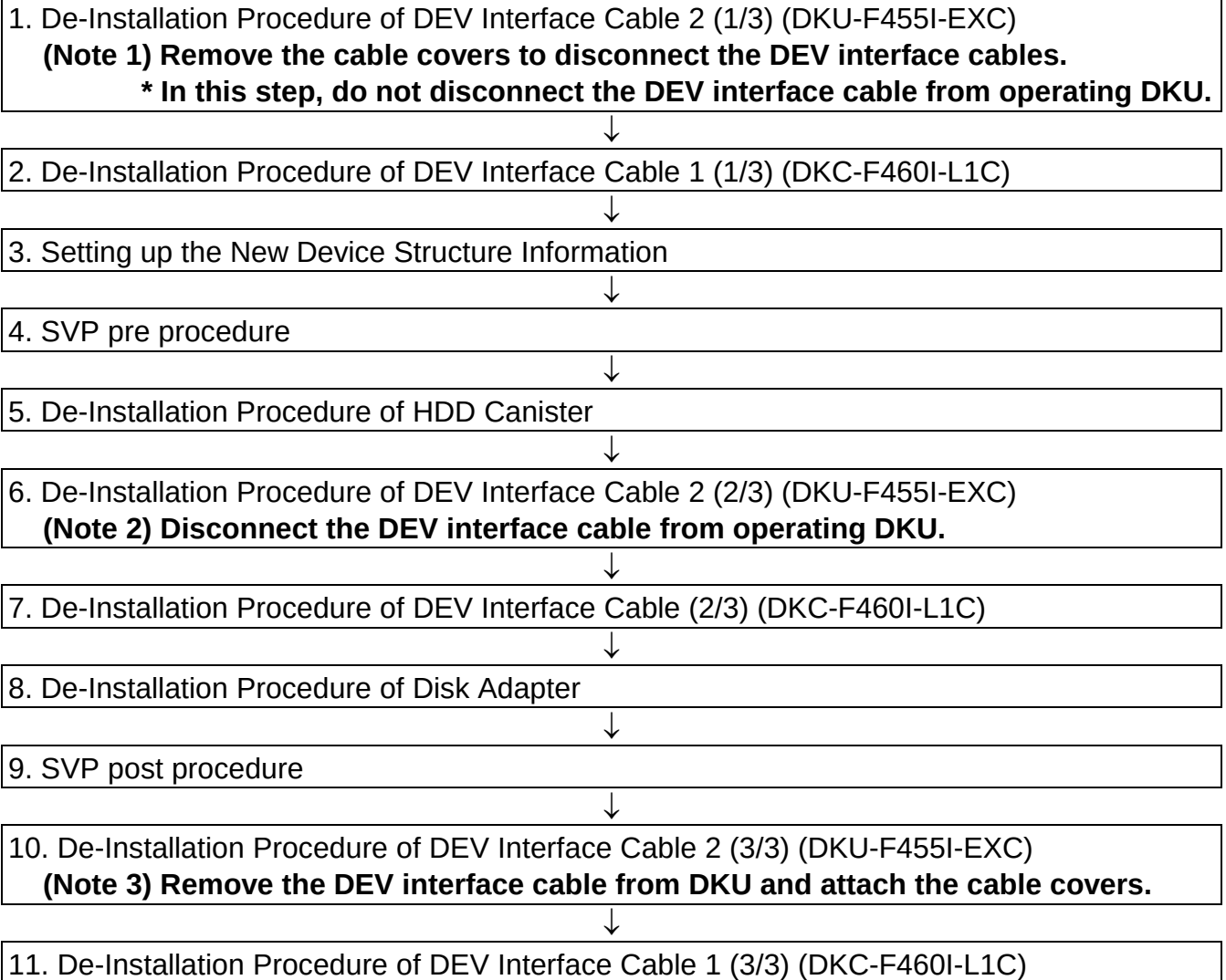


7. SVP post procedure

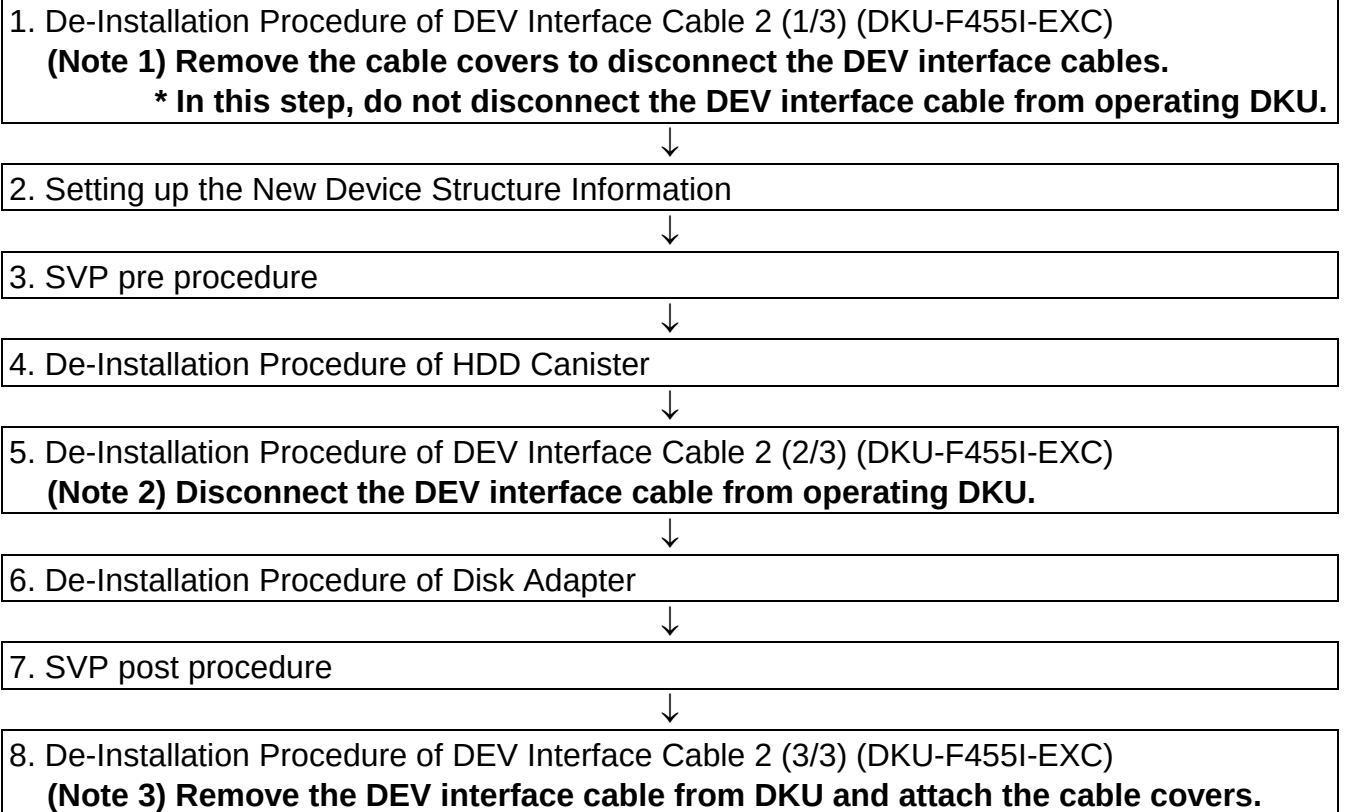


8. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)
(Note 3) Remove the DEV interface cable from DKU and attach the cable covers.

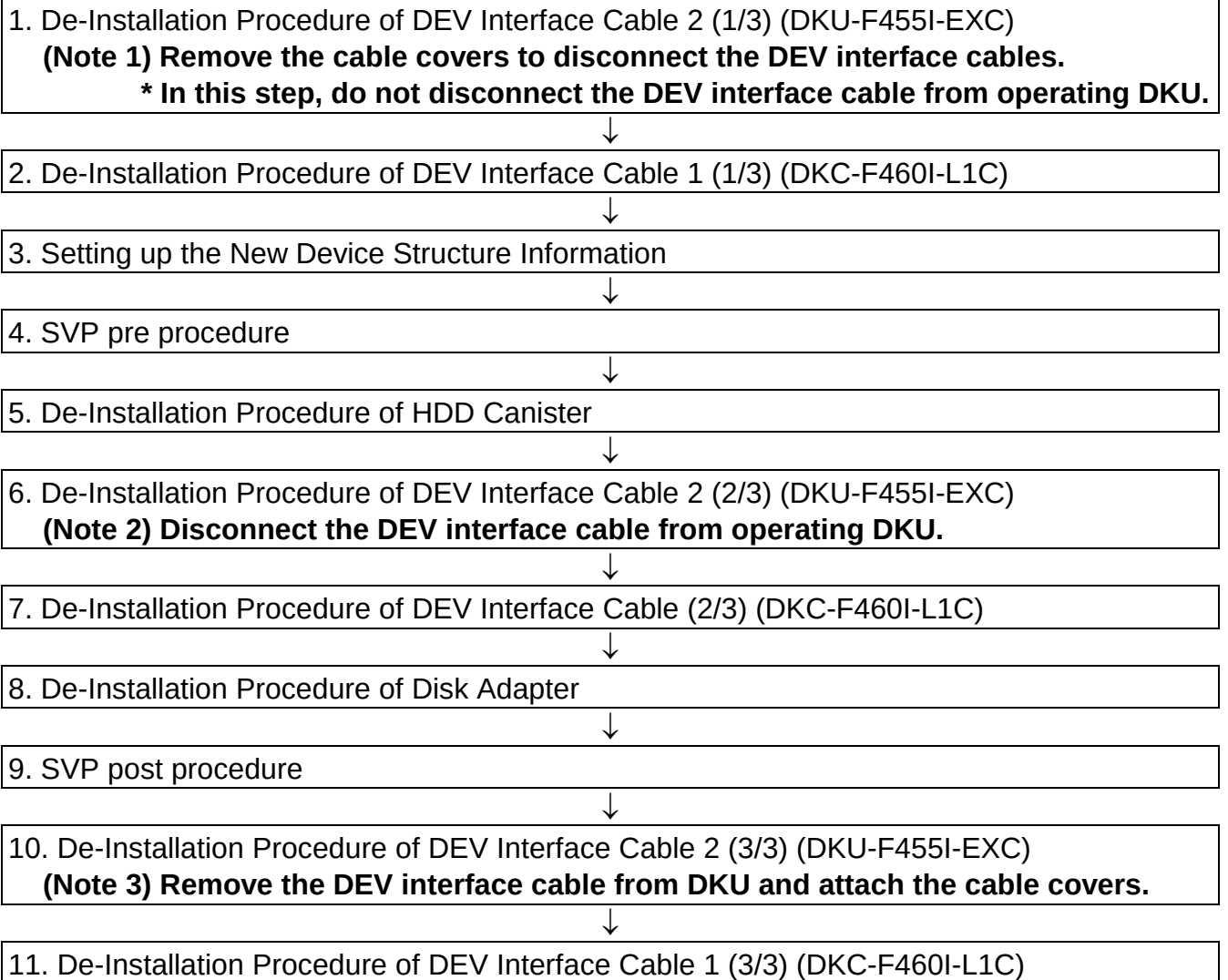
⑦ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L1 frames
 -----[INST04-DKA-1400 through 1740]



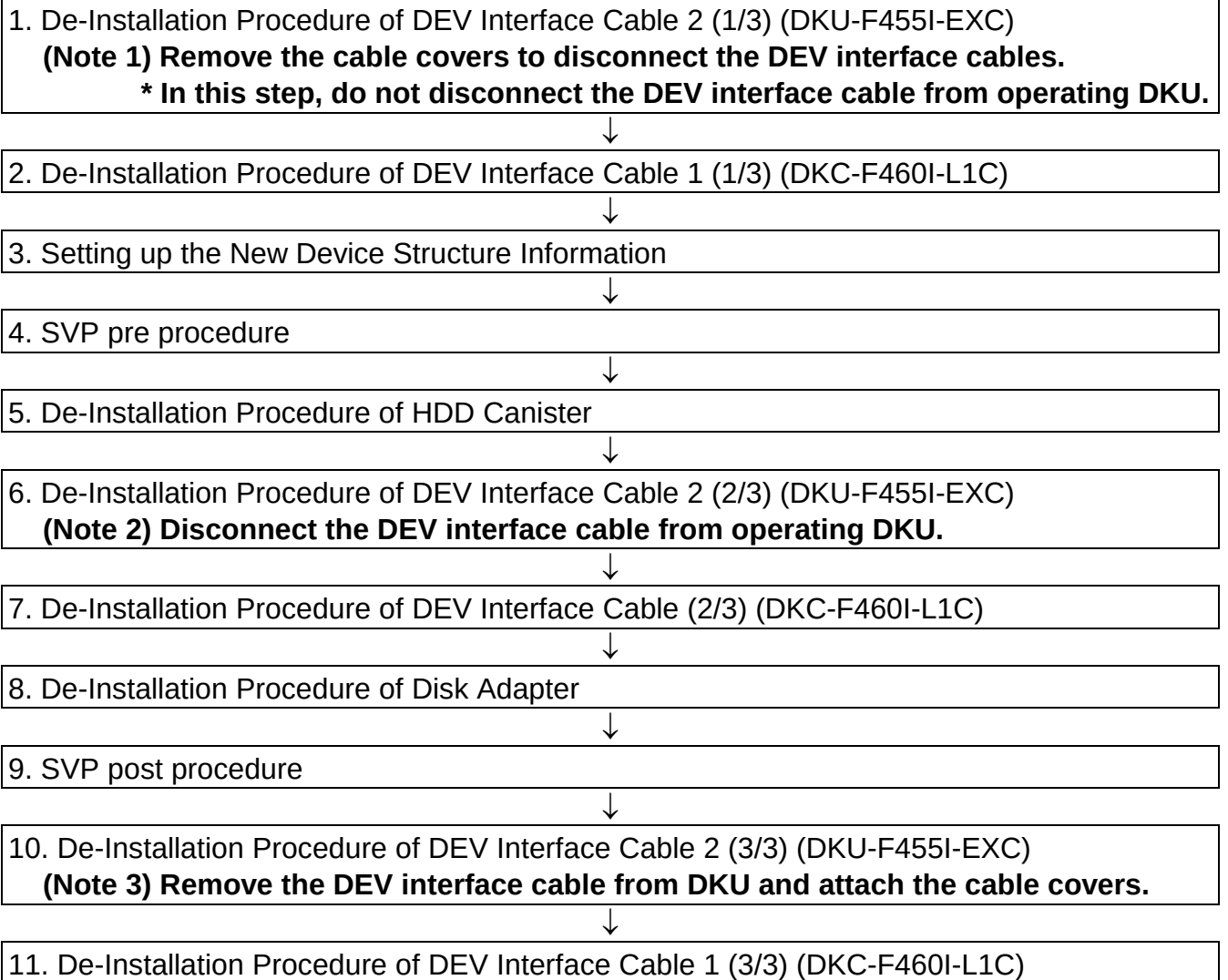
- ⑧ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L2 frames
 ----- [INST04-DKA-1750 through 2120]



⑨ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 and DKU-L2 frames
 -----[INST04-DKA-2130 through 2470]



⑩ When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2, DKU-L1, and DKU-L2 frames
 -----[INST04-DKA-2480 through 2910]

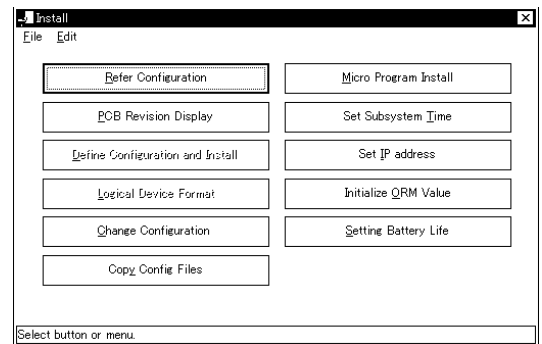


4.1.2 When performing removal of the data/spare HDD canister (DKU-F455I-36K4/36K1/72J4/72J1)

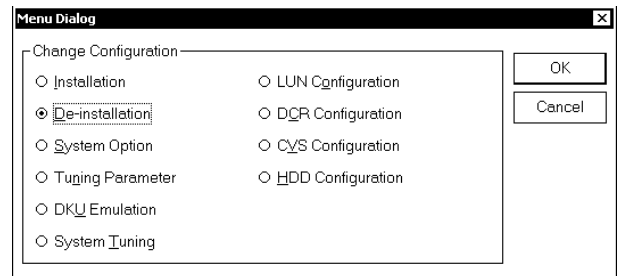
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

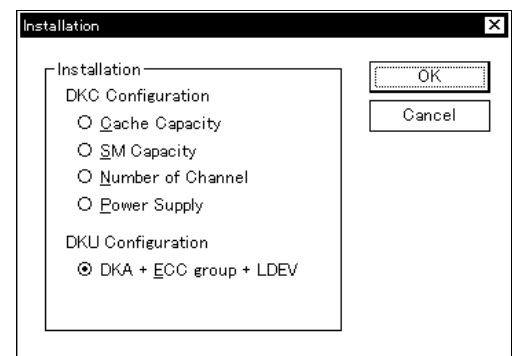
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

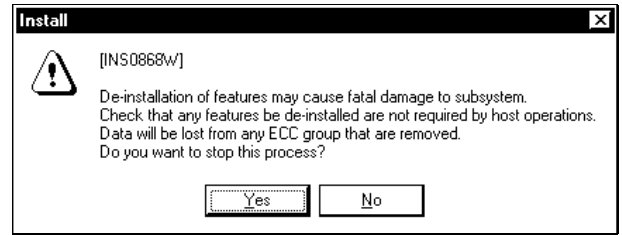


4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



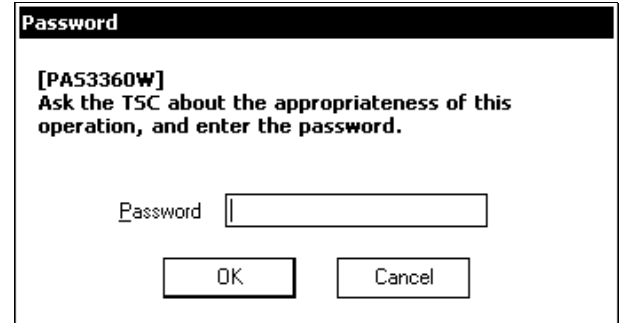
5.

Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>

Enter the password and select (CL) [OK].

**NOTICE**

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

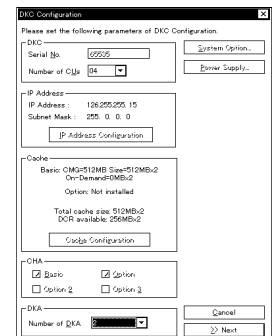
7. <Update Configuration Information>

Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

Note: A part other than the CU and DKA cannot be removed at the same time.

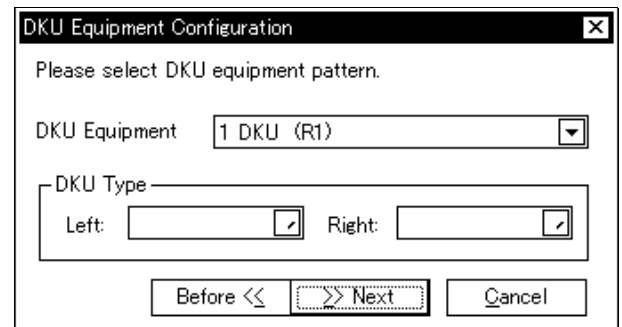
Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.

After making the setting, select the [>> Next]. The routine proceeds to Step 8. When the [Before <<] is selected, the window returns to the preceding one. Return to Step 7.



8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

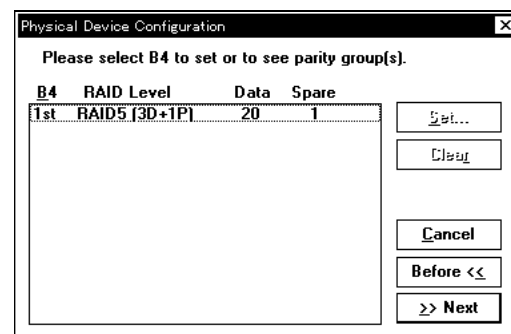
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

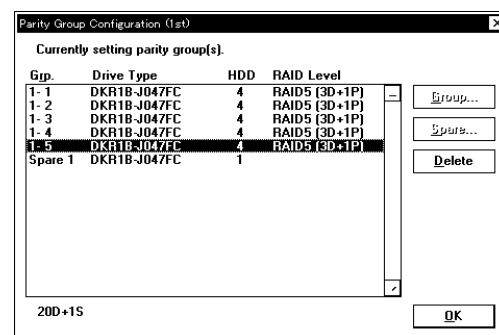
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

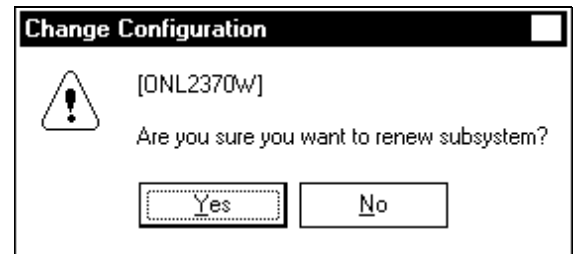


2. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

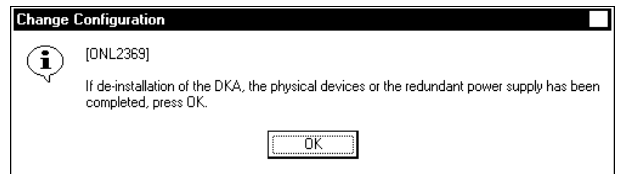
When [No] is selected (CL), returns to [INST04-DKA-100](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



3. De-Installation Procedure of HDD Canister

3-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.2-1.

Table 4.1.2-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.2-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU				
HDU-L25				HDU-L15										
S		P		S		P					S		P	
253	254	251	252	189	190	187	188				173	174*2	171	172
249	250	247	248	185	186	183	184				169	170	167	168
245	246	243	244	181	182	179	180				165	166	163	164
239	240	237	238	177	178	175	176				161	162	159	160
S		P		S		P					S		P	
235	236	233	234	173	174	171	172				157	158	155	156
231	232	229	230	169	170	167	168				153	154	151	152
227	228	225	226	165	166	163	164				149	150	147	148
223	224	221	222	161	162	159	160				145	146	143	144
S		P		S		P					S		P	
219	220	217	218	141	142	139	140				142	Spare*1	140	141
215	216	213	214	137	138	135	136				138	139	136	137
211	212	209	210	133	134	131	132				134	135	132	133
207	208	205	206	129	130	127	128				134	135	132	133
S		P		S		P					S		P	
203	204	201	202	125	126	123	124				140	141	138	139
199	200	197	198	121	122	119	120				136	137	134	135
195	196	193	194	117	118	115	116				134	135	132	133
191	192	189	190	113	114	111	112				130	131	128	129
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				140	141	137	138
233	234	231	232	185	186	183	184				136	137	133	134
229	230	227	228	181	182	179	180				134	135	131	132
225	226	223	224	177	178	175	176				132	133	129	130
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				142	Spare*1	140	141
233	234	231	232	185	186	183	184				138	139	136	137
229	230	227	228	181	182	179	180				136	137	134	135
225	226	223	224	177	178	175	176				134	135	132	133
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				140	141	138	139
233	234	231	232	185	186	183	184				136	137	134	135
229	230	227	228	181	182	179	180				134	135	132	133
225	226	223	224	177	178	175	176				132	133	130	131
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				142	143	140	141
233	234	231	232	185	186	183	184				140	141	137	138
229	230	227	228	181	182	179	180				138	139	136	137
225	226	223	224	177	178	175	176				136	137	134	135
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				142	143	140	141
233	234	231	232	185	186	183	184				140	141	137	138
229	230	227	228	181	182	179	180				138	139	136	137
225	226	223	224	177	178	175	176				136	137	134	135
S		P		S		P					S		P	
237	238	235	236	189	190	187	188				142	143	140	141
233	234	231	232	185	186	183	184				140	141	137	138
229	230	227	228	181	182	179	180				138	139	136	137
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226	223	224	177	178	175	176	136	137	134	135			
S		P		S		P		S		P				
237	238	235	236	189	190	187	188	142	143	140	141			
233	234	231	232	185	186	183	184	140	141	137	138			
229	230	227	228	181	182	179	180	138	139	136	137			
225	226													

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
177	178	175	176	241	242	239	240
173	174*2	171	172	237	238	235	236
169	170	167	168	233	234	231	232
165	166	163	164	229	230	227	228
161	162	159	160	225	226	223	224
157	158	155	156	221	222	219	220
153	154	151	152	217	218	215	216
149	150	147	148	213	214	211	212
145	146	143	144	209	210	207	208
141	142	139	140	205	206	203	204
137	138	135	136	201	202	199	200
133	134	131	132	197	198	195	196
129	130	127	128	193	194	191	192
125	126	123	124	189	190	187	188
121	122	119	120	185	186	183	184
117	118	115	116	181	182	179	180
113	114	111	112	177	178	175	176
109	110	107	108	173	174*2	171	172
105	106	103	104	169	170	167	168
101	102	99	100	165	166	163	164
97	98	95	96	161	162	159	160
93	94	91	92	157	158	155	156
89	90	87	88	153	154	151	152
85	86	83	84	149	150	147	148
81	82	79	80	145	146	143	144
77	78	75	76	141	142	139	140
73	74	71	72	137	138	135	136
69	70	67	68	133	134	131	132
65	66	63	64	129	130	127	128
61	62	59	60	125	126	123	124
57	58	55	56	121	122	119	120
53	54	51	52	117	118	115	116
49	50	47	48	113	114	111	112
45	46	43	44	109	110	107	108
41	42	39	40	105	106	103	104
37	38	35	36	101	102	99	100
33	34	31	32	97	98	95	96
29	30	27	28	93	94	91	92
25	26	23	24	89	90	87	88
21	22	19	20	85	86	83	84
17	18	15	16	81	82	79	80
13	14	11	12	77	78	75	76
9	10	7	8	73	74	71	72
5	6	3	4	69	70	67	68
1	2	0	0	65	66	63	64
				61	62	59	60
				57	58	55	56
				53	54	51	52
				49	50	47	48
				45	46	43	44
				41	42	39	40
				37	38	35	36
				33	34	31	32
				29	30	27	28
				25	26	23	24
				21	22	19	20
				17	18	15	16
				13	14	11	12
				9	10	7	8
				5	6	3	4
				1	2	0	0

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.2-1 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.2-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.2-2.

Table 4.1.2-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

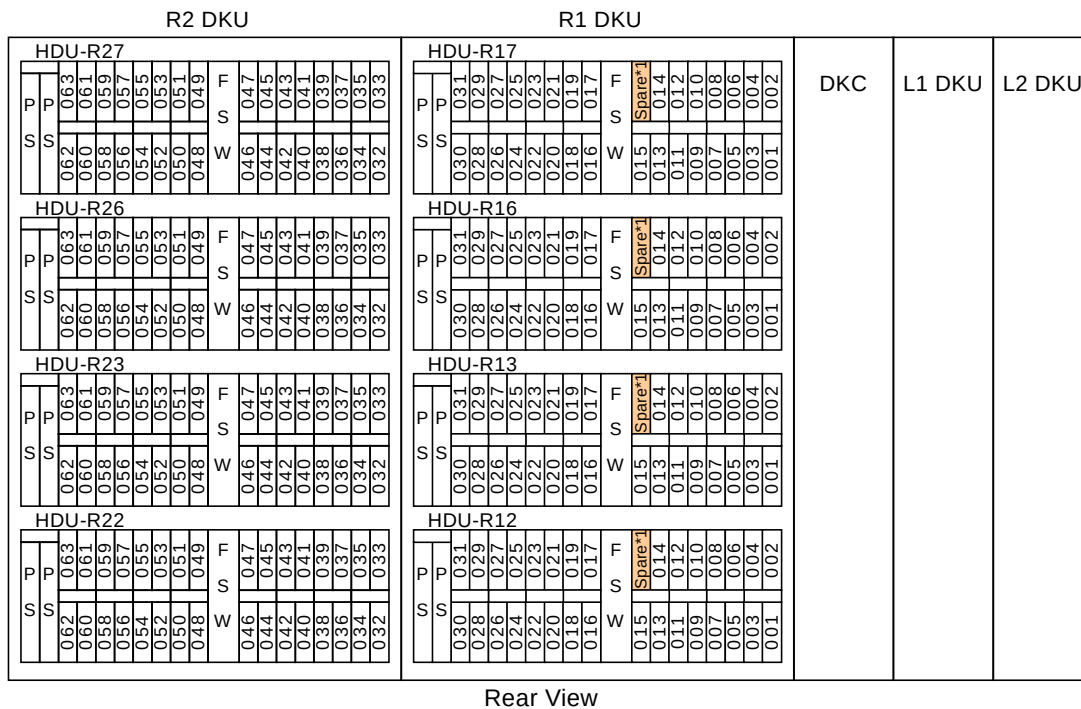
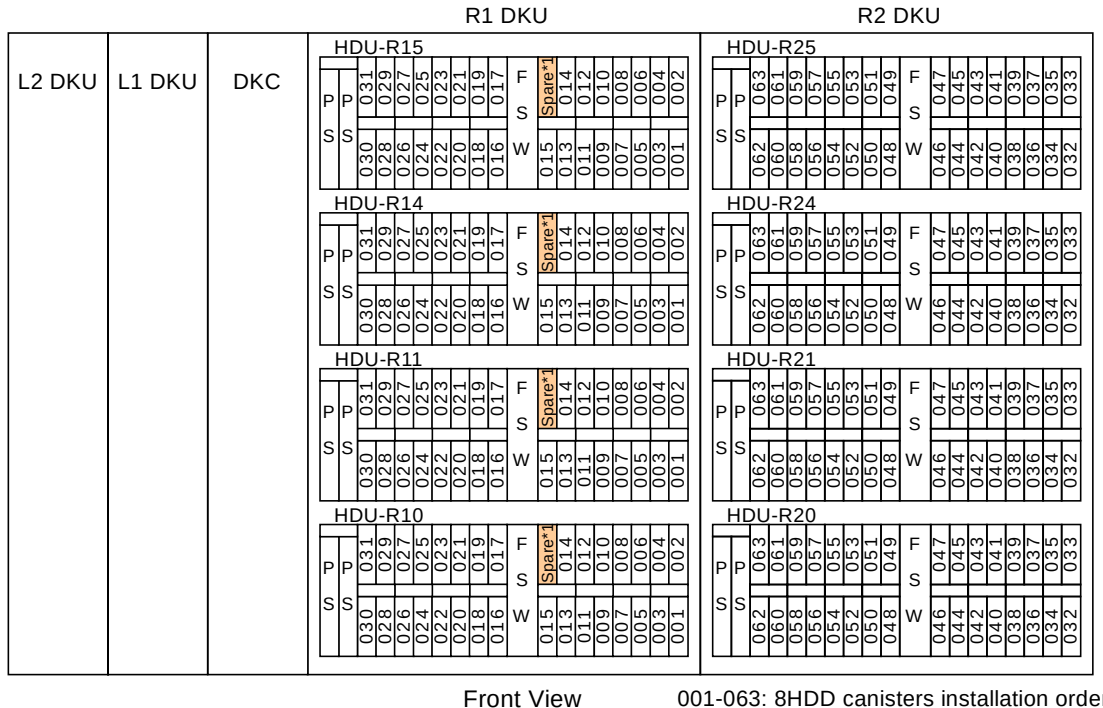
Table 4.1.2-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



*1: To be left vacant or a Spare disk is to be installed.

Fig. 4.1.2-2 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.2-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	093	091			
122	120	121	119	090	088	089	087			
118	116	117	115	086	084	085	083			
112	110	111	109	082	080	081	079			
F	S	W	S	F	S	W	S			
110	108	107	105	Spare*1	077	076	075			
106	104	103	101	074	073	072	071			
102	100	099	097	070	069	068	067			
098	096	095		066	065	064				
HDU-L24				HDU-L14						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	093	091			
122	120	121	119	090	088	089	087			
118	116	117	115	086	084	085	083			
112	110	111	109	082	080	081	079			
F	S	W	S	F	S	W	S			
110	108	107	105	Spare*1	077	076	075			
106	104	103	101	074	073	072	071			
102	100	099	097	070	069	068	067			
098	096	095		066	065	064				
HDU-L21				HDU-L11						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	093	091			
122	120	121	119	090	088	089	087			
118	116	117	115	086	084	085	083			
112	110	111	109	082	080	081	079			
F	S	W	S	F	S	W	S			
110	108	107	105	Spare*1	077	076	075			
106	104	103	101	074	073	072	071			
102	100	099	097	070	069	068	067			
098	096	095		066	065	064				
HDU-L20				HDU-L10						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	093	091			
122	120	121	119	090	088	089	087			
118	116	117	115	086	084	085	083			
112	110	111	109	082	080	081	079			
F	S	W	S	F	S	W	S			
110	108	107	105	Spare*1	077	076	075			
106	104	103	101	074	073	072	071			
102	100	099	097	070	069	068	067			
098	096	095		066	065	064				

Front View

064-126: 8HDD canisters installation ord

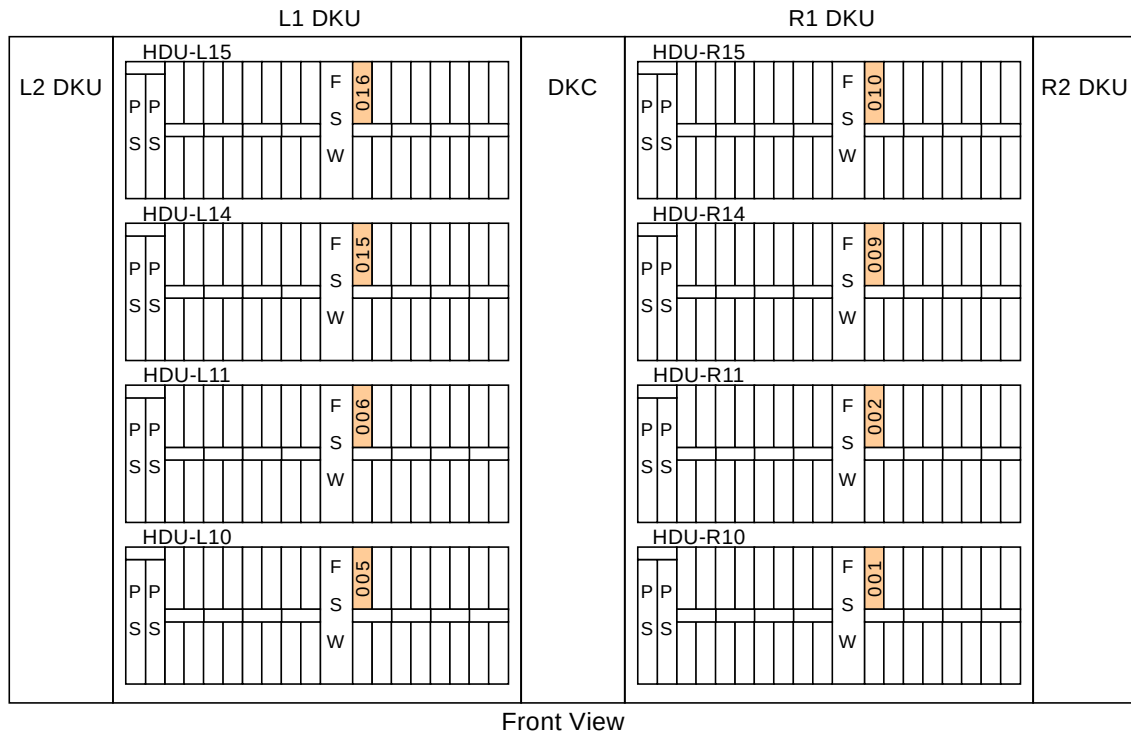
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17				HDU-L27			
			P		S		P		S	
			094		093		126		125	
			092		091		124		123	
			090		089		122		121	
			088		087		120		119	
			086		085		118		117	
			084		083		116		115	
			082		081		114		113	
			080		079		112		111	
			F		W		F		W	
			Spare*1		S		Spare*1		S	
078		076		110		109				
077		074		108		107				
075		072		106		105				
073		070		104		103				
071		068		102		101				
069		066		100		99				
067		064		98		97				
065				96		95				
				94		93				
				92		91				
				90		89				
				88		87				
				86		85				
				84		83				
				82		81				
				80		79				
				78		77				
				76		75				
				74		73				
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(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

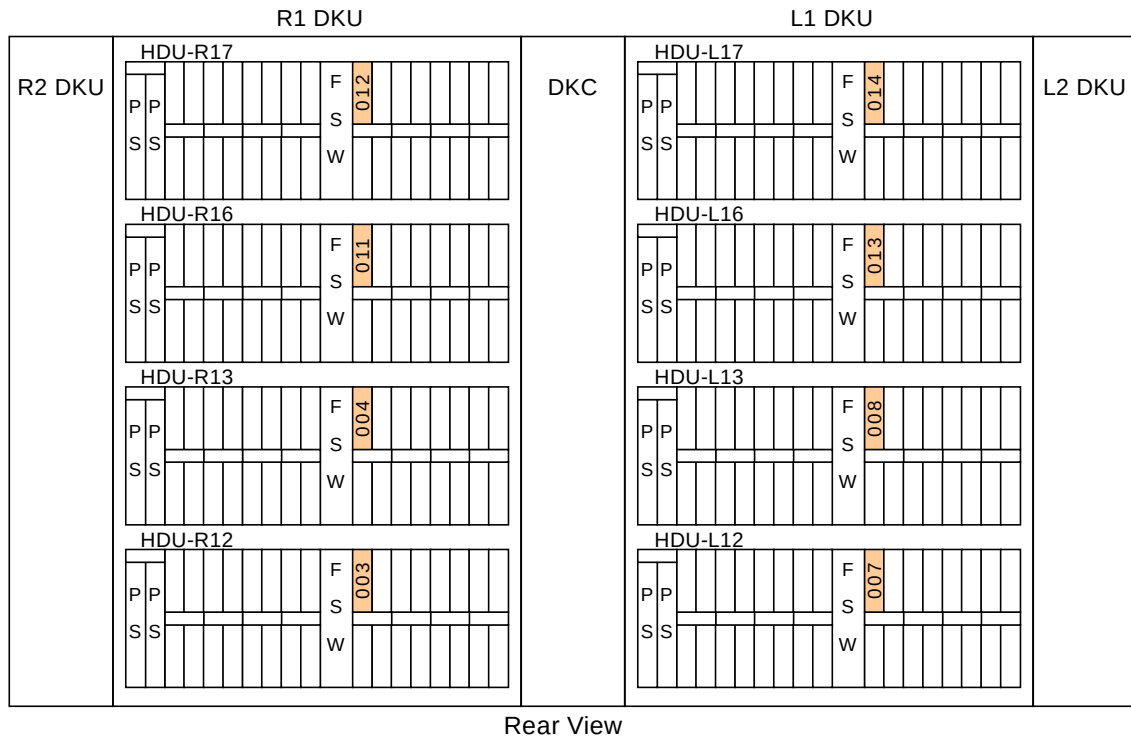


Fig. 4.1.2-3 Spare Drive Expansion Sequence

3-2 Confirmation of Shut Down LED.

a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

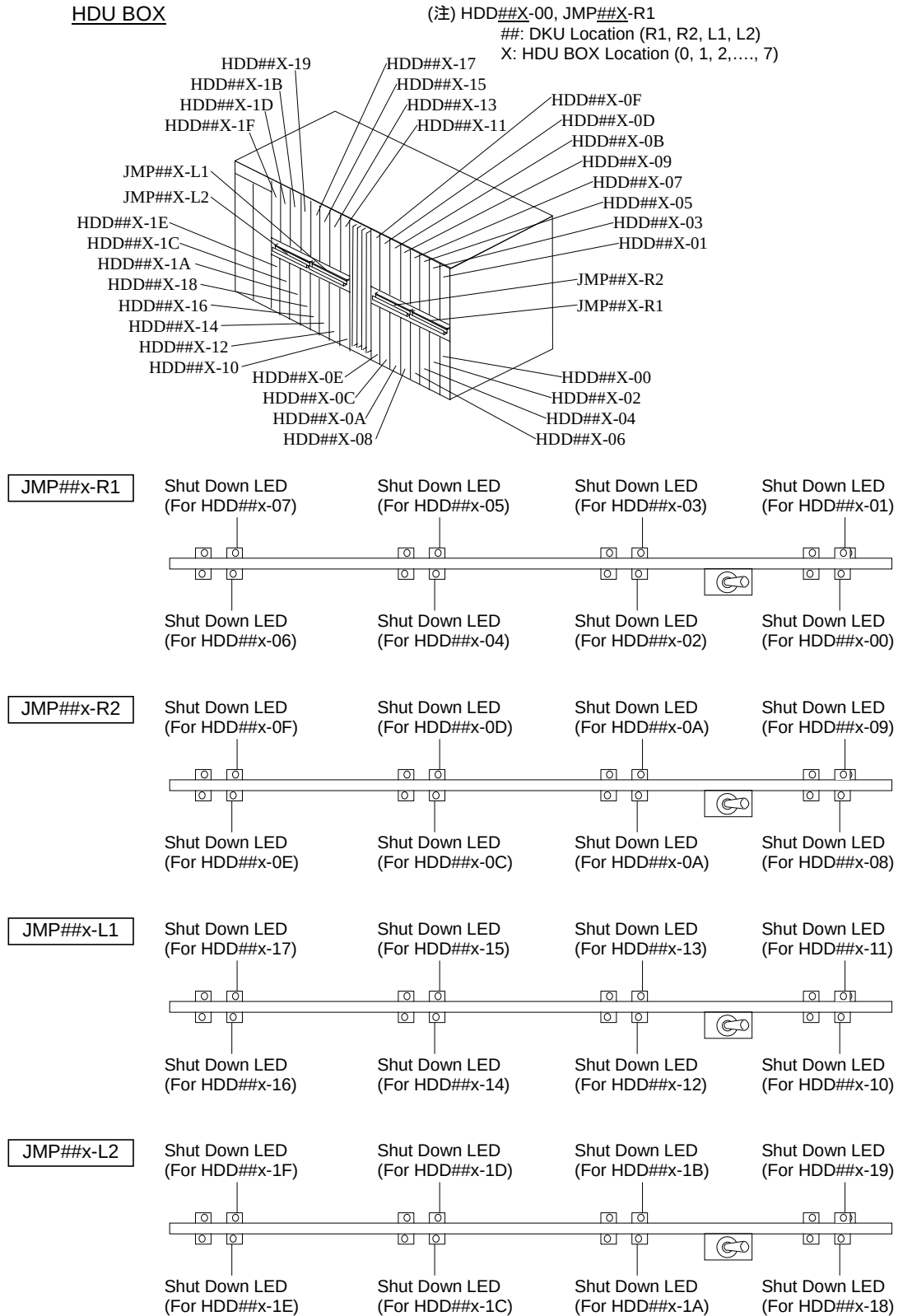


Fig. 4.1.2-4 Location of Shut Down LED

3-3 De-installation of the HDD canister.



CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

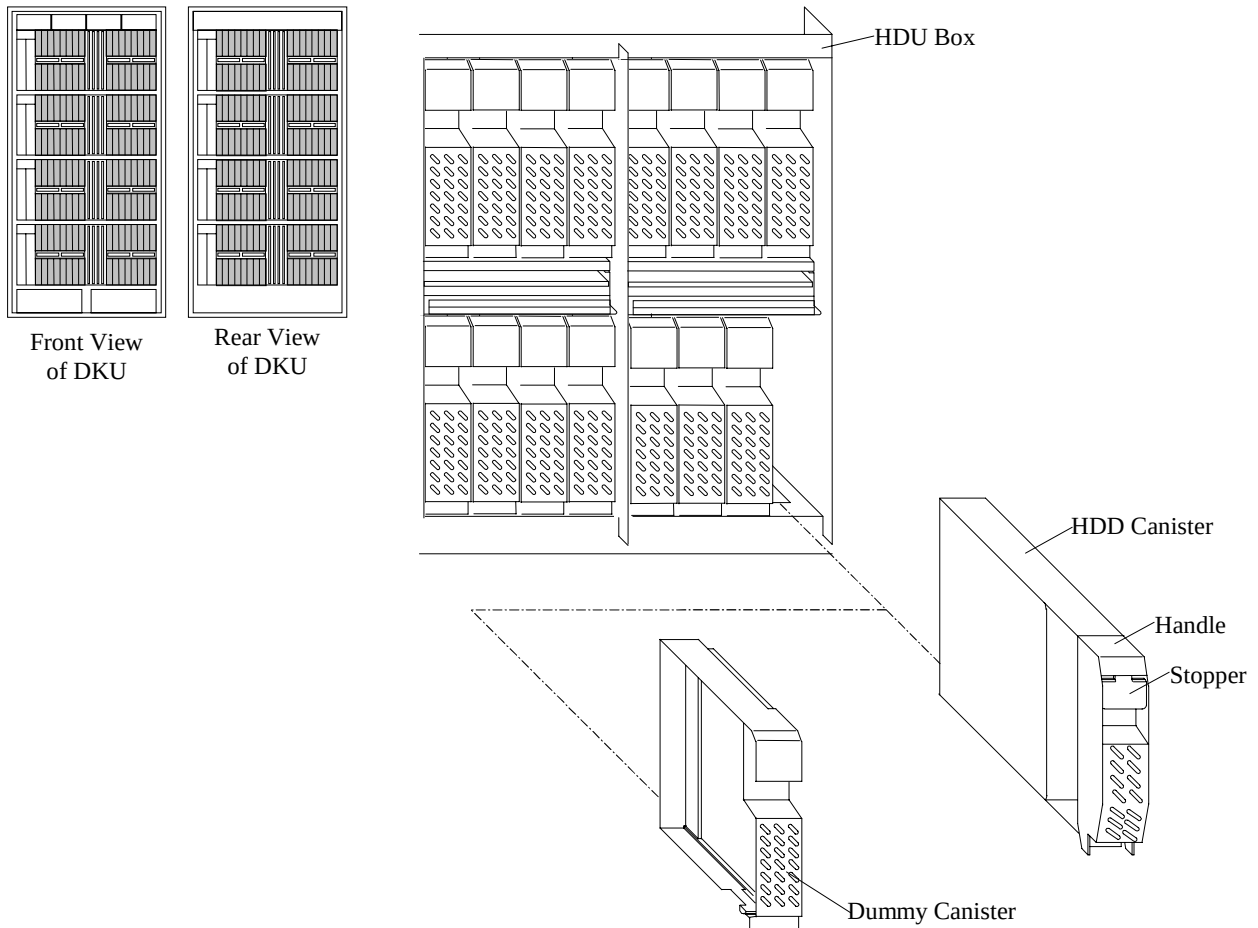
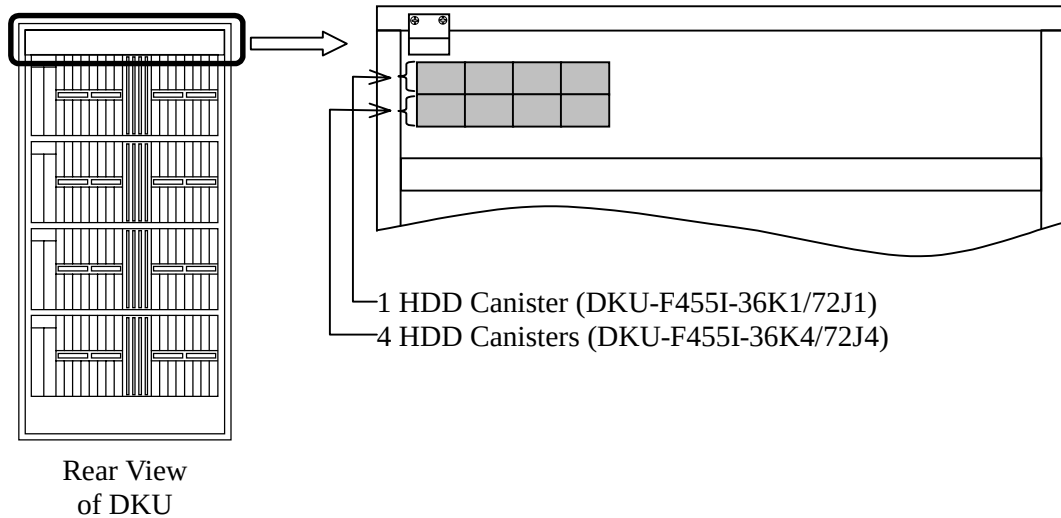


Fig. 4.1.2-5 De-Installation of HDD Canister

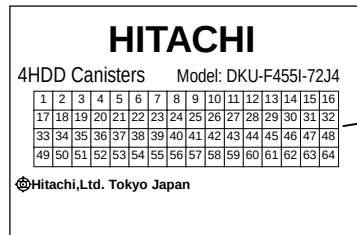
3-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



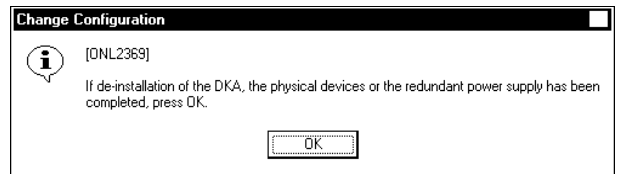
								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.2-6 Removal of Nameplate

4. SVP post procedure

1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



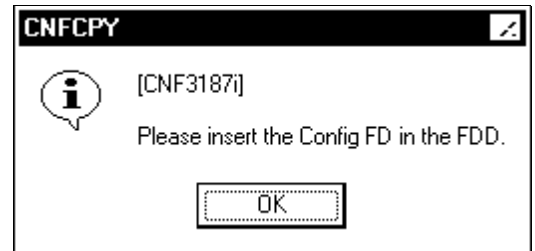
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



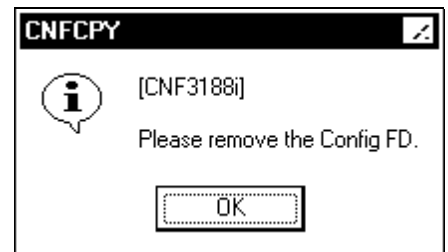
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

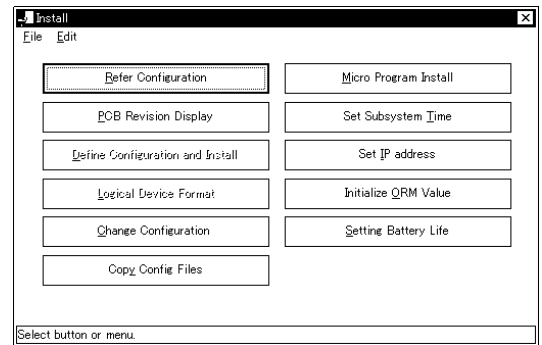


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

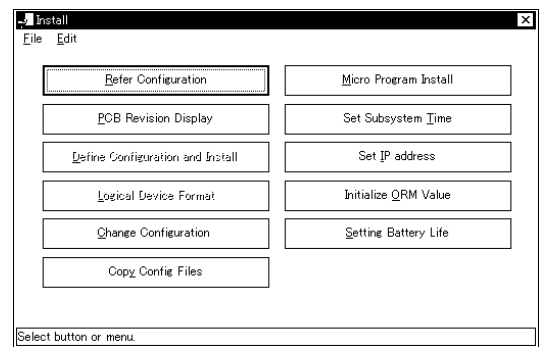
Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.3 When performing removal of the DKA (DKC-F460I-200)

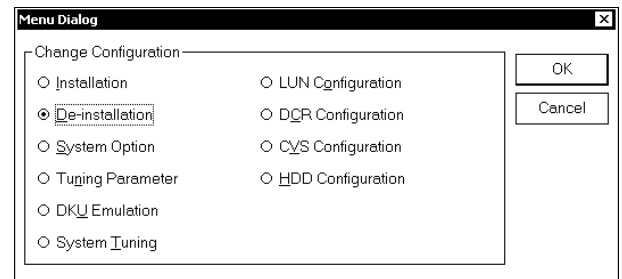
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

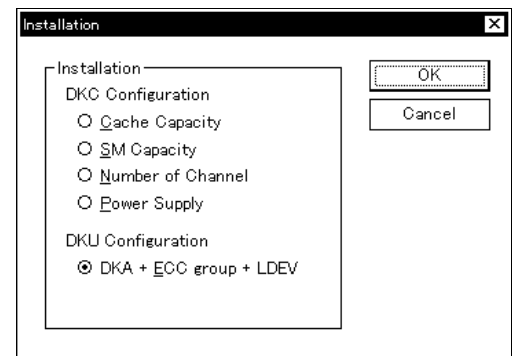
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

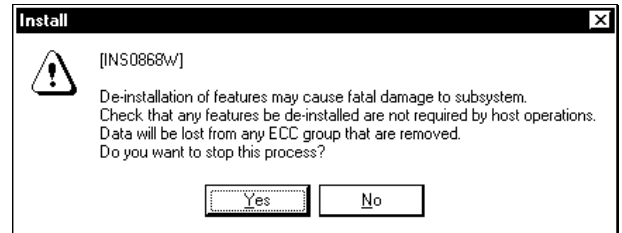


4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



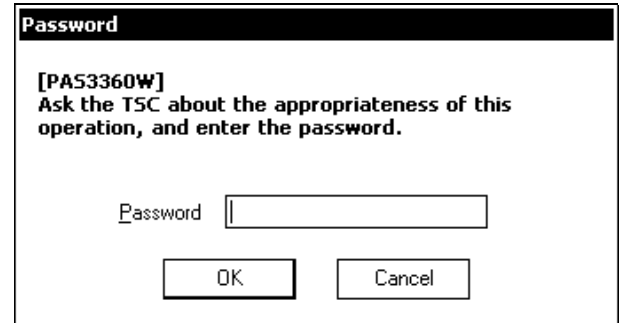
5.

Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>

Enter the password and select (CL) [OK].

**NOTICE**

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

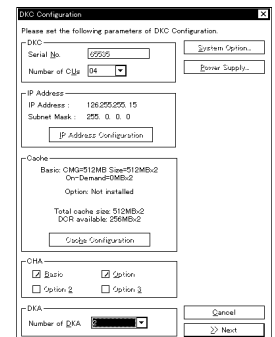
7. <Update Configuration Information>

Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.



Make sure that the entered item is correct and select (CL) [>>Next].

7-1. <Altering DKU frame information>

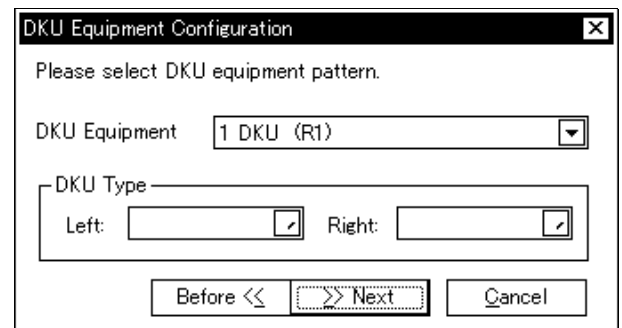
Define the DKU frame in the DKU Equipment Configuration window.

After making the setting, select the [>> Next].

The routine proceeds to Step 8.

When the [Before <<] is selected, the window returns to the preceding one.

Return to Step 7.



8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

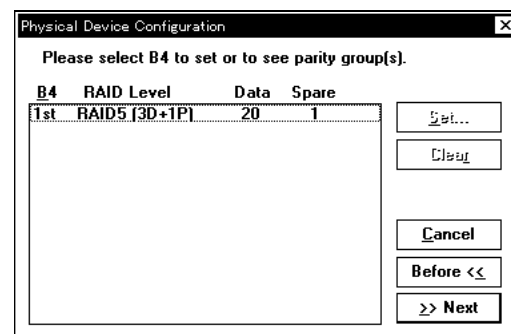
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

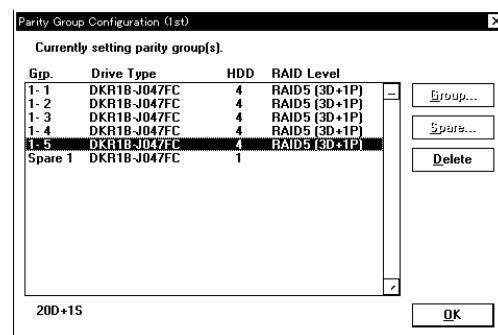
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

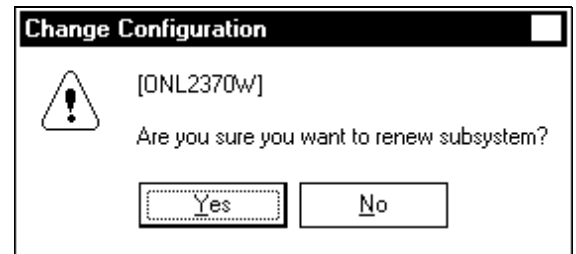


2. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

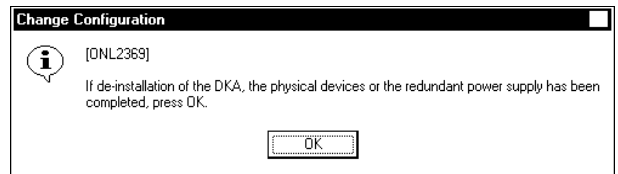
When [No] is selected (CL), returns to [INST04-DKA-260](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



3. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.3-1) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

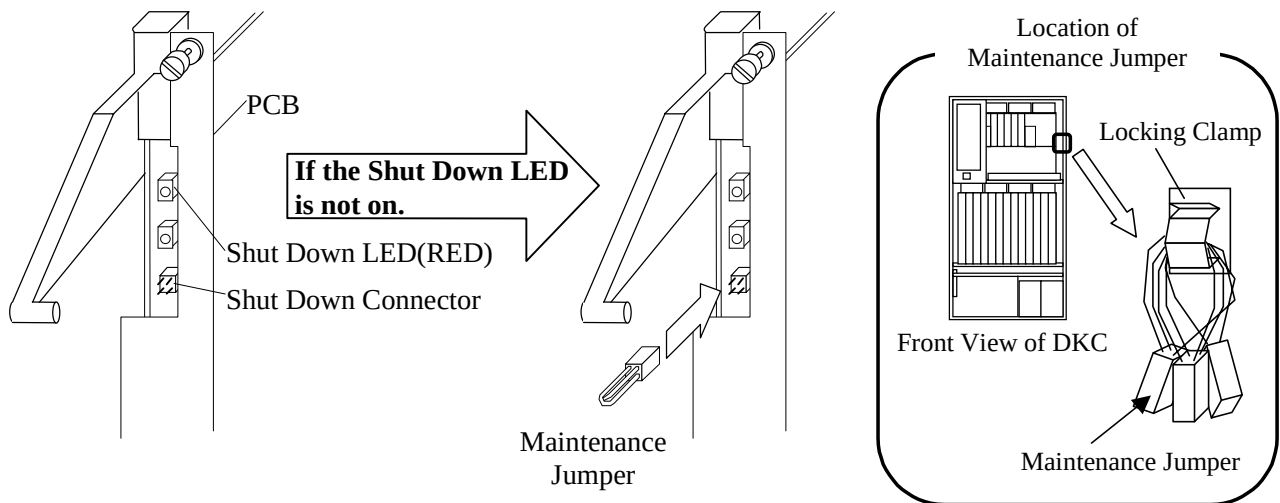


Fig. 4.1.3-1 Shut Down LED

Table 4.1.3-1 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

3-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

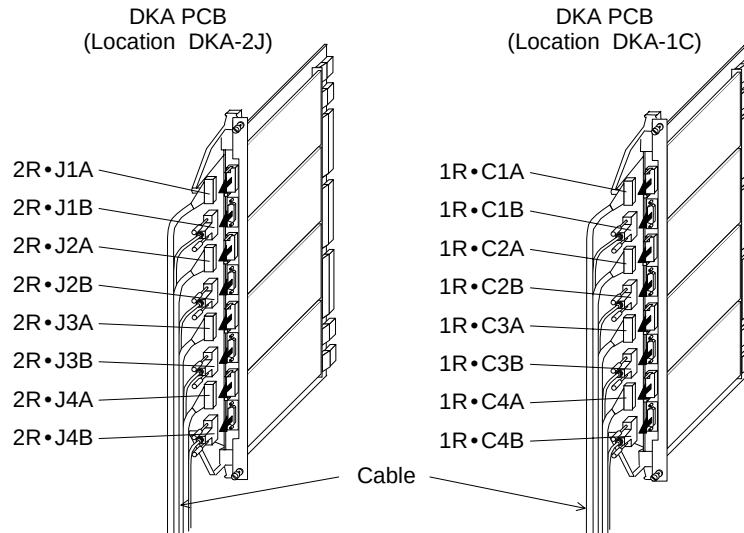


Fig. 4.1.3-2 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

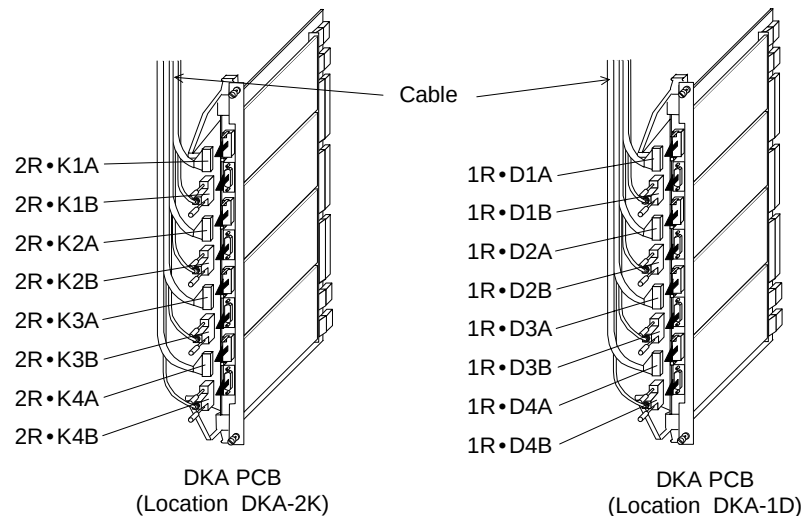


Fig. 4.1.3-3 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

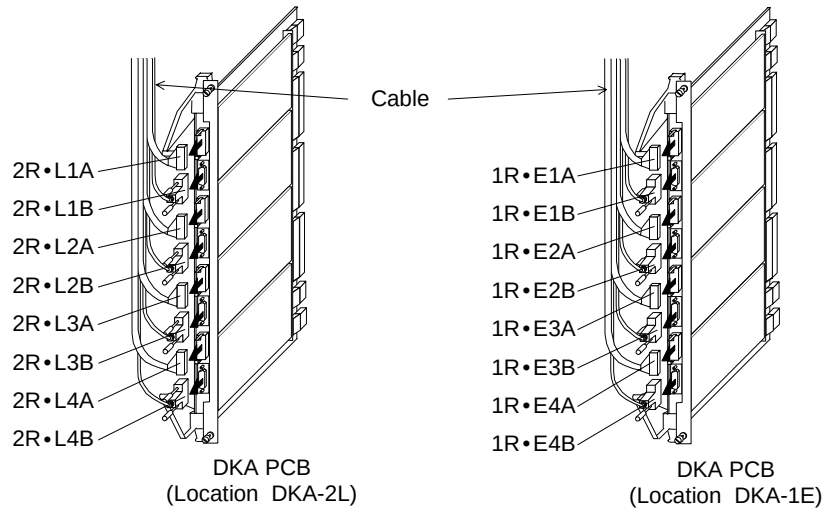


Fig.4.1.3-4 Disconnection of DEV Interface Cable (Add.3)

3-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.3-5.
b. Attach the dummy plates referring to Fig. 4.1.3-6.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

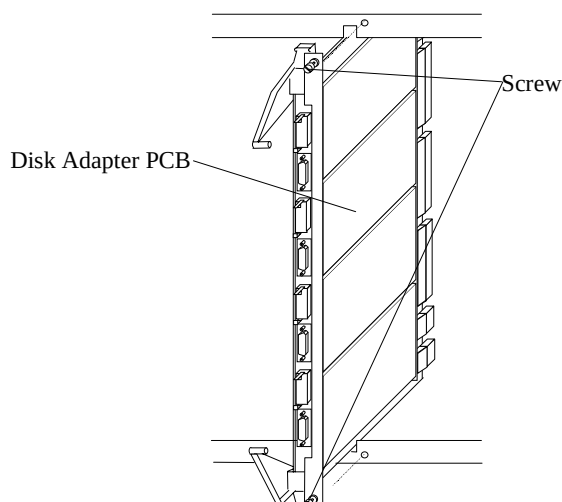


Fig. 4.1.3-5 Removal of PCB

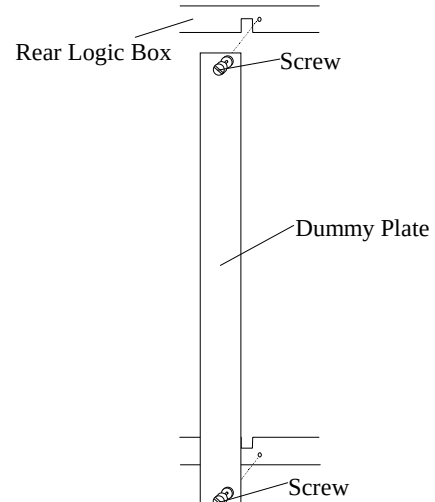


Fig. 4.1.3-6 Attachment of Dummy Plate

3-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

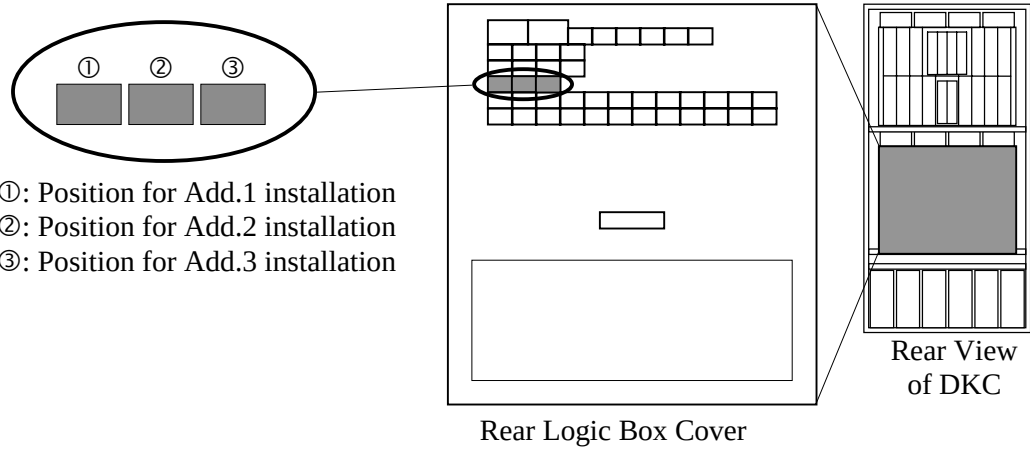
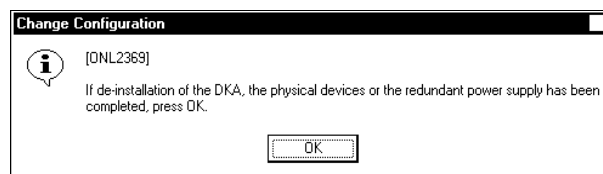


Fig. 4.1.3-7 Removal of Nameplate

4. SVP post procedure

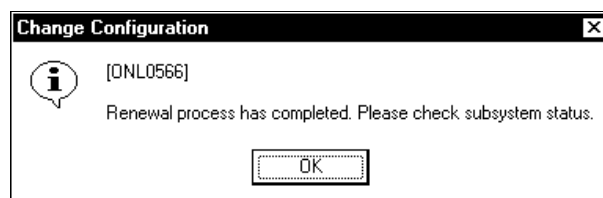
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



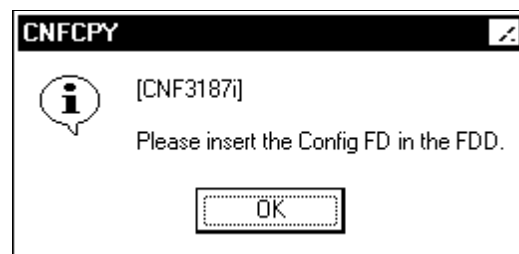
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



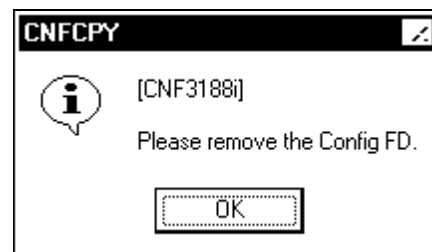
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].



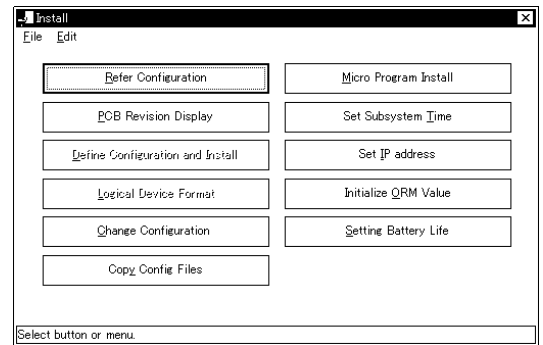
4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5.

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>

Change the mode to View Mode.

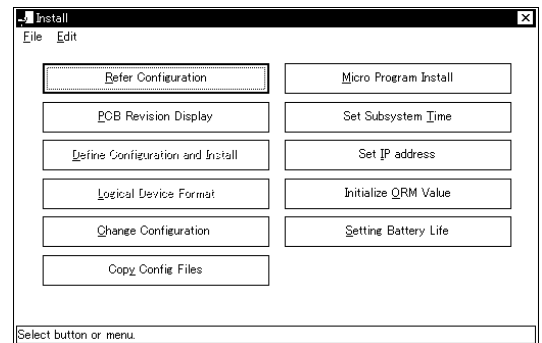
Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.4 When performing removal of the data/spare HDD and DKA (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1)

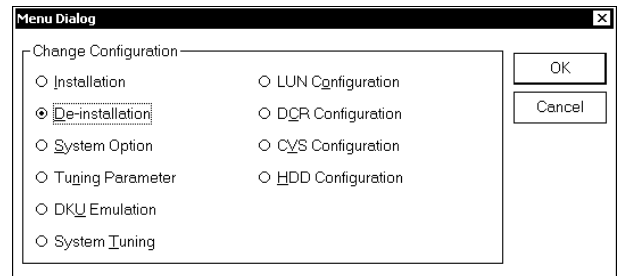
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

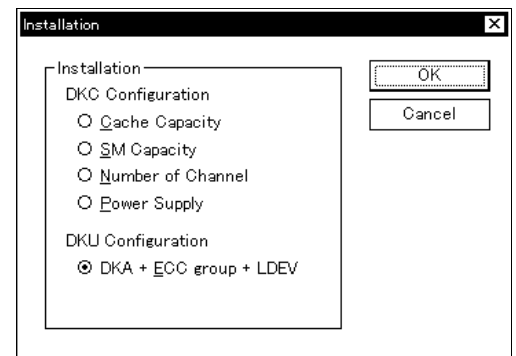
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



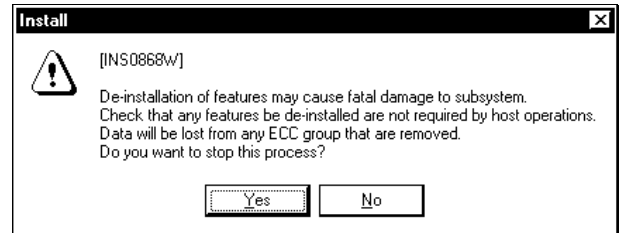
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



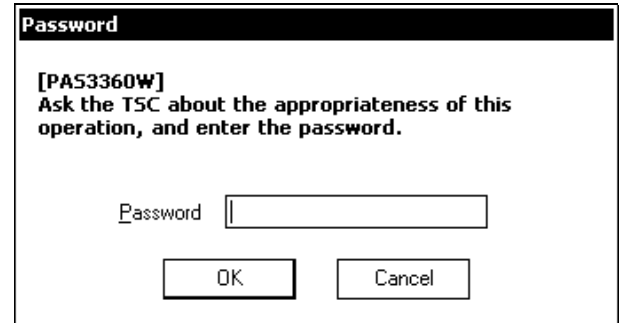
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

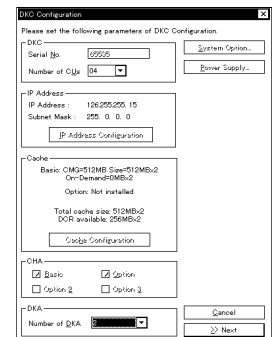
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.
When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

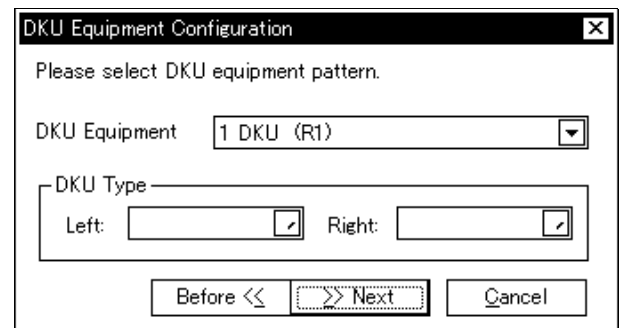
Make sure that the entered item is correct and select (CL) [>>Next].



- 7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.

After making the setting, select the [>> Next].
The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.



8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

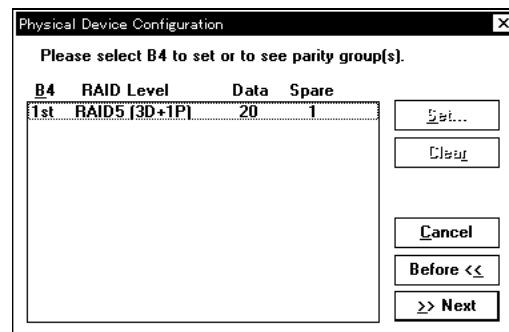
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

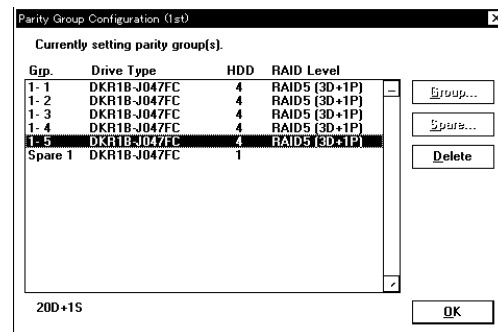
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

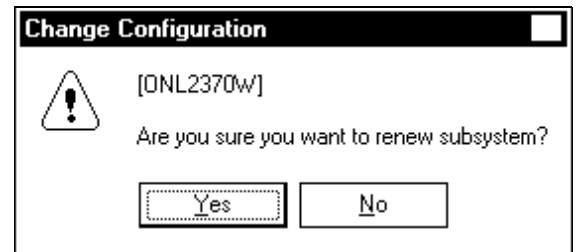


2. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

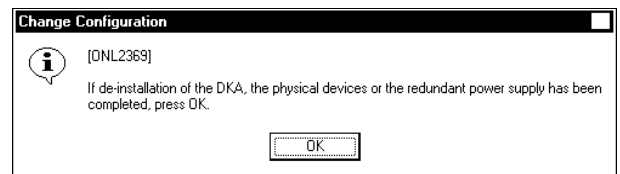
When [No] is selected (CL), returns to [INST04-DKA-360](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



3. De-Installation Procedure of HDD Canister

3-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.4-1.

Table 4.1.4-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.4-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R14				HDU-R24			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R11				HDU-R21			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065
		HDU-R10				HDU-R20			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065

Front View

001-127: 4HDD canisters installation order

		R2 DKU				R1 DKU						
L2 DKU	L1 DKU	DKC										
		HDU-R27				HDU-R17						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R26				HDU-R16						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R23				HDU-R13						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			
		HDU-R22				HDU-R12						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.4-1 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.4-1.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU
HDU-L25										HDU-L15												
S		T		S		T		S		T		S		T		S		T				
221		222		221		222		221		222		221		222		221		222				
219		220		219		220		219		220		219		220		219		220				
217		218		217		218		217		218		217		218		217		218				
215		216		215		216		215		216		215		216		215		216				
213		214		213		214		213		214		213		214		213		214				
211		212		211		212		211		212		211		212		211		212				
209		210		209		210		209		210		209		210		209		210				
207		208		207		208		207		208		207		208		207		208				
205		206		205		206		205		206		205		206		205		206				
203		204		203		204		203		204		203		204		203		204				
201		202		201		202		201		202		201		202		201		202				
199		200		199		200		199		200		199		200		199		200				
197		198		197		198		197		198		197		198		197		198				
195		196		195		196		195		196		195		196		195		196				
193		194		193		194		193		194		193		194		193		194				
191		192		191		192		191		192		191		192		191		192				
189		190		189		190		189		190		189		190		189		190				
187		188		187		188		187		188		187		188		187		188				
185		186		185		186		185		186		185		186		185		186				
183		184		183		184		183		184		183		184		183		184				
181		182		181		182		181		182		181		182		181		182				
179		180		179		180		179		180		179		180		179		180				
177		178		177		178		177		178		177		178		177		178				
175		176		175		176		175		176		175		176		175		176				
173		174		173		174		173		174		173		174		173		174				
171		172		171		172		171		172		171		172		171		172				
169		170		169		170		169		170		169		170		169		170				
167		168		167		168		167		168		167		168		167		168				
165		166		165		166		165		166		165		166		165		166				
163		164		163		164		163		164		163		164		163		164				
161		162		161		162		161		162		161		162		161		162				
159		160		159		160		159		160		159		160		159		160				
HDU-L24										HDU-L14												
S		T		S		T		S		T		S		T		S		T				
221		222		221		222		221		222		221		222		221		222				
219		220		219		220		219		220		219		220		219		220				
217		218		217		218		217		218		217		218		217		218				
215		216		215		216		215		216		215		216		215		216				
213		214		213		214		213		214		213		214		213		214				
211		212		211		212		211		212		211		212		211		212				
209		210		209		210		209		210		209		210		209		210				
207		208		207		208		207		208		207		208		207		208				
205		206		205		206		205		206		205		206		205		206				
203		204		203		204		203		204		203		204		203		204				
201		202		201		202		201		202		201		202		201		202				
199		200		199		200		199		200		199		200		199		200				
197		198		197		198		197		198		197		198		197		198				
195		196		195		196		195		196		195		196		195		196				
193		194		193		194		193		194		193		194		193		194				
191		192		191		192		191		192		191		192		191		192				
189		190		189		190		189		190		189		190		189		190				
187		188		187		188		187		188		187		188		187		188				
185		186		185		186		185		186		185		186		185		186				
183		184		183		184		183		184		183		184		183		184				
181		182		181		182		181		182		181		182		181		182				
179		180		179		180		179		180		179		180		179		180				
177		178		177		178		177		178		177		178		177		178				
175		176		175		176		175		176		175		176		175		176				
173		174		173		174		173		174		173		174		173		174				
171		172		171		172		171		172		171		172		171		172				
169		170		169		170		169		170		169		170		169		170				
167		168		167		168		167		168		167		168		167		168				
165		166		165		166		165		166		165		166		165		166				
163		164		163		164		163		164		163		164		163		164				
161		162		161		162		161		162		161		162		161		162				
159		160		159		160		159		160		159		160		159		160				
HDU-L20										HDU-L10												
S		T		S		T		S		T		S		T		S		T				
221		222		221		222		221		222		221		222		221		222				
219		220		219		220		219		220		219		220		219		220				
217		218		217		218		217		218		217		218		217		218				
215		216		215		216		215		216		215		216		215		216				
213		214		213		214		213		214		213		214		213		214				
211		212		211		212		211		212		211		212		211		212				
209		210		209		210		209		210		209		210		209		210				
207		208		207		208		207		208		207		208		207		208				
205		206		205		206		205		206		205		206		205		206				
203		204		203		204		203		204		203		204		203		204				
201		202		201		202		201		202		201		202		201		202				
199		200		199		200		199		200		199		200		199		200				
197		198		197		198		197		198		197		198		197		198				
195		196		195		196		195		196		195		196		195		196				
193		194		193		194		193		194		193		194		193		194				
191		192		191		192		191		192		191		192		191		192				
189		190		189		190		189		190		189		190		189		190				
187		188		187		188		187		188		187		188		187		188				
185		186		185		186		185		186		185		186		185		186				
183		184		183		184		183		184		183		184		183		184				
181		182		181		182		181		182		181		182		181		182				
179		180		179		180		179		180		179		180		179		180				
177		178		177		178		177		178		177		178		177		178				
175		176		175		176		175		176		175		176		175		176				
173		174		173		174		173		174		173		174		173		174				
171		172		171		172		171		172		171		172		171		172				
169		170		169		170		169		170		169		170		169		170				
167		168		167		168		167		168		167		168		167		168				
165		166		165		166		165		166		165		166		165		166				
163		164		163		164		163		164		163		164		163		164				
161		162		161		162		161		162		161		162		161		162				
159		160		159		160		159		160		159		160		159		160				

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.4-1 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.4-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.4-2.

Table 4.1.4-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.4-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU
HDU-L25										HDU-L15												
P		P		S		S		T		P		P		S		S		T				
126		124		123		125		109		094		092		078		Spare*1		077				
124		122		121		120		108		092		090		076		075		074				
122		120		119		118		107		090		088		074		073		072				
120		118		117		116		106		088		086		072		071		070				
118		116		115		114		105		086		084		070		069		068				
116		114		113		112		104		084		082		070		067		066				
114		112		111		110		103		082		080		066		065		064				
112		110		109		108		101		080				064								
110		108		107		106		100														
108		106		105		104		099														
106		105		103		102		098														
104		103		101		100		097														
102		101		099		098		095														
100		099		097		096																
098		097		095																		
096																						

Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU															
R2 DKU	R1 DKU	DKC	HDU-L17								HDU-L27								
			P				S				P				S				
			094				093				126				125				
			092				091				124				123				
			090				089				122				121				
088				087				120				119							
086				085				118				117							
084				083				116				115							
082				081				114				113							
080				079				112				111							
F				W				F				W							
Spare*1				078				077				110				109			
076				075				108				107							
074				073				106				105							
072				071				104				103							
070				069				102				101							
068				067				100				99							
066				065				98				97							
064				063				96				95							
HDU-L16								HDU-L26											
P				S				P				S							
094				093				126				125							
092				091				124				123							
090				089				122				121							
088				087				120				119							
086				085				118				117							
084				083				116				115							
082				081				114				113							
080				079				112				111							
F				W				F				W							
Spare*1				078				110				109							
077				076				108				107							
075				074				106				105							
073				072				104				103							
071				070				102				101							
069				068				100				99							
067				066				98				97							
065				064				96				95							
HDU-L13								HDU-L23											
P				S				P				S							
094				093				126				125							
092				091				124				123							
090				089				122				121							
088				087				120				119							
086				085				118				117							
084				083				116				115							
082				081				114				113							
080				079				112				111							
F				W				F				W							
Spare*1				078				110				109							
077				076				108				107							
075				074				106				105							
073				072				104				103							
071				070				102				101							
069				068				100				99							
067				066				98				97							
065				064				96				95							
HDU-L12								HDU-L22											
P				S				P				S							
094				093				126				125							
092				091				124				123							
090				089				122				121							
088				087				120				119							
086				085				118				117							
084				083				116				115							
082				081				114				113							
080				079				112				111							
F				W				F				W							
Spare*1				078				110				109							
077				076				108				107							
075				074				106				105							
073				072				104				103							
071				070				102				101							
069				068				100				99							
067				066				98				97							
065				064				96				95							
Rear View																			

Rear View

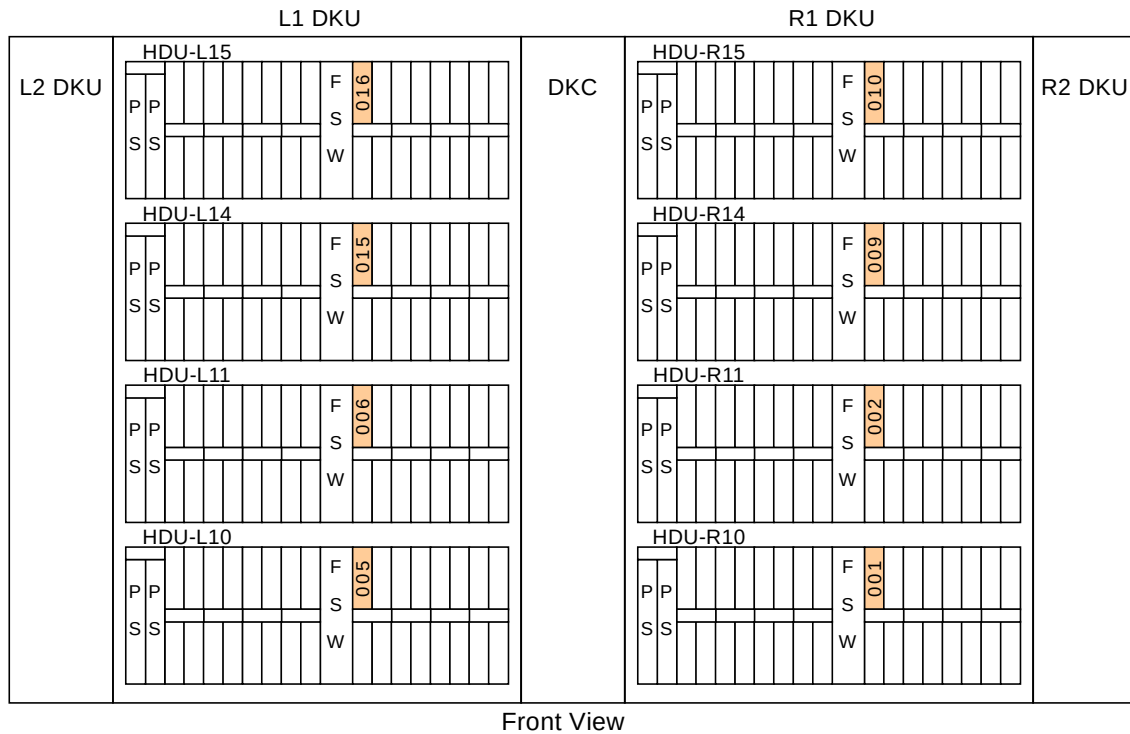
*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.4-2 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.4-2.

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

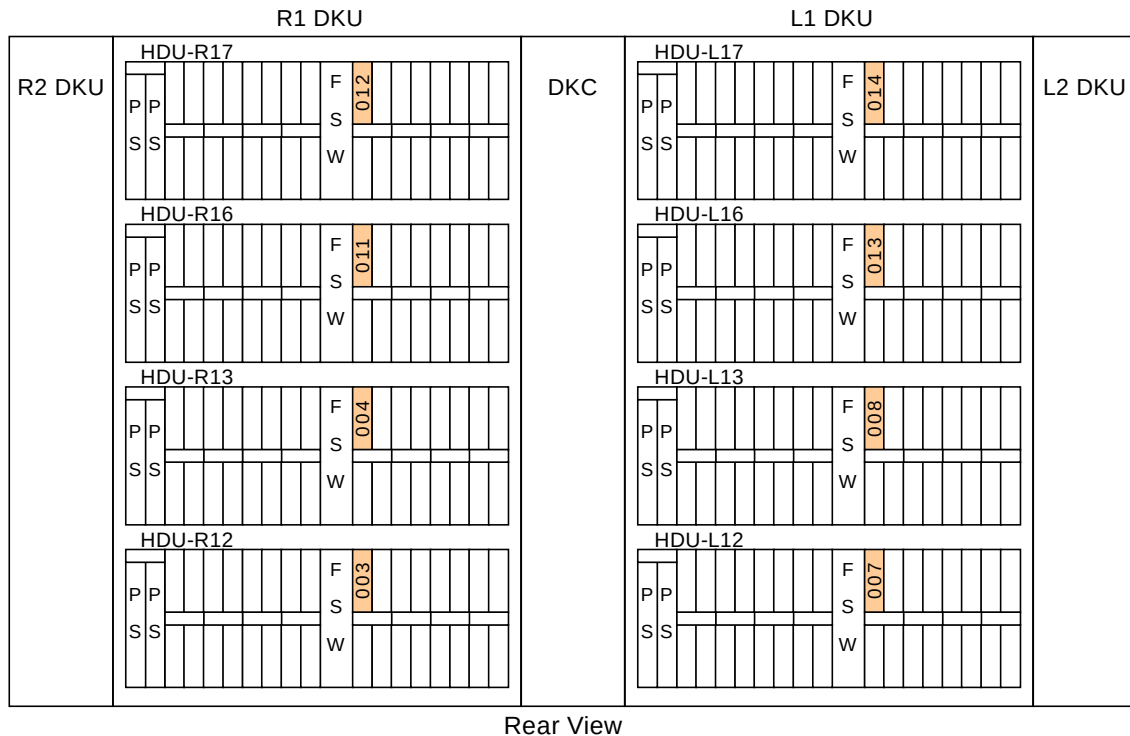


Fig. 4.1.4-3 Spare Drive Expansion Sequence

3-2 Confirmation of Shut Down LED.

a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

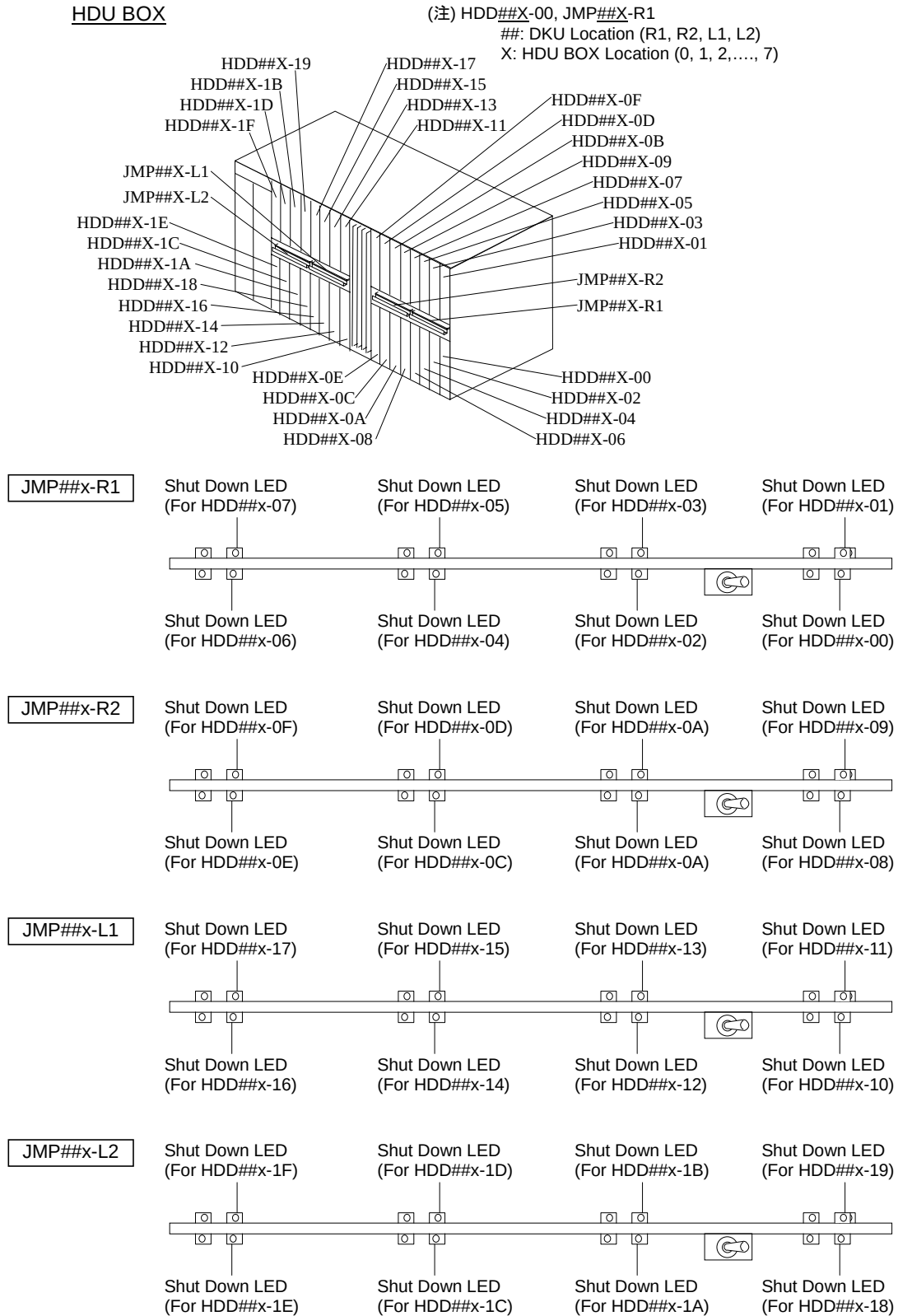


Fig. 4.1.4-4 Location of Shut Down LED

3-3 De-installation of the HDD canister.



CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

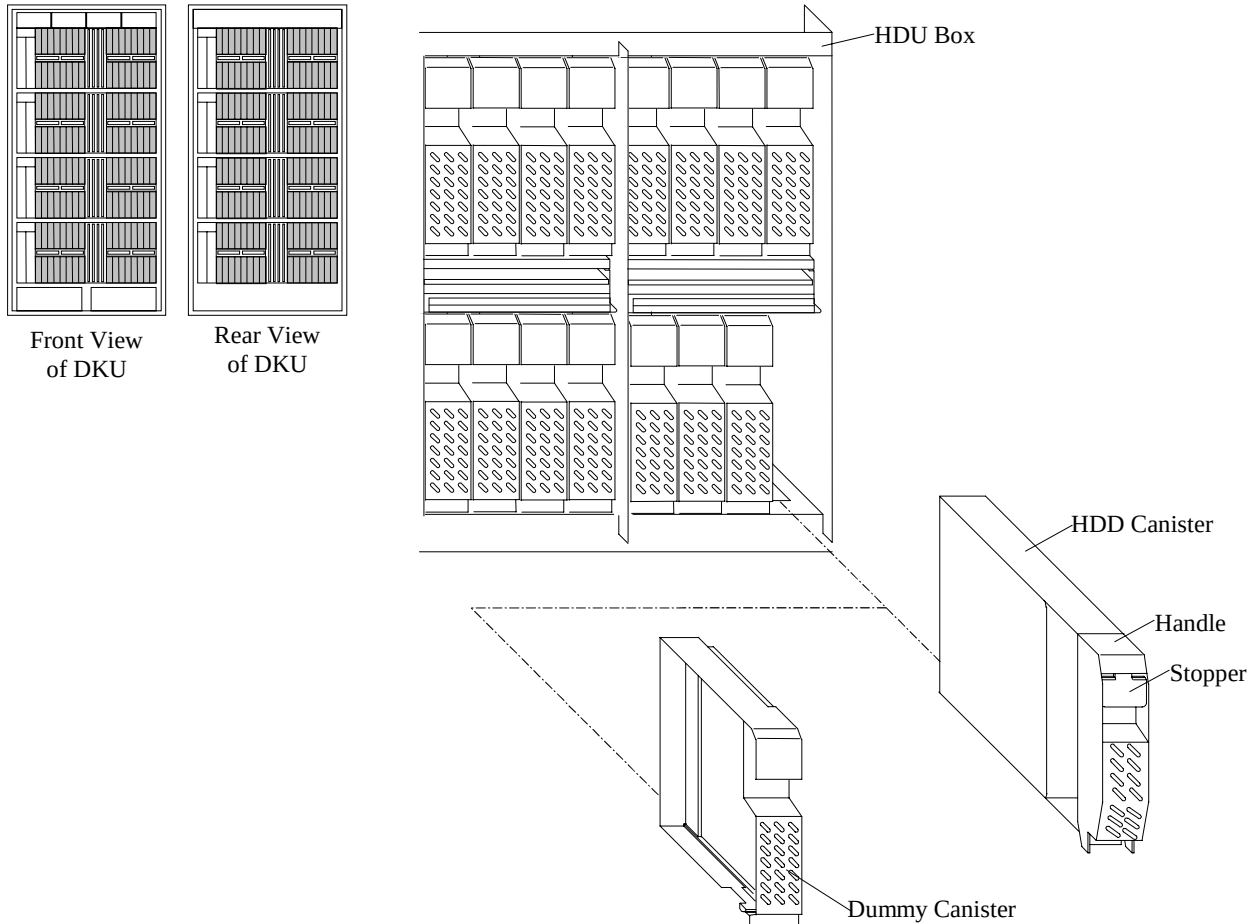
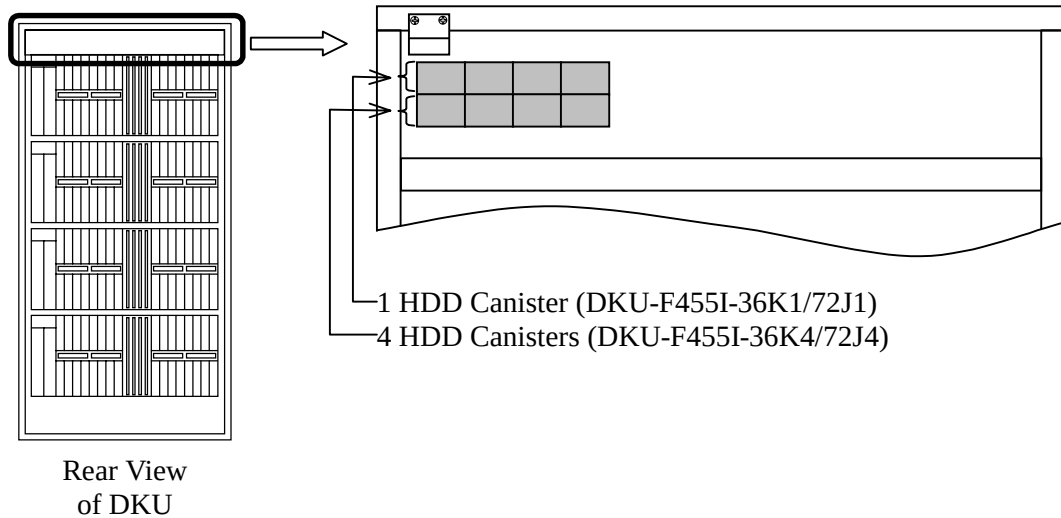


Fig. 4.1.4-5 De-Installation of HDD Canister

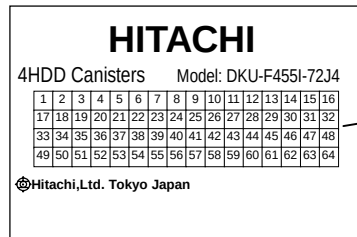
3-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.4-6 Removal of Nameplate

4. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

4-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.4-7) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

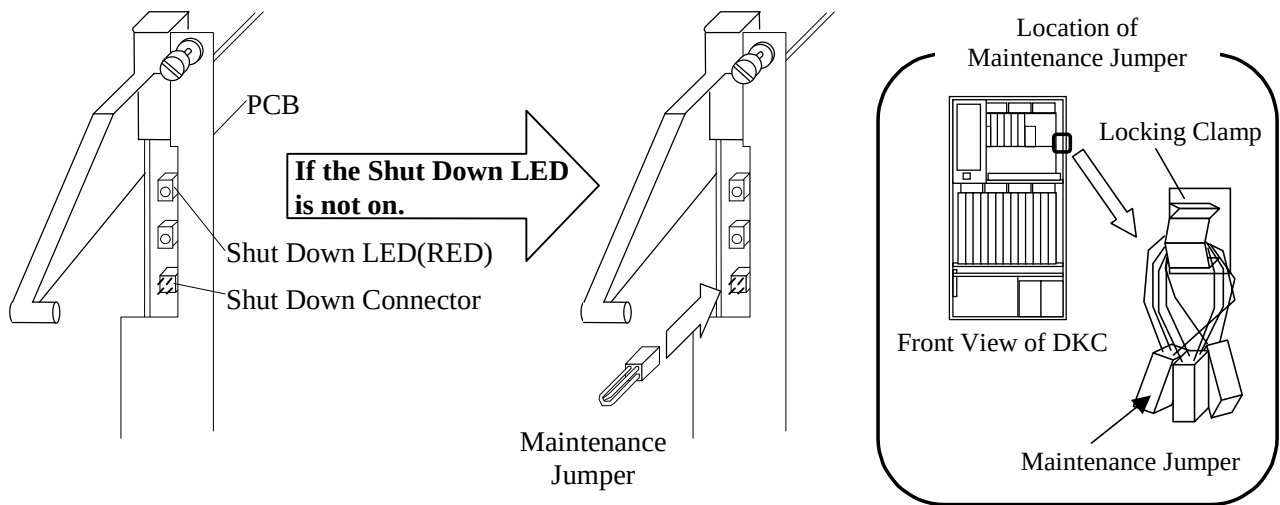


Fig. 4.1.4-7 Shut Down LED

Table 4.1.4-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

4-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

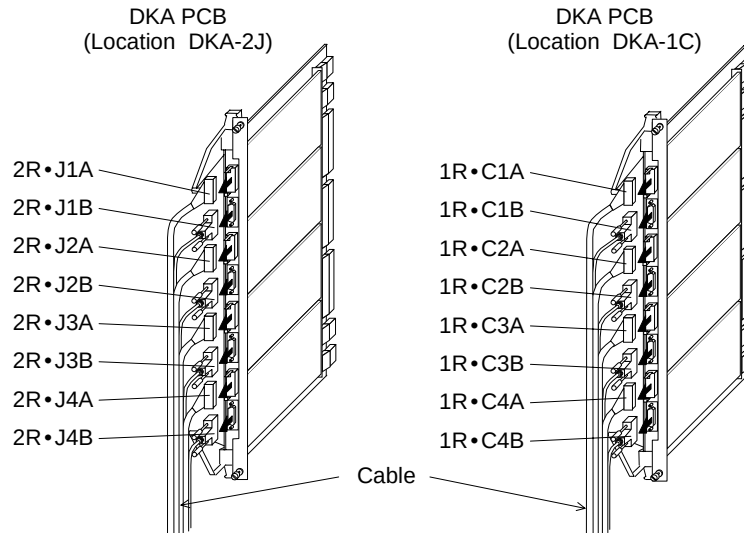


Fig. 4.1.4-8 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

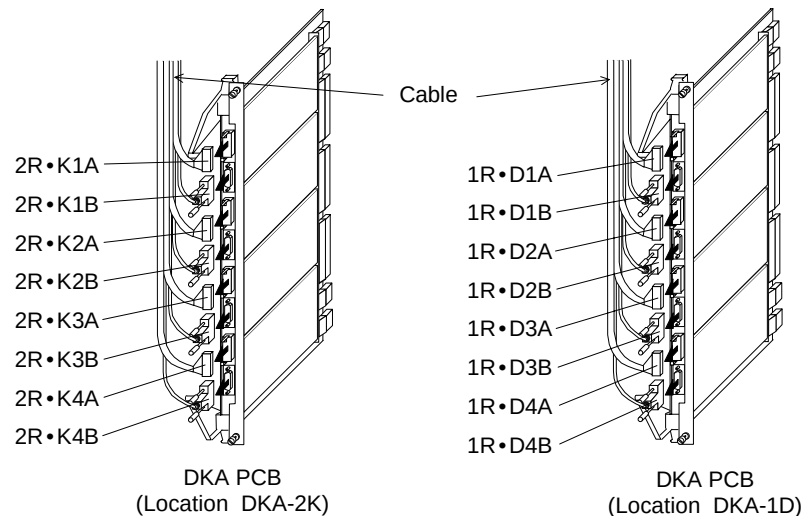


Fig. 4.1.4-9 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

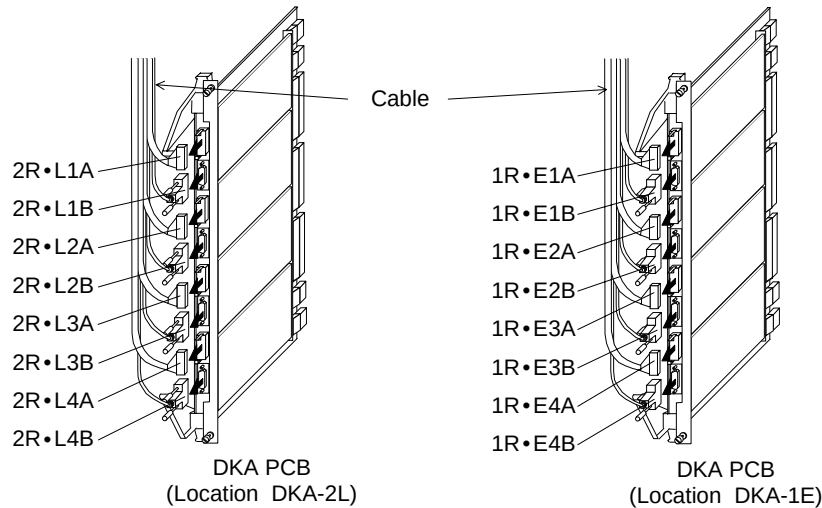


Fig.4.1.4-10 Disconnection of DEV Interface Cable (Add.3)

4-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.4-11.
b. Attach the dummy plates referring to Fig. 4.1.4-12.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

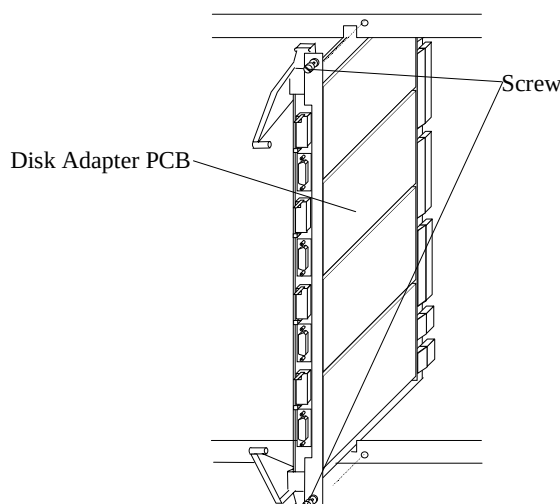


Fig. 4.1.4-11 Removal of PCB

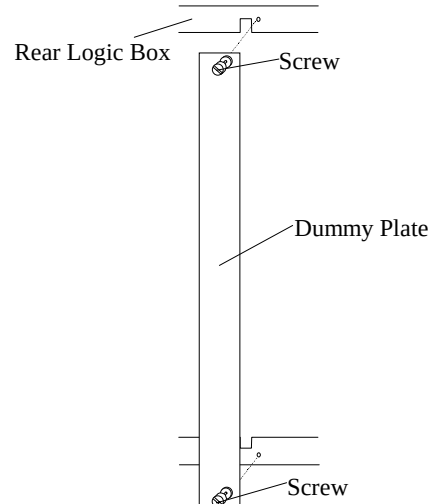


Fig. 4.1.4-12 Attachment of Dummy Plate

4-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

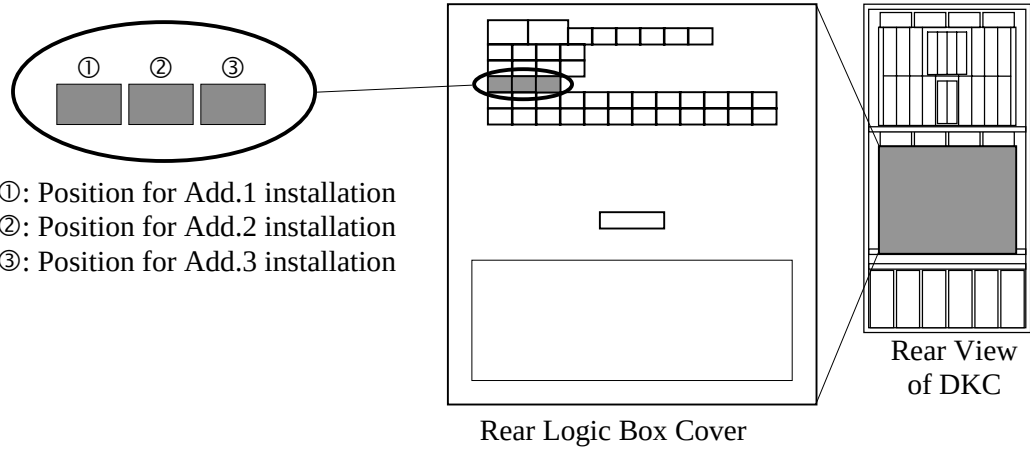
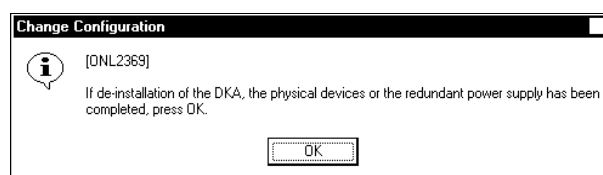


Fig. 4.1.4-13 Removal of Nameplate

5. SVP post procedure

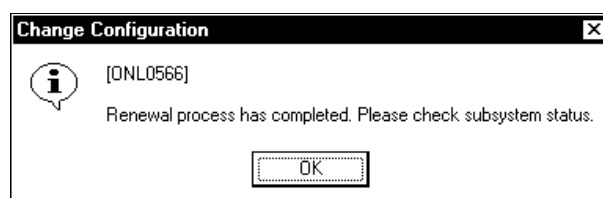
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



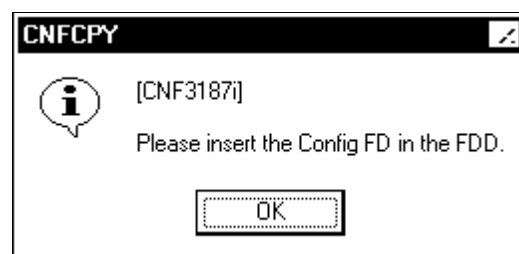
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



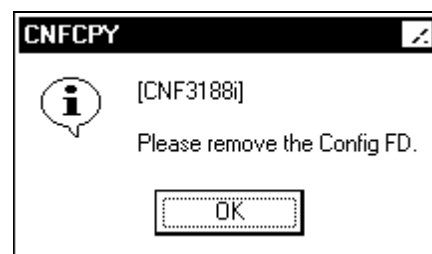
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].



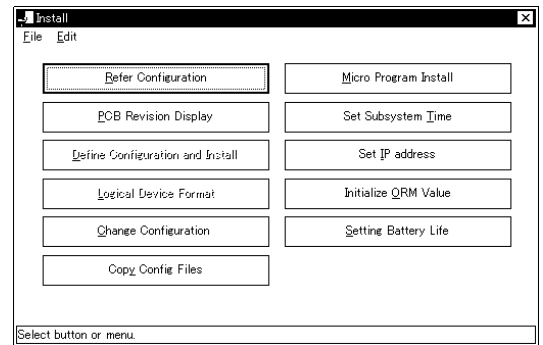
4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5.

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>

Change the mode to View Mode.

Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.5 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 frame (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

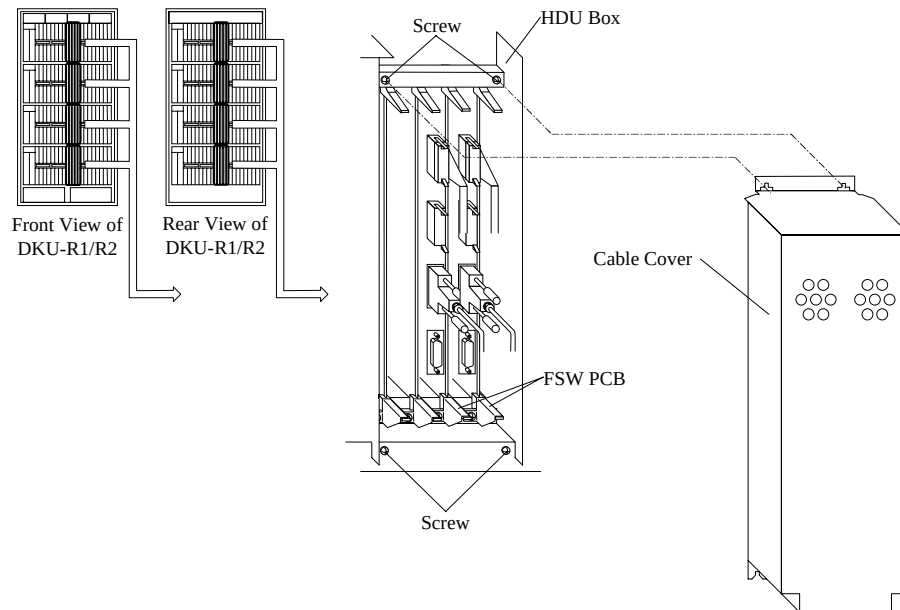


Fig. 4.1.5-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

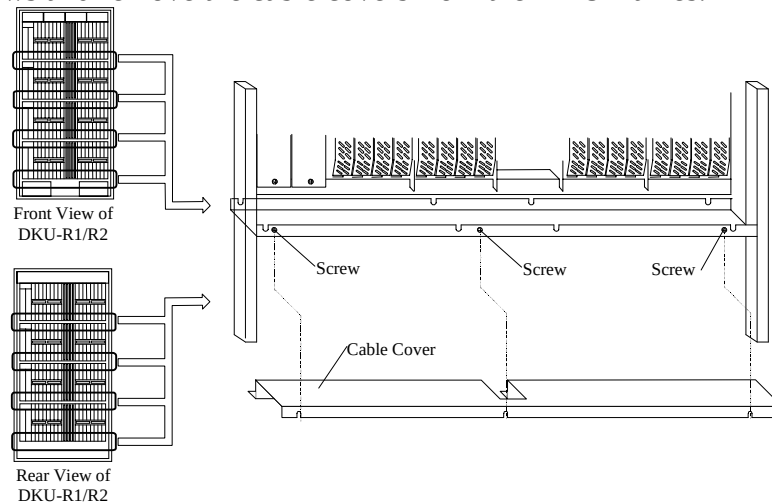
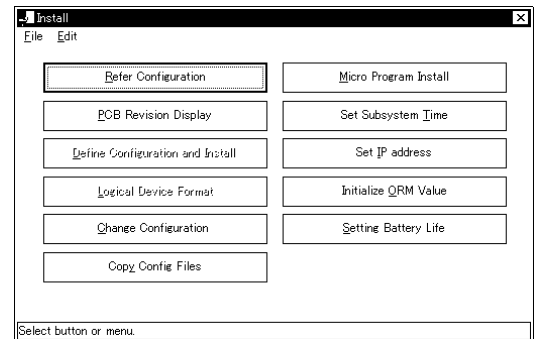


Fig.4.1.5-2 Removal of Cable Covers

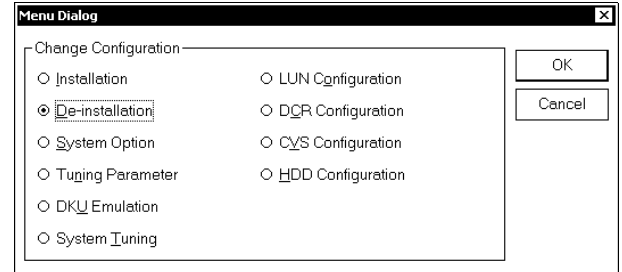
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

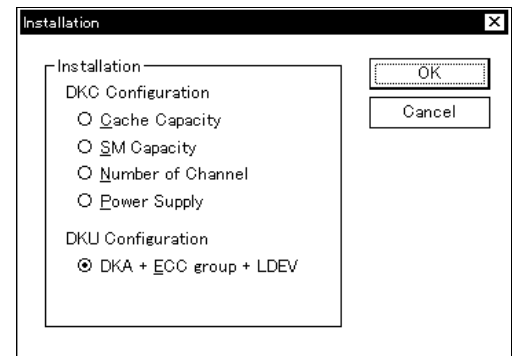
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



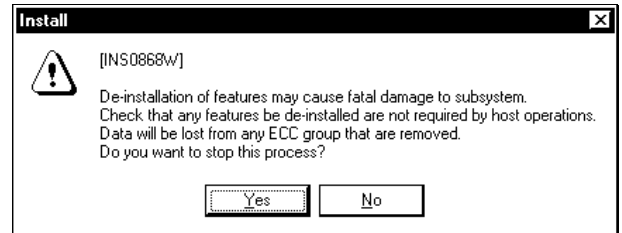
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



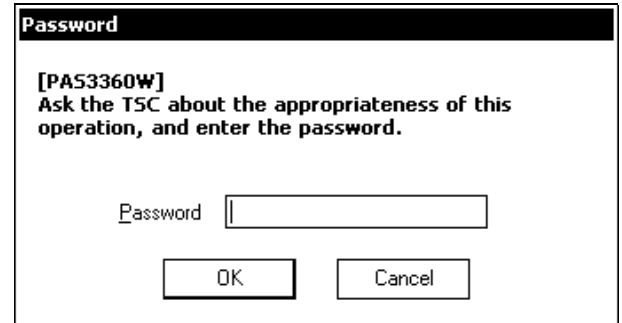
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

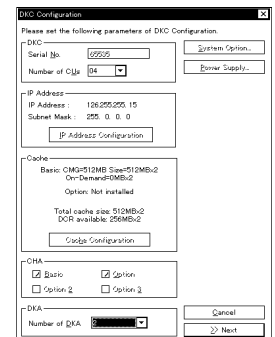
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.
Make an altered setting in which the DKU-R2 is deleted from the DKUs currently set.

Current setting	Altered setting
2DKUs (R1, R2)	1DKU (R1)
4DKUs (R1, L1, R2, L2)	3DKUs (R1, L1, L2)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

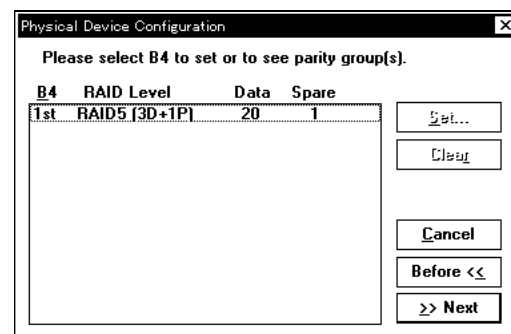
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

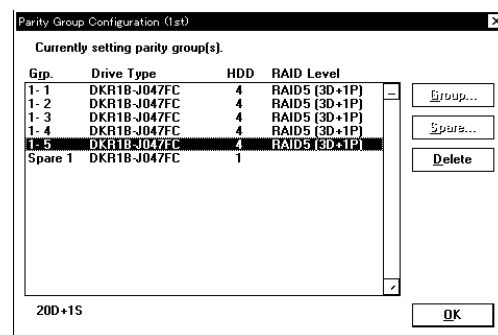
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

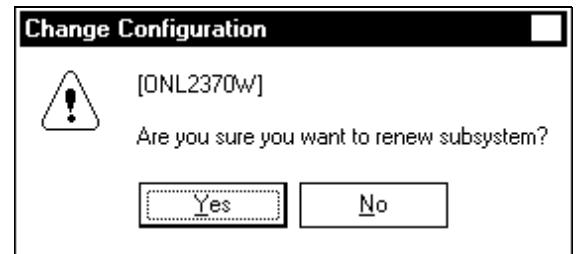


3. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

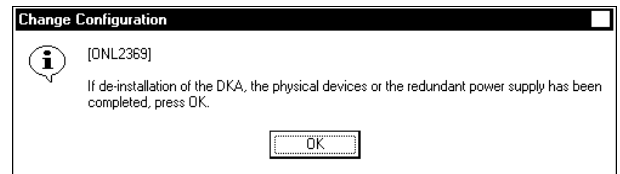
When [No] is selected (CL), returns to [INST04-DKA-570](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



4. De-Installation Procedure of HDD Canister

4-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.5-1.

Table 4.1.5-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.5-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R14				HDU-R24			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R11				HDU-R21			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065
		HDU-R10				HDU-R20			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065

Front View

001-127: 4HDD canisters installation order

		R2 DKU				R1 DKU					
L2 DKU	L1 DKU	DKC								L1 DKU	L2 DKU
		HDU-R27				HDU-R17					
		P	P	P	P	P	P	P	P		
		S	S	S	S	S	S	S	S		
		126	127	124	125	062	063	060	061		
		122	123	120	121	056	057	058	059		
		118	119	116	117	054	055	052	053		
		114	115	112	113	050	051	048	049		
		110	111	108	109	046	047*2	044	045		
		106	107	104	105	042	043	040	041		
		102	103	100	101	038	039	036	037		
		098	099	096	097	034	035	032	033		
		HDU-R26				HDU-R16					
		P	P	P	P	P	P	P	P		
		S	S	S	S	S	S	S	S		
		126	127	124	125	062	063	060	061		
		122	123	120	121	056	057	058	059		
		118	119	116	117	054	055	052	053		
		114	115	112	113	050	051	048	049		
		110	111	108	109	046	047*2	044	045		
		106	107	104	105	042	043	040	041		
		102	103	100	101	038	039	036	037		
		098	099	096	097	034	035	032	033		
		HDU-R23				HDU-R13					
		P	P	P	P	P	P	P	P		
		S	S	S	S	S	S	S	S		
		094	095	092	093	030	031	028	029		
		090	091	088	089	026	027	024	025		
		086	087	084	085	022	023	020	021		
		082	083	080	081	018	019	016	017		
		078	079	076	077	015	Spare*1	013	014		
		074	075	072	073	011	012	009	010		
		070	071	068	069	007	008	005	006		
		066	067	064	065	003	004	001	002		
		HDU-R22				HDU-R12					
		P	P	P	P	P	P	P	P		
		S	S	S	S	S	S	S	S		
		094	095	092	093	030	031	028	029		
		090	091	088	089	026	027	024	025		
		086	087	084	085	022	023	020	021		
		082	083	080	081	018	019	016	017		
		078	079	076	077	015	Spare*1	013	014		
		074	075	072	073	011	012	009	010		
		070	071	068	069	007	008	005	006		
		066	067	064	065	003	004	001	002		

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.5-3 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)
The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.5-1.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU																		
HDU-L25										HDU-L15																														
S					W					S					W																									
P		P		S		S		P		P		S		S		P		P					S		S															
254	254	253	253	251	251	249	249	247	247	245	245	243	243	241	241	239	239	190	190				189	189	188	188	186	186	184	184	182	182	180	180	178	178	176	176	174*2	174*2
252	252	251	251	250	250	248	248	246	246	244	244	242	242	240	240	238	238	190	190				189	189	188	188	186	186	184	184	182	182	180	180	178	178	176	176	174*2	174*2
236	236	235	235	233	233	231	231	229	229	227	227	225	225	223	223	221	221	172	172				171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157
234	234	233	233	232	232	230	230	228	228	226	226	224	224	222	222	220	220	172	172				171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157
232	232	231	231	230	230	228	228	226	226	224	224	222	222	220	220	218	218	172	172				171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157
230	230	229	229	228	228	226	226	224	224	222	222	220	220	218	218	216	216	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
228	228	227	227	226	226	224	224	222	222	220	220	218	218	216	216	214	214	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
226	226	225	225	224	224	222	222	220	220	218	218	216	216	214	214	212	212	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
224	224	223	223	222	222	220	220	218	218	216	216	214	214	212	212	210	210	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
222	222	221	221	220	220	218	218	216	216	214	214	212	212	210	210	208	208	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
220	220	219	219	218	218	216	216	214	214	212	212	210	210	208	208	206	206	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
218	218	217	217	216	216	214	214	212	212	210	210	208	208	206	206	204	204	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
216	216	215	215	214	214	212	212	210	210	208	208	206	206	204	204	202	202	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
214	214	213	213	212	212	210	210	208	208	206	206	204	204	202	202	200	200	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
212	212	211	211	210	210	208	208	206	206	204	204	202	202	200	200	198	198	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
210	210	209	209	208	208	206	206	204	204	202	202	200	200	198	198	196	196	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
208	208	207	207	206	206	204	204	202	202	200	200	198	198	196	196	194	194	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
206	206	205	205	204	204	202	202	200	200	198	198	196	196	194	194	192	192	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
204	204	203	203	202	202	200	200	198	198	196	196	194	194	192	192	190	190	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
202	202	201	201	200	200	198	198	196	196	194	194	192	192	190	190	188	188	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
200	200	199	199	198	198	196	196	194	194	192	192	190	190	188	188	186	186	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
198	198	197	197	196	196	194	194	192	192	190	190	188	188	186	186	184	184	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
196	196	195	195	194	194	192	192	190	190	188	188	186	186	184	184	182	182	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
194	194	193	193	192	192	190	190	188	188	186	186	184	184	182	182	180	180	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
192	192	191	191	190	190	188	188	186	186	184	184	182	182	180	180	178	178	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
190	190	189	189	188	188	186	186	184	184	182	182	180	180	178	178	176	176	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
188	188	187	187	186	186	184	184	182	182	180	180	178	178	176	176	174	174	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
186	186	185	185	184	184	182	182	180	180	178	178	176	176	174	174	172	172	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
184	184	183	183	182	182	180	180	178	178	176	176	174	174	172	172	170	170	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
182	182	181	181	180	180	178	178	176	176	174	174	172	172	170	170	168	168	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
180	180	179	179	178	178	176	176	174	174	172	172	170	170	168	168	166	166	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
178	178	177	177	176	176	174	174	172	172	170	170	168	168	166	166	164	164	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
176	176	175	175	174	174	172	172	170	170	168	168	166	166	164	164	162	162	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
174	174	173	173	172	172	170	170	168	168	166	166	164	164	162	162	160	160	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	158	158	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
170	170	169	169	168	168	166	166	164	164	162	162	160	160	158	158	156	156	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
168	168	167	167	166	166	164	164	162	162	160	160	158	158	156	156	154	154	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
166	166	165	165	164	164	162	162	160	160	158	158	156	156	154	154	152	152	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
164	164	163	163	162	162	160	160	158	158	156	156	154	154	152	152	150	150	172	172	171	171	170	170	168	168	166	166	164	164	162	162	160	160	159	159	157	157			
162	162	161	161	160	160	158	158	156	156	154	154	152	152																											

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.5-3 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.5-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.5-2.

Table 4.1.5-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.5-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU			
HDU-L25				HDU-L15									
S	S	P	P	125	126	123	124	093	094	078	Spare*1	076	077
				121	122	119	120	089	090	074	075		
S	S	P	P	117	118	115	116	087	088	072	073	070	071
				113	114	111	112	085	086	068	069		
S	S	P	P	109	110	107	108	083	084	066	067	064	065
				105	106	103	104	081	082	062	063		
S	S	P	P	101	102	099	100	079	080	059	060	056	057
				097	098	095	096	055	056	052	053		
S	S	P	P	091	092	089	090	075	076	051	052	047	048
				087	088	085	086	045	046	041	042		
S	S	P	P	081	082	079	080	071	072	039	040	035	036
				077	078	073	074	031	032	027	028		
S	S	P	P	071	072	069	070	061	062	023	024	019	020
				059	060	017	018	013	014	009	010		
S	S	P	P	051	052	049	050	041	042	003	004	000	001
				039	040	001	002	000	000	000	000		
S	S	P	P	041	042	039	040	031	032	000	000	000	000
				023	024	000	000	000	000	000	000		
S	S	P	P	031	032	029	030	021	022	000	000	000	000
				013	014	000	000	000	000	000	000		
S	S	P	P	011	012	009	010	001	002	000	000	000	000
				001	002	000	000	000	000	000	000		
S	S	P	P	001	002	000	000	000	000	000	000	000	000
				000	000	000	000	000	000	000	000		

Front View

064-126: 8HDD canisters installation ord

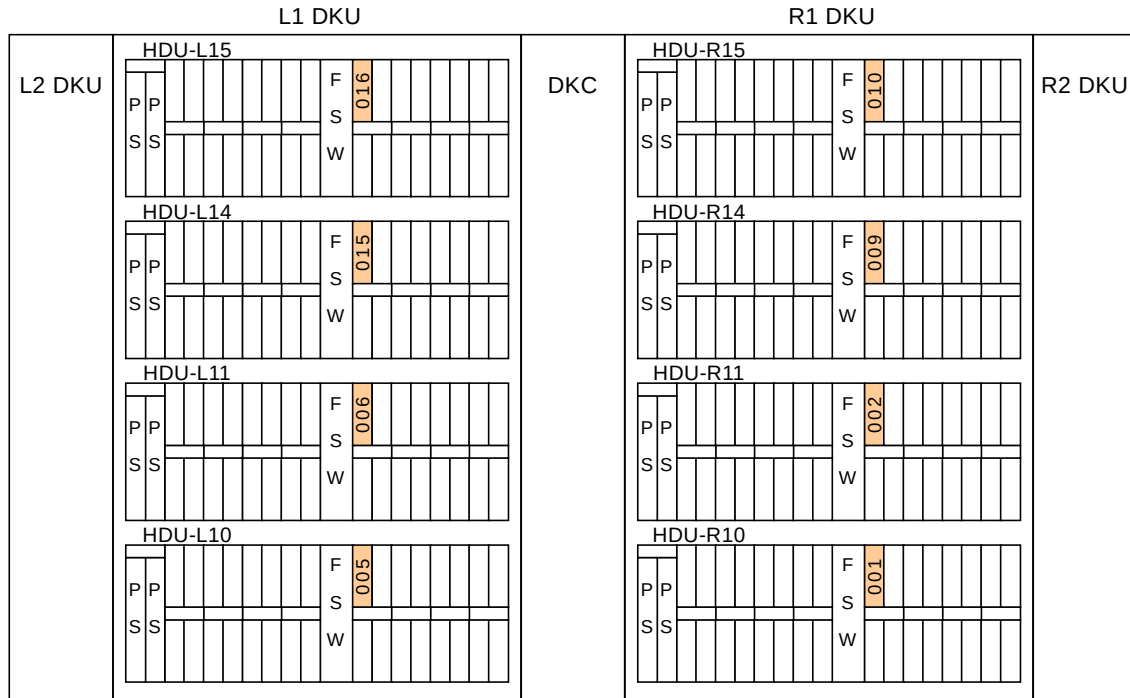
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU			
R2 DKU	R1 DKU	DKC	HDU-L17	P	P	094	F
			S	S	093	W	
					092	S	
					091	Spare*1	
					090	077	
					089	076	
					088	075	
					087	074	
					086	073	
					085	072	
					084	071	
					083	070	
		082	069				
		081	068				
		080	067				
		079	066				
		078	065				
		077	064				
		076	063				
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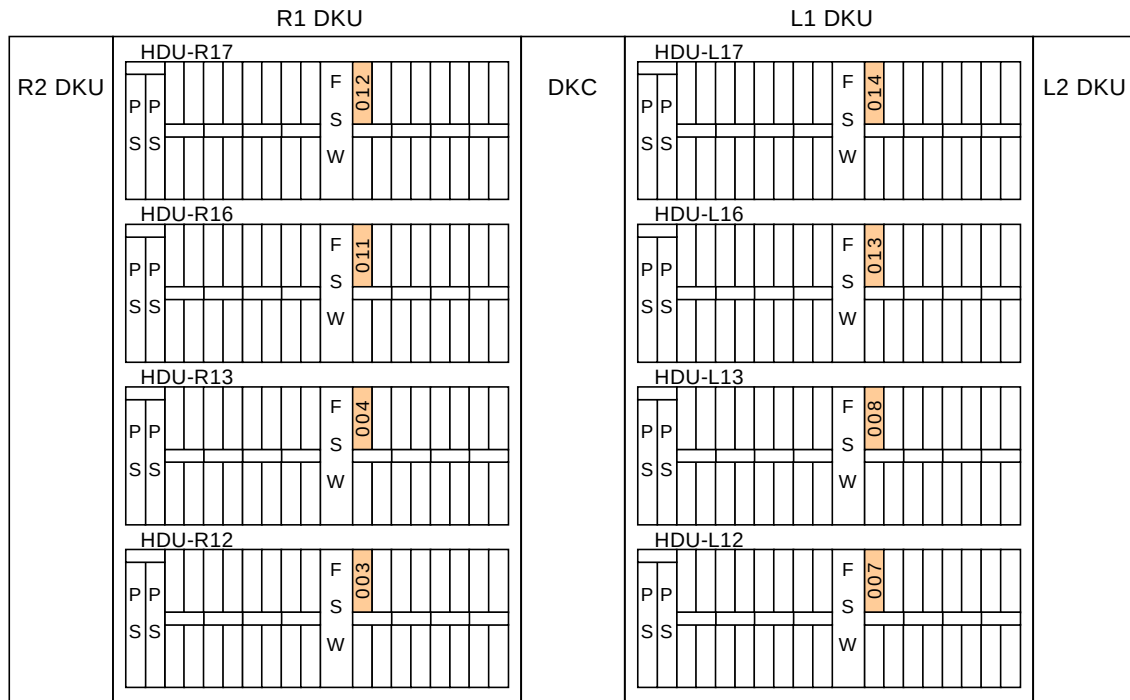
(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



Front View

001-016: Spare HDD canister installation order



Rear View

Fig. 4.1.5-5 Spare Drive Expansion Sequence

4-2 Confirmation of Shut Down LED.

- a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

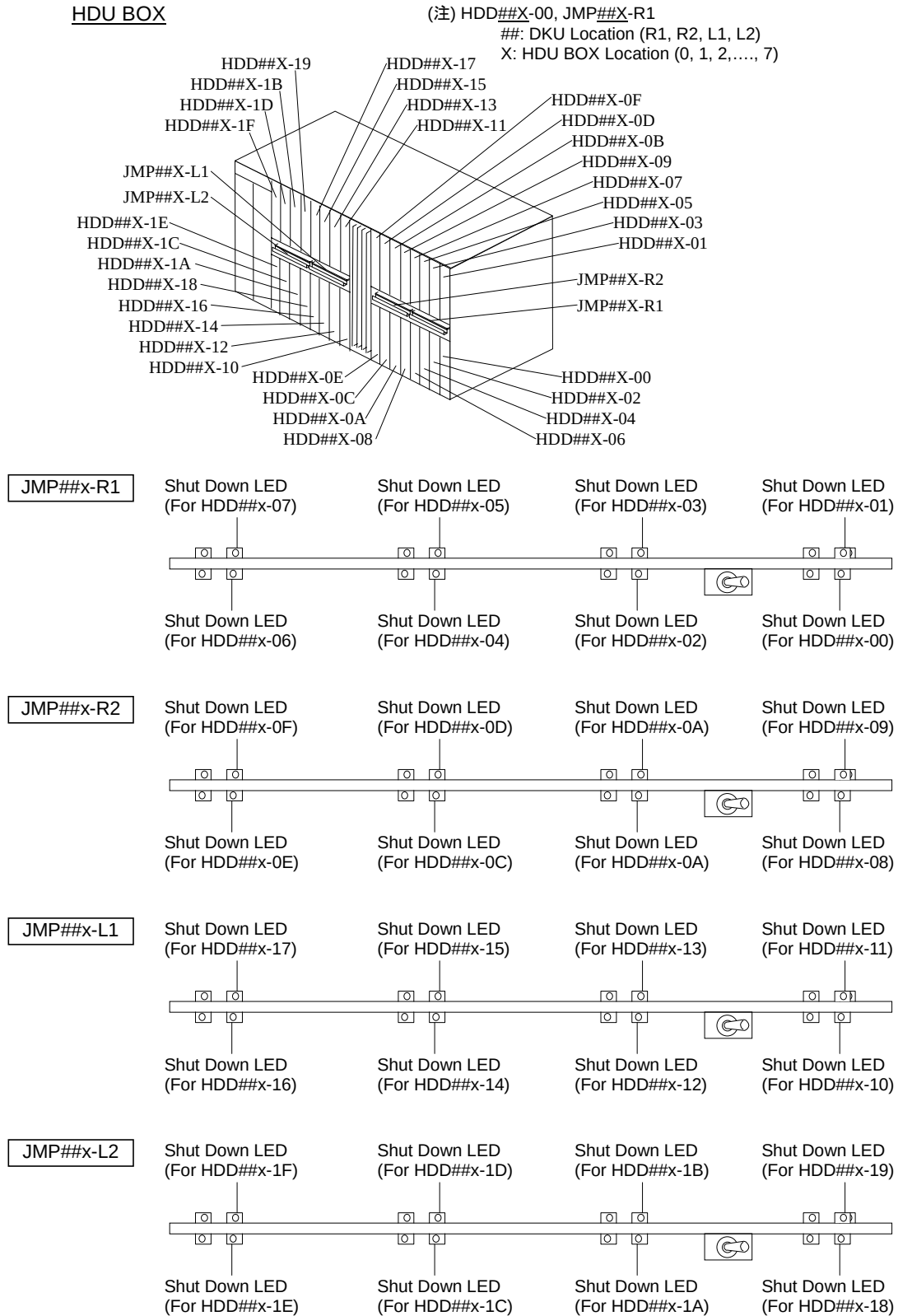


Fig. 4.1.5-6 Location of Shut Down LED

4-3 De-installation of the HDD canister.

CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

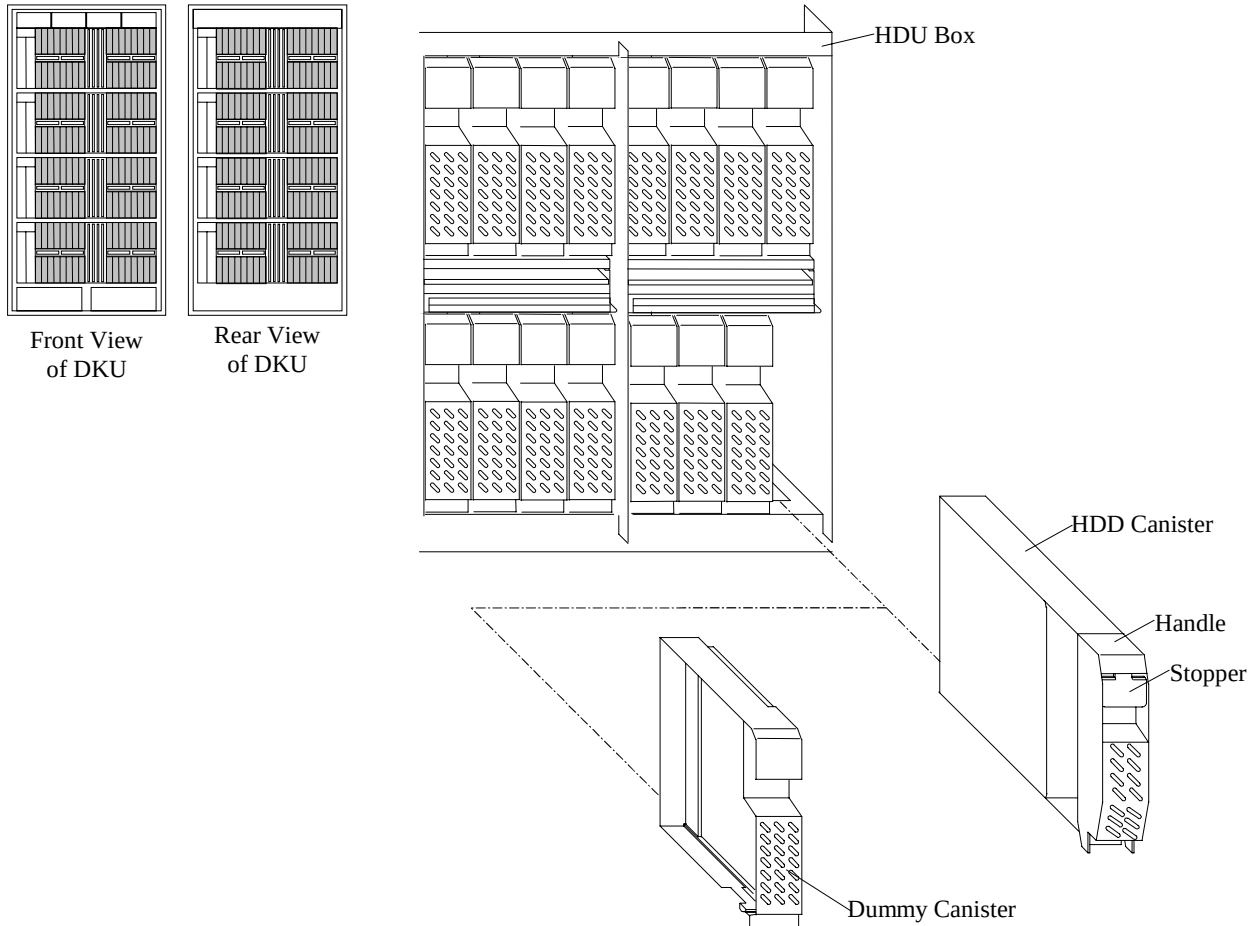
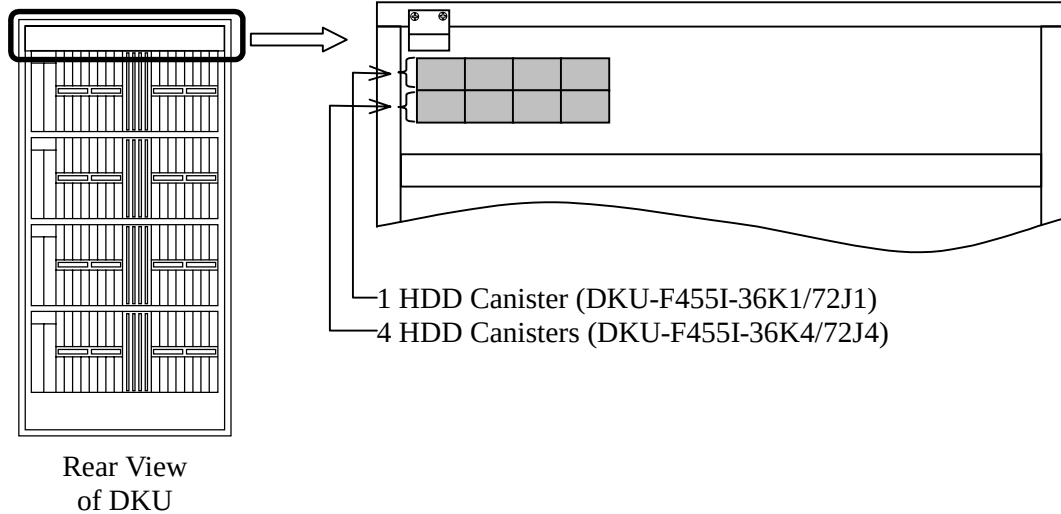


Fig. 4.1.5-7 De-Installation of HDD Canister

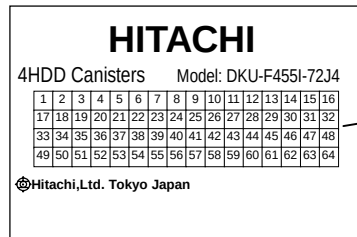
4-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.5-8 Removal of Nameplate

5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-R10-R17 and HDU-R20-R27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-R1 frame referring to figures 4.1.5-9 and 4.1.5-10.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.

Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

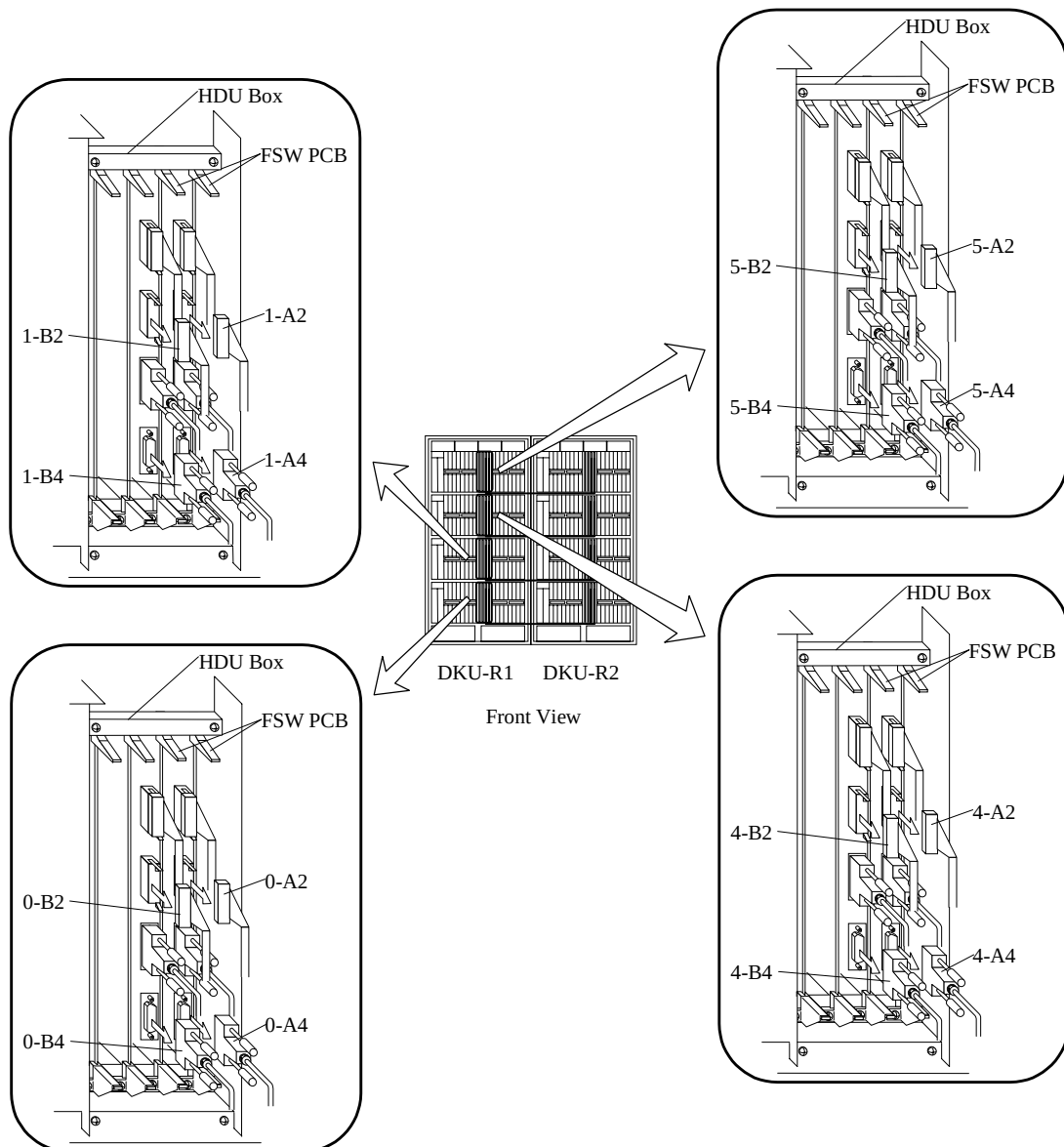


Fig. 4.1.5-9 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

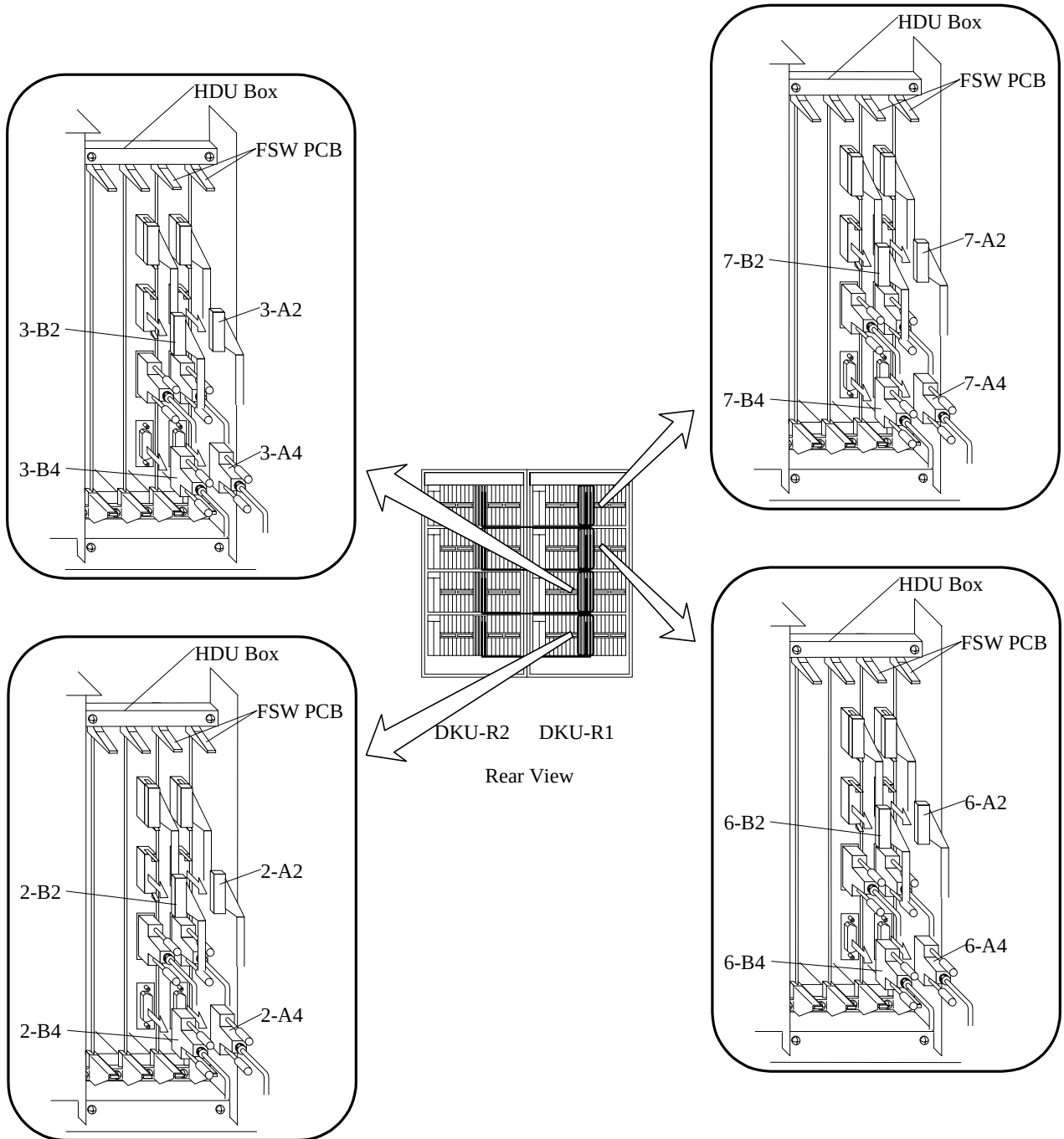


Fig. 4.1.5-10 Connection of the DEV Interface Cables

6. De-Installation Procedure of Disk Adapter

When the additional disk adapter is not to be removed, go to Step 7, "SVP post procedure".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.5-11) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

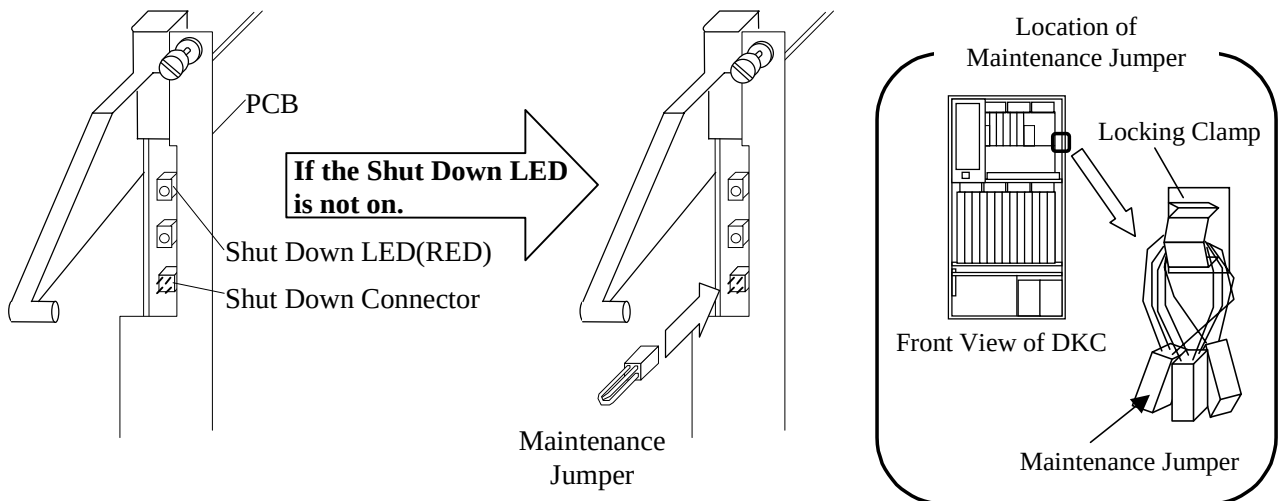


Fig. 4.1.5-11 Shut Down LED

Table 4.1.5-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

6-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

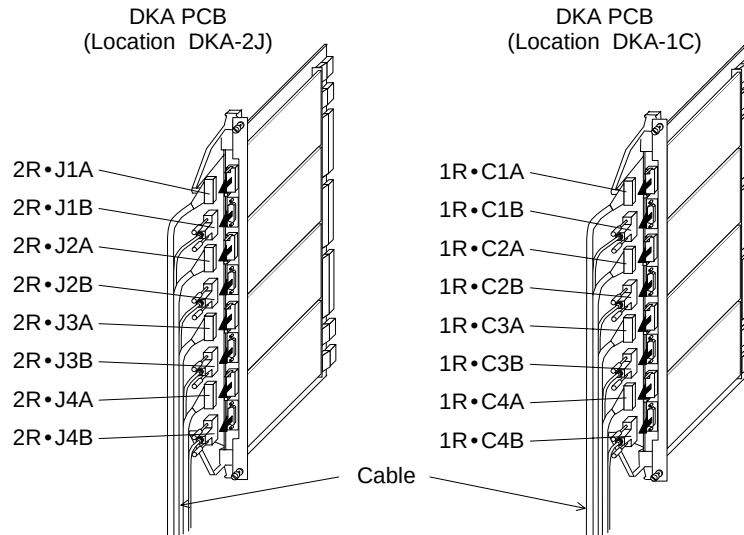


Fig. 4.1.5-12 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

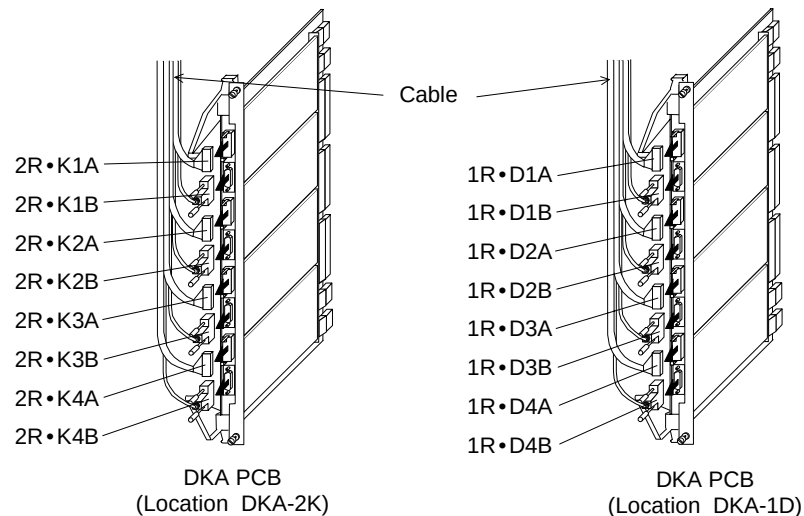


Fig. 4.1.5-13 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

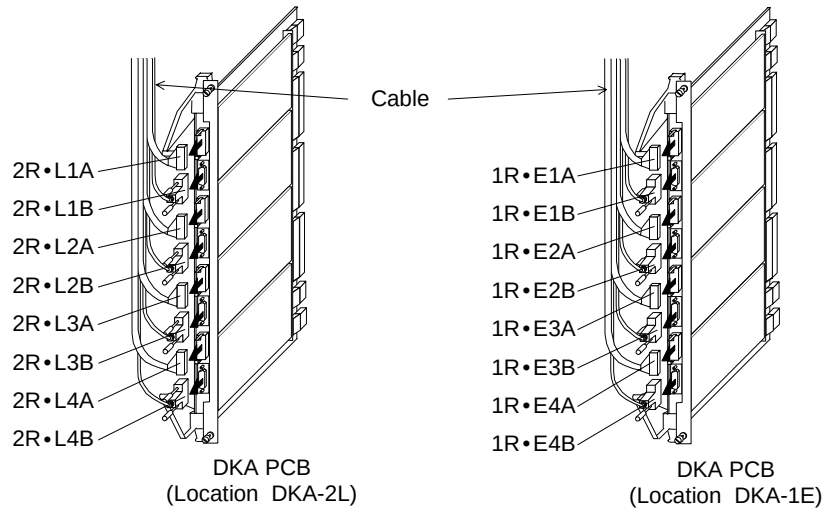


Fig.4.1.5-14 Disconnection of DEV Interface Cable (Add.3)

6-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.5-15.
b. Attach the dummy plates referring to Fig. 4.1.5-16.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

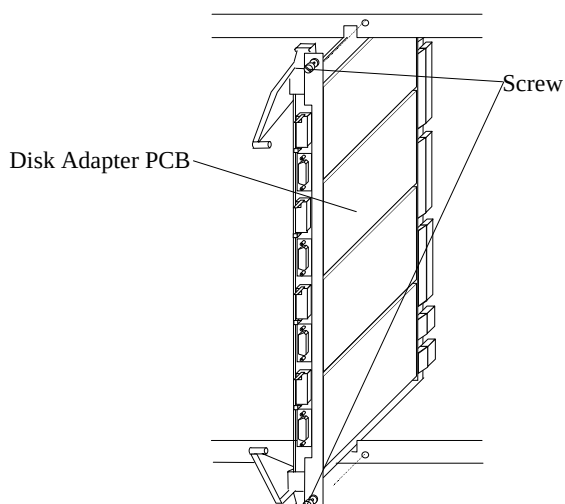


Fig. 4.1.5-15 Removal of PCB

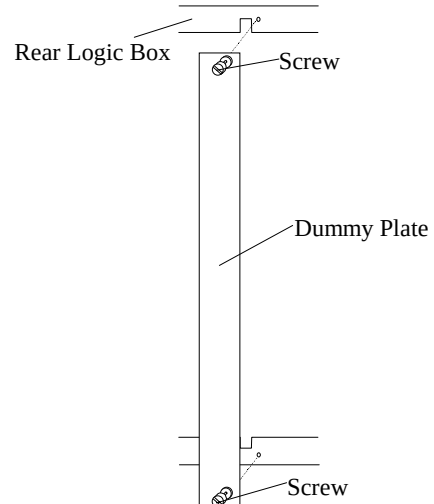


Fig. 4.1.5-16 Attachment of Dummy Plate

6-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

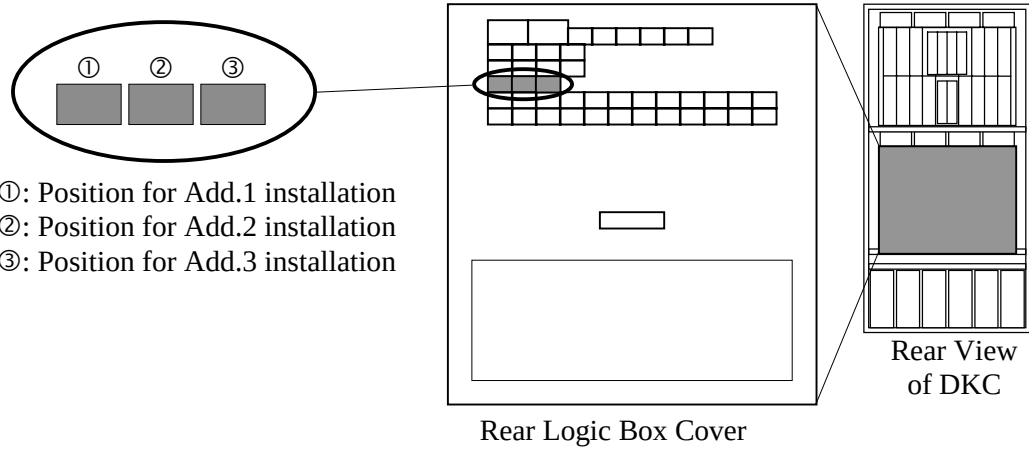
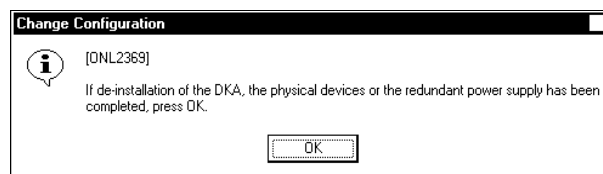


Fig. 4.1.5-17 Removal of Nameplate

7. SVP post procedure

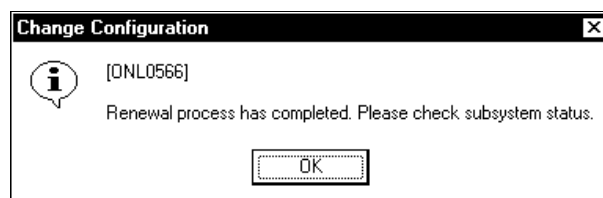
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



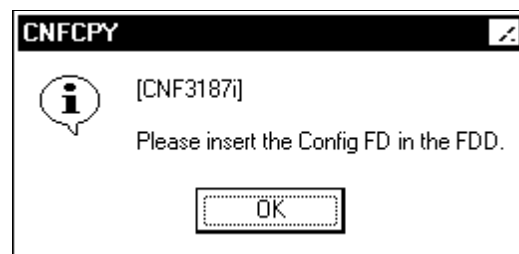
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



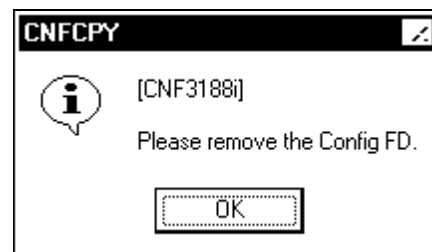
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

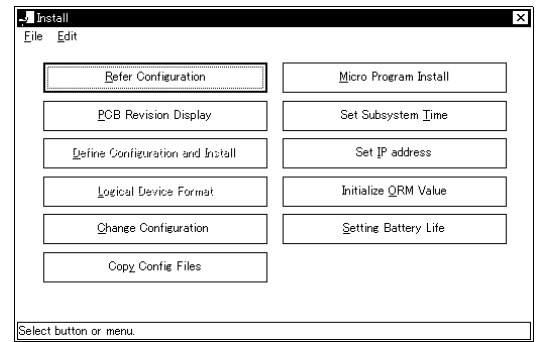


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

8. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-R2 frame referring to Fig. 4.1.5-18 through Fig. 4.1.5-21.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

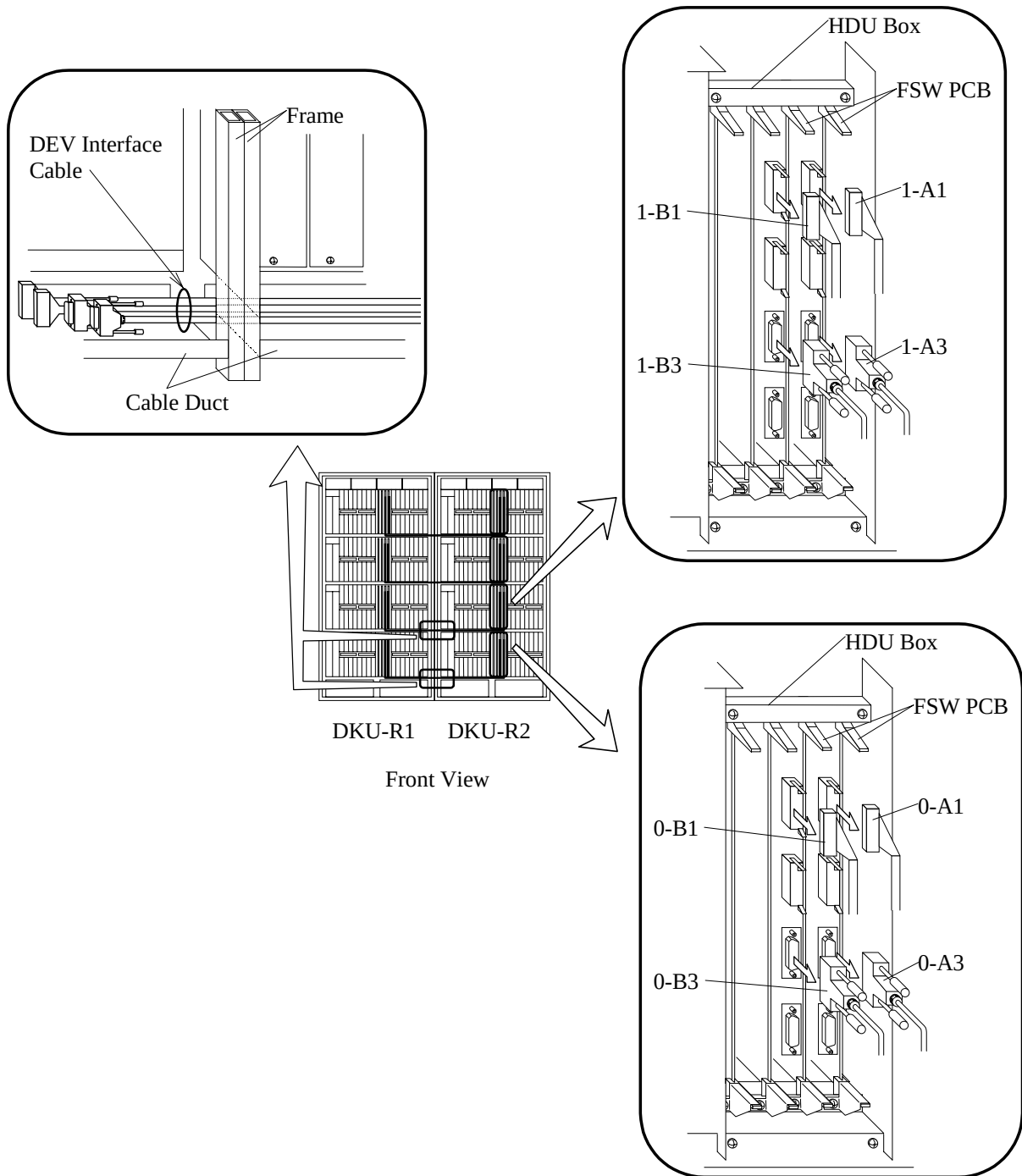


Fig. 4.1.5-18 Disconnection of the DEV Interface Cables

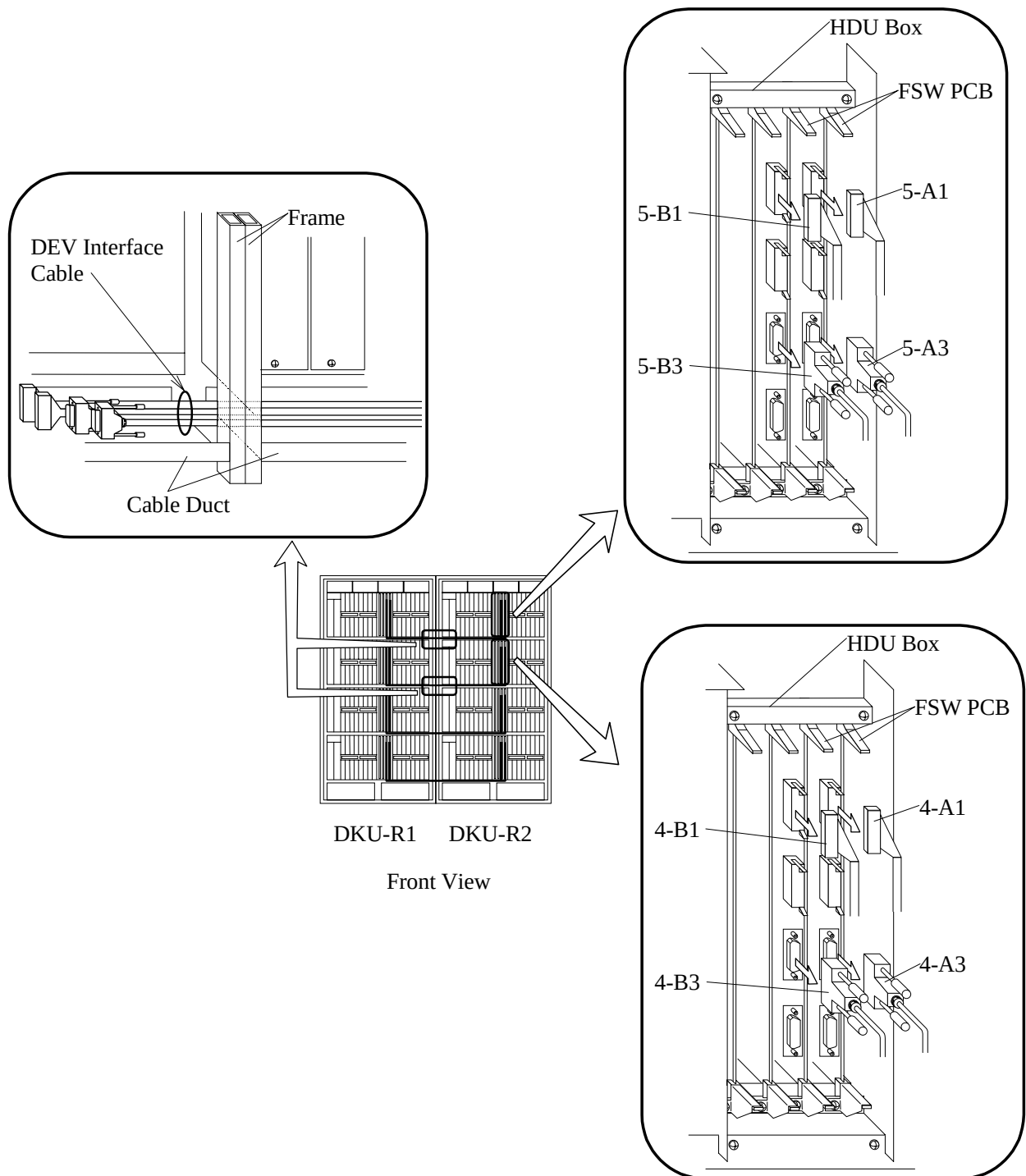


Fig. 4.1.5-19 Disconnection of the DEV Interface Cables

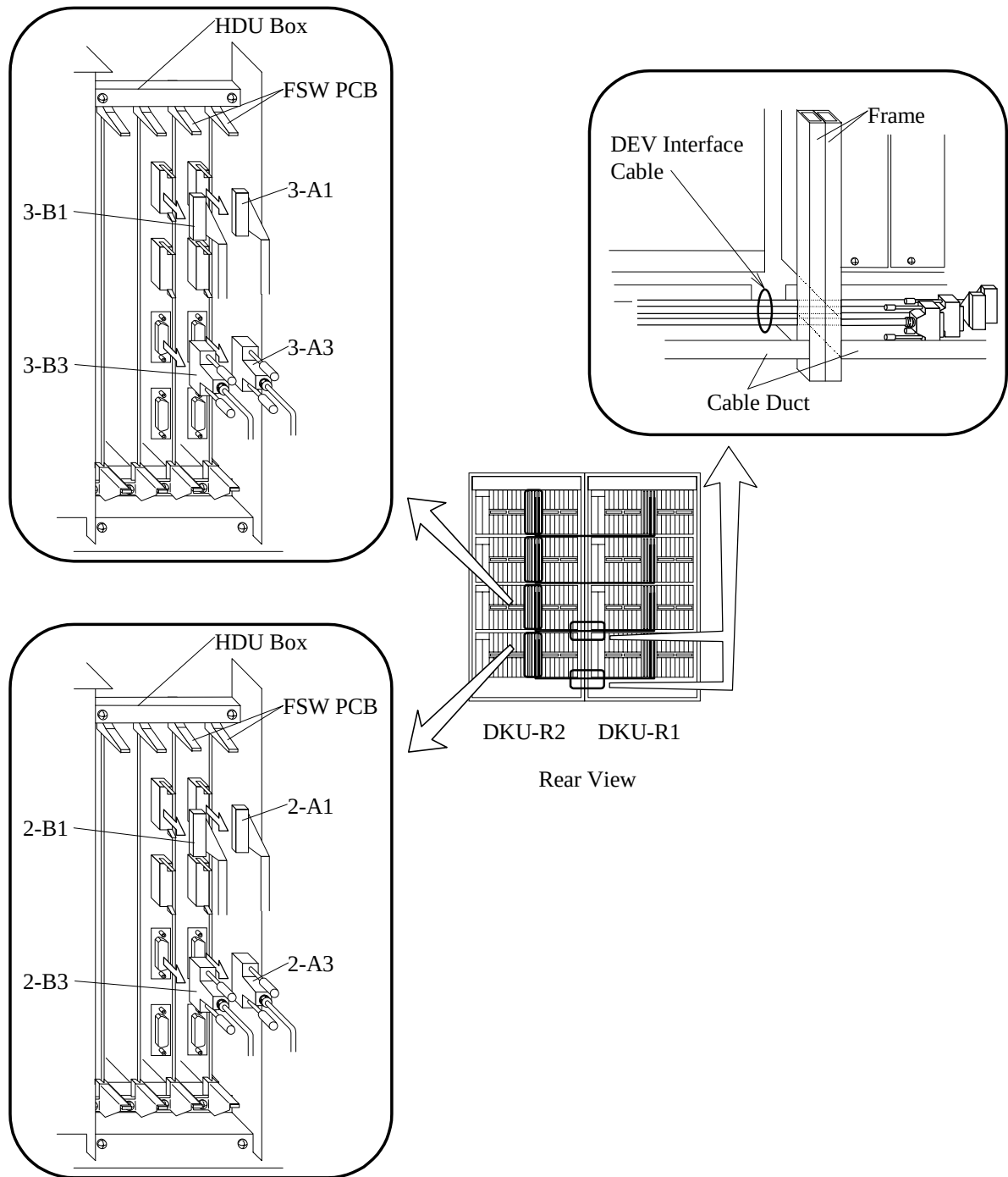


Fig. 4.1.5-20 Disconnection of the DEV Interface Cables

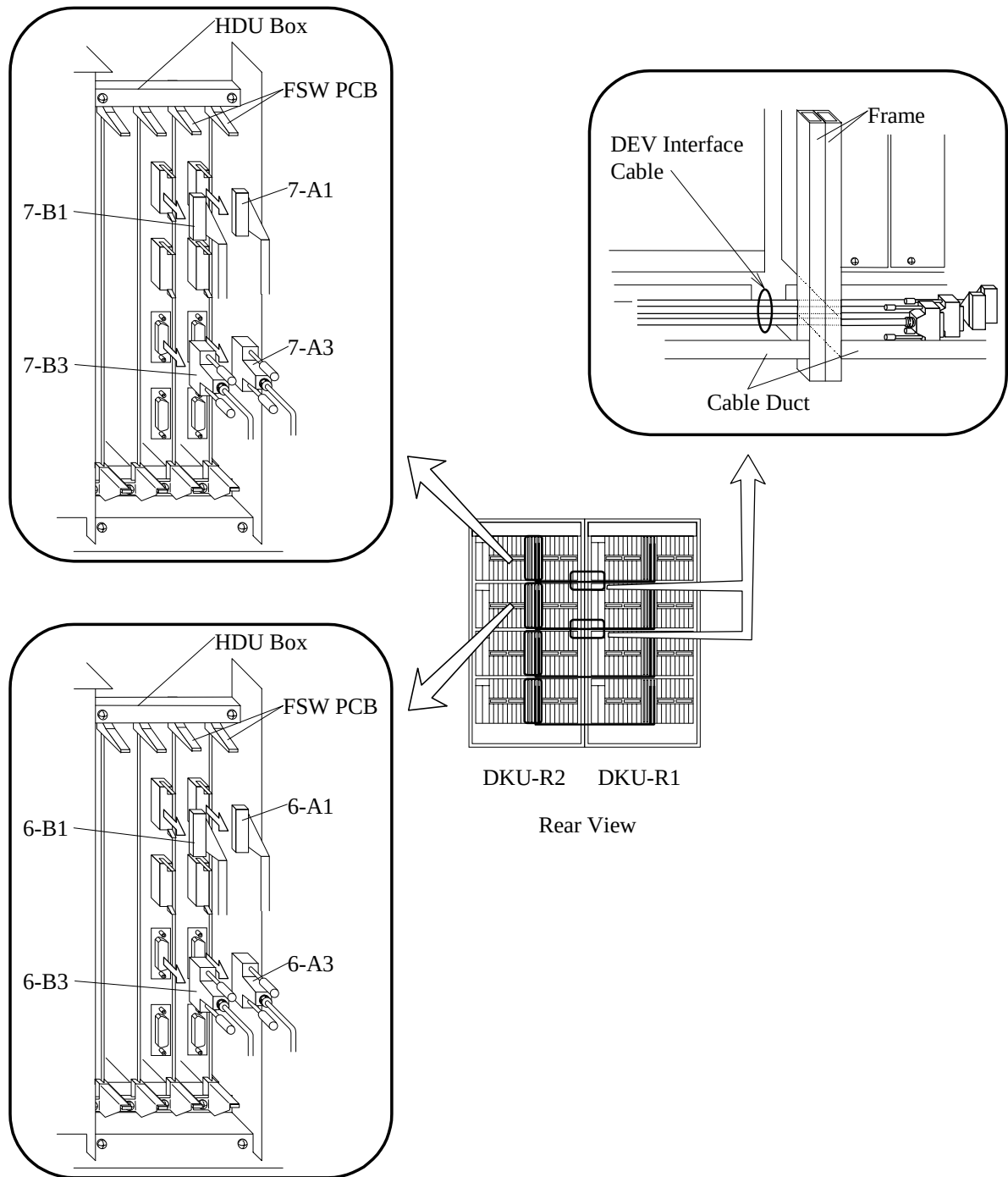


Fig. 4.1.5-21 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

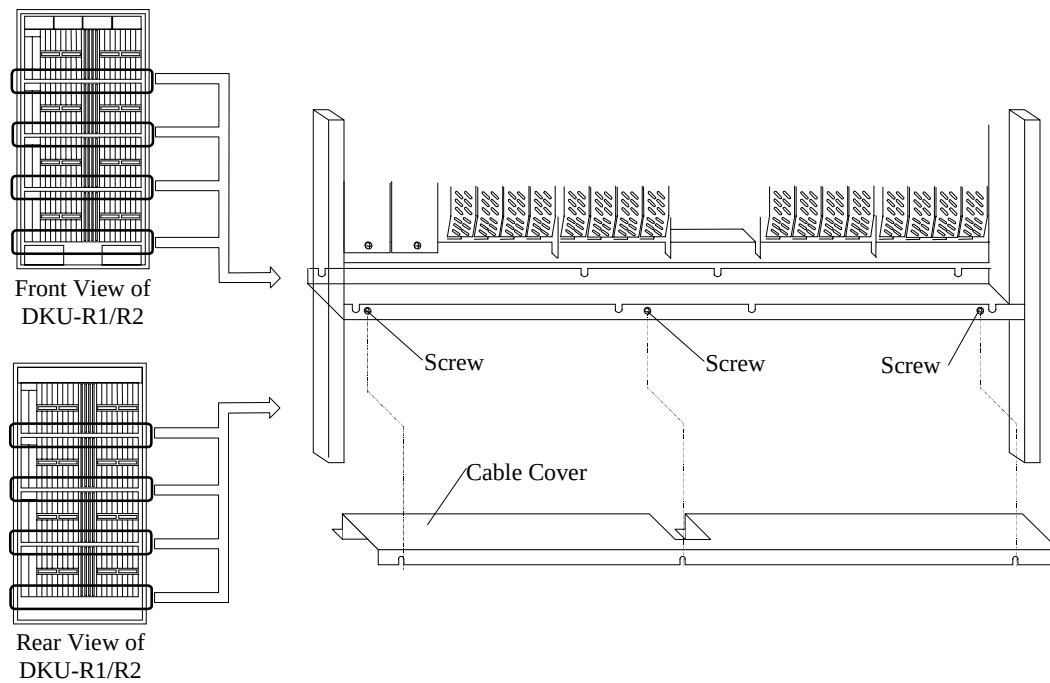


Fig. 4.1.5-22 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

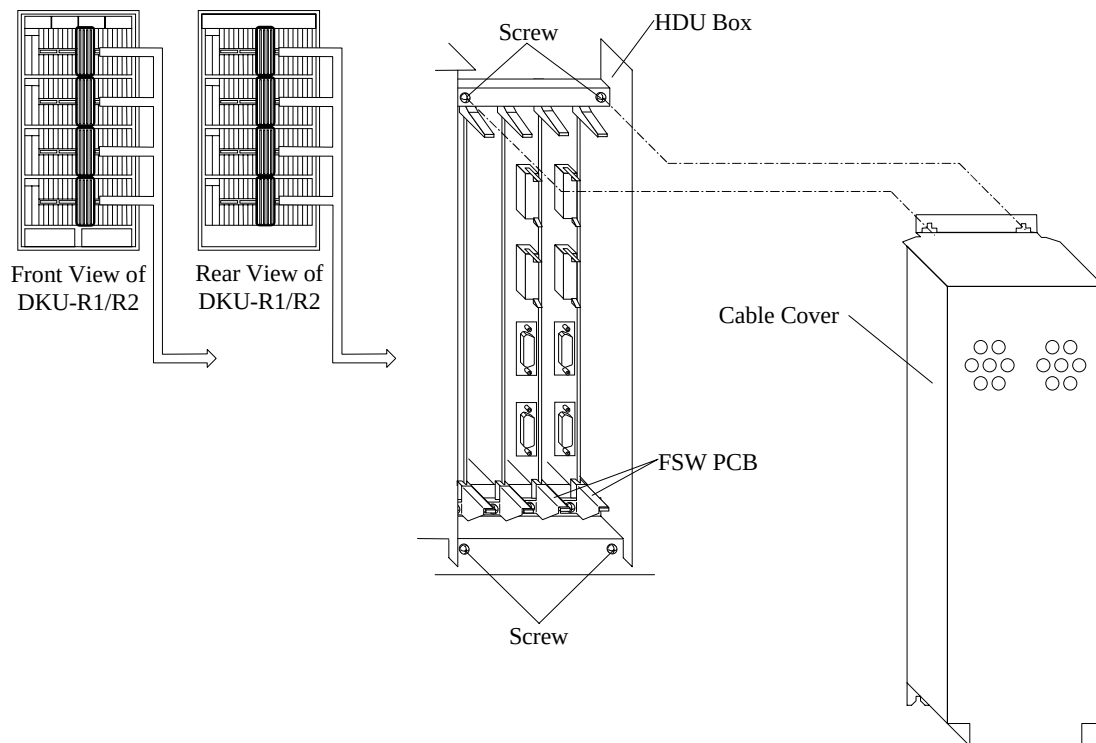


Fig. 4.1.5-23 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-R2 frame.

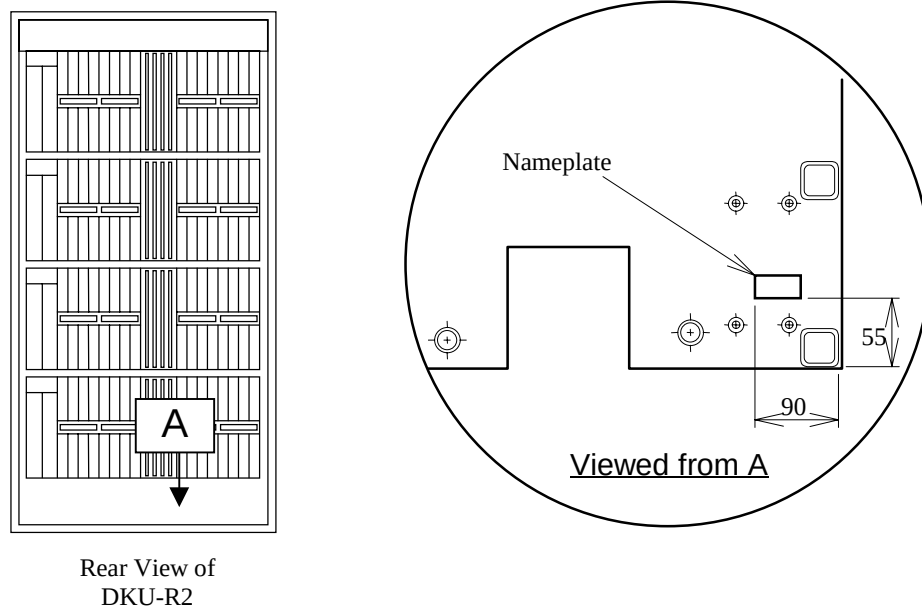


Fig. 4.1.5-24 Removal of the Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.6 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 frame (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1)

1. De-Installation Procedure of DEV Interface Cable 1 (1/3) (DKC-F460I-L1C)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

- a. Loosen the screws and remove the cable covers from the DKU frames.

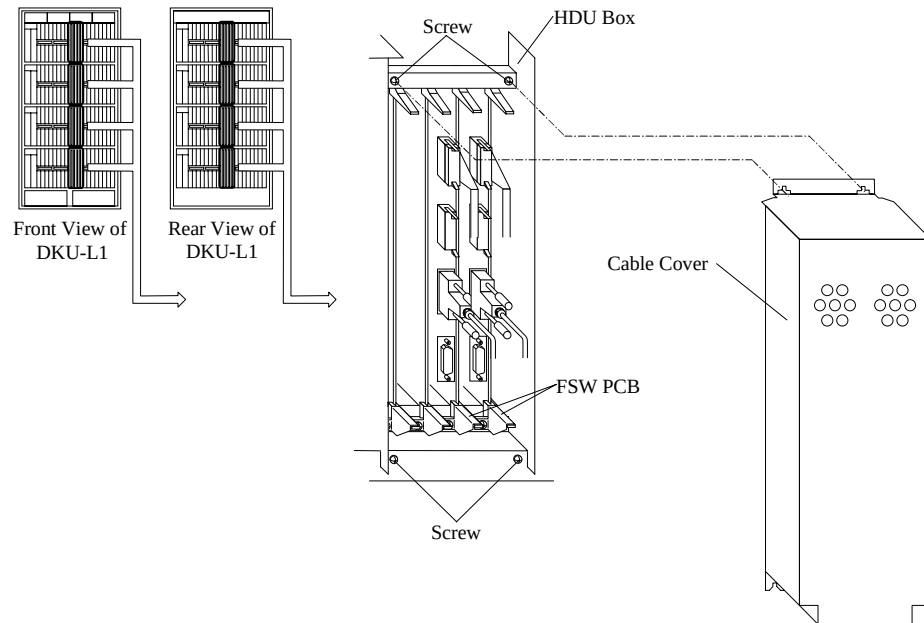


Fig. 4.1.6-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

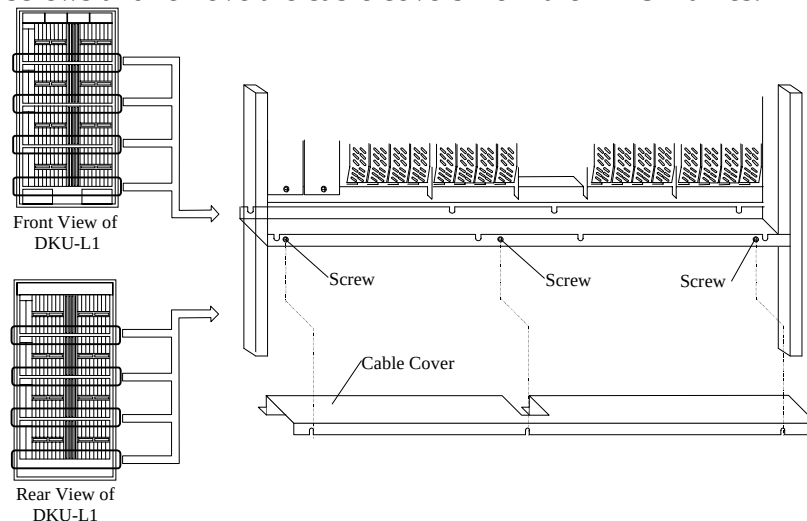
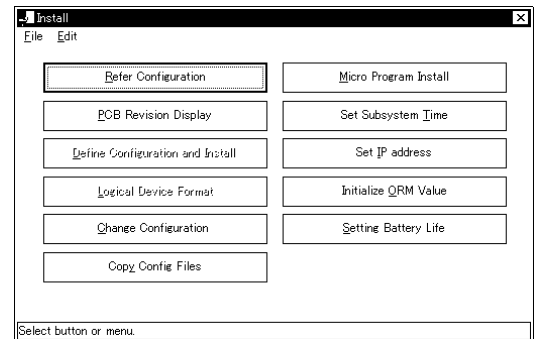


Fig. 4.1.6-2 Removal of Cable Covers

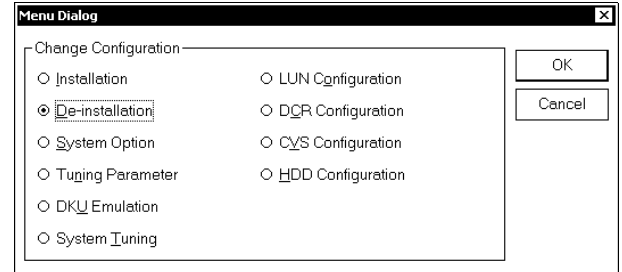
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

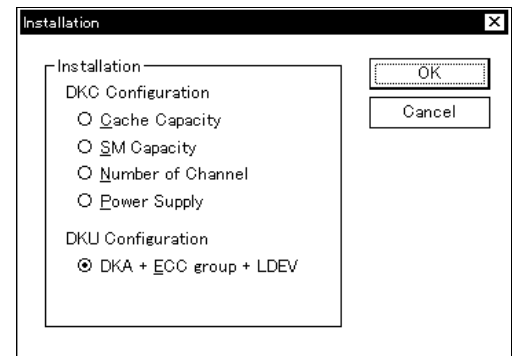
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

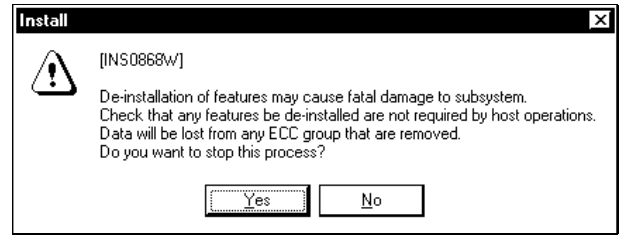


4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5.

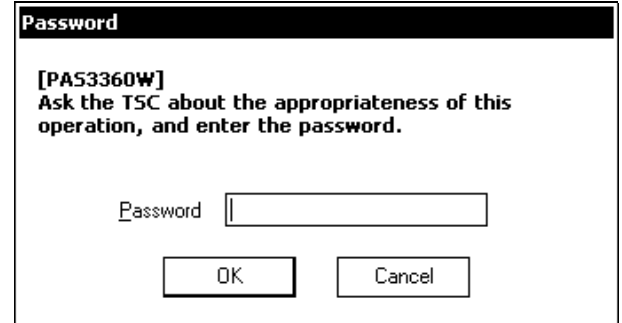
Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6.

<Input password>

Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

7. <Update Configuration Information>

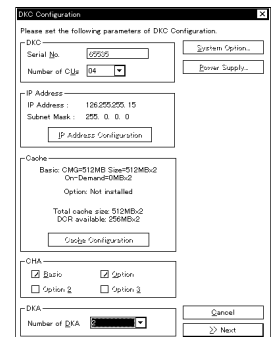
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.

Make an altered setting in which the DKU-L1 is deleted from the DKUs currently set.

Current setting	Altered setting
2DKUs (R1, L1)	1DKU (R1)
3DKUs (R1, L1, R2)	2DKUs (R1, R2)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.

When the [Before <<] is selected, the window returns to the preceding one.

Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

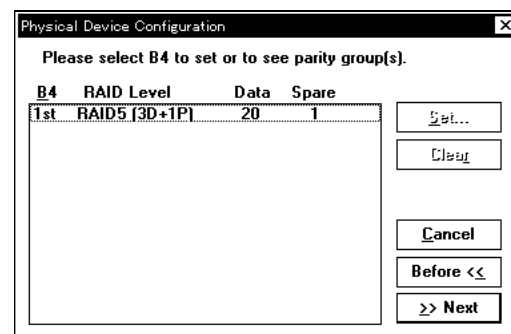
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

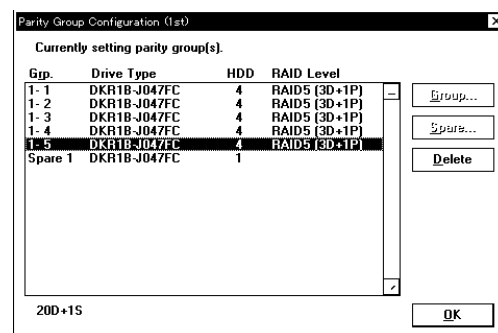
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

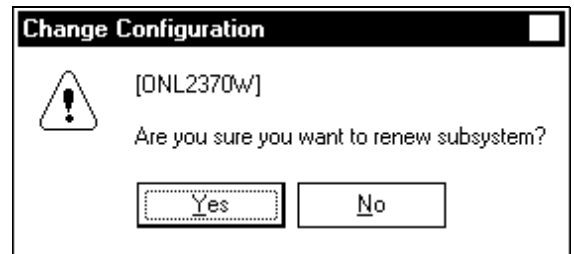


3. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

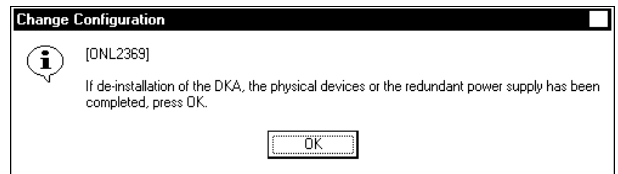
When [No] is selected (CL), returns to [INST04-DKA-860](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



4. De-Installation Procedure of HDD Canister

4-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.6-1.

Table 4.1.6-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.6-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		062	063	062	047*2	126	127	126	111
		060	061	060	044	124	125	124	109
		058	059	058	042	122	123	122	107
		056	057	056	040	120	121	120	105
		054	055	054	038	118	119	118	103
		052	053	052	036	116	117	116	101
		050	051	050	034	114	115	114	099
		048	049	048	032	112	113	112	097
		HDU-R14				HDU-R24			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		062	063	062	047*2	126	127	126	111
		060	061	060	044	124	125	124	109
		058	059	058	042	122	123	122	107
		056	057	056	040	120	121	120	105
		054	055	054	038	118	119	118	103
		052	053	052	036	116	117	116	101
		050	051	050	034	114	115	114	099
		048	049	048	032	112	113	112	097
		HDU-R11				HDU-R21			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		030	031	030	Spare*1	094	095	094	078
		028	029	028	014	092	093	092	077
		026	027	026	012	090	091	090	075
		024	025	024	010	088	089	088	073
		022	023	022	008	086	087	086	071
		020	021	020	006	084	085	084	069
		018	019	018	004	082	083	082	067
		016	017	016	002	080	081	080	065
		HDU-R10				HDU-R20			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		030	031	030	Spare*1	094	095	094	078
		028	029	028	014	092	093	092	077
		026	027	026	012	090	091	090	075
		024	025	024	010	088	089	088	073
		022	023	022	008	086	087	086	071
		020	021	020	006	084	085	084	069
		018	019	018	004	082	083	082	067
		016	017	016	002	080	081	080	065
		Front View				001-127: 4HDD canisters installation order			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU				DKC			L1 DKU		L2 DKU	
HDU-R27				HDU-R17										
P	P	P	P	P	P	P	P							
S	S	S	S	S	S	S	S							
126	127	124	125	062	063	060	061	046	047*2	044	045	042	043	040
122	123	120	121	056	057	058	059	042	043	040	041	038	039	036
118	119	116	117	054	055	052	053	038	039	036	037	034	035	032
114	115	112	113	050	051	048	049	034	035	032	033	030	031	028
110	111	108	109	046	047*2	044	045	030	031	028	029	026	027	024
106	107	104	105	042	043	040	041	026	027	024	025	022	023	020
102	103	100	101	038	039	036	037	022	023	020	021	018	019	016
098	099	096	097	034	035	032	033	018	019	016	017	015	Spare*1	013
HDU-R26				HDU-R16										
P	P	P	P	P	P	P	P							
S	S	S	S	S	S	S	S							
126	127	124	125	062	063	060	061	046	047*2	044	045	042	043	040
122	123	120	121	056	057	058	059	042	043	040	041	038	039	036
118	119	116	117	054	055	052	053	038	039	036	037	034	035	032
114	115	112	113	050	051	048	049	034	035	032	033	030	031	028
110	111	108	109	046	047*2	044	045	030	031	028	029	026	027	024
106	107	104	105	042	043	040	041	026	027	024	025	022	023	020
102	103	100	101	038	039	036	037	022	023	020	021	018	019	016
098	099	096	097	034	035	032	033	018	019	016	017	015	Spare*1	013
HDU-R23				HDU-R13										
P	P	P	P	P	P	P	P							
S	S	S	S	S	S	S	S							
094	095	092	093	030	031	028	029	015	Spare*1	013	014	011	012	009
090	091	088	089	026	027	024	025	011	012	009	010	007	008	005
086	087	084	085	022	023	020	021	007	008	005	006	003	004	001
082	083	080	081	018	019	016	017	003	004	001	002			
HDU-R22				HDU-R12										
P	P	P	P	P	P	P	P							
S	S	S	S	S	S	S	S							
094	095	092	093	030	031	028	029	015	Spare*1	013	014	011	012	009
090	091	088	089	026	027	024	025	011	012	009	010	007	008	005
086	087	084	085	022	023	020	021	007	008	005	006	003	004	001
082	083	080	081	018	019	016	017	003	004	001	002			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.6-3 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.6-1.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU
HDU-L25										HDU-L15												
S		T		S		T		S		T		S		T		S		T				
221		222		221		222		221		222		221		222		221		222				
219		220		219		220		219		220		219		220		219		220				
217		218		217		218		217		218		217		218		217		218				
215		216		215		216		215		216		215		216		215		216				
213		214		213		214		213		214		213		214		213		214				
211		212		211		212		211		212		211		212		211		212				
209		210		209		210		209		210		209		210		209		210				
207		208		207		208		207		208		207		208		207		208				
W		T		W		T		W		T		W		T		W		T				
205		206		205		206		205		206		205		206		205		206				
203		204		203		204		203		204		203		204		203		204				
201		202		201		202		201		202		201		202		201		202				
199		200		199		200		199		200		199		200		199		200				
197		198		197		198		197		198		197		198		197		198				
195		196		195		196		195		196		195		196		195		196				
193		194		193		194		193		194		193		194		193		194				
191		192		191		192		191		192		191		192		191		192				
S		T		S		T		S		T		S		T		S		T				
253		254		253		254		253		254		253		254		253		254				
251		252		251		252		251		252		251		252		251		252				
249		250		249		250		249		250		249		250		249		250				
247		248		247		248		247		248		247		248		247		248				
245		246		245		246		245		246		245		246		245		246				
243		244		243		244		243		244		243		244		243		244				
241		242		241		242		241		242		241		242		241		242				
239		240		239		240		239		240		239		240		239		240				
W		T		W		T		W		T		W		T		W		T				
237		238		237		238		237		238		237		238		237		238				
235		236		235		236		235		236		235		236		235		236				
233		234		233		234		233		234		233		234		233		234				
231		232		231		232		231		232		231		232		231		232				
229		230		229		230		229		230		229		230		229		230				
227		228		227		228		227		228		227		228		227		228				
225		226		225		226		225		226		225		226		225		226				
223		224		223		224		223		224		223		224		223		224				
S		T		S		T		S		T		S		T		S		T				
189		190		189		190		189		190		189		190		189		190				
187		188		187		188		187		188		187		188		187		188				
185		186		185		186		185		186		185		186		185		186				
183		184		183		184		183		184		183		184		183		184				
181		182		181		182		181		182		181		182		181		182				
179		180		179		180		179		180		179		180		179		180				
177		178		177		178		177		178		177		178		177		178				
175		176		175		176		175		176		175		176		175		176				
W		T		W		T		W		T		W		T		W		T				
173		174*2		173		174*2		173		174*2		173		174*2		173		174*2				
171		172		171		172		171		172		171		172		171		172				
169		170		169		170		169		170		169		170		169		170				
167		168		167		168		167		168		167		168		167		168				
165		166		165		166		165		166		165		166		165		166				
163		164		163		164		163		164		163		164		163		164				
161		162		161		162		161		162		161		162		161		162				
159		160		159		160		159		160		159		160		159		160				

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.6-3 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.6-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.6-2.

Table 4.1.6-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.6-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	078	076			
122	120	121	119	090	088	Spare*1	077			
118	116	117	115	086	084	074	075			
114	112	111	110	082	080	072	073			
110	108	109	107	078	076	070	071			
106	104	105	103	074	072	068	069			
102	100	101	099	070	068	066	067			
098	096	097	095	066	064	064	065			
094	092	093	091	062	060	061	063			
088	086	087	085	058	056	059	060			
084	082	083	081	054	052	057	058			
080	078	079	077	050	048	055	056			
076	074	075	073	046	044	053	054			
072	070	071	069	042	040	051	052			
068	066	067	065	038	036	049	050			
064	062	063	061	034	032	047	048			
060	058	059	057	030	028	045	046			
056	054	055	053	026	024	043	044			
052	050	051	049	022	020	041	042			
048	046	047	045	018	016	039	040			
044	042	043	041	014	012	037	038			
040	038	039	037	010	008	035	036			
036	034	035	033	006	004	033	034			
032	030	031	029	002	000	031	032			
028	026	027	025	000	000	029	030			
024	022	023	021	000	000	027	028			
020	018	019	017	000	000	025	026			
016	014	015	013	000	000	023	024			
012	010	011	009	000	000	021	022			
008	006	007	005	000	000	019	020			
004	002	003	001	000	000	017	018			
000	000	001	000	000	000	015	016			
000	000	000	000	000	000	013	014			
000	000	000	000	000	000	011	012			
000	000	000	000	000	000	009	010			
000	000	000	000	000	000	007	008			
000	000	000	000	000	000	005	006			
000	000	000	000	000	000	003	004			
000	000	000	000	000	000	001	002			
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Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17				HDU-L27			
			HDU-L16				HDU-L26			
			HDU-L13				HDU-L23			
			HDU-L12				HDU-L22			
			Rear View				Rear View			

Rear View

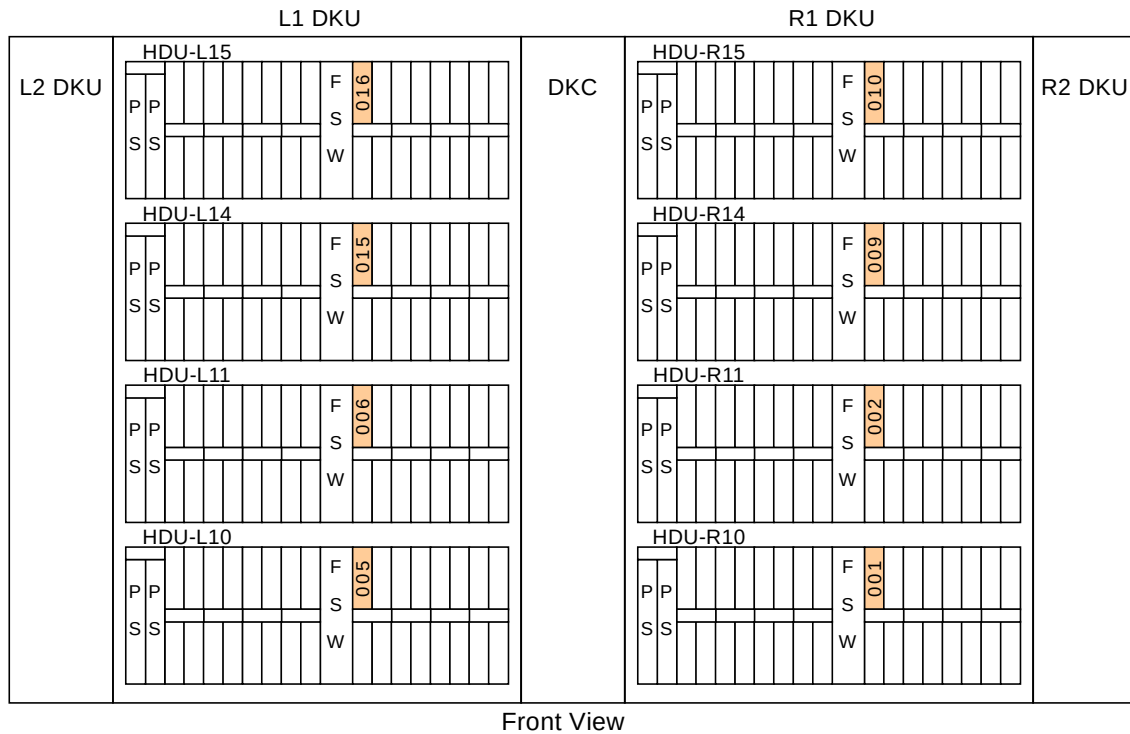
*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.6-4 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.6-2.

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

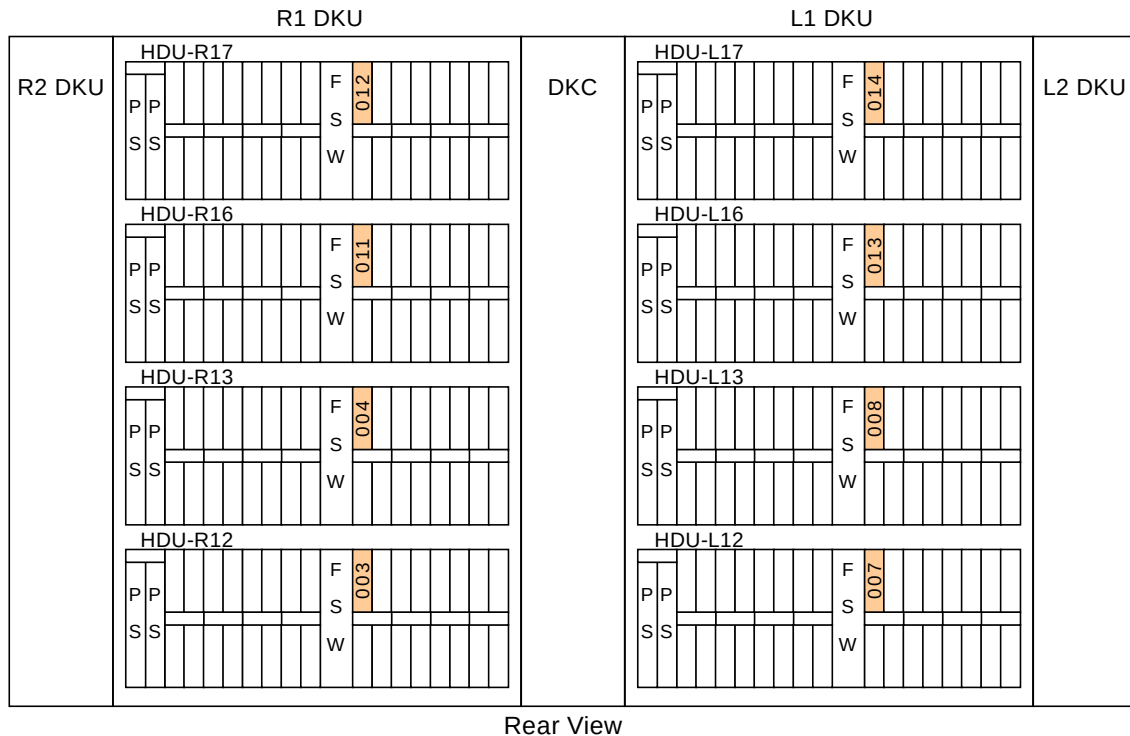


Fig. 4.1.6-5 Spare Drive Expansion Sequence

4-2 Confirmation of Shut Down LED.

- a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

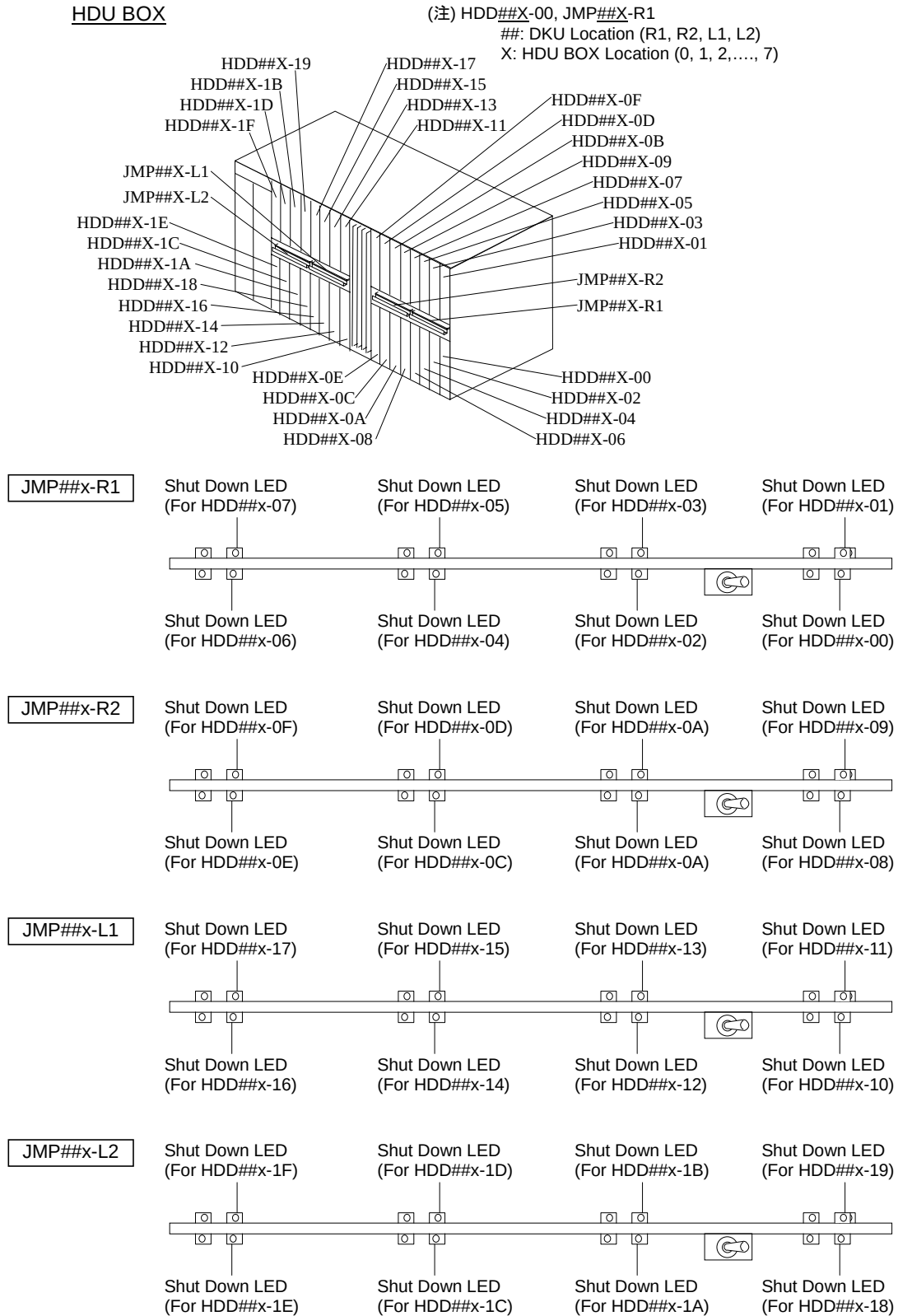


Fig. 4.1.6-6 Location of Shut Down LED

4-3 De-installation of the HDD canister.

