

***[Channel Board (CHB)  
REPLACEMENT  
PROCESSING - RCHB]***

## 1. Replacing a Channel Board (CHB)

NOTE: This maintenance work stops I/O from the host connected to the Channel Board to be replaced. Since the alternate path setting might be required, consult with the customer, and then perform the work.

1. Connecting the Maintenance PC

Connect the Maintenance PC to the SSVP, and then log in to the SVP.

- “Attachment/Removal Procedure of Maintenance PC” ([INST\(IN\)13-02-10](#))
- “Connection to the SVP” ([SVP01-30](#))

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2. Starting the SVP window

From the menu of Web Console, click [Maintenance Components] - [Maintenance Other Components].

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3. Changing the operation mode

Change the mode to [View Mode].

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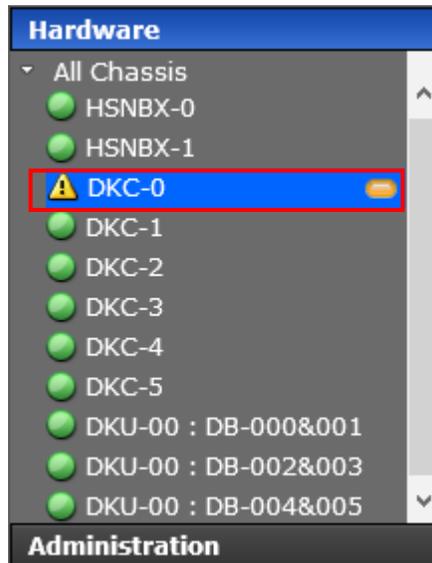
4. Starting Maintenance Utility

In the SVP window, click [Maintenance Utility]. (See “Starting Maintenance Utility” ([MU01-10](#)).)

## 5. Selecting replacement parts by Maintenance Utility.

## (1) &lt;Main window&gt;

Select [Controller Chassis] in the main window.



## (2) &lt;Controller Chassis window&gt;

Click the [CHBs] tab in the Controller Chassis window to display a Channel Board status.

See “Alert Display Related to FRU (Field Replacement Unit)” (MU02-10) for [Status].

The screenshot shows the 'Controller Chassis (DKC-0)' window. The 'CHBs' tab is selected. The window displays a physical layout of the chassis with 'Front' and 'Back' views. Below the layout is a table of Channel Board (CHB) status.

Location	Status	Type	SFP Status	DKC Emulation	LDKC:CU Number
CHB-01A	Normal	32G Ready 4Port FC [4HF32R]	Warning	-	-
CHB-01B	Warning	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-01E	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107	1E : 00:00-00:FE
CHB-01F	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107-TPF	1G : 00:00-00:3F
CHB-02A	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02B	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02E	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02F	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-

## (3) &lt;Select Channel Board&gt;

Select a Channel Board to be replaced. Click [Replace].

Location	Status	Type	SFP Status	DKC Emulation	LDKC:CU Number
<input type="radio"/> CHB-01A	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
<input checked="" type="radio"/> CHB-01B	Warning	32G Ready 4Port FC [4HF32R]	Normal	-	-
<input type="radio"/> CHB-01E	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107	1E : 00:00-00:FE
<input type="radio"/> CHB-01F	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107-TPF	1G : 00:00-00:3F
<input type="radio"/> CHB-02A	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
<input type="radio"/> CHB-02B	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
<input type="radio"/> CHB-02E	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
<input type="radio"/> CHB-02F	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-

## (4) &lt;Block Channel Board&gt;

### ! CAUTION

About "Forcibly run without safety checks":

If you check this checkbox and execute the maintenance, the system may go down. Do not check it unless instructed by the message, the manual or the contact described in the manual.

About "Forcibly block":

If you check this checkbox and execute the maintenance, the system may go down. Do not check it unless instructed by the contact described in the manual.

When the remote copy (True Copy, Universal Replicator, and global-active device) is used in the target storage system, see "Note on Deleting Remote Paths" ([REP\(GE\)01-60](#)).