**CAUTION**

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

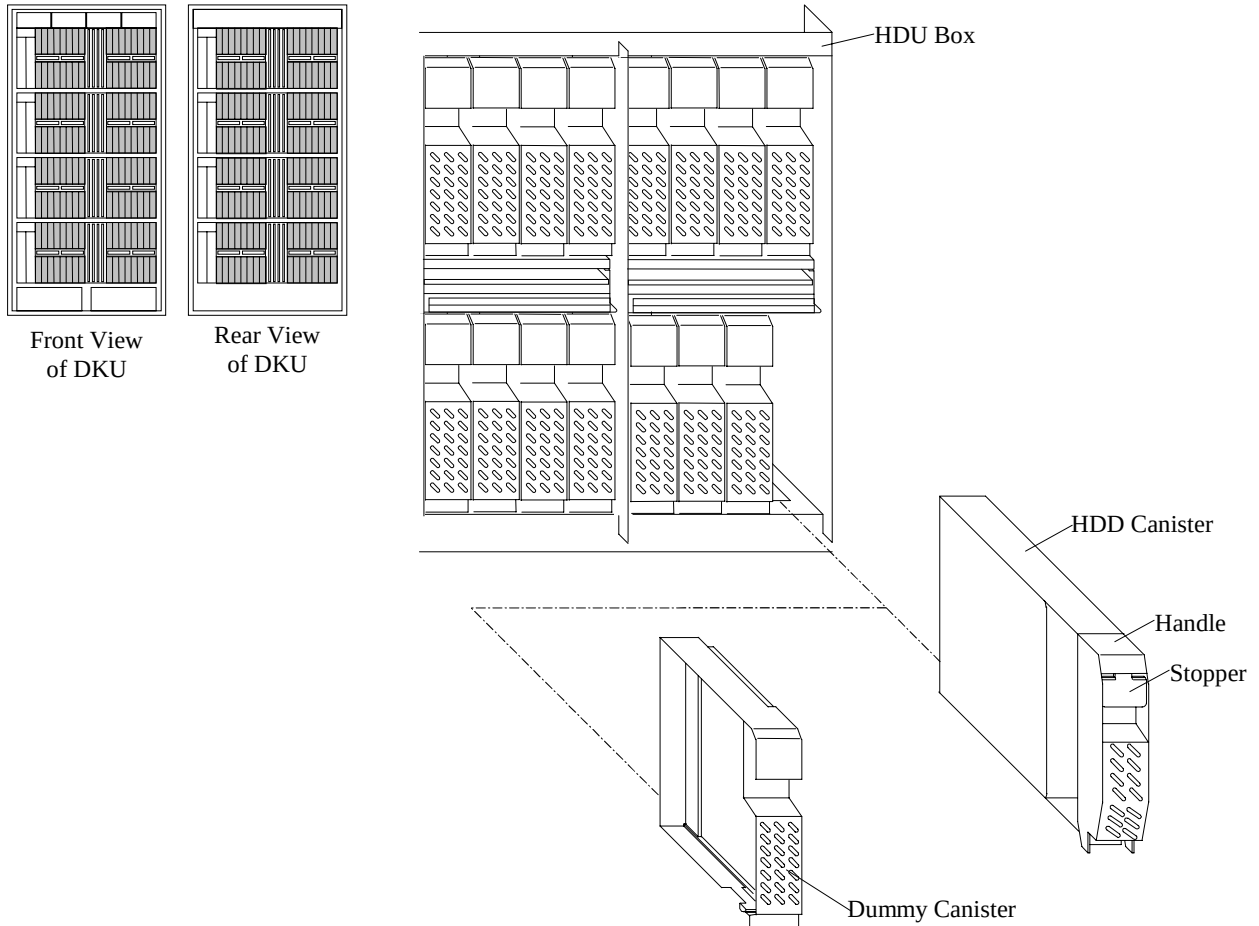
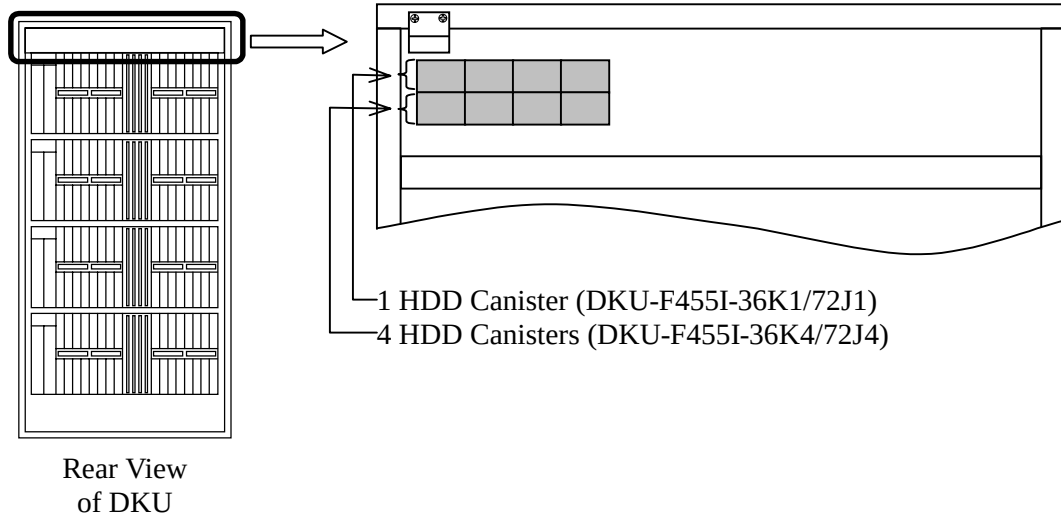


Fig. 4.1.6-7 De-Installation of HDD Canister

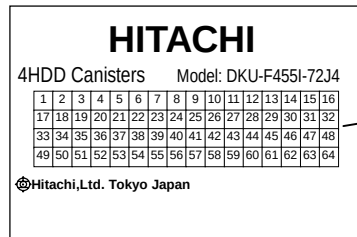
4-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.6-8 Removal of Nameplate

5. De-Installation Procedure of DEV Interface Cable (2/3) (DKC-F460I-L1C)

- a. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. D and K in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

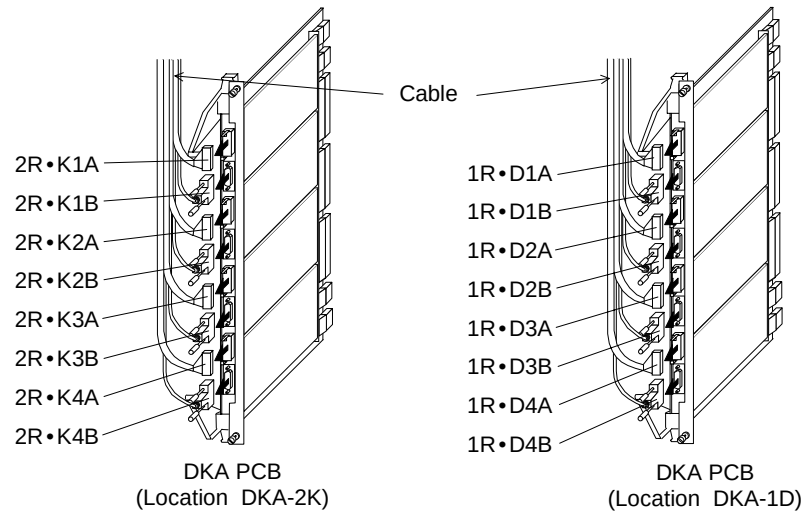


Fig. 4.1.6-9 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

- b. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. E and L in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

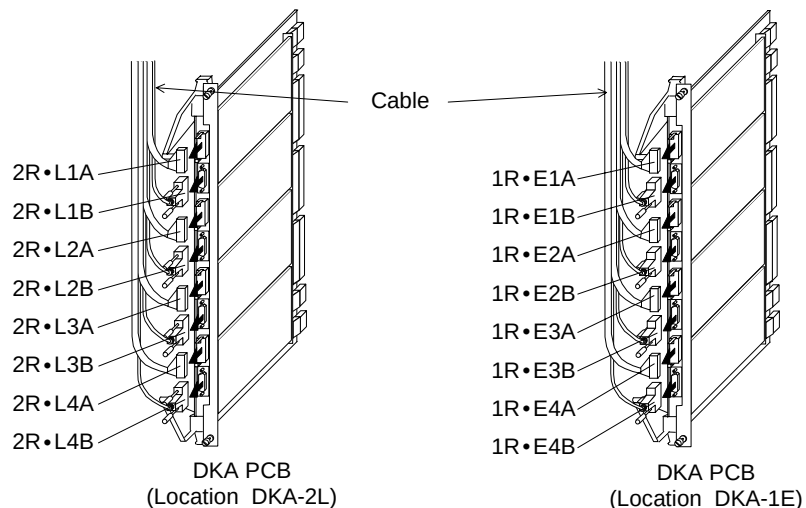


Fig. 4.1.6-10 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

6. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.6-11) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

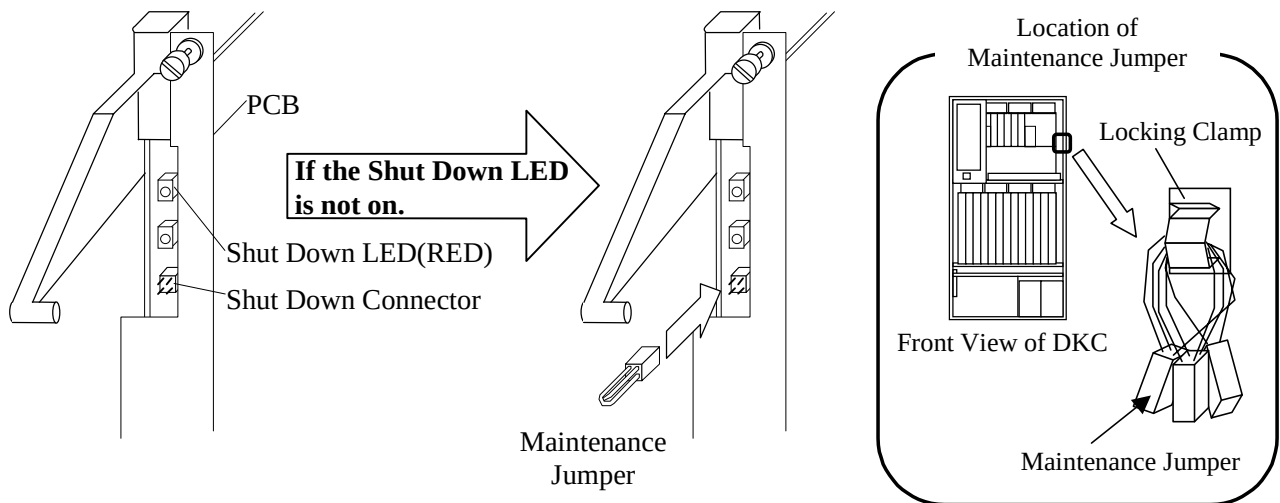


Fig. 4.1.6-11 Shut Down LED

Table 4.1.6-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

6-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

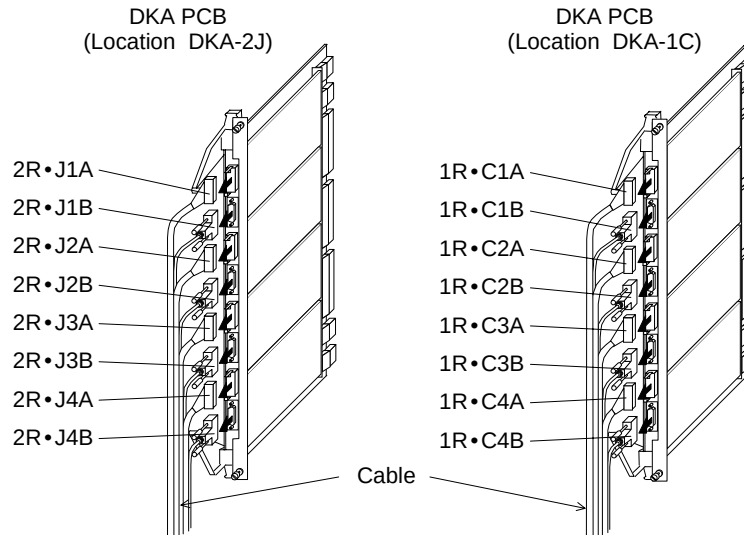


Fig. 4.1.6-12 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

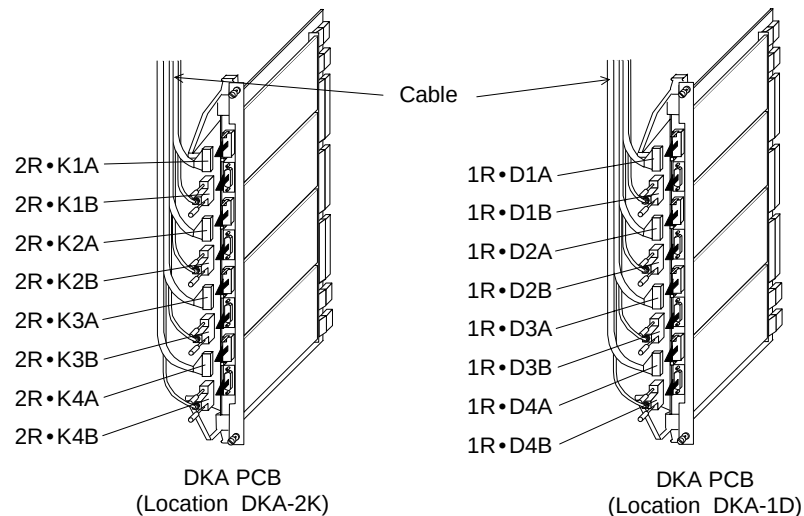


Fig. 4.1.6-13 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

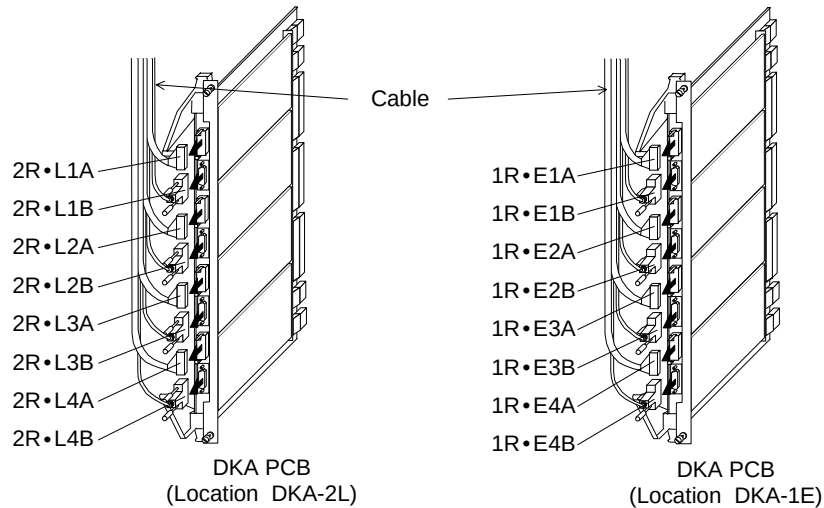


Fig.4.1.6-14 Disconnection of DEV Interface Cable (Add.3)

6-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.6-15.
b. Attach the dummy plates referring to Fig. 4.1.6-16.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

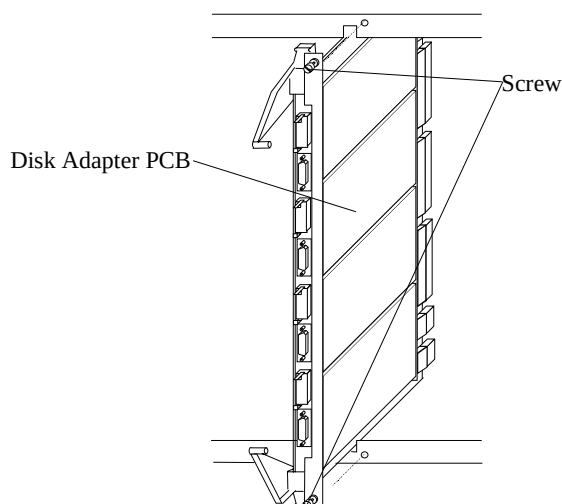


Fig. 4.1.6-15 Removal of PCB

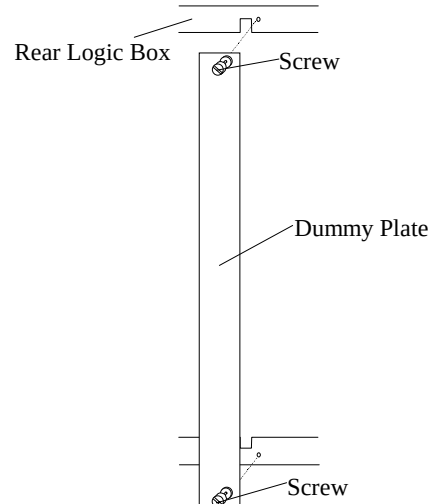


Fig. 4.1.6-16 Attachment of Dummy Plate

6-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

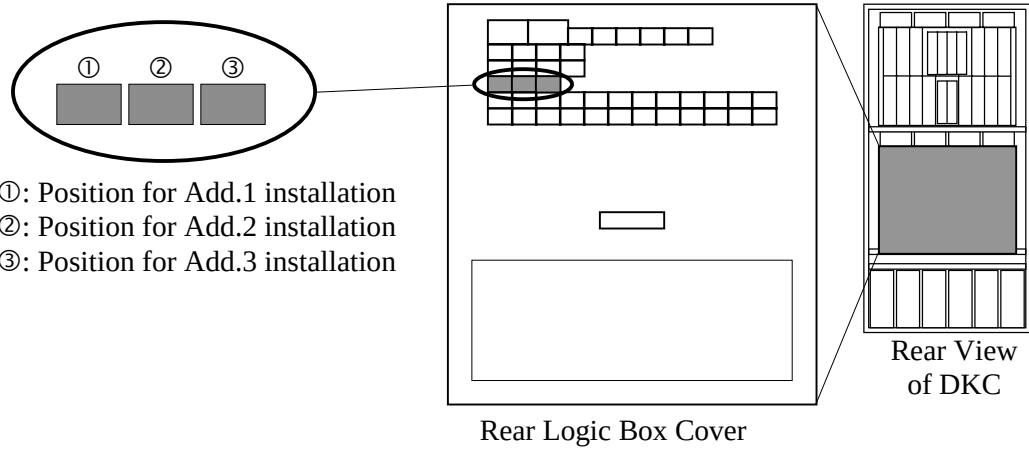
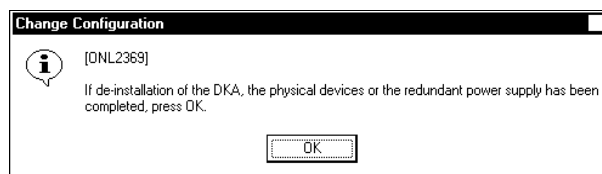


Fig. 4.1.6-17 Removal of Nameplate

7. SVP post procedure

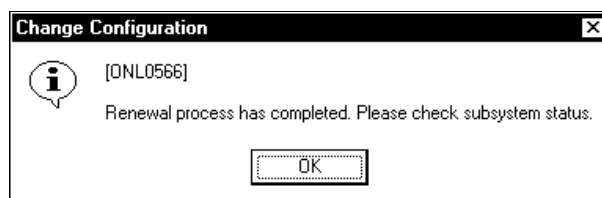
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



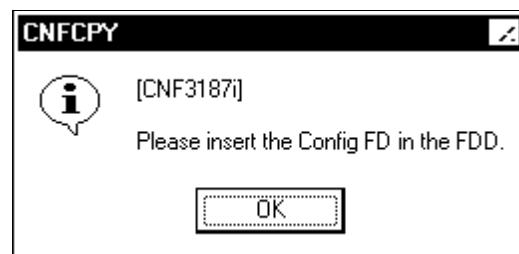
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



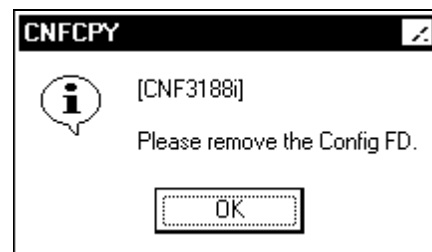
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

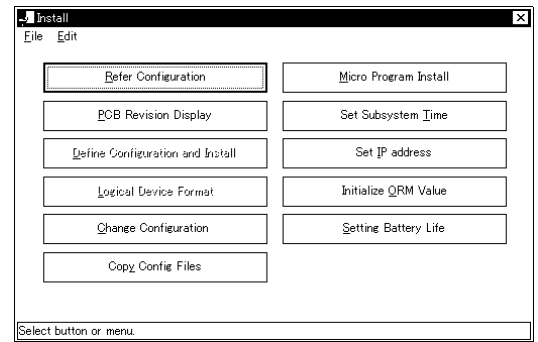


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

8. De-Installation Procedure of DEV Interface Cable 1 (3/3) (DKC-F460I-L1C)

- Refer to Fig. 4.1.6-18 and Fig. 4.1.6-19. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

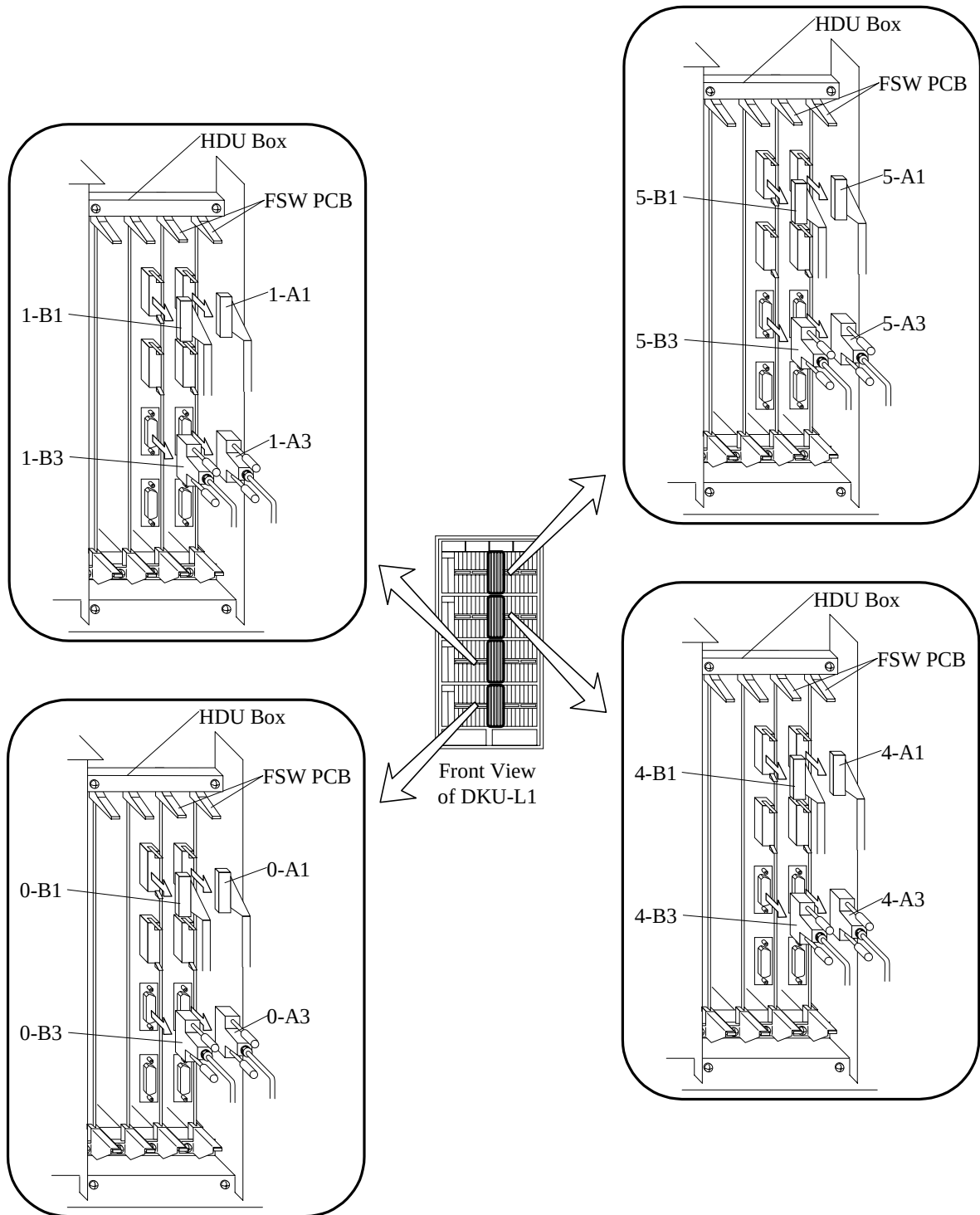


Fig. 4.1.6-18 DEV Interface Cabling Diagram (FSW PCB Side)

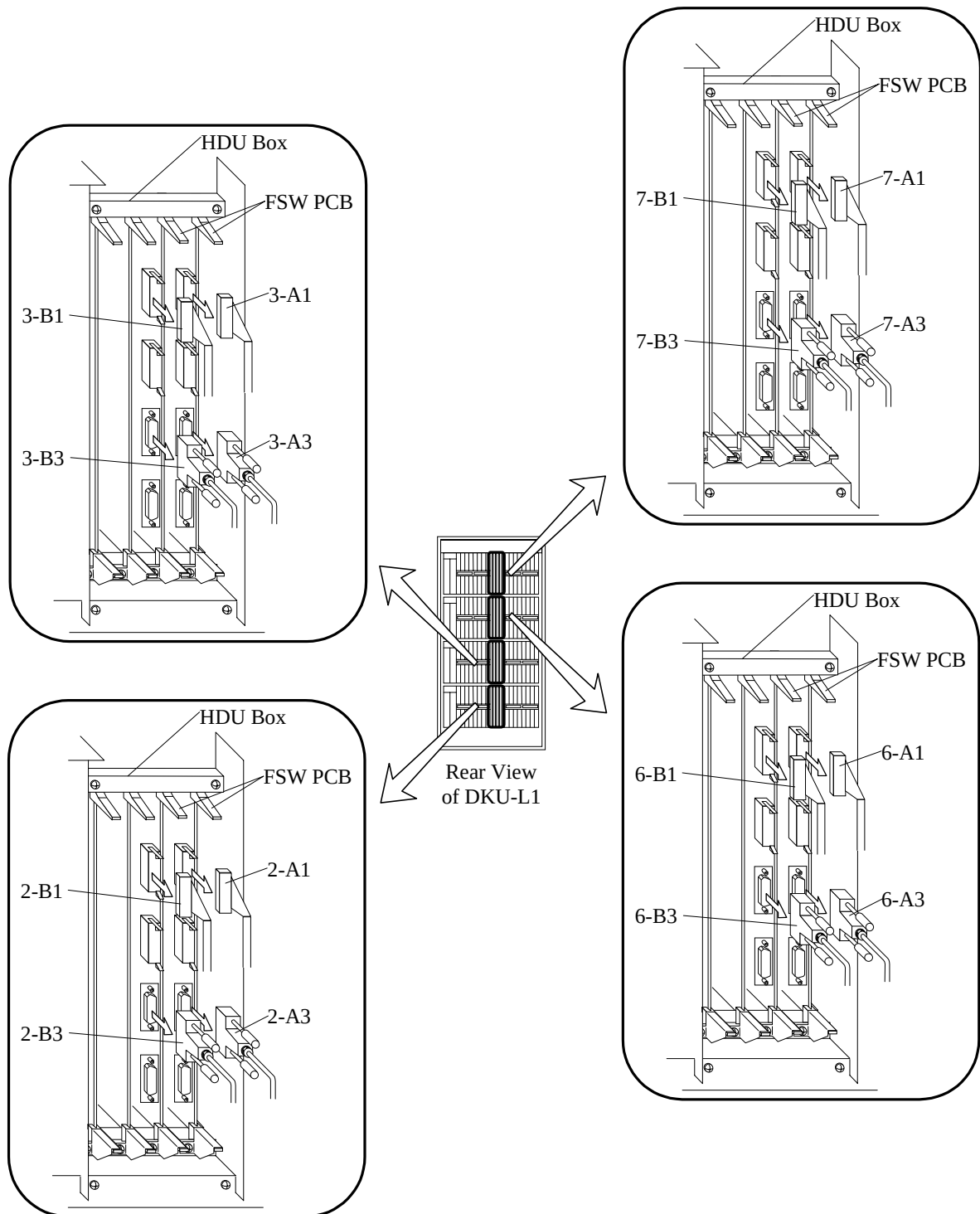


Fig. 4.1.6-19 DEV Interface Cabling Diagram (FSW PCB Side)

- c. Attach the cable covers with the screws.

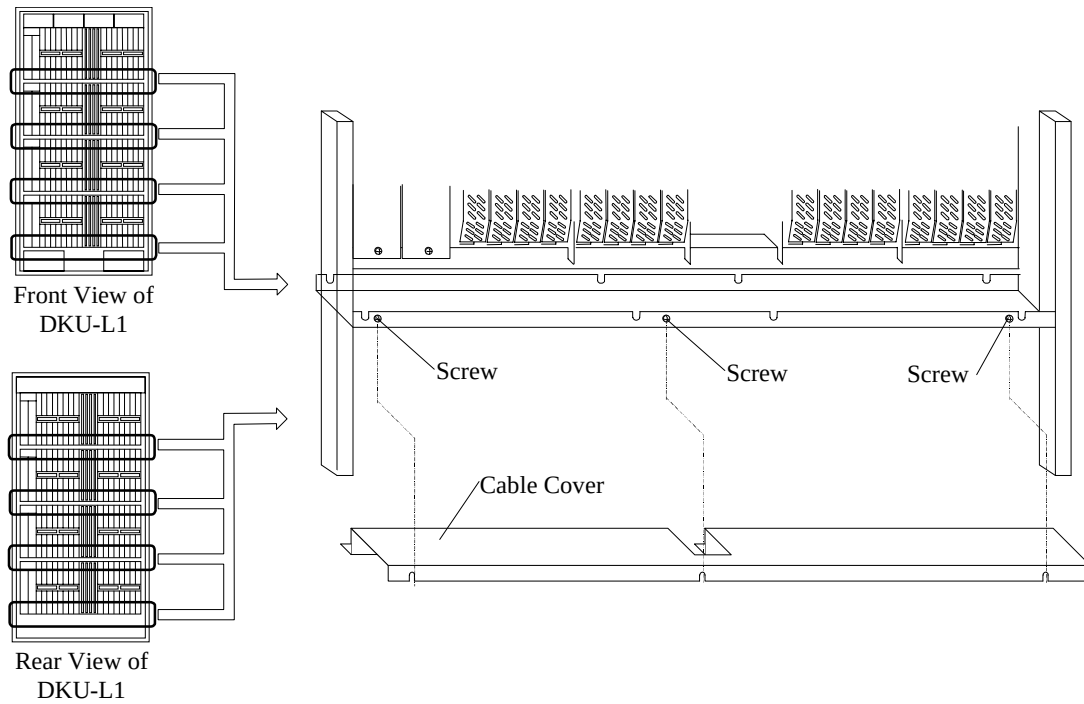


Fig. 4.1.6-20 Attachment of Cable Covers

- d. Attach the cable covers with the screws.

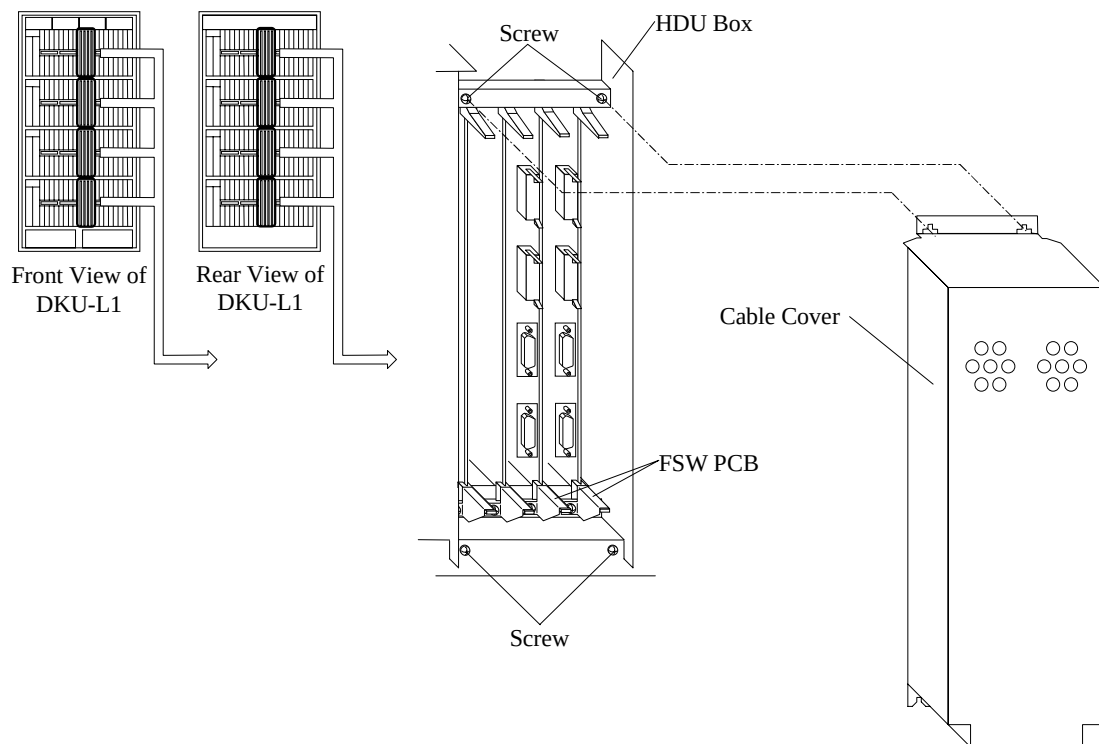


Fig. 4.1.6-21 Attachment of Cable Covers

- e. Remove the nameplate from the cover.

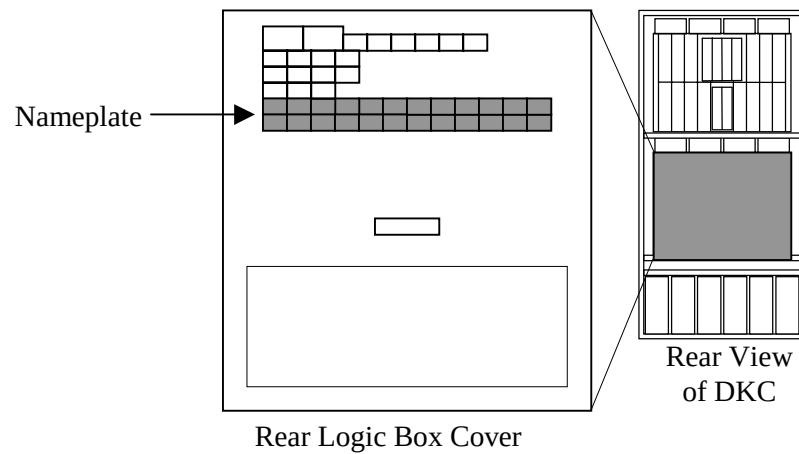


Fig. 4.1.6-22 Removal of Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.7 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L2 frame (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

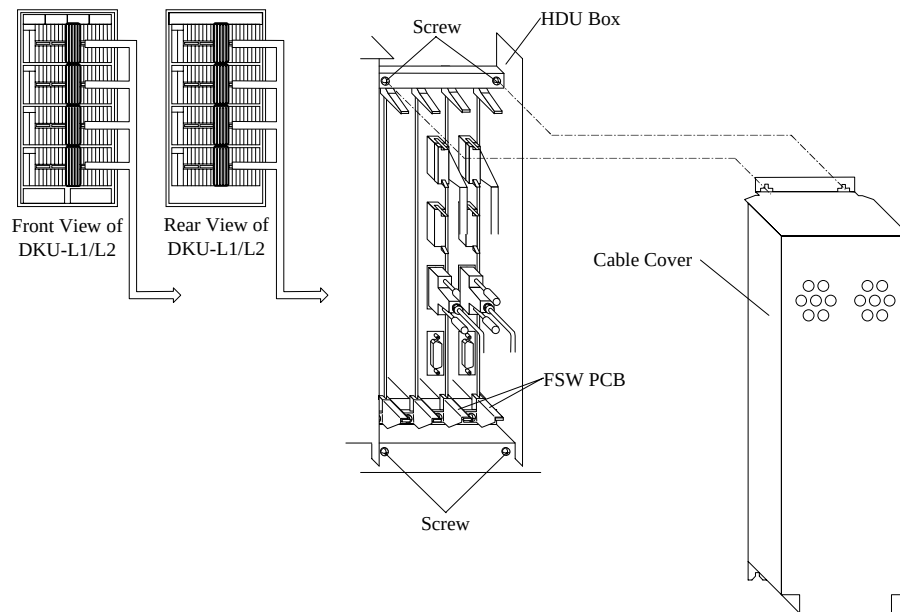


Fig. 4.1.7-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

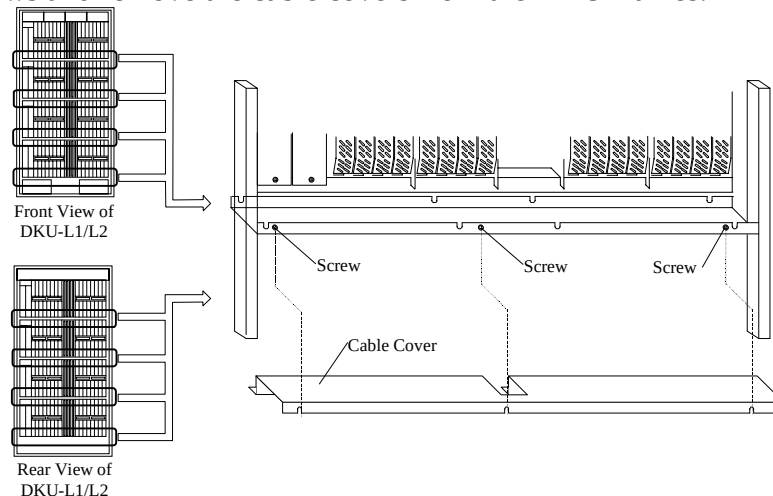
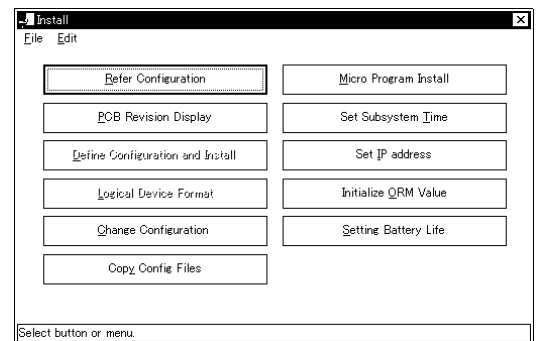


Fig. 4.1.7-2 Removal of Cable Covers

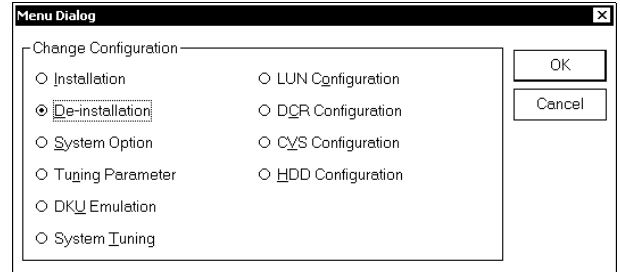
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

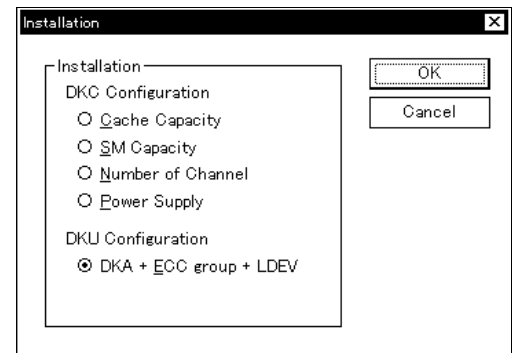
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



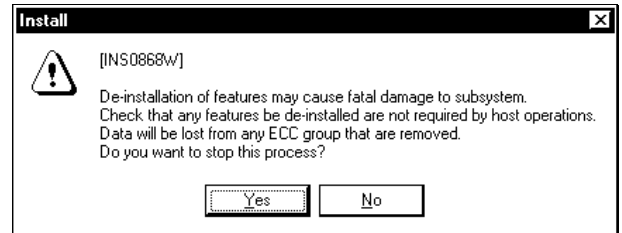
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



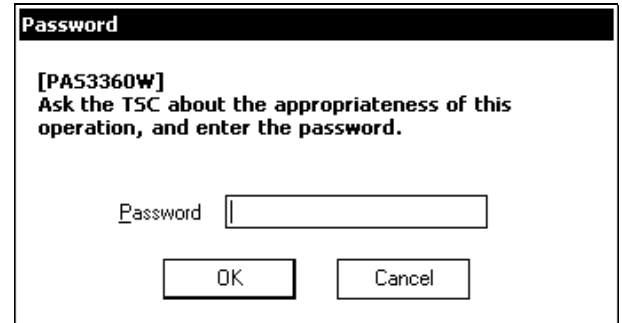
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

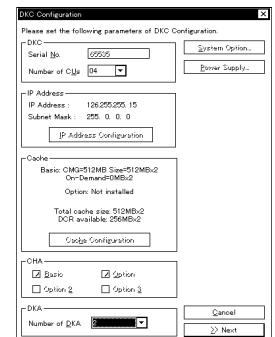
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.

Make an altered setting in which the DKU-L2 is deleted from the DKUs currently set.

Current setting	Altered setting
3DKUs (R1, L1, L2)	2DKU (R1, L1)
4DKUs (R1, L1, R2, L2)	3DKUs (R1, L1, R2)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.

When the [Before <<] is selected, the window returns to the preceding one.

Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

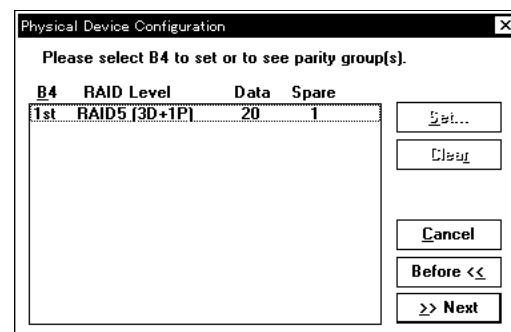
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

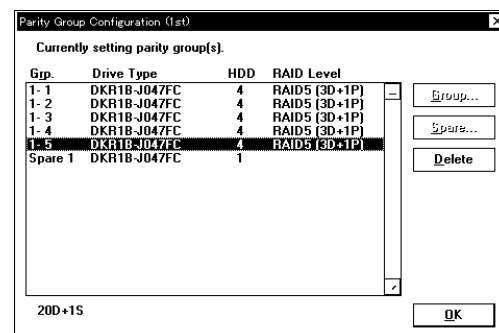
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

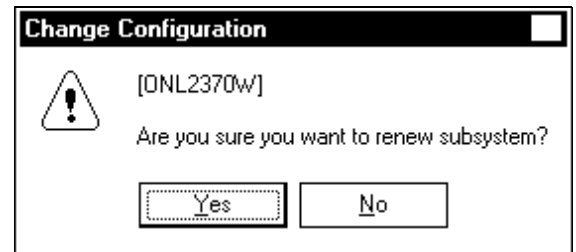


3. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

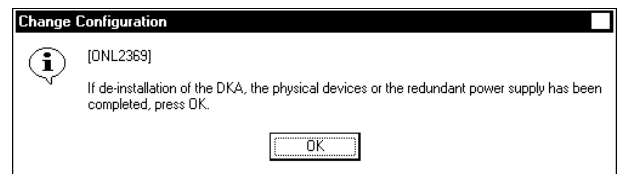
When [No] is selected (CL), returns to [INST04-DKA-1120](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



4. De-Installation Procedure of HDD Canister

4-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.7-1.

Table 4.1.7-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.7-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

001-127: 4HDD canisters installation order

*2: A data or spare disk is to be installed.

INST04-DKA-1170

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU
HDU-L25										HDU-L15												
S		T		S		T		S		T		S		T		S		T				
221		222		221		222		221		222		221		222		221		222				
219		220		219		220		219		220		219		220		219		220				
217		218		217		218		217		218		217		218		217		218				
215		216		215		216		215		216		215		216		215		216				
213		214		213		214		213		214		213		214		213		214				
211		212		211		212		211		212		211		212		211		212				
209		210		209		210		209		210		209		210		209		210				
207		208		207		208		207		208		207		208		207		208				
W		T		W		T		W		T		W		T		W		T				
205		206		205		206		205		206		205		206		205		206				
203		204		203		204		203		204		203		204		203		204				
201		202		201		202		201		202		201		202		201		202				
199		200		199		200		199		200		199		200		199		200				
197		198		197		198		197		198		197		198		197		198				
195		196		195		196		195		196		195		196		195		196				
193		194		193		194		193		194		193		194		193		194				
191		192		191		192		191		192		191		192		191		192				
S		T		S		T		S		T		S		T		S		T				
253		254		253		254		253		254		253		254		253		254				
251		252		251		252		251		252		251		252		251		252				
249		250		249		250		249		250		249		250		249		250				
247		248		247		248		247		248		247		248		247		248				
245		246		245		246		245		246		245		246		245		246				
243		244		243		244		243		244		243		244		243		244				
241		242		241		242		241		242		241		242		241		242				
239		240		239		240		239		240		239		240		239		240				
W		T		W		T		W		T		W		T		W		T				
237		238		237		238		237		238		237		238		237		238				
235		236		235		236		235		236		235		236		235		236				
233		234		233		234		233		234		233		234		233		234				
231		232		231		232		231		232		231		232		231		232				
229		230		229		230		229		230		229		230		229		230				
227		228		227		228		227		228		227		228		227		228				
225		226		225		226		225		226		225		226		225		226				
223		224		223		224		223		224		223		224		223		224				
S		T		S		T		S		T		S		T		S		T				
189		190		189		190		189		190		189		190		189		190				
187		188		187		188		187		188		187		188		187		188				
185		186		185		186		185		186		185		186		185		186				
183		184		183		184		183		184		183		184		183		184				
181		182		181		182		181		182		181		182		181		182				
179		180		179		180		179		180		179		180		179		180				
177		178		177		178		177		178		177		178		177		178				
175		176		175		176		175		176		175		176		175		176				
W		T		W		T		W		T		W		T		W		T				
173		174*2		173		174*2		173		174*2		173		174*2		173		174*2				
171		172		171		172		171		172		171		172		171		172				
169		170		169		170		169		170		169		170		169		170				
167		168		167		168		167		168		167		168		167		168				
165		166		165		166		165		166		165		166		165		166				
163		164		163		164		163		164		163		164		163		164				
161		162		161		162		161		162		161		162		161		162				
159		160		159		160		159		160		159		160		159		160				

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.7-3 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.7-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.7-2.

Table 4.1.7-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.7-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive

			R1 DKU	R2 DKU
L2 DKU	L1 DKU	DKC	HDU-R15 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R25 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R14 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R24 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R11 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R21 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R10 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R20 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033

Front View

001-063: 8HDD canisters installation order

R2 DKU				R1 DKU				DKC	L1 DKU	L2 DKU
HDU-R27				HDU-R17						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	025	024			
055	054	053	052	023	022	021	020			
051	050	049	048	019	018	017	016			
T		W		T		W				
047	046	045	044	015	Spare*1	014	013			
043	042	041	040	012	011	010	009			
039	038	037	036	008	007	006	005			
035	034	033	032	004	003	002	001			
HDU-R26				HDU-R16						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	025	024			
055	054	053	052	023	022	021	020			
051	050	049	048	019	018	017	016			
T		W		T		W				
047	046	045	044	015	Spare*1	014	013			
043	042	041	040	012	011	010	009			
039	038	037	036	008	007	006	005			
035	034	033	032	004	003	002	001			
HDU-R23				HDU-R13						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	025	024			
055	054	053	052	023	022	021	020			
051	050	049	048	019	018	017	016			
T		W		T		W				
047	046	045	044	015	Spare*1	014	013			
043	042	041	040	012	011	010	009			
039	038	037	036	008	007	006	005			
035	034	033	032	004	003	002	001			
HDU-R22				HDU-R12						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	025	024			
055	054	053	052	023	022	021	020			
051	050	049	048	019	018	017	016			
T		W		T		W				
047	046	045	044	015	Spare*1	014	013			
043	042	041	040	012	011	010	009			
039	038	037	036	008	007	006	005			
035	034	033	032	004	003	002	001			
Rear View										

Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.7-4 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.7-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU					
HDU-L25				HDU-L15											
S	S	P	P	125	126	123	124	S	S	P	P				
				121	122	119	120					117	118	115	116
S	S	W	W	109	110	107	108	S	S	W	W				
				105	106	103	104					101	102	099	100
				109	110	107	108					109	110	107	108
				105	106	103	104					105	106	103	104
				101	102	099	100					101	102	099	100
				097	098	095	096					097	098	095	096
				095	096	093	094					095	096	093	094
				091	092	087	088					091	092	087	088
				085	086	083	084					085	086	083	084
				081	082	079	080					081	082	079	080
				078	079	076	077					078	079	076	077
				074	075	072	073					074	075	072	073
				070	071	068	069					070	071	068	069
				066	067	064	065					066	067	064	065
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				060	061	057	058					060	061	057	058
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				052	053	049	050					052	053	049	050
				048	049	045	046					048	049	045	046
				044	045	041	042					044	045	041	042
				040	041	037	038					040	041	037	038
				036	037	033	034					036	037	033	034
				032	033	029	030					032	033	029	030
				028	029	025	026					028	029	025	026
				024	025	021	022					024	025	021	022
				020	021	017	018					020	021	017	018
				016	017	013	014					016	017	013	014
				012	013	009	010					012	013	009	010
				008	009	005	006					008	009	005	006
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Front View

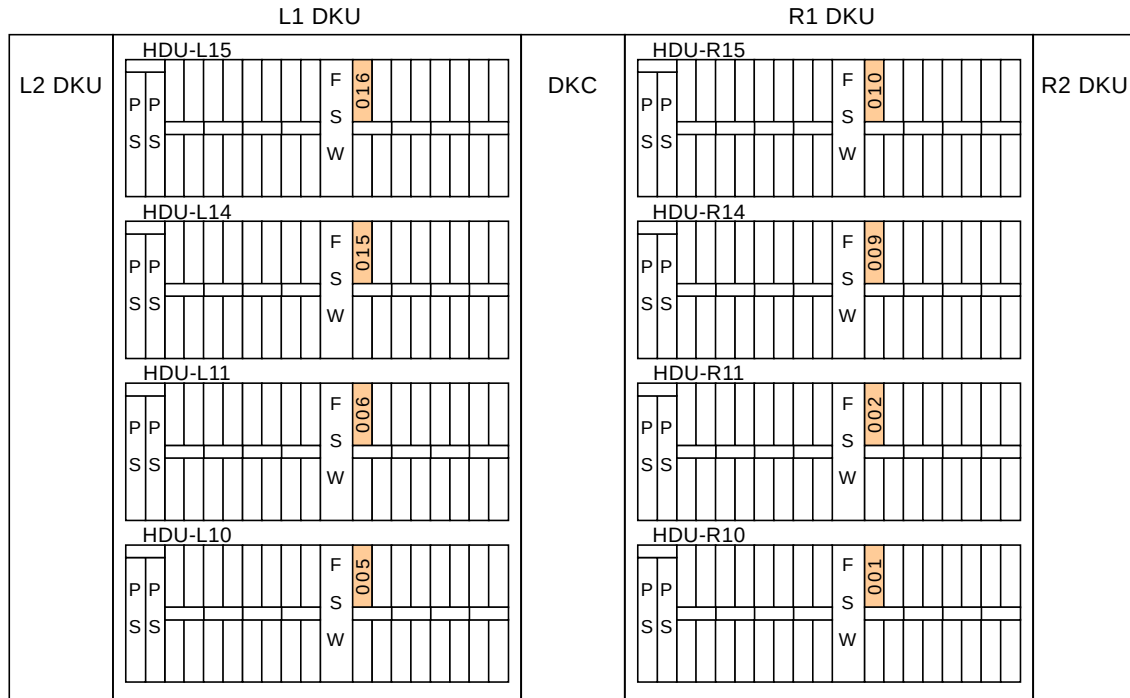
064-126: 8HDD canisters installation order

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R2 DKU	R1 DKU	DKC	HDU-L17	<table><tr><td>P</td><td>P</td><td>094</td><td></td></tr><tr><td>S</td><td>S</td><td>093</td><td></td></tr><tr><td></td><td></td><td>091</td><td>092</td></tr><tr><td></td><td></td><td>089</td><td>090</td></tr><tr><td></td><td></td><td>087</td><td>088</td></tr><tr><td></td><td></td><td>085</td><td>086</td></tr><tr><td></td><td></td><td>083</td><td>084</td></tr><tr><td></td><td></td><td>081</td><td>082</td></tr><tr><td></td><td></td><td>079</td><td>080</td></tr><tr><td>W</td><td></td><td></td><td></td></tr><tr><td>S</td><td>F</td><td>078</td><td>Spare*1</td></tr><tr><td></td><td></td><td>076</td><td>077</td></tr><tr><td></td><td></td><td>074</td><td>075</td></tr><tr><td></td><td></td><td>072</td><td>073</td></tr><tr><td></td><td></td><td>070</td><td>071</td></tr><tr><td></td><td></td><td>068</td><td>069</td></tr><tr><td></td><td></td><td>066</td><td>067</td></tr><tr><td></td><td></td><td>064</td><td>065</td></tr></table>	P	P	094		S	S	093				091	092			089	090			087	088			085	086			083	084			081	082			079	080	W				S	F	078	Spare*1			076	077			074	075			072	073			070	071			068	069			066	067			064	065	HDU-L27	<table><tr><td>P</td><td>P</td><td>126</td><td></td></tr><tr><td>S</td><td>S</td><td>125</td><td></td></tr><tr><td></td><td></td><td>123</td><td>124</td></tr><tr><td></td><td></td><td>121</td><td>122</td></tr><tr><td></td><td></td><td>119</td><td>120</td></tr><tr><td></td><td></td><td>117</td><td>118</td></tr><tr><td></td><td></td><td>115</td><td>116</td></tr><tr><td></td><td></td><td>113</td><td>114</td></tr><tr><td></td><td></td><td>111</td><td>112</td></tr><tr><td>W</td><td></td><td></td><td></td></tr><tr><td>S</td><td>F</td><td>109</td><td>110</td></tr><tr><td></td><td></td><td>107</td><td>108</td></tr><tr><td></td><td></td><td>105</td><td>106</td></tr><tr><td></td><td></td><td>103</td><td>104</td></tr><tr><td></td><td></td><td>101</td><td>102</td></tr><tr><td></td><td></td><td>099</td><td>100</td></tr><tr><td></td><td></td><td>097</td><td>098</td></tr><tr><td></td><td></td><td>095</td><td>096</td></tr></table>	P	P	126		S	S	125				123	124			121	122			119	120			117	118			115	116			113	114			111	112	W				S	F	109	110			107	108			105	106			103	104			101	102			099	100			097	098			095	096
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Rear View

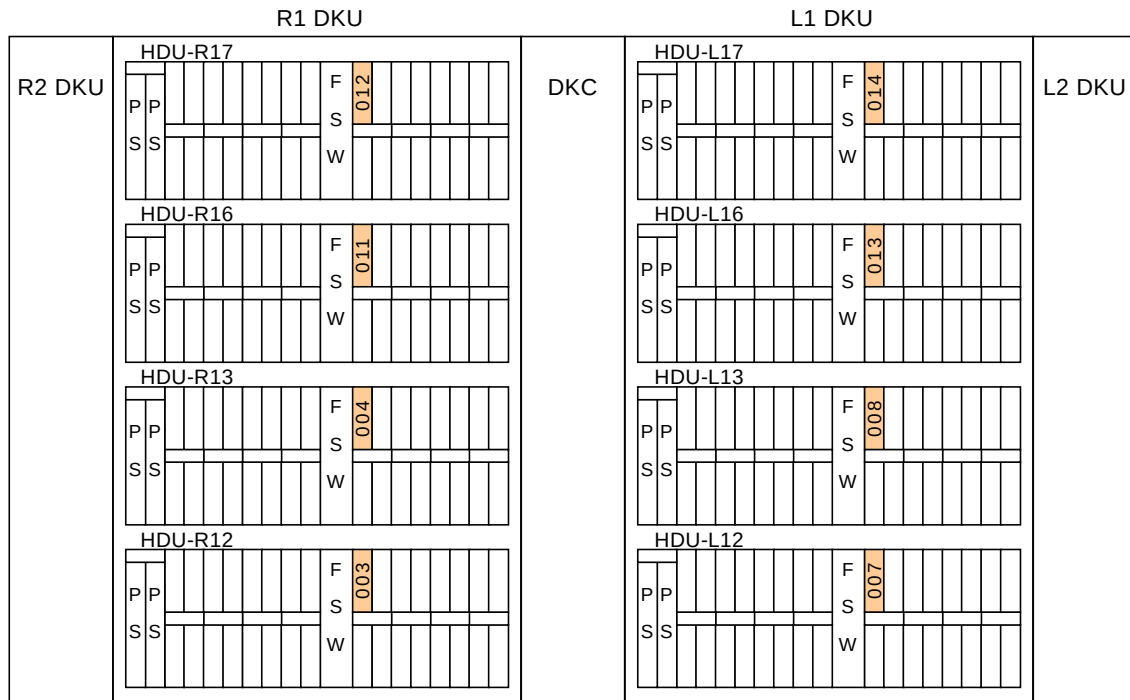
(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



Front View

001-016: Spare HDD canister installation order



Rear View

Fig. 4.1.7-5 Spare Drive Expansion Sequence

4-2 Confirmation of Shut Down LED.

- a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

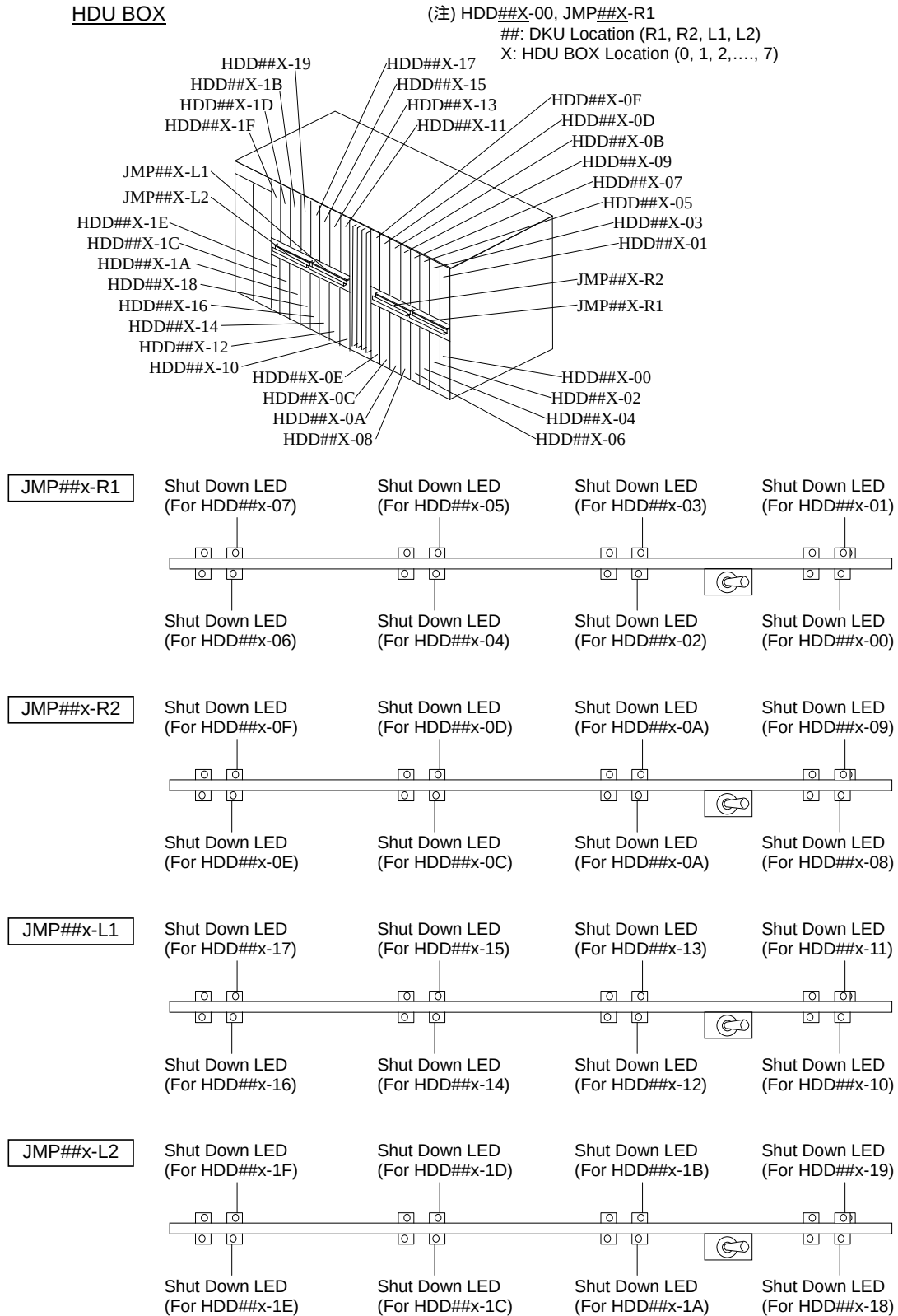


Fig. 4.1.7-6 Location of Shut Down LED

4-3 De-installation of the HDD canister.



CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

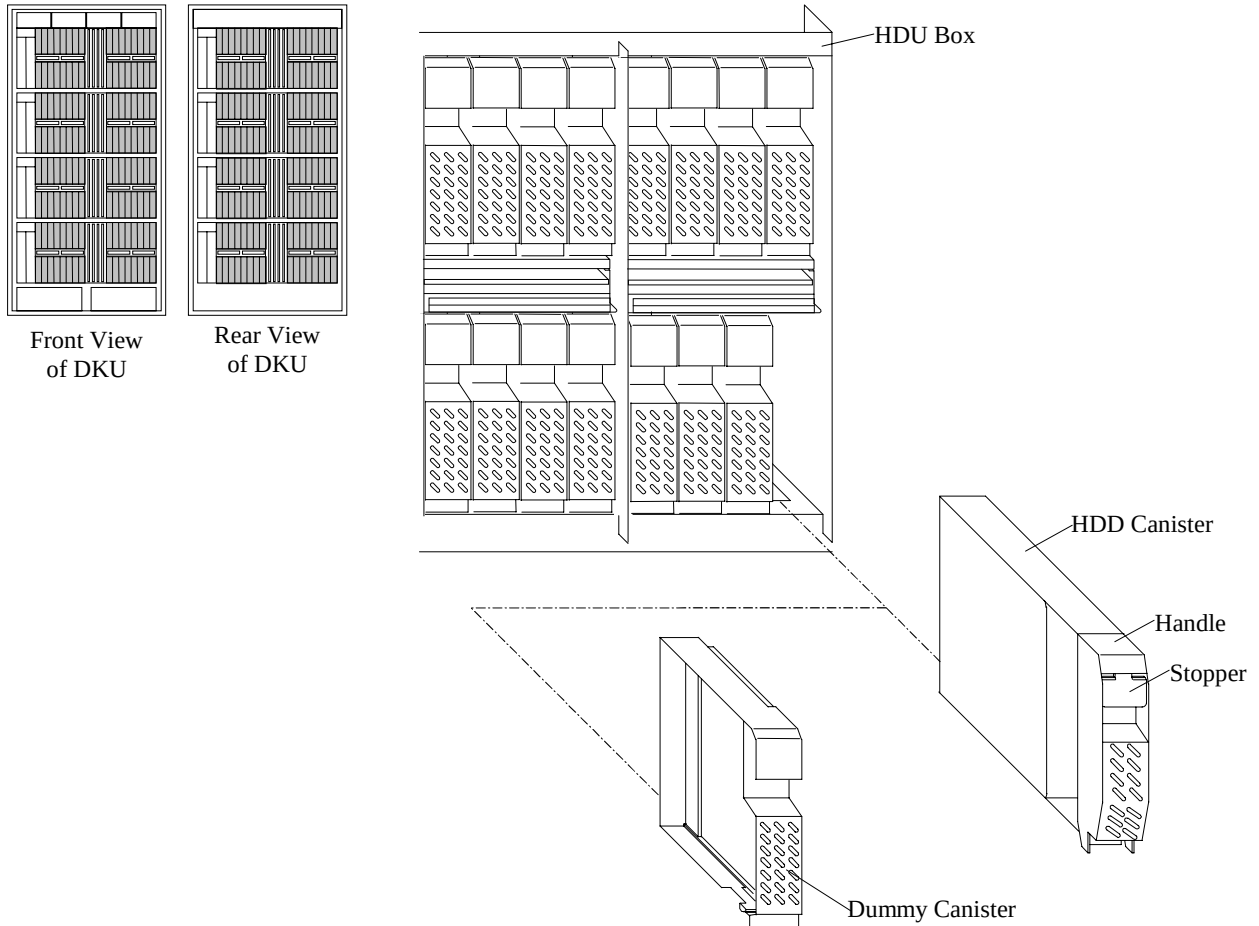
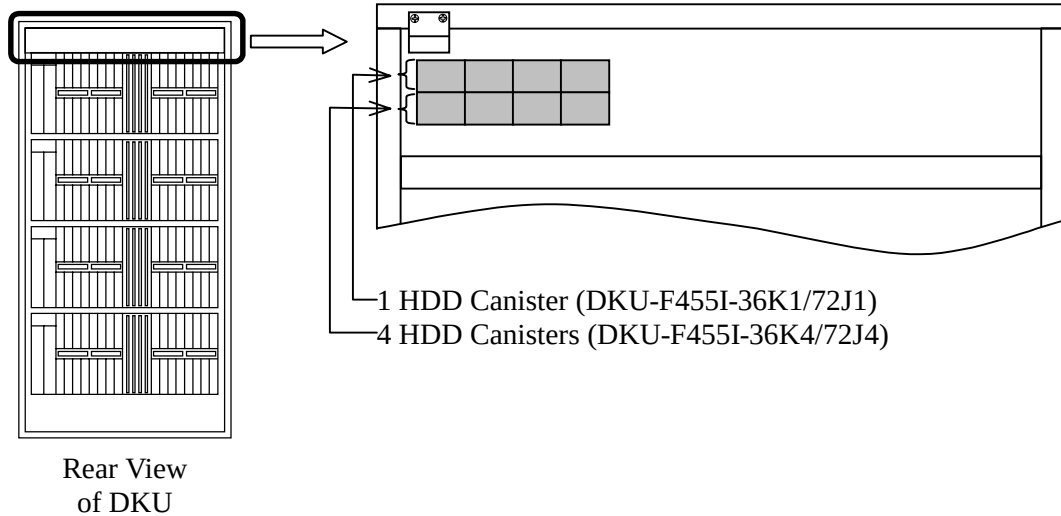


Fig. 4.1.7-7 De-Installation of HDD Canister

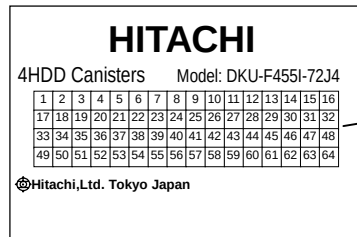
4-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.7-8 Removal of Nameplate

5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-L10-L17 and HDU-L20-L27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-L1 frame referring to figures 4.1.7-9 and 4.1.7-10.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.

Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

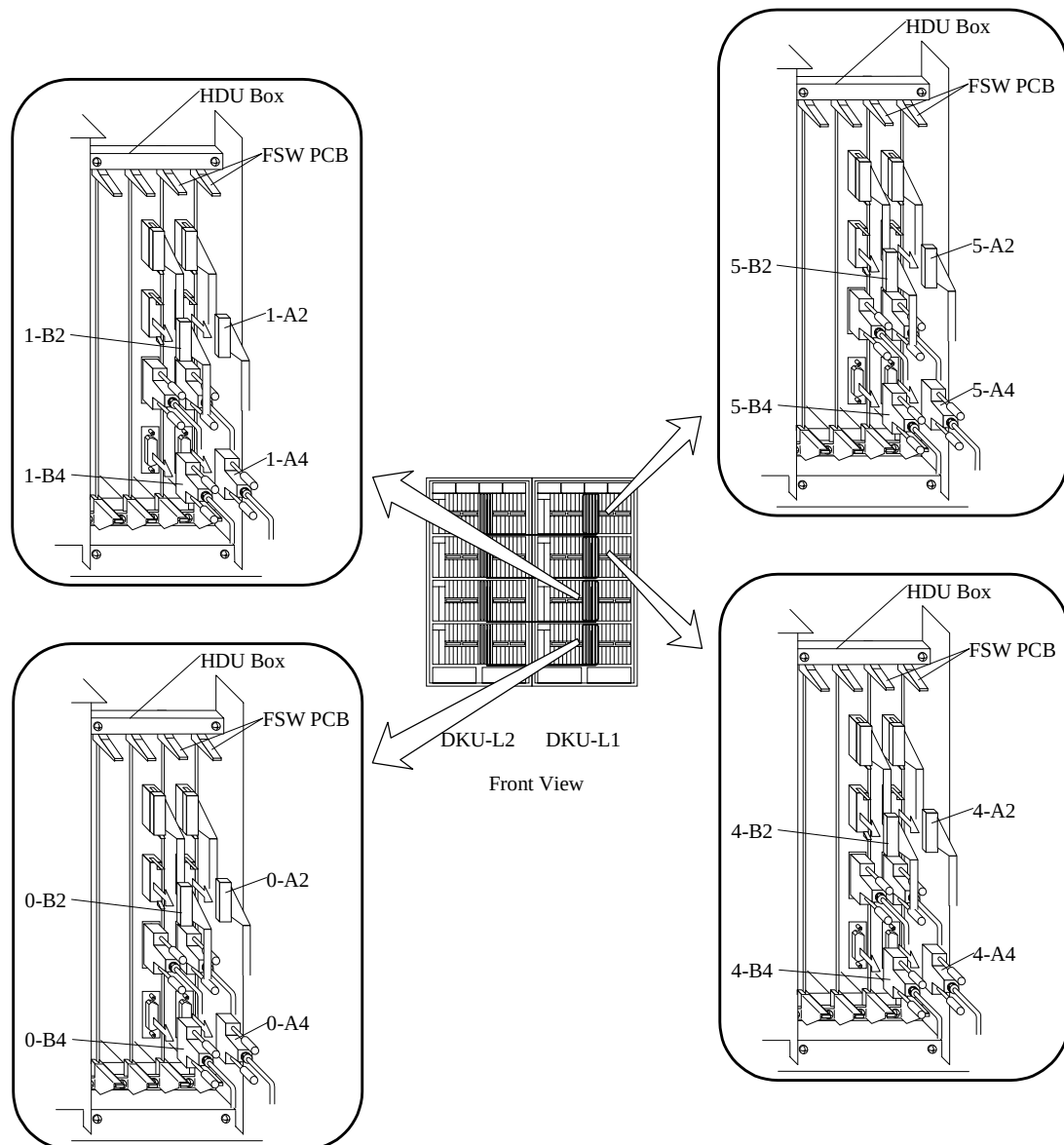


Fig. 4.1.7-9 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

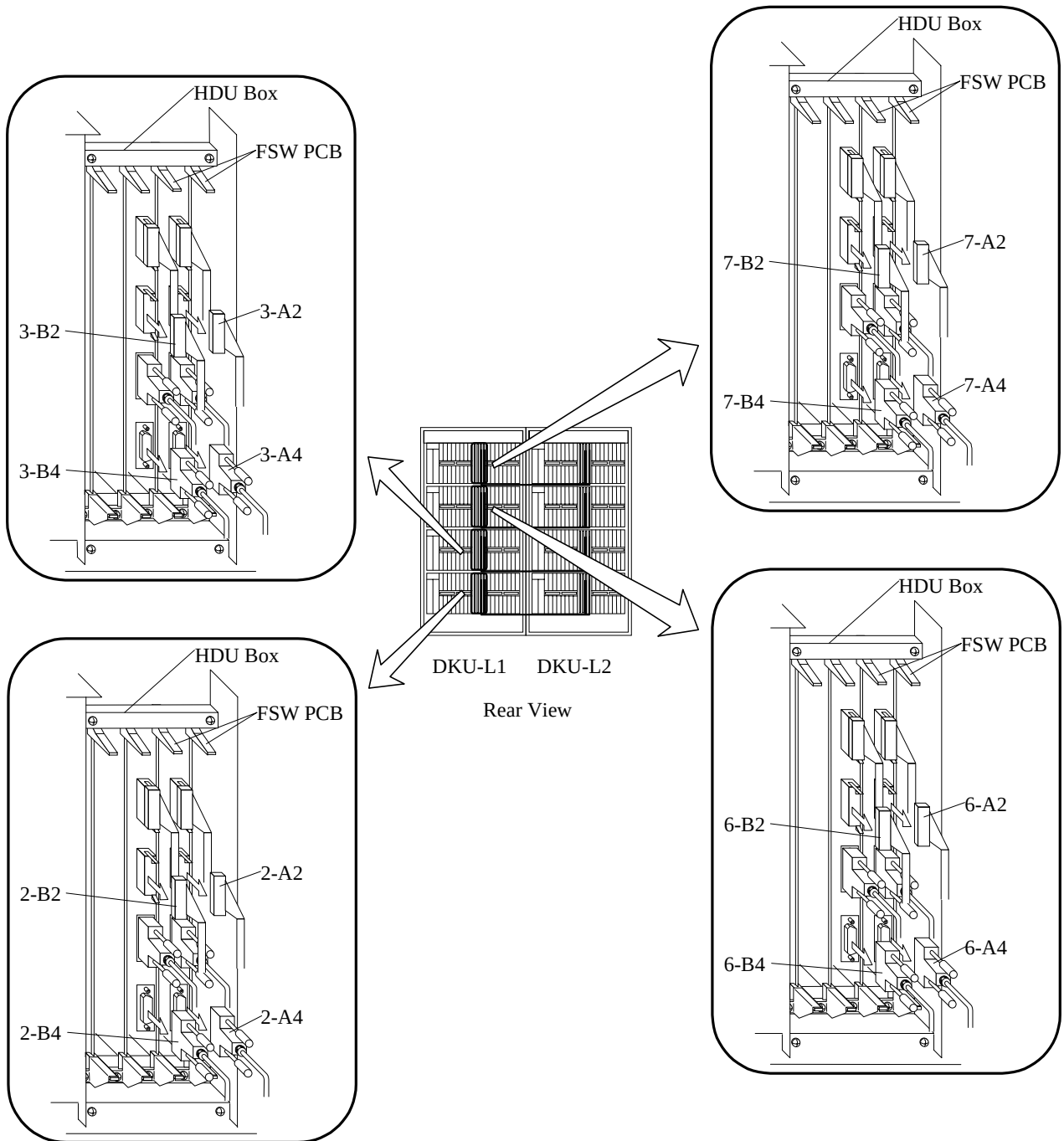


Fig. 4.1.7-10 Connection of the DEV Interface Cables

6. De-Installation Procedure of Disk Adapter

When the additional disk adapter is not to be removed, go to Step 7, "SVP post procedure".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.7-11) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

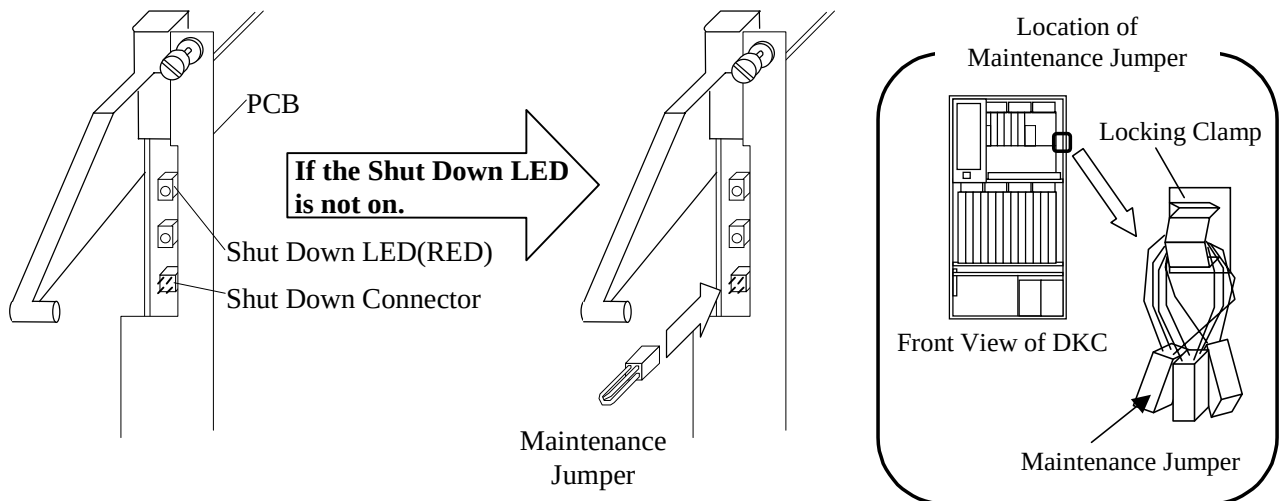


Fig. 4.1.7-11 Shut Down LED

Table 4.1.7-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

6-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

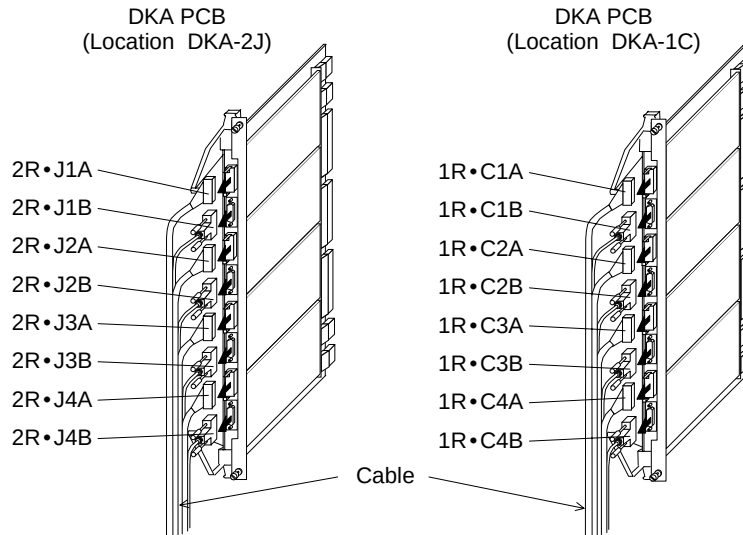


Fig. 4.1.7-12 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

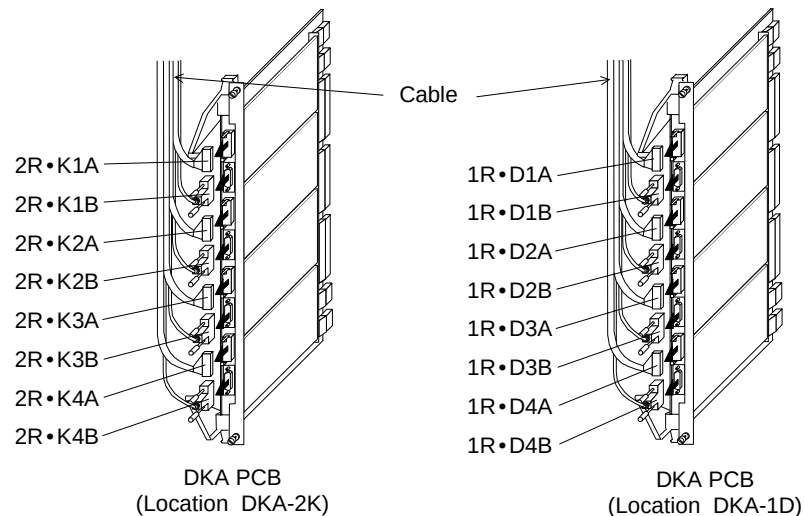


Fig. 4.1.7-13 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

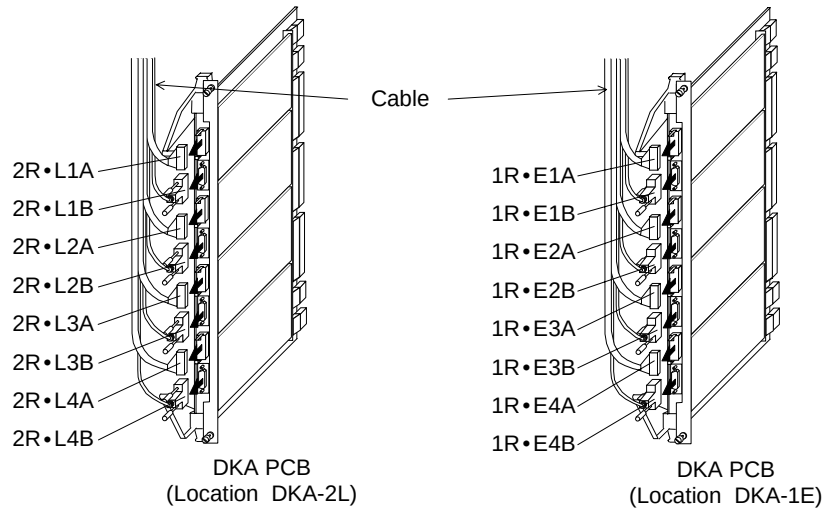


Fig.4.1.7-14 Disconnection of DEV Interface Cable (Add.3)

6-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.7-15.
b. Attach the dummy plates referring to Fig. 4.1.7-16.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

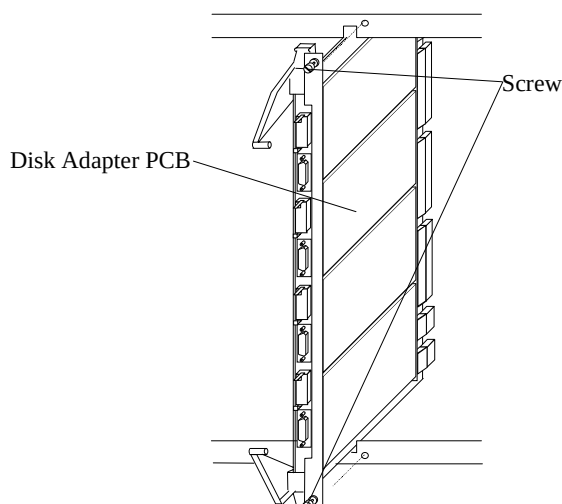


Fig. 4.1.7-15 Removal of PCB

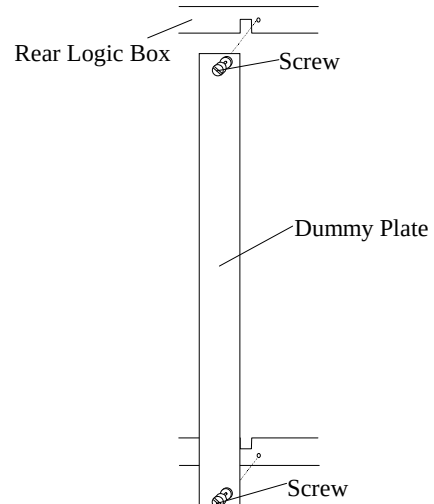


Fig. 4.1.7-16 Attachment of Dummy Plate

6-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

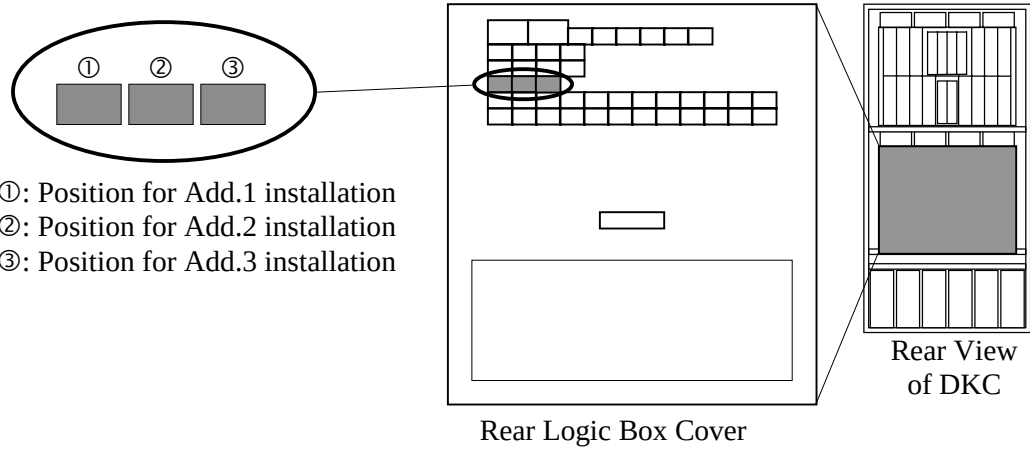
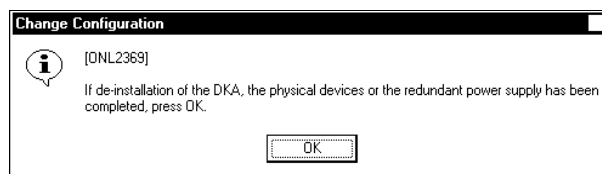


Fig. 4.1.7-17 Removal of Nameplate

7. SVP post procedure

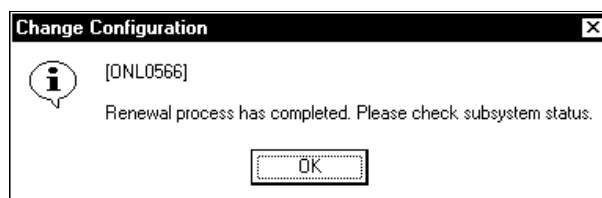
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



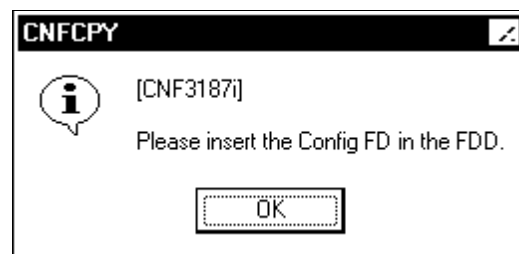
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



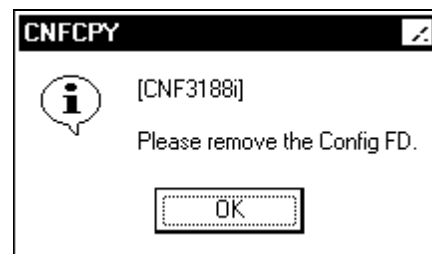
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

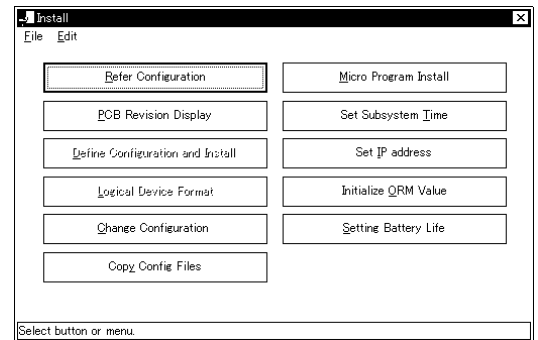


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

10. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-L2 frame referring to Fig. 4.1.7-18 through Fig. 4.1.7-21.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

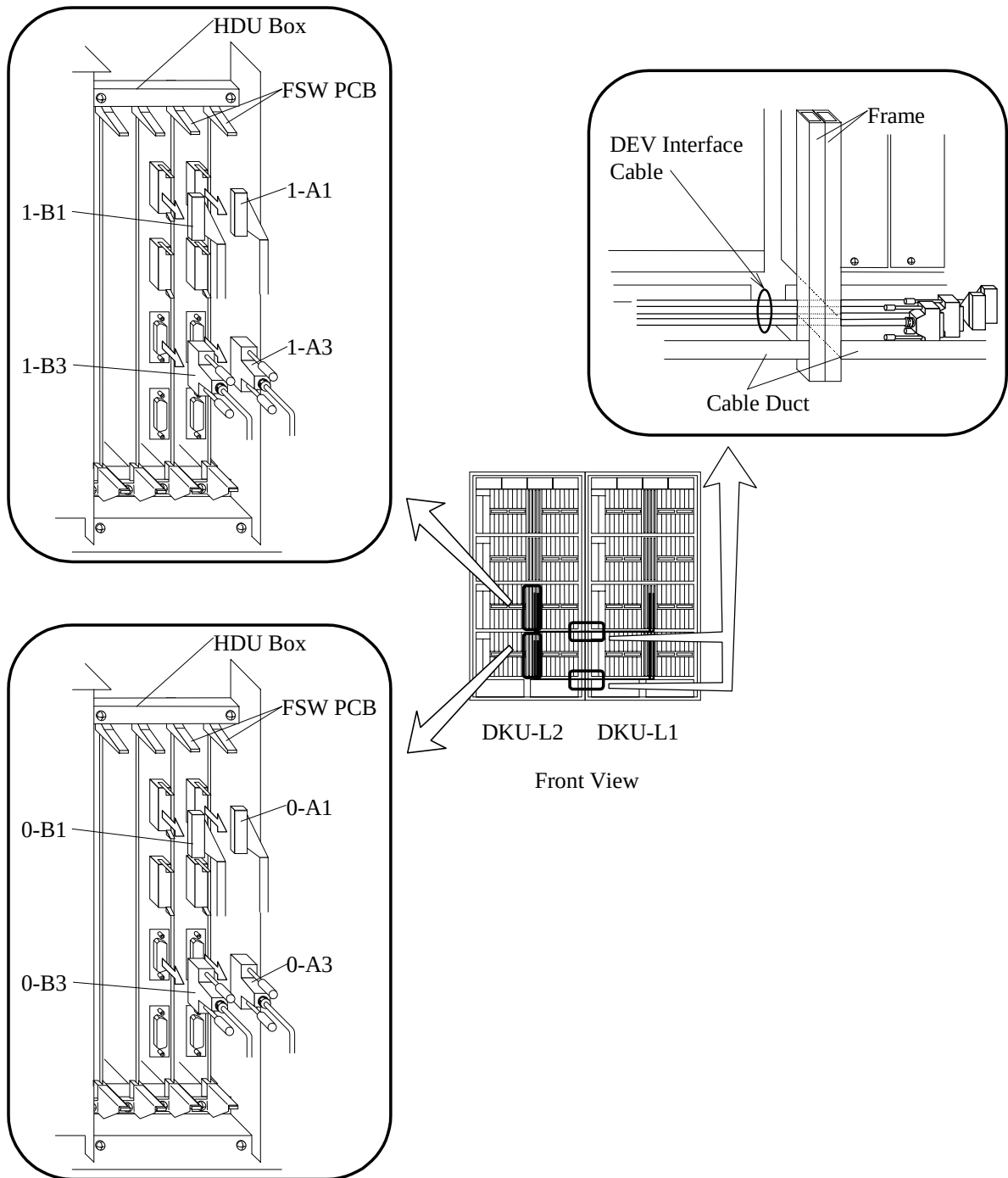


Fig. 4.1.7-18 Disconnection of the DEV Interface Cables

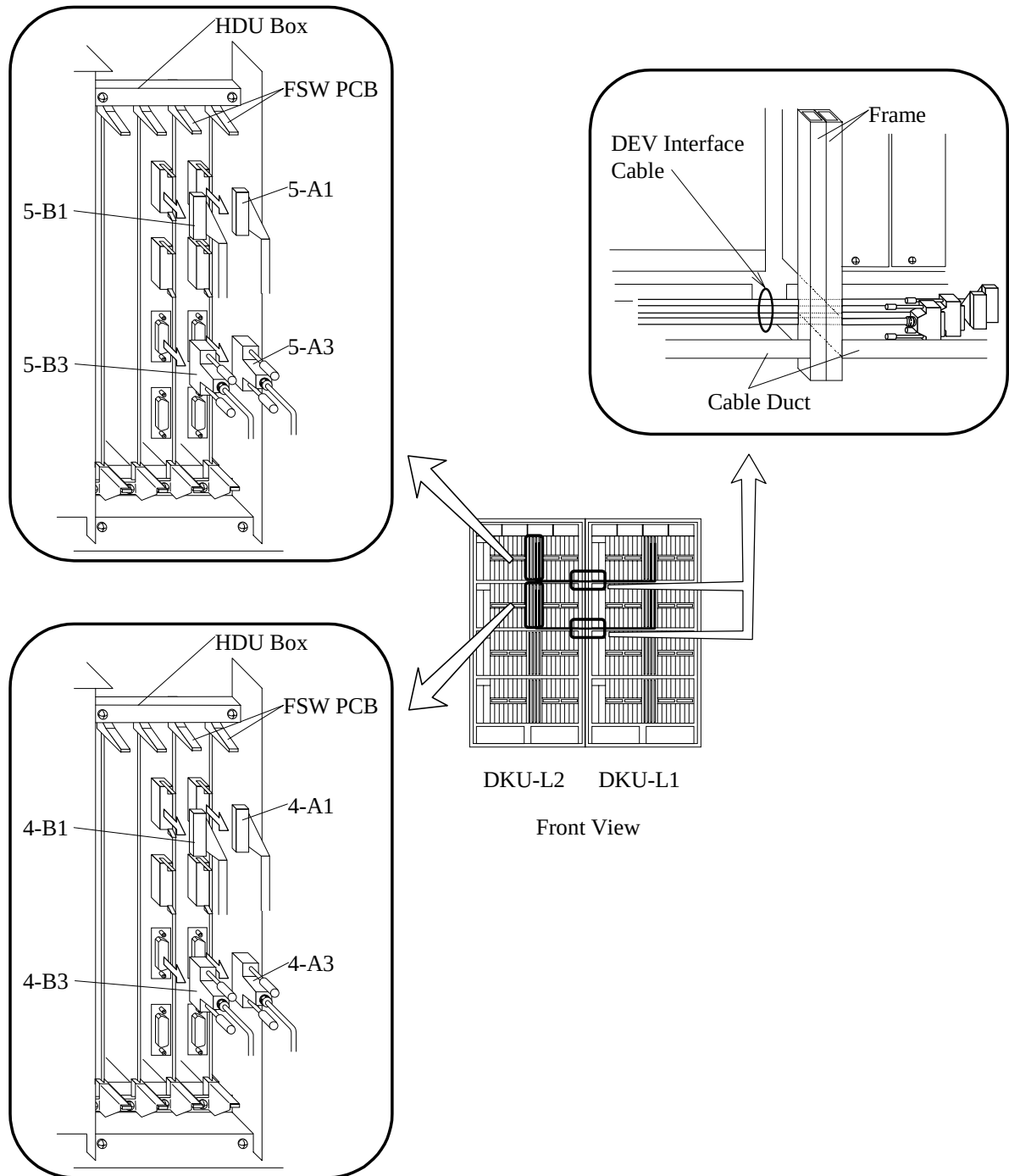


Fig. 4.1.7-19 Disconnection of the DEV Interface Cables

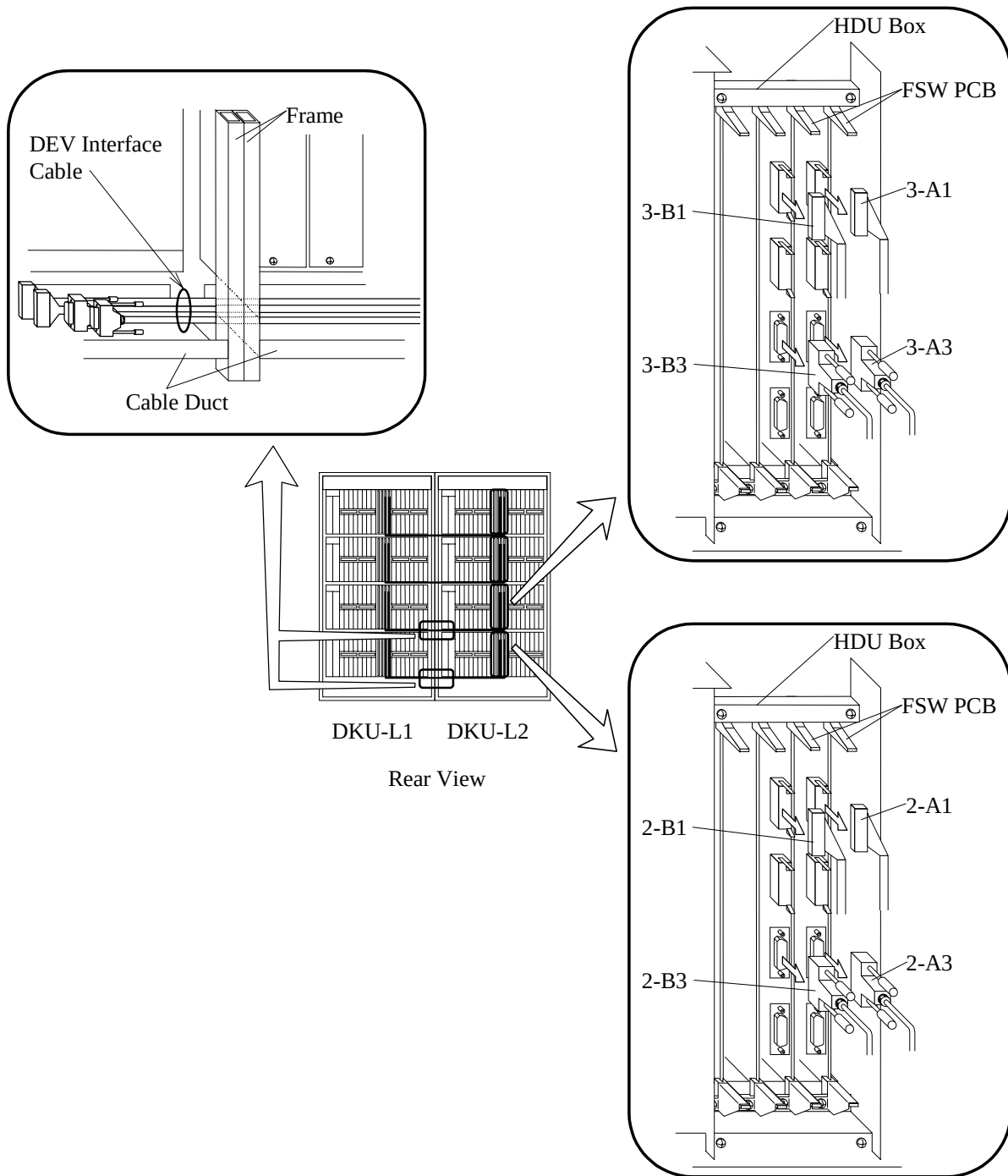


Fig. 4.1.7-20 Disconnection of the DEV Interface Cables

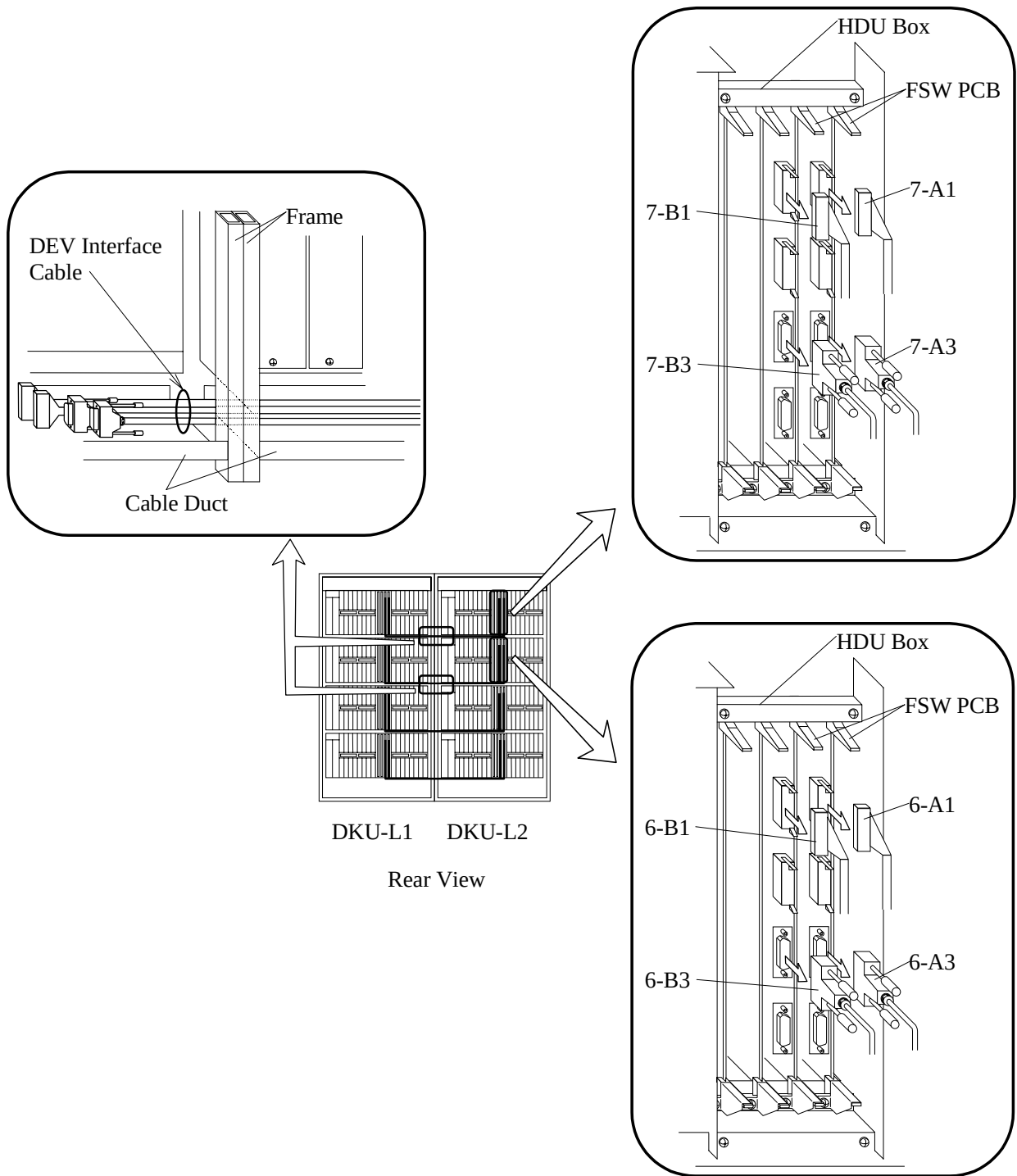


Fig. 4.1.7-21 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

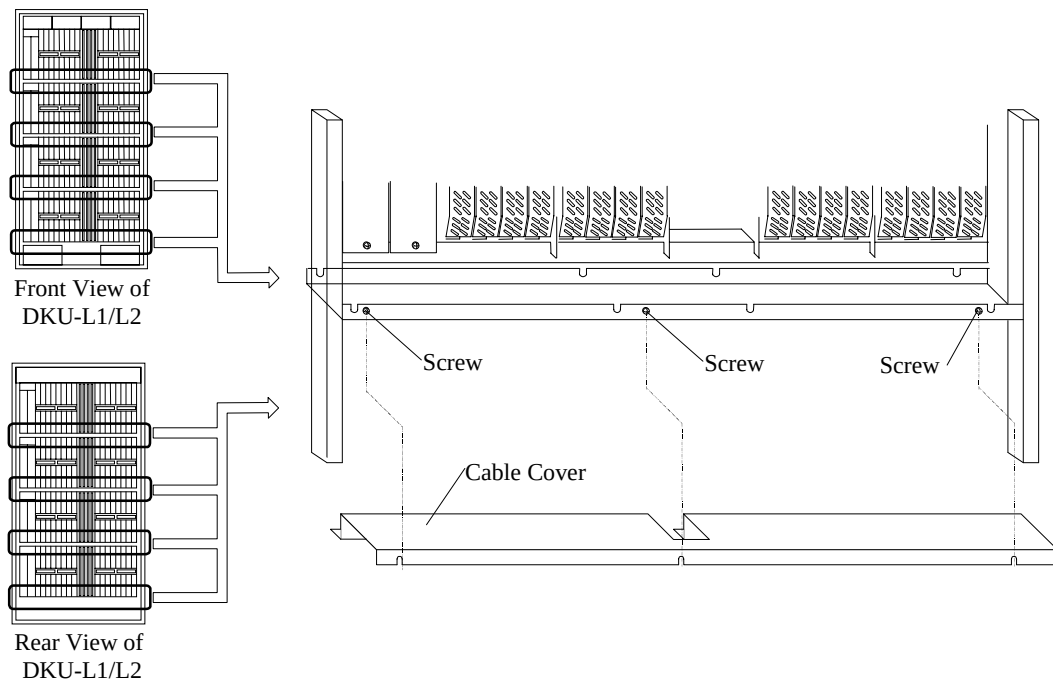


Fig. 4.1.7-22 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

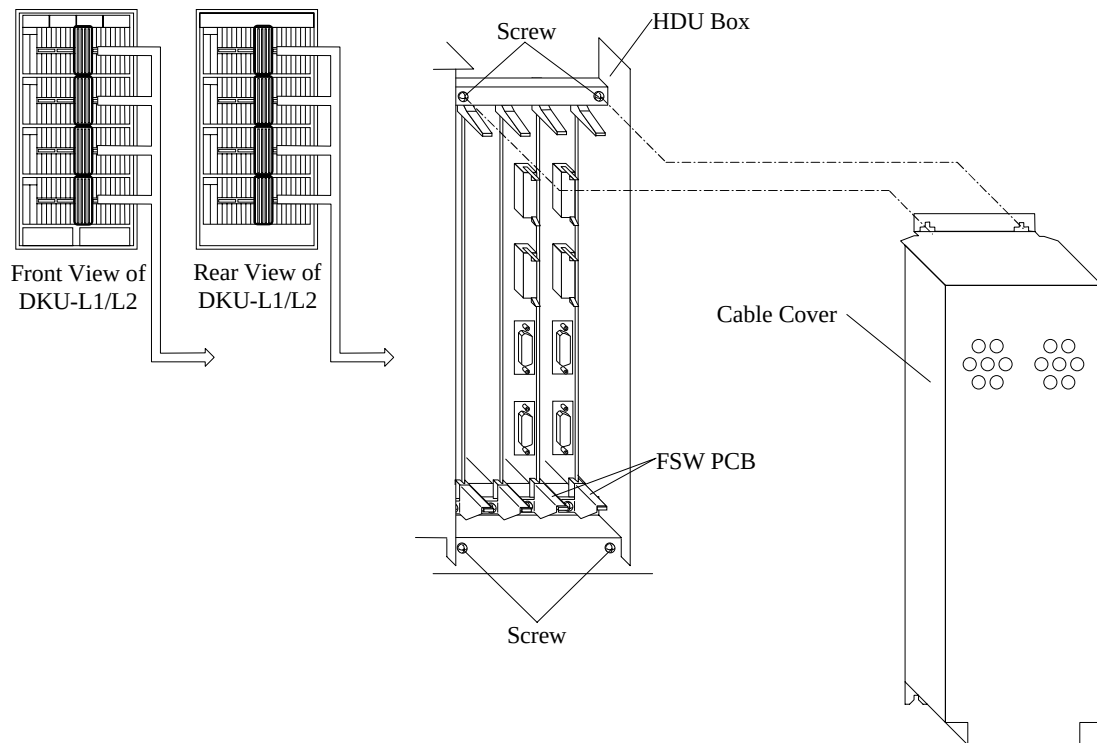


Fig. 4.1.7-23 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-L2 frame.

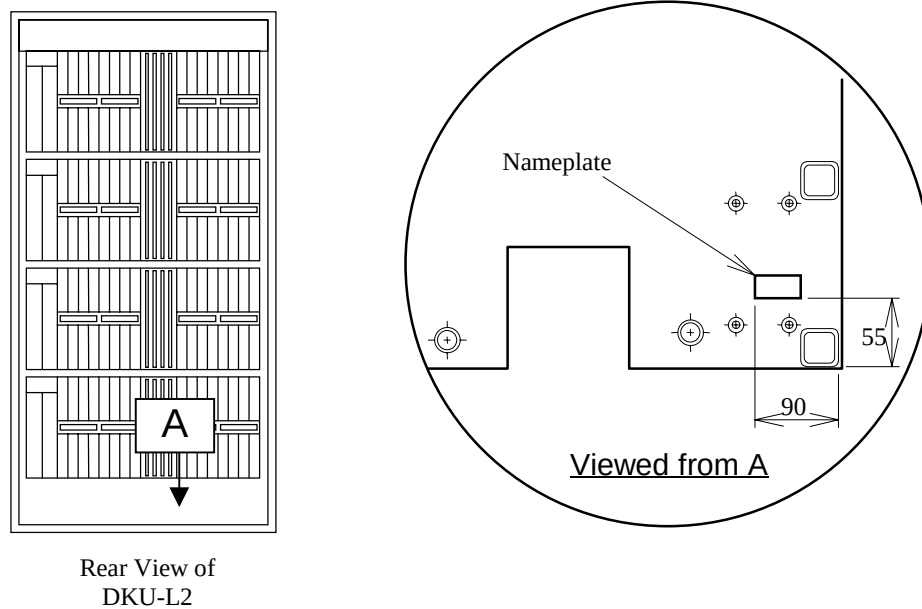


Fig. 4.1.7-24 Removal of the Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.8 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L1 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

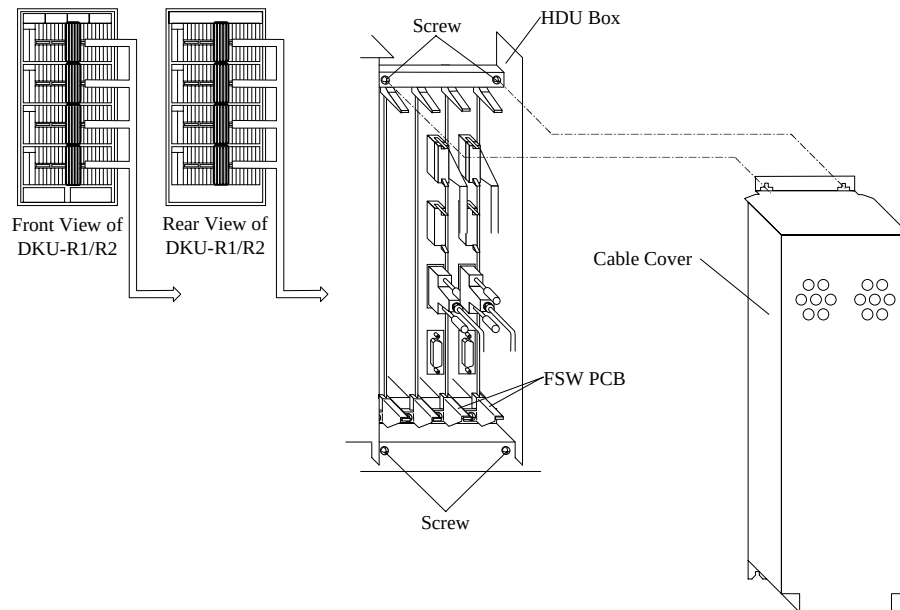


Fig. 4.1.8-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

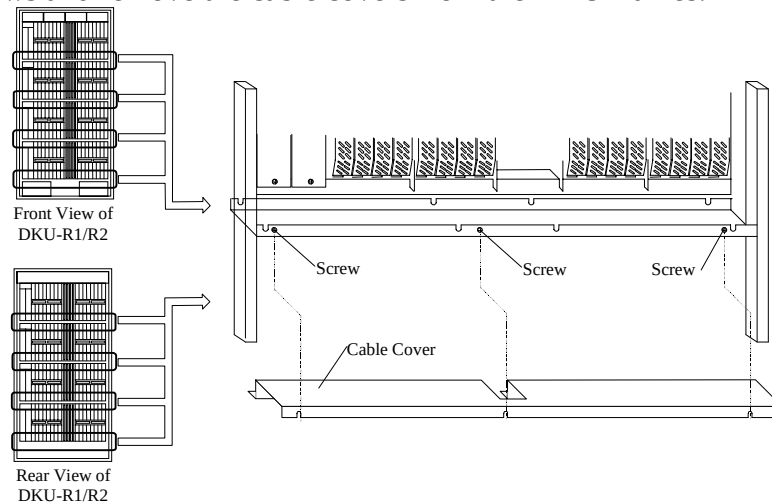


Fig.4.1.8-2 Removal of Cable Covers

2. De-Installation Procedure of DEV Interface Cable 1 (1/3) (DKC-F460I-L1C)

- a. Loosen the screws and remove the cable covers from the DKU frames.

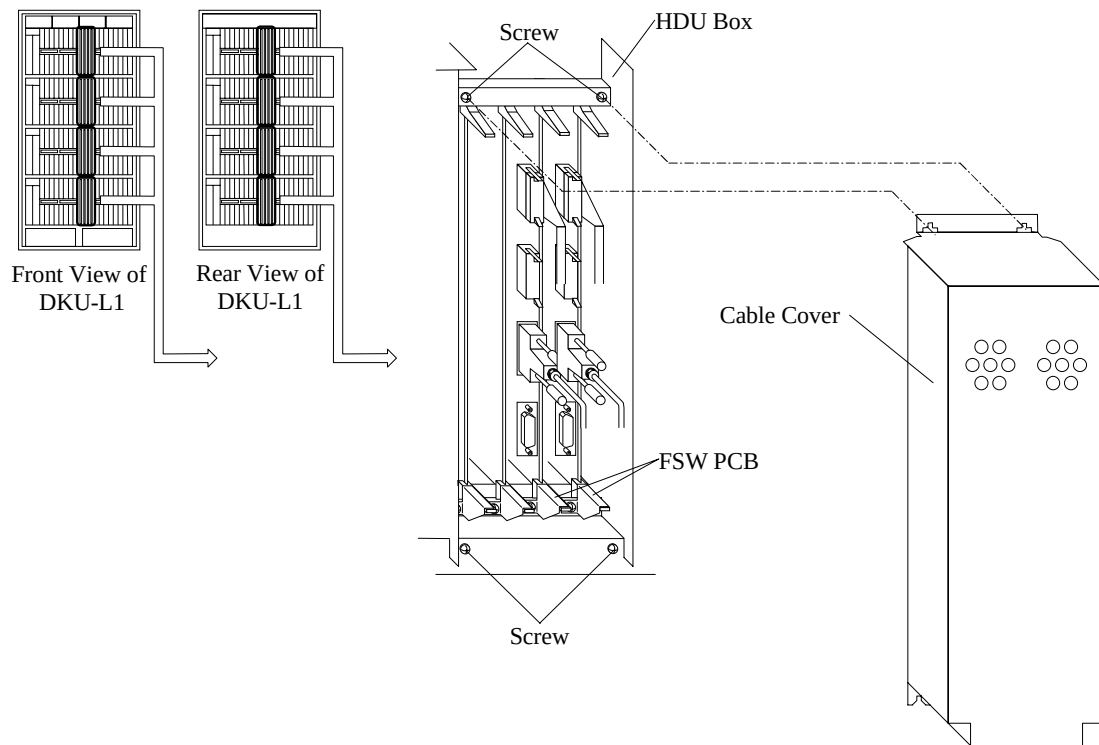


Fig. 4.1.8-3 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

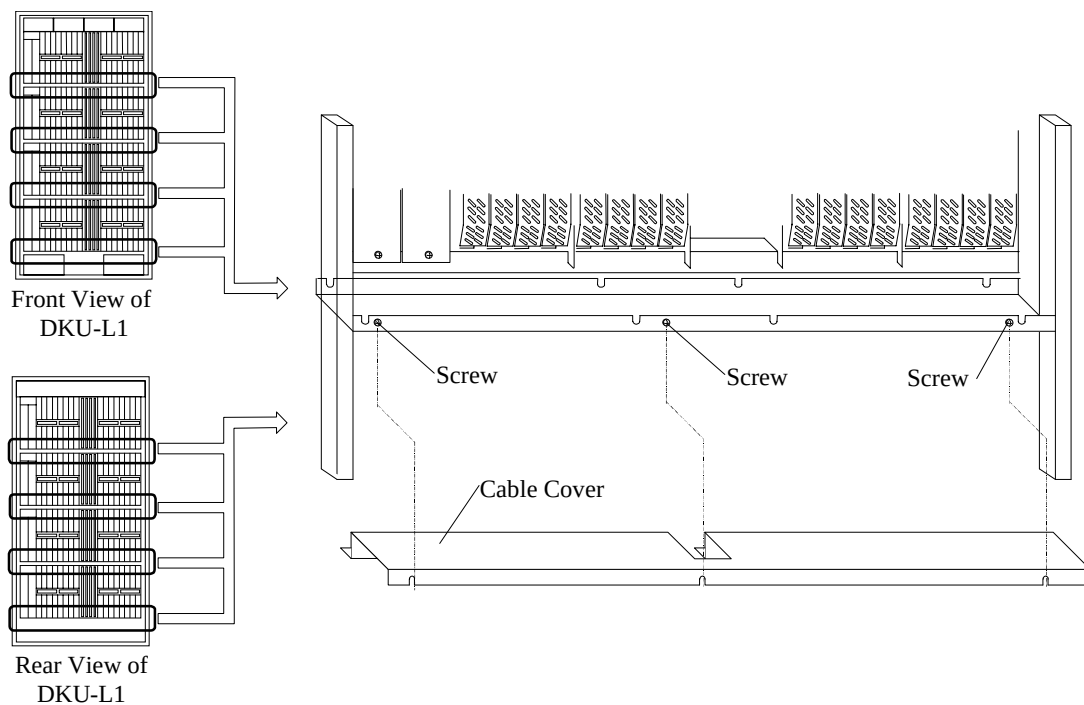
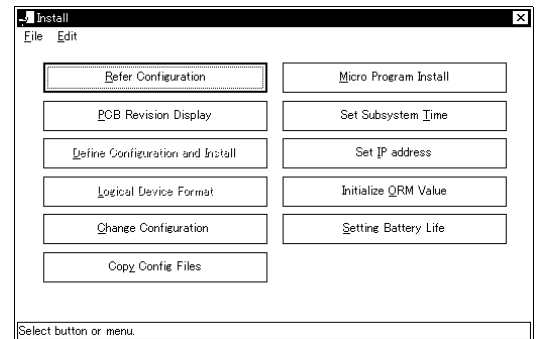


Fig. 4.1.8-4 Removal of Cable Covers

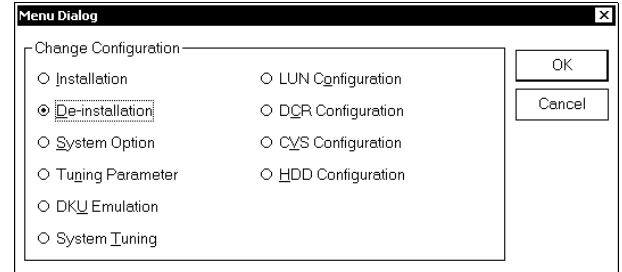
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

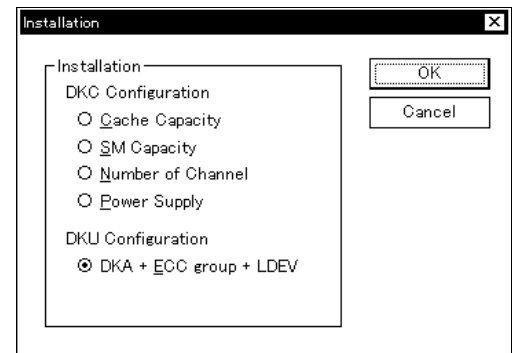
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



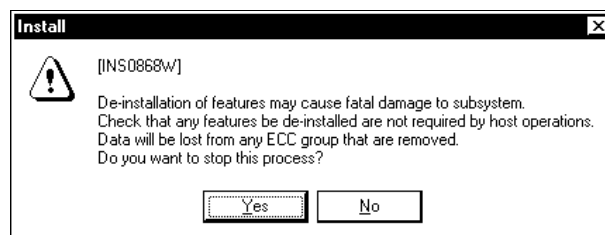
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



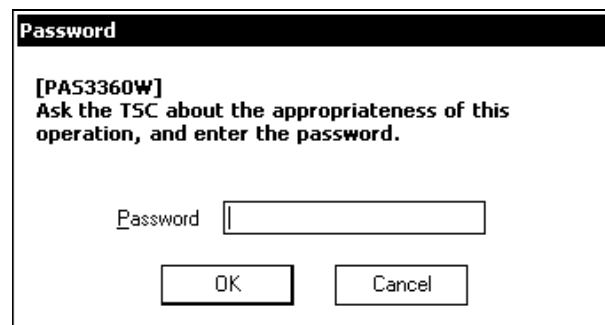
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

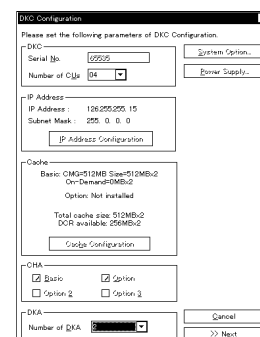
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.
Make an altered setting in which the DKU-R2 and DKU-L1 are deleted from the DKUs currently set.

Current setting	Altered setting
3DKUs (R1, L1, R2)	1DKU (R1)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

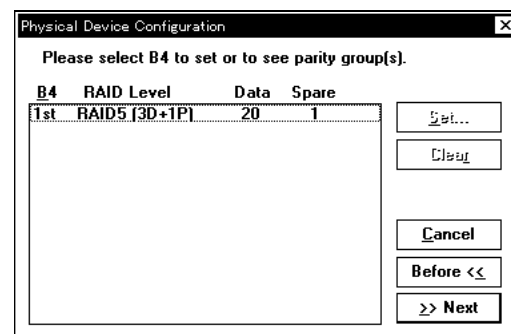
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

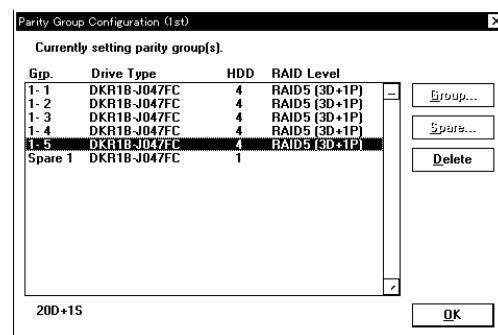
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

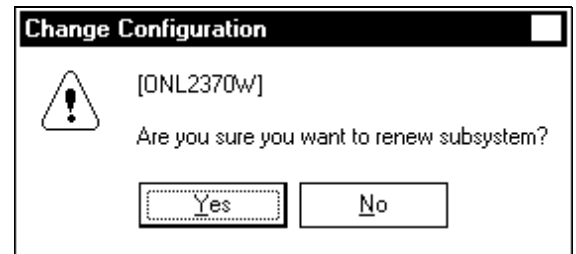


4. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

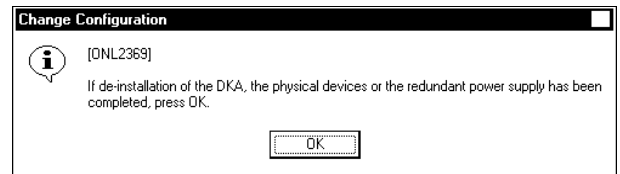
When [No] is selected (CL), returns to [INST04-DKA-1420](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



5. De-Installation Procedure of HDD Canister

5-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.8-1.

Table 4.1.8-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.8-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

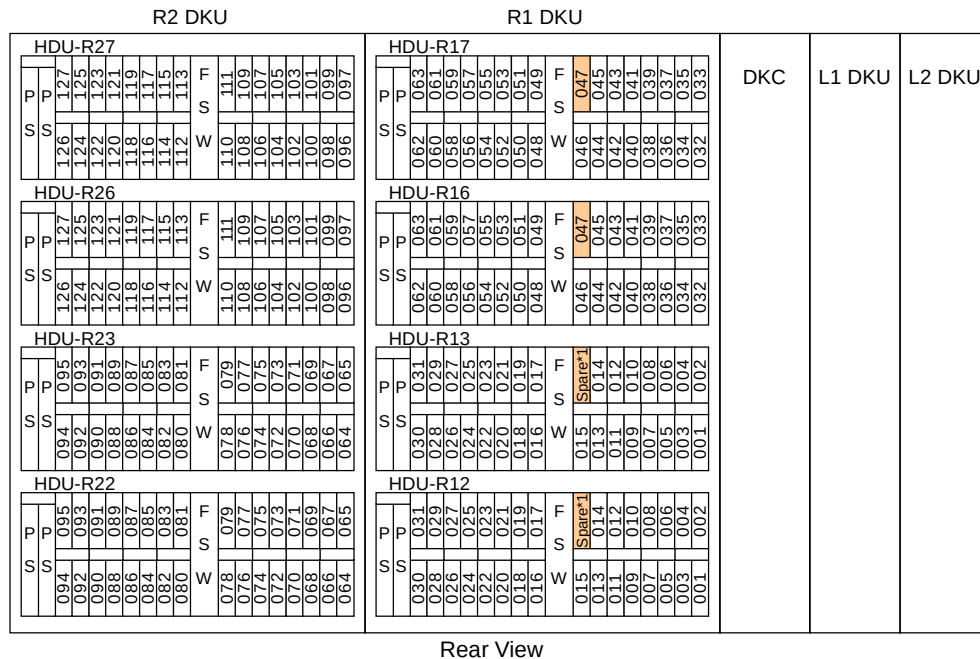
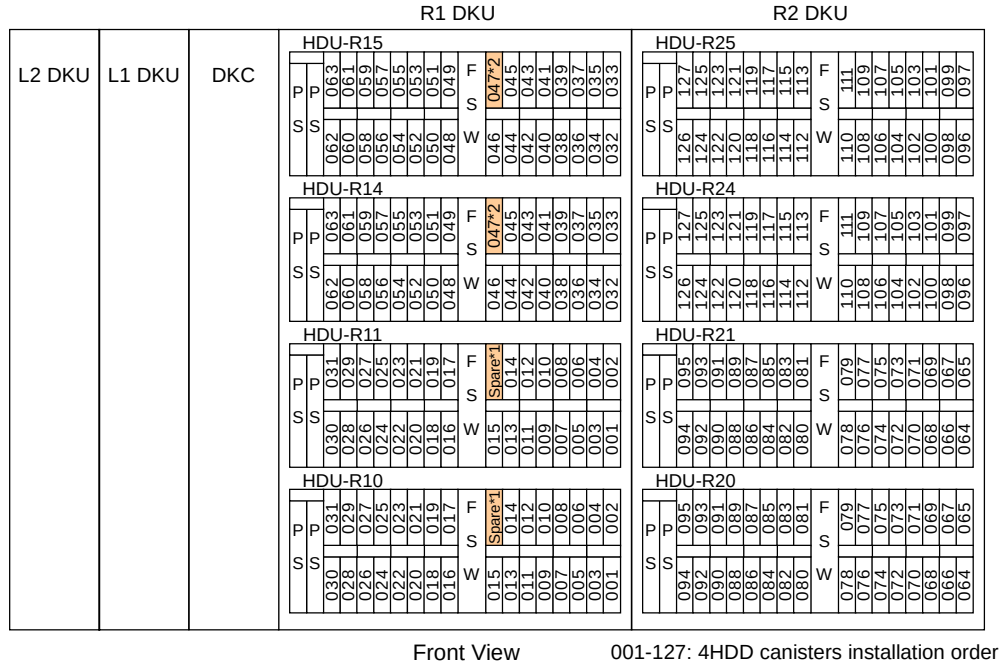
	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive



*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.8-5 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.8-1.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU				
HDU-L25				HDU-L15										
S		P		S		P					S		P	
253	254	251	252	189	190	187	188				173	174*2	171	172
249	250	247	248	185	186	183	184				169	170	167	168
245	246	243	244	181	182	179	180				165	166	163	164
241	242	239	240	177	178	175	176				161	162	159	160
S		W		S		W					S		W	
237	238	235	236	173	174	171	172				159	160		
233	234	231	232	169	170	167	168							
229	230	227	228	165	166	163	164							
225	226	223	224											
HDU-L24				HDU-L14										
S		P		S		P					S		P	
253	254	251	252	189	190	187	188				173	174*2	171	172
249	250	247	248	185	186	183	184				169	170	167	168
245	246	243	244	181	182	179	180				165	166	163	164
241	242	239	240	177	178	175	176				161	162	159	160
S		W		S		W					S		W	
237	238	235	236	173	174	171	172				159	160		
233	234	231	232	169	170	167	168							
229	230	227	228	165	166	163	164							
225	226	223	224											
HDU-L21				HDU-L11										
S		P		S		P					S		P	
221	222	219	220	157	158	155	156				142	Spare*1	140	141
217	218	215	216	153	154	151	152				138	139	136	137
213	214	211	212	149	150	147	148				134	135	132	133
209	210	207	208	145	146	143	144				130	131	128	129
S		W		S		W					S		W	
205	206	203	204	142	143	140	141							
201	202	199	200	138	139	136	137							
197	198	195	196	134	135	132	133							
193	194	191	192	130	131	128	129							
HDU-L20				HDU-L10										
S		P		S		P					S		P	
221	222	219	220	157	158	155	156				142	Spare*1	140	141
217	218	215	216	153	154	151	152				138	139	136	137
213	214	211	212	149	150	147	148				134	135	132	133
209	210	207	208	145	146	143	144				130	131	128	129
S		W		S		W					S		W	
205	206	203	204	142	143	140	141							
201	202	199	200	138	139	136	137							
197	198	195	196	134	135	132	133							
193	194	191	192	130	131	128	129							
Front View				128-254: 4HDD canisters installation ord										

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
177	178	175	176	241	242	239	240
173	174*2	171	172	237	238	235	236
169	170	167	168	233	234	231	232
165	166	163	164	229	230	227	228
161	162	159	160	225	226	223	224
HDU-L16				HDU-L26			
S	S	P	P	S	S	P	P
189	190	187	188	253	254	251	252
185	186	183	184	249	250	247	248
181	182	179	180	245	246	243	244
177	178	175	176	241	242	239	240
173	174*2	171	172	237	238	235	236
169	170	167	168	233	234	231	232
165	166	163	164	229	230	227	228
161	162	159	160	225	226	223	224
HDU-L13				HDU-L23			
S	S	P	P	S	S	P	P
157	158	155	156	221	222	219	220
153	154	151	152	217	218	215	216
149	150	147	148	213	214	211	212
145	146	143	144	209	210	207	208
142	Spare*1	140	141	205	206	203	204
138	139	136	137	201	202	199	200
134	135	132	133	197	198	195	196
130	131	128	129	193	194	191	192
HDU-L12				HDU-L22			
S	S	P	P	S	S	P	P
157	158	155	156	221	222	219	220
153	154	151	152	217	218	215	216
149	150	147	148	213	214	211	212
145	146	143	144	209	210	207	208
142	Spare*1	140	141	205	206	203	204
138	139	136	137	201	202	199	200
134	135	132	133	197	198	195	196
130	131	128	129	193	194	191	192

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.8-5 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.8-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.8-2.

Table 4.1.8-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.8-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive

			R1 DKU	R2 DKU
L2 DKU	L1 DKU	DKC	HDU-R15 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R25 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R14 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R24 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R11 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R21 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R10 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R20 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 T Spare*1 S 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033

Front View

001-063: 8HDD canisters installation order

R2 DKU				R1 DKU				DKC	L1 DKU	L2 DKU
HDU-R27				HDU-R17						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	027	026			
055	054	055	054	025	024	025	024			
053	052	053	052	023	022	023	022			
051	050	051	050	021	020	021	020			
049	048	049	048	019	018	019	018			
T		W		T		W				
047	046	047	046	017	016	017	016			
045	044	045	044					Spare*1		
043	042	043	042					014		
041	040	041	040					012		
039	038	039	038					010		
037	036	037	036					008		
035	034	035	034					007		
033	032	033	032					006		
								005		
								004		
								003		
								002		
								001		
HDU-R26				HDU-R16						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	027	026			
055	054	055	054	025	024	025	024			
053	052	053	052	023	022	023	022			
051	050	051	050	021	020	021	020			
049	048	049	048	019	018	019	018			
T		W		T		W				
047	046	047	046	017	016	017	016			
045	044	045	044					Spare*1		
043	042	043	042					014		
041	040	041	040					012		
039	038	039	038					010		
037	036	037	036					008		
035	034	035	034					007		
033	032	033	032					006		
								005		
								004		
								003		
								002		
								001		
HDU-R23				HDU-R13						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	027	026			
055	054	055	054	025	024	025	024			
053	052	053	052	023	022	023	022			
051	050	051	050	021	020	021	020			
049	048	049	048	019	018	019	018			
T		W		T		W				
047	046	047	046	017	016	017	016			
045	044	045	044					Spare*1		
043	042	043	042					014		
041	040	041	040					012		
039	038	039	038					010		
037	036	037	036					008		
035	034	035	034					007		
033	032	033	032					006		
								005		
								004		
								003		
								002		
								001		
HDU-R22				HDU-R12						
P		S		P		S				
063	062	061	060	031	030	029	028			
059	058	057	056	027	026	027	026			
055	054	055	054	025	024	025	024			
053	052	053	052	023	022	023	022			
051	050	051	050	021	020	021	020			
049	048	049	048	019	018	019	018			
T		W		T		W				
047	046	047	046	017	016	017	016			
045	044	045	044					Spare*1		
043	042	043	042					014		
041	040	041	040					012		
039	038	039	038					010		
037	036	037	036					008		
035	034	035	034					007		
033	032	033	032					006		
								005		
								004		
								003		
								002		
								001		

Rear View

Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.8-6 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.8-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU			
HDU-L25				HDU-L15									
S	S	P	P	125	126	123	124	093	094	078	Spare*1	076	077
				121	122	119	120	089	090	074	075		
S	S	P	P	117	118	115	116	087	088	072	073	070	071
				113	114	111	112	085	086	068	069		
S	S	P	P	109	110	107	108	083	084	066	067	064	065
				105	106	103	104	081	082	062	063		
S	S	P	P	101	102	099	100	079	080	059	060	056	057
				097	098	095	096	055	056	052	053		
S	S	P	P	093	094	091	092	077	078	051	052	048	049
				089	090	087	088	047	048	043	044		
S	S	P	P	085	086	083	084	075	076	041	042	037	038
				081	082	079	080	035	036	031	032		
S	S	P	P	077	078	074	075	069	070	029	030	025	026
				073	074	071	072	021	022	017	018		
S	S	P	P	069	070	067	068	061	062	015	016	011	012
				065	066	063	064	009	010	005	006		
S	S	P	P	061	062	059	060	053	054	003	004	000	001
				057	058	055	056	000	000	000	000		
S	S	P	P	053	054	051	052	045	046	000	000	000	000
				049	050	047	048	000	000	000	000		
S	S	P	P	045	046	043	044	037	038	000	000	000	000
				041	042	039	040	000	000	000	000		
S	S	P	P	037	038	035	036	029	030	000	000	000	000
				033	034	031	032	000	000	000	000		
S	S	P	P	029	030	027	028	021	022	000	000	000	000
				025	026	023	024	000	000	000	000		
S	S	P	P	021	022	019	020	013	014	000	000	000	000
				017	018	015	016	000	000	000	000		
S	S	P	P	013	014	011	012	005	006	000	000	000	000
				009	010	007	008	000	000	000	000		
S	S	P	P	005	006	003	004	000	000	000	000	000	000
				001	002	000	000	000	000	000	000		
S	S	P	P	001	002	000	000	000	000	000	000	000	000
				000	000	000	000	000	000	000	000		

Front View

064-126: 8HDD canisters installation ord

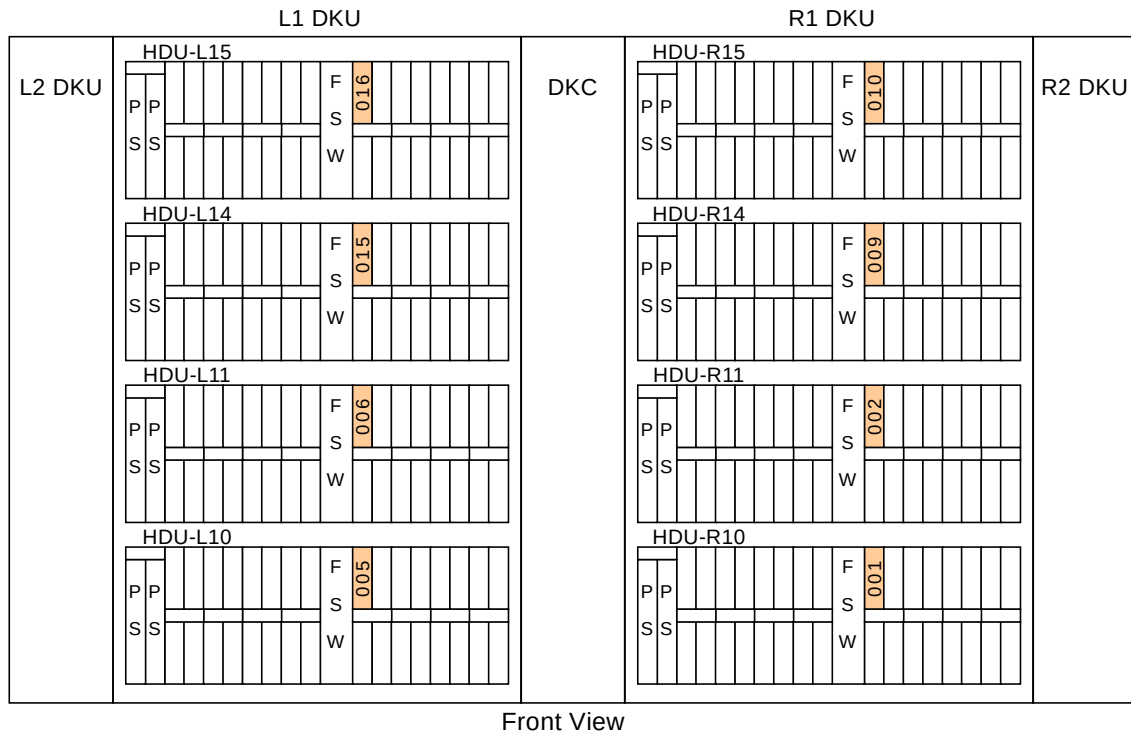
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU																								
R2 DKU	R1 DKU	DKC	HDU-L17	P		S		F	S	W	Spare*1	078	076	077	074	075	072	073	070	071	068	069	066	067	064	065		
			P		S																							
			094		091		089		087		085		083		081		079											
			092		090		088		086		084		082		080													
			094		091		089		087		085		083		081		079											
			092		090		088		086		084		082		080													
			094		091		089		087		085		083		081		079											
			092		090		088		086		084		082		080													
			094		091		089		087		085		083		081		079											
			092		090		088		086		084		082		080													
			094		091		089		087		085		083		081		079											
			092		090		088		086		084		082		080													
094		091		089		087		085		083		081		079														
092		090		088		086		084		082		080																
094		091		089		087		085		083		081		079														
092		090		088		086		084		082		080																
094		091		089		087		085		083		081		079														
092		090		088		086		084		082		080																
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092		090		088		086		084		082		080																
094		091		089		087																						

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

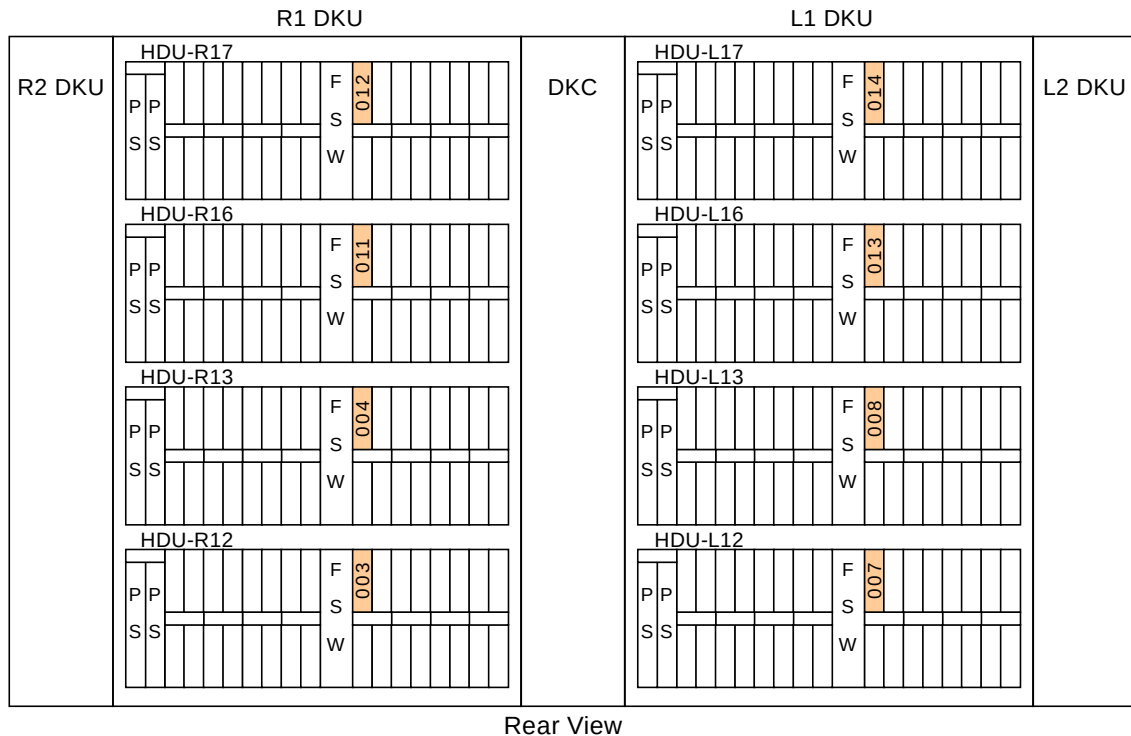


Fig. 4.1.8-7 Spare Drive Expansion Sequence

5-2 Confirmation of Shut Down LED.

a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

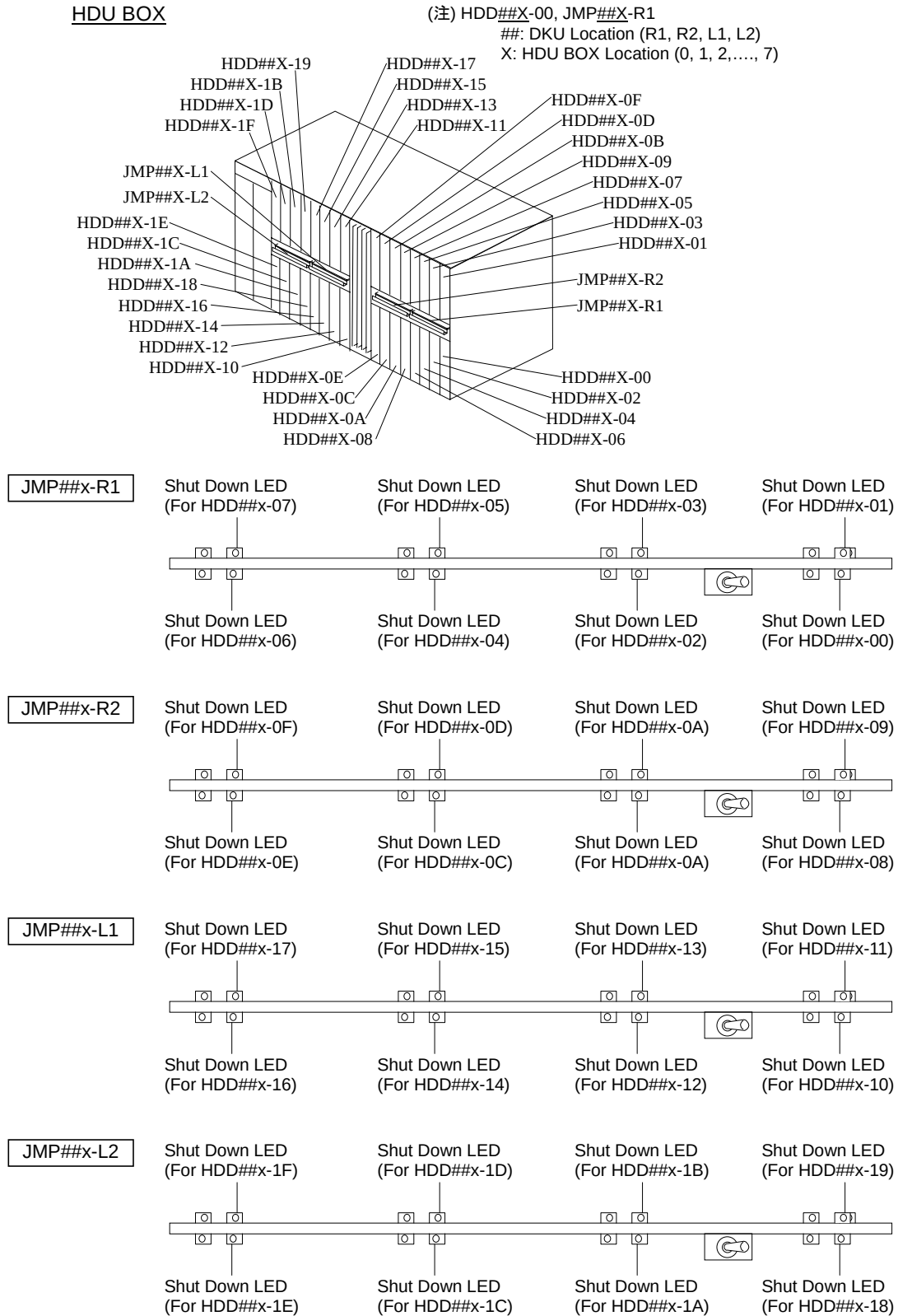


Fig. 4.1.8-8 Location of Shut Down LED

5-3 De-installation of the HDD canister.

CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

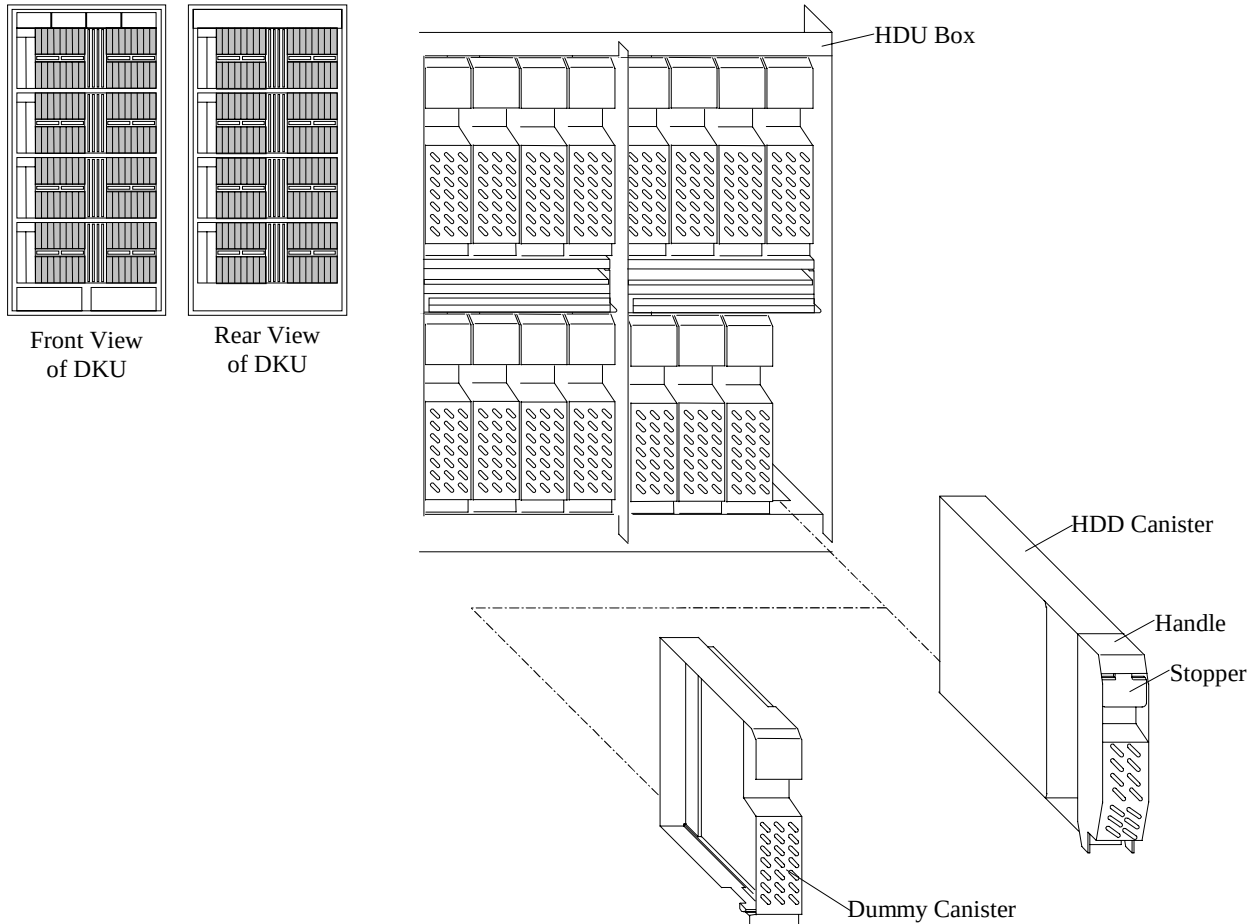
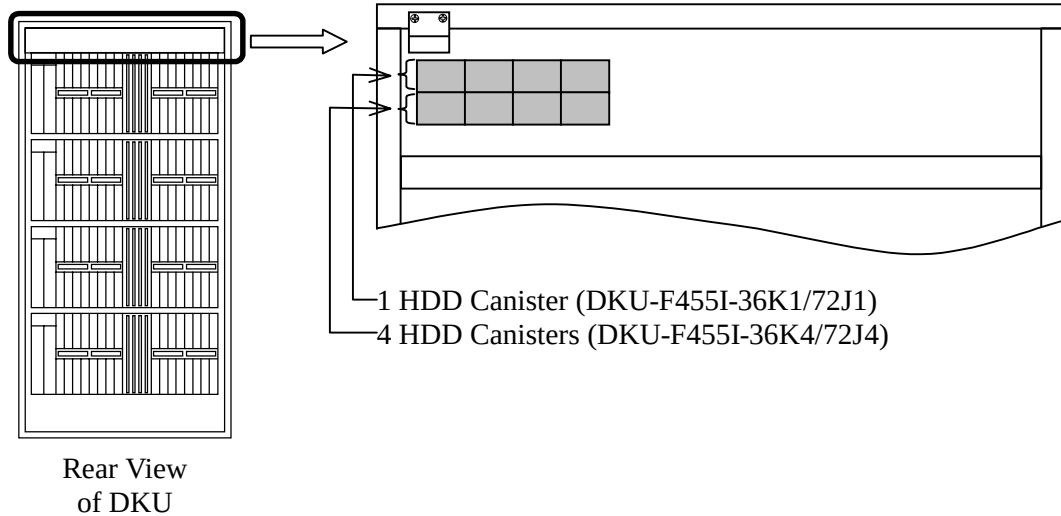


Fig. 4.1.8-9 De-Installation of HDD Canister

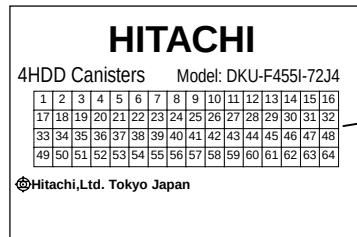
5-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.8-10 Removal of Nameplate

6. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-R10-R17 and HDU-R20-R27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-R1 frame referring to figures 4.1.8-11 and 4.1.8-12.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.

Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

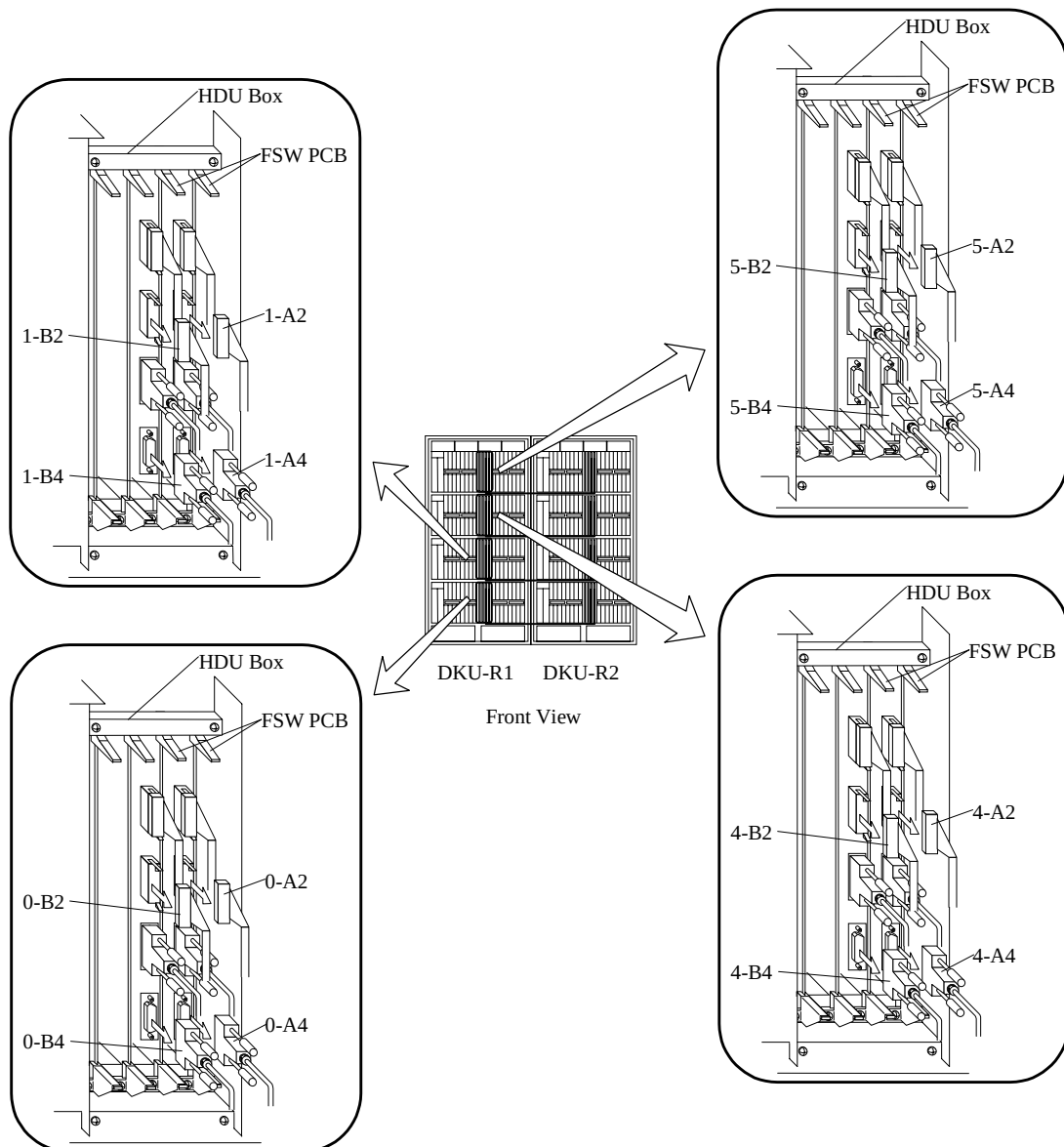


Fig. 4.1.8-11 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

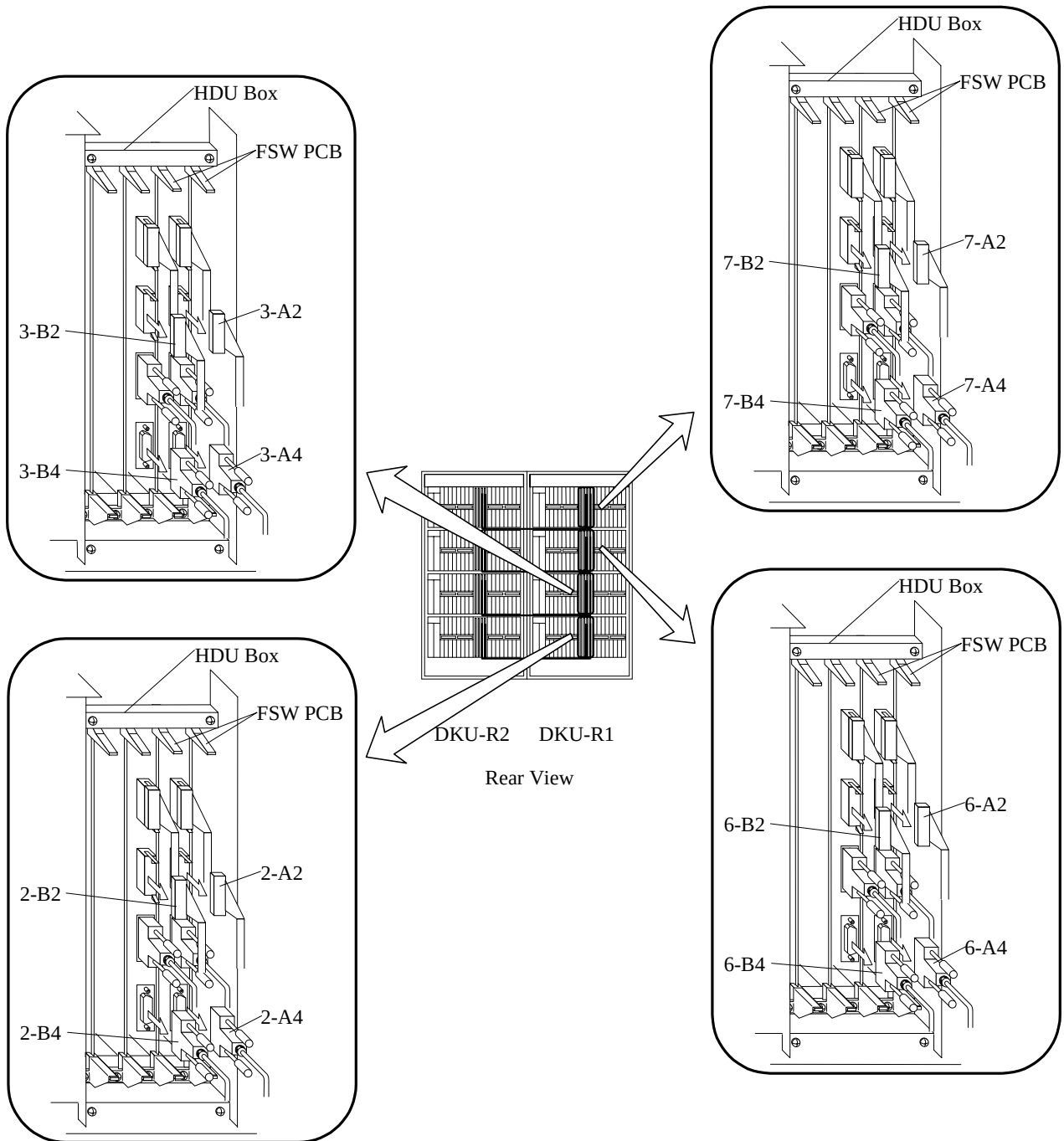


Fig. 4.1.8-12 Connection of the DEV Interface Cables

7. De-Installation Procedure of DEV Interface Cable (2/3) (DKC-F460I-L1C)

- a. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. D and K in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

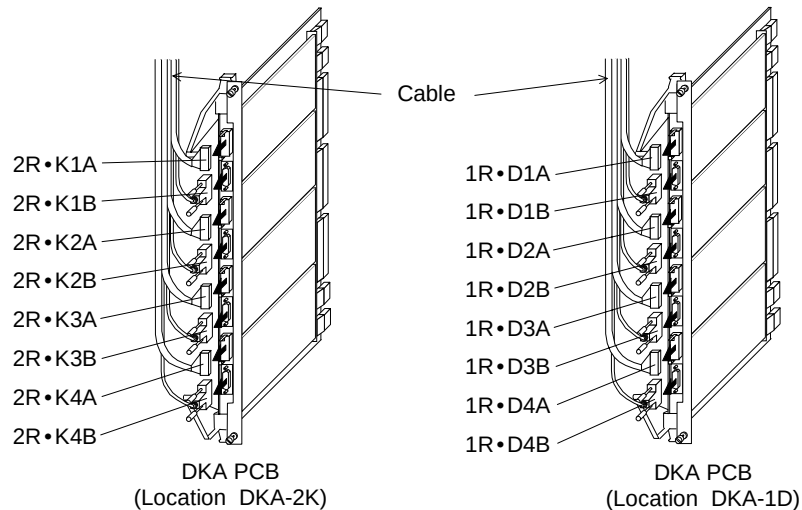


Fig. 4.1.8-13 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

- b. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. E and L in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

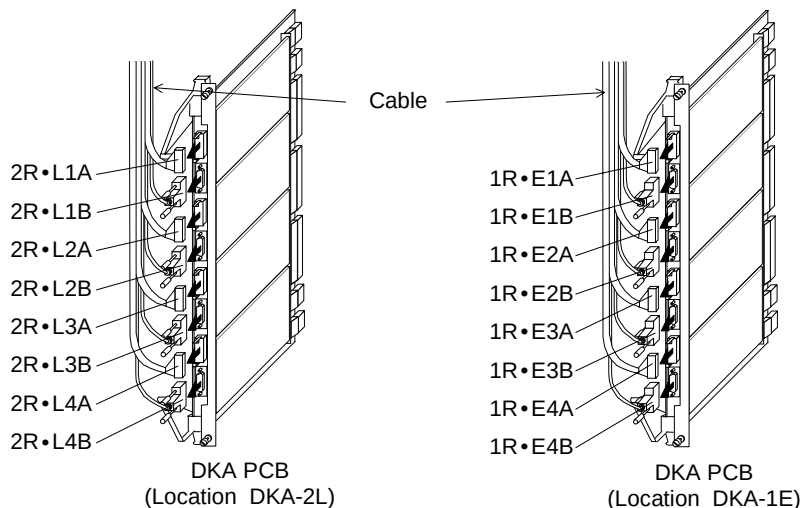


Fig. 4.1.8-14 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

8. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

8-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.8-15) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

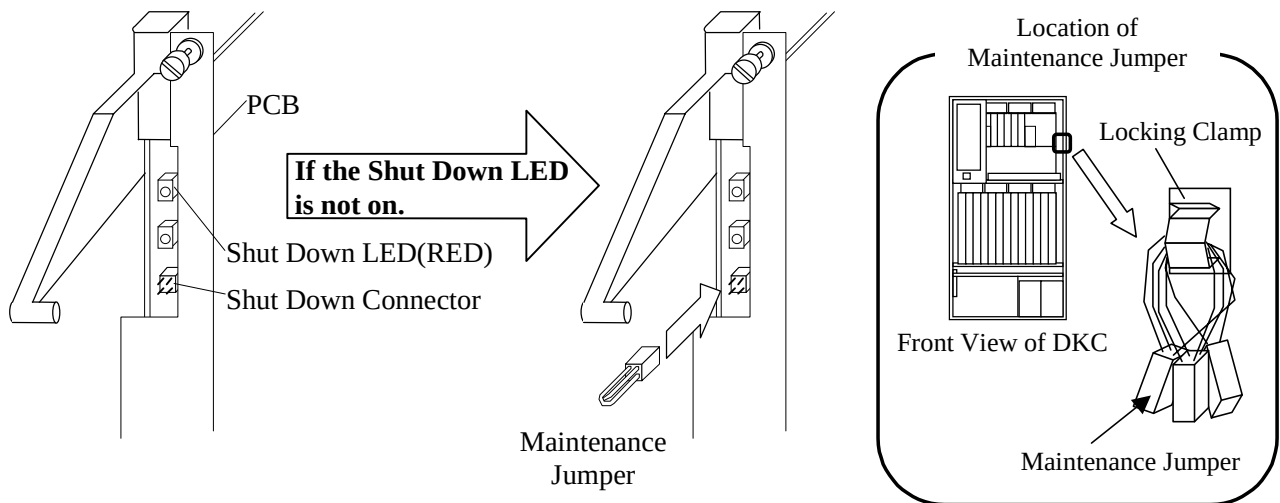


Fig. 4.1.8-15 Shut Down LED

Table 4.1.8-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

8-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

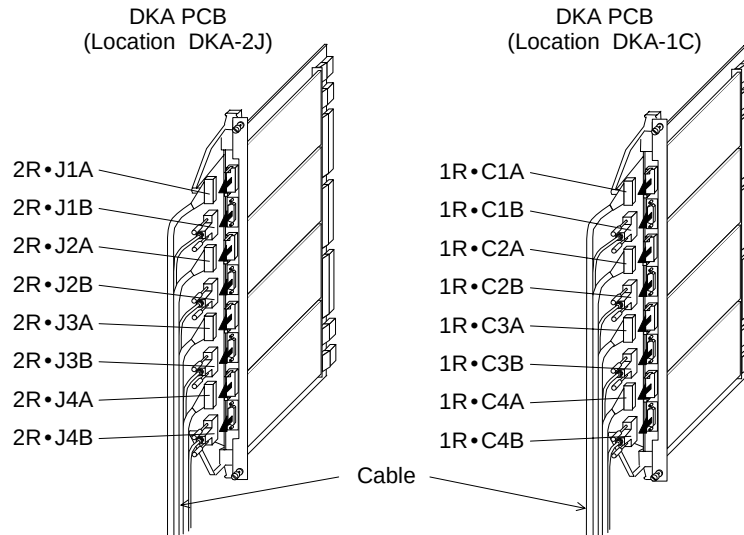


Fig. 4.1.8-16 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

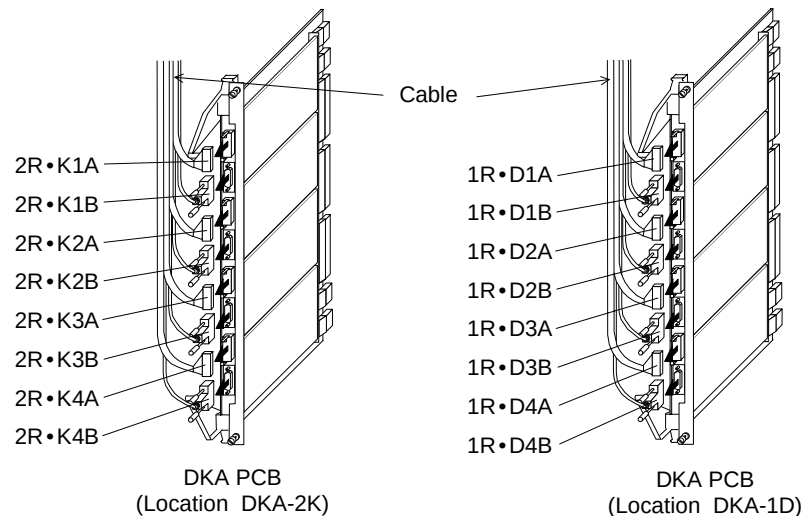


Fig. 4.1.8-17 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

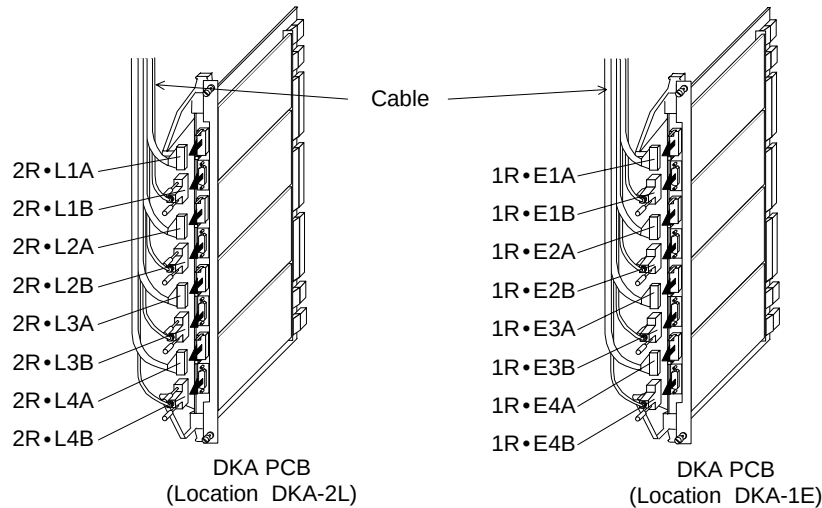


Fig.4.1.8-18 Disconnection of DEV Interface Cable (Add.3)

8-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.8-19.
b. Attach the dummy plates referring to Fig. 4.1.8-20.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

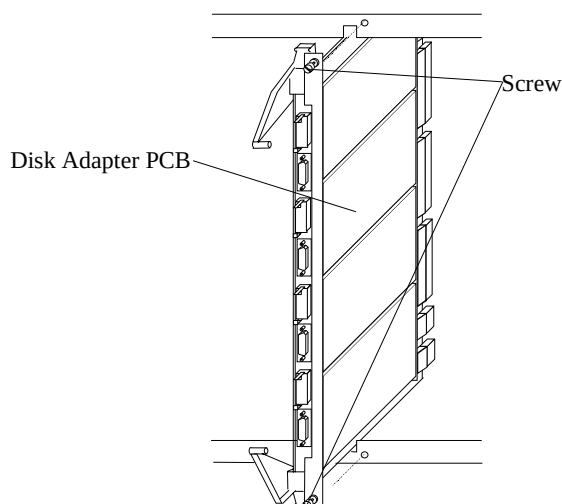


Fig. 4.1.8-19 Removal of PCB

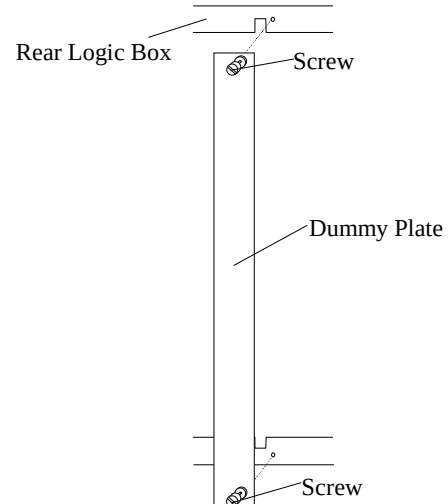


Fig. 4.1.8-20 Attachment of Dummy Plate

8-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

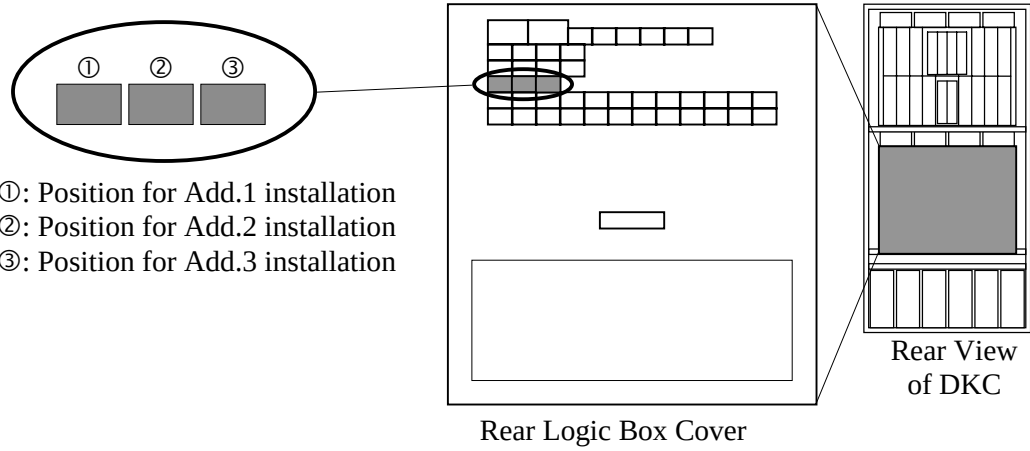
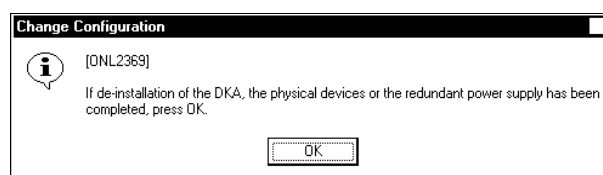


Fig. 4.1.8-21 Removal of Nameplate

9. SVP post procedure

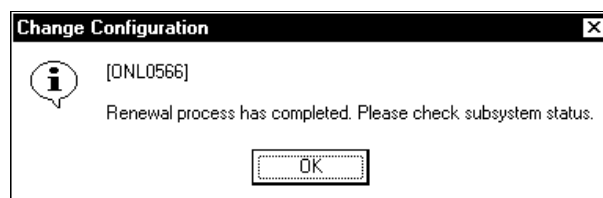
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



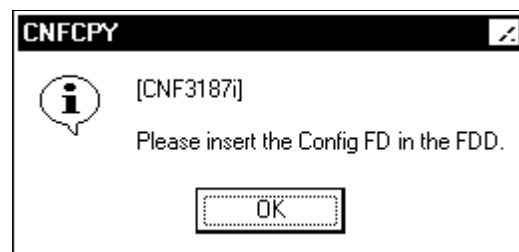
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



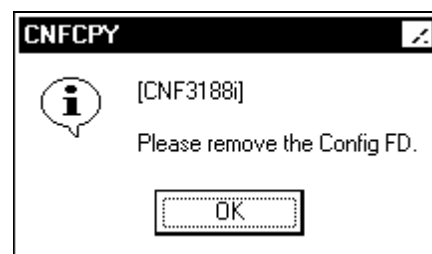
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

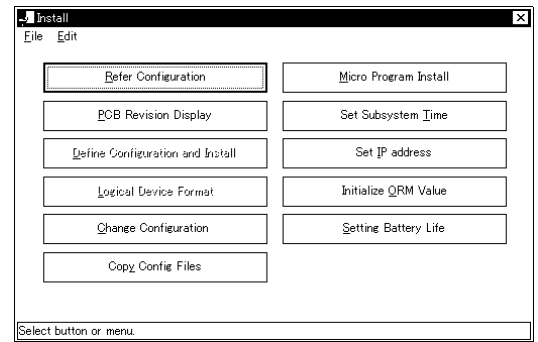


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

10. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-R2 frame referring to Fig. 4.1.8-22 through Fig. 4.1.8-25.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

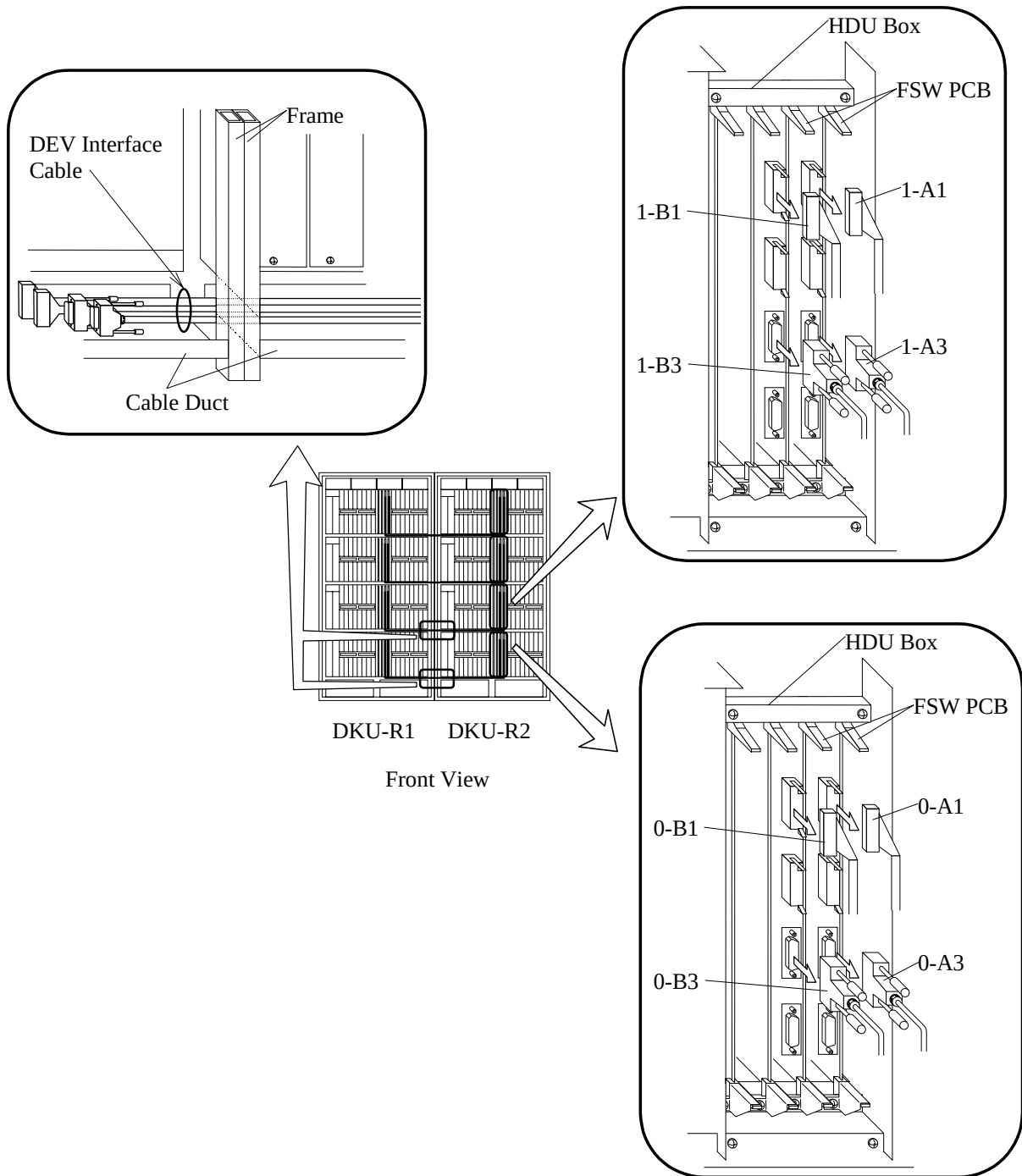


Fig. 4.1.8-22 Disconnection of the DEV Interface Cables

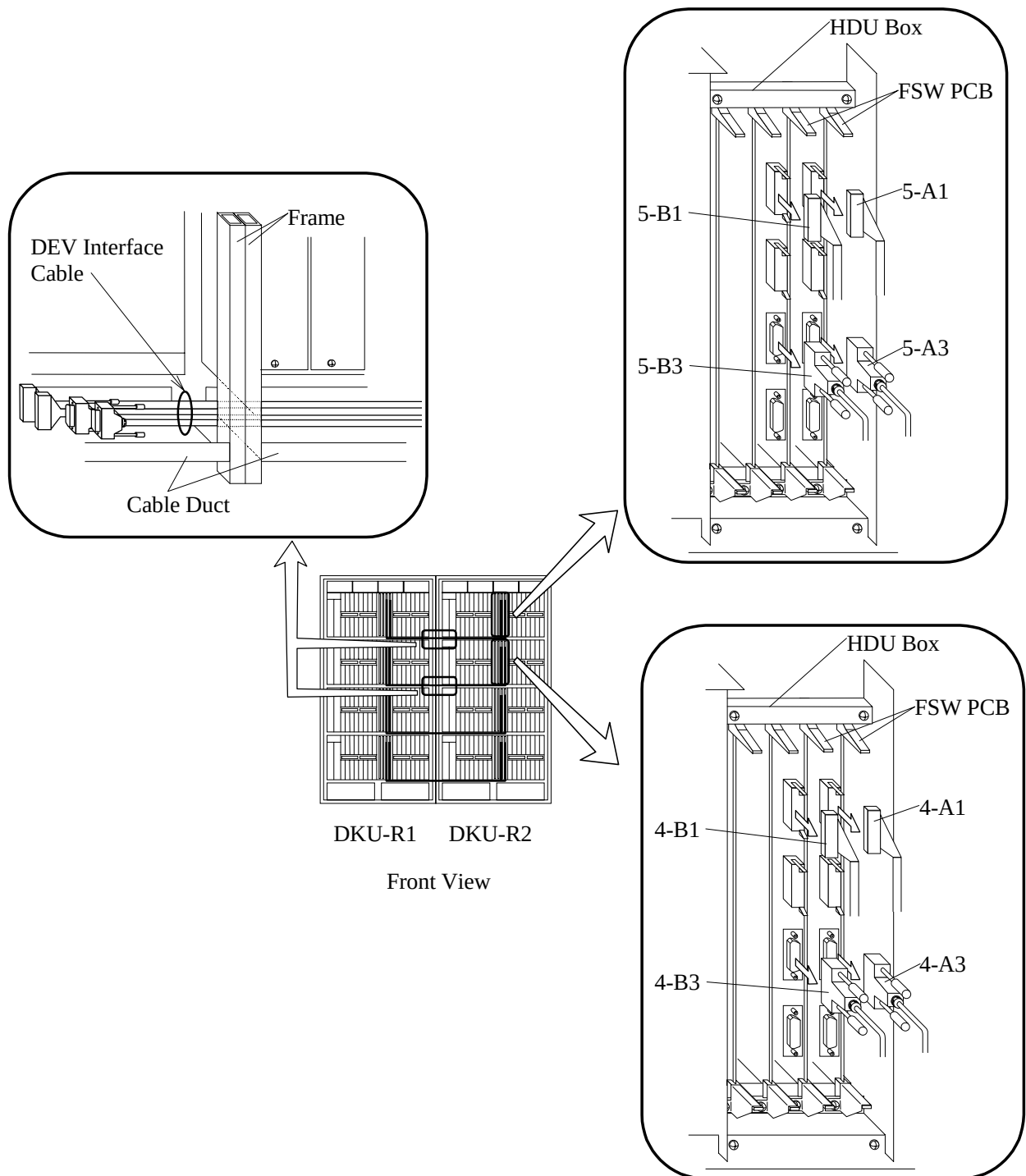


Fig. 4.1.8-23 Disconnection of the DEV Interface Cables

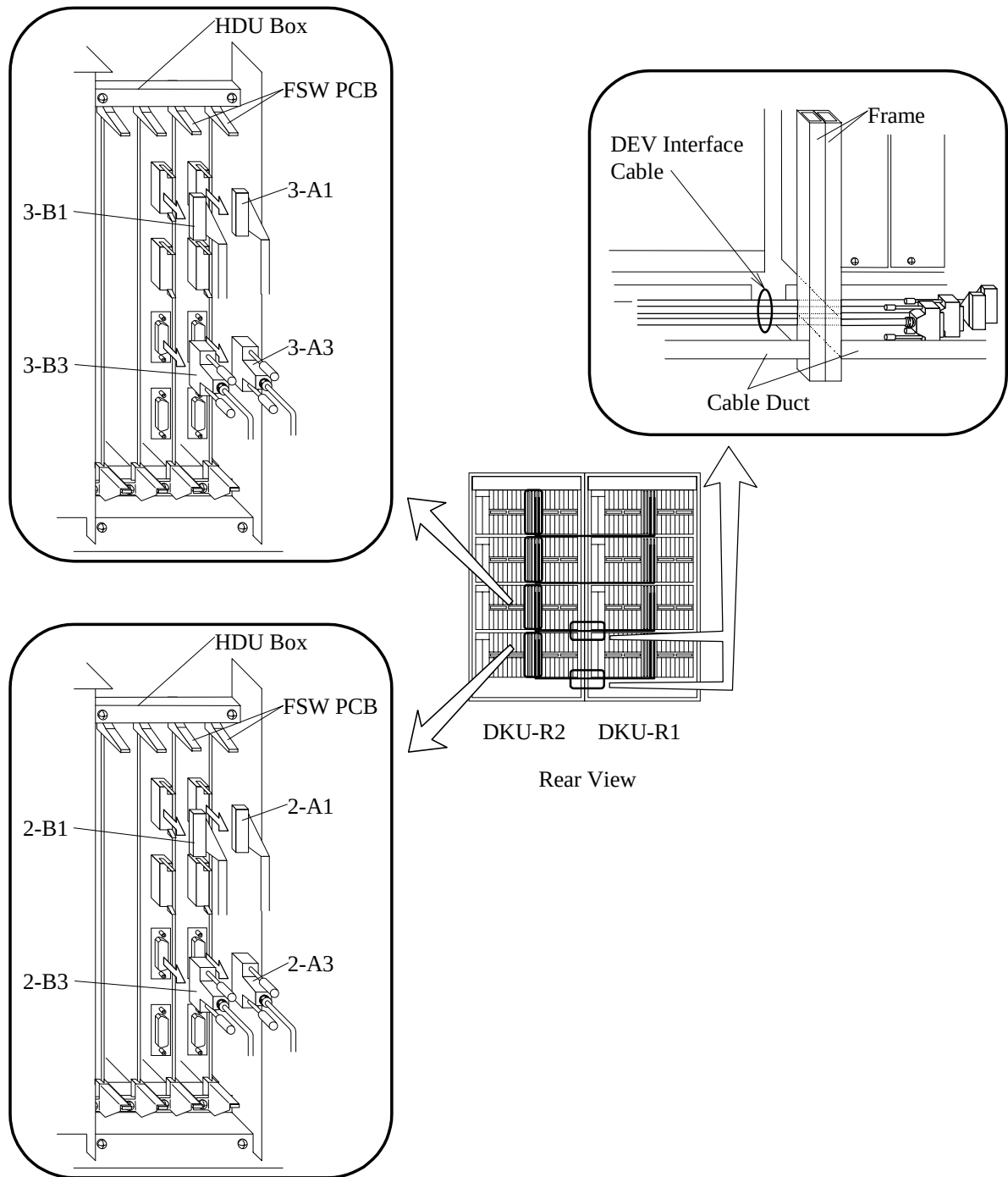


Fig. 4.1.8-24 Disconnection of the DEV Interface Cables

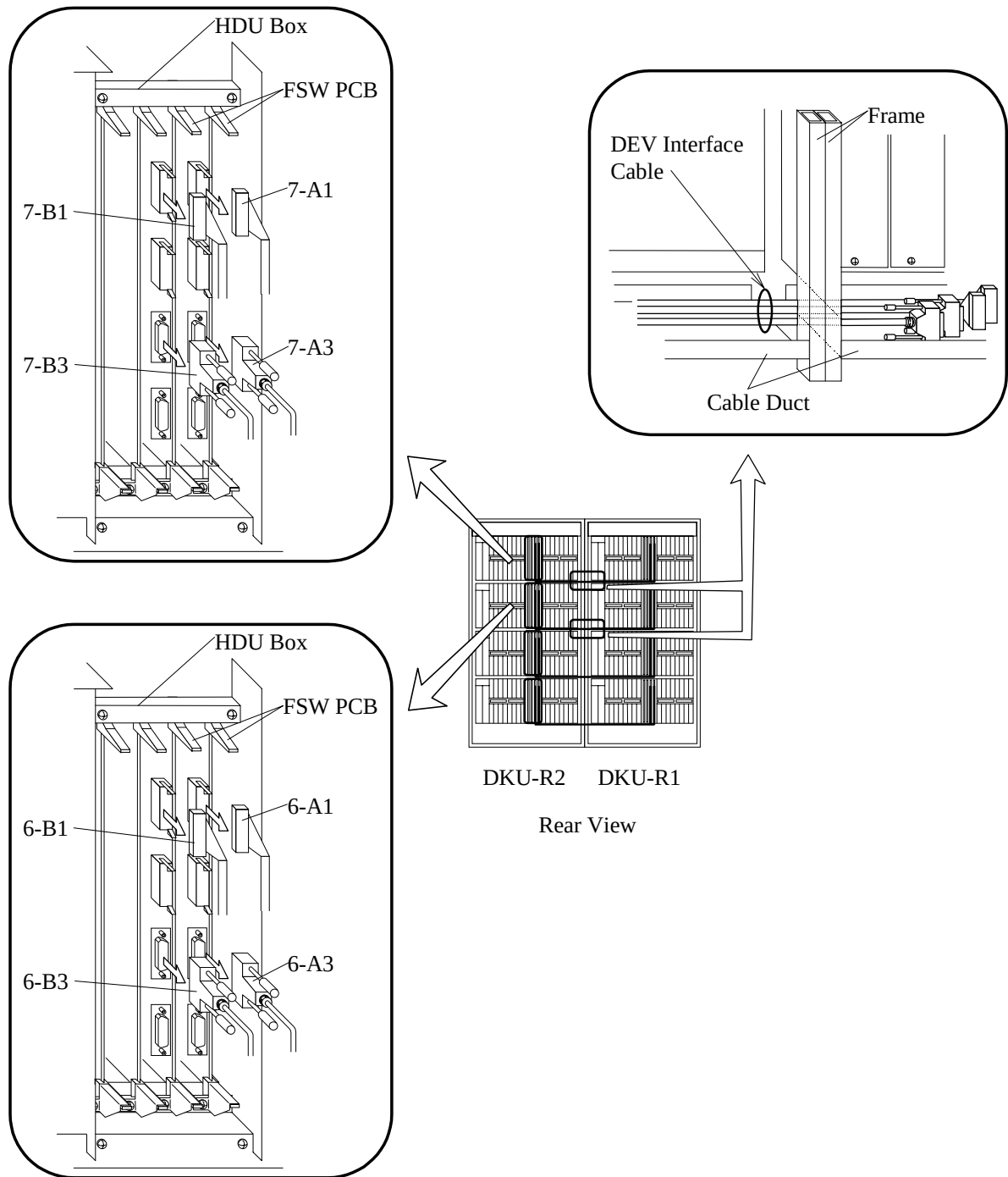


Fig. 4.1.8-25 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

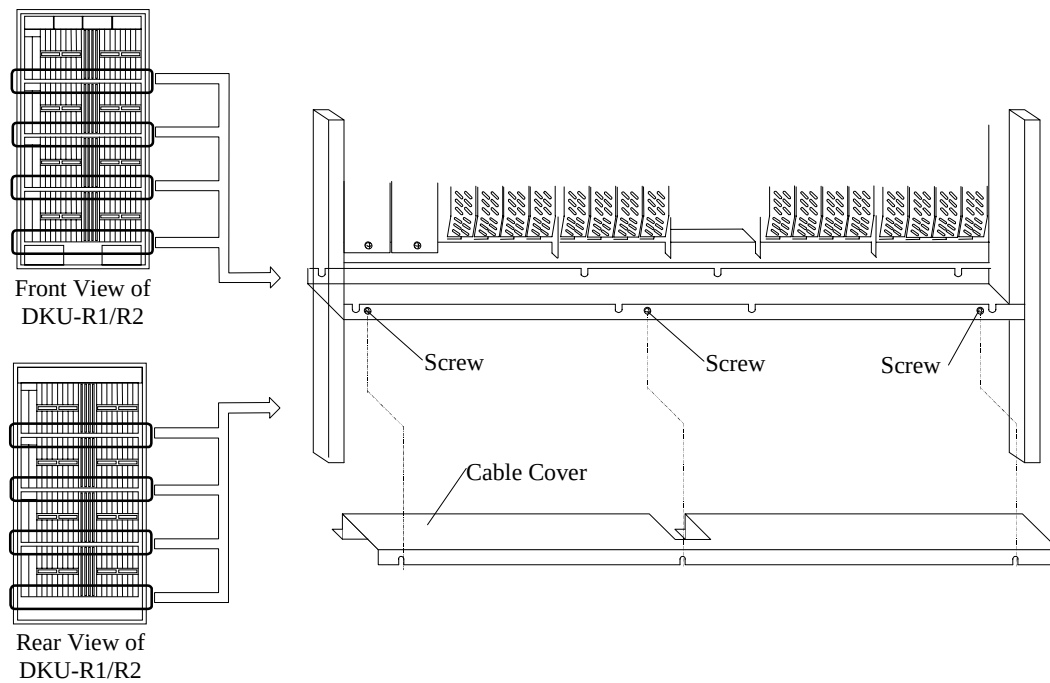


Fig. 4.1.8-26 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

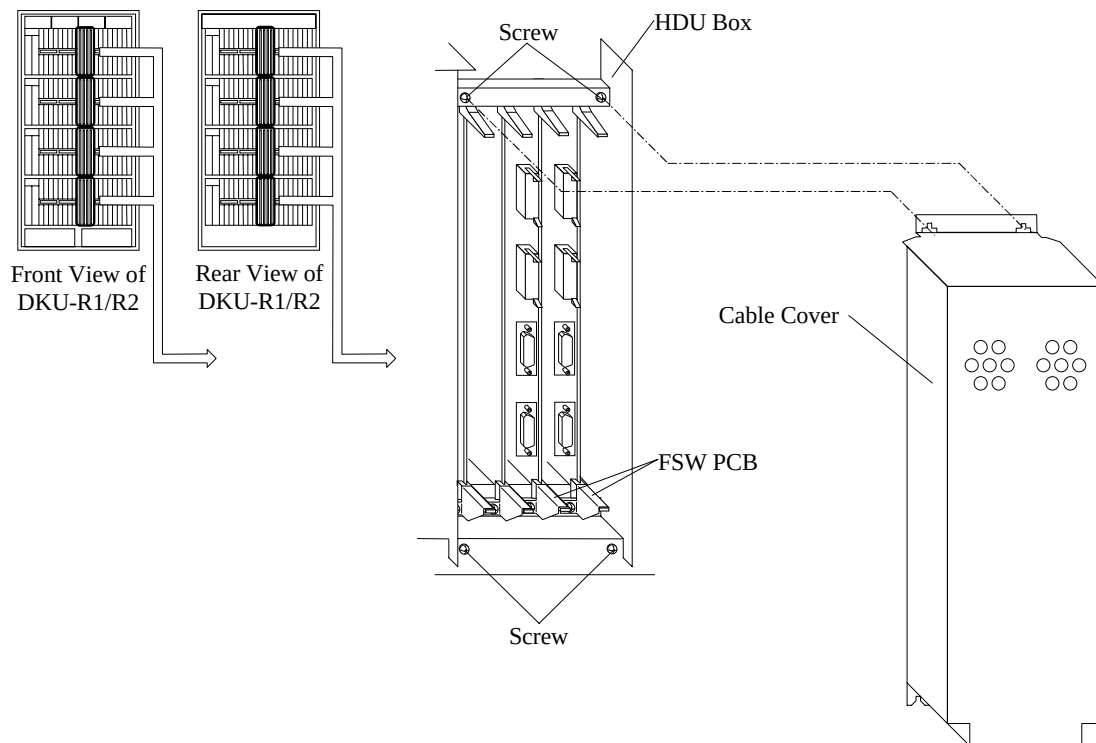


Fig. 4.1.8-27 Attachment of the Cable Cover

- e. Remove the nameplate from the R2 DKU frame.

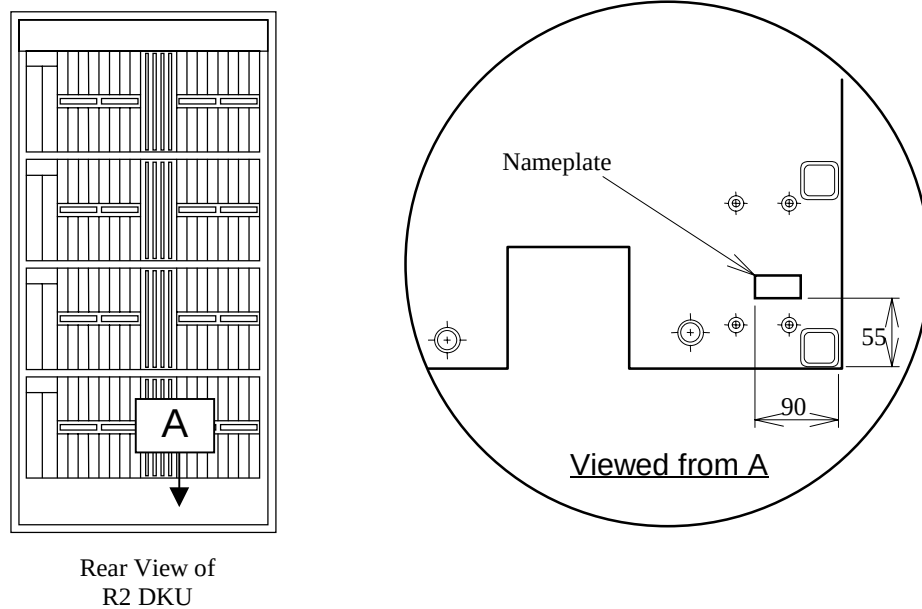


Fig. 4.1.8-28 Removal of the Nameplate

11. De-Installation Procedure of DEV Interface Cable 1 (3/3) (DKC-F460I-L1C)

- Refer to Fig. 4.1.8-29 and Fig. 4.1.8-30. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

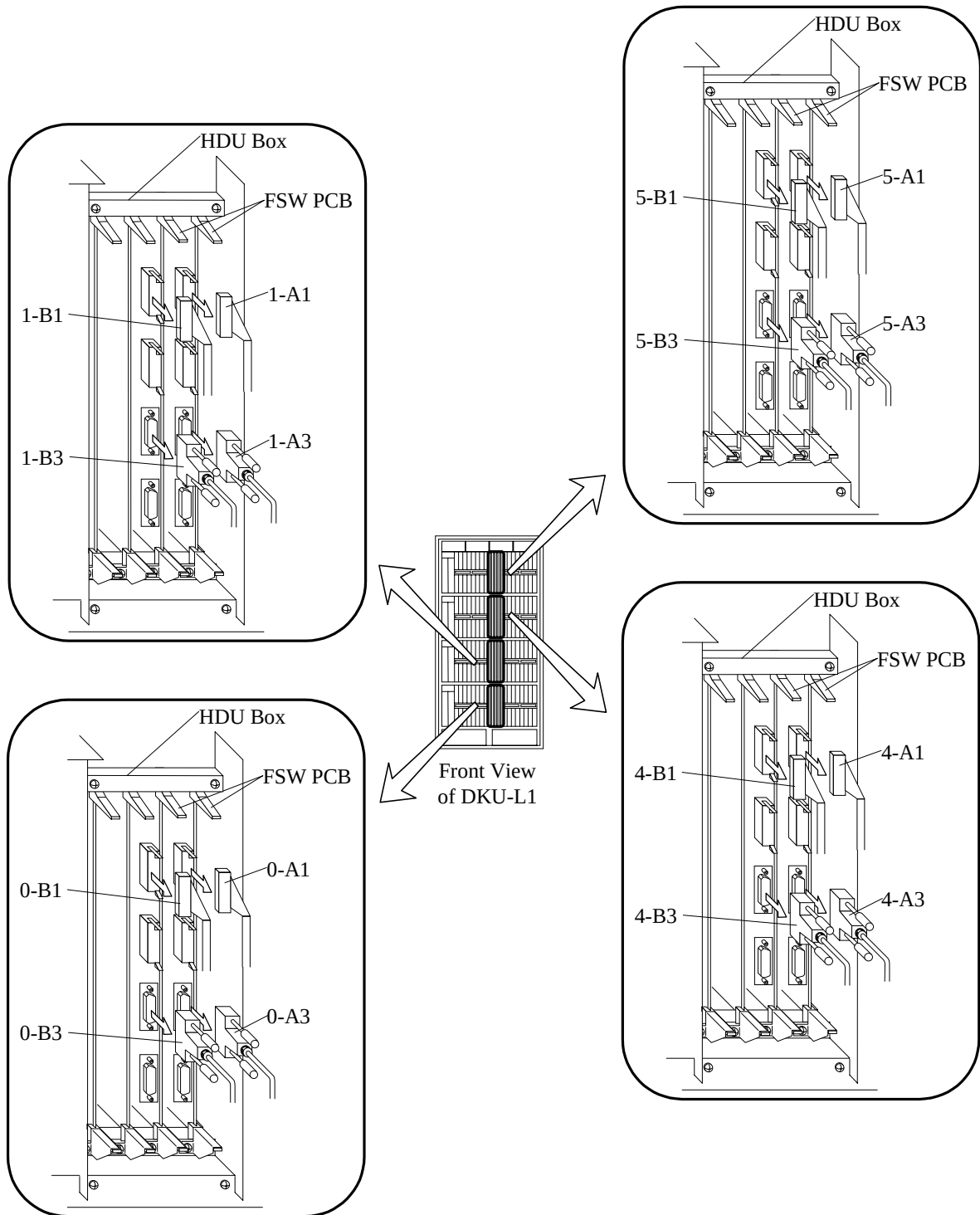


Fig. 4.1.8-29 DEV Interface Cabling Diagram (FSW PCB Side)

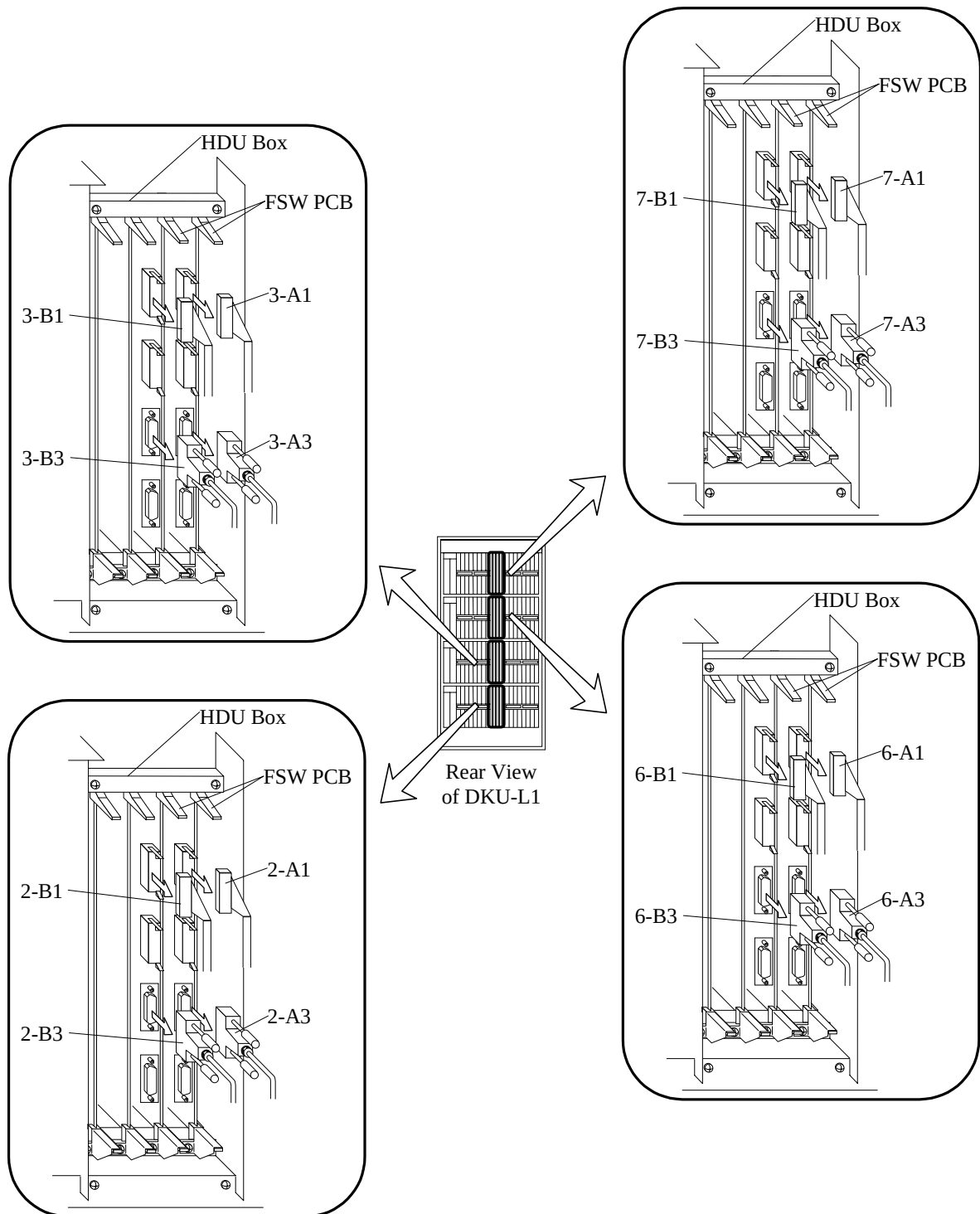


Fig. 4.1.8-30 DEV Interface Cabling Diagram (FSW PCB Side)

- c. Attach the cable covers with the screws.

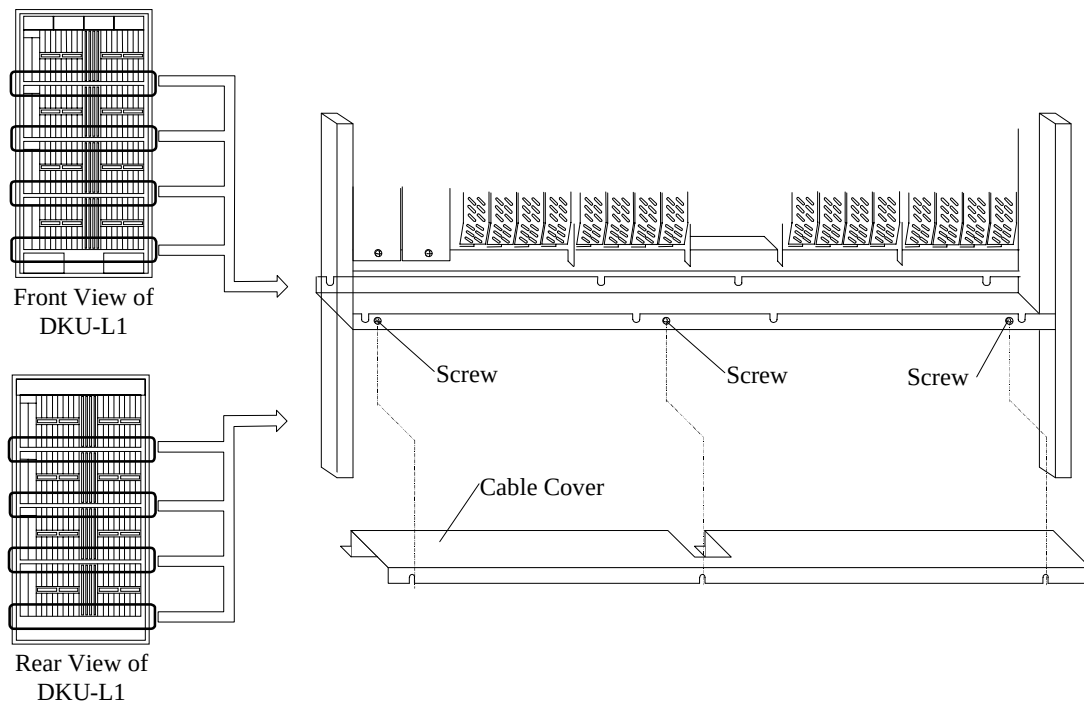


Fig. 4.1.8-31 Attachment of Cable Covers

- d. Attach the cable covers with the screws.

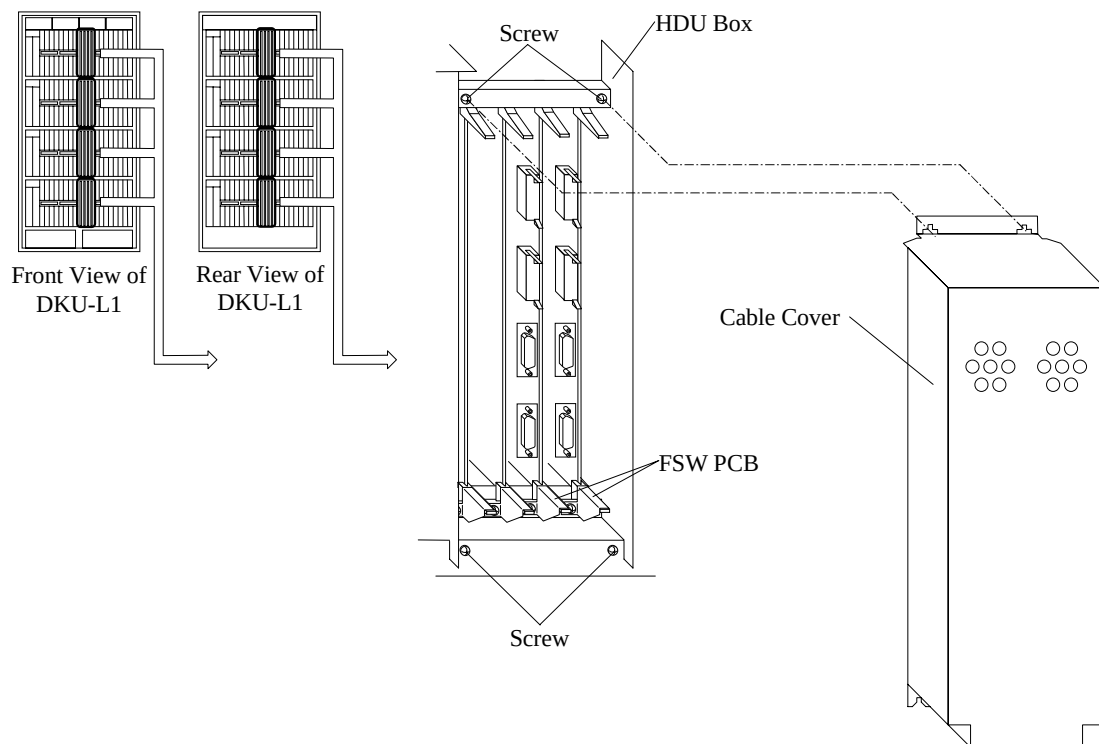


Fig. 4.1.8-32 Attachment of Cable Covers

- e. Remove the nameplate from the cover.

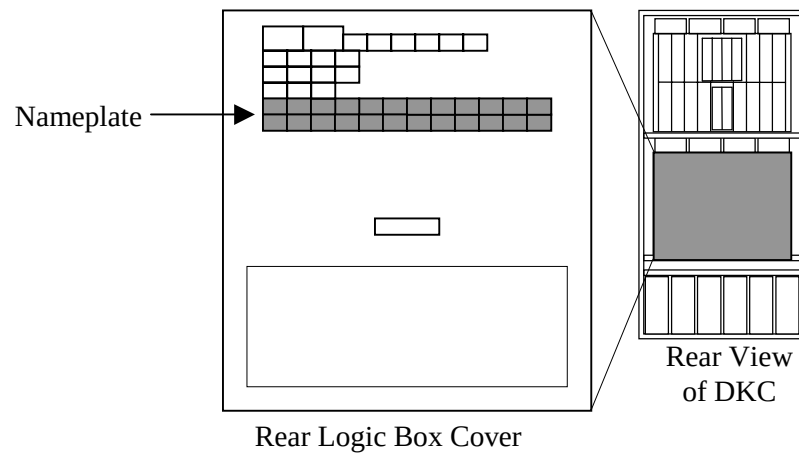


Fig. 4.1.8-33 Removal of Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.9 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2 and DKU-L2 frames (DKC-F460I-200, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

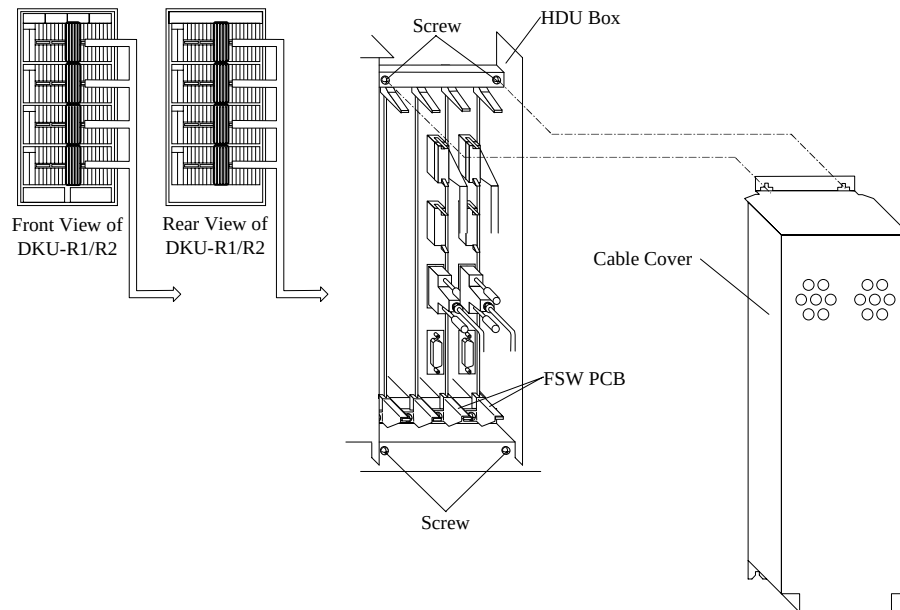


Fig. 4.1.9-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

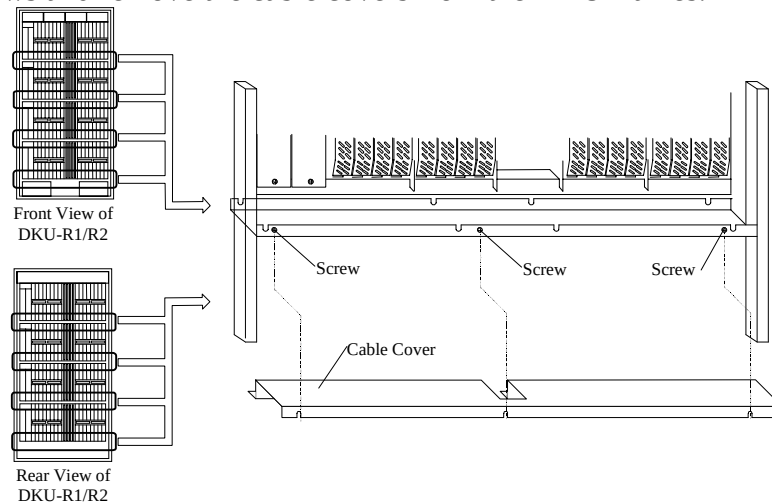


Fig.4.1.9-2 Removal of Cable Covers

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

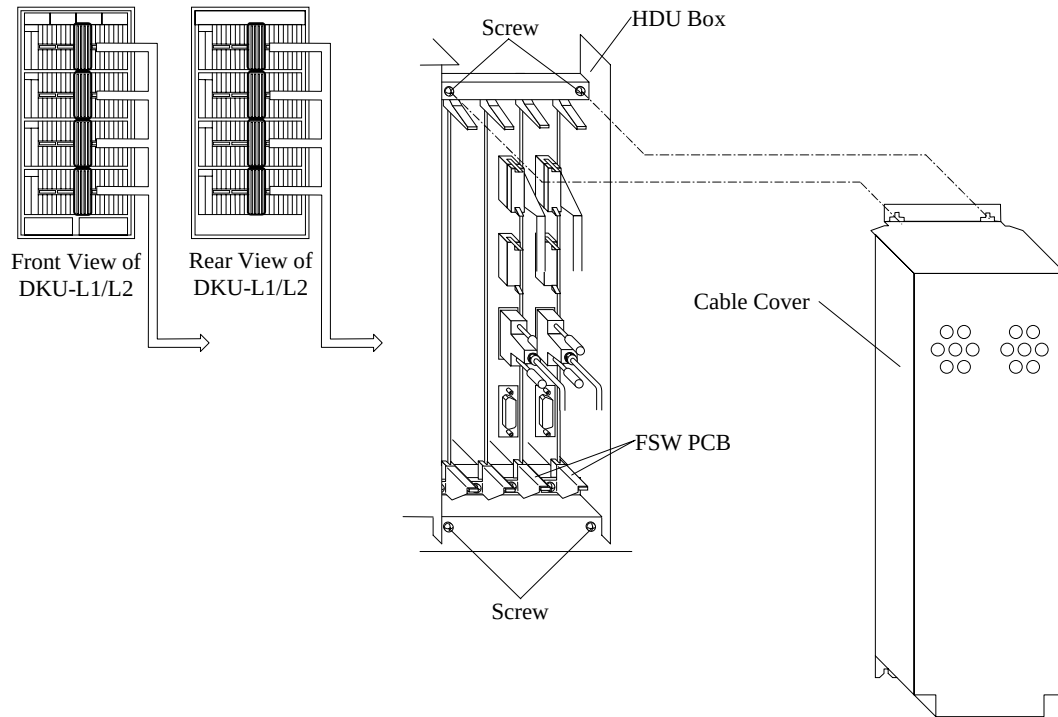


Fig. 4.1.9-3 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

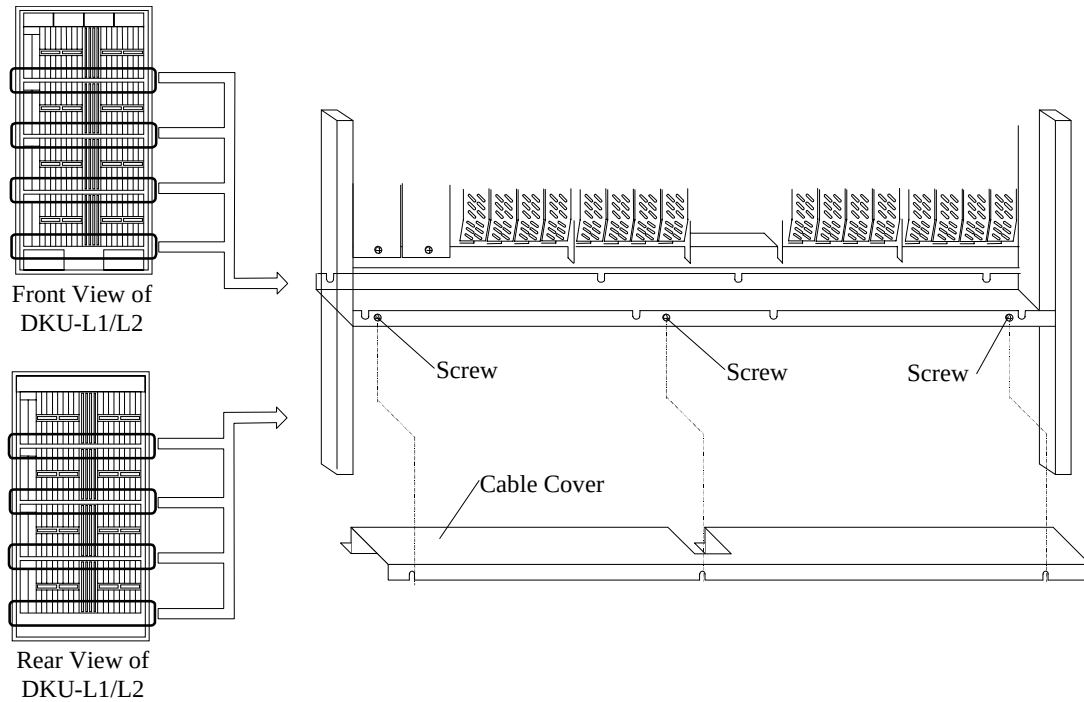
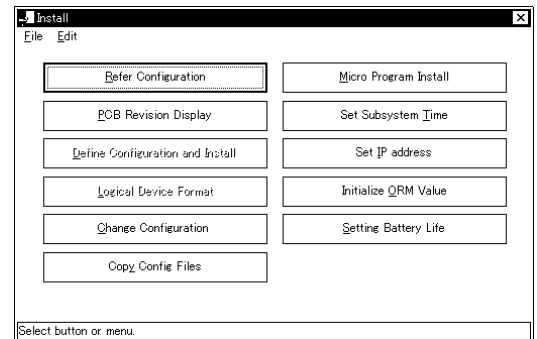


Fig. 4.1.9-4 Removal of Cable Covers

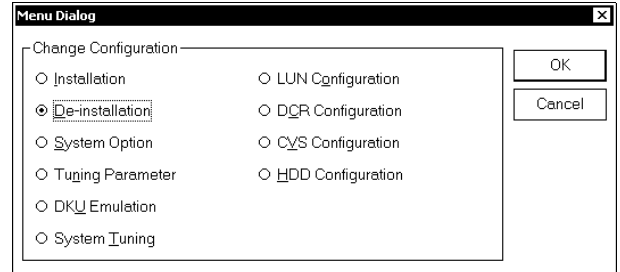
2. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

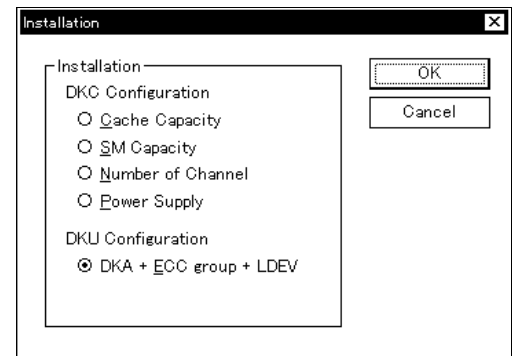
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



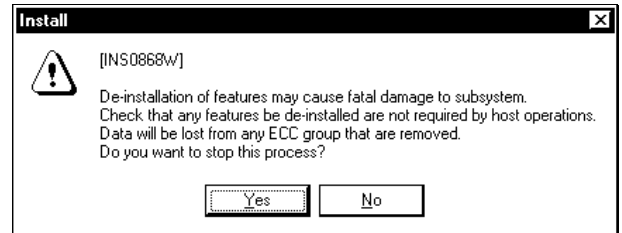
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



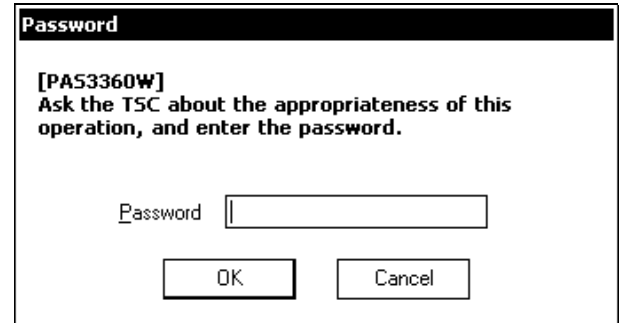
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

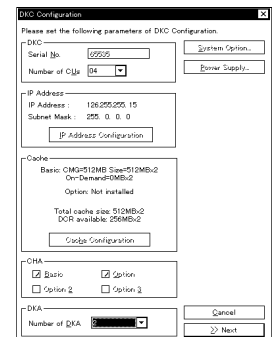
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.
Make an altered setting in which the DKU-R2 and DKU-L2 are deleted from the DKUs currently set.

Current setting	Altered setting
4DKUs (R1, L1, R2, L2)	2DKUs (R1, L1)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.

8. Change Drive Configuration Information>
Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

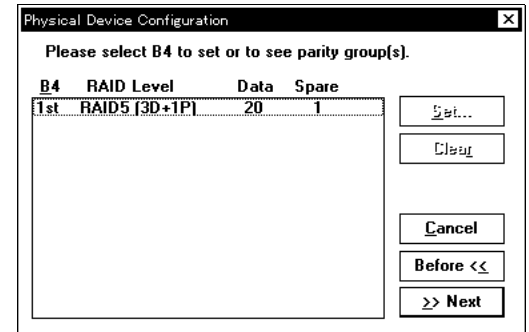
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

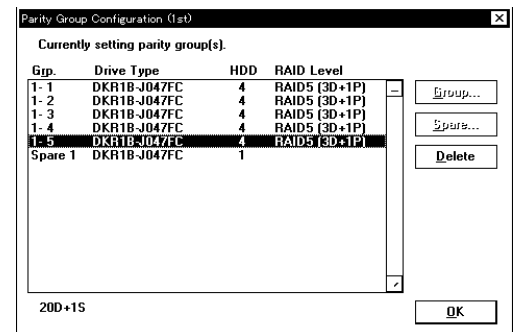
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

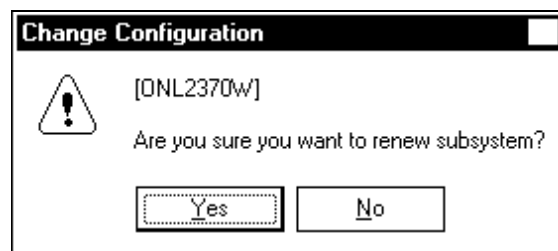


3. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

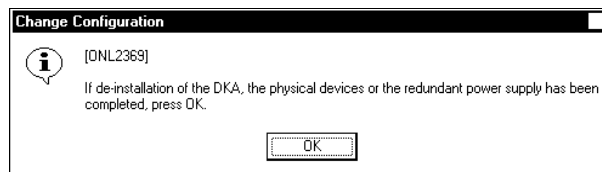
When [No] is selected (CL), returns to [INST04-DKA-1770](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



4. De-Installation Procedure of HDD Canister

4-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.9-1.

Table 4.1.9-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.9-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		062	063	062	047*2	126	127	126	111
		060	061	060	044	124	125	124	109
		058	059	058	042	122	123	122	107
		056	057	056	040	120	121	120	105
		054	055	054	038	118	119	118	103
		052	053	052	036	116	117	116	101
		050	051	050	034	114	115	114	099
		048	049	048	032	112	113	112	097
		HDU-R14				HDU-R24			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		062	063	062	047*2	126	127	126	111
		060	061	060	044	124	125	124	109
		058	059	058	042	122	123	122	107
		056	057	056	040	120	121	120	105
		054	055	054	038	118	119	118	103
		052	053	052	036	116	117	116	101
		050	051	050	034	114	115	114	099
		048	049	048	032	112	113	112	097
		HDU-R11				HDU-R21			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		030	031	030	Spare*1	094	095	094	078
		028	029	028	014	092	093	092	077
		026	027	026	012	090	091	090	075
		024	025	024	010	088	089	088	073
		022	023	022	008	086	087	086	071
		020	021	020	006	084	085	084	069
		018	019	018	004	082	083	082	067
		016	017	016	002	080	081	080	065
		HDU-R10				HDU-R20			
		P	P	P	F	P	P	P	F
		S	S	S	S	S	S	S	S
		030	031	030	Spare*1	094	095	094	078
		028	029	028	014	092	093	092	077
		026	027	026	012	090	091	090	075
		024	025	024	010	088	089	088	073
		022	023	022	008	086	087	086	071
		020	021	020	006	084	085	084	069
		018	019	018	004	082	083	082	067
		016	017	016	002	080	081	080	065
		Front View				001-127: 4HDD canisters installation order			

Front View

001-127: 4HDD canisters installation order

R2 DKU				R1 DKU				DKC		L1 DKU	L2 DKU
HDU-R27				HDU-R17							
P	P	P	P	P	P	P	P				
S	S	S	S	S	S	S	S				
126	127	124	125	062	063	060	061				
122	123	120	121	056	057	058	059				
118	119	116	117	054	055	052	053				
114	115	112	113	050	051	048	049				
110	111	108	109	046	047*2	044	045				
106	107	104	105	042	043	040	041				
102	103	100	101	038	039	036	037				
098	099	096	097	034	035	032	033				
HDU-R26				HDU-R16							
P	P	P	P	P	P	P	P				
S	S	S	S	S	S	S	S				
126	127	124	125	062	063	060	061				
122	123	120	121	056	057	058	059				
118	119	116	117	054	055	052	053				
114	115	112	113	050	051	048	049				
110	111	108	109	046	047*2	044	045				
106	107	104	105	042	043	040	041				
102	103	100	101	038	039	036	037				
098	099	096	097	034	035	032	033				
HDU-R23				HDU-R13							
P	P	P	P	P	P	P	P				
S	S	S	S	S	S	S	S				
094	095	092	093	030	031	028	029				
090	091	088	089	026	027	024	025				
086	087	084	085	022	023	020	021				
082	083	080	081	018	019	016	017				
078	079	076	077	015	Spare*1	013	014				
074	075	072	073	011	012	009	010				
070	071	068	069	007	008	005	006				
066	067	064	065	003	004	001	002				
HDU-R22				HDU-R12							
P	P	P	P	P	P	P	P				
S	S	S	S	S	S	S	S				
094	095	092	093	030	031	028	029				
090	091	088	089	026	027	024	025				
086	087	084	085	022	023	020	021				
082	083	080	081	018	019	016	017				
078	079	076	077	015	Spare*1	013	014				
074	075	072	073	011	012	009	010				
070	071	068	069	007	008	005	006				
066	067	064	065	003	004	001	002				

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.9-5 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.9-1.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU				
HDU-L25				HDU-L15										
S		P		S		P					S		P	
253		254		189		190					173		174*2	
249		250		185		186					171		172	
245		246		181		182					169		170	
239		240		177		178					167		168	
W		S		175		176					165		166	
235		236		173		174					163		164	
231		232		169		170					161		162	
227		228		165		166					159		160	
223		224		161		162								
HDU-L24				HDU-L14										
S		P		S		P					S		P	
253		254		189		190					173		174*2	
249		250		185		186					171		172	
245		246		181		182					169		170	
239		240		177		178					167		168	
W		S		175		176					165		166	
235		236		173		174					163		164	
231		232		169		170					161		162	
227		228		165		166					159		160	
223		224		161		162								
HDU-L21				HDU-L11										
S		P		S		P					S		P	
221		222		157		158					142		Spare*1	
219		220		155		156					140		141	
217		218		153		154					138		139	
215		216		151		152					136		137	
213		214		149		150					134		135	
211		212		147		148					132		133	
209		210		145		146					130		131	
207		208		143		144					128		129	
W		S		141		142					126		127	
205		206		139		140					124		125	
203		204		137		138					122		123	
201		202		135		136					120		121	
199		200		133		134					118		119	
197		198		131		132					116		117	
195		196		129		130					114		115	
193		194		127		128					112		113	
191		192		125		126					110		111	
HDU-L20				HDU-L10										
S		P		S		P					S		P	
221		222		157		158					142		Spare*1	
219		220		155		156					140		141	
217		218		153		154					138		139	
215		216		151		152					136		137	
213		214		149		150					134		135	
211		212		147		148					132		133	
209		210		145		146					130		131	
207		208		143		144					128		129	
W		S		141		142					126		127	
205		206		139		140					124		125	
203		204		137		138					122		123	
201		202		135		136					120		121	
199		200		133		134					118		119	
197		198		131		132					116		117	
195		196		129		130					114		115	
193		194		127		128					112		113	
191		192		125		126					110		111	

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.9-2.

Table 4.1.9-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

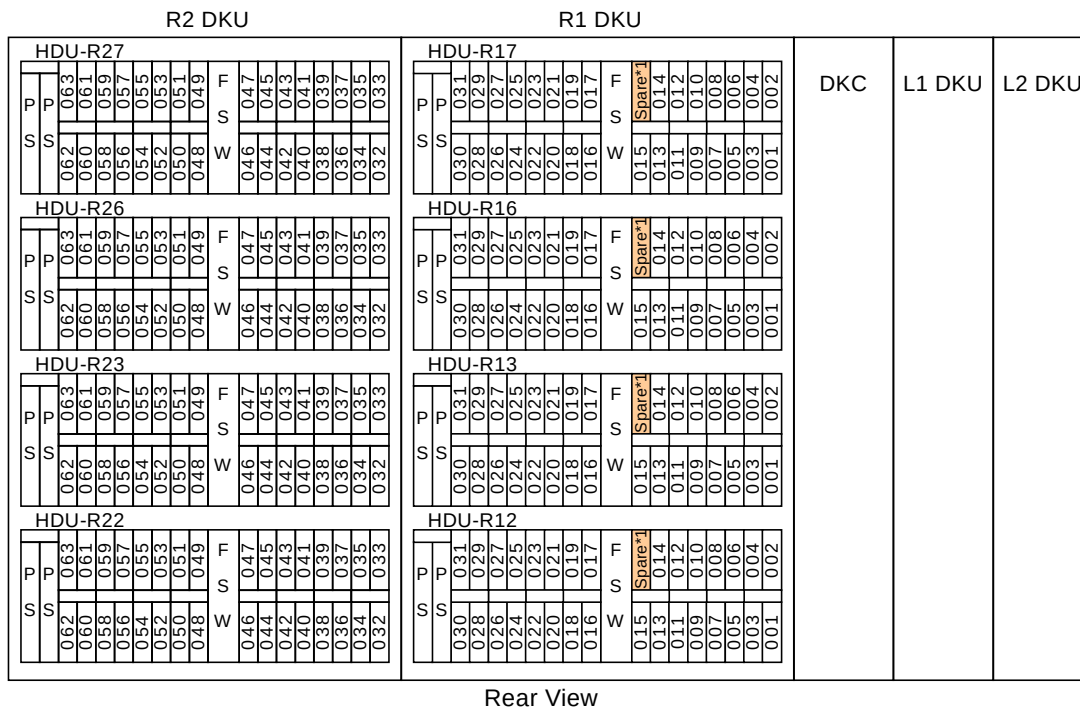
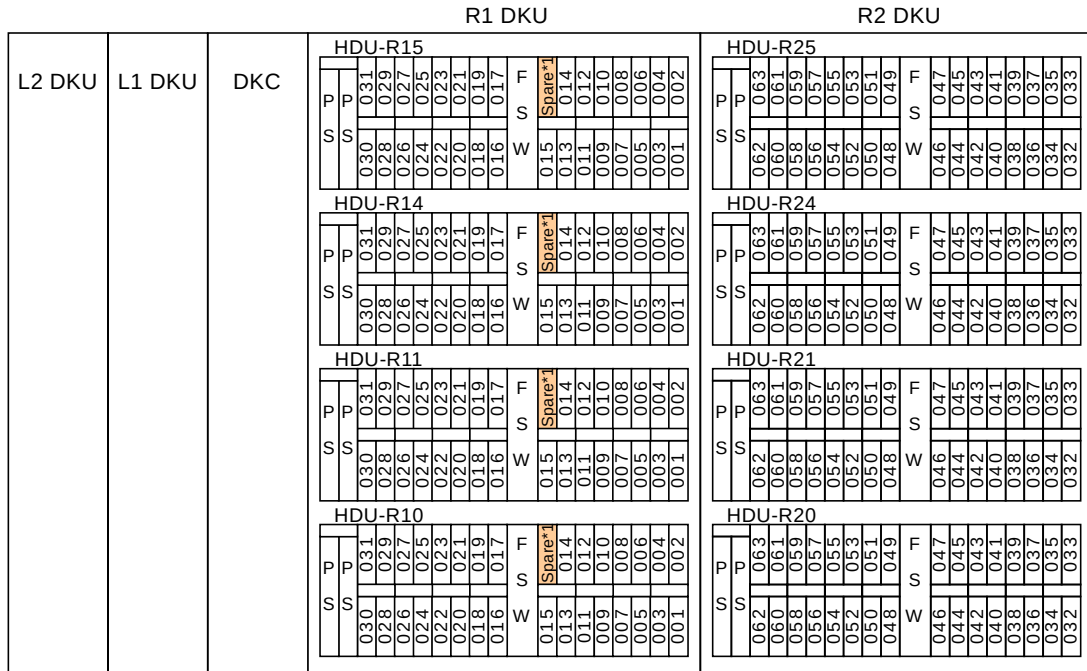
Table 4.1.9-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive



*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.9-6 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.9-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU			
HDU-L25				HDU-L15									
S	S	P	P	125	126	123	124	093	094	078	Spare*1	076	077
				121	122	119	120	089	090	074	075		
S	S	P	P	117	118	115	116	087	088	072	073	070	071
				113	114	111	112	085	086	068	069		
S	S	P	P	109	110	107	108	083	084	066	067	064	065
				105	106	103	104	081	082	062	063		
S	S	P	P	101	102	099	100	079	080	059	060	056	057
				097	098	095	096	055	056	052	053		
S	S	P	P	093	094	091	092	077	078	051	052	048	049
				089	090	074	075	047	048	043	044		
S	S	P	P	087	088	085	086	072	073	042	043	038	039
				083	084	070	071	036	037	032	033		
S	S	P	P	081	082	079	080	067	068	031	032	027	028
				077	078	065	066	026	027	022	023		
S	S	P	P	079	080	076	077	064	065	021	022	017	018
				075	076	062	063	016	017	012	013		
S	S	P	P	073	074	071	072	060	061	011	012	007	008
				069	070	057	058	006	007	002	003		
S	S	P	P	067	068	065	066	054	055	001	002	000	001
				063	064	051	052	000	001	000	001		
S	S	P	P	061	062	059	060	049	050	000	001	000	001
				057	058	047	048	000	001	000	001		
S	S	P	P	055	056	053	054	043	044	000	001	000	001
				051	052	041	042	000	001	000	001		
S	S	P	P	053	054	051	052	041	042	000	001	000	001
				049	050	039	040	000	001	000	001		
S	S	P	P	047	048	045	046	035	036	000	001	000	001
				043	044	033	034	000	001	000	001		
S	S	P	P	041	042	039	040	029	030	000	001	000	001
				037	038	027	028	000	001	000	001		
S	S	P	P	035	036	033	034	023	024	000	001	000	001
				031	032	021	022	000	001	000	001		
S	S	P	P	029	030	027	028	017	018	000	001	000	001
				025	026	015	016	000	001	000	001		
S	S	P	P	023	024	021	022	011	012	000	001	000	001
				019	020	009	010	000	001	000	001		
S	S	P	P	017	018	015	016	005	006	000	001	000	001
				013	014	003	004	000	001	000	001		
S	S	P	P	011	012	009	010	001	002	000	001	000	001
				007	008	001	002	000	001	000	001		
S	S	P	P	005	006	003	004	000	001	000	001	000	001
				001	002	000	001	000	001	000	001		
S	S	P	P	003	004	001	002	000	001	000	001	000	001
				001	002	000	001	000	001	000	001		
S	S	P	P	001	002	000	001	000	001	000	001	000	001
				000	001	000	001	000	001	000	001		

Front View

064-126: 8HDD canisters installation ord

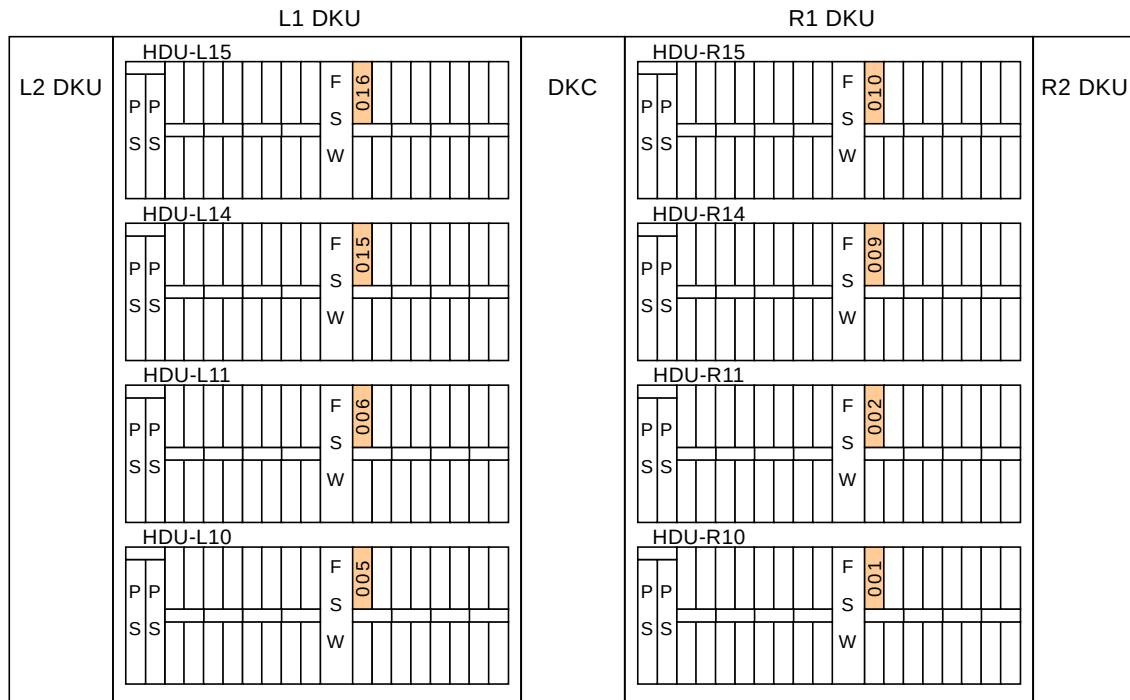
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU						
R2 DKU	R1 DKU	DKC	HDU-L17				HDU-L27			
			P		S		P		S	
			094		093		126		125	
			092		091		124		123	
			090		089		122		121	
			088		087		120		119	
			086		085		118		117	
			084		083		116		115	
			082		081		114		113	
			080		079		112		111	
			F		W		F		W	
			Spare*1				S			
078		076		110		109				
077		075		108		107				
075		074		106		105				
073		072		104		103				
071		070		102		101				
069		068		100		099				
067		066		098		097				
065		064		096		095				
HDU-L16				HDU-L26						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
F		W		F		W				
Spare*1				S						
078		076		110		109				
077		075		108		107				
075		074		106		105				
073		072		104		103				
071		070		102		101				
069		068		100		099				
067		066		098		097				
065		064		096		095				
HDU-L13				HDU-L23						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
F		W		F		W				
Spare*1				S						
078		076		110		109				
077		075		108		107				
075		074		106		105				
073		072		104		103				
071		070		102		101				
069		068		100		099				
067		066		098		097				
065		064		096		095				
HDU-L12				HDU-L22						
P		S		P		S				
094		093		126		125				
092		091		124		123				
090		089		122		121				
088		087		120		119				
086		085		118		117				
084		083		116		115				
082		081		114		113				
080		079		112		111				
F		W		F		W				
Spare*1				S						
078		076		110		109				
077		075		108		107				
075		074		106		105				
073		072		104		103				
071		070		102		101				
069		068		100		099				
067		066		098		097				
065		064		096		095				
Rear View										

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

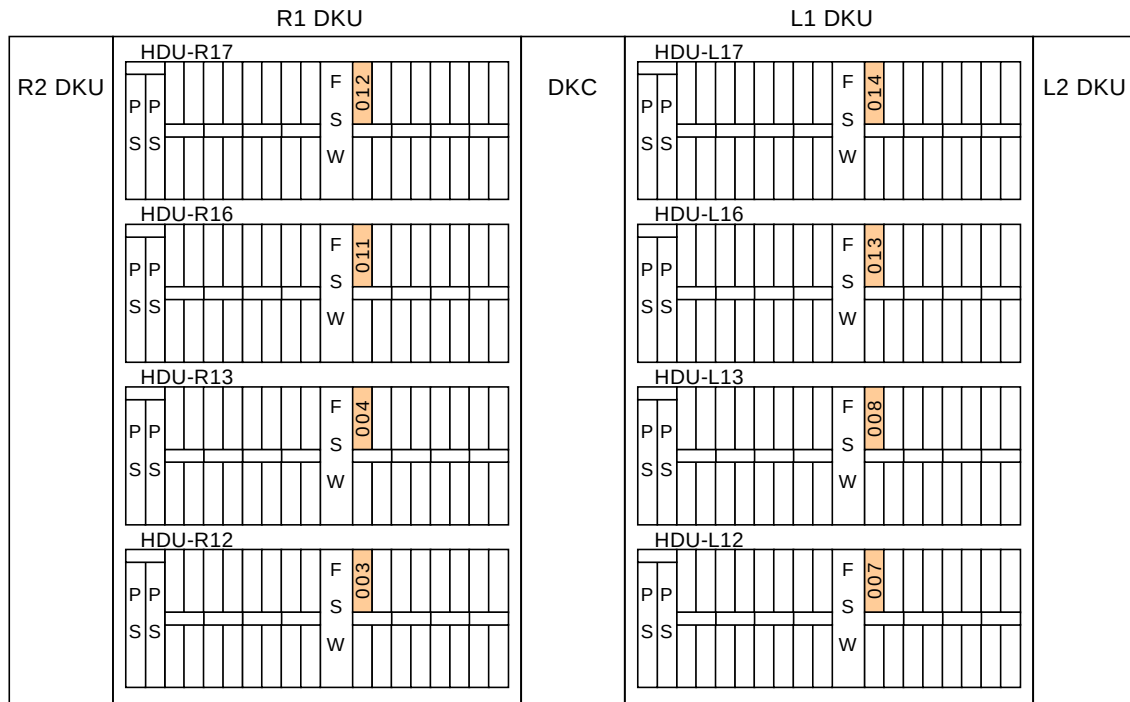


Fig. 4.1.9-7 Spare Drive Expansion Sequence

4-2 Confirmation of Shut Down LED.

a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

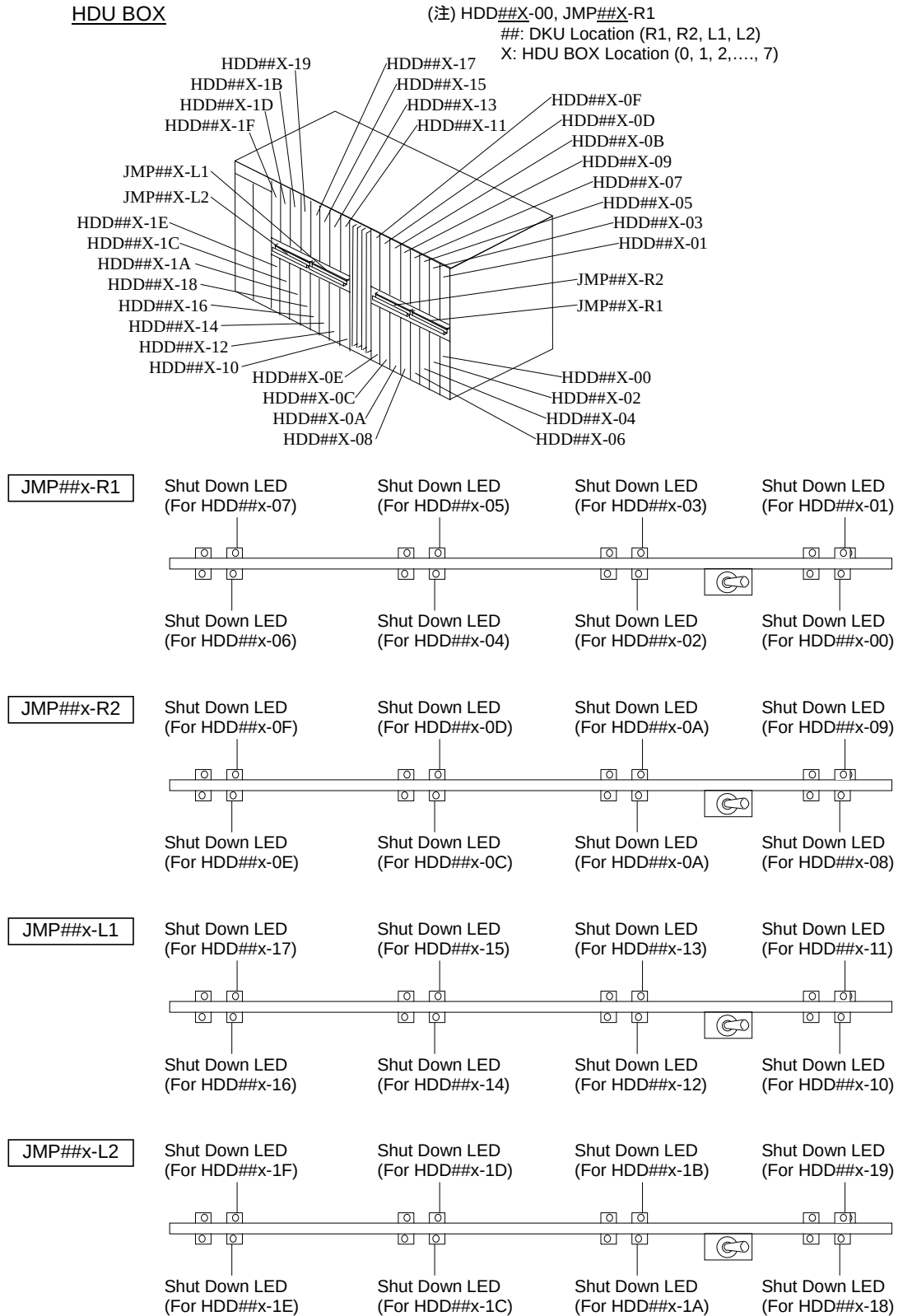


Fig. 4.1.9-8 Location of Shut Down LED

4-3 De-installation of the HDD canister.

**CAUTION**

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

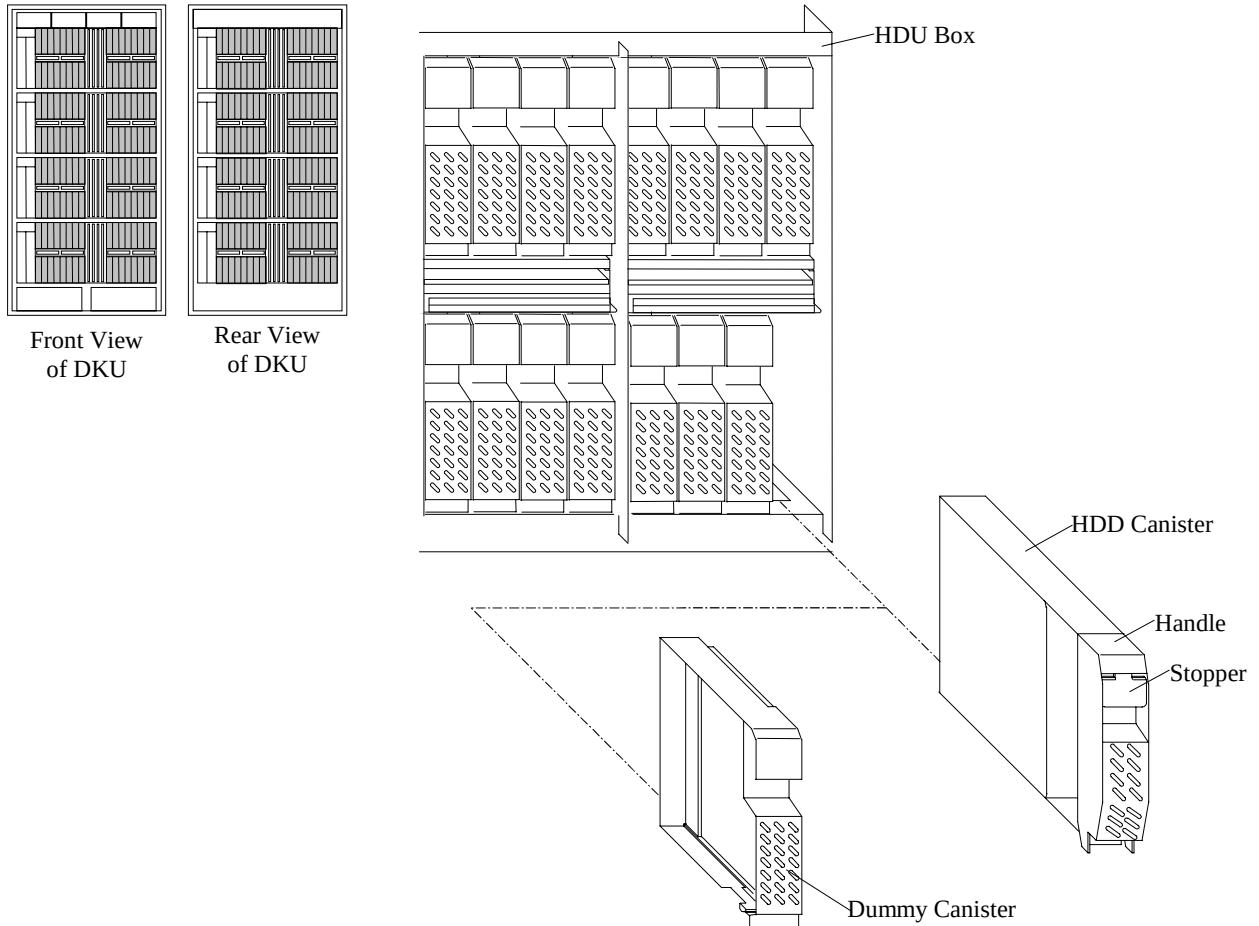
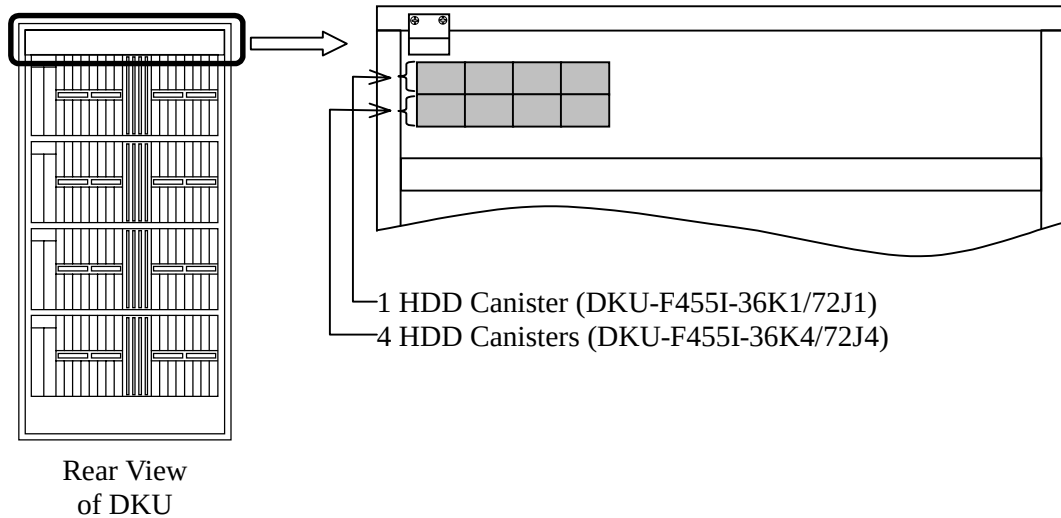


Fig. 4.1.9-9 De-Installation of HDD Canister

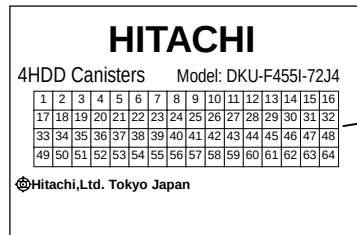
4-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.9-10 Removal of Nameplate

5. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-R10-R17 and HDU-R20-R27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-R1 frame referring to figures 4.1.9-11 and 4.1.9-12.

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

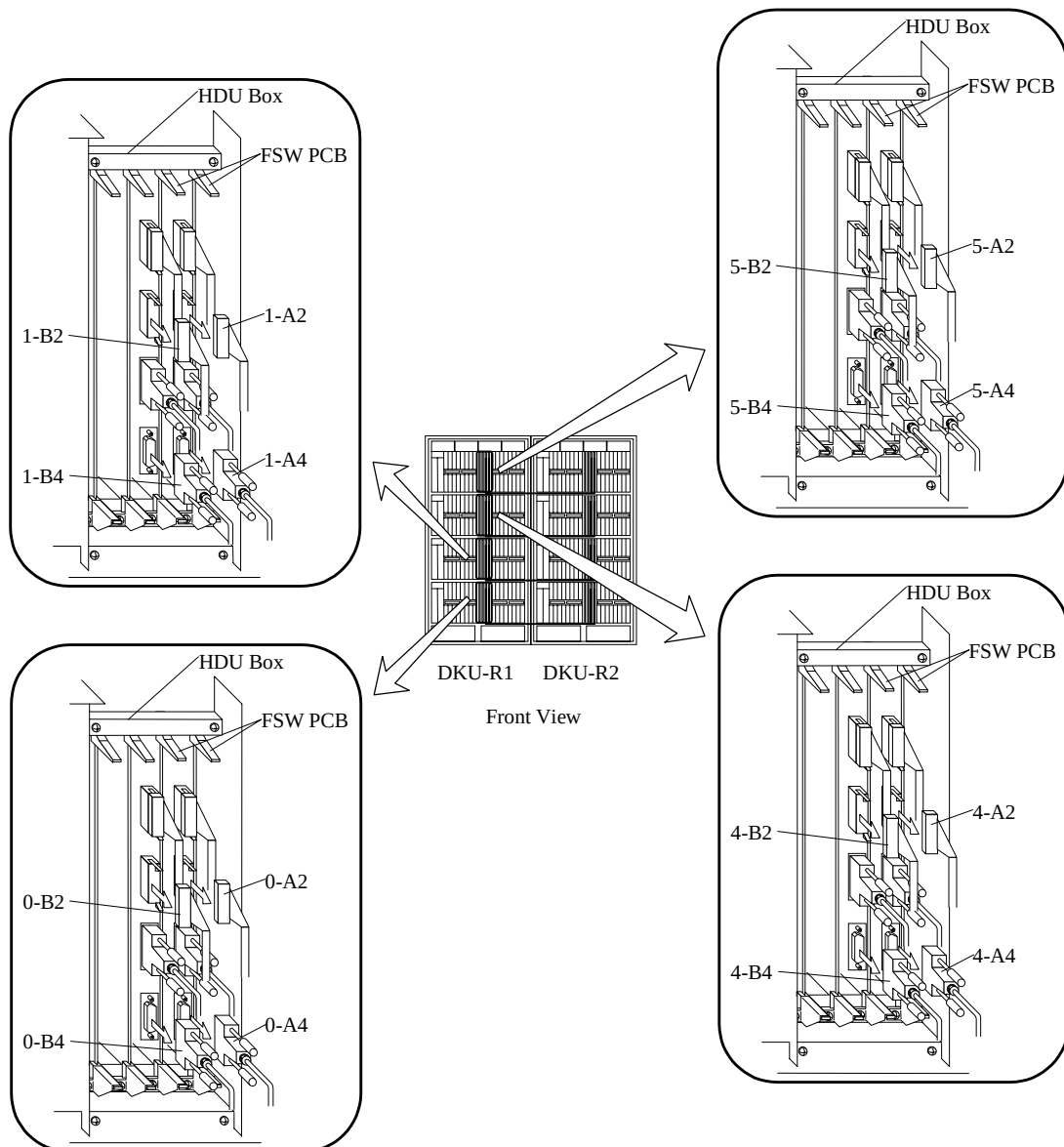


Fig. 4.1.9-11 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

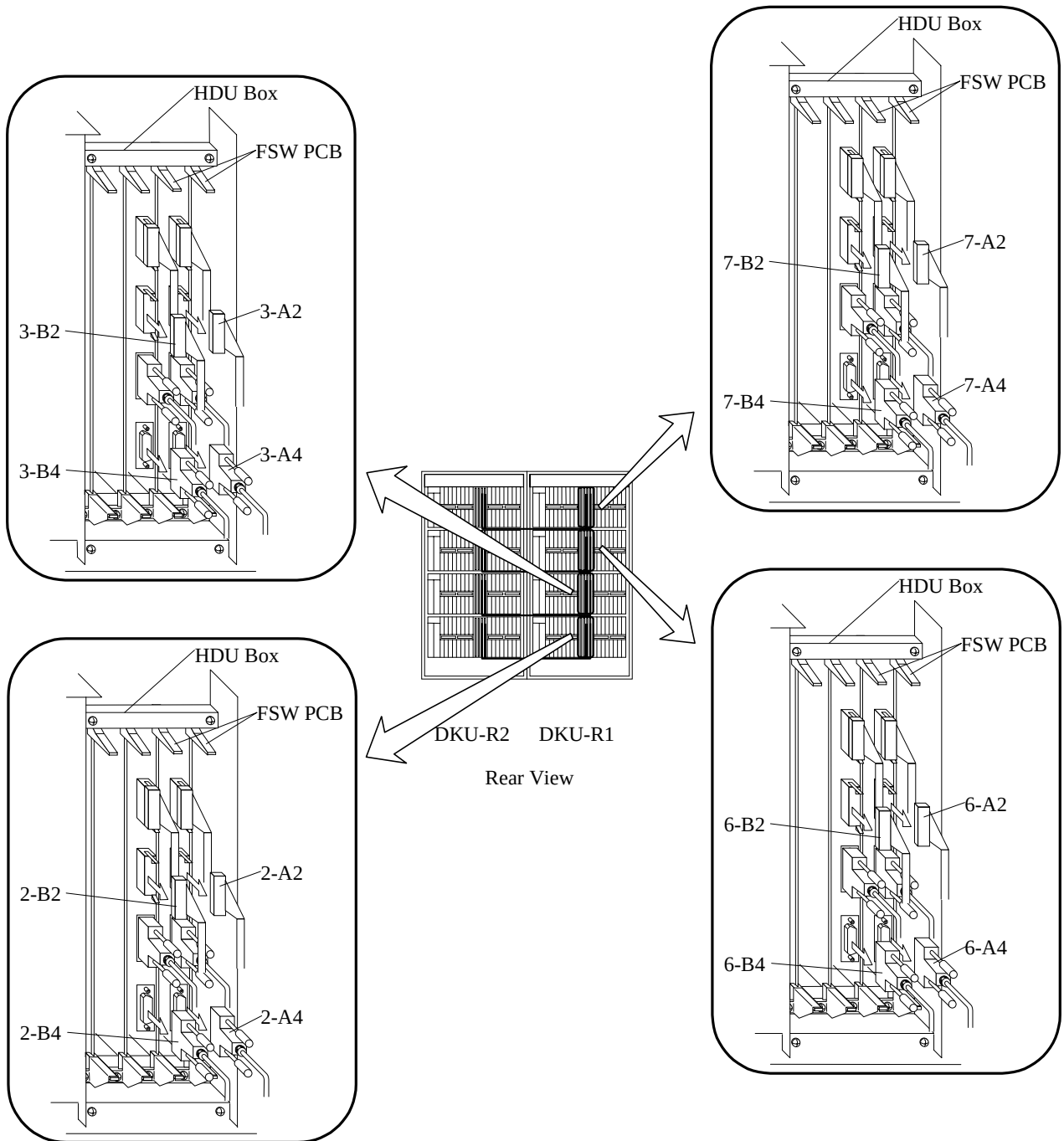


Fig. 4.1.9-12 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-L1 frame referring to figures 4.1.9-13 and 4.1.9-14.

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

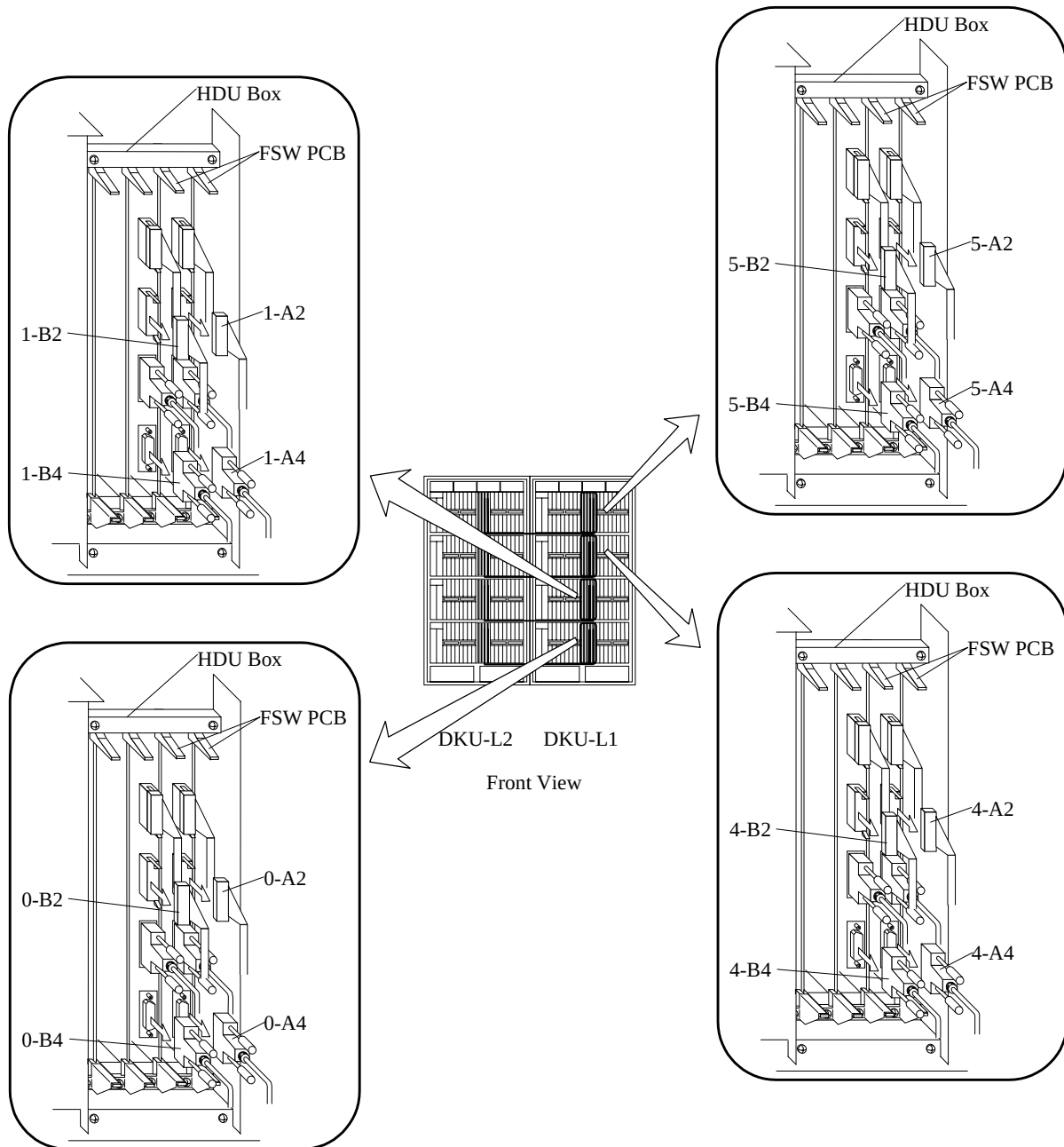


Fig. 4.1.9-13 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

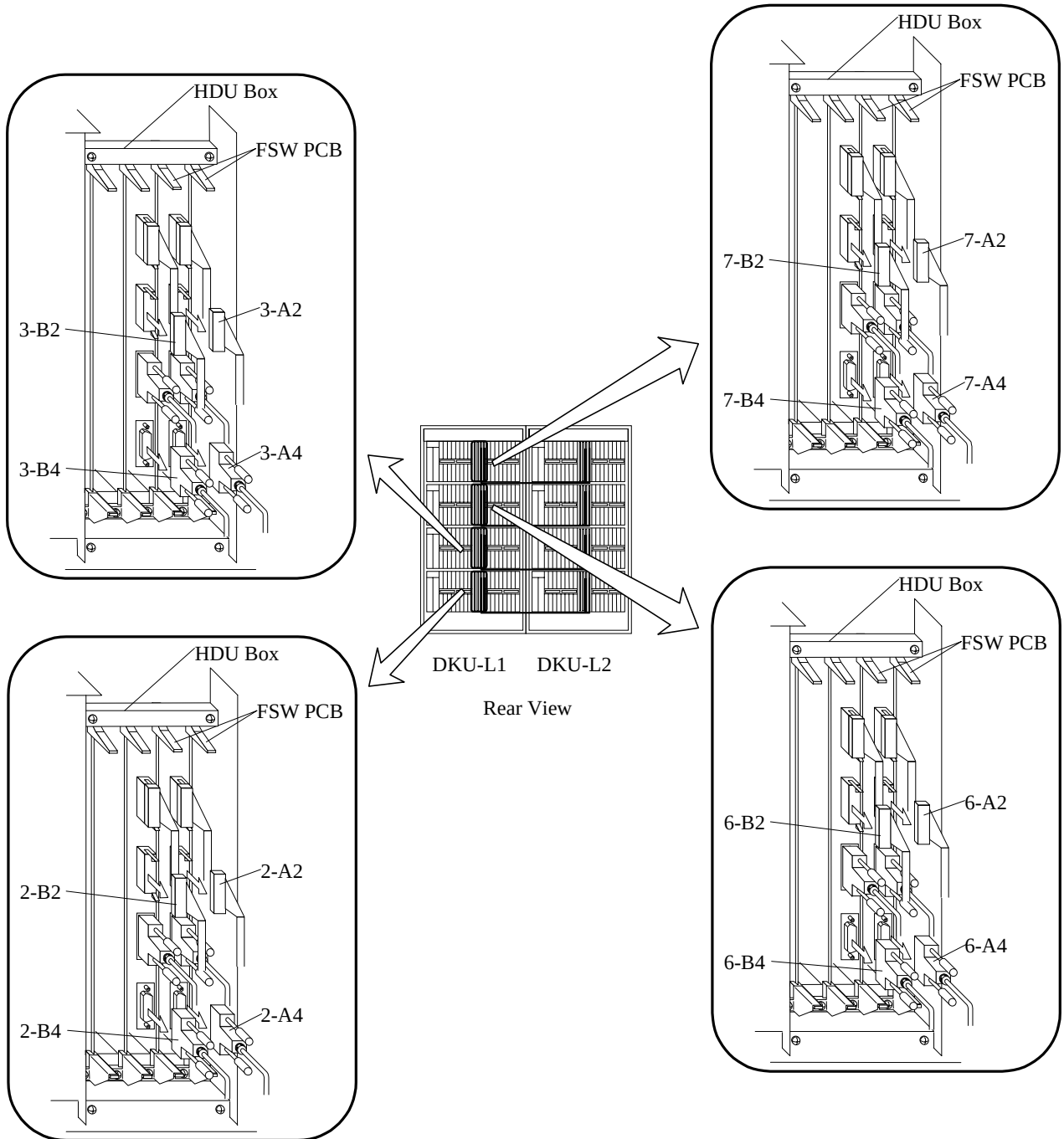


Fig. 4.1.9-14 Connection of the DEV Interface Cables

6. De-Installation Procedure of Disk Adapter

When the additional disk adapter is not to be removed, go to Step 7, "SVP post procedure".

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.9-15) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

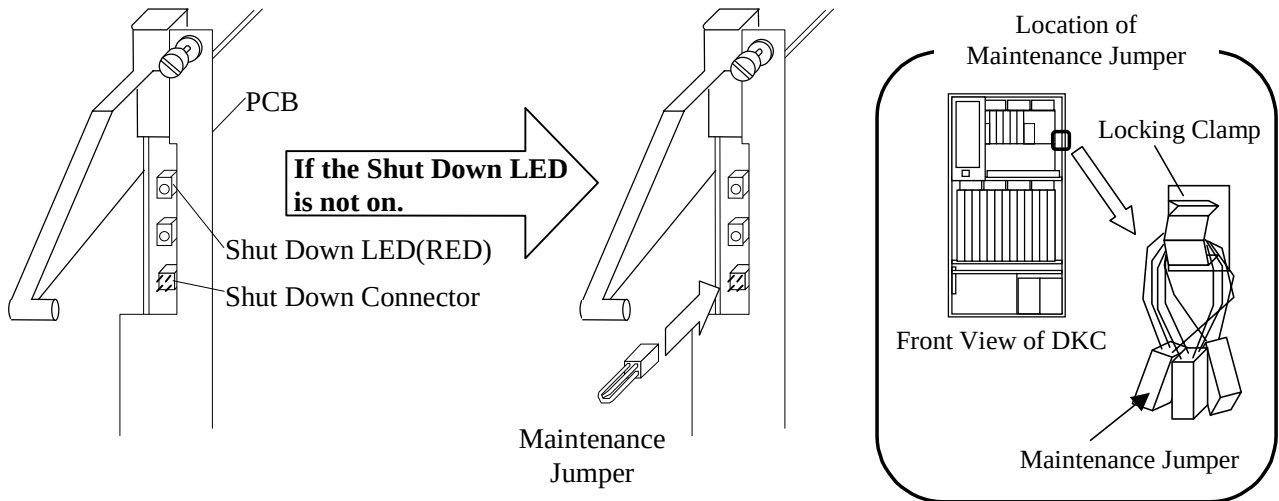


Fig. 4.1.9-15 Shut Down LED

Table 4.1.9-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

6-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

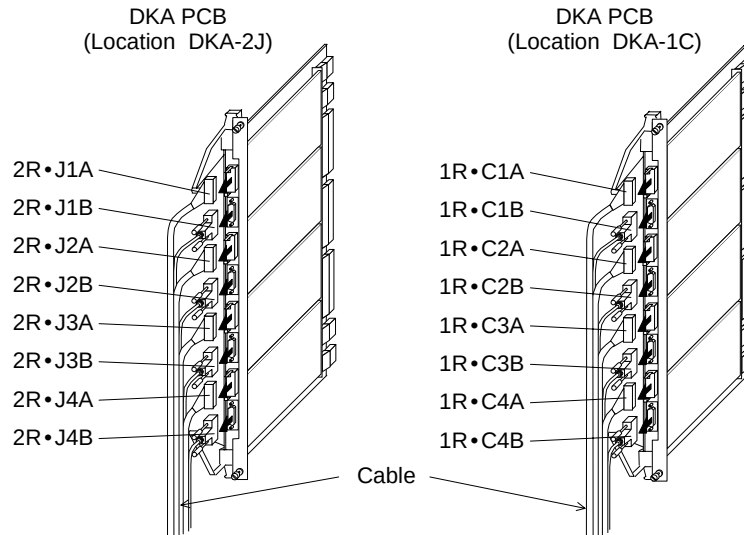


Fig. 4.1.9-16 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

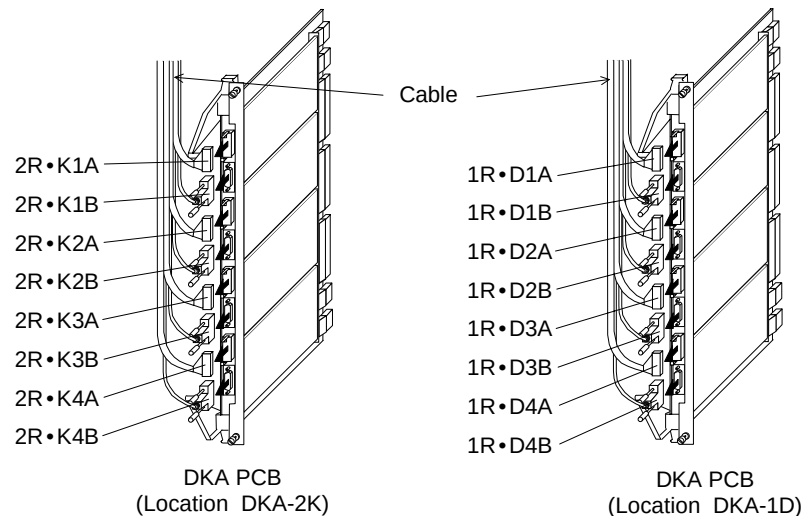


Fig. 4.1.9-17 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

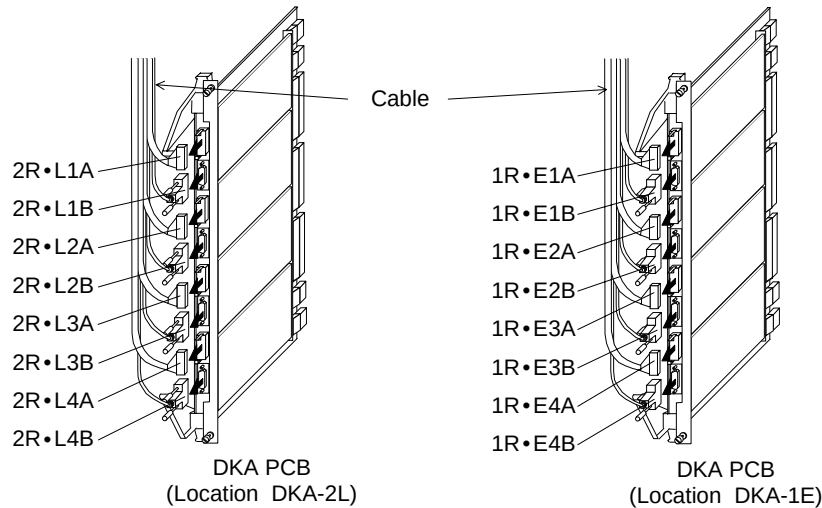


Fig.4.1.9-18 Disconnection of DEV Interface Cable (Add.3)

6-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.9-19.
b. Attach the dummy plates referring to Fig. 4.1.9-20.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

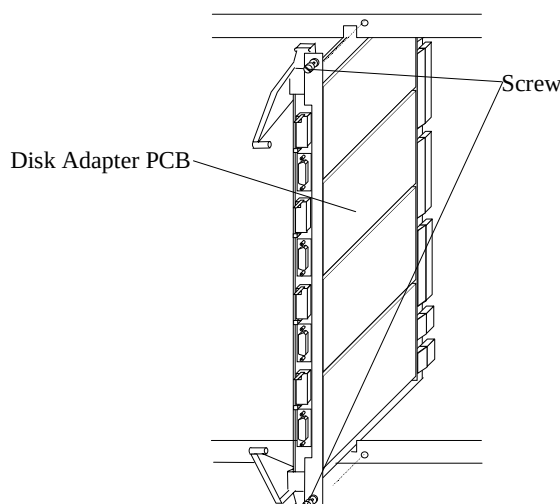


Fig. 4.1.9-19 Removal of PCB

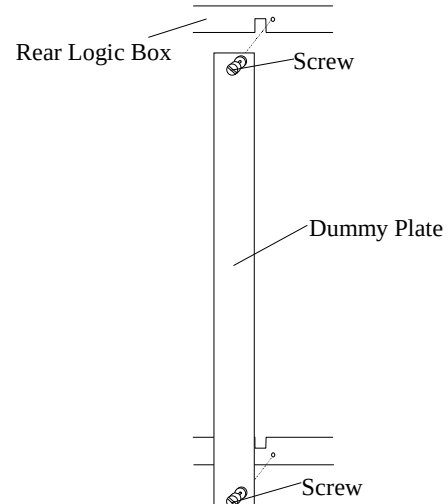


Fig. 4.1.9-20 Attachment of Dummy Plate

6-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

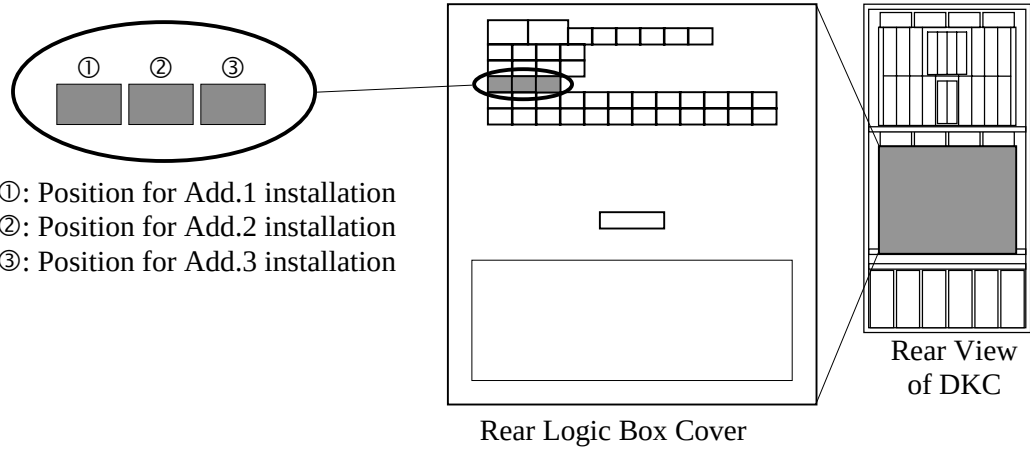
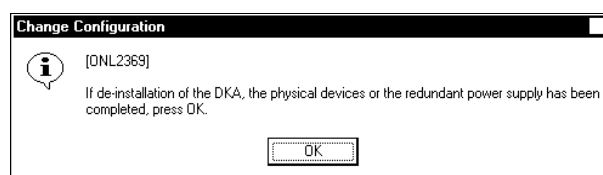


Fig. 4.1.9-21 Removal of Nameplate

7. SVP post procedure

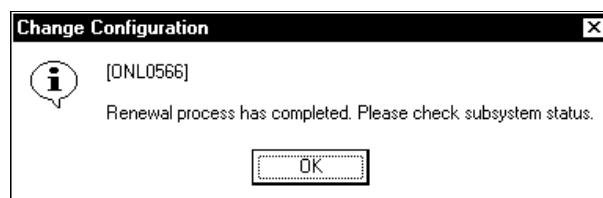
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



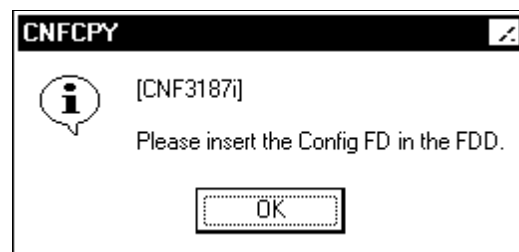
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



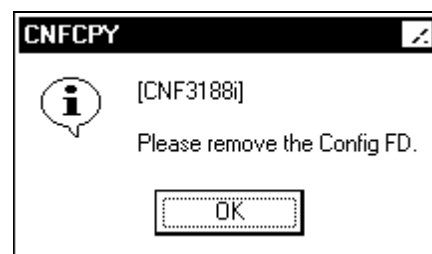
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

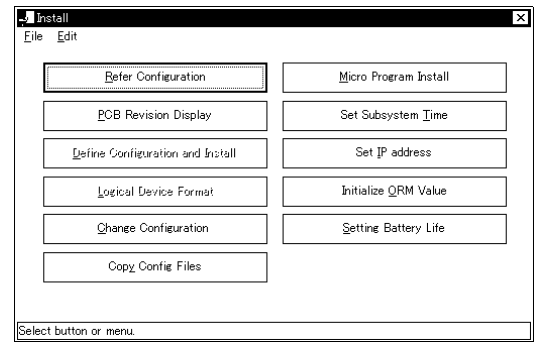


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

8. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-R2 frame referring to Fig. 4.1.9-22 through Fig. 4.1.9-25.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

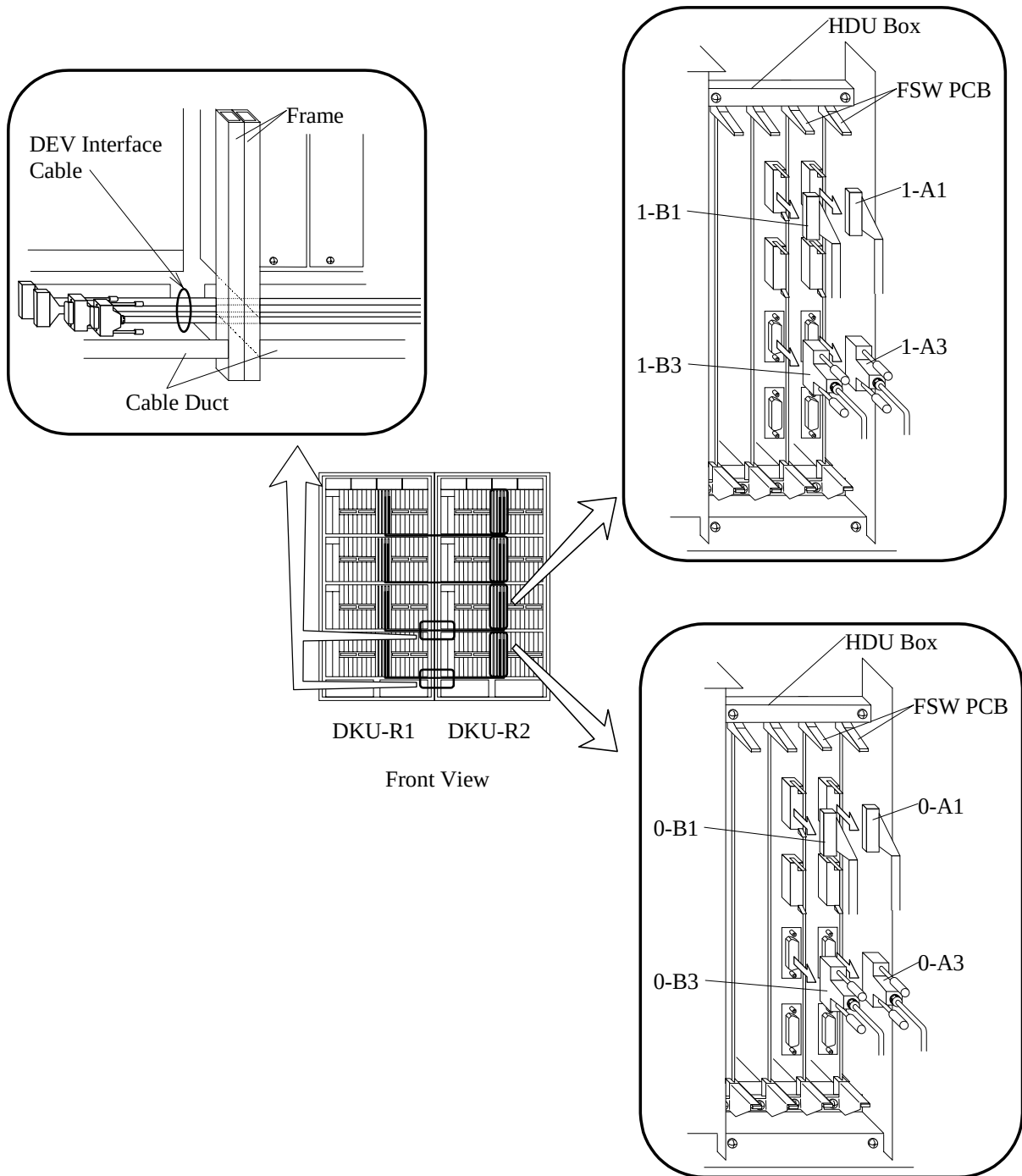


Fig. 4.1.9-22 Disconnection of the DEV Interface Cables

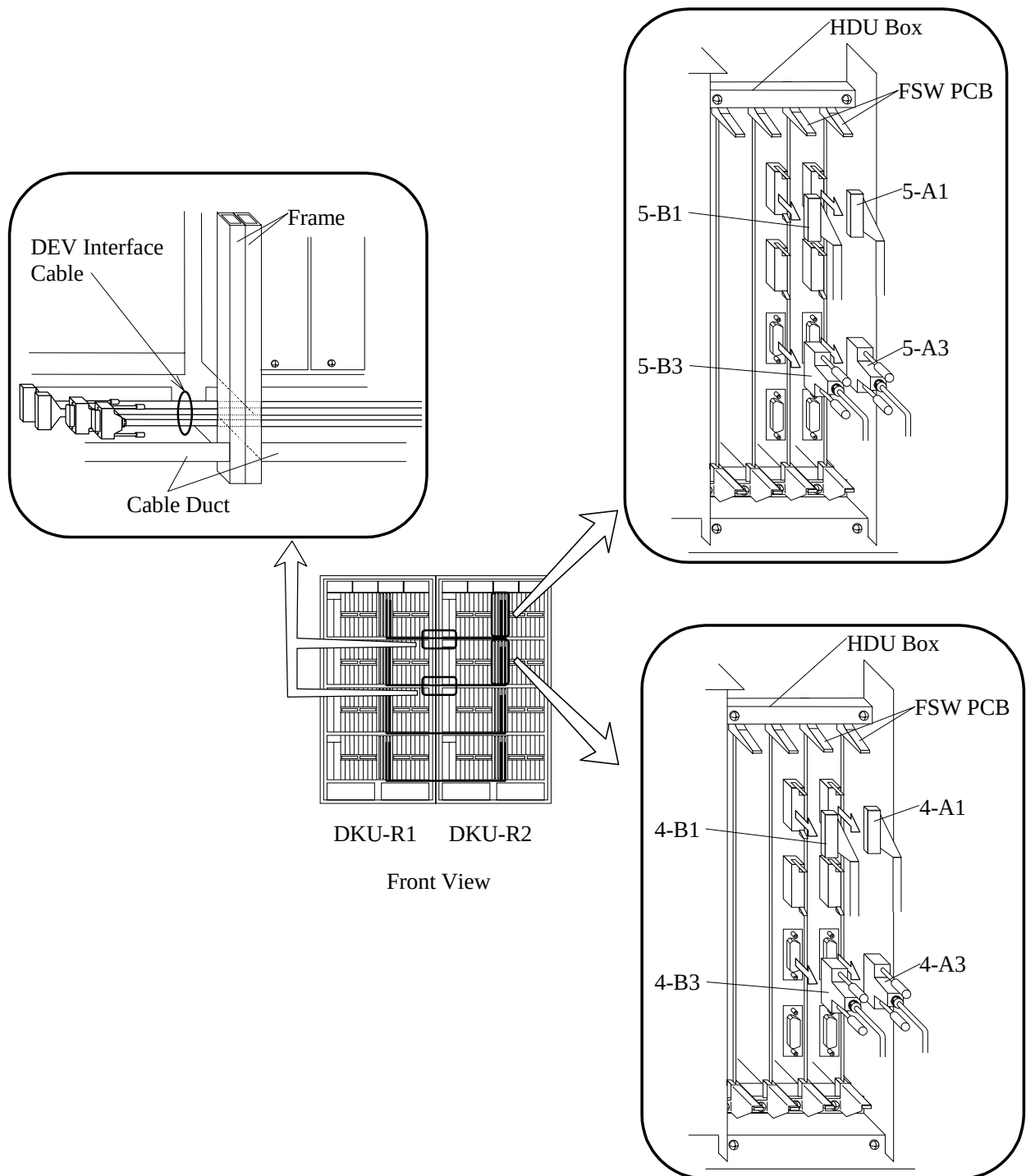


Fig. 4.1.9-23 Disconnection of the DEV Interface Cables

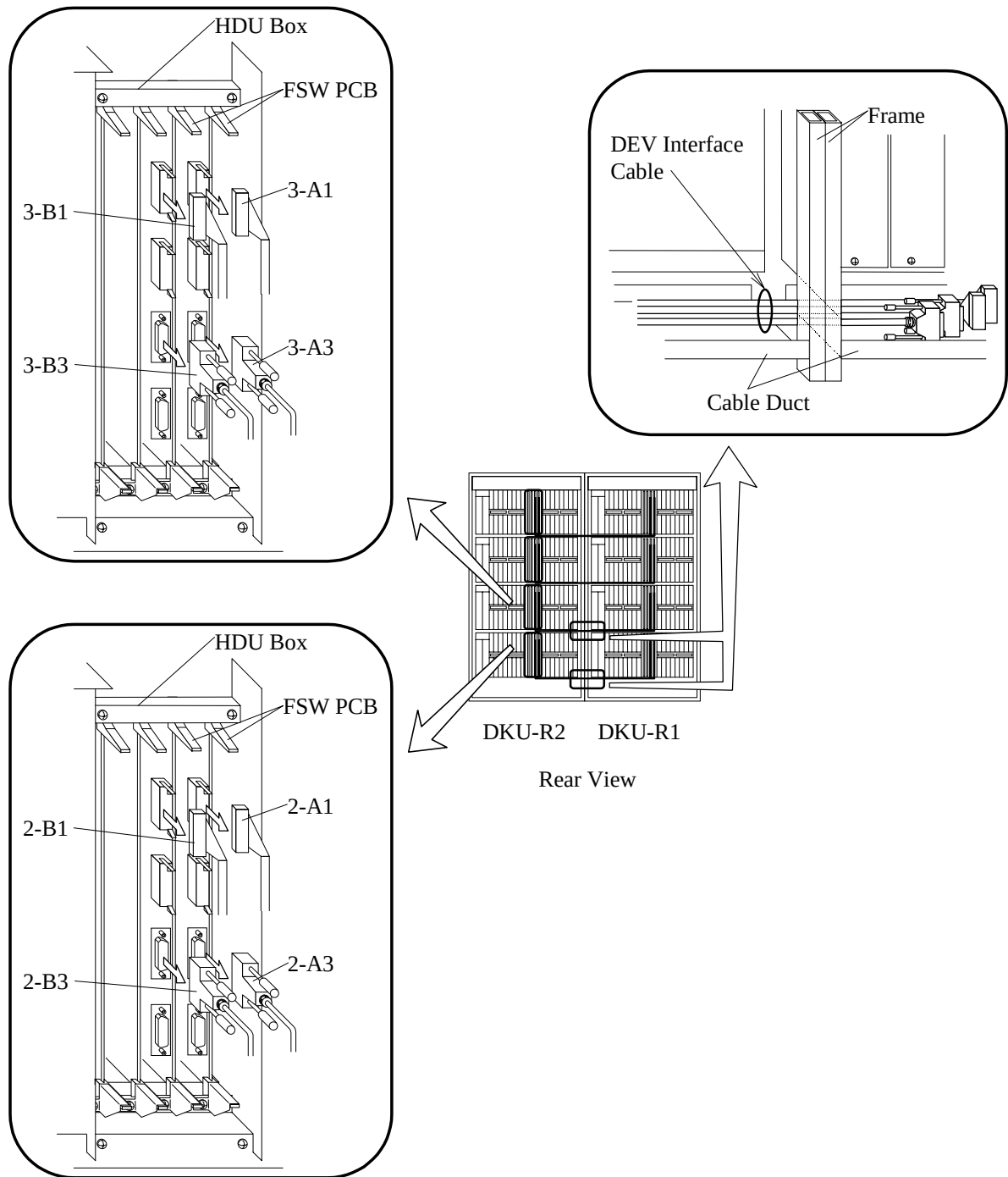


Fig. 4.1.9-24 Disconnection of the DEV Interface Cables

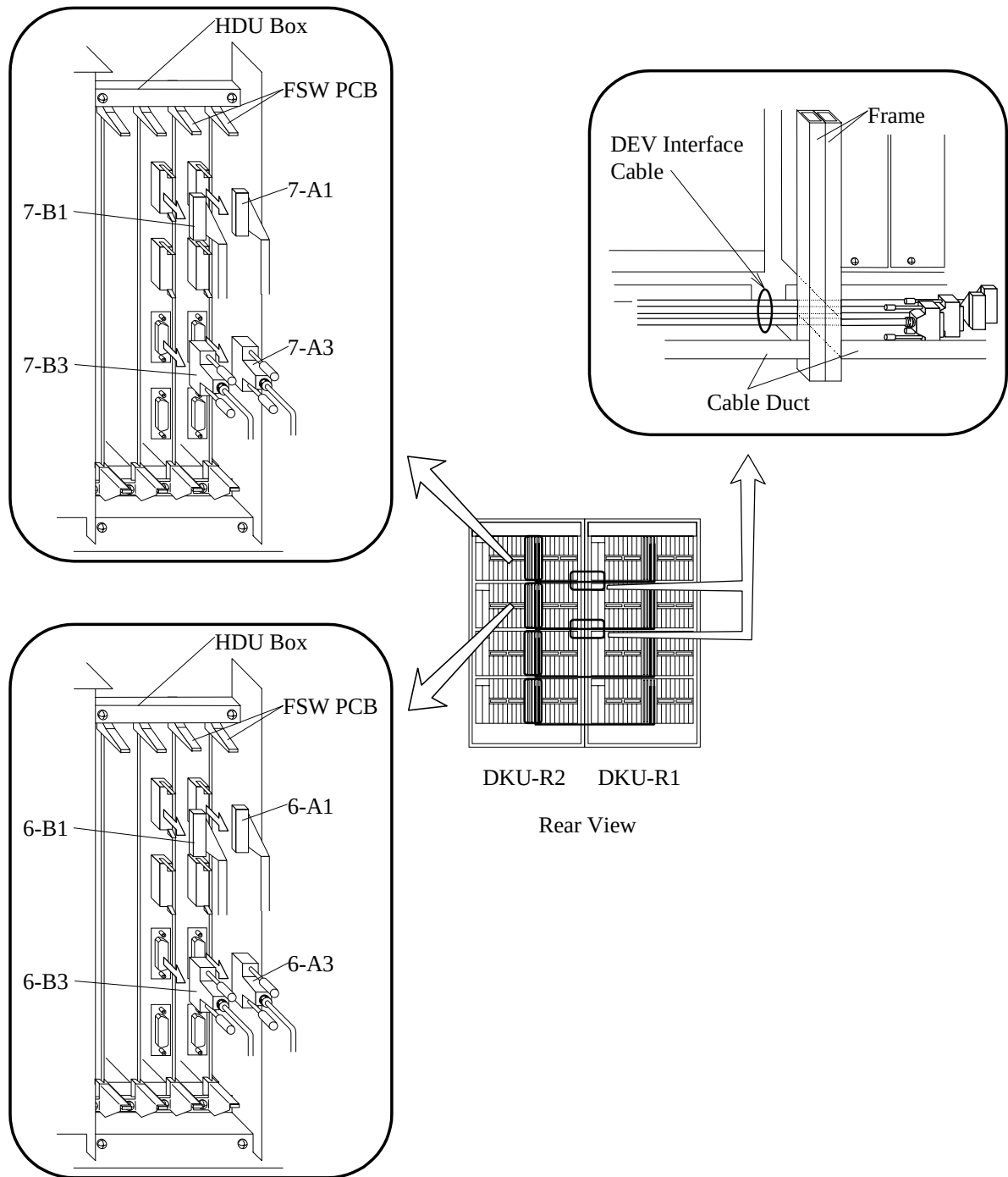


Fig. 4.1.9-25 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

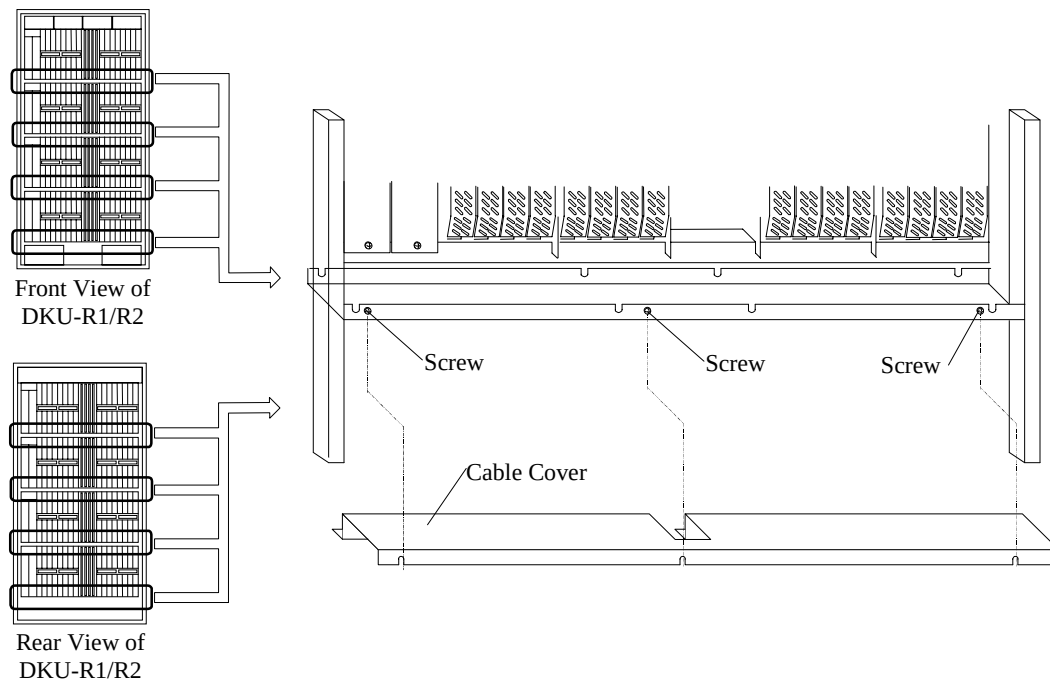


Fig. 4.1.9-26 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

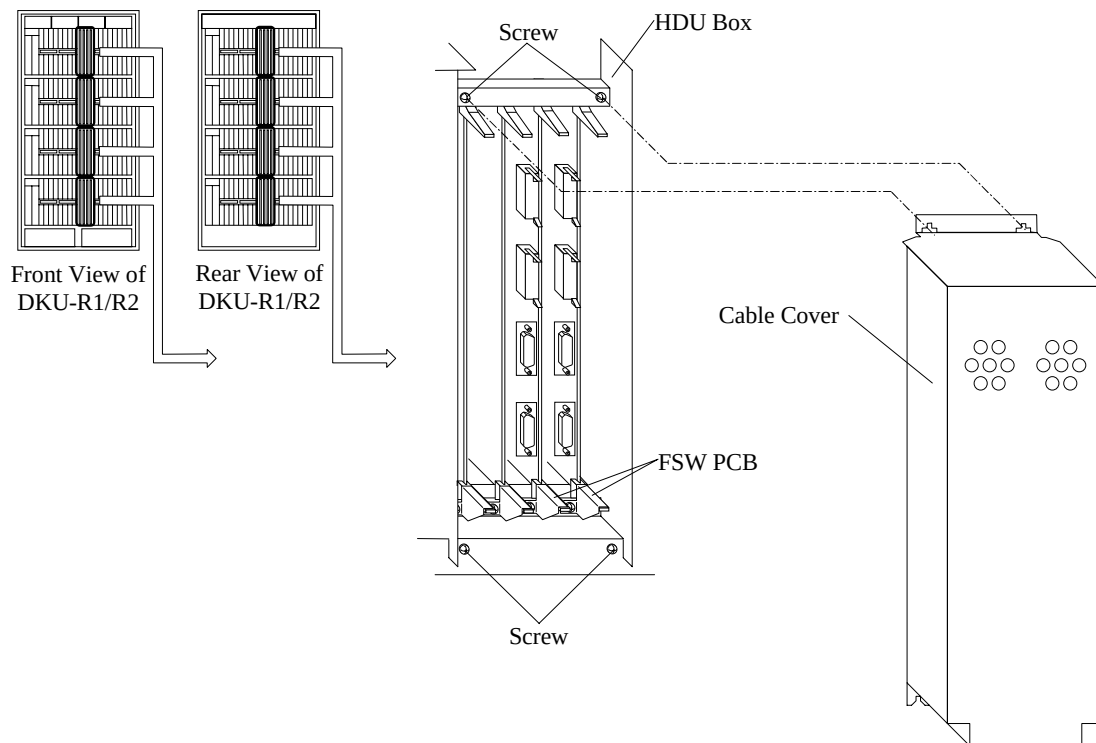


Fig. 4.1.9-27 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-R2 frame.

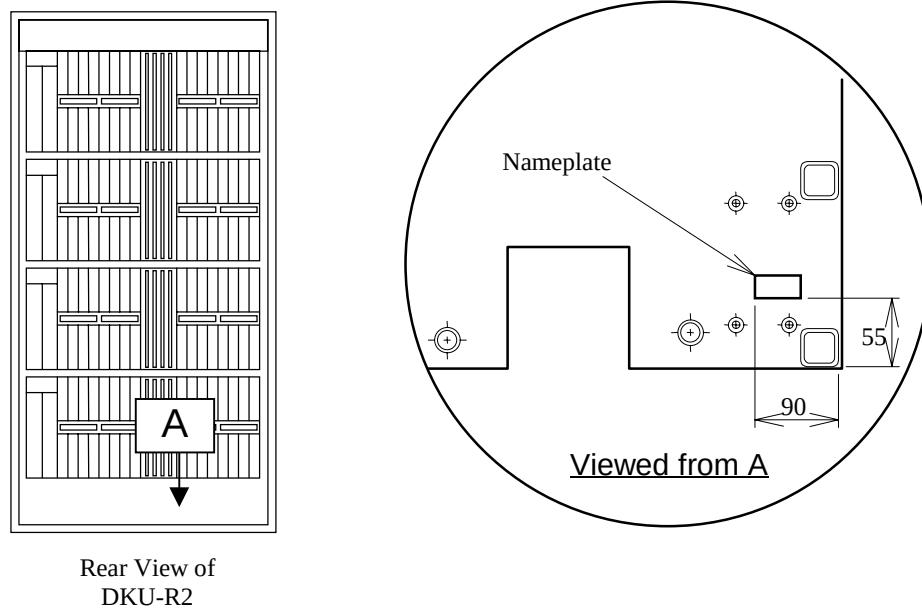


Fig. 4.1.9-28 Removal of the Nameplate

Between HDU-L10-L17 and HDU-L20-L27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-L2 frame referring to Fig. 4.1.9-29 through Fig. 4.1.9-32.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

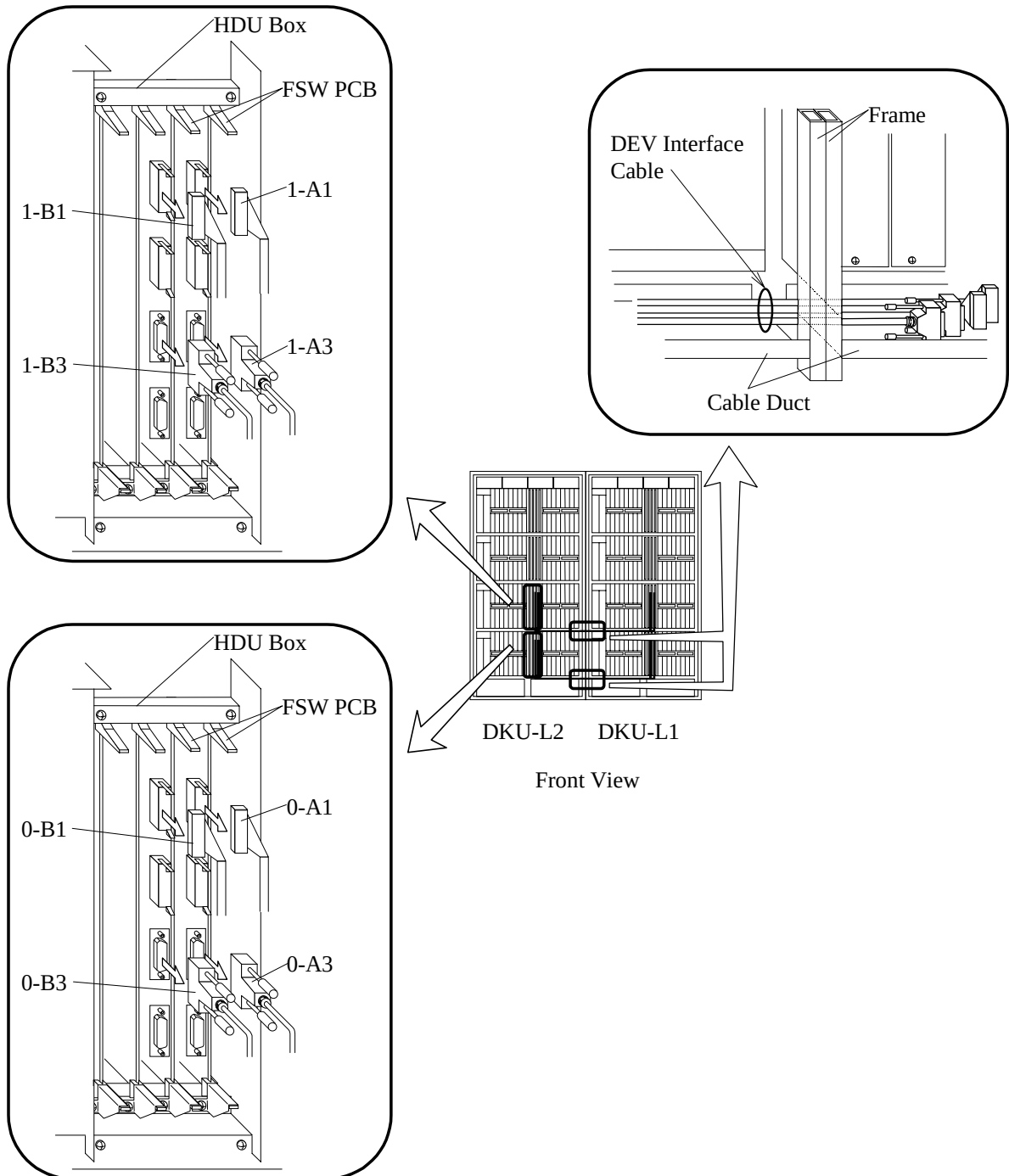


Fig. 4.1.9-29 Disconnection of the DEV Interface Cables

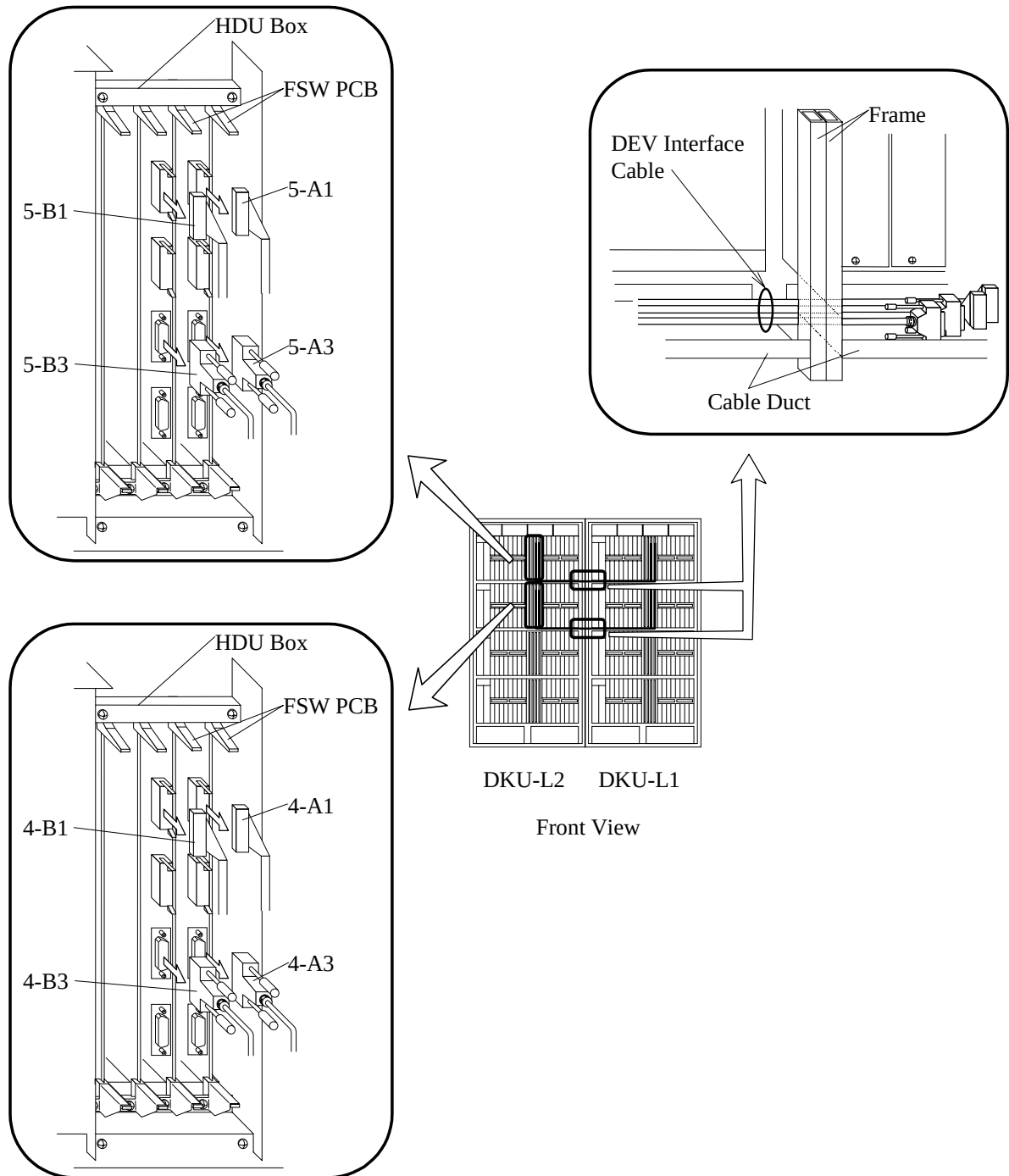


Fig. 4.1.9-30 Disconnection of the DEV Interface Cables

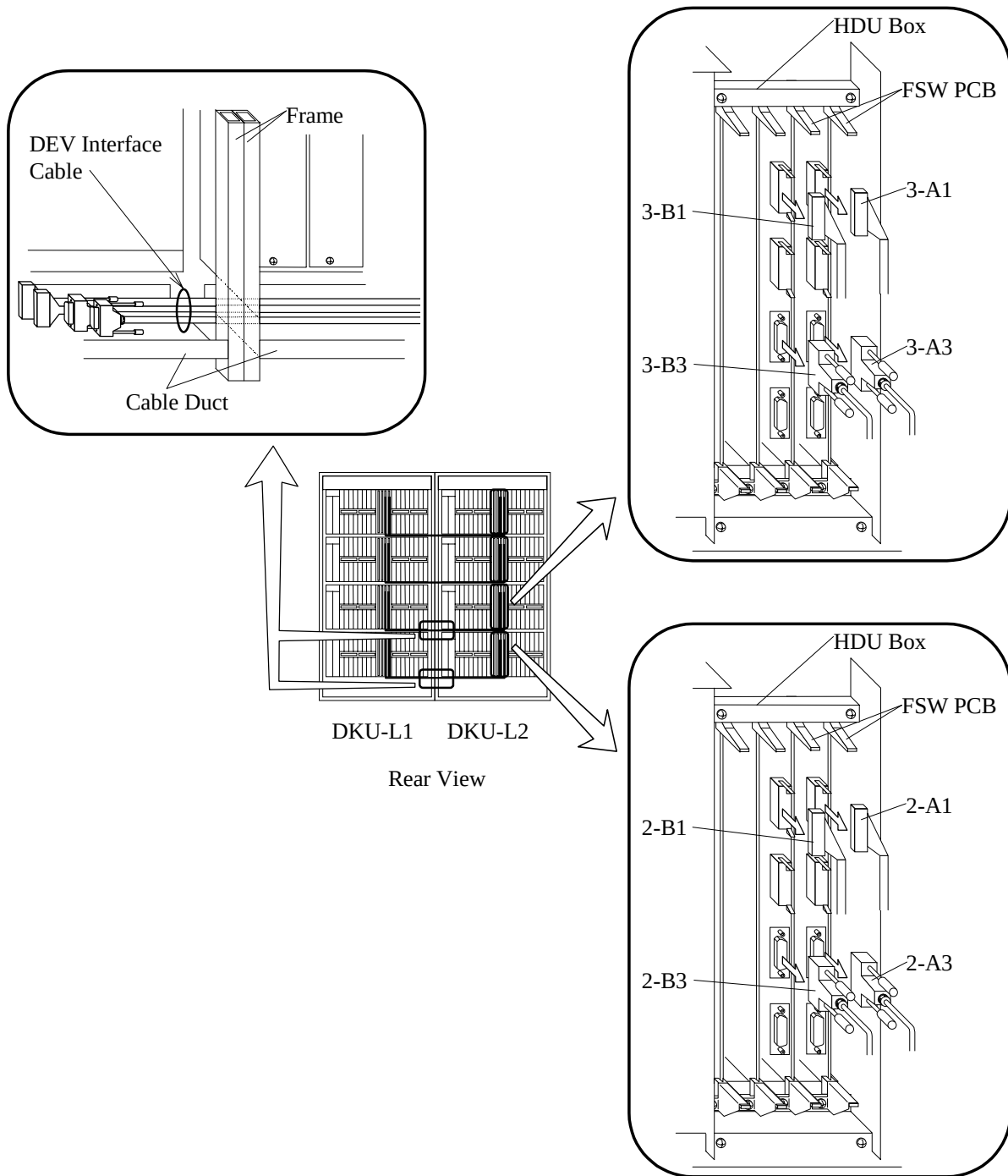


Fig. 4.1.9-31 Disconnection of the DEV Interface Cables

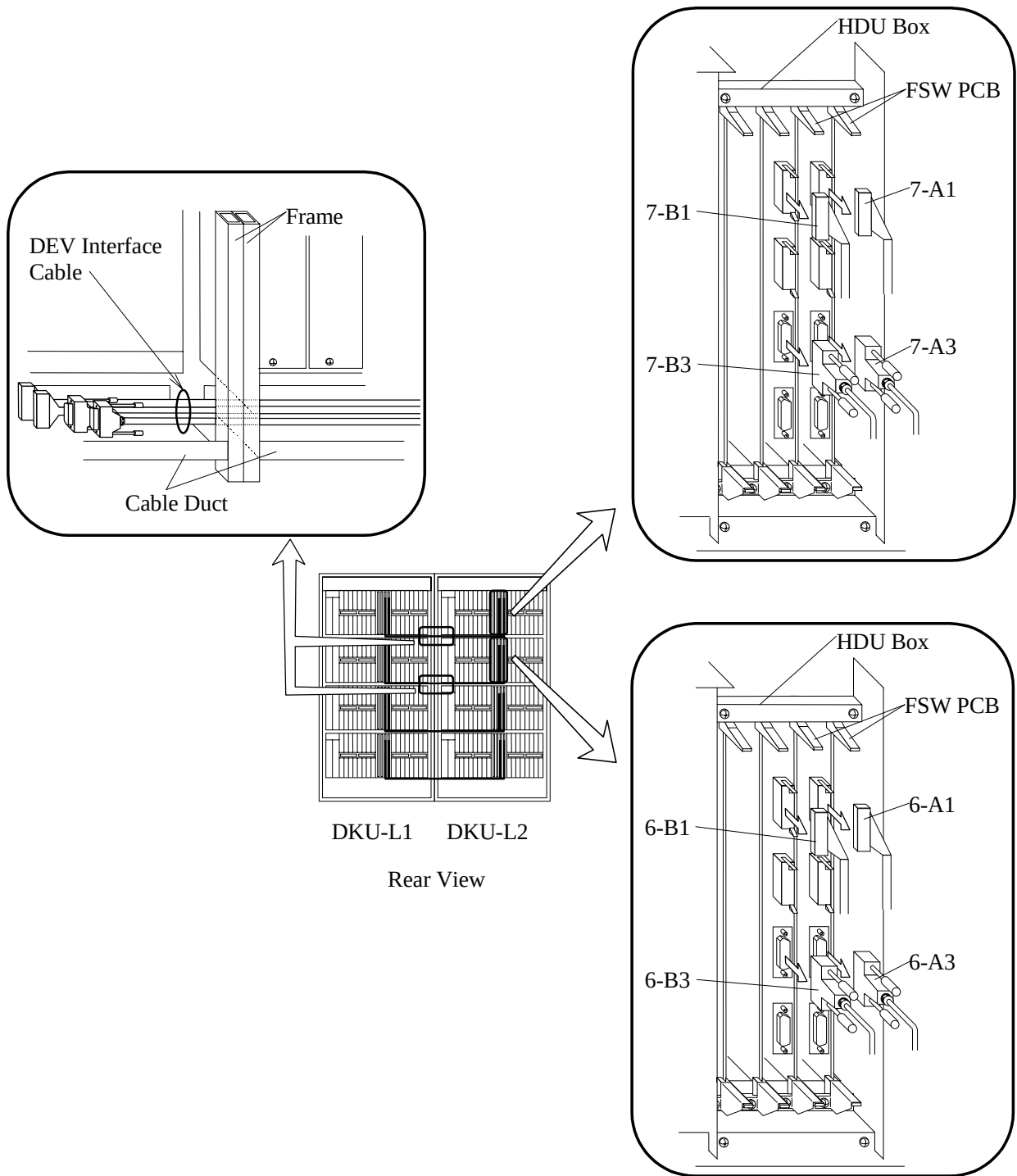


Fig. 4.1.9-32 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

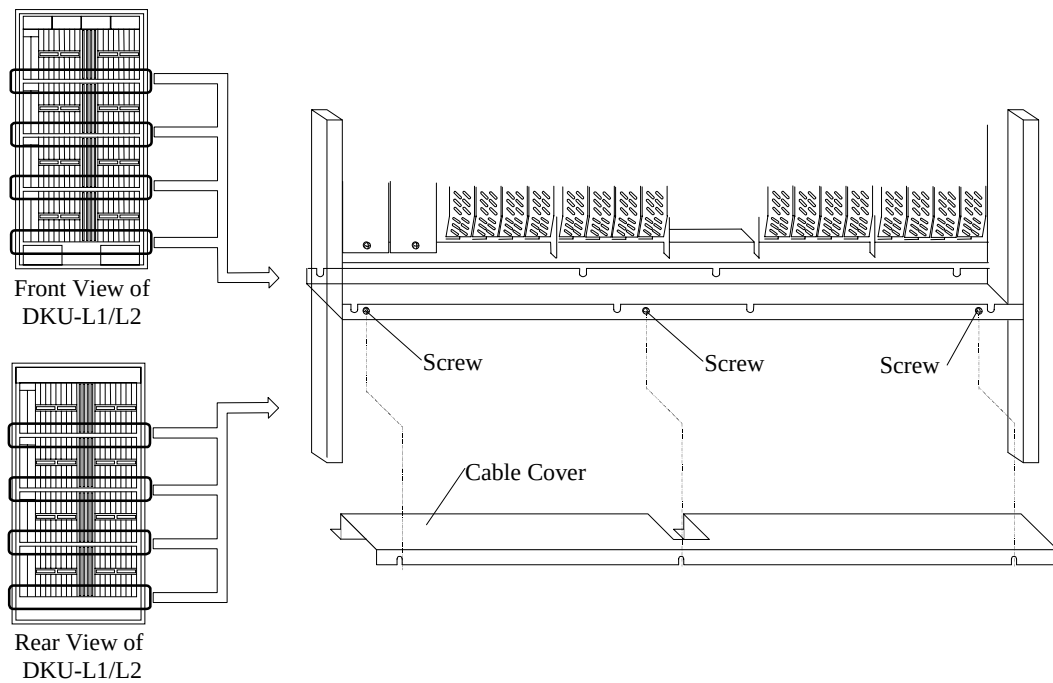


Fig. 4.1.9-33 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

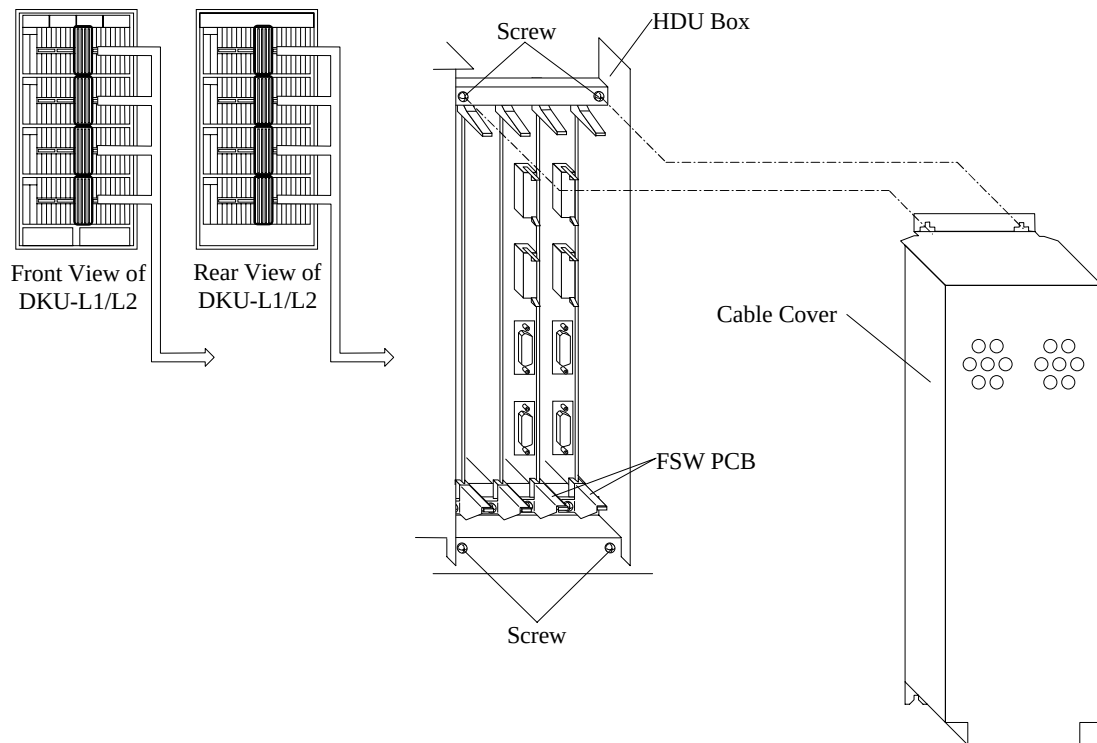


Fig. 4.1.9-34 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-L2 frame.

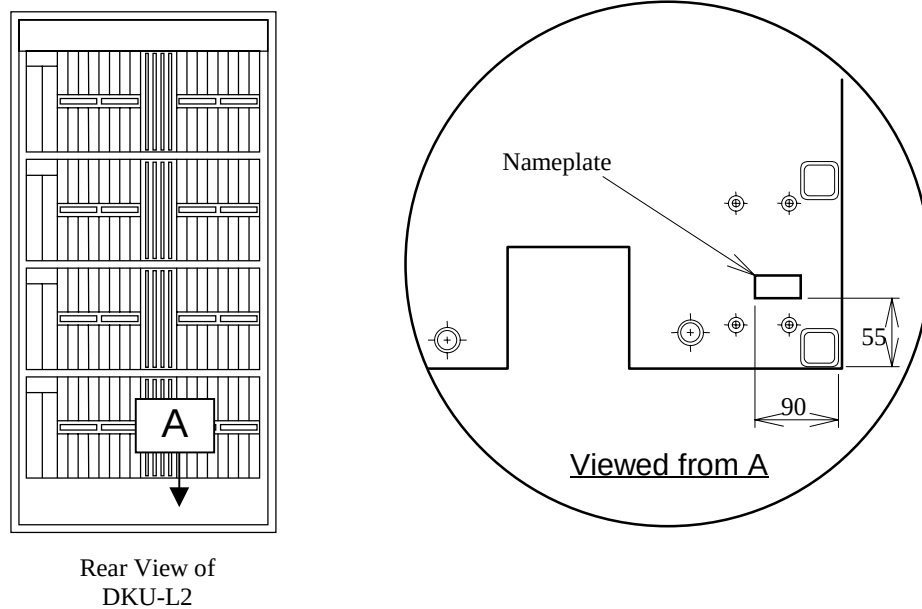


Fig. 4.1.9-35 Removal of the Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.10 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-L1 and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

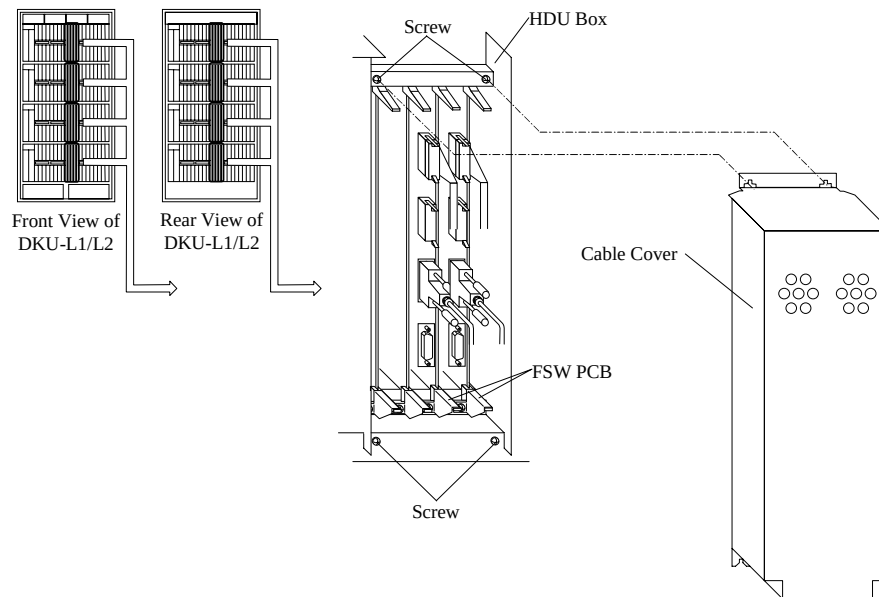


Fig. 4.1.10-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

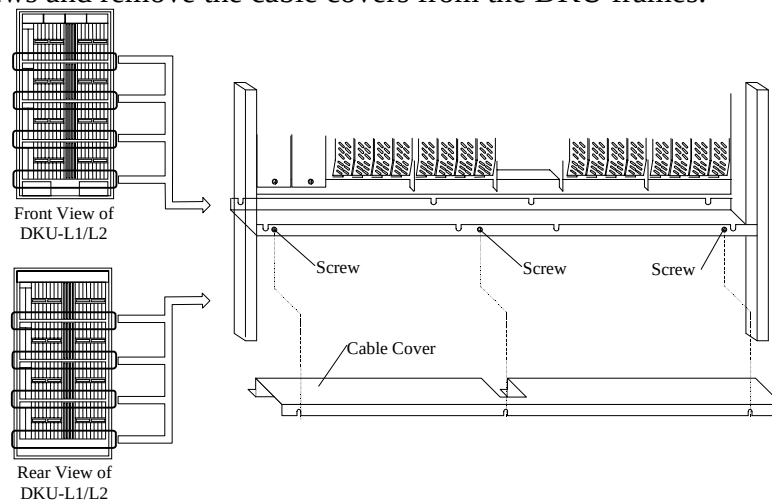


Fig. 4.1.10-2 Removal of Cable Covers

2. De-Installation Procedure of DEV Interface Cable 1 (1/3) (DKC-F460I-L1C)

- a. Loosen the screws and remove the cable covers from the DKU frames.

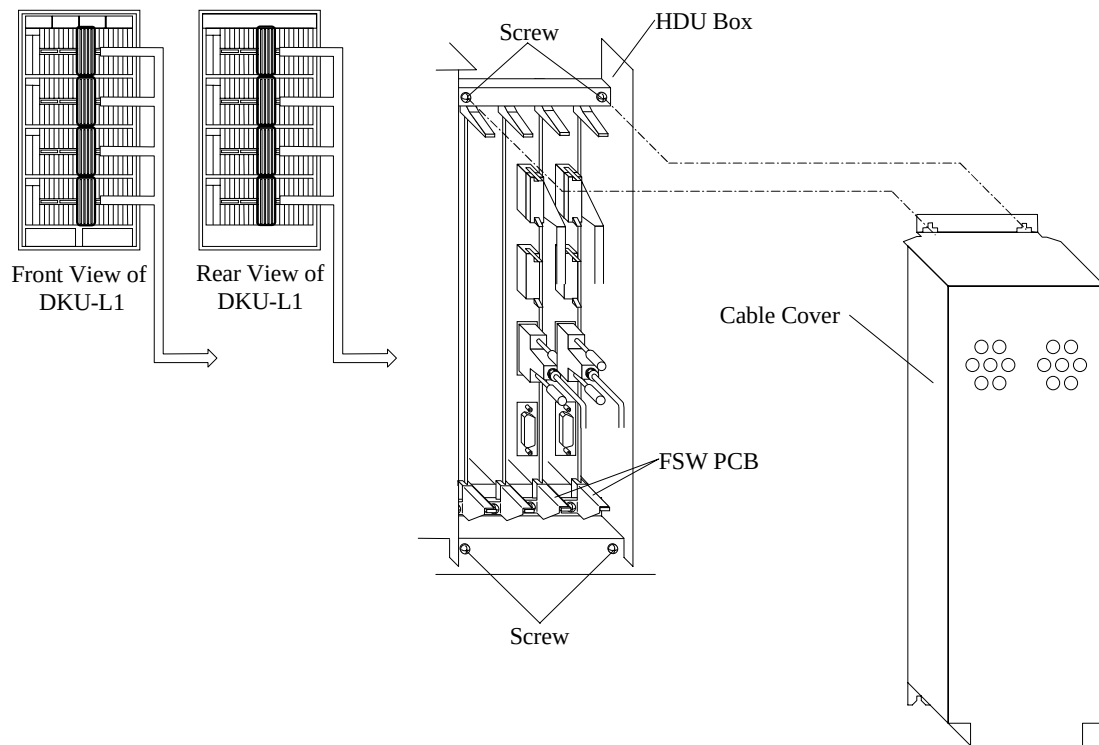


Fig. 4.1.10-3 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

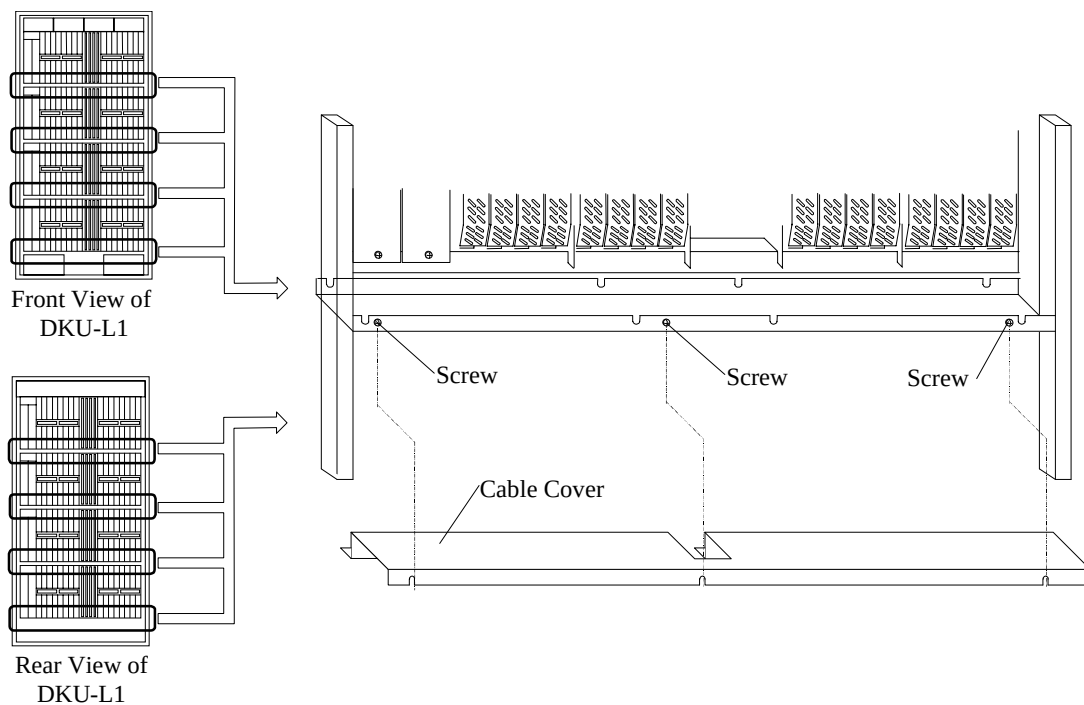
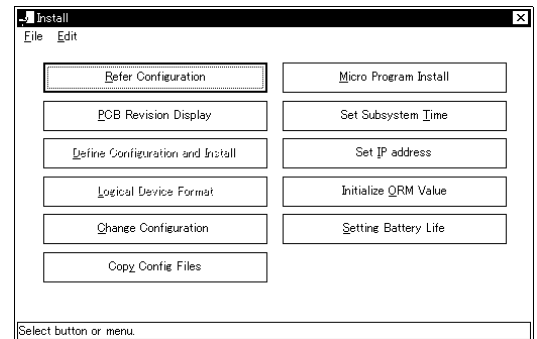


Fig. 4.1.10-4 Removal of Cable Covers

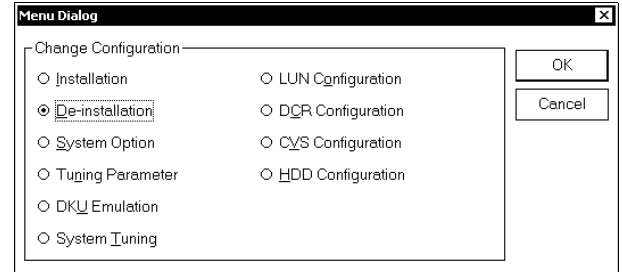
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

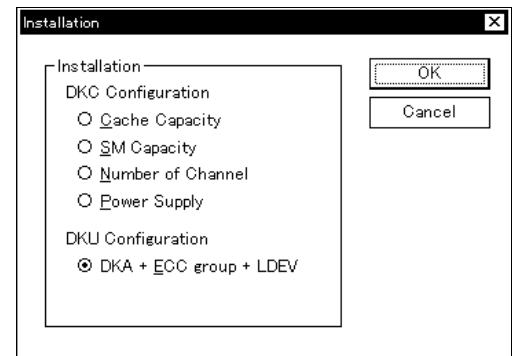
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



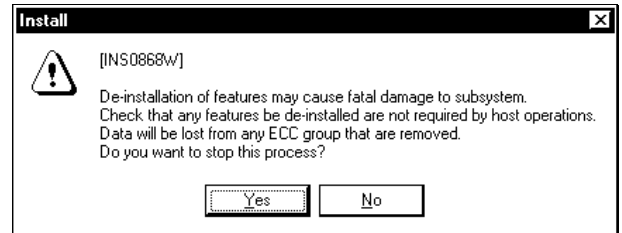
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



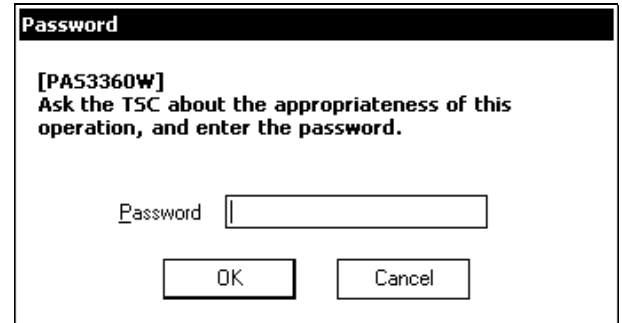
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

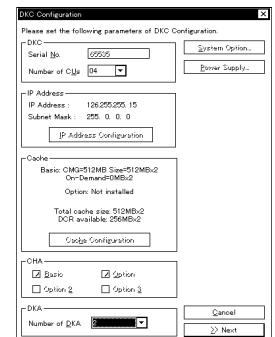
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.
Make an altered setting in which the DKU-L1 and DKU-L2 are deleted from the DKUs currently set.

Current setting	Altered setting
3DKUs (R1, L1, L2)	1DKU (R1)
4DKUs (R1, L1, R2, L2)	2DKUs (R1, R2)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

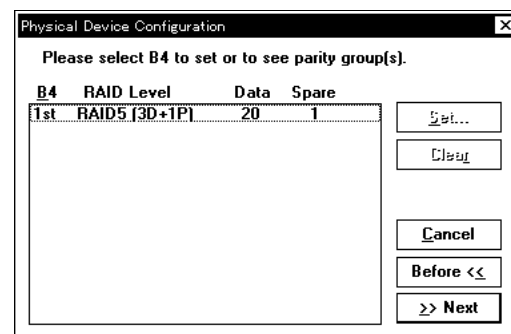
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

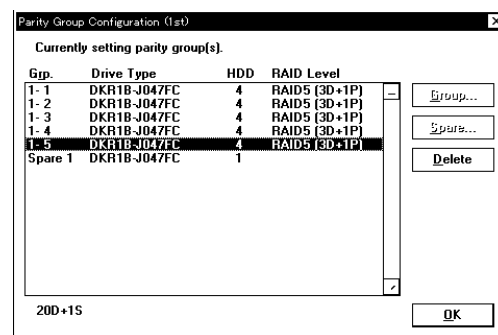
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

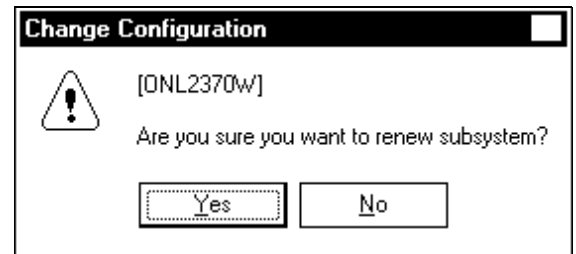


4. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

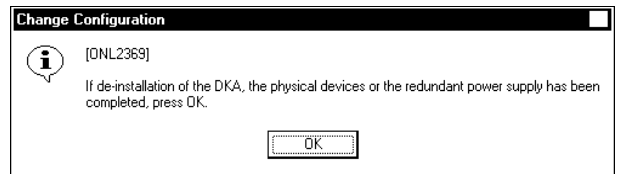
When [No] is selected (CL), returns to [INST04-DKA-2150](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



5. De-Installation Procedure of HDD Canister

5-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.10-1.

Table 4.1.10-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.10-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R14				HDU-R24			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R11				HDU-R21			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065
		HDU-R10				HDU-R20			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065

Front View

001-127: 4HDD canisters installation order

		R2 DKU				R1 DKU						
L2 DKU	L1 DKU	DKC										
		HDU-R27				HDU-R17						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R26				HDU-R16						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R23				HDU-R13						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			
		HDU-R22				HDU-R12						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.10-5 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.10-1.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU				
HDU-L25										HDU-L15																
S					W					S					W											
P		P		S		S		P		P		S		S		P		P					S		S	
221	222	221	222	221	222	221	222	221	222	221	222	221	222	221	222	221	222	221	222				221	222	221	222
219	220	219	220	219	220	219	220	219	220	219	220	219	220	219	220	219	220	219	220	219			220	219	220	
217	218	217	218	217	218	217	218	217	218	217	218	217	218	217	218	217	218	217	218	217			218	217	218	
215	216	215	216	215	216	215	216	215	216	215	216	215	216	215	216	215	216	215	216	215			216	215	216	
213	214	213	214	213	214	213	214	213	214	213	214	213	214	213	214	213	214	213	214	213			214	213	214	
211	212	211	212	211	212	211	212	211	212	211	212	211	212	211	212	211	212	211	212	211	212	211	212			
209	210	209	210	209	210	209	210	209	210	209	210	209	210	209	210	209	210	209	210	209	210	209	210			
207	208	207	208	207	208	207	208	207	208	207	208	207	208	207	208	207	208	207	208	207	208	207	208			
W					S					W					S											
205	206	205	206	205	206	205	206	205	206	205	206	205	206	205	206	205	206	205	206	205	206	205	206			
203	204	203	204	203	204	203	204	203	204	203	204	203	204	203	204	203	204	203	204	203	204	203	204			
201	202	201	202	201	202	201	202	201	202	201	202	201	202	201	202	201	202	201	202	201	202	201	202			
199	200	199	200	199	200	199	200	199	200	199	200	199	200	199	200	199	200	199	200	199	200	199	200			
197	198	197	198	197	198	197	198	197	198	197	198	197	198	197	198	197	198	197	198	197	198	197	198			
195	196	195	196	195	196	195	196	195	196	195	196	195	196	195	196	195	196	195	196	195	196	195	196			
193	194	193	194	193	194	193	194	193	194	193	194	193	194	193	194	193	194	193	194	193	194	193	194			
191	192	191	192	191	192	191	192	191	192	191	192	191	192	191	192	191	192	191	192	191	192	191	192			

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU				
HDU-L24										HDU-L14																
S					W					S					W											
P		P		S		S		P		P		S		S		P		P					S		S	
253	254	253	254	253	254	253	254	253	254	253	254	253	254	253	254	253	254	253	254				253	254	253	254
251	252	251	252	251	252	251	252	251	252	251	252	251	252	251	252	251	252	251	252	251			252	251	252	
249	250	249	250	249	250	249	250	249	250	249	250	249	250	249	250	249	250	249	250	249			250	249	250	
247	248	247	248	247	248	247	248	247	248	247	248	247	248	247	248	247	248	247	248	247			248	247	248	
245	246	245	246	245	246	245	246	245	246	245	246	245	246	245	246	245	246	245	246	245			246	245	246	
243	244	243	244	243	244	243	244	243	244	243	244	243	244	243	244	243	244	243	244	243	244	243	244			
241	242	241	242	241	242	241	242	241	242	241	242	241	242	241	242	241	242	241	242	241	242	241	242			
239	240	239	240	239	240	239	240	239	240	239	240	239	240	239	240	239	240	239	240	239	240	239	240			
W					S					W					S											
237	238	237	238	237	238	237	238	237	238	237	238	237	238	237	238	237	238	237	238	237	238	237	238			
235	236	235	236	235	236	235	236	235	236	235	236	235	236	235	236	235	236	235	236	235	236	235	236			
233	234	233	234	233	234	233	234	233	234	233	234	233	234	233	234	233	234	233	234	233	234	233	234			
231	232	231	232	231	232	231	232	231	232	231	232	231	232	231	232	231	232	231	232	231	232	231	232			
229	230	229	230	229	230	229	230	229	230	229	230	229	230	229	230	229	230	229	230	229	230	229	230			
227	228	227	228	227	228	227	228	227	228	227	228	227	228	227	228	227	228	227	228	227	228	227	228			
225	226	225	226	225	226	225	226	225	226	225	226	225	226	225	226	225	226	225	226	225	226	225	226			
223	224	223	224	223	224	223	224	223	224	223	224	223	224	223	224	223	224	223	224	223	224	223	224			

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.10-5 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.10-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.10-2.

Table 4.1.10-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.10-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU																																																										
HDU-L25				HDU-L15																																																																
S	S	P	P	125	126	S	T	078	Spare*1	076	077	074	075	072	073	070	071	068	069	066	067	064	065																																													
				123	124																			093	094	091	092	089	090	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065															
S	S	P	P	121	122	S	T	076	Spare*1	073	074	075	072	073	070	071	068	069	066	067	064	065																																														
				119	120																		091	092	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065																				
S	S	P	P	117	118	S	T	073	Spare*1	071	072	073	070	071	068	069	066	067	064	065																																																
				115	116																091	092	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065																						
S	S	P	P	113	114	S	T	071	Spare*1	070	071	072	073	070	071	068	069	066	067	064	065																																															
				111	112																	091	092	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065																					
S	S	P	P	109	110	S	T	069	Spare*1	068	069	070	071	068	069	066	067	064	065																																																	
				107	108															091	092	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065																							
S	S	P	P	105	106	S	T	067	Spare*1	066	067	068	069	066	067	064	065																																																			
				103	104													091	092	087	088	085	086	083	084	081	082	079	080	076	077	074	075	072	073	070	071	068	069	066	067	064	065																									
S	S	P	P	101	102	S	T	065	Spare*1	064	065																																																									
				099	100							099	100	097	098	095	096																																																			
S	S	P	P	097	098	S	T	063	Spare*1	062	063																																																									
				095	096							095	096																																																							
S	S	P	P	093	094	S	T	061	Spare*1	060	061																																																									
				091	092							091	092	089	090	087	088	085	086	083	084	081	082	079	080	077	078	075	076	073	074	071	072	069	070	067	068	065	066																													
S	S	P	P	087	088	S	T	059	Spare*1	058	059																																																									
				085	086							085	086	083	084	081	082	079	080	077	078	075	076	073	074	071	072	069	070	067	068	065	066																																			
S	S	P	P	083	084	S	T	057	Spare*1	056	057																																																									
				081	082							081	082	079	080	077	078	075	076	073	074	071	072	069	070	067	068	065	066																																							
S	S	P	P	079	080	S	T	055	Spare*1	054	055																																																									
				077	078							077	078	075	076	073	074	071	072	069	070	067	068	065	066																																											
S	S	P	P	075	076	S	T	053	Spare*1	052	053																																																									
				073	074							073	074	071	072	069	070	067	068	065	066																																															
S	S	P	P	071	072	S	T	051	Spare*1	050	051																																																									
				069	070							069	070	067	068	065	066																																																			
S	S	P	P	067	068	S	T	049	Spare*1	048	049																																																									
				065	066							065	066	063	064	061	062	059	060	057	058	055	056	053	054	051	052	049	050	047	048	045	046	043	044	041	042	039	040	037	038	035	036	033	034	031	032	029	030	027	028	025	026	023	024	021	022	019	020	017	018	015	016	013	014	011	012	009

Front View

064-126: 8HDD canisters installation ord

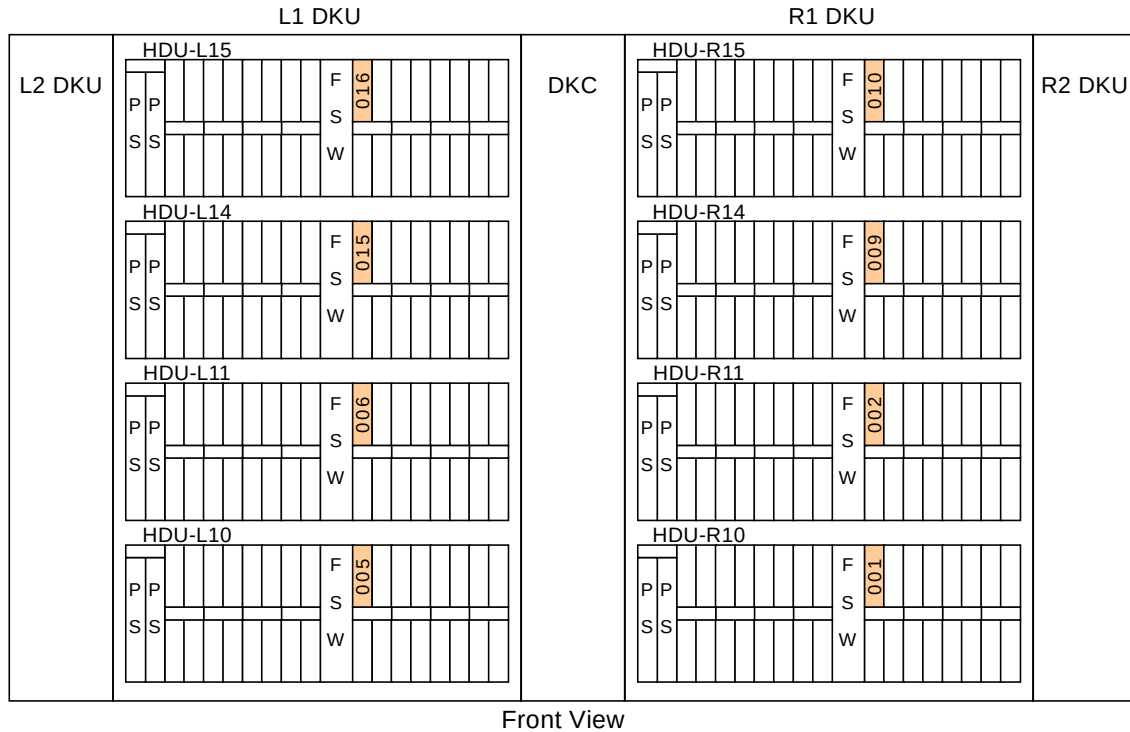
Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
P	P	094	080	P	P	126	110
S	S	093	079	S	S	125	109
		092	078			124	108
		091	077			123	107
		090	076			122	106
		089	075			121	105
		088	074			120	104
		087	073			119	103
		086	072			118	102
		085	071			117	101
		084	070			116	100
		083	069			115	099
		082	068			114	098
		081	067			113	097
		080	066			112	096
		079	065			111	095
		078	064			110	094
		077	063			109	093
		076	062			108	092
		075	061			107	091
		074	060			106	090
		073	059			105	089
		072	058			104	088
		071	057			103	087
		070	056			102	086
		069	055			101	085
		068	054			100	084
		067	053			099	083
		066	052			098	082
		065	051			097	081
		064	050			096	080
		063	049			095	079
		062	048			094	078
		061	047			093	077
		060	046			092	076
		059	045			091	075
		058	044			090	074
		057	043			089	073
		056	042			088	072
		055	041			087	071
		054	040			086	070
		053	039			085	069
		052	038			084	068
		051	037			083	067
		050	036			082	066
		049	035			081	065
		048	034			080	064
		047	033			079	063
		046	032			078	062
		045	031			077	061
		044	030			076	060
		043	029			075	059
		042	028			074	

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

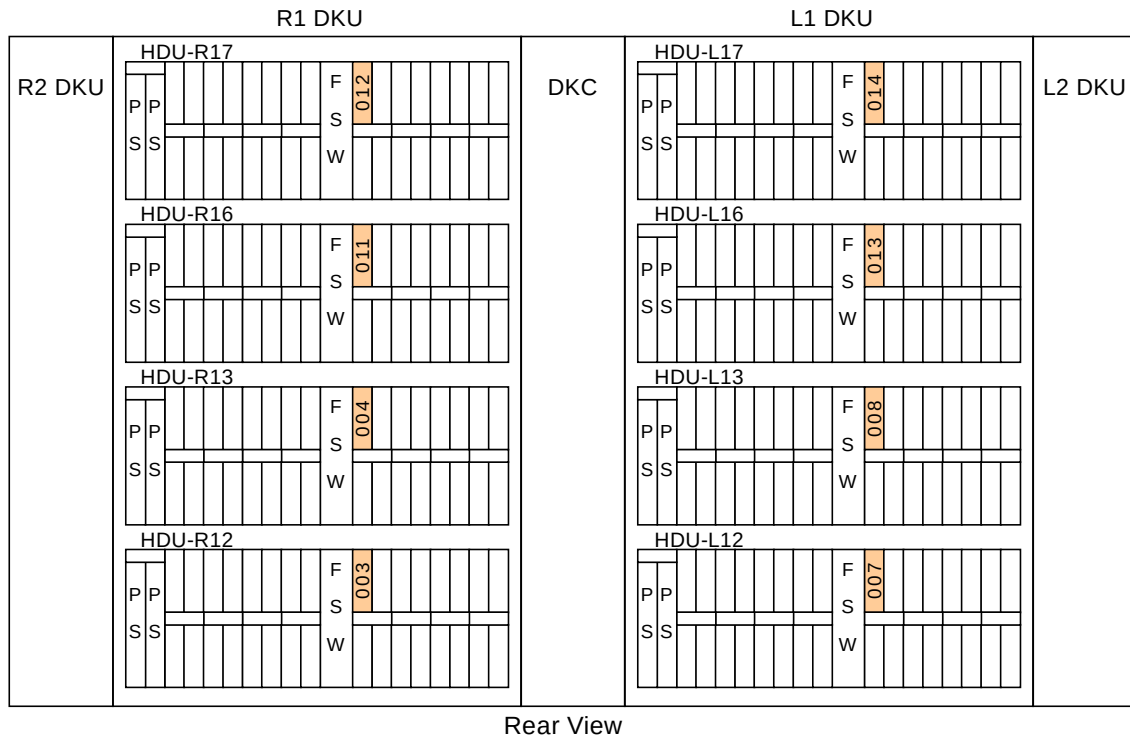


Fig. 4.1.10-7 Spare Drive Expansion Sequence

5-2 Confirmation of Shut Down LED.

- a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

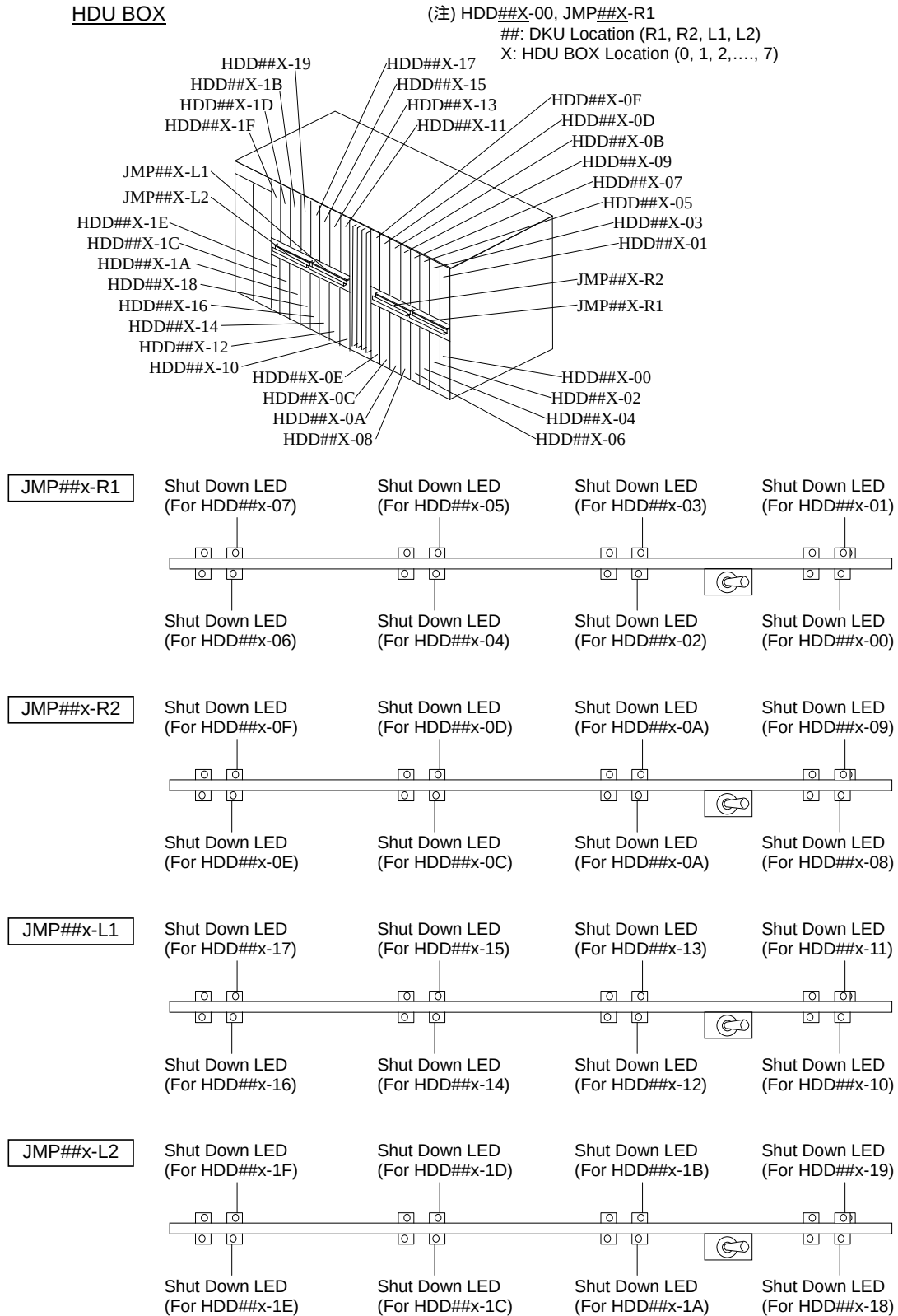


Fig. 4.1.10-8 Location of Shut Down LED

5-3 De-installation of the HDD canister.



CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

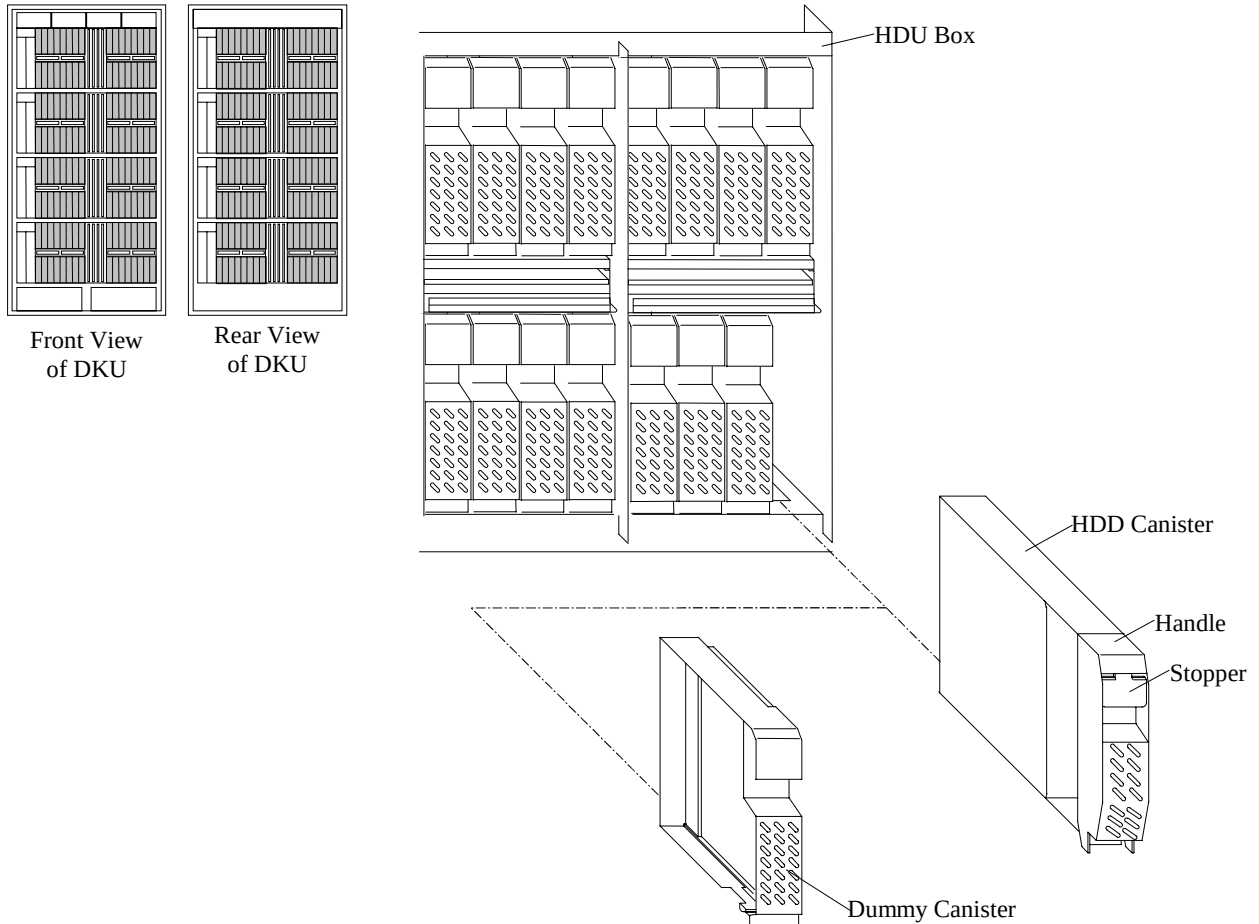
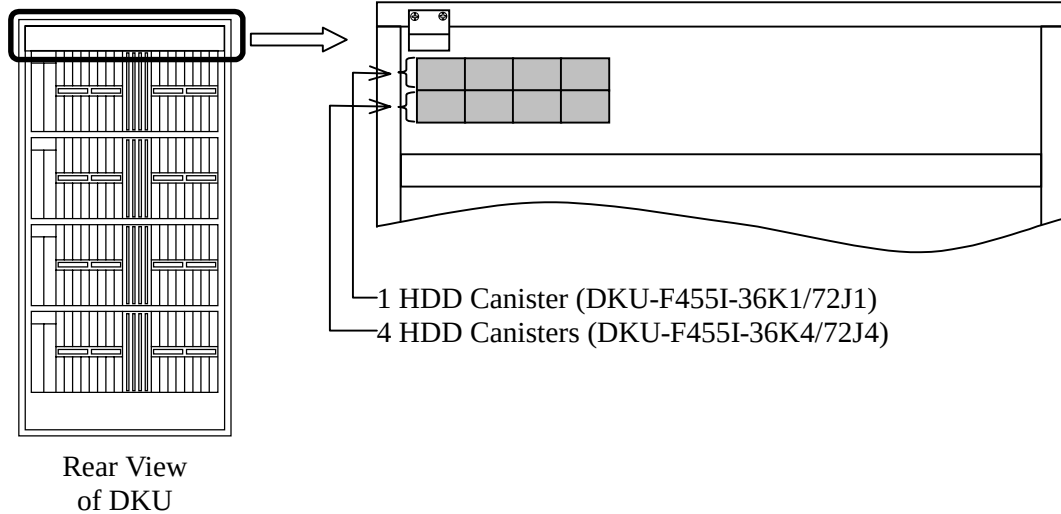


Fig. 4.1.10-9 De-Installation of HDD Canister

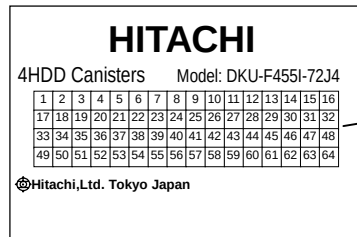
5-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.10-10 Removal of Nameplate

6. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-L10-L17 and HDU-L20-L27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-L1 frame referring to figures 4.1.10-11 and 4.1.10-12.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.

Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

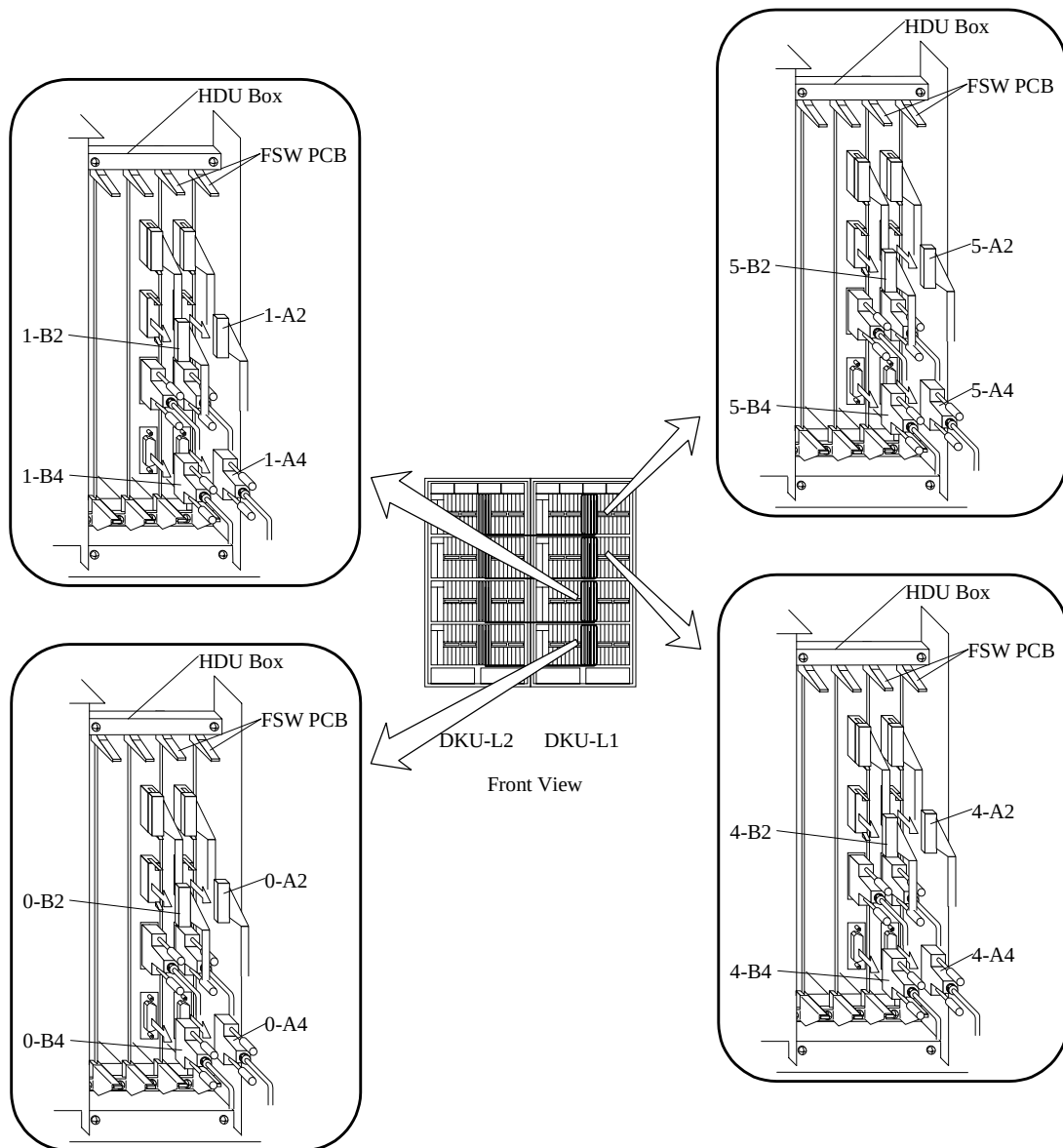


Fig. 4.1.10-11 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

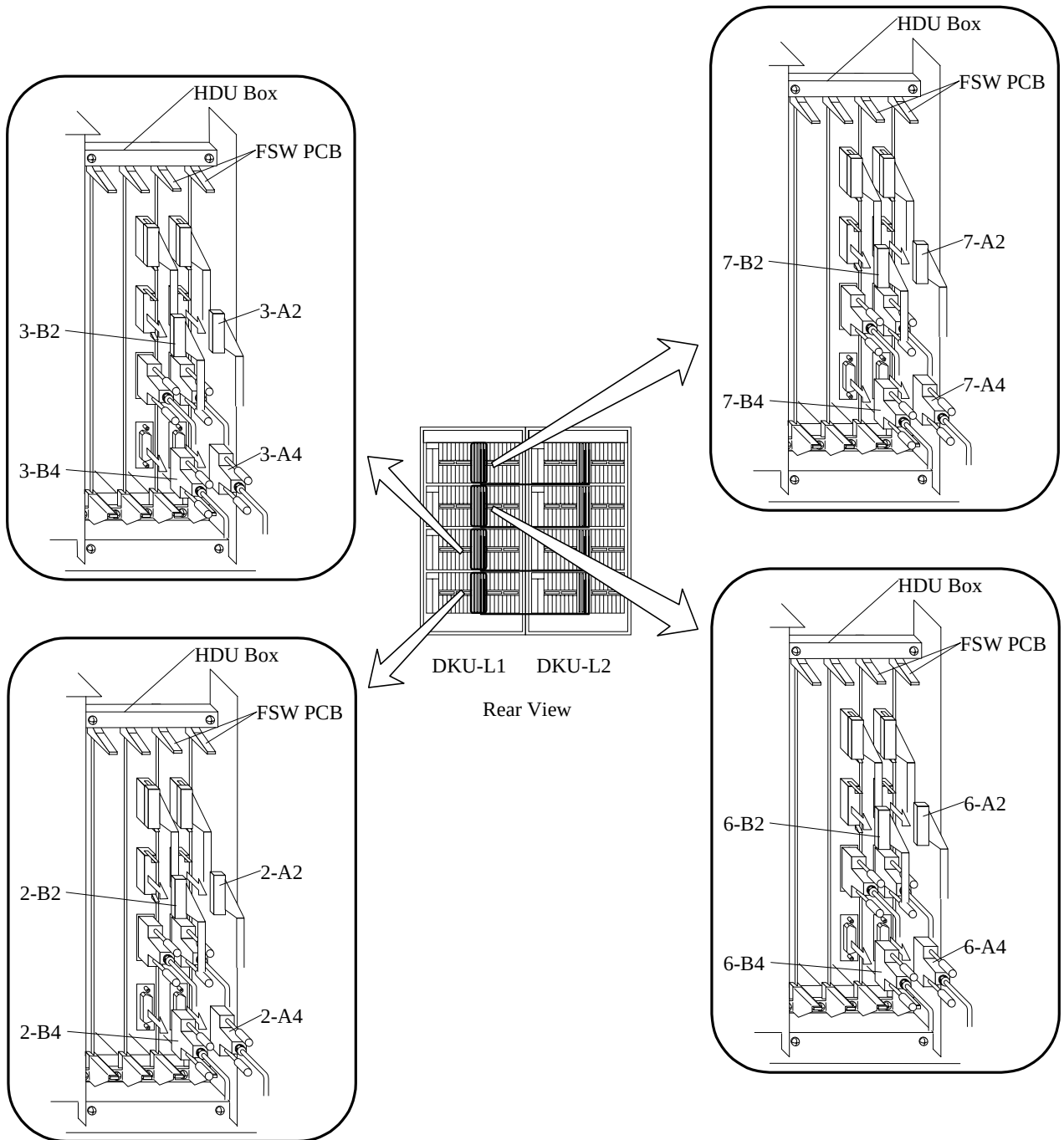


Fig. 4.1.10-12 Connection of the DEV Interface Cables

7. De-Installation Procedure of DEV Interface Cable (2/3) (DKC-F460I-L1C)

- a. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. D and K in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

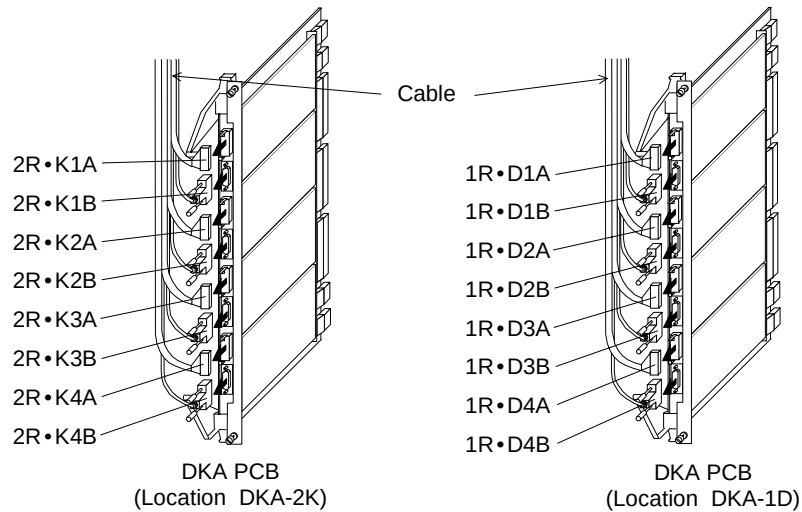


Fig. 4.1.10-13 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

- b. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. E and L in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

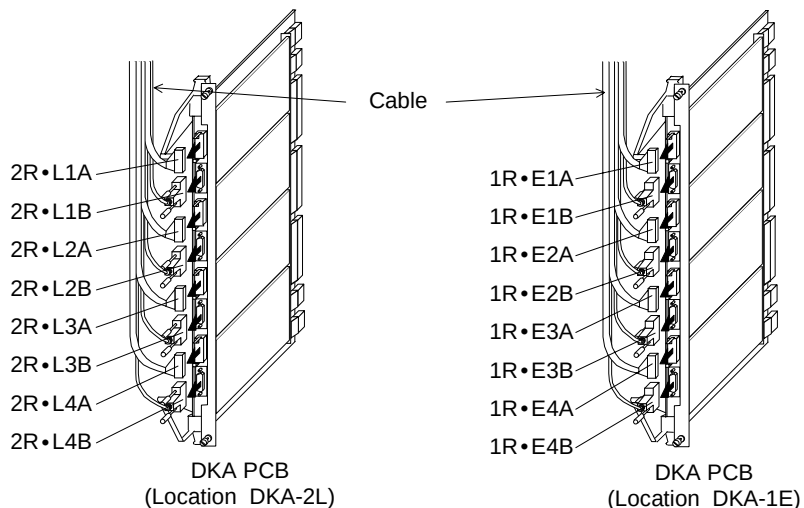


Fig. 4.1.10-14 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

8. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

8-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.10-15) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

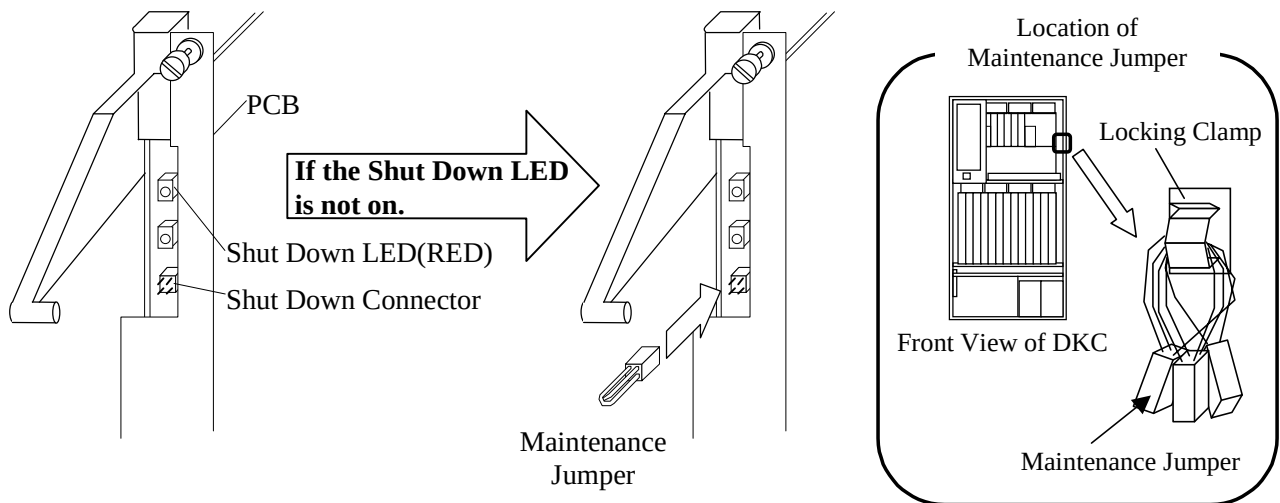


Fig. 4.1.10-15 Shut Down LED

Table 4.1.10-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

8-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

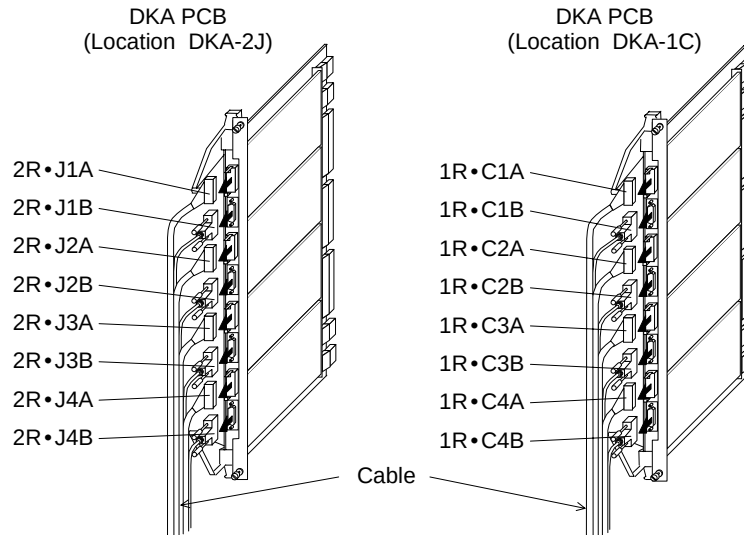


Fig. 4.1.10-16 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

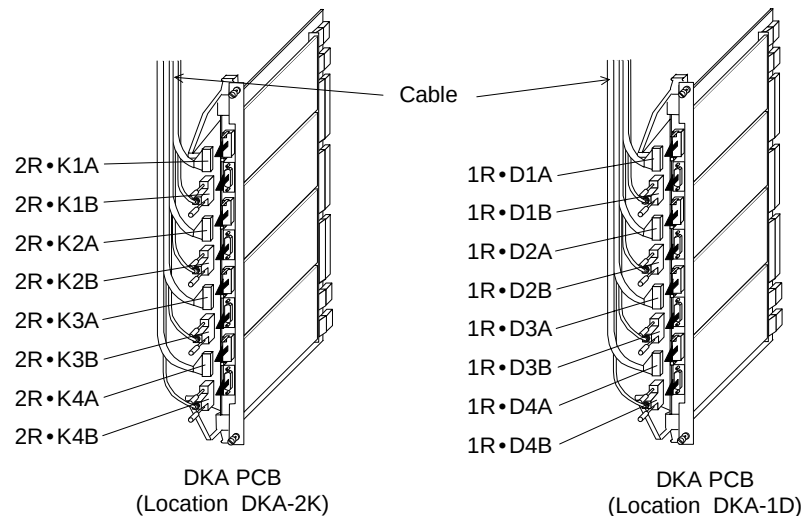


Fig. 4.1.10-17 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

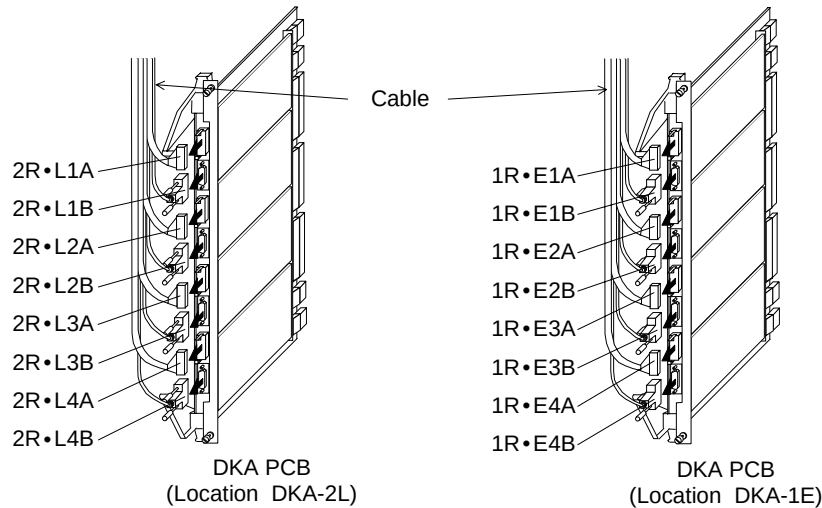


Fig.4.1.10-18 Disconnection of DEV Interface Cable (Add.3)

8-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.10-19.
b. Attach the dummy plates referring to Fig. 4.1.10-20.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

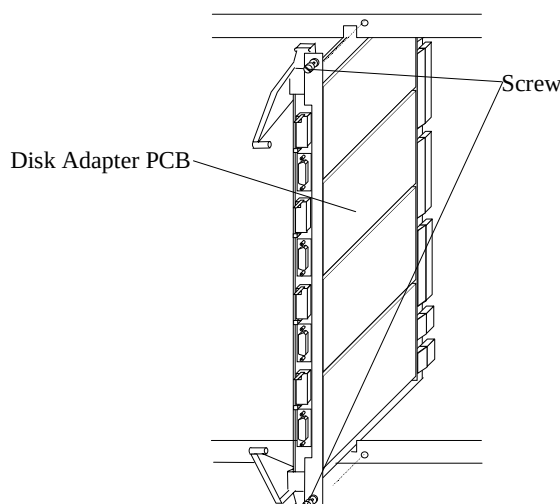


Fig. 4.1.10-19 Removal of PCB

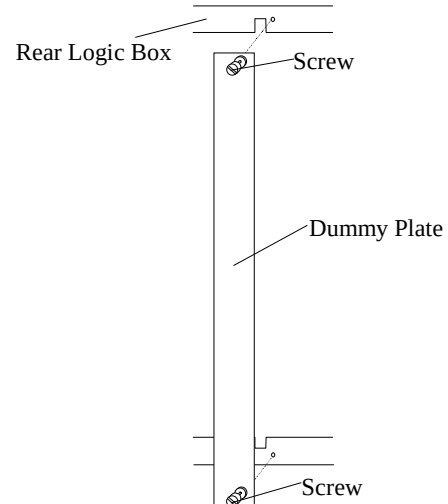


Fig. 4.1.10-20 Attachment of Dummy Plate

8-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

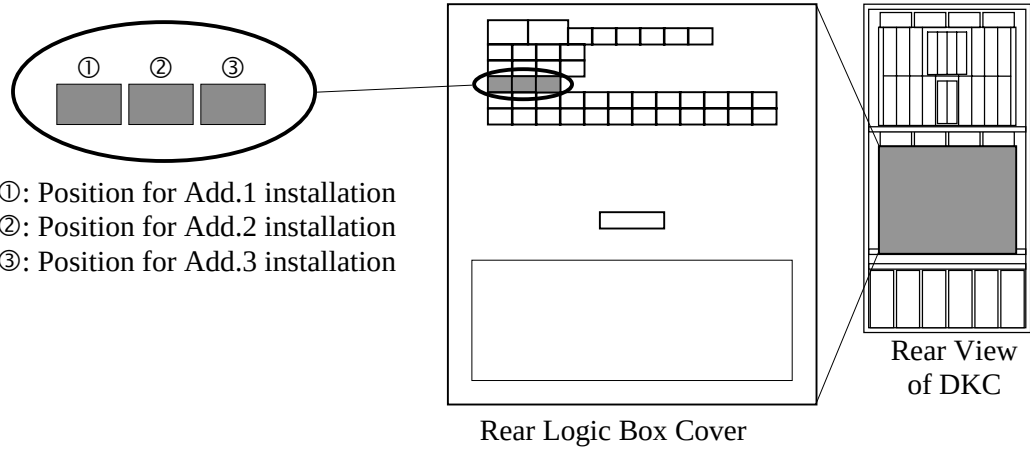
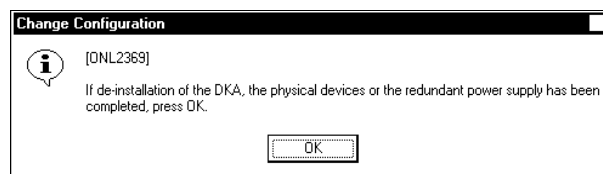


Fig. 4.1.10-21 Removal of Nameplate

9. SVP post procedure

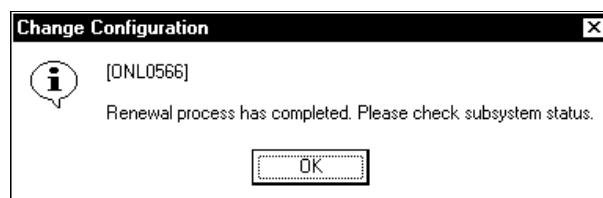
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



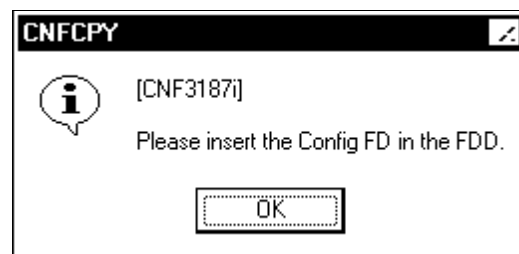
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



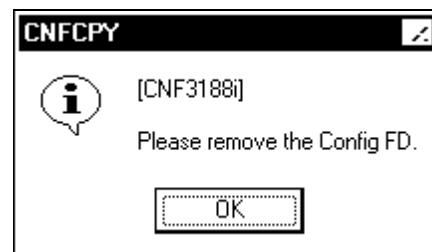
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

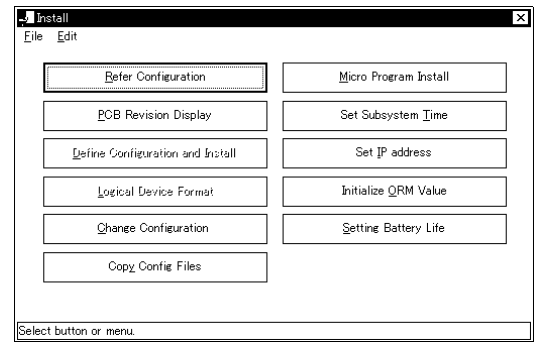


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

10. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-L10-L17 and HDU-L20-L27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-L2 frame referring to Fig. 4.1.10-22 through Fig. 4.1.10-25.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

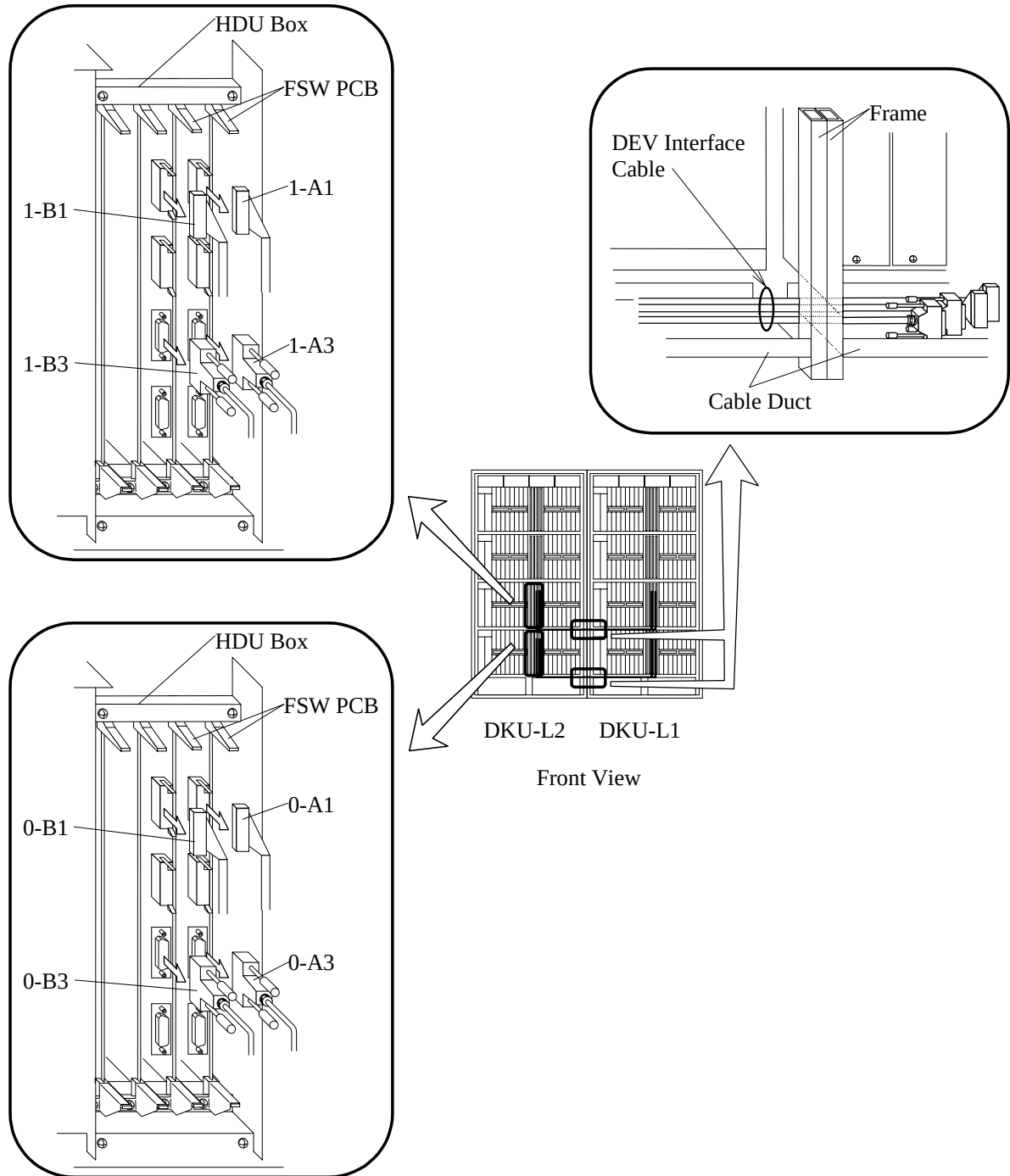


Fig. 4.1.10-22 Disconnection of the DEV Interface Cables

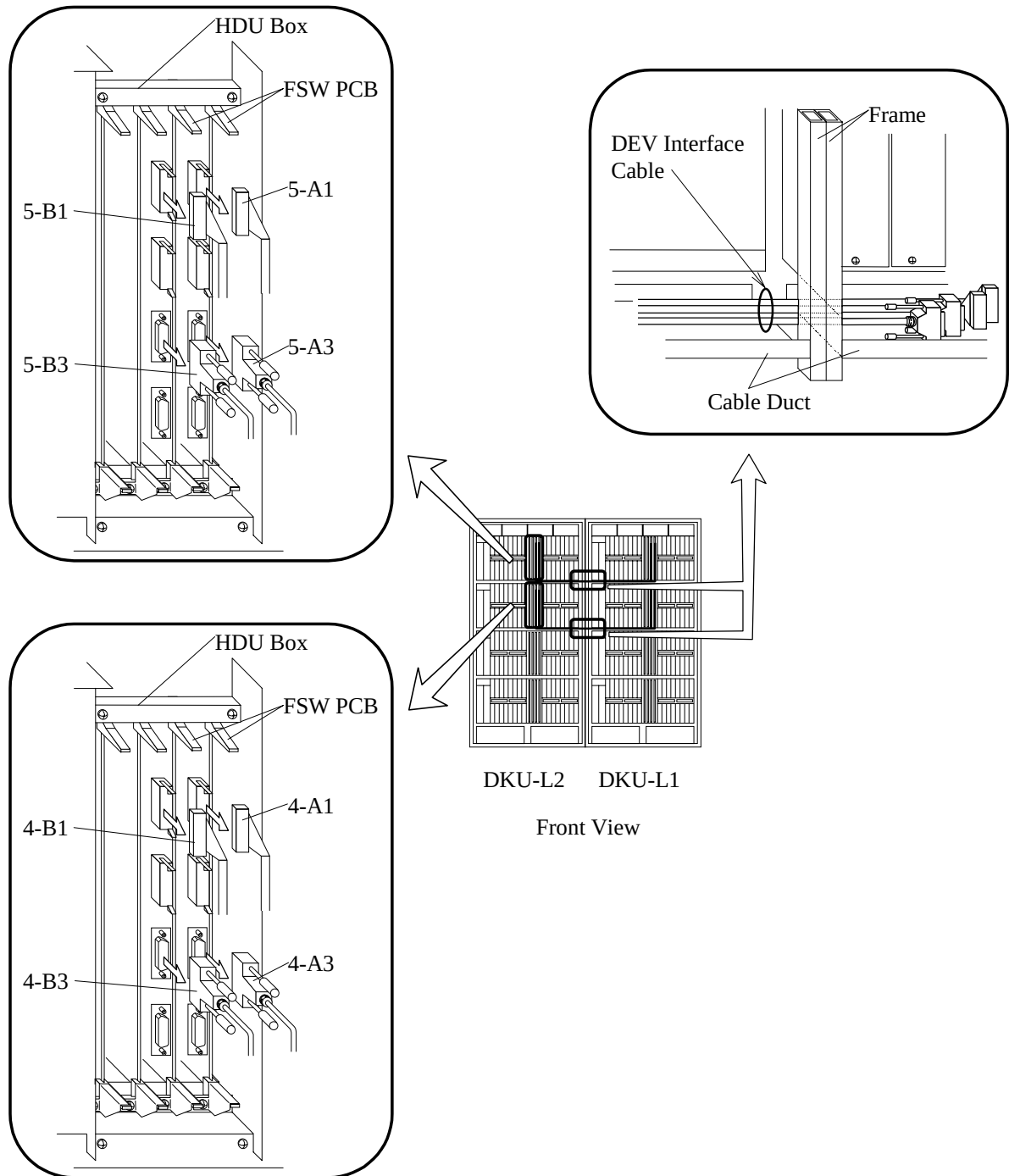


Fig. 4.1.10-23 Disconnection of the DEV Interface Cables

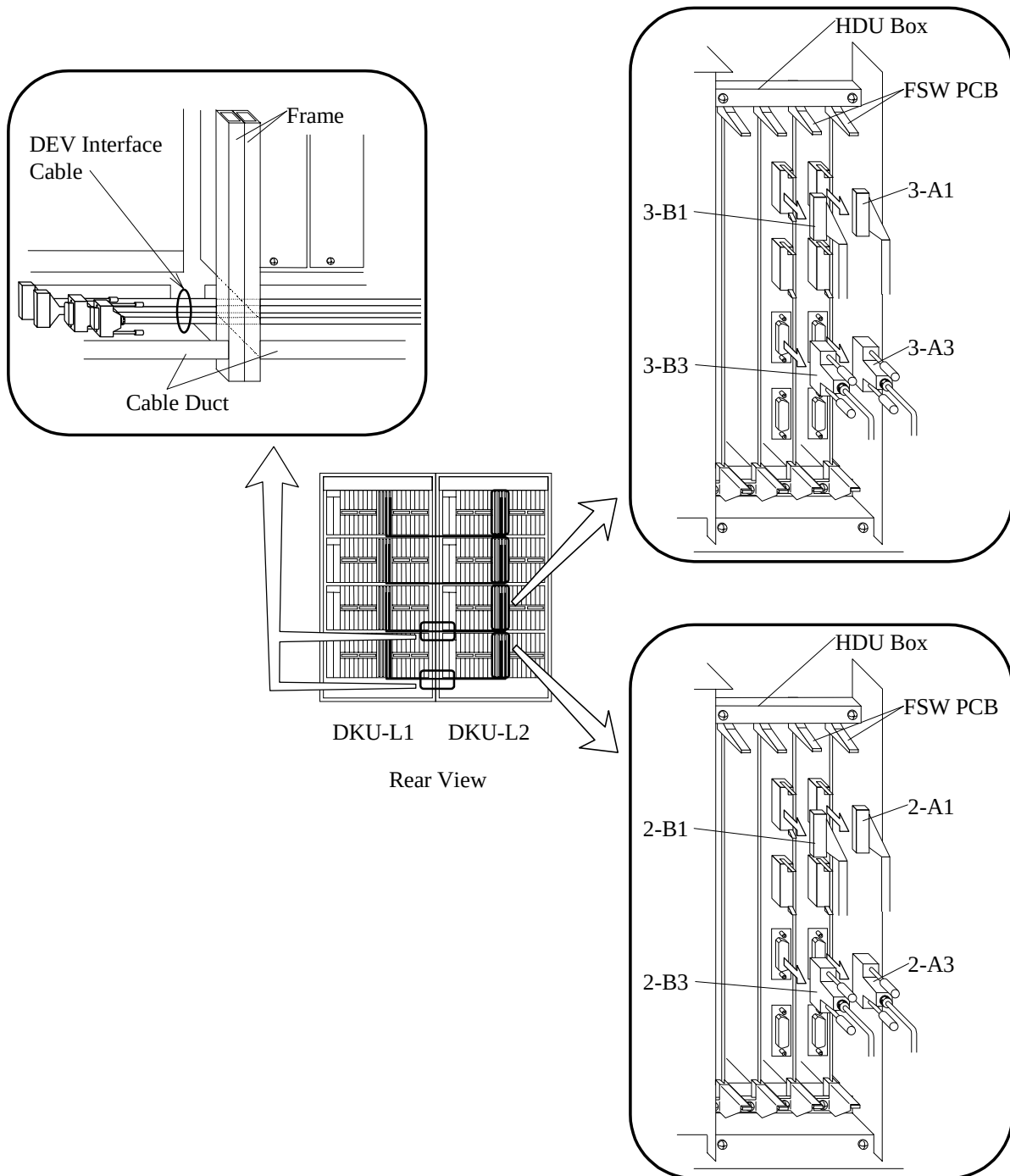


Fig. 4.1.10-24 Disconnection of the DEV Interface Cables

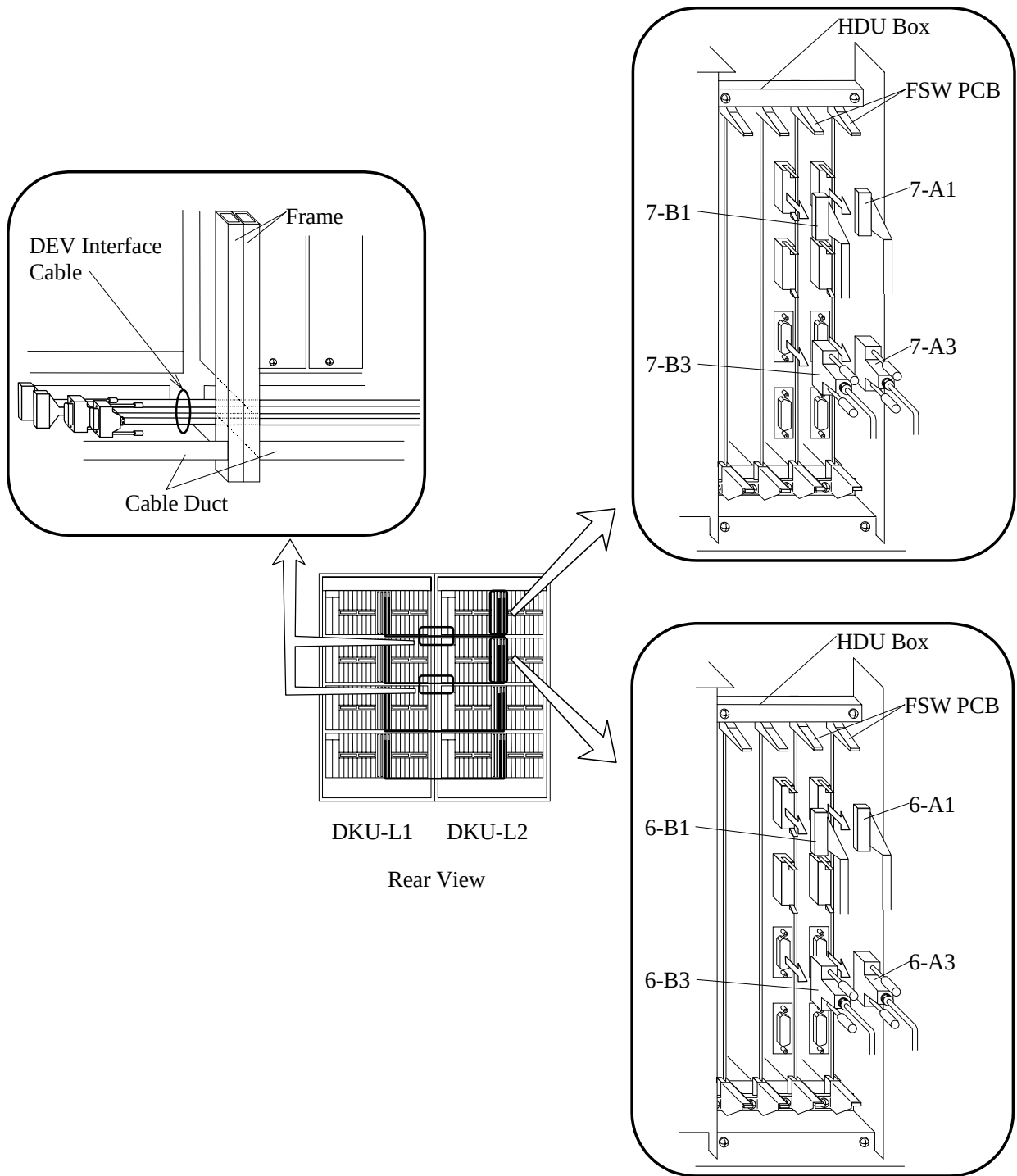


Fig. 4.1.10-25 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

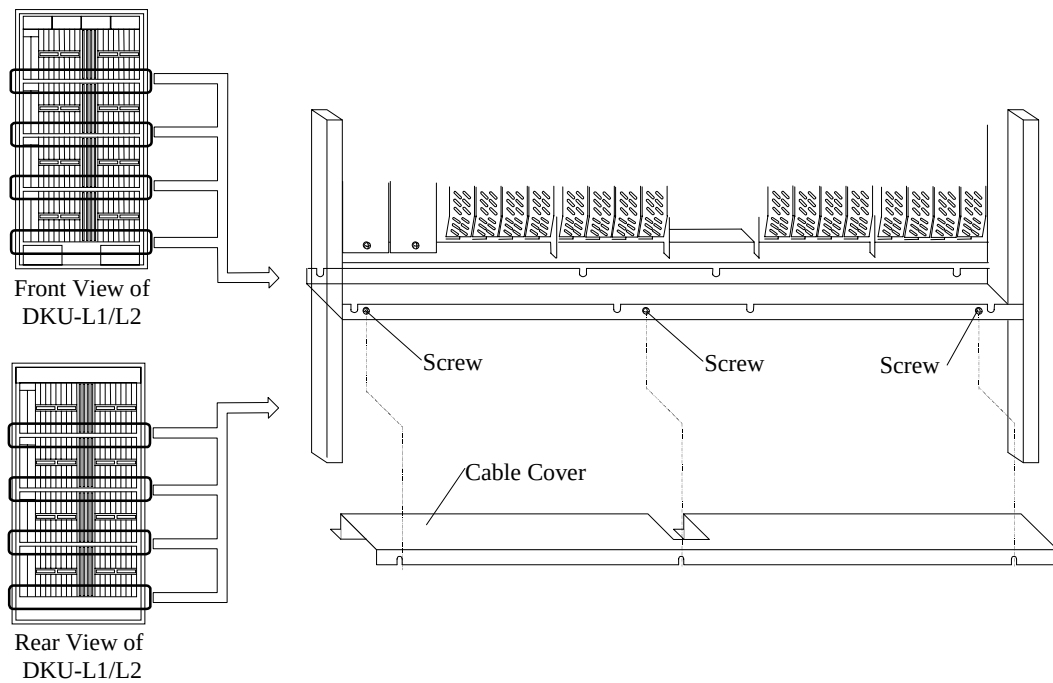


Fig. 4.1.10-26 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

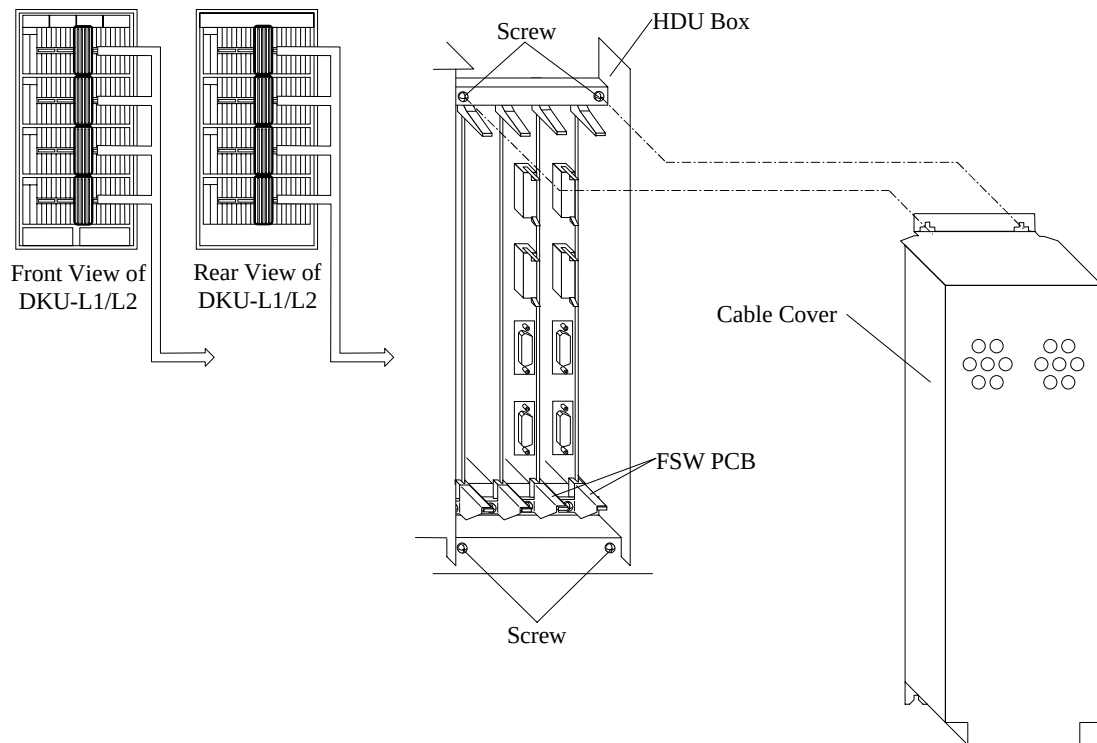


Fig. 4.1.10-27 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-L2 frame.

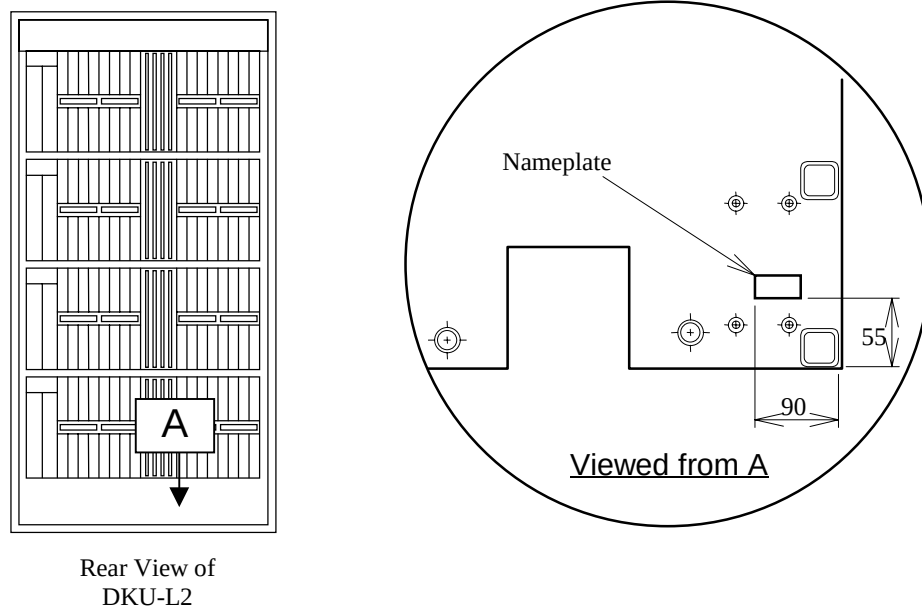


Fig. 4.1.10-28 Removal of the Nameplate

11. De-Installation Procedure of DEV Interface Cable 1 (3/3) (DKC-F460I-L1C)

- Refer to Fig. 4.1.10-29 and Fig. 4.1.10-30. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

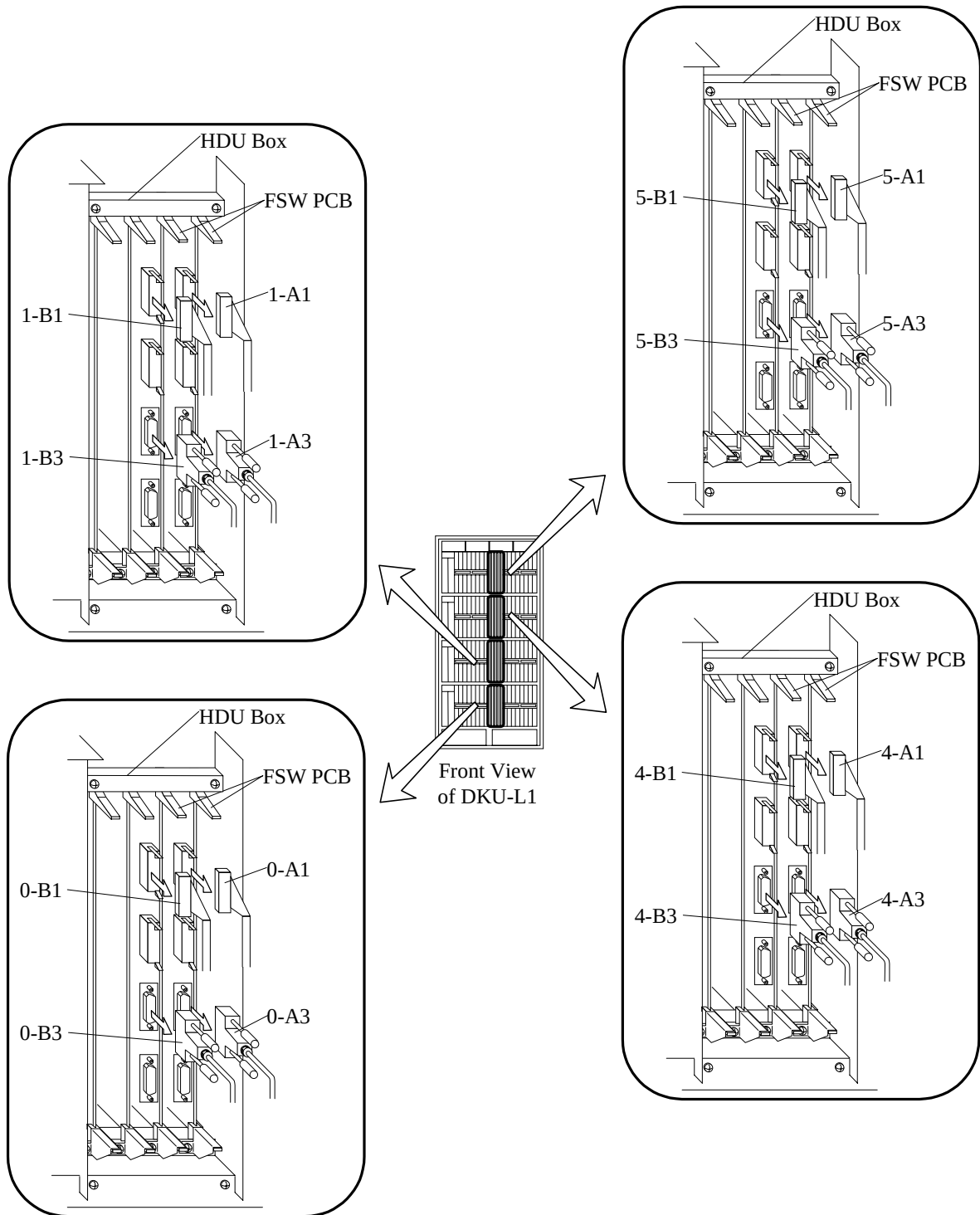


Fig. 4.1.10-29 DEV Interface Cabling Diagram (FSW PCB Side)

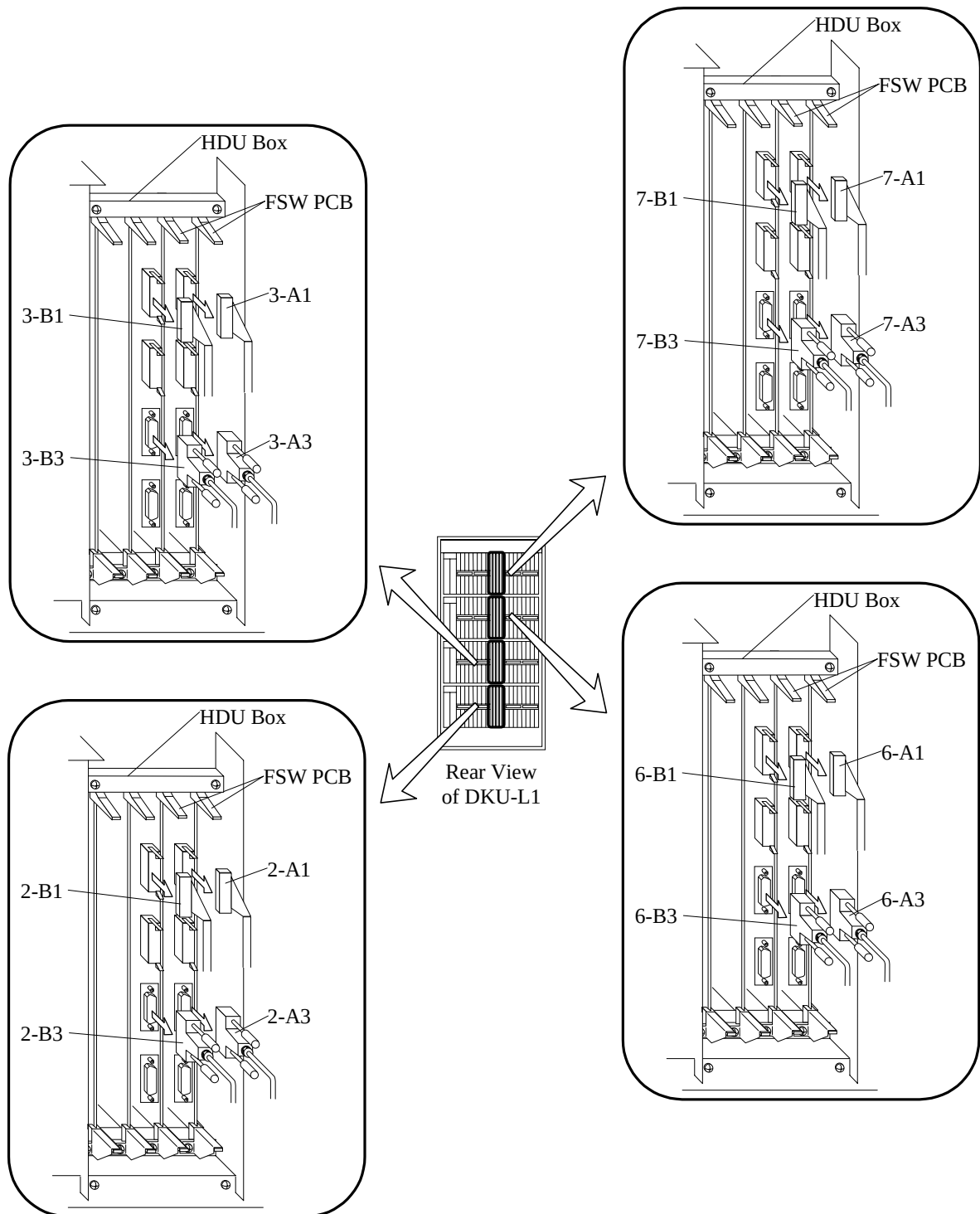


Fig. 4.1.10-30 DEV Interface Cabling Diagram (FSW PCB Side)

c. Attach the cable covers with the screws.

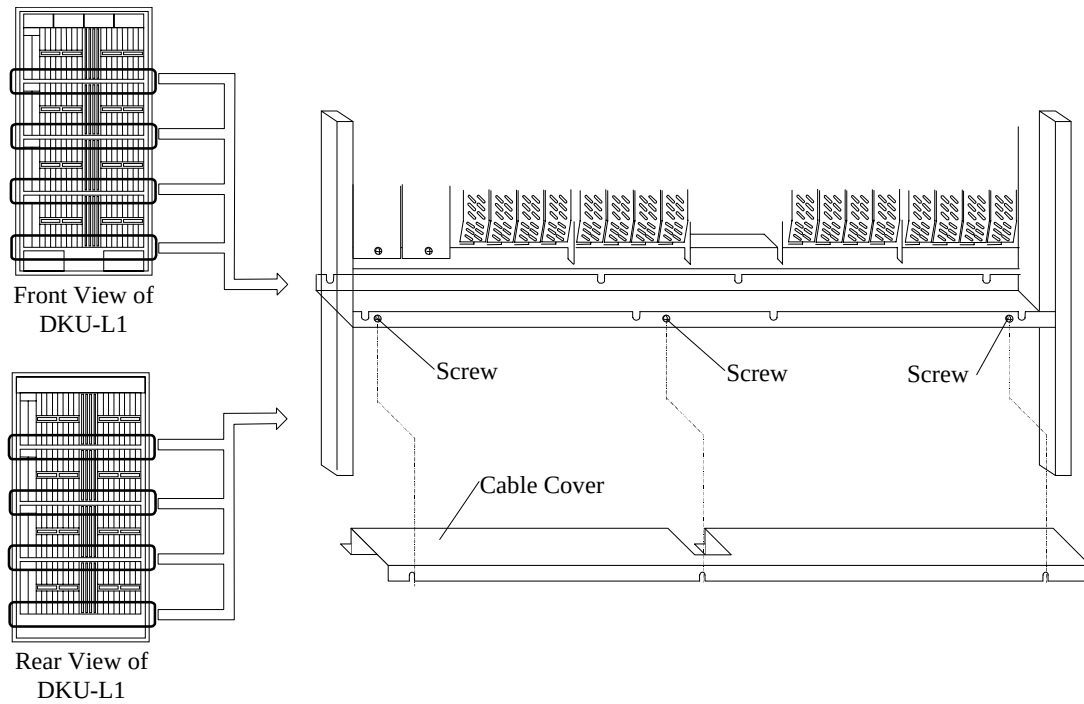


Fig. 4.1.10-31 Attachment of Cable Covers

d. Attach the cable covers with the screws.

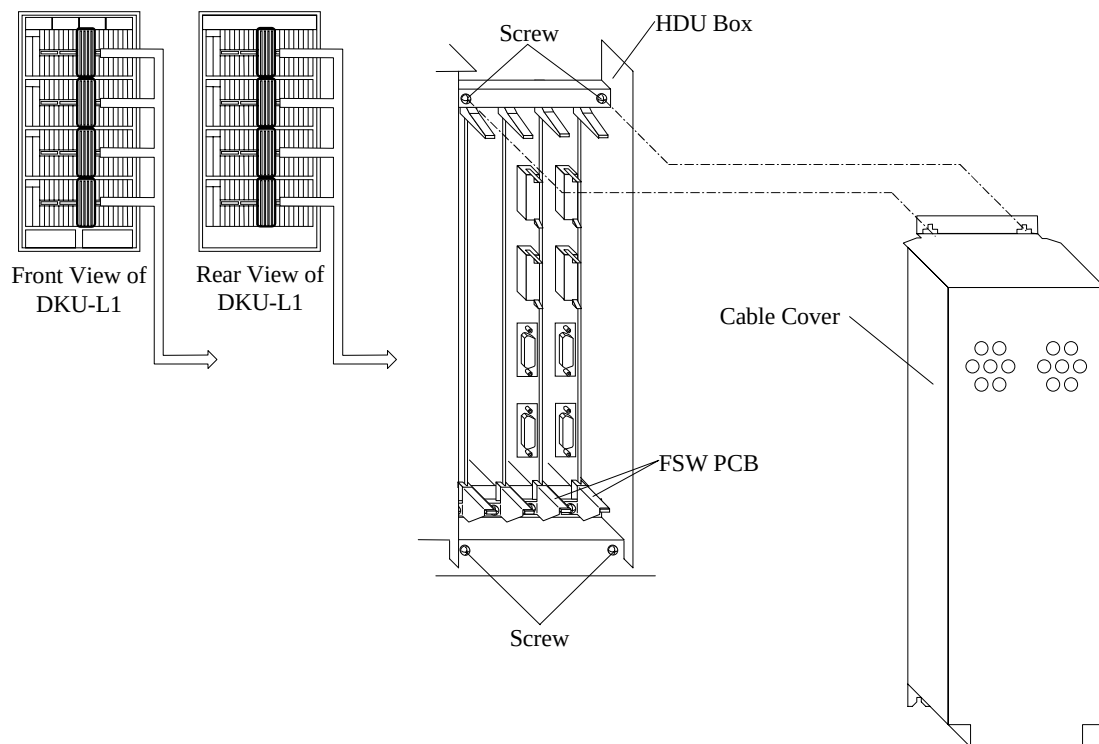


Fig. 4.1.10-32 Attachment of Cable Covers

- e. Remove the nameplate from the cover.

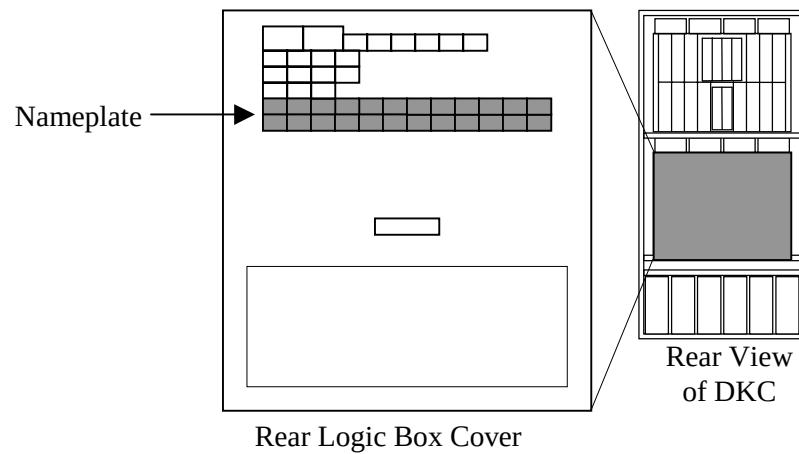


Fig. 4.1.10-33 Removal of Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.1.11 When performing removal of the data/spare HDD canister, DKA, and DEV interface cable that accompanies the removal of the DKU-R2, DKU-L1, and DKU-L2 frames (DKC-F460I-200/L1C, DKU-F455I-36K4/36K1/72J4/72J1/EXC)

1. De-Installation Procedure of DEV Interface Cable 2 (1/3) (DKU-F455I-EXC)

Caution:

When the main circuit breaker of the DKU is turned off before the DEV interface cable (DKU-F455I-EXC) is removed, the DKU Voltage Alarm is detected (the ALARM LED on the operator panel comes on and the SIM=BF20XX or BF22XX is issued). Therefore, turn off the main circuit breaker of the DKU after removing the DEV interface cable. The turning off of the DKU main circuit breaker is to be done later in another procedure explained on page [INST04-DKU-10](#).

Between HDU-R10-R17 and HDU-R20-R27

- a. Loosen the screws and remove the cable covers from the DKU frames.