When Universal Volume Manager is used for the target storage system, see "Notes on Maintenance Work for the Storage System for which External Paths Are Configured" ([REP\(GE\)01-61](#)).

Click [Block] after checking that the Channel Board to be replaced is correct.

If a message other than the described is displayed, refer to Message Section (MSG00-00).

NOTE : The error list window is displayed if multiple errors are detected by the prior check.

If it is displayed, click the text of "Error Code" and recover the failures or the blockade in accordance with the details of the displayed errors.

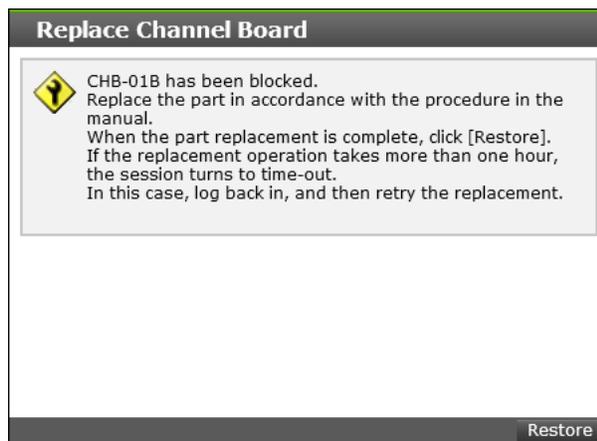


(5) <Check the beginning of Channel Board replacement>

Check that the Channel Board is blocked and becomes ready for replacing.

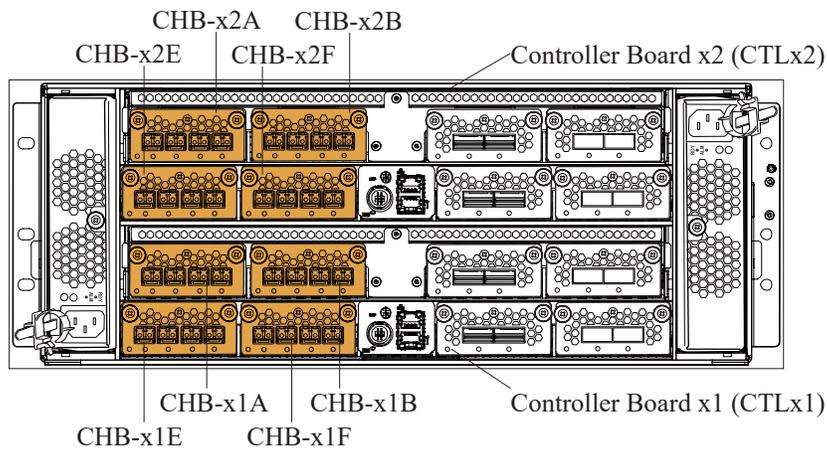
NOTE : Do not click [Restore] at this time.

Click [Restore] after completing the replacement work.



## 6. Channel Board Replacement Processing

Location	Replacement parts name	Part Name
Rear of DKC	1 Channel Board	<ul style="list-style-type: none"> <li>• CHB (32 G Ready 4Port FC) (4HF32R)</li> <li>• CHB (10 G 2Port iSCSI(Optic)) (2HS10S)</li> <li>• CHB (16 G 4Port Mainframe Fibre SW) (4MS16)</li> <li>• CHB (16 G 4Port Mainframe Fibre LW) (4ML16)</li> </ul>



Rear view of DKC-x

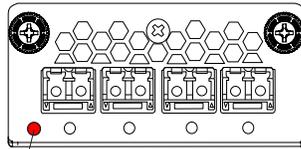
\*1: DKC-x  
 ↳DKC No. (0, 1, 2, ..... , 5)

NOTE: The above illustrations are for VSP 5500 and VSP 5500H. For VSP 5100 and VSP 5100H, only CTL01 and CTL12 are installed.

**NOTICE:** To prevent part failures caused by static electrical charge built up on your own body, be sure to wear a wrist strap connected to the Storage System before starting and do not take it off until you finish. Refer to "Note on Installing and Removing Parts" ([REP\(GE\)01-30](#)).

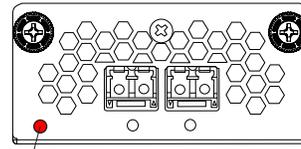
- (1) Check that the STATUS LED (red) on the Channel Board to be replaced lights up. When the LED does not light up, check the location of the Channel Board to be replaced in the Maintenance Utility window.

Figure 1-1 STATUS LED Location



STATUS LED

For 16 G (4 port) FICON/16, 32 G (4 port)  
FC Channel Board

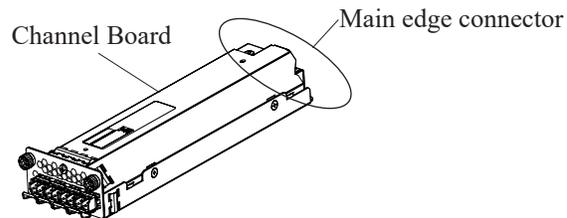


STATUS LED

For 10 G iSCSI (Optic) Channel Board

- (2) Remove the cables from the Channel Board to be replaced.
- (3) Replace the Channel Board.

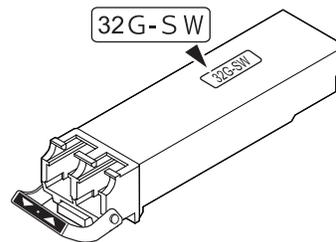
**NOTICE:** When removing the Channel Board, hold it with both hands and remove it straight not to apply a shock to with any components.



**NOTICE:** If Channel Boards are inserted randomly, malfunction may occur. Therefore, insert the Channel Boards in two steps, [Step \(d\)](#) and [Step \(e\)](#) shown below.

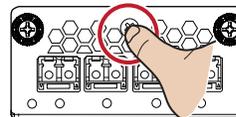
- (a) Loosen the two screws (blue) which fix the Channel Board.
- (b) Pull out and remove the Channel Board while holding the screws (blue).
- (c) Move the Small Form-Factor Pluggable (SFP).  
If the following condition is met, mount the Small Form-Factor Pluggable (SFP) in the removed Channel Board (CHB) on a new Channel Board (CHB). If the following condition is not met, go to [Step \(d\)](#) without mounting the Small Form-Factor Pluggable (SFP).  
[When replacing 32 Gbps/16 Gbps (4-port) CHB]
  - (i) Pull the Small Form-Factor Pluggable (SFP) lever down toward you and pull out the Small Form-Factor Pluggable (SFP) from the removed CHB.  
If you cannot remove the Small Form-Factor Pluggable (SFP), pull it out while pushing the lever open toward you.
  - (ii) Check the insertion direction of the Small Form-Factor Pluggable (SFP) removed in [Step \(i\)](#), and insert it into the same location on the new CHB until it clicks.

The label "32G-SW" is attached to the 32 Gbps Small Form Factor Pluggable (SFP).



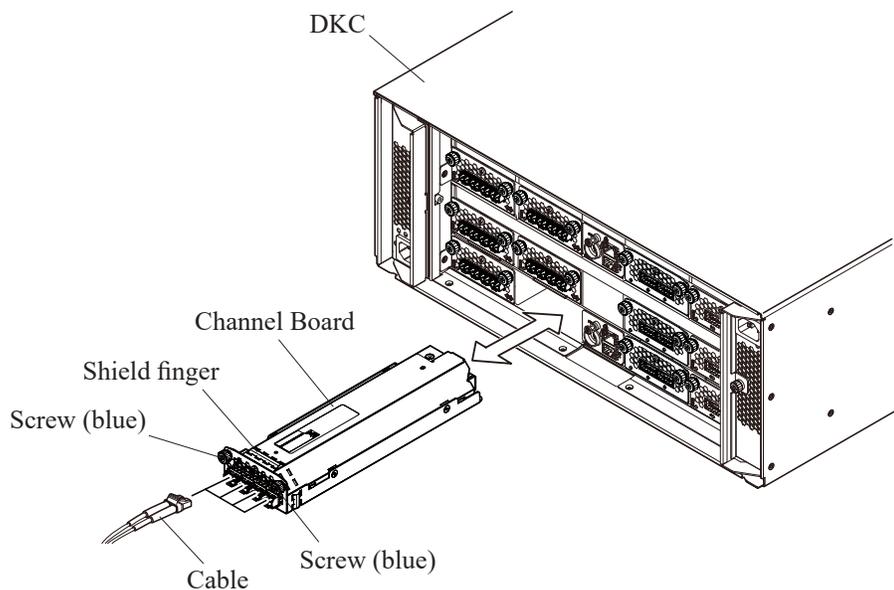
- (d) Insert the Channel Boards to be added into the slots just before the shield finger.
- (e) Push the Channel Boards gently all the way in.