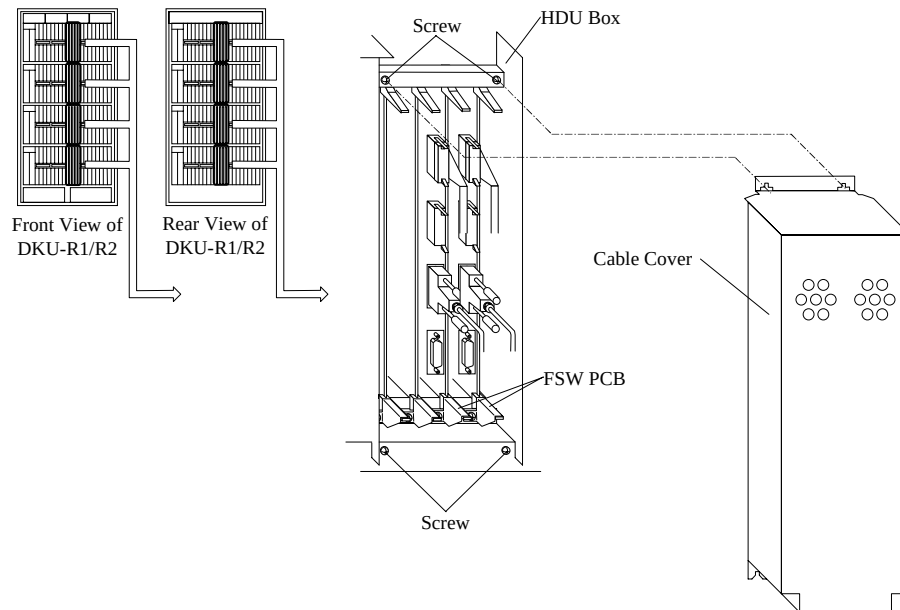


Fig. 4.1.11-1 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

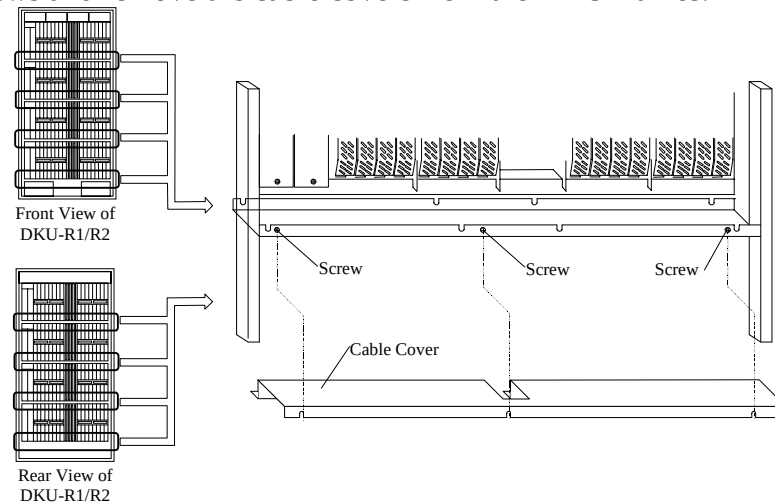


Fig.4.1.11-2 Removal of Cable Covers

Between HDU-L10-L17 and HDU-L20-L27

- a. Loosen the screws and remove the cable covers from the DKU frames.

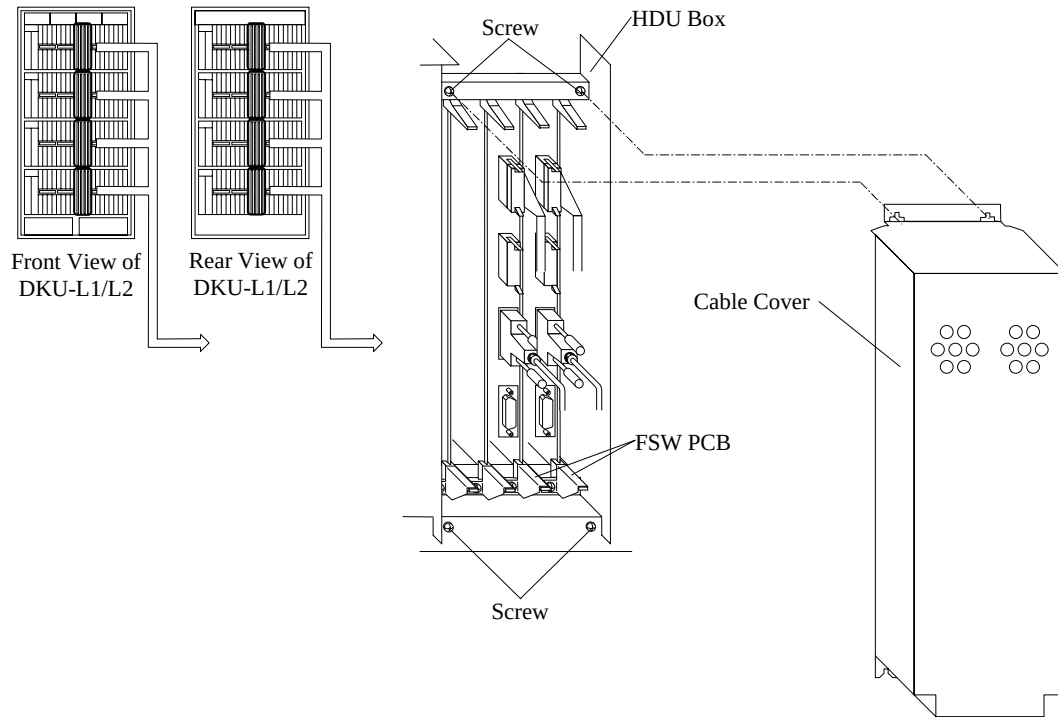


Fig. 4.1.11-3 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

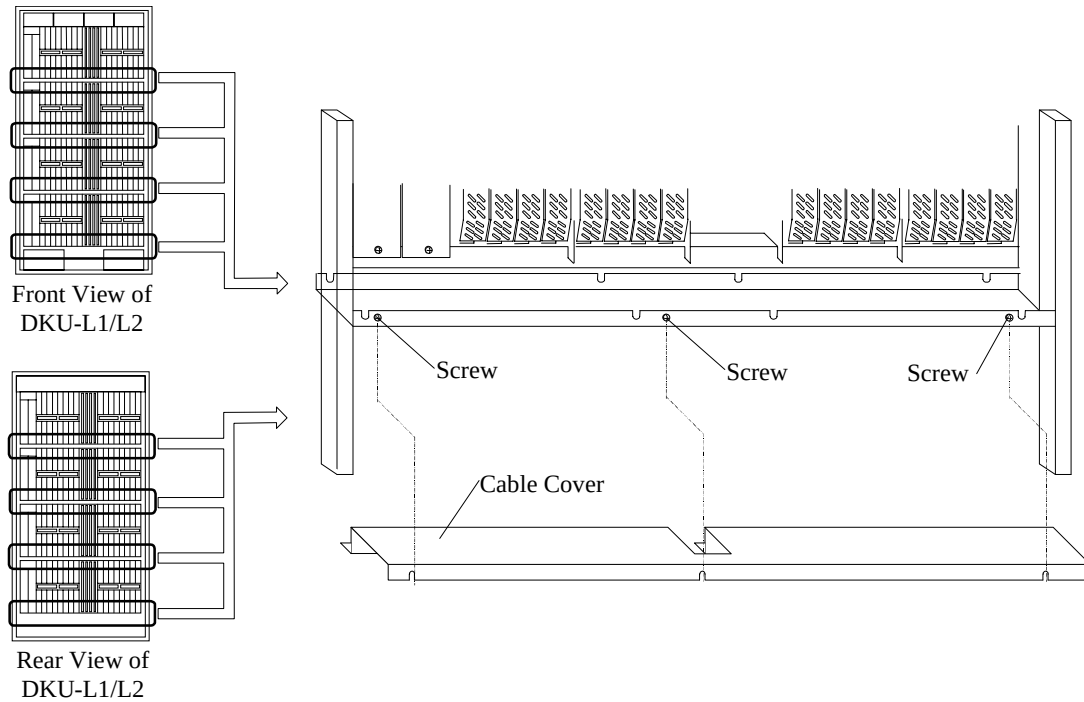


Fig. 4.1.11-4 Removal of Cable Covers

2. De-Installation Procedure of DEV Interface Cable 1 (1/3) (DKC-F460I-L1C)

- a. Loosen the screws and remove the cable covers from the DKU frames.

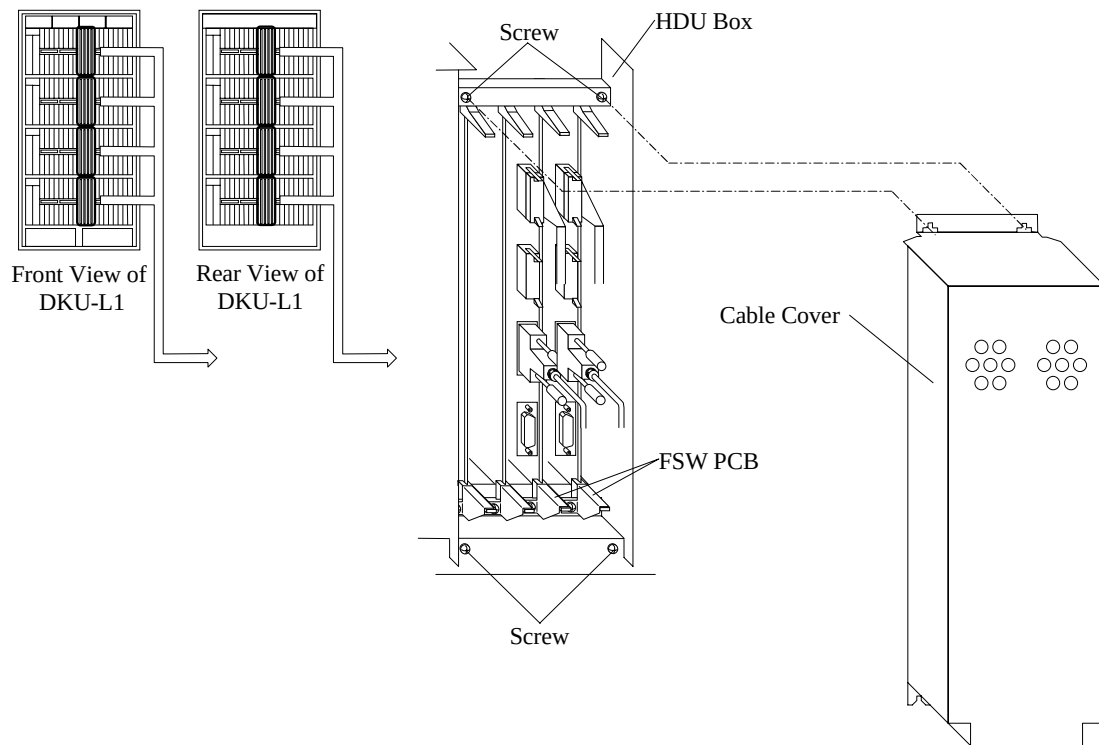


Fig. 4.1.11-5 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU frames.

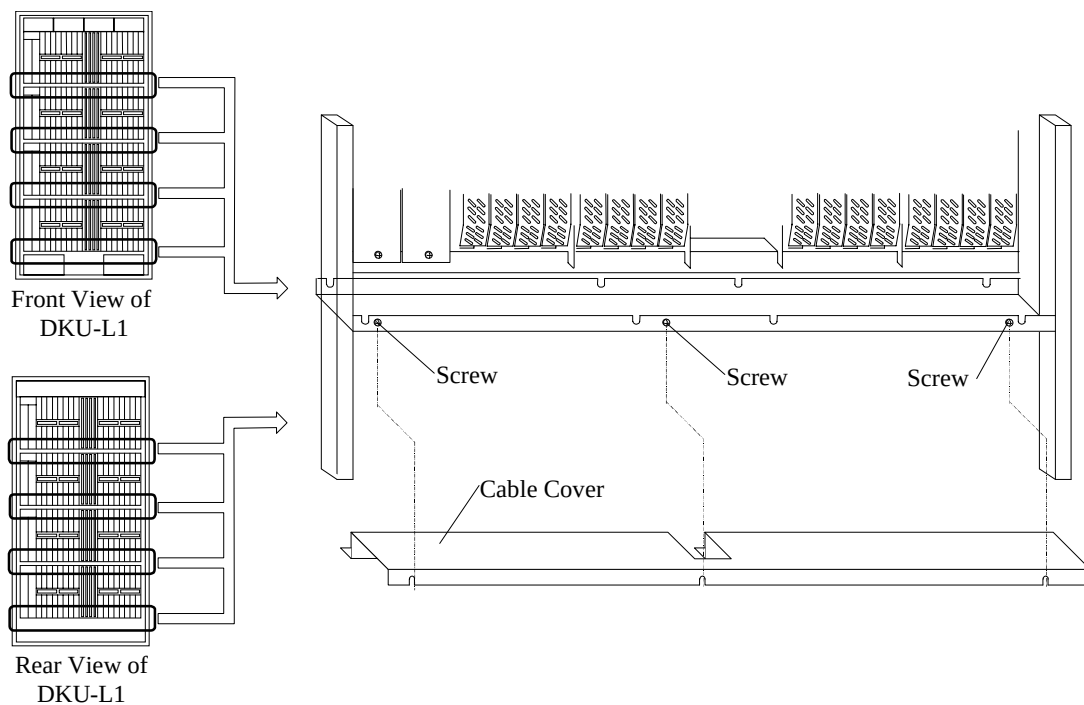
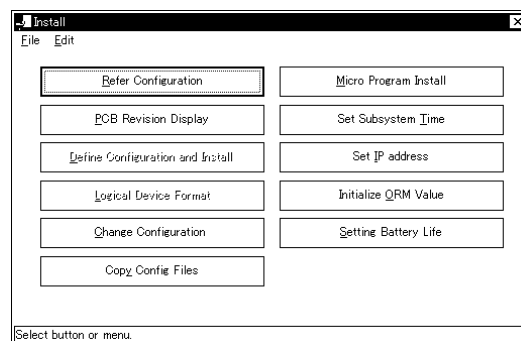


Fig. 4.1.11-6 Removal of Cable Covers

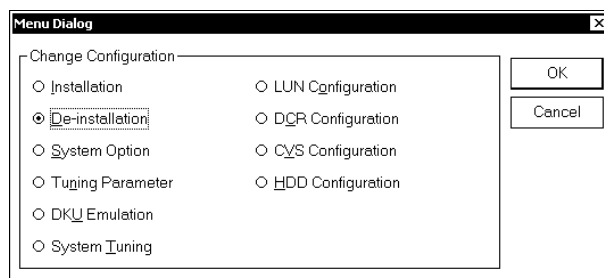
3. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

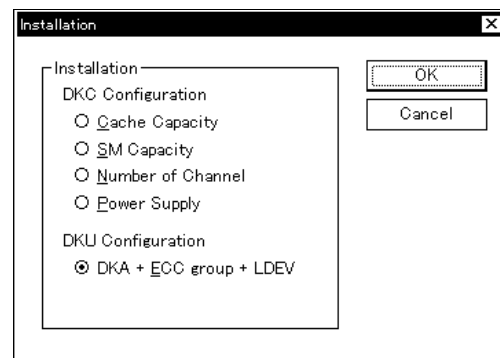
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



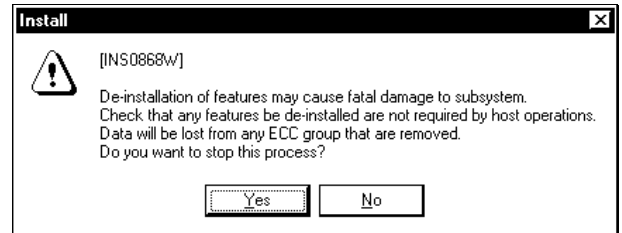
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



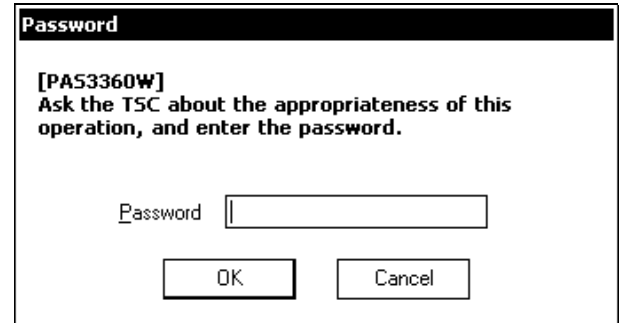
4. <Select a part to be changed>
Select (CL) [DKA + ECC group + LDEV], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

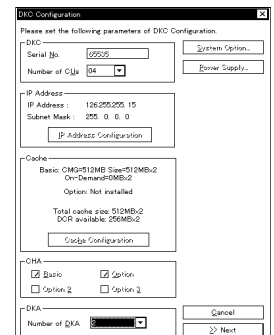
7. <Update Configuration Information>
Set the item to be de-installed for DKC and DKA in the ‘DKC Configuration’ window.

When decreasing the CUs, change the “Number of CUs”.

When decreasing the DKAs, change the “Number of DKA”.

Note: A part other than the CU and DKA cannot be removed at the same time.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Altering DKU frame information>

Define the DKU frame in the DKU Equipment Configuration window.
Make an altered setting in which the DKU-R2, DKU-L1, and DKU-L2 are deleted from the DKUs currently set.

Current setting	Altered setting
4DKUs (R1, L1, R2, L2)	1DKU (R1)

Note: After the setting is made, the B4 of the deleted DKU is not displayed.

After making the setting, select the [>> Next]. The routine proceeds to Step 8.
When the [Before <<] is selected, the window returns to the preceding one.
Return to Step 7.

8. Change Drive Configuration Information>

Set drive configuration according to the 'Physical Device Configuration' screen displaying the mounted B4 based on the result of setting of DKU mount pattern.

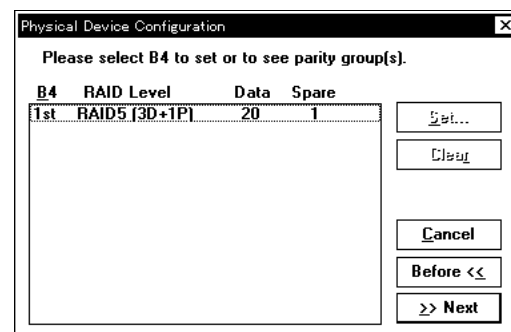
Detailed procedure is shown below.

[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 8-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.



[For the case of the multi cabinet model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

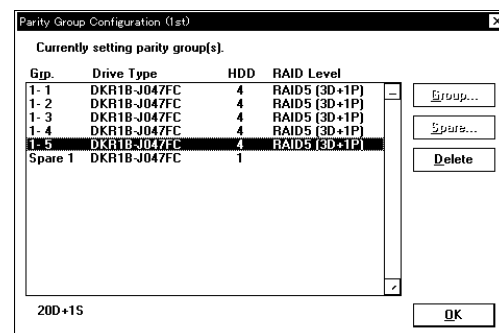
[For the case of the single cabinet model]

B4	Location	Remarks
1st	HDU-R0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-R0, 1, 2, 3	HDD-X10 ~ X1F

8-1. <Define Parity Group>

Select (CL) the group to be de-installed and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.

After setting, select (CL) [OK]. Return to step 8.

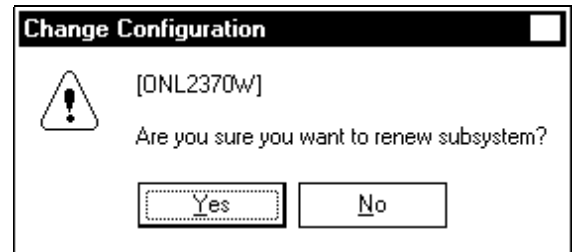


4. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

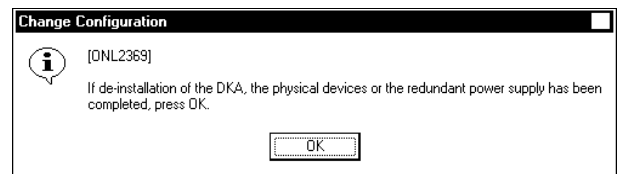
When [No] is selected (CL), returns to [INST04-DKA-2510](#) step 2.



2.

At this point refrain from pressing the [OK] button.

“If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



5. De-Installation Procedure of HDD Canister

5-1 Confirmation of position to de-install HDD canister

(i) RAID5(3D+1P)/RAID1(2D+2D)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.11-1.

Table 4.1.11-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (1/2)

	DKC	R1 DKU			R2 DKU		
		RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
Upper	2nd DKA Pair	032	2-1	HDDR1y-00	096	6-1	HDDR2y-00
		033	2-2	HDDR1y-01	097	6-2	HDDR2y-01
		034	2-3	HDDR1y-02	098	6-3	HDDR2y-02
		035	2-4	HDDR1y-03	099	6-4	HDDR2y-03
		036	2-5	HDDR1y-04	100	6-5	HDDR2y-04
		037	2-6	HDDR1y-05	101	6-6	HDDR2y-05
		038	2-7	HDDR1y-06	102	6-7	HDDR2y-06
		039	2-8	HDDR1y-07	103	6-8	HDDR2y-07
		040	2-9	HDDR1y-08	104	6-9	HDDR2y-08
		041	2-10	HDDR1y-09	105	6-10	HDDR2y-09
		042	2-11	HDDR1y-0A	106	6-11	HDDR2y-0A
		043	2-12	HDDR1y-0B	107	6-12	HDDR2y-0B
		044	2-13	HDDR1y-0C	108	6-13	HDDR2y-0C
		045	2-14	HDDR1y-0D	109	6-14	HDDR2y-0D
		046	2-15	HDDR1y-0E	110	6-15	HDDR2y-0E
		047(Spare) *2	2-16	HDDR1y-0F	111	6-16	HDDR2y-0F
		048	2-17	HDDR1y-10	112	6-17	HDDR2y-10
		049	2-18	HDDR1y-11	113	6-18	HDDR2y-11
		050	2-19	HDDR1y-12	114	6-19	HDDR2y-12
		051	2-20	HDDR1y-13	115	6-20	HDDR2y-13
		052	2-21	HDDR1y-14	116	6-21	HDDR2y-14
		053	2-22	HDDR1y-15	117	6-22	HDDR2y-15
		054	2-23	HDDR1y-16	118	6-23	HDDR2y-16
		055	2-24	HDDR1y-17	119	6-24	HDDR2y-17
		056	2-25	HDDR1y-18	120	6-25	HDDR2y-18
		057	2-26	HDDR1y-19	121	6-26	HDDR2y-19
		058	2-27	HDDR1y-1A	122	6-27	HDDR2y-1A
		059	2-28	HDDR1y-1B	123	6-28	HDDR2y-1B
		060	2-29	HDDR1y-1C	124	6-29	HDDR2y-1C
		061	2-30	HDDR1y-1D	125	6-30	HDDR2y-1D
		062	2-31	HDDR1y-1E	126	6-31	HDDR2y-1E
		063	2-32	HDDR1y-1F	127	6-32	HDDR2y-1F
Lower	1st DKA Pair	001	1-1	HDDR1x-00	064	5-1	HDDR2x-00
		002	1-2	HDDR1x-01	065	5-2	HDDR2x-01
		003	1-3	HDDR1x-02	066	5-3	HDDR2x-02
		004	1-4	HDDR1x-03	067	5-4	HDDR2x-03
		005	1-5	HDDR1x-04	068	5-5	HDDR2x-04
		006	1-6	HDDR1x-05	069	5-6	HDDR2x-05
		007	1-7	HDDR1x-06	070	5-7	HDDR2x-06
		008	1-8	HDDR1x-07	071	5-8	HDDR2x-07
		009	1-9	HDDR1x-08	072	5-9	HDDR2x-08
		010	1-10	HDDR1x-09	073	5-10	HDDR2x-09
		011	1-11	HDDR1x-0A	074	5-11	HDDR2x-0A
		012	1-12	HDDR1x-0B	075	5-12	HDDR2x-0B
		013	1-13	HDDR1x-0C	076	5-13	HDDR2x-0C
		014	1-14	HDDR1x-0D	077	5-14	HDDR2x-0D
		015	1-15	HDDR1x-0E	078	5-15	HDDR2x-0E
		Spare *1	1-16	HDDR1x-0F	079	5-16	HDDR2x-0F
		016	1-17	HDDR1x-10	080	5-17	HDDR2x-10
		017	1-18	HDDR1x-11	081	5-18	HDDR2x-11
		018	1-19	HDDR1x-12	082	5-19	HDDR2x-12
		019	1-20	HDDR1x-13	083	5-20	HDDR2x-13
		020	1-21	HDDR1x-14	084	5-21	HDDR2x-14
		021	1-22	HDDR1x-15	085	5-22	HDDR2x-15
		022	1-23	HDDR1x-16	086	5-23	HDDR2x-16
		023	1-24	HDDR1x-17	087	5-24	HDDR2x-17
		024	1-25	HDDR1x-18	088	5-25	HDDR2x-18
		025	1-26	HDDR1x-19	089	5-26	HDDR2x-19
		026	1-27	HDDR1x-1A	090	5-27	HDDR2x-1A
		027	1-28	HDDR1x-1B	091	5-28	HDDR2x-1B
		028	1-29	HDDR1x-1C	092	5-29	HDDR2x-1C
		029	1-30	HDDR1x-1D	093	5-30	HDDR2x-1D
		030	1-31	HDDR1x-1E	094	5-31	HDDR2x-1E
		031	1-32	HDDR1x-1F	095	5-32	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

Table 4.1.11-1 Relation between HDDs installation order and RAID group number (3D+1P/2D+2D) (2/2)

	L2 DKU			L1 DKU			DKC
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location	
Upper	223	8-1	HDDL2y-00	159	4-1	HDDL1y-00	4th DKA Pair
	224	8-2	HDDL2y-01	160	4-2	HDDL1y-01	
	225	8-3	HDDL2y-02	161	4-3	HDDL1y-02	
	226	8-4	HDDL2y-03	162	4-4	HDDL1y-03	
	227	8-5	HDDL2y-04	163	4-5	HDDL1y-04	
	228	8-6	HDDL2y-05	164	4-6	HDDL1y-05	
	229	8-7	HDDL2y-06	165	4-7	HDDL1y-06	
	230	8-8	HDDL2y-07	166	4-8	HDDL1y-07	
	231	8-9	HDDL2y-08	167	4-9	HDDL1y-08	
	232	8-10	HDDL2y-09	168	4-10	HDDL1y-09	
	233	8-11	HDDL2y-0A	169	4-11	HDDL1y-0A	
	234	8-12	HDDL2y-0B	170	4-12	HDDL1y-0B	
	235	8-13	HDDL2y-0C	171	4-13	HDDL1y-0C	
	236	8-14	HDDL2y-0D	172	4-14	HDDL1y-0D	
	237	8-15	HDDL2y-0E	173	4-15	HDDL1y-0E	
	238	8-16	HDDL2y-0F	174(Spare) *2	4-16	HDDL1y-0F	
	239	8-17	HDDL2y-10	175	4-17	HDDL1y-10	
	240	8-18	HDDL2y-11	176	4-18	HDDL1y-11	
	241	8-19	HDDL2y-12	177	4-19	HDDL1y-12	
	242	8-20	HDDL2y-13	178	4-20	HDDL1y-13	
	243	8-21	HDDL2y-14	179	4-21	HDDL1y-14	
	244	8-22	HDDL2y-15	180	4-22	HDDL1y-15	
	245	8-23	HDDL2y-16	181	4-23	HDDL1y-16	
	246	8-24	HDDL2y-17	182	4-24	HDDL1y-17	
	247	8-25	HDDL2y-18	183	4-25	HDDL1y-18	
	248	8-26	HDDL2y-19	184	4-26	HDDL1y-19	
	249	8-27	HDDL2y-1A	185	4-27	HDDL1y-1A	
	250	8-28	HDDL2y-1B	186	4-28	HDDL1y-1B	
	251	8-29	HDDL2y-1C	187	4-29	HDDL1y-1C	
	252	8-30	HDDL2y-1D	188	4-30	HDDL1y-1D	
	253	8-31	HDDL2y-1E	189	4-31	HDDL1y-1E	
	254	8-32	HDDL2y-1F	190	4-32	HDDL1y-1F	
Lower	191	7-1	HDDL2x-00	128	3-1	HDDL1x-00	3rd DKA Pair
	192	7-2	HDDL2x-01	129	3-2	HDDL1x-01	
	193	7-3	HDDL2x-02	130	3-3	HDDL1x-02	
	194	7-4	HDDL2x-03	131	3-4	HDDL1x-03	
	195	7-5	HDDL2x-04	132	3-5	HDDL1x-04	
	196	7-6	HDDL2x-05	133	3-6	HDDL1x-05	
	197	7-7	HDDL2x-06	134	3-7	HDDL1x-06	
	198	7-8	HDDL2x-07	135	3-8	HDDL1x-07	
	199	7-9	HDDL2x-08	136	3-9	HDDL1x-08	
	200	7-10	HDDL2x-09	137	3-10	HDDL1x-09	
	201	7-11	HDDL2x-0A	138	3-11	HDDL1x-0A	
	202	7-12	HDDL2x-0B	139	3-12	HDDL1x-0B	
	203	7-13	HDDL2x-0C	140	3-13	HDDL1x-0C	
	204	7-14	HDDL2x-0D	141	3-14	HDDL1x-0D	
	205	7-15	HDDL2x-0E	142	3-15	HDDL1x-0E	
	206	7-16	HDDL2x-0F	Spare *1	3-16	HDDL1x-0F	
	207	7-17	HDDL2x-10	143	3-17	HDDL1x-10	
	208	7-18	HDDL2x-11	144	3-18	HDDL1x-11	
	209	7-19	HDDL2x-12	145	3-19	HDDL1x-12	
	210	7-20	HDDL2x-13	146	3-20	HDDL1x-13	
	211	7-21	HDDL2x-14	147	3-21	HDDL1x-14	
	212	7-22	HDDL2x-15	148	3-22	HDDL1x-15	
	213	7-23	HDDL2x-16	149	3-23	HDDL1x-16	
	214	7-24	HDDL2x-17	150	3-24	HDDL1x-17	
	215	7-25	HDDL2x-18	151	3-25	HDDL1x-18	
	216	7-26	HDDL2x-19	152	3-26	HDDL1x-19	
	217	7-27	HDDL2x-1A	153	3-27	HDDL1x-1A	
	218	7-28	HDDL2x-1B	154	3-28	HDDL1x-1B	
	219	7-29	HDDL2x-1C	155	3-29	HDDL1x-1C	
	220	7-30	HDDL2x-1D	156	3-30	HDDL1x-1D	
	221	7-31	HDDL2x-1E	157	3-31	HDDL1x-1E	
	222	7-32	HDDL2x-1F	158	3-32	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: A data or spare disk is to be installed.

*3: HDDL1x-00 (x: HDU Box No. 0, 1, 2, 3), HDDL1y-00 (y: HDU Box No. 4, 5, 6, 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters	Data and Parity Drive

		R1 DKU				R2 DKU			
L2 DKU	L1 DKU	DKC							
		HDU-R15				HDU-R25			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R14				HDU-R24			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		062	063	060	061	126	127	124	125
		056	057	058	059	122	123	120	121
		054	055	052	053	118	119	116	117
		050	051	048	049	114	115	112	113
		046	047*2	044	045	110	111	108	109
		042	043	040	041	106	107	104	105
		038	039	036	037	102	103	100	101
		034	035	032	033	098	099	096	097
		HDU-R11				HDU-R21			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065
		HDU-R10				HDU-R20			
		P	P	P	P	P	P	P	P
		S	S	S	S	S	S	S	S
		030	031	028	029	094	095	092	093
		026	027	024	025	090	091	088	089
		022	023	020	021	086	087	084	085
		018	019	016	017	082	083	080	081
		015	Spare*1	013	014	078	079	076	077
		011	012	009	010	074	075	072	073
		007	008	005	006	070	071	068	069
		003	004	001	002	066	067	064	065

Front View

001-127: 4HDD canisters installation order

		R2 DKU				R1 DKU						
L2 DKU	L1 DKU	DKC										
		HDU-R27				HDU-R17						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R26				HDU-R16						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		126	127	124	125	062	063	060	061			
		122	123	120	121	056	057	058	059			
		118	119	116	117	054	055	052	053			
		114	115	112	113	050	051	048	049			
		110	111	108	109	046	047*2	044	045			
		106	107	104	105	042	043	040	041			
		102	103	100	101	038	039	036	037			
		098	099	096	097	034	035	032	033			
		HDU-R23				HDU-R13						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			
		HDU-R22				HDU-R12						
		P	P	P	P	P	P	P	P			
		S	S	S	S	S	S	S	S			
		094	095	092	093	030	031	028	029			
		090	091	088	089	026	027	024	025			
		086	087	084	085	022	023	020	021			
		082	083	080	081	018	019	016	017			
		078	079	076	077	015	Spare*1	013	014			
		074	075	072	073	011	012	009	010			
		070	071	068	069	007	008	005	006			
		066	067	064	065	003	004	001	002			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.11-7 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.11-1.

L2 DKU										L1 DKU										DKC	R1 DKU	R2 DKU				
HDU-L25										HDU-L15																
S					W					S					W											
P		P		S		S		P		P		S		S		P		P					S		S	
254	254	253	253	251	251	249	249	247	247	245	245	243	243	241	241	239	239	190	190				189	189	188	188
252	252	251	251	250	250	248	248	246	246	244	244	242	242	240	240	238	238	174*2	174*2				173	173	172	172
248	248	247	247	245	245	243	243	241	241	239	239	237	237	235	235	233	233	170	170				169	169	168	168
246	246	245	245	243	243	241	241	239	239	237	237	235	235	233	233	231	231	166	166				165	165	164	164
244	244	243	243	241	241	239	239	237	237	235	235	233	233	231	231	229	229	162	162				161	161	160	160
242	242	241	241	239	239	237	237	235	235	233	233	231	231	229	229	227	227	159	159	158	158	157	157			
240	240	239	239	237	237	235	235	233	233	231	231	229	229	227	227	225	225	156	156	155	155	154	154			
238	238	237	237	235	235	233	233	231	231	229	229	227	227	225	225	223	223	154	154	153	153	152	152			
236	236	235	235	233	233	231	231	229	229	227	227	225	225	223	223	221	221	152	152	151	151	150	150			
234	234	233	233	231	231	229	229	227	227	225	225	223	223	221	221	219	219	150	150	149	149	148	148			
232	232	231	231	229	229	227	227	225	225	223	223	221	221	219	219	217	217	148	148	147	147	146	146			
230	230	229	229	227	227	225	225	223	223	221	221	219	219	217	217	215	215	146	146	145	145	144	144			
228	228	227	227	225	225	223	223	221	221	219	219	217	217	215	215	213	213	144	144	143	143	142	142			
226	226	225	225	223	223	221	221	219	219	217	217	215	215	213	213	211	211	142	142	141	141	140	140			
224	224	223	223	221	221	219	219	217	217	215	215	213	213	211	211	209	209	140	140	139	139	138	138			
222	222	221	221	219	219	217	217	215	215	213	213	211	211	209	209	207	207	138	138	137	137	136	136			
220	220	219	219	217	217	215	215	213	213	211	211	209	209	207	207	205	205	136	136	135	135	134	134			
218	218	217	217	215	215	213	213	211	211	209	209	207	207	205	205	203	203	134	134	133	133	132	132			
216	216	215	215	213	213	211	211	209	209	207	207	205	205	203	203	201	201	132	132	131	131	130	130			
214	214	213	213	211	211	209	209	207	207	205	205	203	203	201	201	199	199	130	130	129	129	128	128			
212	212	211	211	209	209	207	207	205	205	203	203	201	201	199	199	197	197	128	128	127	127	126	126			
210	210	209	209	207	207	205	205	203	203	201	201	199	199	197	197	195	195	126	126	125	125	124	124			
208	208	207	207	205	205	203	203	201	201	199	199	197	197	195	195	193	193	124	124	123	123	122	122			
206	206	205	205	203	203	201	201	199	199	197	197	195	195	193	193	191	191	122	122	121	121	120	120			
204	204	203	203	201	201	199	199	197	197	195	195	193	193	191	191	206	206	120	120	119	119	118	118			
202	202	201	201	199	199	197	197	195	195	193	193	191	191	204	204	202	202	118	118	117	117	116	116			
200	200	200	200	199	199	198	198	196	196	194	194	192	192	200	200	200	200	116	116	115	115	114	114			
198	198	197	197	195	195	193	193	191	191	189	189	187	187	198	198	198	198	114	114	113	113	112	112			
196	196	195	195	193	193	191	191	189	189	187	187	185	185	196	196	196	196	112	112	111	111	110	110			
194	194	193	193	191	191	189	189	187	187	185	185	183	183	194	194	194	194	110	110	109	109	108	108			
192	192	191	191	189	189	187	187	185	185	183	183	181	181	192	192	192	192	108	108	107	107	106	106			

Front View

128-254: 4HDD canisters installation order

L1 DKU				L2 DKU			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			
HDU-L17				HDU-L27			
HDU-L16				HDU-L26			
HDU-L13				HDU-L23			
HDU-L12				HDU-L22			

Rear View

*1: To be left vacant or a spare disk is to be installed.

*2: A data or spare disk is to be installed.

Fig. 4.1.11-7 (3D+1P) or (2D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.11-1.

(ii) RAID5 (7D+1P)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 4.1.11-2.

Table 4.1.11-2 Relation between HDDs installation order and RAID group number (7D+1P) (1/2)

DKC	R1 DKU			R2 DKU		
	RAID Group Installation Order	RAID Group No.	HDD Location	RAID Group Installation Order	RAID Group No.	HDD Location
1st / 2nd DKA Pair	001	1-1 , (2-1)	HDDR1x-00	032	5-1, (6-1)	HDDR2x-00
	002	1-2 , (2-2)	HDDR1x-01	033	5-2, (6-2)	HDDR2x-01
	003	1-3 , (2-3)	HDDR1x-02	034	5-3, (6-3)	HDDR2x-02
	004	1-4 , (2-4)	HDDR1x-03	035	5-4, (6-4)	HDDR2x-03
	005	1-5 , (2-5)	HDDR1x-04	036	5-5, (6-5)	HDDR2x-04
	006	1-6 , (2-6)	HDDR1x-05	037	5-6, (6-6)	HDDR2x-05
	007	1-7 , (2-7)	HDDR1x-06	038	5-7, (6-7)	HDDR2x-06
	008	1-8 , (2-8)	HDDR1x-07	039	5-8, (6-8)	HDDR2x-07
	009	1-9 , (2-9)	HDDR1x-08	040	5-9, (6-9)	HDDR2x-08
	010	1-10 , (2-10)	HDDR1x-09	041	5-10, (6-10)	HDDR2x-09
	011	1-11 , (2-11)	HDDR1x-0A	042	5-11, (6-11)	HDDR2x-0A
	012	1-12 , (2-12)	HDDR1x-0B	043	5-12, (6-12)	HDDR2x-0B
	013	1-13 , (2-13)	HDDR1x-0C	044	5-13, (6-13)	HDDR2x-0C
	014	1-14 , (2-14)	HDDR1x-0D	045	5-14, (6-14)	HDDR2x-0D
	015	1-15 , (2-15)	HDDR1x-0E	046	5-15, (6-15)	HDDR2x-0E
	(Spare) *1	1-16 , (2-16)	HDDR1x-0F	047	5-16, (6-16)	HDDR2x-0F
	016	1-17 , (2-17)	HDDR1x-10	048	5-17, (6-17)	HDDR2x-10
	017	1-18 , (2-18)	HDDR1x-11	049	5-18, (6-18)	HDDR2x-11
	018	1-19 , (2-19)	HDDR1x-12	050	5-19, (6-19)	HDDR2x-12
	019	1-20 , (2-20)	HDDR1x-13	051	5-20, (6-20)	HDDR2x-13
	020	1-21 , (2-21)	HDDR1x-14	052	5-21, (6-21)	HDDR2x-14
	021	1-22 , (2-22)	HDDR1x-15	053	5-22, (6-22)	HDDR2x-15
	022	1-23 , (2-23)	HDDR1x-16	054	5-23, (6-23)	HDDR2x-16
	023	1-24 , (2-24)	HDDR1x-17	055	5-24, (6-24)	HDDR2x-17
	024	1-25 , (2-25)	HDDR1x-18	056	5-25, (6-25)	HDDR2x-18
	025	1-26 , (2-26)	HDDR1x-19	057	5-26, (6-26)	HDDR2x-19
	026	1-27 , (2-27)	HDDR1x-1A	058	5-27, (6-27)	HDDR2x-1A
	027	1-28 , (2-28)	HDDR1x-1B	059	5-28, (6-28)	HDDR2x-1B
	028	1-29 , (2-29)	HDDR1x-1C	060	5-29, (6-29)	HDDR2x-1C
	029	1-30 , (2-30)	HDDR1x-1D	061	5-30, (6-30)	HDDR2x-1D
	030	1-31 , (2-31)	HDDR1x-1E	062	5-31, (6-31)	HDDR2x-1E
	031	1-32 , (2-32)	HDDR1x-1F	063	5-32, (6-32)	HDDR2x-1F

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- Install RAID 5 (7D+1P) forming pairs using the same number of the two RAID groups (RAID groups 1 and 2, 3 and 4, 5 and 6, and 7 and 8) of RAID 5 (3D+1P).
(Example: RAID group numbers 1-1 and 2-1)
The types of HDDs to be installed in each pair must be the same.
- In the case of RAID 5 (7D+1P), only odd RAID numbers are displayed on the SVP. (Group numbers shown in parentheses in the table above are not displayed.)
- When RAID 5 (3D+1P) or RAID 1 (2D+2D) and RAID 5 (7D+1P) are configured mixture, note that duplicated group numbers are excluded.
Example: When Group No. 1-1 is configured for RAID 5 (7D+1P), Group No. 2-1 is excluded and cannot be configure for RAID 5 (3D+1P).

Table 4.1.11-2 Relation between HDDs installation order and RAID group number (7D+1P) (2/2)

L2 DKU			L1 DKU			DKC
RAID Group Installation Order	RAID Group No.	HDDL Location	RAID Group Installation Order	RAID Group No.	HDDL Location	
095	7-1, (8-1)	HDDL2x-00	064	3-1, (4-1)	HDDL1x-00	3rd / 4th DKA Pair
096	7-2, (8-2)	HDDL2x-01	065	3-2, (4-2)	HDDL1x-01	
097	7-3, (8-3)	HDDL2x-02	066	3-3, (4-3)	HDDL1x-02	
098	7-4, (8-4)	HDDL2x-03	067	3-4, (4-4)	HDDL1x-03	
099	7-5, (8-5)	HDDL2x-04	068	3-5, (4-5)	HDDL1x-04	
100	7-6, (8-6)	HDDL2x-05	069	3-6, (4-6)	HDDL1x-05	
101	7-7, (8-7)	HDDL2x-06	070	3-7, (4-7)	HDDL1x-06	
102	7-8, (8-8)	HDDL2x-07	071	3-8, (4-8)	HDDL1x-07	
103	7-9, (8-9)	HDDL2x-08	072	3-9, (4-9)	HDDL1x-08	
104	7-10, (8-10)	HDDL2x-09	073	3-10, (4-10)	HDDL1x-09	
105	7-11, (8-11)	HDDL2x-0A	074	3-11, (4-11)	HDDL1x-0A	
106	7-12, (8-12)	HDDL2x-0B	075	3-12, (4-12)	HDDL1x-0B	
107	7-13, (8-13)	HDDL2x-0C	076	3-13, (4-13)	HDDL1x-0C	
108	7-14, (8-14)	HDDL2x-0D	077	3-14, (4-14)	HDDL1x-0D	
109	7-15, (8-15)	HDDL2x-0E	078	3-15, (4-15)	HDDL1x-0E	
110	7-16, (8-16)	HDDL2x-0F	(Spare) *1	3-16, (4-16)	HDDL1x-0F	
111	7-17, (8-17)	HDDL2x-10	079	3-17, (4-17)	HDDL1x-10	
112	7-18, (8-18)	HDDL2x-11	080	3-18, (4-18)	HDDL1x-11	
113	7-19, (8-19)	HDDL2x-12	081	3-19, (4-19)	HDDL1x-12	
114	7-20, (8-20)	HDDL2x-13	082	3-20, (4-20)	HDDL1x-13	
115	7-21, (8-21)	HDDL2x-14	083	3-21, (4-21)	HDDL1x-14	
116	7-22, (8-22)	HDDL2x-15	084	3-22, (4-22)	HDDL1x-15	
117	7-23, (8-23)	HDDL2x-16	085	3-23, (4-23)	HDDL1x-16	
118	7-24, (8-24)	HDDL2x-17	086	3-24, (4-24)	HDDL1x-17	
119	7-25, (8-25)	HDDL2x-18	087	3-25, (4-25)	HDDL1x-18	
120	7-26, (8-26)	HDDL2x-19	088	3-26, (4-26)	HDDL1x-19	
121	7-27, (8-27)	HDDL2x-1A	089	3-27, (4-27)	HDDL1x-1A	
122	7-28, (8-28)	HDDL2x-1B	090	3-28, (4-28)	HDDL1x-1B	
123	7-29, (8-29)	HDDL2x-1C	091	3-29, (4-29)	HDDL1x-1C	
124	7-30, (8-30)	HDDL2x-1D	092	3-30, (4-30)	HDDL1x-1D	
125	7-31, (8-31)	HDDL2x-1E	093	3-31, (4-31)	HDDL1x-1E	
126	7-32, (8-32)	HDDL2x-1F	094	3-32, (4-32)	HDDL1x-1F	

*1: To be left vacant or a spare disk is to be installed. *2: HDDL1x-00 (x: HDU Box No. 0, 1, 2, ..., 7)

- (1) Make sure of the location where the RAID group is de-installed and that where the HDD canister is to be removed.

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K4/72J4	4 HDD Canisters x 2sets	Data and Parity Drive

			R1 DKU	R2 DKU
L2 DKU	L1 DKU	DKC	HDU-R15 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R25 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R14 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R24 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R11 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R21 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033
			HDU-R10 P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017 F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002	HDU-R20 P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049 F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033

Front View

001-063: 8HDD canisters installation order

			R2 DKU	R1 DKU			
HDU-R27	P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049	F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033	HDU-R17	P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017	F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002	DKC	L1 DKU
HDU-R26	P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049	F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033	HDU-R16	P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017	F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002		L2 DKU
HDU-R23	P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049	F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033	HDU-R13	P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017	F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002		
HDU-R22	P P S S 062 063 060 061 058 059 056 057 054 055 052 053 050 051 048 049	F S W 046 047 044 045 042 043 040 041 038 039 036 037 034 035 032 033	HDU-R12	P P S S 030 031 028 029 026 027 024 025 022 023 020 021 018 019 016 017	F Spare*1 S W 015 014 013 012 011 010 009 008 007 006 005 004 003 002		

Rear View

*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.11-8 (7D+1P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.11-2.

L2 DKU				L1 DKU				DKC	R1 DKU	R2 DKU
HDU-L25				HDU-L15						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	078	Spare*1			
122	120	121	119	091	089	076	077			
118	116	117	115	090	087	074	075			
114	112	111	110	088	085	072	073			
110	108	109	107	086	083	070	071			
106	104	105	103	084	081	068	069			
102	100	101	99	082	079	066	067			
98	96	97	95	080	078	064	065			
HDU-L24				HDU-L14						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	078	Spare*1			
122	120	121	119	091	089	076	077			
118	116	117	115	090	087	074	075			
114	112	111	110	088	085	072	073			
110	108	109	107	086	083	070	071			
106	104	105	103	084	081	068	069			
102	100	101	99	082	079	066	067			
98	96	97	95	080	078	064	065			
HDU-L21				HDU-L11						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	078	Spare*1			
122	120	121	119	091	089	076	077			
118	116	117	115	090	087	074	075			
114	112	111	110	088	085	072	073			
110	108	109	107	086	083	070	071			
106	104	105	103	084	081	068	069			
102	100	101	99	082	079	066	067			
98	96	97	95	080	078	064	065			
HDU-L20				HDU-L10						
P	P	S	S	P	P	S	S			
126	124	125	123	094	092	078	Spare*1			
122	120	121	119	091	089	076	077			
118	116	117	115	090	087	074	075			
114	112	111	110	088	085	072	073			
110	108	109	107	086	083	070	071			
106	104	105	103	084	081	068	069			
102	100	101	99	082	079	066	067			
98	96	97	95	080	078	064	065			

Front View

064-126: 8HDD canisters installation ord

Front View

064-126: 8HDD canisters installation order

L1 DKU				L2 DKU														
R2 DKU	R1 DKU	DKC	HDU-L17								HDU-L27							
			P				S				P				S			
			094				093				126				125			
			092				091				124				123			
			090				089				122				121			
088				087				120				119						
086				085				118				117						
084				083				116				115						
082				081				114				113						
080				079				112				111						
F				W				F				W						
Spare*1				078				078				109						
077				076				077				110						
075				074				075				108						
073				072				073				106						
071				070				071				105						
069				068				069				104						
067				066				067				103						
065				064				065				102						
												101						
												100						
												099						
												098						
												097						
												096						

Rear View

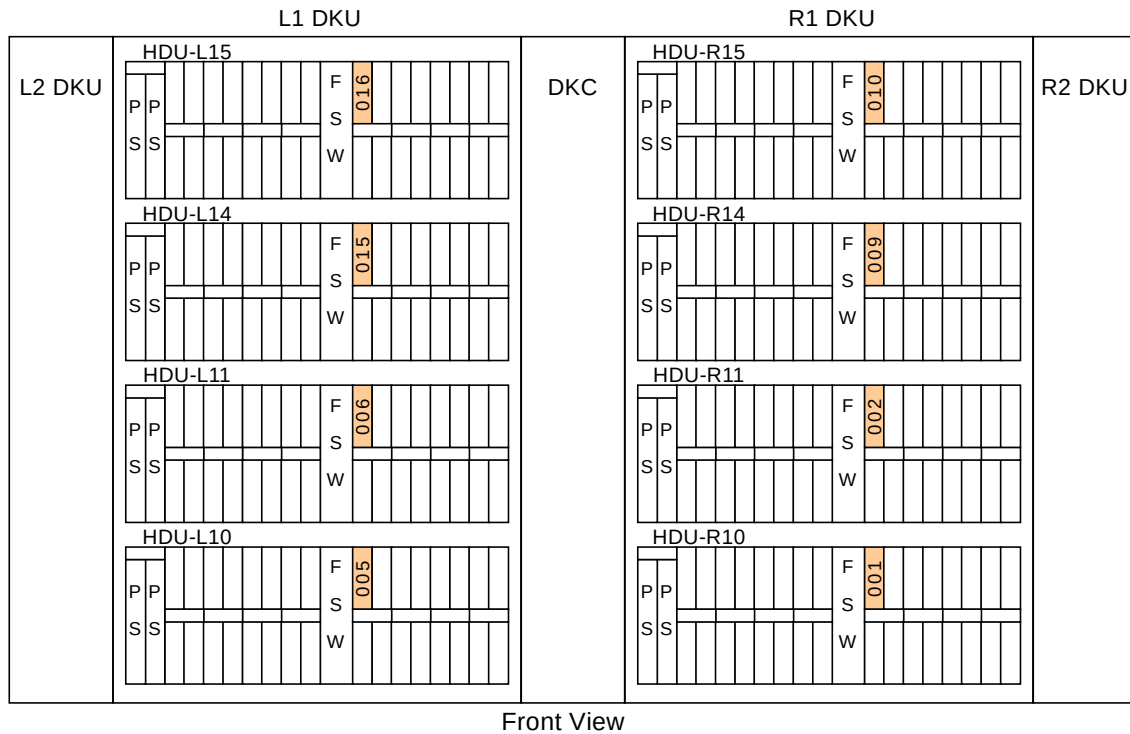
*1: To be left vacant or a spare disk is to be installed.

Fig. 4.1.11-8 (7D+1P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between HDDs installation order and RAID group number is shown in the Table 4.1.11-2.

(iii) Spare HDD

No.	Model Number	Model Name	Data and Parity
1	DKU-F455I-36K1/72J1	1 HDD Canister	Spare Drive



001-016: Spare HDD canister installation order

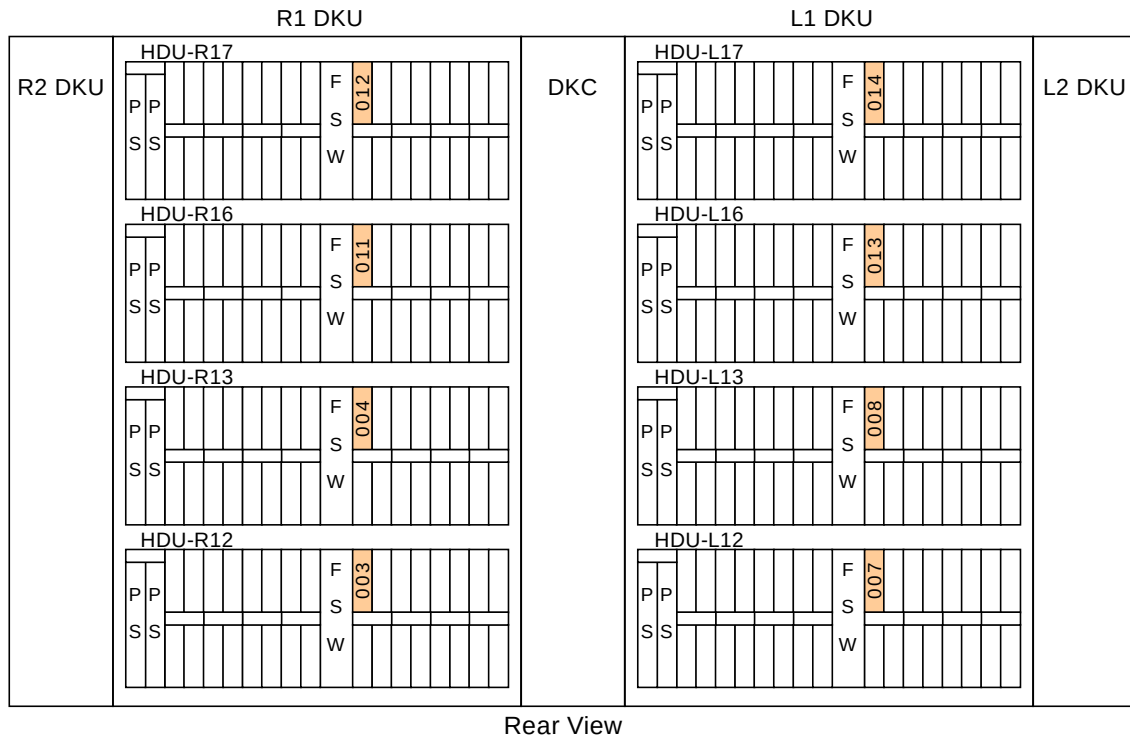


Fig. 4.1.11-9 Spare Drive Expansion Sequence

5-2 Confirmation of Shut Down LED.

- a. Confirm the Shut Down LED on the JMP PCB. (It should be RED.)

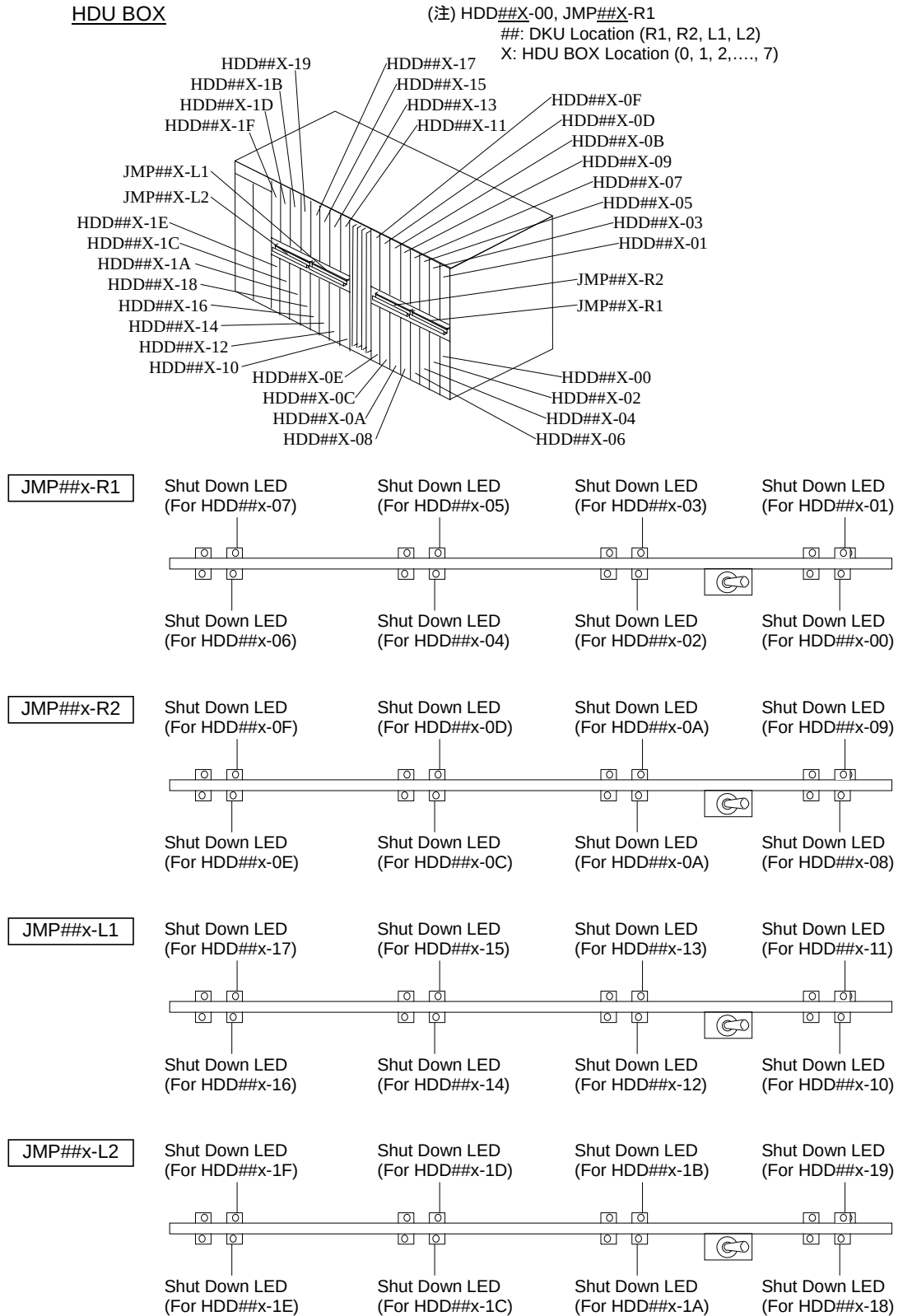


Fig. 4.1.11-10 Location of Shut Down LED

5-3 De-installation of the HDD canister.



CAUTION

A system down may be caused by a removal of an HDD canister other than that to be removed. Make sure that it is the HDD canister to be removed.

- a. After pushing up the stopper on the front side of the HDD canister, pull the handle toward you to remove the HDD canister.
- b. Insert the dummy canister to the HDU Box.

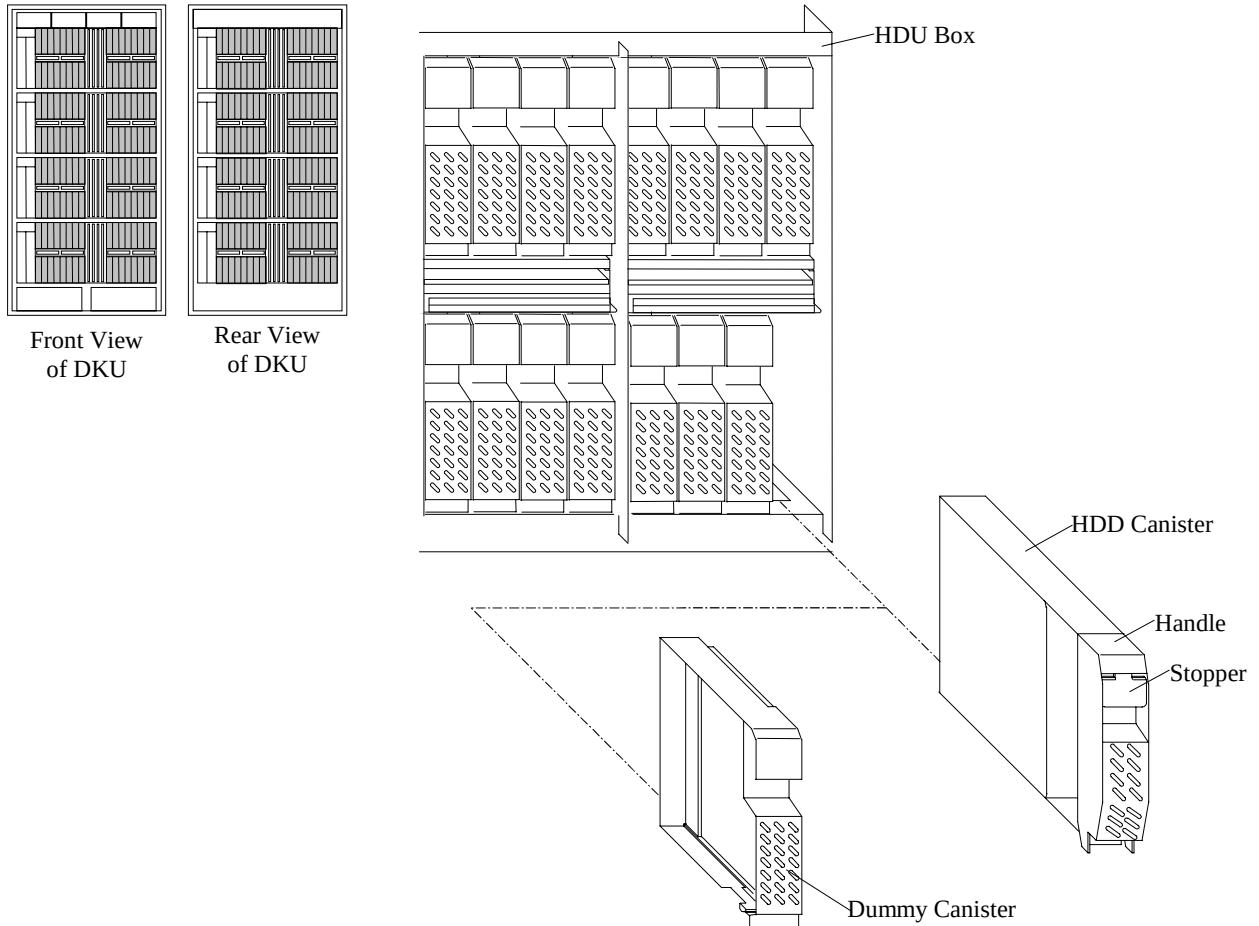
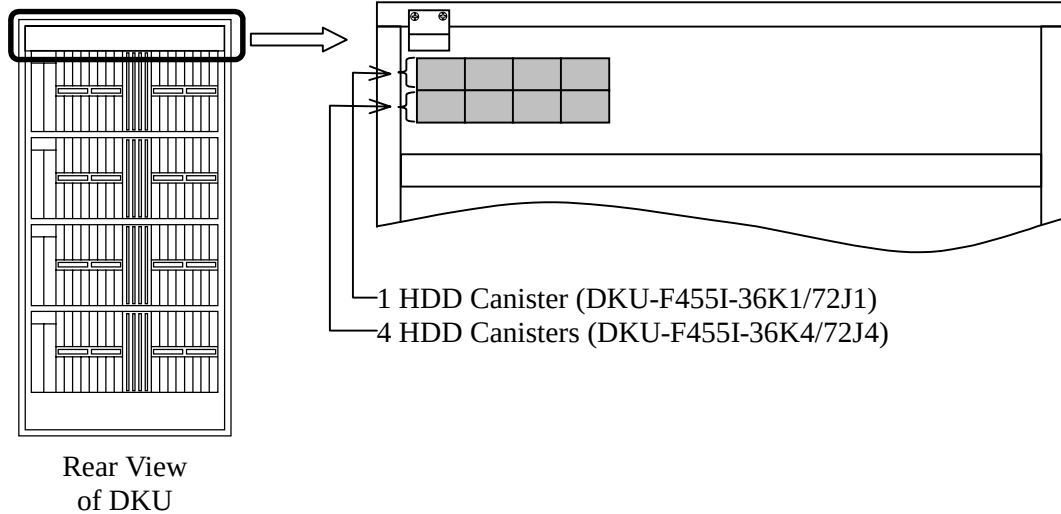


Fig. 4.1.11-11 De-Installation of HDD Canister

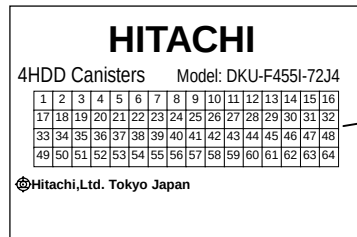
5-4 Removal of the nameplate.

- a. Wipe off the unnecessary numbers on the corresponding nameplate.



[Example]

When the 7 DKU-F455I-72J4 sets are installed



								8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	

Fig. 4.1.11-12 Removal of Nameplate

6. De-Installation Procedure of DEV Interface Cable 2 (2/3) (DKU-F455I-EXC)

Caution:

When the DEV interface cable is removed from the FSW PCB, the power applied to the DKU to be removed is turned off automatically for each HDU Box from which the cable is removed.

Between HDU-R10-R17 and HDU-R20-R27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-R1 frame referring to figures 4.1.11-13 and 4.1.11-14.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.

Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

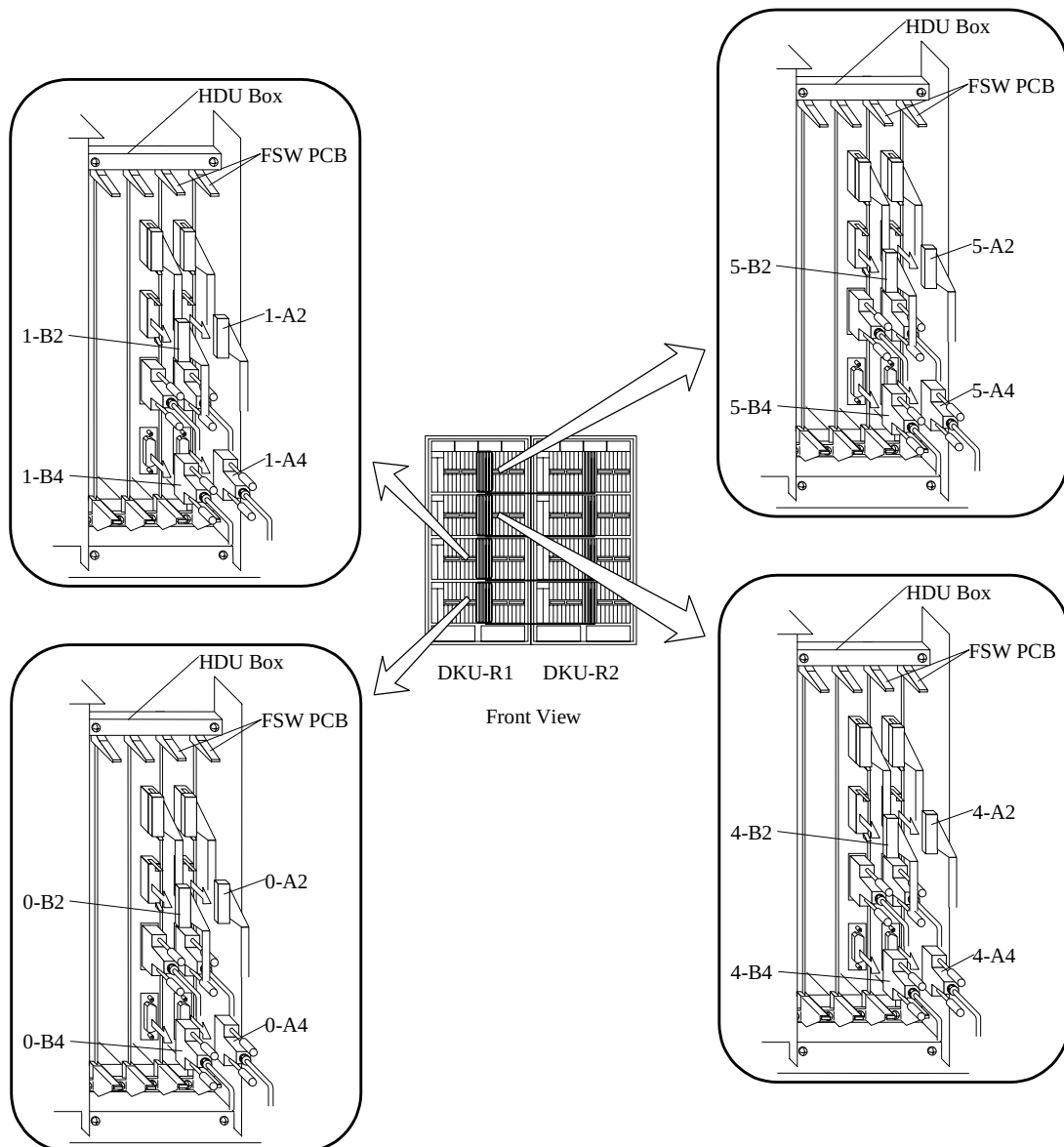


Fig. 4.1.11-13 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

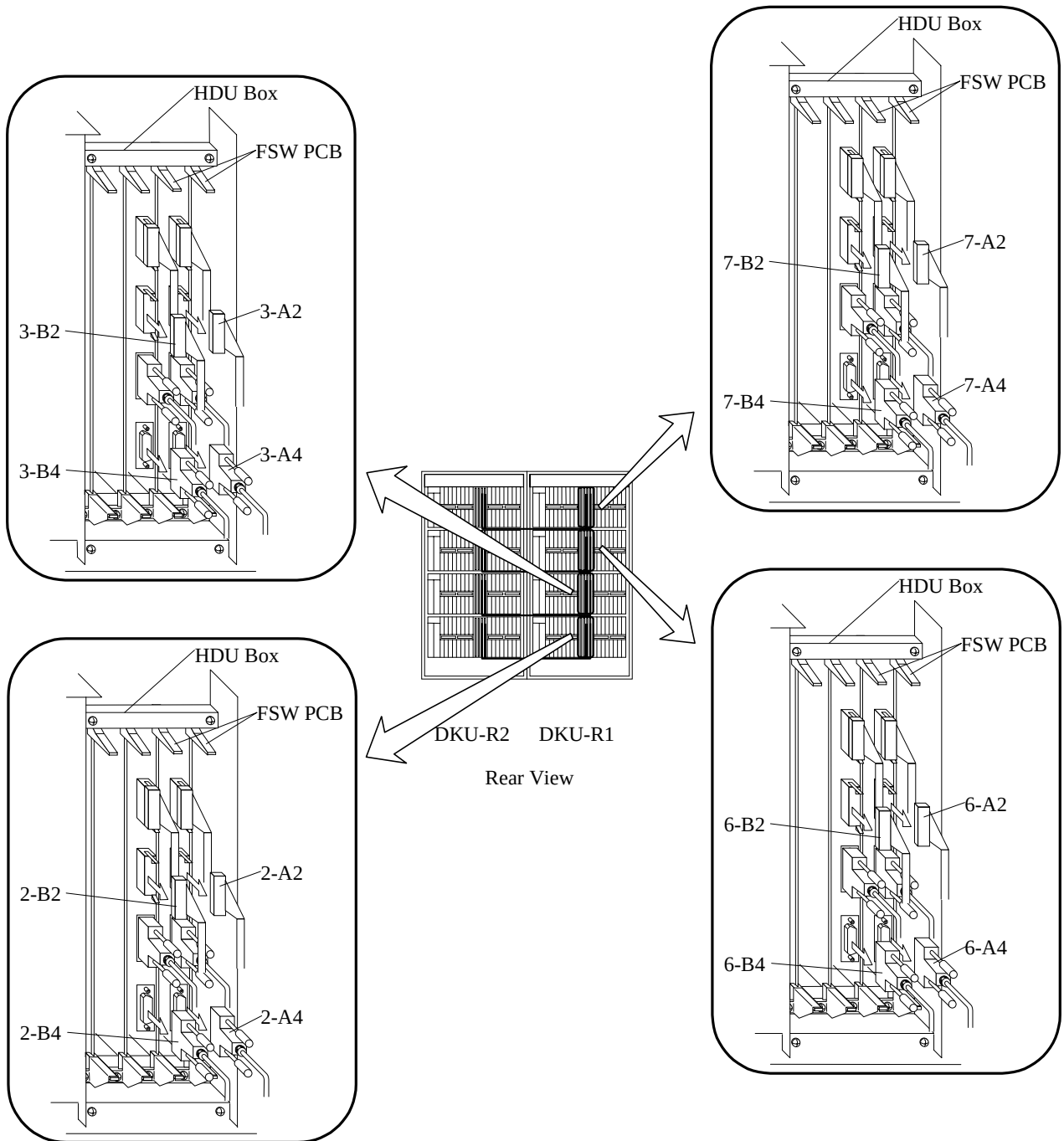


Fig. 4.1.11-14 Connection of the DEV Interface Cables

Between HDU-L10-L17 and HDU-L20-L27

- a. Disconnect the DEV interface cables from the FSW PCBs in the DKU-L1 frame referring to figures 4.1.11-15 and 4.1.11-16.

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

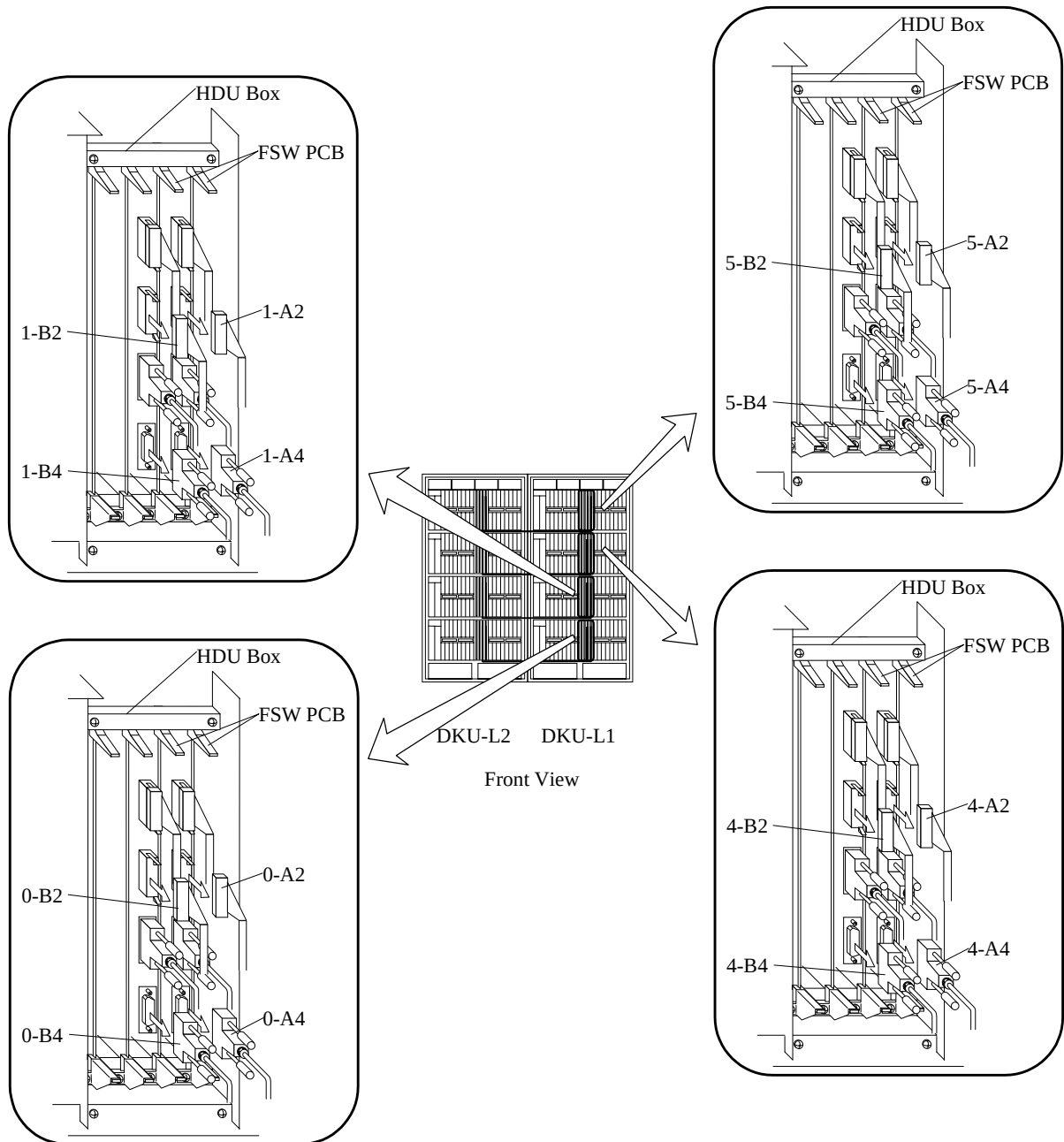


Fig. 4.1.11-15 Connection of the DEV Interface Cables

CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

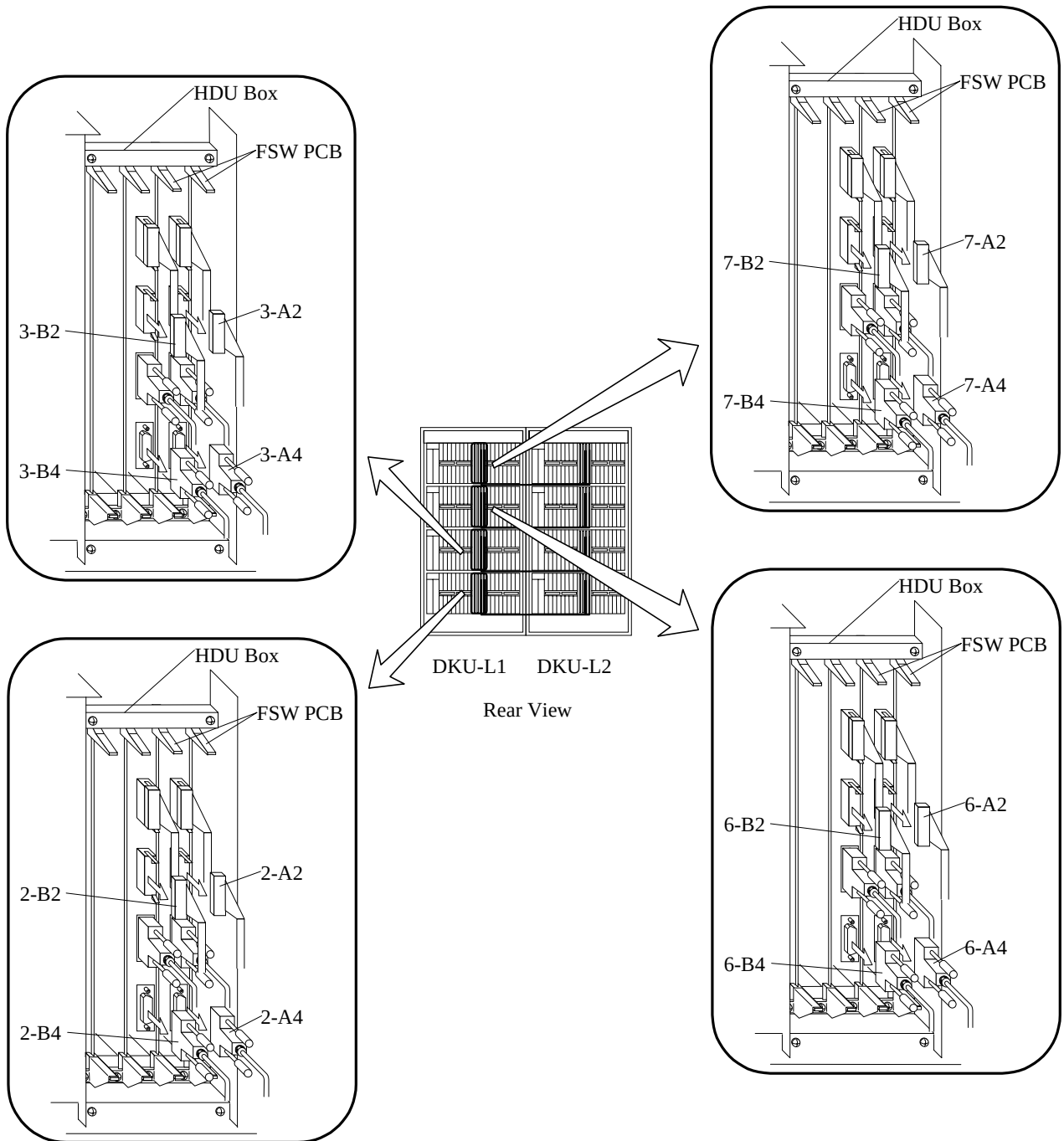


Fig. 4.1.11-16 Connection of the DEV Interface Cables

7. De-Installation Procedure of DEV Interface Cable (2/3) (DKC-F460I-L1C)

- a. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. D and K in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

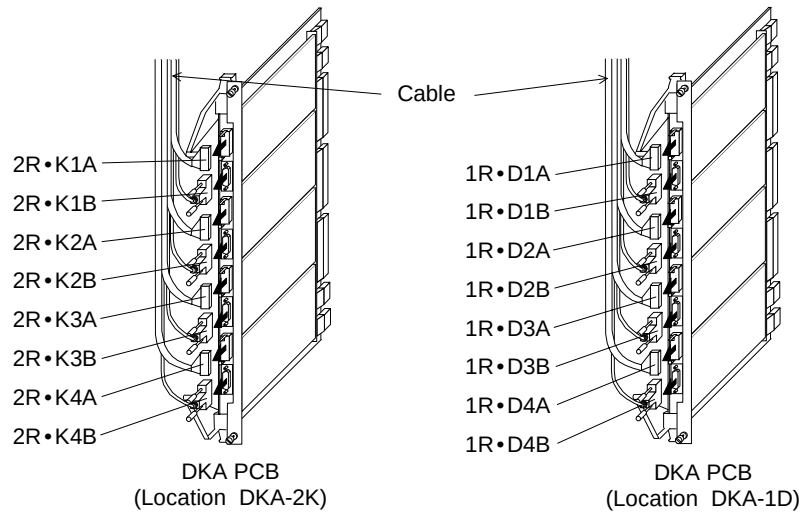


Fig. 4.1.11-17 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

- b. Disconnect the DEV interface cables from the sub-edges on the disk adapter PCBs that are installed in locations Nos. E and L in the Rear Logic Box.



CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

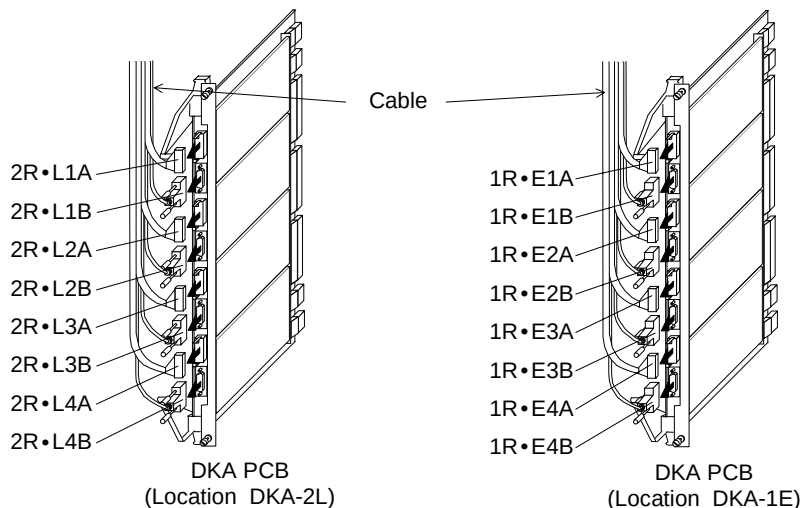


Fig. 4.1.11-18 DEV Interface Cable Disconnecting Diagram (Disk Adapter PCB Side)

8. De-Installation Procedure of Disk Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

8-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on. (Fig. 4.1.11-19) If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

⚠ CAUTION

A system down may be caused if the Maintenance jumper is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

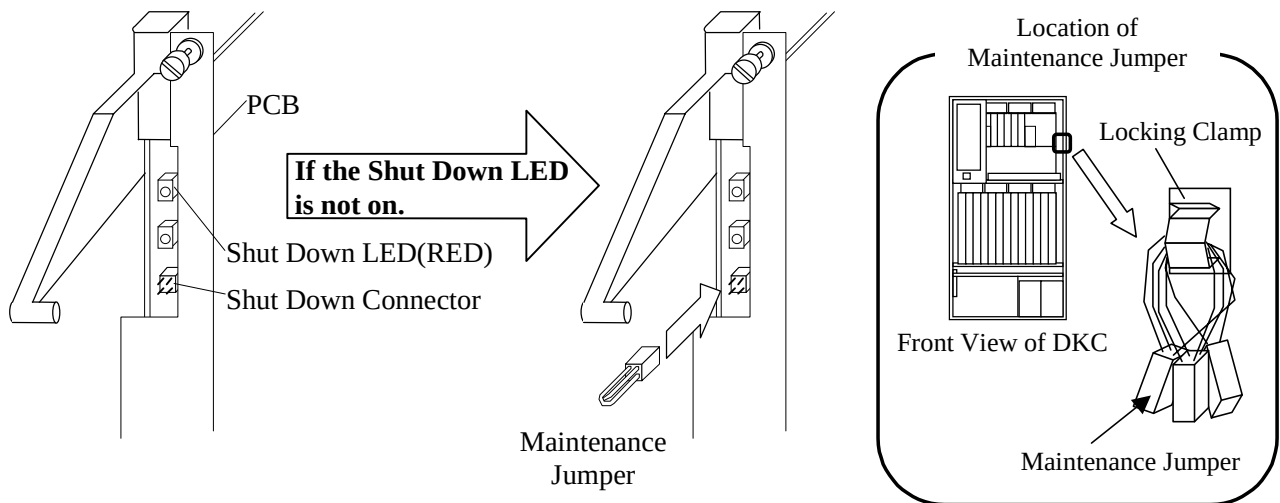


Fig. 4.1.11-19 Shut Down LED

Table 4.1.11-3 Removal Location (Rear of the unit)

Cluster	CL2							CL1				
Slot No.	M	L	K	J	H	G	F	E	D	C	B	A
Function	CSW	DKA	DKA	DKA	DKA	CACHE	CACHE	DKA	DKA	DKA	DKA	CSW
Location No.	CSW -2M	DKA -2L	DKA -2K	DKA -2J	DKA -2H	CACHE -2G	CACHE -2F	DKA -1E	DKA -1D	DKA -1C	DKA -1B	CSW -1A
Order of addition		Add.3	Add.2	Add.1	Basic			Add.3	Add.2	Add.1	Basic	
Number of DKAs set through the SVP		—	—	—	2			—	—	—	2	
		—	—	4				—	—	4		
		—	6					—	6			
		8						8				

8-2 Disconnection of the DEV Interface cables

In case of Add.1

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

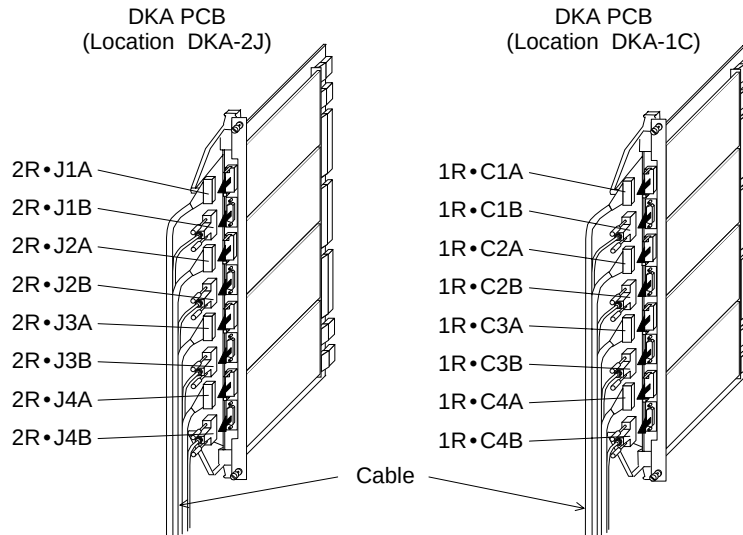


Fig. 4.1.11-20 Disconnection of DEV Interface Cables (Add.1)

In case of Add.2

- a. Disconnect the cable from the sub-edge of PCB.



CAUTION

A serious failure occurs if a wrong cable or connector is removed. Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

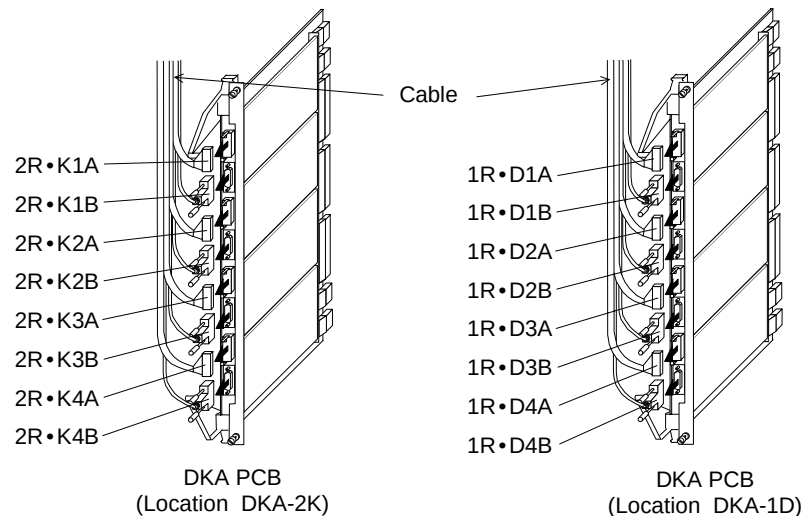


Fig. 4.1.11-21 Disconnection of DEV Interface Cables (Add.2)

In case of Add.3

- a. Disconnect the cable from the sub-edge of PCB.

CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

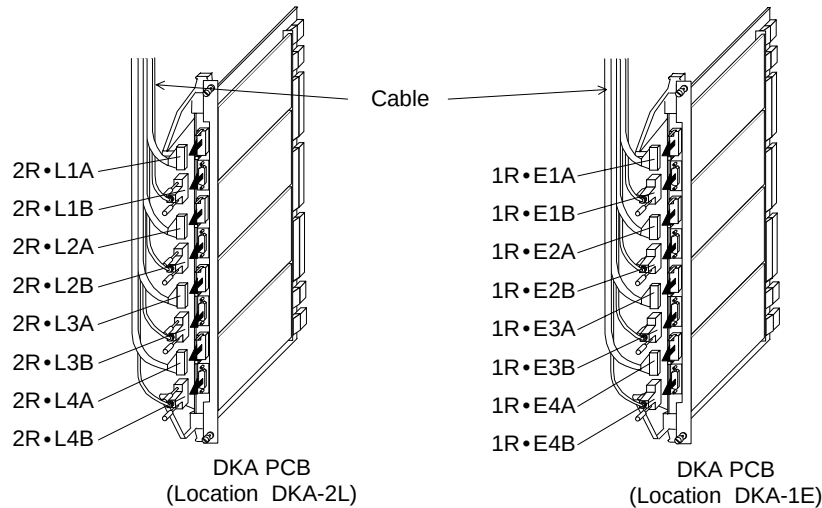


Fig.4.1.11-22 Disconnection of DEV Interface Cable (Add.3)

8-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Rear Logic Box referring to Fig. 4.1.11-23.
b. Attach the dummy plates referring to Fig. 4.1.11-24.

CAUTION

A serious failure occurs if a wrong PCB is removed.
Remove the PCB after making sure that the Shut Down LED is on.

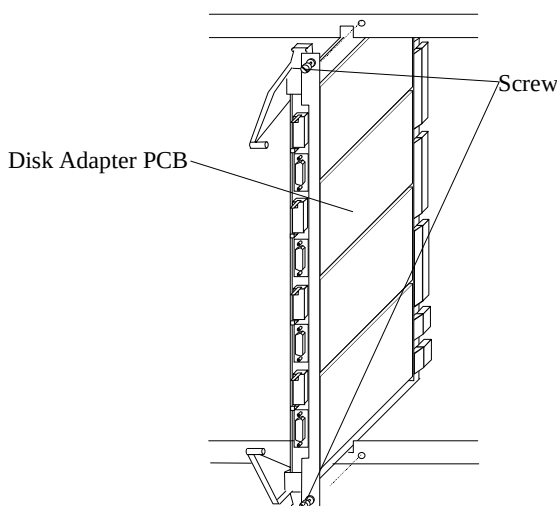


Fig. 4.1.11-23 Removal of PCB

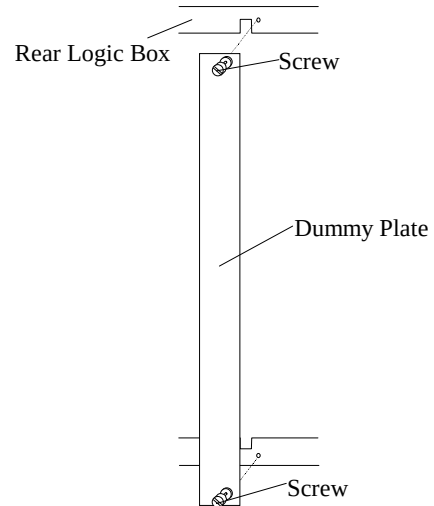


Fig. 4.1.11-24 Attachment of Dummy Plate

8-4 Removal of the Nameplate

- a. Remove the nameplate from the Rear Logic Box cover.

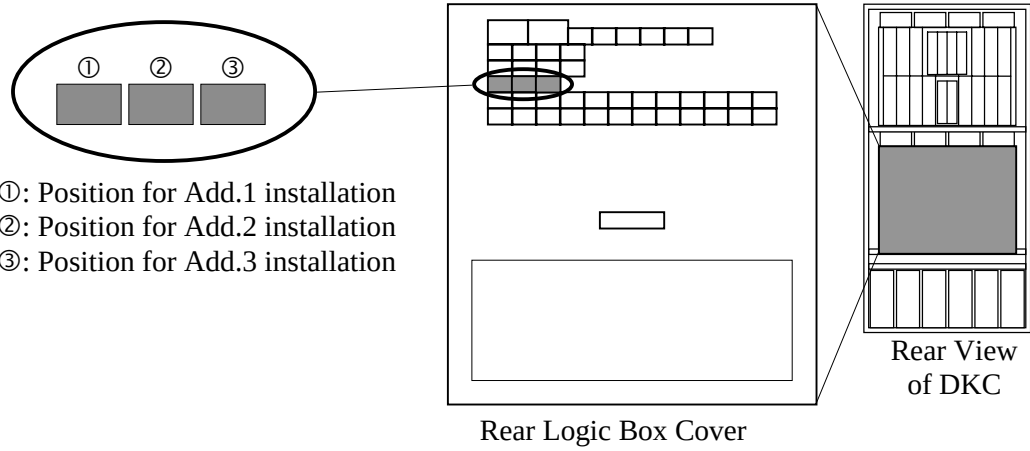
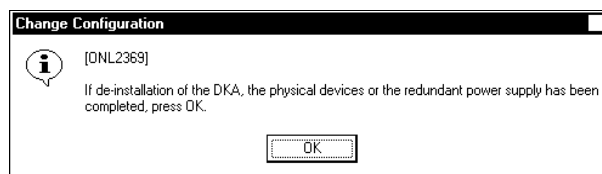


Fig. 4.1.11-25 Removal of Nameplate

9. SVP post procedure

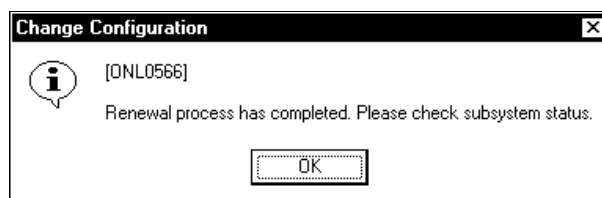
1.

Select (CL) [OK] in response to “If de-installation of the DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



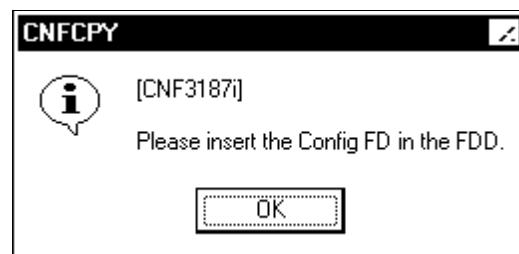
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



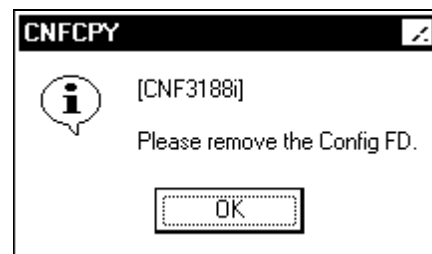
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

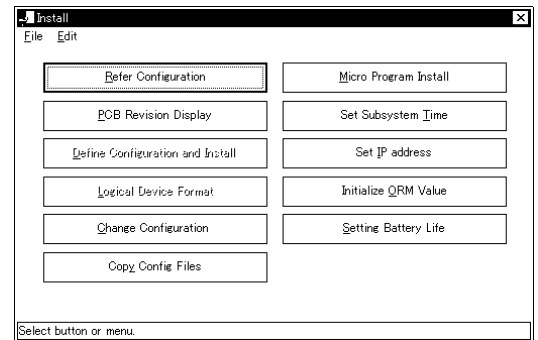


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

10. De-Installation Procedure of DEV Interface Cable 2 (3/3) (DKU-F455I-EXC)

Between HDU-R10-R17 and HDU-R20-R27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-R2 frame referring to Fig. 4.1.11-26 through Fig. 4.1.11-29.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

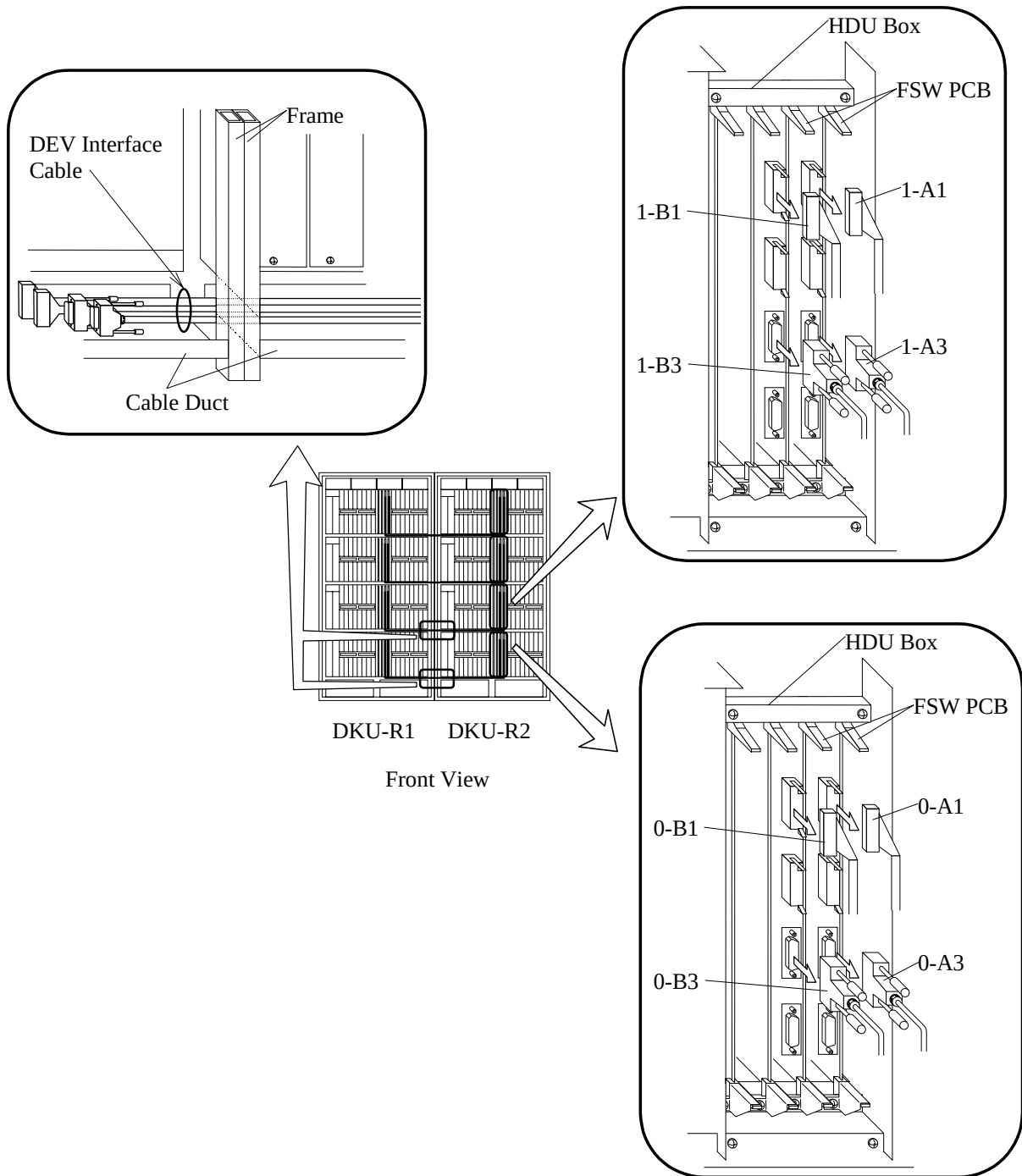


Fig. 4.1.11-26 Disconnection of the DEV Interface Cables

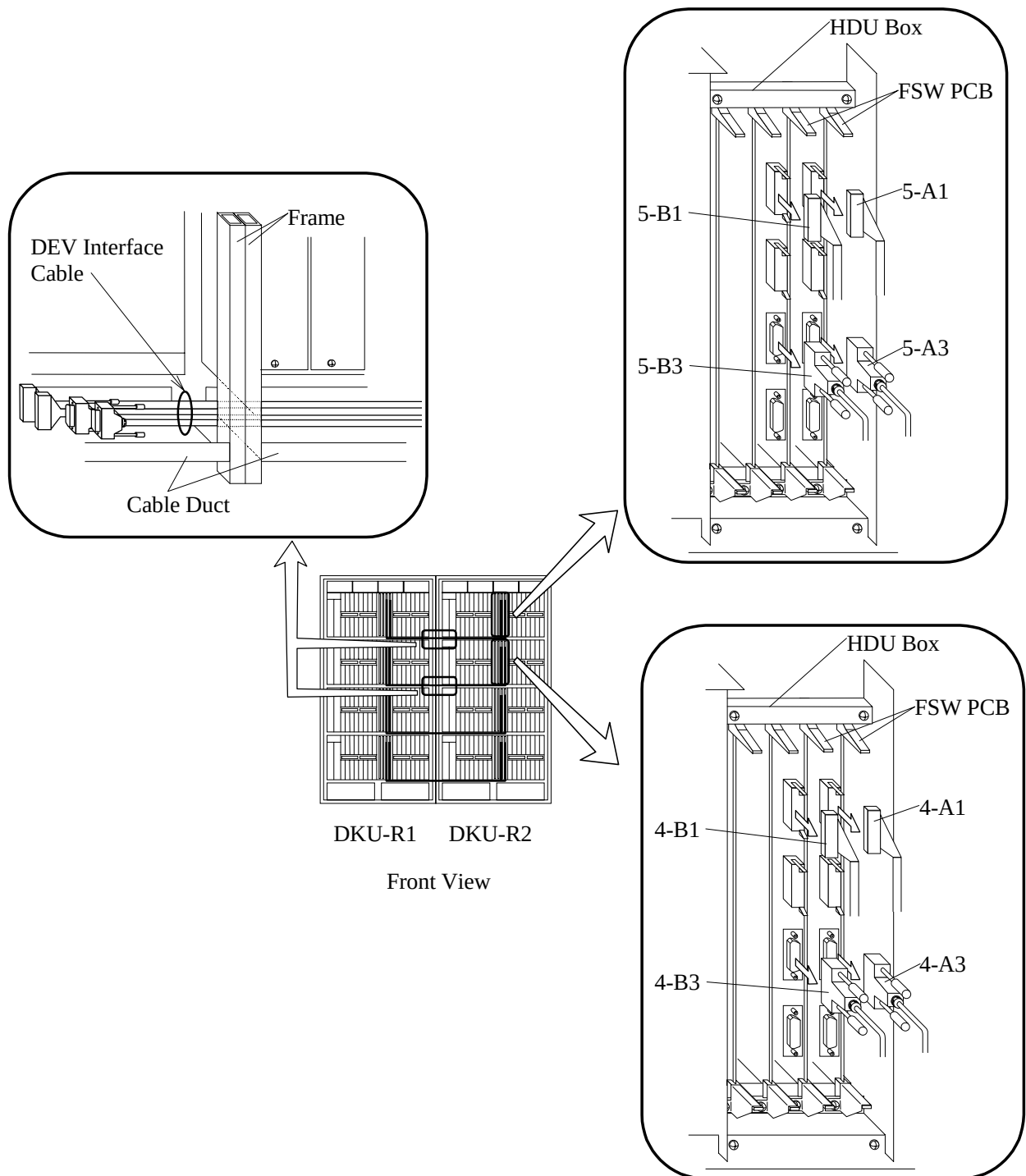


Fig. 4.1.11-27 Disconnection of the DEV Interface Cables

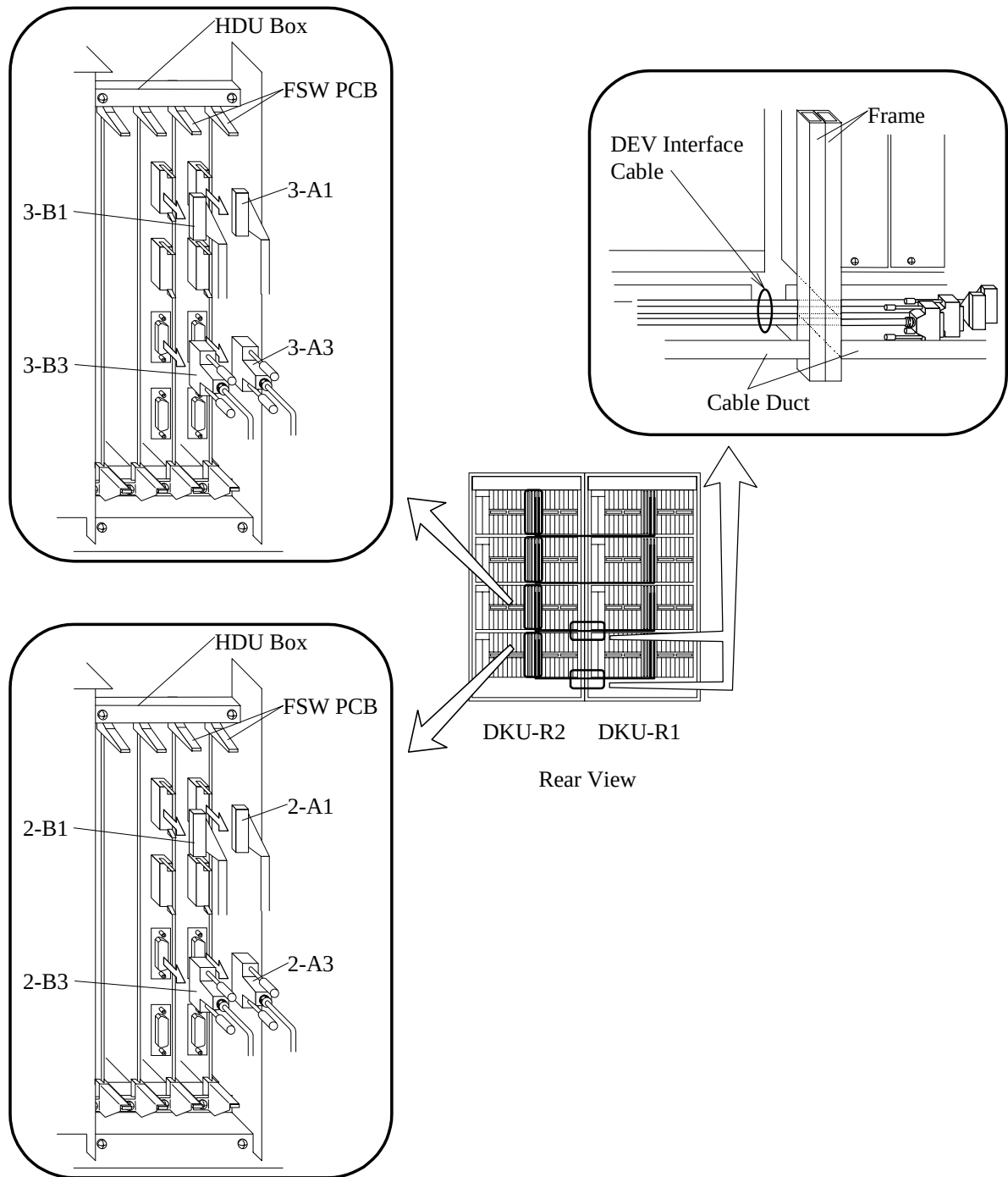


Fig. 4.1.11-28 Disconnection of the DEV Interface Cables

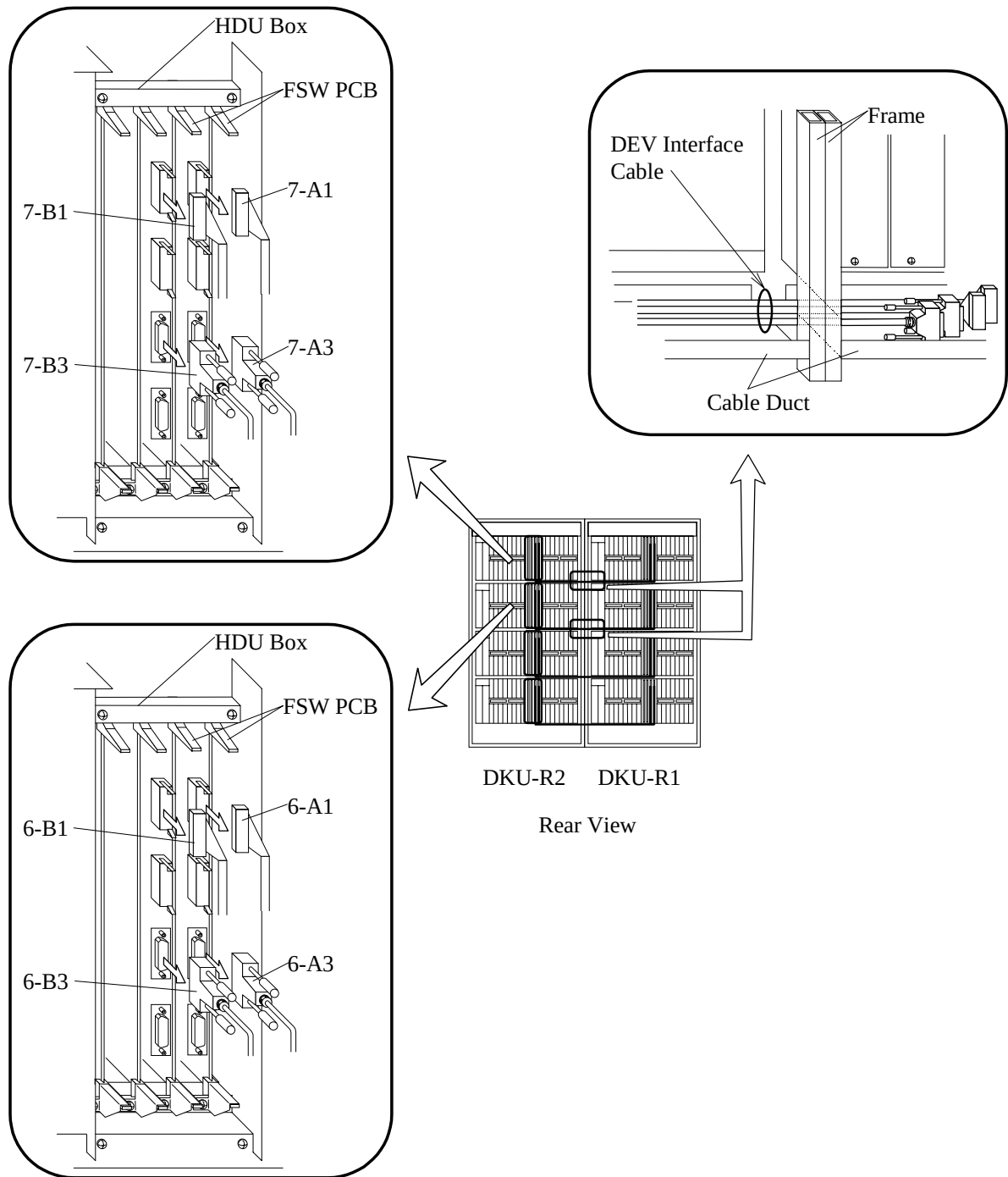


Fig. 4.1.11-29 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

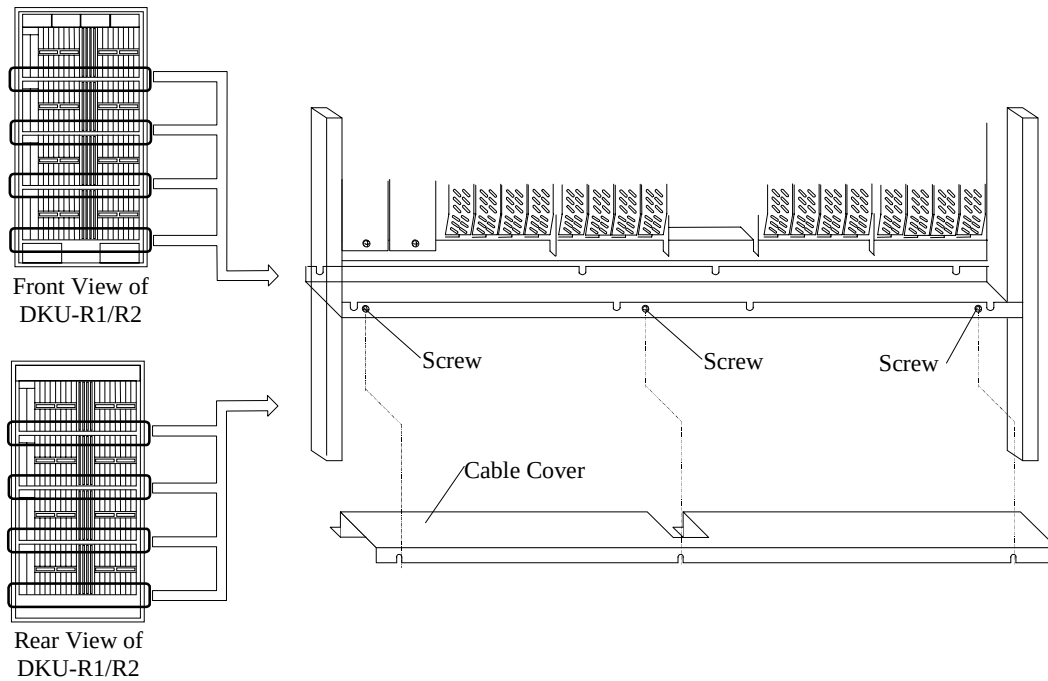


Fig. 4.1.11-30 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

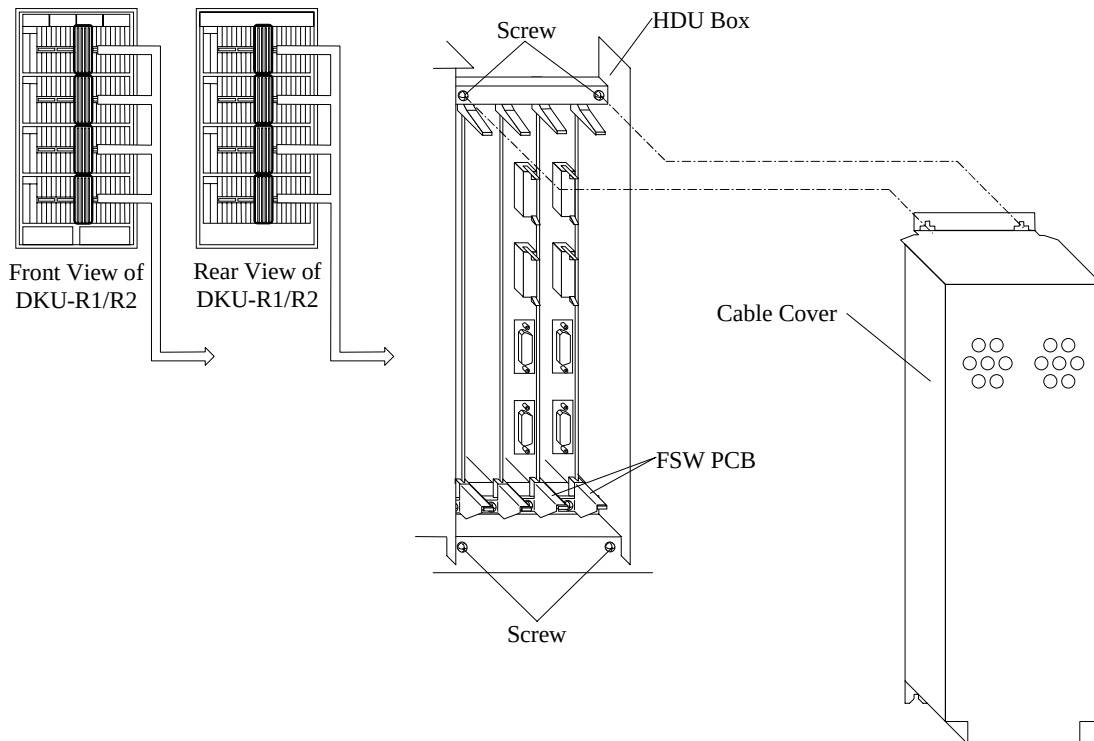


Fig. 4.1.11-31 Attachment of the Cable Cover

- e. Remove the nameplate from the R2 DKU frame.

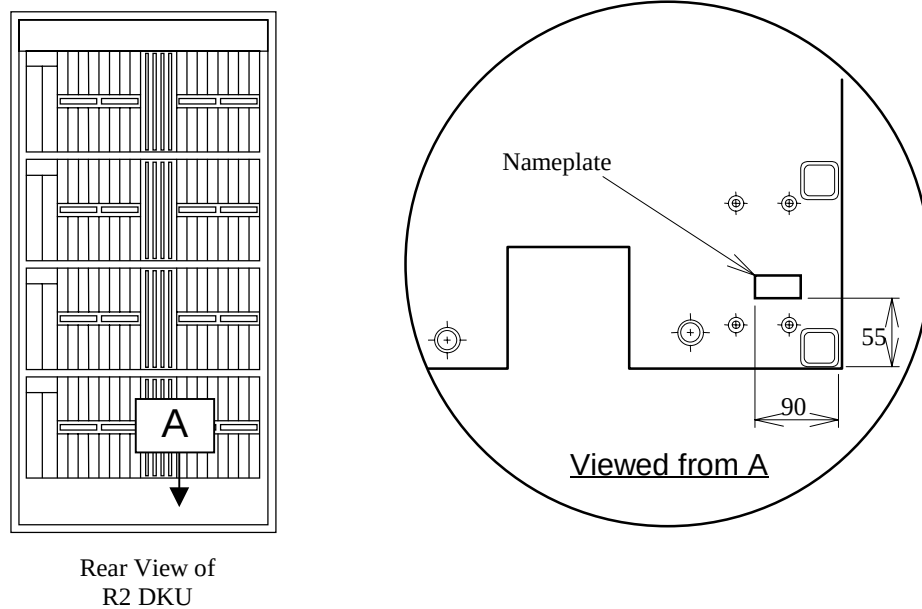


Fig. 4.1.11-32 Removal of the Nameplate

Between HDU-L10-L17 and HDU-L20-L27

- Disconnect the DEV interface cables from the FSW PCBs in the DKU-L2 frame referring to Fig. 4.1.11-33 through Fig. 4.1.11-36.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

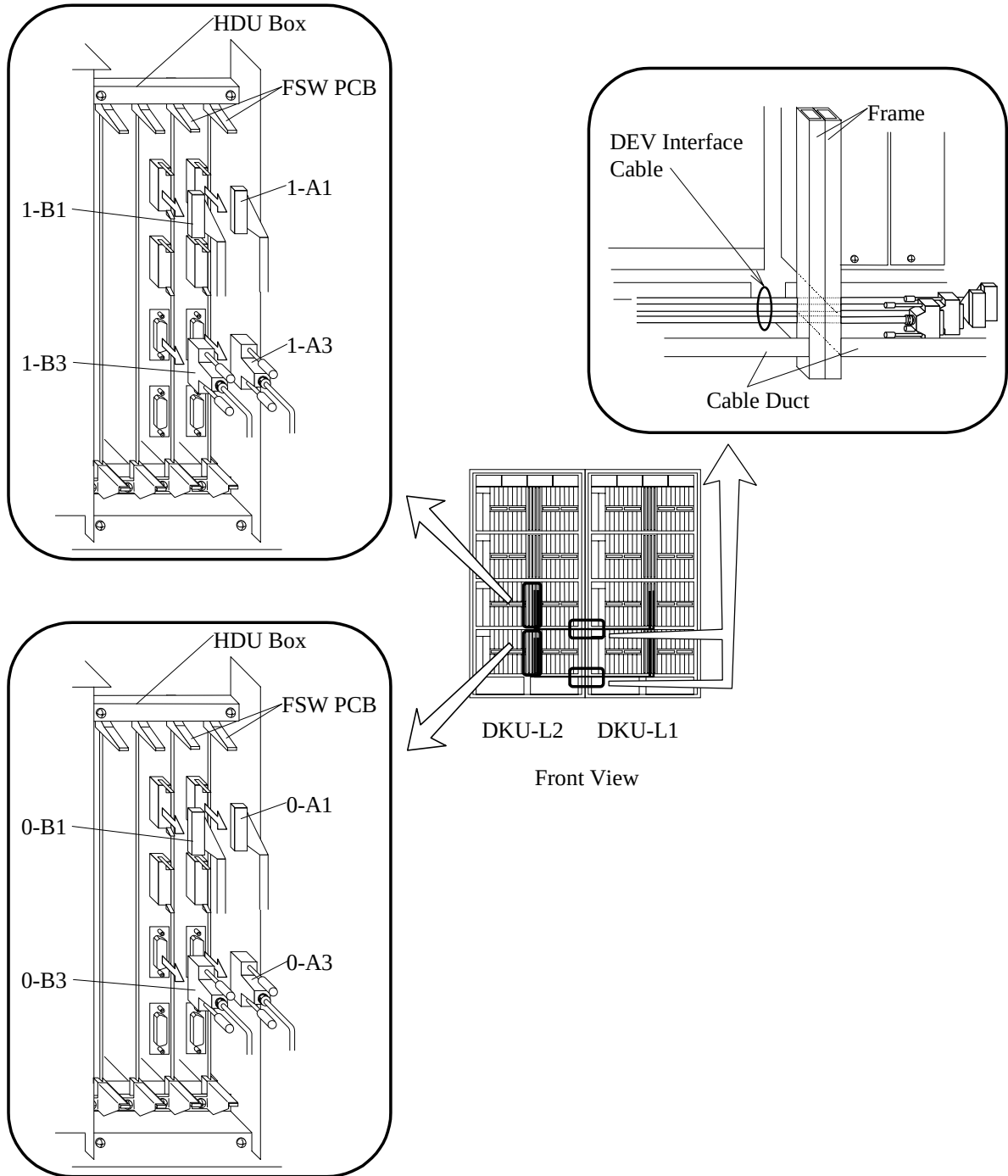


Fig. 4.1.11-33 Disconnection of the DEV Interface Cables

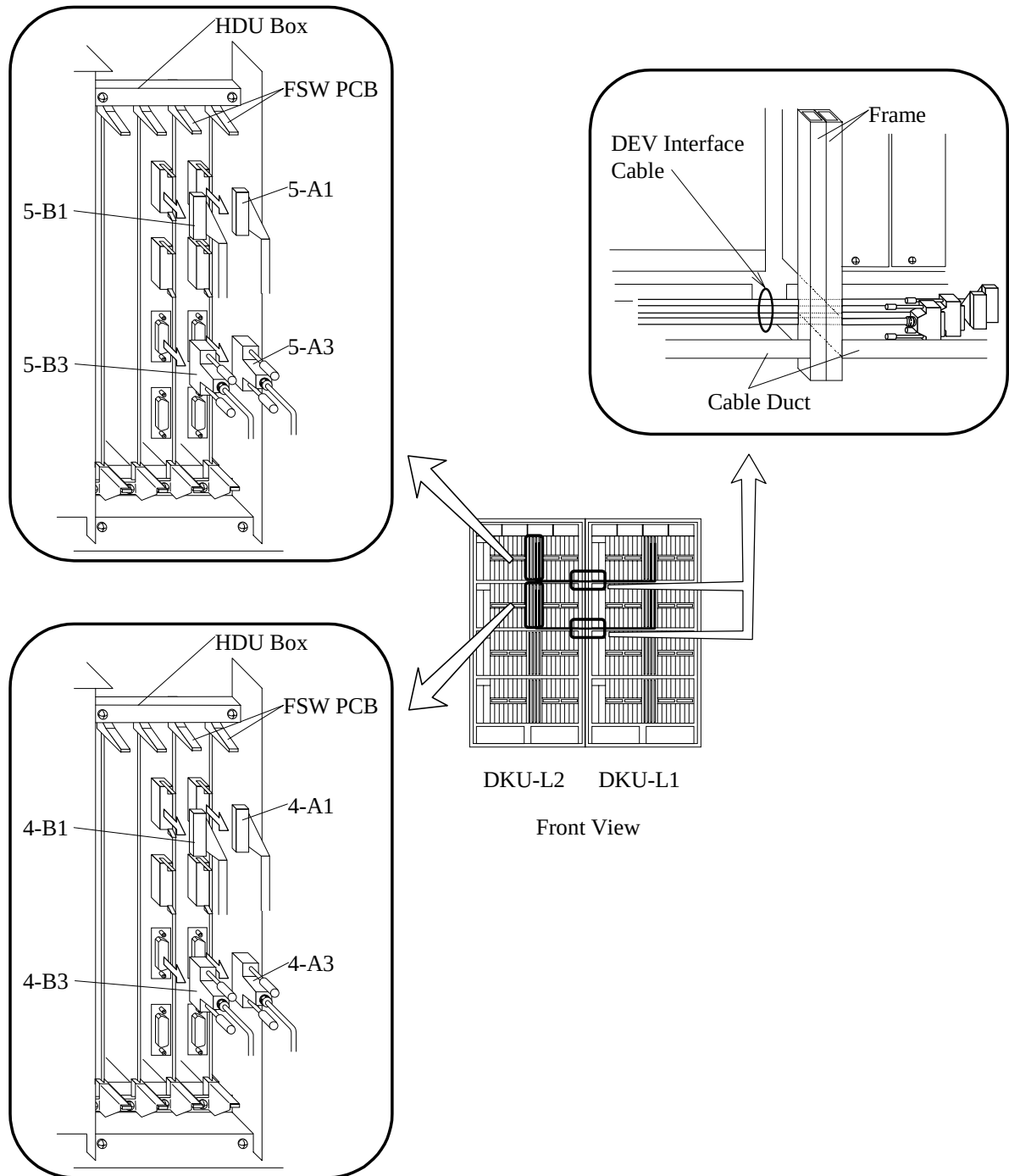


Fig. 4.1.11-34 Disconnection of the DEV Interface Cables

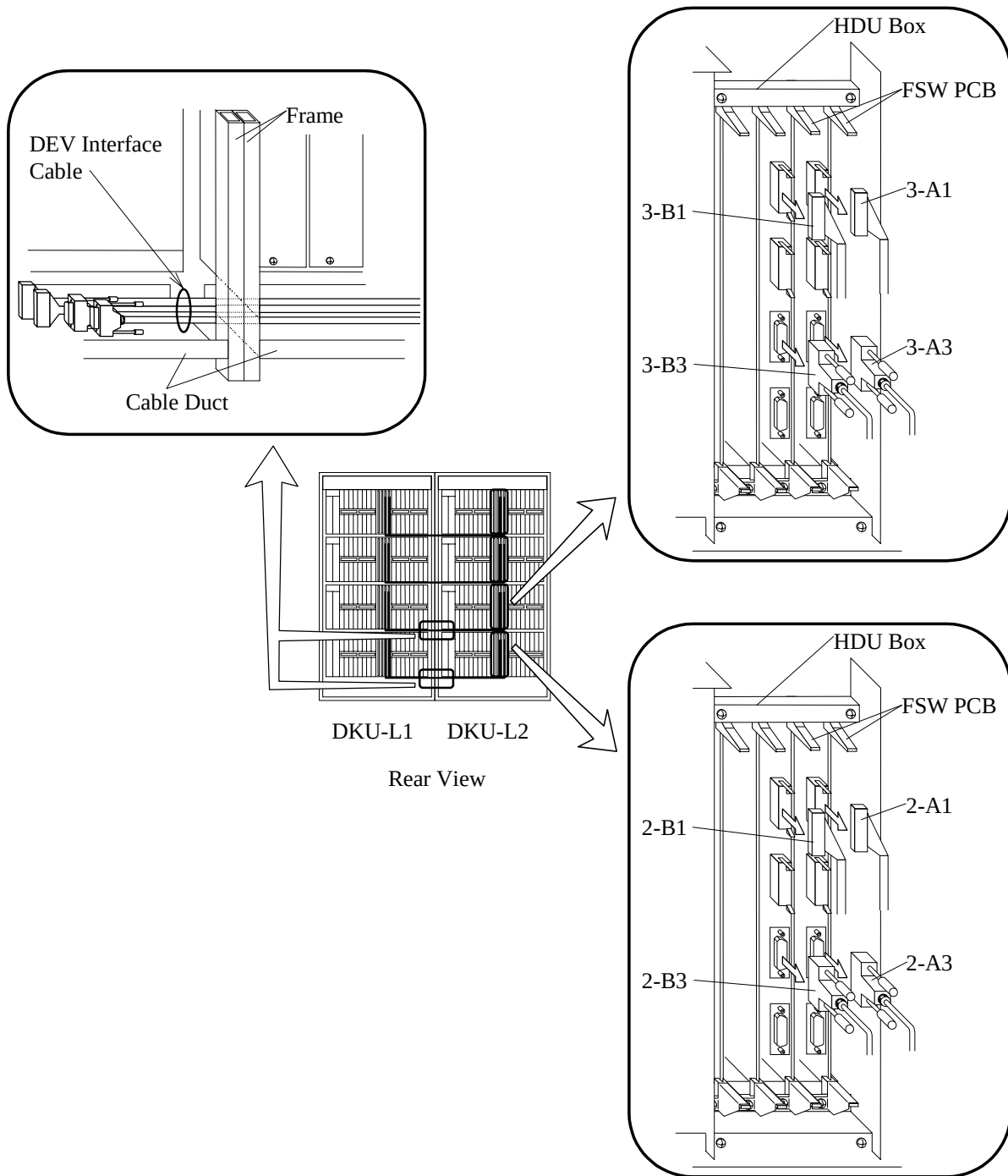


Fig. 4.1.11-35 Disconnection of the DEV Interface Cables

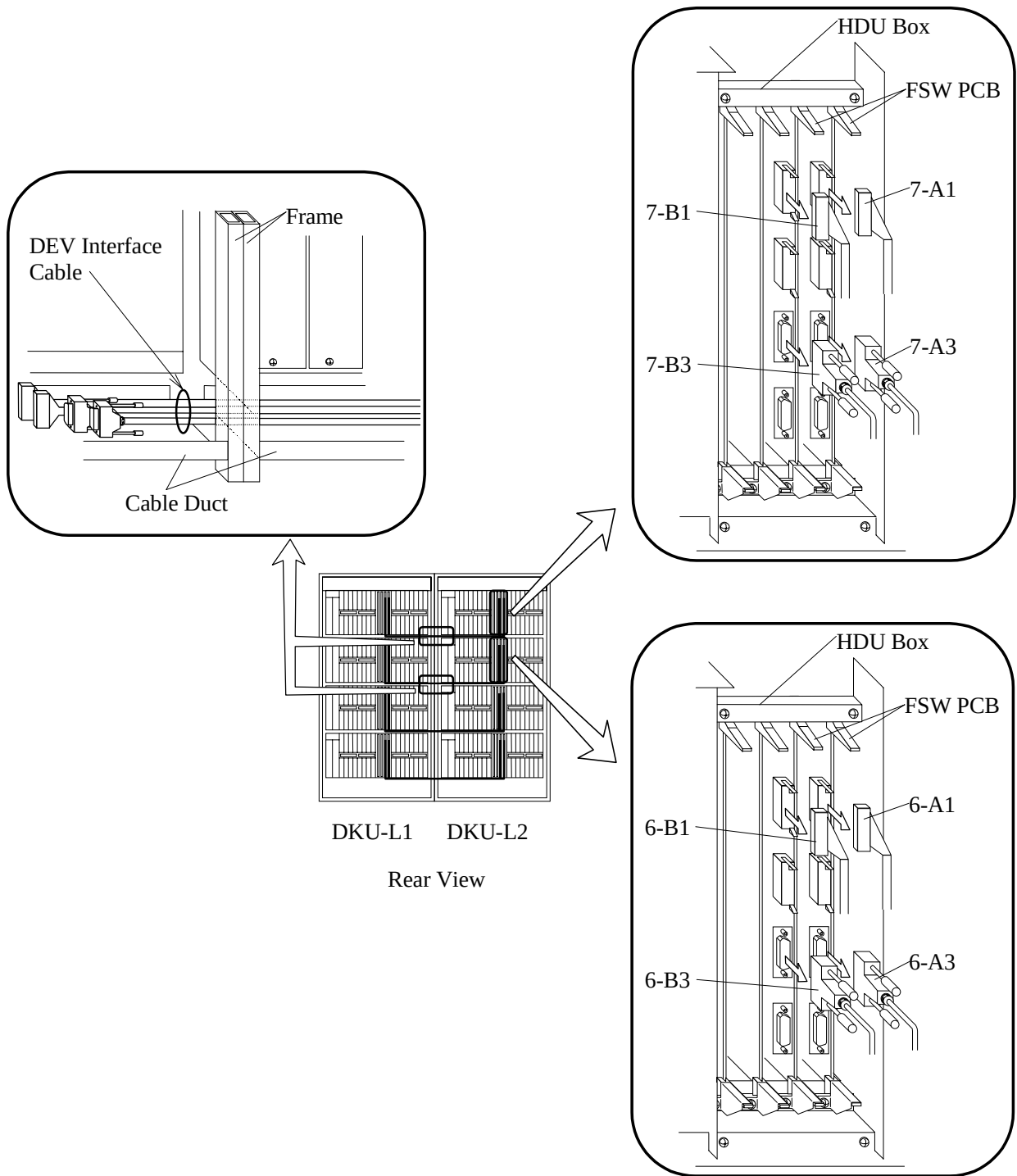


Fig. 4.1.11-36 Disconnection of the DEV Interface Cables

- c. Attach the cable covers with the screws.

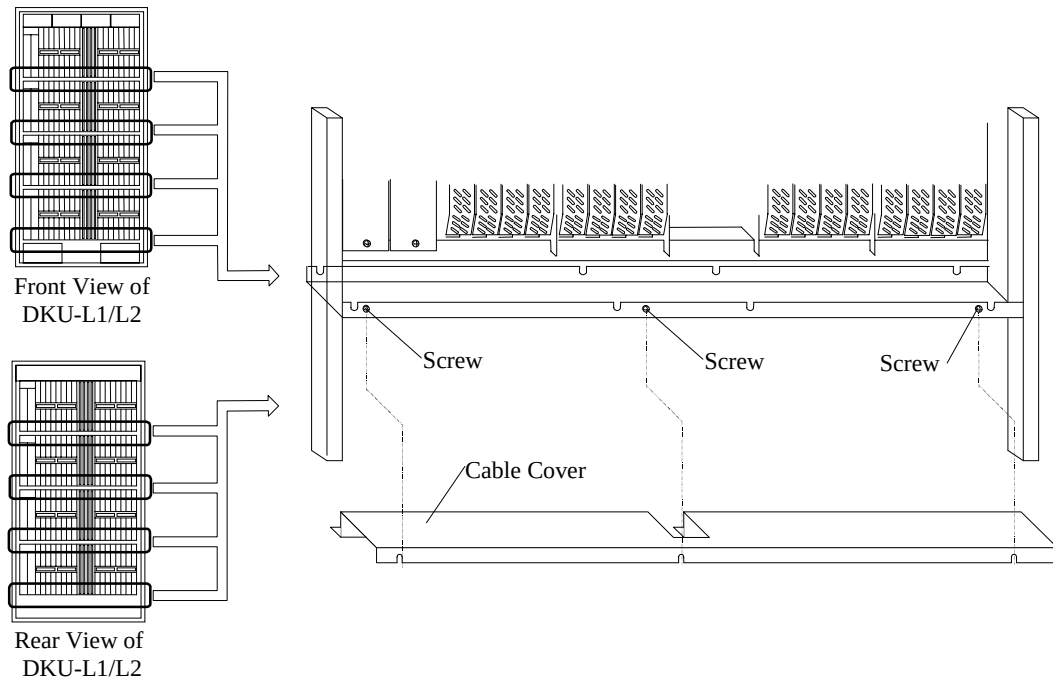


Fig. 4.1.11-37 Attachment of the Cable Cover

- d. Attach the cable covers with the screws.

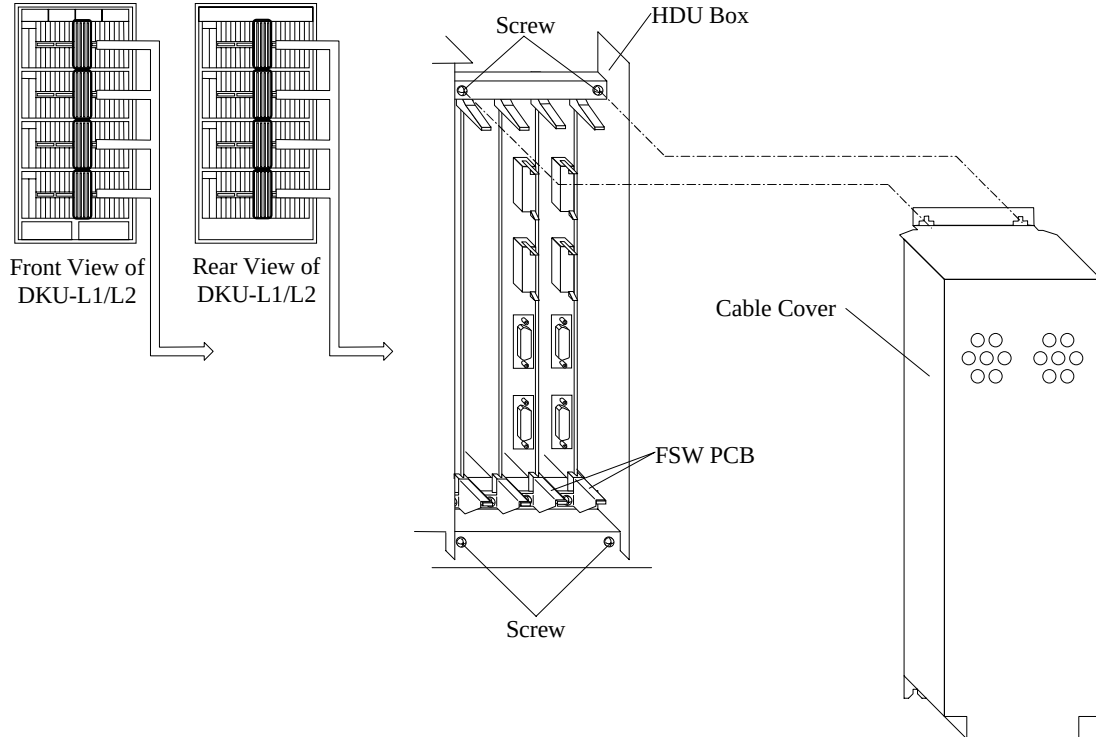


Fig. 4.1.11-38 Attachment of the Cable Cover

- e. Remove the nameplate from the DKU-L2 frame.

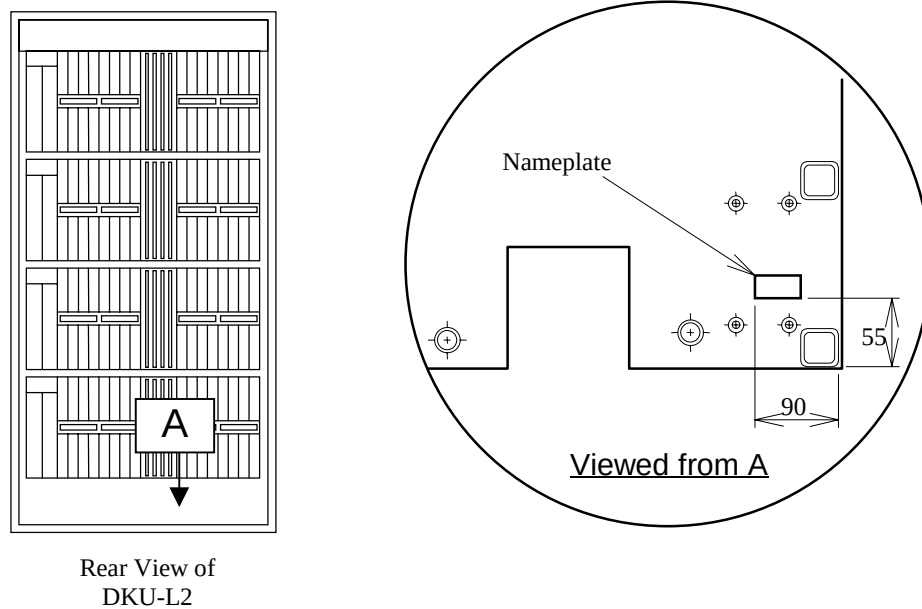


Fig. 4.1.11-39 Removal of the Nameplate

11. De-Installation Procedure of DEV Interface Cable 1 (3/3) (DKC-F460I-L1C)

- Refer to Fig. 4.1.11-40 and Fig. 4.1.11-41. Connect the DEV interface cables to the sub-edges on the FSW PCBs in the HDU box.
- Take out the DEV interface cable, which has been removed from the FSW PCB, from the DKU frame.

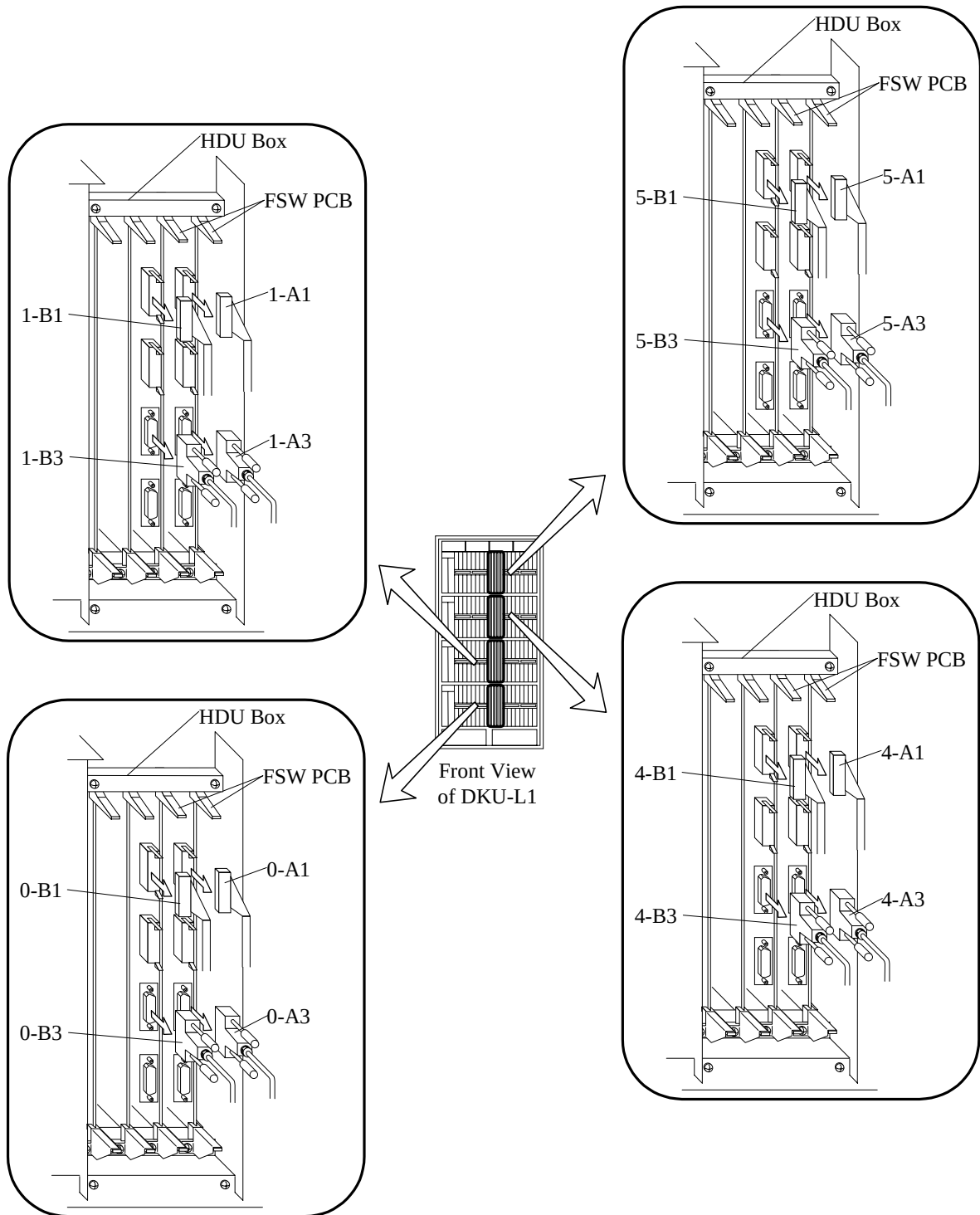


Fig. 4.1.11-40 DEV Interface Cabling Diagram (FSW PCB Side)

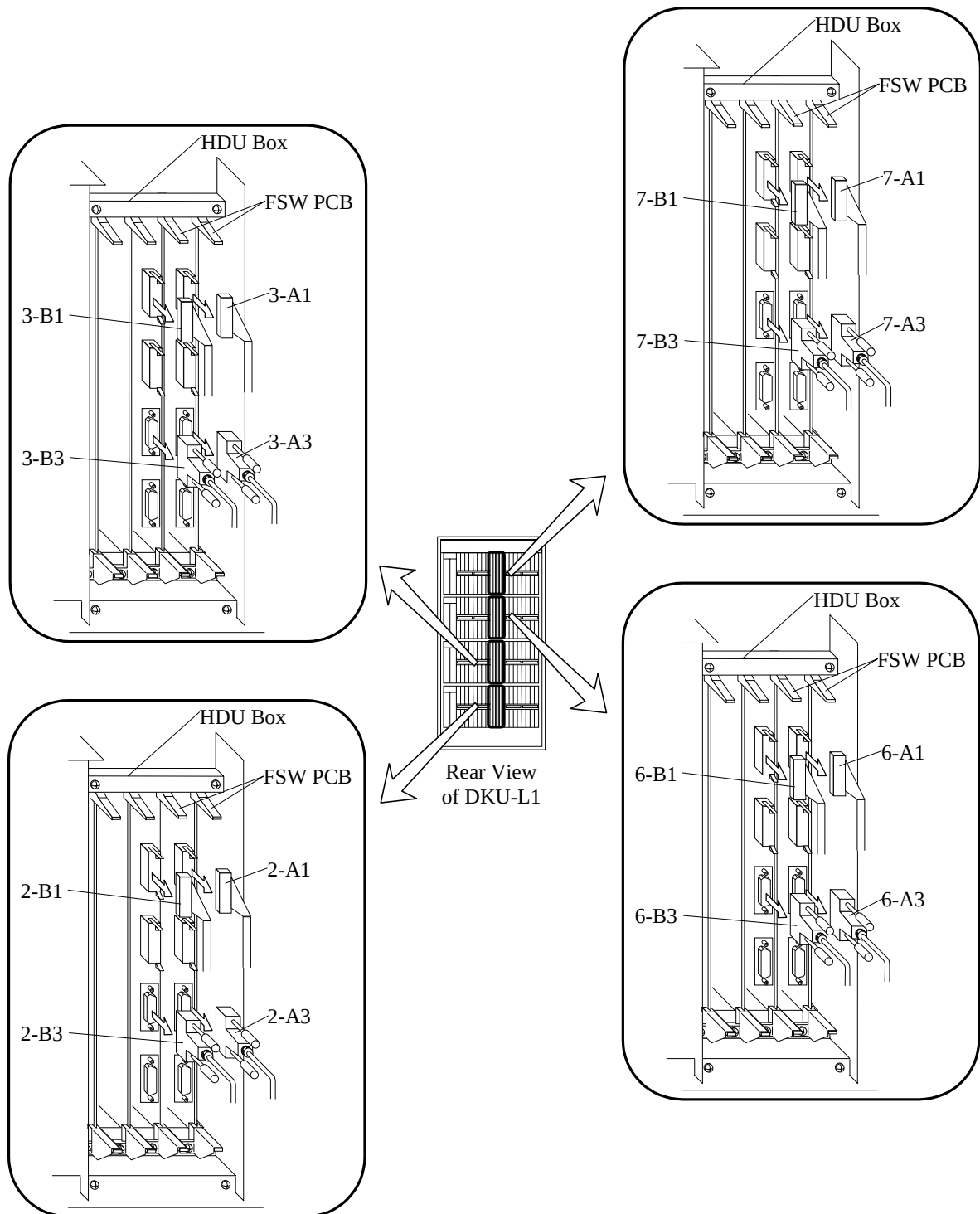


Fig. 4.1.11-41 DEV Interface Cabling Diagram (FSW PCB Side)

c. Attach the cable covers with the screws.

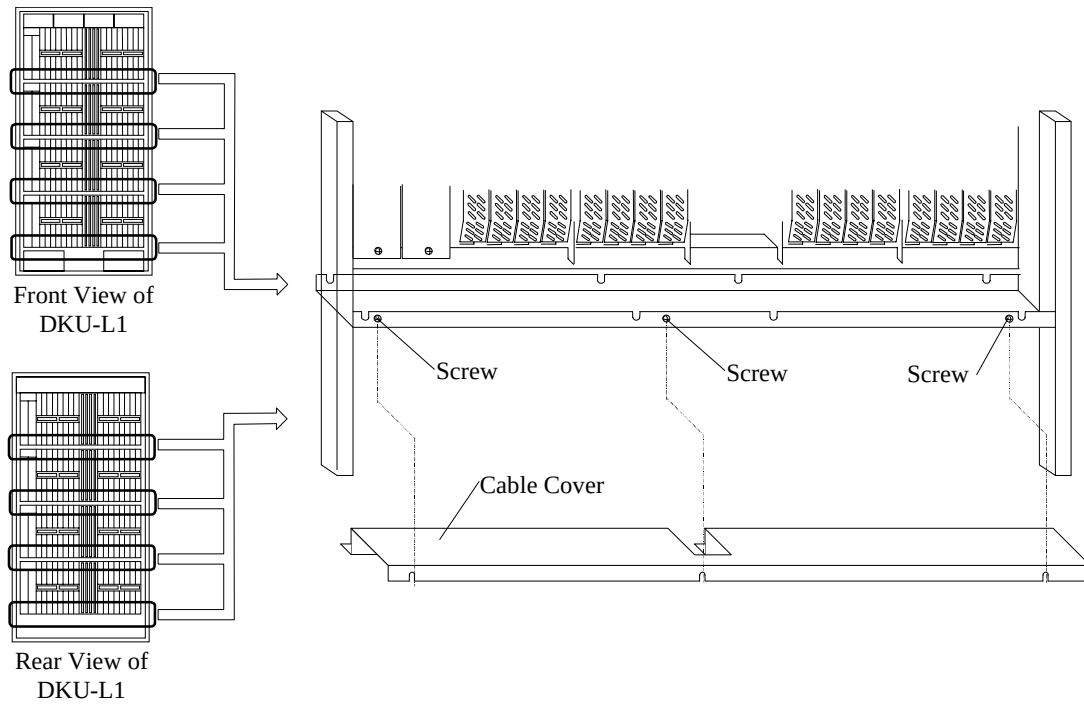


Fig. 4.1.11-42 Attachment of Cable Covers

d. Attach the cable covers with the screws.

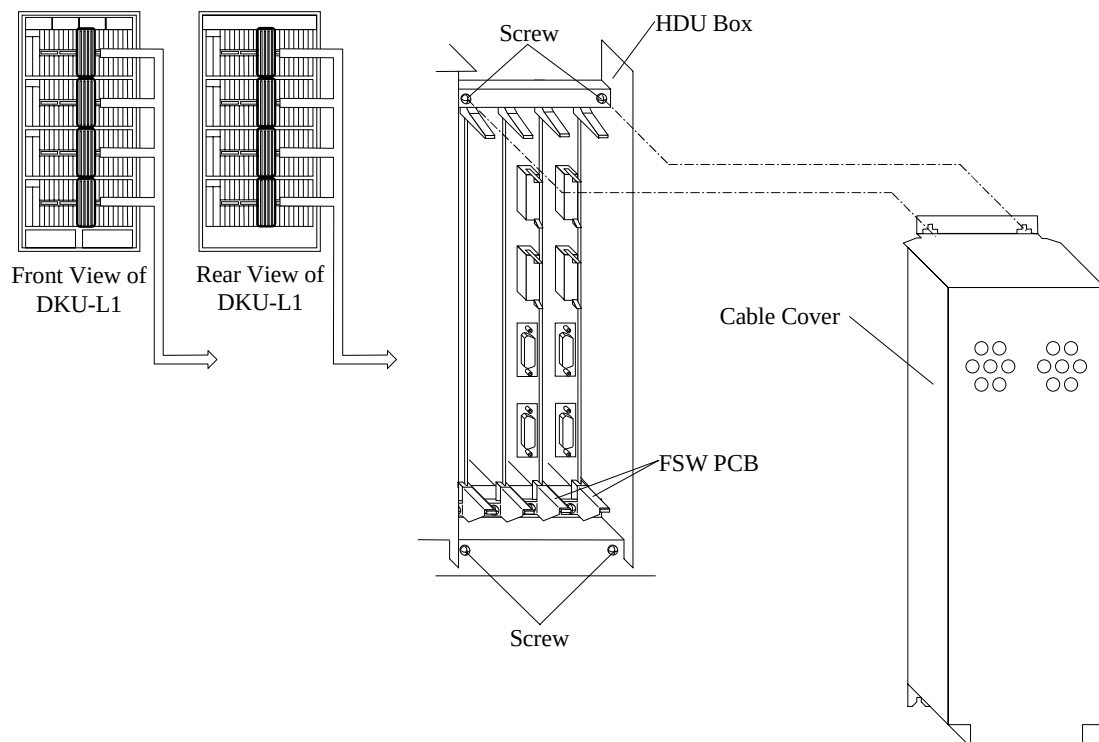


Fig. 4.1.11-43 Attachment of Cable Covers

- e. Remove the nameplate from the cover.

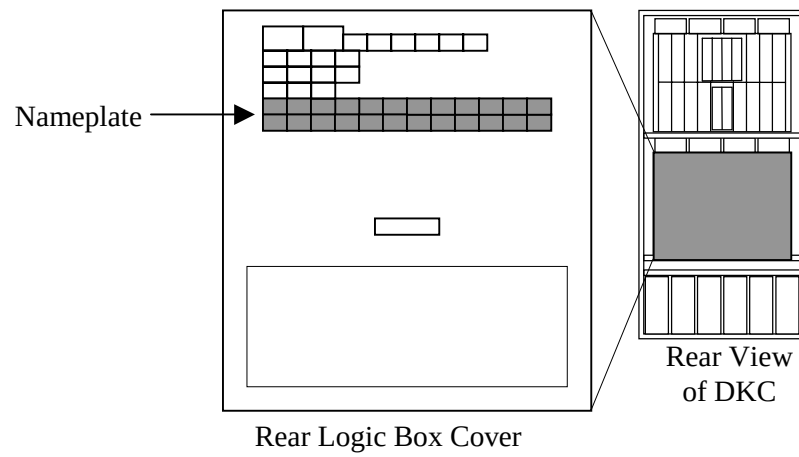


Fig. 4.1.11-44 Removal of Nameplate

- f. Return to the work table ([INST02-60](#)) and perform rest of the works.

4.2 De-Installation of Disk Unit (DKU455I-18)

4.2.1 De-Installation Procedure of Disk Unit

Caution:

Perform this removal work in the state in which the DKU frame and all the parts in the DKU frame have been removed from the DKC configuration after the work No.1 explained on page INST02-30 has been done. The system goes down if the DKU frame that should have been removed is left in the DKC configuration.

1. Power OFF of Disk Unit being De-Installed
 - a. Turn off the circuit breaker (CB101) on the AC Boxes of the Disk Unit.

Table 4.2.1-1 De-Installed Disk Unit

No.	De-Installed Disk Unit	AC Box	Remarks
1	DKU-L2	AC BOX-L20, -L21	
2	DKU-L1	AC BOX-L10, -L11	
3	DKU-R2	AC BOX-R20, -R21	

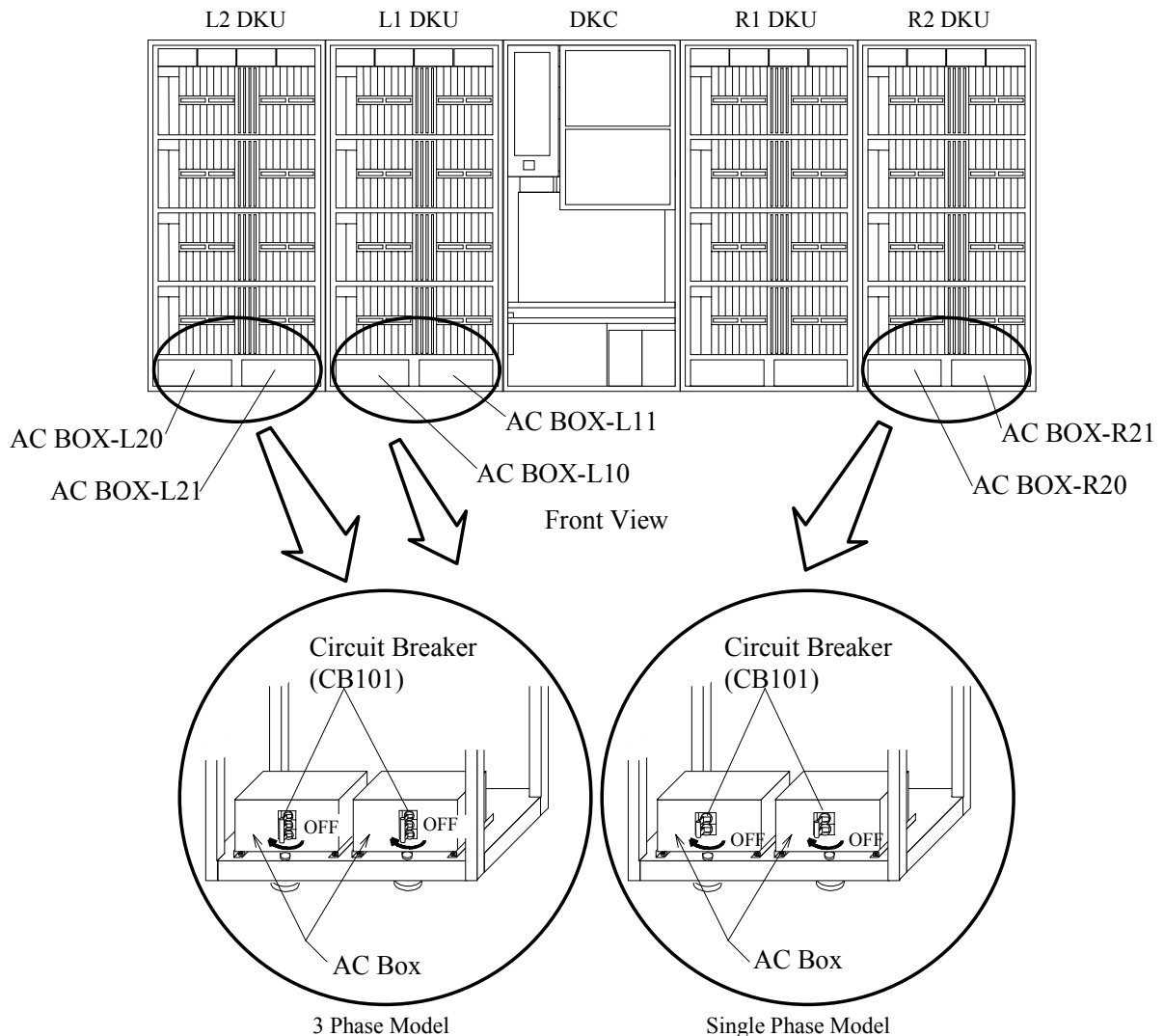


Fig. 4.2.1-1 AC Boxes and DKUMN PCBs

2. Logic Box Covers Removal

Note: When the third Disk Unit is connected to the Disk Controller Unit, must be removed the following covers.

- a. Open the four hooks and remove the Front Logic Box Cover from the Disk Controller.
- b. Remove the two screws and remove the cable cover.

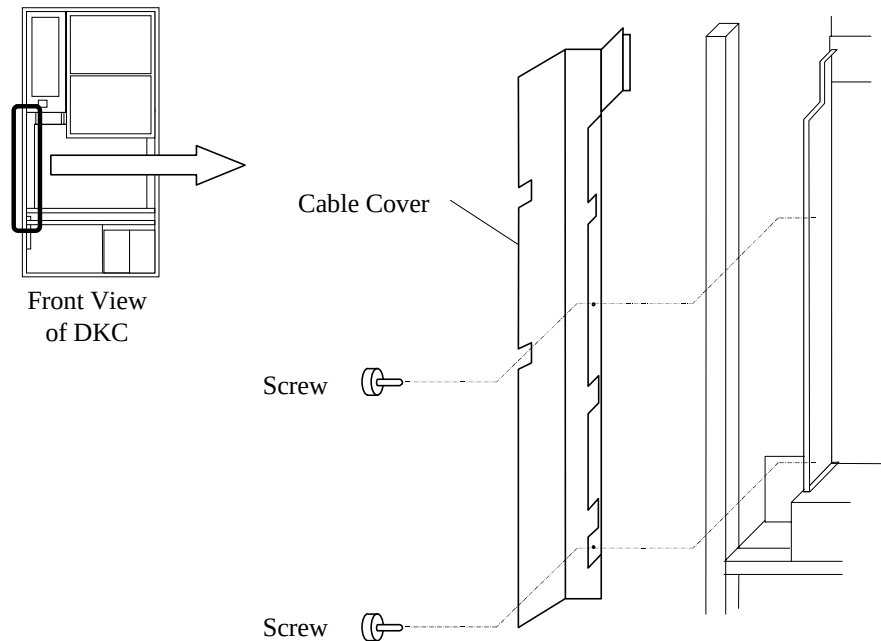


Fig. 4.2.1-2 How to open the Cover (DKC front side)

- c. Open the four hooks and remove the Rear Logic Box Cover.
- d. Remove the two screws and remove the cable cover.

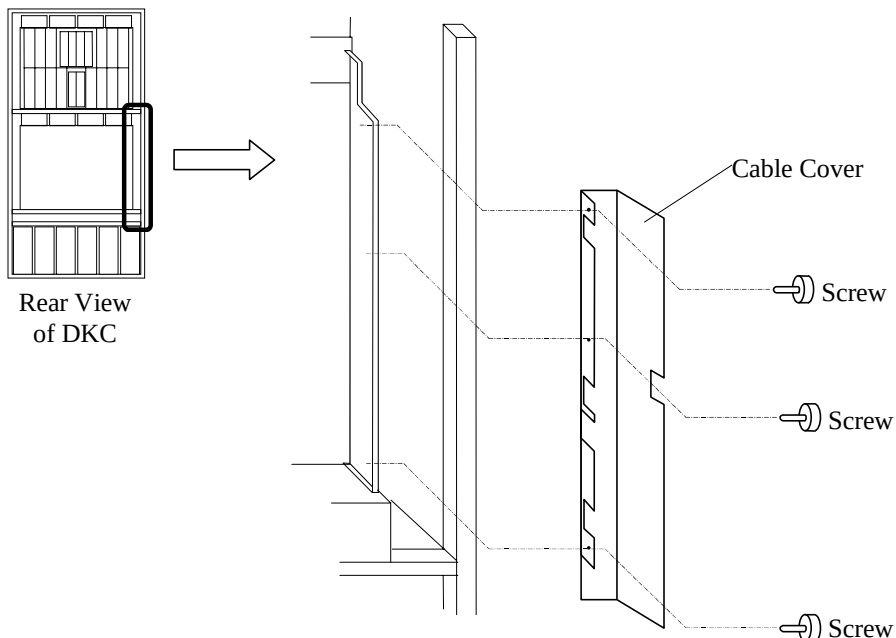


Fig. 4.2.1-3 How to open the Cover (DKC rear side)

3 Kick Plate De-Installation

- a. Remove kick plate in the reverse order of installation.

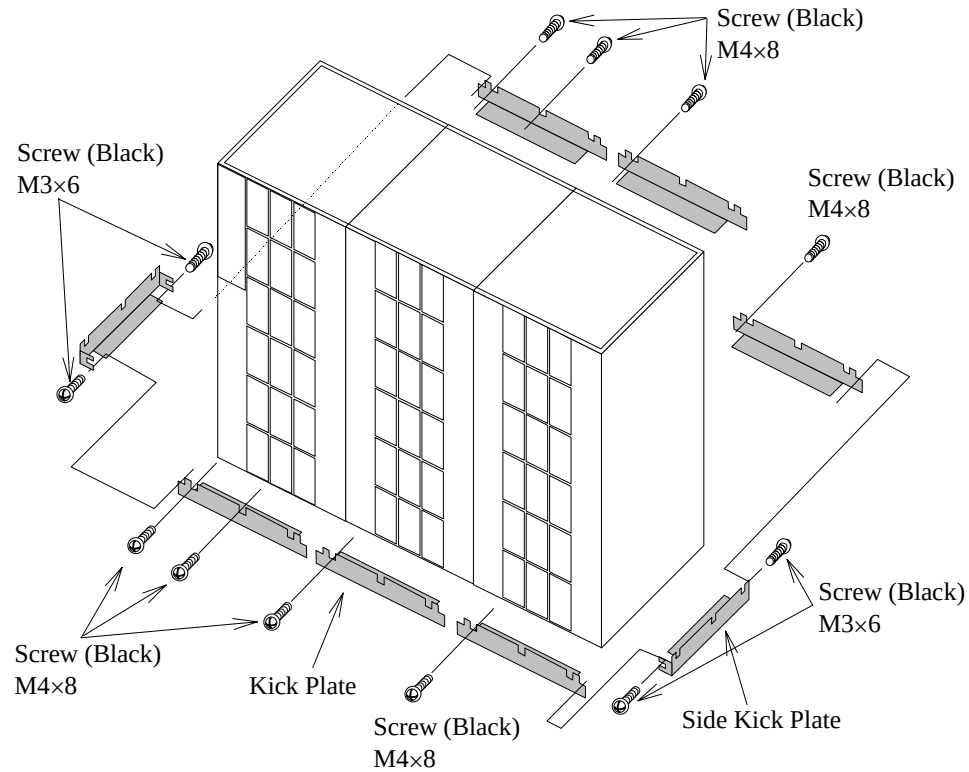


Fig. 4.2.1-4 Removal of Kick Plate (Two Disk Units)

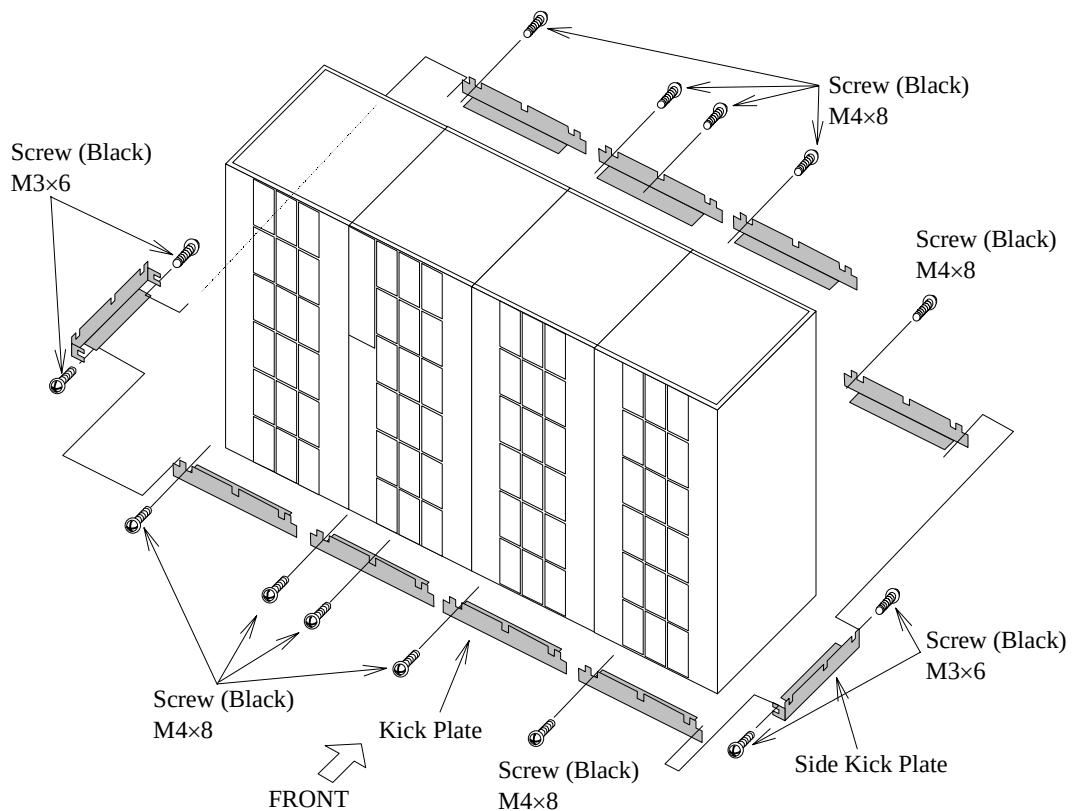


Fig. 4.2.1-5 Removal of Kick Plate(Three Disk Units)

4 Side Cover and Frame Ground Cable Removal

Remove the side cover(s) and frame ground cable in the reverse order of installation.

DKU-L2

- Remove the frame ground cable.
- Remove the side cover from the DKU-L2.
- Disconnect the frames.
- Attach the left side cover to the DKC or DKU-L1 together with the frame ground cable.

Note

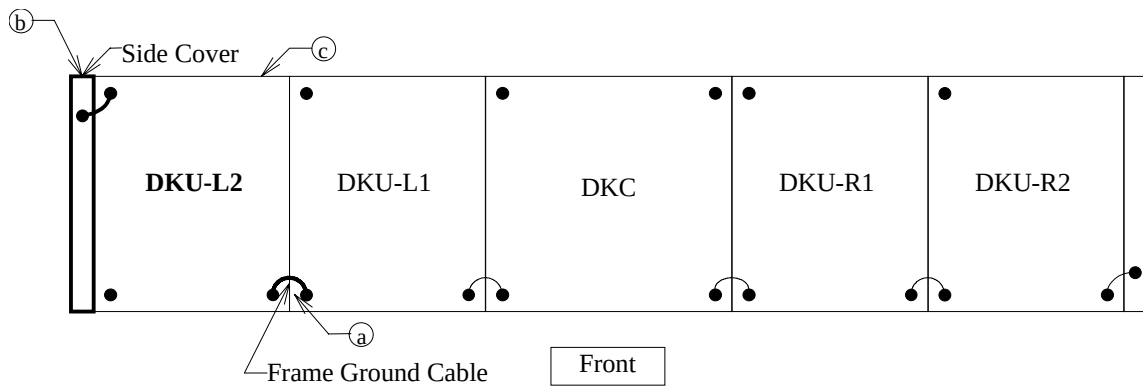
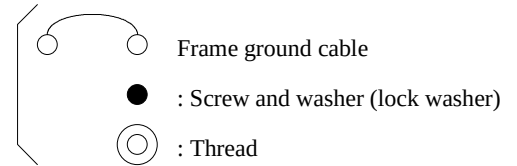


Fig. 4.2.1-7 Removal of Frame Ground Cable

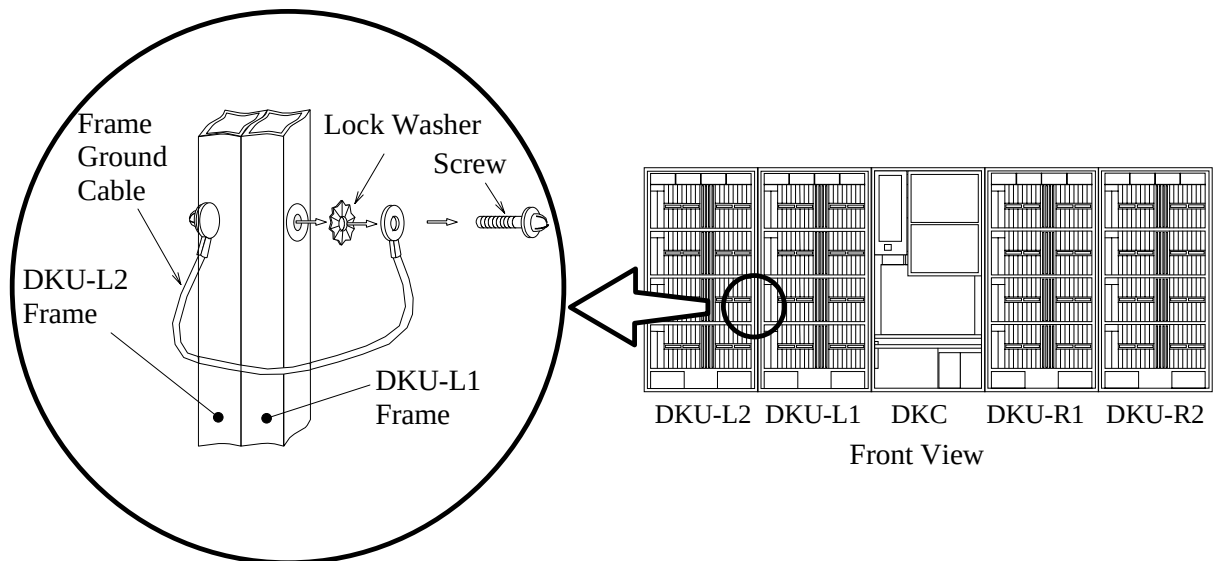


Fig. 4.2.1-8 Removal of Frame Ground Cable

DKU-L1

- Remove the frame ground cable.
- Remove the side cover from the DKU-L1.
- Disconnect the frames.
- Remove the DEV Interface Cables from the DKC [[INST04-DKU-100](#)].
- Attach the left side cover of the DKC with the frame ground cable.

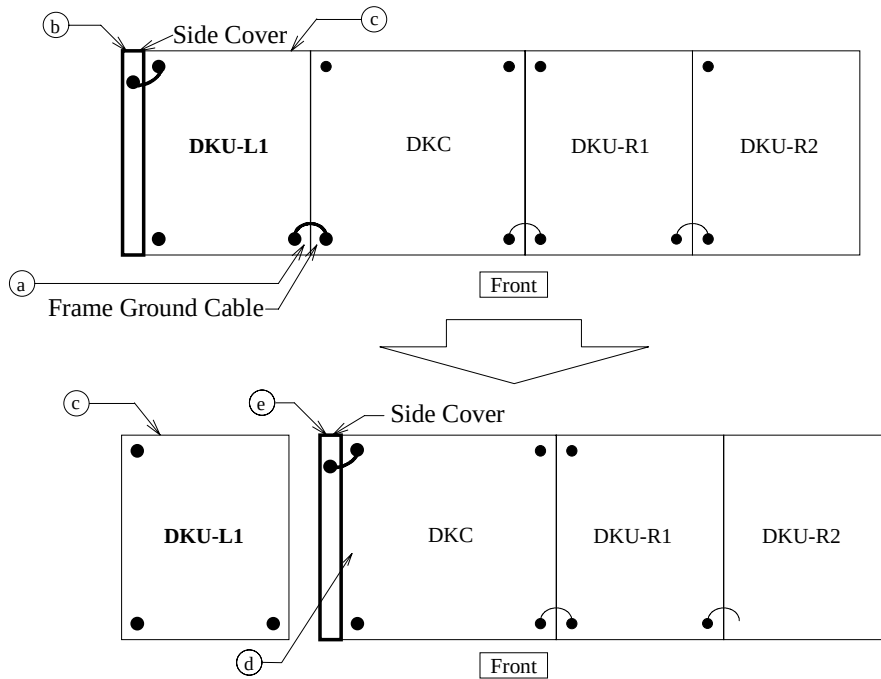


Fig. 4.2.1-9 Removal of Frame Ground Cable

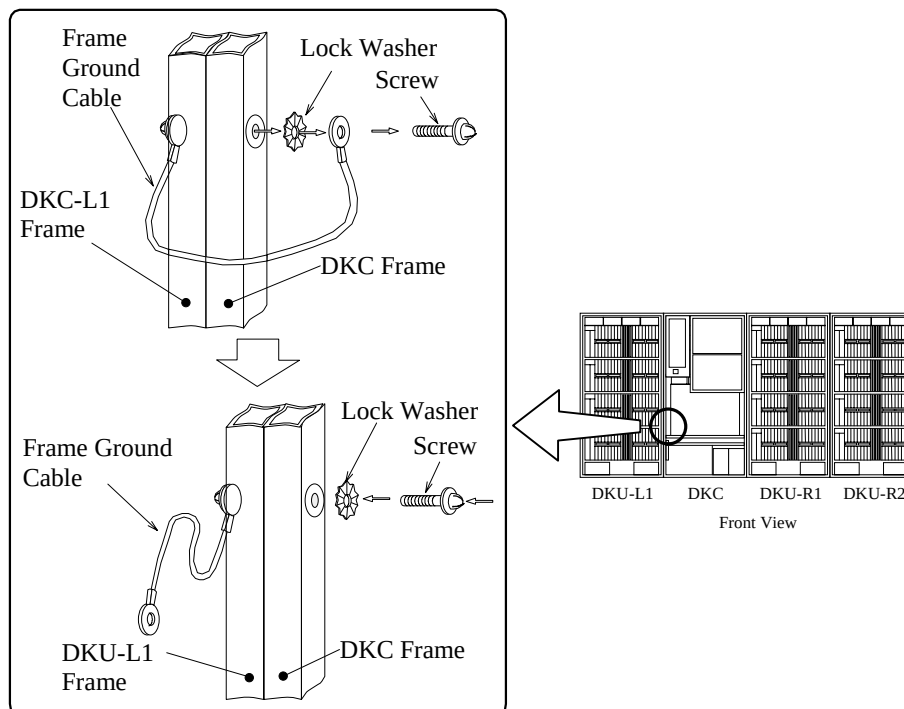


Fig. 4.2.1-10 Removal of Frame Ground Cable

DKU-R1

- a. Remove the frame ground cable.
- b. Remove the side cover from the DKU-R1.
- c. Disconnect the frames.
- d. Attach the right side cover to the DKC or DKU-R1 together with the frame ground cable.

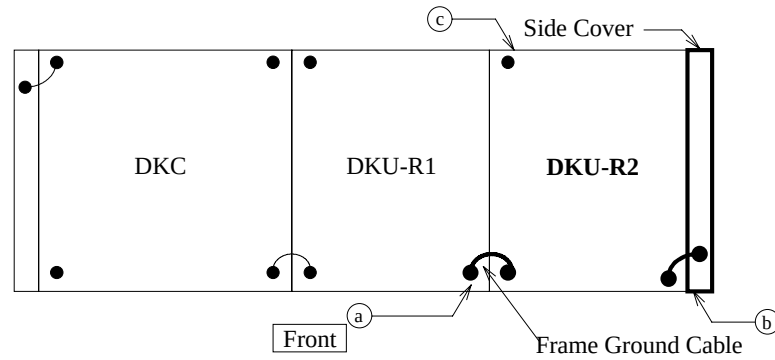


Fig. 4.2.1-11 Removal of Frame Ground Cable

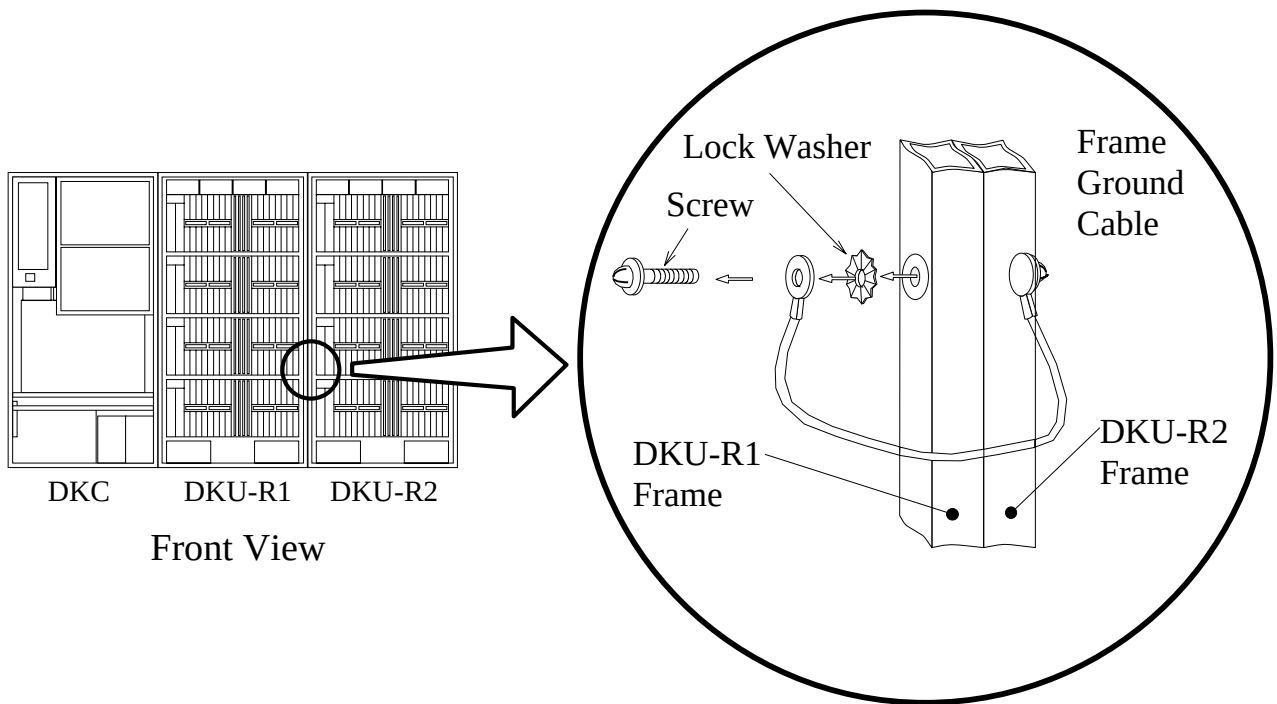


Fig. 4.2.1-12 Removal of Frame Ground Cable

5. Frame Disconnection

a. Disconnect the frames in the reverse order of frame connection.

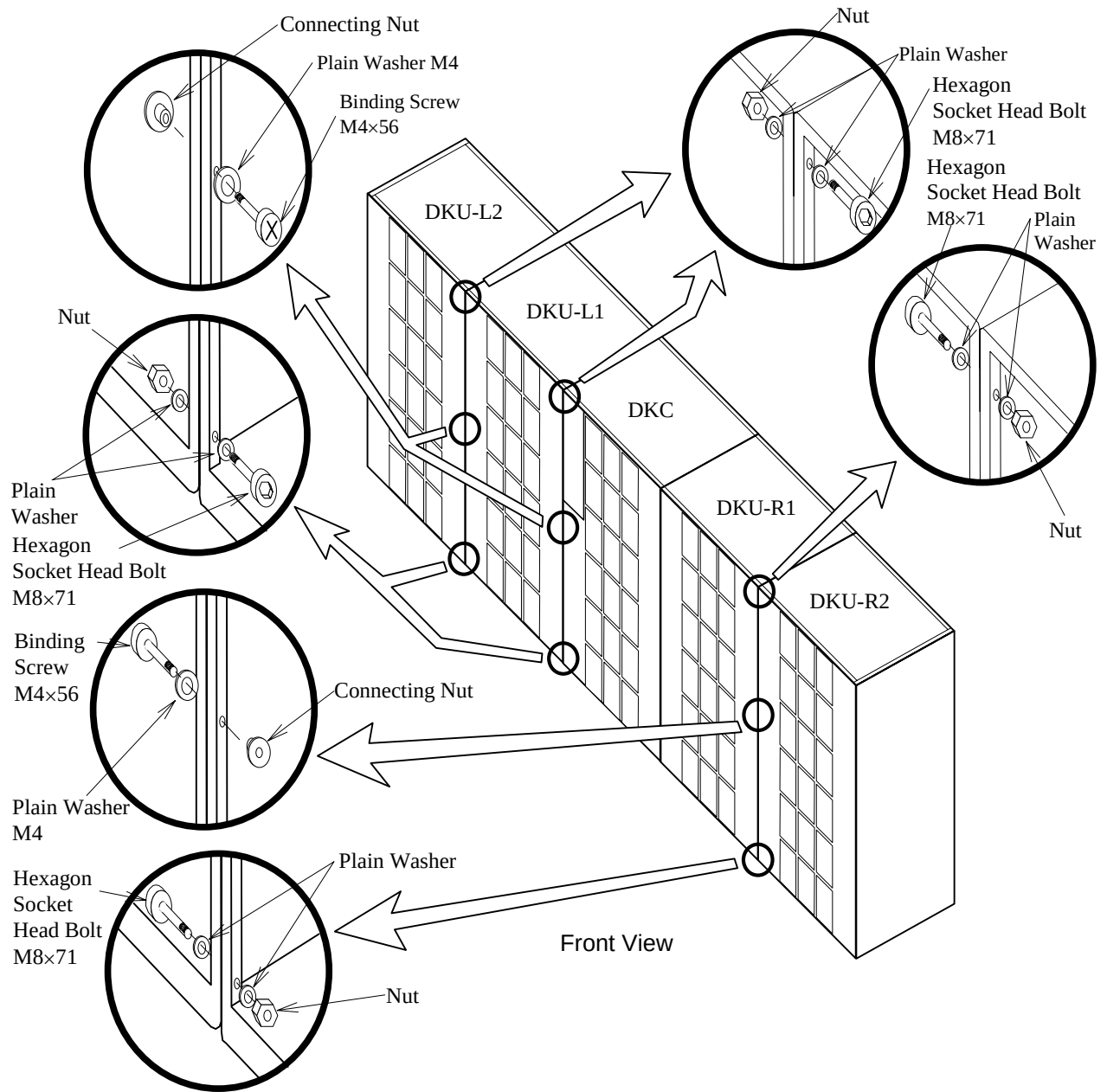


Fig. 4.2.1-13 Disconnection of Frame

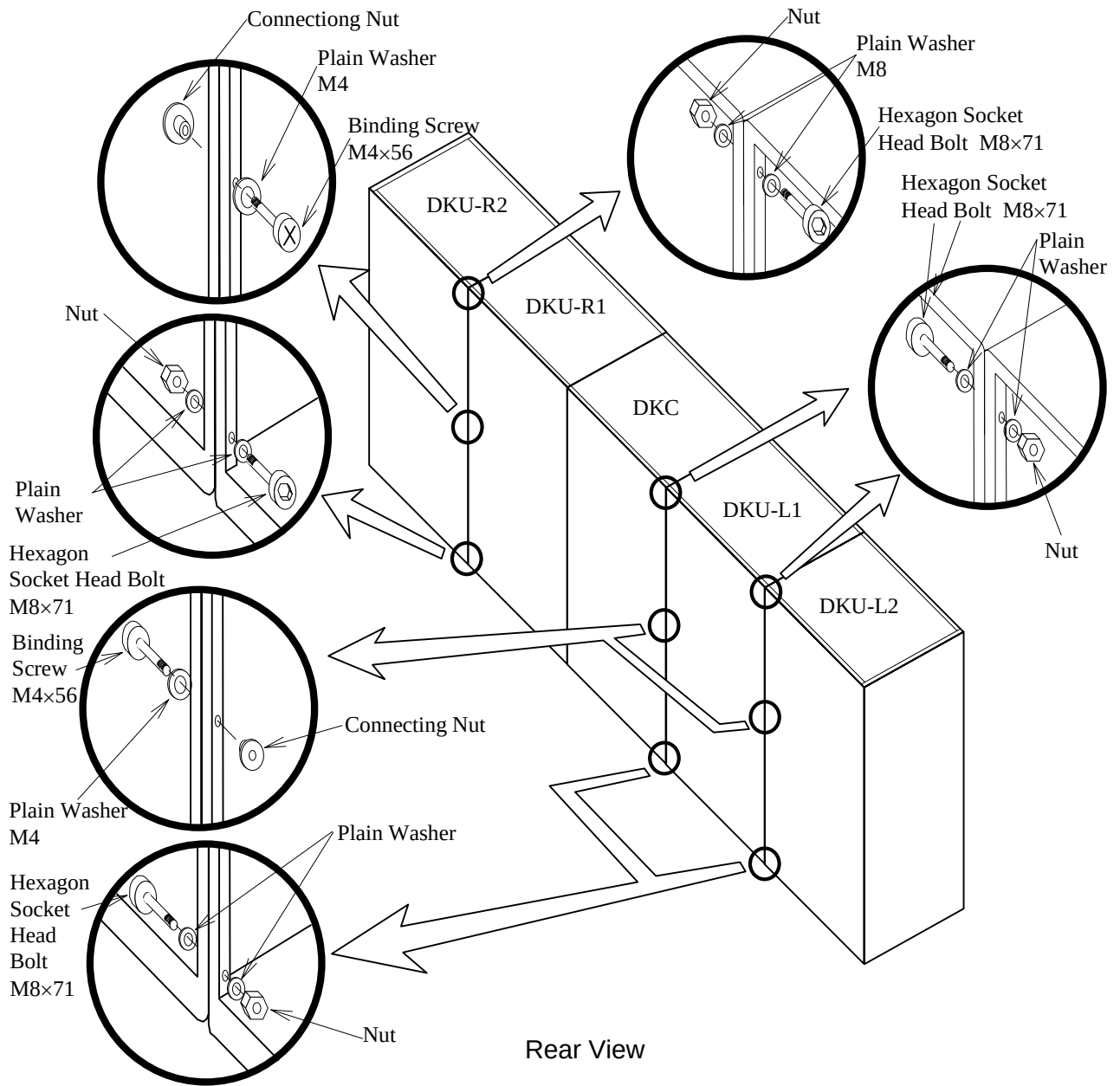


Fig. 4.2.1-14 Disconnection of Frame

6. Removal of DEV Interface Cables (only DKU-L1)

When the DKU-L1 is removed, remove the DEV Interface Cables from the DKC.

When the DKU-L1 is not removed, go to step 7.

- a. Loosen the screws and remove the cable covers from the DKU-L1 frames.

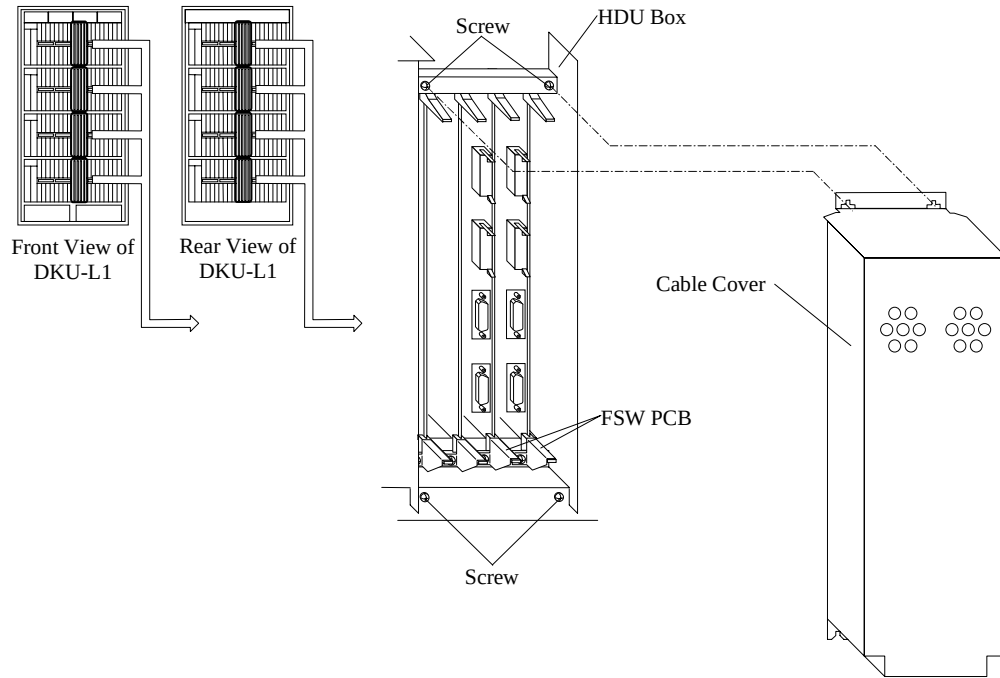


Fig. 4.2.1-15 Removal of Cable Covers

- b. Loosen the screws and remove the cable covers from the DKU-L1 frames.

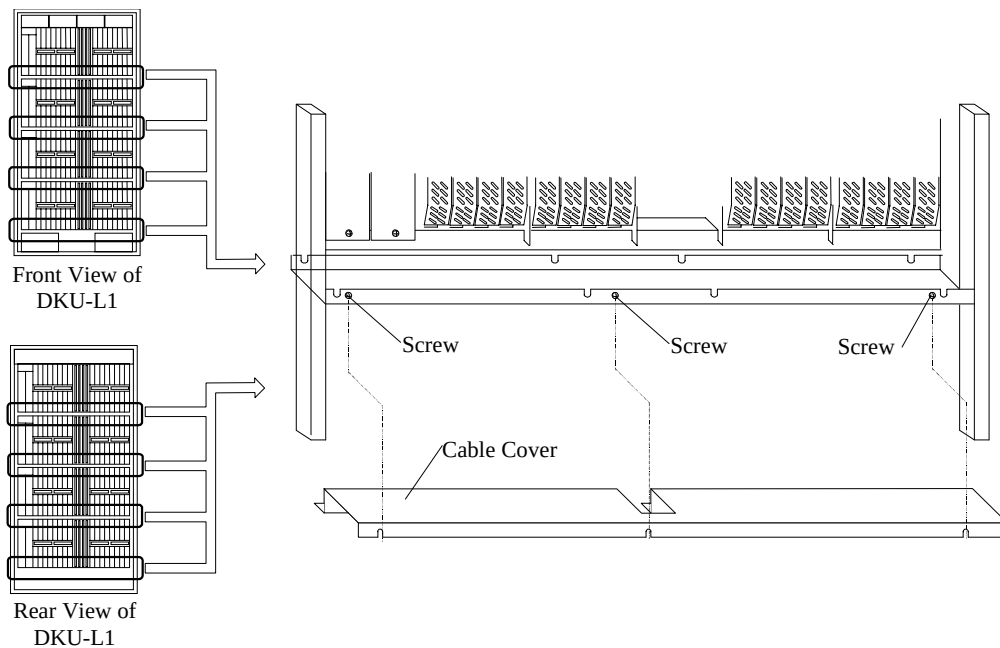


Fig. 4.2.1-16 Removal of Cable Covers

- c. While moving the DKU-L1 frame, pull out the DEV interface cables for the connection between the DKC and DKU-L1 toward the DKC side.

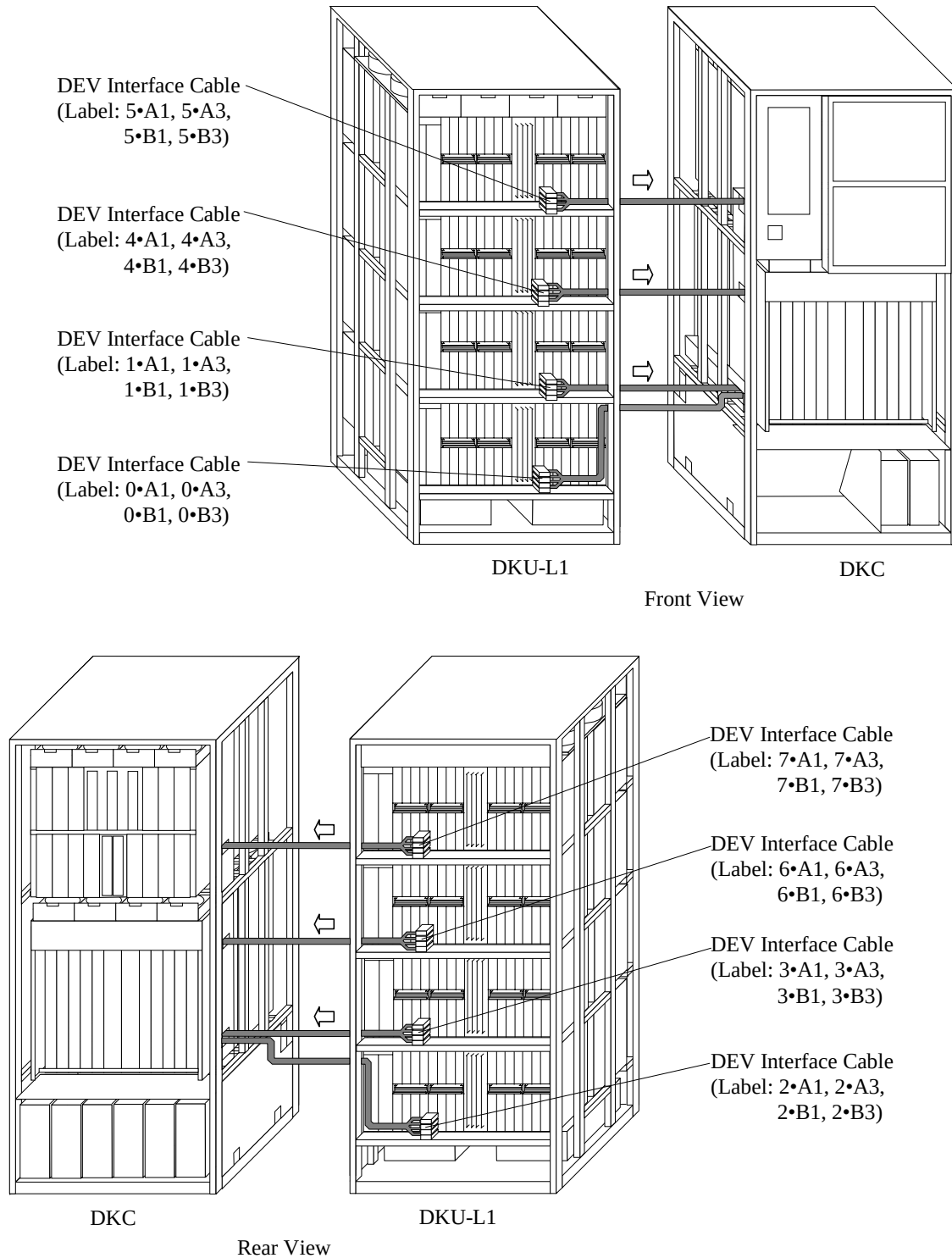


Fig. 4.2.1-17 Removal of DEV Interface Cables

- d. Loosen the three screws ① and remove the cable cover ①. Loosen the two screws ② and remove the cable cover ②.

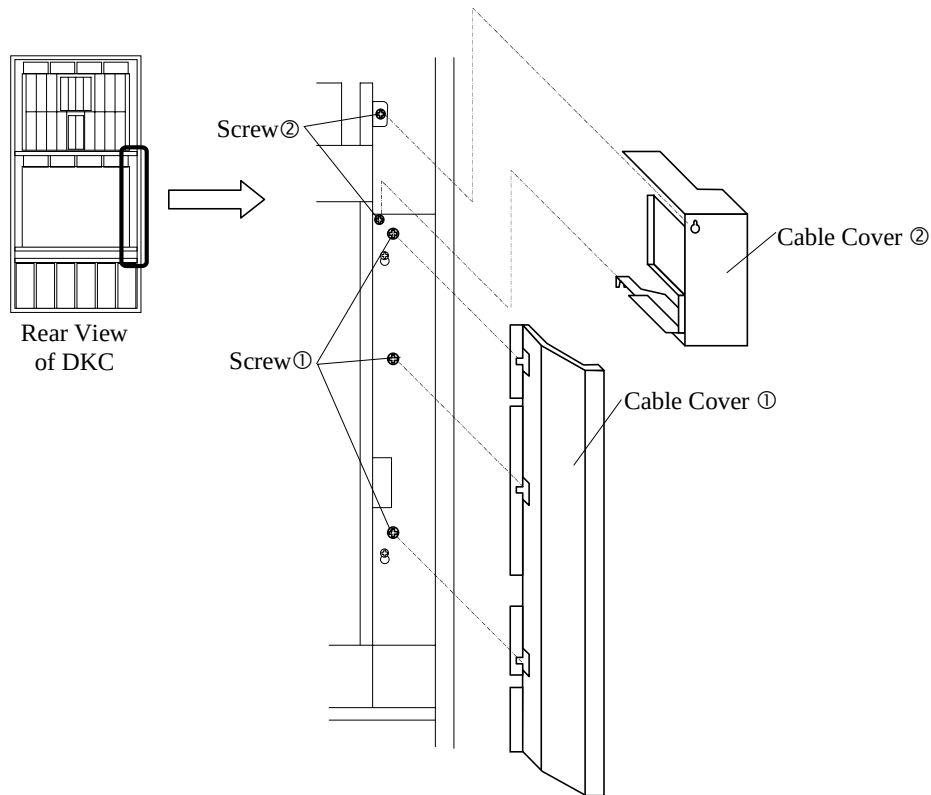


Fig. 4.2.1-18 Removal of Covers

- e. Loosen the two screws and remove the cable cover.

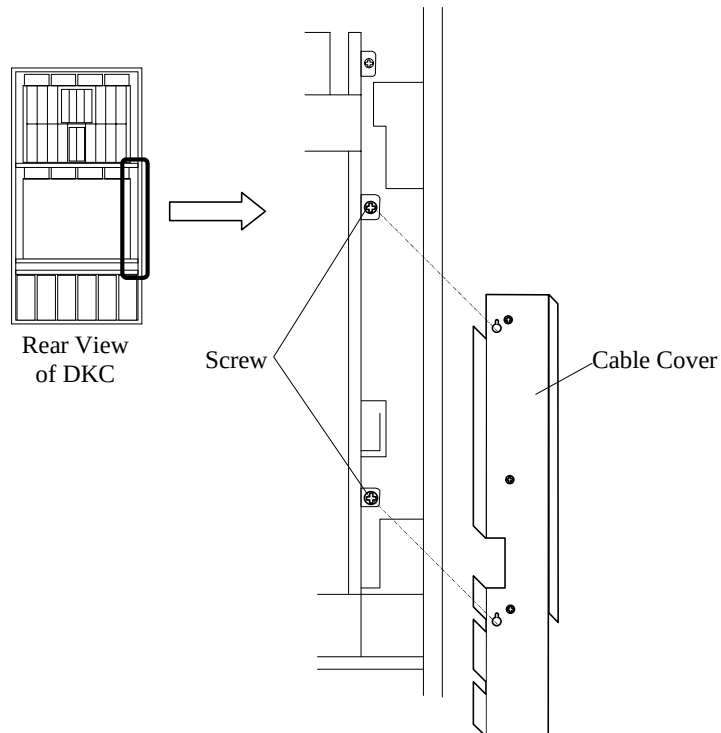


Fig. 4.2.1-19 Removal of Cover

- f. Loosen the three screws and remove the cable cover from the cable clamp located at the top to the Rear Logic Box.

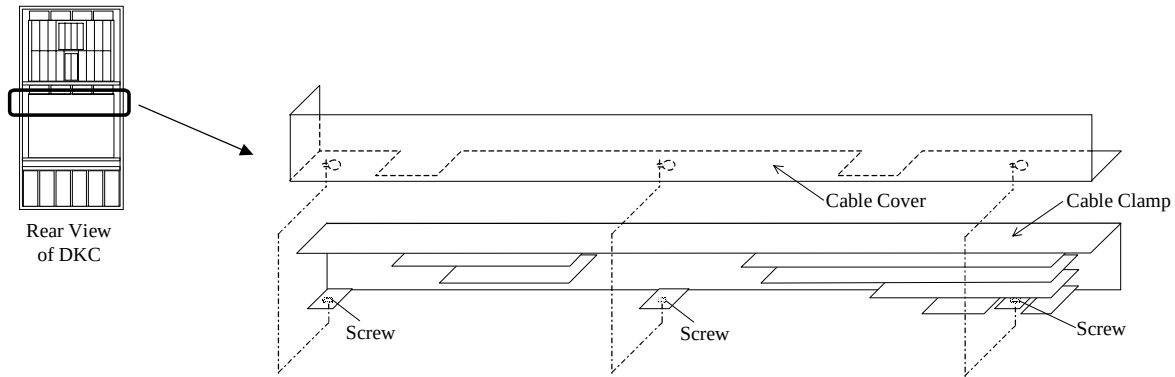


Fig.4.2.1-20 Removal of Cable Cover

- g. Remove the DEV interface cables for the DKU-L1 from the cable clamp located at the top to the Rear Logic Box.

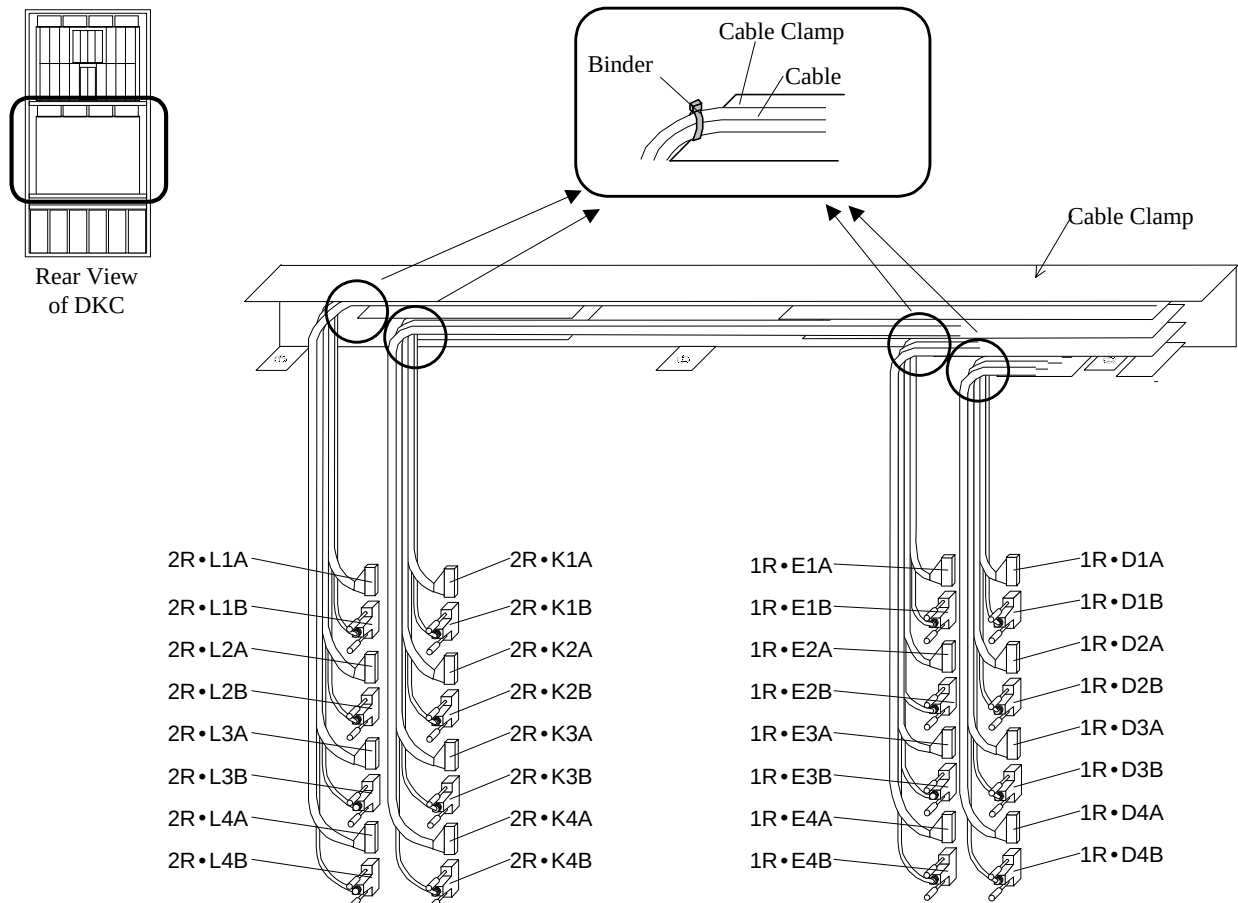


Fig. 4.2.1-21 Removal of DEV Interface Cable

- h. Refer to Fig. 4.2.1-22 and Fig. 4.2.1-23. Remove the DEV interface cables for the DKU-L1 from the cable duct.