**NOTICE:** Push the front side of the Channel Board all the way to insert it to the end.



- (f) Tighten the two screws (blue) to fix the Channel Board.

Figure 1-2 Replacement of Channel Board (DKC)



- (4) Check the state of cable connectors.

NOTE:

- If there is foreign matter or dust, remove it with cut gauze.
- If you find a deformation, break, or the like, replace the cable with a spare part.

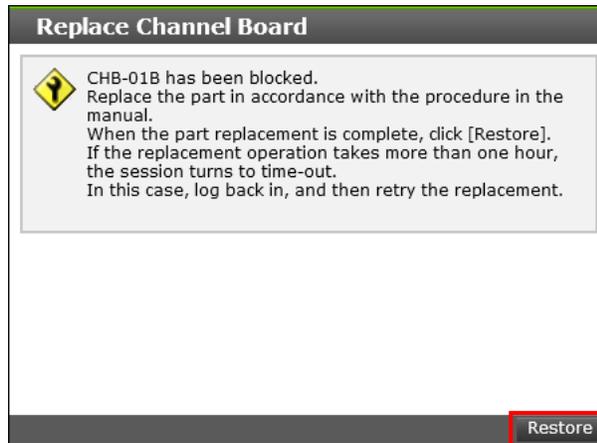
- (5) Connect the cables to the replaced Channel Board.

NOTE: Check that cable latch clicks and the cables are surely connected.

## 7. Restoring replacement parts by Maintenance Utility

### (1) <Restore replacement parts>

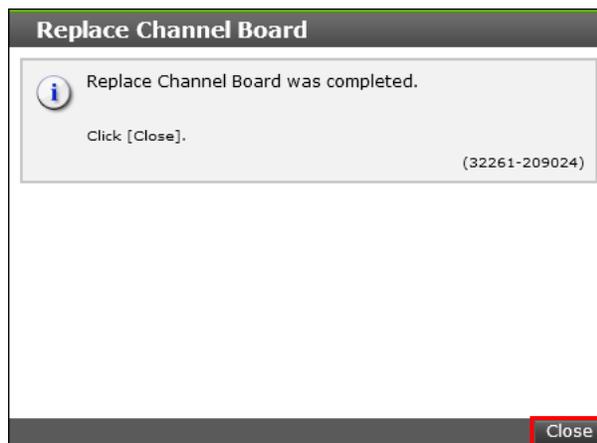
Click [Restore].



### (2) <Check replacement parts restoration>

Check that the following message is displayed and click [Close].

If a message other than the described is displayed, refer to Message Section [\(MSG00-00\)](#).



## (3) &lt;Check Channel Board restoration&gt;

Click the [CHBs] tab in the Controller Chassis window and check that a Status of the replaced Channel Board is “Normal”.

Location	Status	Type	SFP Status	DKC Emulation	LDKC:CU Number
CHB-01A	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-01B	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-01E	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107	1E : 00:00-00:FE
CHB-01F	Normal	16G 4Port Mainframe Fibre [4Mx16]	Normal	I-2107-TPF	1G : 00:00-00:3F
CHB-02A	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02B	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02E	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-
CHB-02F	Normal	32G Ready 4Port FC [4HF32R]	Normal	-	-

## 8. Closing Maintenance Utility

(1) Click [Logout] to close the window.