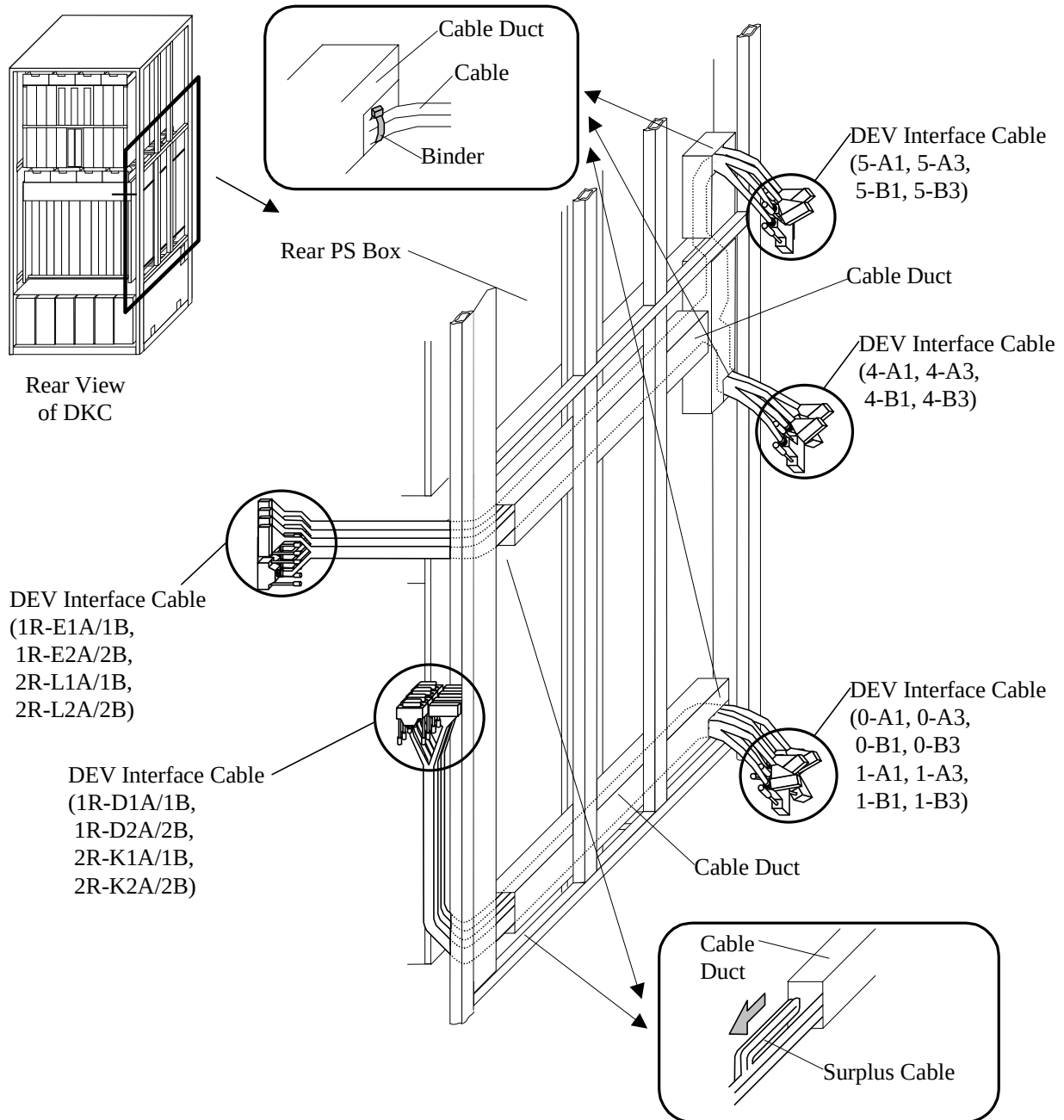


Fig. 4.2.1-22 Removal of DEV Interface Cables

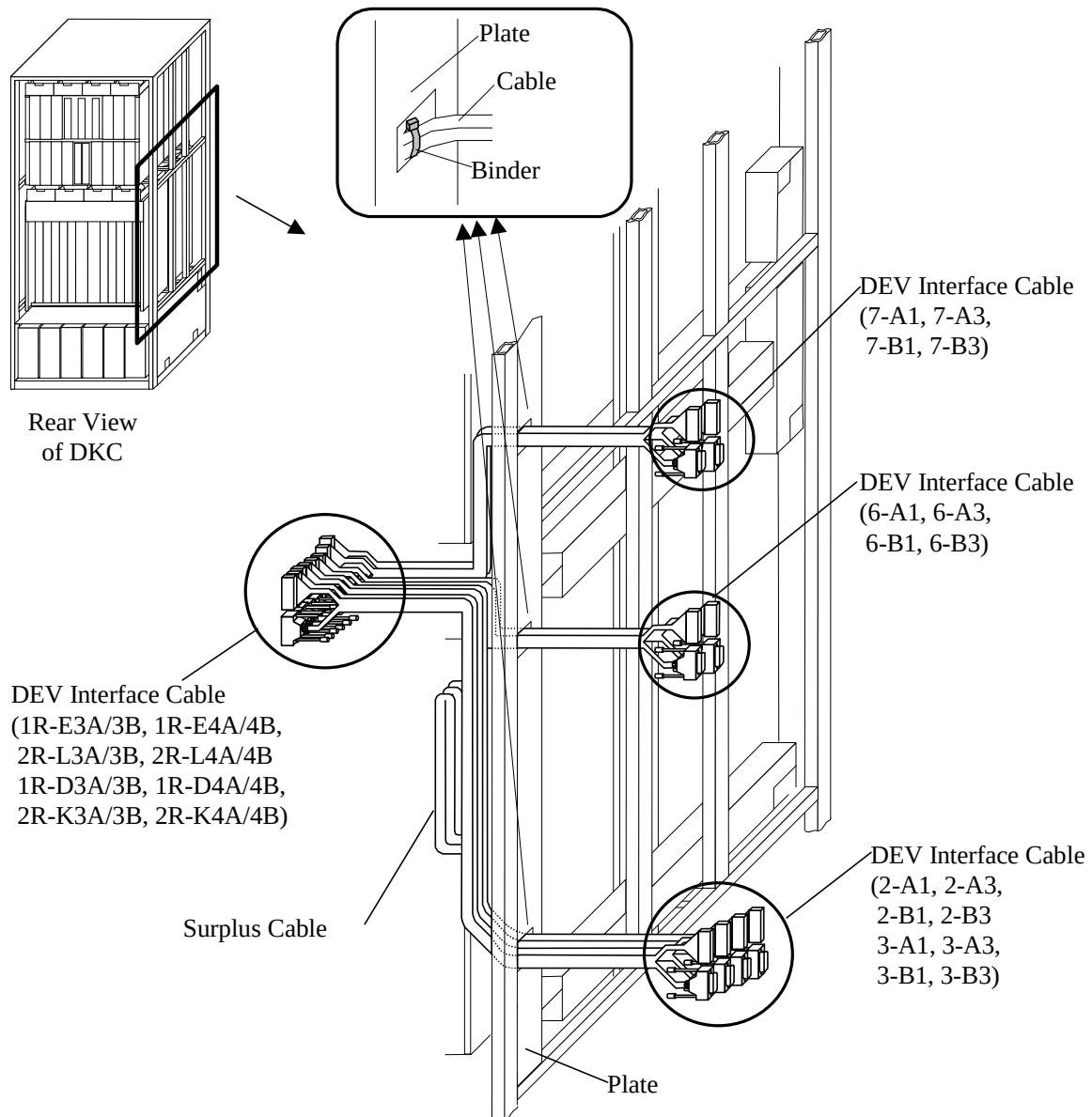


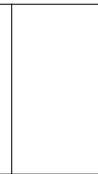
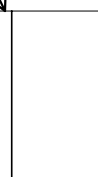
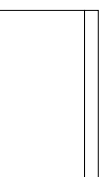
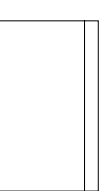
Fig. 4.2.2-23 Removal of DEV Interface Cables

- i. Attach the covers in the reverse order of steps a, b, d, e, and f.

7. Side Cover Re-Installation

a. Attach the side cover to the end of the frame. See Table 4.2.1-2.

Table 4.2.1-2 Removal and Re-installation of Side Cover

Configuration	DKU-L2	DKU-L1	DKC	DKU-R1	DKU-R2
De-Installation of DKU-R2					
De-Installation of DKU-L1					
De-Installation of DKU-L2					

b. Attach the side cover to the end of the string with the four binding screws and washers.

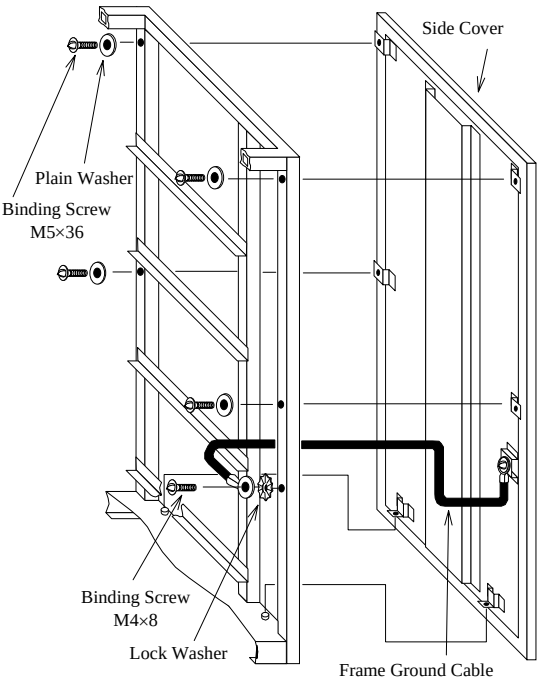


Fig. 4.2.1-24 Re-Installation of Side Cover

8. Power Cable Assy Fixing
 a. Loosen the four screws.

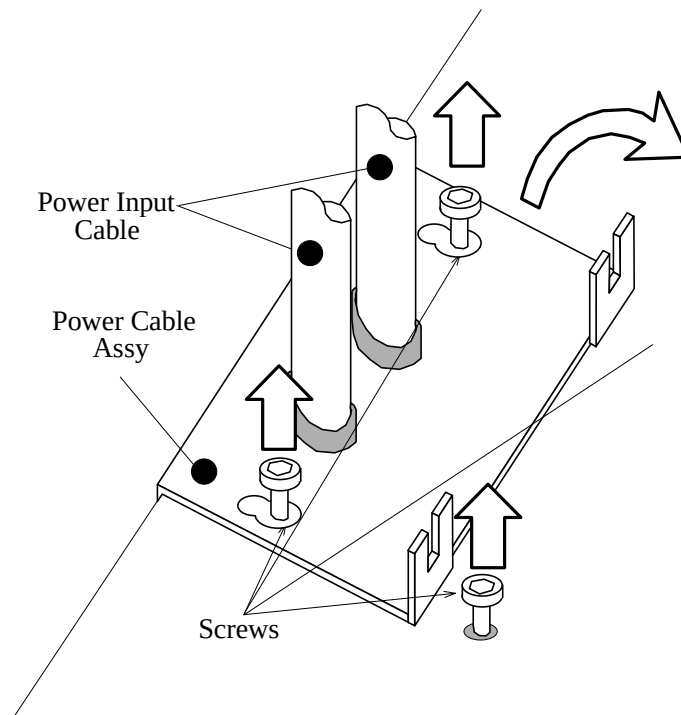


Fig. 4.2.1-25 Fixing of Power Cable Assy

- b. Secure the power cable Assy with the screws.

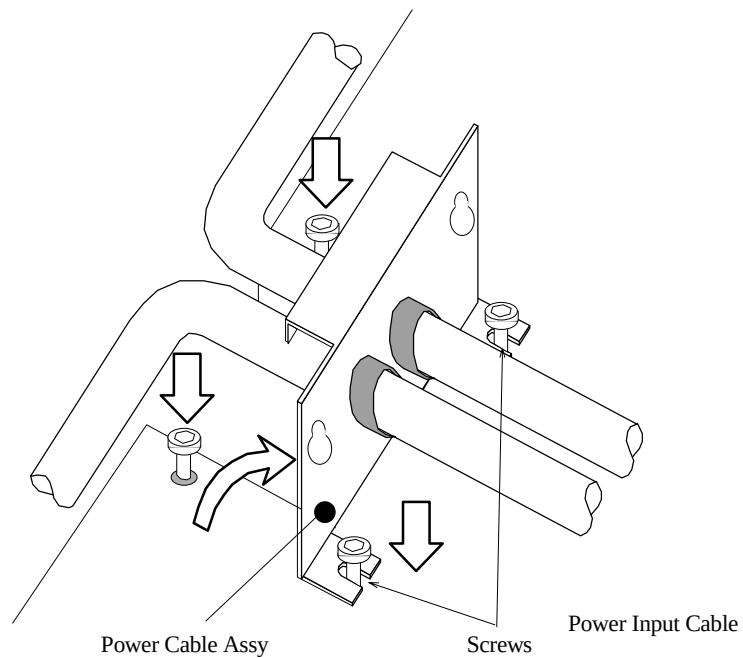


Fig. 4.2.1-26 Fixing of Power Cable Assy

4.3 De-Installation of Shared Memory and Cache Memory

4.3.1 De-Installation of Additional Shared Memory (DKC-F460I-S512)

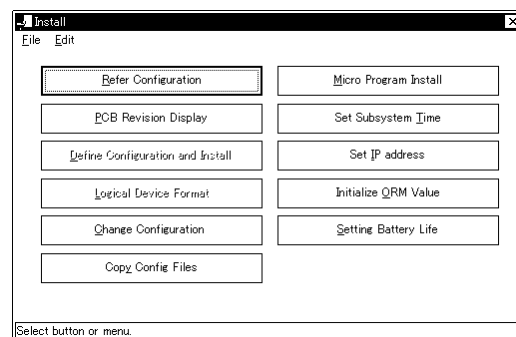
Table 4.3.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-S512	SH287-B	5513978-B	2	Shared Memory Module (256MB)

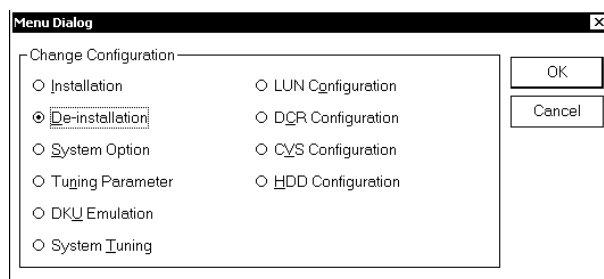
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

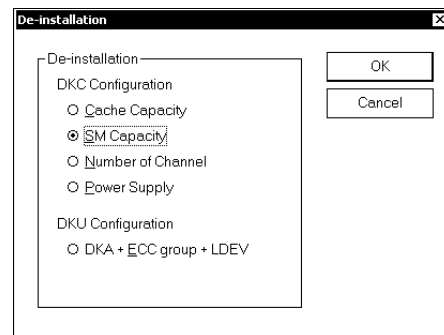
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



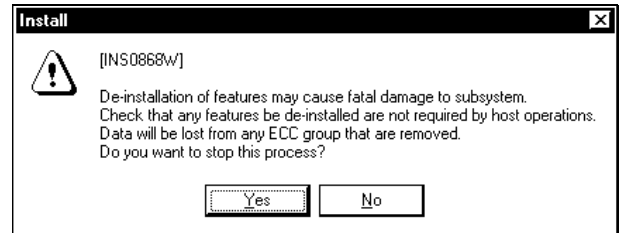
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



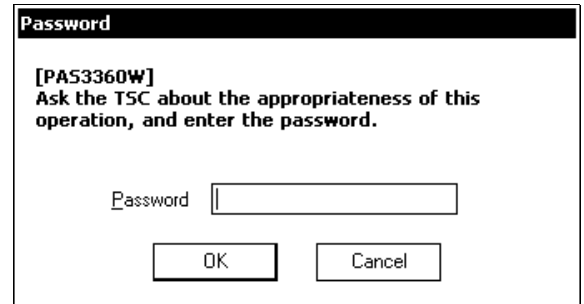
4. <Select a part to be changed>
Select (CL) [SM Capacity], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



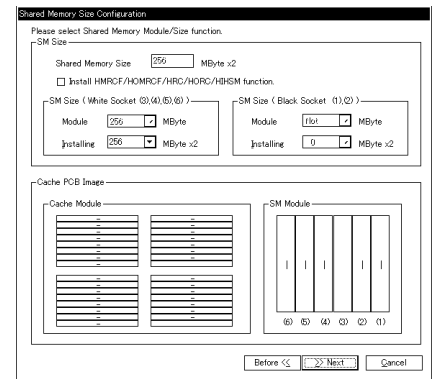
NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

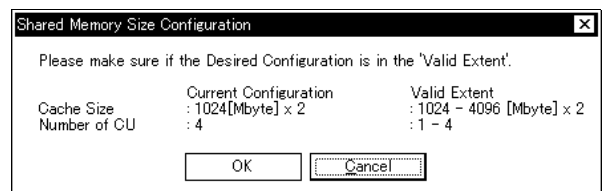
7. <Define Shared Memory Size>
Define the shared memory size in the ‘Shared Memory Size Configuration’ dialog box.

When you want to reduce the SM for the HMRCF/HOMRCF/HRC/HORC/HIMSM function, remove the check mark that has been put to the “Install HMRCF/HOMRCF/HRC/HOMRCF/HIMSM Function.”. (There may be no change in SM capacity.)

If the installed SM after the reduction conforms to that shown in the “Cache PCB Image”, select (CL) the [>>Next] button.



8. Make sure if the desired configuration is in the valid extent.
- In the valid extent : Select (CL) [OK].
Out of the valid extent : Select (CL) [Cancel].

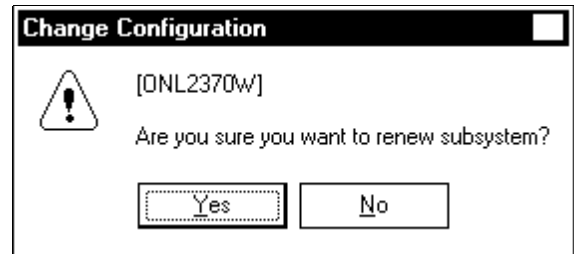


2. SVP pre procedure on the Cluster 1.

1. <Start de-installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

If there is change in SM capacity, go to INST04-SM-40 step 2.

If there is no change in SM capacity, go to [INST04-SM-180](#) step 3.



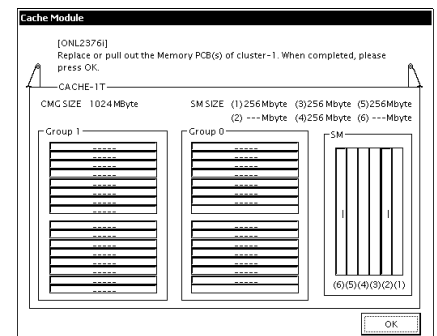
When [No] is selected (CL), returns to [INST04-SM-20](#) step 3.

2. <Memory blocking on one side>
When blocking of cluster 1 of shared memory is completed, “The Shared Memory PCB is being blocked...” is displayed.

3.
“Lighting LED of the PCB...” is displayed.

4. <Perform cache hardware de-installation>
At this point refrain from pressing the [OK] button.
When “Replace or pull out the Memory PCB(s) of cluster-1.
When completed, please press OK.” is displayed, perform the hardware de-installation steps according to the cache hardware de-installation procedure.

Make sure of the installation location of the module to be removed and remove the correct module.
(Uninstalled module is displayed as looks depressed; the PCB to be removed is displayed in gray.)



3. Remove the Shared Memory on the Cluster 1.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1. Remove the PCB.

- a. While referring to Fig. 4.3.1-1 and Table 4.3.1-2, check the Shut Down LED on the Cache Memory PCB in the Front Logic Box. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on.

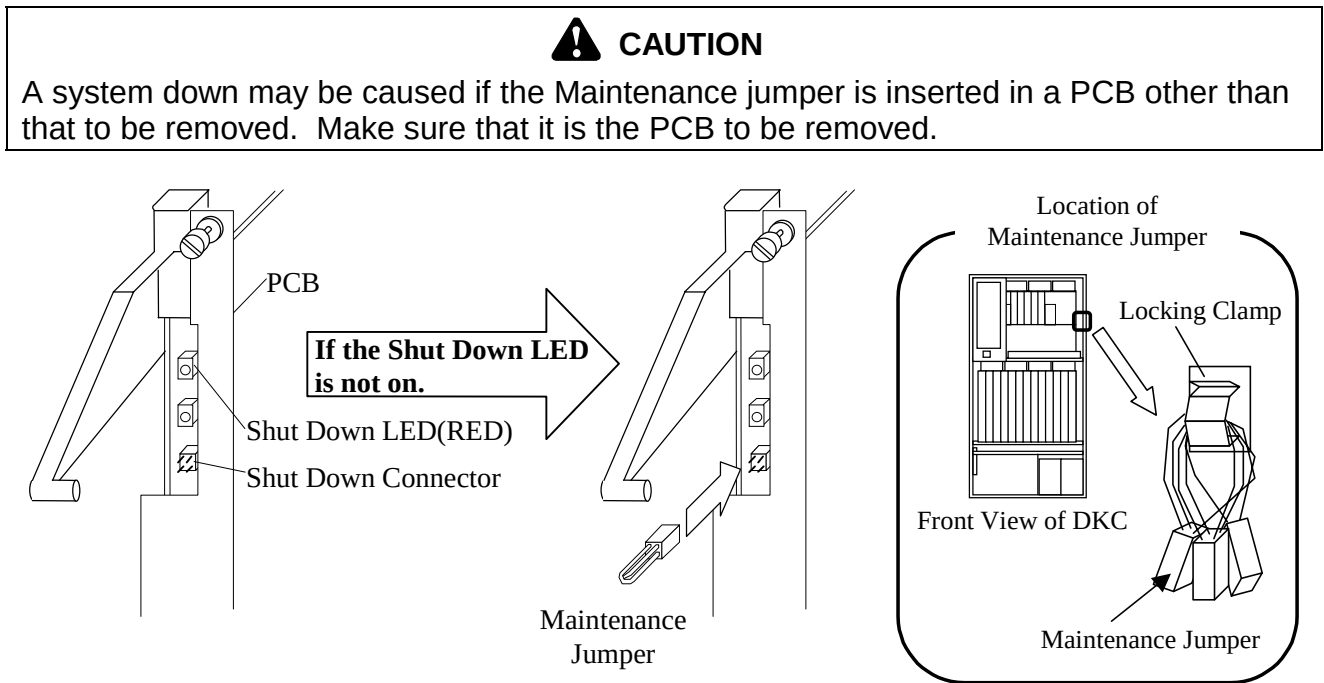


Fig. 4.3.1-1 Location of the Shut Down LED

Table 4.3.1-2 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB. Refer to Fig. 4.3.1-2 and Table 4.3.1-2.

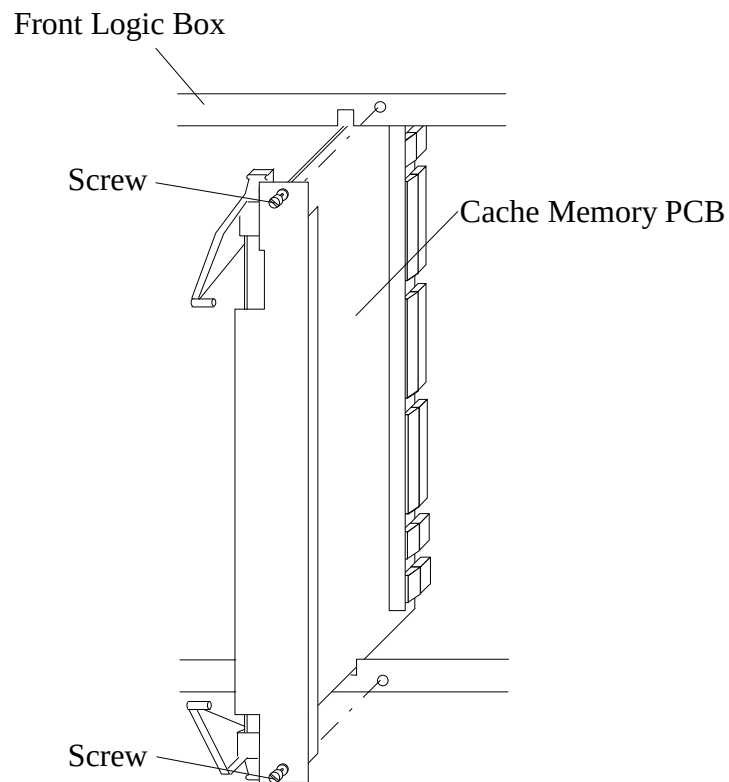


Fig. 4.3.1-2 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

3-2. Remove the Shared Memory Modules.

Notice

The required capacity of the shared memory varies depending on whether the HRC/HORC/HMRCF/HOMRCF/HHSM function is supported or not.

Calculate the required shared memory capacity referring to Table 4.3.1-3 when none of the functions is supported (in the case of basic configuration) or Table 4.3.1-4 when at least one of the functions is supported.

- Remove the extra Shared Memory Modules according to the required Shared Memory capacity referring to Fig. 4.3.1-3, Table 4.3.1-3 and Table 4.3.1-4.
- Insert the dust covers into the vacant sockets.

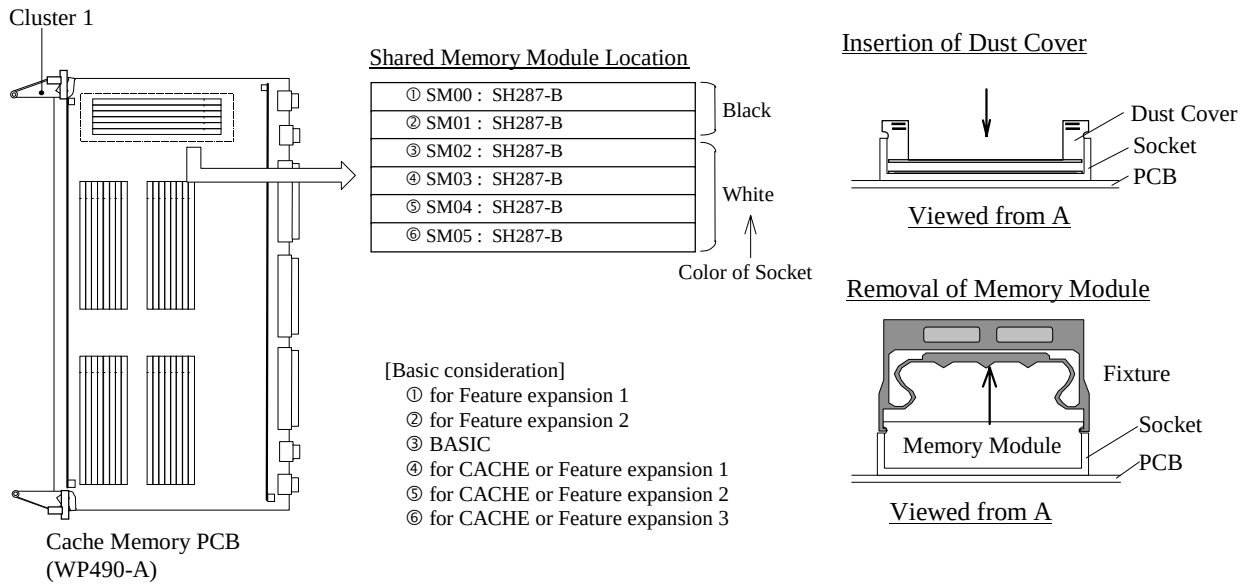


Fig. 4.3.1-3 Inserting Location of the Shared Memory Module

(To be continued.)

Table 4.3.1-3 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMRCF/HOMRCF/HHSM not support)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 (to 8192LDEV)		
	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1	SM (MB)	S512	Install loc.*1
2GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
4GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
6GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
8GB	512	1	③	1536	3	③①④	1536	3	③①④	2048	4	③①②④
10GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
12GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
14GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
16GB	1024	2	③④	1536	3	③①④	1536	3	③①④	2048	4	③①②④
18GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
20GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
22GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
24GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
26GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
28GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
30GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
32GB	1024	2	③④	1536	3	③①④	2048	4	③①④⑤	2560	5	③①②④⑤
34GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
36GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
38GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
40GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
42GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
44GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
46GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
48GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
50GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
52GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
54GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
56GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
62GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
64GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128	DKU-F455I-72J4: 64	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4	DKU-F455I-36K4: 256	DKU-F455I-72J4: 256	DKU-F405I-18J4: 256 *4
	DKU-F405I-47J4: 98 *4	DKU-F405I-72J4: 64 *4	DKU-F405I-180H4: 24 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 96 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 128 *4	DKU-F405I-47J4: 256 *4	DKU-F405I-72J4: 256 *4	DKU-F405I-180H4: 128 *4

*5

- Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 4.3.1-3.
- *2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.
- *3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.
- *4: When DKU405I is connected to DKC460I.
- *5: When HRC/HMRCF supported, cache memory must be de-installed refer to Table 4.3.1-4.

Table 4.3.1-4 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMR CF/HOMRCF/HHSM supported)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 & TPF (to 8192LDEV)		
	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1
2GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
4GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
6GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
8GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
10GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
12GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
14GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
16GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
18GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
20GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
22GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
24GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
26GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
28GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
30GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
32GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
34GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
36GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
38GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
40GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
42GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
44GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
46GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
48GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
50GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
52GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
54GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
56GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
62GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
64GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128 DKU-F455I-72J4: 64 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 98 *4 DKU-F405I-72J4: 64 *4 DKU-F405I-180H4: 24 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 96 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4		

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 4.3.1-3.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

*5: When HRC/HMR CF supported, cache memory (over 60 G bytes) can't set up in the '-' mark.

3-3. Insert the PCB.

- a. Insert the Cache Memory PCB into the Front Logic Box referring to Table 4.3.1-5.
- b. Fasten the two screws.

Table 4.3.1-5 Location of the Cache PCB

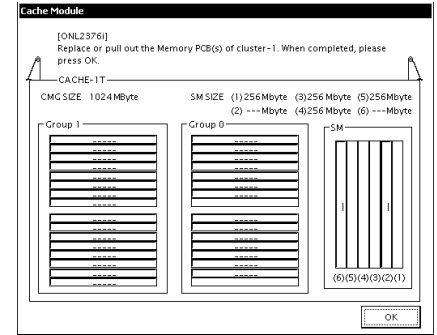
Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB

4. SVP post procedure on the Cluster 1 and pre procedure on the Cluster 2.

1.

After the hardware procedure for one side of cache memory is completed, select (CL) [OK] in response to “Replace or pull out the Memory PCB(s) of cluster-1. When completed, please press [OK].”.

“INLINE CUDG is running...” is displayed.



2.

When CUDG is completed, the recovery processing is automatically started with the messages.

“Restoring the Cache Memory PCB...”

“Restoring the Shared Memory PCB...”

3.

When the recovery processing is complete, processing proceeds to blocking of the cluster 2 of shared memory.

4. <Memory blocking on cluster 2>

When blocking of cluster 2 of shared memory is completed, “The Shared Memory PCB is being blocked...” is displayed.

5. “Lighting LED of the PCB...” is displayed.

6. <Perform cache hardware de-installation>

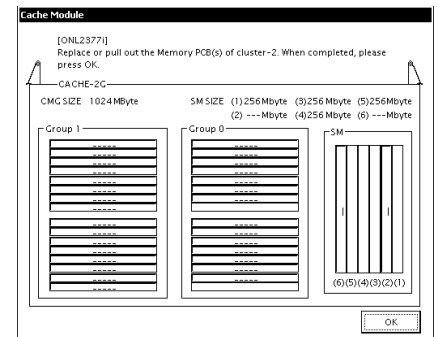
At this point refrain from pressing the [OK] button.

When “Replace or pull out the Memory PCB(s) of cluster-2.

When completed, please press OK.” is displayed, perform the hardware de-installation steps according to the cache hardware de-installation procedure.

Make sure of the installation location of the module to be removed and remove the correct module.

(Uninstalled module is displayed as looks depressed; the PCB to be removed is displayed in gray.)



5. Remove the Shared Memory on the Cluster 2.

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

5-1. Remove the PCB.

- a. While referring to Fig. 4.3.1-4 and Table 4.3.1-6, check the Shut Down LED on the Cache Memory PCB in the Rear Logic Box. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on.

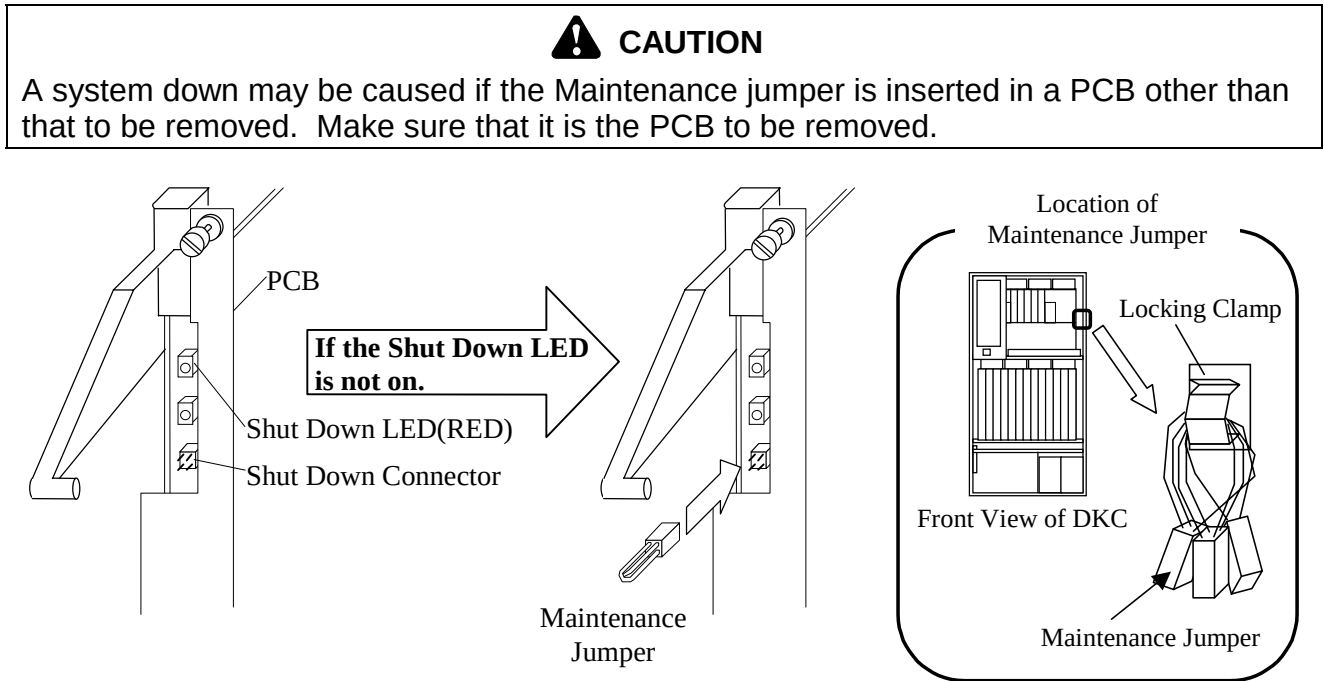


Fig. 4.3.1-4 Location of the Shut Down LED

Table 4.3.1-6 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB. Refer to Fig. 4.3.1-5 and Table 4.3.1-6.

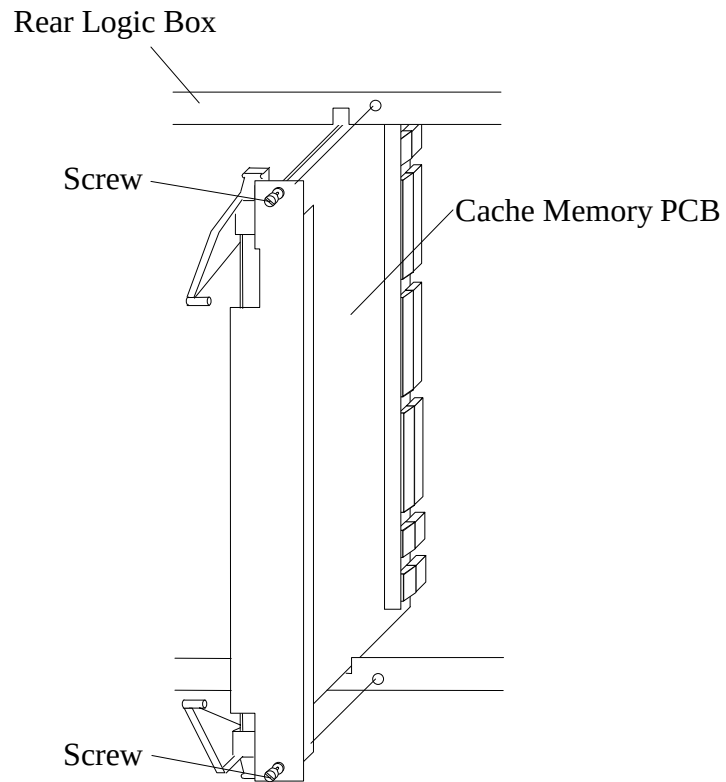


Fig. 4.3.1-5 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

5-2. Remove the Shared Memory Modules.

Notice

The required capacity of the shared memory varies depending on whether the HRC/HORC/HMRCF/HOMRCF/HHSM function is supported or not.

Calculate the required shared memory capacity referring to Table 4.3.1-7 when none of the functions is supported (in the case of basic configuration) or Table 4.3.1-8 when at least one of the functions is supported.

- Remove the extra Shared Memory Modules according to the required Shared Memory capacity referring to Fig. 4.3.1-6, Table 4.3.1-7 and Table 4.3.1-8.
- Insert the dust covers into the vacant sockets.

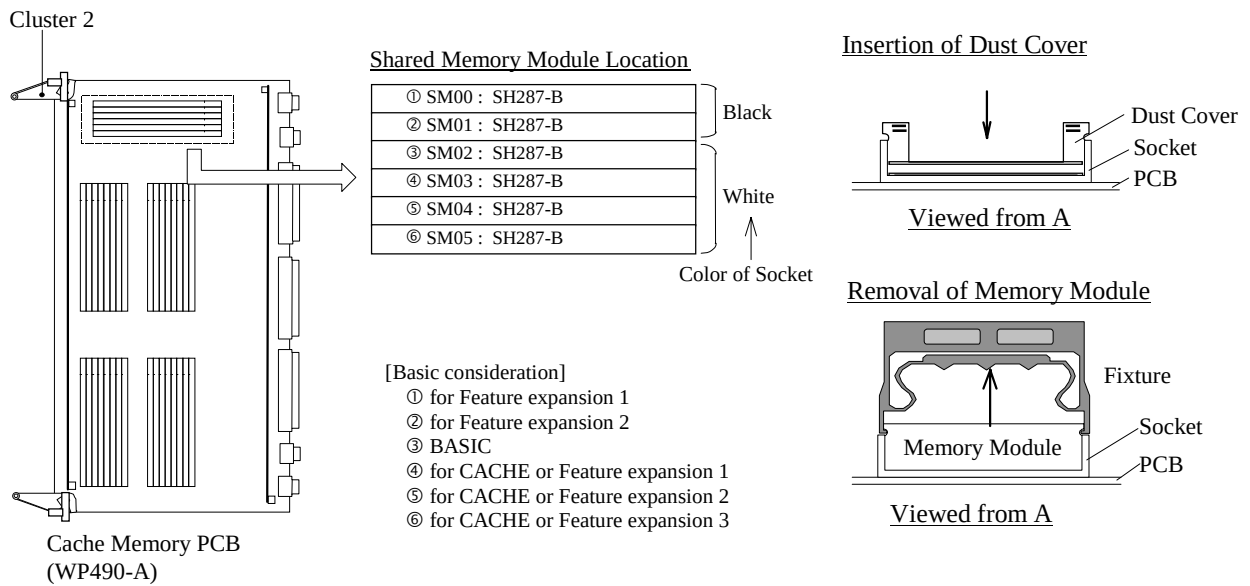


Fig. 4.3.1-6 Inserting Location of the Shared Memory Module

Table 4.3.1-7 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMRCF/HOMRCF/HHSM not support)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 (to 8192LDEV)		
	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1
2GB	512	1	㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
4GB	512	1	㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
6GB	512	1	㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
8GB	512	1	㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
10GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
12GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
14GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
16GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿
18GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
20GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
22GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
24GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
26GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
28GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
30GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
32GB	1024	2	㊿㊿	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
34GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
36GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
38GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
40GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
42GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
44GB	1024	2	㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
46GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
48GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
50GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
52GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
54GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿
56GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿	3072	6	㊿㊿㊿㊿㊿㊿
58GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿	3072	6	㊿㊿㊿㊿㊿㊿
60GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿	3072	6	㊿㊿㊿㊿㊿㊿
62GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿	3072	6	㊿㊿㊿㊿㊿㊿
64GB	1536	3	㊿㊿㊿	2048	4	㊿㊿㊿㊿	2560	5	㊿㊿㊿㊿㊿	3072	6	㊿㊿㊿㊿㊿㊿
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128 DKU-F455I-72J4: 64 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 98 *4 DKU-F405I-72J4: 64 *4 DKU-F405I-180H4: 24 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 96 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4		

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 4.3.1-6.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

Table 4.3.1-8 Number of SMs and Corresponding Shared Memory Capacity
(HRC/HORC/HMRCF/HOMRCF/HHSM supported)

Cache Memory Capacity	Number of CU:1-4 (to 1024LDEV)			Number of CU:5-8 (to 2048LDEV)			Number of CU:9-16 (to 4096LDEV)			Number of CU:17-32 & TPF (to 8192LDEV)		
	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1	SM (MB)	S512	Install loc. *1
2GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
4GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
6GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
8GB	1024	2	③④	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
10GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
12GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
14GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
16GB	1536	3	③④⑤	2048	4	③①④⑤	2048	4	③①④⑤	2560	5	③①②④⑤
18GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
20GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
22GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
24GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
26GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
28GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
30GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
32GB	1536	3	③④⑤	2048	4	③①④⑤	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
34GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
36GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
38GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
40GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
42GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
44GB	1536	3	③④⑤	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
46GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
48GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
50GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
52GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
54GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
56GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
58GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	2560	5	③①④⑤⑥	3072	6	③①②④⑤⑥
60GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
62GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
64GB	2048	4	③④⑤⑥	2560	5	③①④⑤⑥	-	-	-	-	-	-
Subsystem Capacity *2	to 18TB			to 72TB			to 144TB			over 144TB		
Number of HDD Canister Options *3	DKU-F455I-36K4: 128 DKU-F455I-72J4: 64 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 98 *4 DKU-F405I-72J4: 64 *4 DKU-F405I-180H4: 24 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 96 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4			DKU-F455I-36K4: 256 DKU-F455I-72J4: 256 DKU-F405I-18J4: 256 *4 DKU-F405I-47J4: 256 *4 DKU-F405I-72J4: 256 *4 DKU-F405I-180H4: 128 *4		

Note. *1: Location ① through ⑥ represent the Shared Memory Module locations shown in Fig. 4.3.1-6.

*2: This is raw capacity. You have to increase SM capacity, when subsystem raw capacity exceeds this. When the HDD option is intermixed in one subsystem, subsystem capacity must not exceed this.

*3: The number of HDD canister options controllable by the LDEV numbers and SM capacities. You have to increase SM capacity, when the number of HDD canister options exceeds.

*4: When DKU405I is connected to DKC460I.

*5: A Shared Memory can't be set up in the '-' mark.

5-3. Insert the PCB.

- Insert the Cache Memory PCB into the Rear Logic Box referring to Table 4.3.1-9.
- Fasten the two screws.

Table 4.3.1-9 Location of the Cache PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB

5-4 Change the nameplate.

- Refer to Fig. 4.3.1-7 and Table 4.3.1-10 to wipe off unnecessary numbers on the nameplate.

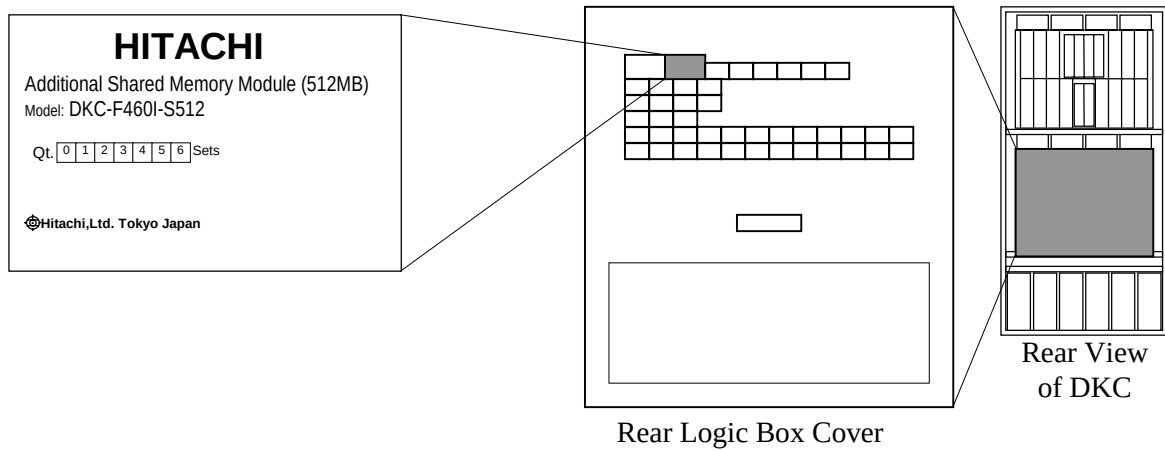


Fig. 4.3.1-7 Location of the Nameplate

Table 4.3.1-10 Quantity Marking

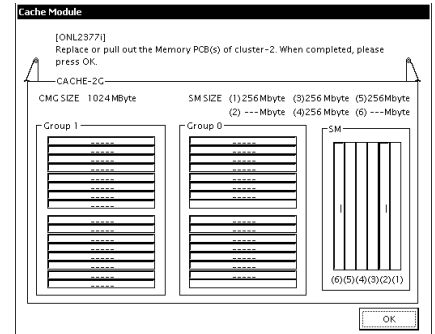
No.	Quantity Marking	
	Number of DKC-F460I-S512 sets	Qt.
1	1 set	2 3 4 5 6 7
2	2 sets	3 4 5 6 7
3	3 sets	4 5 6 7
4	4 sets	5 6 7
5	5 sets	6 7
6	6 sets	7

6. SVP post procedure on the Cluster2

1.

After the hardware procedure for cluster 2 of cache memory is completed, select (CL) [OK] in response to “Replace or pull out the Memory PCBs of cluster-2. When completed, please press [OK].”.

“INLINE CUDG is running...” is displayed.



2.

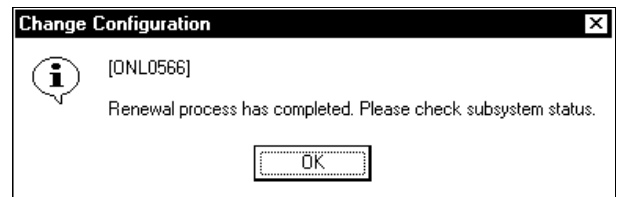
When CUDG is completed, the recovery processing is automatically started with the messages.

“Restoring the Cache Memory PCB...”

“Restoring the Shared Memory PCB...”

3. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.

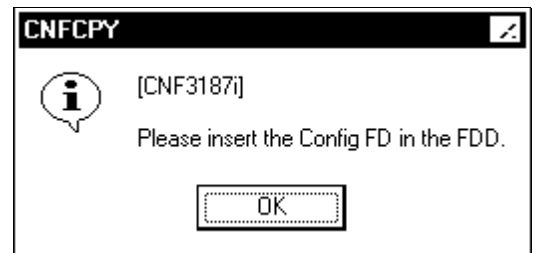


4.

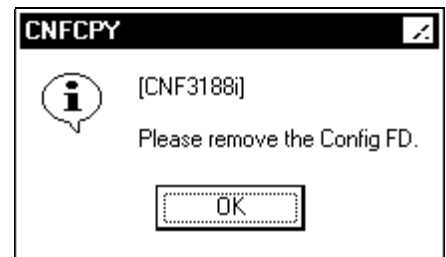
“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

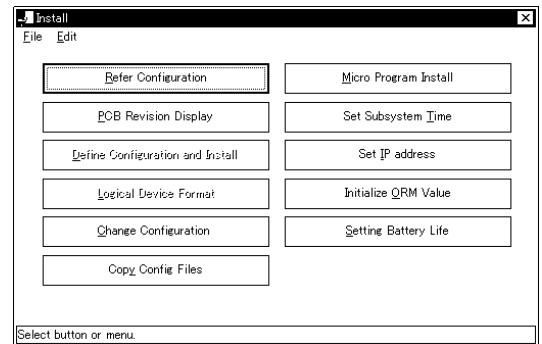
Insert the configuration FD into FDD, select (CL) [OK].



5. When this procedure is completed, the message “Please remove the Config FD.” is displayed.
Remove the FD, and select (CL) [OK].



6. After the procedure is completed, return to [Install].
Select (CL) [File]-[Exit].



7. <Mode Change>
Change the mode to View Mode.

4.3.2 De-Installation of Additional Cache Memory (DKC-F460I-41/42/2048)

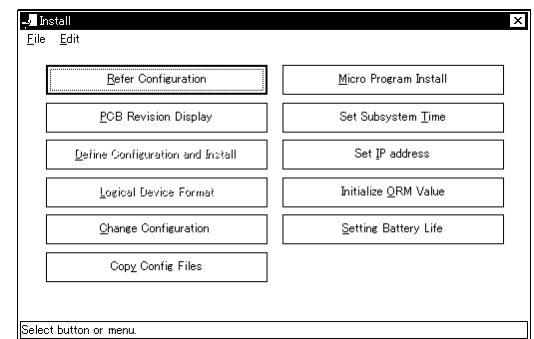
Table 4.3.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-41	WP490-B	5513976-B	2	Cache Memory PCB
		Nameplate (HDS)	2105902-115	1	RSD
			2105903-115		HICAM
			2105903-215		HICEF
		Nameplate (HP)	2105902-215	1	RSD
			2105903-315		HICAM
			2105903-415		HICEF
2	DKC-F460I-42	Battery Box	5513990-A	2	
		SH200-A	5509126-A	2	BATCTR PCB
		Nameplate (HDS)	2105902-116	1	RSD
			2105903-116		HICAM
			2105903-216		HICEF
		Nameplate (HP)	2105902-216	1	RSD
			2105903-316		HICAM
			2105903-416		HICEF
3	DKC-F460I-2048	SH288-B	5513977-B	4	Cache Memory Module (512 MB)

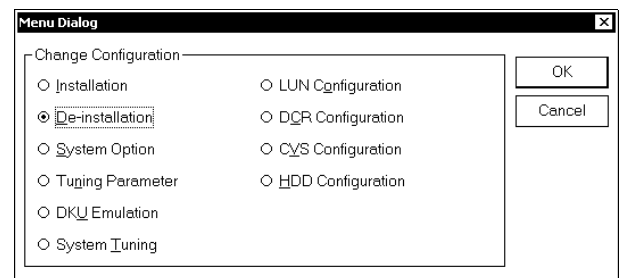
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

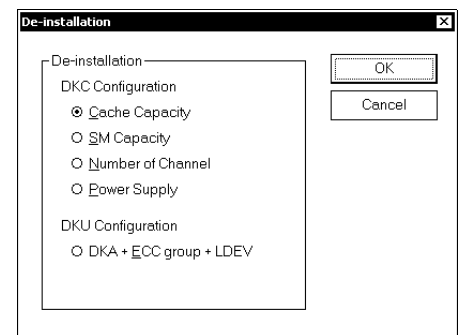
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

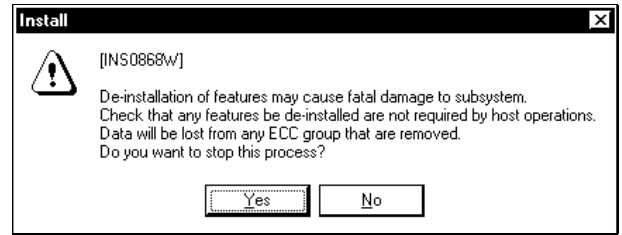


4. <Select a part to be changed>
Select (CL) [Cache Capacity], and select (CL) [OK].



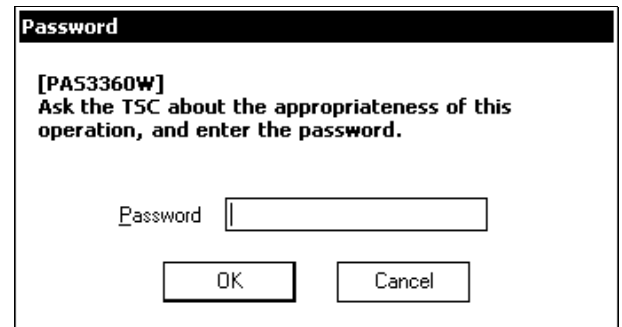
5.

Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>

Enter the password and select (CL) [OK].

**NOTICE**

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

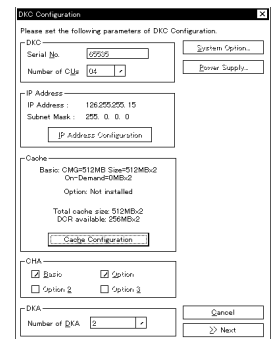
7. <Update Configuration Information>

Select (CL) [Cache Configuration] in the 'DKC Configuration' window. (Go to step 7-1.)

Note: It is not possible to install or de-install plural parts at the same time.

Make sure that all entered items are correct and select (CL) [>>Next].

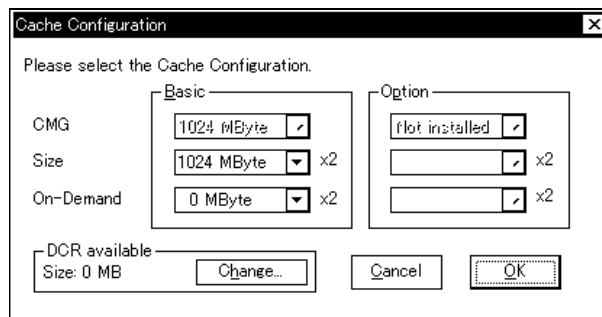
Go to step 8.



7-1. <Define Cache>

Define each item in the 'Cache Configuration' window.

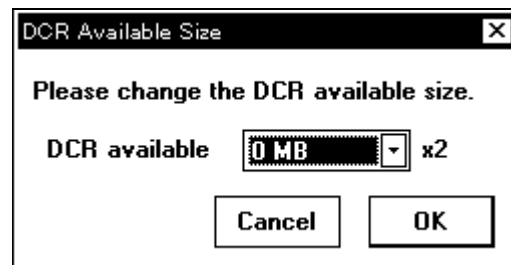
If you want to change the DCR available size, select (CL) [Change...] to change it.
(See SSD Optional Function Section)



7-2. <Define DCR Available Size>

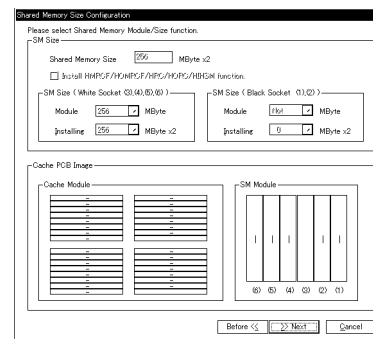
Define the DCR available size in the 'DCR Available Size' dialog box.
And select (CL) [OK].

Return to step 7-1.



8. <Display SM size>

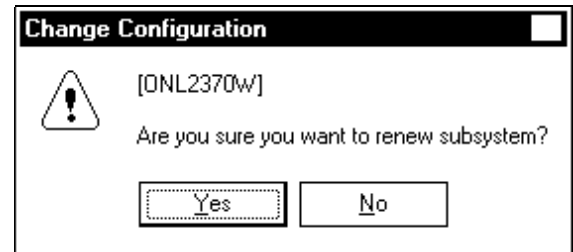
The 'Shared Memory size Configuration' dialog box is displayed.
Select (CL) [>>Next].



2. SVP pre procedure on the cluster 1.

1. <Start de-installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST04-CM-20](#) step 3.



2. <Memory blocking on cluster 1>

When blocking of cluster 1 of shared memory and Cache memory is completed, “The Cache Memory PCB is being blocked...” and “The Shared Memory PCB is being blocked...” are displayed.

3.
“Lighting LED of the PCB...” is displayed.

4. <Perform cache hardware de-installation>

At this point refrain from pressing the [OK] button.

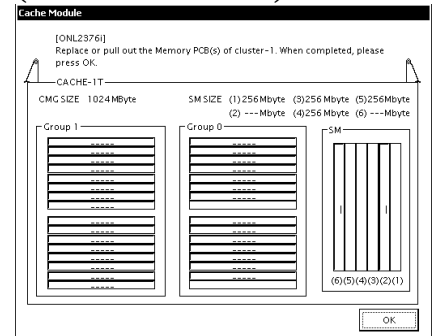
When “Replace or pull out the Memory PCB(s) of cluster-1.

When completed, select OK.” is displayed, perform the hardware de-installation steps according to the cache hardware de-installation procedure.

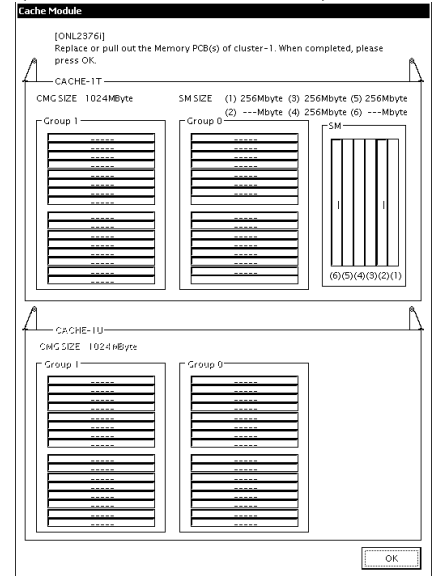
Make sure of the installation location of the module to be removed and remove the correct module.

(Uninstalled module is displayed as looks depressed; the PCB to be removed is displayed in gray.)

(A PCB to be added)



(Two PCBs to be added)



3. Remove the Cache Memory on the cluster 1.

Be sure to wear your wrist strap and attach to ground prior to performing the following work.
This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1. Remove the PCB.

- a. While referring to Fig. 4.3.2-1, Table 4.3.2-2 and Table 4.3.2-3, check the Shut Down LED on the Cache Memory PCB. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on.

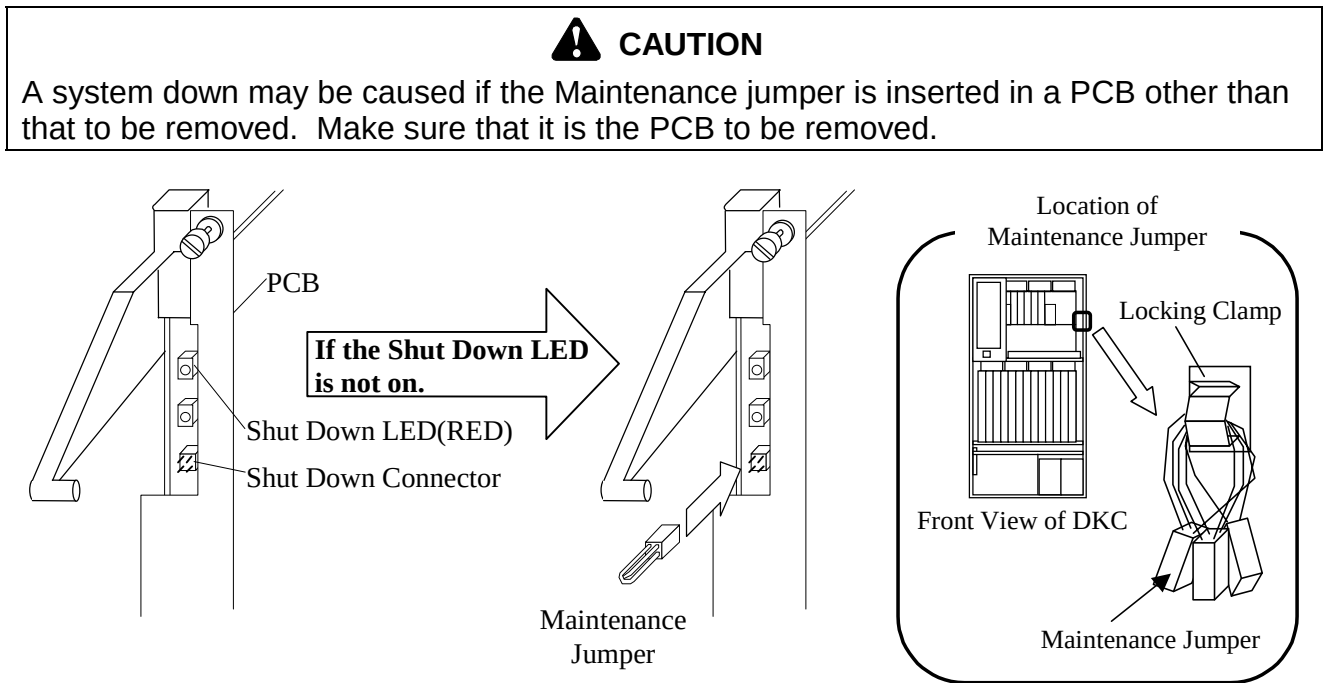


Fig. 4.3.2-1 Location of the Shut Down LED

Table 4.3.2-2 Location of the Cache Memory PCB (Standard Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB (Note 1)
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB (Note 2)

Note 1: No PCB needs to be removed if 16 or more DKC-F460I-2048 sets are left after de-installation, except when installing DKC-F460I-S512 sets.

Note 2: Remove the PCB only when it is installed.

Table 4.3.2-3 Location of the Cache Memory PCB (High Performance Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB. Refer to Fig. 4.3.2-2, Table 4.3.2-2 and Table 4.3.2-3.

Front Logic Box

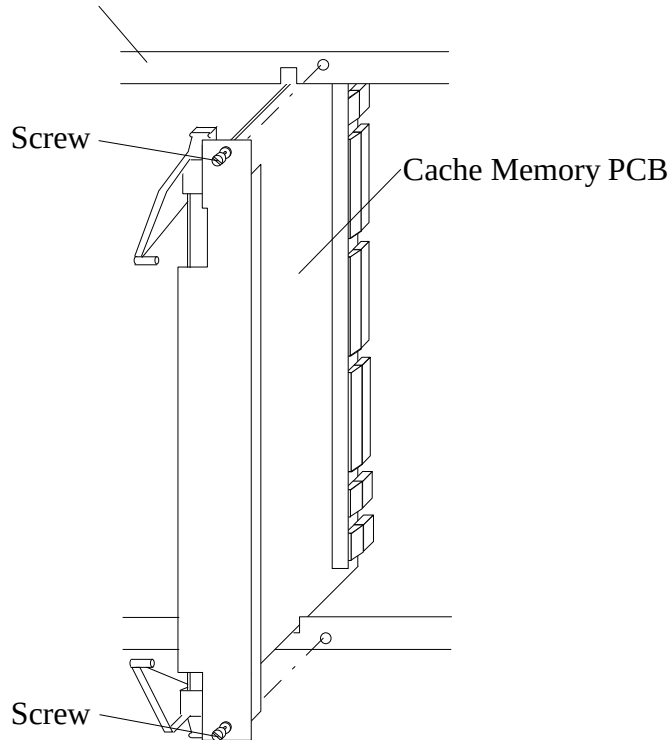
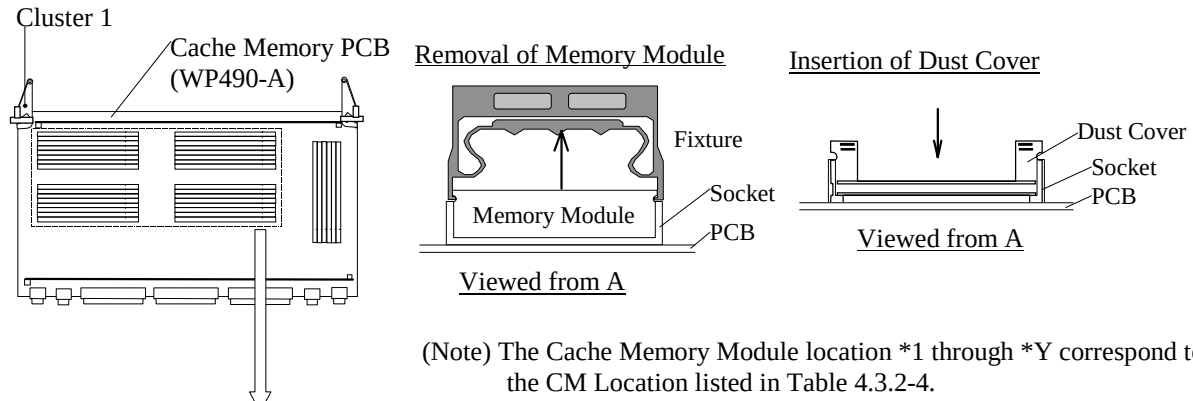


Fig. 4.3.2-2 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

3-2. Remove the Cache Memory Modules.

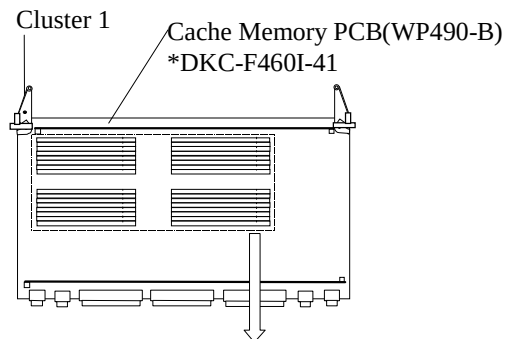
- Remove the extra Cache Memory Modules according to the required Cache Memory capacity referring to Fig. 4.3.2-3 and Table 4.3.2-4.
- Insert the dust covers into the vacant sockets.



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*G	ACM007 (MG#14): SH288-B	*F
BCM006 (MG#13): SH288-B	*E	ACM006 (MG#12): SH288-B	*D
BCM005 (MG#11): SH288-B	*C	ACM005 (MG#10): SH288-B	*B
BCM004 (MG#9): SH288-B	*A	ACM004 (MG#8): SH288-B	*9
BCM003 (MG#7): SH288-B	*8	ACM003 (MG#6): SH288-B	*7
BCM002 (MG#5): SH288-B	*6	ACM002 (MG#4): SH288-B	*5
BCM001 (MG#3): SH288-B	*4	ACM001 (MG#2): SH288-B	*3
BCM000 (MG#1): SH288-B	*2	ACM000 (MG#0): SH288-B	*1

BCM107 (MG#15): SH288-B	*G	ACM107 (MG#14): SH288-B	*F
BCM106 (MG#13): SH288-B	*E	ACM106 (MG#12): SH288-B	*D
BCM105 (MG#11): SH288-B	*C	ACM105 (MG#10): SH288-B	*B
BCM104 (MG#9): SH288-B	*A	ACM104 (MG#8): SH288-B	*9
BCM103 (MG#7): SH288-B	*8	ACM103 (MG#6): SH288-B	*7
BCM102 (MG#5): SH288-B	*6	ACM102 (MG#4): SH288-B	*5
BCM101 (MG#3): SH288-B	*4	ACM101 (MG#2): SH288-B	*3
BCM100 (MG#1): SH288-B	*2	ACM100 (MG#0): SH288-B	*1



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*Y	ACM007 (MG#14): SH288-B	*X
BCM006 (MG#13): SH288-B	*W	ACM006 (MG#12): SH288-B	*V
BCM005 (MG#11): SH288-B	*U	ACM005 (MG#10): SH288-B	*T
BCM004 (MG#9): SH288-B	*S	ACM004 (MG#8): SH288-B	*R
BCM003 (MG#7): SH288-B	*O	ACM003 (MG#6): SH288-B	*P
BCM002 (MG#5): SH288-B	*N	ACM002 (MG#4): SH288-B	*M
BCM001 (MG#3): SH288-B	*L	ACM001 (MG#2): SH288-B	*K
BCM000 (MG#1): SH288-B	*J	ACM000 (MG#0): SH288-B	*H

BCM107 (MG#15): SH288-B	*Y	ACM107 (MG#14): SH288-B	*X
BCM106 (MG#13): SH288-B	*W	ACM106 (MG#12): SH288-B	*V
BCM105 (MG#11): SH288-B	*U	ACM105 (MG#10): SH288-B	*T
BCM104 (MG#9): SH288-B	*S	ACM104 (MG#8): SH288-B	*R
BCM103 (MG#7): SH288-B	*O	ACM103 (MG#6): SH288-B	*P
BCM102 (MG#5): SH288-B	*N	ACM102 (MG#4): SH288-B	*M
BCM101 (MG#3): SH288-B	*L	ACM101 (MG#2): SH288-B	*K
BCM100 (MG#1): SH288-B	*J	ACM100 (MG#0): SH288-B	*H

Fig. 4.3.2-3 Inserting Location of the Cache Memory Module

Table 4.3.2-4 Number of CMs and Corresponding Cache Memory Capacity

Cache Memory Capacity	Standard Model				High Performance Model				DKC-F460I -42 Additional Battery
	DKC-F460I-2048			DKC- F460I -41	DKC-F460I-2048			DKC- F460I -41	
	Install PCB		CM Location (Note 1)		Install PCB		CM Location (Note 1)		
	Basic PCB	Add. PCB			Basic PCB	Add. PCB			
2GB	1	0	*1	0	-	-	-	-	0
4GB	2	0	*2	0	1	1	*1, *H	1	0
6GB	3	0	*3	0	-	-	-	1	0
8GB	4	0	*4	0	2	2	*2, *J	1	0
10GB	5	0	*5	0	-	-	-	1	0
12GB	6	0	*6	0	3	3	*3, *K	1	0
14GB	7	0	*7	0	-	-	-	1	0
16GB	8	0	*8	0	4	4	*4, *L	1	0
18GB	9	0	*9	0	-	-	-	1	0
20GB	10	0	*A	0	5	5	*5, *M	1	0
22GB	11	0	*B	0	-	-	-	1	0
24GB	12	0	*C	0	6	6	*6, *N	1	0
26GB	13	0	*D	0	-	-	-	1	0
28GB	14	0	*E	0	7	7	*7, *P	1	0
30GB	15	0	*F	0	-	-	-	1	0
32GB	16	0	*G	0	8	8	*8, *Q	1	0
34GB	16	1	*H	1	-	-	-	1	1
36GB	16	2	*J	1	9	9	*9, *R	1	1
38GB	16	3	*K	1	-	-	-	1	1
40GB	16	4	*L	1	10	10	*A, *S	1	1
42GB	16	5	*M	1	-	-	-	1	1
44GB	16	6	*N	1	11	11	*B, *T	1	1
46GB	16	7	*P	1	-	-	-	1	1
48GB	16	8	*Q	1	12	12	*C, *U	1	1
50GB	16	9	*R	1	-	-	-	1	1
52GB	16	10	*S	1	13	13	*D, *V	1	1
54GB	16	11	*T	1	-	-	-	1	1
56GB	16	12	*U	1	14	14	*E, *W	1	1
58GB	16	13	*V	1	-	-	-	1	1
60GB	16	14	*W	1	15	15	*F, *X	1	1
62GB	16	15	*X	1	-	-	-	1	1
64GB	16	16	*Y	1	16	16	*G, *Y	1	1

Note 1: The CM locations (*1 through *Y) represent the Cache Memory Module locations shown in Fig. 4.3.2-3.

Note 2: A cache memory can't be set up in the ' - ' mark.

3-3. Insert the PCB.

- a. When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is removed, attach the dummy plate and fasten the two screws. Refer to Fig. 4.3.2-4.
When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is not removed, go to step b.
- b. Install the Cache Memory PCB referring to Table 4.3.2-5.
- c. Fasten the two screws.

Table 4.3.2-5 Location of the Cache Memory PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
1	WP490-A	Front Logic Box	T	CACHE-1T	Cache Memory PCB (Note 1)
	WP490-B	Front Logic Box	U	CACHE-1U	Cache Memory PCB (Note 2)

Note 1: Insert the PCB when it is removed in step 3-1.

Note 2: Insert the PCB when DKC-F460I-41 is installed.

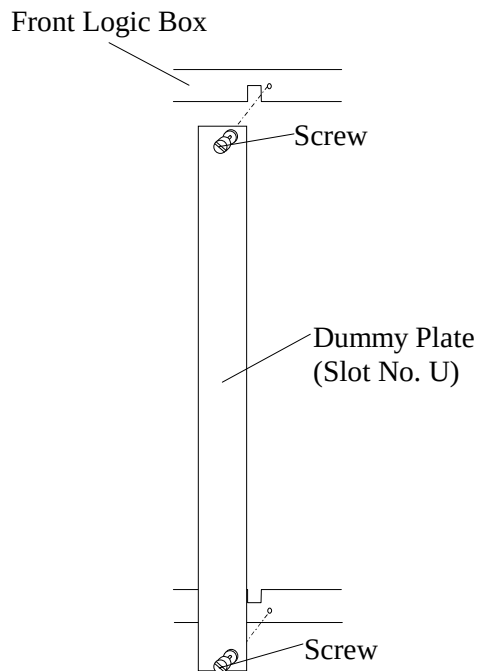


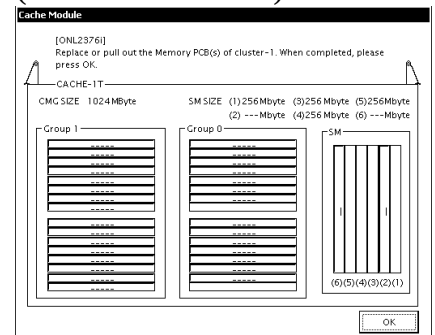
Fig. 4.3.2-4 Removal of the Dummy Plate

4. SVP post procedure on the cluster 1 and pre procedure on the cluster 2.

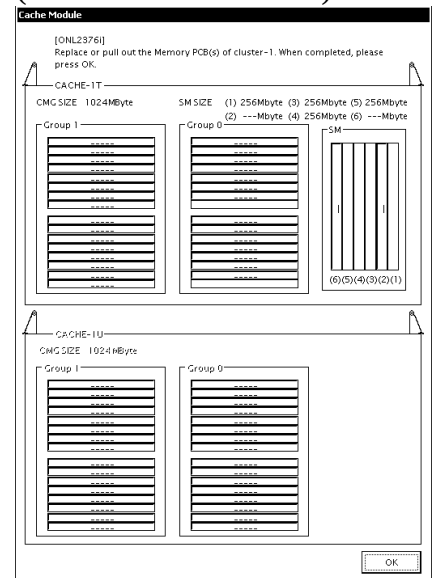
1.

After the hardware procedure for cluster 1 of cache memory is completed, select (CL) [OK] in response to “Replace or pull out the Memory PCBs of cluster-1. When completed, please press OK.”.

(A PCB to be added)



(Two PCBs to be added)



2. <Cache CUDG executes>
“INLINE CUDG is running...” is displayed.

3. When CUDG is completed, the recovery processing is automatically started with the messages.
“Restoring the Cache Memory PCB...”
“Shared memory renewal is in progress...”

-
4. When the recovery processing is complete, processing proceeds to blocking of cluster 2 of shared memory.

-
5. <Memory blocking on cluster 2>
When blocking of cluster 2 of shared memory and Cache memory is completed, “The Cache Memory PCB is being blocked...” and “The Shared Memory PCB is being blocked...” are displayed.

-
6. “Lighting LED of the PCB...” is displayed.

7. <Perform cache hardware de-installation>

At this point refrain from pressing the [OK] button.

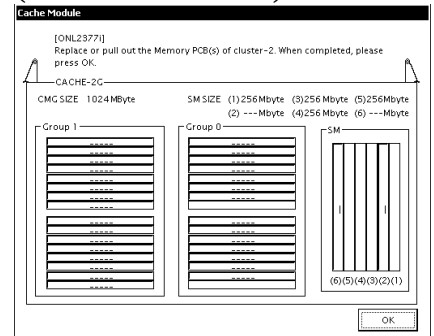
When “Replace or pull out the Memory PCB(s) of cluster-2.

When completed, select OK.” is displayed, perform the hardware de-installation steps according to the cache hardware de-installation procedure.

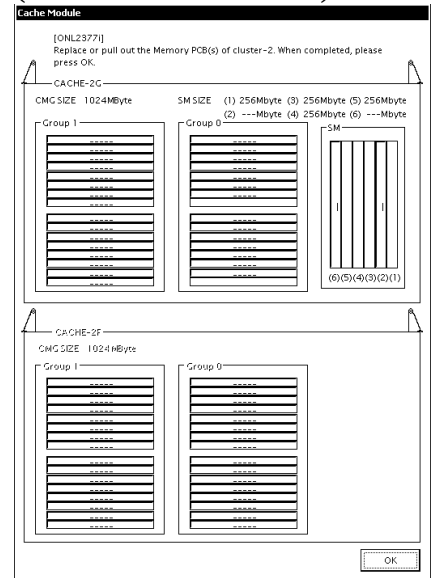
Make sure of the installation location of the module to be removed and remove the correct module.

(Uninstalled module is displayed as looks depressed; the PCB to be removed is displayed in gray.)

(A PCB to be added)



(Two PCBs to be added)



5. Remove the Cache Memory on the cluster 2.

Be sure to wear your wrist strap and attach to ground prior to performing the following work.
This will ensure that the IC and LSI on the PCB are protected from static electricity.

5-1. Remove the PCB.

- a. While referring to Fig. 4.3.2-5, Table 4.3.2-6 and Table 4.3.2-7, check the Shut Down LED on the Cache Memory PCB. Connect the Maintenance Jumper to the Shut Down Connector if the Shut Down LED is not on.

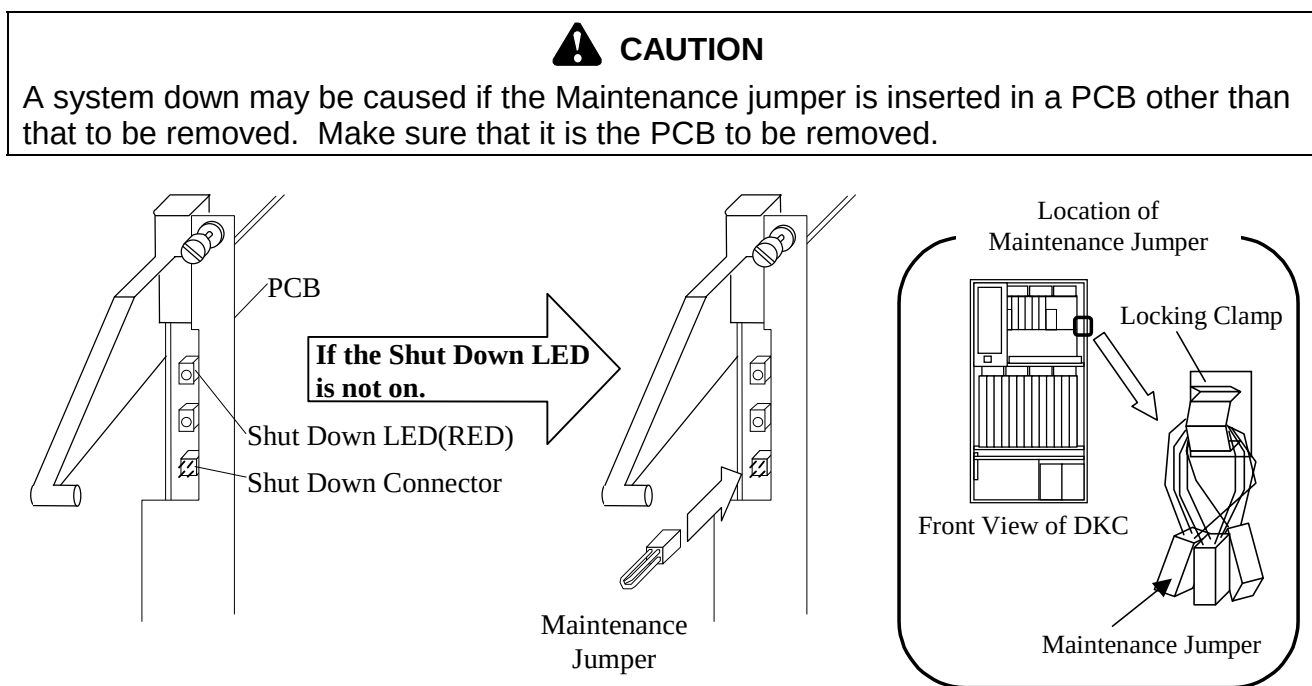


Fig. 4.3.2-5 Location of the Shut Down LED

Table 4.3.2-6 Location of the Cache Memory PCB (Standard Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB (Note 1)
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB (Note 2)

Note 1: No PCB needs to be removed if 16 or more DKC-F460I-2048 sets are left after de-installation, except when installing DKC-F460I-S512 sets.

Note 2: Remove the PCB only when it is installed.

Table 4.3.2-7 Location of the Cache Memory PCB
(High Performance Model Installation)

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB

- b. Remove the two screws and remove the Cache Memory PCB. Refer to Fig. 4.3.2-6, Table 4.3.2-6 and Table 4.3.2-7.

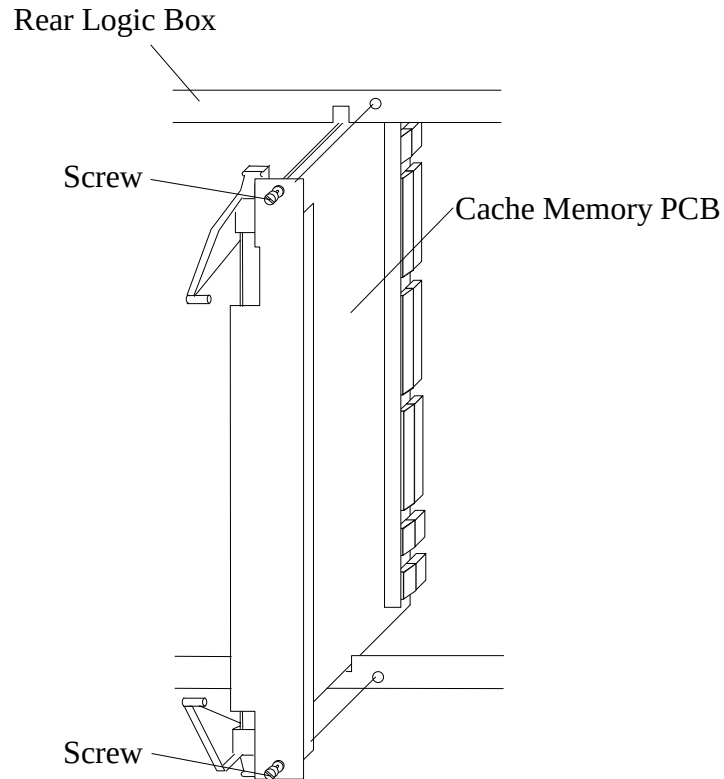
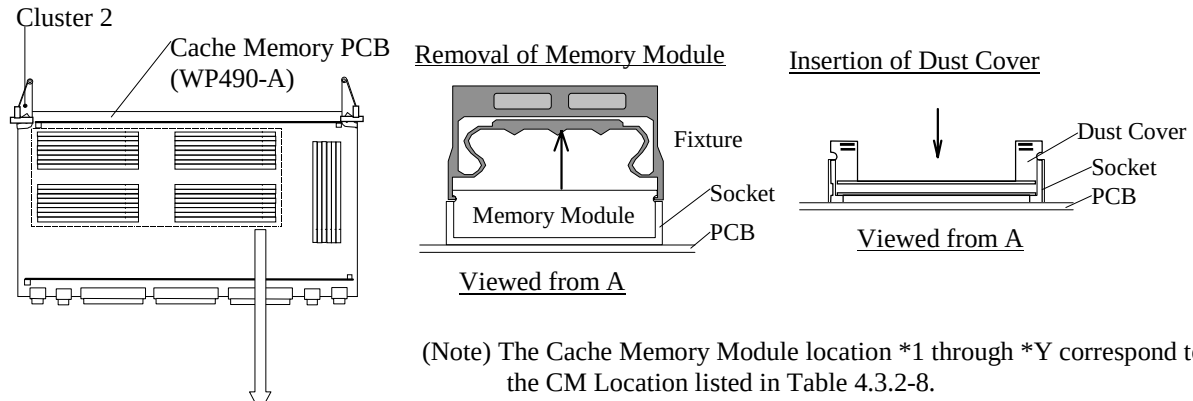


Fig. 4.3.2-6 Removal of the Cache Memory PCB

- c. Remove the Maintenance Jumper if it is mounted.

5-2. Remove the Cache Memory Modules.

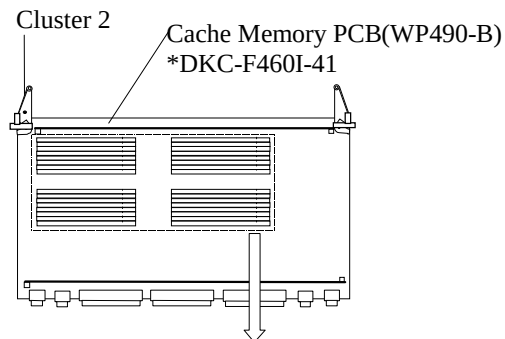
- Remove the Cache Memory Modules according to the required Cache Memory capacity referring to Fig. 4.3.2-7 and Table 4.3.2-8.
- Insert the dust covers into the vacant sockets.



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*G	ACM007 (MG#14): SH288-B	*F
BCM006 (MG#13): SH288-B	*E	ACM006 (MG#12): SH288-B	*D
BCM005 (MG#11): SH288-B	*C	ACM005 (MG#10): SH288-B	*B
BCM004 (MG#9): SH288-B	*A	ACM004 (MG#8): SH288-B	*9
BCM003 (MG#7): SH288-B	*8	ACM003 (MG#6): SH288-B	*7
BCM002 (MG#5): SH288-B	*6	ACM002 (MG#4): SH288-B	*5
BCM001 (MG#3): SH288-B	*4	ACM001 (MG#2): SH288-B	*3
BCM000 (MG#1): SH288-B	*2	ACM000 (MG#0): SH288-B	*1

BCM107 (MG#15): SH288-B	*G	ACM107 (MG#14): SH288-B	*F
BCM106 (MG#13): SH288-B	*E	ACM106 (MG#12): SH288-B	*D
BCM105 (MG#11): SH288-B	*C	ACM105 (MG#10): SH288-B	*B
BCM104 (MG#9): SH288-B	*A	ACM104 (MG#8): SH288-B	*9
BCM103 (MG#7): SH288-B	*8	ACM103 (MG#6): SH288-B	*7
BCM102 (MG#5): SH288-B	*6	ACM102 (MG#4): SH288-B	*5
BCM101 (MG#3): SH288-B	*4	ACM101 (MG#2): SH288-B	*3
BCM100 (MG#1): SH288-B	*2	ACM100 (MG#0): SH288-B	*1



Cache Memory Module Location

BCM007 (MG#15): SH288-B	*Y	ACM007 (MG#14): SH288-B	*X
BCM006 (MG#13): SH288-B	*W	ACM006 (MG#12): SH288-B	*V
BCM005 (MG#11): SH288-B	*U	ACM005 (MG#10): SH288-B	*T
BCM004 (MG#9): SH288-B	*S	ACM004 (MG#8): SH288-B	*R
BCM003 (MG#7): SH288-B	*Q	ACM003 (MG#6): SH288-B	*P
BCM002 (MG#5): SH288-B	*N	ACM002 (MG#4): SH288-B	*M
BCM001 (MG#3): SH288-B	*I	ACM001 (MG#2): SH288-B	*K
BCM000 (MG#1): SH288-B	*J	ACM000 (MG#0): SH288-B	*H

BCM107 (MG#15): SH288-B	*Y	ACM107 (MG#14): SH288-B	*X
BCM106 (MG#13): SH288-B	*W	ACM106 (MG#12): SH288-B	*V
BCM105 (MG#11): SH288-B	*U	ACM105 (MG#10): SH288-B	*T
BCM104 (MG#9): SH288-B	*S	ACM104 (MG#8): SH288-B	*R
BCM103 (MG#7): SH288-B	*Q	ACM103 (MG#6): SH288-B	*P
BCM102 (MG#5): SH288-B	*N	ACM102 (MG#4): SH288-B	*M
BCM101 (MG#3): SH288-B	*I	ACM101 (MG#2): SH288-B	*K
BCM100 (MG#1): SH288-B	*J	ACM100 (MG#0): SH288-B	*H

Fig. 4.3.2-7 Inserting Location of the Cache Memory Module

Table 4.3.2-8 Number of CMs and Corresponding Cache Memory Capacity

Cache Memory Capacity	Standard Model				High Performance Model				DKC-F460I -42 Additional Battery
	DKC-F460I-2048			DKC- F460I -41	DKC-F460I-2048			DKC- F460I -41	
	Install PCB		CM		Install PCB		CM		
	Basic PCB	Add. PCB	Location (Note 1)		Basic PCB	Add. PCB	Location (Note 1)		
2GB	1	0	*1	0	-	-	-	-	0
4GB	2	0	*2	0	1	1	*1, *H	1	0
6GB	3	0	*3	0	-	-	-	1	0
8GB	4	0	*4	0	2	2	*2, *J	1	0
10GB	5	0	*5	0	-	-	-	1	0
12GB	6	0	*6	0	3	3	*3, *K	1	0
14GB	7	0	*7	0	-	-	-	1	0
16GB	8	0	*8	0	4	4	*4, *L	1	0
18GB	9	0	*9	0	-	-	-	1	0
20GB	10	0	*A	0	5	5	*5, *M	1	0
22GB	11	0	*B	0	-	-	-	1	0
24GB	12	0	*C	0	6	6	*6, *N	1	0
26GB	13	0	*D	0	-	-	-	1	0
28GB	14	0	*E	0	7	7	*7, *P	1	0
30GB	15	0	*F	0	-	-	-	1	0
32GB	16	0	*G	0	8	8	*8, *Q	1	0
34GB	16	1	*H	1	-	-	-	1	1
36GB	16	2	*J	1	9	9	*9, *R	1	1
38GB	16	3	*K	1	-	-	-	1	1
40GB	16	4	*L	1	10	10	*A, *S	1	1
42GB	16	5	*M	1	-	-	-	1	1
44GB	16	6	*N	1	11	11	*B, *T	1	1
46GB	16	7	*P	1	-	-	-	1	1
48GB	16	8	*Q	1	12	12	*C, *U	1	1
50GB	16	9	*R	1	-	-	-	1	1
52GB	16	10	*S	1	13	13	*D, *V	1	1
54GB	16	11	*T	1	-	-	-	1	1
56GB	16	12	*U	1	14	14	*E, *W	1	1
58GB	16	13	*V	1	-	-	-	1	1
60GB	16	14	*W	1	15	15	*F, *X	1	1
62GB	16	15	*X	1	-	-	-	1	1
64GB	16	16	*Y	1	16	16	*G, *Y	1	1

Note 1: The CM locations (*1 through *Y) represent the Cache Memory Module locations shown in Fig. 4.3.2-7.

Note 2: A cache memory can't be set up in the ' - ' mark.

5-3. Insert the PCB.

- a. When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is removed, attach the dummy plate and fasten the two screws. Refer to Fig. 4.3.2-8.
When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is not removed, go to step b.
- b. Install the Cache Memory PCB referring to Table 4.3.2-9.
- c. Fasten the two screws.

Table 4.3.2-9 Location of the Cache Memory PCB

Cluster	PCB Name	Box	Slot No.	Location No.	Remarks
2	WP490-A	Rear Logic Box	G	CACHE-2G	Cache Memory PCB (Note 1)
	WP490-B	Rear Logic Box	F	CACHE-2F	Cache Memory PCB (Note 2)

Note 1: Insert the PCB when it is removed in step 5-1.

Note 2: Insert the PCB when DKC-F460I-41 is installed.

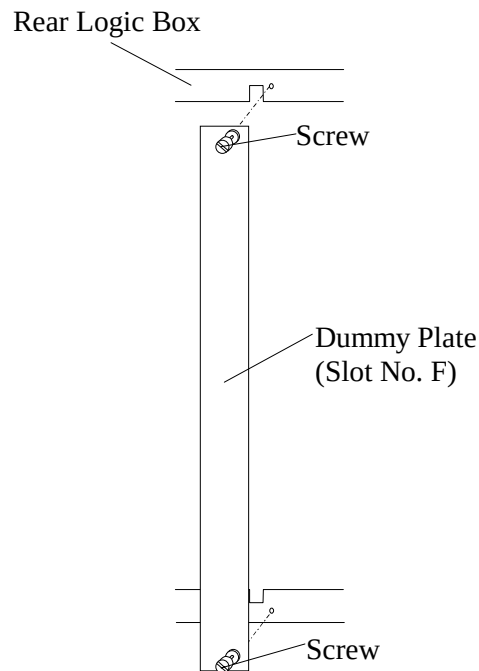


Fig. 4.1.2.3-8 Removal of the Dummy Plate

5-4 Change the nameplate.

- a. Refer to Fig. 4.3.2-9 to wipe off unnecessary numbers on the nameplate.

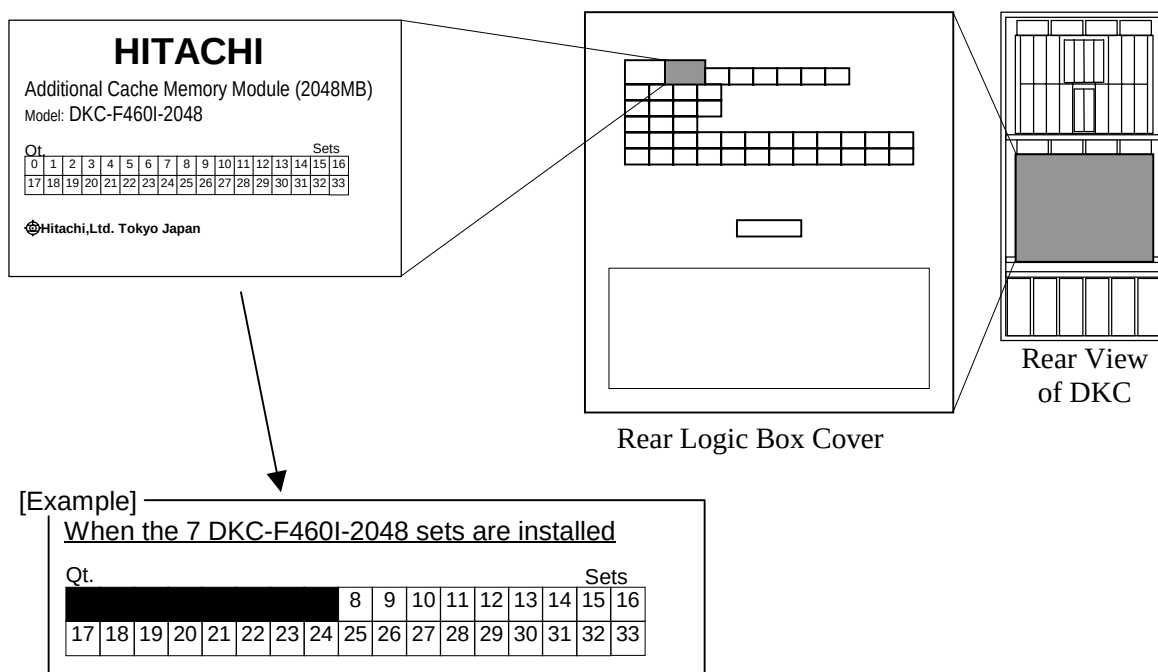


Fig. 4.3.2-9 Location of the Nameplate

- b. When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is removed, detach the DKC-F460I-41 nameplate from the cover.
When the Cache Access Throughput Expansion Kit (DKC-F460I-41) is not installed, go to step c.
- c. When the Additional Battery for Cache Memory (DKC-F460I-42) is removed, detach the DKC-F460I-42 nameplate from the cover.
When the Additional Battery for Cache Memory (DKC-F460I-42) is not installed, go to step 6 SVP post procedure on the Cluster2.

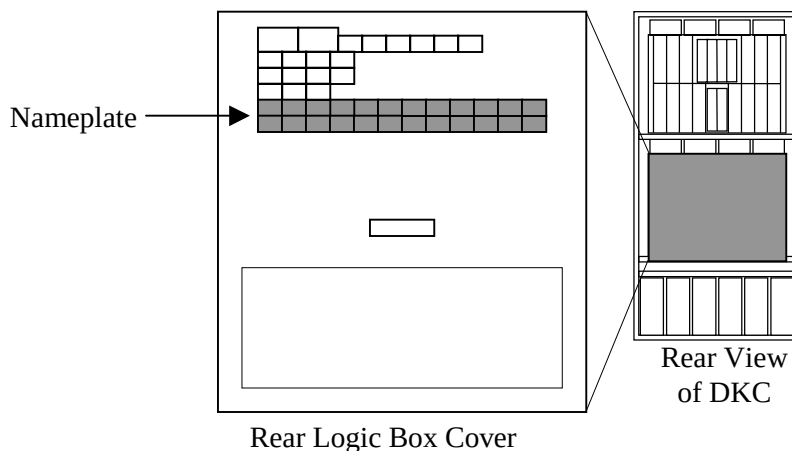


Fig. 4.3.2-10 Location of the Nameplate

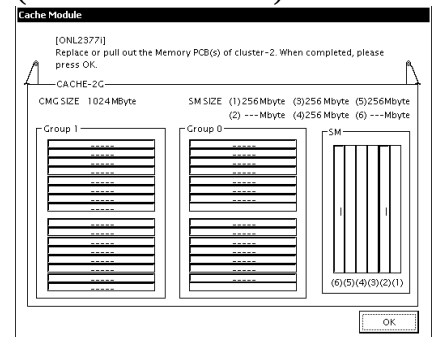
6. SVP post procedure on the Cluster2

1.

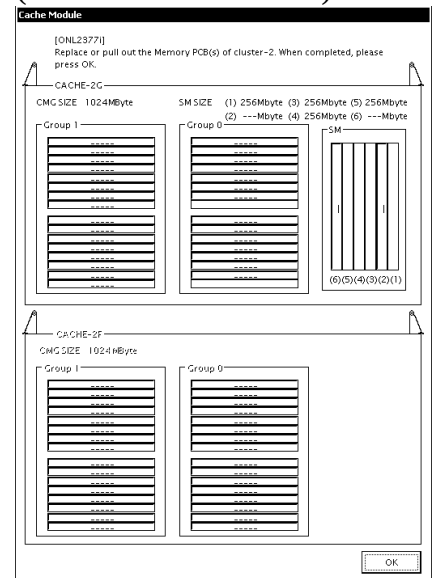
After the hardware procedure for one side of cache memory is completed, select (CL) [OK] in response to “Replace or pull out the Memory PCBs of cluster-2. When completed, please press OK.”.

“INLINE CUDG is running...” is displayed.

(A PCB to be added)



(Two PCBs to be added)



2.

When CUDG is completed, the recovery processing is automatically started with the messages.

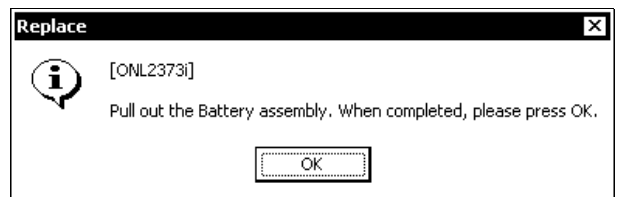
“Restoring the Cache Memory PCB...”

“Restoring the Shared Memory PCB...”

3. <Perform Battery hardware de-installation>

“Pull out the Battery assembly. When completed, please press OK.” is displayed, when battery de-install is required.

When a message is displayed, perform the hardware de-installation steps according to the battery hardware de-installation procedure.



When a message is not displayed, go to step 8. SVP post procedure on the Cluster2.

7. Remove the Additional Battery for Cache Memory

7-1 When the Additional Battery for Cache Memory (DKC-F460I-42) is removed, remove the Battery Boxes and BATCTR PCBs.

When the Additional Battery for Cache Memory (DKC-F460I-42) is not removed, go to step 8 SVP post procedure on the Cluster2.



CAUTION

You must insert the PCB without Jumper Connector and then connect the Jumper Connector.

Otherwise the cache PCB will be blocked.

- Disconnect the Jumper Connectors (BATJJP) from BATCTR PCBs.
- Loosen the two screws and remove the BATCTR PCBs (BATCTR-12 and BATCTR-22).
- Attach the Jumper Connectors (BATJJP) with the locking clamp.

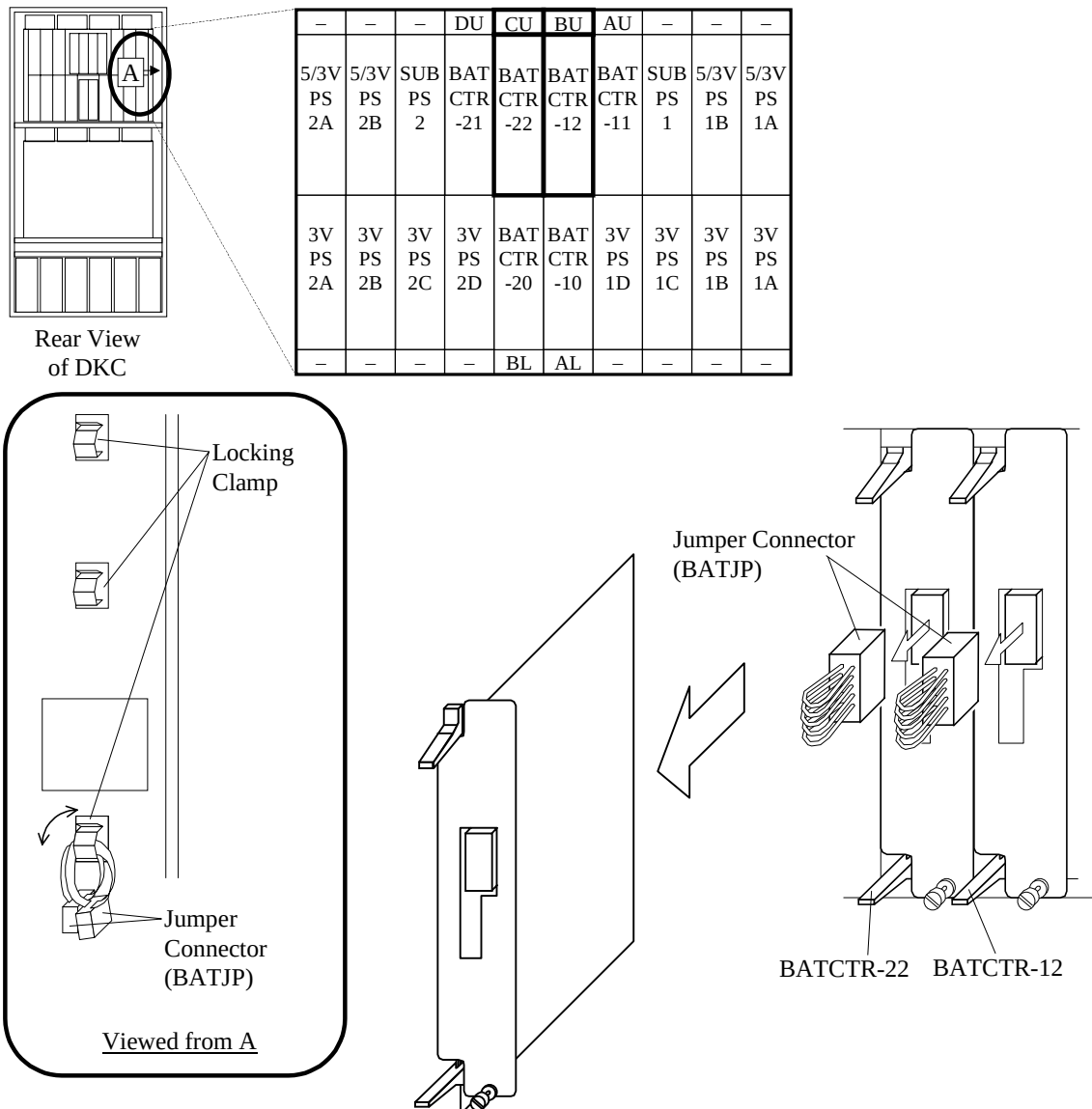


Fig. 4.3.2-11 Removal of the BATCTR

d. Disconnect the cables from the Battery Boxes.

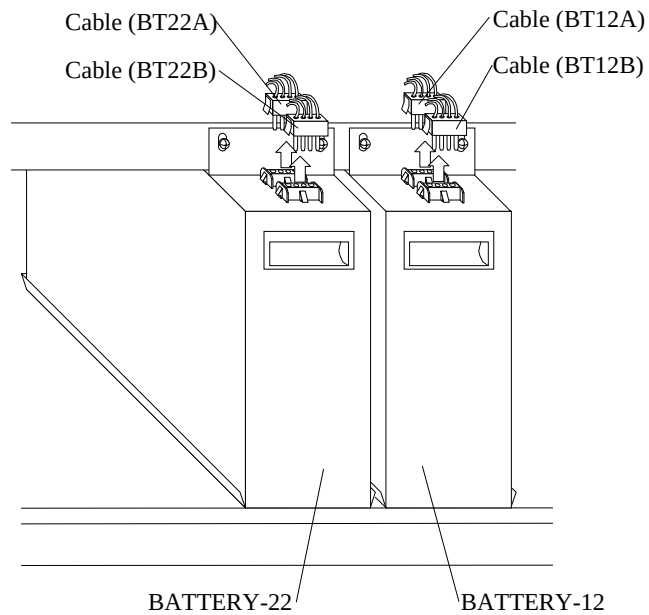


Fig. 4.3.2-12 Disconnect of Cables

e. Loosen the screws and remove the Battery Boxes (BATTERY-12 and BATTERY-22).

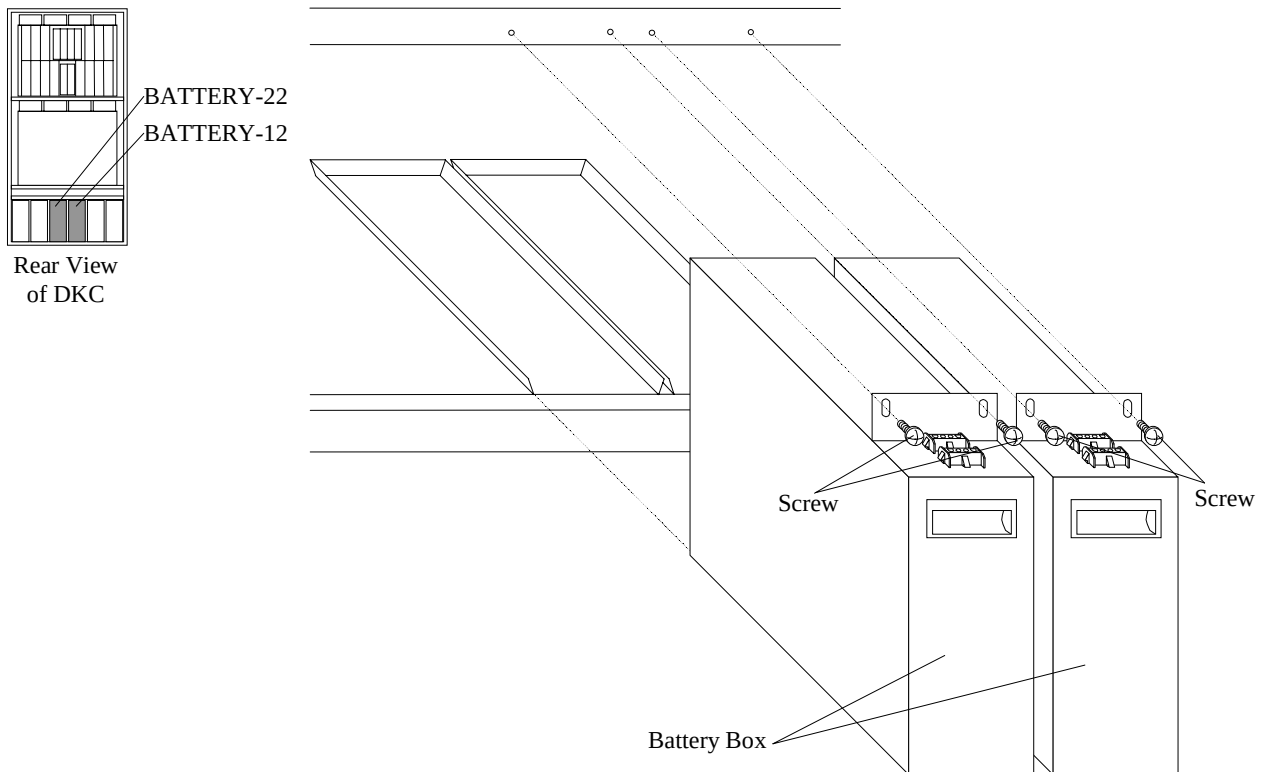
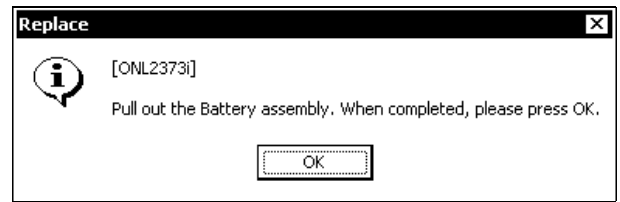


Fig. 4.3.2-13 Removal of Battery Boxes

8. SVP post procedure on the Cluster2

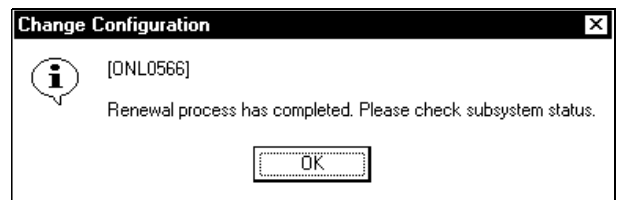
1.

After the hardware procedure for battery is completed, select (CL) [OK] in response to “Pull out the Battery assembly. When completed, please press OK.”.



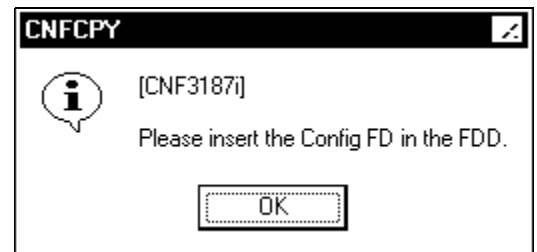
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.

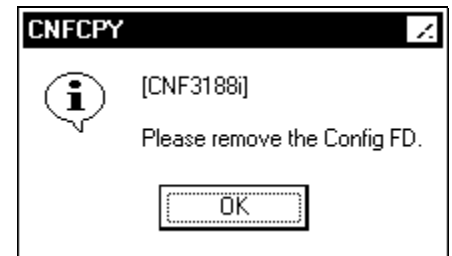


3.

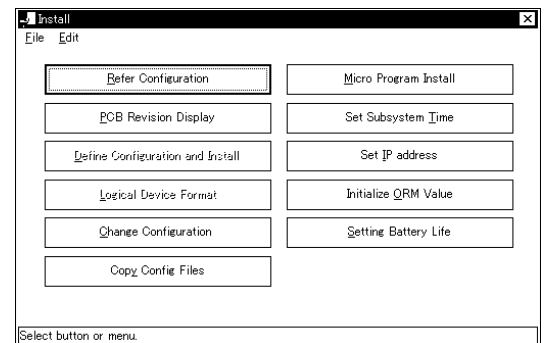
“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].



4. When this procedure is completed, the message “Please remove the Config FD.” is displayed. Remove the FD, and select (CL) [OK].



5. After the procedure is completed, return to [Install]. Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

4.4 De-installation of Channel Adapter

4.4.1 De-installation of Serial 8-port Adapter (DKC-F460I-8S)

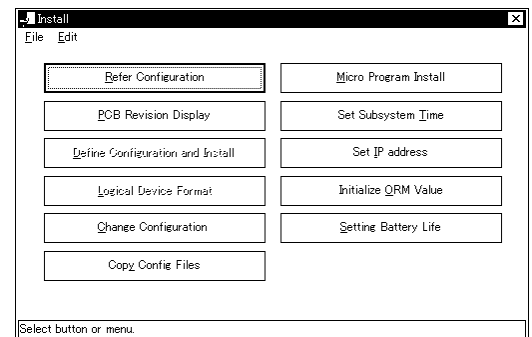
Table 4.4.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8S	Serial 4-port Adapter PCB	5513983-A	2	
		Holder	2084816-1	8	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-106	1	RSD
			2105903-106		HICAM
			2105903-206		HICEF
		Nameplate (HP)	2105902-206	1	RSD
			2105903-306		HICAM
			2105903-406		HICEF

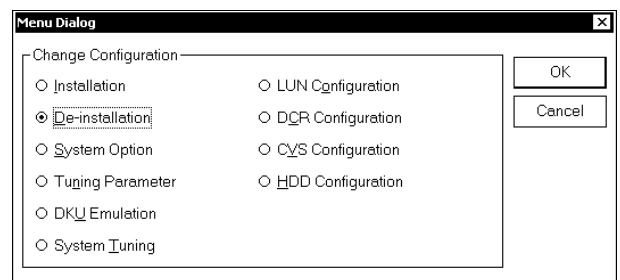
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

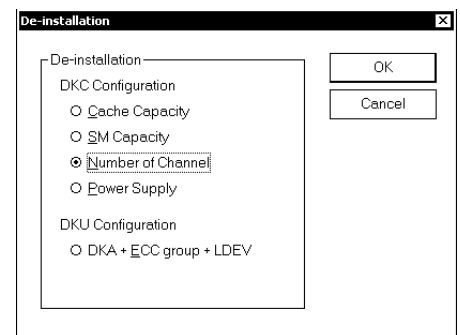
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



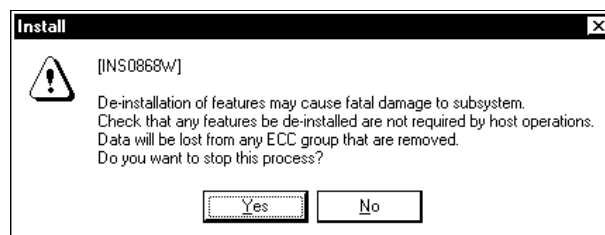
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



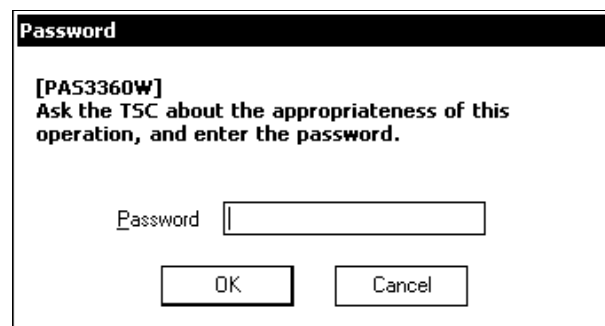
4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

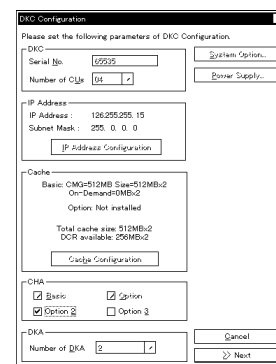
7. <Update Configuration Information>
Define the item to CHA in the 'DKC Configuration' window.

Note 1: It is not possible to install or de-install plural parts at the same time.

Note 2: For Multiplatform configuration,

1. If you want to change Multiplatform into ALL SCSI, after de-installing mainframe volumes, then CHA must be de-installed.
2. If you want to change ALL SCSI into Multiplatform, after de-installing open volumes, then CHS/CHF/CHT must be de-installed.

Make sure that the entered item is correct and select (CL) [>>Next].

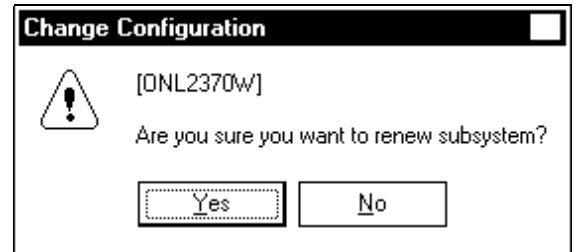


2. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST04-8S-20](#) step 3.



2. <Maintenance-block of PCBs other than cache or shared memory>

At this moment, maintenance blocking is performed on PCBs other than memory systems with message “The CHA is being blocked...” is displayed.

This processing is carried out on each component that is subject to de-installation.

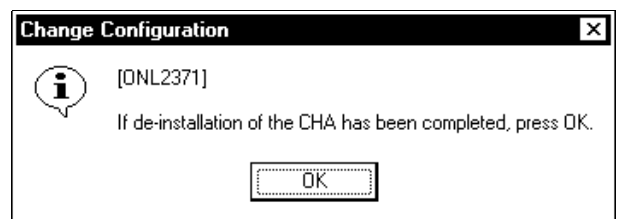
3. <Update device structure information about PCBs other than cache or shared memory>

“The CHA is being blocked...” and “Lighting LED of the PCB...” are displayed and the device structure information update processing is performed on the current component. When the update processing is completed, the device structure information on the current component is set to [EMPTY] and the shut down LED on the PCB is lit.

When the update of device structure information on all PCBs other than those on the memory systems is completed, automatically one of the two following messages is displayed.

4.

“If de-installation of the CHA has been completed, press OK.” shown in the right figure.



3 De-Installation Procedure of Serial 8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on.(Fig. 4.4.1-1). If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

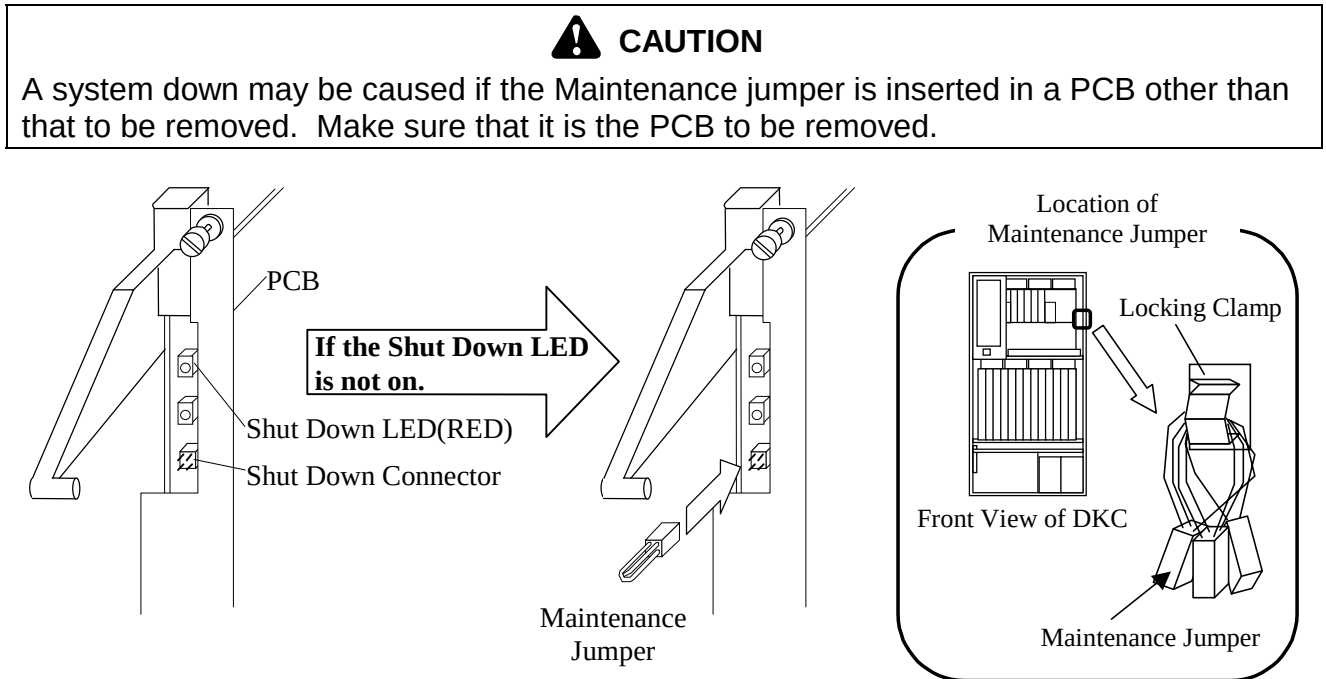


Fig. 4.4.1-1 Shut Down LED

3-2 Disconnection of the optical fibre cables

- Remove the brackets and cable clamp referring to Fig 4.4.1-2.
- Disconnect the optical fibre cables and remove the holder referring to Fig 4.4.1-3.
- Attach the brackets.

Table 4.4.1-2 Removal Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

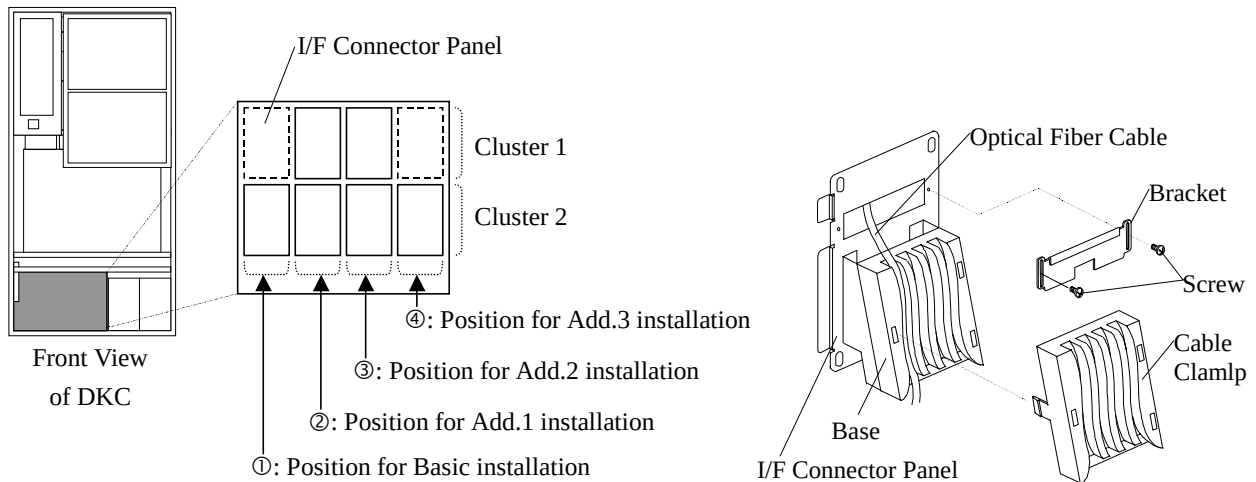


Fig 4.4.1-2 Removal of Bracket

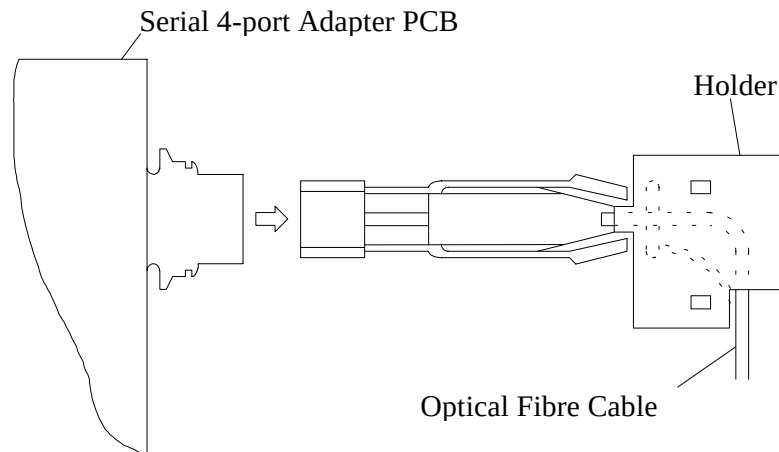


Fig. 4.4.1-3 Disconnection of Optical Fibre Cable

3-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Front Logic Box referring to Fig. 4.4.1-4.
- b. Attach the dummy plates referring to Fig. 4.4.1-5.

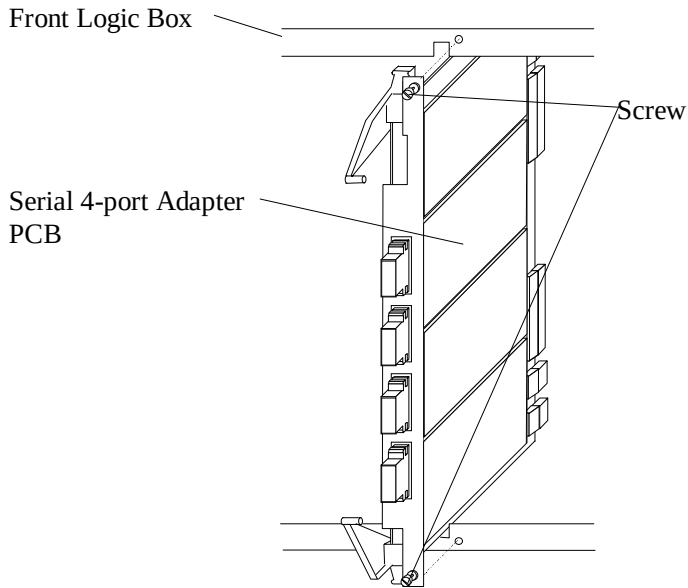


Fig. 4.4.1-4 Removal of PCB

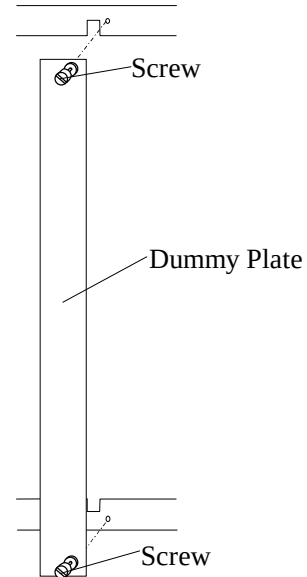


Fig. 4.4.1-5 Attachment of Dummy Plate

3-4 Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.4.1-6.

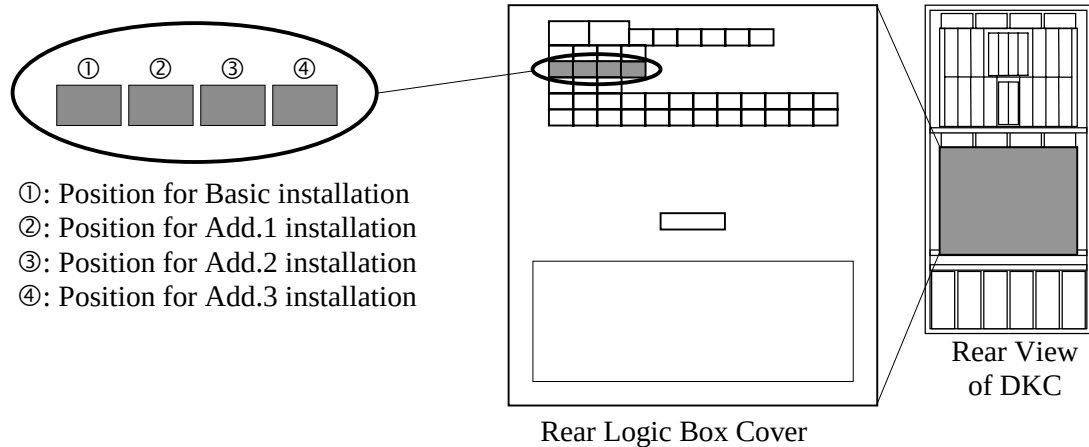
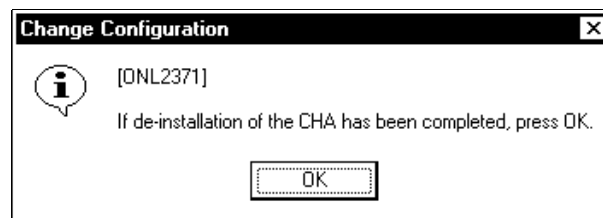


Fig. 4.4.1-6 Removal of Nameplate

4. SVP post procedure

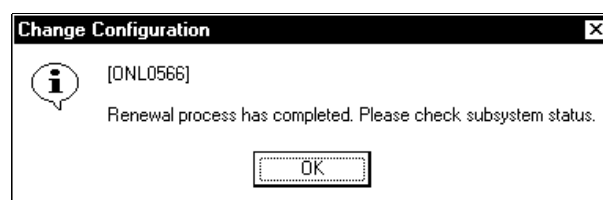
1.

Select (CL) [OK] in response to “If de-installation of the CHA has been completed, press OK.” shown in the right figure.



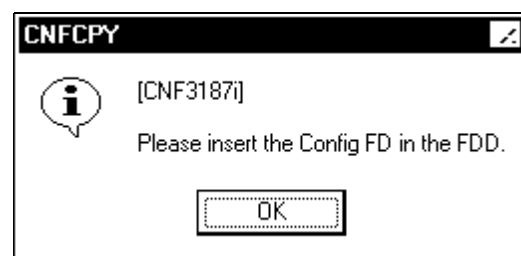
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



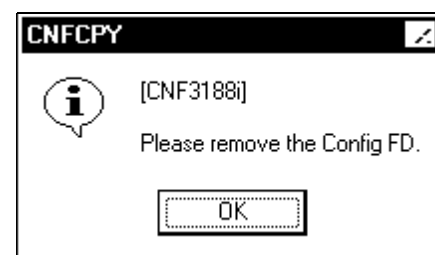
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

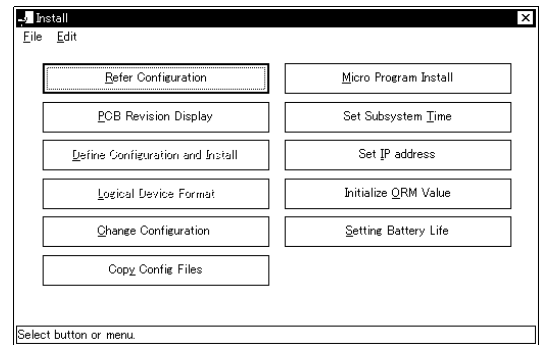


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to [Install].
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

4.4.2 De-installation of Fibre 4/8-port Adapter (DKC-F460I-8GSE/4HSE/8HSE/8HLE/8GSF/4HSF/8HSF/8HLF)

Table 4.4.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8GSE (Short Wavelength)	Fibre 4-port Adapter PCB	5513980-B	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-107	1	RSD
			2105903-107		HICAM
			2105903-207		HICEF
		Nameplate (HP)	2105902-207	1	RSD
			2105903-307		HICAM
			2105903-407		HICEF
2	DKC-F460I-4HSE (Short Wavelength)	Fibre 2-port Adapter PCB	5513981-C	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-108	1	RSD
			2105903-108		HICAM
			2105903-208		HICEF
		Nameplate (HP)	2105902-208	1	RSD
			2105903-308		HICAM
			2105903-408		HICEF
3	DKC-F460I-8HSE (Short Wavelength)	Fibre 4-port Adapter PCB	5513981-A	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-109	1	RSD
			2105903-109		HICAM
			2105903-209		HICEF
		Nameplate (HP)	2105902-209	1	RSD
			2105903-309		HICAM
			2105903-409		HICEF
4	DKC-F460I-8HLE (Long Wavelength)	Fibre 4-port Adapter PCB	5513981-B	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-110	1	RSD
			2105903-110		HICAM
			2105903-210		HICEF

(To be continued)

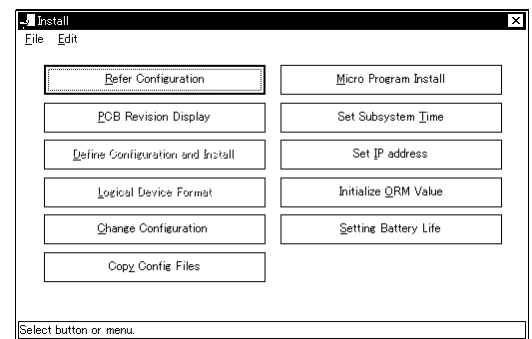
(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
5	DKC-F460I-8GSF (Check data assist support)	Fibre 4-port Adapter PCB	5518079-C	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-136	1	RSD
			2105903-136		HICAM
			2105903-236		HICEF
		Nameplate (HP)	2105902-236	1	RSD
			2105903-336		HICAM
			2105903-436		HICEF
6	DKC-F460I-4HSF (Short Wavelength, Check data assist support)	Fibre 2-port Adapter PCB	5518079-D	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-137	1	RSD
			2105903-137		HICAM
			2105903-237		HICEF
		Nameplate (HP)	2105902-237	1	RSD
			2105903-337		HICAM
			2105903-437		HICEF
7	DKC-F460I-8HSF (Short Wavelength, Check data assist support)	Fibre 4-port Adapter PCB	5518079-A	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-138	1	RSD
			2105903-138		HICAM
			2105903-238		HICEF
		Nameplate (HP)	2105902-238	1	RSD
			2105903-338		HICAM
			2105903-438		HICEF
8	DKC-F460I-8HLF (Long Wavelength, Check data assist support)	Fibre 4-port Adapter PCB	5518079-B	2	Color of PCB lever : Blue
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-139	1	RSD
			2105903-139		HICAM
			2105903-239		HICEF

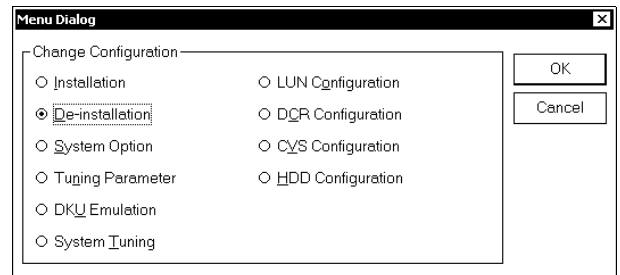
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

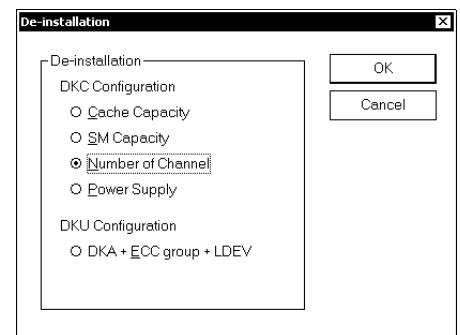
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



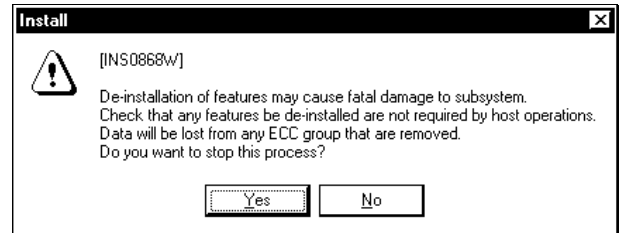
3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



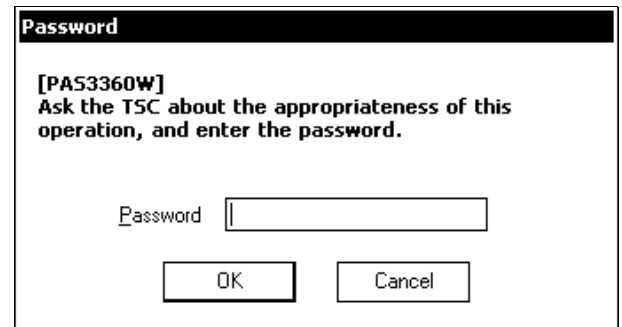
4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



5. Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>
Enter the password and select (CL) [OK].



NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

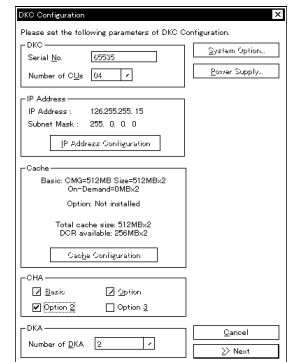
7. <Update Configuration Information>
Define the item to CHA in the 'DKC Configuration' window.

Note 1: It is not possible to install or de-install plural parts at the same time.

Note 2: For Multiplatform configuration,

1. If you want to change Multiplatform into ALL SCSI, after de-installing mainframe volumes, then CHA must be de-installed.
2. If you want to change ALL SCSI into Multiplatform, after de-installing open volumes, then CHS/CHF/CHT must be de-installed.

Make sure that the entered item is correct and select (CL) [>>Next].

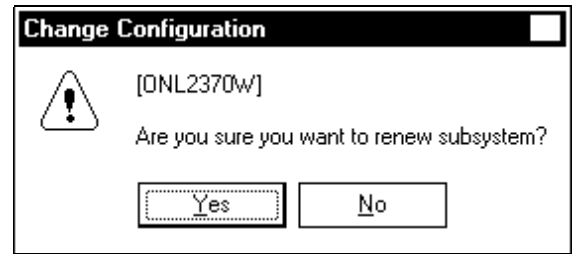


2. SVP pre procedure

1. <Start de-installation>

Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST04-FIB-20](#) step 3.



2. <Maintenance-block of PCBs other than cache or shared memory>

At this moment, maintenance blocking is performed on PCBs other than memory systems with message “The CHA is being blocked...” is displayed.

This processing is carried out on each component that is subject to de-installation.

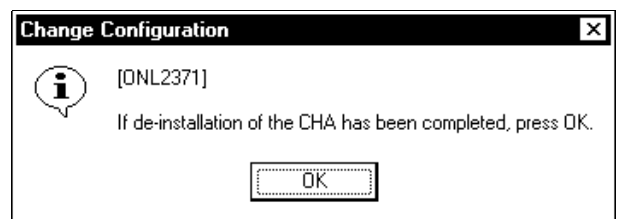
3. <Update device structure information about PCBs other than cache or shared memory>

“The CHA is being blocked...” and “Lighting LED of the PCB...” are displayed and the device structure information update processing is performed on the current component. When the update processing is completed, the device structure information on the current component is set to [EMPTY] and the shut down LED on the PCB is lit.

When the update of device structure information on all PCBs other than those on the memory systems is completed, automatically one of the two following messages is displayed.

4.

“If de-installation of the CHA has been completed, press OK.” shown in the right figure.



3 De-Installation Procedure of Fibre 4/8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on.(Fig. 4.4.2-1). If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

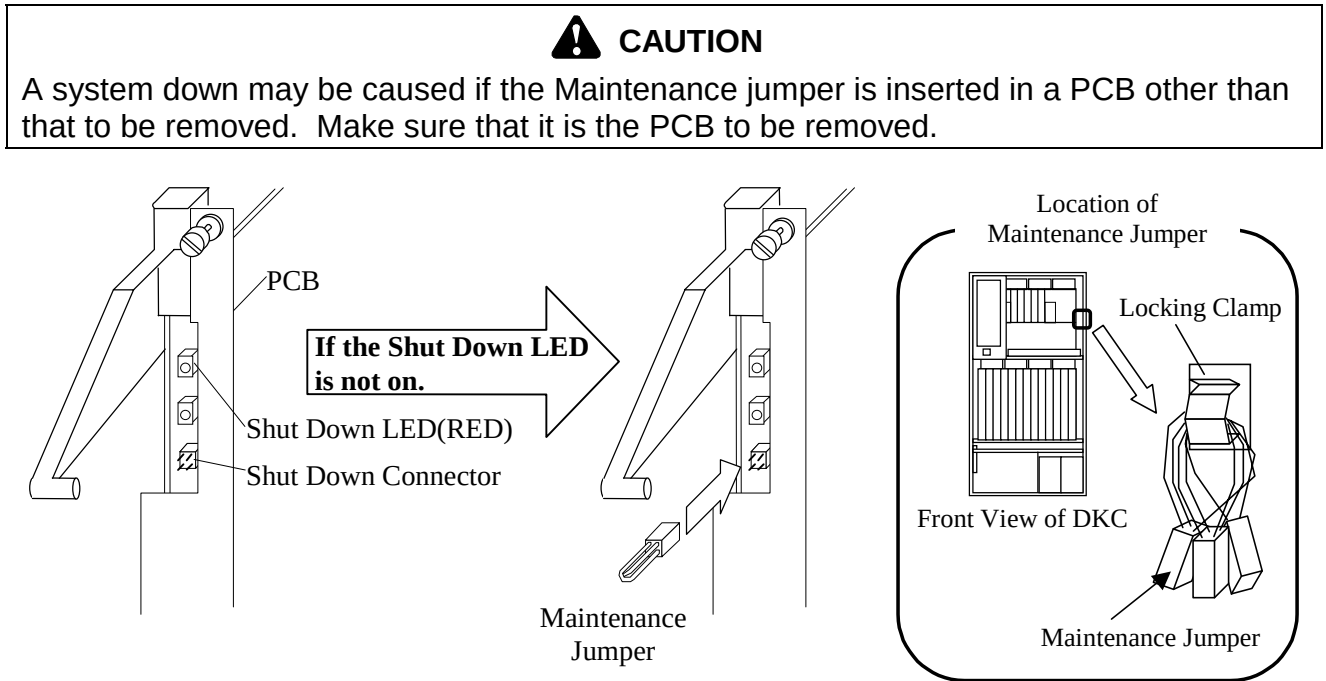


Fig. 4.4.2-1 Shut Down LED

3-2 Disconnection of the optical fibre cables

- Remove the brackets and cable clamp referring to Fig 4.4.2-2.
- Disconnect the optical fibre cables referring to Fig 4.4.2-3.
- Attach the brackets.

Table 4.4.2-2 Removal Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

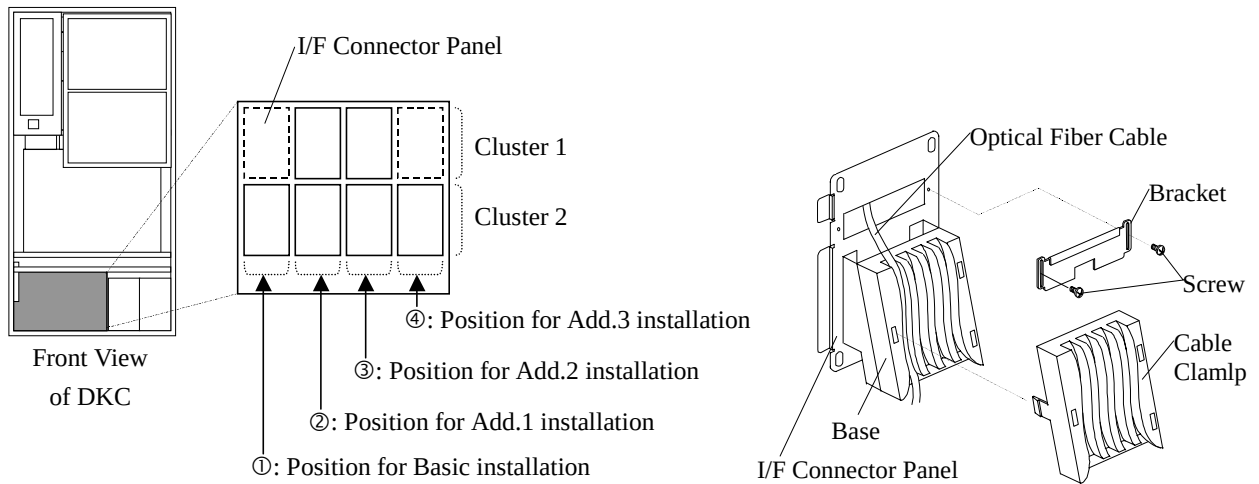


Fig 4.4.2-2 Removal of Bracket

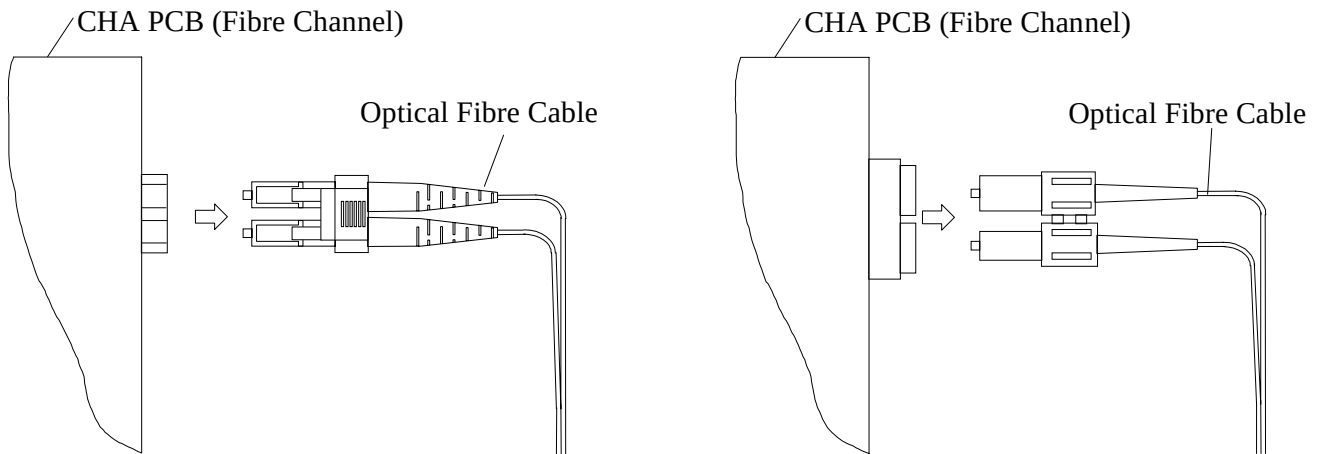


Fig. 4.4.2-3 Disconnection of Optical Fibre Cable

3-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Front Logic Box referring to Fig. 4.4.2-4.
- b. Attach the dummy plates referring to Fig. 4.4.2-5.

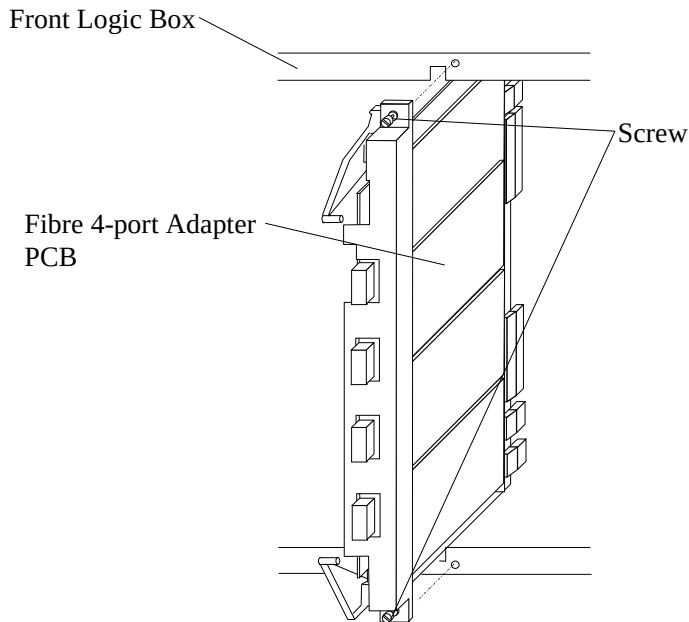


Fig. 4.4.2-4 Removal of PCB

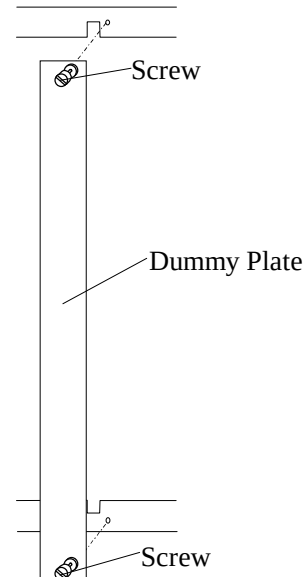


Fig. 4.4.2-5 Attachment of Dummy Plate

3-4 Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.4.2-6.

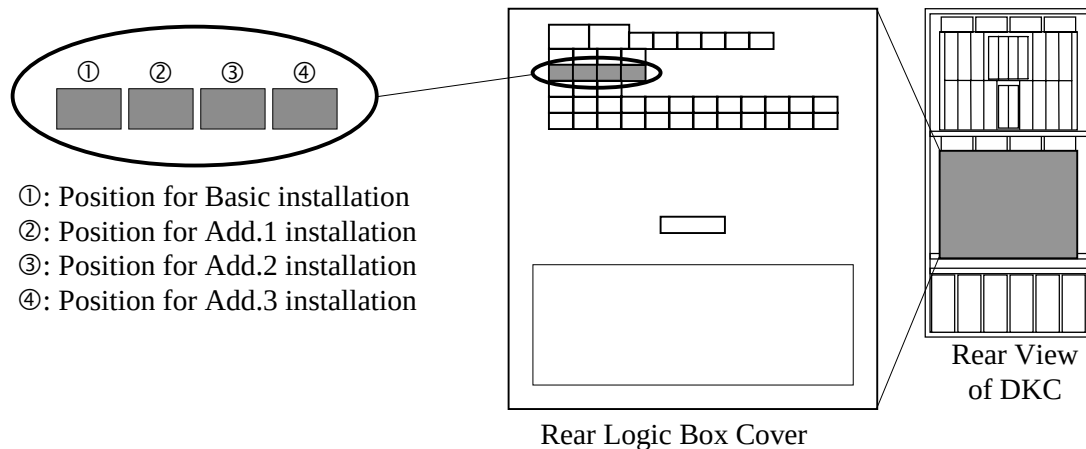
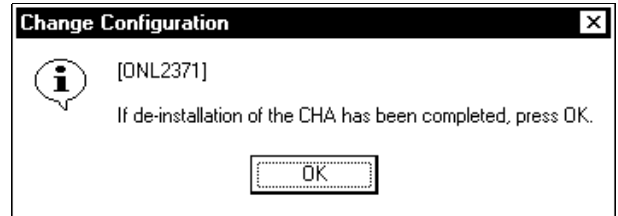


Fig. 4.4.2-6 Removal of Nameplate

4. SVP post procedure

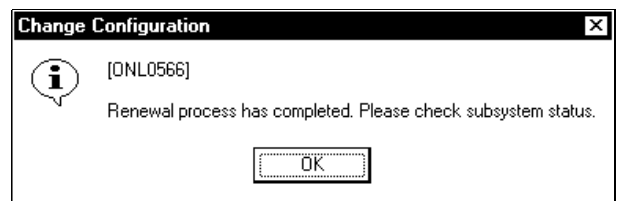
1.

Select (CL) [OK] in response to “If de-installation of the CHA has been completed, press OK.” shown in the right figure.



2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.

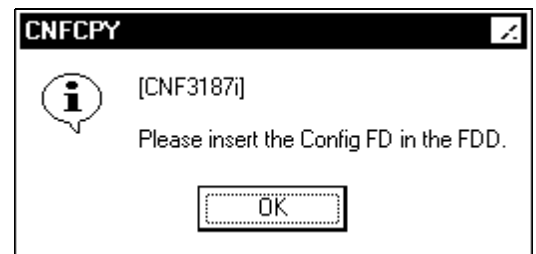


3.

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

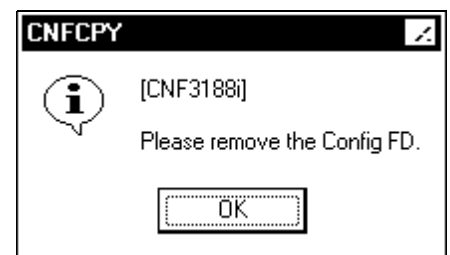
Insert the configuration FD into FDD, select (CL) [OK].



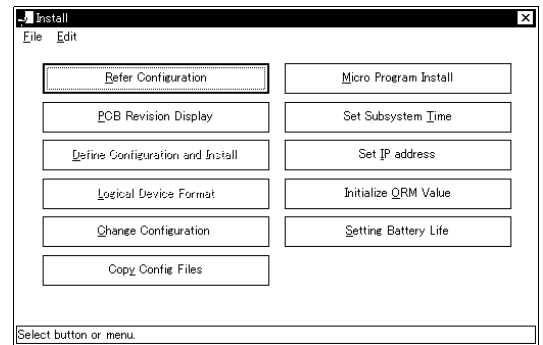
4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to [Install].
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

4.4.3 De-installation of Mainframe Fibre 8-port Adapter (DKC-F460I-8MS/8ML)

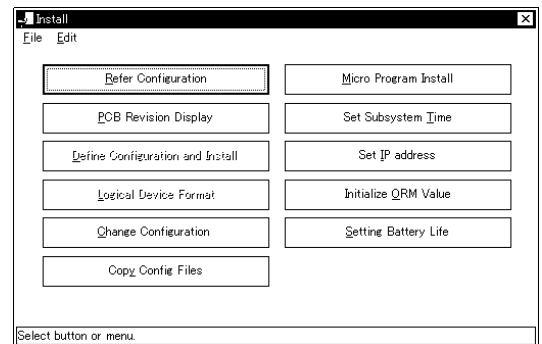
Table 4.4.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-8MS (Short Wavelength)	Fibre 4-port Adapter PCB	5513984-A	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-112	1	RSD
			2105903-112		HICAM
			2105903-212		HICEF
2	DKC-F460I-8ML (Long Wavelength)	Fibre 4-port Adapter PCB	5513984-B	2	
		Cable Clamp	2105506-1	2	
		Nameplate (HDS)	2105902-113	1	RSD
			2105903-113		HICAM
			2105903-213		HICEF

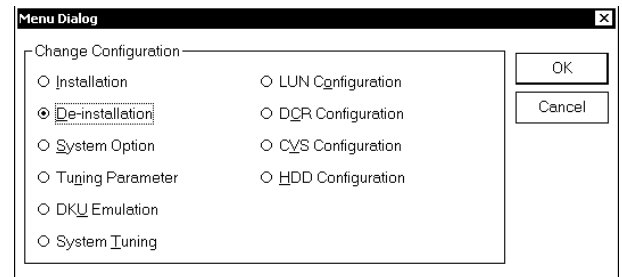
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

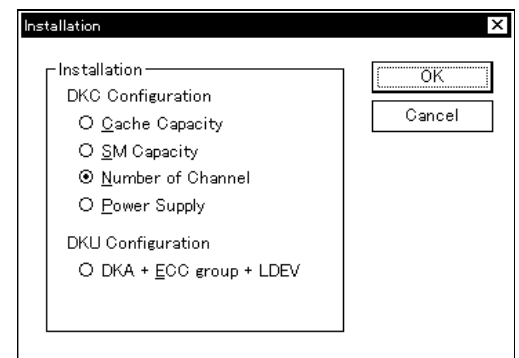
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

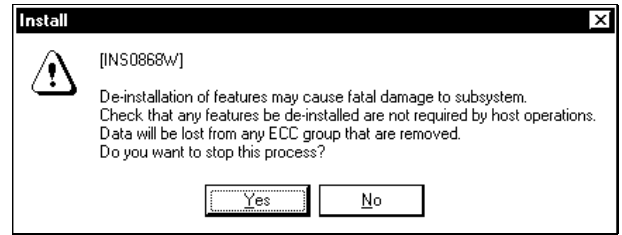


4. <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



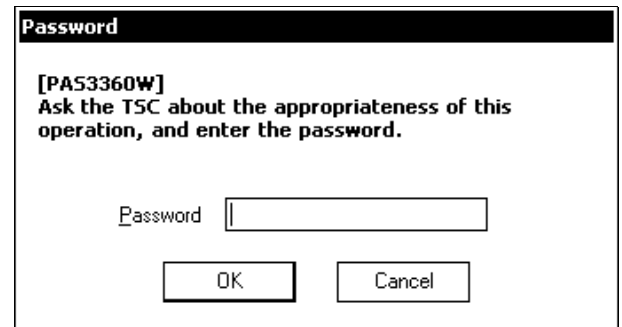
5.

Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>

Enter the password and select (CL) [OK].

**NOTICE**

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

7. <Update Configuration Information>

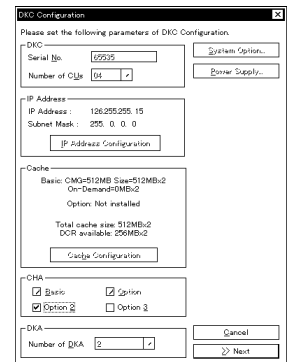
Define the item to CHA in the 'DKC Configuration' window.

Note 1: It is not possible to install or de-install plural parts at the same time.

Note 2: For Multiplatform configuration,

1. If you want to change Multiplatform into ALL SCSI, after de-installing mainframe volumes, then CHA must be de-installed.
2. If you want to change ALL SCSI into Multiplatform, after de-installing open volumes, then CHS/CHF/CHT must be de-installed.

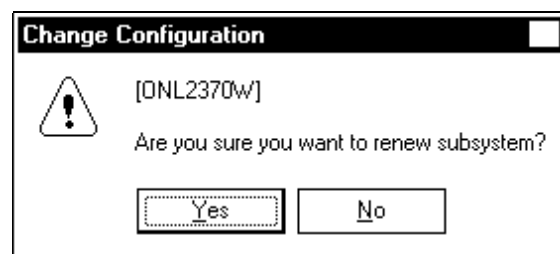
Make sure that the entered item is correct and select (CL) [>>Next].



2. SVP pre procedure

1. <Start de-installation>
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to
[INST04-MF-20](#) step 3.

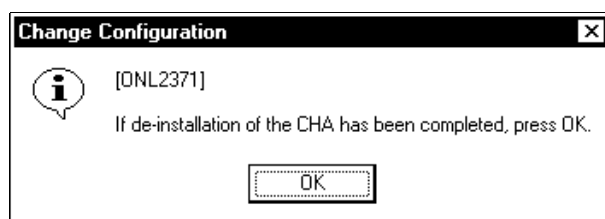


2. <Maintenance-block of PCBs other than cache or shared memory>
At this moment, maintenance blocking is performed on PCBs other than memory systems with message “The CHA is being blocked...” is displayed.
This processing is carried out on each component that is subject to de-installation.

3. <Update device structure information about PCBs other than cache or shared memory>
“The CHA is being blocked...” and “Lighting LED of the PCB...” are displayed and the device structure information update processing is performed on the current component. When the update processing is completed, the device structure information on the current component is set to [EMPTY] and the shut down LED on the PCB is lit.

When the update of device structure information on all PCBs other than those on the memory systems is completed, automatically one of the two following messages is displayed.

4.
“If de-installation of the CHA has been completed, press OK.” shown in the right figure.



3 De-Installation Procedure of Mainframe Fibre 8-port Adapter

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

3-1 Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)

- a. Confirm that Shut Down LED is on.(Fig. 4.4.3-1). If the LED is not on, connect the Maintenance Jumper to the Shut Down Connector.

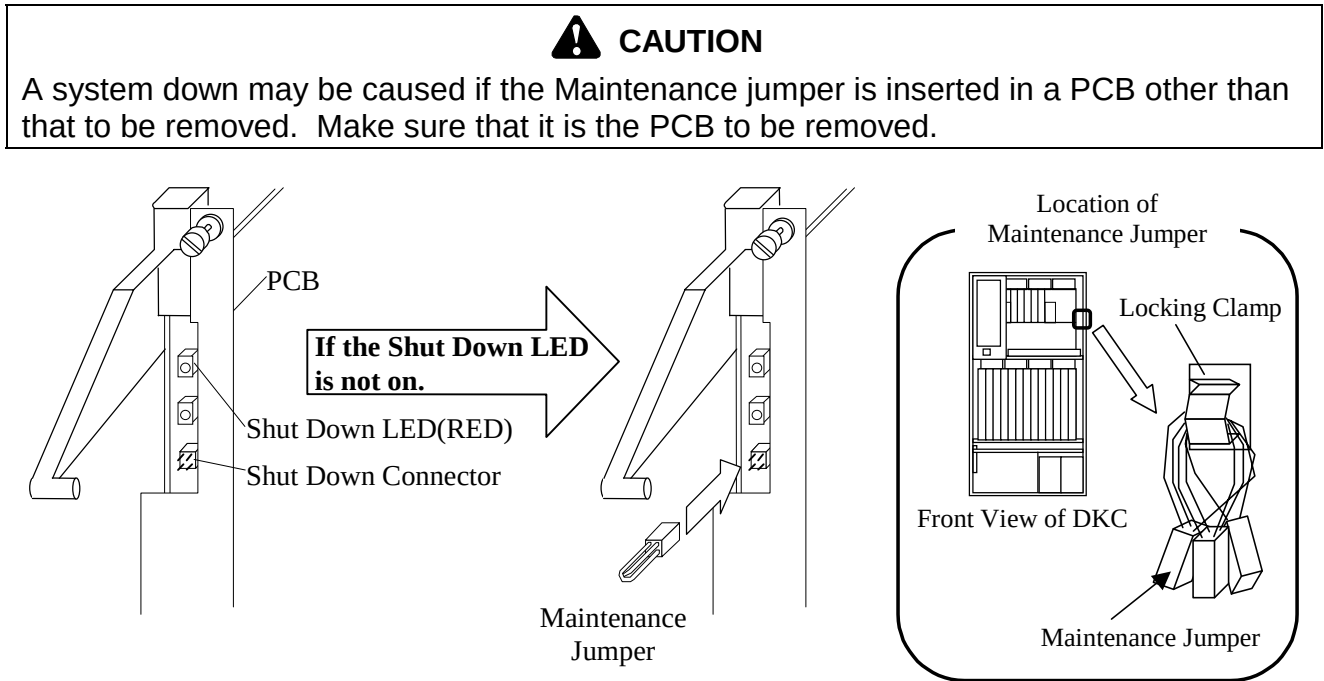


Fig. 4.4.3-1 Shut Down LED

3-2 Disconnection of the optical fibre cables

- Remove the brackets and cable clamp referring to Fig 4.4.3-2.
- Disconnect the optical fibre cables referring to Fig 4.4.3-3.
- Attach the brackets.

Table 4.4.3-2 Removal Location (Front of the unit)

Cluster	CL1							CL2				
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	CSW	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	CSW
Location No.	CSW -1N	CHA -1P	CHA -1Q	CHA -1R	CHA -1S	CACHE -1T	CACHE -1U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	CSW -2Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

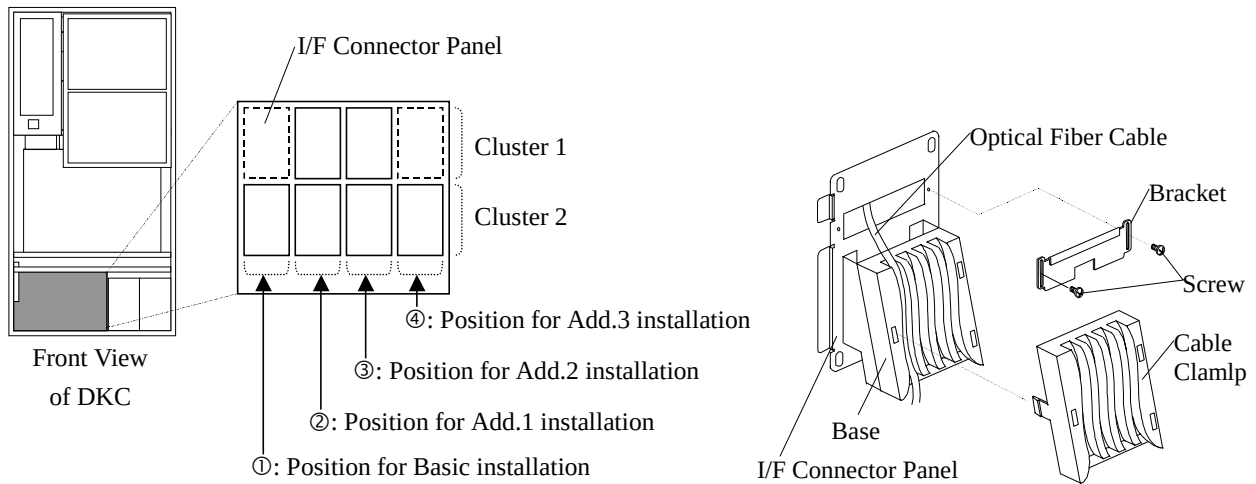


Fig 4.4.3-2 Removal of Bracket

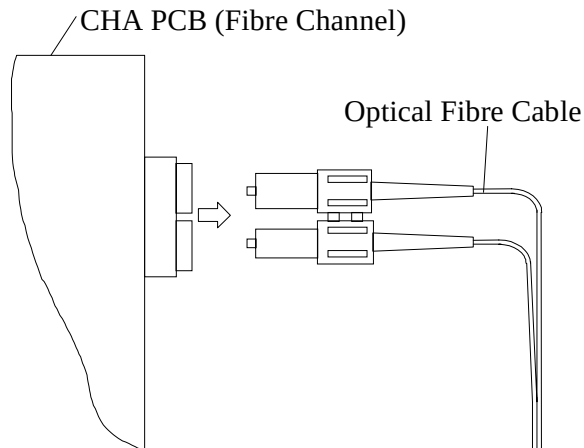


Fig. 4.4.3-3 Disconnection of Optical Fibre Cable

3-3 Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Front Logic Box referring to Fig. 4.4.3-4.
- b. Attach the dummy plates referring to Fig. 4.4.3-5.

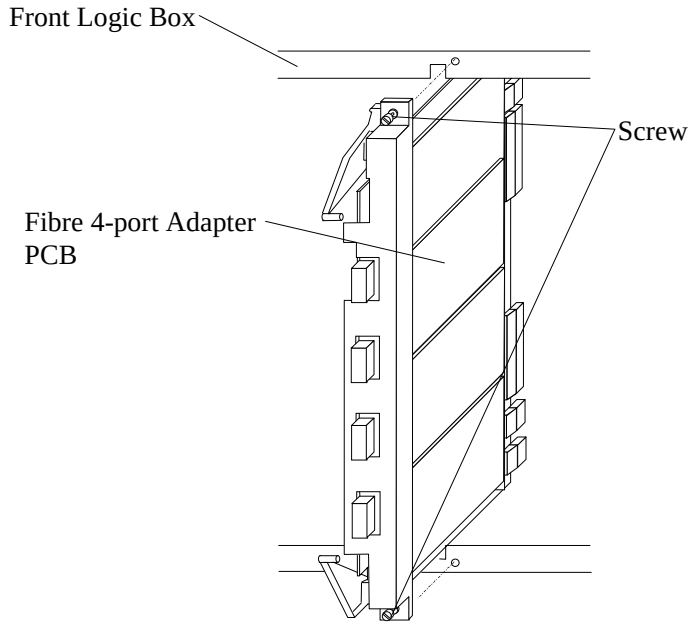


Fig. 4.4.3-4 Removal of PCB

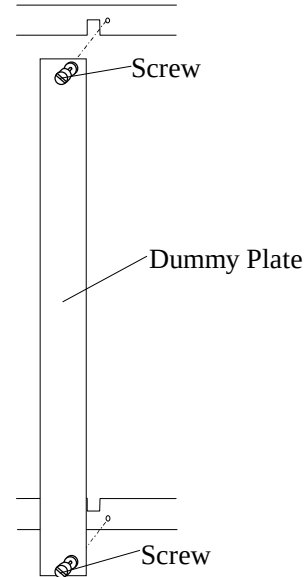


Fig. 4.4.3-5 Attachment of Dummy Plate

3-4 Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.4.3-6.

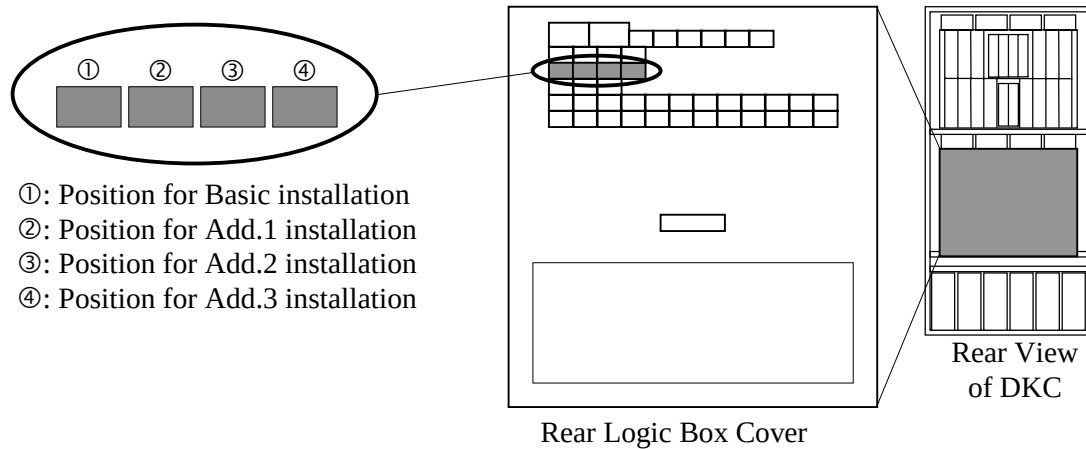
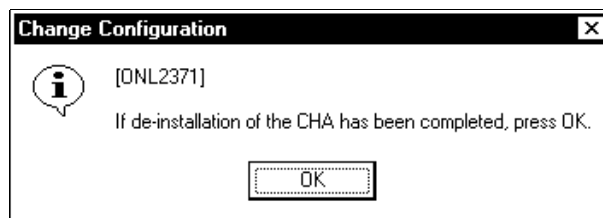


Fig. 4.4.3-6 Removal of Nameplate

4. SVP post procedure

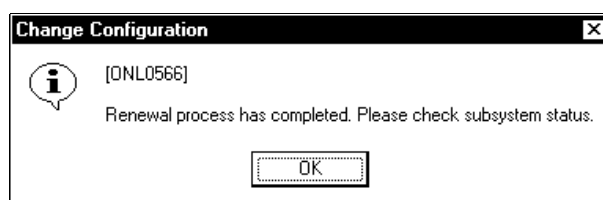
1.

Select (CL) [OK] in response to “If de-installation of the CHA has been completed, press OK.” shown in the right figure.



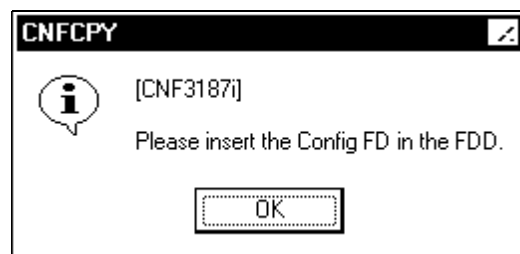
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



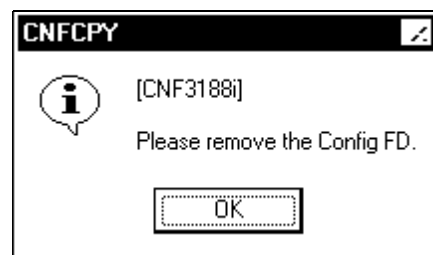
3.

“Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, select (CL) [OK].

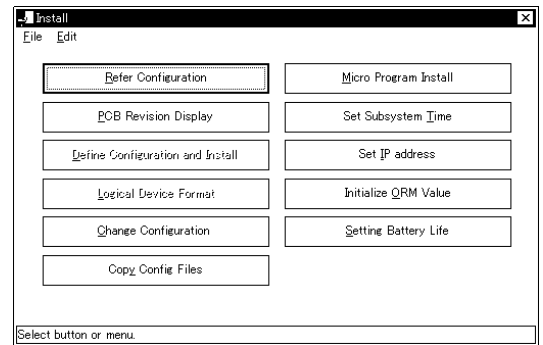


4.

When this procedure is completed, message “Please remove the Config FD.” is displayed.
 Remove the FD, select (CL) [OK].



5. After the procedure is completed, return to [Install].
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

4.5 De-Installation of DKC Additional Power Supply (DKC-F460I-80)

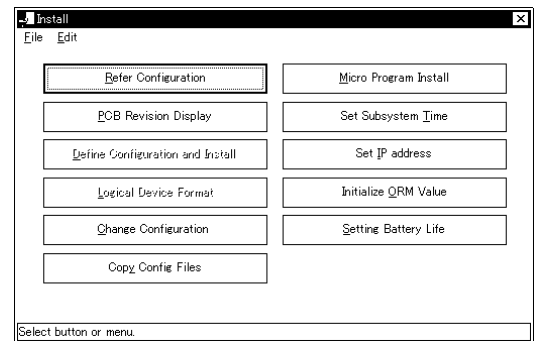
Table 4.5-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-80	3VPS	5513969-A	4	PPD03130
					HS0429
		Nameplate (HDS)	2105902-123	1	RSD
			2105903-123		HICAM
			2105903-223		HICEF
		Nameplate (HP)	2105902-223	1	RSD
			2105903-323		HICAM
			2105903-423		HICEF

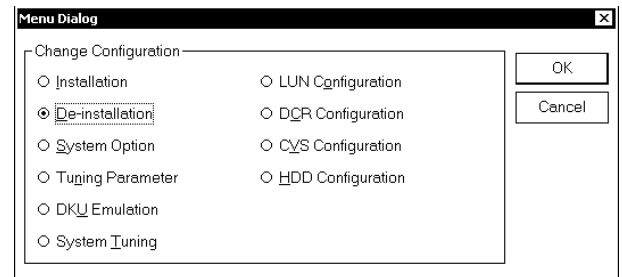
1. Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

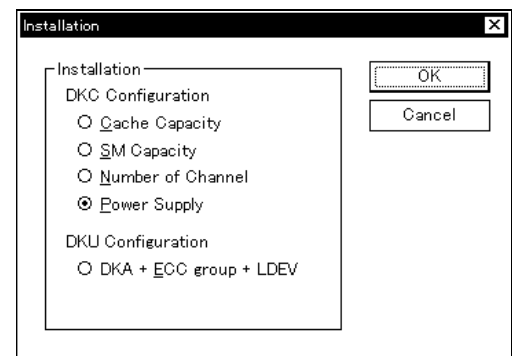
2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [De-Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].

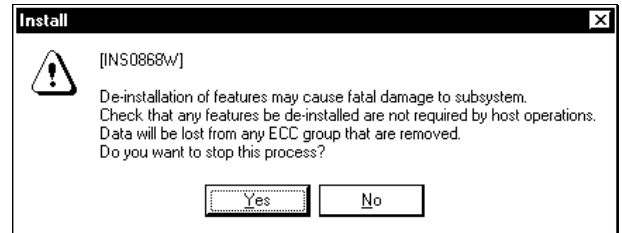


4. <Select a part to be changed>
Select (CL) [Power Supply], and select (CL) [OK].



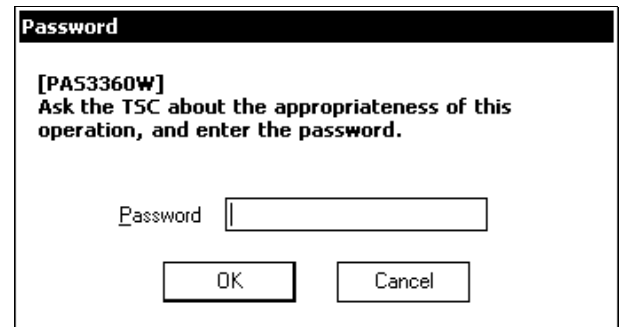
5.

Select (CL) [No] in response to “De-installation of features may cause fatal damage to subsystem. Check that any features be de-installed are not required by host operations. Data will be lost from any ECC group that are removed. Do you want to stop this process?”.



6. <Input password>

Enter the password and select (CL) [OK].

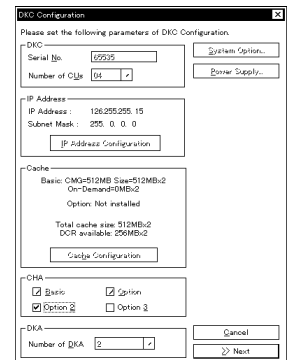
**NOTICE**

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

7. <Update Configuration Information>

Select (CL) [Power Supply] in the 'DKC Configuration' window. Go to Step 7-1.

Make sure that the entered item is correct and select (CL) [>>Next].



7-1. <Define Redundant Power Supply>

Select (CL) redundant power supply to be de-installed in the 'Redundant Power Supply' option box. Select (CL) [OK]. Return to step 7.

Note: If the entered item is wrong, the part not to be installed or de-installed may be blocked.

Power Supply

Set the Power Supply Configuration.

Type

☐ 2-phase AC Box

☐ 3-phase AC Box (30A)

☐ 1-phase AC Box

☐ 1-phase AC Box (30A)

Redundant Power Supply

☒ CL Additional Power Supply

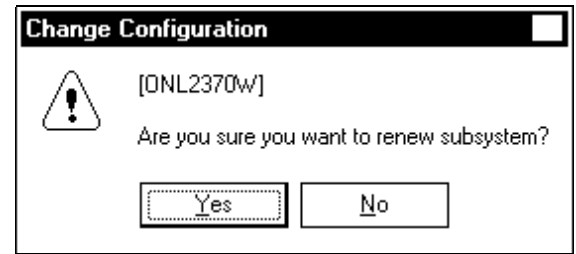
Cancel OK

2. SVP pre procedure

1. <Start de-installation>

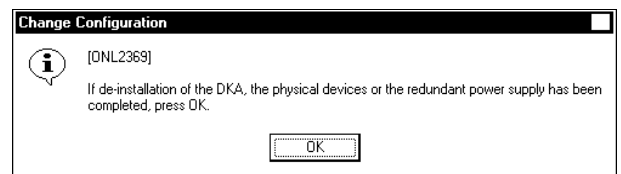
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST04-PS-20](#) step 3.



2.

“If de-installation of the CHA/DKA, the physical devices or the redundant power supply has been completed, press OK.” is displayed.



3. De-Installation Procedure of DKC Additional Power Supply

3-1 Turn off the Additional Power Supply

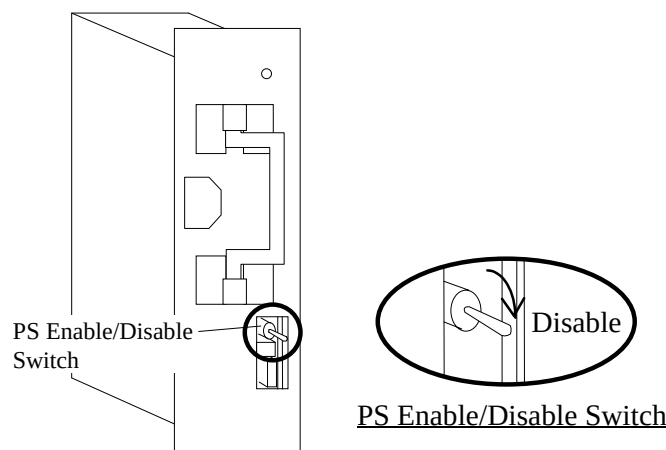
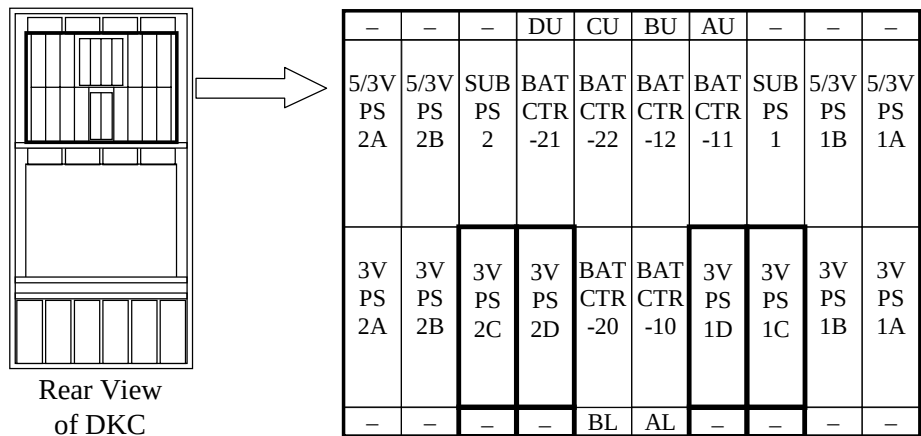
- a. Turn the PS Enable/Disable Switch to (DOWN) **Disable**. Refer to Table 4.5-2 and Fig. 4.5-1.

CAUTION

A system down may be caused by setting the PS Enable/Disable switch of the switching power supply other than that to be removed to "Disable". Make sure that it is a switching power supply to be removed.

Table 4.5-2 Removal Location

No.	Part Name	PS Location		Remarks
		Cluster 1	Cluster 2	
1	3V Power Supply	3VPS1C	3VPS2C	
2	3V Power Supply	3VPS1D	3VPS2D	



3V PS
Fig. 4.5-1 Switch Location

3-2 Disconnection of the inlet cable

- a. Disconnect the inlet cables from the power supplies.

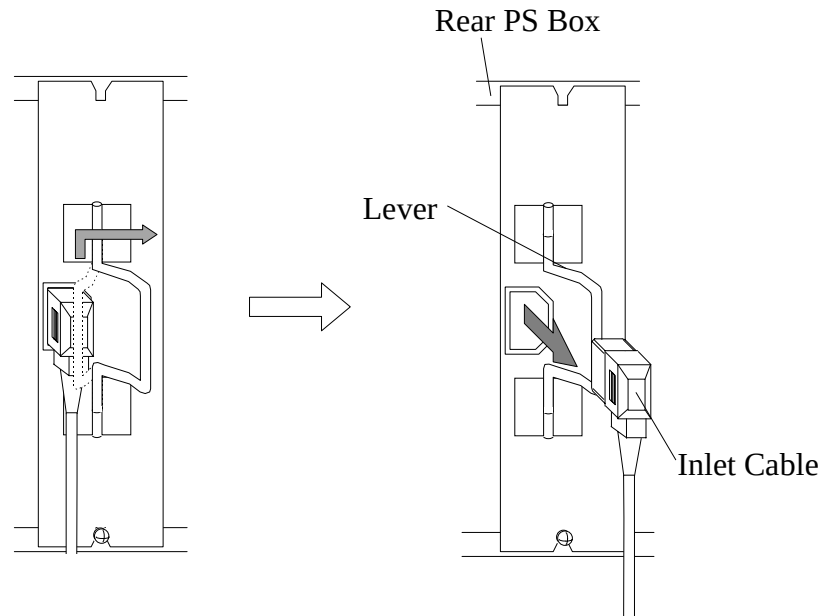


Fig. 4.5-2 Disconnection of Inlet Cable

3-3 Removal of the Additional Power Supply

- a. Loosen the screws and remove the Additional Power Supplies. Refer to Fig. 4.5-3.
- b. Attach the dummy plates to the removal locations and fasten the screws. Refer to Fig. 4.5-4.
- c. Insert the removed inlet cables into respective dummy plates and secure them using cable clamps.

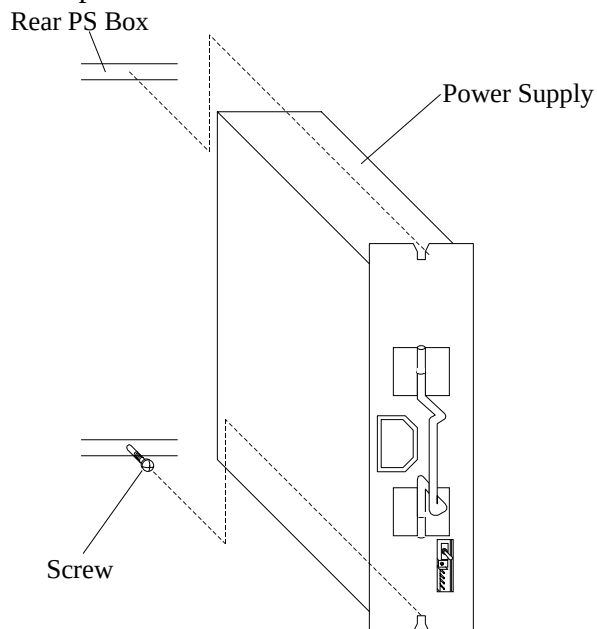


Fig. 4.5-3 Removal of Power Supply

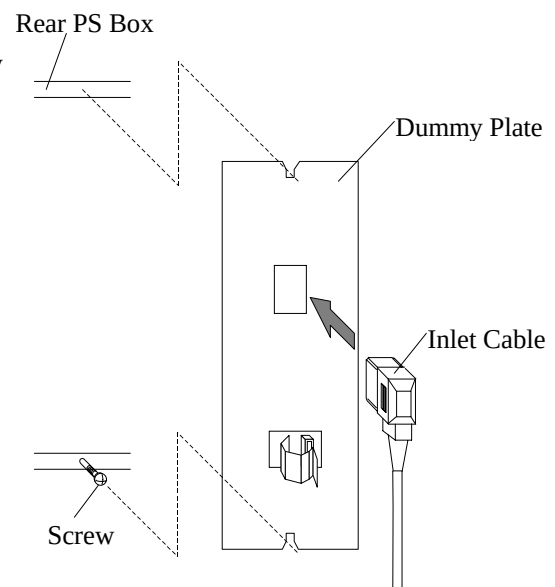


Fig. 4.5-4 Attachment of Dummy Plate.

3-4 Removal of the nameplate

- a. Remove the nameplate from the cover.

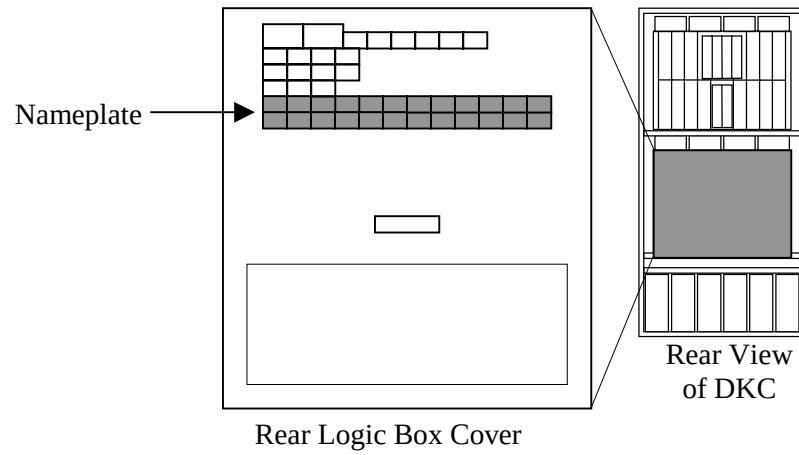
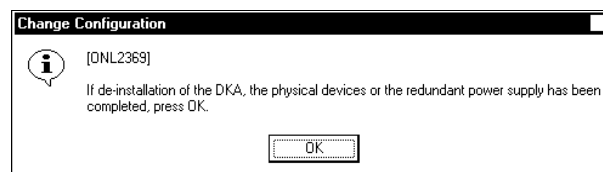


Fig. 4.5-5 Removal of Nameplate

4. SVP post procedure

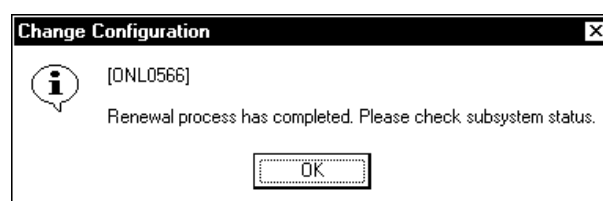
1.

Select (CL) [OK] in response to “If de-installation of the CHA/DKA, the physical devices or the redundant power supply has been completed, press OK.” shown in the right figure.



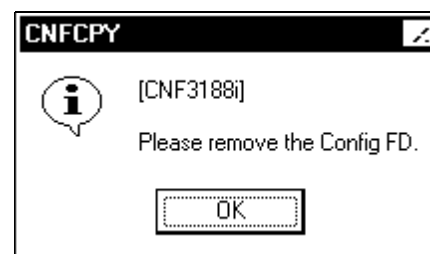
2. <Check the end of de-installation procedure>

“Renewal process has completed. Please check subsystem status.” shown in the right figure displayed. Select (CL) [OK] in response to this message.



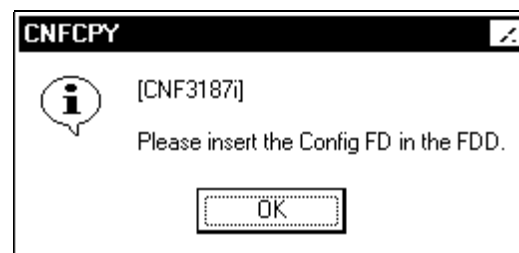
3.

“Reading subsystem configuration data...” is displayed. “Please insert the Config FD in the FDD.” is displayed. Insert the configuration FD into FDD, and select (CL) [OK].

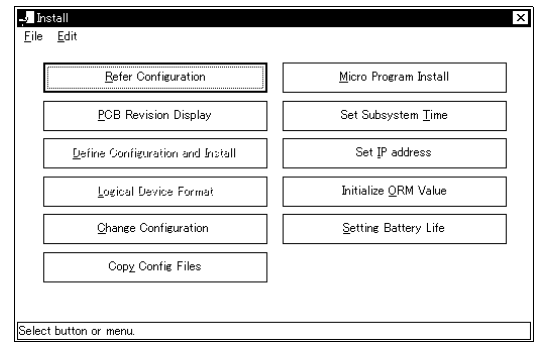


4.

When this procedure is completed, the message “Please remove the Config FD.” is displayed. Remove the FD, and select (CL) [OK].



5. After the procedure is completed, return to [Install].
Select (CL) [File]-[Exit].



6. <Mode Change>
Change the mode to View Mode.

4.6 De-Installation of SVP High Reliability Kit (DKC-F460I-SVP)

Table 4.6-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-SVP	SVP ASSY	2105598-B	1	
		SVPPS BOX	5513997-A	1	
		Stopper (SVP-WR)	5515587-1	1	
		Rubber (SVP-WR)	5515588-1	1	
		Stopper (SVP-WF)	5515586-1	1	
		Screw	BS306N	4	
		Screw	SB408N	3	
		Screw (Stopper)	5513661-408	2	
		Hinge (SVP)	3254970-1	2	
		Nameplate (HDS)	2105902-105	1	RSD
			2105903-105		HICAM
			2105903-205		HICEF
		Nameplate (HP)	2105902-205	1	RSD
			2105903-305		HICAM
			2105903-405		HICEF

1. Operating the Additional SVP

When the basic SVP and Additional SVP are operating as a Master SVP and Standby SVP respectively, it is not required to operate the additional SVP. You may start from Item 2, "Operating the Basic SVP".



CAUTION

It is not a problem if a SIM (SIMRC = 7410ff, 7ff200, or 7ff201) occurs during execution of this procedure. Erase the SIM immediately.

1-1 <Procedure of SVP switching>

(1) <Change the mode>

Change the [Modify Mode].

(2) <Open the [Maintenance]>

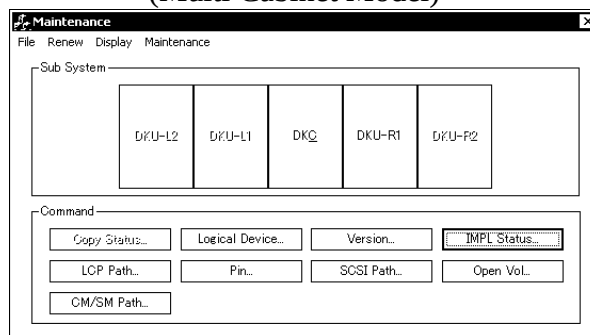
(Multi Cabinet Model)

In the 'Maintenance' window, check and select (CL) [DKC] to be replaced.

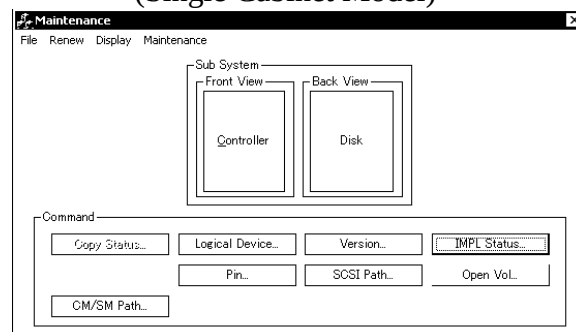
(Single Cabinet Model)

In the 'Maintenance' window, check and select (CL) [Controller] to be replaced.

(Multi Cabinet Model)



(Single Cabinet Model)



(3) <Open the [SVP] screen>

(Multi Cabinet Model)

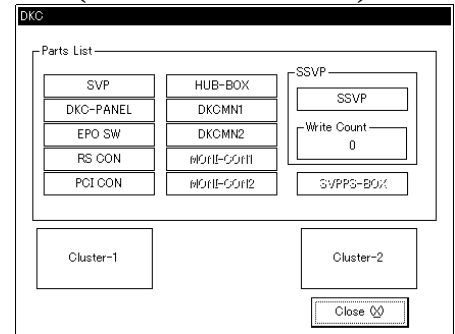
Select (CL) the [SVP] from 'DKC' screen.

(Single Cabinet Model)

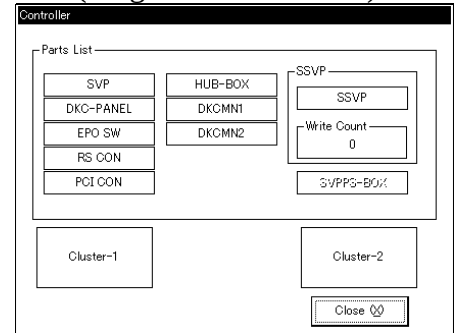
Select (CL) the [SVP] from 'Controller' screen.

Valid [XXXXXX] values are listed below.

(Multi Cabinet Model)

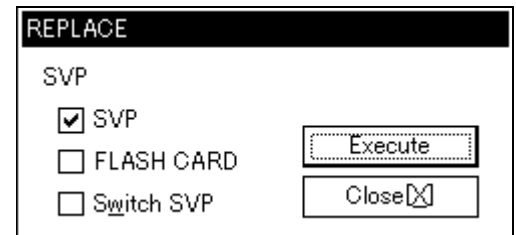


(Single Cabinet Model)



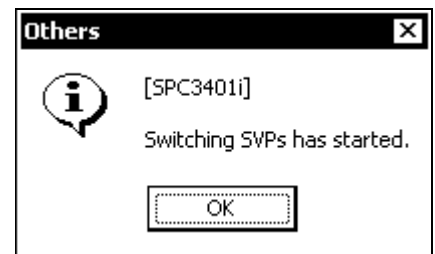
(4) <Select the [Switch SVP]>

Select (CL) the [Switch SVP], and select (CL) the [Excute].



(5) <Checking beginning of the SVP switching>

A message, "SVP switching has started," is displayed. Make sure that the Additional SVP is powered off automatically.



(6) <Checking the SVP switching>

Make sure that the Basic SVP is powered on automatically. Also make sure that the SVP is rebooted automatically after it is powered on.

2. Operating the Basic SVP

2-1 Canceling the setting duplication of the Basic SVP

(1) <Changing the mode>

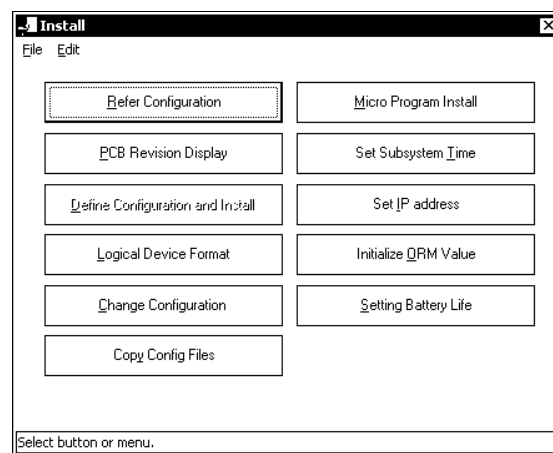
Change the mode by selecting [Modify Mode].

(2) <Opening the Install window>

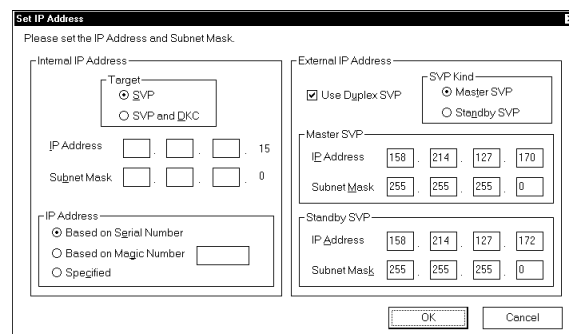
Select (CL) [Install] from the [SVP] menu.

(3) <Selecting [Set SVP IP Address]>

Select (CL) [Set IP Address] in the Install window.



- (4) <Canceling the setting of SVP duplication>
 (a) Select Cancel (CL) the selection of the [Use Duplex SVP] in the External IP Address box.

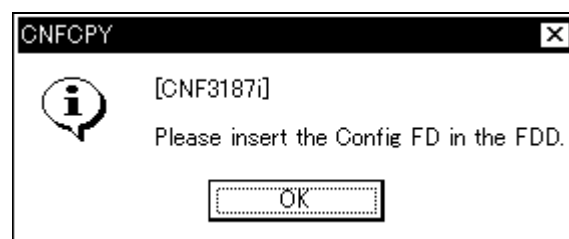


The 'Set IP Address' dialog box is shown. It has a title bar 'Set IP Address' and a subtitle 'Please set the IP Address and Subnet Mask.' The dialog is divided into several sections:

- Internal IP Address:** Contains a 'Target' section with radio buttons for 'SVP' (selected) and 'SVP and D/C'. Below are fields for 'IP Address' (158.214.127.170) and 'Subnet Mask' (255.255.255.0).
- External IP Address:** Contains a 'Use Duplex SVP' checkbox (checked). To its right is the 'SVP Kind' section with radio buttons for 'Master SVP' (selected) and 'Standby SVP'.
- Master SVP:** Fields for 'IP Address' (158.214.127.170) and 'Subnet Mask' (255.255.255.0).
- Standby SVP:** Fields for 'IP Address' (158.214.127.172) and 'Subnet Mask' (255.255.255.0).
- IP Address:** A section with radio buttons for 'Based on Serial Number' (selected), 'Based on Magic Number', and 'Specified'.

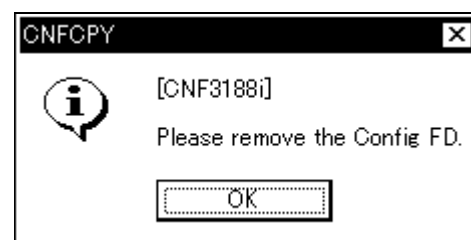
At the bottom right are 'OK' and 'Cancel' buttons.

- (5) <Inserting the Config FD>
 Insert the Config FD into the FDD and select (CL) [OK].



The 'CNFCOPY' dialog box is shown. It has a title bar 'CNFCOPY' and a subtitle '[CNF3187i]'. The main text says 'Please insert the Config FD in the FDD.' There is an information icon (i) on the left. At the bottom is an 'OK' button.

- (6) <Removing the Config FD>
 When the copying of the Config is completed, a message, "Please remove the Config FD." is displayed. Remove the FD and select (CL) [OK].



The 'CNFCOPY' dialog box is shown. It has a title bar 'CNFCOPY' and a subtitle '[CNF3188i]'. The main text says 'Please remove the Config FD.' There is an information icon (i) on the left. At the bottom is an 'OK' button.

- (7) <Confirming rebooting of the SVP>
 Select (CL) [OK].



The 'Set IP Address' dialog box is shown. It has a title bar 'Set IP Address' and a subtitle '[INS1105i]'. The main text says 'This will reboot SVP.' There is an information icon (i) on the left. At the bottom is an 'OK' button.

3. De-Installation Procedure of SVP High Reliability Kit

3-1 Disconnect the cables.

- a. Disconnect the cables from the SVPPS BOX.

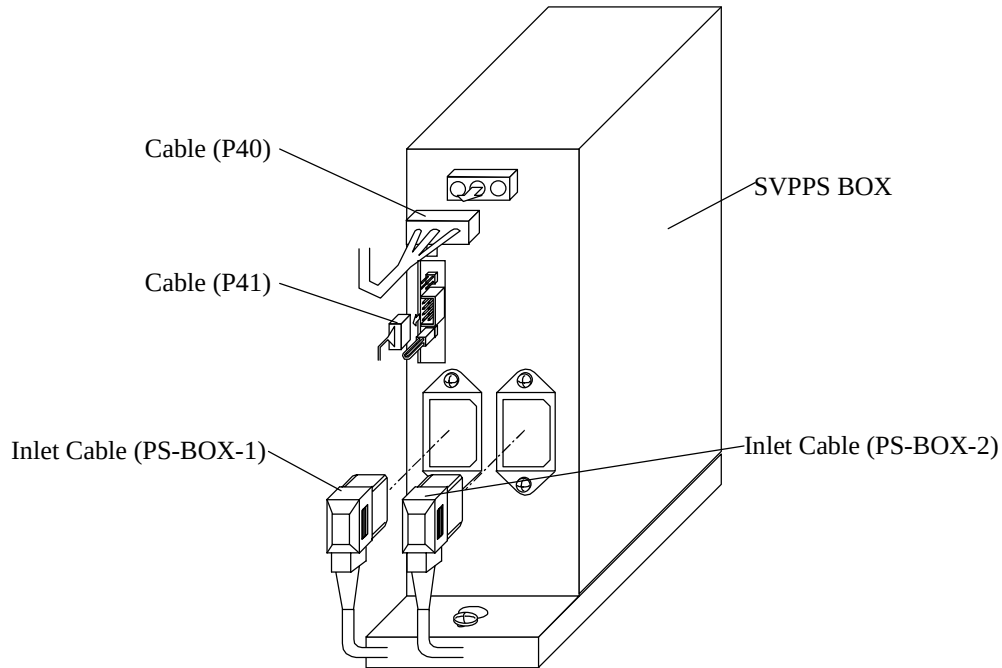


Fig. 4.6-1 Disconnection of Cables

- b. Disconnect the LAN cable from the HUB BOX.
c. Disconnect the SVP PS cable from the CON plate.

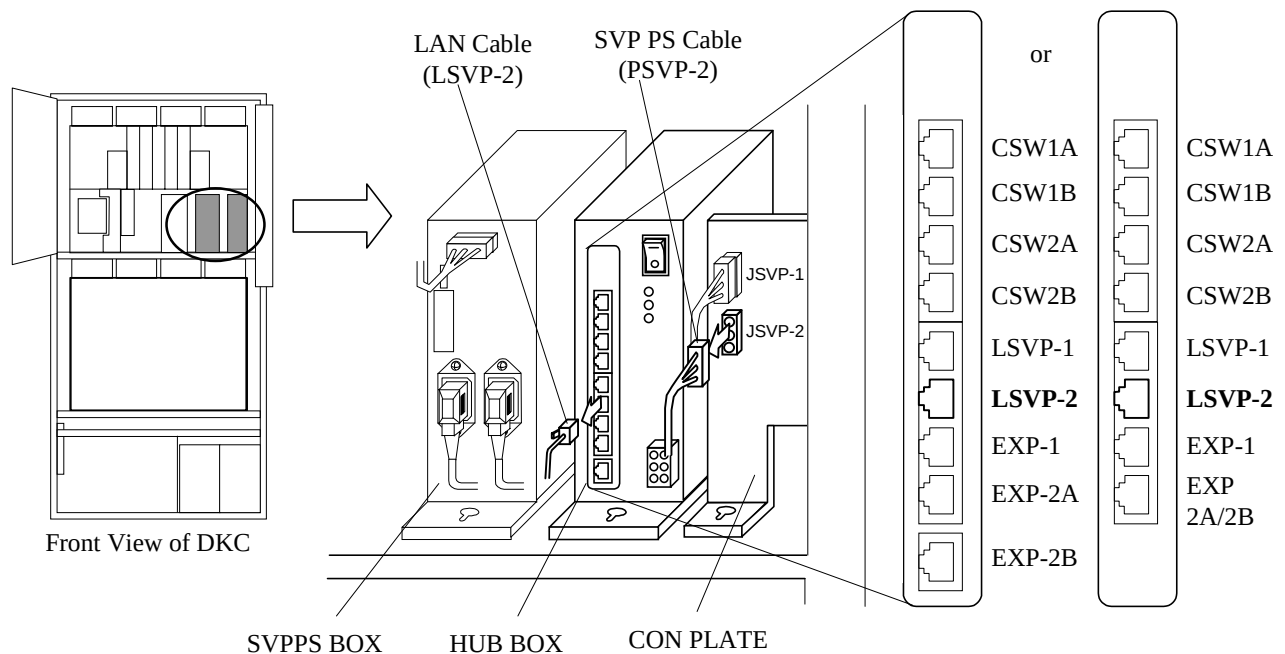


Fig. 4.6-2 Disconnection of Cables

d. Disconnect the RS232C cable from the HUB BOX.

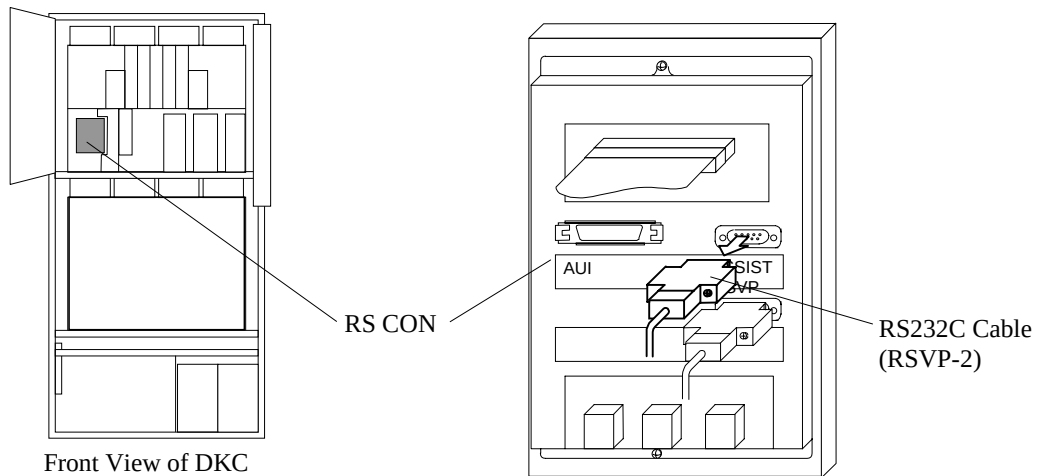


Fig. 4.6-3 Disconnection of Cables

3-2 Remove the cables.

a. Open the repeat binder and remove the cables.

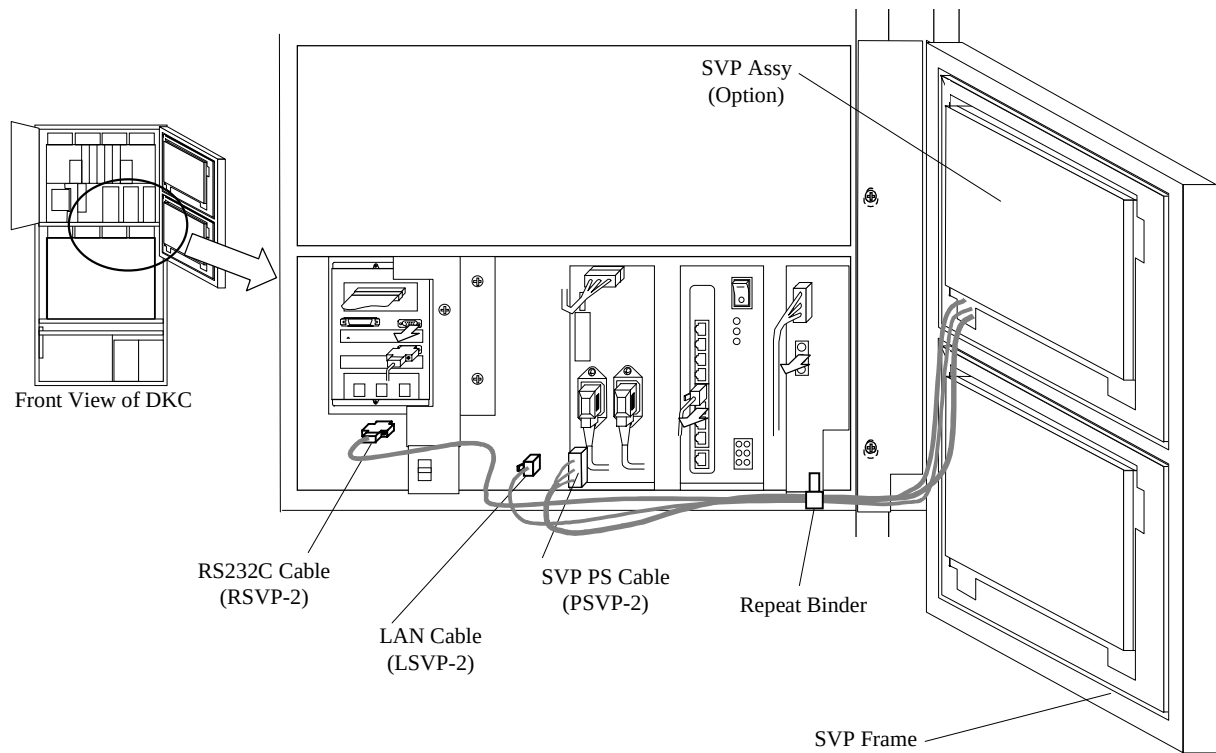


Fig. 4.6-4 Removal of Cables

3-3 Remove the SVPPS BOX.

- a. Loosen the screw and remove the SVPPS BOX.

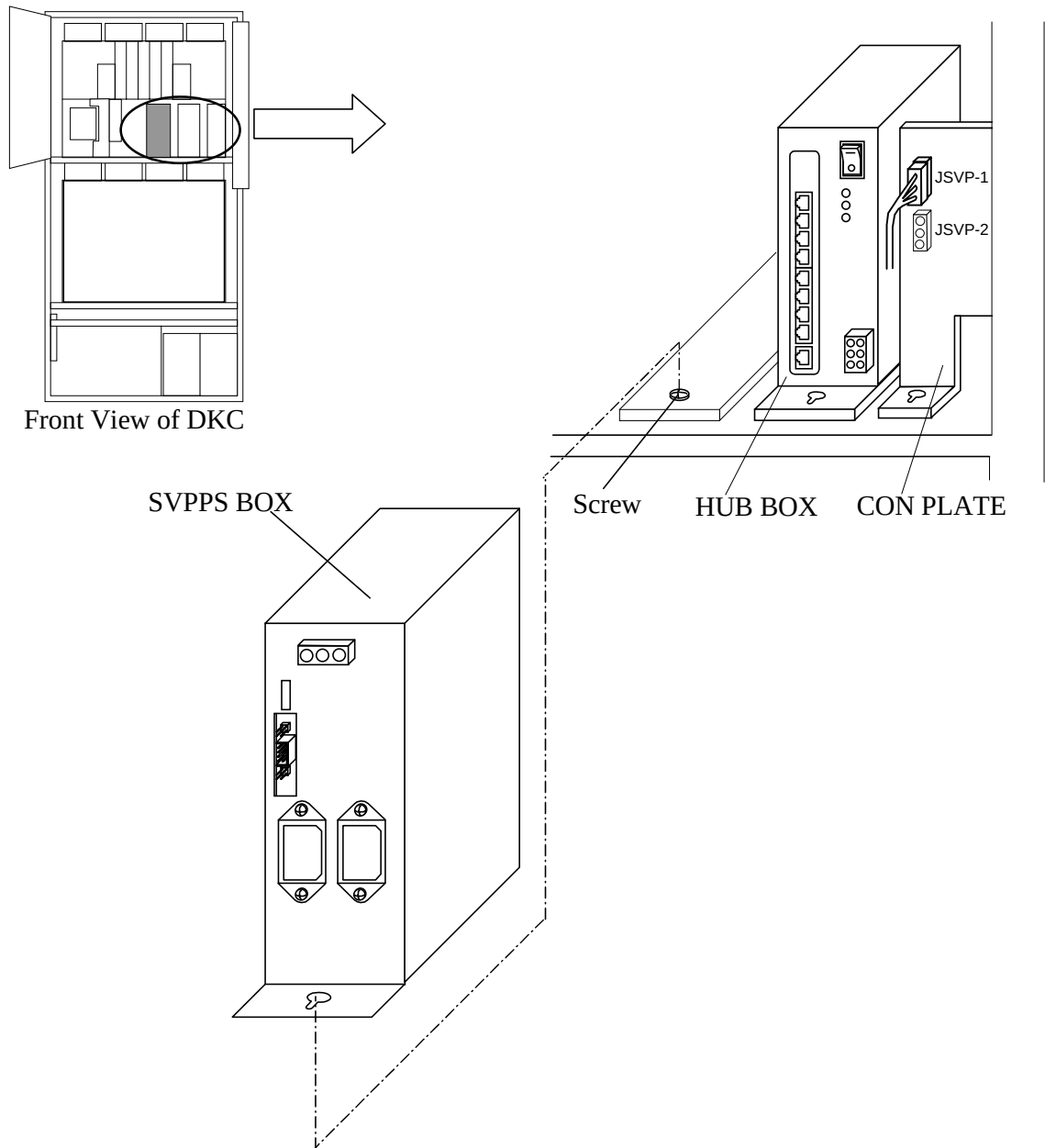


Fig. 4.6-5 Removal of SVPPS BOX

3-4 Remove the SVP Assy.

- Loosen the two screws and remove the SVP cover.
- Loosen the screws and remove the stoppers
- Pull out the SVP Assy from the cabinet.
- Attach the SVP cover with the screws.

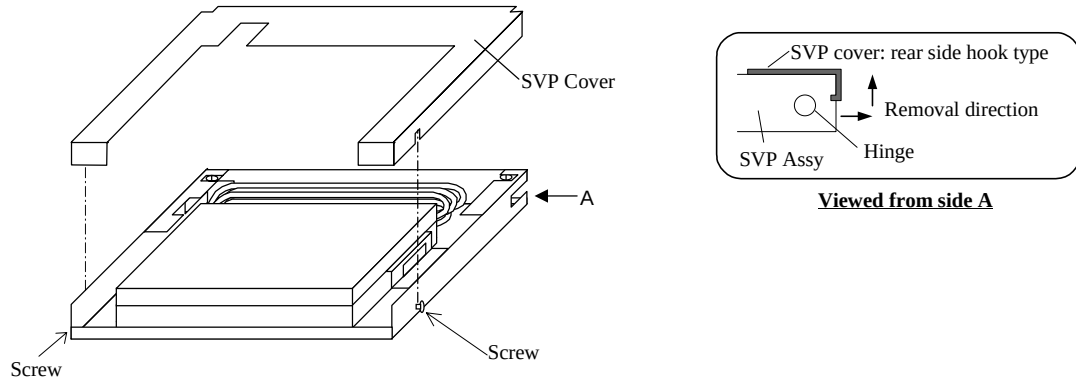


Fig. 4.6-6 Removal of SVP Cover

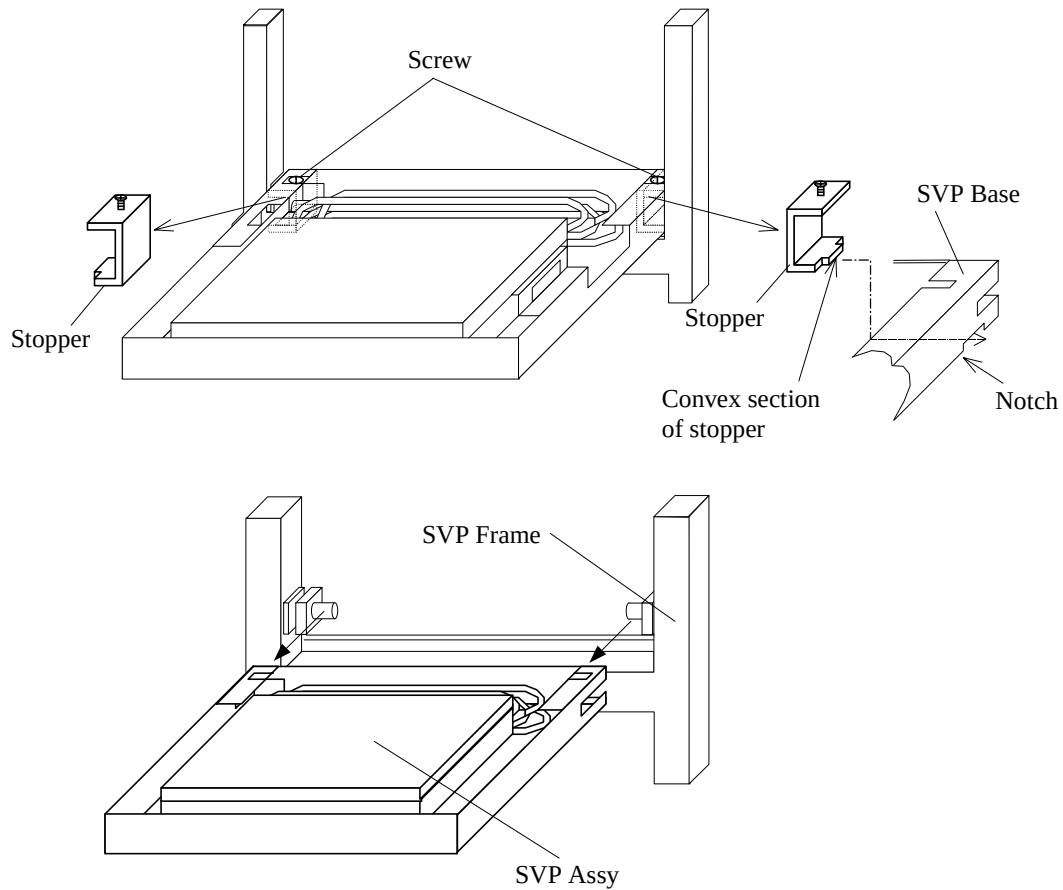


Fig. 4.6-7 Removal of SVP ASSY

3-5 Remove the stopper.

- a. Remove the two screws and remove the Stopper (SVP-WF).

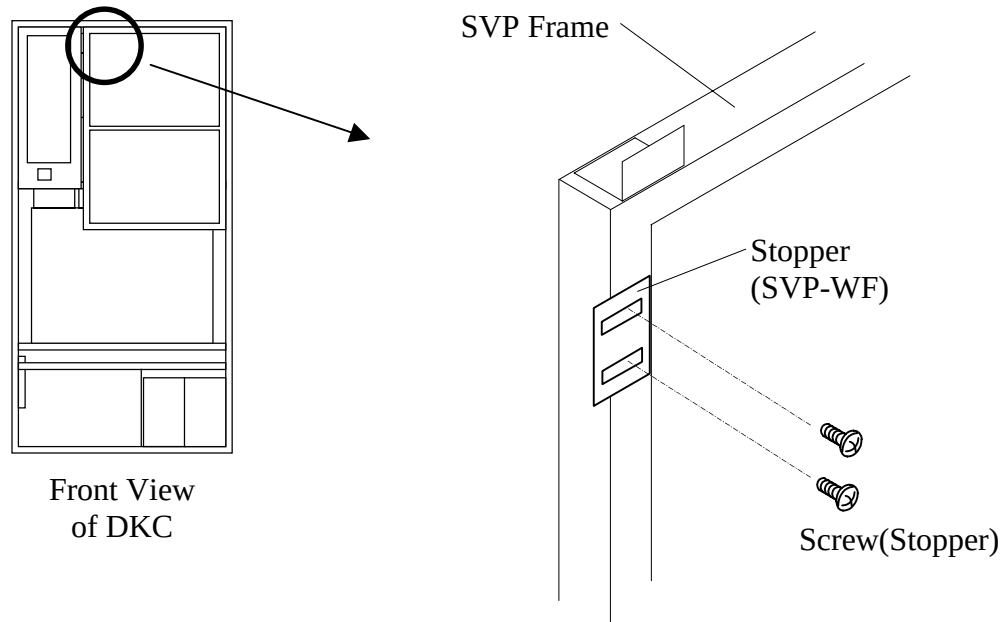


Fig. 4.6-8 Removal of Stopper

- b. Remove the two screws and remove the Stopper (SVP-WR).

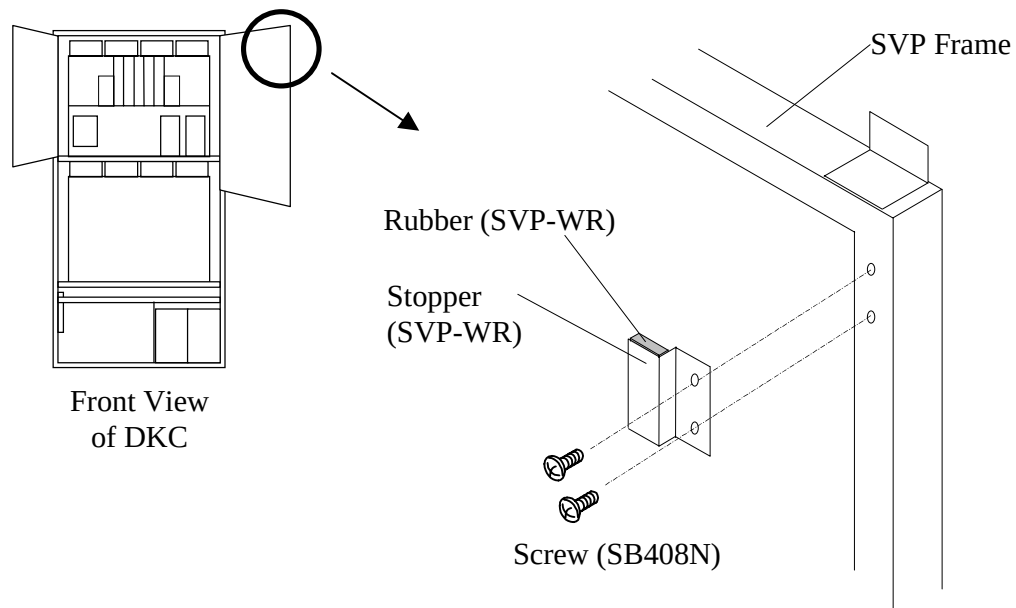


Fig. 4.6-9 Removal of Stopper

- c. Remove the four screws and remove the Hinges (SVP).

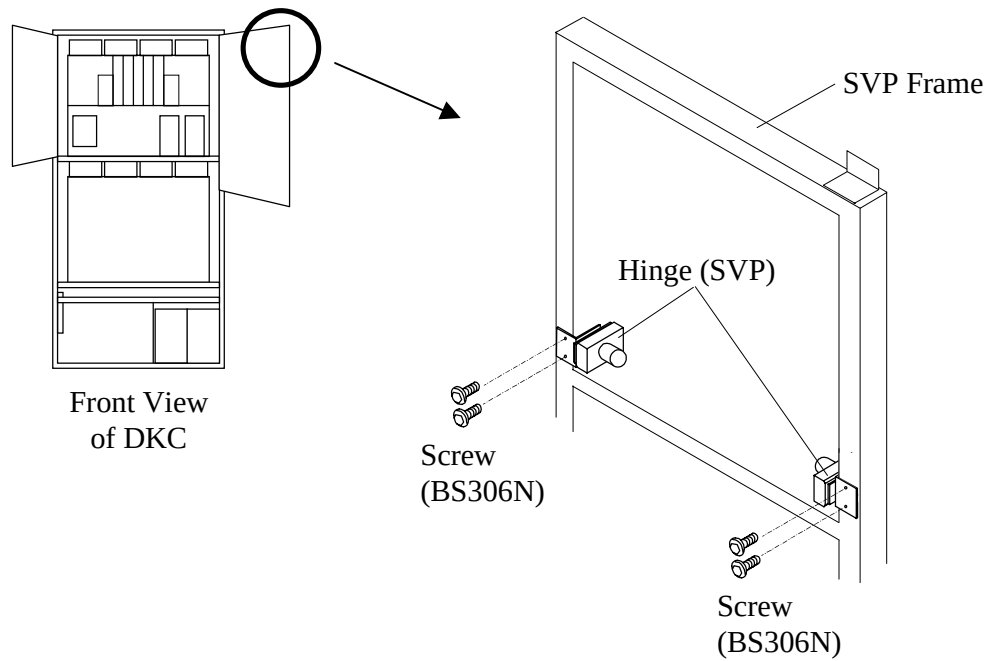


Fig. 4.6-10 Removal of Hinges

3-6 Remove the Nameplate.

- a. Remove the nameplate from the Rear Logic Box cover.

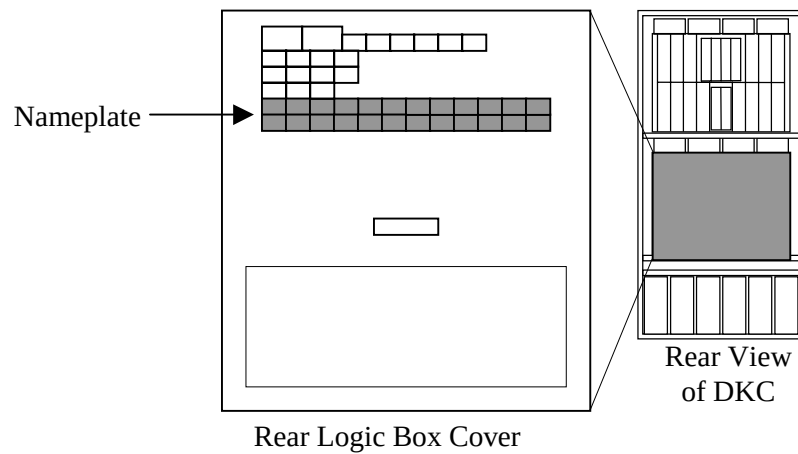
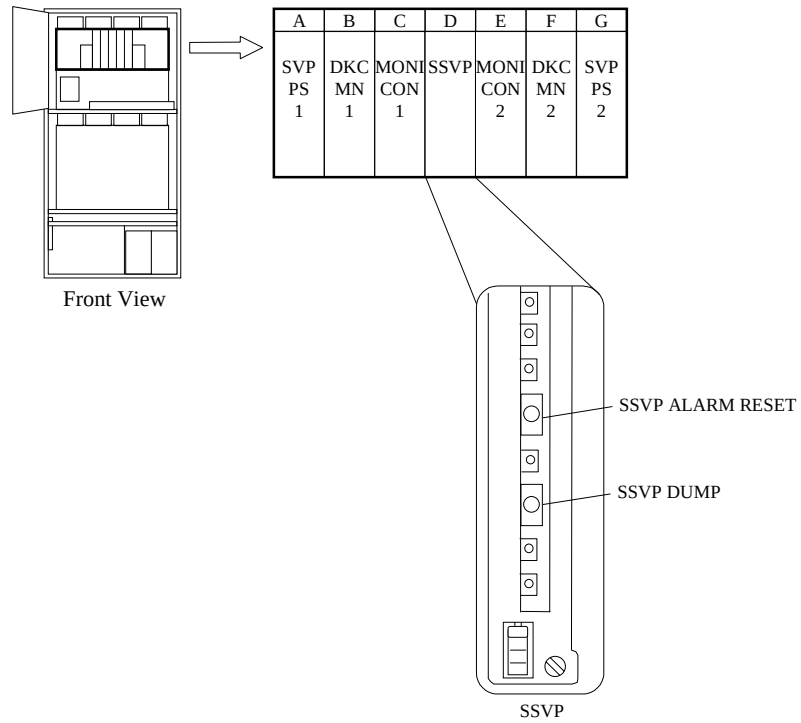


Fig. 4.6-11 Removal of Nameplate

4. Executing SSVP Reset

4-1 Execute the SSVP reset by pressing the SSVP ALARM RESET switch.



4.7 De-Installation of PCI I/F Connector (DKC-F460I-18)

Table 4.7-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-18	PCI CON	3257397-A	1	
		Bracket (460)	5517954-1	1	for DKC460I
		Bracket (465)	5513818-1	1	for DKC465I
		Nameplate (HDS)	2105902-104	1	RSD
			2105903-104		HICAM
			2105903-204		HICEF

1. De-Installation Procedure of PCI I/F Connector

Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

1-1 Confirm that the REMOTE/LOCAL Switch of DKC Panel is set to LOCAL. If not, set the REMOTE/LOCAL Switch to LOCAL.

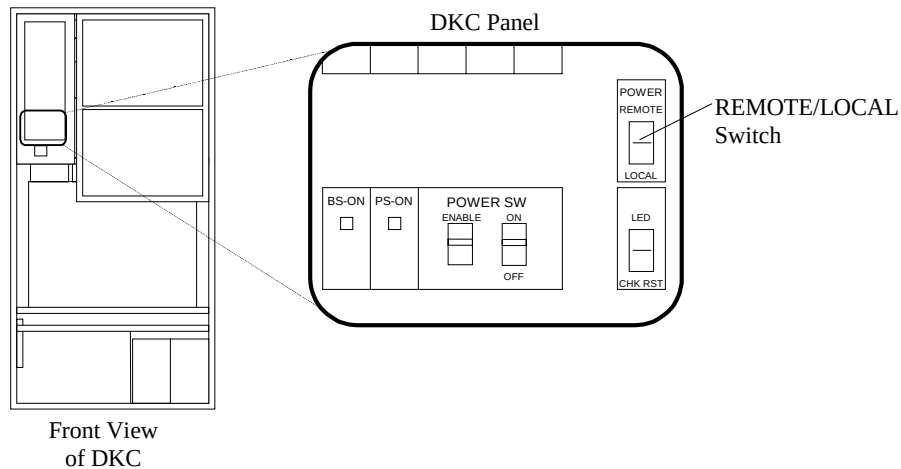


Fig. 4.7-1 Setting of REMOTE/LOCAL Switch

1-2 Connect the Maintenance jumpers to the socket on the DKCMN1 and DKCMN2.

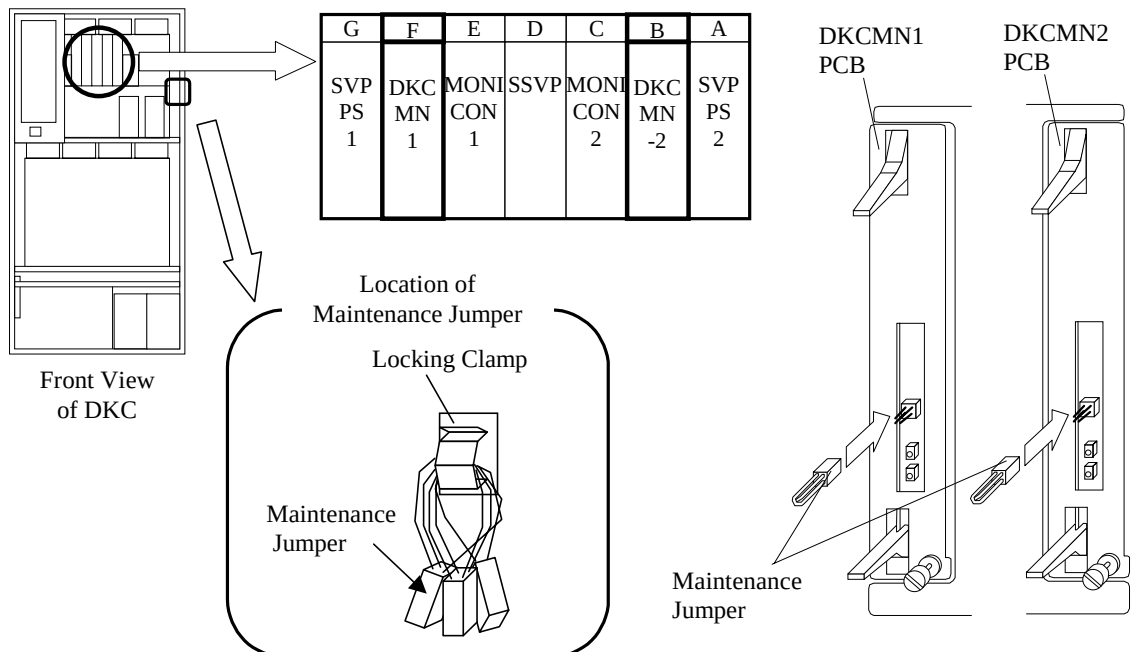


Fig. 4.7-2 Connection of Jumper Plug

1-3 Set the jumper connectors (JP1 and JP2) of the PCI CON.

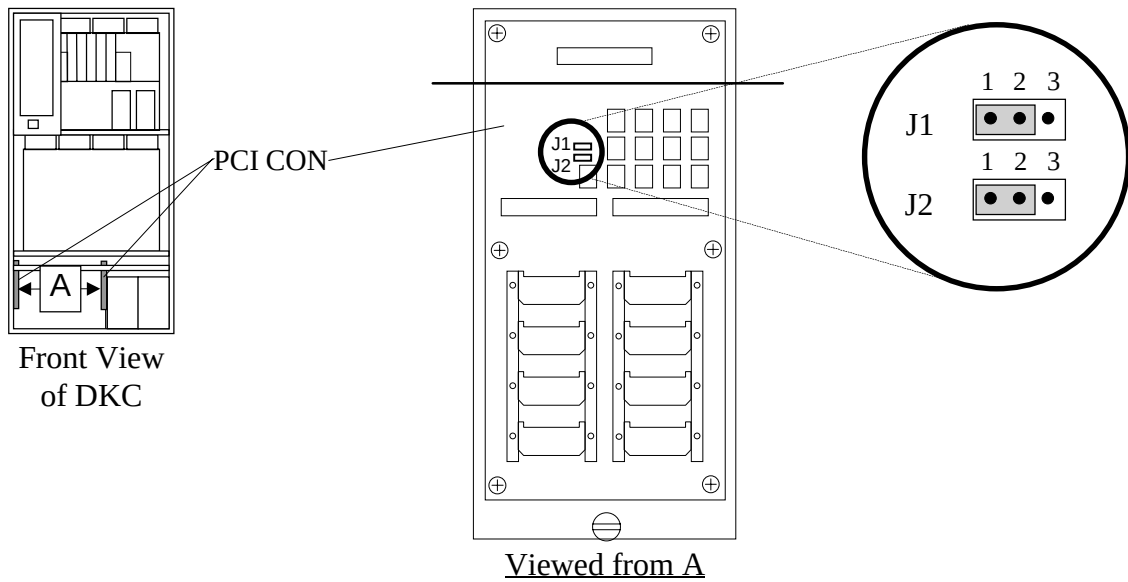


Fig. 4.7-3 Setting of Jumper Plug

1-4 Remove the PCI CON PCB.

- Disconnect the cable.
- Loosen the screw① and slide the plate.
- Loosen the screw② and remove the PCI CON PCB.
- Slide the plate and fasten the screw①.

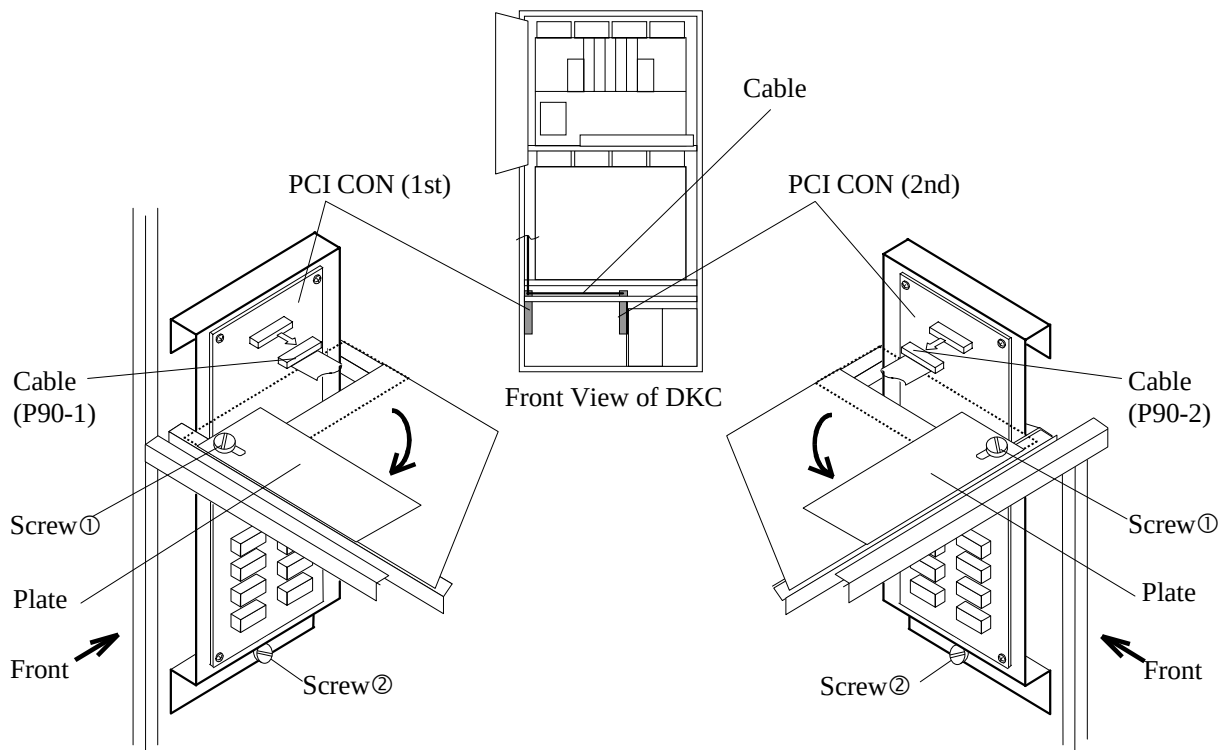


Fig. 4.7-4 Removal of PCI CON PCB

- e. Remove the screw and remove the bracket (460).
- f. Attach the screw.

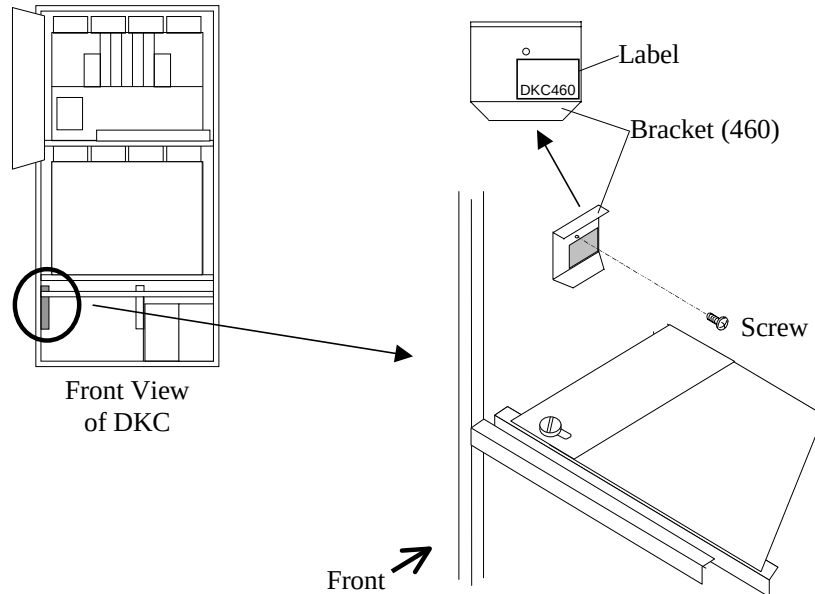


Fig. 4.7-5 Removal of Bracket

1-5 Disconnect the Maintenance jumpers from the socket on the DKCMNs.

1-6 Detach the nameplate.

- a. Detach the nameplate from the cover.

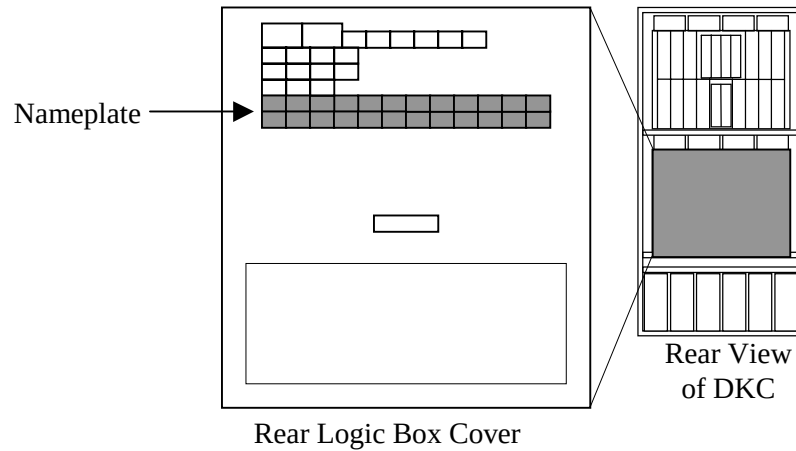


Fig. 4.7-6 Location of the Nameplate

4.8 De-Installation of UPS Connection Kit (DKC-F460I-UPS)

Table 4.8-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-UPS	SH307-B	5513986-B	2	DKCMN
		SH298-A	5513547-A	1	UPS CON
		SH302-C	5513988-C	1	DKC Panel
		DSUB Cable	5485510-15	4	
		Cable	3261826-D	1	Label: PA-1 – P5
		Repeat Binder	5409042-2	2	Single Cabinet Model
		Bracket (460)	5517954-1	1	for DKC460I
		Bracket (465)	5513818-1	1	for DKC465I
		Nameplate (HDS)	2105902-114	1	RSD
			2105903-114		HICAM
			2105903-214		HICEF
		Nameplate (HP)	2105902-214	1	RSD
			2105903-314		HICAM
			2105903-414		HICEF

1. De-Installation Procedure of UPS Connection Kit

Note: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

1. Replace the DKC Panel.
 - a. Loosen the screw. Pull the plate forward, then lift up and remove it.

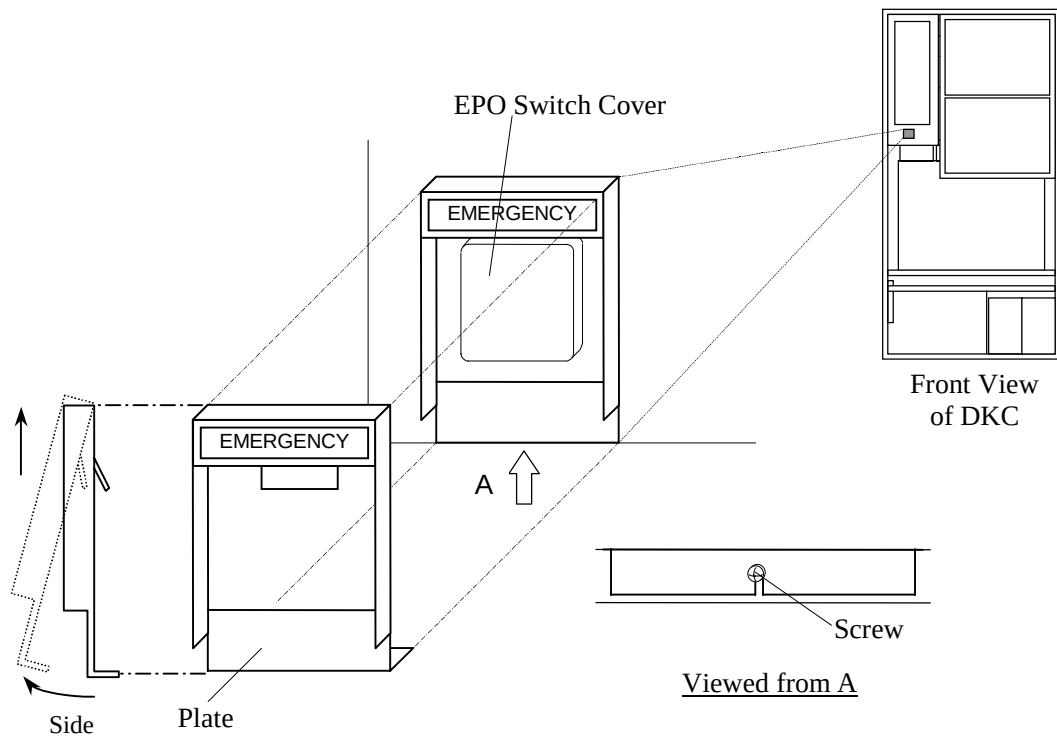


Fig. 4.8-1 Removal of Plate

- b. Remove the EPO Switch cover.

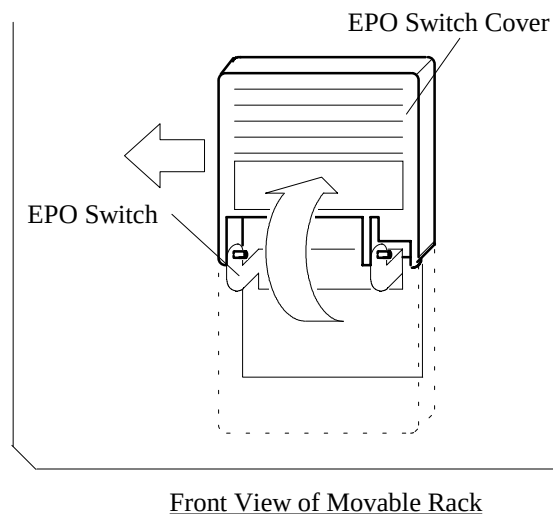


Fig. 4.8-2 Removal of EPO Switch Cover

- c. Loosen the three screws and remove the plate.

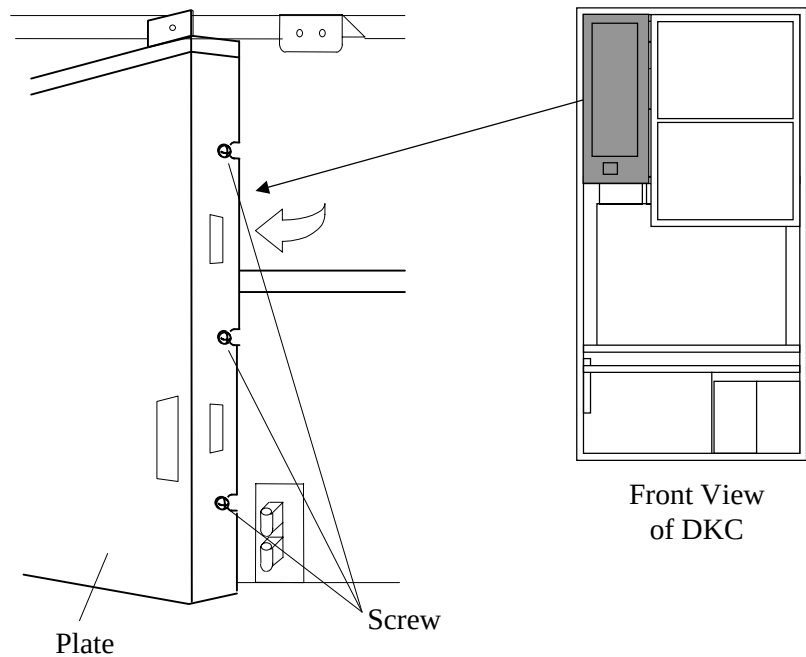


Fig. 4.8-3 Removal of Plate

- d. Disconnect the cables from the DKC Panel PCB.
 e. Loosen six screws and remove the DKC Panel PCB for UPS.
 f. Install the DKC Panel PCB, which is a basic component, by fastening it with the screws.
 g. Connect the cables to the PCB.

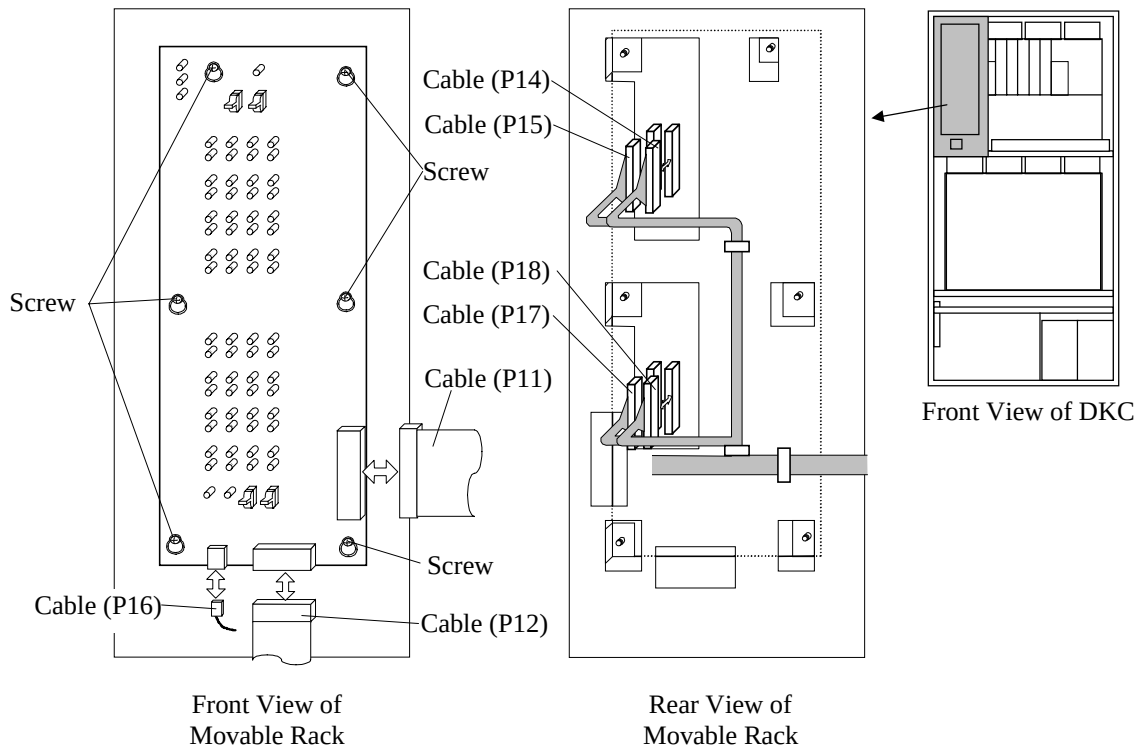


Fig. 4.8-4 Removal of PCB

- h. Attach the plate to the Movable rack and fasten the three screws. Refer to Fig. 4.8-3.
 - i. Attach the EPO Switch cover. Refer to Fig. 4.8-2.
 - j. Attach the plate and fasten the screw. Refer to Fig. 4.8-1.
2. Replace the DKCMN.
 - a. Disconnect the cable from the DKCMN PCB.
 - b. Loosen the screw and remove the DKCMN PCB for UPS.

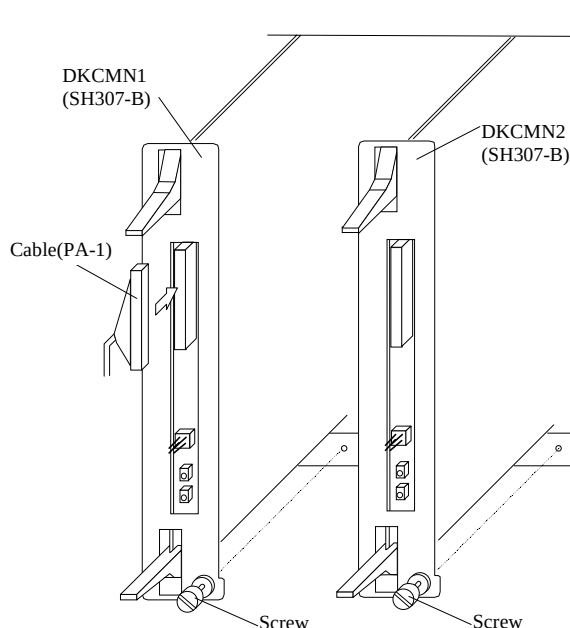


Fig. 4.8-5 Removal of DKCMN for UPS

- c. Install the DKCMN PCB, which is a basic component, by fastening it with the screw.

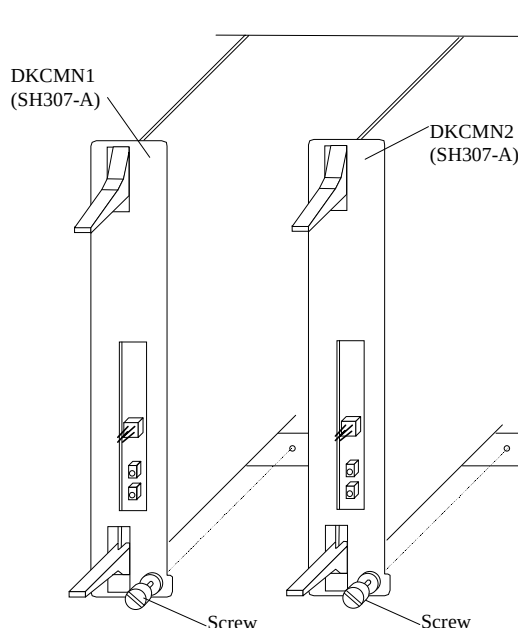


Fig. 4.8-6 Installation of DKCMN (Basic Component)

3. Disconnect the DSUB Cables.
 - a. Disconnect the DSUB cables from the UPS CON.

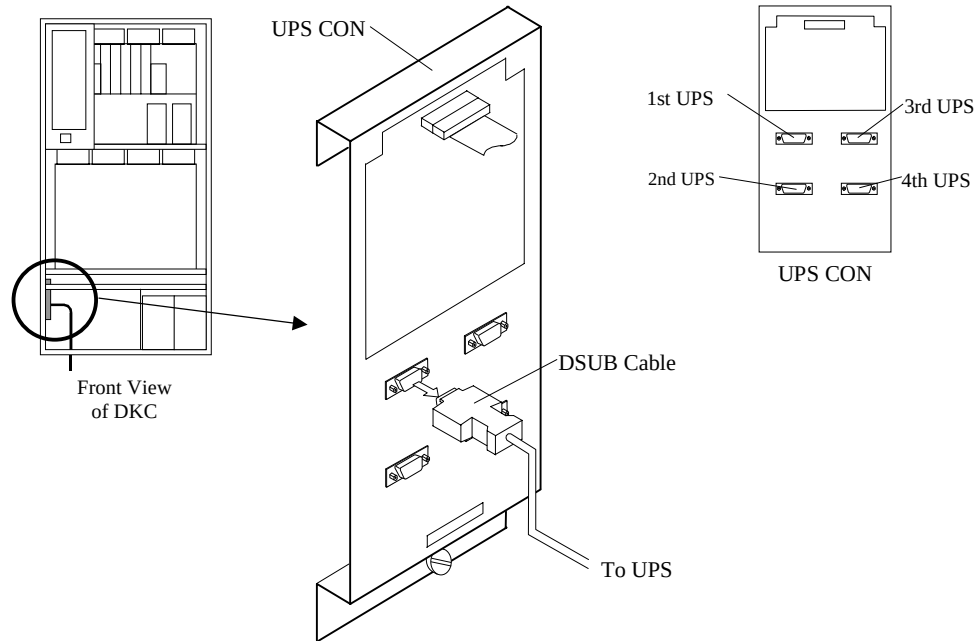


Fig. 4.8-7 Disconnection of DSUB Cables

4. Remove the UPS CON.
 - a. Loosen the screw① and remove the screw② from the base plate.
 - b. Slide the plate and turn it using the screw① as an axis.
 - c. Remove the cable(P5) from the UPS CON.
 - d. Remove the UPS CON by loosening the screw③.
 - e. Return the plate as it was and tighten the screws① and ②.

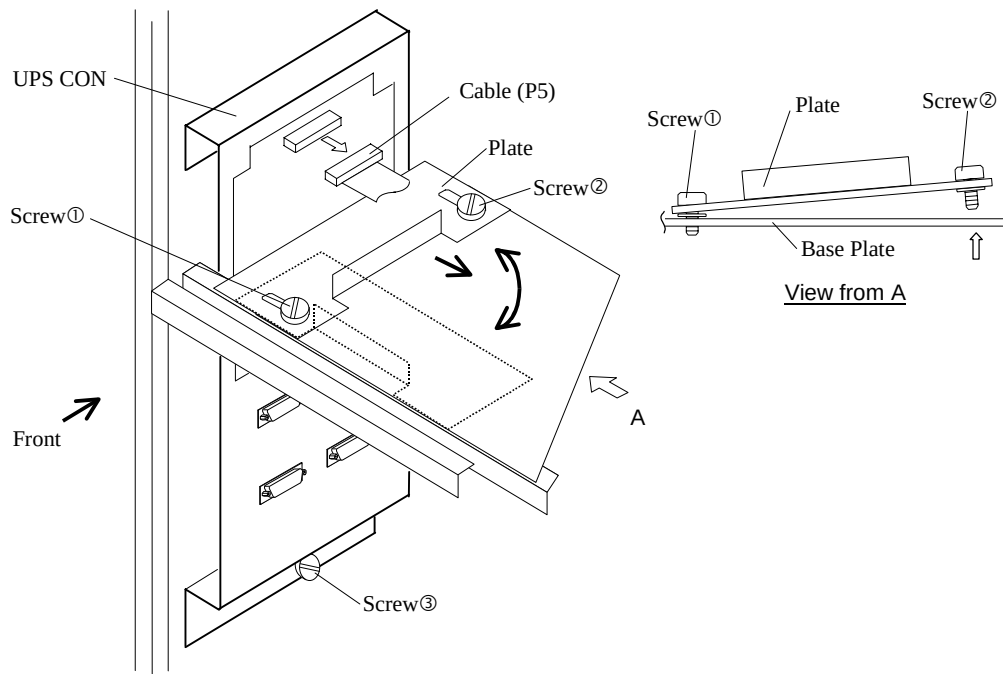


Fig. 4.8-8 Removal of UPS CON

- f. Remove the screw and remove the bracket (460).
- g. Attach the screw.

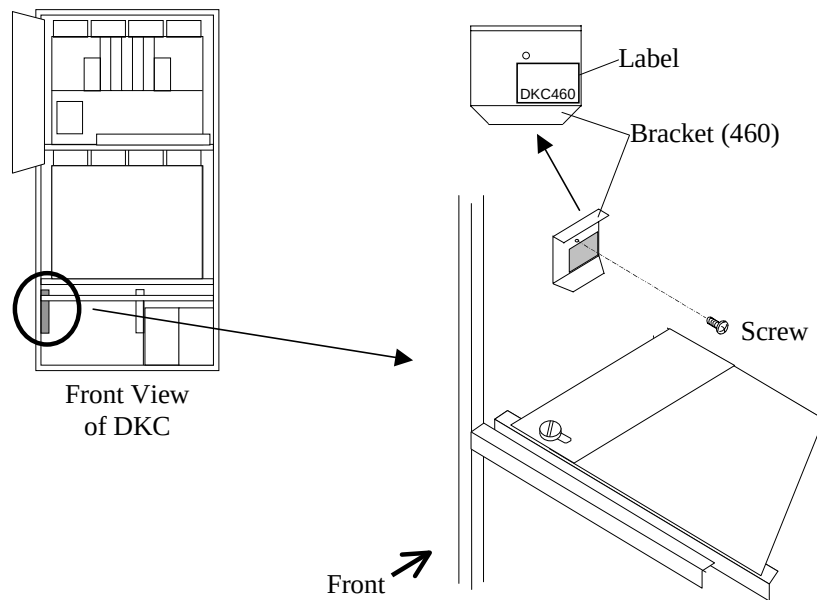


Fig. 4.8-8A Removal of Bracket

5. Remove the Cable.
 - a. Remove the Front Logic Box cover. (Refer to [INST03-COM-10](#).)
 - b. Loosen the screw① then remove the Upper SH Box cover.
 - c. Loosen the two screws② then remove the SH side plate.
 - d. Remove the two screws③ then remove the cable cover.
 - e. Open the repeat binders and remove the cable from frame.
 - f. Attach the covers in the reverse order of step d through a.

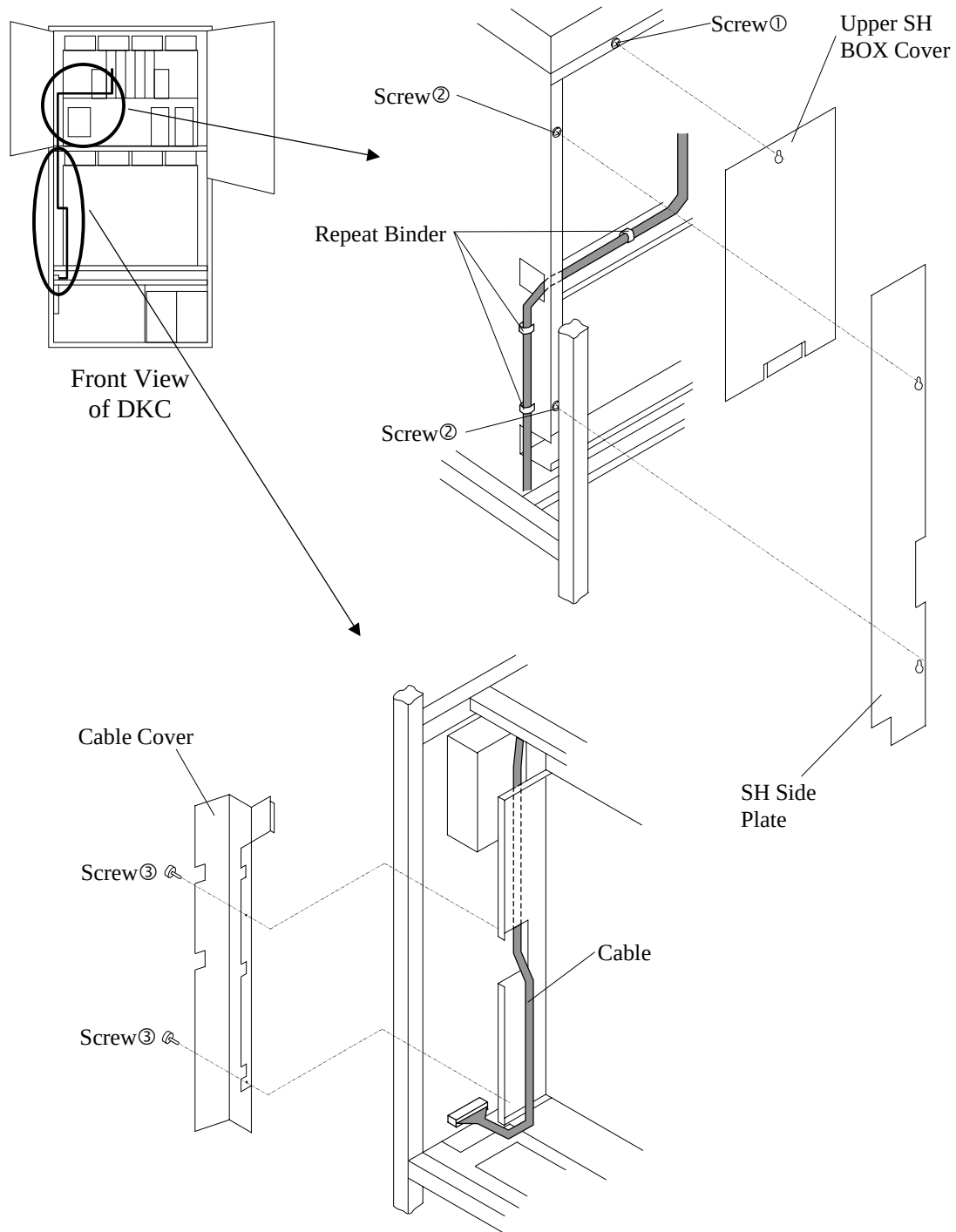


Fig. 4.8-9 Removal of Cable

6. Connect the AC Power Cables.

3 Phase Model

⚠ CAUTION

Perform the UPS Connection Kit with care
 Perform this procedure before connecting the AC Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breakers (CB101) located in the AC Boxes.

- a. Disconnect the AC power cables from the branch distribution box.

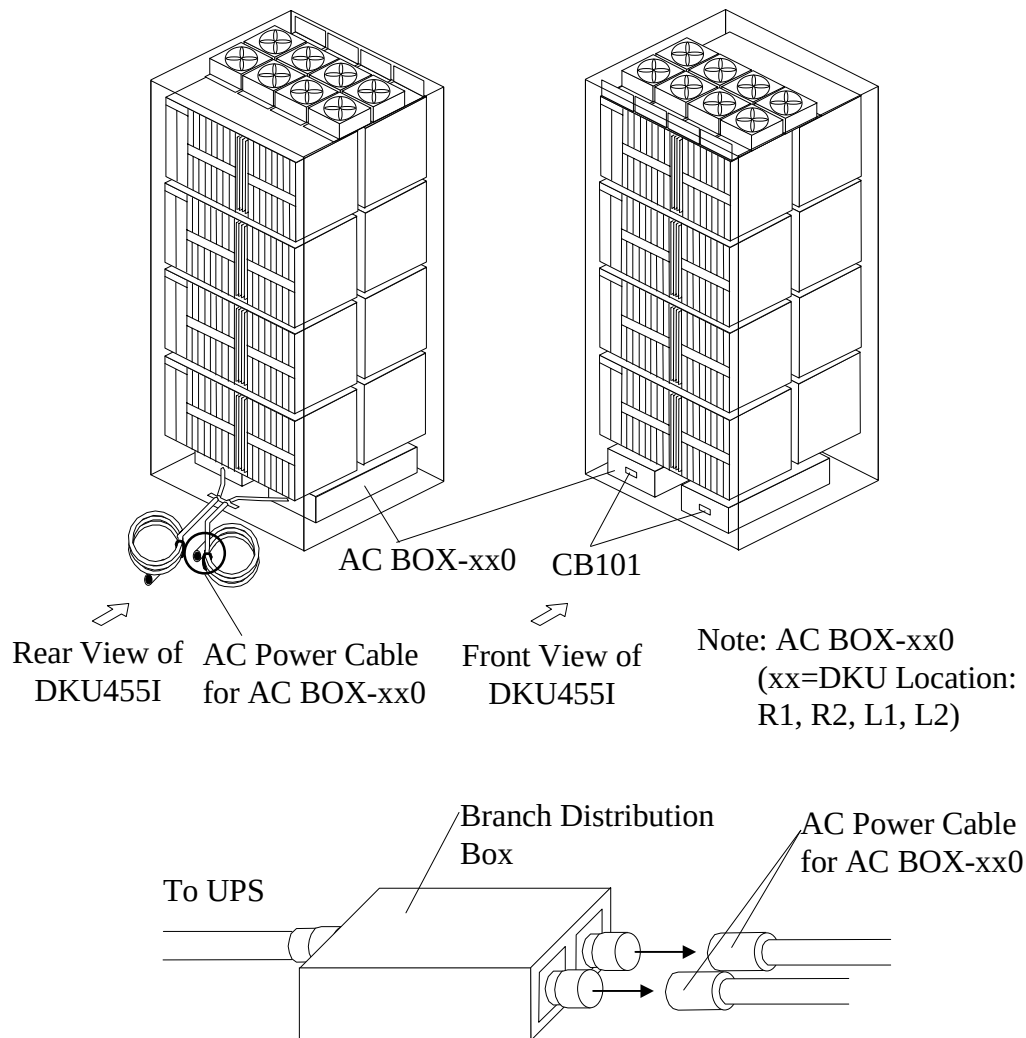


Fig. 4.8-10 Disconnection of AC Power Cables (3 Phase Model)

Single Phase Model



CAUTION

Perform the UPS Connection Kit with care
 Perform this procedure before connecting the AC Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breakers (CB200 and CB101) located in the AC Boxes.

- a. Disconnect the AC power cables from the branch distribution box.

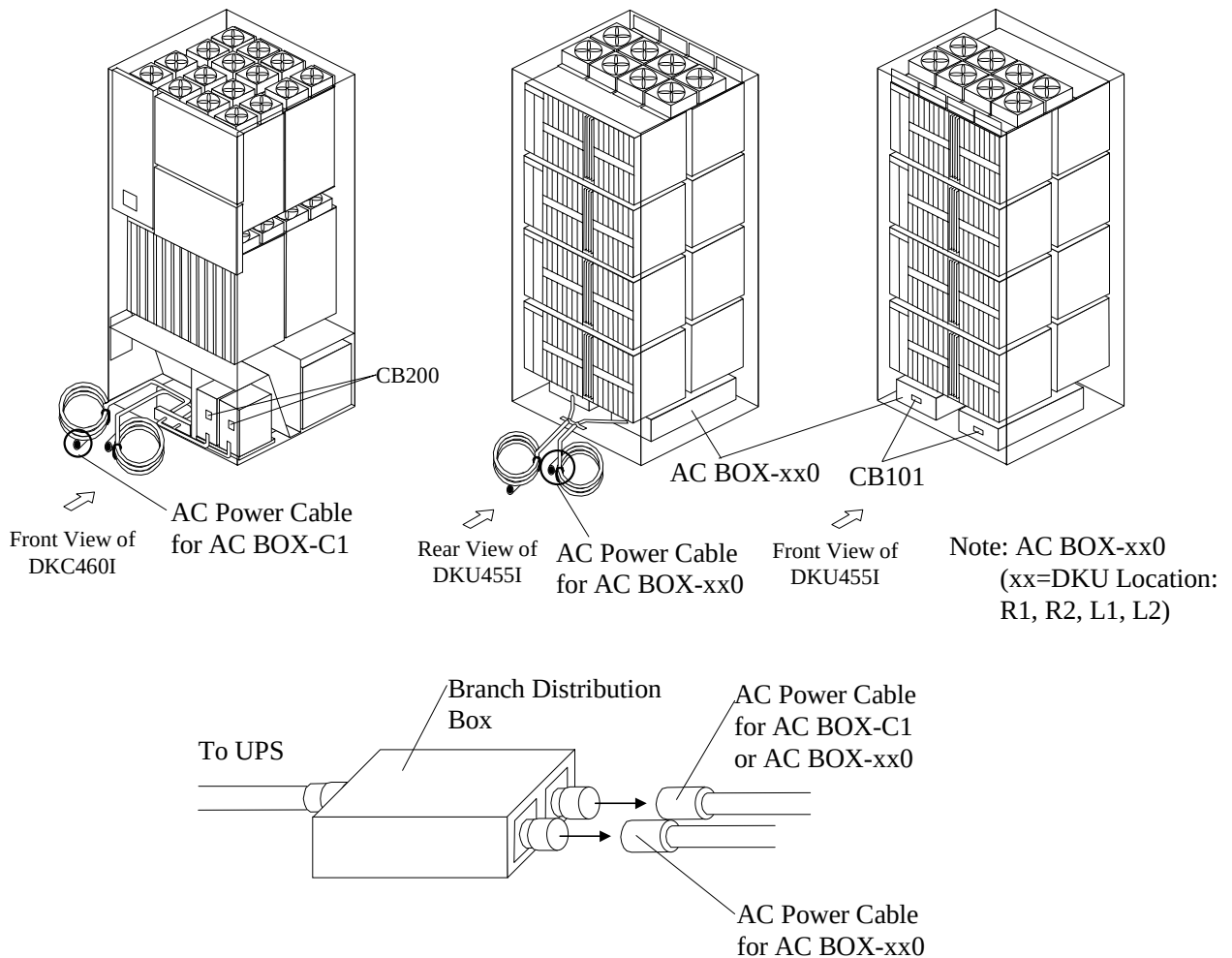


Fig. 4.8-11 Connection of AC Power Cables (Single Phase Model)

- b. Connect the AC power cables to the distribution board.

3 Phase Model

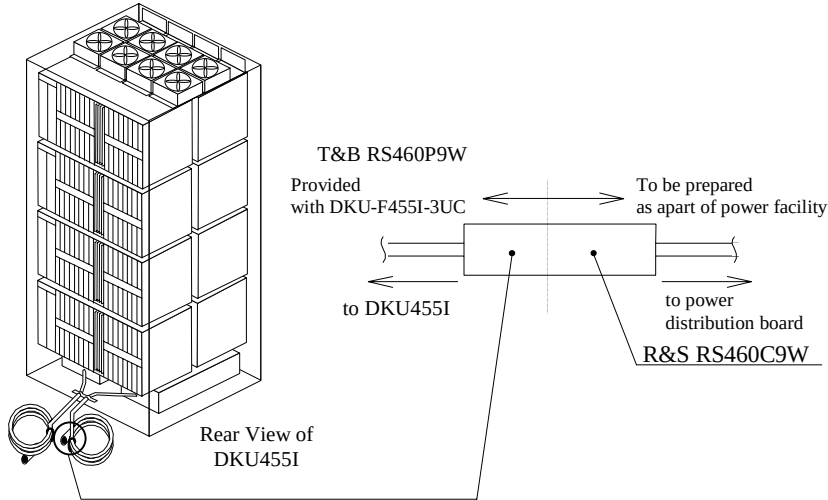


Fig. 4.8-12 Connection of AC Power Cables (3 Phase Model)

Single Phase Model

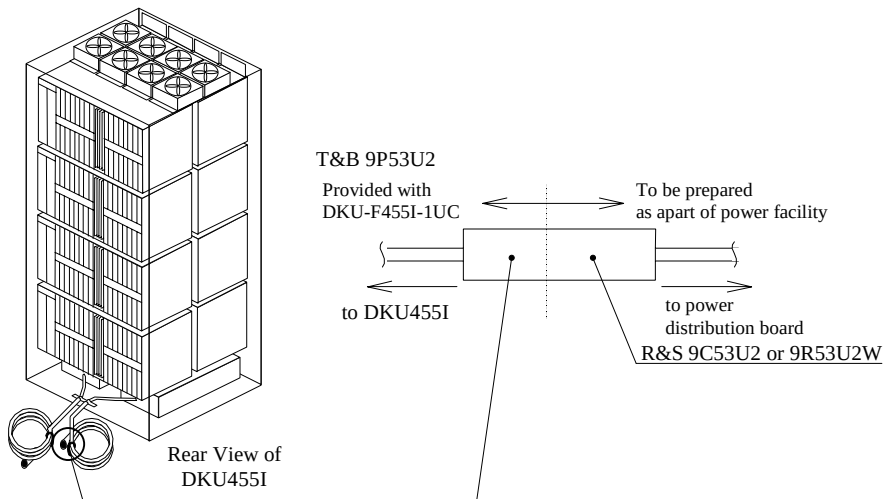
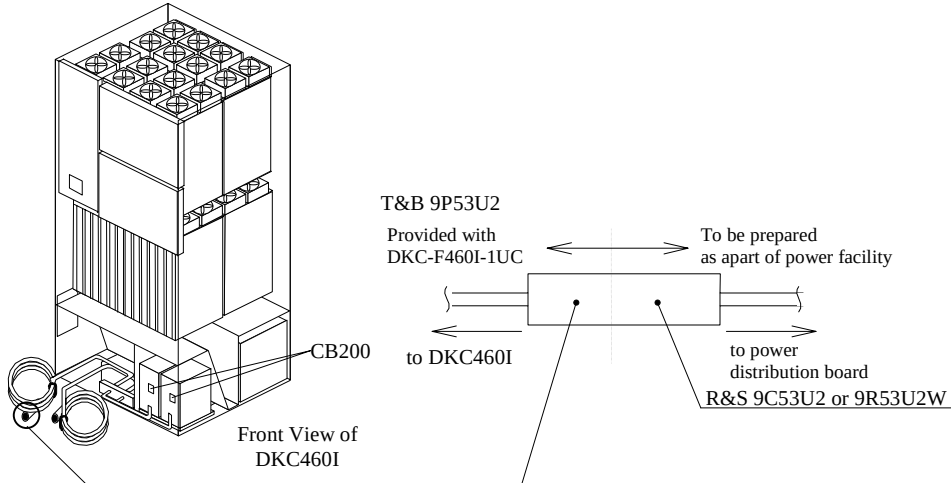


Fig. 4.8-13 Connection of AC Power Cables (Single Phase Model)

7. Remove the Nameplate
 - a. Remove the nameplate from the cover.

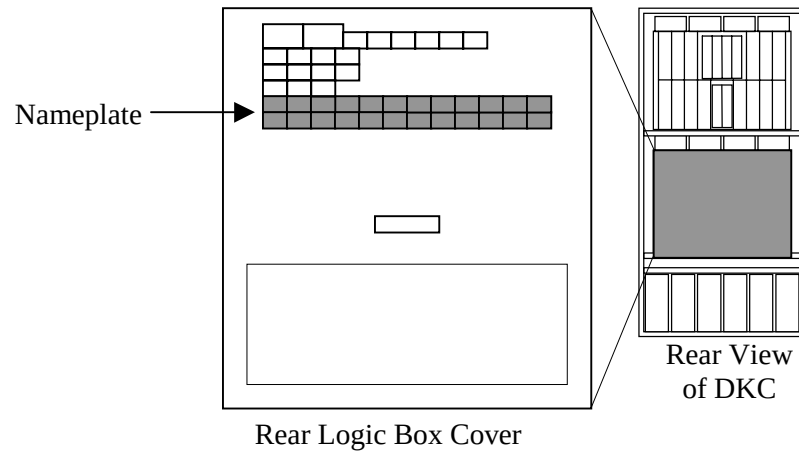


Fig. 4.8-14 Removal of Nameplate

1-8 Overview

Change the following system option when the system operates.

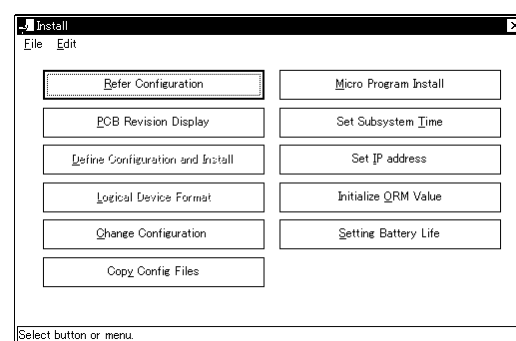
<1> PS Off Timer ----- The Destage time is effectively.

- OFF : The Destage time is effectively.
- ON : The Destage time is ineffectively, and change the Destage time.

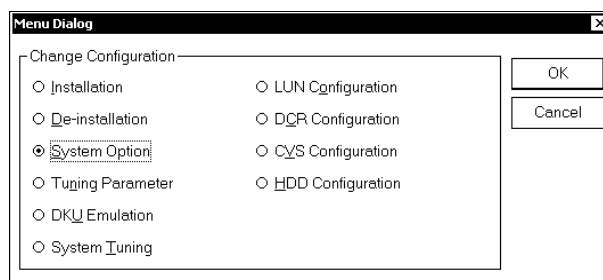
1-9 SVP procedure

(1) Select (CL) [Install].

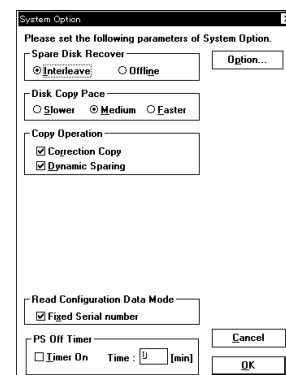
(2) Select (CL) the [Change Configuration] menu in the 'Install' window.



(3) Select (CL) the [System Option] menu in the 'Menu Dialog' window and select (CL) [OK].

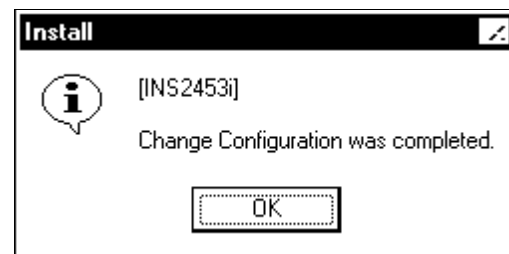


- (4) Release [Timer On] check box in the column 'PS Off Timer', and then select (CL) [OK].

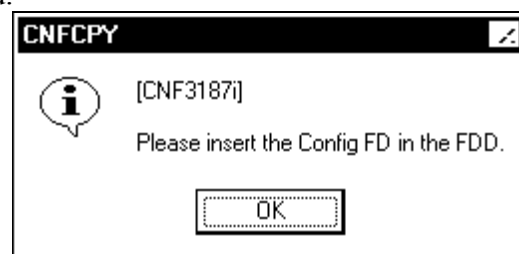


- (5) "Loading configuration..." is displayed.

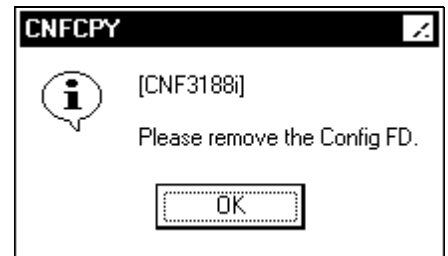
- (6) "Change configuration was completed." is displayed.
Select (CL) [OK].



- (7) "Reading subsystem configuration data..." is displayed.
"Please insert the Config FD in the FDD." is displayed.
Insert the configuration FD into FDD, select (CL) [OK].



- (8) When this procedure is completed, the message “Please remove the Config FD.” is displayed. Remove the FD, select (CL) [OK].



- (9) Close the 'Install' window.

4.9 De-Installation of Power Cable Kit

4.9.1 De-Installation of Power Cable Kit for 3 Phase/60A or Single Phase/50A (DKU-F455I-1EC/1UC/3EC/3UC)

CAUTION

Perform The Power Cable Kit with care.
This Power Cable Kit is concerned with Primary Circuit.
Perform this procedure before connecting the Power Cable.
(Turn off the circuit breakers on the power distribution panel)
Turn off the main circuit breaker CB101 located in the AC Box.

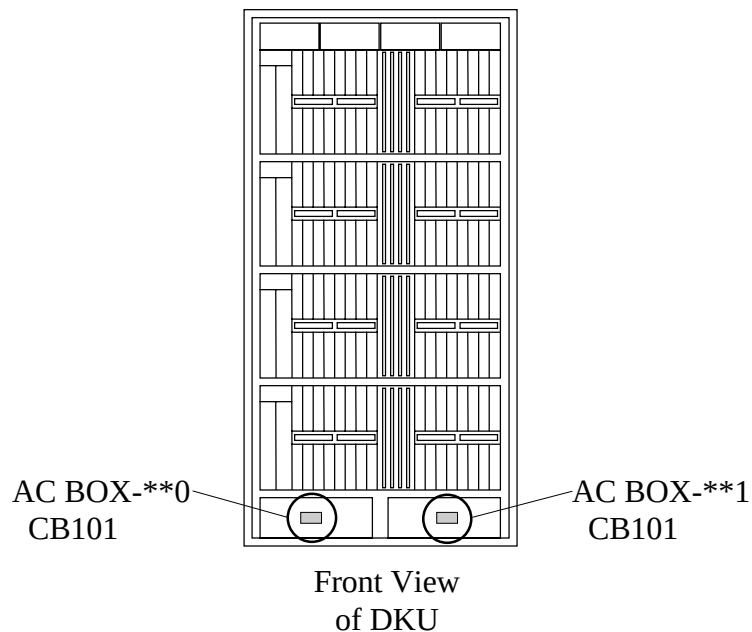


Fig. 4.9.1-1 Location of the Circuit Breakers

Table 4.9.1-1 Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-**0	CB101	
2	AC BOX-**1	CB101	

Table 4.9.1-2 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3UC	Power Cable Assy (IU)	3263010-A	1	
		Nameplate (HDS)	2105913-1/3	1	RSD/HICAM
		Nameplate (HP)	2105913-9/11	1	RSD/HICAM
2	DKU-F455I-3EC	Power Cable Assy (IE)	3263010-B	1	
		Nameplate (HDS)	2105913-2/4	1	RSD/HICEF
		Nameplate (HP)	2105913-10/12	1	RSD/HICEF
3	DKU-F455I-1UC	Power Cable Assy (IU)	3263485-A	1	
		Nameplate (HDS)	2105913-17/19	1	RSD/HICAM
		Nameplate (HP)	2105913-25/27	1	RSD/HICAM
4	DKU-F455I-1EC	Power Cable Assy (IE)	3263485-B	1	
		Nameplate (HDS)	2105913-18/20	1	RSD/HICEF
		Nameplate (HP)	2105913-26/28	1	RSD/HICEF

1. Disconnect the Power Cable.
 - a. Remove the terminal block covers. Remove the screws from the terminal blocks.

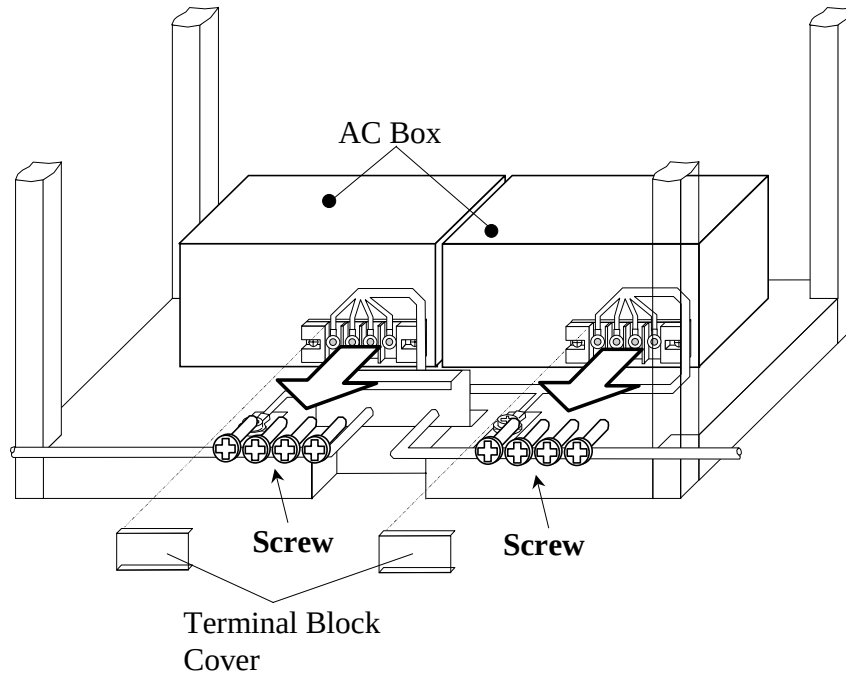


Fig. 4.9.1-1 Removal of Screws (DKU-F455I-3EC)

- b. Remove the frame ground cable for each AC power cable from the frame.

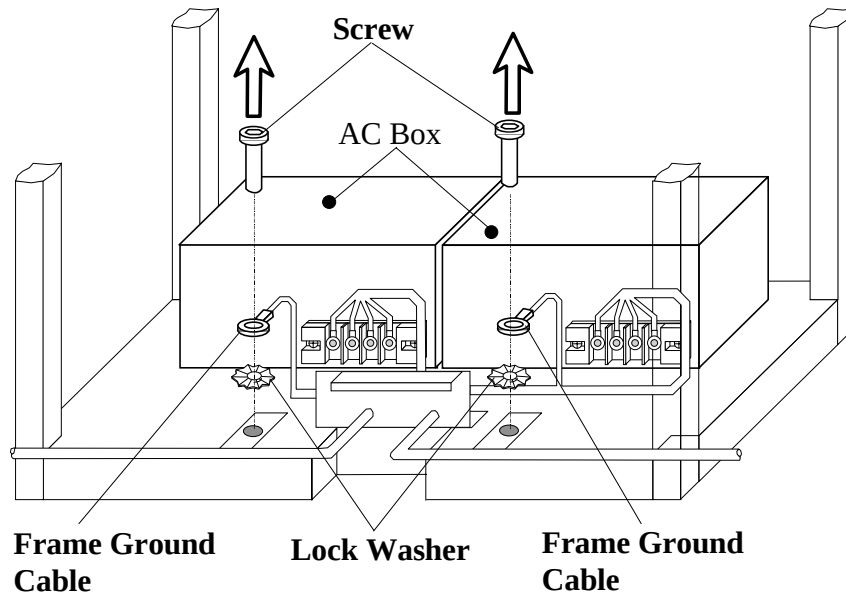


Fig. 4.9.1-2 Removal of Frame Ground Cable (DKU-F455I-3EC)

- c. Loosen the screws and remove the Power Cable.

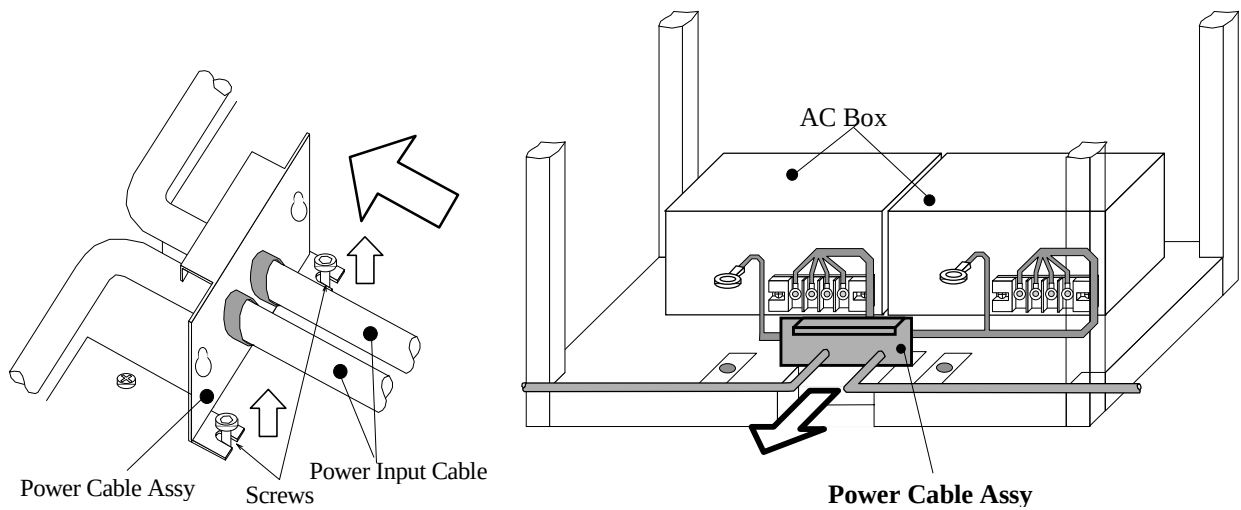


Fig. 4.9.1-3 Removal of Power Cable

2. Remove the Nameplate.
a. Remove the nameplate from the power cable Assy.

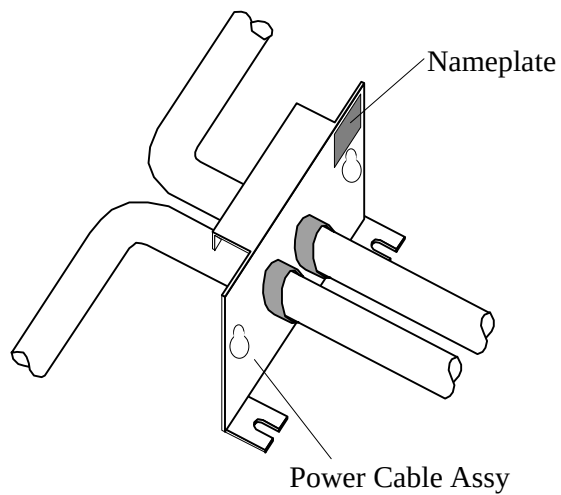


Fig. 4.9.1-4 Removal of Nameplate

4.9.2 De-Installation of Power Cable Kit for Single Phase/50A (DKC-F460I-1EC/1UC)

Table 4.9.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1UC	Power Cable ASSY	3264044-A	1	
		Screw	SB408N	4	
		Nameplate (HDS)	2105902-121	1	RSD
			2105903-121		HICAM
			2105903-221		HICEF
		Nameplate (HP)	2105902-221	1	RSD
			2105903-321		HICAM
			2105903-421		HICEF
2	DKC-F460I-1EC	Power Cable ASSY	3264044-B	1	
		Screw	SB408N	4	
		Nameplate (HDS)	2105902-120	1	RSD
			2105903-120		HICAM
			2105903-220		HICEF
		Nameplate (HP)	2105902-220	1	RSD
			2105903-320		HICAM
			2105903-420		HICEF

1. Remove the Power Cable ASSY.
 - a. Loosen the two screws and remove the cover.

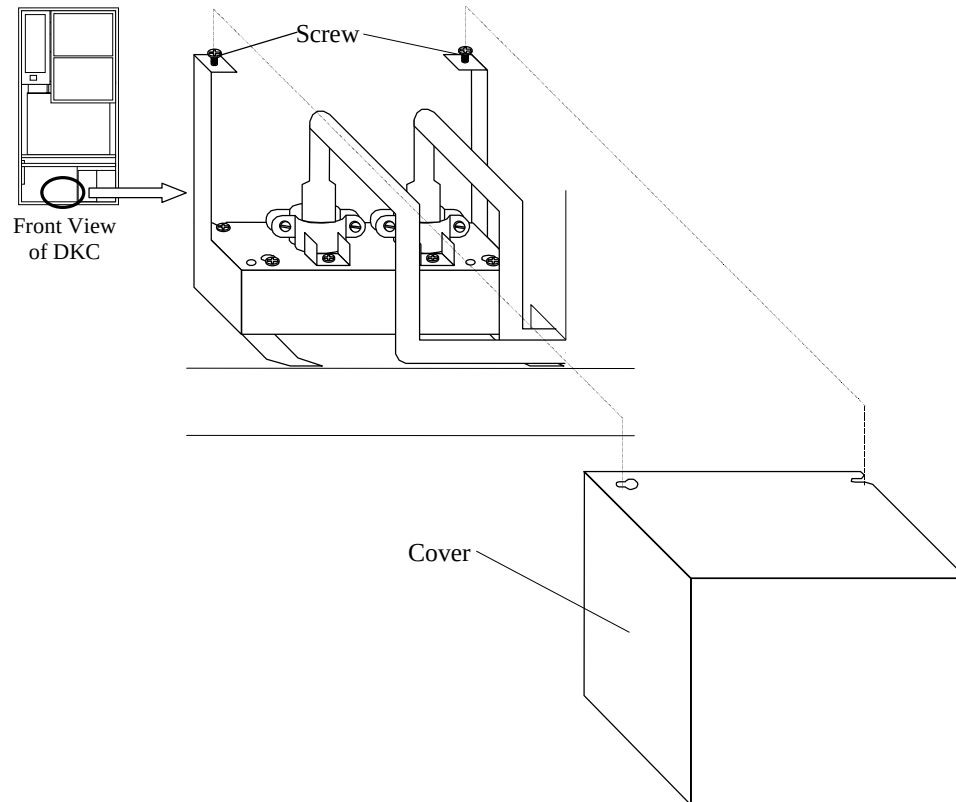


Fig. 4.9.2-1 Removal of Cover

- b. Remove the terminal block covers from the AC Boxes.
- c. Loosen the six screws and remove the AC power cables from the AC Boxes.
- d. Attach the terminal block covers to AC Boxes.
- e. Open the two repeat binders.

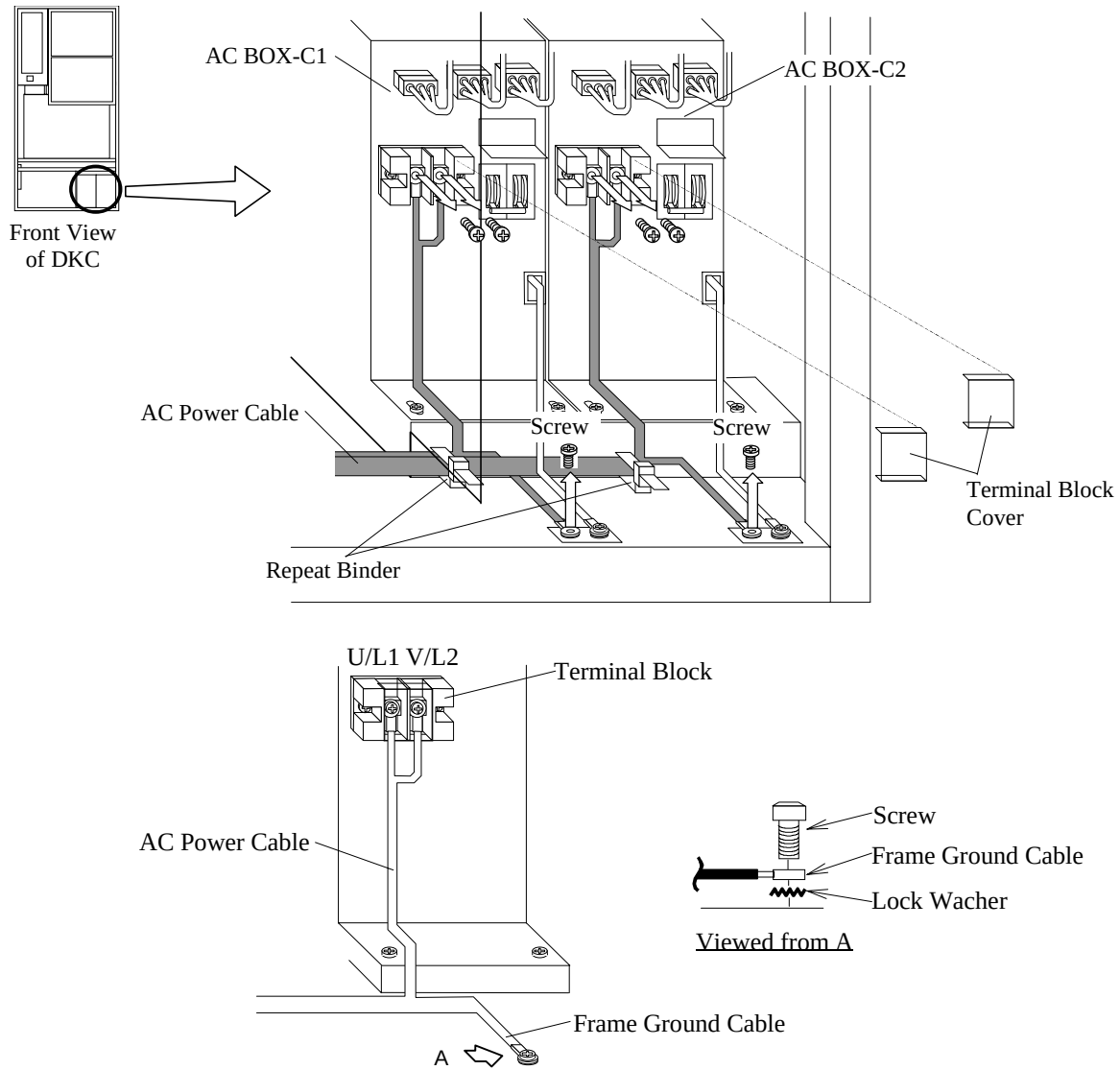


Fig. 4.9.2-2 Removal of AC Power Cables

- f. Loosen the two screws and remove the Power Cable Unit.

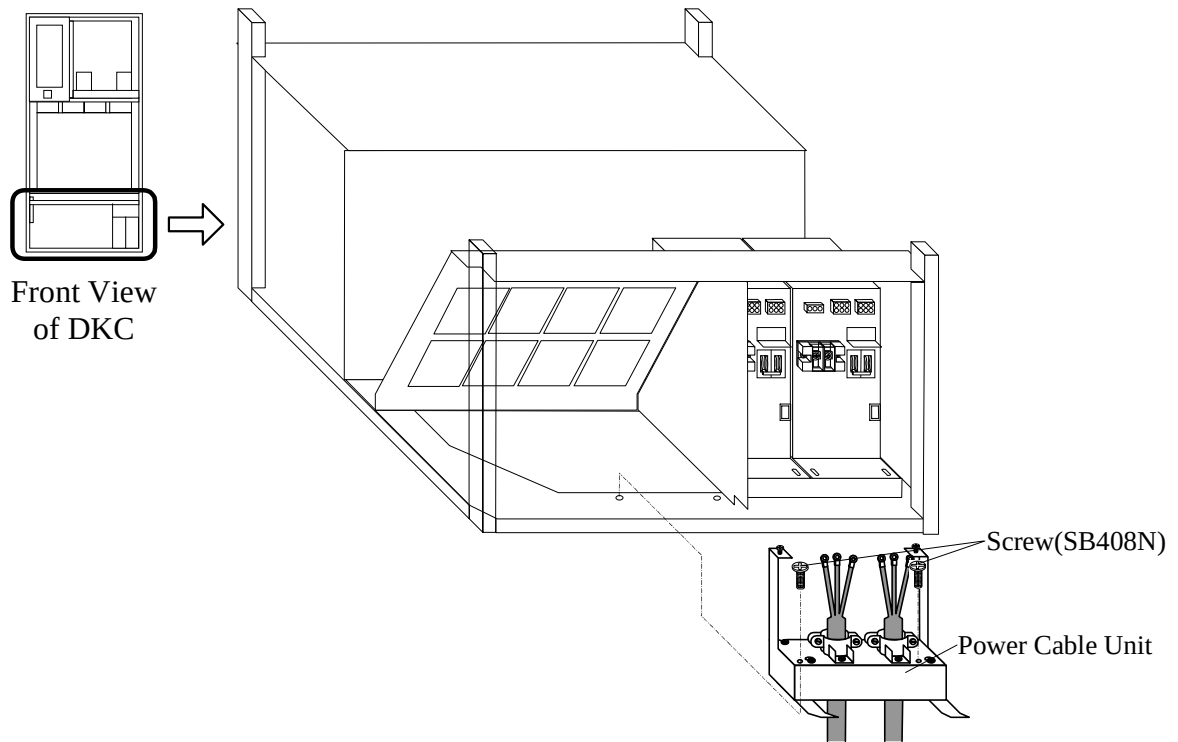


Fig. 4.9.2-3 Removal of Power Cable Unit

2. Remove the Nameplate.
- a. Remove the nameplate from the cover.

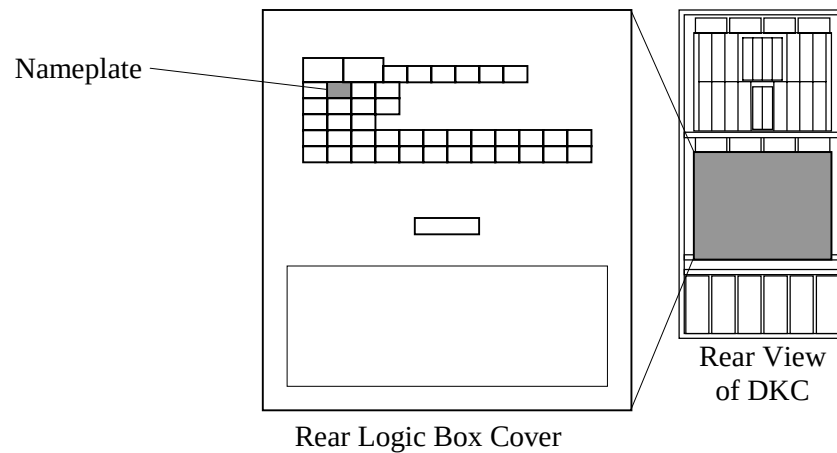


Fig. 4.9.2-4 Removal of Nameplate

4.9.3 De-Installation of Power Cable Kit for Single Phase/30A or 3 Phase/30A (DKC-F460I-3ECD/3UCD/1ECD/1UCD)

Table 4.9.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1UCD	Power Cable Unit	3265665-A	1	
		Screw	SB408N	2	
		Screw	SB510N	4	
		Toothed Washer	WT005N	4	
		Nameplate (HDS)	2105902-131	1	RSD
			2105903-131/231		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
2	DKC-F460I-1ECD	Power Cable Unit	3265664-A	1	
		Screw	SB408N	2	
		Screw	SB510N	4	
		Toothed Washer	WT005N	4	
		Nameplate (HDS)	2105902-130	1	RSD
			2105903-130/230		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
3	DKC-F460I-3UCD	Power Cable Unit	3265683-A	1	
		Screw	SB408N	2	
		Screw	SB510N	2	
		Toothed Washer	WT005N	2	
		Nameplate (HDS)	2105902-134	1	RSD
			2105903-134/234		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF
4	DKC-F460I-3ECD	Power Cable Unit	3265682-A	1	
		Screw	SB408N	2	
		Screw	SB510N	2	
		Toothed Washer	WT005N	2	
		Nameplate (HDS)	2105902-133	1	RSD
			2105903-133/233		HICAM/HICEF
		Nameplate (HP)	—	1	RSD
			—		HICAM/HICEF

4.9.3.1 When the Power Cable Kit is removed from the DKU

CAUTION

Perform the Power Cable Kit with care.
 This Power Cable Kit is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB101 located in the AC Box.

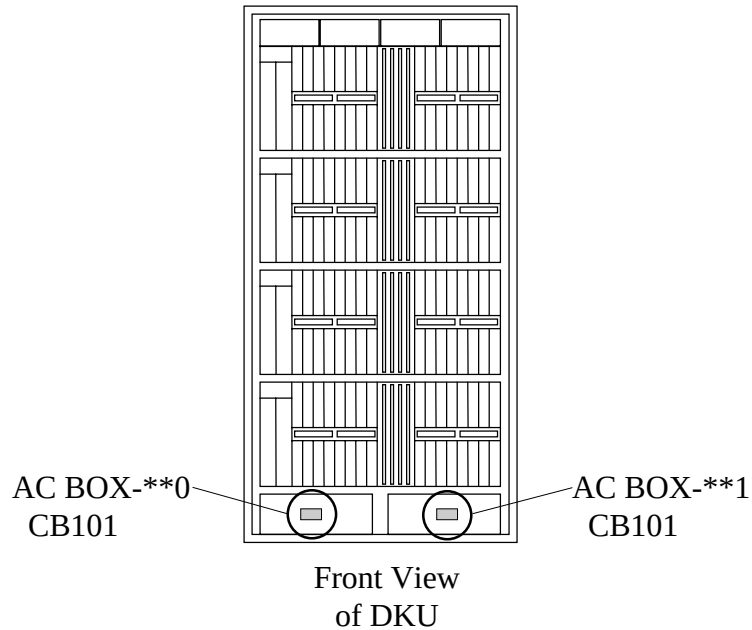


Fig. 4.9.3.1-1 Location of the Circuit Breakers

Table 4.9.3.1-1 Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-**0	CB101	
2	AC BOX-**1	CB101	

1. Disconnect the Power Cable.
 - a. Remove the terminal block covers. Remove the screws from the terminal blocks.

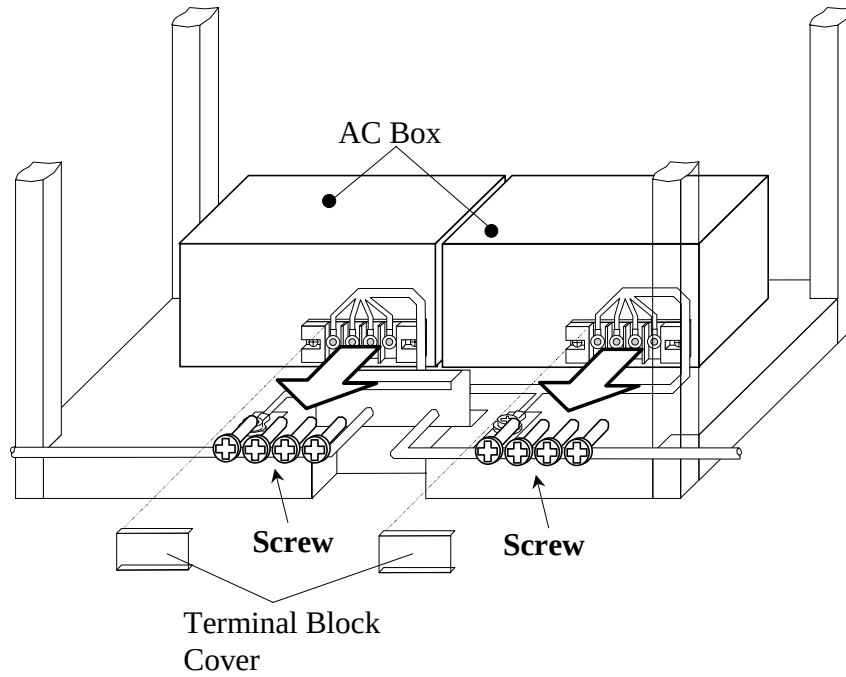


Fig. 4.9.3.1-2 Removal of Screws

- b. Remove the frame ground cable for each AC power cable from the frame.

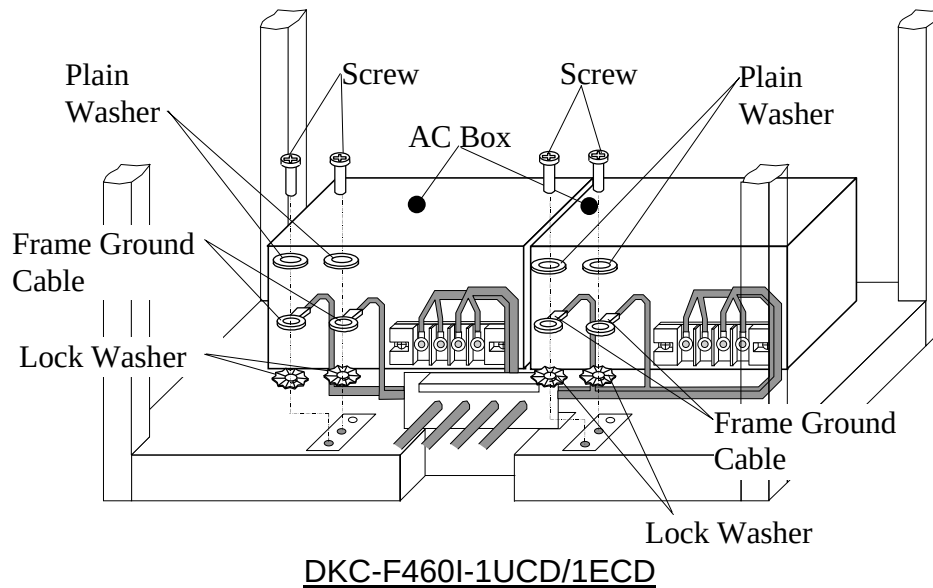
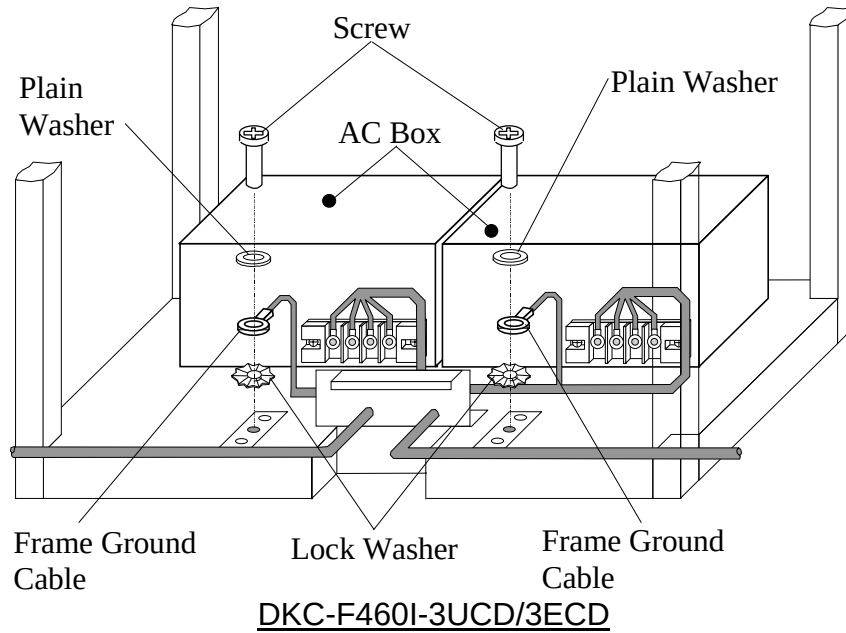


Fig. 4.9.3.1-3 Removal of Frame Ground Cable

c. Loosen the screws and remove the Power Cable Assy.

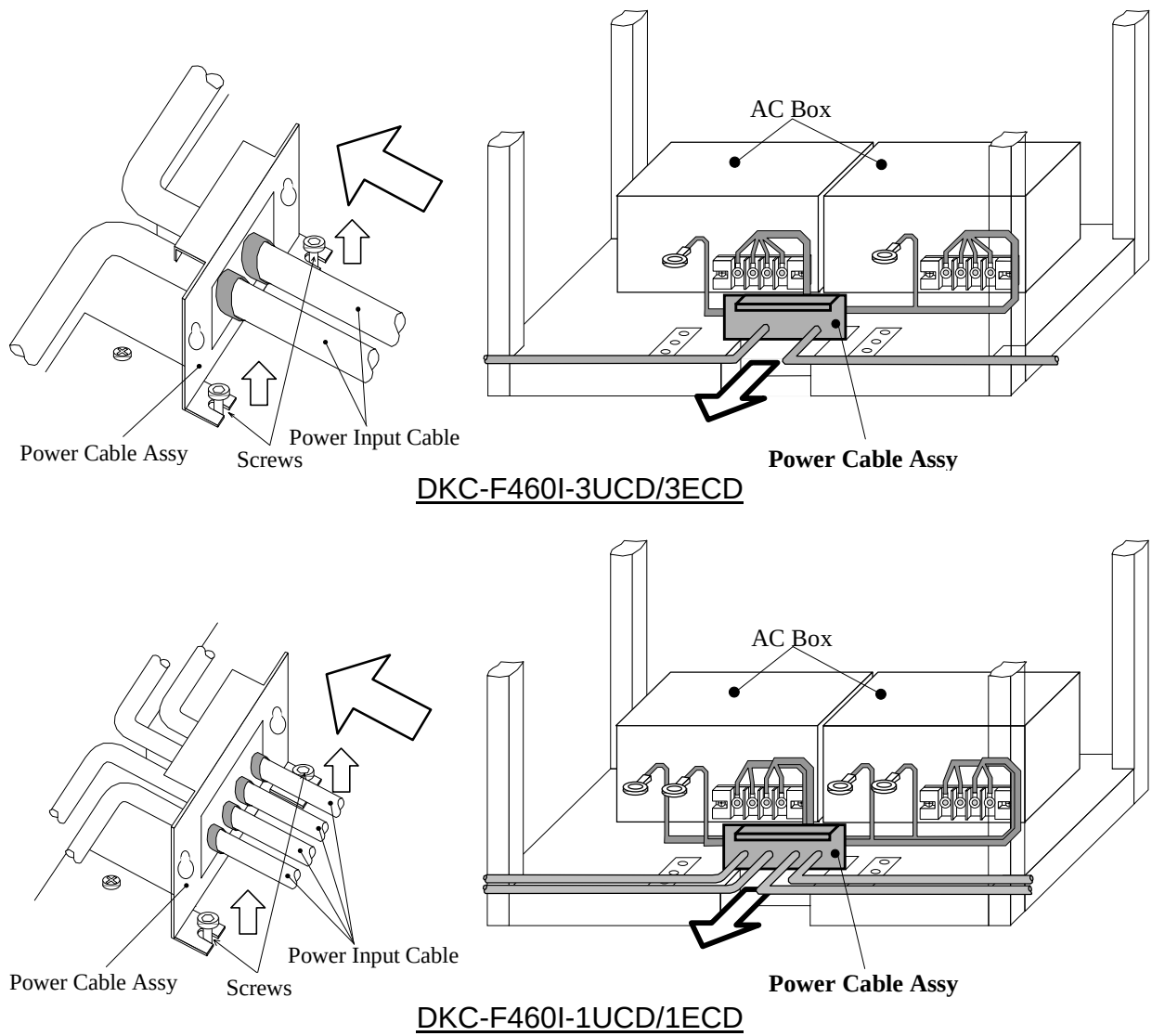
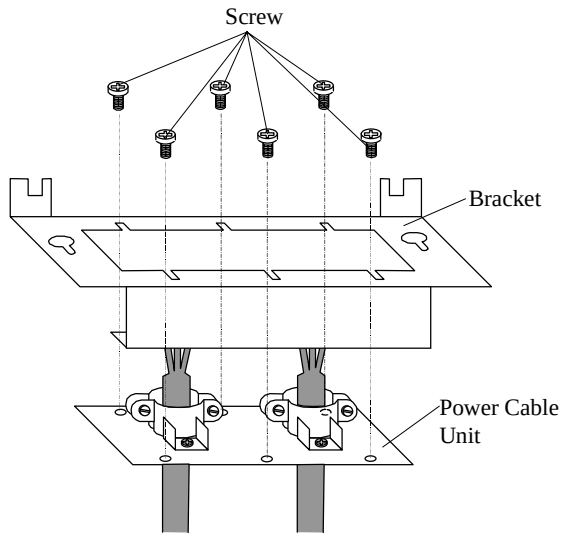


Fig. 4.9.3.1-4 Removal of Power Cable Assy

- d. Remove the screws and remove the power cable unit from the bracket.

DKC-F460I-3ECD/3UCD



DKC-F460I-1ECD/1UCD

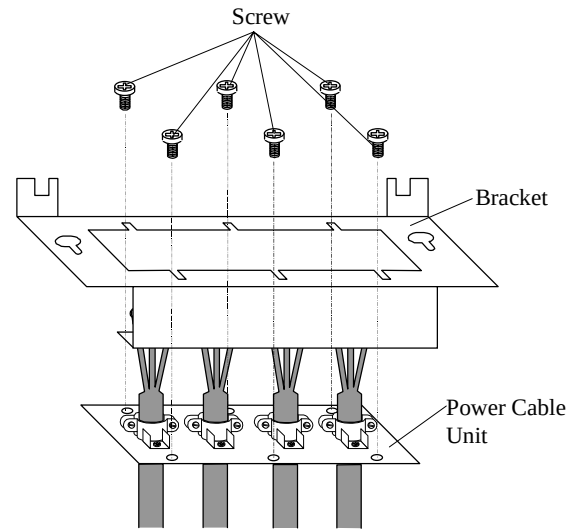


Fig. 4.9.3.1-5 Removal of Power Cable Unit

2. Remove the Nameplate.
a. Remove the nameplate from the bracket.

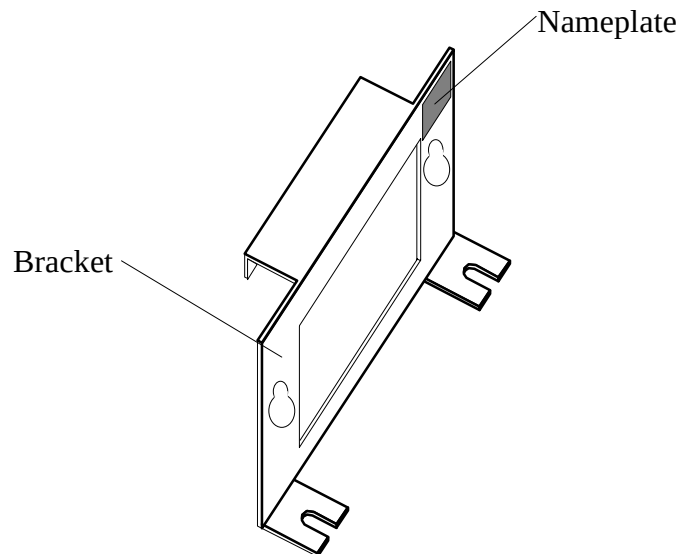


Fig. 4.9.3.1-6 Removal of Nameplate

4.9.3.2 When the Power Cable Kit is removed from the DKC

CAUTION

Perform the Power Cable Kit with care.
 This Power Cable Kit is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB200 located in the AC Box.

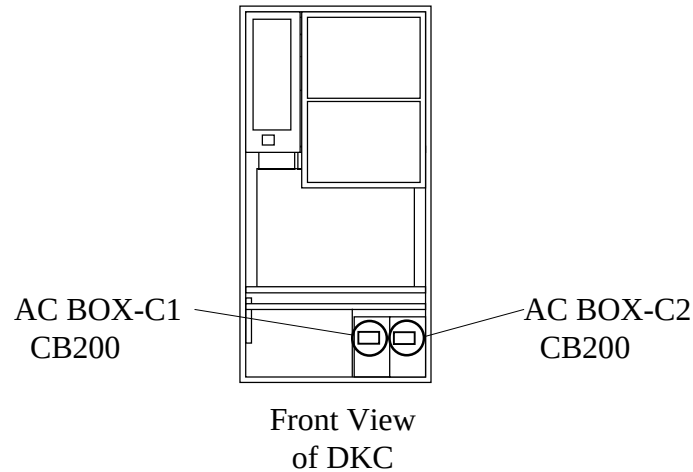


Fig. 4.9.3.2-1 Location of the Circuit Breakers

Table 4.9.3.2-1 Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-C1	CB200	
2	AC BOX-C2	CB200	

1. Remove the AC Power Cables.
 - a. Loosen the two screws and remove the cover.

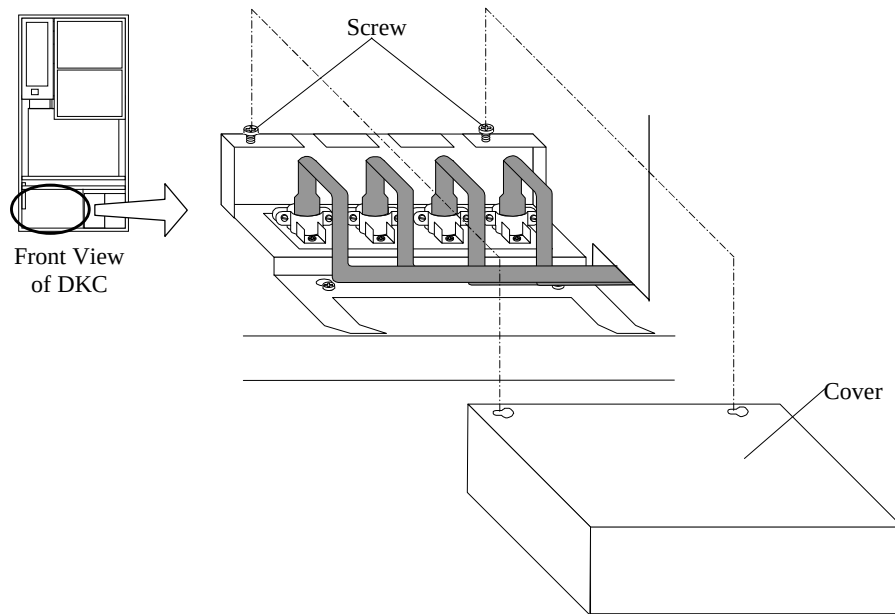
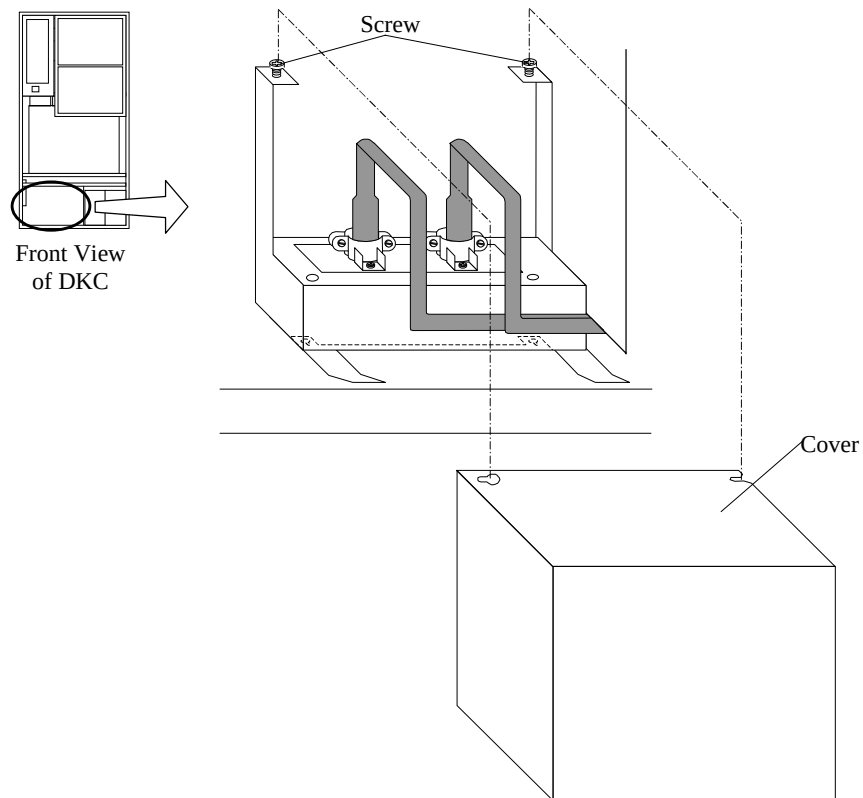
DKC-F460I-1ECD/1UCD**DKC-F460I-3ECD/3UCD**

Fig. 4.9.3.2-2 Removal of Cover

DKC-F460I-1UCD/1ECD

- b. Remove the terminal block covers from the AC Boxes.
- c. Loosen the twelve screws and remove the AC power cables from the AC Boxes.
- d. Attach the terminal block covers to AC Boxes.
- e. Open the two repeat binders.

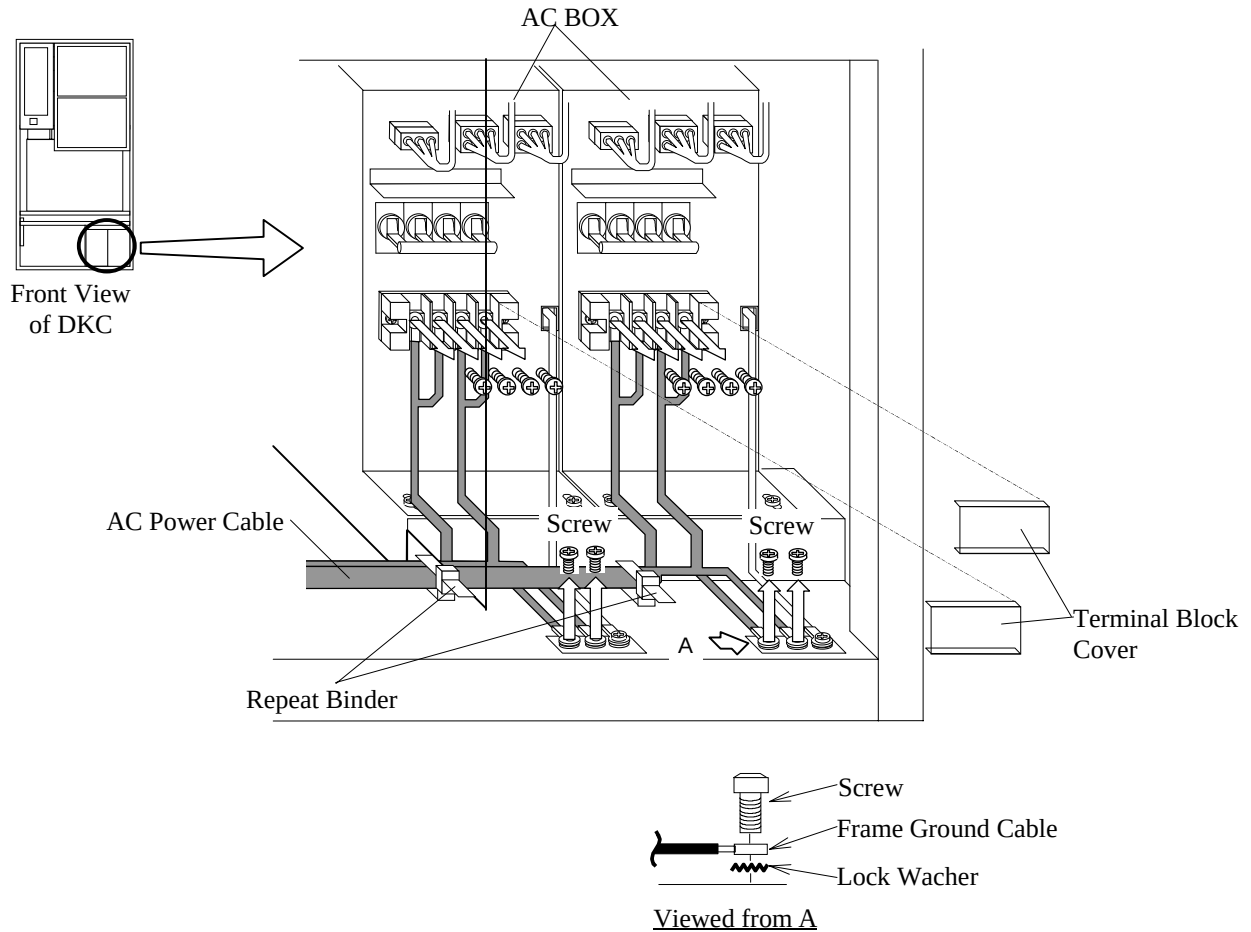


Fig. 4.9.3.2-3 Removal of AC Power Cables

DKC-F460I-3UCD/3ECD

- b. Remove the terminal block covers from the AC Boxes.
- c. Loosen the ten screws and remove the AC power cables from the AC Boxes.
- d. Attach the terminal block covers to AC Boxes.
- e. Open the two repeat binders.

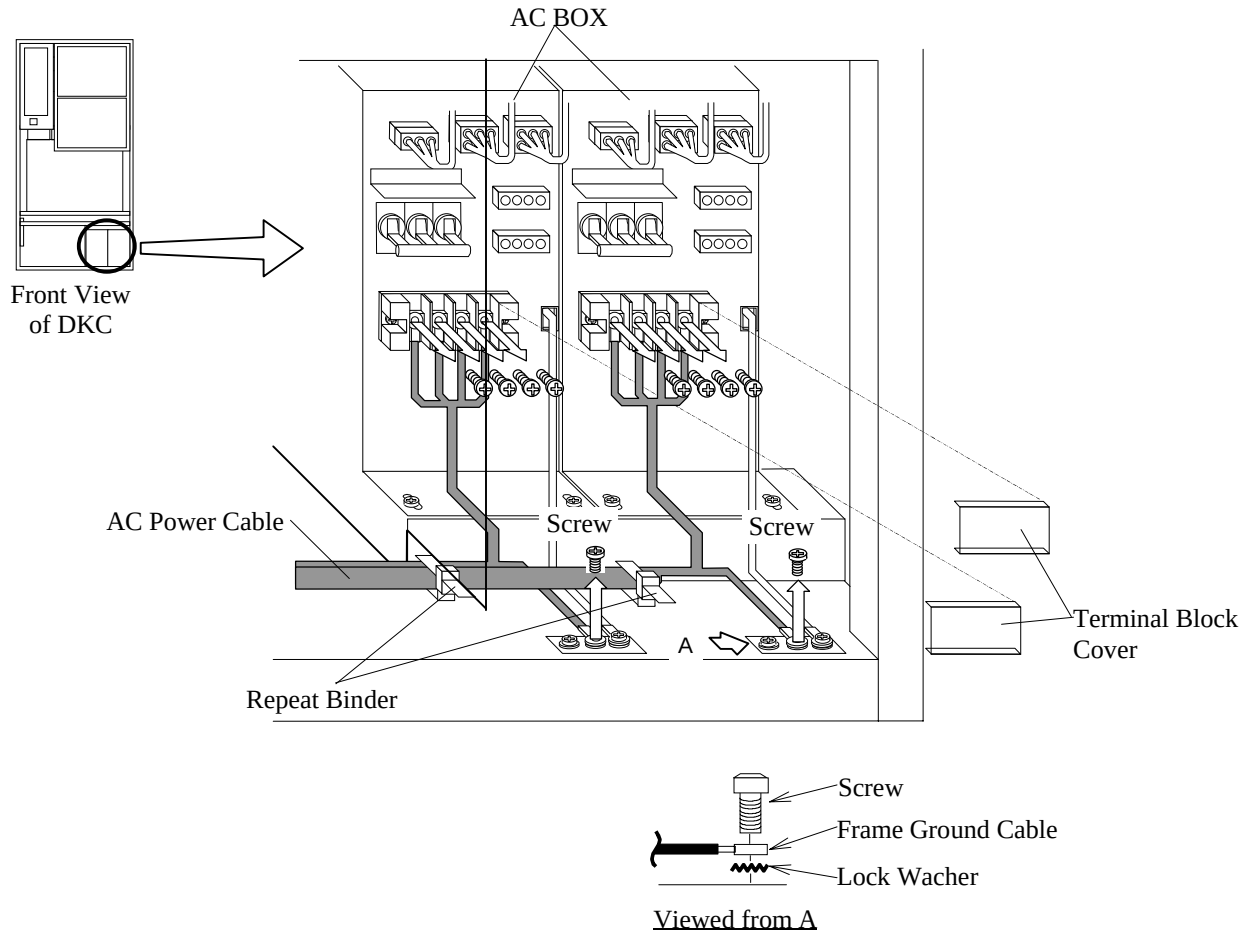
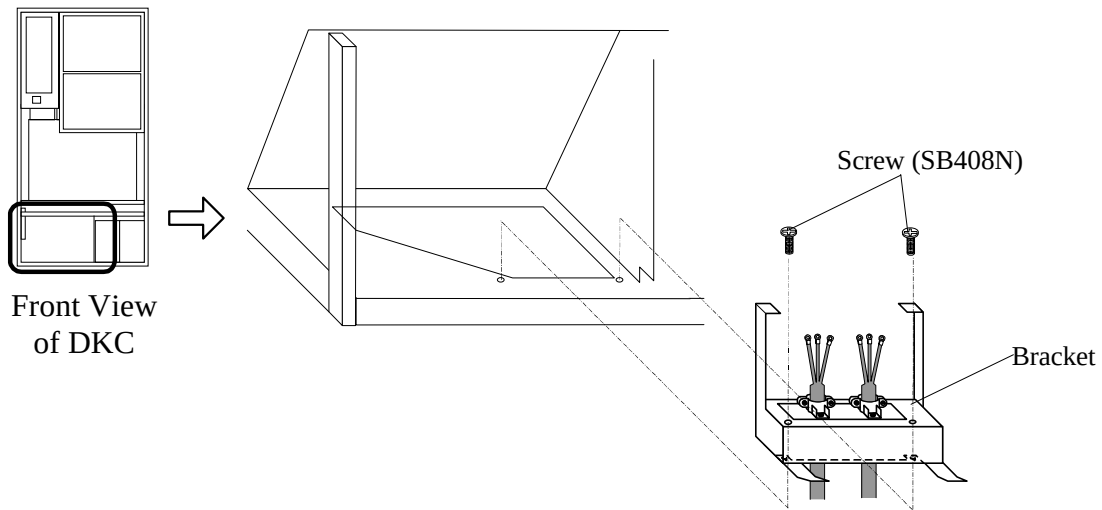


Fig. 4.9.3.2-4 Removal of AC Power Cables

2. Remove the Power Cable Unit.
 - a. Loosen the two screws and remove the bracket.

DKC-F460I-3ECD/3UCD



DKC-F460I-1ECD/1UCD

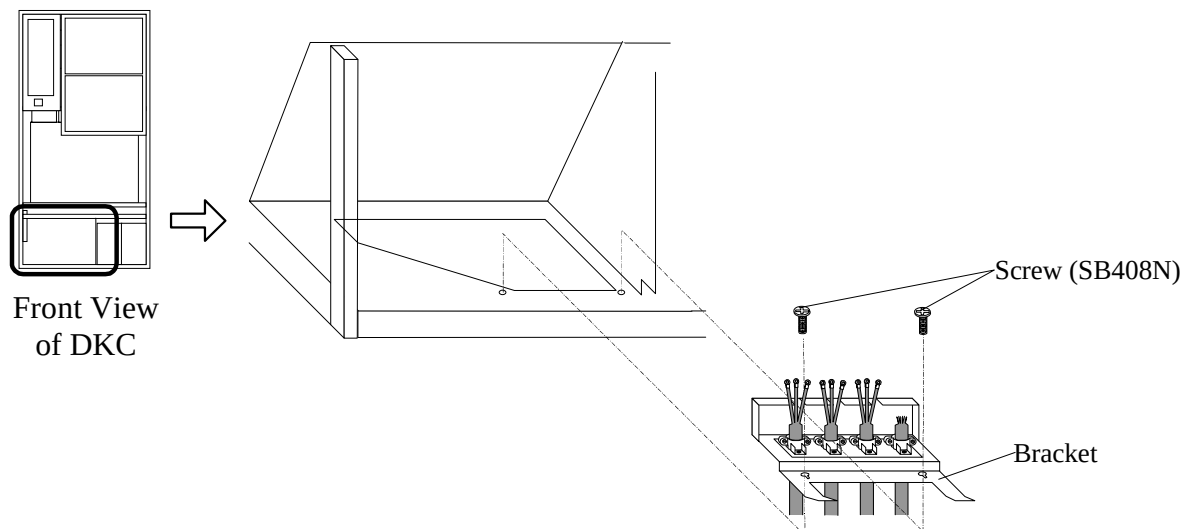
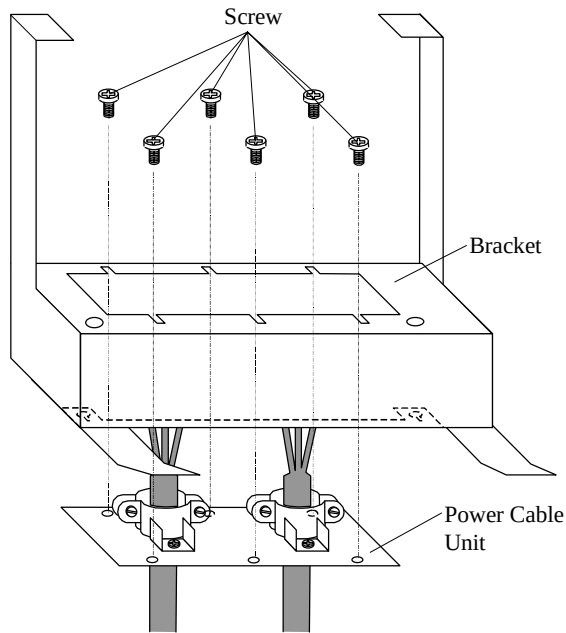


Fig. 4.9.3.2-5 Removal of Bracket

- b. Remove the six screws and remove the power cable unit from the bracket.

DKC-F460I-3ECD/3UCD



DKC-F460I-1ECD/1UCD

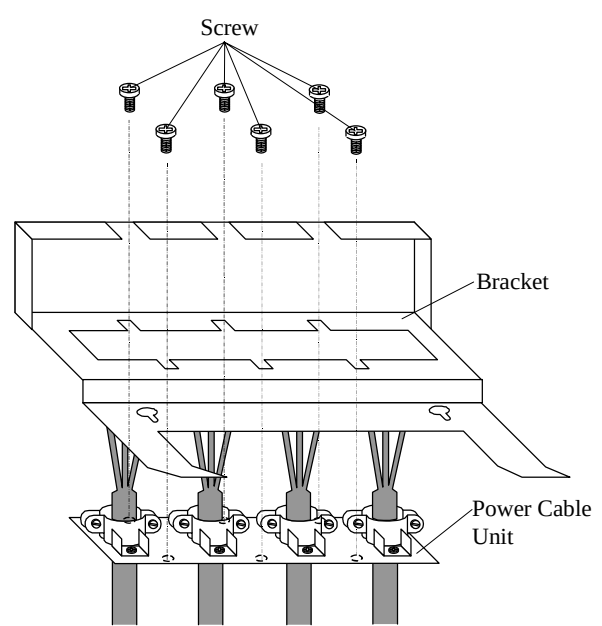


Fig. 4.9.3.2-6 Removal of Power Cable Unit

3. Remove the Nameplate.

- a. Remove the nameplate from the Rear Logic Box cover.

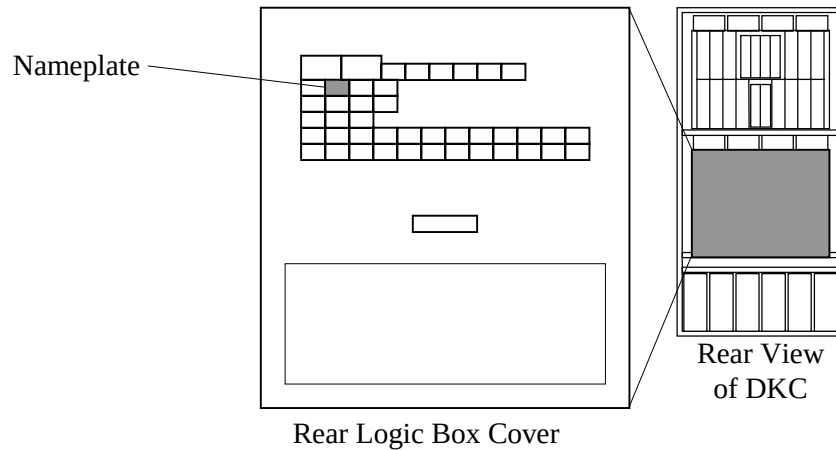


Fig. 4.9.3.2-7 Removal of Nameplate

4.10 De-Installation of AC Box Kit

4.10.1 De-Installation of AC Box Kit for Single Phase/50A or 3 Phase/60A (DKU-F455I-1PS/3PS)

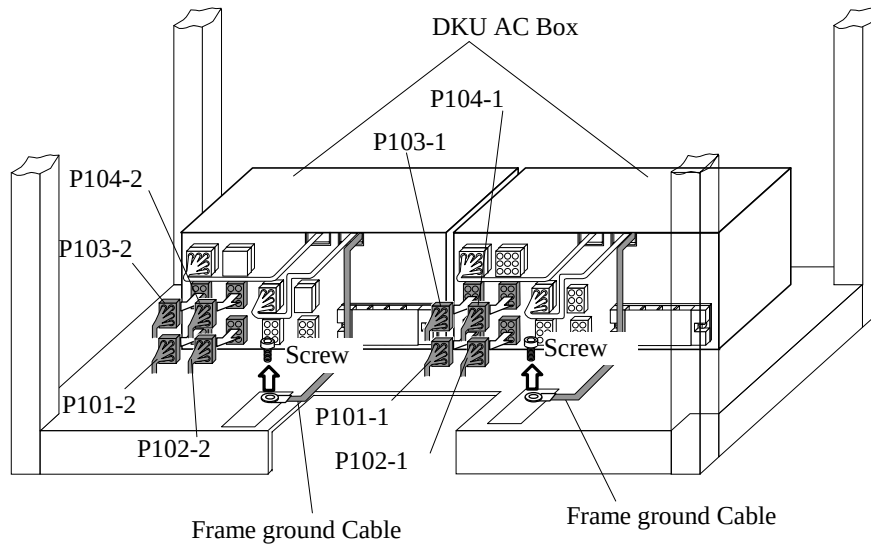
Table 4.10.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3PS	DKU AC Box	5513851-A	2	
		Nameplate (HDS)	2105912-1/2/3	1	RSD/HICAM/HICEF
		Nameplate (HP)	2105912-7/8/9	1	RSD/HICAM/HICEF
2	DKU-F455I-1PS	DKU AC Box	5513852-A	2	
		Nameplate (HDS)	2105912-21/22/23	1	RSD/HICAM/HICEF
		Nameplate (HP)	2105912-27/28/29	1	RSD/HICAM/HICEF

1. Disconnect the Cables.

DKU-F455I-3PS

- Remove the screws and remove the frame ground cables.
- Disconnect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) from the DKU AC Boxes.

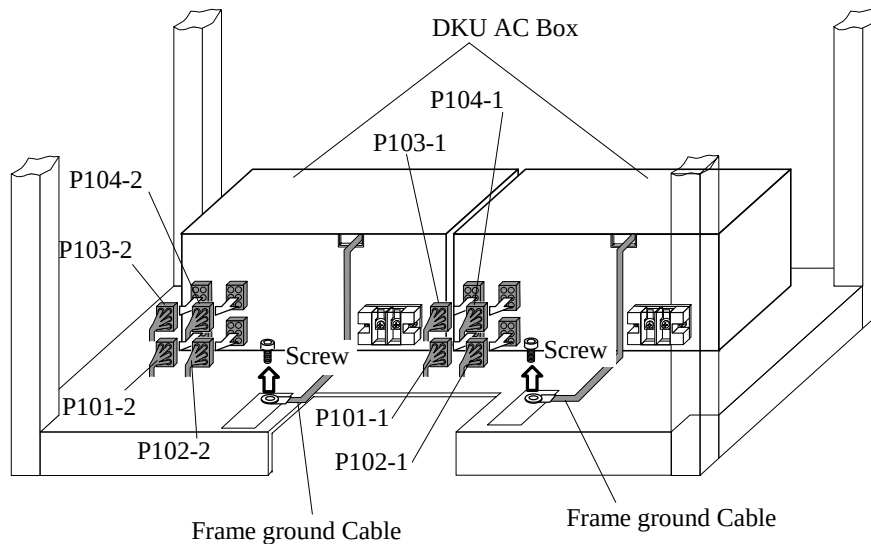


Rear View

Fig. 4.10.1-1 Disconnection of Cables

DKU-F455I-1PS

- Remove the screws and remove the frame ground cables.
- Disconnect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) from the DKU AC Boxes.



Rear View

Fig. 4.10.1-2 Disconnection of Cables

2. Remove the plate.
 - a. Remove the two screws and remove the plate.

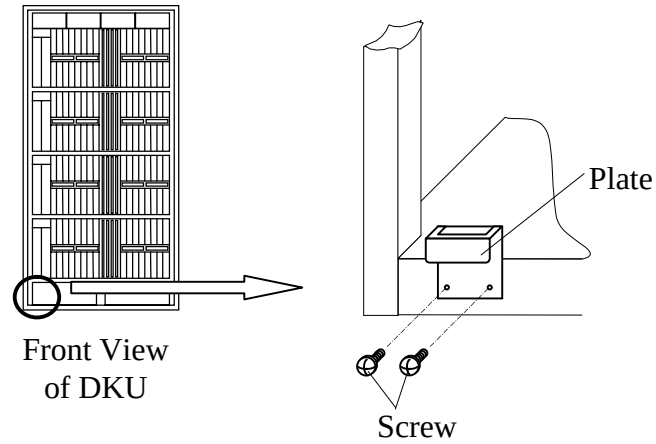


Fig. 4.10.1-3 Remove of Plate

3. Remove the DKU AC Boxes.
 - a. Remove the screws from the DKU AC Boxes.

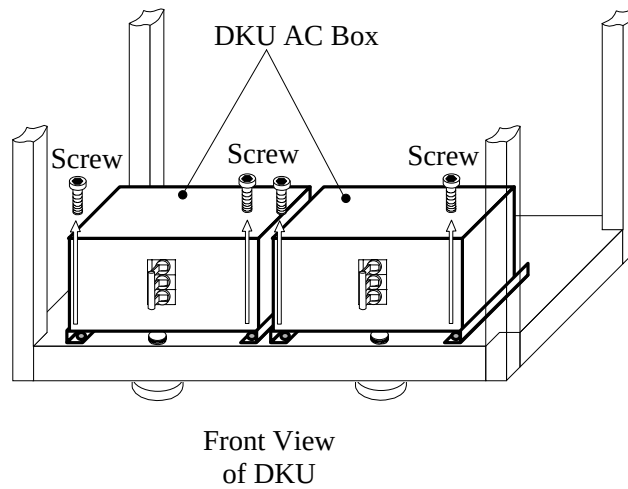


Fig. 4.10.1-4 Removal of Screws

- b. Slide the DKU AC Boxes from the rear to the front.

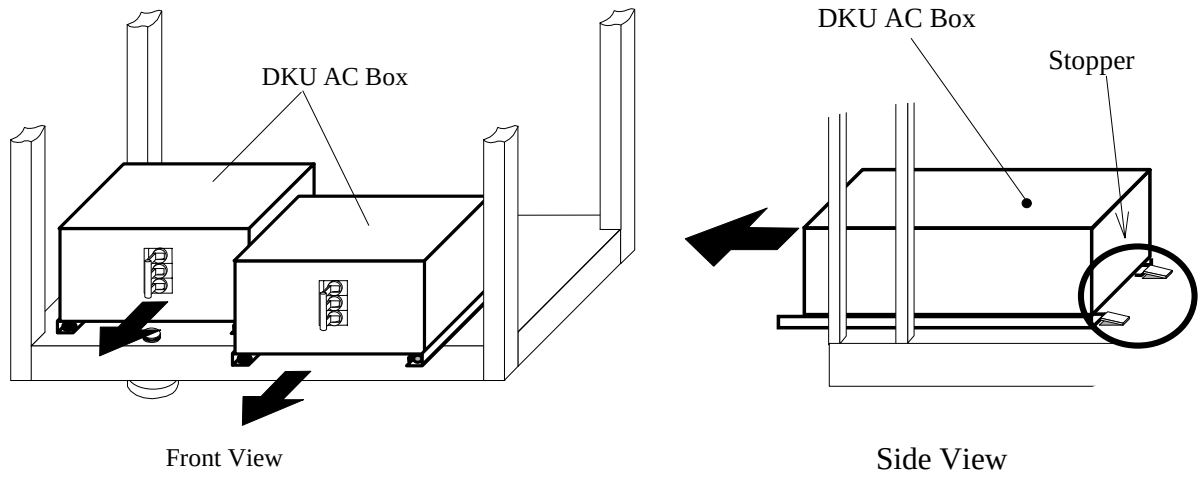


Fig. 4.10.1-5 Removal of DKU AC Boxes

4. Attach the plate.
 - a. Attach the plate with the two screws. Refer to Fig. 4.10.1-3.
5. Remove the Nameplate.
 - a. Remove the corresponding nameplate from the left DKU AC Box.

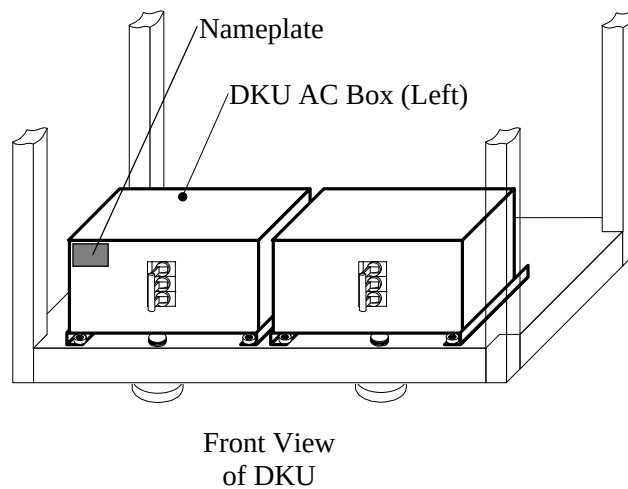


Fig. 4.10.1-6 Removal of Nameplate

4.10.2 De-Installation of AC Box Kit for Single Phase/40A (DKC-F460I-1PS)

Table 4.10.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1PS	DKC AC Box	5513519-A	2	
		Screw	SB408N	4	
		Screw	SB510N	4	
		Lock Washer	WT005N	4	Lock Washer
		Label(UL5)	5466325-1	2	
		Nameplate (HDS)	2105902-119	1	RSD
			2105903-119		HICAM
			2105903-219		HICEF
		Nameplate (HP)	2105902-219	1	RSD
			2105903-319		HICAM
			2105903-419		HICEF

1. Remove the DKC AC Boxes.
 - a. Disconnect the cables (POUT0-1, POUT1-1, POUT2-1, POUT0-2, POUT1-2 and POUT2-2) from the DKC AC Boxes.

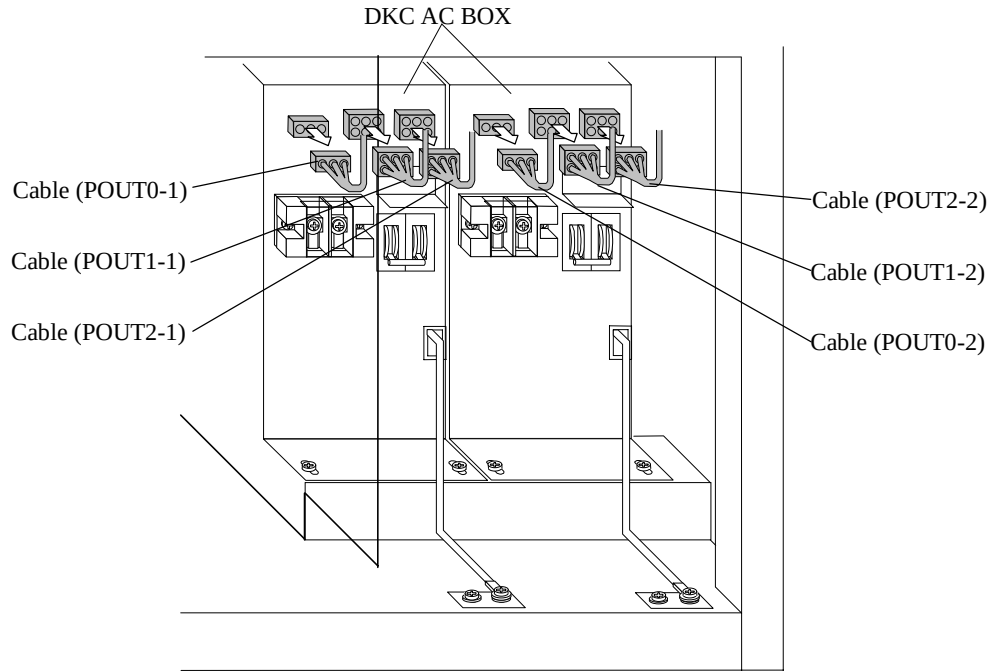


Fig. 4.10.2-1 Disconnection of Cables

- b. Remove the four screws and four lock washers from the frame.

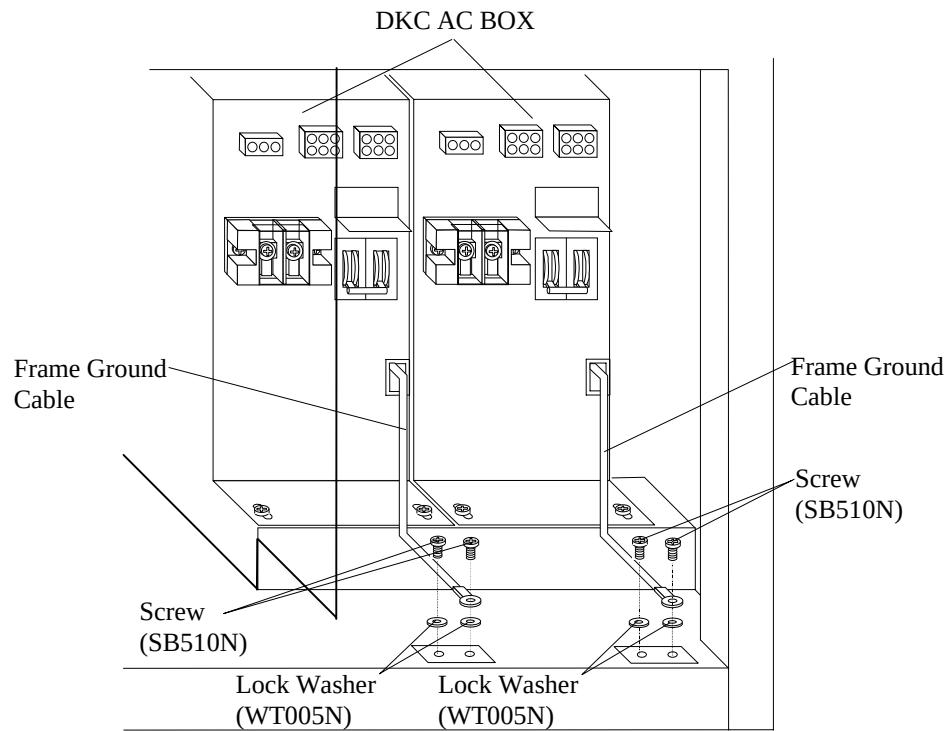


Fig. 4.10.2-2 Removal of Screws

- c. Remove the four screws and remove the two DKC AC Boxes.

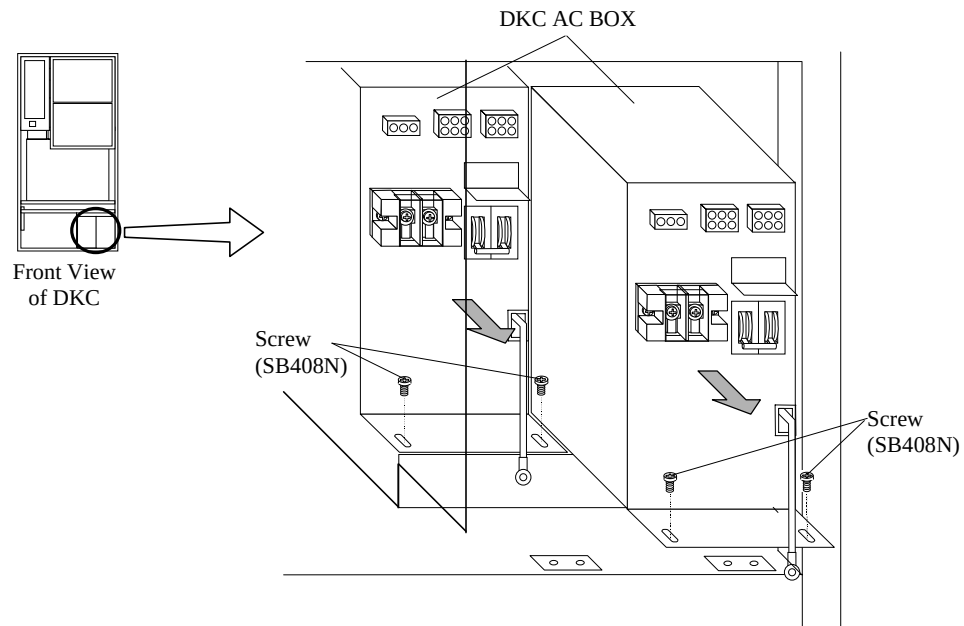


Fig. 4.10.2-3 Removal of DKC AC Boxes

2. Remove the Nameplate.
- a. Remove the nameplate from the Rear Logic Box cover.

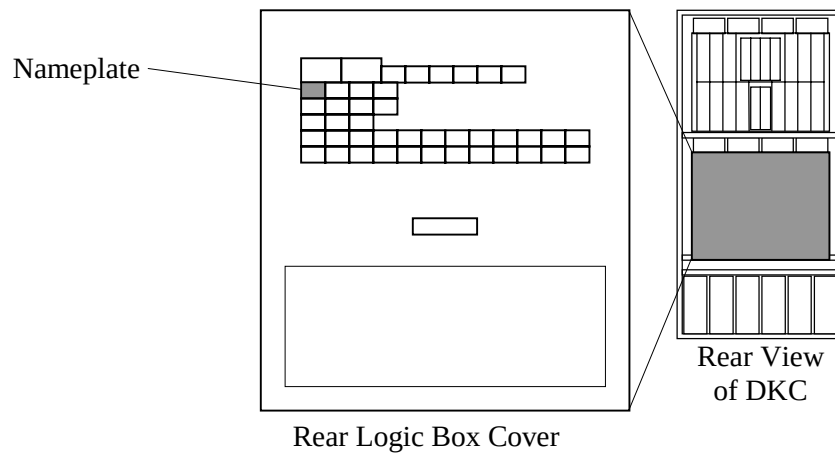


Fig. 4.10.2-4 Location of Nameplate

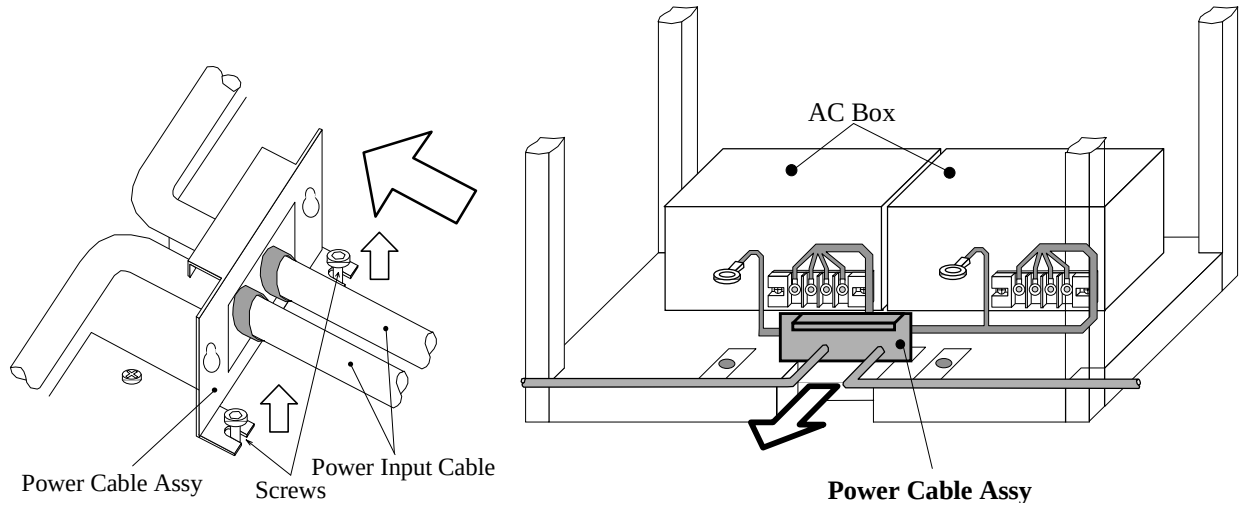
4.10.3 De-Installation of AC Box Kit for 3 Phase/30A or Single Phase/30A (DKU-F455I-1PSD/3PSD)

Table 4.10.3-1 Parts List

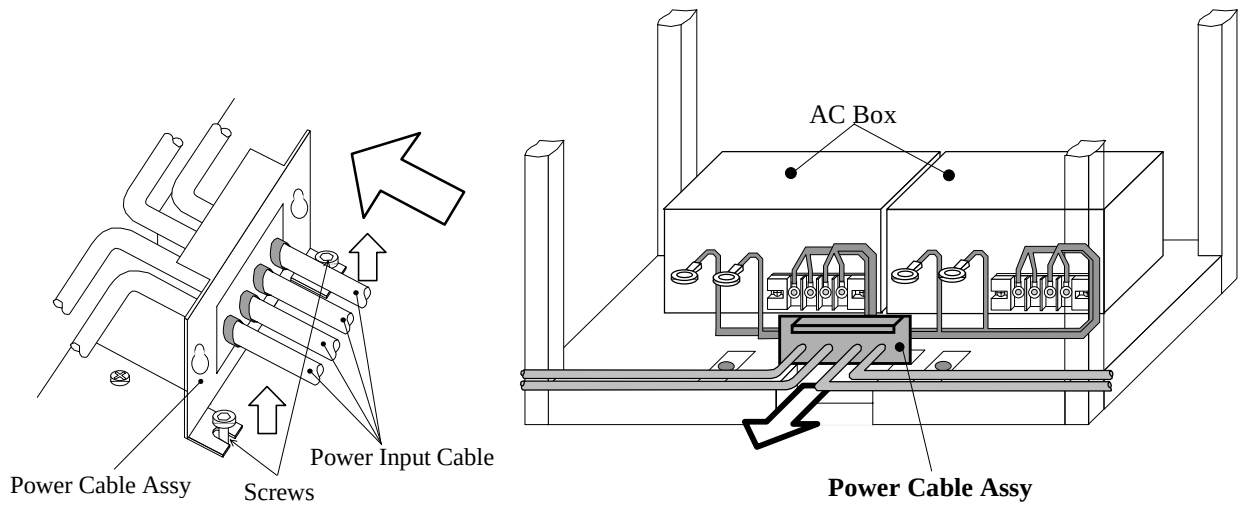
No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F455I-3PSD	DKU AC Box	5518051-A	2	
		Bracket	3265680-1	1	
		Label(V.Hz.PH.A.W)	2105966-2	1	
		Nameplate (HDS)	2105912-47/-/-	1	RSD/HICAM/HICEF
		Nameplate (HP)	-	1	RSD/HICAM/HICEF
2	DKU-F455I-1PSD	DKU AC Box	5518052-A	2	
		Bracket	3265680-1	1	
		Label(V.Hz.PH.A.W)	2105966-2	1	
		Nameplate (HDS)	2105912-67/-/-	1	RSD/HICAM/HICEF
		Nameplate (HP)	-	1	RSD/HICAM/HICEF

1. Remove the Bracket.

a. Loosen the screws and remove the Power Cable Assy.



DKC-F460I-3UCD/3ECD

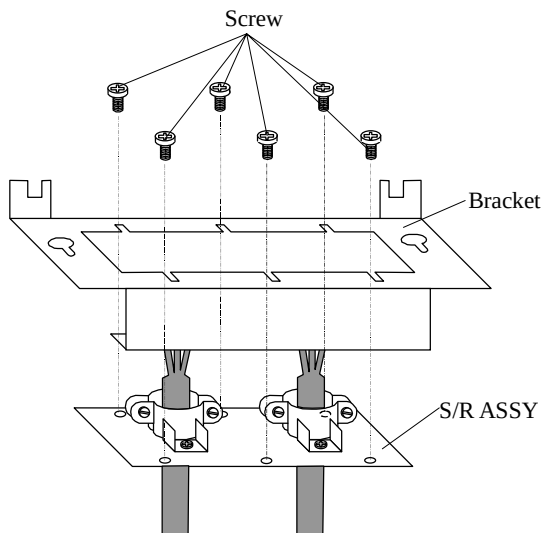


DKC-F460I-1UCD/1ECD

Fig. 4.10.3-1 Removal of Power Cable Assy

- b. Remove the screws and remove the S/R ASSY from the bracket.

DKC-F460I-3ECD/3UCD



DKC-F460I-1ECD/1UCD

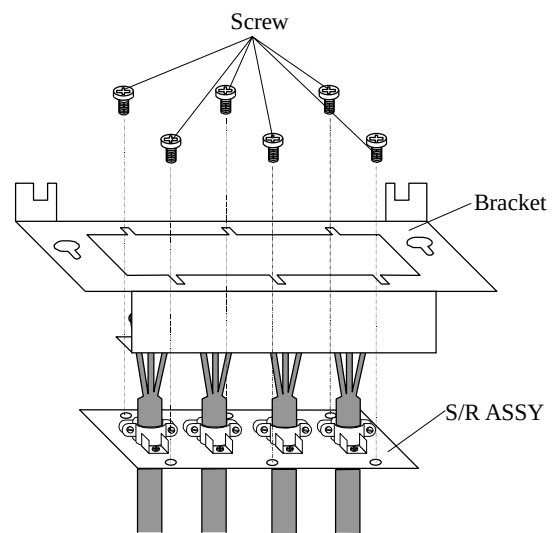
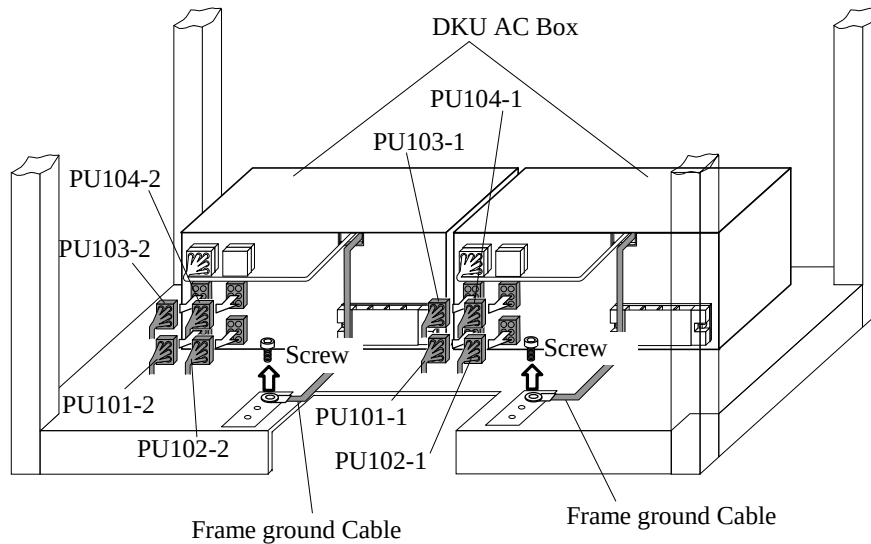


Fig. 4.10.3-2 Removal of S/R ASSY

2. Disconnect the Cables.

DKU-F455I-3PSD

- Remove the screws and remove the frame ground cables.
- Disconnect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) from the DKU AC Boxes.

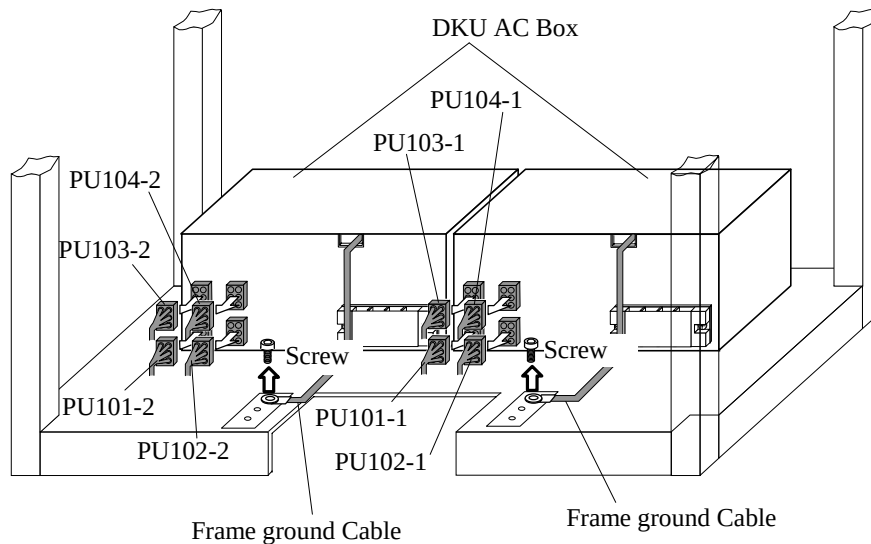


Rear View

Fig. 4.10.3-3 Disconnection of Cables

DKU-F455I-1PSD

- Remove the screws and remove the frame ground cables.
- Disconnect the cables (P101-1, P102-1, P103-1, P104-1, P101-2, P102-2, P103-2 and P104-2) from the DKU AC Boxes.



Rear View

Fig. 4.10.3-4 Disconnection of Cables

3. Remove the Nameplate and labels.

- a. Remove the corresponding nameplate from the left DKU AC Box.

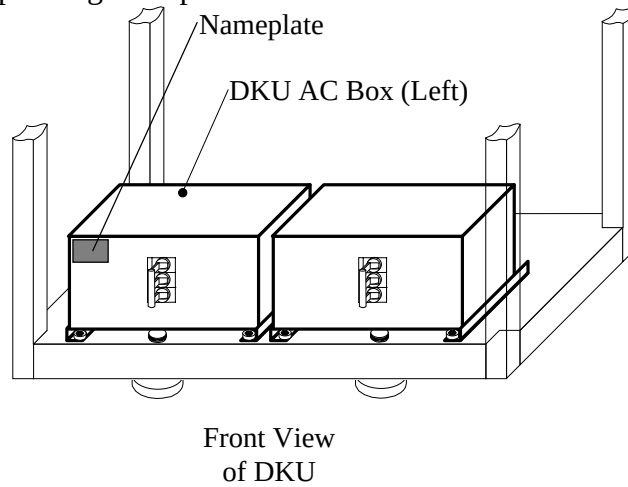


Fig. 4.10.3-5 Removal of Nameplate

- b. Remove the label (V/Hz/PH.) and label (V.Hz.PH.A.W) from the DKU bottom base of rear side.

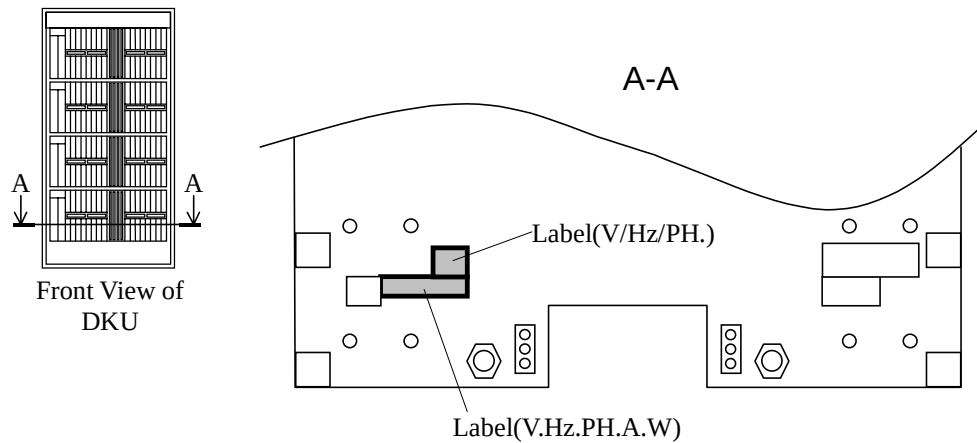


Fig. 4.10.3-6 Removal of Labels

4. Remove the plate.

- a. Remove the two screws and remove the plate.

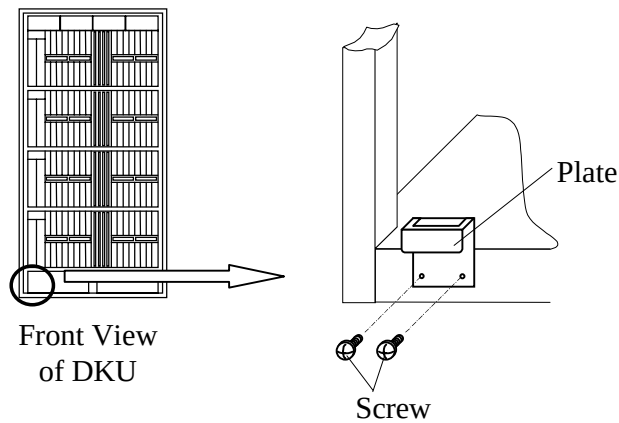


Fig. 4.10.3-7 Remove of Plate

5. Remove the DKU AC Boxes.
 - a. Remove the screws from the DKU AC Boxes.

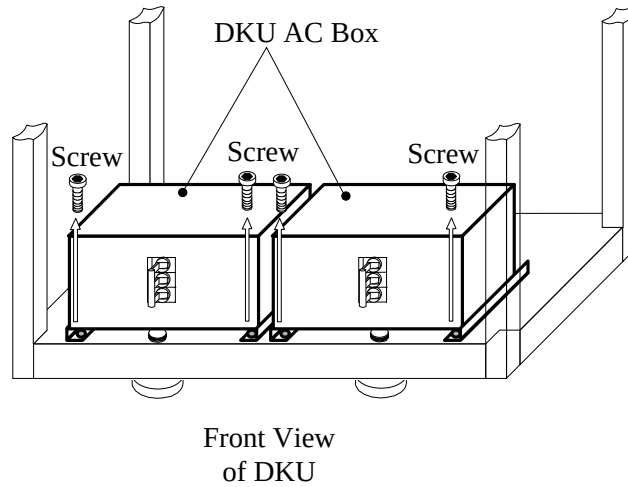


Fig. 4.10.3-8 Removal of Screws

- b. Slide the DKU AC Boxes from the rear to the front.

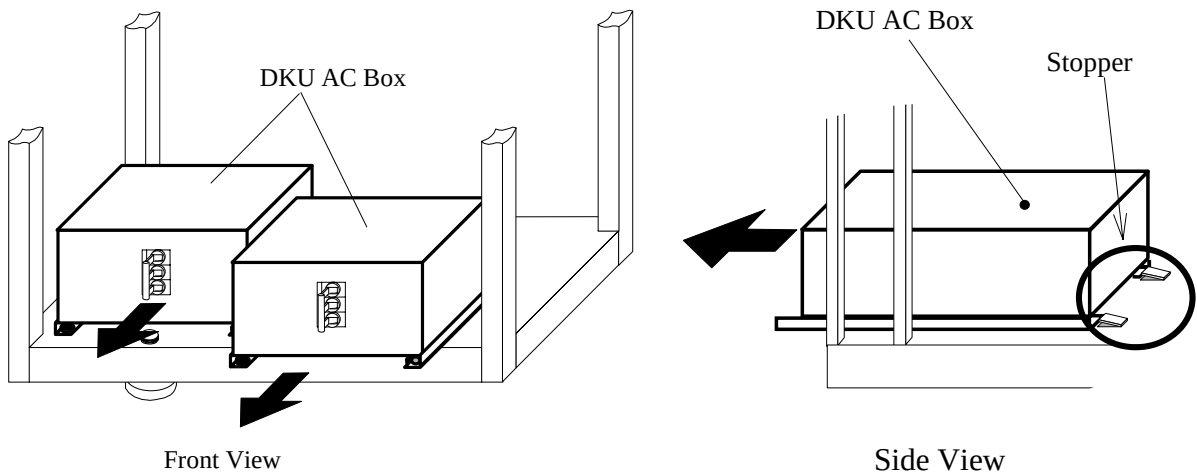


Fig. 4.10.3-9 Removal of DKU AC Boxes

6. Attach the plate.
 - a. Attach the plate with the two screws. Refer to Fig. 4.10.3-7.

4.10.4 De-Installation of AC Box Kit for Single Phase/30A or 3 Phase/30A (DKC-F460I-1PSD/3PSD)

Table 4.10.4-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-1PSD	DKC AC Box	5517802-C	2	
		Bracket	3265681-1	1	
		Cover	3265679-1	1	
		Screw	SB306N	2	
		Screw	SB408N	6	
		Screw	SB510N	6	
		Lock Washer	WT005N	6	
		Label(UL5)	5466325-1	2	
		Label(V.Hz.PH.A.W)	3265706-1	1	
		Nameplate (HDS)	2105902-129	1	RSD
			2105903-129		HICAM
			2105903-229		HICEF
		Nameplate (HP)	-	1	RSD
			-		HICAM
			-		HICEF
2	DKC-F460I-3PSD	DKC AC Box	5517802-A	2	
		Bracket	2106296-A	1	
		Cover	3264038-1	1	
		Screw	SB306N	2	
		Screw	SB408N	6	
		Screw	SB510N	4	
		Lock Washer	WT005N	4	
		Label(UL5)	5466325-1	2	
		Label(V.Hz.PH.A.W)	3265706-1	1	
		Nameplate (HDS)	2105902-132	1	RSD
			2105903-132		HICAM
			2105903-232		HICEF
		Nameplate (HP)	-	1	RSD
			-		HICAM
			-		HICEF

1. Remove the Bracket.
 - a. Loosen the two screws and remove the cover.

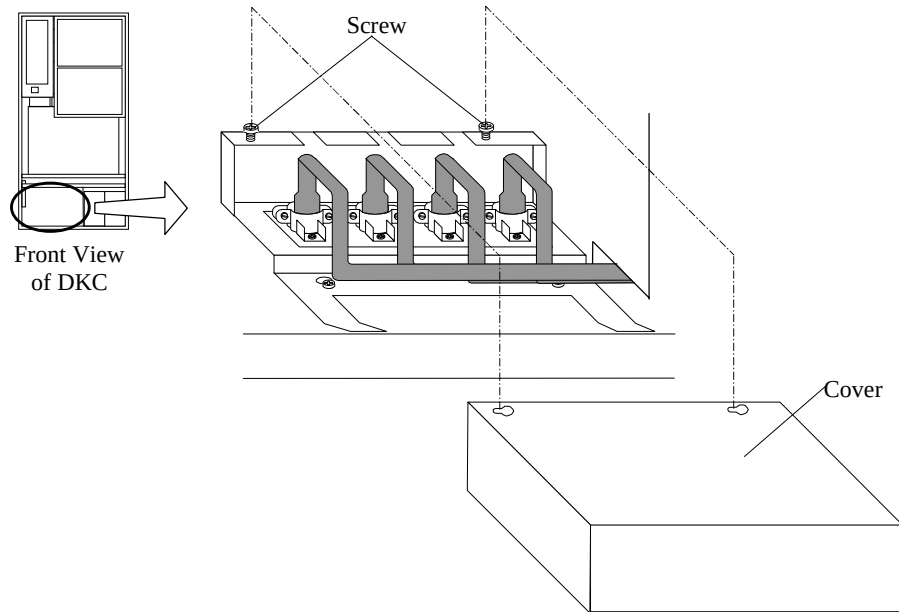
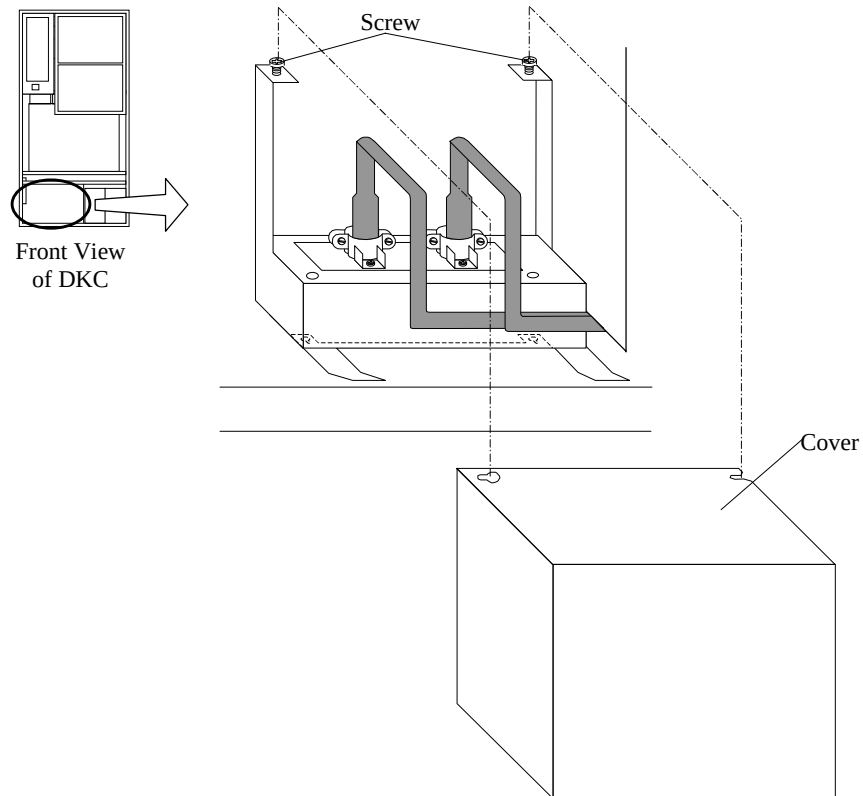
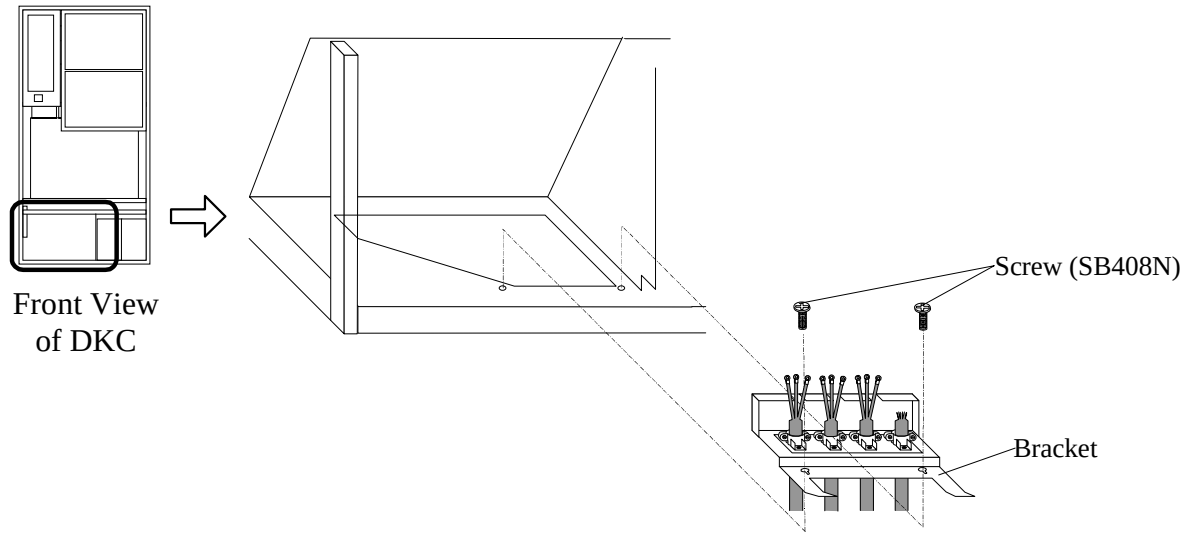
DKC-F460I-1PSD**DKC-F460I-3PSD**

Fig. 4.10.4-1 Removal of Cover

b. Loosen the two screws and remove the bracket.

DKC-F460I-1PSD



DKC-F460I-3PSD

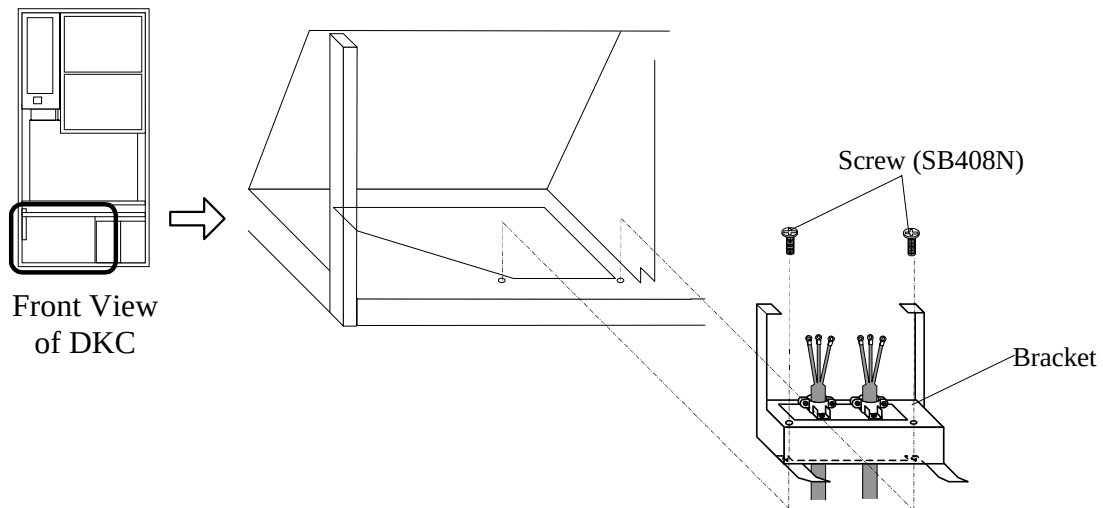
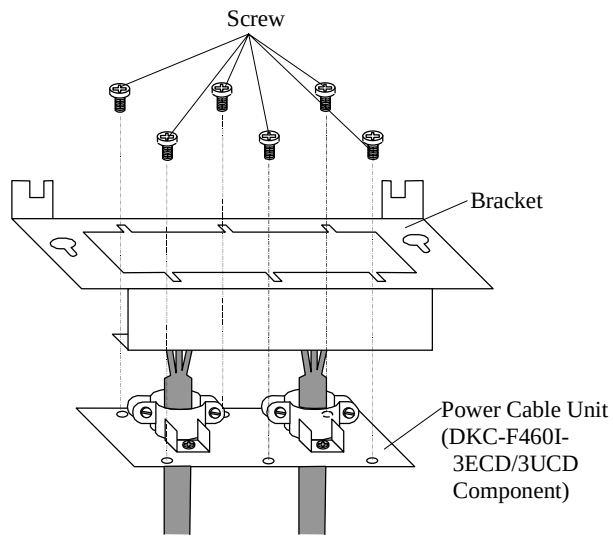


Fig. 4.10.4-2 Removal of Bracket

c. Remove the six screws and remove the Power Cable Unit from the bracket.

DKC-F460I-3PSD



DKC-F460I-1PSD

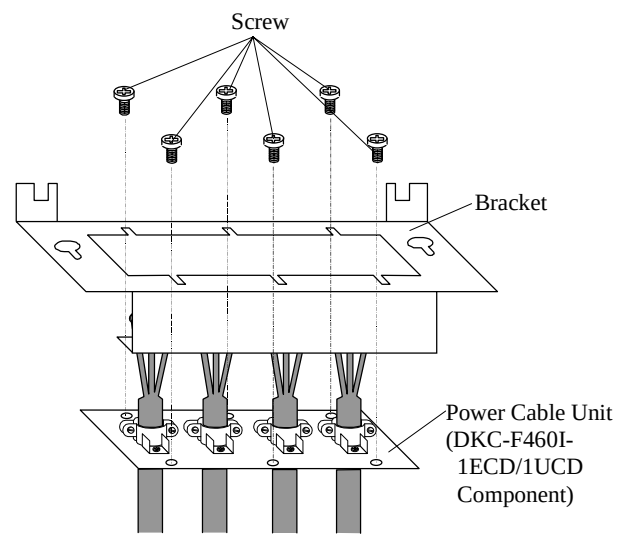


Fig. 4.10.4-3 Removal of Power Cable Unit

2. Remove the DKC AC Boxes.

- a. Disconnect the cables (POUT0-1, POUT1-1, POUT2-1, POUT0-2, POUT1-2 and POUT2-2) from the DKC AC Boxes.

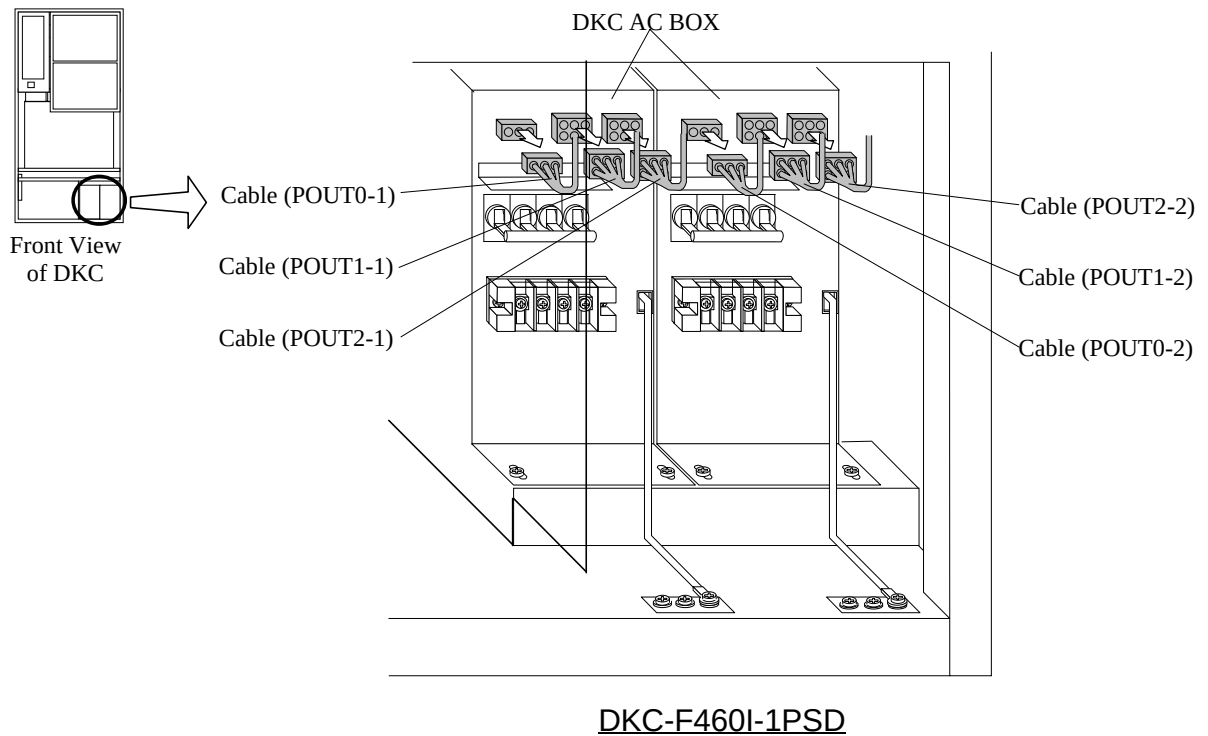
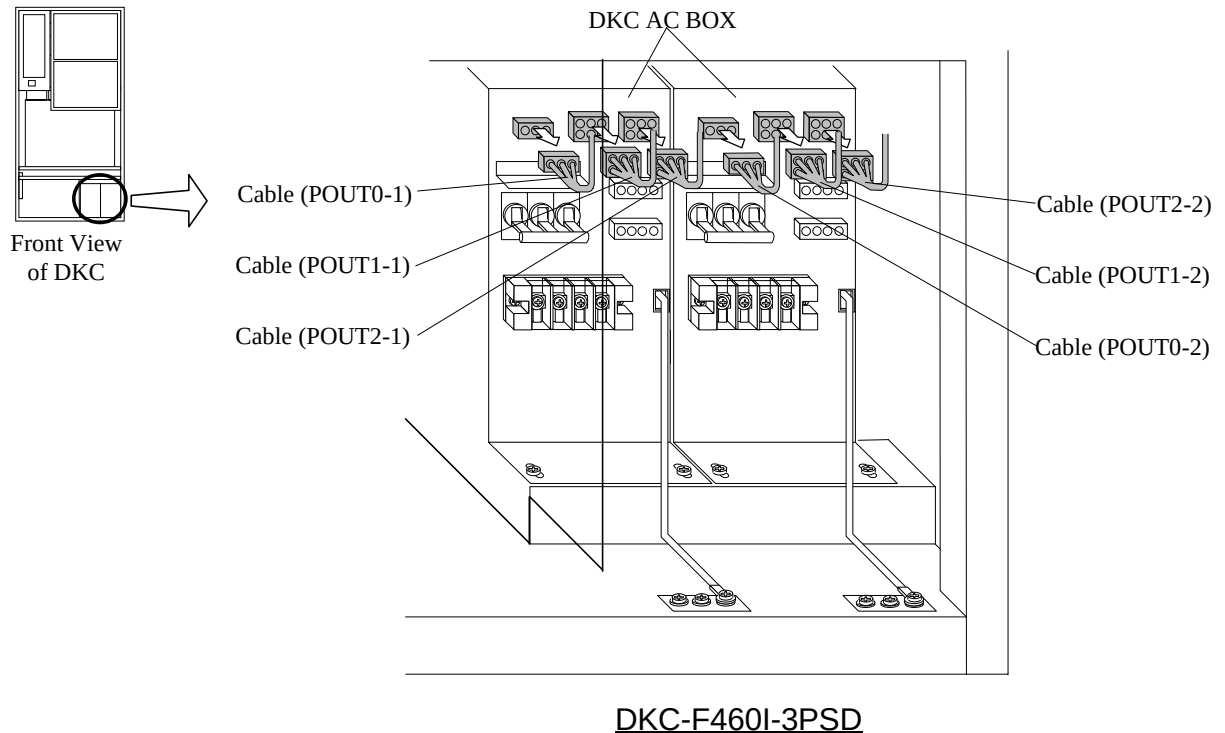


Fig. 4.10.4-4 Disconnection of Cables

- b. Remove the six screws and six lock washers from the frame.

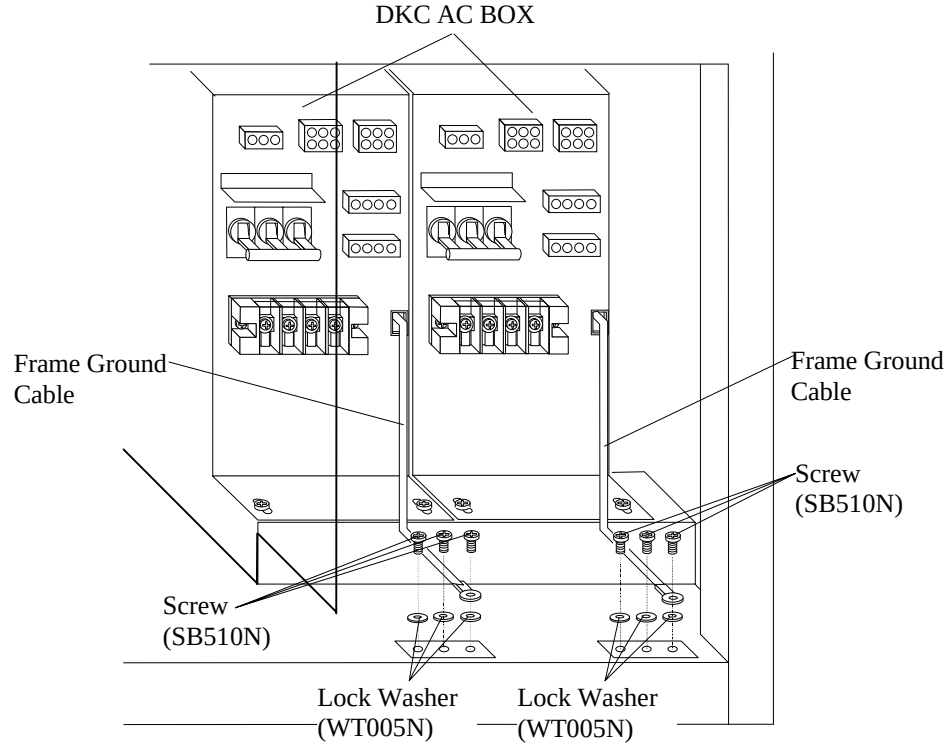


Fig. 4.10.4-5 Removal of Screws

- c. Remove the four screws and remove the two DKC AC Boxes.

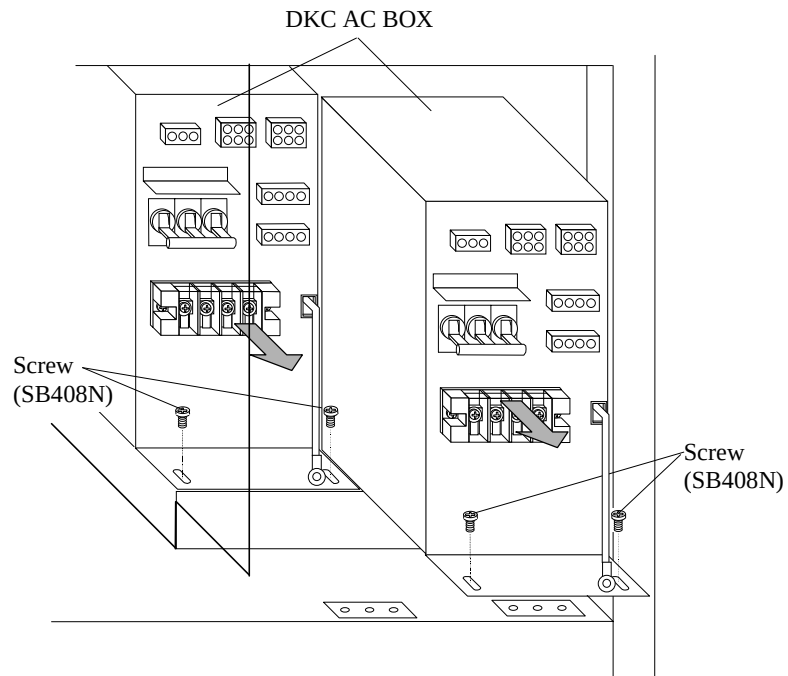


Fig. 4.10.4-6 Removal of DKC AC Boxes

3. Remove the Nameplate.
 - a. Remove the nameplate from the Rear Logic Box cover.

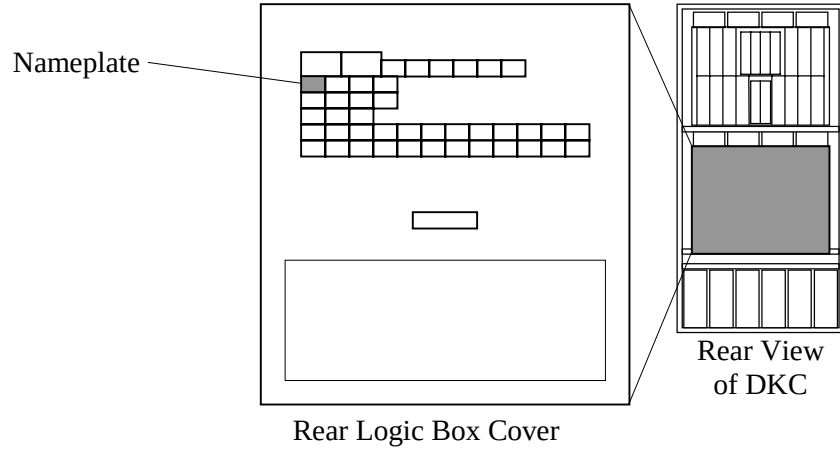


Fig. 4.10.4-7 Location of Nameplate

- b. Remove the label (V/Hz/PH.), label (UL5) and label (V.Hz.PH.A.W) from the frame.

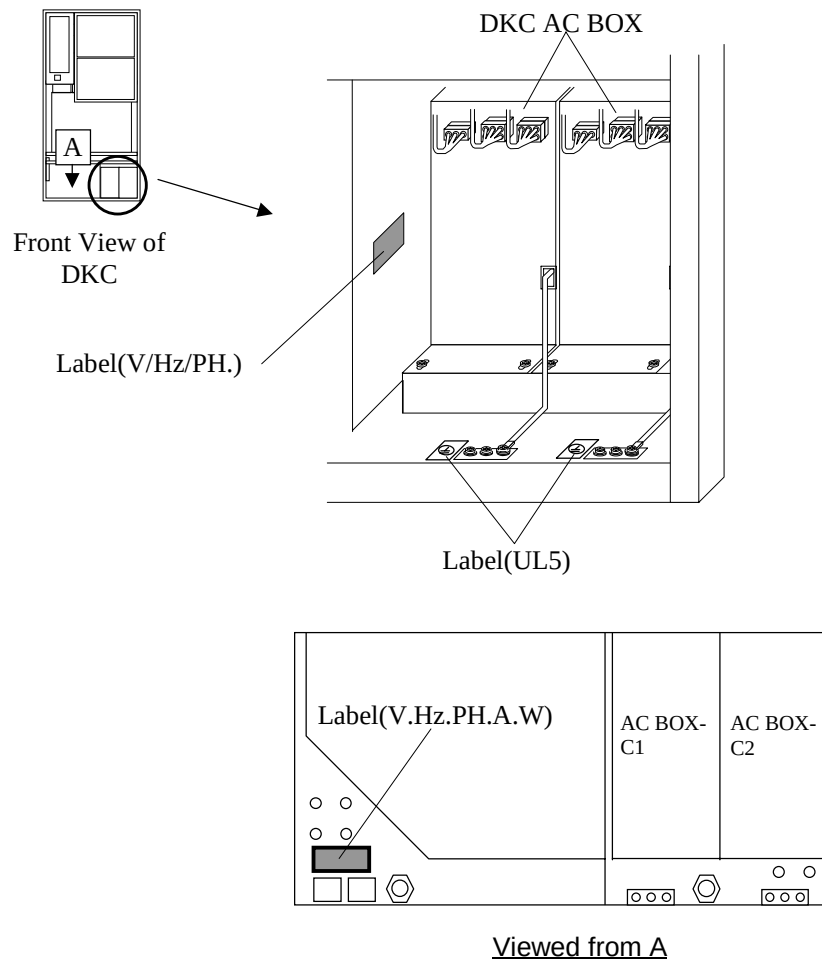


Fig. 4.10.4-8 Removal of Labels

4.11 De-Installation of Breaker Box Kit for 3 Phase (DKC-F460I-3PS)

Table 4.11-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-3PS	Breaker Box	5513517-A	2	
		Screw	SB306N	4	
		Cable	3261822-A	1	Label: PIN1-1, PC111-1
		Cable	3261822-B	1	Label: PIN2-1, PC112-1
		Cable	3261822-C	1	Label: PIN1-2, PC111-2
		Cable	3261822-D	1	Label: PIN2-2, PC112-2
		Nameplate (HDS)	2105902-122	1	RSD
			2105903-122		HICAM
			2105903-222		HICEF
		Nameplate (HP)	2105902-222	1	RSD
			2105903-322		HICAM
			2105903-422		HICEF

1 De-Installation Procedure of Breaker Box Kit for 3 Phase

1-1 Disconnect the cables from the AC Boxes.

- a. Disconnect the cables (PC111-1, PC112-2, PC111-2 and PC112-2) from the DKU AC Boxes.

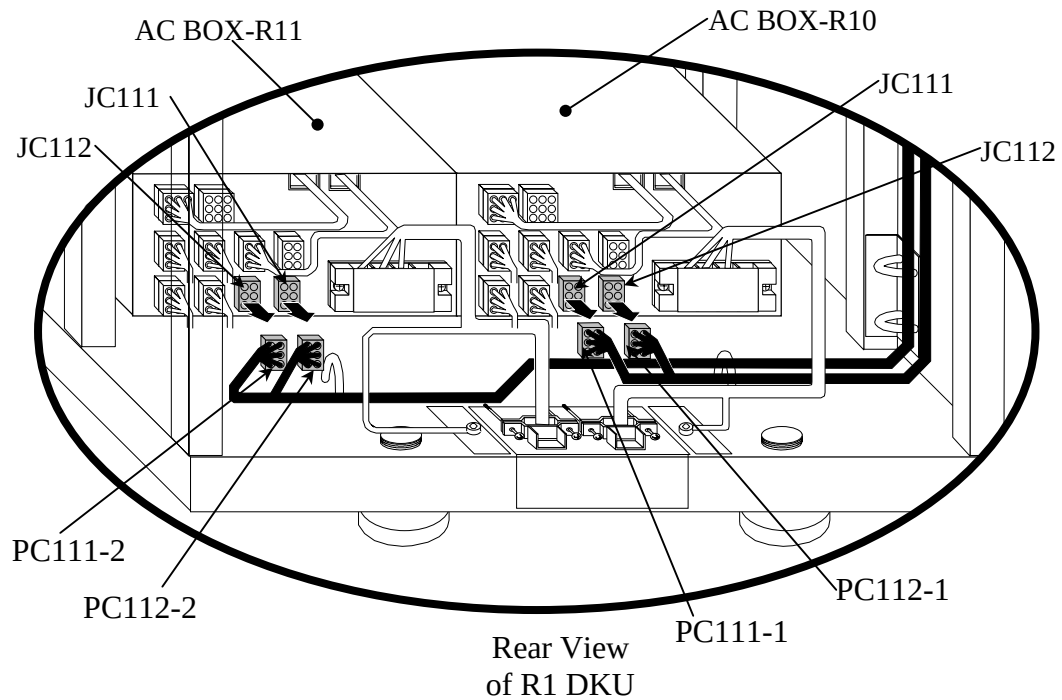


Fig. 4.11-1 Disconnection of Cables for DKC

- b. Open the repeat binders and remove the cables.

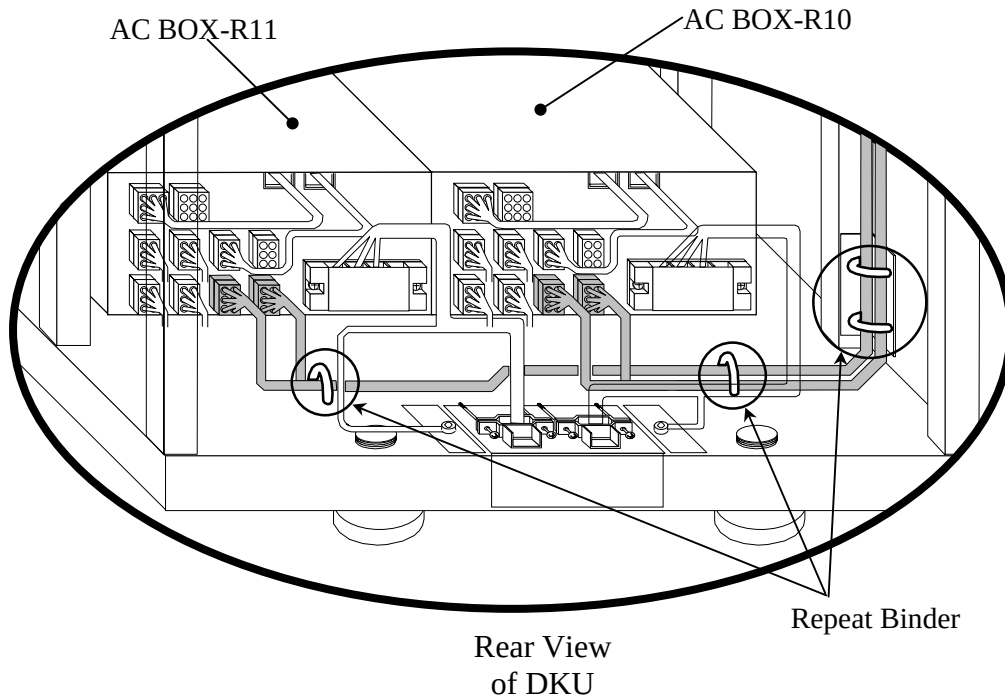


Fig. 4.11-2 Removal of Cables for DKC

1-2 Remove the Breaker Boxes.

- a. Disconnect the cables (POUT0-1, POUT1-1, POUT2-1, PIN1-1, PIN2-1, POUT0-2, POUT1-2, POUT2-2, PIN1-2 and PIN2-2) from the Breaker Boxes.

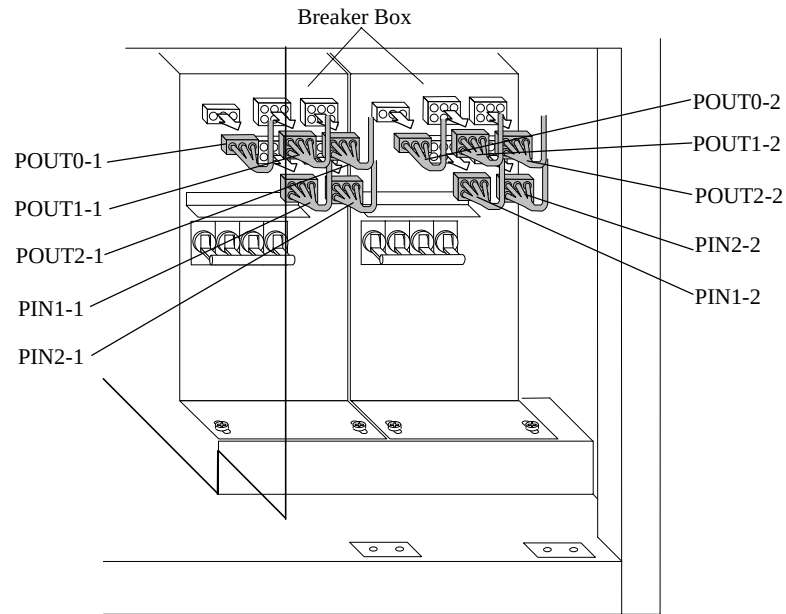


Fig. 4.11-3 Disconnection of Cables

- b. Remove the four screws and remove the two Breaker Boxes.

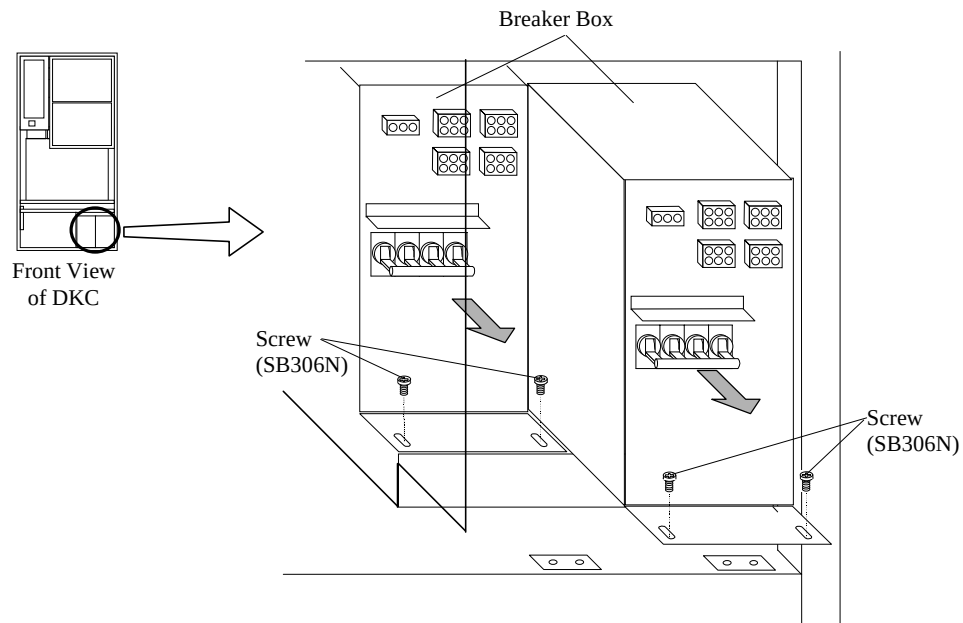


Fig. 4.11-4 Removal of DKC AC Boxes

1-3 Remove the cables.

a. Remove the cables for the Breaker Boxes.

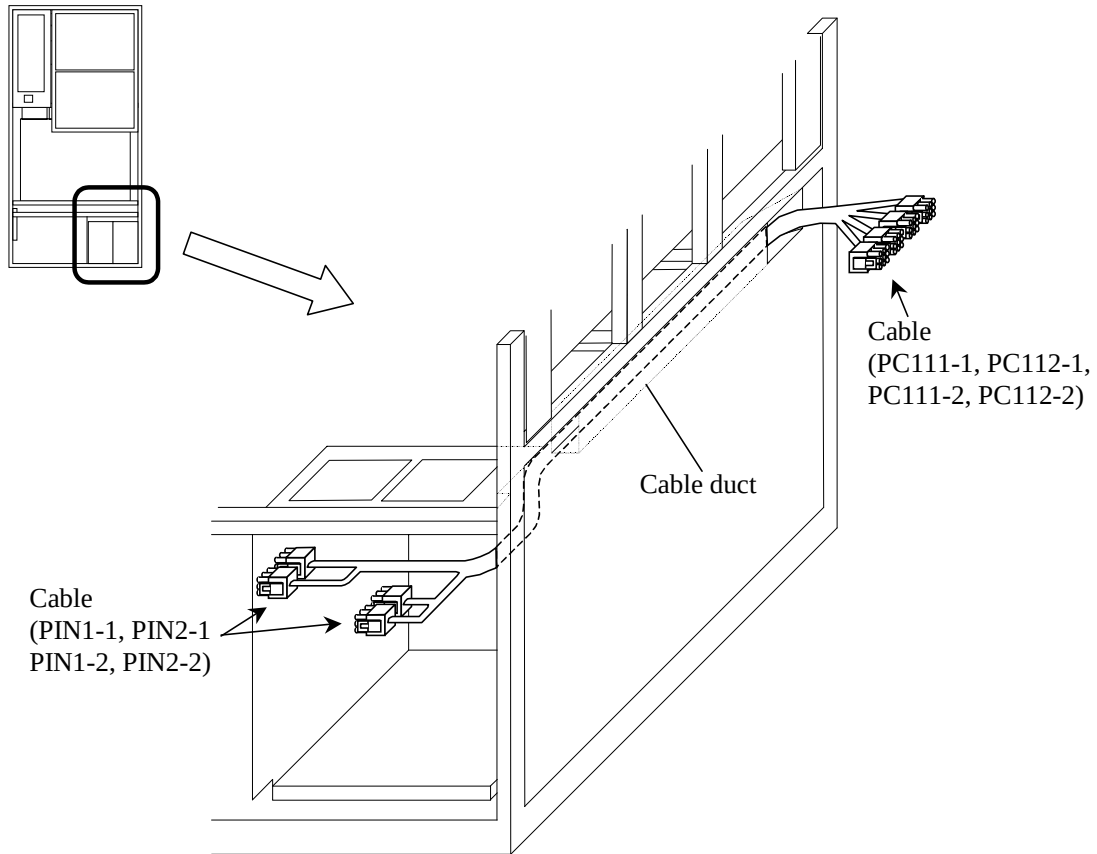


Fig. 4.11-5 Removal of Cables

1-4 Remove the Nameplate.

a. Remove the nameplate from the Rear Logic Box cover.

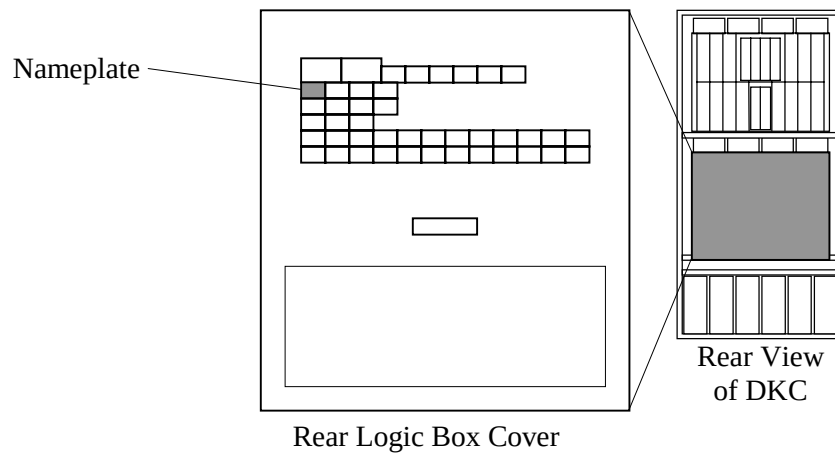


Fig. 4.11-6 Location of Nameplate

4.12 De-Installation of 256MB Additional Memory for SVP (DKC-F460I-256M)

Table 4.12-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F460I-256M	Additional SVP Memory	5518055-A	1	
		LABEL		1	
		Nameplate(HP)	2105902-235	1	RSD
			2105903-335	1	HICAM
			2105903-435	1	HICEF

4.12.1 De-Installation Procedure of 256MB Additional Memory for SVP

1. Open the front door and then open the DKC panel.
2. Turn the SVP Assy and turn off the power for the SVP.
3. Loosen the screw and open the SVP frame, and remove the lower SH box cover.

(1) Open the SVP frame.

SVP frame type1

- a. Remove the screw① and open the SVP frame.

SVP frame type2

- a. Loosen the screw② and the SVP stopper is slide to the left.
- b. Open the SVP ASSY (Basic).
- c. Remove the screw③ and open the SVP frame.

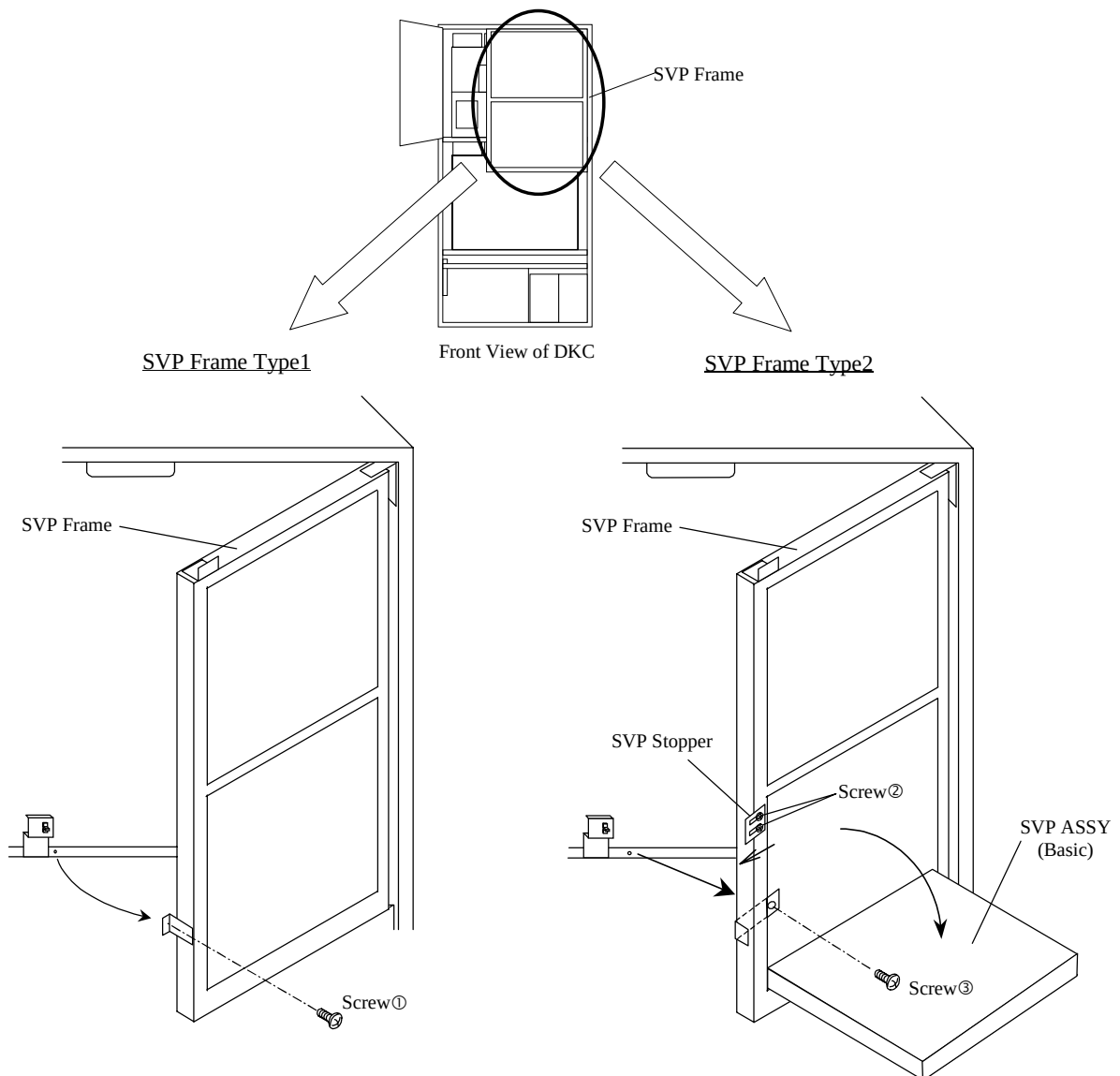


Fig. 4.12-1 Open the SVP Frame

(2) Loosen the screws and remove the lower SH box covers.

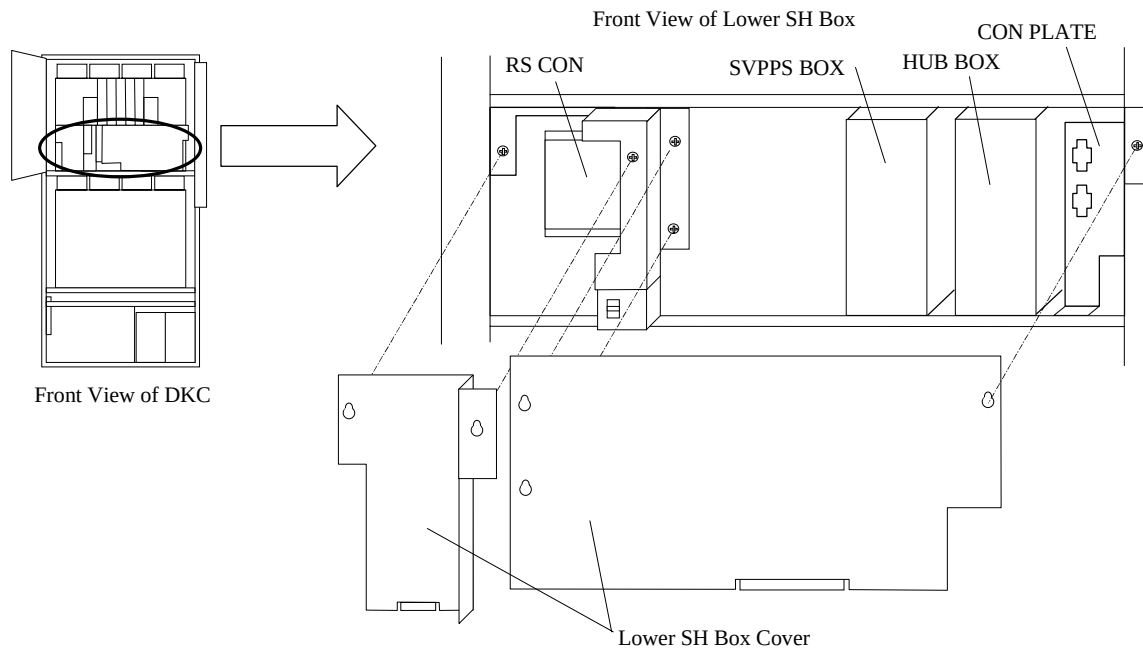


Fig. 4.12-2 Open the Lower SH Box Cover

4. Insert the Jumper.

Replacement of Basic SVP ASSY

- a. Insert the maintenance jumper into JP1 on the RS CON PCB.

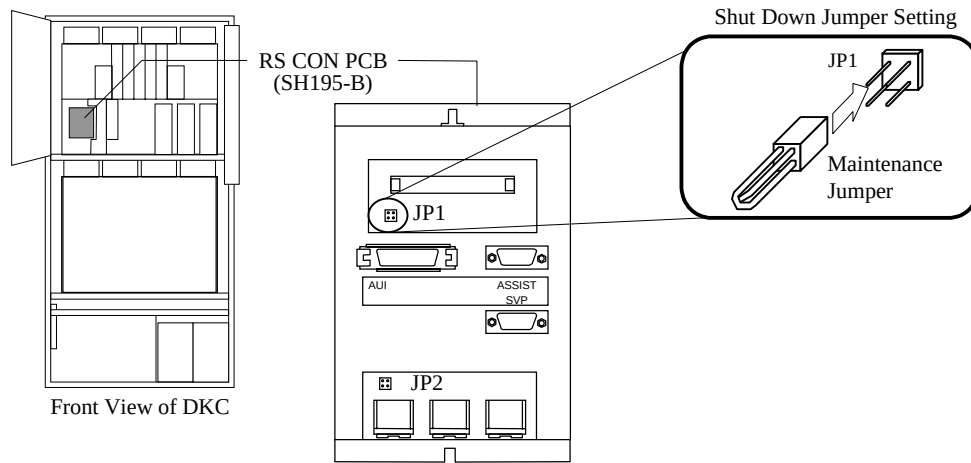


Fig. 4.12-3 Jumper settings of RS CON PCB

Replacement of Option SVP ASSY

- a. Insert the maintenance jumper into PS SD on the SVPPS BOX.

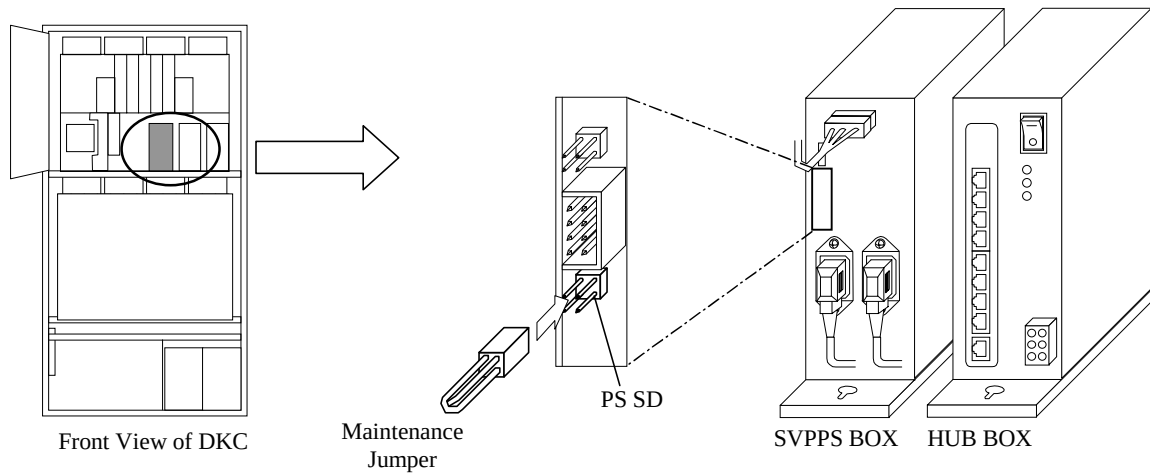


Fig. 4.12-4 Jumper settings of SVPPS BOX

5. Remove the cables.

Additional Memory of Basic SVP

- a. Disconnect the RS232C cable (RSVP-1) from the RS CON PCB.

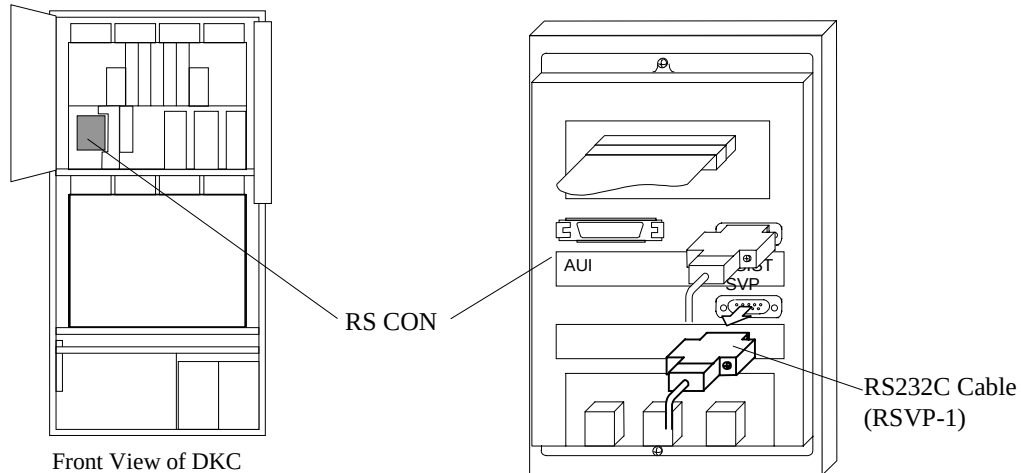


Fig. 4.12-5 Disconnection of RS232C Cable

- b. Disconnect the LAN cable (LSVP-1) from the HUB BOX.
Disconnect the SVP PS cable (PSVP-1) from the CON PLATE.

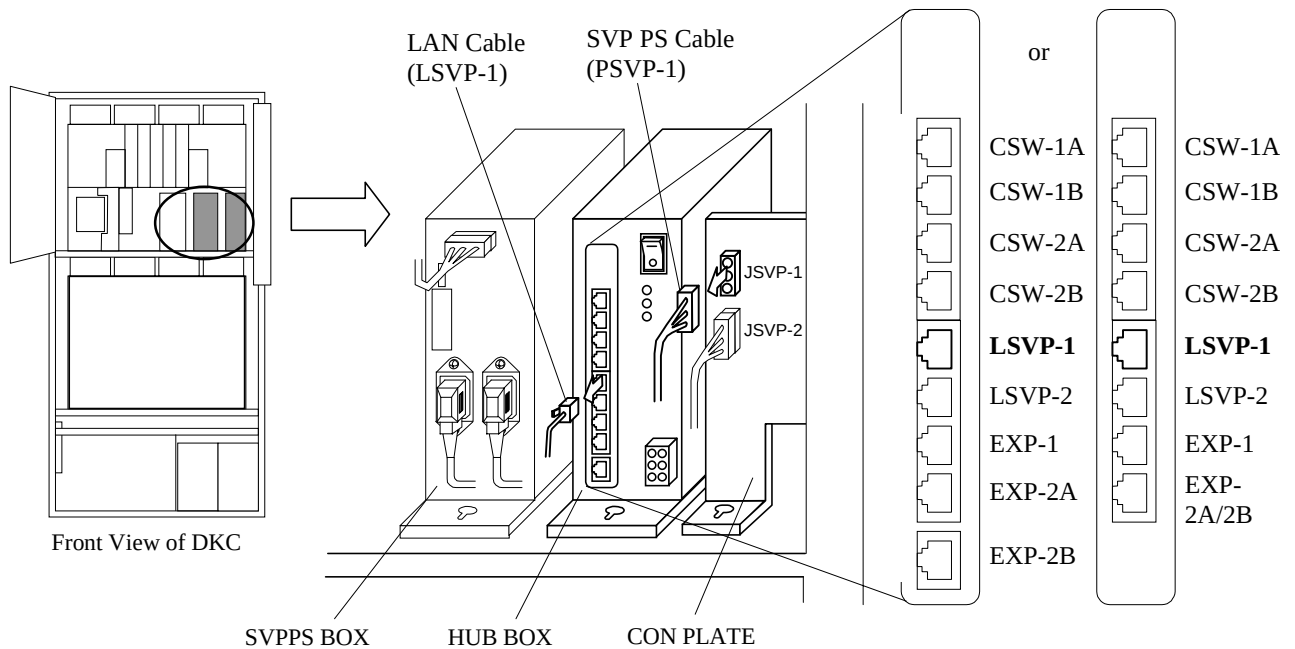


Fig. 4.12-6 Disconnection of LAN Cable and SVP PS Cable

c. Open the repeat binder and remove the cables.

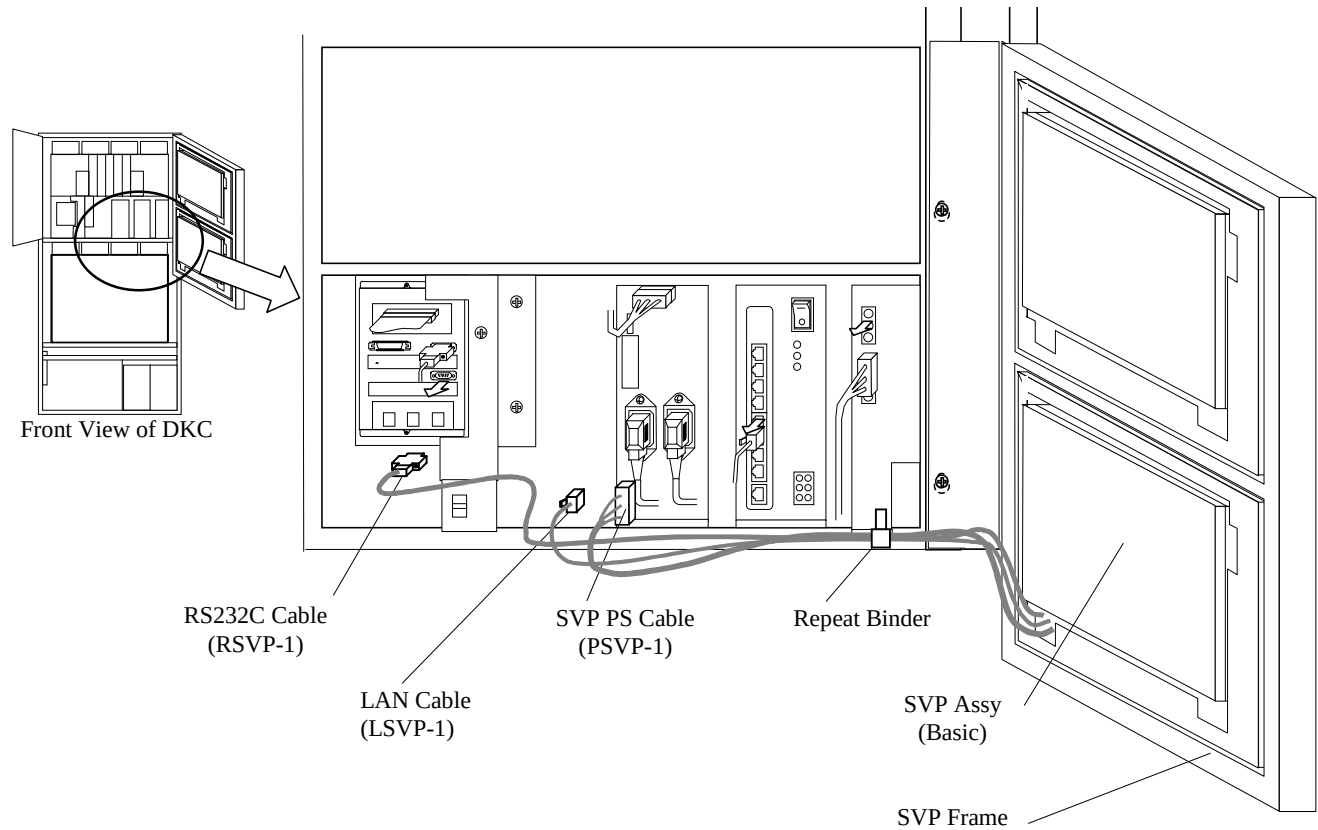


Fig. 4.12-7 Removal of Cables

Additional Memory of Option SVP ASSY

- a. Disconnect the RS232C cable (RSVP-2) from the RS CON PCB.

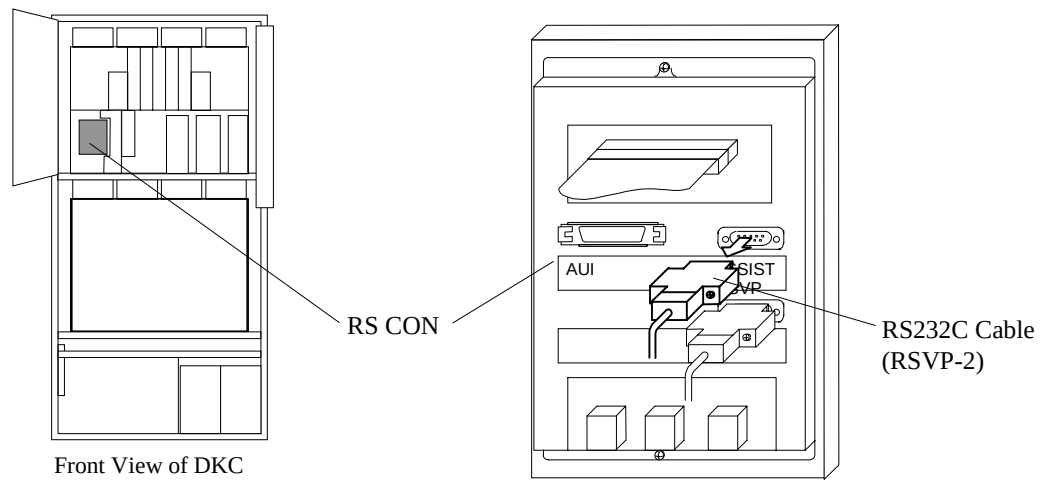


Fig. 4.12-8 Disconnection of RS232C Cable

- b. Disconnect the LAN cable (LSVP-2) from the HUB BOX.
Disconnect the SVP PS cable (PSVP-2) from the CON PLATE.

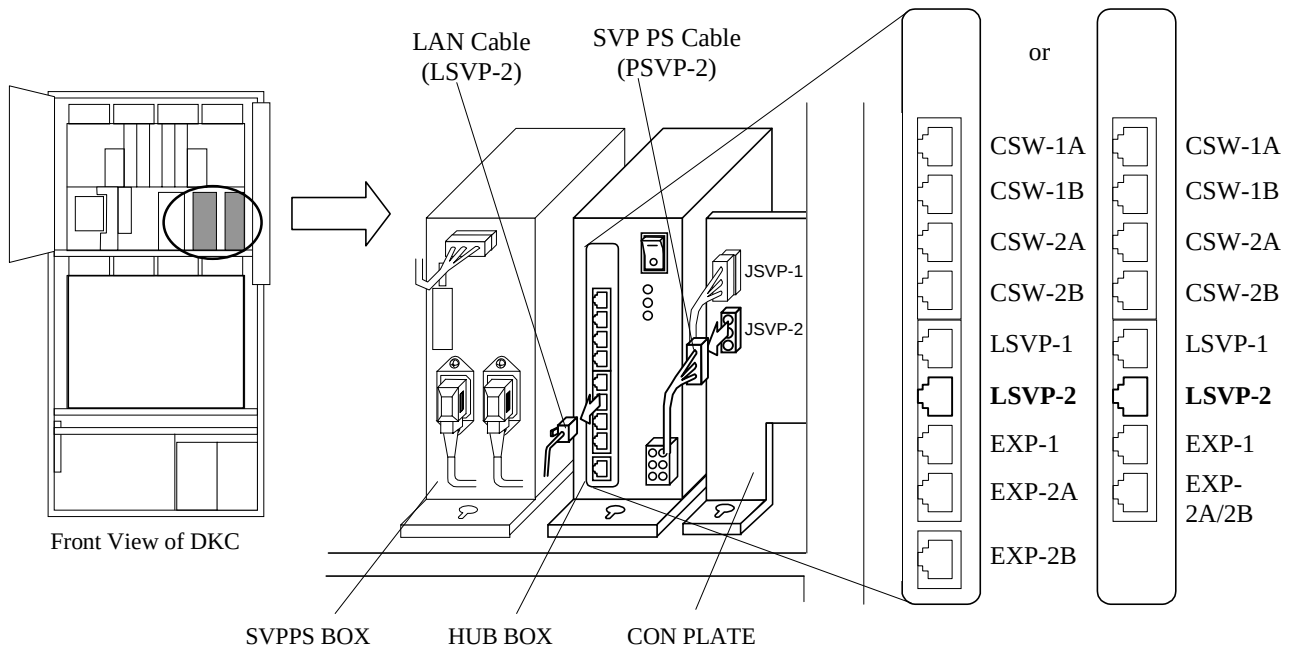


Fig. 4.12-9 Disconnection of LAN Cable and SVP PS Cable

c. Open the repeat binder and remove the cables.

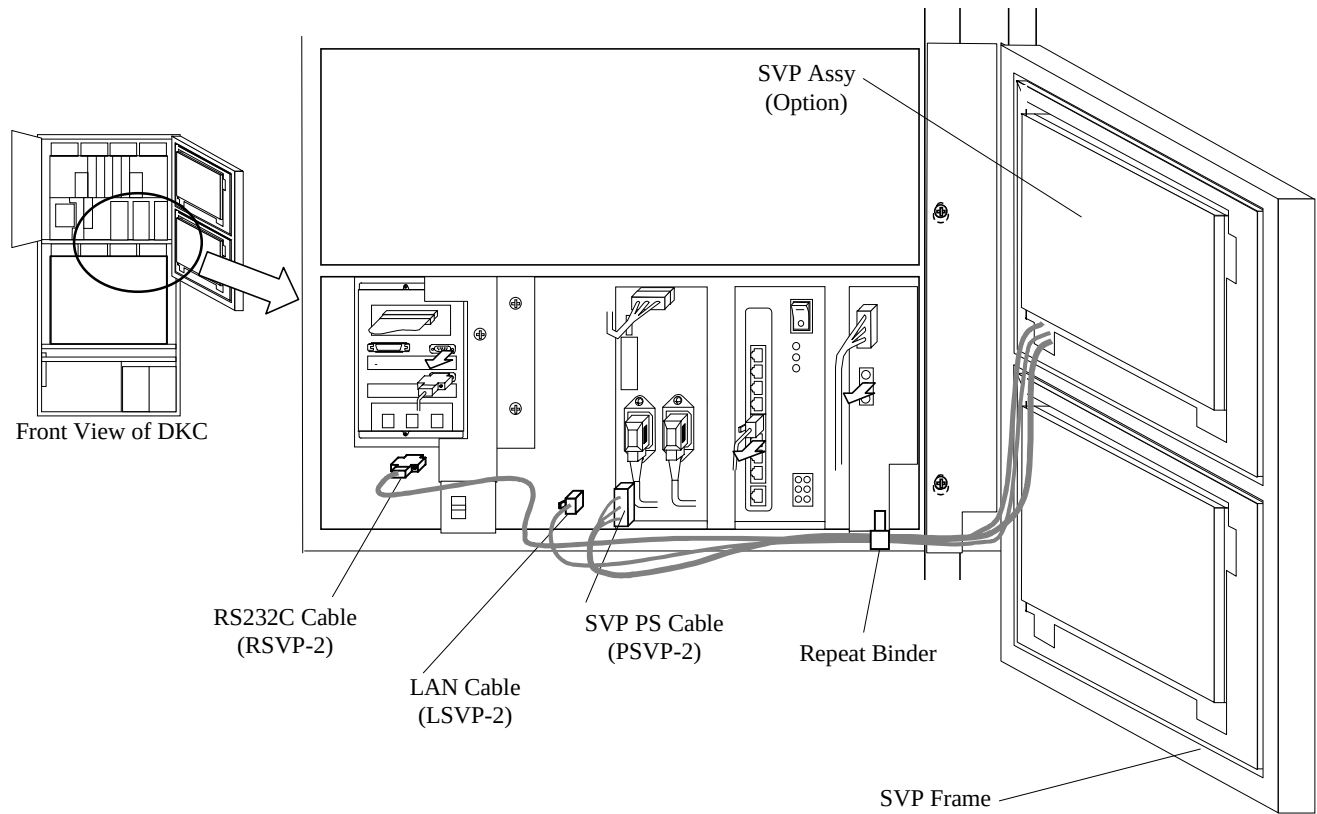


Fig. 4.12-10 Removal of Cables

6. Remove the SVP cover.
 - a. Close the SVP frame.
 - b. Loosen the screws and remove the SVP cover.

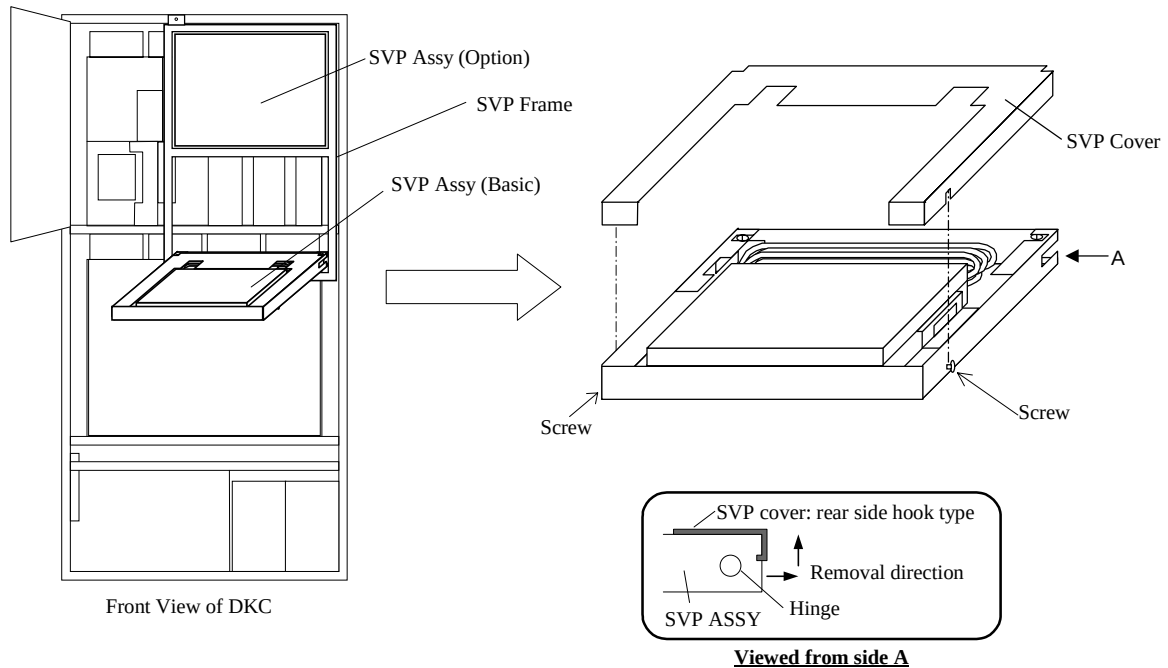


Fig. 4.12-11 Removing SVP cover

7. Loosen the screws and remove the stopper.
8. Pull out the SVP ASSY from the SVP frame.

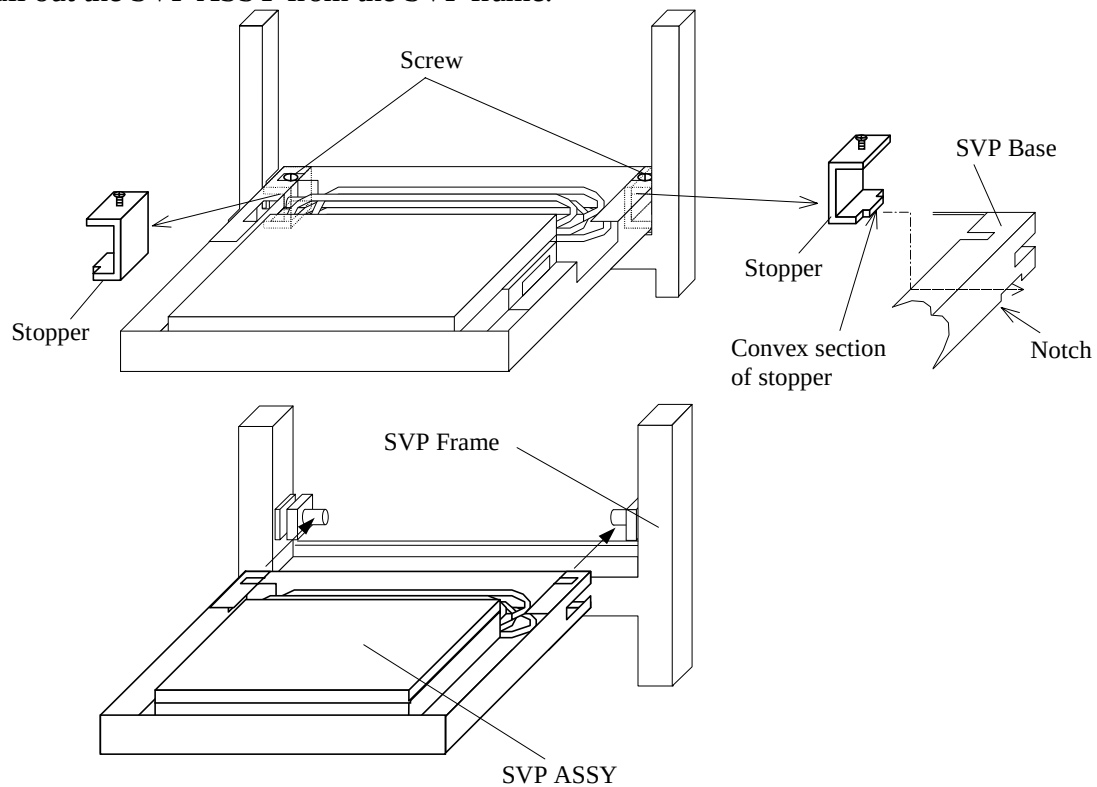


Fig. 4.12-12 Removing and installing the SVP Assy

9. Remove the DC Cable and LAN Cable from the SVP.

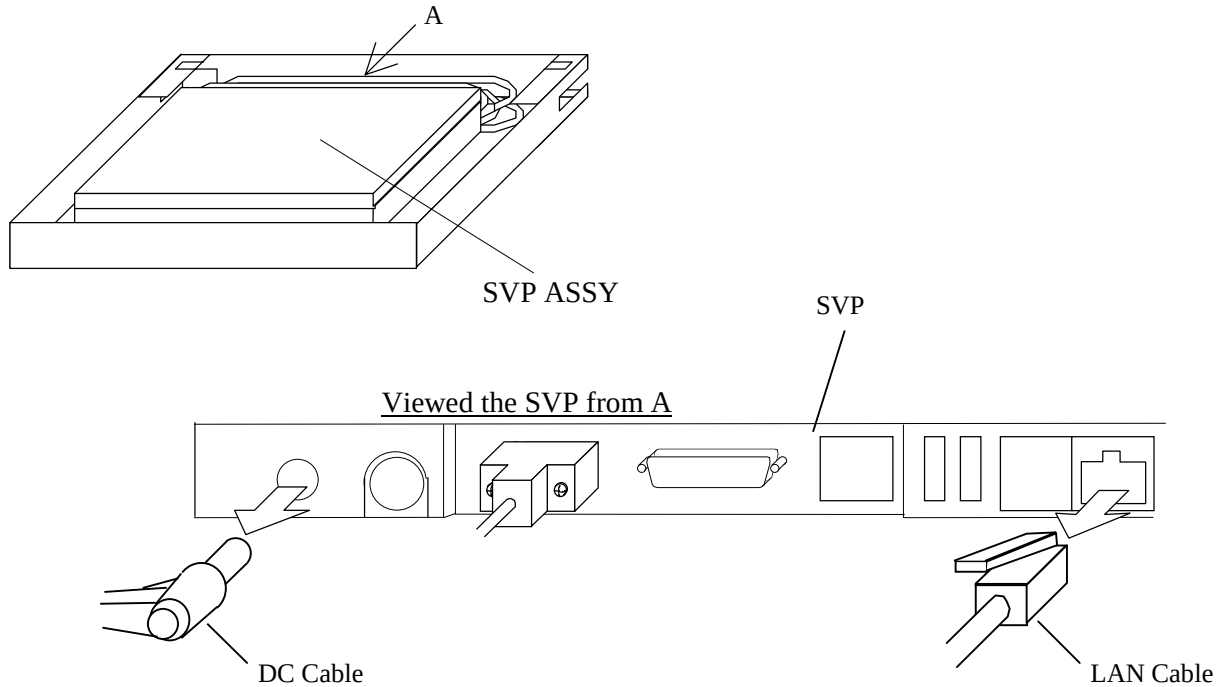


Fig. 4.12-13 Removing and installing Cables

10. Loosen the screws and remove the SVP stoppers.

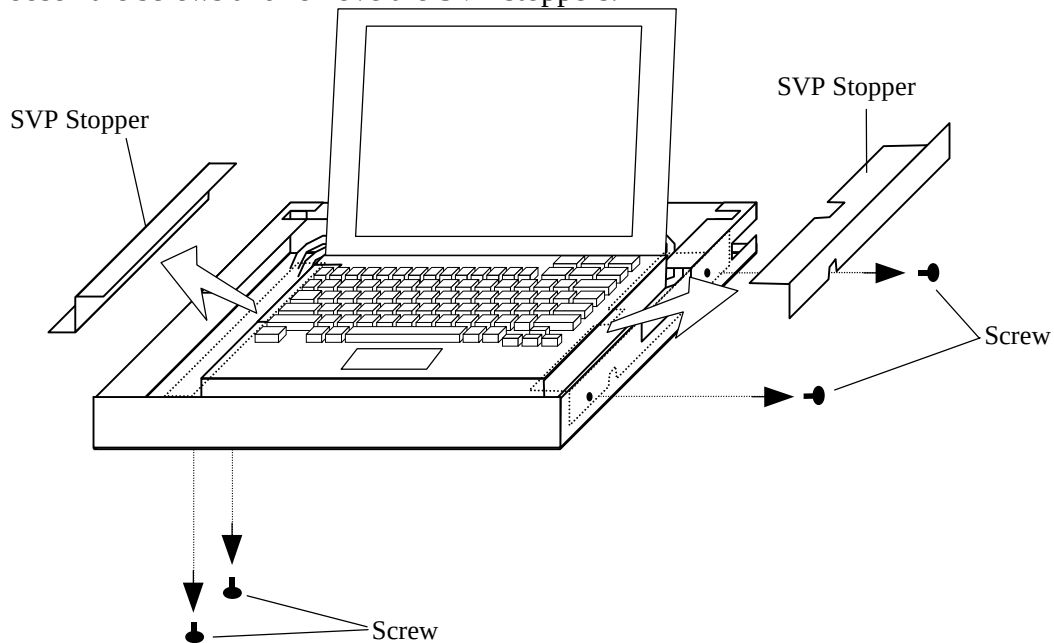


Fig. 4.12-14 Removing and installing the SVP Stoppers

11. Remove the SVP and RS232C Cable.

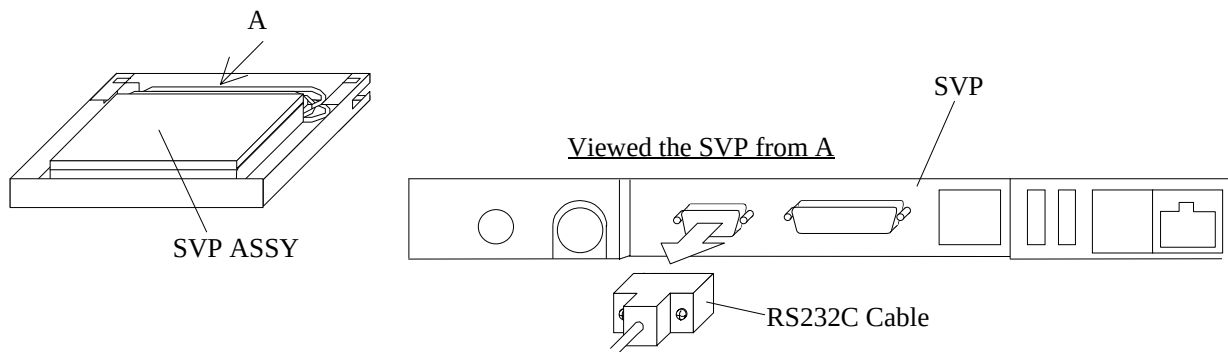


Fig. 4.12-15 Removing and installing RS232C Cable

12. Remove the Memory module.

- a. Loosen the screw and remove the Memory cover.
- b. Remove the Memory module from the slot 2.
- c. Attach the Memory cover with screw.

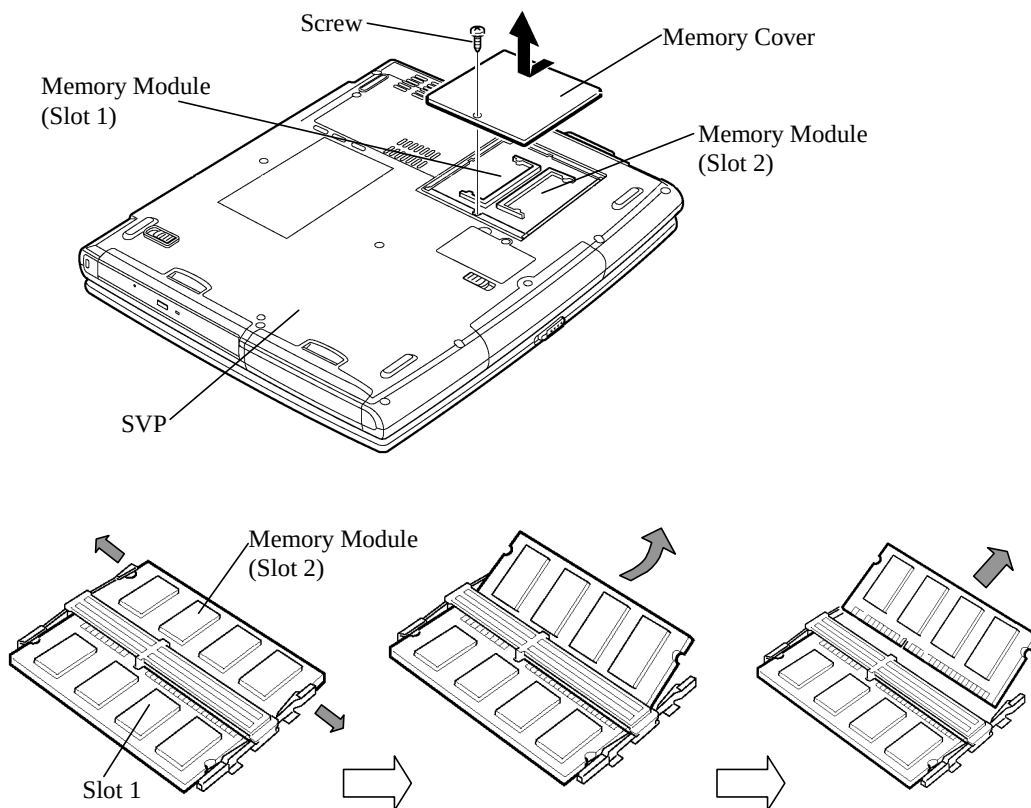


Fig. 4.12-16 Removal of Memory Module

13. Detach the Label.
 - a. Detach the Label of "256MB".

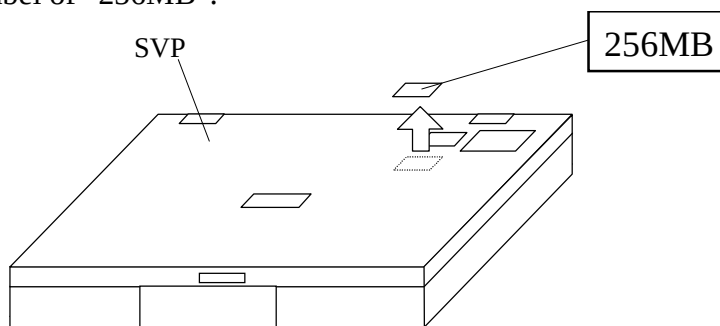


Fig. 4.12-17 Detachment of Label

14. Install a SVP.
 - a. Attach the SVP and RS232C Cable. (See Fig. 4.12-15.)
 - b. Install the SVP to the SVP ASSY and attach the SVP stoppers with screws. (See Fig. 4.12-14.)
 - c. Connect the LAN cable and DC cable to the SVP. (See Fig. 4.12-13.)
15. Install a SVP Assy.
 - a. Install the SVP to the SVP ASSY and attach the SVP stoppers with screws. (See Fig. 4.12-12.)
 - b. Attach the SVP ASSY cables to the RS CON PCB, HUB BOX and CON PLATE. And then close the repeat binder. (See Fig. 4.12-7 and 4.12-10.)
 - c. Attach the SVP cover. (See Fig. 4.12-11.)

16. Remove the Jumper.

Replacement of Basic SVP ASSY

- a. Remove the maintenance jumper of the JP1 on the RS CON PCB. (See Fig. 4.12-3.)

Replacement of Option SVP ASSY

- a. Remove the maintenance jumper of the PS SD on the SVPPS BOX. (See Fig. 4.12-4.)

17. Remove the nameplate.

- a. Remove the nameplate from the Rear Logic Box cover.

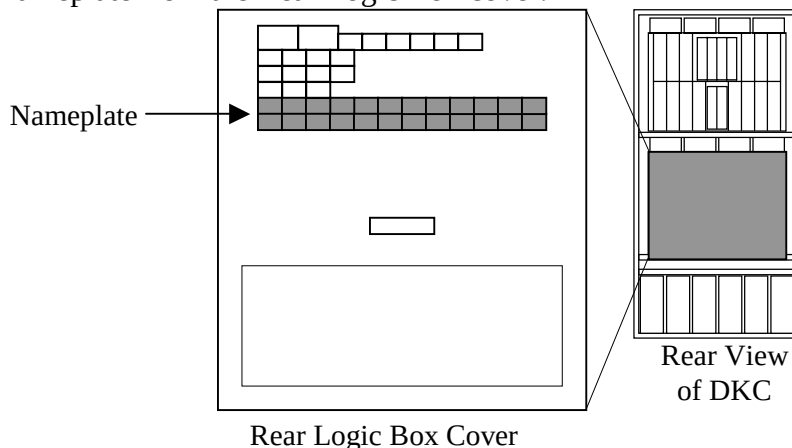


Fig. 4.12-18 Removal of Nameplate

5 SVP procedure

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5.3.4 Emulation Type Change	INST05-1350
5.4 System Tuning SVP Procedure	INST05-1420
5.4.1 System Tuning.....	INST05-1420

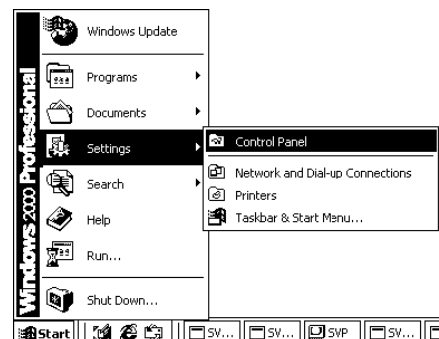
5.2 New Installation SVP Procedure

5.2.1 TOD Setting and Set IP Address

[1] TOD Setting (Turn on subsystem power before TOD Setting)

1. <Open [Control Panel]>

Select (DR) [Settings] and then [Control Panel] from [Start].

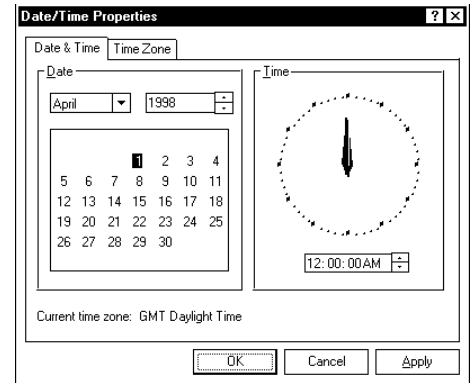


2. <Open [Date/Time]>

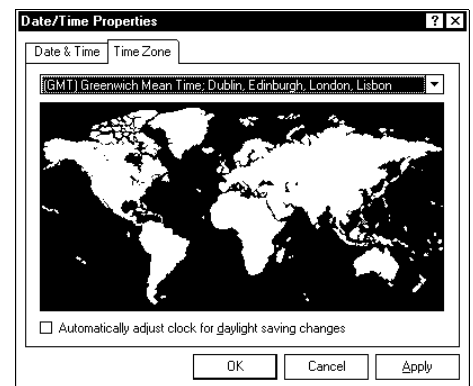
Select (DC) [Date/Time] from [Control Panel].



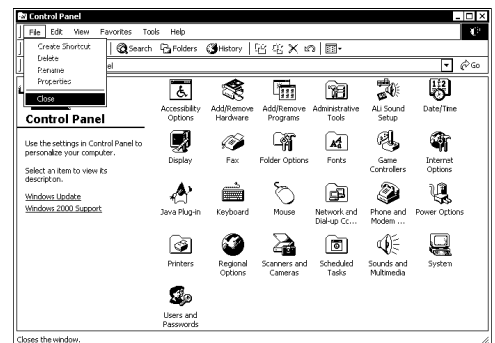
3. <Select [Time Zone]>
Select (CL) [Time Zone].



4. <Check the setting of [Time Zone]>
Make sure that the setting of [Time Zone] is “[GMT] Greenwich Mean Time; Dublin, Edinburgh, Lisbon, London”. Also, make sure that a check box on the left of “Automatically adjust clock for daylight saving changes” is ☐ (without a check mark). Then, press [OK] (CL).



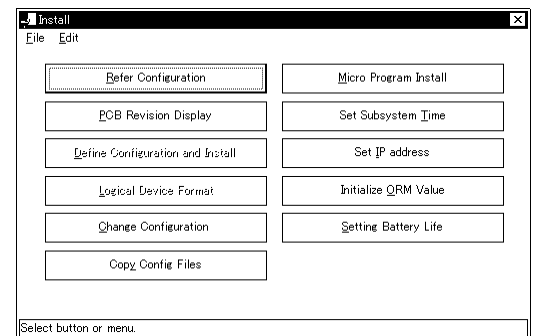
5. <Close [Control Panel]>
Select (DR) [File] and then [Close] from [Control Panel].



6.
Change the mode to [Modify Mode] from [View Mode] (CL).

7.
Select (CL) [Install].

8.
Select (CL) [Set Subsystem Time] in the 'Install' window.



9.

Specify the date (year, month and day) and time (hour, minute and second) and select (CL) [OK].

TOD change

YYYY / MM / DD
2001 / 10 / 19

hh : mm : ss
21 : 51 : 3

OK
Cancel

10.

Close the 'Install' window.

In case of New Installation, go to [INST02-530](#) step (5).

[2] Set IP Address

NOTICE

When the SVP High Reliability kit is set up, from Standby SVP.
Please change the IP Address and change the IP Address of Master SVP after completion.

Although "RC = 7ff200" may occur, there is no problem.
Please complete SIM before operation.

1.

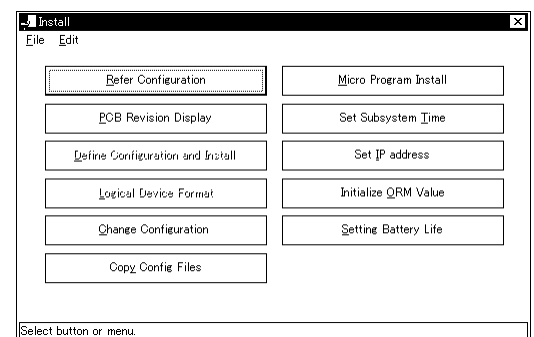
Change the mode to [Modify Mode] from [View Mode] (CL).

2.

Select (CL) [Install].

3.

Select (CL) [Set IP address] in the 'Install' window.



4. <Change the IP Address>

- (i) Select (CL) [SVP] and then select (CL) [OK] after entering IP Address and Subnet Mask of an Internal IP Address.

The SVP High Reliability kit un-setting up

The SVP High Reliability kit setting up
(Master SVP)

The SVP High Reliability kit setting up
(Standby SVP)

- (ii) In response to the message “This will reboot SVP.”, select (CL) [OK].

In case of New Installation, go to [INST02-540](#) step (7).
Change the IP Address is abnormally terminated
if the message “Failed to change the IP address.” is displayed.
Identify the error cause according to the procedure shown in
“TROUBLE SHOOTING SECTION”.

5.2.2 Configuration Information Definition

NOTICE

This operation is necessary only when a subsystem is newly installed. It is not performed afterward. If it is performed by mistake, a system down or a data loss may be caused.

1. <Mode Change>

Change the mode to [INITIAL SETUP Mode].

Select “Shift” + “Ctrl” + “I”.

Enter the password and select (CL) [OK].

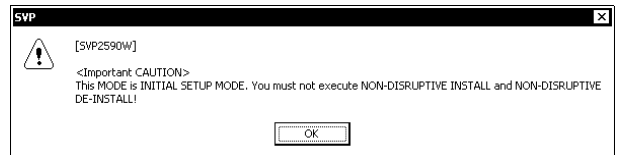
Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

This MODE is INITIAL SETUP MODE.

You must not execute NON-DISRUPTIVE

INSTALL and NON-DISRUPTIVE DE-INSTALL!”

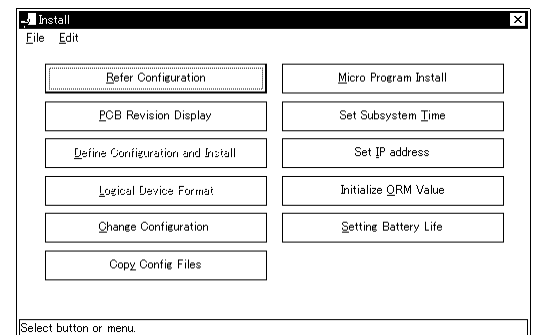


Please call Technical Support Center for asking the password.

Select (CL) [Install].

2.

Select (CL) [Define Configuration and Install...].



NOTICE

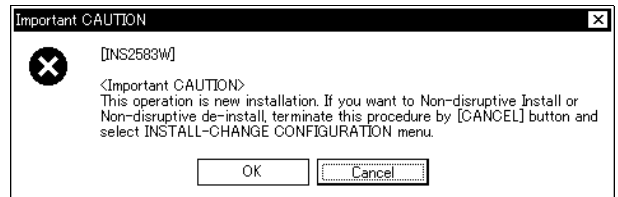
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if executed in an occasion other than the new subsystem installation, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

3.

- (1) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

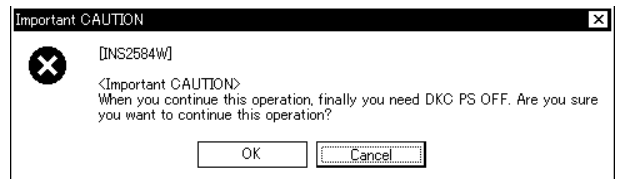
This Operation is new installation. If you want to Non-disruptive Install or Non-disruptive de-install, terminate this procedure by [CANCEL] button and select INSTALL-CHANGE CONFIGURATION menu.”.



- (2) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

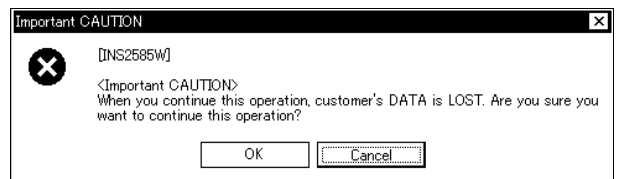
When you continue this operation, finally you need DKC PS OFF. Are you sure you want to continue this operation?”.



- (3) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

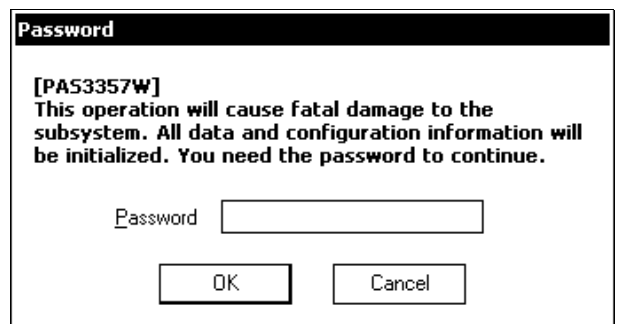
When you continue this operation, customer's DATA is LOST. Are you sure you want to continue this operation?”.



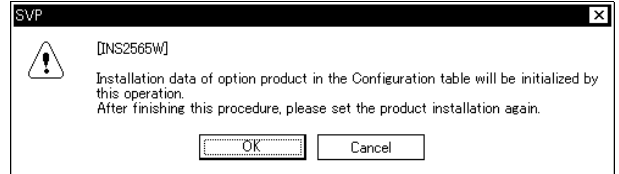
- (4) Enter the password and select (CL) [OK].

Entering the password is required in this operation.

Please call Technical Support Center for asking it.



- (5) Select (CL) [OK] in response to the confirmation message “Installation data of option product in the Configuration table will be initialized by this operation. After finishing this procedure, please set the product installation again.”.



4. <Define configuration information>

Define the device configuration information from ‘DKC Configuration’ according to the device configuration worksheet.

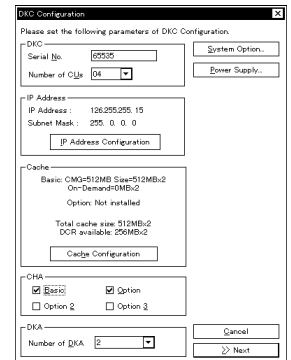
After defining all input items is completed, select (CL) [>>Next].

If [Cache Configuration] is selected, the ‘Cache Configuration’ dialog box is displayed. (See step 4-2.)

If [System Option] is selected, the ‘System Option’ dialog box is displayed. (See step 4-3.)

If [Power Supply] is selected, the ‘Redundant Power Supply’ dialog box is displayed. (See step 4-4.)

If [Cancel] is selected, this procedure is terminated.



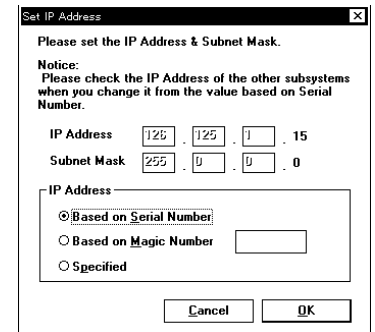
4-1. <Setting IP Address>

Set the IP Address and Subnet Mask in the ‘Set IP Address Configuration’ dialog box.

After setting up all items, select (CL) [OK].

Go to step 4.

Selecting (CL) [Cancel] returns you to step 4.



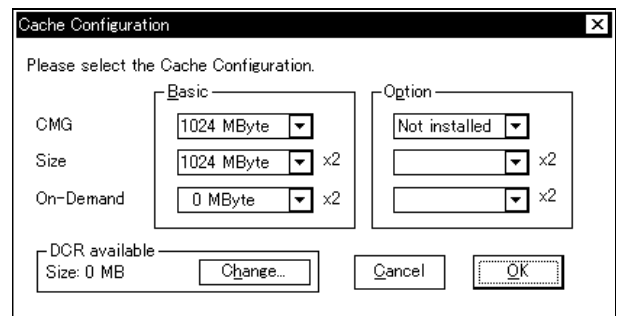
4-2. <Define Cache Capacity>

Define the cache capacity in the ‘Cache Configuration’ dialog box.

When the [Change...] is selected (CL), the ‘DCR Available Size’ dialog box is displayed. (Refer to Step 4-2-1.)

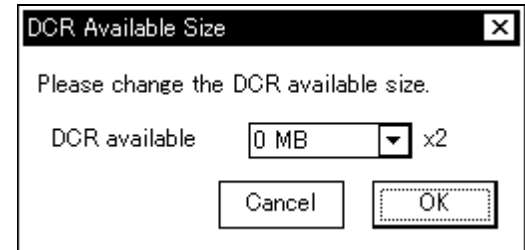
(See SSD Optional Function Section)

Note: For Single Cabinet Model, Option is not displayed.



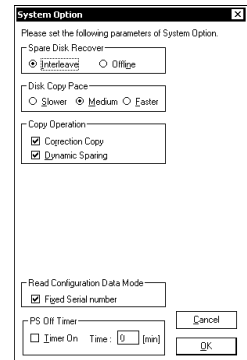
4-2-1. <Setting DCR size>

Set the DCR Available size in the 'DCR Available Size' window and select (CL) the [OK] button.
Return to Step 4-2.



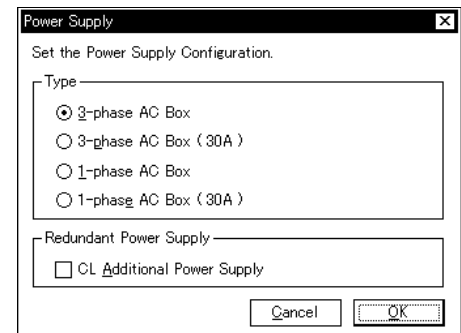
4-3. <Define System Options>

Define the device configuration information from 'System Option Setup' according to the device configuration worksheet.
After setting up all items, select (CL) [OK].
Go to step 4.
Selecting (CL) [Cancel] returns you to step 4.



4-4. <Set Power Supply>

Set the power supply information in the 'Redundant Power Supply' dialog box.
After setting up all items, select (CL) [OK].
Go to step 4.
Selecting (CL) [Cancel] returns you to step 4.



5. <Setting channel type>

Set the subsystem configuration information in the 'Host Interface Configuration' window according to the subsystem configuration information work sheet.

When [Fibre *] is selected to set the HRC/HORC or to change the Fibre PCB Mode, select (CL) [Mode Set...] and go to step 5-1.

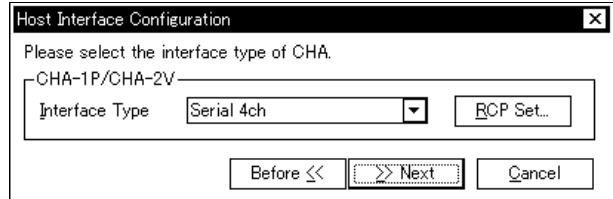
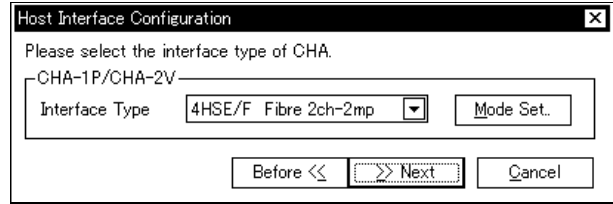
Select (CL) [Next>>]. Go to step 5-6.

When [Serial 4 ch] is selected to set the HRC/HORC, select (CL) [RCP Set...] and go to step 5-2.

(Execute the operation above for all the channels installed.)

After all the items are set, select (CL) [>>Next]. Go to step 7.

When [Before<<] is selected (CL), the screen is returned to the previous one.



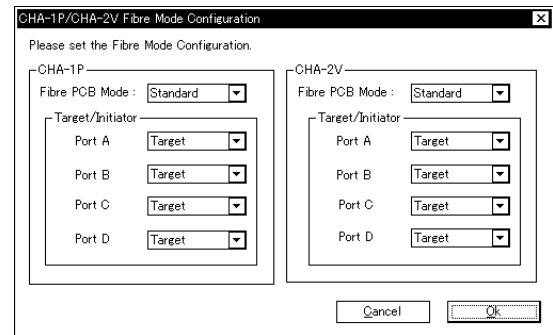
5-1. <Setting Fibre Mode>

Set the 'Target/ Initiator' in the 'Fibre Mode Configuration' dialog box only when setting the Fibre PCB Mode or HRC/HORC.

After setting up all items, select (CL) [OK].

Go to step 5.

Selecting (CL) [Cancel] returns you to step 5.

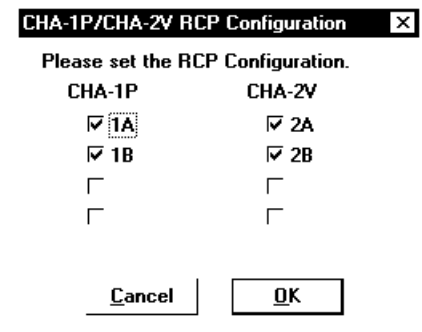


5-2. <Setting RCP port>

When setting the HRC/HORC, select (CL) the port defined as the RCP port and select (CL) [OK].

Go to step 5-3.

When [Cancel] is selected (CL), the routine returns to step 5.

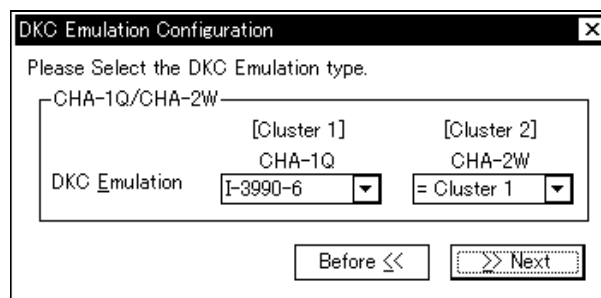


5-3. <Setting DKC emulation type>

Set the subsystem configuration information in the 'DKC Emulation Configuration' window according to the subsystem configuration information work sheet.

After the setting is completed, select (CL) [>>>Next]. Go to step 5.

When [Before<<] is selected (CL), the routine returns to step 5.



DKC Emulation Configuration

Please Select the DKC Emulation type.

CHA-1Q/CHA-2W

[Cluster 1] [Cluster 2]

CHA-1Q CHA-2W

DKC Emulation I-3990-6 = Cluster 1

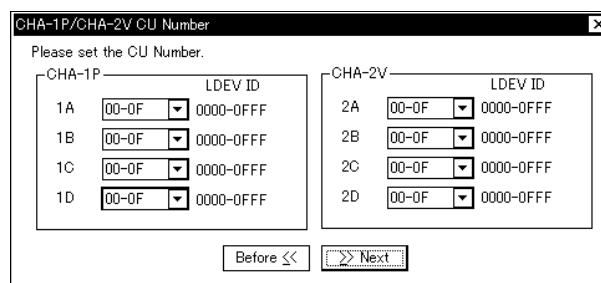
Before << >> Next

5-4. <Setting CU number>

CU number is displayed.

After the setting is completed, select (CL) [>>>Next]. Go to step 5-5.

When [Before<<] is selected (CL), the routine returns to step 5-3.



CHA-1P/CHA-2V CU Number

Please set the CU Number.

CHA-1P LDEV ID

1A 00-0F 0000-0FFF

1B 00-0F 0000-0FFF

1C 00-0F 0000-0FFF

1D 00-0F 0000-0FFF

CHA-2V LDEV ID

2A 00-0F 0000-0FFF

2B 00-0F 0000-0FFF

2C 00-0F 0000-0FFF

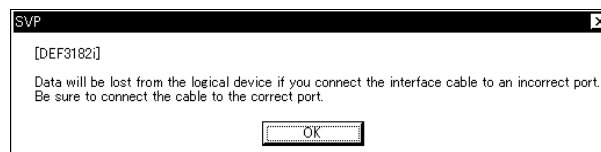
2D 00-0F 0000-0FFF

Before << >> Next

5-5. <SVP message>

Select (CL) [OK] in response to the confirmation message "xxxxx".

Returns to step 5.



SVP

[DEF31821]

Data will be lost from the logical device if you connect the interface cable to an incorrect port.
Be sure to connect the cable to the correct port.

OK

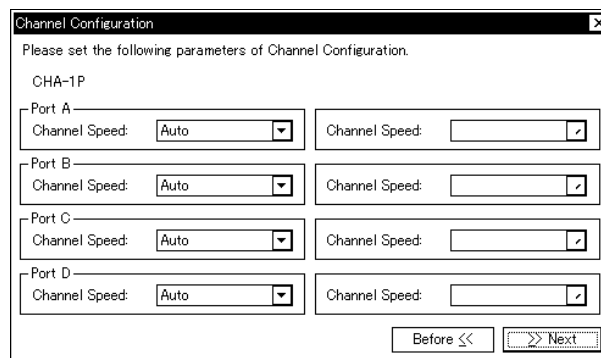
5-6. <Setting Channel>

Set the 'Channel Speed'.

After setting up, select (CL) [>>>Next].

Go to step 6.

When [Before<<] is selected (CL), the routine returns to step 5.



Channel Configuration

Please set the following parameters of Channel Configuration.

CHA-1P

Port A Channel Speed: Auto Channel Speed: []

Port B Channel Speed: Auto Channel Speed: []

Port C Channel Speed: Auto Channel Speed: []

Port D Channel Speed: Auto Channel Speed: []

Before << >> Next

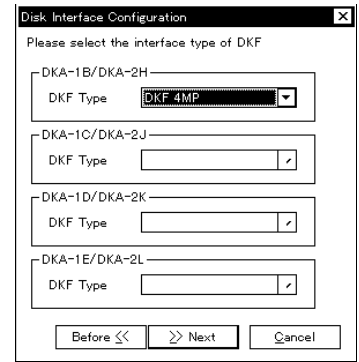
6. <Set DKF type>

Set the 'DKF Type'.

After setting up, select (CL) [>>Next].

Go to step 6-1.

When [Before<<] is selected (CL), the routine returns to step 5.



6-1. <Set DKU Equipment>

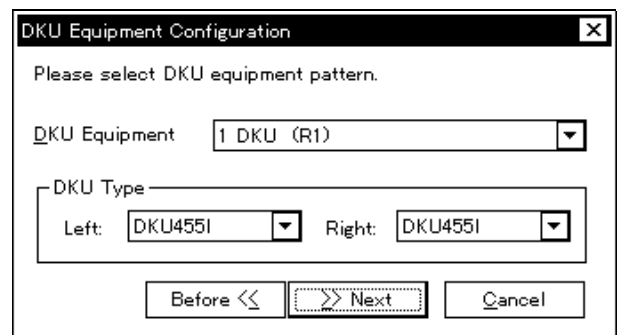
Define the DKU equipment pattern in the 'DKU Equipment' and DKU type.

After setting up, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

This procedure is terminated by selecting (CL)

[Cancel].



Note: For Single Cabinet Model,
the 'DKU Equipment Configuration' dialog box is not displayed.

7. <Install Drive Configuration Information>

Define drive configuration according to the 'Physical Device Configuration' screen.

Detailed procedure is shown below.

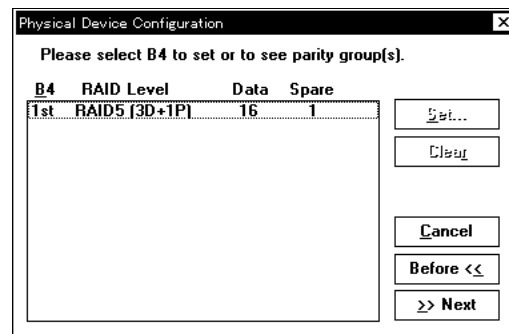
[Set...]: Defines the parity group or spare disk. The routine proceeds to Step 7-1.

[Clear...]: Cancels the setting of the B4.

After setting up all items, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

This procedure is terminated by selecting (CL) [Cancel].



[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

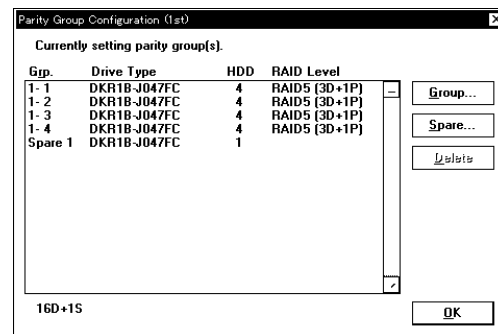
Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

7-1.

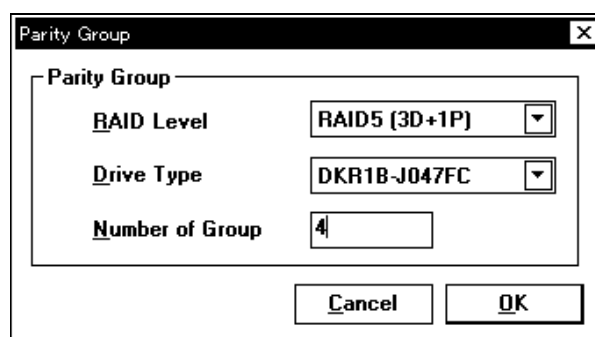
- To define Parity Group, select the drive to be defined and select (CL) [Group...] in the 'Parity Group Configuration' dialog box. See step 7-1-1.
- To define Spare, select the drive to be defined and select (CL) [Spare...] in the 'Parity Group Configuration' dialog box. See step 7-1-2.
- To delete an item, select an item to be deleted and select (CL) [Delete] in the 'Parity Group Configuration' dialog box.



Note: If you want to set any Spare Drive in B4, please define the Spare Drive first.
After setting up all items, select (CL) [OK]. Return to step 7.

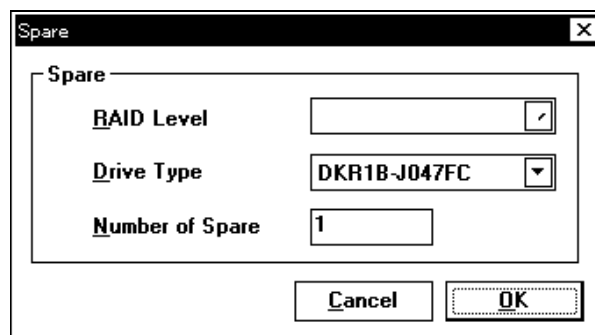
7-1-1.

Define the RAID Level and the drive capacity and the number of parity groups in the 'Parity Group' dialog box. Then select (CL) [OK]. Return to step 7-1.



7-1-2.

Define the RAID Level and the drive capacity and the number of spare drives in the 'Spare' dialog box. Then select (CL) [OK]. Return to step 7-1.

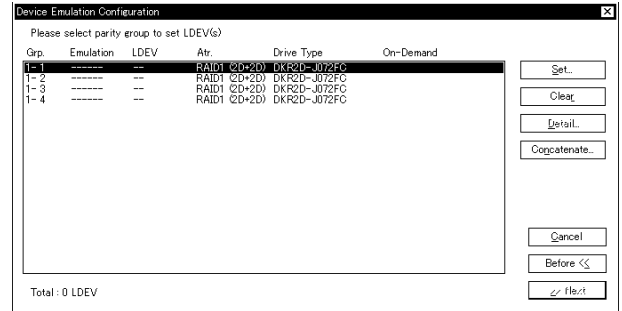


8. <Define Device Emulation>

After setting up all items for definition of Device Emulation, select (CL) [>>Next].
Selecting (CL) [Before<<] returns you to the previous screen.

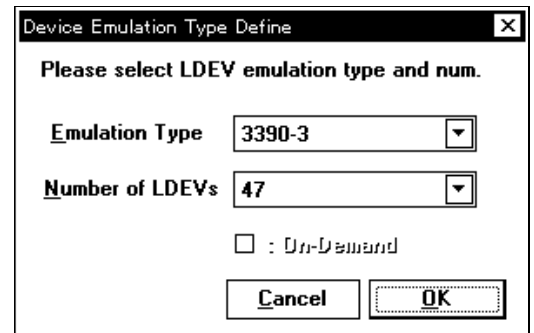
8-1.

In the case of defining Device Emulation:
Select (CL) a device and select (CL) [Set...].
This procedure is terminated by selecting
(CL) [Cancel].



8-1-1.

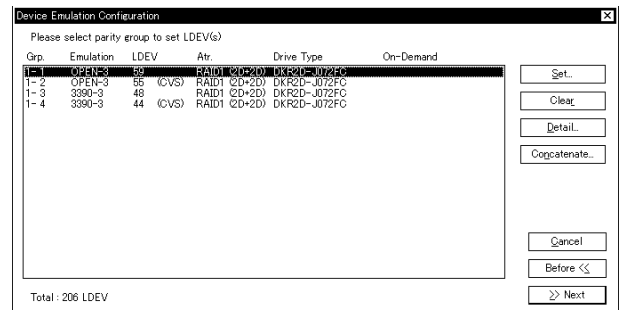
After setting up all items in the 'Logical Device Emulation Type' dialog box, select (CL) [OK].
Go to step 8-1.
Selecting (CL) [Cancel] returns you to step 8-1.



8-1-2. <Setting RAID concatenation>

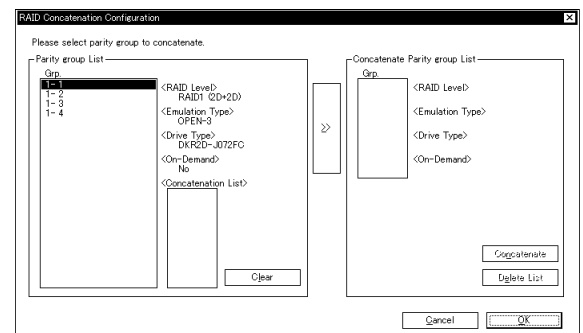
- (1) After setting the LDEV emulation type and a number of LDEVs, select (CL) the [Concatenate...].

This operation is terminated when the [Cancel] is selected (CL).



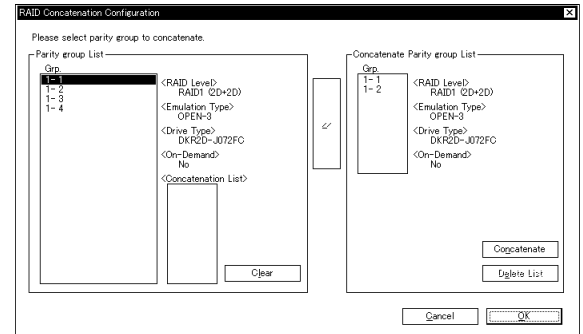
- (2) Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button.

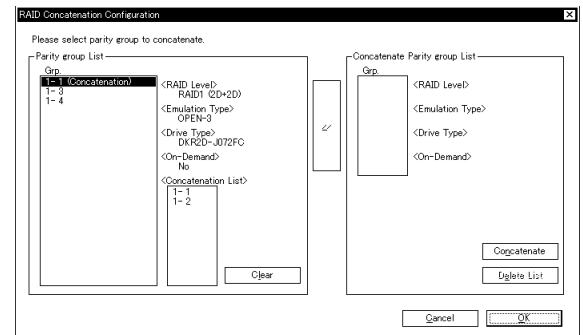


- (3) The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button.

Note: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.



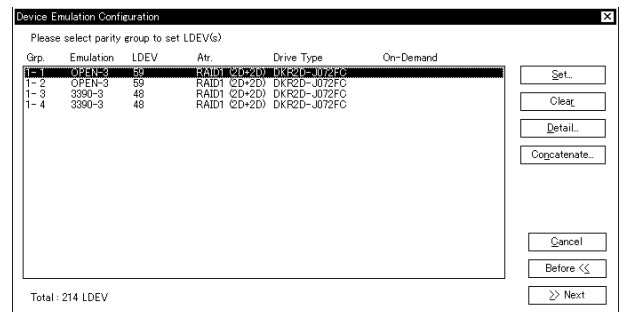
- (4) When the RAID concatenation is completed, “(Concatenation)” is displayed in the Parity group List. Selecting the “(Concatenation)” displays the concatenated parity groups in the Concatenation List. Pressing the [Clear] button cancels the RAID concatenation.



- (5) When all the settings of the RAID concatenation are completed, press (CL) the [OK] button. Pressing (CL) the [Cancel] button returns the routine to Step 8-1-2 (1).

8-2. <Defining of Customized Volume Size (CVS)>

- (1) Select (CL) a parity group for which the LDEV emulation type and the number of LDEVs have been set on the “Device Emulation Configuration” screen and select (CL) [Detail...]. This procedure is terminated by selecting (CL) [Cancel].



- (2) Press (CL) the [Delete] button to delete the Volume(s), enter the LDEV emulation type of a customized volume(CV) to be registered and the number of user cylinders (in the case of Mainframe system. Refer to the upper screen) or the size (Mbyte) (in the case of open system. Refer to the lower screen) on the “Customized Volume Size Define” screen, then press (CL) the [Add] button to add them. Selecting (CL) [Cancel] returns you to the previous screen.

Note : Meaning of “+” character

- 1) Volume with SCSI path.
- 2) LU expanded volume.

ID	Emulation	User	Total
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)

57 LDEVs (134149.21 MByte)
864.14 MByte remain
57 LDEV in this parity group.

ID	Emulation	User	Total
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	empty	9413.43	MByte
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	empty	14120.85	MByte
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	empty	7080.07	MByte
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)

37 LDEVs (87079.21 MByte)
47934.14 MByte remain
37 LDEV in this parity group.

ID	Emulation	User	Total
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]

81 LDEVs (132025.07 MByte)
2988.28 MByte remain
81 LDEV in this parity group.

- (3) The CV registered by mistake can be deleted by selecting it from the list box and pressing (CL) the [Delete] button.
Note: One or more CVs can be selected.

ID	Emulation	User	Total
----	OPEN-3	2347.03	(2353.35)
----	OPEN-3	2347.03	(2353.35)
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]
----	OPEN-9	1000.54	(1020.93) [CVS]

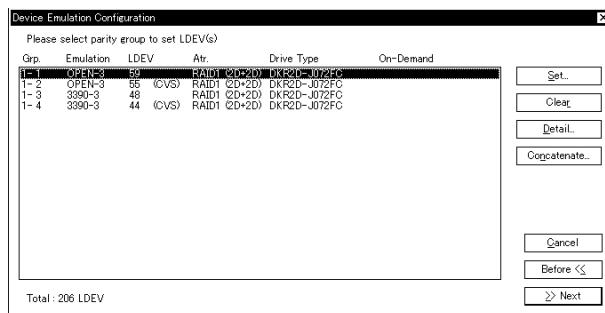
81 LDEVs (132025.07 MByte)
2988.28 MByte remain
81 LDEV in this parity group.

8-3.

In the case of deletion:

Select (CL) a device and select (CL) [Clear].

This procedure is terminated by selecting (CL) [Cancel].



9. <Define LDEV ID>

After setting up all items, select (CL) [>Next]. Selecting (CL) [Before<<] returns you to the previous screen.

9-1. <Definition Screen for LDEV ID>

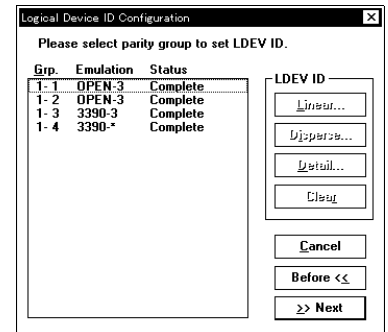
Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity group. See step 9-3.

[Disperse...]: LDEV is assigned discretely in the order of parity group. See step 9-3.

[Detail...]: A screen to define LDEV in detail is displayed. See step 9-2.

- '-----' is displayed in CU area and ID area for the parity group to which LDEV ID is not assigned.
 - 'xxxxx' is displayed in ID area for the parity group to which any LDEV ID is not assigned.
- This procedure is terminated by selecting (CL) [Cancel].

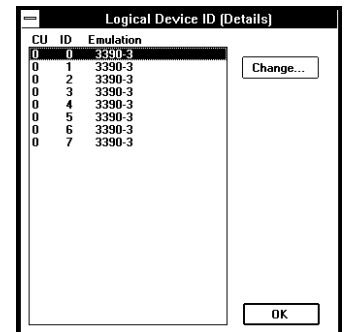


9-2. <Detailed Definition Screen for LDEV ID>

LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) [LDEV] from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.



9-3. <Input LDEV ID>

Select CU ID in the CU combo box.

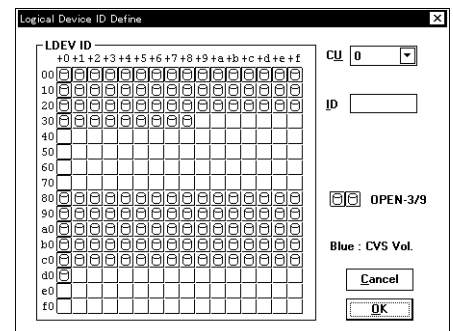
The status of usage of ID in the CU is displayed in the LDEV ID panel.

White disk of panel: not used

Black disk of panel: using

Input LDEV ID you want to set or head LDEV ID in the ID Edit box.

After setting, select (CL) [OK]. Return to step 9.



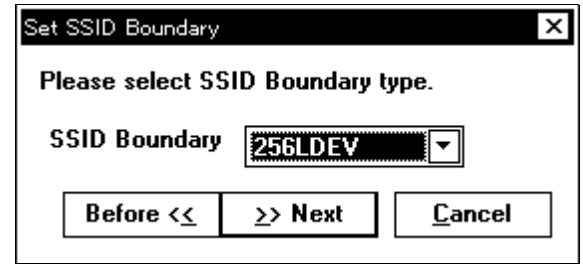
10. <Define Subsystem ID Boundary>

Set the Subsystem ID Boundary in the 'Set SSID Boundary' dialog box.

After setting up all items, select (CL) [OK].

Go to step 5.

This procedure is terminated by selecting (CL) [Cancel].

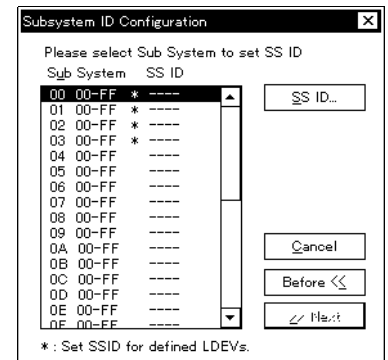


10-1. <Define Subsystem ID>

To define Subsystem ID, select (CL) [SSID].

After setting, select (CL) [>>Next].

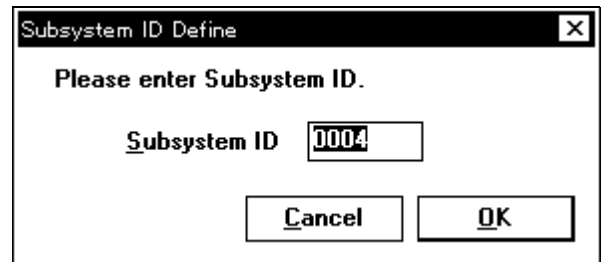
This procedure is terminated by selecting (CL) [Cancel].



10-2.

Define Subsystem ID and select (CL) [OK].

Return to step 10-1.



11. <Defining DCR>

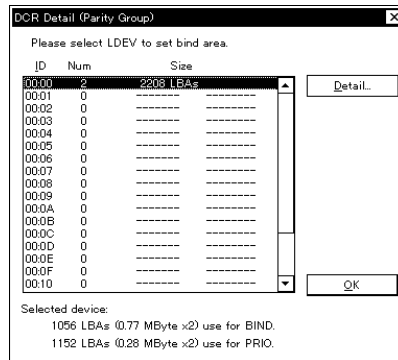
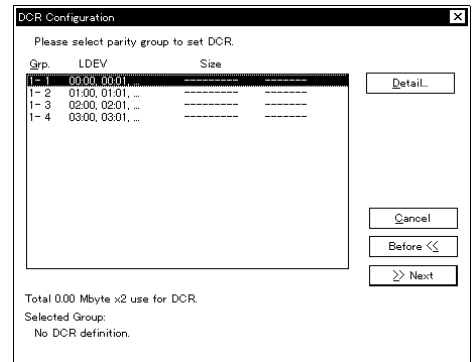
- (1) Select (CL) a parity group having LDEV(s) for which the DCR is to be set on the “DCR Configuration” screen and press (CL) the [Detail...] button.

Total cache memory size which DCR area use is displayed.

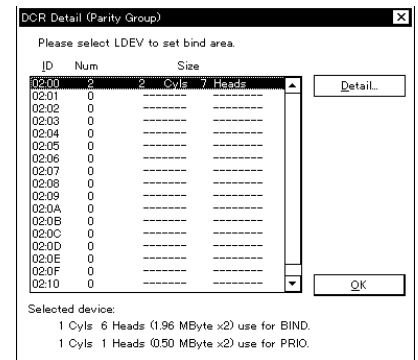
If the selected parity group has a DCR area, the BIND size and to PRIO size are displayed under the “DCR Configuration” screen.

After setting above, select (CL) [>>Next].

This procedure is terminated by selecting (CL) [Cancel].



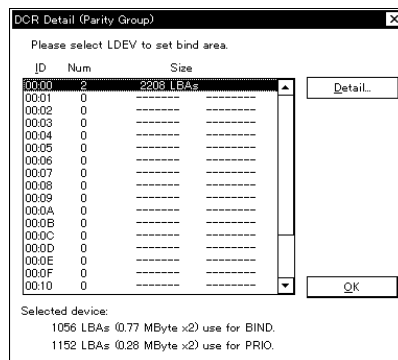
(For open system)



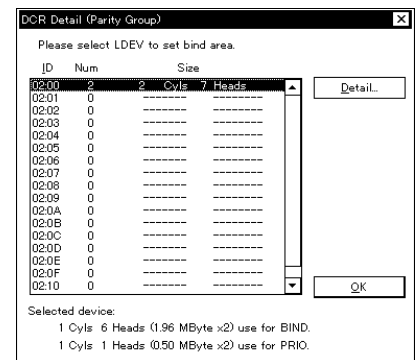
(For Mainframe system)

- (2) Select (CL) an LDEV where the DCR is to be set on the “DCR Detail (Parity Group)” screen and press (CL) the [Detail...] button.

If the selected LDEV has a DCR area, the BIND size and the PRIO size are displayed under the “DCR Detail (Parity Group)” screen.



(For open system)



(For Mainframe system)

- (3) Confirm the LDEV size and the number of slots allowed to be set for each type on the “DCR Detail (Logical Device)” screen. Press (CL) the [Set...] button to set the DCR area.

- (4) Enter the type, starting cylinder number, starting head number, ending cylinder number, and ending head number (for Mainframe system. Refer to the screen on the right.) or the type, starting LBA, and ending LBA (for open system. Refer to the screen on the left.) on the “DCR Define” screen and select (CL) [OK].
For open system, all items are allowed to be set.

- (5) When the screen is returned to the “DCR Detail (Logical Device)” screen, the entrance result is displayed.

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from LBA	to LBA	Type	Size
0	1055	BIND+	1056 LBAs
1920	3071	PRIO+	1152 LBAs

Set...
Delete

OK

Device : 00:00 (4806720 LBAs) RAID5
348000 LBAs remain for BIND
1044192 LBAs remain for PRIO
+Prestaging area

(Foe open system)

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from CC HH	to CC HH	Type	Size
0 00	1 05	BIND+	1 Cyls 6 Heads
2 00	3 00	PRIO+	1 Cyls 1 Heads

Set...
Delete

OK

Device : 02:00 (3339 Cylinders) RAID5
179 Cyls 8 Heads remain for BIND
538 Cyls 9 Heads remain for PRIO
+Prestaging area

(For Mainframe system)

- (6) When an item in the list box is selected (CL) and the [Delete] button is pressed (CL) on the “DCR Detail (Logical Device)” screen, the DCR setting is deleted. When the setting is completed, press (CL) [OK].

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from CC HH	to CC HH	Type	Size
2 00	3 00	PRIO+	1 Cyls 1 Heads

Set...
Delete

OK

Device : 02:00 (3339 Cylinders) RAID5
179 Cyls 8 Heads remain for BIND
538 Cyls 9 Heads remain for PRIO
+Prestaging area

- (7) If you want to set other LDEV(s) in the parity group which you selected, repeat steps (2) to (6) for the LDEV(s).

- (8) If you want to set other LDEV(s) in other parity group, repeat steps (1) to (6) for the LDEV(s).

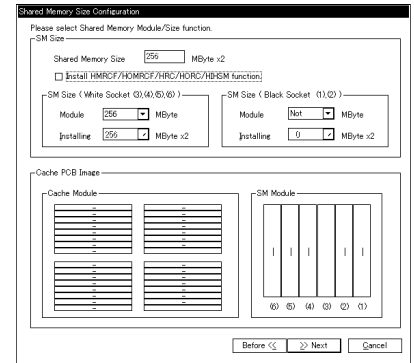
12. <Define Shared Memory Size>

Define the shared memory module size in the 'Shared Memory Size Configuration' dialog box.

Select (CL) [>>Next].

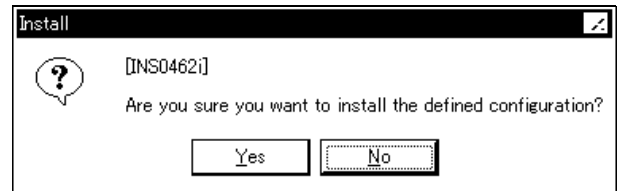
This procedure is terminated by selecting (CL) [Cancel].

Go to [INST05-610](#).



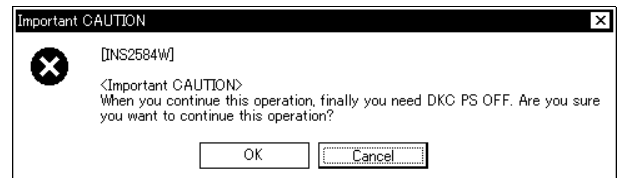
13. <Include configuration information>

- (1) Select (CL) [Yes] in response to the confirmation message "Are you sure you want to install the defined configuration?".
"Wait..." is displayed, then "Turn off DKC subsystem" is displayed.
Selecting (CL) [No] suppresses the configuration inclusion processing and terminates the installation procedure.



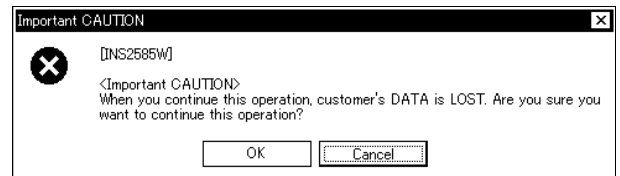
- (2) Select (CL) [OK] in response to the confirmation message "<Important CAUTION>".

When you continue this operation, finally you need DKC PS OFF. Are you sure you want to continue this operation?"



- (3) Select (CL) [OK] in response to the confirmation message "<Important CAUTION>".

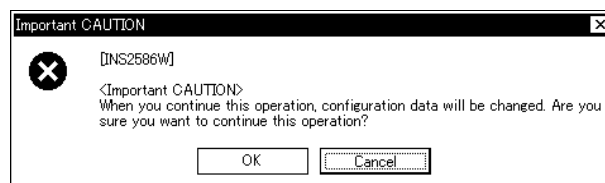
When you continue this operation, customer's DATA is LOST. Are you sure you want to continue this operation?"



- (4) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

When you continue this operation, configuration data will be changed. Are you sure you want to continue this operation?”.

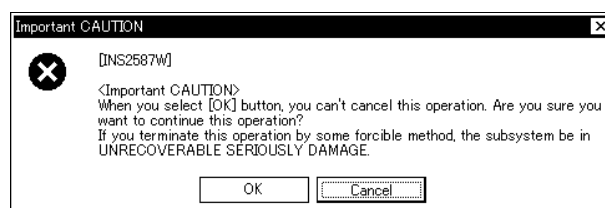


- (5) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

When you select [OK] button, you can't cancel this operation. Are you sure you want to continue this operation?

If you terminate this operation by some forcible method, the subsystem be in UNRECOVERABLE SERIOUSLY DAMAGE.”.



- (6) Select (CL) [OK] in response to the confirmation message

“<Important CAUTION>

You must not RE-BOOT SVP(PC).”.



14. <Power off DKC P/S>

Make sure that “Turn off DKC, and wait.” is displayed and perform the power-off procedure from the DKC maintenance panel.

After a while, “Wait...” will be displayed.

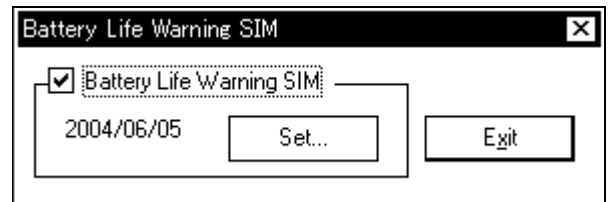
Turn off DKC, and wait.

15.

This step allows the contents of the SVP HD to be loaded into SM and FM.
When this procedure is completed, "Battery Life Warning SIM" is displayed.

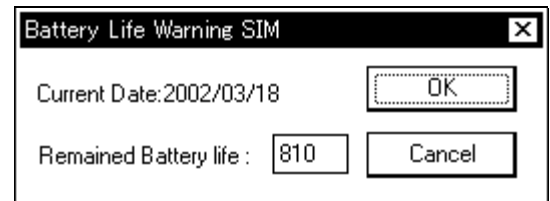
16.

Select [Set...] applying the check to 'Battery Life Warning SIM'.



17.

Select (CL) [OK] after inputting the remainder days by reporting on warning SIM.



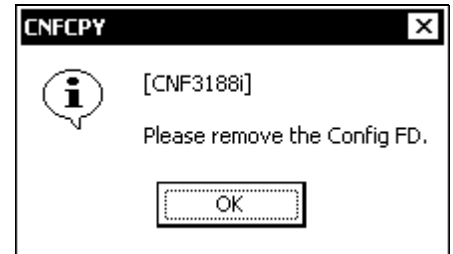
18.

Insert the configuration FD into FDD, and select (CL) [OK].



19.

When this procedure is completed, the message “Please remove the Config FD.” is displayed. Remove the FD, and then select (CL) [OK].



20.

After making sure that the DKC power is turned off, select (CL) [OK] in response to “Installation was finished.”.

Select (CL) [OK] in response to “This will reboot SVP.”.

Go to [INST02-550 step \(31\)](#).

Note: SVP power will not turn off or reboot even when DKC is powered off.



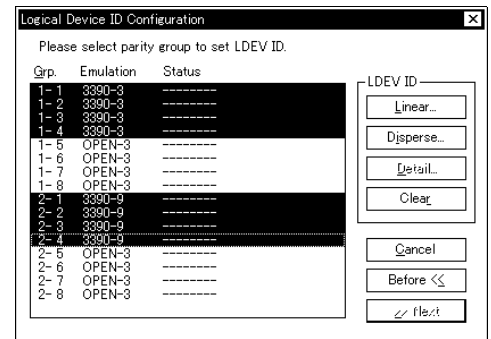
5.2.2.1 LDEV ID setting procedure when the emulation types of different systems coexist

5.2.2.1.1 Coexistence in units of parity group

The LDEV ID setting procedure is explained using an example of a case in which both the 3390 system LDEV and OPEN system LDEV are set in the same subsystem. This example shows the ID setting procedure when the B4-1/B4-2 is fully equipped with RAID5 (3D+1P), and the B4-1 and the B4-2 are defined as the 3390-3/OPEN-3 and the 3390-9/OPEN-3 respectively. Since systems other than the 3390 system and the 3390-3R cannot coexist in the parity group, the ID can be defined in this procedure.

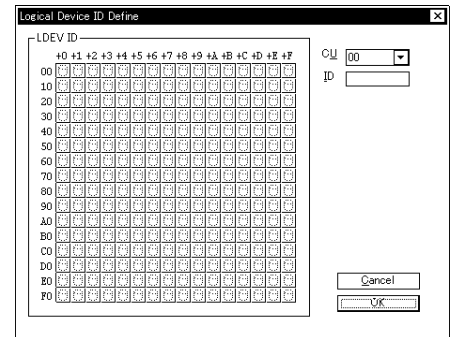
1.

Select only the parity group for which the 3390 system emulation type has been defined.



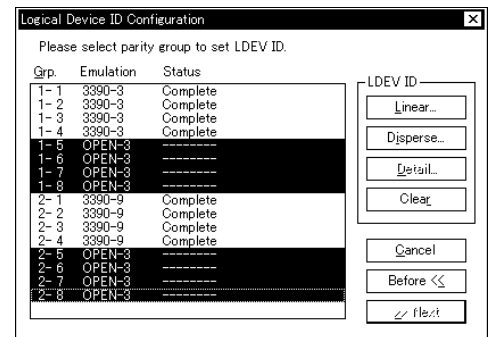
2.

Press the Linear or Disperse button to open the LDEV ID input screen and input the LDEV ID. (In the example, the Disperse button is pressed.)



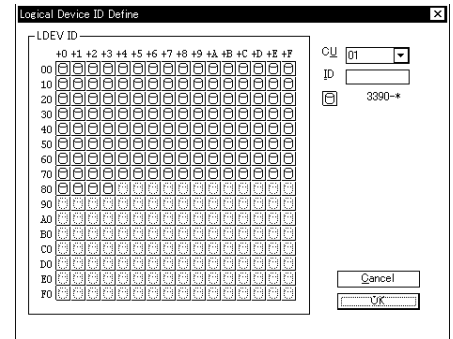
3.

Next, select only the parity group for which the OPEN system emulation type has been set.



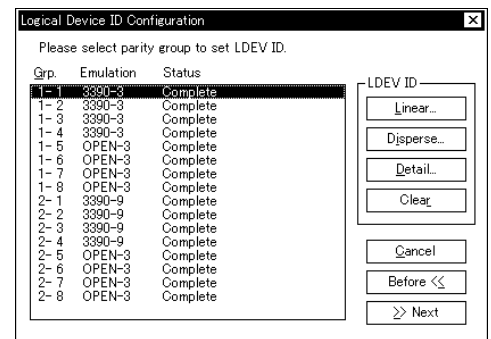
4.

Press the Linear or Disperse button to open the LDEV ID input screen and input the LDEV ID. In this case, take care not to make a coexistence occur in the block. In the example, 0:a0 and the subsequent are unused blocks. Therefore, input a0.



5.

Setting is completed.



Needless to say, the setting sequence of steps (1) and (3) may reversed.

If emulation types of different systems are selected at the same time, the guarding function works to prevent the setting by making the Linear and Dispense buttons unselectable.

5.2.3 Check Procedure

NOTICE

This operation is necessary only when a subsystem is newly installed. It is not performed afterward. If it is performed by mistake, a system down or a data loss may be caused.

1. <Execute Power-on CUDG>

Perform the power-on procedure from the DKC-PANEL.

(See [INST03-PWR-10](#))

Power-on CUDG is automatically executed on the DKC logic circuitry.

If an error occurs, SIM Log, SSB Log has logging.

(See [SVP02-30](#))

2. <Execute DKU Path inline test>

Perform DKU Path inline tests on all DKAs installed during the new installation procedure to check the validity of the drives.

See DIAGNOSIS SECTION for the test procedure. ([DIAG04-150](#))

Note: Before carrying out the DKU Path inline test, switch the current application to the program manager and have the SVP initial screen (which is shown in the right figure) displayed.

3. <Check subsystem status and all MPs micro-version>

Check the subsystem Status and all MPs micro-version.

(See [SVP03-10](#) and [SVP03-180](#))

NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if executed in an occasion other the new subsystem installation, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

4. <Format L-DEV>

(1) Change the mode to[INITIAL SETUP Mode].

Select “Shift” + “Ctrl” + “I”.

Enter the password and select (CL) [OK].

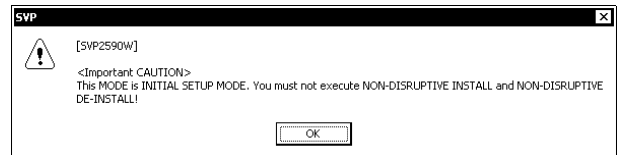
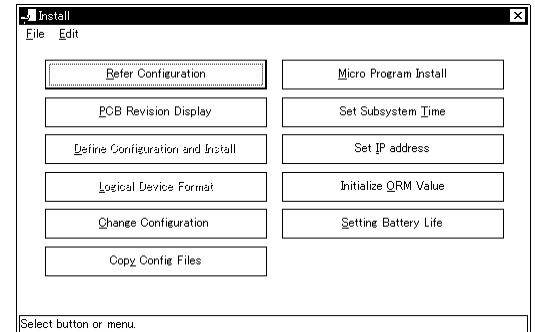
Please call Technical Support Center for asking the password.

Select (CL) [OK] in response to the confirmation message “<Important CAUTION>

This MODE is INITIAL SETUP MODE.

You must not execute NON-DISRUPTIVE INSTALL and NON-DISRUPTIVE DE-INSTALL!”

Select (CL) [Install].

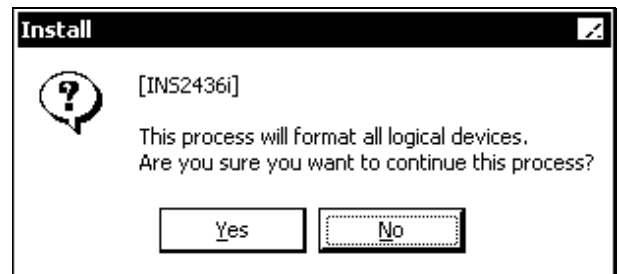


(2) Select (CL) [Logical Device Format].

Note: Execute Format Logical Device after confirming all Logical Device is blocked.

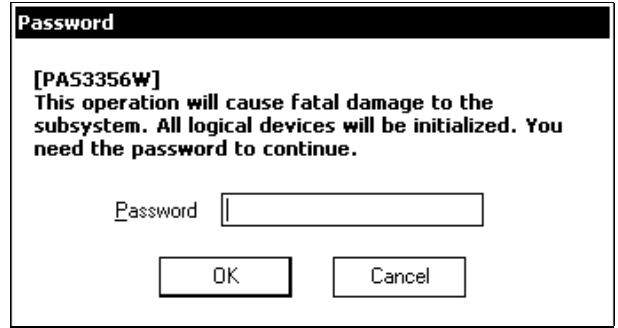
4.1.

Select (CL) [Yes] in response to “This process will format all logical devices. Are you sure you want to continue this process?”.



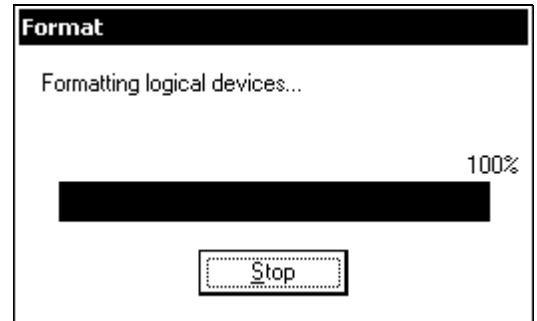
4.2.

Enter the password and select [OK] (CL).
 Password is needed for this operation.
 Please call Technical Support Center to obtain
 a password and authorization.



4.3.

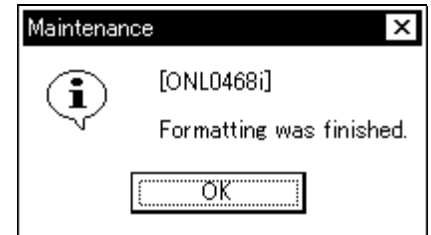
When L-DEV Formatting is complete, 'Formatting logical devices...' shown in the right figure disappears and "Formatting was finished." is displayed.



4.4.

Select (CL) [OK] in response to "Formatting was finished."

L-DEV formatting is abnormally terminated if the message "Formatting logical devices rejected by DKC." or "Formatting the logical device is failed." is displayed. Identify the error cause according to the procedure shown in "TROUBLE SHOOTING SECTION".



4.5. <Check logical device status>

Check if Logical Devices are normal by with referring to the 'Logical Device Status' display.

5. <Check subsystem status>

Check if all parts are normal by referring to 'Maintenance'.

6. <Check system interlock operation>

Start the test program from the host to check for normal subsystem's interlocked operation with the host.

7. <Delete error log>

Power ON/OFF the subsystem to make sure that the subsystem starts normally (neither ALARM nor MESSAGE indicators should light).

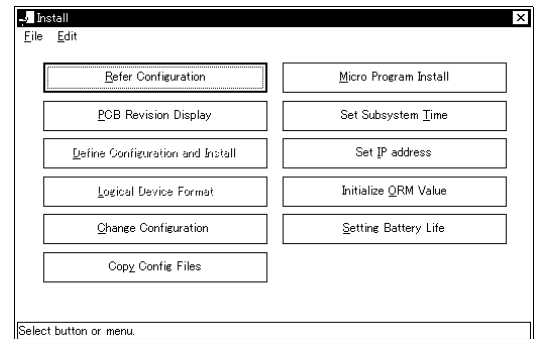
Delete all error log information from the SVP and transfer the subsystem to the user. See [SVP02-170](#).

Go to [INST02-560](#).

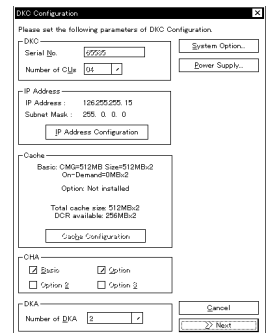
5.2.4 Refer Configuration

1. <Start [Install]>
Select (CL) [Install] from 'SVP'.

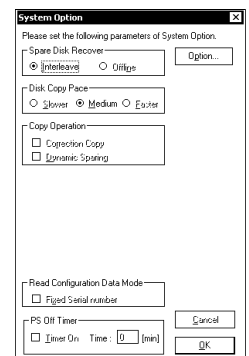
2. Select (CL) [Refer Configuration].



3. <DKC configuration information>
If [System Options...] is selected (CL), 'System Option' is automatically displayed.
If [Power Supply...] is selected (CL), 'Redundant Power Supply' is automatically displayed.
When you select (CL) [>>Next], 'Host Interface Configuration' is automatically displayed.
This procedure finishes when you select (CL) [Cancel].

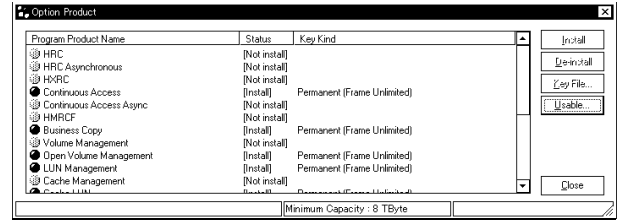


4. <System Option information>
When the [Option...] is selected (CL), the 'Option Product' dialog box is displayed. (Refer to Step 4-1.)
Selecting (CL) [OK] returns the screen to step 3.



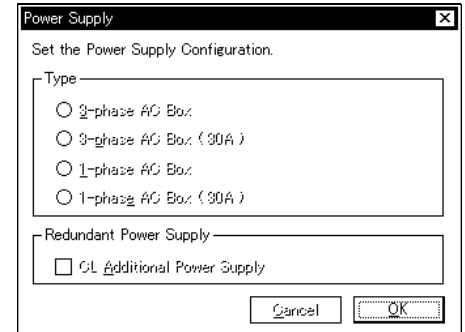
4-1. <Setting Program Product>

Select (CL) the [Close] button.
Return to Step 4.



5. <Setting Power Supply>

Selecting (CL) [OK] returns the screen to step 3.



6. <Setting Channel type>

When you select (CL) [Fibre *], [Mode set] is enabled, selecting (CL) [Mode set] processing skip to step 8.

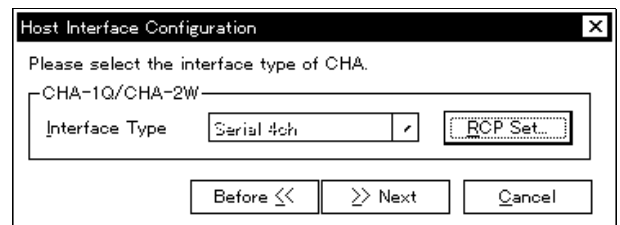
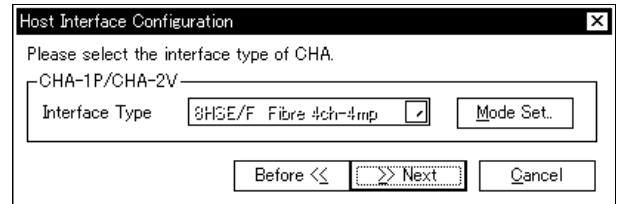
Select (CL) [>>Next] processing skip to step 9-2.

When you select (CL) [Serial 4ch] or [Serial 2ch].

The [RCP Set...] button is enabled. Selecting (CL) [RCP Set...] skip the screen to step 9.

Processing skip to step 10 if you selecting (CL) [>>Next].

Selecting (CL) [Before <<] returns the screen to step 6.



7. <Set Fibre Mode>

'Fibre Mode Configuration' is displayed.
Selecting (CL) [OK] returns the screen to step 7.

CHA-1P/CHA-2V Fibre Mode Configuration

Please set the Fibre Mode Configuration.

CHA-1P		CHA-2V	
Fibre PCB Mode :	Standard	Fibre PCB Mode :	Standard
Target/Initiator		Target/Initiator	
Port A	Target	Port A	Target
Port B	Target	Port B	Target
Port C	Target	Port C	Target
Port D	Target	Port D	Target

Cancel OK

8. <Set RCP port>

RCP Configuration is displayed.
Then, by selecting (CL) [OK] returns the screen to step 7.

CHA-1P/CHA-2V RCP Configuration

Please set the RCP Configuration.

CHA-1P	CHA-2V
☒ 1A	☒ 2A
☒ 1B	☒ 2B
☐	☐
☐	☐

Cancel OK

9. <Set DKC Emulation>

DKC Emulation type is displayed.
Select (CL) [>>Next]. Go to step 9-1.
When [Before<<] is selected (CL), the routine return to step 9.

DKC Emulation Configuration

Please Select the DKC Emulation type.

CHA-1Q/CHA-2W	
[Cluster 1]	[Cluster 2]
CHA-1Q	CHA-2W
DKC Emulation	DKC Emulation
[3333-3]	[Cluster 1]

Before << >> Next

9-1. <Setting CU number>

CU number is displayed.
After the setting is completed, select (CL) [>>Next]. Go to step 6.
When [Before<<] is selected (CL), the routine returns to step 9.

CHA-1P/CHA-2V CU Number

Please set the CU Number.

CHA-1P		CHA-2V	
LDEV ID		LDEV ID	
1A	00-0F 0000-0FFF	2A	00-0F 0000-0FFF
1B	00-0F 0000-0FFF	2B	00-0F 0000-0FFF
1C	00-0F 0000-0FFF	2C	00-0F 0000-0FFF
1D	00-0F 0000-0FFF	2D	00-0F 0000-0FFF

Before << >> Next

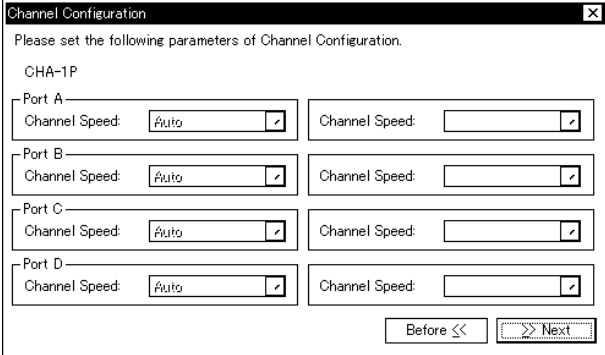
9-2. <Setting Channel>

Set the 'Channel Speed'.

After setting up, select (CL) [>>Next].

Go to step 6.

When [Before<<] is selected (CL), the routine returns to step 5.



Channel Configuration

Please set the following parameters of Channel Configuration.

CHA-1P

Port A
Channel Speed: Channel Speed:

Port B
Channel Speed: Channel Speed:

Port C
Channel Speed: Channel Speed:

Port D
Channel Speed: Channel Speed:

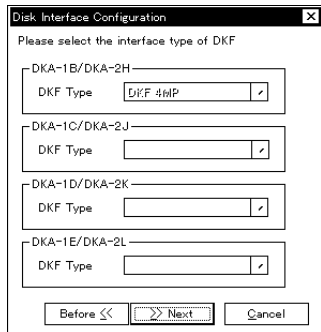
Before << >> Next

10. <Set DKF type >

DKF type is displayed.

Select (CL) [>> Next]. Go the screen to step 10-1.

Select (CL) [Before<<]. Go the screen to step 6.



Disk Interface Configuration

Please select the interface type of DKF

DKA-1B/DKA-2H
DKF Type:

DKA-1C/DKA-2J
DKF Type:

DKA-1D/DKA-2K
DKF Type:

DKA-1E/DKA-2L
DKF Type:

Before << >> Next Cancel

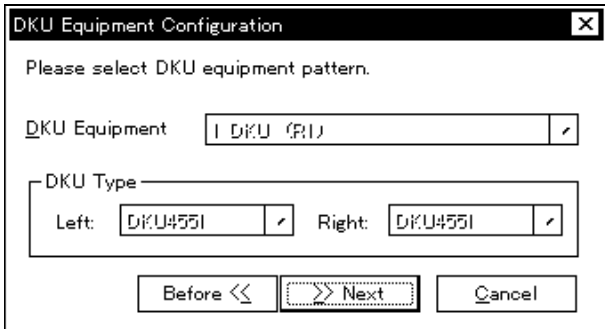
10-1. <Set DKU Equipment>

DKU Equipment pattern and DKU type is displayed.

Select (CL) [>> Next].

This procedure is terminated by selecting (CL) [Cancel].

Note: For Single Cabinet Model, the 'DKU Equipment Configuration' dialog box is not displayed.



DKU Equipment Configuration

Please select DKU equipment pattern.

DKU Equipment:

DKU Type

Left: Right:

Before << >> Next Cancel

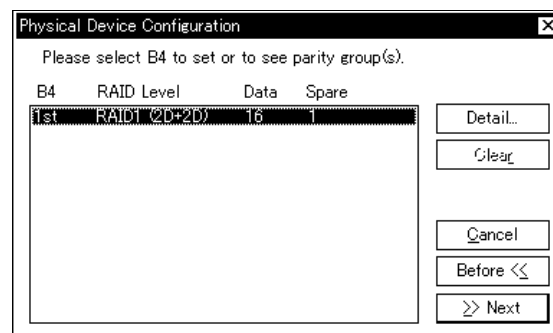
11. <Set Physical Device>

Physical device configuration is displayed.

[Detail...]: Refers to the details of the parity group or spare drive in the B4. The routine proceeds to Step 11-1.

Select (CL) [>> Next].

This procedure is terminated by selecting (CL) [Cancel].



[Multi Cabinet Model]

B4	Location	B4	Location
1st	HDU-R10, 11, 12, 13	7th	HDU-L20, 21, 22, 23
2nd	HDU-R14, 15, 16, 17	8th	HDU-L24, 25, 26, 27
3rd	HDU-L10, 11, 12, 13	9th	HDU-R30, 31, 32, 33
4th	HDU-L14, 15, 16, 17	10th	HDU-R34, 35, 36, 37
5th	HDU-R20, 21, 22, 23	11th	HDU-L30, 31, 32, 33
6th	HDU-R24, 25, 26, 27	12th	HDU-L34, 35, 36, 37

Note: The 9th to 12th of the B4 are valid only when the DKUs for the RAID 400 are connected.

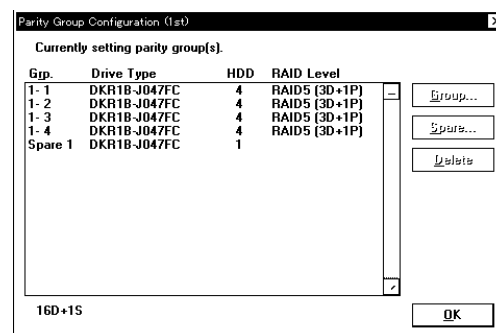
[Single Cabinet Model]

B4	Location	Comment
1st	HDU-0, 1, 2, 3	HDD-X00 ~ X0F
2nd	HDU-0, 1, 2, 3	HDD-X10 ~ X1F

11-1.

Parity Group Configuration is displayed.

Select (CL) [OK]. Return to step 11



12. <Set Device Emulation>

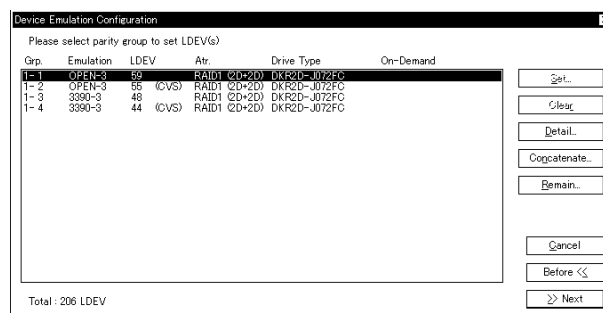
Device Emulation Configuration is displayed.

Select (CL) parity group and select (CL) [Detail...].

Select (CL) [>> Next]. Go to 12-1.

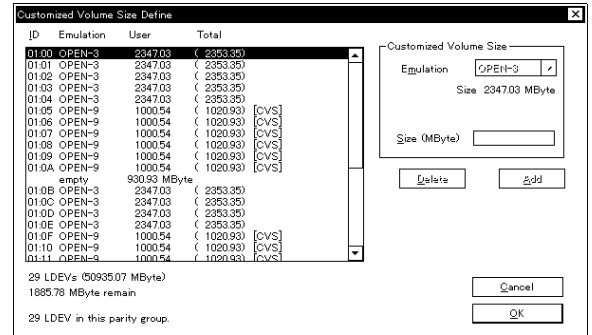
This procedure is terminated by selecting (CL) [Cancel].

(CVS): A parity group where CVS is installed.



12-1.

Customized Volume Size Define is displayed.
Select (CL) [OK]. Return to step 12.

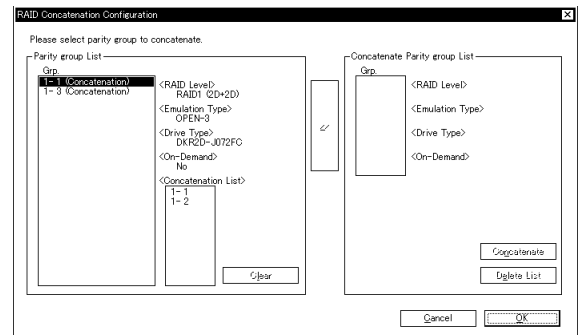


12-2. <Setting RAID concatenation>

The RAID Concatenation Configuration window is displayed.

When the "(Concatenation)" displayed in the Parity group List is selected (CL), parity groups that have been concatenated are displayed in the Concatenation List.

Select (CL) the [OK]. The routine returns to Step 12.

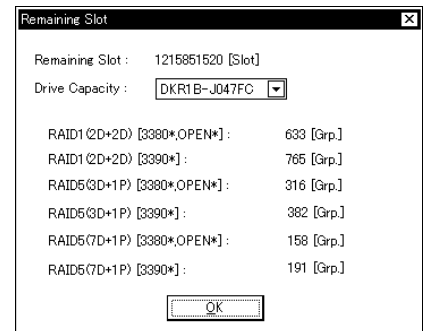


12-3. <Displaying remaining slot (s)>

The Remaining Slot window is displayed.

An allowable number of times of PDEV addition corresponding to the specified drive type is displayed.

Select (CL) the [OK]. The routine returns to Step 12.



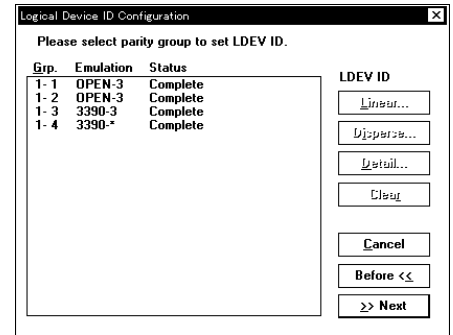
13. <Set Logical Device ID>

Logical Device ID Configuration is displayed.

Select (CL) a parity group and select (CL) [Detail...].

Select (CL) [>> Next]. Go to 13-1.

This procedure is terminated by selecting (CL) [Cancel].

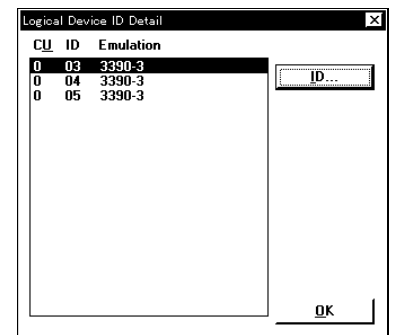


13-1.

Logical Device ID Detail is displayed.

Select (CL) [ID...].

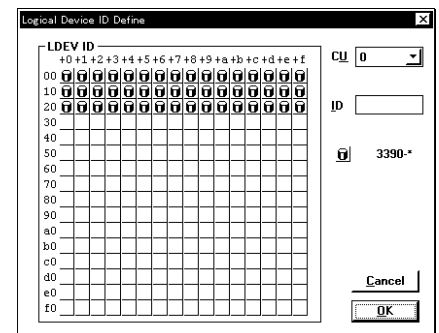
Select (CL) [OK]. Return to step 13.



13-2.

Logical Device ID allocation is displayed.

Select (CL) [OK] or [Cancel]. Return to step 13-1.



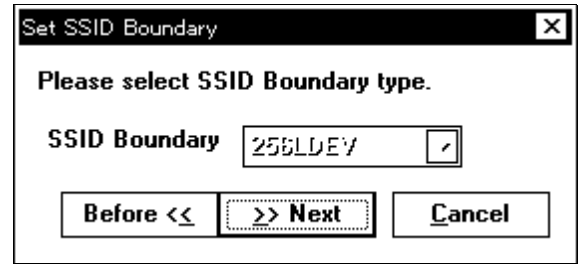
14. <Define Subsystem ID Boundary>

Set the Subsystem ID Boundary in the 'Set SSID Boundary' dialog box.

After setting up all items, select (CL) [>>NEXT].

Go to step 5.

This procedure is terminated by selecting (CL) [Cancel].

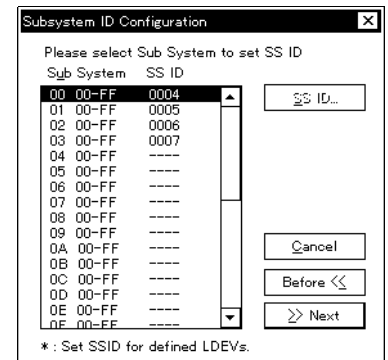


14-1. <Set Subsystem ID>

Subsystem ID Configuration is displayed.

Select (CL) [>> Next].

This procedure is terminated by selecting (CL) [Cancel].



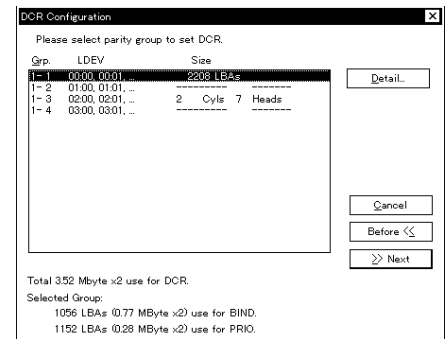
15. <Set DCR>

DCR Configuration is displayed.

Select (CL) a parity group and select (CL) [Detail...]. Go to step 15-1.

Select (CL) [>> Next].

This procedure is terminated by selecting (CL) [Cancel].

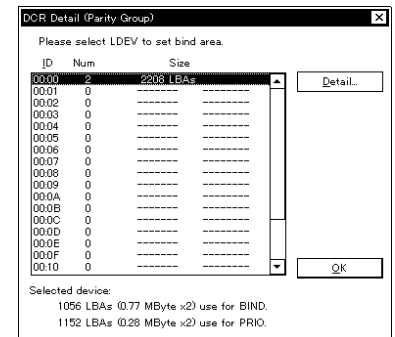


15-1.

DCR detail (Parity group) is displayed.

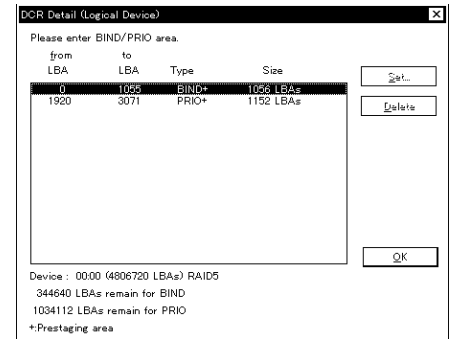
Select (CL) an LDEV and select [Detail...]. Go to step 15-2

Select (CL) [OK] . Return to step 15.



15-2.

DCR detail (Logical device) is displayed.
Select (CL) [OK]. Return to step 15-1.

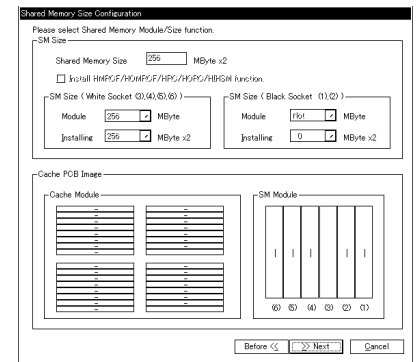


16. <Set Shared Memory Size >

Shared Memory Size Configuration is displayed.
Select (CL) [>> Next].

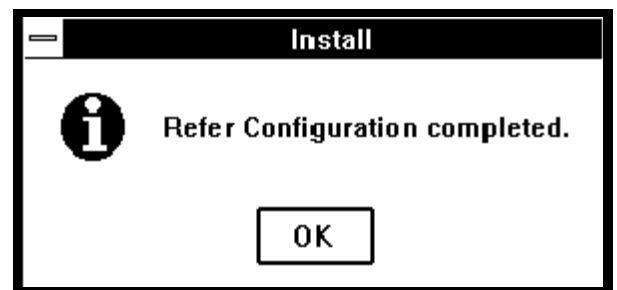
This procedure is terminated by selecting (CL) [Cancel].

Go to [INST05-610](#).



17.

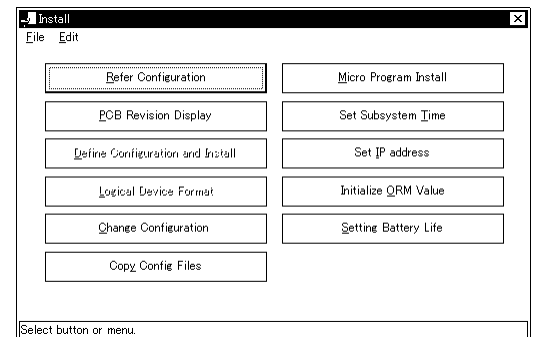
Select (CL) [OK].
Close the 'Install' window.



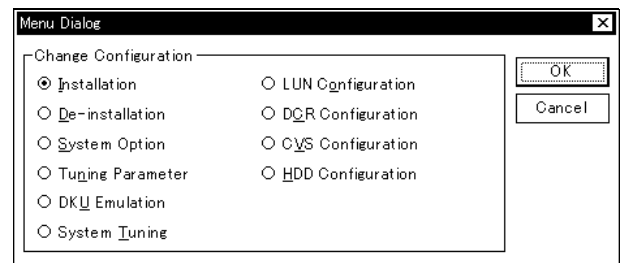
5.3.2 Setting up the New Device Structure Information

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) the item in the 'Menu Dialog' dialog box and select (CL) [OK].



Blank Sheet

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5.3.2.1 System Option

1. <System Option Definition>

Define system option information in the 'System Option'.
After setting up all items, select (CL) [OK].

System Option

Please set the following parameters of System Option.

Spare Disk Recover
☒ Interleave ☐ Offline Option...

Disk Copy Pace
☐ Slower ☒ Medium ☐ Faster

Copy Operation
☒ Correction Copy
☒ Dynamic Sparing

Read Configuration Data Mode
☒ Fixed Serial number

PS Timer
☐ Timer On Time : 0 [min]

Cancel OK

5.3.2.2 DCR Configuration

- (1) The “DCR Change” screen appears and the contents of the entered setting are displayed. When the CU is selected (DR) in the combo box, installed LDEV(s) and contents of the DCR definition are updated. Select (CL) LDEV to change the setting, then press (CL) the [Define...] button.

Total cache memory size occupied by the DCR area is displayed.

If the selected LDEV has a DCR area, the BIND size and the PRIO size are displayed under the “DCR Change” screen.

DCR Change

Please select LDEV to set bind area.

ID	Num	Size	CU
00:00	4	35 Cyls 0 Heads	00
00:01	1	10 Cyls 1 Heads	
00:02	1	100 Cyls 1 Heads	
00:03	1	50 Cyls 1 Heads	
00:04	0	-----	
00:05	0	-----	
00:06	1	100 Cyls 1 Heads	
00:07	0	-----	
00:08	0	-----	
00:09	0	-----	
00:0a	0	-----	
00:0b	0	-----	
00:0c	0	-----	
00:0d	0	-----	
00:0e	0	-----	
00:0f	0	-----	
00:10	0	-----	
00:11	0	-----	

301.81 Mbyte x2 use for DCR.

Selected device:
No DCR definition.

Buttons: Define..., PreStaging, Exit

DCR Change

Please select LDEV to set bind area.

ID	Num	Size	CU
00:00	4	35 Cyls 0 Heads	00
00:01	1	10 Cyls 1 Heads	
00:02	1	100 Cyls 1 Heads	
00:03	1	50 Cyls 1 Heads	
00:04	0	-----	
00:05	0	-----	
00:06	1	100 Cyls 1 Heads	
00:07	0	-----	
00:08	0	-----	
00:09	0	-----	
00:0a	0	-----	
00:0b	0	-----	
00:0c	0	-----	
00:0d	0	-----	
00:0e	0	-----	
00:0f	0	-----	
00:10	0	-----	
00:11	0	-----	

301.81 Mbyte x2 use for DCR.

Selected device:
6 Cyls 1 Heads (11.37 MByte x2) use for BIND.
28 Cyls 14 Heads (13.56 MByte x2) use for PRIO.

Buttons: Define..., PreStaging, Exit

NOTICE

To use DCR function, you should install DCR program product (P-242R-J6641) for mainframe volumes or Open DCR program product (P-242R-J6642) for open volumes into the DKC.

- (2) The “DCR Detail (Logical Device)” screen appears and the setting of the DCR in the LDEV is displayed.
To add a new setting, press (CL) the [Set...] button.

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from	to	Type	Size
CC HH	CC HH		
(No DCR definition)			

Buttons: Set..., Delete, OK

Device : 0:20 (3339 Cylinders) RAID5
1 Cyls 13 Heads remain for BIND.
5 Cyls 9 Heads remain for PRIO.
+Prestaging area

- (3) When the [Set...] button is pressed (CL) on the “DCR Detail (Logical Device)” screen, the “DCR Define” screen appears. To register new data in the DCR area, enter the type, starting cylinder number, starting head number, ending cylinder number, and ending head number (In the case of Mainframe, refer to the screen on the right) or the type, starting LBA, and ending LBA (In the case of the open system, refer to the screen on the left).
If you want to stage the data on the cache, check the Prestaging Request box.
When the entry is completed, return the screen to the “DCR Detail (Logical Device)” screen by pressing (CL) the [OK] button.

DCR Define

Please enter BIND/PRIO area.

Type: ☒ BIND ☐ PRIO ☐ ALL of Dev. ☒ Prestaging Request

from LBA []

To LBA []

Enter with decimal number.

Cancel OK

DCR Define

Please enter BIND/PRIO area.

Type: ☒ BIND ☐ PRIO ☒ Prestaging Request

from CC H [] []

To CC H [] []

Enter with decimal number.

Cancel OK

- (4) Contents of the entered setting are displayed in the list box on the “DCR Detail (Logical Device)” screen.

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from LBA	to LBA	Type	Size
0	2015	BIND	2016 LBAs
2976	3167	PRIO	192 LBAs
3936	4127	BIND+	192 LBAs
4992	5183	PRIO+	192 LBAs

Device : 0:20 (4806720 LBAs) RAID1
150624 LBAs remain for BIND
301344 LBAs remain for PRIO
+Prestaging area

Set... Delete OK

(In the case of open system)

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from CC HH	to CC HH	Type	Size
0 00	10 00	BIND	10 Cyls 1 Heads
50 00	100 14	PRIO	51 Cyls 0 Heads
128 00	160 08	PRIO+	32 Cyls 9 Heads
1000 00	1009 14	BIND+	10 Cyls 0 Heads

Device : 0:00 (3339 Cylinders) RAID5
43 Cyls 1 Heads remain for BIND.
129 Cyls 4 Heads remain for PRIO.
+Prestaging area

Set... Delete OK

(In the case of Mainframe system)

- (5) To delete a set item, select (CL) the DCR setting to be deleted and press (CL) the [Delete] button on the “DCR Detail (Logical Device)” screen.

DCR Detail (Logical Device)

Please enter BIND/PRIO area.

from CC HH	to CC HH	Type	Size
0 00	10 00	BIND	10 Cyls 1 Heads
50 00	100 14	PRIO	51 Cyls 0 Heads
128 00	160 08	PRIO+	32 Cyls 9 Heads
1000 00	1009 14	BIND+	10 Cyls 0 Heads

Device : 0:00 (3339 Cylinders) RAID5
43 Cyls 1 Heads remain for BIND.
129 Cyls 4 Heads remain for PRIO.
+Prestaging area

Set... Delete OK

- (6) By pressing (CL) the [OK] button on the “DCR Detail (Logical Device)” screen after the new setting is entered, a process to change the setting for the LDEV is executed. When no change is required, press (CL) the [Cancel] button.

- (7) The screen returns to the “DCR Change” screen after the processing is completed. The changed setting is displayed in the list box.

(In the case of open system)

(In the case of Mainframe system)

- (8) Repeat steps (1) through (7) for the LDEV(s) of which you want to change the setting.

(9) The [PreStaging] button begins the Pre-staging processing.

(10) When the changing operation is completed, quit the “DCR Change” screen by pressing (CL) the [Exit] button.

5.3.2.3 CVS Configuration

1. <Volume to Space>

NOTICE

When you set HMDE volumes to customized volumes and reset them to the normal volume again, these volumes could not be set as HMDE volumes. Please refer to the following table.

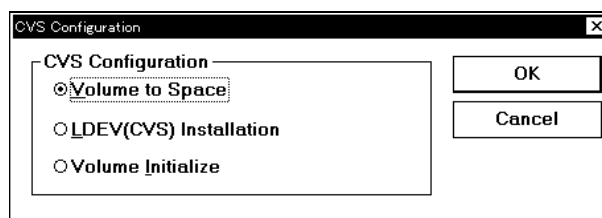
Emulation Types for HMDE volumes	Emulation types after changing from Customized volume to normal volume
3390-3A	3390-3
3390-3B	
3390-3C	

If you want to reset these volumes as HMDE, please call technical support center to set them to HMDE volumes by SVP.

- (1) Select (CL) [Volume to Space] and press (CL) [OK].

NOTICE

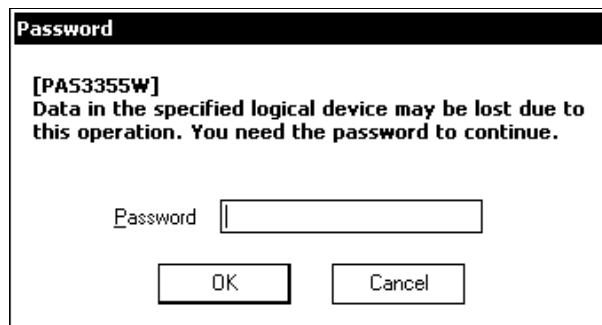
To use CVS function, you should install CVS program product (P-242R-J6541) for mainframe volumes or Open CVS program product (P-242R-J6542) for open volumes into the DKC.



Enter the password and select (CL) [OK].

NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.



(1-1) Define the number of CU in DKC in the 'DKC Configuration' window.

Make sure that the entered item is correct and select (CL) [>>Next].

DKC Configuration

Please set the following parameters of DKC Configuration.

Serial No. 0255

Number of CU 1

System Option...
Power Supply...

IP Address 126.255.255.15
Subnet Mask 255.0.0.0
IP Address Configuration...

Cache
Basic: CMQ=512MB SMC=512MB/2
On-Demand=512MB/2
Option: Not installed
Total cache size: 512MB/2
DCR available: 256MB/2
Cache Configuration...

CHA
☒ Basic ☒ Option 1
☐ Option 2 ☐ Option 3

DCA
Number of DCA 2
Cancel
>> Next

(2) Select (CL) a parity group with Volume(s) to be changed on the "Device Emulation Configuration" screen and press (CL) the [Detail...] button.

(CVS): A parity group where CVS is installed.

Device Emulation Configuration

Please select parity group to set LDEV(s)

Grp.	Emulation	LDEV	Attr.	Drive Type	On-Demand
1-1	OPEN-3	22		RAID5 (GD+1P) DKR2C-J018FC	
1-2	OPEN-3	22		RAID5 (GD+1P) DKR2C-J018FC	
1-3	3390-3	18		RAID5 (GD+1P) DKR2C-J018FC	
1-4	3390-3	18		RAID5 (GD+1P) DKR2C-J018FC	

Initialize
Clear
Detail...
Cancel
Before <<
>> Next

Total : 80 LDEV

(3) When the Volume(s) to be deleted is selected (CL) on the "Customized Volume Size Define" screen and the [Delete] button is pressed (CL), the Volume(s) is deleted. When the operation fails, the screen can be returned to the preceding one by pressing (CL) the [Cancel] button.

Customized Volume Size Define

ID	Emulation	User	Total
0200	3390-3	3339	(3347)
0201	3390-3	3339	(3347)
0202	3390-3	3339	(3347)
	empty	13389 cylinder(s)	
0207	3390-3	3339	(3347)
0208	3390-3	3339	(3347)
0209	3390-3	3339	(3347)
020A	3390-3	3339	(3347)
020B	3390-3	3339	(3347)
	empty	6694 cylinder(s)	
020E	3390-3	3339	(3347)
020F	3390-3	3339	(3347)
0210	3390-3	3339	(3347)
0211	3390-3	3339	(3347)

Customized Volume Size
Emulation 3390-3
Size 3339 Cylinders
Cylinder
Delete Add
Cancel
OK

12 LDEVs (40166 Cylinders)
22004 Cylinders remain
12 LDEV in this parity group.

Note: In the following case, the [Delete CV] button is not available.

- 1) The last CV is selected.
- 2) All CVs in base volume are selected.
- 3) Volume with SCSI path(s) ("+" indicated) is selected.

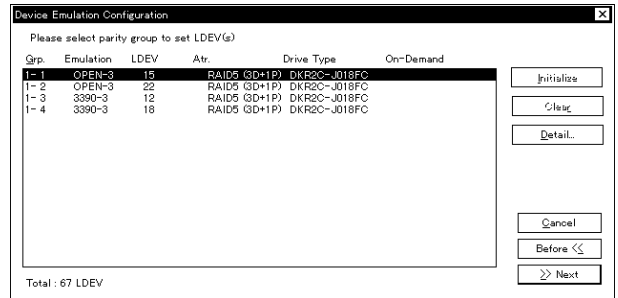
Customized Volume Size Define

ID	Emulation	User	Total
0000	OPEN-3	2347.03	(2353.35)
0001	OPEN-3	2347.03	(2353.35)
0002	OPEN-3	2347.03	(2353.35)
	empty	7060.07 MByte	
0006	OPEN-3	2347.03	(2353.35)
0007	OPEN-3	2347.03	(2353.35)
0008	OPEN-3	2347.03	(2353.35)
0009	OPEN-3	2347.03	(2353.35)
000A	OPEN-3	2347.03	(2353.35)
000B	OPEN-3	2347.03	(2353.35)
	empty	9413.43 MByte	
0010	OPEN-3	2347.03	(2353.35)
0011	OPEN-3	2347.03	(2353.35)
0012	OPEN-3	2347.03	(2353.35)
0013	OPEN-3	2347.03	(2353.35)
0014	OPEN-3	2347.03	(2353.35)
0015	OPEN-3	2347.03	(2353.35)

Customized Volume Size
Emulation
Size 2347.03 MByte
Size (MByte)
Delete Add
Cancel
OK

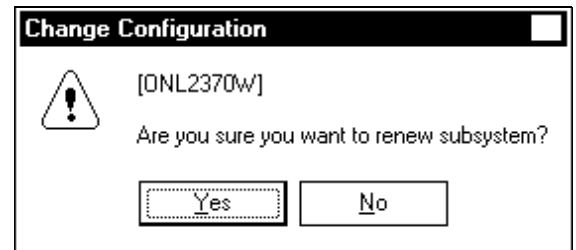
15 LDEVs (36302.50 MByte)
17519.06 MByte remain
15 LDEV in this parity group.

- (4) When the screen is returned to the “Device Emulation Configuration” screen by pressing (CL) the [OK] button and the[>>Next] button is pressed (CL), the definition of reduction is decided.



- (5) Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

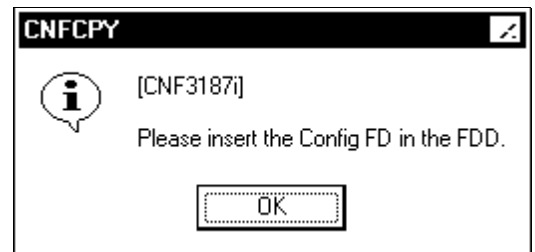
When [No] is selected (CL), returns to [INST05-440](#) step 2.



- (6) “Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

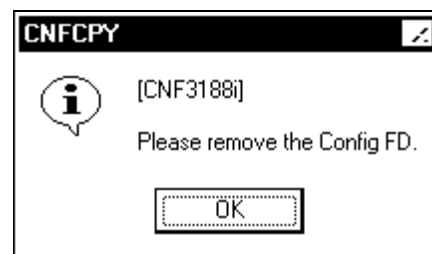


- (7) “Reading subsystem configuration data...” is displayed.
 “Please insert the Config FD in the FDD.” is displayed.
 Insert the configuration FD into FDD, and select (CL) [OK].



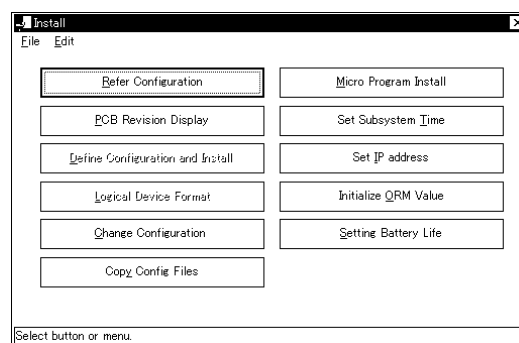
(8)

When this procedure is completed, the message “Please remove the Config FD.” is displayed.
Remove the FD, select (CL) [OK].



(9)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].

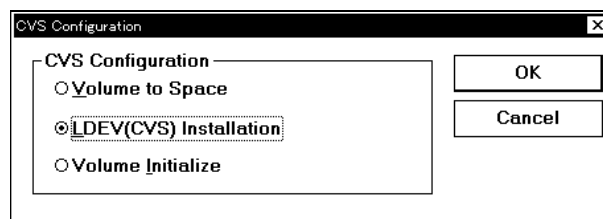


(10)

Change the mode to View Mode.

2. <LDEV(CVS) Installation>

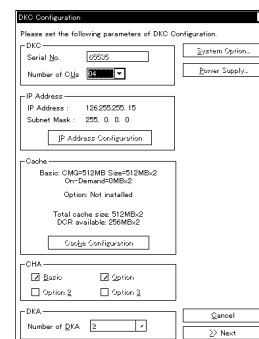
- (1) Select (CL) [LDEV(CVS) Installation] and press (CL) [OK].



- (1-1) Define the number of CUs in DKC in the 'DKC Configuration' window.

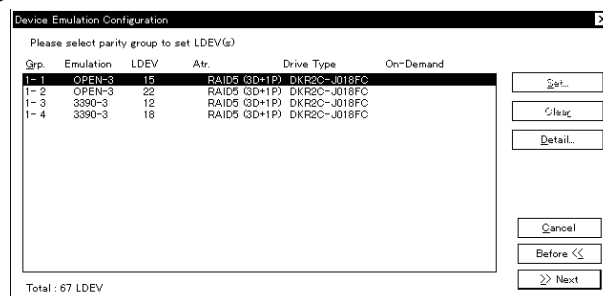
When no alteration was made on the number of CUs owing to the addition of the LDEV (CVS), select (CL) [>>Next].

Make sure that the entered item is correct and select (CL) [>>Next].



- (2) Select (CL) a parity group to which the CV(s) is to be added on the "Device Emulation Configuration" screen and press (CL) the [Detail] button.

(CVS): A parity group where CVS is installed.



-
- Customized Volume Size Define
- | ID | Emulation | User | Total |
|------|-----------|-------------------|---------|
| 0200 | 3390-3 | 3339 | (3347) |
| 0201 | 3390-3 | 3339 | (3347) |
| 0202 | 3390-3 | 3339 | (3347) |
| | empty | 13086 cylinder(s) | |
| 0207 | 3390-3 | 3339 | (3347) |
| 0208 | 3390-3 | 3339 | (3347) |
| 0209 | 3390-3 | 3339 | (3347) |
| 020A | 3390-3 | 3339 | (3347) |
| 020B | 3390-3 | 3339 | (3347) |
| | empty | 6694 cylinder(s) | |
| 020E | 3390-3 | 3339 | (3347) |
| 020F | 3390-3 | 3339 | (3347) |
| 0210 | 3390-3 | 3339 | (3347) |
| 0211 | 3390-3 | 3339 | (3347) |
- Customized Volume Size
- Emulation: 3390-3
- Size 3339 Cylinders
- Cylinder:
- Delete Add
- Cancel OK
- 12 LDEVs (40166 Cylinders)
22004 Cylinders remain
- 12 LDEV in this parity group.

Customized Volume Size Define

ID	Emulation	User	Total
00.00	OPEN-3	2347.03	(2347.03)
00.01	OPEN-3	2347.03	(2347.03)
00.02	OPEN-3	2347.03	(2347.03)
		7060.07 MByte	
00.06	OPEN-3	2347.03	(2347.03)
00.07	OPEN-3	2347.03	(2347.03)
00.08	OPEN-3	2347.03	(2347.03)
00.09	OPEN-3	2347.03	(2347.03)
00.10	OPEN-3	2347.03	(2347.03)
00.0B	OPEN-3	2347.03	(2347.03)
		9414.35 MByte	
00.10	OPEN-3	2347.03	(2347.03)
00.11	OPEN-3	2347.03	(2347.03)
00.12	OPEN-3	2347.03	(2347.03)
00.13	OPEN-3	2347.03	(2347.03)
00.14	OPEN-3	2347.03	(2347.03)
00.15	OPEN-3	2347.03	(2347.03)

Customized Volume Size

Emulation: OPEN-3

Size 2347.03 MByte

Size (MByte)

Delete Add

15 LDEV's (35302.50 MByte)
17519.06 MByte remain

15 LDEV in this parity group.

Cancel OK

- The deletion can be made only for the added CV(s). When the addition is made incorrectly, select (CL) [Cancel] to make the setting invalid and perform the setting again. When CV for open host is selected, the size is displayed ([M byte]).

The screenshot shows the "Customized Volume Size Define" dialog box. It contains a table with columns ID, Emulation, User, and Total. The table lists several entries for emulation type "3390-9" with varying cylinder counts. A summary at the bottom indicates 32 LDEVs are defined and 1460 cylinders remain.

ID	Emulation	User	Total
02.00	3390-3	3339	(3347)
02.01	3390-3	3339	(3347)
02.02	3390-3	3339	(3347)
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
-----	3390-9	1000	(1027) [CVS]
empty	35 cylinder(s)		
02.07	3390-3	3339	(3347)
02.08	3390-3	3339	(3347)

Summary:
32 LDEV's (60710 Cylinders)
1460 Cylinders remain
32 LDEV in this parity group.

On the right side of the dialog, there is a section titled "Customized Volume Size". It includes a dropdown menu set to "Emulation 3390-9", a label "Size 10017 Cylinders", a text input field labeled "Cylinder" containing the value "1000", and two buttons labeled "[Delete]" and "[Add]". At the bottom right of the dialog are "Cancel" and "OK" buttons.

Customized Volume Size Define

ID	Emulation	User	Total
00.00	OPEN-9	2347.03	(2393.350)
00.01	OPEN-9	2347.03	(2393.350)
00.02	OPEN-9	2347.03	(2393.350)
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]
empty		530.93 MByte	
00.06	OPEN-9	2347.03	(2393.350)
00.07	OPEN-9	2347.03	(2393.350)
00.08	OPEN-9	2347.03	(2393.350)
00.09	OPEN-9	2347.03	(2393.350)
00.0A	OPEN-9	2347.03	(2393.350)
00.0B	OPEN-9	2347.03	(2393.350)
-----	OPEN-9	1000.54	(1020.93) [CVS]
-----	OPEN-9	1000.54	(1020.93) [CVS]

Customized Volume Size

Emulation: OPEN-9

Size: 7042.50 MByte

Size (MByte): 1000

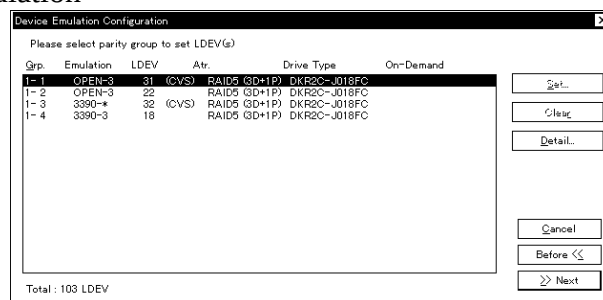
Delete Add

Cancel OK

31 LDEVs (51645.93 MByte)
1174.92 MByte remain
31 LDEV in this parity group.

- (5) When the screen is returned to the “Device Emulation Configuration” screen by a pressing (CL) of the [OK] button, the setting result is displayed.

The LDEV status is displayed as [CVS] for the parity group for which the CV was set.

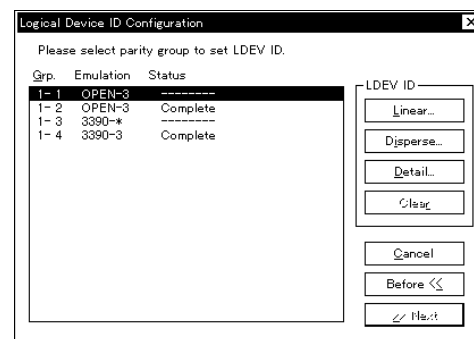


- (6) When the [>>Next] button is pressed (CL), the LDEV ID setting screen appears.

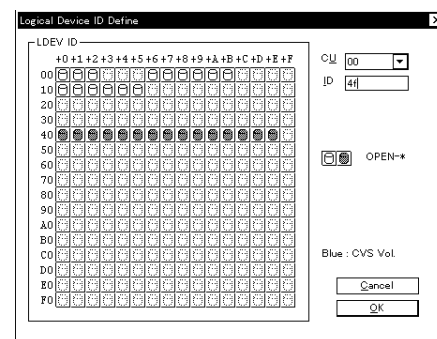
Set LDEV ID(s) for the added CV(s). For the parity group having the added CV(s), the status which shows the ID allocation is indicated as “-----”. Therefore, select (CL) such a parity group.

When [Linear...] or [Disperse...] was selected (CL), the routine proceeds to Step (7).

When [Detail...] is selected (CL), the routine proceeds to Step (7)-1.

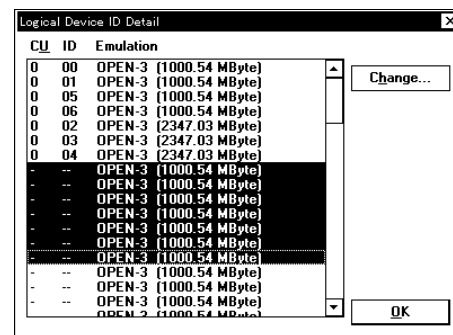


- (7) Press (CL) the [Linear...] button and enter an LDEV ID you want to allocate on the “Logical Device ID Define” screen.

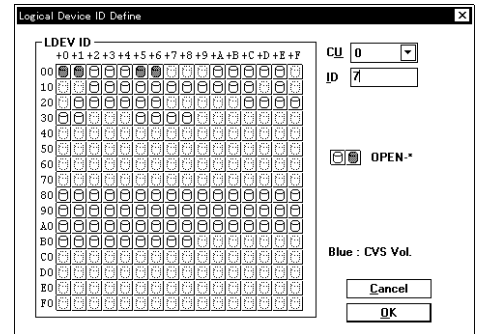


- (7)-1 When the [Detail...] is pressed (CL), the [Logical Device ID Detail] screen is displayed. Select an emulation type for which the CU and ID status are displayed as “- --” and select (CL) [Change...].

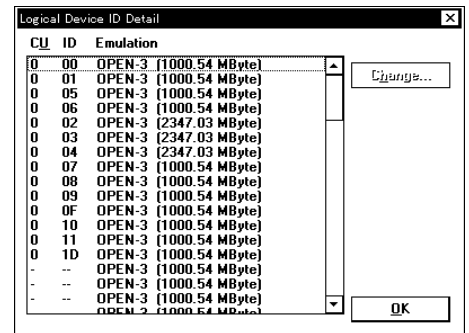
When you want to register successive IDs, you can select the two or more emulation types.



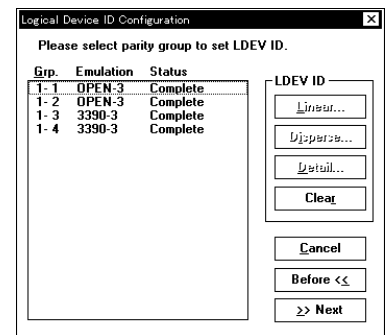
- (7)-2 Enter a CU and LDEV ID you want to allocate on the “Logical Device ID Define” screen. Then, select (CL) [OK].
Go to Step (7)-3.



- (7)-3 Make sure that the CU(s) and ID(s) have been registered.
If there is any emulation type for which the CU and ID status are displayed as “- --”, return to Step (7)-1.
If all the settings have been made, select (CL) [OK].
Go to Step (8).

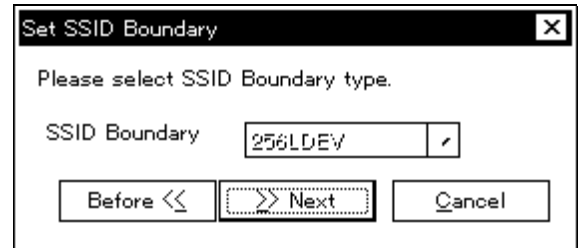


- (8) When the screen is returned to the “Logical Device ID Configuration” screen by pressing (CL) the [OK] button, the setting result is displayed.



(9)

Press (CL) the [>>Next] button to change the screen to the “Set SSID Boundary” screen.



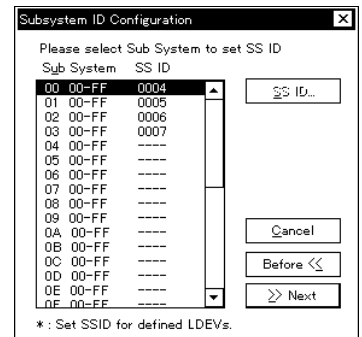
Set SSID Boundary

Please select SSID Boundary type.

SSID Boundary

Before << **>> Next** Cancel

- (10) When the [>>Next] button is pressed (CL), the “Subsystem ID Configuration” screen is opened. If a new SS ID is required as a result of defining an LDEV ID, define the new SS ID. Select (CL) a subsystem where the SS ID is to be newly defined and press (CL) the [SS ID...] button. When no subsystem ID is to be defined, go to Step (13) by selecting [>>Next].



Subsystem ID Configuration

Please select Sub System to set SS ID

Sub System	SS ID
00 00-FF	0004
01 00-FF	0005
02 00-FF	0006
03 00-FF	0007
04 00-FF	----
05 00-FF	----
06 00-FF	----
07 00-FF	----
08 00-FF	----
09 00-FF	----
0A 00-FF	----
0B 00-FF	----
0C 00-FF	----
0D 00-FF	----
0E 00-FF	----
0F 00-FF	----

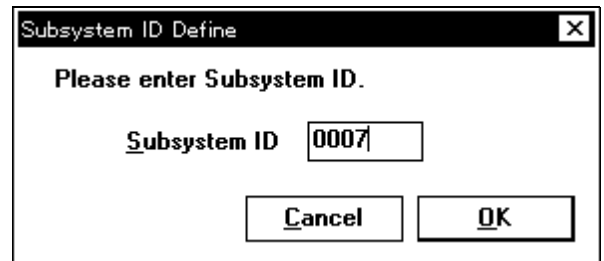
SS ID...

Cancel

Before << >> Next

* : Set SSID for defined LDEVs.

- (11) Enter the SS ID on the “Subsystem ID Define” screen and select (CL) [OK].



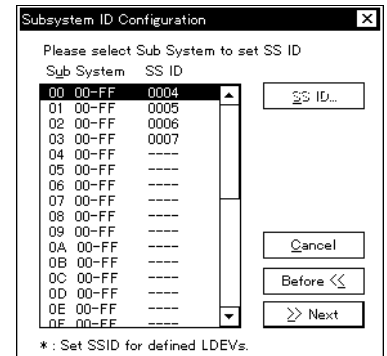
Subsystem ID Define

Please enter Subsystem ID.

Subsystem ID

Cancel OK

- (12) When the screen is returned to the “Subsystem ID Configuration” screen by pressing (CL) the [OK] button, the set contents are displayed.



Subsystem ID Configuration

Please select Sub System to set SS ID

Sub System	SS ID
00 00-FF	0004
01 00-FF	0005
02 00-FF	0006
03 00-FF	0007
04 00-FF	----
05 00-FF	----
06 00-FF	----
07 00-FF	----
08 00-FF	----
09 00-FF	----
0A 00-FF	----
0B 00-FF	----
0C 00-FF	----
0D 00-FF	----
0E 00-FF	----
0F 00-FF	----

SS ID...

Cancel

Before << >> Next

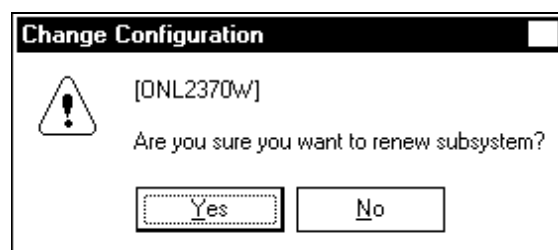
* : Set SSID for defined LDEVs.

- (13) When [>>Next] is selected (CL), the definition of the addition ends. (Additional process starts.)

(14)

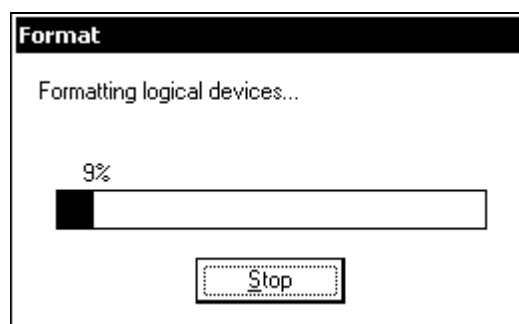
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST05-440](#) step 2.



(15)

“Formatting the logical device...” is displayed.



(16)

“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

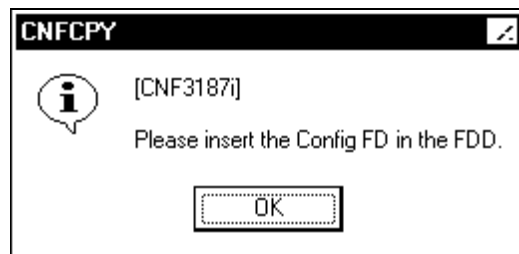


(17)

“Reading subsystem configuration data...” is displayed.

“Please insert the Config FD in the FDD.” is displayed.

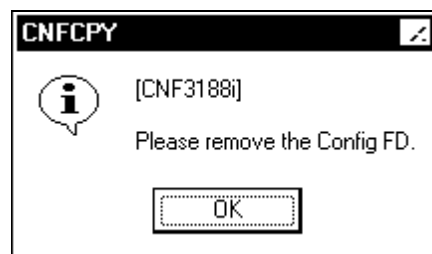
Insert the configuration FD into FDD, and select (CL) [OK].



(18)

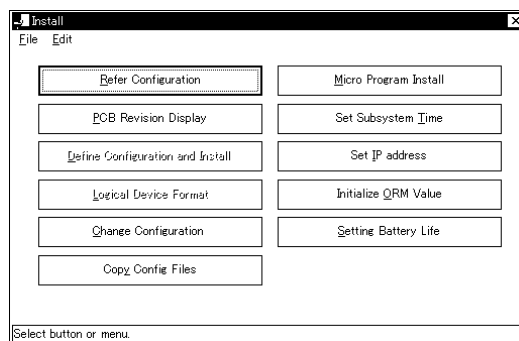
When this procedure is completed, the message “Please remove the Config FD.” is displayed.

Remove the FD, select (CL) [OK].



(19)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(20)

Change the mode to View Mode.

3. <Volume Initialize>

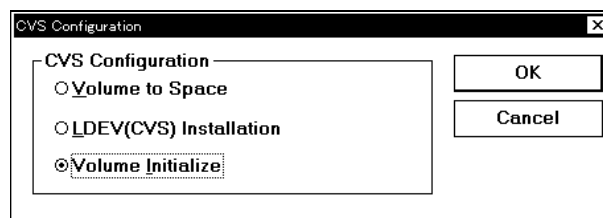
NOTICE

When you set HMDE volumes to customized volumes and reset them to the normal volume again, these volumes could not be set as HMDE volumes. Please refer to the following table.

Emulation Types for HMDE volumes	Emulation types after changing from Customized volume to normal volume
3390-3A	3390-3
3390-3B	
3390-3C	

If you want to reset these volumes as HMDE, please call technical support center to set them to HMDE volumes by SVP.

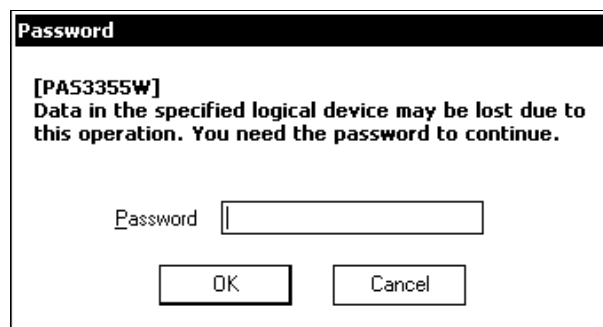
- (1) Select (CL) [Volume Initialize], then select (CL) [OK].



Enter the password and select (CL) [OK].

NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.



- (2) Select (CL) a parity group having volume(s) to be changed on the “Device Emulation Configuration” screen.

Note: In the following case, the [Initialize] button is not available.

- 1) Volume with SCSI path(s) is selected.

DDC Configuration

Please set the following parameters of DDC Configuration.

DVC: 0000

Serial ID: 0000

Number of Cycles: 4

System Option...

Power Supply...

IP Address

IP Address: 126.255.255.15

Subnet Mask: 255.0.0.0

IP Address Configuration

Cache

Basic: CM512MB Size: 512MB-2

On-Demand: 0MB-0

Option: Not installed

Total cache size: 512MB-2

DOR available: 256MB-2

Cache Configuration

C-HA

☒ Basic

☐ Option 2

☐ Option 3

D-EA

Number of D-EA: 2

Cancel

< Next

Device Emulation Configuration

Please select parity group to set LDEV(s)

Grp.	Emulation	LDEV	Atr.	Drive Type	On-Demand
1-1	OPEN-3	31	(CVS)	RAID5 (3D+1P)	DKR2C-J018FC
1-2	OPEN-3	22		RAID5 (3D+1P)	DKR2C-J018FC
1-3	3390-*	32	(CVS)	RAID5 (3D+1P)	DKR2C-J018FC
1-4	3390-3	18		RAID5 (3D+1P)	DKR2C-J018FC

Initialize

Clear

Detail...

Cancel

Before <<

>> Next

Total : 103 LDEV

Device Emulation Configuration

Please select parity group to set LDEV(s)

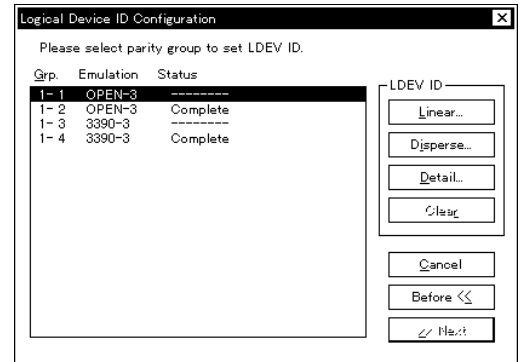
Grp.	Emulation	LDEV	Attr.	Drive Type	On-Demand
1-1	OPEN-3	22	RAID5 (3d+1P)	DKR2C-J018FC	
1-2	OPEN-3	22	RAID5 (3d+1P)	DKR2C-J018FC	
1-3	3390-3	18	RAID5 (3d+1P)	DKR2C-J018FC	
1-4	3390-3	18	RAID5 (3d+1P)	DKR2C-J018FC	

Total : 80 LDEV

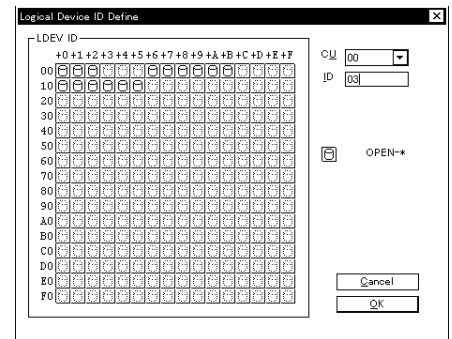
Buttons: Initialize, Clear, Detail, Cancel, Before <<, >> Next

- (4) To return the volume(s) in other parity group(s) to the normal LDEV(s), repeat steps (3).

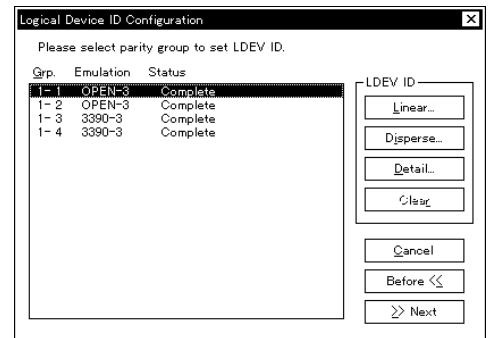
- (5) Press (CL) the [>>>Next] button to change the screen to the “Logical Device ID Configuration” screen. Since the normal LDEV returned from the base volume is a newly defined LDEV, define the ID. Select (CL) the parity group having the LDEV(s) for which the ID(s) has not been set, then select (CL) [Linear...]. Two or more parity groups can be selected.



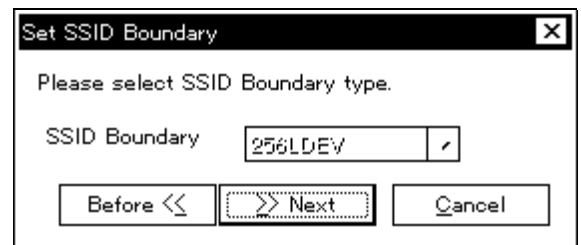
- (6) Select CU ID in the CU combo box.
Input LDEV ID you want to set in the ID edit box.
After setting, select (CL) [OK].



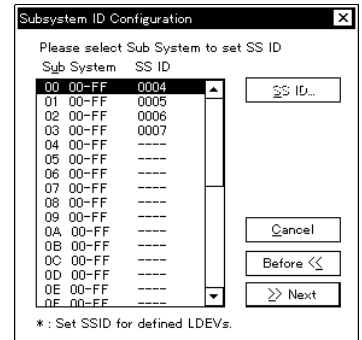
- (7) Status of the parity group whose setting is completed changes to “Complete”.
Press (CL) the [>>>Next] button.



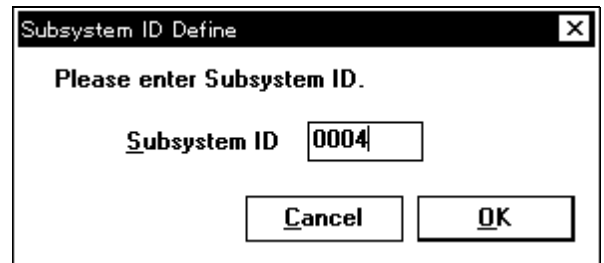
- (8) Press (CL) the [>>>Next] button to change the screen to the “Subsystem ID Configuration” screen.



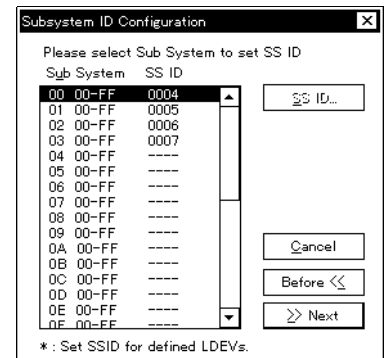
- (9) When it is necessary to set a new SS ID, define the SS ID.
 Select (CL) a subsystem whose SS ID is not defined, then select (CL) [SS ID...].



- (10) Enter an SS ID on the “Subsystem ID Define” screen and select (CL) [OK].



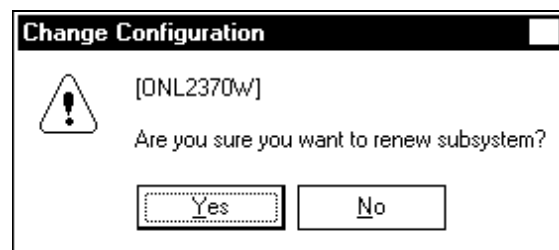
- (11) When the screen is returned to the “Subsystem ID Configuration” screen, the registered SS ID is displayed.
 Press (CL) the [>>Next] button to quit the definition screen.



(12)

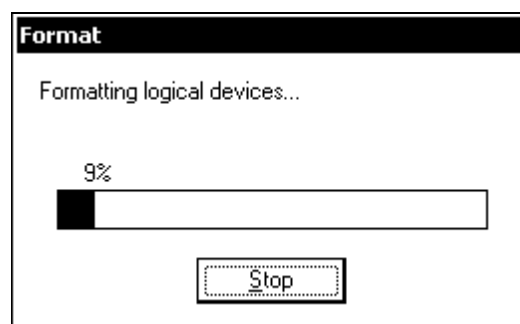
Select (CL) [Yes] in response to “Are you sure you want to renew subsystem?”.

When [No] is selected (CL), returns to [INST05-440](#) step 2.



(13)

“Formatting the logical device...” is displayed when LDEV Format is necessary.



(14)

“Renewal process has completed. Please check the subsystem status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

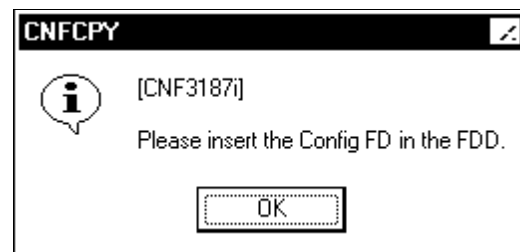


(15)

“Reading subsystem configuration data...” is displayed.

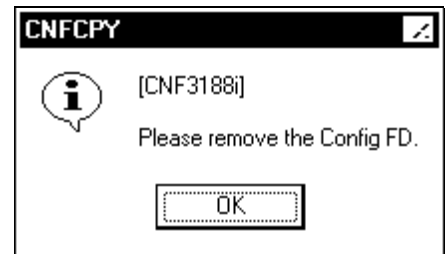
“Please insert the Config FD in the FDD.” is displayed.

Insert the configuration FD into FDD, and select (CL) [OK].



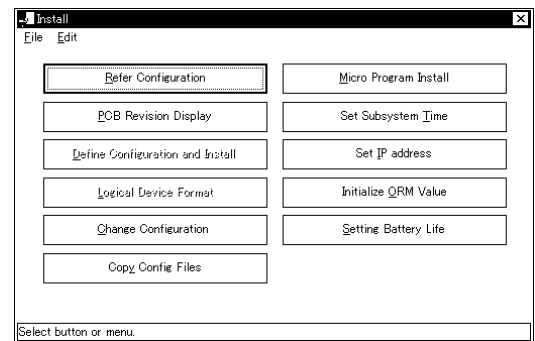
(16)

When this procedure is completed, the message “Please remove the Config FD.” is displayed.
Remove the FD, select (CL) [OK].



(17)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(18)

Change the mode to View Mode.

5.3.2.4 LUN Management

(1) Outline

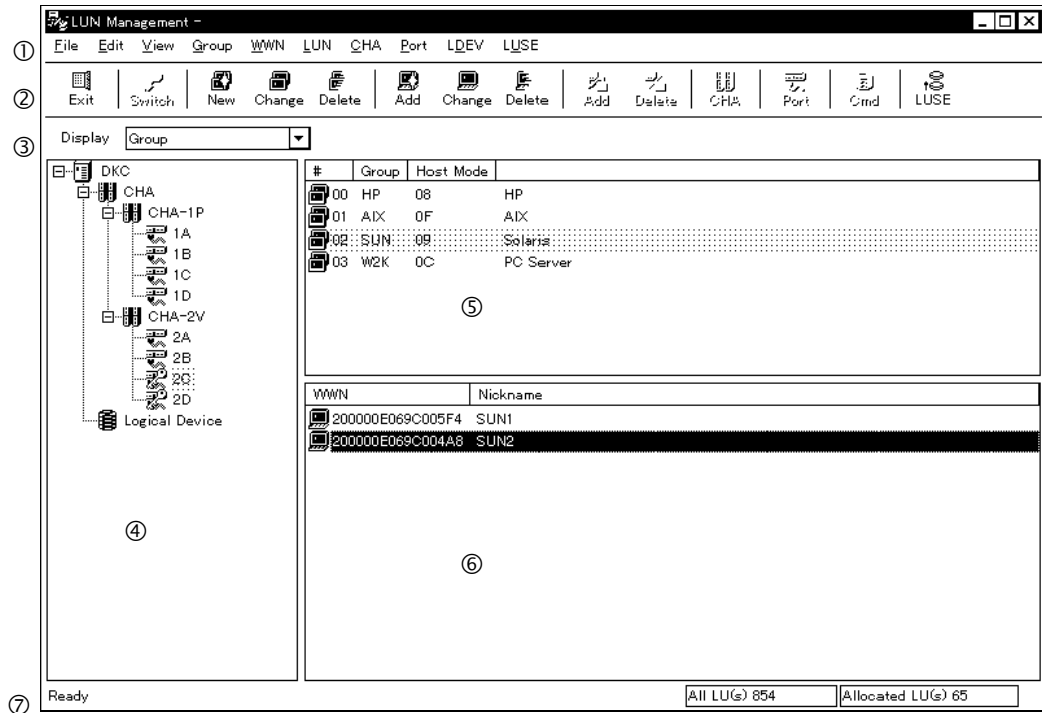


Figure 1.1 Main Window

The Main window consists of the following elements.

Table 1.1 Outline of Main Window Elements

No.	Item	Description
①	Menu	Menu of items operable by this function
②	Tool bar	Part of the menu enabled to be operable by buttons
③	Switch	When "Switch" displayed in the tree view is selected(Port), the status of the switch is selectable. The setting of the groups or LUN is selectable.
④	Tree	The structure that it is conscious of the hardware construction
⑤	Upper right list	Displays the details of an item selected from the tree.
⑥	Lower right list	Displays the details of an item selected from the upper list, if any.
⑦	Status bar	Displays outlined function of each item on the menu and tool bar when the mouse is positioned on it. Also it displays the all of the LU figures and the LU figures with the pass definition.

Menu items and their details are shown below.

Table 1.2 List of Menu Items

Menu	Submenu		Description	Tool bar
File	Exit		• Closes the window.	 "Exit"
	Backup		Creates a backup of the LUN configuration.	None
	Restore	Refer	Displays the stored backup of the LUN configuration in the window.	None
		Execute	Reflects the configuration displayed when the menu items [Restore] and [Refer] are selected.	None
		Cancel	Cancels the state induced by the selection of the menu items [Restore] and [Refer].	None
Edit	Copy		• Copies group / WWN / LUN to the clip board.	None
	Paste		• Pastes the information of the clip board.	None
View	Toolbar		• Makes the tool bar displayed or not.	None
	Status Bar		• Makes the status bar displayed or not.	None
Group	New		• Creates a new group.	 "New"
	Change		• Changes a group name or adds a member.	 "Change"
	Delete		• Deletes a group.	 "Delete"
WWN	Add		• Adds a WWN and its nickname.	 "Add"
	Change...		• Changes a WWN and its nickname.	 "Change"
	Delete		• Deletes a WWN.	 "Delete"
LUN	Add		• Adds a LUN.	 "Add"
	Delete		• Deletes a LUN.	 "Delete"
	Command Device		• Changes command device and command device security information.	 "Cmd"
CHA	Change...		• Changes a CHA option.	 "CHA"
Port	Parameter		• Changes a port parameter.	 "Port"
	Security Switch		• Sets whether to use the security function or not.	 "Switch"
LDEV	Command Device		• Changes command device and command device security information.	 "Cmd"
	Property		• Refers to LUN information from LDEV.	None
LUSE	LU Size Expansion		• Activates the LU Size Expansion window.	 "LUSE"

Displays the status shift to group / LUN definition from the declaration of the use of Security Switch function.

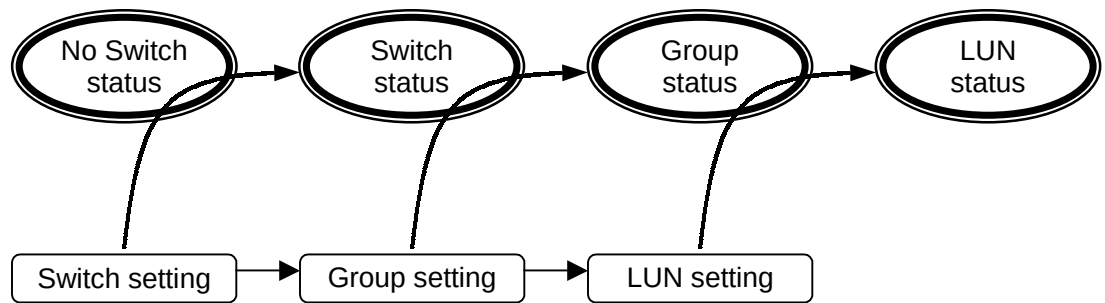


Figure1.1.2. Status shift to LUN definition

(2) Setting Security Switch

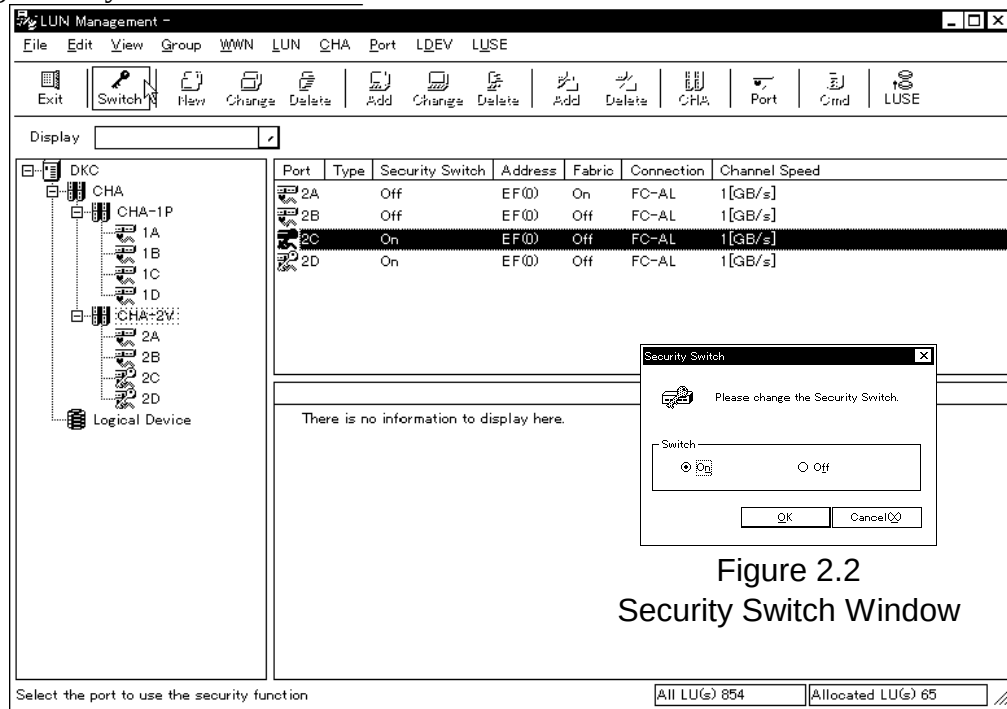


Figure 2.2
Security Switch Window

Figure 2.1 Main Window

When each CHA location in the tree view is selected (CL), installed ports information supported by this function are displayed in the upper right list.

Setting of a Security Switch is made in the following procedure.

- ① Select (CL) a port for which you want to set the security switch from the upper right list.
- ② Select (DR) [Security Switch...] from the [Port] menu.
- ③ Since the Security Switch window (Figure 2.2) is displayed, check On or Off box and select (CL) the [OK] button.
- ④ The status of the security switch that has been set is reflected in the Main window (Figure 2.1).

Details of the Main window (Figure 2.1) and the Security Switch window (Figure 2.2) are shown below.

Table 2.1 Details and Operation of Main Window (Switch)

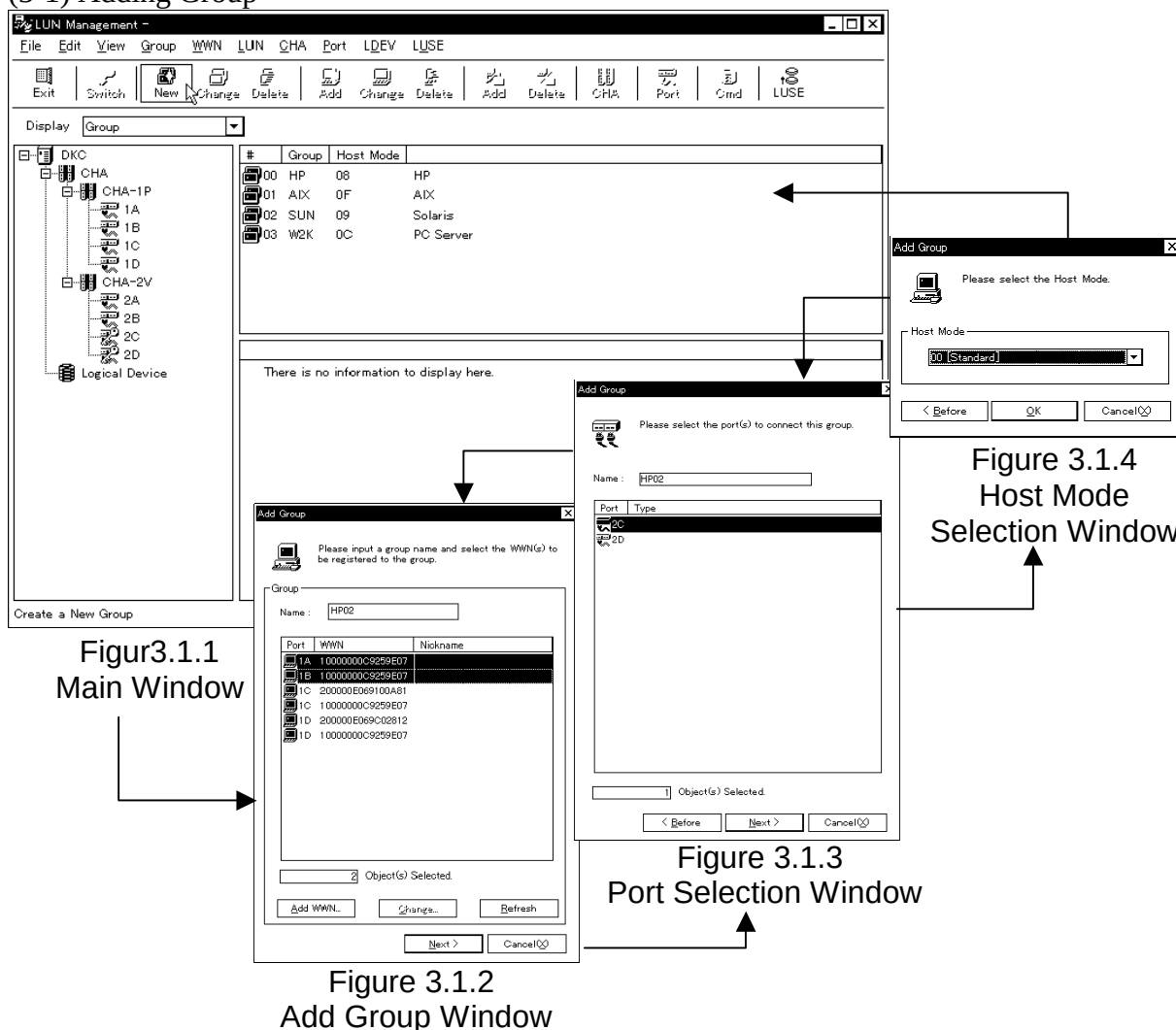
Item	Description
Upper list	Displays statuses of the security switches that have been set. Provided with a sorting function.
Lower list	Displays nothing.
"Port – Security Switch..." menu	Selectable when an item has been selected from the upper list. Displays the Security Switch window.
Pop-up menu	Enables a clicking of the right mouse button to select "Security Switch" provided that an item has been selected from the upper list.

Table 2.2 Details and Operation of Security Switch Window

Item	Description
On/Off radio button	Displays a status setting of the Security Switch that has been selected in the Main window. (If On and Off of the switch have been selected in the Main window, the radio buttons of ON and OFF are not selected in this window, and [OK] button cannot be selected.)
OK button	Closes the window after reflecting the setting that has been made. Not selectable when neither of the statuses has been selected.
Cancel button	Closes the window without reflecting the setting that has been made.

(3) Setting Group

(3-1) Adding Group



When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list.

Addition of a group is done in the following procedure.

- ① Select (DR) [New...] from the [Group] menu in the Main window (Figure 3.1.1).
- ② Since the Add Group window (Figure 3.1.2) is displayed, enter a group name, register a WWN, and select (CL) the [Next] button.
- ③ Since the Port Selection window (Figure 3.1.3) is displayed, select (CL) a port for connecting a new group and select (CL) the [Next] button.
- ④ Set a host mode for the new group in the Host Mode Selection window (Figure 3.1.4) and select (CL) the [OK] button.
- ⑤ Information on the group that has been newly registered is reflected in the Main window (Figure 3.1.1).

Details of the Main window (Figure 3.1.1) and the other windows are shown on the following page.

Table 3.1.1 Details and Operation of Main Window (Group)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Provided with a sorting function.
"Group - New..." menu	Selectable when "Port" has been selected from the tree. Displays the Add Group window.
Pop-up menu	Makes the "New" menu selectable when the right mouse button is clicked in the upper list.

Table 3.1.2 Details and Operation of Add Group Window

Item	Description
Name	To be used for entering a name (up to eight characters) of a group to be added.
List	Displays a WWN list. Selects WWN that wants to be set.
Add WWN button	Activates a window for manually registering a WWN when no applicable WWN exists in the list.
Change button	Changes a selected WWN and its nickname. (Only one WWN is selectable.)
Refresh button	Redraws the list
Next button	Closes the window and activates a window for selecting a port for connecting the group concerned.
Cancel button	Returns you to the Main window without doing anything.

Table 3.1.3 Details and Operation of Port Selection Window

Item	Description
Name	Displays the group name that has been entered in the preceding window.
List	To be used for selecting a port to be connected.
Before button	Returns you to the preceding window.
Next button	Closes the window and activates a window for selecting a host mode for the group concerned.
Cancel button	Returns you to the Main window without doing anything.

Table 3.1.4 Details and Operation of Host Mode Window

Item	Description
Host Mode	Displays host modes that can be set.
Before button	Returns you to the preceding window.
OK button	Closes the window after registering the group and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

(3-2) Changing Group

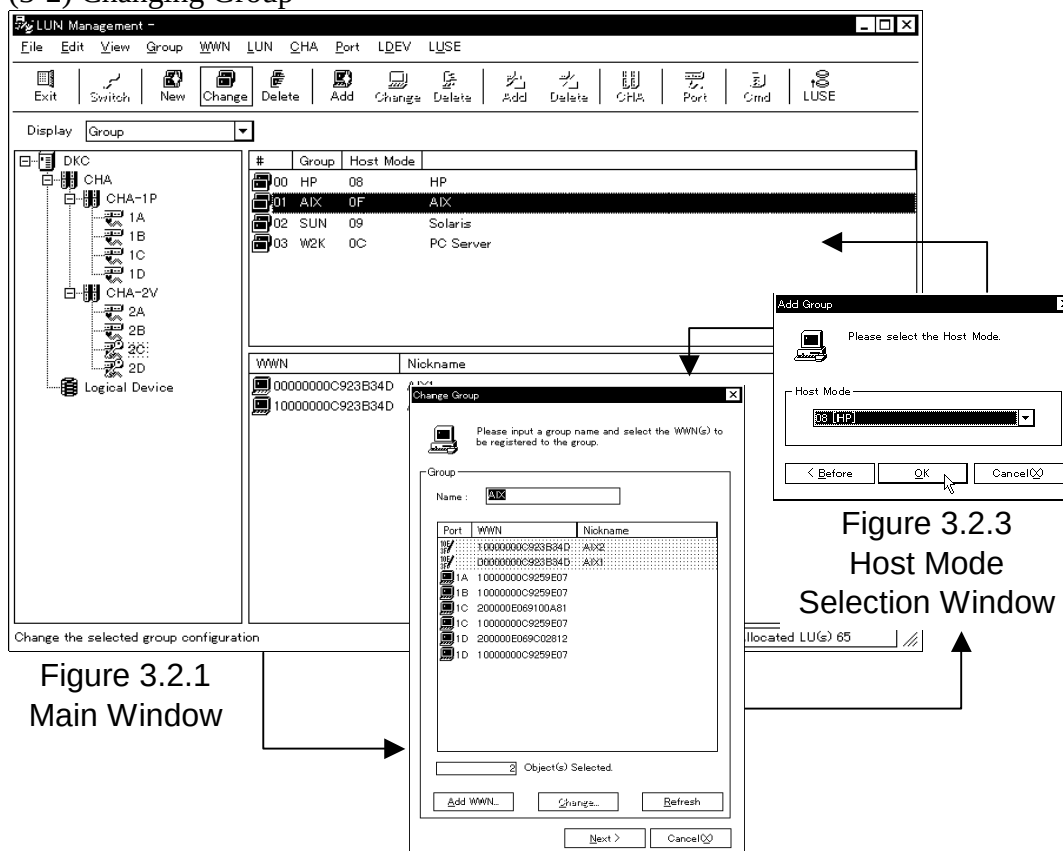


Figure 3.2.2
Change Group Window

Figure 3.2.3
Host Mode
Selection Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

A change of a group is made in the following procedure.

- ① Select (CL) one group you want to change from the upper right list.
- ② Select (DR) [Change...] from the [Group] menu in the Main window (Figure 3.2.1).
- ③ Since the Change Group window (Figure 3.2.2) is displayed, change the group name and select (CL) the [Next] button.
- ④ Set a host mode for the group to be changed in the Host Mode Selection window (Figure 3.2.3) and select (CL) the [OK] button.
- ⑤ Information on the group that has been changed is reflected in the Main window (Figure 3.2.1).

In case of changing the group against the port of the Security Switch off, the Change Group window (Figure 3.2.2) is not displayed.

Details of the Main window (Figure 3.2.1) and the other windows are shown on the following page.

Table 3.2.1 Details and Operation of Main Window (Group)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.) Provided with a sorting function.
"Group-Change..." menu	Selectable when a single group has been selected from the upper list. Displays the Change Group window.
Pop-up menu	Makes the "Change" menu selectable when a single group is selected from the upper list and the right mouse button is clicked there.

Table 3.2.2 Details and Operation of Change Group Window

Item	Description
Name	To be used for entering a name (up to eight characters) of a group to be changed.
List	Displays a WWN list. Selects WWN that wants to be set.
Add WWN button	Activates a window for manually registering a WWN when no applicable WWN exists in the list.
Change button	Changes a selected WWN and its nickname. (Only one WWN is selectable.)
Refresh button	Redraws the list.
Next button	Closes the window and activates a window for selecting a host mode to be registered for the group concerned.
Cancel button	Returns you to the Main window without doing anything.

Table 3.2.3 Details and Operation of Host Mode Selection Window

Item	Description
Host Mode	Displays host modes that can be set.
Before button	Returns you to the preceding window.
OK button	Closes the window after changing the group and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

(3-3) Deleting Group

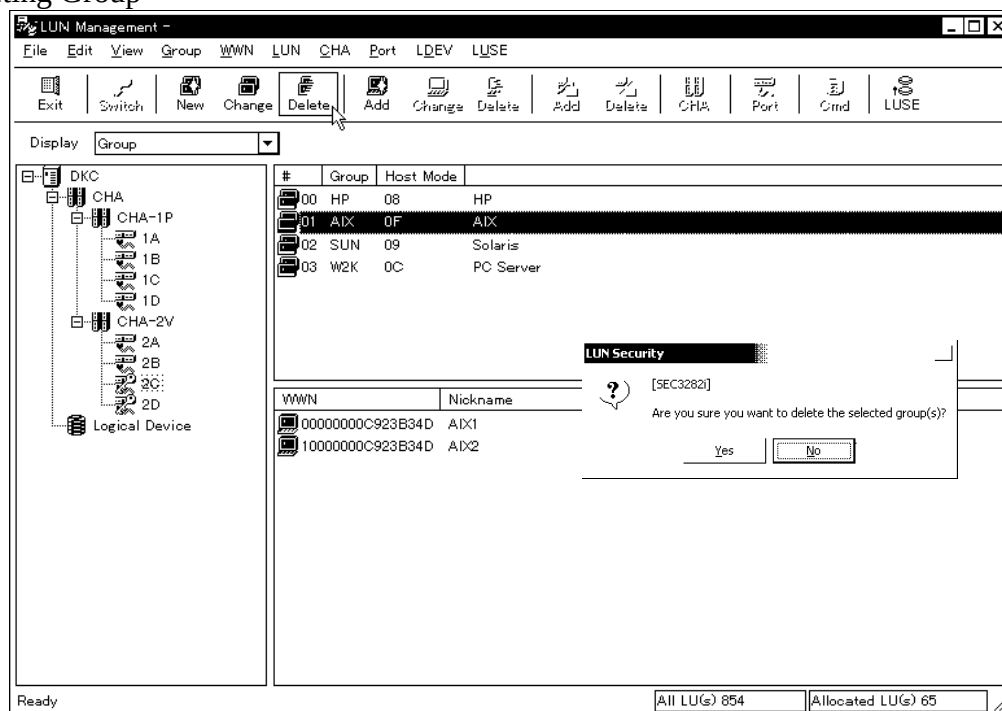


Figure 3.3.1 Main Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Deletion of a group is done in the following procedure.

- ① Select (CL) a group you want to delete from the upper right list.
- ② Select (DR) [Delete] from the [Group] menu in the Main window (Figure 3.3.1).
- ③ Since a message asking for a confirmation is displayed, select (CL) the [OK] button.
- ④ Information on the group that has been selected from the upper right list is deleted. Moreover, the details of the group information (WWN/LUN) is also deleted.

Table 3.3.1 Details and Operation of Main Window (Group)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree.
	Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"Group-Delete" tool bar	Selectable when a group has been selected from the upper list.
	Displays a message asking for a confirmation.
Pop-up menu	Displays "Delete" menu when the right mouse button is clicked on the item in the upper list.

(4) Setting WWN

(4-1) Adding WWN

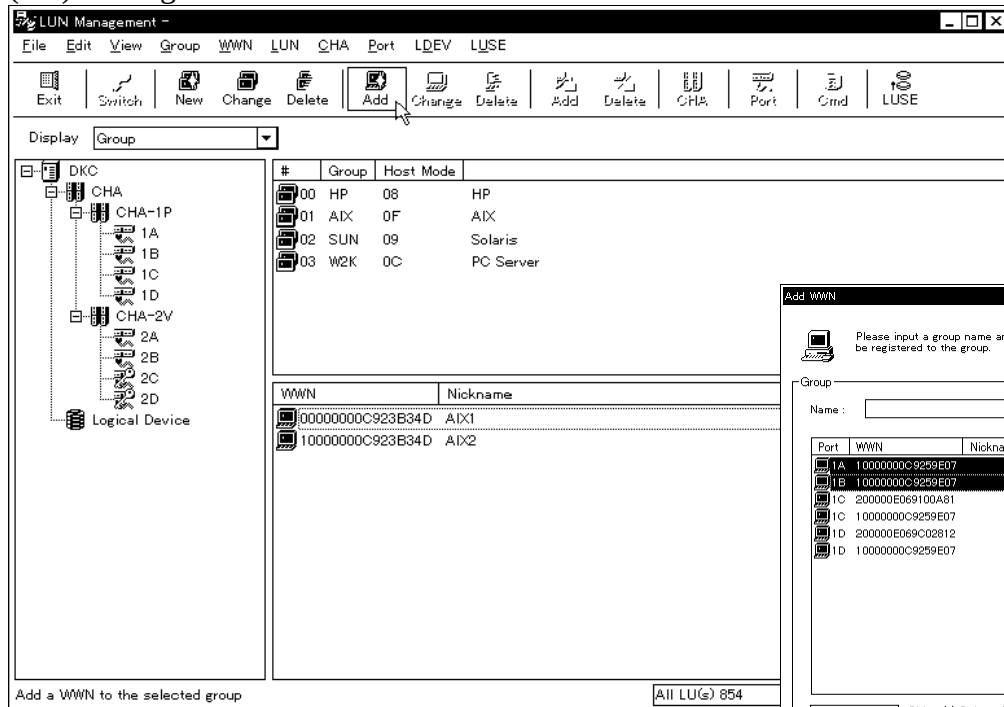


Figure 4.1.1 Main window

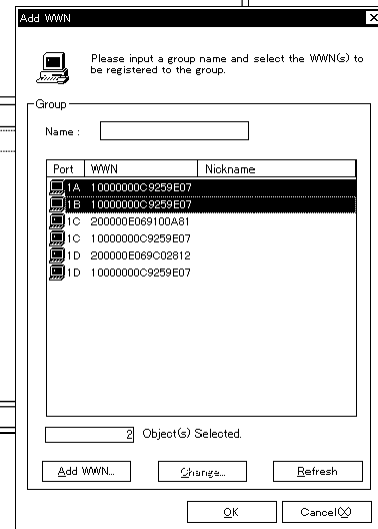


Figure 4.1.2
Add WWN Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Addition of a WWN is made in the following procedure.

- ① Select (CL) a group to which you want to add a WWN from the upper right list.
- ② Select (DR) [Add] from the [WWN] menu in the Main window (Figure 4.1.1).
- ③ Since the Add WWN window (Figure 4.1.2) is displayed, select (CL) "WWN" registering from the list, and select (CL) the [OK] button.
- ④ The WWN that has been newly added is reflected in the lower right list.

Details of the Main Window(Figure 4.1.1) and the other windows are shown on the following page.

Table 4.1.1 Details and Operation of Main Window (WWN)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.) Provided with a sorting function.
"WWN - Add" menu	Selectable when a single group has been selected from the upper list. Displays the Add WWN window.
Pop-up menu	Displays the "Add" menu when the right mouse button is clicked in the lower list.

Table 4.1.2 Details and Operation of Add WWN Window

Item	Description
Name	Displays the group name. (Unchangeable)
List	Displays a WWN list. Select the registration WWN.
Add WWN button	Activates a window for manually registering a WWN when no applicable WWN exists in the list.
Change button	Changes a selected WWN and its nickname. (Only one WWN is selectable.)
Refresh button	Redraws the list.
OK button	Closes the window after registering the WWN, and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

(4-2) Changing WWN

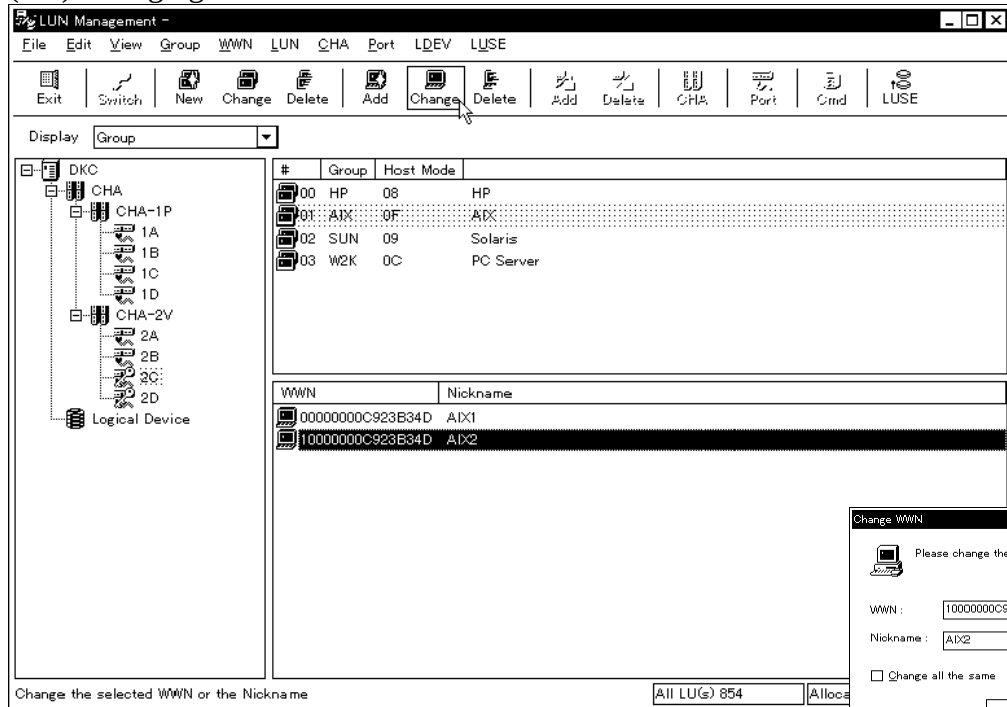
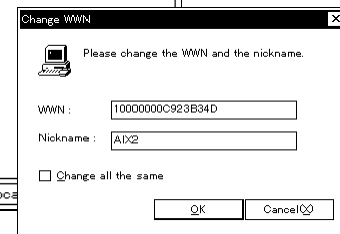


Figure 4.2.1 Main Window

Figure 4.2.2
Change WWN Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

A change of a WWN is made in the following procedure.

- ① Select (CL) one WWN you want to change from the lower right list.
- ② Select (DR) [Change...] from the [WWN] menu in the Main window (Figure 4.2.1).
- ③ Since the Change WWN window (Figure 4.2.2) is displayed, change the "WWN" and its "Nickname", and select (CL) the [OK] button.
- ④ The WWN that has been changed is reflected in the lower right list.

Details of the Main Window (Figure 4.2.1) and the other windows are shown on the following page.

Table 4.2.1 Details and Operation of Main Window (WWN)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.) Provided with a sorting function.
"WWN - Change" menu	Selectable when a single group has been selected from the lower list. Displays the Change WWN window.
Pop-up menu	Displays the "Change" menu when the right mouse button is clicked on the item in the lower list.

Table 4.2.2 Details and Operation of Change WWN Window

Item	Description
WWN	To be used for entering a WWN (16 hexadecimal digits).
Nick name	Used for entering a nickname (up to eight characters).
Change all the same button	In case of checking it, the change should be executed for the same WWN including in the group of the other ports.
OK button	Selectable only when the WWN has been entered correctly. Closes the window after registering the WWN and nickname, and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

(4-3) Deleting WWN

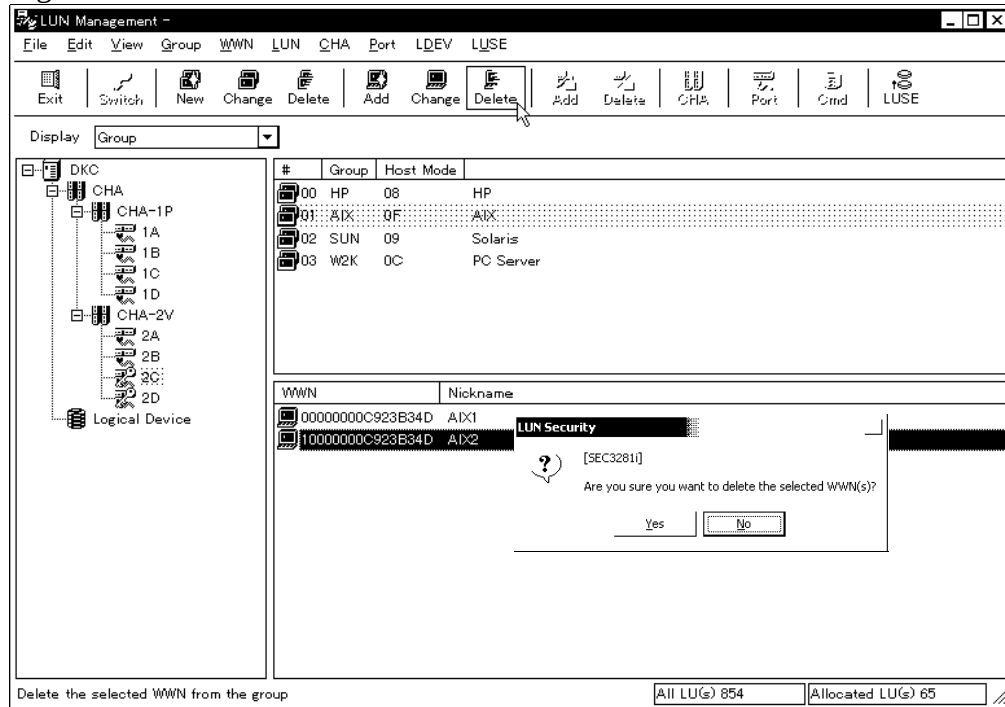


Figure 4.3.1 Main Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Deletion of a WWN is done in the following procedure.

- ① Select (CL) a WWN you want to delete from the lower right list.
- ② Select (DR) [Delete] from the [WWN] menu in the Main window (Figure 4.3.1).
- ③ Since a message asking for a confirmation is displayed, select (CL) the [OK] button.
- ④ The WWN that has been selected from the lower right list is deleted.

Table 4.3.1 Details and Operation of Main Window (Group)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree.
	Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"WWN – Delete" menu	Selectable when a WWN has been selected from the lower list.
	Displays a message asking for a confirmation.
Pop-up menu	Displays "Delete" menu when the right mouse button is clicked on the item in the upper list.

(5) Setting LUN

(5-1) Adding LUN

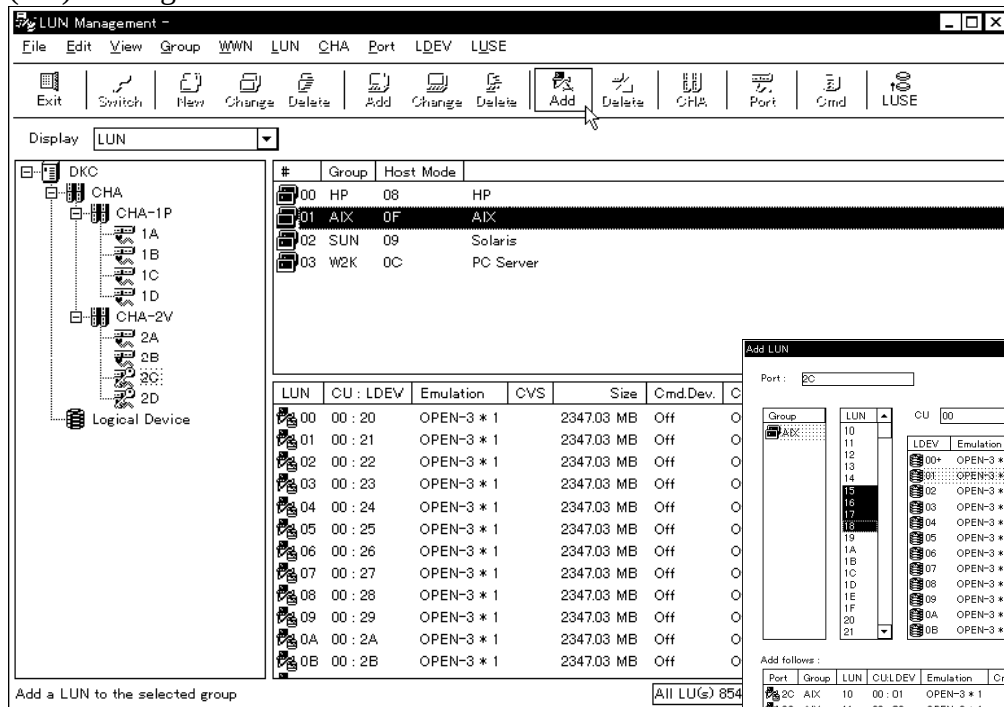


Figure 5.1.1 Main Window

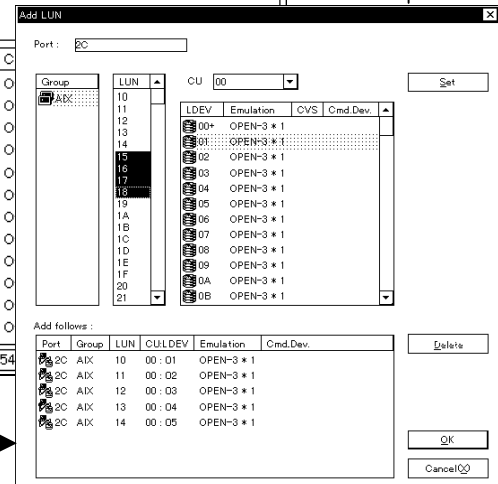


Figure 5.1.2 Add LUN Window

When “Port” in the tree view is selected, “LUN” is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Addition of a LUN is done in the following procedure.

- ① Select (CL) a group from the upper right list.
- ② Select (DR) [Add] from the [LUN] menu in the Main window (Figure 5.1.1).
- ③ Since the Add LUN window (Figure 5.1.2) is displayed, after select LUN and CU:LDEV, select (CL) the [Set] button, make the “Add follows” list and select (CL) the [OK] button.
- ④ Information on the LUN that has been newly registered is reflected in the Main window (Figure 5.1.1).

Details of the Main Window(Figure 5.1.1) and the other windows are shown on the following page.

Table 5.1.1 Details and Operation of Main Window (LUN)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree.
	Provided with a sorting function.
Lower list	Displays LUN's defined as being contained in the group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"LUN - Add..." menu	Selectable when a port subordinate to the LUN has been selected from the tree.
	Displays the Add LUN window.
Pop-up menu	Displays the "Add" menu when the right mouse button is clicked on the item in the upper list.

Table 5.1.2 Details and Operation of Add LUN Window

Item	Description
Port	Displays a name of a port that has been selected from the tree in the Main window.
Group list	Displays all groups registered as being connected with the port concerned.
LUN list	Displays unused LUN's in the group concerned according to the group selection that has been made.
CU list	Displays CU numbers of all mounted LDEV's supported by this function.
LDEV list	Displays unused LDEV's in the group concerned according to the group selection that has been made.
Add follows list	Displays a LUN (path) to be added.
Set button	Selectable only when the group, LUN, and CU:LDEV have been selected.
	The LUN that has been added is displayed in the "Add follows" list.
Delete button	Excludes a LUN from LUNs to be added.
OK button	Selectable only when the LUN'(s) is/are in the "Add follows" list.
	Closes the window after adding the LUN and returns you to the Main window.
Cancel button	Closes the window without doing anything and returns you to the Main window.

(5-2) Deleting LUN

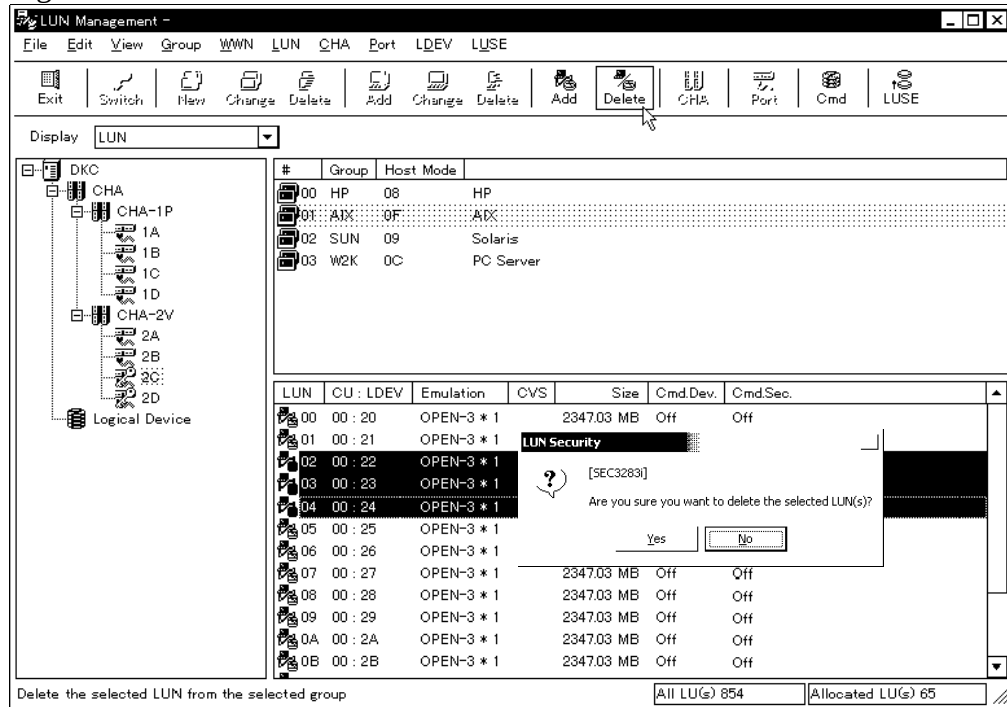


Figure 5.2.1 Main Window

When “Port” in the tree view is selected, groups connected with the port that has been selected from the tree are displayed in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Deletion of a LUN is done in the following procedure.

- ① Select (CL) a LUN from the upper right list.
- ② Select (DR) [Delete] from the [LUN] menu in the Main window (Figure 5.2.1).
- ③ Since a message asking for a confirmation is displayed, select (CL) the [Yes] button.
- ④ Information on the LUN that has been selected from the lower right list is deleted.

Table 5.2.1 Details and Operation of Main Window (LUN)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree.
	Provided with a sorting function.
Lower list	Displays LUNs defined for a group selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"LUN – Delete..." menu	Selectable when a LUN has been selected from the lower list.
	Displays a message asking for a confirmation.
Pop-up menu	Displays "Delete" menu when the right mouse button is clicked on the item in the lower list.

(5-3) Changing Command Device from the LUN list

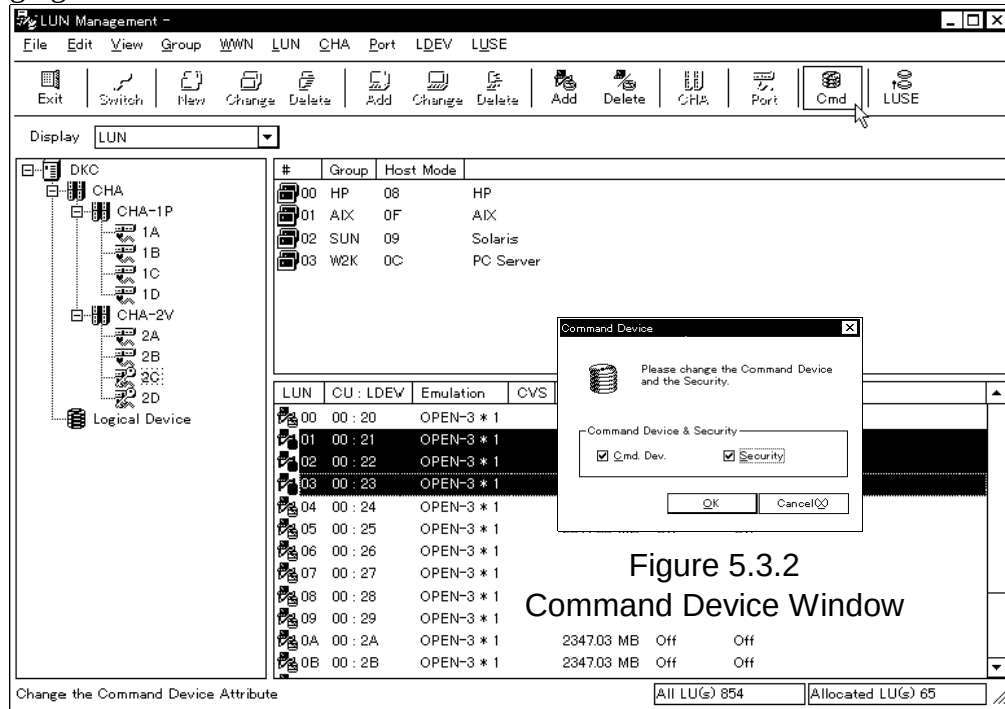


Figure 5.3.1 Main Window

When "Port" in the tree view is selected, groups connected with the port that has been selected from the tree are displayed in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Setting of a Command Device from the LUN list is made in the following procedure.

- ① Select (CL) LUN from the lower right list.
- ② Select (DR) [Command Device] from the [LUN] menu in the Main window (Figure 5.3.1).
- ③ Change "Command Device" in the Command Device Window (Figure 5.3.2), and select (CL) the [OK] button.
- ④ Information on the LUN that has been selected from the lower right list is reflected.

Table 5.3.1 Details and Operation of Main Window (LUN)

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree.
	Provided with a sorting function.
Lower list	Displays LUN's defined as being contained in the group that has been selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"LUN – Command Device..." menu	Selectable when a LUN has been selected from the lower list.
	Displays the Command Device window.
Pop-up menu	Displays the "Command Device" menu when the right mouse button is clicked on the item in the lower list.

Table 5.3.2 Details and Operation of Add LUN Window

Item	Description
Cmd.Dev.	Displays the command device of LUN selection.
	When it is checked, the command device is on.
Security	Displays a status of command device security of the LUN that has been selected.
	Enables a command device to be checked provided that the Cmd. Dev. has been set for it.
	When it is checked, the security of the command device is on.
OK button	Closes the window after changing the parameter and returns you to the Main window.
Cancel button	Closes the window without doing anything and returns you to the Main window.

(6) Changing CHA

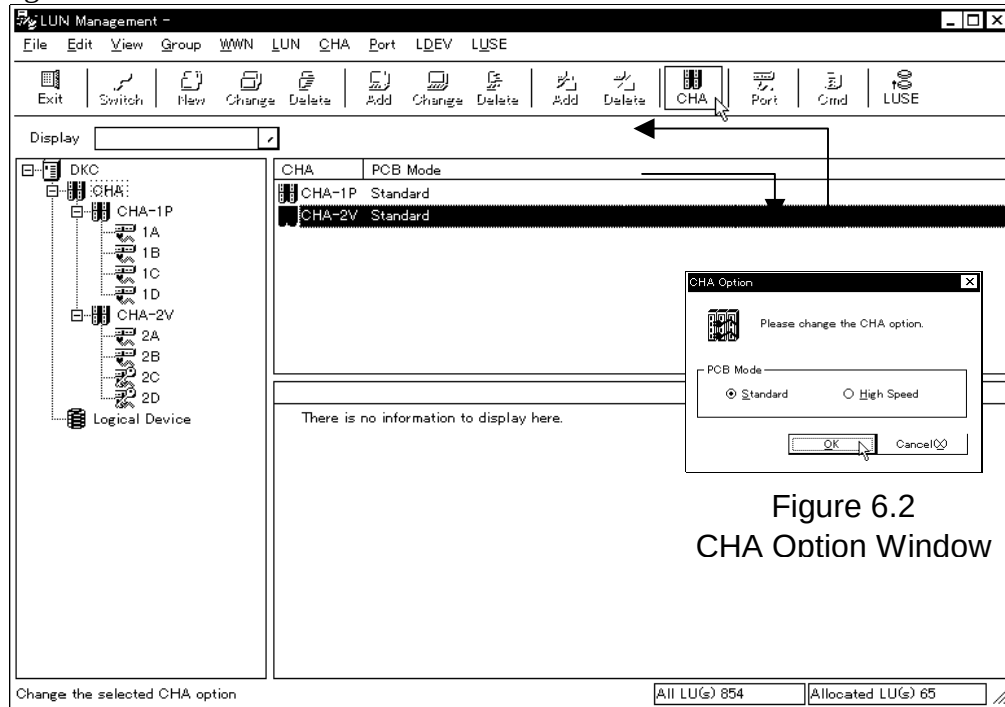


Figure 6.2
CHA Option Window

Figure 6.1 Main Window

When "CHA" in the tree view is selected (CL), installed CHA PCB's supported by this function are displayed in the upper right list.

A change of a CHA PCB Mode is made in the following procedure.

- ① Select (CL) a CHA from the upper right list.
- ② Select (DR) [Change...] from the [CHA] menu in the Main window (Figure 6.1).
- ③ Since the CHA Option window (Figure 6.2) is displayed, select (CL) a "PCB Mode" and select (CL) the [OK] button.
- ④ An operational mode of a PCB of the CHA that has been set in the upper right list is changed.

Table 6.1 Details and Operation of Main Window (CHA)

Item	Description
Upper list	Displays installed CHA PCB's supported by this function.
	Provided with a sorting function.
Lower list	Displays no item.
"CHA - Change" menu	Selectable when a CHA has been selected from the upper list.
	Displays the CHA Option window.
Pop-up menu	Displays the "Change" menu when the right mouse button is clicked on the item in the upper list.

Table 6.2 Details and Operation of Main Window (WWN)

Item	Description
PCB Mode	Displays a set operational mode of a CHA PCB in a form that it has been selected.
OK button	Selectable only when the PCB Mode has been selected.
	Closes the window after changing the parameter, and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

(7) Changing Port

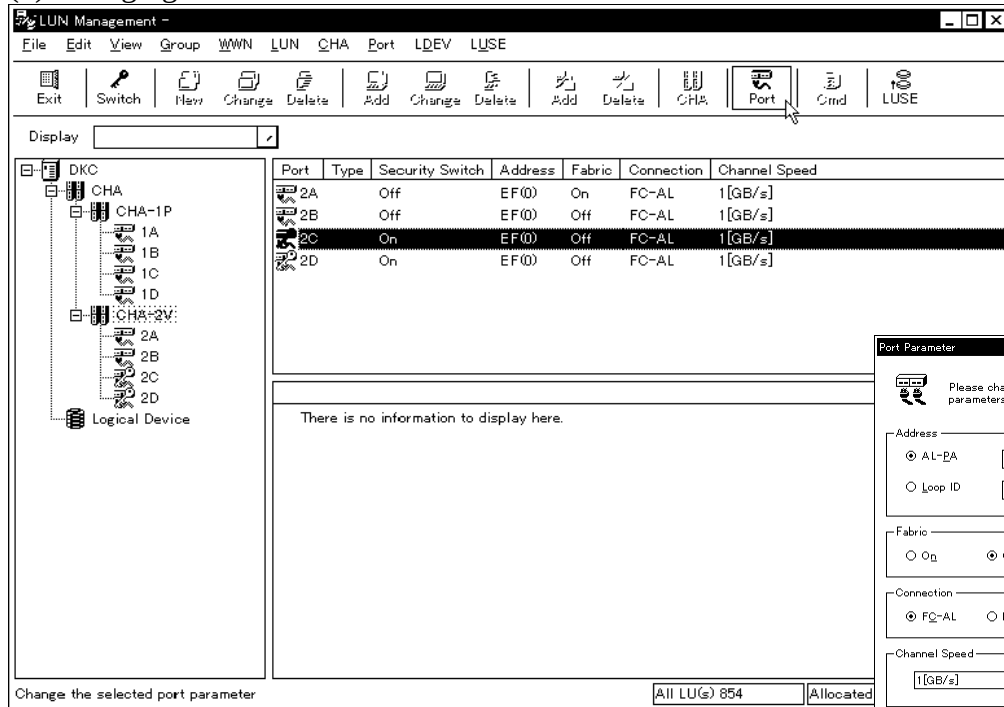
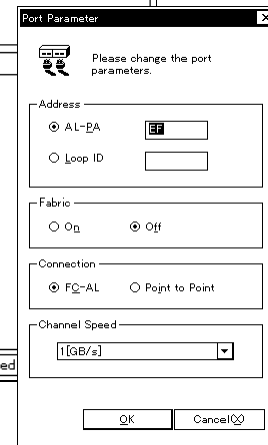


Figure 7.1 Main Window

Figure 7.2
Port Parameter Window

When “Port” in the tree view is selected (CL), installed ports supported by this function are displayed in the upper right list.

A change of a Port Parameter is made in the following procedure.

- ① Select (CL) a port from the upper right list.
- ② Select (DR) [Parameter...] from the [Port] menu in the Main window (Figure 7.1).
- ③ Since the Port Parameter window (Figure 7.2) is displayed, set each item and select (CL) the [OK] button.
- ④ You can change information on the port that has been selected from the upper right list.

Table 7.1 Details and Operation of Main Window (Port)

Item	Description
Upper list	Displays installed ports supported by this function. Provided with a sorting function.
Lower list	Displays no item.
"Port - Change" menu	Selectable when a port has been selected from the upper list. Displays the Port Parameter window.
Pop-up menu	Displays the "Change" menu when the right mouse button is clicked on the item in the upper list.

Table 7.2 Details and Operation of Port Parameter Window

Item	Description
AL-PA	Displays an AL-PA value of a fibre port address.
Loop ID	Displays a loop ID value of a fibre port address.
Fabric	Displays whether to use (On) or not to use (Off) the fabric
Connection	Displays which is to be used: FC-AL or Point to Point.
Channel Speed	Displays 1 GB/s, 2 GB/s, or Auto.
OK button	Closes the window after changing the parameter(s), and returns you to the Main window.
Cancel button	Returns you to the Main window without doing anything.

Fibre port addresses (AL-PA's and loop ID's) are shown below.

Table 7.3 Fibre Port Addresses (AL-PA's and Loop ID's)

AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID	AL AP	Loop ID
EF	0	CD	16	B2	32	98	48	72	64	55	80	3A	96	25	112
E8	1	CC	17	B1	33	97	49	71	65	54	81	39	97	23	113
E4	2	CB	18	AE	34	90	50	6E	66	53	82	36	98	1F	114
E2	3	CA	19	AD	35	8F	51	6D	67	52	83	35	99	1E	115
E1	4	C9	20	AC	36	88	52	6C	68	51	84	34	100	1D	116
E0	5	C7	21	AB	37	84	53	6B	69	4E	85	33	101	1B	117
DC	6	C6	22	AA	38	82	54	6A	70	4D	86	32	102	18	118
DA	7	C5	23	A9	39	81	55	69	71	4C	87	31	103	17	119
D9	8	C3	24	A7	40	80	56	67	72	4B	88	2E	104	10	120
D6	9	BC	25	A6	41	7C	57	66	73	4A	89	2D	105	0F	121
D5	10	BA	26	A5	42	7A	58	65	74	49	90	2C	106	08	122
D4	11	B9	27	A3	43	79	59	63	75	47	91	2B	107	04	123
D3	12	B6	28	9F	44	76	60	5C	76	46	92	2A	108	02	124
D2	13	B5	29	9E	45	75	61	5A	77	45	93	29	109	01	125
D1	14	B4	30	9D	46	74	62	59	78	43	94	27	110		
CE	15	B3	31	9B	47	73	63	56	79	3C	95	26	111		

(8) Changing Command Device from LDEV list

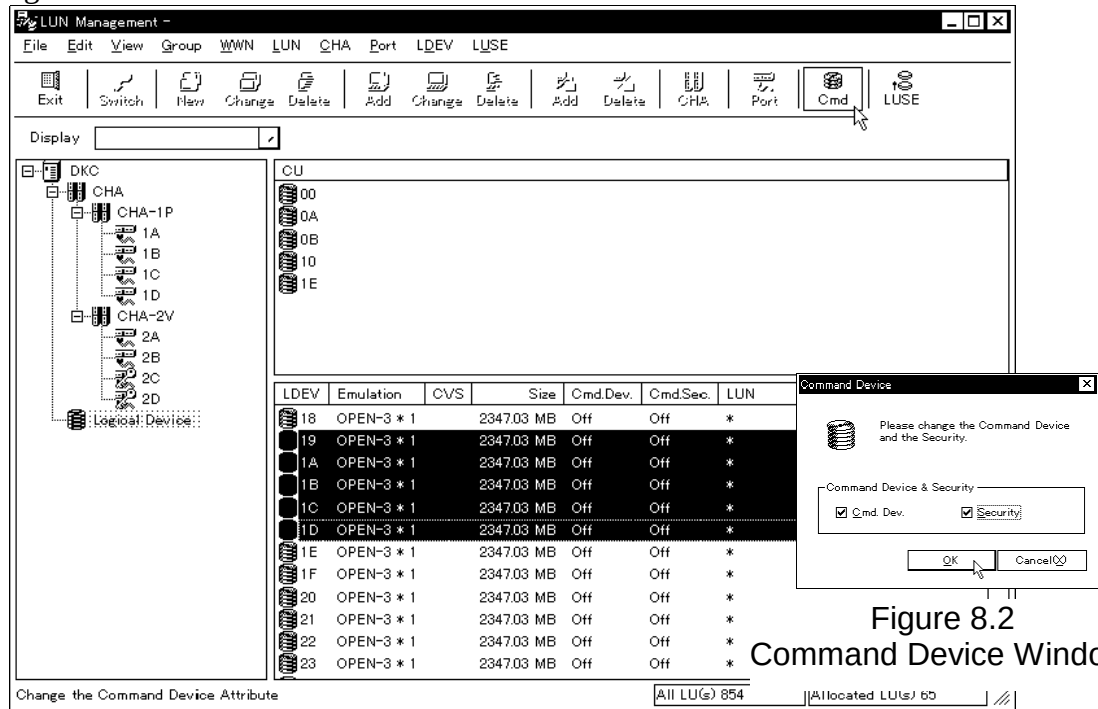
Figure 8.2
Command Device Window

Figure 8.1 Main Window

When "Command Device" in the tree view is selected (CL), CU numbers of installed LDEV's supported by this function are displayed in the upper right list. In the lower right list, details of a CU selected from the upper right list are displayed.

A change of a command device is made in the following procedure.

- ① Select (CL) an LDEV you want to change from the lower right list.
- ② Select (DR) [Change...] from the [Device] menu in the Main window (Figure 8.1).
- ③ Since the Command Device window (Figure 8.2) is displayed, change the "Command Device" and select (CL) the [OK] button.
- ④ Information that has been set is reflected in the LDEV that has been selected from the lower right list.

Table 8.1 Details and Operation of Main Window (Command Device)

Item	Description
Upper list	Displays CU numbers of installed LDEV's supported by this function.
	Provided with a sorting function.
Lower list	Displays details of a CU selected from the upper list. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.
"Device - Change" menu	Selectable only when an LDEV that is given a definition of LUN has been selected from the lower list.
	Displays the Command Device window.
Pop-up menu	Displays the "Change" menu when the right mouse button is clicked on the item in the lower list.

Table 8.2 Details and Operation of Command Device Window

Item	Description
Cmd.Dev.	Displays a status of a command device of the LUN that has been elected.
	When it is checked, the command device is on.
Security	Displays a status of command device security of the LUN that has been selected.
	Enables a command device to be checked provided that the Cmd. Dev. has been set for it.
	When it is checked, the command device security is on.
OK Button	Closes the window after changing the parameters, and returns you to the Main window.
Cancel Button	Returns you to the Main window without doing anything.

(9) Setting LUSE

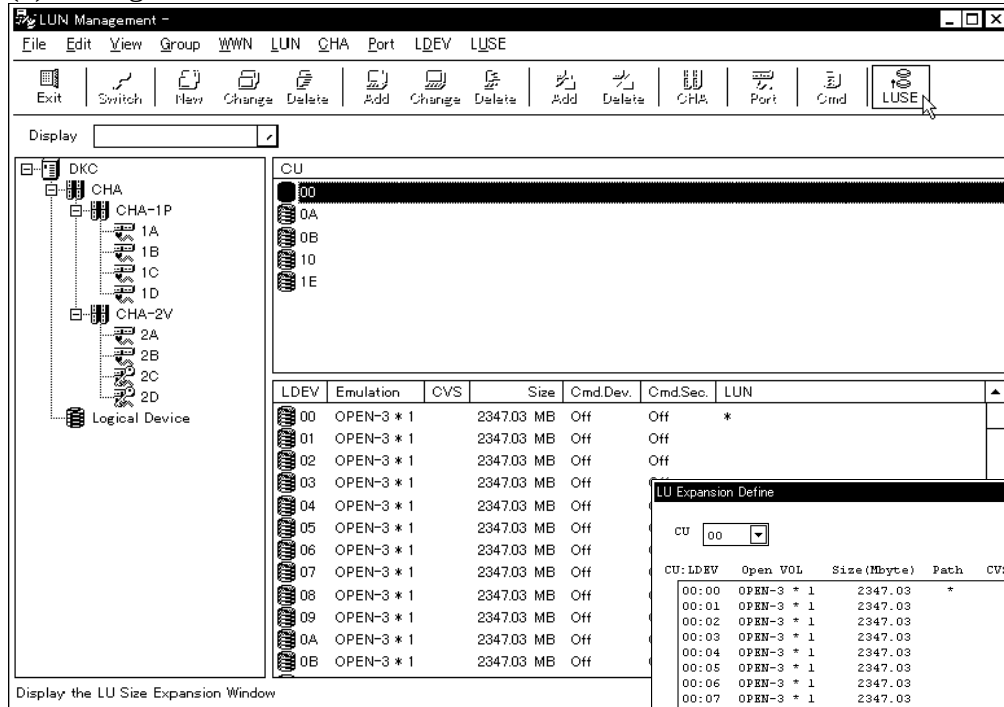


Figure 9.1 Main Window

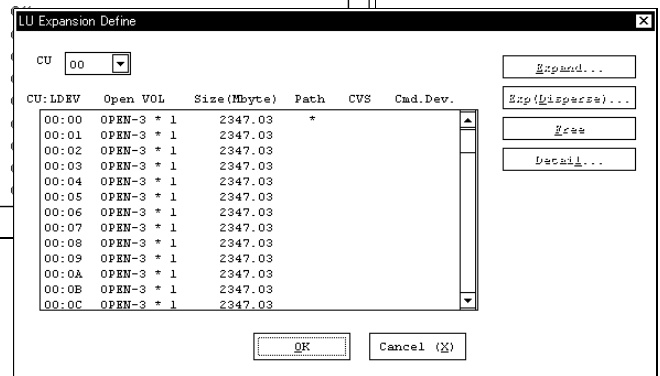


Figure 9.2
LU Expansion Define
Window

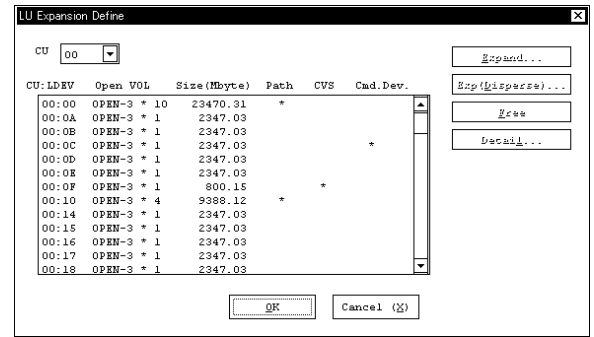
A change of a LUSE is made in the following procedure.

- ① Select (DR) [LU Size Expansion...] from the [LUSE] menu in the Main window (Figure 9.1).
- ② Since the LU Expansion Define window (Figure 9.2) is displayed, set each items and select (CL) the [OK] button.
- ③ Selected information is defined to the Main Window (Figure 9.1).

LU Expansion Define window

Detail of the list

- The list is displayed line by line in CU (The selection can be done on CU list).
- The number of LDEVs connected sequentially together which formalize LU Expansion (Open VOL)
ex.) The first line on the right figure indicates that 10 LDEVs whose emulation type is OPEN-3 are connected together sequentially.
- The existence of LUN definition to the Open VOL.
ex.) In the first line, '*' shows that CU:LDEV=00:00 and 00:10 have a LUN definition.
- The existence of CVS definition to the Open VOL.
ex.) In the seventh line '*' shows that CU:LDEV=00:0F has a CVS definition.
- The existence of Command Device (Cmd. Dev.) definition of the Open VOL.
ex.) In the fourth line '*' shows that CU:LDEV=00:0C has a Command Device definition.



Detail of the buttons

- [OK] button : To register the setting information
- [Cancel] button : Not to register the setting information (It is disabled when 'Change Configuration')
- [Expand...] button : To display 'LU Expansion' window (go to (9-1))
- [Exp(Disperse)...] button : To display 'LU Expansion (Disperse)' window (go to (9-2))
- [Free] button : To dissolve LU Expansion consisted of two or more LDEVs (go to (9-3))
- [Detail...] button : To display 'Open VOL Detail' window (go to (9-4))

(9-1) The setting of LU Expansion ('LU Expansion' window)

Select (CL) [Expand...] button in 'LU Expansion Define' window. [Expand...] button comes to be available at the time of selecting connectable CU:LDEV from the list.

Connectable CU:LDEV denotes the following LDEVs.

- Unconnected CU:LDEVs
- CU:LDEV without SCSI path definition
- CU:LDEV without Command Device definition
- CU:LDEV with same emulation type
- CU:LDEV with same capacity
- CU:LDEV with has no CVS definition, if you select CU:LDEV which has no CVS definition.
- CU:LDEV with has CVS definition, if you select CU:LDEV which has CVS definition.

The selected CU:LDEV comes to be the head of Open VOL and also CU:LDEV# comes to be Open VOL#.

'LU Expansion' window is displayed.

Detail of displayed information

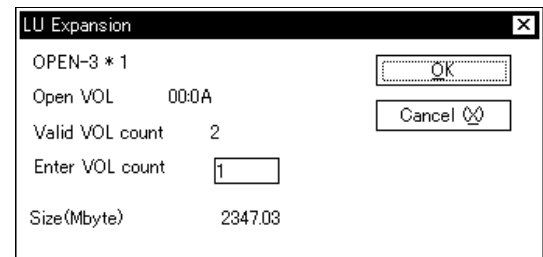
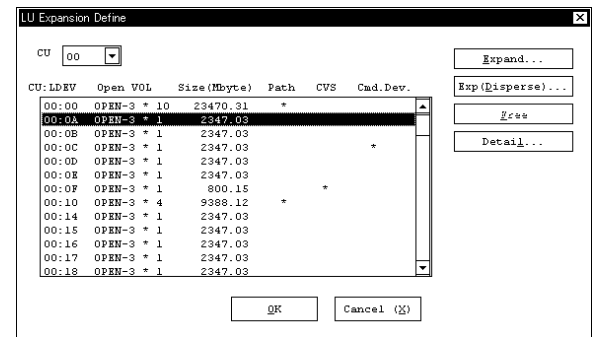
OPEN-XXX : Emulation type

OPEN VOL : Open VOL# (Selected CU:LDEV#)

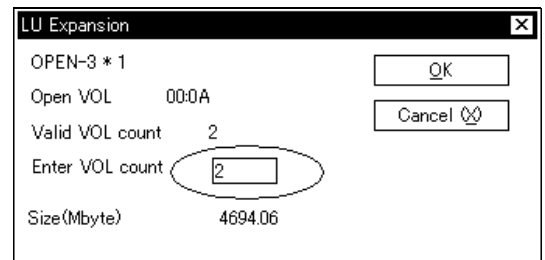
Valid VOL count : Total number of LDEVs connectable together (maximum: 36)

Enter VOL count : The input field of connection number

Size [Mbyte] : The capacity of Open VOL



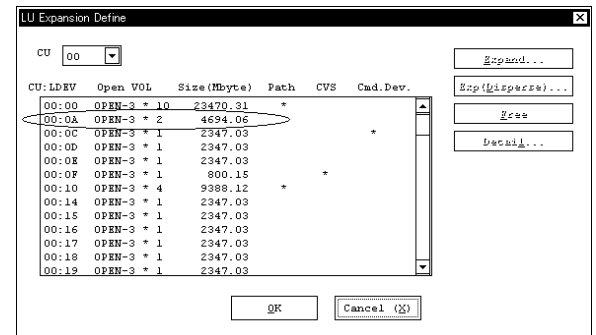
After the input of connection number, select (CL) [OK] button.



LU Expansion dialog box showing the following fields and buttons:

- OPEN-3 * 1
- Open VOL: 00:0A
- Valid VOL count: 2
- Enter VOL count: (circled)
- Size(Mbyte): 4694.06
- Buttons: OK, Cancel (X)

Update the list of 'LU Expansion Define' window. (The right figure shows the case that 2 LDEVs starting at CU:LDEV=00:0A are connected together.)



LU Expansion Define dialog box showing a table of LDEVs and their properties. The CU dropdown is set to 00. The table lists LDEVs from 00:00 to 00:19. The entry for 00:0A is circled, showing it is connected to 00:00.

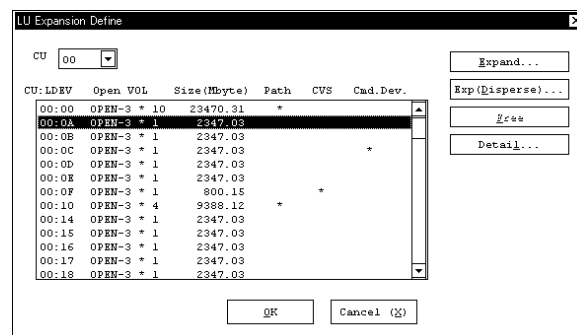
CU:LDEV	Open VOL	Size(Mbyte)	Path	CVS	Cnd.Dev.
00:00	OPEN-3 * 10	23470.31	*		
00:0A	OPEN-3 * 2	4694.06			
00:0C	OPEN-3 * 1	2347.03		*	
00:0D	OPEN-3 * 1	2347.03			
00:0E	OPEN-3 * 1	2347.03			
00:0F	OPEN-3 * 1	800.15		*	
00:10	OPEN-3 * 4	9388.12	*		
00:14	OPEN-3 * 1	2347.03			
00:15	OPEN-3 * 1	2347.03			
00:16	OPEN-3 * 1	2347.03			
00:17	OPEN-3 * 1	2347.03			
00:18	OPEN-3 * 1	2347.03			
00:19	OPEN-3 * 1	2347.03			

Buttons: Expand..., Exp (Expansion)..., New, Detach..., OK, Cancel (X)

Selecting (CL) [OK] button brings you back to 'LUN Management' window, and the contents of the window automatically updated.

(9-2) The setting of LU Expansion by dispersive LDEV ('LU Expansion (Disperse)' window)

Select (CL) [Exp(Disperse)...] button in 'LU Expansion Define' window. [Exp(Disperse)...] button comes to be available at the time of selecting connectable CU:LDEV from the list.



Connectable CU:LDEV denotes the following LDEVs.

- Unconnected CU:LDEVs
- CU:LDEV without SCSI path definition
- CU:LDEV without Command Device definition
- CU:LDEV with same emulation type
- CU:LDEV with same capacity
- CU:LDEV with has no CVS definition, if you select CU:LDEV which has no CVS definition.
- CU:LDEV with has CVS definition, if you select CU:LDEV which has CVS definition.

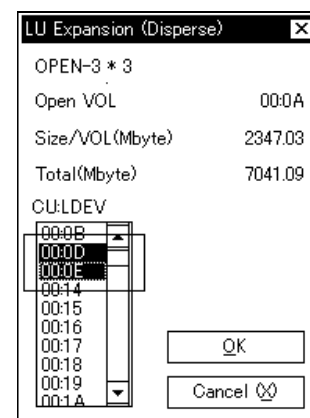
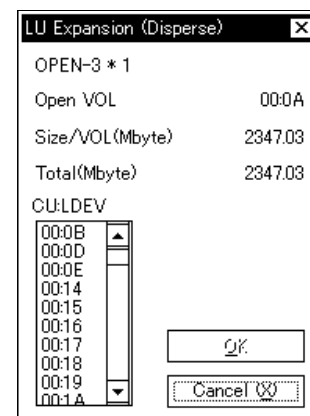
The selected CU:LDEV comes to be the head of Open VOL and also CU:LDEV# comes to be Open VOL#.

'LU Expansion (Disperse)' window is displayed.

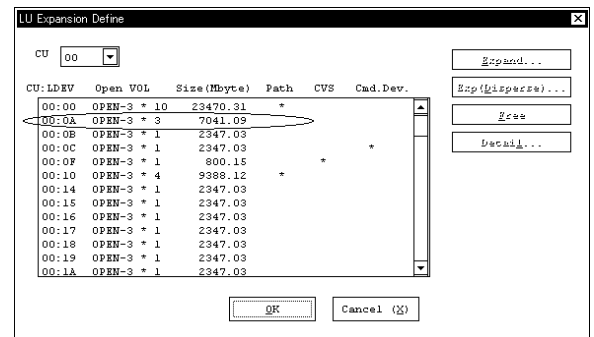
Detail of displayed information

OPEN-XXX : Emulation type
 Open VOL : Open VOL# (Selected CU:LDEV#)
 Size/VOL(Mbyte) : The capacity per one CU:LDEV
 Total(Mbyte) : The capacity of Open VOL
 CU:LDEV list : Connectable CU:LDEV#

After the selection (CL) of connection CU:LDEV from the list, select (CL) [OK] button. (You can connect 36 CU:LDEVs include the head at a maximum.)



Update the list of 'LU Expansion Define' window. (The right figure shows the case that CU:LDEV=00:0A, 00:0D, 00:0E are connected together.)



Selecting (CL) [OK] button brings you back to 'LUN Management' window, and the contents of the window automatically updated.

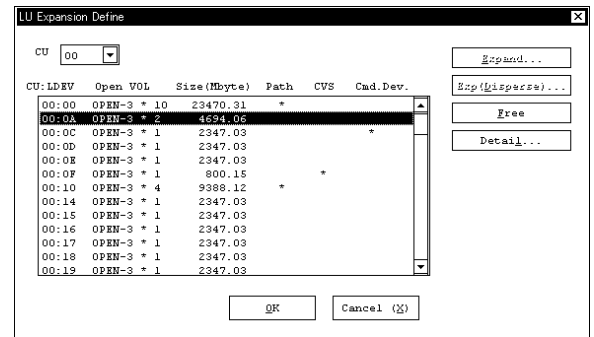
(9-3) Dissolution of Open VOL ('LU Expansion Define' window)

Select (CL) [Free] button on 'LU Expansion Define' window.

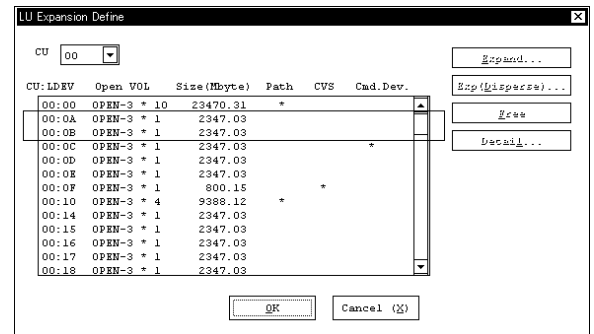
[Free] button comes to be available at the time that the "Dissolvable" Open VOL is selected in the list.

"Dissolvable" Open VOL denotes the Open VOL which satisfies the following conditions:

- Open VOL which has two or more LDEVs connected
- Open VOL which has no SCSI path definition
- Open VOL which has no Command Device definition



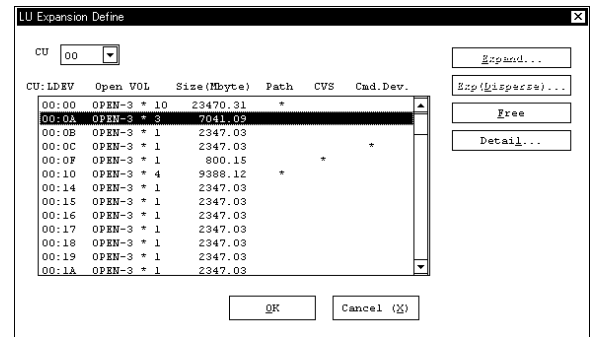
Update the list in 'LU Expansion Define' window. (The right figure shows the case that Open VOL#=00:0A which consisted of 2 LDEVs has been dissolved.)



Selecting (CL) [OK] button brings you back to 'LUN Management' window, and the contents of the window automatically updated.

(9-4) Display detail information of Open VOL ('Open VOL Detail' window)

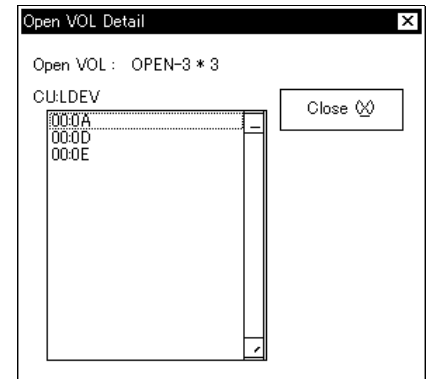
After the selection (CL) of LDEV at 'LU Expansion Define' window, select (CL) [Detail...] button.



'Open VOL Detail' window is displayed.

Detail of displayed information

CU:LDEV : CU:LDEV# of LDEV compose Open VOL



(10) Backup/Restore

(10-1) Backup

A backup can be created only when the configuration allows the system operation.

The backup cannot be created in the following cases where the configuration information is contradictory.

- When the PCB is in the high-speed mode and addresses are duplicate (This is a state that can be temporarily induced while the configuration is changed.).
- When the PCB is in the high-speed mode and the topology is different (This is a state that cannot be induced actually.).
- When the PCB is in the high-speed mode and the channel speed is different (This is a state that cannot be induced actually.).

The backup of the configuration information is executed when [Backup] is selected from the [File] menu.

(10-2) Restore

Restoration can be done only for a CHA whose all ports have no LUN defined.

Items to be restored are the following.

- LUN information
- Group information (including information on the WWN, security switch, and host mode)
- Address/topology information
- Channel speed information
- CHA PCB operation mode information

How to operate each menu of the [Restore] is explained below.

- Refer

Selecting [Restore] and [Refer] from the [File] menu in this order reflects the configuration information, which is stored as a backup, in the window. While the [Refer] is selected, any configuration change cannot be made.

- Execute

Selecting [Restore] and [Execute] from the [File] menu in this order while the [Refer] is selected applies the configuration information displayed in the window.

These menu items cannot be selected unless the [Refer] has been selected.

- Cancel

Selecting [Restore] and [Cancel] from the [File] menu in this order while the [Refer] is selected cancels the state induced by the selection of the [Refer] is selected.

These menu items cannot be selected unless the [Refer] has been selected.

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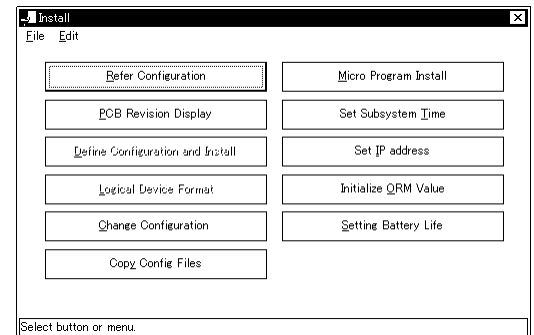
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REV.1	Oct.2001	Feb.2002				

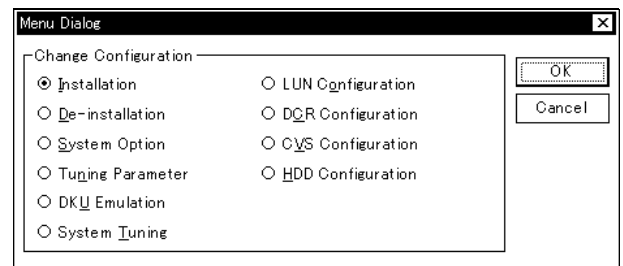
5.3.4 Emulation Type Change

1. <Mode Change>
Change the mode to Modify Mode.
Select (CL) [Install].

2. <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



3. <Start Device Structure Setup screen>
Select (CL) [DKU Emulation] in the 'Menu Dialog' dialog box and select (CL) [OK].



4. <Input password>

NOTICE

This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong drive for which the emulation type is to be changed is selected, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Enter the password and select (CL) [OK].

Password

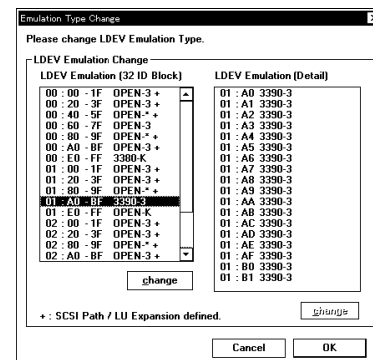
[PAS3359W]
Please vary the drives off-line only whose emulation type will be changed. And enter a password to continue.

Password

5. Emulation Change Procedure

5.1 Emulation Type Change for Single Block

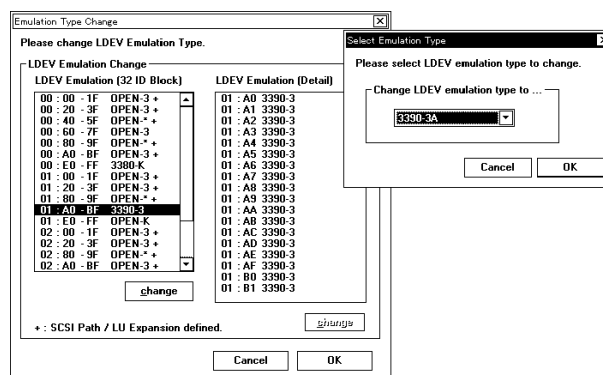
- (1) Select (CL) a block including an LDEV of which you want to change the emulation type in the LDEV Emulation (32 ID Block) list box.



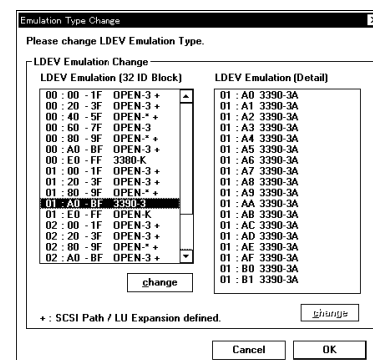
- (2) Select (CL) [Change] beneath the LDEV Emulation (32 ID Block) list box to open the dialog box for (choosing) the emulation type to be changed, and select (CL) the changed emulation type.

In the following case, the [Change] button is not available. (It's concerned with a "+" indicated LDEV.)

- a) A block including volumes with SCSI path is selected.
- b) A block including LU Expanded volumes is selected.

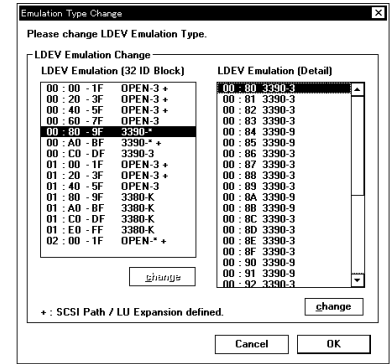


- (3) Select (CL) [OK] to set the changed emulation type. Then, the LDEV (selected in step (1)) having the emulation type to be changed varies to the one specified in step (2). When selecting the same LDEV block after setting the change, you can check details of the changes in the LDEV Emulation (Detail) list box.



5.2 Emulation Type Change for Single LDEV

- (1) Select (CL) a block including an LDEV of which you want to change the emulation type in the LDEV Emulation (32 ID Block) list box.

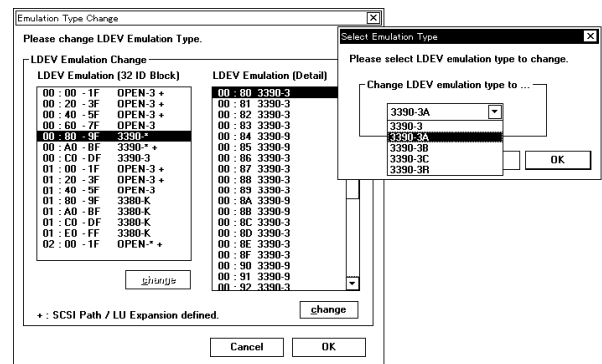


- (2) In the LDEV Emulation (Detail) list box, select (CL) an LDEV whose emulation type to be changed.

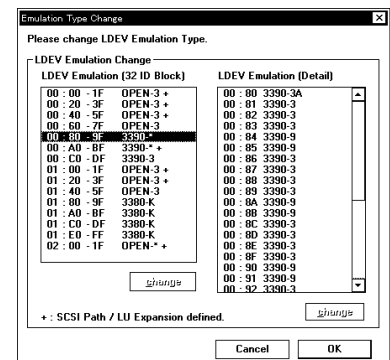
- (3) Select (CL) [Change] beneath the LDEV Emulation (Detail) list box to open the dialog box for (choosing) the emulation type to be changed, and select (CL) the changed emulation type.

In the following case, the [Change] button is not available. (It's concerned with a "+" indicated LDEV.)

- a) A volume with SCSI path is selected.
- b) An LU expanded volume is selected.

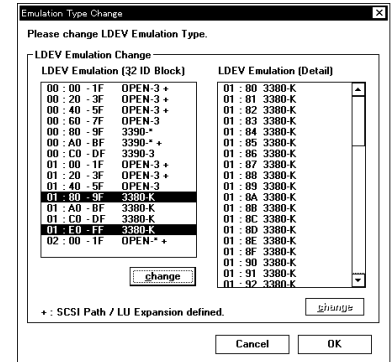


- (4) Select (CL) [OK] to set the changed emulation type. Then, the LDEV (selected in step (2)) varies to the one specified in step (3).

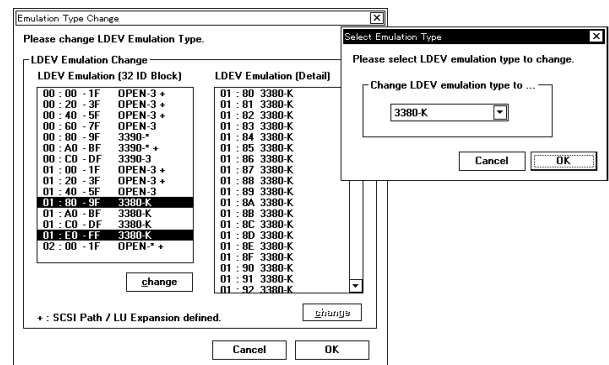


5.3 Emulation Type Change for Multiple Blocks

- (1) Select (CL) blocks including an LDEV of which you want to change the emulation type in the LDEV Emulation (32 ID Block) list box.



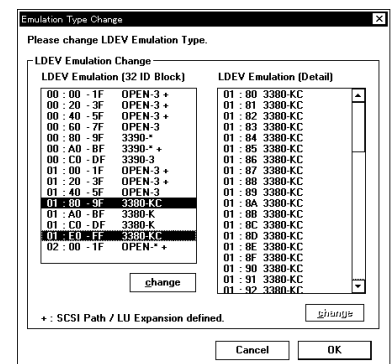
- (2) Select (CL) [Change] beneath the LDEV Emulation (32 ID Block) list box to open the dialog box for (choosing) the emulation type to be changed, and select (CL) the changed emulation type.



In the following case, the [Change] button is not available. (It's concerned with a "+" indicated LDEV.)

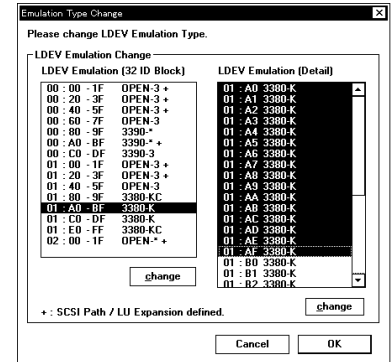
- a) Blocks including volumes with SCSI path are selected.
- b) Blocks including LU expanded volumes are selected.

- (3) Select (CL) [OK] to set the changed emulation type. Then, the LDEV (selected in step (1)) having the emulation type to be changed varies to the one specified in step (2). When selecting the same LDEV block after setting the change, you can check details of the changes in the emulation LDEV Emulation (Detail) list box.



5.4 Individual Emulation Type Change for Multiple LDEVs

- (1) Select (CL) a block including LDEVs of which you want to change the emulation type in the LDEV Emulation (32 ID Block) list box.

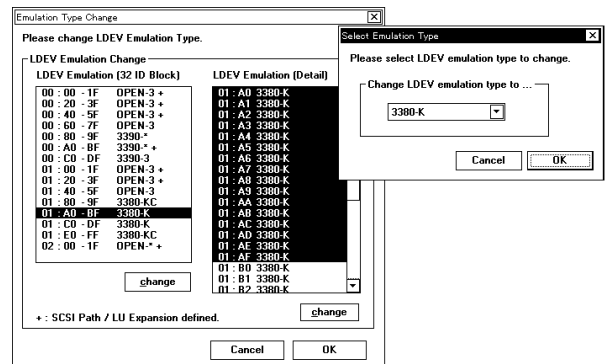


- (2) In the LDEV Emulation (Detail) list box, select (CL) LDEVs whose emulation types are to be changed.

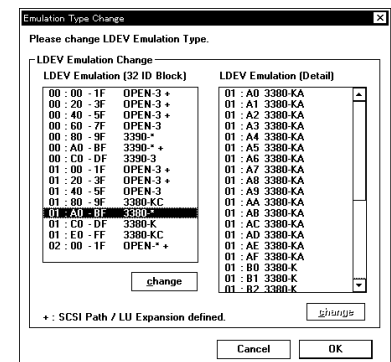
- (3) Select (CL) [Change] beneath the LDEV Emulation (Detail) list box to open the dialog box for (choosing) the emulation type to be changed, and select (CL) the changed emulation type.

In the following case, the [Change] button is not available. (It's concerned with a "+" indicated LDEV.)

- a) Volumes with SCSI path are selected.
- b) LU expanded volumes are selected.



- (4) Select (CL) [OK] to set the changed emulation type. Then, the LDEV (selected in step (2)) varies to the one specified in step (3).

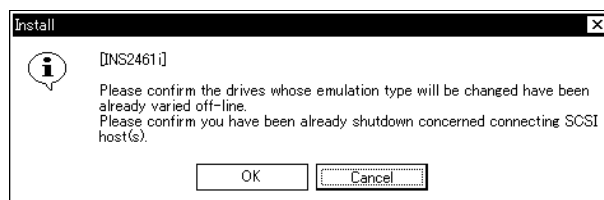


6.

Select (CL) [OK] to fix the emulation type change.
 Select (CL) [Cancel] to cancel the operation.

7.

Before changing the emulation type, make sure that the drive has already been set to Vary Off-line and that the SCSI host concerned has been shut down, and then select (CL) [OK].



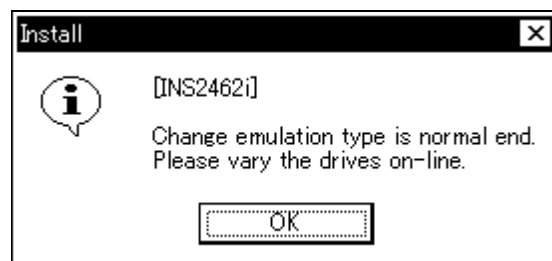
When [Cancel] is selected (CL), the processing is aborted.

8.

“Changing DKU Emulation” is displayed.

9. <Drive Vary On-line>

When the emulation type change processing terminates normally, the message “Changing emulation type is normal end. Please vary the drives on-line.” is displayed.
 Vary the drive on-line and select (CL) [OK].



5.4 System Tuning SVP Procedure

5.4.1 System Tuning

NOTICE

Powering off/on is required owing to the performance of this operation.

Overview

This function modifies the part of established subsystem configuration data.

The data to be modified is control data closely related to a host device, so the data can not be modified on on-line.

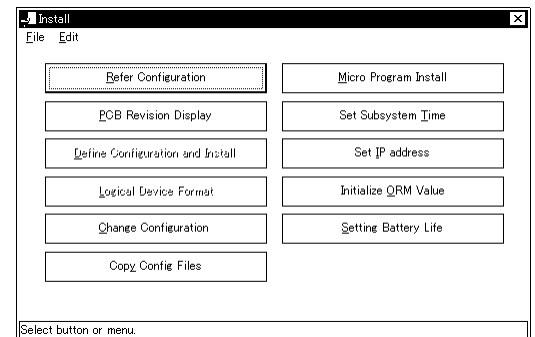
After modification of the data, power DKC off and on.

The data to be modified is listed below.

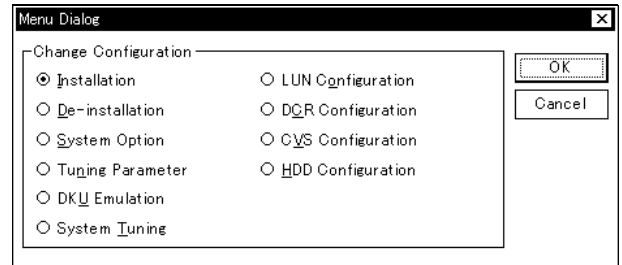
‘DKC Configuration’ ---- DKC Serial Number/Sub System ID/DKC Emulation Type/
IP address/AC box/CU number of each channel port

1. <Start [Install]>
Select [Install] from ‘SVP’ (CL).

2. Select [Change Configuration] (CL) from ‘Install’.



3. <Specify the beginning of installation>
Select [System Tuning] from 'Menu Dialog' (CL), and select [OK] (CL).



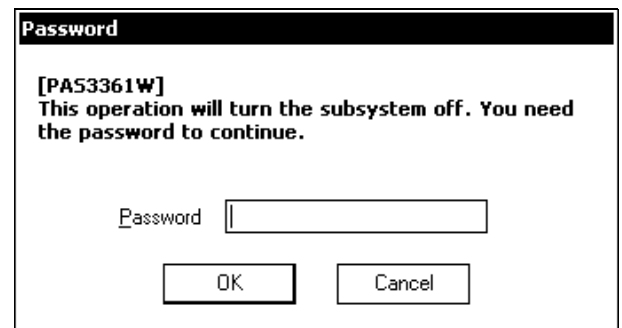
4.

NOTICE

Powering off/on is required owing to the performance of this operation.
Ask the technical support center about the appropriateness of the operation, and input a password after getting an approval of executing the operation.

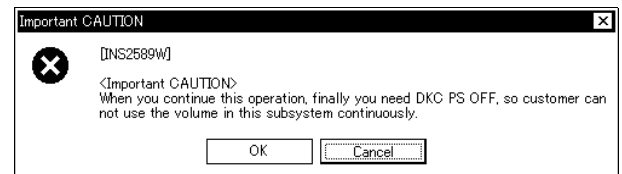
- (1) Enter the password and select [OK] (CL).
Password is needed for this operation.
Please call Technical Support Center to obtain a password and authorization.

If [Cancel] is selected (CL), terminate the installation procedure.
'DKC Configuration' is automatically displayed next.



- (2) Select (CL) [OK] in response to the confirmation message
“<Important CAUTION>

When you continue this operation, finally you need DKC PS OFF, so customer can not use the volume in this subsystem continuously.”.



5. <Define configuration information>

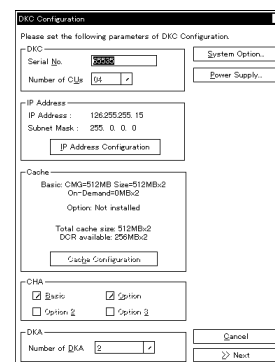
Define the device configuration information from 'DKC Configuration' according to the device configuration worksheet. When you select [>>Next] (CL), 'DKC Emulation Configuration' is automatically displayed.

This procedure finishes when you select [Cancel] (CL).

If [System Options...] is selected (CL), 'System Option' is automatically displayed. Go to step 6.

If [Power Supply...] is selected (CL), 'Power Supply' is displayed. Go to step 7.

If [IP Address...] is selected (CL), 'Set IP Address' is displayed. Go to step 8.



6. <System option setup>

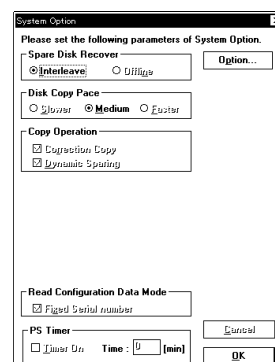
Define the device configuration information from 'System Option' according to the device configuration worksheet.

After setting up all items, select [OK] (CL).

The next message screen is displayed.

When you select [Cancel] (CL), 'System Option' is closed and 'DKC Configuration' appears again.

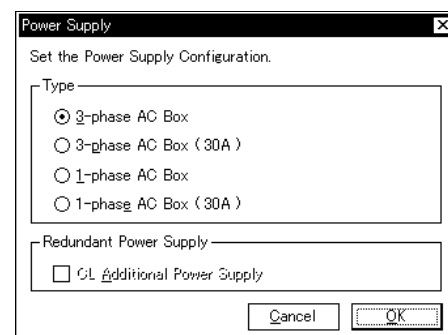
Return to step 5.



7. <Set Power Supply>

Set the power supply information in the 'Power Supply' dialog box, and select (CL) [OK].

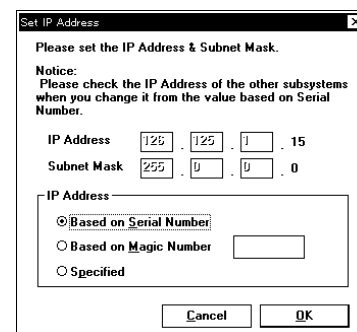
Return to step 5.



8. <Set IP Address>

Set the IP Address and Subnet Mask in the 'Set IP Address' dialog box, and select (CL) [OK].

Return to step 5.

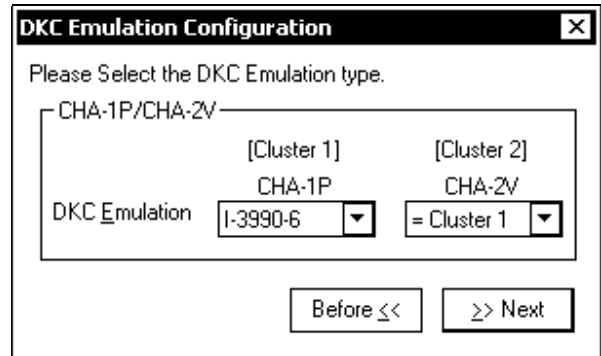


9. <Setting DKC Emulation type>

Set the subsystem configuration information in the 'DKC Emulation Configuration' window according to the subsystem configuration information work sheet.

After the setting is completed, select (CL) [>>Next]. Go to step 9-1.

When [Before<<] is selected (CL), the routine returns to step 5.



DKC Emulation Configuration

Please Select the DKC Emulation type.

CHA-1P/CHA-2V

[Cluster 1] [Cluster 2]

CHA-1P CHA-2V

DKC Emulation I-3990-6 = Cluster 1

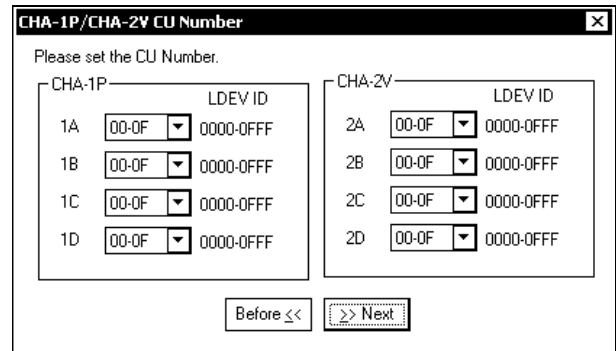
Before << >> Next

9-1. <Setting CU number>

CU number is displayed.

After the setting is completed, select (CL) [>>Next]. Go to step 9-2.

When [Before<<] is selected (CL), the routine returns to step 9.



CHA-1P/CHA-2V CU Number

Please set the CU Number.

CHA-1P LDEV ID

1A 00-0F 0000-0FFF

1B 00-0F 0000-0FFF

1C 00-0F 0000-0FFF

1D 00-0F 0000-0FFF

CHA-2V LDEV ID

2A 00-0F 0000-0FFF

2B 00-0F 0000-0FFF

2C 00-0F 0000-0FFF

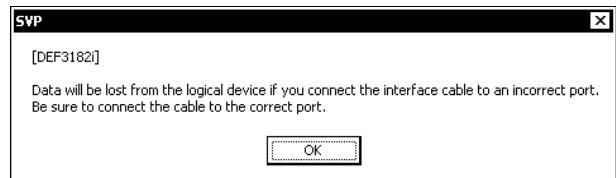
2D 00-0F 0000-0FFF

Before << >> Next

9-2. <SVP message>

Select (CL) [OK] in response to the confirmation message "Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port."

Returns to step 9.



SVP

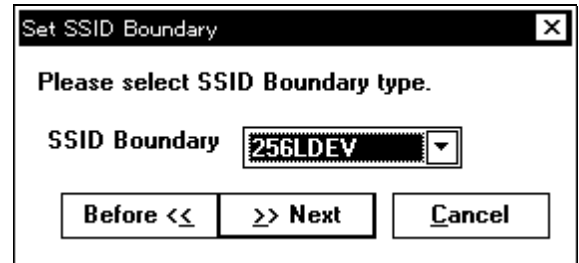
[DEF3182]

Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port.

OK

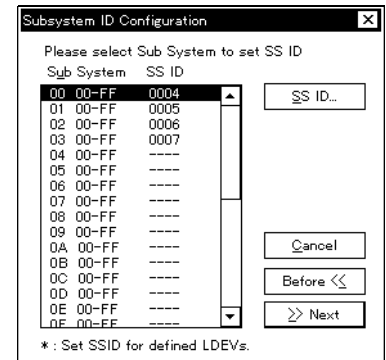
10. <Define Subsystem ID Boundary>

Set the Subsystem ID Boundary in the “Set SSID Boundary” dialog box.
Select (CL) [>>Next].



10-1. <Define Subsystem ID>

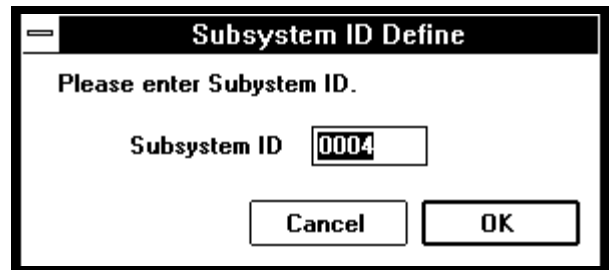
To define Subsystem ID, select (CL) [SSID]. Go to step 11.
After setting, select (CL) [>>Next].
This procedure is terminated by selecting (CL) [Cancel].



11.

Define Subsystem ID and select (CL) [OK].
Return to step 10.

“Checking subsystem configuration...” is displayed.

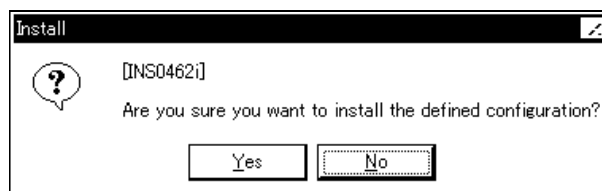


12. <Include configuration information>

- (1) Select (CL) [Yes] in response to the confirmation message “Are you sure you want to install the defined configuration?”.

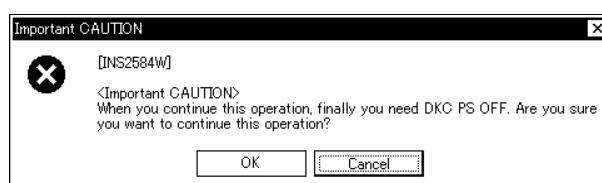
“Wait...” is displayed, then “Turn off the subsystem” is displayed.

Selecting (CL) [No] suppresses the configuration inclusion processing and terminates the installation procedure.



- (2) Select (CL) [OK] in response to the confirmation message “<Important CAUTION>

When you continue this operation, finally you need DKC PS OFF. Are you sure you want to continue this operation?”.



- (3) Select (CL) [OK] in response to the confirmation message “<Important CAUTION>

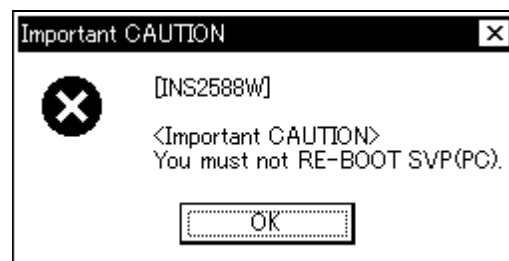
When you select [OK] button, you can't cancel this operation. Are you sure you want to continue this operation?

If you terminate this operation by some forcible method, the subsystem be in UNRECOVERABLE SERIOUSLY DAMAGE.”.



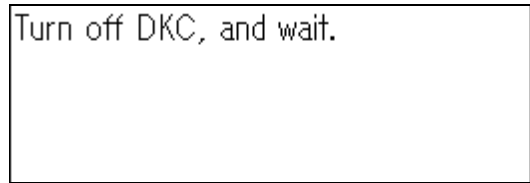
- (4) Select (CL) [OK] in response to the confirmation message “<Important CAUTION>

You must not RE-BOOT SVP(PC).”.



13.

Make sure that “Turn off DKC, and wait.” is displayed and perform the power-off procedure from the DKC maintenance panel.
After a while, “Wait...” will be displayed.



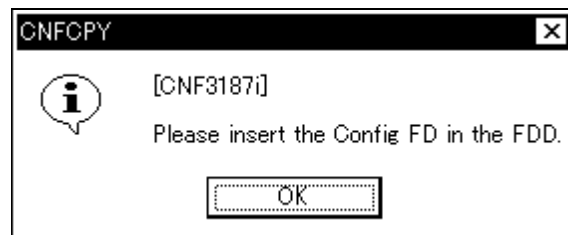
Turn off DKC, and wait.

14.

This step allows the contents of the SVP HD to be loaded into SM and FM.
When this procedure is completed, the message “Please insert config FD in FDD.” is displayed.

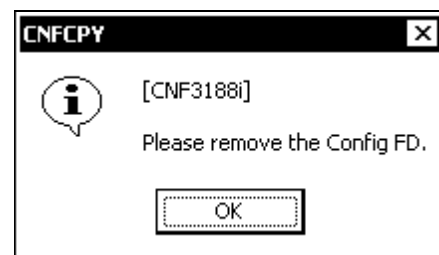
15.

Insert the configuration FD into FDD, and select [OK].



16.

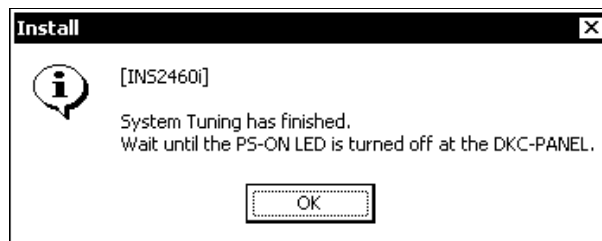
When this procedure is completed, the message “Please remove the Config FD.” is displayed.
Remove the FD, and then select [OK].



17.

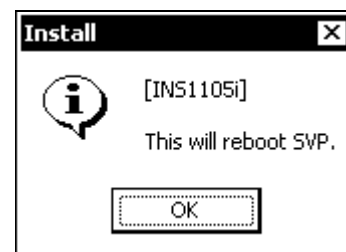
After making sure that the DKC power is turned off, select [OK] (CL) in response to “System Tuning has finished.”

Note : The SVP power will not turn off even when DKC is powered off.



18.

“This will reboot SVP.” is displayed. Select [OK] (CL).



7 TPF installation procedures

7.1 Preparations

- (a) Get additional SM parts (SH184-B (Only type of 128MB)) by the number you need according to [INST01-70](#).
- (b) Get the "Configuration" floppy disk which supports the MPLF/RC (or TPF) function from T.S.C.

7.2 Operations

- (a) Exchanging Micro-programs of the latest version.
 - Exchange all Micro-programs which are different from currently installed version. (Refer to MICRO-FC SECTION.)
- (b) Executing Config Version Up.
 - Set the "Configuration" floppy disk.
 - Execute Config Version Up. (Refer to [MICRO-FC08-10](#) (Config Exchange Procedure ((3-1) 'Config Version UP'))).
- (c) Switching "TPF-mode" on.
 - Execute "Define Configuration and install". (Refer to [INST05-80](#) (Configuration information Definition).)
- (d) Attaching additional SM parts.
 - Turn off the DKC power switch.
 - With reference to [INST01-70](#), install the required number of additional SM parts.
 - Remove Jumper connectors (BTJP) from BAT CTR. And wait for 5 minutes. (volatile CACHE, SM)
 - Reconnect Jumper connectors.
- (e) Starting TPF Micro-program.
 - Turn on the DKC power switch.
- (f) Confirming the TPF MODE.
 - Select (CL) [DUMP] in the "SVP" window.
 - Confirm that "TPF" is shown in the "DUMP" dialog box.

8 Storage Capacity and Cache Capacity Upgrade Table

8.1 Standard Configuration for RAID5 (3D+1P)

Appendix A Standard Configuration for RAID5 (3D+1P)

- (1) 36GB 15K rpm HDD, RAID5(3D+1P) [INST08-20](#)
 (2) 73GB 10K rpm HDD, RAID5(3D+1P) [INST08-60](#)

8.2 Standard Configuration for RAID5 (7D+1P)

Appendix B Standard Configuration for RAID5 (7D+1P)

- (1) 36GB 15K rpm HDD, RAID5(7D+1P) [INST08-260](#)
 (2) 73GB 10K rpm HDD, RAID5(7D+1P) [INST08-280](#)

8.3 Standard Configuration for RAID1 (2D+2D)

Appendix B Standard Configuration for RAID1 (2D+2D)

- (1) 36GB 15K rpm HDD, RAID1(2D+2D) [INST08-380](#)
 (2) 73GB 10K rpm HDD, RAID1(2D+2D) [INST08-420](#)

8.1 Standard Configuration for RAID5 (3D+1P)

(1) 36GB 15K rpm HDD, RAID5 (3D+1P)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System					Mainframe System					DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)		F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap							
1	2	43	106	14	103	7	102	35	99	11	94	1	*1			1	1	
2	4	86	212	28	207	14	204	70	199	22	187	2				1	2	
3	4	129	317	42	310	21	306	105	298	33	281	2				1	3	
4	4	172	423	56	414	28	408	140	397	44	374	2				1	4	
5	4	215	529	70	517	35	510	175	497	55	468	2				1	5	
6	4	258	635	84	620	42	612	210	596	66	562	2				1	6	
7	6	301	741	98	724	49	714	245	695	77	655	3				1	7	
8	6	344	847	112	827	56	816	280	795	88	749	3				1	8	
9	6	387	952	126	930	63	918	315	894	99	842	3				1	9	
10	6	430	1,058	140	1,034	70	1,020	350	993	110	936	3				1	10	
11	6	473	1,164	154	1,137	77	1,122	385	1,093	121	1,030	3				1	11	
12	6	516	1,270	168	1,241	84	1,224	420	1,192	132	1,123	3				1	12	
13	6	559	1,376	182	1,344	91	1,326	455	1,291	143	1,217	3				1	13	
14	8	602	1,482	196	1,447	98	1,428	490	1,391	154	1,311	4				1	14	
15	8	645	1,587	210	1,551	105	1,530	525	1,490	165	1,404	4				1	15	
16	8	688	1,693	224	1,654	112	1,632	560	1,589	176	1,498	4				1	16	
17	8	731	1,799	238	1,757	119	1,734	595	1,689	187	1,591	4				1	17	
18	8	774	1,905	252	1,861	126	1,836	630	1,788	198	1,685	4				1	18	
19	8	817	2,011	266	1,964	133	1,938	665	1,887	209	1,779	4				1	19	
20	8	860	2,116	280	2,068	140	2,040	700	1,987	220	1,872	4				1	20	
21	8	903	2,222	294	2,171	147	2,141	735	2,086	231	1,966	4				1	21	
22	8	946	2,328	308	2,274	154	2,243	770	2,185	242	2,059	4				1	22	
23	8	989	2,434	322	2,378	161	2,345	805	2,285	253	2,153	4				1	23	
24	8	1,032	2,540	336	2,481	168	2,447	840	2,384	264	2,247	4				1	24	
25	8	1,075	2,646	350	2,584	175	2,549	875	2,483	275	2,340	4				1	25	
26	8	1,118	2,751	364	2,688	182	2,651	910	2,583	286	2,434	4				1	26	
27	10	1,161	2,857	378	2,791	189	2,753	945	2,682	297	2,527	5				1	27	
28	10	1,204	2,963	392	2,895	196	2,855	980	2,781	308	2,621	5				1	28	
29	10	1,247	3,069	406	2,998	203	2,957	1,015	2,881	319	2,715	5				1	29	
30	10	1,290	3,175	420	3,101	210	3,059	1,050	2,980	330	2,808	5				1	30	
31	10	1,333	3,281	434	3,205	217	3,161	1,085	3,079	341	2,902	5				1	31	
32	10	1,376	3,386	448	3,308	224	3,263	1,120	3,179	352	2,996	5		1		1	32	
33	10	1,419	3,492	462	3,411	231	3,365	1,155	3,278	363	3,089	5		1		1	33	
34	10	1,462	3,598	476	3,515	238	3,467	1,190	3,377	374	3,183	5		1		1	34	
35	10	1,505	3,704	490	3,618	245	3,569	1,225	3,477	385	3,276	5		1		1	35	
36	10	1,548	3,810	504	3,722	252	3,671	1,260	3,576	396	3,370	5		1		1	36	
37	10	1,591	3,915	518	3,825	259	3,773	1,295	3,675	407	3,464	5		1		1	37	
38	10	1,634	4,021	532	3,928	266	3,875	1,330	3,775	418	3,557	5		1		1	38	
39	10	1,677	4,127	546	4,032	273	3,977	1,365	3,874	429	3,651	5		1		1	39	
40	10	1,720	4,233	560	4,135	280	4,079	1,400	3,973	440	3,744	5		1		1	40	
41	10	1,763	4,339	574	4,238	287	4,181	1,435	4,073	451	3,838	5		1		1	41	
42	10	1,806	4,445	588	4,342	294	4,283	1,470	4,172	462	3,932	5		1		1	42	
43	10	1,849	4,550	602	4,445	301	4,385	1,505	4,271	473	4,025	5		1		1	43	
44	10	1,892	4,656	616	4,549	308	4,487	1,540	4,371	484	4,119	5		1		1	44	
45	10	1,935	4,762	630	4,652	315	4,589	1,575	4,470	495	4,212	5		1		1	45	
46	10	1,978	4,868	644	4,755	322	4,691	1,610	4,569	506	4,306	5		1		1	46	
47	10	2,021	4,974	658	4,859	329	4,793	1,645	4,669	517	4,400	5		1		1	47	
48	10	2,064	5,080	672	4,962	336	4,895	1,680	4,768	528	4,493	5		1		1	48	
49	10	2,107	5,185	686	5,065	343	4,997	1,715	4,867	539	4,587	5		1		1	49	
50	10	2,150	5,291	700	5,169	350	5,099	1,750	4,967	550	4,681	5		1		1	50	
51	10	2,193	5,397	714	5,272	357	5,201	1,785	5,066	561	4,774	5		1		1	51	
52	10	2,236	5,503	728	5,376	364	5,303	1,820	5,165	572	4,868	5		1		1	52	
53	10	2,279	5,609	742	5,479	371	5,405	1,855	5,264	583	4,961	5		1		1	53	
54	12	2,322	5,714	756	5,582	378	5,507	1,890	5,364	594	5,055	6		1		1	54	
55	12	2,365	5,820	770	5,686	385	5,609	1,925	5,463	605	5,149	6		1		1	55	
56	12	2,408	5,926	784	5,789	392	5,711	1,960	5,562	616	5,242	6		1		1	56	
57	12	2,451	6,032	798	5,892	399	5,813	1,995	5,662	627	5,336	6		1		1	57	
58	12	2,494	6,138	812	5,996	406	5,915	2,030	5,761	638	5,429	6		1		1	58	
59	12	2,537	6,244	826	6,099	413	6,017	2,065	5,860	649	5,523	6		1		1	59	
60	12	2,580	6,349	840	6,203	420	6,119	2,100	5,960	660	5,617	6		1		1	60	
61	12	2,623	6,455	854	6,306	427	6,221	2,135	6,059	671	5,710	6		1		1	61	
62	12	2,666	6,561	868	6,409	434	6,323	2,170	6,158	682	5,804	6		1		1	62	
63	12	2,709	6,667	882	6,513	441	6,424	2,205	6,258	693	5,897	6		1		1	63	

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System						Mainframe System				DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)								
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
64	12	2,752	6,773	896	6,616	448	6,526	2,240	6,357	704	5,991	6		1		2	64	1
65	12	2,795	6,878	910	6,719	455	6,628	2,275	6,456	715	6,085	6		1		2	65	1
66	12	2,838	6,984	924	6,823	462	6,730	2,310	6,556	726	6,178	6		1		2	66	1
67	12	2,881	7,090	938	6,926	469	6,832	2,345	6,655	737	6,272	6		1		2	67	1
68	12	2,924	7,196	952	7,030	476	6,934	2,380	6,754	748	6,365	6		1		2	68	1
69	12	2,967	7,302	966	7,133	483	7,036	2,415	6,854	759	6,459	6		1		2	69	1
70	12	3,010	7,408	980	7,236	490	7,138	2,450	6,953	770	6,553	6		1		2	70	1
71	12	3,053	7,513	994	7,340	497	7,240	2,485	7,052	781	6,646	6		1		2	71	1
72	12	3,096	7,619	1,008	7,443	504	7,342	2,520	7,152	792	6,740	6		1		2	72	1
73	12	3,139	7,725	1,022	7,546	511	7,444	2,555	7,251	803	6,834	6		1		2	73	1
74	12	3,182	7,831	1,036	7,650	518	7,546	2,590	7,350	814	6,927	6		1		2	74	1
75	12	3,225	7,937	1,050	7,753	525	7,648	2,625	7,450	825	7,021	6		1		2	75	1
76	12	3,268	8,043	1,064	7,857	532	7,750	2,660	7,549	836	7,114	6		1		2	76	1
77	12	3,311	8,148	1,078	7,960	539	7,852	2,695	7,648	847	7,208	6		1		2	77	1
78	12	3,354	8,254	1,092	8,063	546	7,954	2,730	7,748	858	7,302	6		1		2	78	1
79	12	3,397	8,360	1,106	8,167	553	8,056	2,765	7,847	869	7,395	6		1		2	79	1
80	14	3,440	8,466	1,120	8,270	560	8,158	2,800	7,946	880	7,489	7		1		2	80	1
81	14	3,483	8,572	1,134	8,373	567	8,260	2,835	8,046	891	7,582	7		1		2	81	1
82	14	3,526	8,677	1,148	8,477	574	8,362	2,870	8,145	902	7,676	7		1		2	82	1
83	14	3,569	8,783	1,162	8,580	581	8,464	2,905	8,244	913	7,770	7		1		2	83	1
84	14	3,612	8,889	1,176	8,684	588	8,566	2,940	8,344	924	7,863	7		1		2	84	1
85	14	3,655	8,995	1,190	8,787	595	8,668	2,975	8,443	935	7,957	7		1		2	85	1
86	14	3,698	9,101	1,204	8,890	602	8,770	3,010	8,542	946	8,050	7		1		2	86	1
87	14	3,741	9,207	1,218	8,994	609	8,872	3,045	8,642	957	8,144	7		1		2	87	1
88	14	3,784	9,312	1,232	9,097	616	8,974	3,080	8,741	968	8,238	7		1		2	88	1
89	14	3,827	9,418	1,246	9,200	623	9,076	3,115	8,840	979	8,331	7		1		2	89	1
90	14	3,870	9,524	1,260	9,304	630	9,178	3,150	8,940	990	8,425	7		1		2	90	1
91	14	3,913	9,630	1,274	9,407	637	9,280	3,185	9,039	1,001	8,519	7		1		2	91	1
92	14	3,956	9,736	1,288	9,511	644	9,382	3,220	9,138	1,012	8,612	7		1		2	92	1
93	14	3,999	9,842	1,302	9,614	651	9,484	3,255	9,238	1,023	8,706	7		1		2	93	1
94	14	4,042	9,947	1,316	9,717	658	9,586	3,290	9,337	1,034	8,799	7		1		2	94	1
95	14	4,085	10,053	1,330	9,821	665	9,688	3,325	9,436	1,045	8,893	7		1		2	95	1
96	14	4,128	10,159	1,344	9,924	672	9,790	3,360	9,536	1,056	8,987	7		1		2	96	1
97	14	4,171	10,265	1,358	10,027	679	9,892	3,395	9,635	1,067	9,080	7		1		2	97	1
98	14	4,214	10,371	1,372	10,131	686	9,994	3,430	9,734	1,078	9,174	7		1		2	98	1
99	14	4,257	10,476	1,386	10,234	693	10,096	3,465	9,834	1,089	9,267	7		1		2	99	1
100	14	4,300	10,582	1,400	10,338	700	10,198	3,500	9,933	1,100	9,361	7		1		2	100	1
101	14	4,343	10,688	1,414	10,441	707	10,300	3,535	10,032	1,111	9,455	7		1		2	101	1
102	14	4,386	10,794	1,428	10,544	714	10,402	3,570	10,132	1,122	9,548	7		1		2	102	1
103	14	4,429	10,900	1,442	10,648	721	10,504	3,605	10,231	1,133	9,642	7		1		2	103	1
104	14	4,472	11,006	1,456	10,751	728	10,606	3,640	10,330	1,144	9,735	7		1		2	104	1
105	14	4,515	11,111	1,470	10,854	735	10,707	3,675	10,430	1,155	9,829	7		1		2	105	1
106	14	4,558	11,217	1,484	10,958	742	10,809	3,710	10,529	1,166	9,923	7		1		2	106	1
107	16	4,601	11,323	1,498	11,061	749	10,911	3,745	10,628	1,177	10,016	8		1		2	107	1
108	16	4,644	11,429	1,512	11,165	756	11,013	3,780	10,728	1,188	10,110	8		1		2	108	1
109	16	4,687	11,535	1,526	11,268	763	11,115	3,815	10,827	1,199	10,203	8		1		2	109	1
110	16	4,730	11,641	1,540	11,371	770	11,217	3,850	10,926	1,210	10,297	8		1		2	110	1
111	16	4,773	11,746	1,554	11,475	777	11,319	3,885	11,026	1,221	10,391	8		1		2	111	1
112	16	4,816	11,852	1,568	11,578	784	11,421	3,920	11,125	1,232	10,484	8		1		2	112	1
113	16	4,859	11,958	1,582	11,681	791	11,523	3,955	11,224	1,243	10,578	8		1		2	113	1
114	16	4,902	12,064	1,596	11,785	798	11,625	3,990	11,324	1,254	10,672	8		1		2	114	1
115	16	4,945	12,170	1,610	11,888	805	11,727	4,025	11,423	1,265	10,765	8		1		2	115	1
116	16	4,988	12,275	1,624	11,992	812	11,829	4,060	11,522	1,276	10,859	8		1		2	116	1
117	16	5,031	12,381	1,638	12,095	819	11,931	4,095	11,622	1,287	10,952	8		1		2	117	1
118	16	5,074	12,487	1,652	12,198	826	12,033	4,130	11,721	1,298	11,046	8		1		2	118	1
119	16	5,117	12,593	1,666	12,302	833	12,135	4,165	11,820	1,309	11,140	8		1		2	119	1
120	16	5,160	12,699	1,680	12,405	840	12,237	4,200	11,920	1,320	11,233	8		1		2	120	1
121	16	5,203	12,805	1,694	12,508	847	12,339	4,235	12,019	1,331	11,327	8		1		2	121	1
122	16	5,246	12,910	1,708	12,612	854	12,441	4,270	12,118	1,342	11,420	8		1		2	122	1
123	16	5,289	13,016	1,722	12,715	861	12,543	4,305	12,218	1,353	11,514	8		1		2	123	1
124	16	5,332	13,122	1,736	12,819	868	12,645	4,340	12,317	1,364	11,608	8		1		2	124	1
125	16	5,375	13,228	1,750	12,922	875	12,747	4,375	12,416	1,375	11,701	8		1		2	125	1
126	16	5,418	13,334	1,764	13,025	882	12,849	4,410	12,516	1,386	11,795	8		1		2	126	1
127	16	5,461	13,440	1,778	13,129	889	12,951	4,445	12,615	1,397	11,888	8		1		2	127	1
128	16	5,504	13,545	1,792	13,232	896	13,053	4,480	12,714	1,408	11,982	8		2	1	3	128	1
129	16	5,547	13,651	1,806	13,336	903	13,155	4,515	12,814	1,419	12,076	8		2	1	3	129	1

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options							
		Open System						Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC	
130	16	5,590	13,757	1,820	13,439	910	13,257	4,550	12,913	1,430	12,169	8			2	1	3	130	1
131	16	5,633	13,863	1,834	13,542	917	13,359	4,585	13,012	1,441	12,263	8			2	1	3	131	1
132	16	5,676	13,969	1,848	13,646	924	13,461	4,620	13,112	1,452	12,357	8			2	1	3	132	1
133	18	5,719	14,074	1,862	13,749	931	13,563	4,655	13,211	1,463	12,450	9			2	1	3	133	1
134	18	5,762	14,180	1,876	13,852	938	13,665	4,690	13,310	1,474	12,544	9			2	1	3	134	1
135	18	5,805	14,286	1,890	13,956	945	13,767	4,725	13,410	1,485	12,637	9			2	1	3	135	1
136	18	5,848	14,392	1,904	14,059	952	13,869	4,760	13,509	1,496	12,731	9			2	1	3	136	1
137	18	5,891	14,498	1,918	14,163	959	13,971	4,795	13,608	1,507	12,825	9			2	1	3	137	1
138	18	5,934	14,604	1,932	14,266	966	14,073	4,830	13,708	1,518	12,918	9			2	1	3	138	1
139	18	5,977	14,709	1,946	14,369	973	14,175	4,865	13,807	1,529	13,012	9			2	1	3	139	1
140	18	6,020	14,815	1,960	14,473	980	14,277	4,900	13,906	1,540	13,105	9			2	1	3	140	1
141	18	6,063	14,921	1,974	14,576	987	14,379	4,935	14,006	1,551	13,199	9			2	1	3	141	1
142	18	6,106	15,027	1,988	14,679	994	14,481	4,970	14,105	1,562	13,293	9			2	1	3	142	1
143	18	6,149	15,133	2,002	14,783	1,001	14,583	5,005	14,204	1,573	13,386	9			2	1	3	143	1
144	18	6,192	15,239	2,016	14,886	1,008	14,685	5,040	14,304	1,584	13,480	9			2	1	3	144	1
145	18	6,235	15,344	2,030	14,990	1,015	14,787	5,075	14,403	1,595	13,573	9			2	1	3	145	1
146	18	6,278	15,450	2,044	15,093	1,022	14,888	5,110	14,502	1,606	13,667	9			2	1	3	146	1
147	18	6,321	15,556	2,058	15,196	1,029	14,990	5,145	14,602	1,617	13,761	9			2	1	3	147	1
148	18	6,364	15,662	2,072	15,300	1,036	15,092	5,180	14,701	1,628	13,854	9			2	1	3	148	1
149	18	6,407	15,768	2,086	15,403	1,043	15,194	5,215	14,800	1,639	13,948	9			2	1	3	149	1
150	18	6,450	15,873	2,100	15,506	1,050	15,296	5,250	14,900	1,650	14,042	9			2	1	3	150	1
151	18	6,493	15,979	2,114	15,610	1,057	15,398	5,285	14,999	1,661	14,135	9			2	1	3	151	1
152	18	6,536	16,085	2,128	15,713	1,064	15,500	5,320	15,098	1,672	14,229	9			2	1	3	152	1
153	18	6,579	16,191	2,142	15,817	1,071	15,602	5,355	15,197	1,683	14,322	9			2	1	3	153	1
154	18	6,622	16,297	2,156	15,920	1,078	15,704	5,390	15,297	1,694	14,416	9			2	1	3	154	1
155	18	6,665	16,403	2,170	16,023	1,085	15,806	5,425	15,396	1,705	14,510	9			2	1	3	155	1
156	18	6,708	16,508	2,184	16,127	1,092	15,908	5,460	15,495	1,716	14,603	9			2	1	3	156	1
157	18	6,751	16,614	2,198	16,230	1,099	16,010	5,495	15,595	1,727	14,697	9			2	1	3	157	1
158	18	6,794	16,720	2,212	16,333	1,106	16,112	5,530	15,694	1,738	14,790	9			2	1	3	158	1
159	18	6,837	16,826	2,226	16,437	1,113	16,214	5,565	15,793	1,749	14,884	9			3	1	3	159	1
160	20	6,880	16,932	2,240	16,540	1,120	16,316	5,600	15,893	1,760	14,978	10			3	1	3	160	1
161	20	6,923	17,038	2,254	16,644	1,127	16,418	5,635	15,992	1,771	15,071	10			3	1	3	161	1
162	20	6,966	17,143	2,268	16,747	1,134	16,520	5,670	16,091	1,782	15,165	10			3	1	3	162	1
163	20	7,009	17,249	2,282	16,850	1,141	16,622	5,705	16,191	1,793	15,258	10			3	1	3	163	1
164	20	7,052	17,355	2,296	16,954	1,148	16,724	5,740	16,290	1,804	15,352	10			3	1	3	164	1
165	20	7,095	17,461	2,310	17,057	1,155	16,826	5,775	16,389	1,815	15,446	10			3	1	3	165	1
166	20	7,138	17,567	2,324	17,160	1,162	16,928	5,810	16,489	1,826	15,539	10			3	1	3	166	1
167	20	7,181	17,672	2,338	17,264	1,169	17,030	5,845	16,588	1,837	15,633	10			3	1	3	167	1
168	20	7,224	17,778	2,352	17,367	1,176	17,132	5,880	16,687	1,848	15,726	10			3	1	3	168	1
169	20	7,267	17,884	2,366	17,471	1,183	17,234	5,915	16,787	1,859	15,820	10			3	1	3	169	1
170	20	7,310	17,990	2,380	17,574	1,190	17,336	5,950	16,886	1,870	15,914	10			3	1	3	170	1
171	20	7,353	18,096	2,394	17,677	1,197	17,438	5,985	16,985	1,881	16,007	10			3	1	3	171	1
172	20	7,396	18,202	2,408	17,781	1,204	17,540	6,020	17,085	1,892	16,101	10			3	1	3	172	1
173	20	7,439	18,307	2,422	17,884	1,211	17,642	6,055	17,184	1,903	16,195	10			3	1	3	173	1
174	20	7,482	18,413	2,436	17,987	1,218	17,744	6,090	17,283	1,914	16,288	10			3	1	3	174	1
175	20	7,525	18,519	2,450	18,091	1,225	17,846	6,125	17,383	1,925	16,382	10			3	1	3	175	1
176	20	7,568	18,625	2,464	18,194	1,232	17,948	6,160	17,482	1,936	16,475	10			3	1	3	176	1
177	20	7,611	18,731	2,478	18,298	1,239	18,050	6,195	17,581	1,947	16,569	10			3	1	3	177	1
178	20	7,654	18,836	2,492	18,401	1,246	18,152	6,230	17,681	1,958	16,663	10			3	1	3	178	1
179	20	7,697	18,942	2,506	18,504	1,253	18,254	6,265	17,780	1,969	16,756	10			3	1	3	179	1
180	20	7,740	19,048	2,520	18,608	1,260	18,356	6,300	17,879	1,980	16,850	10			3	1	3	180	1
181	20	7,783	19,154	2,534	18,711	1,267	18,458	6,335	17,979	1,991	16,943	10			3	1	3	181	1
182	20	7,826	19,260	2,548	18,814	1,274	18,560	6,370	18,078	2,002	17,037	10			3	1	3	182	1
183	20	7,869	19,366	2,562	18,918	1,281	18,662	6,405	18,177	2,013	17,131	10			3	1	3	183	1
184	20	7,912	19,471	2,576	19,021	1,288	18,764	6,440	18,277	2,024	17,224	10			3	1	3	184	1
185	20	7,955	19,577	2,590	19,125	1,295	18,866	6,475	18,376	2,035	17,318	10			3	1	3	185	1
186	20	7,998	19,683	2,604	19,228	1,302	18,968	6,510	18,475	2,046	17,411	10			3	1	3	186	1
187	20	8,041	19,789	2,618	19,331	1,309	19,070	6,545	18,575	2,057	17,505	10			3	1	3	187	1
188	20	8,084	19,895	2,632	19,435	1,316	19,171	6,580	18,674	2,068	17,599	10			3	1	3	188	1
189	20	8,127	20,001	2,646	19,538	1,323	19,273	6,615	18,773	2,079	17,692	10			3	1	3	189	1
190	20	8,170	20,106	2,660	19,641	1,330	19,375	6,650	18,873	2,090	17,786	10			3	1			

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System					Mainframe System					DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)		F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap							
195	20			2,730	20,158	1,365	19,885	6,825	19,369	2,145	18,254	10		3	1	4	195	2
196	20			2,744	20,262	1,372	19,987	6,860	19,469	2,156	18,348	10		3	1	4	196	2
197	22			2,758	20,365	1,379	20,089	6,895	19,568	2,167	18,441	11		3	1	4	197	2
198	22			2,772	20,468	1,386	20,191	6,930	19,667	2,178	18,535	11		3	1	4	198	2
199	22			2,786	20,572	1,393	20,293	6,965	19,767	2,189	18,628	11		3	1	4	199	2
200	22			2,800	20,675	1,400	20,395	7,000	19,866	2,200	18,722	11		3	1	4	200	2
201	22			2,814	20,779	1,407	20,497	7,035	19,965	2,211	18,816	11		3	1	4	201	2
202	22			2,828	20,882	1,414	20,599	7,070	20,065	2,222	18,909	11		3	1	4	202	2
203	22			2,842	20,985	1,421	20,701	7,105	20,164	2,233	19,003	11		3	1	4	203	2
204	22			2,856	21,089	1,428	20,803	7,140	20,263	2,244	19,096	11		3	1	4	204	2
205	22			2,870	21,192	1,435	20,905	7,175	20,363	2,255	19,190	11		3	1	4	205	2
206	22			2,884	21,295	1,442	21,007	7,210	20,462	2,266	19,284	11		3	1	4	206	2
207	22			2,898	21,399	1,449	21,109	7,245	20,561	2,277	19,377	11		3	1	4	207	2
208	22			2,912	21,502	1,456	21,211	7,280	20,661	2,288	19,471	11		3	1	4	208	2
209	22			2,926	21,606	1,463	21,313	7,315	20,760	2,299	19,564	11		3	1	4	209	2
210	22			2,940	21,709	1,470	21,415	7,350	20,859	2,310	19,658	11		3	1	4	210	2
211	22			2,954	21,812	1,477	21,517	7,385	20,959	2,321	19,752	11		3	1	4	211	2
212	22			2,968	21,916	1,484	21,619	7,420	21,058	2,332	19,845	11		3	1	4	212	2
213	22			2,982	22,019	1,491	21,721	7,455	21,157	2,343	19,939	11		3	1	4	213	2
214	22			2,996	22,122	1,498	21,823	7,490	21,257	2,354	20,033	11		3	1	4	214	2
215	22			3,010	22,226	1,505	21,925	7,525	21,356	2,365	20,126	11		3	1	4	215	2
216	22			3,024	22,329	1,512	22,027	7,560	21,455	2,376	20,220	11		3	1	4	216	2
217	22			3,038	22,433	1,519	22,129	7,595	21,555	2,387	20,313	11		3	1	4	217	2
218	22			3,052	22,536	1,526	22,231	7,630	21,654	2,398	20,407	11		3	1	4	218	2
219	22			3,066	22,639	1,533	22,333	7,665	21,753	2,409	20,501	11		3	1	4	219	2
220	22			3,080	22,743	1,540	22,435	7,700	21,853	2,420	20,594	11		3	1	4	220	2
221	22			3,094	22,846	1,547	22,537	7,735	21,952	2,431	20,688	11		3	1	4	221	2
222	22			3,108	22,949	1,554	22,639	7,770	22,051	2,442	20,781	11		3	1	4	222	2
223	22			3,122	23,053	1,561	22,741	7,805	22,151	2,453	20,875	11		3	1	4	223	2
224	22			3,136	23,156	1,568	22,843	7,840	22,250	2,464	20,969	11		3	1	4	224	2
225	22			3,150	23,260	1,575	22,945	7,875	22,349	2,475	21,062	11		3	1	4	225	2
226	22			3,164	23,363	1,582	23,047	7,910	22,449	2,486	21,156	11		3	1	4	226	2
227	22			3,178	23,466	1,589	23,149	7,945	22,548	2,497	21,249	11		3	1	4	227	2
228	22			3,192	23,570	1,596	23,251	7,980	22,647	2,508	21,343	11		3	1	4	228	2
229	22			3,206	23,673	1,603	23,353	8,015	22,747	2,519	21,437	11		3	1	4	229	2
230	22			3,220	23,776	1,610	23,454	8,050	22,846	2,530	21,530	11		3	1	4	230	2
231	22			3,234	23,880	1,617	23,556	8,085	22,945	2,541	21,624	11		3	1	4	231	2
232	22			3,248	23,983	1,624	23,658	8,120	23,045	2,552	21,718	11		3	1	4	232	2
233	22			3,262	24,087	1,631	23,760	8,155	23,144	2,563	21,811	11		3	1	4	233	2
234	22			3,276	24,190	1,638	23,862	8,190	23,243	2,574	21,905	11		3	1	4	234	2
235	22			3,290	24,293	1,645	23,964			2,585	21,998	11		3	1	4	235	2
236	22			3,304	24,397	1,652	24,066			2,596	22,092	11		3	1	4	236	2
237	22			3,318	24,500	1,659	24,168			2,607	22,186	11		3	1	4	237	2
238	22			3,332	24,603	1,666	24,270			2,618	22,279	11		3	1	4	238	2
239	22			3,346	24,707	1,673	24,372			2,629	22,373	11		3	1	4	239	2
240	22			3,360	24,810	1,680	24,474			2,640	22,466	11		3	1	4	240	2
241	22			3,374	24,914	1,687	24,576			2,651	22,560	11		3	1	4	241	2
242	22			3,388	25,017	1,694	24,678			2,662	22,654	11		3	1	4	242	2
243	22			3,402	25,120	1,701	24,780			2,673	22,747	11		3	1	4	243	2
244	22			3,416	25,224	1,708	24,882			2,684	22,841	11		3	1	4	244	2
245	22			3,430	25,327	1,715	24,984			2,695	22,934	11		3	1	4	245	2
246	22			3,444	25,430	1,722	25,086			2,706	23,028	11		3	1	4	246	2
247	22			3,458	25,534	1,729	25,188			2,717	23,122	11		3	1	4	247	2
248	22			3,472	25,637	1,736	25,290			2,728	23,215	11		3	1	4	248	2
249	22			3,486	25,741	1,743	25,392			2,739	23,309	11		3	1	4	249	2
250	22			3,500	25,844	1,750	25,494			2,750	23,403	11		3	1	4	250	2
251	22			3,514	25,947	1,757	25,596			2,761	23,496	11		3	1	4	251	2
252	22			3,528	26,051	1,764	25,698			2,772	23,590	11		3	1	4	252	2
253	22			3,542	26,154	1,771	25,800			2,783	23,683	11		3	1	4	253	2
254	22			3,556	26,258	1,778	25,902			2,794	23,777	11		3	1	4	254	2

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.

(2) 73GB 10K rpm HDD, RAID5 (3D+1P)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	-2048	-S512	-200	-L1C	-18	-72J4
1	4	88	217	29	214	15	219	6	219	73	207	24	204	2	1				1	1	
2	4	176	433	58	428	30	437	12	437	146	414	48	408	2					1	2	
3	4	264	650	87	642	45	656	18	656	219	622	72	613	2					1	3	
4	6	352	866	116	857	60	874	24	875	292	829	96	817	3					1	4	
5	6	440	1,083	145	1,071	75	1,093	30	1,094	365	1,036	120	1,021	3					1	5	
6	6	528	1,299	174	1,285	90	1,311	36	1,312	438	1,243	144	1,225	3					1	6	
7	8	616	1,516	203	1,499	105	1,530	42	1,531	511	1,450	168	1,430	4					1	7	
8	8	704	1,733	232	1,713	120	1,748	48	1,750	584	1,657	192	1,634	4					1	8	
9	8	792	1,949	261	1,927	135	1,967	54	1,968	657	1,865	216	1,838	4					1	9	
10	8	880	2,166	290	2,141	150	2,185	60	2,187	730	2,072	240	2,042	4					1	10	
11	8	968	2,382	319	2,355	165	2,404	66	2,406	803	2,279	264	2,247	4					1	11	
12	8	1,056	2,599	348	2,570	180	2,622	72	2,624	876	2,486	288	2,451	4					1	12	
13	8	1,144	2,815	377	2,784	195	2,841	78	2,843	949	2,693	312	2,655	4					1	13	
14	10	1,232	3,032	406	2,998	210	3,059	84	3,062	1,022	2,900	336	2,859	5					1	14	
15	10	1,320	3,249	435	3,212	225	3,278	90	3,281	1,095	3,108	360	3,064	5					1	15	
16	10	1,408	3,465	464	3,426	240	3,496	96	3,499	1,168	3,315	384	3,268	5					1	16	
17	10	1,496	3,682	493	3,640	255	3,715	102	3,718	1,241	3,522	408	3,472	5					1	17	
18	10	1,584	3,898	522	3,854	270	3,933	108	3,937	1,314	3,729	432	3,676	5					1	18	
19	10	1,672	4,115	551	4,069	285	4,152	114	4,155	1,387	3,936	456	3,881	5					1	19	
20	10	1,760	4,331	580	4,283	300	4,370	120	4,374	1,460	4,143	480	4,085	5					1	20	
21	10	1,848	4,548	609	4,497	315	4,589	126	4,593	1,533	4,351	504	4,289	5					1	21	
22	10	1,936	4,764	638	4,711	330	4,807	132	4,811	1,606	4,558	528	4,493	5					1	22	
23	10	2,024	4,981	667	4,925	345	5,026	138	5,030	1,679	4,765	552	4,698	5					1	23	
24	10	2,112	5,198	696	5,139	360	5,244	144	5,249	1,752	4,972	576	4,902	5					1	24	
25	10	2,200	5,414	725	5,353	375	5,463	150	5,468	1,825	5,179	600	5,106	5					1	25	
26	10	2,288	5,631	754	5,568	390	5,682	156	5,686	1,898	5,387	624	5,310	5					1	26	
27	10	2,376	5,847	783	5,782	405	5,900	162	5,905	1,971	5,594	648	5,514	5					1	27	
28	12	2,464	6,064	812	5,996	420	6,119	168	6,124	2,044	5,801	672	5,719	6					1	28	
29	12	2,552	6,280	841	6,210	435	6,337	174	6,342	2,117	6,008	696	5,923	6					1	29	
30	12	2,640	6,497	870	6,424	450	6,556	180	6,561	2,190	6,215	720	6,127	6					1	30	
31	12	2,728	6,714	899	6,638	465	6,774	186	6,780	2,263	6,422	744	6,331	6					1	31	
32	12	2,816	6,930	928	6,852	480	6,993	192	6,998	2,336	6,630	768	6,536	6			1		1	32	
33	12	2,904	7,147	957	7,066	495	7,211	198	7,217	2,409	6,837	792	6,740	6			1		1	33	
34	12	2,992	7,363	986	7,281	510	7,430	204	7,436	2,482	7,044	816	6,944	6			1		1	34	
35	12	3,080	7,580	1,015	7,495	525	7,648	210	7,655	2,555	7,251	840	7,148	6			1		1	35	
36	12	3,168	7,796	1,044	7,709	540	7,867	216	7,873	2,628	7,458	864	7,353	6			1		1	36	
37	12	3,256	8,013	1,073	7,923	555	8,085	222	8,092	2,701	7,665	888	7,557	6			1		1	37	
38	12	3,344	8,230	1,102	8,137	570	8,304	228	8,311	2,774	7,873	912	7,761	6			1		1	38	
39	12	3,432	8,446	1,131	8,351	585	8,522	234	8,529	2,847	8,080	936	7,965	6			1		1	39	
40	12	3,520	8,663	1,160	8,565	600	8,741	240	8,748	2,920	8,287	960	8,170	6			1		1	40	
41	14	3,608	8,879	1,189	8,780	615	8,959	246	8,967	2,993	8,494	984	8,374	7			1		1	41	
42	14	3,696	9,096	1,218	8,994	630	9,178	252	9,185	3,066	8,701	1,008	8,578	7			1		1	42	
43	14	3,784	9,312	1,247	9,208	645	9,396	258	9,404	3,139	8,908	1,032	8,782	7			1		1	43	
44	14	3,872	9,529	1,276	9,422	660	9,615	264	9,623	3,212	9,116	1,056	8,987	7			1		1	44	
45	14	3,960	9,746	1,305	9,636	675	9,833	270	9,842	3,285	9,323	1,080	9,191	7			1		1	45	
46	14	4,048	9,962	1,334	9,850	690	10,052	276	10,060	3,358	9,530	1,104	9,395	7			1		1	46	
47	14	4,136	10,179	1,363	10,064	705	10,270	282	10,279	3,431	9,737	1,128	9,599	7			1		1	47	
48	14	4,224	10,395	1,392	10,279	720	10,489	288	10,498	3,504	9,944	1,152	9,804	7			1		1	48	
49	14	4,312	10,612	1,421	10,493	735	10,707	294	10,716	3,577	10,152	1,176	10,008	7			1		1	49	
50	14	4,400	10,828	1,450	10,707	750	10,926	300	10,935	3,650	10,359	1,200	10,212	7			1		1	50	
51	14	4,488	11,045	1,479	10,921	765	11,145	306	11,154	3,723	10,566	1,224	10,416	7			1		1	51	
52	14	4,576	11,262	1,508	11,135	780	11,363	312	11,372	3,796	10,773	1,248	10,620	7			1		1	52	
53	14	4,664	11,478	1,537	11,349	795	11,582	318	11,591	3,869	10,980	1,272	10,825	7			1		1	53	
54	16	4,752	11,695	1,566	11,563	810	11,800	324	11,810	3,942	11,187	1,296	11,029	8			1		1	54	
55	16	4,840	11,911	1,595	11,777	825	12,019	330	12,029	4,015	11,395	1,320	11,233	8			1		1	55	
56	16	4,928	12,128	1,624	11,992	840	12,237	336	12,247	4,088	11,602	1,344	11,437	8			1		1	56	
57	16	5,016	12,344	1,653	12,206	855	12,456	342	12,466	4,161	11,809	1,368	11,642	8			1		1	57	
58	16	5,104	12,561	1,682	12,420	870	12,674	348	12,685	4,234	12,016	1,392	11,846	8			1		1	58	
59	16	5,192	12,778	1,711	12,634	885	12,893	354	12,903	4,307	12,223	1,416	12,050	8			1		1	59	
60	16	5,280	12,994	1,740	12,848	900	13,111	360	13,122	4,380	12,430	1,440	12,254	8			1		1	60	
61	16	5,368	13,211	1,769	13,062	915	13,330	366	13,341	4,453	12,638	1,464	12,459	8			1		1	61	
62	16	5,456	13,427	1,798	13,276	930	13,548	372	13,559	4,526	12,845	1,488	12,663	8			1		1	62	
63	16	5,544	13,644	1,827	13,491	945	13,767	378	13,778	4,599	13,052	1,51									

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4
65	16	5,720	14,077	1,885	13,919	975	14,204	390	14,216	4,745	13,466	1,560	13,276	8			1		2	65	1
66	16	5,808	14,293	1,914	14,133	990	14,422	396	14,434	4,818	13,673	1,584	13,480	8			1		2	66	1
67	18	5,896	14,510	1,943	14,347	1,005	14,641	402	14,653	4,891	13,881	1,608	13,684	9			1		2	67	1
68	18	5,984	14,727	1,972	14,561	1,020	14,859	408	14,872	4,964	14,088	1,632	13,888	9			1		2	68	1
69	18	6,072	14,943	2,001	14,775	1,035	15,078	414	15,090	5,037	14,295	1,656	14,093	9			1		2	69	1
70	18	6,160	15,160	2,030	14,990	1,050	15,296	420	15,309	5,110	14,502	1,680	14,297	9			1		2	70	1
71	18	6,248	15,376	2,059	15,204	1,065	15,515	426	15,528	5,183	14,709	1,704	14,501	9			1		2	71	1
72	18	6,336	15,593	2,088	15,418	1,080	15,733	432	15,746	5,256	14,917	1,728	14,705	9			1		2	72	1
73	18	6,424	15,809	2,117	15,632	1,095	15,952	438	15,965	5,329	15,124	1,752	14,910	9			1		2	73	1
74	18	6,512	16,026	2,146	15,846	1,110	16,170	444	16,184	5,402	15,331	1,776	15,114	9			1		2	74	1
75	18	6,600	16,243	2,175	16,060	1,125	16,389	450	16,403	5,475	15,538	1,800	15,318	9			1		2	75	1
76	18	6,688	16,459	2,204	16,274	1,140	16,608	456	16,621	5,548	15,745	1,824	15,522	9			1		2	76	1
77	18	6,776	16,676	2,233	16,488	1,155	16,826	462	16,840	5,621	15,952	1,848	15,726	9			1		2	77	1
78	18	6,864	16,892	2,262	16,703	1,170	17,045	468	17,059	5,694	16,160	1,872	15,931	9			1		2	78	1
79	18	6,952	17,109	2,291	16,917	1,185	17,263	474	17,277	5,767	16,367	1,896	16,135	9			1		2	79	1
80	20	7,040	17,325	2,320	17,131	1,200	17,482	480	17,496	5,840	16,574	1,920	16,339	10			1		2	80	1
81	20	7,128	17,542	2,349	17,345	1,215	17,700	486	17,715	5,913	16,781	1,944	16,543	10			1		2	81	1
82	20	7,216	17,759	2,378	17,559	1,230	17,919	492	17,933	5,986	16,988	1,968	16,748	10			1		2	82	1
83	20	7,304	17,975	2,407	17,773	1,245	18,137	498	18,152	6,059	17,195	1,992	16,952	10			1		2	83	1
84	20	7,392	18,192	2,436	17,987	1,260	18,356	504	18,371	6,132	17,403	2,016	17,156	10			1		2	84	1
85	20	7,480	18,408	2,465	18,202	1,275	18,574	510	18,590	6,205	17,610	2,040	17,360	10			1		2	85	1
86	20	7,568	18,625	2,494	18,416	1,290	18,793	516	18,808	6,278	17,817	2,064	17,565	10			1		2	86	1
87	20	7,656	18,841	2,523	18,630	1,305	19,011	522	19,027	6,351	18,024	2,088	17,769	10			1		2	87	1
88	20	7,744	19,058	2,552	18,844	1,320	19,230	528	19,246	6,424	18,231	2,112	17,973	10			1		2	88	1
89	20	7,832	19,275	2,581	19,058	1,335	19,448	534	19,464	6,497	18,438	2,136	18,177	10			1		2	89	1
90	20	7,920	19,491	2,610	19,272	1,350	19,667	540	19,683	6,570	18,646	2,160	18,382	10			1		2	90	1
91	20	8,008	19,708	2,639	19,486	1,365	19,885	546	19,902	6,643	18,853	2,184	18,586	10			1		2	91	1
92	20	8,096	19,924	2,668	19,701	1,380	20,104	552	20,120	6,716	19,060	2,208	18,790	10			1		2	92	1
93	20	8,184	20,141	2,697	19,915	1,395	20,322	558	20,339	6,789	19,267	2,232	18,994	10			1		2	93	1
94	20			2,726	20,129	1,410	20,541	564	20,558	6,862	19,474	2,256	19,199	10			1		2	94	1
95	22			2,755	20,343	1,425	20,759	570	20,777	6,935	19,682	2,280	19,403	11			1		2	95	1
96	22			2,784	20,557	1,440	20,978	576	20,995	7,008	19,889	2,304	19,607	11			1		2	96	1
97	22			2,813	20,771	1,455	21,196	582	21,214	7,081	20,096	2,328	19,811	11			1		2	97	1
98	22			2,842	20,985	1,470	21,415	588	21,433	7,154	20,303	2,352	20,016	11			1		2	98	1
99	22			2,871	21,199	1,485	21,633	594	21,651	7,227	20,510	2,376	20,220	11			1		2	99	1
100	22			2,900	21,414	1,500	21,852	600	21,870	7,300	20,717	2,400	20,424	11			1		2	100	1
101	22			2,929	21,628	1,515	22,071	606	22,089	7,373	20,925	2,424	20,628	11			1		2	101	1
102	22			2,958	21,842	1,530	22,289	612	22,307	7,446	21,132	2,448	20,832	11			1		2	102	1
103	22			2,987	22,056	1,545	22,508	618	22,526	7,519	21,339	2,472	21,037	11			1		2	103	1
104	22			3,016	22,270	1,560	22,726	624	22,745	7,592	21,546	2,496	21,241	11			1		2	104	1
105	22			3,045	22,484	1,575	22,945	630	22,964	7,665	21,753	2,520	21,445	11			1		2	105	1
106	22			3,074	22,698	1,590	23,163	636	23,182	7,738	21,960	2,544	21,649	11			1		2	106	1
107	22			3,103	22,913	1,605	23,382	642	23,401	7,811	22,168	2,568	21,854	11			1		2	107	1
108	22			3,132	23,127	1,620	23,600	648	23,620	7,884	22,375	2,592	22,058	11			1		2	108	1
109	22			3,161	23,341	1,635	23,819	654	23,838	7,957	22,582	2,616	22,262	11			1		2	109	1
110	22			3,190	23,555	1,650	24,037	660	24,057	8,030	22,789	2,640	22,466	11			1		2	110	1
111	22			3,219	23,769	1,665	24,256	666	24,276	8,103	22,996	2,664	22,671	11			1		2	111	1
112	22			3,248	23,983	1,680	24,474	672	24,494	8,176	23,203	2,688	22,875	11			1		2	112	1
113	22			3,277	24,197	1,695	24,693	678	24,713			2,712	23,079	11			1		2	113	1
114	22			3,306	24,412	1,710	24,911	684	24,932			2,736	23,283	11			1		2	114	1
115	22			3,335	24,626	1,725	25,130	690	25,151			2,760	23,488	11			1		2	115	1
116	22			3,364	24,840	1,740	25,348	696	25,369			2,784	23,692	11			1		2	116	1
117	22			3,393	25,054	1,755	25,567	702	25,588			2,808	23,896	11			1		2	117	1
118	22			3,422	25,268	1,770	25,785	708	25,807			2,832	24,100	11			1		2	118	1
119	22			3,451	25,482	1,785	26,004	714	26,025			2,856	24,305	11			1		2	119	1
120	22			3,480	25,696	1,800	26,222	720	26,244			2,880	24,509	11			1		2	120	1
121	22			3,509	25,910	1,815	26,441	726	26,463			2,904	24,713	11			1		2	121	1
122																					

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4	F455I -EXC	
130	22			3,770	27,838	1,950	28,408	780	28,431			3,120	26,551	11			2	1	3	130	1
131	22			3,799	28,052	1,965	28,626	786	28,650			3,144	26,755	11			2	1	3	131	1
132	22			3,828	28,266	1,980	28,845	792	28,868			3,168	26,960	11			2	1	3	132	1
133	22			3,857	28,480	1,995	29,063	798	29,087			3,192	27,164	11			2	1	3	133	1
134	22			3,886	28,694	2,010	29,282	804	29,306			3,216	27,368	11			2	1	3	134	1
135	22			3,915	28,908	2,025	29,500	810	29,525			3,240	27,572	11			2	1	3	135	1
136	22			3,944	29,122	2,040	29,719	816	29,743			3,264	27,777	11			2	1	3	136	1
137	22			3,973	29,337	2,055	29,937	822	29,962			3,288	27,981	11			2	1	3	137	1
138	22			4,002	29,551	2,070	30,156	828	30,181			3,312	28,185	11			2	1	3	138	1
139	22			4,031	29,765	2,085	30,374	834	30,399			3,336	28,389	11			2	1	3	139	1
140	22			4,060	29,979	2,100	30,593	840	30,618			3,360	28,594	11			2	1	3	140	1
141	22			4,089	30,193	2,115	30,811	846	30,837			3,384	28,798	11			2	1	3	141	1
142	22			4,118	30,407	2,130	31,030	852	31,055			3,408	29,002	11			2	1	3	142	1
143	22			4,147	30,621	2,145	31,248	858	31,274			3,432	29,206	11			2	1	3	143	1
144	22			4,176	30,836	2,160	31,467	864	31,493			3,456	29,411	11			2	1	3	144	1
145	22			4,205	31,050	2,175	31,685	870	31,712			3,480	29,615	11			2	1	3	145	1
146	22			4,234	31,264	2,190	31,904	876	31,930			3,504	29,819	11			2	1	3	146	1
147	22			4,263	31,478	2,205	32,122	882	32,149			3,528	30,023	11			2	1	3	147	1
148	22			4,292	31,692	2,220	32,341	888	32,368			3,552	30,228	11			2	1	3	148	1
149	22			4,321	31,906	2,235	32,559	894	32,586			3,576	30,432	11			2	1	3	149	1
150	22			4,350	32,120	2,250	32,778	900	32,805			3,600	30,636	11			2	1	3	150	1
151	22			4,379	32,335	2,265	32,997	906	33,024			3,624	30,840	11			2	1	3	151	1
152	22			4,408	32,549	2,280	33,215	912	33,242			3,648	31,044	11			2	1	3	152	1
153	22			4,437	32,763	2,295	33,434	918	33,461			3,672	31,249	11			2	1	3	153	1
154	22			4,466	32,977	2,310	33,652	924	33,680			3,696	31,453	11			2	1	3	154	1
155	22			4,495	33,191	2,325	33,871	930	33,899			3,720	31,657	11			2	1	3	155	1
156	22			4,524	33,405	2,340	34,089	936	34,117			3,744	31,861	11			2	1	3	156	1
157	22			4,553	33,619	2,355	34,308	942	34,336			3,768	32,066	11			2	1	3	157	1
158	22			4,582	33,833	2,370	34,526	948	34,555			3,792	32,270	11			2	1	3	158	1
159	22			4,611	34,048	2,385	34,745	954	34,773			3,816	32,474	11			3	1	3	159	1
160	22			4,640	34,262	2,400	34,963	960	34,992			3,840	32,678	11			3	1	3	160	1
161	22			4,669	34,476	2,415	35,182	966	35,211			3,864	32,883	11			3	1	3	161	1
162	22			4,698	34,690	2,430	35,400	972	35,429			3,888	33,087	11			3	1	3	162	1
163	22			4,727	34,904	2,445	35,619	978	35,648			3,912	33,291	11			3	1	3	163	1
164	22			4,756	35,118	2,460	35,837	984	35,867			3,936	33,495	11			3	1	3	164	1
165	22			4,785	35,332	2,475	36,056	990	36,086			3,960	33,700	11			3	1	3	165	1
166	22			4,814	35,547	2,490	36,274	996	36,304			3,984	33,904	11			3	1	3	166	1
167	22			4,843	35,761	2,505	36,493	1,002	36,523			4,008	34,108	11			3	1	3	167	1
168	22			4,872	35,975	2,520	36,711	1,008	36,742			4,032	34,312	11			3	1	3	168	1
169	22			4,901	36,189	2,535	36,930	1,014	36,960			4,056	34,517	11			3	1	3	169	1
170	22			4,930	36,403	2,550	37,148	1,020	37,179			4,080	34,721	11			3	1	3	170	1
171	22			4,959	36,617	2,565	37,367	1,026	37,398			4,104	34,925	11			3	1	3	171	1
172	22			4,988	36,831	2,580	37,585	1,032	37,616			4,128	35,129	11			3	1	3	172	1
173	22			5,017	37,046	2,595	37,804	1,038	37,835			4,152	35,334	11			3	1	3	173	1
174	22			5,046	37,260	2,610	38,022	1,044	38,054			4,176	35,538	11			3	1	3	174	1
175	22			5,075	37,474	2,625	38,241	1,050	38,273			4,200	35,742	11			3	1	3	175	1
176	22			5,104	37,688	2,640	38,460	1,056	38,491			4,224	35,946	11			3	1	3	176	1
177	22			5,133	37,902	2,655	38,678	1,062	38,710			4,248	36,150	11			3	1	3	177	1
178	22			5,162	38,116	2,670	38,897	1,068	38,929			4,272	36,355	11			3	1	3	178	1
179	22			5,191	38,330	2,685	39,115	1,074	39,147			4,296	36,559	11			3	1	3	179	1
180	22			5,220	38,544	2,700	39,334	1,080	39,366			4,320	36,763	11			3	1	3	180	1
181	22			5,249	38,759	2,715	39,552	1,086	39,585			4,344	36,967	11			3	1	3	181	1
182	22			5,278	38,973	2,730	39,771	1,092	39,803			4,368	37,172	11			3	1	3	182	1
183	22			5,307	39,187	2,745	39,989	1,098	40,022			4,392	37,376	11			3	1	3	183	1
184	22			5,336	39,401	2,760	40,208	1,104	40,241			4,416	37,580	11			3	1	3	184	1
185	22			5,365	39,615	2,775	40,426	1,110	40,460			4,440	37,784	11			3	1	3	185	1
186	22			5,394	39,829	2,790	40,645	1,116	40,678			4,464	37,989	11			3	1	3	186	1
187	22			5,423	40,043	2,805	40,863	1,122	40,897			4,488	38,193	11			3	1	3	187	1
188	22			5,452	40,258	2,820	41,082	1,128	41,116			4,512	38,397	11			3	1	3	188	1
189	22			5,481	40,472	2,835	41,300	1,134	41,334			4,536	38,601	11			3	1	3	189	1
190	22			5,510	40,686	2,850	41,519	1,140	41,553			4,560	38,806	11			3	1	3	190	1
191	22			5,539	40,900	2,865	41,737	1,146	41,772			4,584	39,010	11			3	1	4	191	2
192	22			5,568	41,114	2,880	41,956	1,152	41,990			4,608	39,214	11			3	1	4	192	2
193	22			5,597	41,328	2,895	42,174	1,158	42,209			4,632	39,418	11			3	1	4	193	2
194	22			5,626	41,542	2,910	42,393	1,164	42,428			4,656	39,623	11			3	1	4	194	2

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	-2048	-S512	-200	-L1C	-18	-72J4	-EXC	
195	22			5,655	41,757	2,925	42,611	1,170	42,647			4,680	39,827	11			3	1	4	195	2
196	22			5,684	41,971	2,940	42,830	1,176	42,865			4,704	40,031	11			3	1	4	196	2
197	22			5,713	42,185	2,955	43,048	1,182	43,084			4,728	40,235	11			3	1	4	197	2
198	22			5,742	42,399	2,970	43,267	1,188	43,303			4,752	40,440	11			3	1	4	198	2
199	22			5,771	42,613	2,985	43,485	1,194	43,521			4,776	40,644	11			3	1	4	199	2
200	22			5,800	42,827	3,000	43,704	1,200	43,740			4,800	40,848	11			3	1	4	200	2
201	22			5,829	43,041	3,015	43,923	1,206	43,959			4,824	41,052	11			3	1	4	201	2
202	22			5,858	43,255	3,030	44,141	1,212	44,177			4,848	41,256	11			3	1	4	202	2
203	22			5,887	43,470	3,045	44,360	1,218	44,396			4,872	41,461	11			3	1	4	203	2
204	22			5,916	43,684	3,060	44,578	1,224	44,615			4,896	41,665	11			3	1	4	204	2
205	22			5,945	43,898	3,075	44,797	1,230	44,834			4,920	41,869	11			3	1	4	205	2
206	22			5,974	44,112	3,090	45,015	1,236	45,052			4,944	42,073	11			3	1	4	206	2
207	22			6,003	44,326	3,105	45,234	1,242	45,271			4,968	42,278	11			3	1	4	207	2
208	22			6,032	44,540	3,120	45,452	1,248	45,490			4,992	42,482	11			3	1	4	208	2
209	22			6,061	44,754	3,135	45,671	1,254	45,708			5,016	42,686	11			3	1	4	209	2
210	22			6,090	44,969	3,150	45,889	1,260	45,927			5,040	42,890	11			3	1	4	210	2
211	22			6,119	45,183	3,165	46,108	1,266	46,146			5,064	43,095	11			3	1	4	211	2
212	22			6,148	45,397	3,180	46,326	1,272	46,364			5,088	43,299	11			3	1	4	212	2
213	22			6,177	45,611	3,195	46,545	1,278	46,583			5,112	43,503	11			3	1	4	213	2
214	22			6,206	45,825	3,210	46,763	1,284	46,802			5,136	43,707	11			3	1	4	214	2
215	22			6,235	46,039	3,225	46,982	1,290	47,021			5,160	43,912	11			3	1	4	215	2
216	22			6,264	46,253	3,240	47,200	1,296	47,239			5,184	44,116	11			3	1	4	216	2
217	22			6,293	46,468	3,255	47,419	1,302	47,458			5,208	44,320	11			3	1	4	217	2
218	22			6,322	46,682	3,270	47,637	1,308	47,677			5,232	44,524	11			3	1	4	218	2
219	22			6,351	46,896	3,285	47,856	1,314	47,895			5,256	44,729	11			3	1	4	219	2
220	22			6,380	47,110	3,300	48,074	1,320	48,114			5,280	44,933	11			3	1	4	220	2
221	22			6,409	47,324	3,315	48,293	1,326	48,333			5,304	45,137	11			3	1	4	221	2
222	22			6,438	47,538	3,330	48,511	1,332	48,551			5,328	45,341	11			3	1	4	222	2
223	22			6,467	47,752	3,345	48,730	1,338	48,770			5,352	45,546	11			3	1	4	223	2
224	22			6,496	47,966	3,360	48,948	1,344	48,989			5,376	45,750	11			3	1	4	224	2
225	22			6,525	48,181	3,375	49,167	1,350	49,208			5,400	45,954	11			3	1	4	225	2
226	22			6,554	48,395	3,390	49,386	1,356	49,426			5,424	46,158	11			3	1	4	226	2
227	22			6,583	48,609	3,405	49,604	1,362	49,645			5,448	46,362	11			3	1	4	227	2
228	22			6,612	48,823	3,420	49,823	1,368	49,864			5,472	46,567	11			3	1	4	228	2
229	22			6,641	49,037	3,435	50,041	1,374	50,082			5,496	46,771	11			3	1	4	229	2
230	22			6,670	49,251	3,450	50,260	1,380	50,301			5,520	46,975	11			3	1	4	230	2
231	22			6,699	49,465	3,465	50,478	1,386	50,520			5,544	47,179	11			3	1	4	231	2
232	22			6,728	49,680	3,480	50,697	1,392	50,738			5,568	47,384	11			3	1	4	232	2
233	22			6,757	49,894	3,495	50,915	1,398	50,957			5,592	47,588	11			3	1	4	233	2
234	22			6,786	50,108	3,510	51,134	1,404	51,176			5,616	47,792	11			3	1	4	234	2
235	22			6,815	50,322	3,525	51,352	1,410	51,395			5,640	47,996	11			3	1	4	235	2
236	22			6,844	50,536	3,540	51,571	1,416	51,613			5,664	48,201	11			3	1	4	236	2
237	22			6,873	50,750	3,555	51,789	1,422	51,832			5,688	48,405	11			3	1	4	237	2
238	22			6,902	50,964	3,570	52,008	1,428	52,051			5,712	48,609	11			3	1	4	238	2
239	22			6,931	51,179	3,585	52,226	1,434	52,269			5,736	48,813	11			3	1	4	239	2
240	22			6,960	51,393	3,600	52,445	1,440	52,488			5,760	49,018	11			3	1	4	240	2
241	22			6,989	51,607	3,615	52,663	1,446	52,707			5,784	49,222	11			3	1	4	241	2
242	22			7,018	51,821	3,630	52,882	1,452	52,925			5,808	49,426	11			3	1	4	242	2
243	22			7,047	52,035	3,645	53,100	1,458	53,144			5,832	49,630	11			3	1	4	243	2
244	22			7,076	52,249	3,660	53,319	1,464	53,363			5,856	49,835	11			3	1	4	244	2
245	22			7,105	52,463	3,675	53,537	1,470	53,582			5,880	50,039	11			3	1	4	245	2
246	22			7,134	52,677	3,690	53,756	1,476	53,800			5,904	50,243	11			3	1	4	246	2
247	22			7,163	52,892	3,705	53,974	1,482	54,019			5,928	50,447	11			3	1	4	247	2
248	22			7,192	53,106	3,720	54,193	1,488	54,238			5,952	50,652	11			3	1	4	248	2
249	22			7,221	53,320	3,735	54,411	1,494	54,456			5,976	50,856	11			3	1	4	249	2
250	22			7,250	53,534	3,750	54,630	1,500	54,675			6,000	51,060	11			3	1	4	250	2
251	22			7,279	53,748	3,765	54,849	1,506	54,894			6,024	51,264	11			3	1	4	251	2
252	22			7,308	53,962	3,780	55,067	1,512	55,112			6,048	51,468	11			3	1	4	252	2
253	22			7,337	54,176	3,795	55,286	1,518	55,331			6,072	51,673	11			3	1	4	253	2
254	22			7,366	54,391	3,810	55,504	1,524	55,550			6,096	51,877	11			3	1	4	254	2

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.

8.2 Standard Configuration for RAID5 (7D+1P)

(1) 36GB 15K rpm HDD, RAID5 (7D+1P)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System					Mainframe System					DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)		F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap							
1	4	101	249	33	244	17	248	83	236	27	230	2	*1	1		1	2	
2	4	202	497	66	487	34	495	166	471	54	460	2		1		1	4	
3	6	303	746	99	731	51	743	249	707	81	689	3		1		1	6	
4	6	404	994	132	975	68	991	332	942	108	919	3		1		1	8	
5	6	505	1,243	165	1,218	85	1,238	415	1,178	135	1,149	3		1		1	10	
6	8	606	1,491	198	1,462	102	1,486	498	1,413	162	1,379	4		1		1	12	
7	8	707	1,740	231	1,706	119	1,734	581	1,649	189	1,608	4		1		1	14	
8	8	808	1,988	264	1,949	136	1,981	664	1,884	216	1,838	4		1		1	16	
9	8	909	2,237	297	2,193	153	2,229	747	2,120	243	2,068	4		1		1	18	
10	8	1,010	2,486	330	2,437	170	2,477	830	2,356	270	2,298	4		1		1	20	
11	8	1,111	2,734	363	2,680	187	2,724	913	2,591	297	2,527	4		1		1	22	
12	10	1,212	2,983	396	2,924	204	2,972	996	2,827	324	2,757	5		1		1	24	
13	10	1,313	3,231	429	3,168	221	3,220	1,079	3,062	351	2,987	5		1		1	26	
14	10	1,414	3,480	462	3,411	238	3,467	1,162	3,298	378	3,217	5		1		1	28	
15	10	1,515	3,728	495	3,655	255	3,715	1,245	3,533	405	3,447	5		1		1	30	
16	10	1,616	3,977	528	3,899	272	3,962	1,328	3,769	432	3,676	5		1		1	32	
17	10	1,717	4,226	561	4,142	289	4,210	1,411	4,004	459	3,906	5		1		1	34	
18	10	1,818	4,474	594	4,386	306	4,458	1,494	4,240	486	4,136	5		1		1	36	
19	10	1,919	4,723	627	4,630	323	4,705	1,577	4,476	513	4,366	5		1		1	38	
20	10	2,020	4,971	660	4,873	340	4,953	1,660	4,711	540	4,595	5		1		1	40	
21	10	2,121	5,220	693	5,117	357	5,201	1,743	4,947	567	4,825	5		1		1	42	
22	10	2,222	5,468	726	5,361	374	5,448	1,826	5,182	594	5,055	5		1		1	44	
23	12	2,323	5,717	759	5,604	391	5,696	1,909	5,418	621	5,285	6		1		1	46	
24	12	2,424	5,965	792	5,848	408	5,944	1,992	5,653	648	5,514	6		1		1	48	
25	12	2,525	6,214	825	6,092	425	6,191	2,075	5,889	675	5,744	6		1		1	50	
26	12	2,626	6,463	858	6,335	442	6,439	2,158	6,124	702	5,974	6		1		1	52	
27	12	2,727	6,711	891	6,579	459	6,687	2,241	6,360	729	6,204	6		1		1	54	
28	12	2,828	6,960	924	6,823	476	6,934	2,324	6,596	756	6,434	6		1		1	56	
29	12	2,929	7,208	957	7,066	493	7,182	2,407	6,831	783	6,663	6		1		1	58	
30	12	3,030	7,457	990	7,310	510	7,430	2,490	7,067	810	6,893	6		1		1	60	
31	12	3,131	7,705	1,023	7,554	527	7,677	2,573	7,302	837	7,123	6		1		1	62	
32	12	3,232	7,954	1,056	7,798	544	7,925	2,656	7,538	864	7,353	6		1		2	64	1
33	12	3,333	8,203	1,089	8,041	561	8,173	2,739	7,773	891	7,582	6		1		2	66	1
34	14	3,434	8,451	1,122	8,285	578	8,420	2,822	8,009	918	7,812	7		1		2	68	1
35	14	3,535	8,700	1,155	8,529	595	8,668	2,905	8,244	945	8,042	7		1		2	70	1
36	14	3,636	8,948	1,188	8,772	612	8,916	2,988	8,480	972	8,272	7		1		2	72	1
37	14	3,737	9,197	1,221	9,016	629	9,163	3,071	8,715	999	8,501	7		1		2	74	1
38	14	3,838	9,445	1,254	9,260	646	9,411	3,154	8,951	1,026	8,731	7		1		2	76	1
39	14	3,939	9,694	1,287	9,503	663	9,659	3,237	9,187	1,053	8,961	7		1		2	78	1
40	14	4,040	9,942	1,320	9,747	680	9,906	3,320	9,422	1,080	9,191	7		1		2	80	1
41	14	4,141	10,191	1,353	9,991	697	10,154	3,403	9,658	1,107	9,421	7		1		2	82	1
42	14	4,242	10,440	1,386	10,234	714	10,402	3,486	9,893	1,134	9,650	7		1		2	84	1
43	14	4,343	10,688	1,419	10,478	731	10,649	3,569	10,129	1,161	9,880	7		1		2	86	1
44	14	4,444	10,937	1,452	10,722	748	10,897	3,652	10,364	1,188	10,110	7		1		2	88	1
45	14	4,545	11,185	1,485	10,965	765	11,145	3,735	10,600	1,215	10,340	7		1		2	90	1
46	16	4,646	11,434	1,518	11,209	782	11,392	3,818	10,835	1,242	10,569	8		1		2	92	1
47	16	4,747	11,682	1,551	11,453	799	11,640	3,901	11,071	1,269	10,799	8		1		2	94	1
48	16	4,848	11,931	1,584	11,696	816	11,887	3,984	11,307	1,296	11,029	8		1		2	96	1
49	16	4,949	12,179	1,617	11,940	833	12,135	4,067	11,542	1,323	11,259	8		1		2	98	1
50	16	5,050	12,428	1,650	12,184	850	12,383	4,150	11,778	1,350	11,489	8		1		2	100	1
51	16	5,151	12,677	1,683	12,427	867	12,630	4,233	12,013	1,377	11,718	8		1		2	102	1
52	16	5,252	12,925	1,716	12,671	884	12,878	4,316	12,249	1,404	11,948	8		1		2	104	1
53	16	5,353	13,174	1,749	12,915	901	13,126	4,399	12,484	1,431	12,178	8		1		2	106	1
54	16	5,454	13,422	1,782	13,158	918	13,373	4,482	12,720	1,458	12,408	8		1		2	108	1
55	16	5,555	13,671	1,815	13,402	935	13,621	4,565	12,955	1,485	12,637	8		1		2	110	1
56	16	5,656	13,919	1,848	13,646	952	13,869	4,648	13,191	1,512	12,867	8		1		2	112	1
57	18	5,757	14,168	1,881	13,889	969	14,116	4,731	13,427	1,539	13,097	9		1		2	114	1
58	18	5,858	14,417	1,914	14,133	986	14,364	4,814	13,662	1,566	13,327	9		1		2	116	1
59	18	5,959	14,665	1,947	14,377	1,003	14,612	4,897	13,898	1,593	13,556	9		1		2	118	1
60	18	6,060	14,914	1,980	14,620	1,020	14,859	4,980	14,133	1,620	13,786	9		1		2	120	1
61	18	6,161	15,162	2,013	14,864	1,037	15,107	5,063	14,369	1,647	14,016	9		1		2	122	1
62	18	6,262	15,411	2,046	15,108	1,054	15,355	5,146	14,604	1,674	14,246	9		1		2	124	1
63	18	6,363	15,659	2,079	15,351	1,071	15,602	5,229	14,840	1,701	14,476	9		1		2	126	1
64	18	6,464	15,908	2,112	15,595	1,088	15,850	5,312	15,075	1,728	14,705	9		3	1	3	128	1

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System						Mainframe System				DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)								
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
65	18	6,565	16,156	2,145	15,839	1,105	16,098	5,395	15,311	1,755	14,935	9		3	1	3	130	1
66	18	6,666	16,405	2,178	16,082	1,122	16,345	5,478	15,547	1,782	15,165	9		3	1	3	132	1
67	18	6,767	16,654	2,211	16,326	1,139	16,593	5,561	15,782	1,809	15,395	9		3	1	3	134	1
68	20	6,868	16,902	2,244	16,570	1,156	16,841	5,644	16,018	1,836	15,624	10		3	1	3	136	1
69	20	6,969	17,151	2,277	16,813	1,173	17,088	5,727	16,253	1,863	15,854	10		3	1	3	138	1
70	20	7,070	17,399	2,310	17,057	1,190	17,336	5,810	16,489	1,890	16,084	10		3	1	3	140	1
71	20	7,171	17,648	2,343	17,301	1,207	17,584	5,893	16,724	1,917	16,314	10		3	1	3	142	1
72	20	7,272	17,896	2,376	17,544	1,224	17,831	5,976	16,960	1,944	16,543	10		3	1	3	144	1
73	20	7,373	18,145	2,409	17,788	1,241	18,079	6,059	17,195	1,971	16,773	10		3	1	3	146	1
74	20	7,474	18,394	2,442	18,032	1,258	18,327	6,142	17,431	1,998	17,003	10		3	1	3	148	1
75	20	7,575	18,642	2,475	18,275	1,275	18,574	6,225	17,667	2,025	17,233	10		3	1	3	150	1
76	20	7,676	18,891	2,508	18,519	1,292	18,822	6,308	17,902	2,052	17,463	10		3	1	3	152	1
77	20	7,777	19,139	2,541	18,763	1,309	19,070	6,391	18,138	2,079	17,692	10		3	1	3	154	1
78	20	7,878	19,388	2,574	19,006	1,326	19,317	6,474	18,373	2,106	17,922	10		3	1	3	156	1
79	20	7,979	19,636	2,607	19,250	1,343	19,565	6,557	18,609	2,133	18,152	10		3	1	3	158	1
80	20	8,080	19,885	2,640	19,494	1,360	19,812	6,640	18,844	2,160	18,382	10		3	1	3	160	1
81	22	8,181	20,133	2,673	19,737	1,377	20,060	6,723	19,080	2,187	18,611	11		3	1	3	162	1
82	22			2,706	19,981	1,394	20,308	6,806	19,315	2,214	18,841	11		3	1	3	164	1
83	22			2,739	20,225	1,411	20,555	6,889	19,551	2,241	19,071	11		3	1	3	166	1
84	22			2,772	20,468	1,428	20,803	6,972	19,787	2,268	19,301	11		3	1	3	168	1
85	22			2,805	20,712	1,445	21,051	7,055	20,022	2,295	19,530	11		3	1	3	170	1
86	22			2,838	20,956	1,462	21,298	7,138	20,258	2,322	19,760	11		3	1	3	172	1
87	22			2,871	21,199	1,479	21,546	7,221	20,493	2,349	19,990	11		3	1	3	174	1
88	22			2,904	21,443	1,496	21,794	7,304	20,729	2,376	20,220	11		3	1	3	176	1
89	22			2,937	21,687	1,513	22,041	7,387	20,964	2,403	20,450	11		3	1	3	178	1
90	22			2,970	21,930	1,530	22,289	7,470	21,200	2,430	20,679	11		3	1	3	180	1
91	22			3,003	22,174	1,547	22,537	7,553	21,435	2,457	20,909	11		3	1	3	182	1
92	22			3,036	22,418	1,564	22,784	7,636	21,671	2,484	21,139	11		3	1	3	184	1
93	22			3,069	22,661	1,581	23,032	7,719	21,907	2,511	21,369	11		3	1	3	186	1
94	22			3,102	22,905	1,598	23,280	7,802	22,142	2,538	21,598	11		3	1	3	188	1
95	22			3,135	23,149	1,615	23,527	7,885	22,378	2,565	21,828	11		3	1	4	190	2
96	22			3,168	23,393	1,632	23,775	7,968	22,613	2,592	22,058	11		3	1	4	192	2
97	22			3,201	23,636	1,649	24,023	8,051	22,849	2,619	22,288	11		3	1	4	194	2
98	22			3,234	23,880	1,666	24,270	8,134	23,084	2,646	22,517	11		3	1	4	196	2
99	22			3,267	24,124	1,683	24,518			2,673	22,747	11		3	1	4	198	2
100	22			3,300	24,367	1,700	24,766			2,700	22,977	11		3	1	4	200	2
101	22			3,333	24,611	1,717	25,013			2,727	23,207	11		3	1	4	202	2
102	22			3,366	24,855	1,734	25,261			2,754	23,437	11		3	1	4	204	2
103	22			3,399	25,098	1,751	25,509			2,781	23,666	11		3	1	4	206	2
104	22			3,432	25,342	1,768	25,756			2,808	23,896	11		3	1	4	208	2
105	22			3,465	25,586	1,785	26,004			2,835	24,126	11		3	1	4	210	2
106	22			3,498	25,829	1,802	26,252			2,862	24,356	11		3	1	4	212	2
107	22			3,531	26,073	1,819	26,499			2,889	24,585	11		3	1	4	214	2
108	22			3,564	26,317	1,836	26,747			2,916	24,815	11		3	1	4	216	2
109	22			3,597	26,560	1,853	26,995			2,943	25,045	11		3	1	4	218	2
110	22			3,630	26,804	1,870	27,242			2,970	25,275	11		3	1	4	220	2
111	22			3,663	27,048	1,887	27,490			2,997	25,504	11		3	1	4	222	2
112	22			3,696	27,291	1,904	27,737			3,024	25,734	11		3	1	4	224	2
113	22			3,729	27,535	1,921	27,985			3,051	25,964	11		3	1	4	226	2
114	22			3,762	27,779	1,938	28,233			3,078	26,194	11		3	1	4	228	2
115	22			3,795	28,022	1,955	28,480			3,105	26,424	11		3	1	4	230	2
116	22			3,828	28,266	1,972	28,728			3,132	26,653	11		3	1	4	232	2
117	22			3,861	28,510	1,989	28,976			3,159	26,883	11		3	1	4	234	2
118	22			3,894	28,753	2,006	29,223			3,186	27,113	11		3	1	4	236	2
119	22			3,927	28,997	2,023	29,471			3,213	27,343	11		3	1	4	238	2
120	22			3,960	29,241	2,040	29,719			3,240	27,572	11		3	1	4	240	2
121	22			3,993	29,484	2,057	29,966			3,267	27,802	11		3	1	4	242	2
122	22			4,026	29,728	2,074	30,214			3,294	28,032	11		3	1	4	244	2
123	22			4,059	29,972	2,091	30,462			3,321	28,262	11		3	1	4	246	2
124	22			4,092	30,215	2,108	30,709			3,348	28,491	11		3	1	4	248	2
125	22			4,125	30,459	2,125	30,957			3,375	28,721	11		3	1	4	250	2
126	22			4,158	30,703	2,142	31,205			3,402	28,951	11		3	1	4	252	2

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.

(2) 73GB 10K rpm HDD, RAID5 (7D+1P)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	-2048	-S512	-200	-L1C	-18	-72J4
1	4	206	507	68	502	35	510	14	510	171	485	57	485	2	1	1		1	2		
2	6	412	1,014	136	1,004	70	1,020	28	1,021	342	971	114	970	3			1	1	4		
3	8	618	1,521	204	1,506	105	1,530	42	1,531	513	1,456	171	1,455	4			1	1	6		
4	8	824	2,028	272	2,008	140	2,040	56	2,041	684	1,941	228	1,940	4			1	1	8		
5	8	1,030	2,535	340	2,511	175	2,549	70	2,552	855	2,426	285	2,425	4			1	1	10		
6	10	1,236	3,042	408	3,013	210	3,059	84	3,062	1,026	2,912	342	2,910	5			1	1	12		
7	10	1,442	3,549	476	3,515	245	3,569	98	3,572	1,197	3,397	399	3,395	5			1	1	14		
8	10	1,648	4,056	544	4,017	280	4,079	112	4,082	1,368	3,882	456	3,881	5			1	1	16		
9	10	1,854	4,563	612	4,519	315	4,589	126	4,593	1,539	4,368	513	4,366	5			1	1	18		
10	10	2,060	5,070	680	5,021	350	5,099	140	5,103	1,710	4,853	570	4,851	5			1	1	20		
11	10	2,266	5,577	748	5,523	385	5,609	154	5,613	1,881	5,338	627	5,336	5			1	1	22		
12	12	2,472	6,084	816	6,025	420	6,119	168	6,124	2,052	5,824	684	5,821	6			1	1	24		
13	12	2,678	6,591	884	6,527	455	6,628	182	6,634	2,223	6,309	741	6,306	6			1	1	26		
14	12	2,884	7,098	952	7,030	490	7,138	196	7,144	2,394	6,794	798	6,791	6			1	1	28		
15	12	3,090	7,604	1,020	7,532	525	7,648	210	7,655	2,565	7,279	855	7,276	6			1	1	30		
16	12	3,296	8,111	1,088	8,034	560	8,158	224	8,165	2,736	7,765	912	7,761	6			1	1	32		
17	12	3,502	8,618	1,156	8,536	595	8,668	238	8,675	2,907	8,250	969	8,246	6			1	1	34		
18	14	3,708	9,125	1,224	9,038	630	9,178	252	9,185	3,078	8,735	1,026	8,731	7			1	1	36		
19	14	3,914	9,632	1,292	9,540	665	9,688	266	9,696	3,249	9,221	1,083	9,216	7			1	1	38		
20	14	4,120	10,139	1,360	10,042	700	10,198	280	10,206	3,420	9,706	1,140	9,701	7			1	1	40		
21	14	4,326	10,646	1,428	10,544	735	10,707	294	10,716	3,591	10,191	1,197	10,186	7			1	1	42		
22	14	4,532	11,153	1,496	11,046	770	11,217	308	11,227	3,762	10,677	1,254	10,672	7			1	1	44		
23	16	4,738	11,660	1,564	11,549	805	11,727	322	11,737	3,933	11,162	1,311	11,157	8			1	1	46		
24	16	4,944	12,167	1,632	12,051	840	12,237	336	12,247	4,104	11,647	1,368	11,642	8			1	1	48		
25	16	5,150	12,674	1,700	12,553	875	12,747	350	12,758	4,275	12,132	1,425	12,127	8			1	1	50		
26	16	5,356	13,181	1,768	13,055	910	13,257	364	13,268	4,446	12,618	1,482	12,612	8			1	1	52		
27	16	5,562	13,688	1,836	13,557	945	13,767	378	13,778	4,617	13,103	1,539	13,097	8			1	1	54		
28	16	5,768	14,195	1,904	14,059	980	14,277	392	14,288	4,788	13,588	1,596	13,582	8			1	1	56		
29	18	5,974	14,702	1,972	14,561	1,015	14,787	406	14,799	4,959	14,074	1,653	14,067	9			1	1	58		
30	18	6,180	15,209	2,040	15,063	1,050	15,296	420	15,309	5,130	14,559	1,710	14,552	9			1	1	60		
31	18	6,386	15,716	2,108	15,565	1,085	15,806	434	15,819	5,301	15,044	1,767	15,037	9			1	1	62		
32	18	6,592	16,223	2,176	16,068	1,120	16,316	448	16,330	5,472	15,530	1,824	15,522	9			1	2	64	1	
33	18	6,798	16,730	2,244	16,570	1,155	16,826	462	16,840	5,643	16,015	1,881	16,007	9			1	2	66	1	
34	18	7,004	17,237	2,312	17,072	1,190	17,336	476	17,350	5,814	16,500	1,938	16,492	9			1	2	68	1	
35	20	7,210	17,744	2,380	17,574	1,225	17,846	490	17,861	5,985	16,985	1,995	16,977	10			1	2	70	1	
36	20	7,416	18,251	2,448	18,076	1,260	18,356	504	18,371	6,156	17,471	2,052	17,463	10			1	2	72	1	
37	20	7,622	18,758	2,516	18,578	1,295	18,866	518	18,881	6,327	17,956	2,109	17,948	10			1	2	74	1	
38	20	7,828	19,265	2,584	19,080	1,330	19,375	532	19,391	6,498	18,441	2,166	18,433	10			1	2	76	1	
39	20	8,034	19,772	2,652	19,582	1,365	19,885	546	19,902	6,669	18,927	2,223	18,918	10			1	2	78	1	
40	22			2,720	20,084	1,400	20,395	560	20,412	6,840	19,412	2,280	19,403	11			1	2	80	1	
41	22			2,788	20,587	1,435	20,905	574	20,922	7,011	19,897	2,337	19,888	11			1	2	82	1	
42	22			2,856	21,089	1,470	21,415	588	21,433	7,182	20,383	2,394	20,373	11			1	2	84	1	
43	22			2,924	21,591	1,505	21,925	602	21,943	7,353	20,868	2,451	20,858	11			1	2	86	1	
44	22			2,992	22,093	1,540	22,435	616	22,453	7,524	21,353	2,508	21,343	11			1	2	88	1	
45	22			3,060	22,595	1,575	22,945	630	22,964	7,695	21,838	2,565	21,828	11			1	2	90	1	
46	22			3,128	23,097	1,610	23,454	644	23,474	7,866	22,324	2,622	22,313	11			1	2	92	1	
47	22			3,196	23,599	1,645	23,964	658	23,984	8,037	22,809	2,679	22,798	11			1	2	94	1	
48	22			3,264	24,101	1,680	24,474	672	24,494			2,736	23,283	11			1	2	96	1	
49	22			3,332	24,603	1,715	24,984	686	25,005			2,793	23,768	11			1	2	98	1	
50	22			3,400	25,106	1,750	25,494	700	25,515			2,850	24,254	11			1	2	100	1	
51	22			3,468	25,608	1,785	26,004	714	26,025			2,907	24,739	11			1	2	102	1	
52	22			3,536	26,110	1,820	26,514	728	26,536			2,964	25,224	11			1	2	104	1	
53	22			3,604	26,612	1,855	27,024	742	27,046			3,021	25,709	11			1	2	106	1	
54	22			3,672	27,114	1,890	27,534	756	27,556			3,078	26,194	11			1	2	108	1	
55	22			3,740	27,616	1,925	28,043	770	28,067			3,135	26,679	11			1	2	110	1	
56	22			3,808	28,118	1,960	28,553	784	28,577			3,192	27,164	11			1	2	112	1	
57	22			3,876	28,620	1,995	29,063	798	29,087			3,249	27,649	11			1	2	114	1	
58	22			3,944	29,122	2,030	29,573	812	29,597			3,306	28,134	11			1	2	116	1	
59	22			4,012	29,625	2,065	30,083	826	30,108			3,363	28,619	11			1	2	118	1	
60	22			4,080	30,127	2,100	30,593	840	30,618			3,420	29,104	11			1	2	120	1	
61	22			4,148	30,629	2,135	31,103	854	31,128			3,477	29,589	11			1	2	122	1	
62	22			4,216	31,131	2,170	31,613	868	31,639			3,534	30,074	11			1	2	124	1	
63	22			4,284	31,633	2,205	32,122	882	32,149			3,591	30,559	11			1	2	126	1	
64	22			4,352	32,135	2,240	32,632	896	32,659			3,648	31,044	11			3	1	3	128	1

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4	F455I -EXC	
65	22			4,420	32,637	2,275	33,142	910	33,170			3,705	31,530	11		3	1	3	130	1	
66	22			4,488	33,139	2,310	33,652	924	33,680			3,762	32,015	11		3	1	3	132	1	
67	22			4,556	33,642	2,345	34,162	938	34,190			3,819	32,500	11		3	1	3	134	1	
68	22			4,624	34,144	2,380	34,672	952	34,700			3,876	32,985	11		3	1	3	136	1	
69	22			4,692	34,646	2,415	35,182	966	35,211			3,933	33,470	11		3	1	3	138	1	
70	22			4,760	35,148	2,450	35,692	980	35,721			3,990	33,955	11		3	1	3	140	1	
71	22			4,828	35,650	2,485	36,201	994	36,231			4,047	34,440	11		3	1	3	142	1	
72	22			4,896	36,152	2,520	36,711	1,008	36,742			4,104	34,925	11		3	1	3	144	1	
73	22			4,964	36,654	2,555	37,221	1,022	37,252			4,161	35,410	11		3	1	3	146	1	
74	22			5,032	37,156	2,590	37,731	1,036	37,762			4,218	35,895	11		3	1	3	148	1	
75	22			5,100	37,658	2,625	38,241	1,050	38,273			4,275	36,380	11		3	1	3	150	1	
76	22			5,168	38,161	2,660	38,751	1,064	38,783			4,332	36,865	11		3	1	3	152	1	
77	22			5,236	38,663	2,695	39,261	1,078	39,293			4,389	37,350	11		3	1	3	154	1	
78	22			5,304	39,165	2,730	39,771	1,092	39,803			4,446	37,835	11		3	1	3	156	1	
79	22			5,372	39,667	2,765	40,281	1,106	40,314			4,503	38,321	11		3	1	3	158	1	
80	22			5,440	40,169	2,800	40,790	1,120	40,824			4,560	38,806	11		3	1	3	160	1	
81	22			5,508	40,671	2,835	41,300	1,134	41,334			4,617	39,291	11		3	1	3	162	1	
82	22			5,576	41,173	2,870	41,810	1,148	41,845			4,674	39,776	11		3	1	3	164	1	
83	22			5,644	41,675	2,905	42,320	1,162	42,355			4,731	40,261	11		3	1	3	166	1	
84	22			5,712	42,177	2,940	42,830	1,176	42,865			4,788	40,746	11		3	1	3	168	1	
85	22			5,780	42,680	2,975	43,340	1,190	43,376			4,845	41,231	11		3	1	3	170	1	
86	22			5,848	43,182	3,010	43,850	1,204	43,886			4,902	41,716	11		3	1	3	172	1	
87	22			5,916	43,684	3,045	44,360	1,218	44,396			4,959	42,201	11		3	1	3	174	1	
88	22			5,984	44,186	3,080	44,869	1,232	44,906			5,016	42,686	11		3	1	3	176	1	
89	22			6,052	44,688	3,115	45,379	1,246	45,417			5,073	43,171	11		3	1	3	178	1	
90	22			6,120	45,190	3,150	45,889	1,260	45,927			5,130	43,656	11		3	1	3	180	1	
91	22			6,188	45,692	3,185	46,399	1,274	46,437			5,187	44,141	11		3	1	3	182	1	
92	22			6,256	46,194	3,220	46,909	1,288	46,948			5,244	44,626	11		3	1	3	184	1	
93	22			6,324	46,696	3,255	47,419	1,302	47,458			5,301	45,112	11		3	1	3	186	1	
94	22			6,392	47,199	3,290	47,929	1,316	47,968			5,358	45,597	11		3	1	3	188	1	
95	22			6,460	47,701	3,325	48,439	1,330	48,479			5,415	46,082	11		3	1	4	190	2	
96	22			6,528	48,203	3,360	48,948	1,344	48,989			5,472	46,567	11		3	1	4	192	2	
97	22			6,596	48,705	3,395	49,458	1,358	49,499			5,529	47,052	11		3	1	4	194	2	
98	22			6,664	49,207	3,430	49,968	1,372	50,009			5,586	47,537	11		3	1	4	196	2	
99	22			6,732	49,709	3,465	50,478	1,386	50,520			5,643	48,022	11		3	1	4	198	2	
100	22			6,800	50,211	3,500	50,988	1,400	51,030			5,700	48,507	11		3	1	4	200	2	
101	22			6,868	50,713	3,535	51,498	1,414	51,540			5,757	48,992	11		3	1	4	202	2	
102	22			6,936	51,215	3,570	52,008	1,428	52,051			5,814	49,477	11		3	1	4	204	2	
103	22			7,004	51,718	3,605	52,518	1,442	52,561			5,871	49,962	11		3	1	4	206	2	
104	22			7,072	52,220	3,640	53,028	1,456	53,071			5,928	50,447	11		3	1	4	208	2	
105	22			7,140	52,722	3,675	53,537	1,470	53,582			5,985	50,932	11		3	1	4	210	2	
106	22			7,208	53,224	3,710	54,047	1,484	54,092			6,042	51,417	11		3	1	4	212	2	
107	22			7,276	53,726	3,745	54,557	1,498	54,602			6,099	51,902	11		3	1	4	214	2	
108	22			7,344	54,228	3,780	55,067	1,512	55,112			6,156	52,388	11		3	1	4	216	2	
109	22			7,412	54,730	3,815	55,577	1,526	55,623			6,213	52,873	11		3	1	4	218	2	
110	22			7,480	55,232	3,850	56,087	1,540	56,133			6,270	53,358	11		3	1	4	220	2	
111	22			7,548	55,734	3,885	56,597	1,554	56,643			6,327	53,843	11		3	1	4	222	2	
112	22			7,616	56,237	3,920	57,107	1,568	57,154			6,384	54,328	11		3	1	4	224	2	
113	22			7,684	56,739	3,955	57,616	1,582	57,664			6,441	54,813	11		3	1	4	226	2	
114	22			7,752	57,241	3,990	58,126	1,596	58,174			6,498	55,298	11		3	1	4	228	2	
115	22			7,820	57,743	4,025	58,636	1,610	58,685			6,555	55,783	11		3	1	4	230	2	
116	22			7,888	58,245	4,060	59,146	1,624	59,195			6,612	56,268	11		3	1	4	232	2	
117	22			7,956	58,747	4,095	59,656	1,638	59,705			6,669	56,753	11		3	1	4	234	2	
118	22			8,024	59,249	4,130	60,166	1,652	60,215			6,726	57,238	11		3	1	4	236	2	
119	22			8,092	59,751	4,165	60,676	1,666	60,726			6,783	57,723	11		3	1	4	238	2	
120	22			8,160	60,253	4,200	61,186	1,680	61,236			6,840	58,208	11		3	1	4	240	2	
121	22					4,235	61,695	1,694	61,746			6,897	58,693	11		3	1	4	242	2	
122	22					4,270	62,205	1,708	62,257			6,954	59,179	11		3	1	4	244	2	
123	22					4,305	62,715	1,722	62,767			7,011	59,664	11		3	1	4	246	2	
124	22					4,340	63,225	1,736	63,277			7,068	60,149	11		3	1	4	248	2	
125	22					4,375	63,735	1,750	63,788			7,125	60,634	11		3	1	4	250	2	
126	22					4,410	64,245	1,764	64,298			7,182	61,119	11		3	1	4	252	2	

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.

8.3 Standard Configuration for RAID1 (2D+2D)

(1) 36GB 15K rpm HDD, RAID1 (2D+2D)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System					Mainframe System					DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)		F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap							
1	2	28	69	9	66	4	58	23	65	7	60	1	*1			1	1	
2	2	56	138	18	133	8	117	46	131	14	119	1				1	2	
3	4	84	207	27	199	12	175	69	196	21	179	2				1	3	
4	4	112	276	36	266	16	233	92	261	28	238	2				1	4	
5	4	140	345	45	332	20	291	115	326	35	298	2				1	5	
6	4	168	413	54	399	24	350	138	392	42	357	2				1	6	
7	4	196	482	63	465	28	408	161	457	49	417	2				1	7	
8	4	224	551	72	532	32	466	184	522	56	477	2				1	8	
9	4	252	620	81	598	36	524	207	587	63	536	2				1	9	
10	4	280	689	90	665	40	583	230	653	70	596	2				1	10	
11	6	308	758	99	731	44	641	253	718	77	655	3				1	11	
12	6	336	827	108	797	48	699	276	783	84	715	3				1	12	
13	6	364	896	117	864	52	758	299	849	91	774	3				1	13	
14	6	392	965	126	930	56	816	322	914	98	834	3				1	14	
15	6	420	1,034	135	997	60	874	345	979	105	894	3				1	15	
16	6	448	1,103	144	1,063	64	932	368	1,044	112	953	3				1	16	
17	6	476	1,171	153	1,130	68	991	391	1,110	119	1,013	3				1	17	
18	6	504	1,240	162	1,196	72	1,049	414	1,175	126	1,072	3				1	18	
19	6	532	1,309	171	1,263	76	1,107	437	1,240	133	1,132	3				1	19	
20	6	560	1,378	180	1,329	80	1,165	460	1,305	140	1,191	3				1	20	
21	8	588	1,447	189	1,396	84	1,224	483	1,371	147	1,251	4				1	21	
22	8	616	1,516	198	1,462	88	1,282	506	1,436	154	1,311	4				1	22	
23	8	644	1,585	207	1,528	92	1,340	529	1,501	161	1,370	4				1	23	
24	8	672	1,654	216	1,595	96	1,399	552	1,567	168	1,430	4				1	24	
25	8	700	1,723	225	1,661	100	1,457	575	1,632	175	1,489	4				1	25	
26	8	728	1,792	234	1,728	104	1,515	598	1,697	182	1,549	4				1	26	
27	8	756	1,861	243	1,794	108	1,573	621	1,762	189	1,608	4				1	27	
28	8	784	1,929	252	1,861	112	1,632	644	1,828	196	1,668	4				1	28	
29	8	812	1,998	261	1,927	116	1,690	667	1,893	203	1,728	4				1	29	
30	8	840	2,067	270	1,994	120	1,748	690	1,958	210	1,787	4				1	30	
31	8	868	2,136	279	2,060	124	1,806	713	2,023	217	1,847	4				1	31	
32	8	896	2,205	288	2,127	128	1,865	736	2,089	224	1,906	4		1		1	32	
33	8	924	2,274	297	2,193	132	1,923	759	2,154	231	1,966	4		1		1	33	
34	8	952	2,343	306	2,260	136	1,981	782	2,219	238	2,025	4		1		1	34	
35	8	980	2,412	315	2,326	140	2,040	805	2,285	245	2,085	4		1		1	35	
36	8	1,008	2,481	324	2,392	144	2,098	828	2,350	252	2,145	4		1		1	36	
37	8	1,036	2,550	333	2,459	148	2,156	851	2,415	259	2,204	4		1		1	37	
38	8	1,064	2,619	342	2,525	152	2,214	874	2,480	266	2,264	4		1		1	38	
39	8	1,092	2,687	351	2,592	156	2,273	897	2,546	273	2,323	4		1		1	39	
40	8	1,120	2,756	360	2,658	160	2,331	920	2,611	280	2,383	4		1		1	40	
41	8	1,148	2,825	369	2,725	164	2,389	943	2,676	287	2,442	4		1		1	41	
42	10	1,176	2,894	378	2,791	168	2,447	966	2,742	294	2,502	5		1		1	42	
43	10	1,204	2,963	387	2,858	172	2,506	989	2,807	301	2,562	5		1		1	43	
44	10	1,232	3,032	396	2,924	176	2,564	1,012	2,872	308	2,621	5		1		1	44	
45	10	1,260	3,101	405	2,991	180	2,622	1,035	2,937	315	2,681	5		1		1	45	
46	10	1,288	3,170	414	3,057	184	2,681	1,058	3,003	322	2,740	5		1		1	46	
47	10	1,316	3,239	423	3,123	188	2,739	1,081	3,068	329	2,800	5		1		1	47	
48	10	1,344	3,308	432	3,190	192	2,797	1,104	3,133	336	2,859	5		1		1	48	
49	10	1,372	3,376	441	3,256	196	2,855	1,127	3,198	343	2,919	5		1		1	49	
50	10	1,400	3,445	450	3,323	200	2,914	1,150	3,264	350	2,979	5		1		1	50	
51	10	1,428	3,514	459	3,389	204	2,972	1,173	3,329	357	3,038	5		1		1	51	
52	10	1,456	3,583	468	3,456	208	3,030	1,196	3,394	364	3,098	5		1		1	52	
53	10	1,484	3,652	477	3,522	212	3,088	1,219	3,460	371	3,157	5		1		1	53	
54	10	1,512	3,721	486	3,589	216	3,147	1,242	3,525	378	3,217	5		1		1	54	
55	10	1,540	3,790	495	3,655	220	3,205	1,265	3,590	385	3,276	5		1		1	55	
56	10	1,568	3,859	504	3,722	224	3,263	1,288	3,655	392	3,336	5		1		1	56	
57	10	1,596	3,928	513	3,788	228	3,322	1,311	3,721	399	3,395	5		1		1	57	
58	10	1,624	3,997	522	3,854	232	3,380	1,334	3,786	406	3,455	5		1		1	58	
59	10	1,652	4,066	531	3,921	236	3,438	1,357	3,851	413	3,515	5		1		1	59	
60	10	1,680	4,134	540	3,987	240	3,496	1,380	3,916	420	3,574	5		1		1	60	
61	10	1,708	4,203	549	4,054	244	3,555	1,403	3,982	427	3,634	5		1		1	61	
62	10	1,736	4,272	558	4,120	248	3,613	1,426	4,047	434	3,693	5		1		1	62	
63	10	1,764	4,341	567	4,187	252	3,671	1,449	4,112	441	3,753	5		1		1	63	

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options							
		Open System						Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC	
64	10	1,792	4,410	576	4,253	256	3,729	1,472	4,178	448	3,812	5			1		2	64	1
65	10	1,820	4,479	585	4,320	260	3,788	1,495	4,243	455	3,872	5			1		2	65	1
66	10	1,848	4,548	594	4,386	264	3,846	1,518	4,308	462	3,932	5			1		2	66	1
67	10	1,876	4,617	603	4,453	268	3,904	1,541	4,373	469	3,991	5			1		2	67	1
68	10	1,904	4,686	612	4,519	272	3,962	1,564	4,439	476	4,051	5			1		2	68	1
69	10	1,932	4,755	621	4,585	276	4,021	1,587	4,504	483	4,110	5			1		2	69	1
70	10	1,960	4,824	630	4,652	280	4,079	1,610	4,569	490	4,170	5			1		2	70	1
71	10	1,988	4,892	639	4,718	284	4,137	1,633	4,634	497	4,229	5			1		2	71	1
72	10	2,016	4,961	648	4,785	288	4,196	1,656	4,700	504	4,289	5			1		2	72	1
73	10	2,044	5,030	657	4,851	292	4,254	1,679	4,765	511	4,349	5			1		2	73	1
74	10	2,072	5,099	666	4,918	296	4,312	1,702	4,830	518	4,408	5			1		2	74	1
75	10	2,100	5,168	675	4,984	300	4,370	1,725	4,896	525	4,468	5			1		2	75	1
76	10	2,128	5,237	684	5,051	304	4,429	1,748	4,961	532	4,527	5			1		2	76	1
77	10	2,156	5,306	693	5,117	308	4,487	1,771	5,026	539	4,587	5			1		2	77	1
78	10	2,184	5,375	702	5,184	312	4,545	1,794	5,091	546	4,646	5			1		2	78	1
79	10	2,212	5,444	711	5,250	316	4,603	1,817	5,157	553	4,706	5			1		2	79	1
80	10	2,240	5,513	720	5,316	320	4,662	1,840	5,222	560	4,766	5			1		2	80	1
81	10	2,268	5,582	729	5,383	324	4,720	1,863	5,287	567	4,825	5			1		2	81	1
82	10	2,296	5,650	738	5,449	328	4,778	1,886	5,352	574	4,885	5			1		2	82	1
83	10	2,324	5,719	747	5,516	332	4,837	1,909	5,418	581	4,944	5			1		2	83	1
84	12	2,352	5,788	756	5,582	336	4,895	1,932	5,483	588	5,004	6			1		2	84	1
85	12	2,380	5,857	765	5,649	340	4,953	1,955	5,548	595	5,063	6			1		2	85	1
86	12	2,408	5,926	774	5,715	344	5,011	1,978	5,614	602	5,123	6			1		2	86	1
87	12	2,436	5,995	783	5,782	348	5,070	2,001	5,679	609	5,183	6			1		2	87	1
88	12	2,464	6,064	792	5,848	352	5,128	2,024	5,744	616	5,242	6			1		2	88	1
89	12	2,492	6,133	801	5,915	356	5,186	2,047	5,809	623	5,302	6			1		2	89	1
90	12	2,520	6,202	810	5,981	360	5,244	2,070	5,875	630	5,361	6			1		2	90	1
91	12	2,548	6,271	819	6,047	364	5,303	2,093	5,940	637	5,421	6			1		2	91	1
92	12	2,576	6,340	828	6,114	368	5,361	2,116	6,005	644	5,480	6			1		2	92	1
93	12	2,604	6,408	837	6,180	372	5,419	2,139	6,070	651	5,540	6			1		2	93	1
94	12	2,632	6,477	846	6,247	376	5,478	2,162	6,136	658	5,600	6			1		2	94	1
95	12	2,660	6,546	855	6,313	380	5,536	2,185	6,201	665	5,659	6			1		2	95	1
96	12	2,688	6,615	864	6,380	384	5,594	2,208	6,266	672	5,719	6			1		2	96	1
97	12	2,716	6,684	873	6,446	388	5,652	2,231	6,332	679	5,778	6			1		2	97	1
98	12	2,744	6,753	882	6,513	392	5,711	2,254	6,397	686	5,838	6			1		2	98	1
99	12	2,772	6,822	891	6,579	396	5,769	2,277	6,462	693	5,897	6			1		2	99	1
100	12	2,800	6,891	900	6,646	400	5,827	2,300	6,527	700	5,957	6			1		2	100	1
101	12	2,828	6,960	909	6,712	404	5,885	2,323	6,593	707	6,017	6			1		2	101	1
102	12	2,856	7,029	918	6,779	408	5,944	2,346	6,658	714	6,076	6			1		2	102	1
103	12	2,884	7,098	927	6,845	412	6,002	2,369	6,723	721	6,136	6			1		2	103	1
104	12	2,912	7,166	936	6,911	416	6,060	2,392	6,788	728	6,195	6			1		2	104	1
105	12	2,940	7,235	945	6,978	420	6,119	2,415	6,854	735	6,255	6			1		2	105	1
106	12	2,968	7,304	954	7,044	424	6,177	2,438	6,919	742	6,314	6			1		2	106	1
107	12	2,996	7,373	963	7,111	428	6,235	2,461	6,984	749	6,374	6			1		2	107	1
108	12	3,024	7,442	972	7,177	432	6,293	2,484	7,050	756	6,434	6			1		2	108	1
109	12	3,052	7,511	981	7,244	436	6,352	2,507	7,115	763	6,493	6			1		2	109	1
110	12	3,080	7,580	990	7,310	440	6,410	2,530	7,180	770	6,553	6			1		2	110	1
111	12	3,108	7,649	999	7,377	444	6,468	2,553	7,245	777	6,612	6			1		2	111	1
112	12	3,136	7,718	1,008	7,443	448	6,526	2,576	7,311	784	6,672	6			1		2	112	1
113	12	3,164	7,787	1,017	7,510	452	6,585	2,599	7,376	791	6,731	6			1		2	113	1
114	12	3,192	7,856	1,026	7,576	456	6,643	2,622	7,441	798	6,791	6			1		2	114	1
115	12	3,220	7,924	1,035	7,642	460	6,701	2,645	7,507	805	6,851	6			1		2	115	1
116	12	3,248	7,993	1,044	7,709	464	6,760	2,668	7,572	812	6,910	6			1		2	116	1
117	12	3,276	8,062	1,053	7,775	468	6,818	2,691	7,637	819	6,970	6			1		2	117	1
118	12	3,304	8,131	1,062	7,842	472	6,876	2,714	7,702	826	7,029	6			1		2	118	1
119	12	3,332	8,200	1,071	7,908	476	6,934	2,737	7,768	833	7,089	6			1		2	119	1
120	12	3,360	8,269	1,080	7,975	480	6,993	2,760	7,833	840	7,148	6			1		2	120	1
121	12	3,388	8,338	1,089	8,041	484	7,051	2,783	7,898	847	7,208	6			1		2	121	1
122	12	3,416	8,407	1,098	8,108	488	7,109	2,806	7,963	854	7,268	6			1		2	122	1
123	12	3,444	8,476	1,107	8,174	492	7,167	2,829	8,029	861	7,327	6			1		2	123	1
124	12	3,472	8,545	1,116	8,241	496	7,226	2,852	8,094	868	7,387	6			1		2	124	1
125	12	3,500	8,614	1,125	8,307	500	7,284	2,875	8,159	875	7,446	6			1		2	125	1
126	14	3,528	8,682	1,134	8,373	504	7,342	2,898	8,225	882	7,506	7			1		2	126	1
127	14	3,556	8,751	1,143	8,440	508	7,401	2,921	8,290	889	7,565	7			1		2	127	1
128	14	3,584	8,820	1,152	8,506	512	7,459	2,944	8,355	896	7,625	7			2	1	3	128	1
129	14	3,612	8,889	1,161	8,573	516	7,517	2,967	8,420	903	7,685	7			2	1	3	129	1

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System						Mainframe System				DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)								
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
130	14	3,640	8,958	1,170	8,639	520	7,575	2,990	8,486	910	7,744	7		2	1	3	130	1
131	14	3,668	9,027	1,179	8,706	524	7,634	3,013	8,551	917	7,804	7		2	1	3	131	1
132	14	3,696	9,096	1,188	8,772	528	7,692	3,036	8,616	924	7,863	7		2	1	3	132	1
133	14	3,724	9,165	1,197	8,839	532	7,750	3,059	8,681	931	7,923	7		2	1	3	133	1
134	14	3,752	9,234	1,206	8,905	536	7,808	3,082	8,747	938	7,982	7		2	1	3	134	1
135	14	3,780	9,303	1,215	8,972	540	7,867	3,105	8,812	945	8,042	7		2	1	3	135	1
136	14	3,808	9,371	1,224	9,038	544	7,925	3,128	8,877	952	8,102	7		2	1	3	136	1
137	14	3,836	9,440	1,233	9,104	548	7,983	3,151	8,943	959	8,161	7		2	1	3	137	1
138	14	3,864	9,509	1,242	9,171	552	8,042	3,174	9,008	966	8,221	7		2	1	3	138	1
139	14	3,892	9,578	1,251	9,237	556	8,100	3,197	9,073	973	8,280	7		2	1	3	139	1
140	14	3,920	9,647	1,260	9,304	560	8,158	3,220	9,138	980	8,340	7		2	1	3	140	1
141	14	3,948	9,716	1,269	9,370	564	8,216	3,243	9,204	987	8,399	7		2	1	3	141	1
142	14	3,976	9,785	1,278	9,437	568	8,275	3,266	9,269	994	8,459	7		2	1	3	142	1
143	14	4,004	9,854	1,287	9,503	572	8,333	3,289	9,334	1,001	8,519	7		2	1	3	143	1
144	14	4,032	9,923	1,296	9,570	576	8,391	3,312	9,399	1,008	8,578	7		2	1	3	144	1
145	14	4,060	9,992	1,305	9,636	580	8,449	3,335	9,465	1,015	8,638	7		2	1	3	145	1
146	14	4,088	10,061	1,314	9,703	584	8,508	3,358	9,530	1,022	8,697	7		2	1	3	146	1
147	14	4,116	10,129	1,323	9,769	588	8,566	3,381	9,595	1,029	8,757	7		2	1	3	147	1
148	14	4,144	10,198	1,332	9,835	592	8,624	3,404	9,661	1,036	8,816	7		2	1	3	148	1
149	14	4,172	10,267	1,341	9,902	596	8,683	3,427	9,726	1,043	8,876	7		2	1	3	149	1
150	14	4,200	10,336	1,350	9,968	600	8,741	3,450	9,791	1,050	8,936	7		2	1	3	150	1
151	14	4,228	10,405	1,359	10,035	604	8,799	3,473	9,856	1,057	8,995	7		2	1	3	151	1
152	14	4,256	10,474	1,368	10,101	608	8,857	3,496	9,922	1,064	9,055	7		2	1	3	152	1
153	14	4,284	10,543	1,377	10,168	612	8,916	3,519	9,987	1,071	9,114	7		2	1	3	153	1
154	14	4,312	10,612	1,386	10,234	616	8,974	3,542	10,052	1,078	9,174	7		2	1	3	154	1
155	14	4,340	10,681	1,395	10,301	620	9,032	3,565	10,117	1,085	9,233	7		2	1	3	155	1
156	14	4,368	10,750	1,404	10,367	624	9,090	3,588	10,183	1,092	9,293	7		2	1	3	156	1
157	14	4,396	10,819	1,413	10,434	628	9,149	3,611	10,248	1,099	9,352	7		2	1	3	157	1
158	14	4,424	10,887	1,422	10,500	632	9,207	3,634	10,313	1,106	9,412	7		2	1	3	158	1
159	14	4,452	10,956	1,431	10,567	636	9,265	3,657	10,379	1,113	9,472	7		3	1	3	159	1
160	14	4,480	11,025	1,440	10,633	640	9,324	3,680	10,444	1,120	9,531	7		3	1	3	160	1
161	14	4,508	11,094	1,449	10,699	644	9,382	3,703	10,509	1,127	9,591	7		3	1	3	161	1
162	14	4,536	11,163	1,458	10,766	648	9,440	3,726	10,574	1,134	9,650	7		3	1	3	162	1
163	14	4,564	11,232	1,467	10,832	652	9,498	3,749	10,640	1,141	9,710	7		3	1	3	163	1
164	14	4,592	11,301	1,476	10,899	656	9,557	3,772	10,705	1,148	9,769	7		3	1	3	164	1
165	14	4,620	11,370	1,485	10,965	660	9,615	3,795	10,770	1,155	9,829	7		3	1	3	165	1
166	14	4,648	11,439	1,494	11,032	664	9,673	3,818	10,835	1,162	9,889	7		3	1	3	166	1
167	14	4,676	11,508	1,503	11,098	668	9,731	3,841	10,901	1,169	9,948	7		3	1	3	167	1
168	16	4,704	11,577	1,512	11,165	672	9,790	3,864	10,966	1,176	10,008	8		3	1	3	168	1
169	16	4,732	11,645	1,521	11,231	676	9,848	3,887	11,031	1,183	10,067	8		3	1	3	169	1
170	16	4,760	11,714	1,530	11,298	680	9,906	3,910	11,097	1,190	10,127	8		3	1	3	170	1
171	16	4,788	11,783	1,539	11,364	684	9,965	3,933	11,162	1,197	10,186	8		3	1	3	171	1
172	16	4,816	11,852	1,548	11,430	688	10,023	3,956	11,227	1,204	10,246	8		3	1	3	172	1
173	16	4,844	11,921	1,557	11,497	692	10,081	3,979	11,292	1,211	10,306	8		3	1	3	173	1
174	16	4,872	11,990	1,566	11,563	696	10,139	4,002	11,358	1,218	10,365	8		3	1	3	174	1
175	16	4,900	12,059	1,575	11,630	700	10,198	4,025	11,423	1,225	10,425	8		3	1	3	175	1
176	16	4,928	12,128	1,584	11,696	704	10,256	4,048	11,488	1,232	10,484	8		3	1	3	176	1
177	16	4,956	12,197	1,593	11,763	708	10,314	4,071	11,553	1,239	10,544	8		3	1	3	177	1
178	16	4,984	12,266	1,602	11,829	712	10,372	4,094	11,619	1,246	10,603	8		3	1	3	178	1
179	16	5,012	12,335	1,611	11,896	716	10,431	4,117	11,684	1,253	10,663	8		3	1	3	179	1
180	16	5,040	12,403	1,620	11,962	720	10,489	4,140	11,749	1,260	10,723	8		3	1	3	180	1
181	16	5,068	12,472	1,629	12,029	724	10,547	4,163	11,815	1,267	10,782	8		3	1	3	181	1
182	16	5,096	12,541	1,638	12,095	728	10,606	4,186	11,880	1,274	10,842	8		3	1	3	182	1
183	16	5,124	12,610	1,647	12,161	732	10,664	4,209	11,945	1,281	10,901	8		3	1	3	183	1
184	16	5,152	12,679	1,656	12,228	736	10,722	4,232	12,010	1,288	10,961	8		3	1	3	184	1
185	16	5,180	12,748	1,665	12,294	740	10,780	4,255	12,076	1,295	11,020	8		3	1	3	185	1
186	16	5,208	12,817	1,674	12,361	744	10,839	4,278	12,141	1,302	11,080	8		3	1	3	186	1
187	16	5,236	12,886	1,683	12,427	748	10,897	4,301	12,206	1,309	11,140	8		3	1	3	187	1
188	16	5,264	12,955	1,692	12,494	752	10,955	4,324	12,272	1,316	11,199	8		3	1	3	188	1
189	16	5,292	13,024	1,701	12,560	756	11,013	4,347	12,337	1,323	11,259	8		3	1	3	189	1
190	16	5,320	13,093	1,710	12,627	760	11,072	4,370	12,402	1,330	11,318	8		3	1	3	190	1
191	16	5,348	13,161	1,719	12,693	764	11,130	4,393	12,467	1,337	11,378	8		3	1	4	191	2
192	16	5,376	13,230	1,728	12,760	768	11,188	4,416	12,533	1,344	11,437	8		3	1	4	192	2
193	16	5,404	13,299	1,737	12,826	772	11,246	4,439	12,598	1,351	11,497	8		3	1	4	193	2
194	16	5,432	13,368	1,746	12,892	776	11,305	4,462	12,663	1,358	11,557	8		3	1	4	194	2

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)										Number of necessary options						
		Open System						Mainframe System				DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)								
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -36K4	F455I -EXC
195	16	5,460	13,437	1,755	12,959	780	11,363	4,485	12,728	1,365	11,616	8		3	1	4	195	2
196	16	5,488	13,506	1,764	13,025	784	11,421	4,508	12,794	1,372	11,676	8		3	1	4	196	2
197	16	5,516	13,575	1,773	13,092	788	11,480	4,531	12,859	1,379	11,735	8		3	1	4	197	2
198	16	5,544	13,644	1,782	13,158	792	11,538	4,554	12,924	1,386	11,795	8		3	1	4	198	2
199	16	5,572	13,713	1,791	13,225	796	11,596	4,577	12,990	1,393	11,854	8		3	1	4	199	2
200	16	5,600	13,782	1,800	13,291	800	11,654	4,600	13,055	1,400	11,914	8		3	1	4	200	2
201	16	5,628	13,851	1,809	13,358	804	11,713	4,623	13,120	1,407	11,974	8		3	1	4	201	2
202	16	5,656	13,919	1,818	13,424	808	11,771	4,646	13,185	1,414	12,033	8		3	1	4	202	2
203	16	5,684	13,988	1,827	13,491	812	11,829	4,669	13,251	1,421	12,093	8		3	1	4	203	2
204	16	5,712	14,057	1,836	13,557	816	11,887	4,692	13,316	1,428	12,152	8		3	1	4	204	2
205	16	5,740	14,126	1,845	13,623	820	11,946	4,715	13,381	1,435	12,212	8		3	1	4	205	2
206	16	5,768	14,195	1,854	13,690	824	12,004	4,738	13,446	1,442	12,271	8		3	1	4	206	2
207	16	5,796	14,264	1,863	13,756	828	12,062	4,761	13,512	1,449	12,331	8		3	1	4	207	2
208	16	5,824	14,333	1,872	13,823	832	12,121	4,784	13,577	1,456	12,391	8		3	1	4	208	2
209	18	5,852	14,402	1,881	13,889	836	12,179	4,807	13,642	1,463	12,450	9		3	1	4	209	2
210	18	5,880	14,471	1,890	13,956	840	12,237	4,830	13,708	1,470	12,510	9		3	1	4	210	2
211	18	5,908	14,540	1,899	14,022	844	12,295	4,853	13,773	1,477	12,569	9		3	1	4	211	2
212	18	5,936	14,608	1,908	14,089	848	12,354	4,876	13,838	1,484	12,629	9		3	1	4	212	2
213	18	5,964	14,677	1,917	14,155	852	12,412	4,899	13,903	1,491	12,688	9		3	1	4	213	2
214	18	5,992	14,746	1,926	14,222	856	12,470	4,922	13,969	1,498	12,748	9		3	1	4	214	2
215	18	6,020	14,815	1,935	14,288	860	12,528	4,945	14,034	1,505	12,808	9		3	1	4	215	2
216	18	6,048	14,884	1,944	14,354	864	12,587	4,968	14,099	1,512	12,867	9		3	1	4	216	2
217	18	6,076	14,953	1,953	14,421	868	12,645	4,991	14,164	1,519	12,927	9		3	1	4	217	2
218	18	6,104	15,022	1,962	14,487	872	12,703	5,014	14,230	1,526	12,986	9		3	1	4	218	2
219	18	6,132	15,091	1,971	14,554	876	12,762	5,037	14,295	1,533	13,046	9		3	1	4	219	2
220	18	6,160	15,160	1,980	14,620	880	12,820	5,060	14,360	1,540	13,105	9		3	1	4	220	2
221	18	6,188	15,229	1,989	14,687	884	12,878	5,083	14,426	1,547	13,165	9		3	1	4	221	2
222	18	6,216	15,298	1,998	14,753	888	12,936	5,106	14,491	1,554	13,225	9		3	1	4	222	2
223	18	6,244	15,366	2,007	14,820	892	12,995	5,129	14,556	1,561	13,284	9		3	1	4	223	2
224	18	6,272	15,435	2,016	14,886	896	13,053	5,152	14,621	1,568	13,344	9		3	1	4	224	2
225	18	6,300	15,504	2,025	14,953	900	13,111	5,175	14,687	1,575	13,403	9		3	1	4	225	2
226	18	6,328	15,573	2,034	15,019	904	13,169	5,198	14,752	1,582	13,463	9		3	1	4	226	2
227	18	6,356	15,642	2,043	15,086	908	13,228	5,221	14,817	1,589	13,522	9		3	1	4	227	2
228	18	6,384	15,711	2,052	15,152	912	13,286	5,244	14,882	1,596	13,582	9		3	1	4	228	2
229	18	6,412	15,780	2,061	15,218	916	13,344	5,267	14,948	1,603	13,642	9		3	1	4	229	2
230	18	6,440	15,849	2,070	15,285	920	13,403	5,290	15,013	1,610	13,701	9		3	1	4	230	2
231	18	6,468	15,918	2,079	15,351	924	13,461	5,313	15,078	1,617	13,761	9		3	1	4	231	2
232	18	6,496	15,987	2,088	15,418	928	13,519	5,336	15,144	1,624	13,820	9		3	1	4	232	2
233	18	6,524	16,056	2,097	15,484	932	13,577	5,359	15,209	1,631	13,880	9		3	1	4	233	2
234	18	6,552	16,124	2,106	15,551	936	13,636	5,382	15,274	1,638	13,939	9		3	1	4	234	2
235	18	6,580	16,193	2,115	15,617	940	13,694	5,405	15,339	1,645	13,999	9		3	1	4	235	2
236	18	6,608	16,262	2,124	15,684	944	13,752	5,428	15,405	1,652	14,059	9		3	1	4	236	2
237	18	6,636	16,331	2,133	15,750	948	13,810	5,451	15,470	1,659	14,118	9		3	1	4	237	2
238	18	6,664	16,400	2,142	15,817	952	13,869	5,474	15,535	1,666	14,178	9		3	1	4	238	2
239	18	6,692	16,469	2,151	15,883	956	13,927	5,497	15,600	1,673	14,237	9		3	1	4	239	2
240	18	6,720	16,538	2,160	15,949	960	13,985	5,520	15,666	1,680	14,297	9		3	1	4	240	2
241	18	6,748	16,607	2,169	16,016	964	14,044	5,543	15,731	1,687	14,356	9		3	1	4	241	2
242	18	6,776	16,676	2,178	16,082	968	14,102	5,566	15,796	1,694	14,416	9		3	1	4	242	2
243	18	6,804	16,745	2,187	16,149	972	14,160	5,589	15,862	1,701	14,476	9		3	1	4	243	2
244	18	6,832	16,814	2,196	16,215	976	14,218	5,612	15,927	1,708	14,535	9		3	1	4	244	2
245	18	6,860	16,882	2,205	16,282	980	14,277	5,635	15,992	1,715	14,595	9		3	1	4	245	2
246	18	6,888	16,951	2,214	16,348	984	14,335	5,658	16,057	1,722	14,654	9		3	1	4	246	2
247	18	6,916	17,020	2,223	16,415	988	14,393	5,681	16,123	1,729	14,714	9		3	1	4	247	2
248	18	6,944	17,089	2,232	16,481	992	14,451	5,704	16,188	1,736	14,773	9		3	1	4	248	2
249	18	6,972	17,158	2,241	16,548	996	14,510	5,727	16,253	1,743	14,833	9		3	1	4	249	2
250	18	7,000	17,227	2,250	16,614	1,000	14,568	5,750	16,319	1,750	14,893	9		3	1	4	250	2
251	20	7,028	17,296	2,259	16,680	1,004	14,626	5,773	16,384	1,757	14,952	10		3	1	4	251	2
252	20	7,056	17,365	2,268	16,747	1,008	14,685	5,796	16,449	1,764	15,012	10		3	1	4	252	2
253	20	7,084	17,434	2,277	16,813	1,012	14,743	5,819	16,514	1,771	15,071	10		3	1	4	253	2
254	20	7,112	17,503	2,286	16,880	1,016	14,801	5,842	16,580	1,778	15,131	10		3	1	4	254	2

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.

(2) 73GB 10K rpm HDD, RAID1 (2D+2D)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options								
		Open System								Mainframe System				DKC options				DKU options				
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)										
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	-2048	-S512	-200	-L1C	-18	-72J4	-EXC
1	2	59	145	19	140	10	146	4	146	48	136	16	136	1	*1					1	1	
2	4	118	290	38	281	20	291	8	292	96	272	32	272	2						1	2	
3	4	177	436	57	421	30	437	12	437	144	409	48	408	2						1	3	
4	4	236	581	76	561	40	583	16	583	192	545	64	545	2						1	4	
5	6	295	726	95	701	50	728	20	729	240	681	80	681	3						1	5	
6	6	354	871	114	842	60	874	24	875	288	817	96	817	3						1	6	
7	6	413	1,016	133	982	70	1,020	28	1,021	336	954	112	953	3						1	7	
8	6	472	1,162	152	1,122	80	1,165	32	1,166	384	1,090	128	1,089	3						1	8	
9	6	531	1,307	171	1,263	90	1,311	36	1,312	432	1,226	144	1,225	3						1	9	
10	8	590	1,452	190	1,403	100	1,457	40	1,458	480	1,362	160	1,362	4						1	10	
11	8	649	1,597	209	1,543	110	1,602	44	1,604	528	1,498	176	1,498	4						1	11	
12	8	708	1,742	228	1,684	120	1,748	48	1,750	576	1,635	192	1,634	4						1	12	
13	8	767	1,888	247	1,824	130	1,894	52	1,895	624	1,771	208	1,770	4						1	13	
14	8	826	2,033	266	1,964	140	2,040	56	2,041	672	1,907	224	1,906	4						1	14	
15	8	885	2,178	285	2,104	150	2,185	60	2,187	720	2,043	240	2,042	4						1	15	
16	8	944	2,323	304	2,245	160	2,331	64	2,333	768	2,180	256	2,179	4						1	16	
17	8	1,003	2,468	323	2,385	170	2,477	68	2,479	816	2,316	272	2,315	4						1	17	
18	8	1,062	2,614	342	2,525	180	2,622	72	2,624	864	2,452	288	2,451	4						1	18	
19	10	1,121	2,759	361	2,666	190	2,768	76	2,770	912	2,588	304	2,587	5						1	19	
20	10	1,180	2,904	380	2,806	200	2,914	80	2,916	960	2,724	320	2,723	5						1	20	
21	10	1,239	3,049	399	2,946	210	3,059	84	3,062	1,008	2,861	336	2,859	5						1	21	
22	10	1,298	3,194	418	3,087	220	3,205	88	3,208	1,056	2,997	352	2,996	5						1	22	
23	10	1,357	3,340	437	3,227	230	3,351	92	3,353	1,104	3,133	368	3,132	5						1	23	
24	10	1,416	3,485	456	3,367	240	3,496	96	3,499	1,152	3,269	384	3,268	5						1	24	
25	10	1,475	3,630	475	3,507	250	3,642	100	3,645	1,200	3,406	400	3,404	5						1	25	
26	10	1,534	3,775	494	3,648	260	3,788	104	3,791	1,248	3,542	416	3,540	5						1	26	
27	10	1,593	3,920	513	3,788	270	3,933	108	3,937	1,296	3,678	432	3,676	5						1	27	
28	10	1,652	4,066	532	3,928	280	4,079	112	4,082	1,344	3,814	448	3,812	5						1	28	
29	10	1,711	4,211	551	4,069	290	4,225	116	4,228	1,392	3,950	464	3,949	5						1	29	
30	10	1,770	4,356	570	4,209	300	4,370	120	4,374	1,440	4,087	480	4,085	5						1	30	
31	10	1,829	4,501	589	4,349	310	4,516	124	4,520	1,488	4,223	496	4,221	5						1	31	
32	10	1,888	4,646	608	4,489	320	4,662	128	4,666	1,536	4,359	512	4,357	5			1			1	32	
33	10	1,947	4,792	627	4,630	330	4,807	132	4,811	1,584	4,495	528	4,493	5			1			1	33	
34	10	2,006	4,937	646	4,770	340	4,953	136	4,957	1,632	4,632	544	4,629	5			1			1	34	
35	10	2,065	5,082	665	4,910	350	5,099	140	5,103	1,680	4,768	560	4,766	5			1			1	35	
36	10	2,124	5,227	684	5,051	360	5,244	144	5,249	1,728	4,904	576	4,902	5			1			1	36	
37	10	2,183	5,372	703	5,191	370	5,390	148	5,395	1,776	5,040	592	5,038	5			1			1	37	
38	10	2,242	5,518	722	5,331	380	5,536	152	5,540	1,824	5,177	608	5,174	5			1			1	38	
39	10	2,301	5,663	741	5,472	390	5,682	156	5,686	1,872	5,313	624	5,310	5			1			1	39	
40	12	2,360	5,808	760	5,612	400	5,827	160	5,832	1,920	5,449	640	5,446	6			1			1	40	
41	12	2,419	5,953	779	5,752	410	5,973	164	5,978	1,968	5,585	656	5,583	6			1			1	41	
42	12	2,478	6,098	798	5,892	420	6,119	168	6,124	2,016	5,721	672	5,719	6			1			1	42	
43	12	2,537	6,244	817	6,033	430	6,264	172	6,269	2,064	5,858	688	5,855	6			1			1	43	
44	12	2,596	6,389	836	6,173	440	6,410	176	6,415	2,112	5,994	704	5,991	6			1			1	44	
45	12	2,655	6,534	855	6,313	450	6,556	180	6,561	2,160	6,130	720	6,127	6			1			1	45	
46	12	2,714	6,679	874	6,454	460	6,701	184	6,707	2,208	6,266	736	6,263	6			1			1	46	
47	12	2,773	6,824	893	6,594	470	6,847	188	6,853	2,256	6,403	752	6,400	6			1			1	47	
48	12	2,832	6,970	912	6,734	480	6,993	192	6,998	2,304	6,539	768	6,536	6			1			1	48	
49	12	2,891	7,115	931	6,875	490	7,138	196	7,144	2,352	6,675	784	6,672	6			1			1	49	
50	12	2,950	7,260	950	7,015	500	7,284	200	7,290	2,400	6,811	800	6,808	6			1			1	50	
51	12	3,009	7,405	969	7,155	510	7,430	204	7,436	2,448	6,947	816	6,944	6			1			1	51	
52	12	3,068	7,550	988	7,295	520	7,575	208	7,582	2,496	7,084	832	7,080	6			1			1	52	
53	12	3,127	7,696	1,007	7,436	530	7,721	212	7,727	2,544	7,220	848	7,216	6			1			1	53	
54	12	3,186	7,841	1,026	7,576	540	7,867	216	7,873	2,592	7,356	864	7,353	6			1			1	54	
55	12	3,245	7,986	1,045	7,716	550	8,012	220	8,019	2,640	7,492	880	7,489	6			1			1	55	
56	12	3,304	8,131	1,064	7,857	560	8,158	224	8,165	2,688	7,629	896	7,625	6			1			1	56	
57	12	3,363	8,276	1,083	7,997	570	8,304	228	8,311	2,736	7,765	912	7,761	6			1			1	57	
58	12	3,422	8,422	1,102	8,137	580	8,449	232	8,456	2,784	7,901	928	7,897	6			1			1	58	
59	12	3,481	8,567	1,121	8,277	590	8,595	236	8,602	2,832	8,037	944	8,033	6			1			1	59	
60	14	3,540	8,712	1,140	8,418	600	8,741	240	8,748	2,880	8,173	960	8,170	7			1					

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4
65	14	3.835	9.438	1.235	9.119	650	9.469	260	9.477	3.120	8.855	1.040	8.850	7			1		2	65	1
66	14	3.894	9.583	1.254	9.260	660	9.615	264	9.623	3.168	8.991	1.056	8.987	7			1		2	66	1
67	14	3.953	9.728	1.273	9.400	670	9.761	268	9.769	3.216	9.127	1.072	9.123	7			1		2	67	1
68	14	4.012	9.874	1.292	9.540	680	9.906	272	9.914	3.264	9.263	1.088	9.259	7			1		2	68	1
69	14	4.071	10.019	1.311	9.680	690	10.052	276	10.060	3.312	9.399	1.104	9.395	7			1		2	69	1
70	14	4.130	10.164	1.330	9.821	700	10.198	280	10.206	3.360	9.536	1.120	9.531	7			1		2	70	1
71	14	4.189	10.309	1.349	9.961	710	10.343	284	10.352	3.408	9.672	1.136	9.667	7			1		2	71	1
72	14	4.248	10.454	1.368	10.101	720	10.489	288	10.498	3.456	9.808	1.152	9.804	7			1		2	72	1
73	14	4.307	10.600	1.387	10.242	730	10.635	292	10.643	3.504	9.944	1.168	9.940	7			1		2	73	1
74	14	4.366	10.745	1.406	10.382	740	10.780	296	10.789	3.552	10.081	1.184	10.076	7			1		2	74	1
75	14	4.425	10.890	1.425	10.522	750	10.926	300	10.935	3.600	10.217	1.200	10.212	7			1		2	75	1
76	14	4.484	11.035	1.444	10.662	760	11.072	304	11.081	3.648	10.353	1.216	10.348	7			1		2	76	1
77	14	4.543	11.180	1.463	10.803	770	11.217	308	11.227	3.696	10.489	1.232	10.484	7			1		2	77	1
78	14	4.602	11.326	1.482	10.943	780	11.363	312	11.372	3.744	10.625	1.248	10.620	7			1		2	78	1
79	14	4.661	11.471	1.501	11.083	790	11.509	316	11.518	3.792	10.762	1.264	10.757	7			1		2	79	1
80	16	4.720	11.616	1.520	11.224	800	11.654	320	11.664	3.840	10.898	1.280	10.893	8			1		2	80	1
81	16	4.779	11.761	1.539	11.364	810	11.800	324	11.810	3.888	11.034	1.296	11.029	8			1		2	81	1
82	16	4.838	11.906	1.558	11.504	820	11.946	328	11.956	3.936	11.170	1.312	11.165	8			1		2	82	1
83	16	4.897	12.052	1.577	11.645	830	12.091	332	12.101	3.984	11.307	1.328	11.301	8			1		2	83	1
84	16	4.956	12.197	1.596	11.785	840	12.237	336	12.247	4.032	11.443	1.344	11.437	8			1		2	84	1
85	16	5.015	12.342	1.615	11.925	850	12.383	340	12.393	4.080	11.579	1.360	11.574	8			1		2	85	1
86	16	5.074	12.487	1.634	12.065	860	12.528	344	12.539	4.128	11.715	1.376	11.710	8			1		2	86	1
87	16	5.133	12.632	1.653	12.206	870	12.674	348	12.685	4.176	11.851	1.392	11.846	8			1		2	87	1
88	16	5.192	12.778	1.672	12.346	880	12.820	352	12.830	4.224	11.988	1.408	11.982	8			1		2	88	1
89	16	5.251	12.923	1.691	12.486	890	12.966	356	12.976	4.272	12.124	1.424	12.118	8			1		2	89	1
90	16	5.310	13.068	1.710	12.627	900	13.111	360	13.122	4.320	12.260	1.440	12.254	8			1		2	90	1
91	16	5.369	13.213	1.729	12.767	910	13.257	364	13.268	4.368	12.396	1.456	12.391	8			1		2	91	1
92	16	5.428	13.358	1.748	12.907	920	13.403	368	13.414	4.416	12.533	1.472	12.527	8			1		2	92	1
93	16	5.487	13.504	1.767	13.048	930	13.548	372	13.559	4.464	12.669	1.488	12.663	8			1		2	93	1
94	16	5.546	13.649	1.786	13.188	940	13.694	376	13.705	4.512	12.805	1.504	12.799	8			1		2	94	1
95	16	5.605	13.794	1.805	13.328	950	13.840	380	13.851	4.560	12.941	1.520	12.935	8			1		2	95	1
96	16	5.664	13.939	1.824	13.468	960	13.985	384	13.997	4.608	13.078	1.536	13.071	8			1		2	96	1
97	16	5.723	14.084	1.843	13.609	970	14.131	388	14.143	4.656	13.214	1.552	13.208	8			1		2	97	1
98	16	5.782	14.230	1.862	13.749	980	14.277	392	14.288	4.704	13.350	1.568	13.344	8			1		2	98	1
99	16	5.841	14.375	1.881	13.889	990	14.422	396	14.434	4.752	13.486	1.584	13.480	8			1		2	99	1
100	18	5.900	14.520	1.900	14.030	1,000	14.568	400	14.580	4.800	13.622	1.600	13.616	9			1		2	100	1
101	18	5.959	14.665	1.919	14.170	1,010	14.714	404	14.726	4.848	13.759	1.616	13.752	9			1		2	101	1
102	18	6.018	14.810	1.938	14.310	1,020	14.859	408	14.872	4.896	13.895	1.632	13.888	9			1		2	102	1
103	18	6.077	14.955	1.957	14.450	1,030	15.005	412	15.017	4.944	14.031	1.648	14.024	9			1		2	103	1
104	18	6.136	15.101	1.976	14.591	1,040	15.151	416	15.163	4.992	14.167	1.664	14.161	9			1		2	104	1
105	18	6.195	15.246	1.995	14.731	1,050	15.296	420	15.309	5.040	14.304	1.680	14.297	9			1		2	105	1
106	18	6.254	15.391	2.014	14.871	1,060	15.442	424	15.455	5.088	14.440	1.696	14.433	9			1		2	106	1
107	18	6.313	15.536	2.033	15.012	1,070	15.588	428	15.601	5.136	14.576	1.712	14.569	9			1		2	107	1
108	18	6.372	15.681	2.052	15.152	1,080	15.733	432	15.746	5.184	14.712	1.728	14.705	9			1		2	108	1
109	18	6.431	15.827	2.071	15.292	1,090	15.879	436	15.892	5.232	14.848	1.744	14.841	9			1		2	109	1
110	18	6.490	15.972	2.090	15.433	1,100	16.025	440	16.038	5.280	14.985	1.760	14.978	9			1		2	110	1
111	18	6.549	16.117	2.109	15.573	1,110	16.170	444	16.184	5.328	15.121	1.776	15.114	9			1		2	111	1
112	18	6.608	16.262	2.128	15.713	1,120	16.316	448	16.330	5.376	15.257	1.792	15.250	9			1		2	112	1
113	18	6.667	16.407	2.147	15.853	1,130	16.462	452	16.475	5.424	15.393	1.808	15.386	9			1		2	113	1
114	18	6.726	16.553	2.166	15.994	1,140	16.608	456	16.621	5.472	15.530	1.824	15.522	9			1		2	114	1
115	18	6.785	16.698	2.185	16.134	1,150	16.753	460	16.767	5.520	15.666	1.840	15.658	9			1		2	115	1
116	18	6.844	16.843	2.204	16.274	1,160	16.899	464	16.913	5.568	15.802	1.856	15.795	9			1		2	116	1
117	18	6.903	16.988	2.223	16.415	1,170	17.045	468	17.059	5.616	15.938	1.872	15.931	9			1		2	117	1
118	18	6.962	17.133	2.242	16.555	1,180	17.190	472	17.204	5.664	16.074	1.888	16.067	9			1		2	118	1
119	18	7.021	17.279	2.261	16.695	1,190	17.336	476	17.350	5.712	16.211	1.904	16.203								

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options							
		Open System								Mainframe System				DKC options				DKU options			
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)									
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4
130	20	7,670	18,876	2,470	18,238	1,300	18,938	520	18,954	6,240	17,709	2,080	17,701	10			2	1	3	130	1
131	20	7,729	19,021	2,489	18,379	1,310	19,084	524	19,100	6,288	17,845	2,096	17,837	10			2	1	3	131	1
132	20	7,788	19,166	2,508	18,519	1,320	19,230	528	19,246	6,336	17,982	2,112	17,973	10			2	1	3	132	1
133	20	7,847	19,311	2,527	18,659	1,330	19,375	532	19,391	6,384	18,118	2,128	18,109	10			2	1	3	133	1
134	20	7,906	19,457	2,546	18,800	1,340	19,521	536	19,537	6,432	18,254	2,144	18,245	10			2	1	3	134	1
135	20	7,965	19,602	2,565	18,940	1,350	19,667	540	19,683	6,480	18,390	2,160	18,382	10			2	1	3	135	1
136	20	8,024	19,747	2,584	19,080	1,360	19,812	544	19,829	6,528	18,526	2,176	18,518	10			2	1	3	136	1
137	20	8,083	19,892	2,603	19,221	1,370	19,958	548	19,975	6,576	18,663	2,192	18,654	10			2	1	3	137	1
138	20	8,142	20,037	2,622	19,361	1,380	20,104	552	20,120	6,624	18,799	2,208	18,790	10			2	1	3	138	1
139	20			2,641	19,501	1,390	20,250	556	20,266	6,672	18,935	2,224	18,926	10			2	1	3	139	1
140	20			2,660	19,641	1,400	20,395	560	20,412	6,720	19,071	2,240	19,062	10			2	1	3	140	1
141	20			2,679	19,782	1,410	20,541	564	20,558	6,768	19,208	2,256	19,199	10			2	1	3	141	1
142	20			2,698	19,922	1,420	20,687	568	20,704	6,816	19,344	2,272	19,335	10			2	1	3	142	1
143	20			2,717	20,062	1,430	20,832	572	20,849	6,864	19,480	2,288	19,471	10			2	1	3	143	1
144	20			2,736	20,203	1,440	20,978	576	20,995	6,912	19,616	2,304	19,607	10			2	1	3	144	1
145	22			2,755	20,343	1,450	21,124	580	21,141	6,960	19,752	2,320	19,743	11			2	1	3	145	1
146	22			2,774	20,483	1,460	21,269	584	21,287	7,008	19,889	2,336	19,879	11			2	1	3	146	1
147	22			2,793	20,624	1,470	21,415	588	21,433	7,056	20,025	2,352	20,016	11			2	1	3	147	1
148	22			2,812	20,764	1,480	21,561	592	21,578	7,104	20,161	2,368	20,152	11			2	1	3	148	1
149	22			2,831	20,904	1,490	21,706	596	21,724	7,152	20,297	2,384	20,288	11			2	1	3	149	1
150	22			2,850	21,044	1,500	21,852	600	21,870	7,200	20,434	2,400	20,424	11			2	1	3	150	1
151	22			2,869	21,185	1,510	21,998	604	22,016	7,248	20,570	2,416	20,560	11			2	1	3	151	1
152	22			2,888	21,325	1,520	22,143	608	22,162	7,296	20,706	2,432	20,696	11			2	1	3	152	1
153	22			2,907	21,465	1,530	22,289	612	22,307	7,344	20,842	2,448	20,832	11			2	1	3	153	1
154	22			2,926	21,606	1,540	22,435	616	22,453	7,392	20,978	2,464	20,969	11			2	1	3	154	1
155	22			2,945	21,746	1,550	22,580	620	22,599	7,440	21,115	2,480	21,105	11			2	1	3	155	1
156	22			2,964	21,886	1,560	22,726	624	22,745	7,488	21,251	2,496	21,241	11			2	1	3	156	1
157	22			2,983	22,026	1,570	22,872	628	22,891	7,536	21,387	2,512	21,377	11			2	1	3	157	1
158	22			3,002	22,167	1,580	23,017	632	23,036	7,584	21,523	2,528	21,513	11			2	1	3	158	1
159	22			3,021	22,307	1,590	23,163	636	23,182	7,632	21,660	2,544	21,649	11			3	1	3	159	1
160	22			3,040	22,447	1,600	23,309	640	23,328	7,680	21,796	2,560	21,786	11			3	1	3	160	1
161	22			3,059	22,588	1,610	23,454	644	23,474	7,728	21,932	2,576	21,922	11			3	1	3	161	1
162	22			3,078	22,728	1,620	23,600	648	23,620	7,776	22,068	2,592	22,058	11			3	1	3	162	1
163	22			3,097	22,868	1,630	23,746	652	23,765	7,824	22,205	2,608	22,194	11			3	1	3	163	1
164	22			3,116	23,009	1,640	23,892	656	23,911	7,872	22,341	2,624	22,330	11			3	1	3	164	1
165	22			3,135	23,149	1,650	24,037	660	24,057	7,920	22,477	2,640	22,466	11			3	1	3	165	1
166	22			3,154	23,289	1,660	24,183	664	24,203	7,968	22,613	2,656	22,603	11			3	1	3	166	1
167	22			3,173	23,429	1,670	24,329	668	24,349	8,016	22,749	2,672	22,739	11			3	1	3	167	1
168	22			3,192	23,570	1,680	24,474	672	24,494	8,064	22,886	2,688	22,875	11			3	1	3	168	1
169	22			3,211	23,710	1,690	24,620	676	24,640	8,112	23,022	2,704	23,011	11			3	1	3	169	1
170	22			3,230	23,850	1,700	24,766	680	24,786	8,160	23,158	2,720	23,147	11			3	1	3	170	1
171	22			3,249	23,991	1,710	24,911	684	24,932			2,736	23,283	11			3	1	3	171	1
172	22			3,268	24,131	1,720	25,057	688	25,078			2,752	23,420	11			3	1	3	172	1
173	22			3,287	24,271	1,730	25,203	692	25,223			2,768	23,556	11			3	1	3	173	1
174	22			3,306	24,412	1,740	25,348	696	25,369			2,784	23,692	11			3	1	3	174	1
175	22			3,325	24,552	1,750	25,494	700	25,515			2,800	23,828	11			3	1	3	175	1
176	22			3,344	24,692	1,760	25,640	704	25,661			2,816	23,964	11			3	1	3	176	1
177	22			3,363	24,832	1,770	25,785	708	25,807			2,832	24,100	11			3	1	3	177	1
178	22			3,382	24,973	1,780	25,931	712	25,952			2,848	24,236	11			3	1	3	178	1
179	22			3,401	25,113	1,790	26,077	716	26,098			2,864	24,373	11			3	1	3	179	1
180	22			3,420	25,253	1,800	26,222	720	26,244			2,880	24,509	11			3	1	3	180	1
181	22			3,439	25,394	1,810	26,368	724	26,390			2,896	24,645	11			3	1	3	181	1
182	22			3,458	25,534	1,820	26,514	728	26,536			2,912	24,781	11			3	1	3	182	1
183	22			3,477	25,674	1,830	26,659	732	26,681			2,928	24,917	11			3	1	3	183	1
184	22			3,496	25,814	1,840	26,805	736	26,827			2,944	25,053	11			3	1	3	184	1
185	22			3,515	25,955	1,850	26,951	740	26,973			2,960	25,190	11			3	1	3	185	1
186	22			3,534	26,095	1,860	27,096	744	27,119			2,976	25,326	11			3	1	3	186	1
187	22			3,553	26,235	1,870	27,242	748	27,265			2,992	25,462	11			3	1	3	187	1
188	22			3,572	26,376	1,880	27,388	752	27,410			3,008	25,598	11			3				

(To be continued)

(Continued from preceding sheet)

RAID group	Cache (GB)	Storage Capacity (GB)												Number of necessary options						
		Open System								Mainframe System				DKC options				DKU options		
		OPEN-3 (2.461GB)		OPEN-9 (7.384GB)		OPEN-E (14.568GB)		OPEN-L (36.450GB)		3390-3/3R (2.838GB)		3390-9 (8.510GB)		F460I -2048	F460I -S512	F460I -200	F460I -L1C	455I -18	F455I -72J4	F455I -EXC
		VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap	VOL	Cap							
195	22			3,705	27,358	1,950	28,408	780	28,431			3,120	26,551	11		3	1	4	195	2
196	22			3,724	27,498	1,960	28,553	784	28,577			3,136	26,687	11		3	1	4	196	2
197	22			3,743	27,638	1,970	28,699	788	28,723			3,152	26,824	11		3	1	4	197	2
198	22			3,762	27,779	1,980	28,845	792	28,868			3,168	26,960	11		3	1	4	198	2
199	22			3,781	27,919	1,990	28,990	796	29,014			3,184	27,096	11		3	1	4	199	2
200	22			3,800	28,059	2,000	29,136	800	29,160			3,200	27,232	11		3	1	4	200	2
201	22			3,819	28,199	2,010	29,282	804	29,306			3,216	27,368	11		3	1	4	201	2
202	22			3,838	28,340	2,020	29,427	808	29,452			3,232	27,504	11		3	1	4	202	2
203	22			3,857	28,480	2,030	29,573	812	29,597			3,248	27,640	11		3	1	4	203	2
204	22			3,876	28,620	2,040	29,719	816	29,743			3,264	27,777	11		3	1	4	204	2
205	22			3,895	28,761	2,050	29,864	820	29,889			3,280	27,913	11		3	1	4	205	2
206	22			3,914	28,901	2,060	30,010	824	30,035			3,296	28,049	11		3	1	4	206	2
207	22			3,933	29,041	2,070	30,156	828	30,181			3,312	28,185	11		3	1	4	207	2
208	22			3,952	29,182	2,080	30,301	832	30,326			3,328	28,321	11		3	1	4	208	2
209	22			3,971	29,322	2,090	30,447	836	30,472			3,344	28,457	11		3	1	4	209	2
210	22			3,990	29,462	2,100	30,593	840	30,618			3,360	28,594	11		3	1	4	210	2
211	22			4,009	29,602	2,110	30,738	844	30,764			3,376	28,730	11		3	1	4	211	2
212	22			4,028	29,743	2,120	30,884	848	30,910			3,392	28,866	11		3	1	4	212	2
213	22			4,047	29,883	2,130	31,030	852	31,055			3,408	29,002	11		3	1	4	213	2
214	22			4,066	30,023	2,140	31,176	856	31,201			3,424	29,138	11		3	1	4	214	2
215	22			4,085	30,164	2,150	31,321	860	31,347			3,440	29,274	11		3	1	4	215	2
216	22			4,104	30,304	2,160	31,467	864	31,493			3,456	29,411	11		3	1	4	216	2
217	22			4,123	30,444	2,170	31,613	868	31,639			3,472	29,547	11		3	1	4	217	2
218	22			4,142	30,585	2,180	31,758	872	31,784			3,488	29,683	11		3	1	4	218	2
219	22			4,161	30,725	2,190	31,904	876	31,930			3,504	29,819	11		3	1	4	219	2
220	22			4,180	30,865	2,200	32,050	880	32,076			3,520	29,955	11		3	1	4	220	2
221	22			4,199	31,005	2,210	32,195	884	32,222			3,536	30,091	11		3	1	4	221	2
222	22			4,218	31,146	2,220	32,341	888	32,368			3,552	30,228	11		3	1	4	222	2
223	22			4,237	31,286	2,230	32,487	892	32,513			3,568	30,364	11		3	1	4	223	2
224	22			4,256	31,426	2,240	32,632	896	32,659			3,584	30,500	11		3	1	4	224	2
225	22			4,275	31,567	2,250	32,778	900	32,805			3,600	30,636	11		3	1	4	225	2
226	22			4,294	31,707	2,260	32,924	904	32,951			3,616	30,772	11		3	1	4	226	2
227	22			4,313	31,847	2,270	33,069	908	33,097			3,632	30,908	11		3	1	4	227	2
228	22			4,332	31,987	2,280	33,215	912	33,242			3,648	31,044	11		3	1	4	228	2
229	22			4,351	32,128	2,290	33,361	916	33,388			3,664	31,181	11		3	1	4	229	2
230	22			4,370	32,268	2,300	33,506	920	33,534			3,680	31,317	11		3	1	4	230	2
231	22			4,389	32,408	2,310	33,652	924	33,680			3,696	31,453	11		3	1	4	231	2
232	22			4,408	32,549	2,320	33,798	928	33,826			3,712	31,589	11		3	1	4	232	2
233	22			4,427	32,689	2,330	33,943	932	33,971			3,728	31,725	11		3	1	4	233	2
234	22			4,446	32,829	2,340	34,089	936	34,117			3,744	31,861	11		3	1	4	234	2
235	22			4,465	32,970	2,350	34,235	940	34,263			3,760	31,998	11		3	1	4	235	2
236	22			4,484	33,110	2,360	34,380	944	34,409			3,776	32,134	11		3	1	4	236	2
237	22			4,503	33,250	2,370	34,526	948	34,555			3,792	32,270	11		3	1	4	237	2
238	22			4,522	33,390	2,380	34,672	952	34,700			3,808	32,406	11		3	1	4	238	2
239	22			4,541	33,531	2,390	34,818	956	34,846			3,824	32,542	11		3	1	4	239	2
240	22			4,560	33,671	2,400	34,963	960	34,992			3,840	32,678	11		3	1	4	240	2
241	22			4,579	33,811	2,410	35,109	964	35,138			3,856	32,815	11		3	1	4	241	2
242	22			4,598	33,952	2,420	35,255	968	35,284			3,872	32,951	11		3	1	4	242	2
243	22			4,617	34,092	2,430	35,400	972	35,429			3,888	33,087	11		3	1	4	243	2
244	22			4,636	34,232	2,440	35,546	976	35,575			3,904	33,223	11		3	1	4	244	2
245	22			4,655	34,373	2,450	35,692	980	35,721			3,920	33,359	11		3	1	4	245	2
246	22			4,674	34,513	2,460	35,837	984	35,867			3,936	33,495	11		3	1	4	246	2
247	22			4,693	34,653	2,470	35,983	988	36,013			3,952	33,632	11		3	1	4	247	2
248	22			4,712	34,793	2,480	36,129	992	36,158			3,968	33,768	11		3	1	4	248	2
249	22			4,731	34,934	2,490	36,274	996	36,304			3,984	33,904	11		3	1	4	249	2
250	22			4,750	35,074	2,500	36,420	1,000	36,450			4,000	34,040	11		3	1	4	250	2
251	22			4,769	35,214	2,510	36,566	1,004	36,596			4,016	34,176	11		3	1	4	251	2
252	22			4,788	35,355	2,520	36,711	1,008	36,742			4,032	34,312	11		3	1	4	252	2
253	22			4,807	35,495	2,530	36,857	1,012	36,887			4,048	34,448	11		3	1	4	253	2
254	22			4,826	35,635	2,540	37,003	1,016	37,033			4,064	34,585	11		3	1	4	254	2

*1: The number of the Shard Memory option(DKC-F460I-S512) necessary is refer to table 1.1.2-3A and 1.1.2-3B.

Please note that location of shared memory varies according to the purpose such as additional cache installation or additional LDEV installation.

Note: In addition to the Options listed in above table as necessary parts, the Power Cable Kit option, the AC Box Kit option and the Channel options are required.