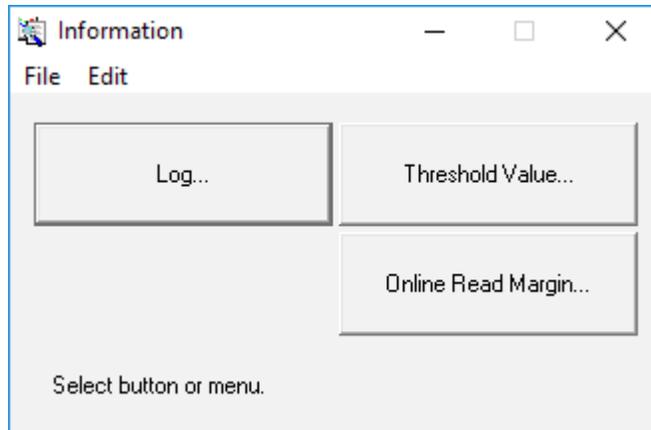
(2) <Get the error information>

Collect small system dumps by referring to “Dump/Auto Dump” ([SVP02-09-10](#)).

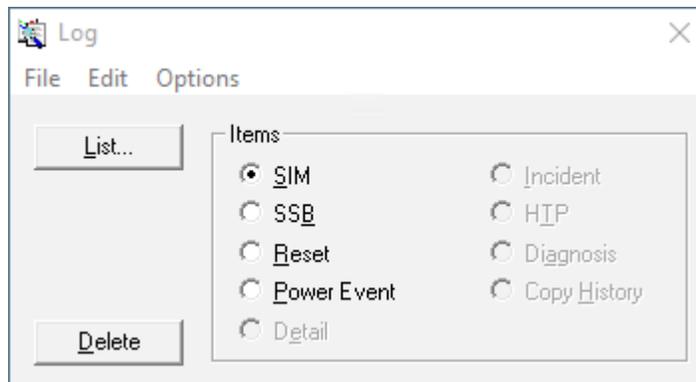
(3) Refer to the “Use of OnlineDumpTool” ([SVP02-21-10](#)), please upload the error information.

## 9. Completing the SIM log

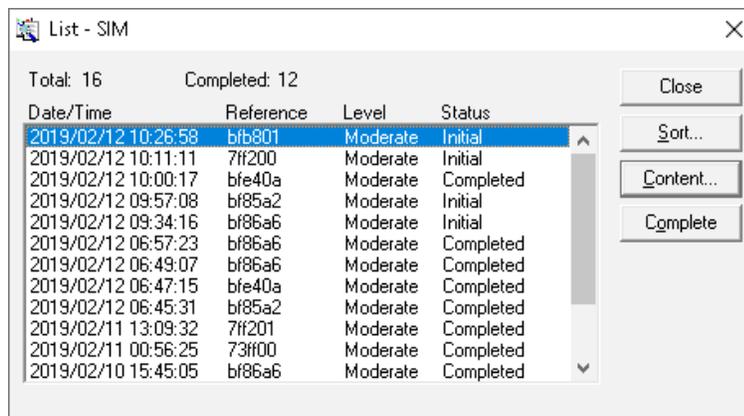
- (1) Change the mode to [Modify Mode], and then select [Information].
- (2) In the Information window, click [Log...].



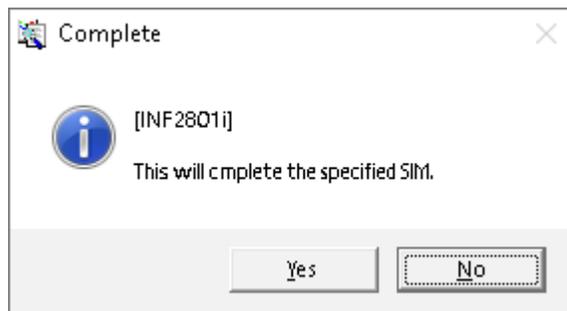
- (3) In the Log window, select [SIM] and then [List...].



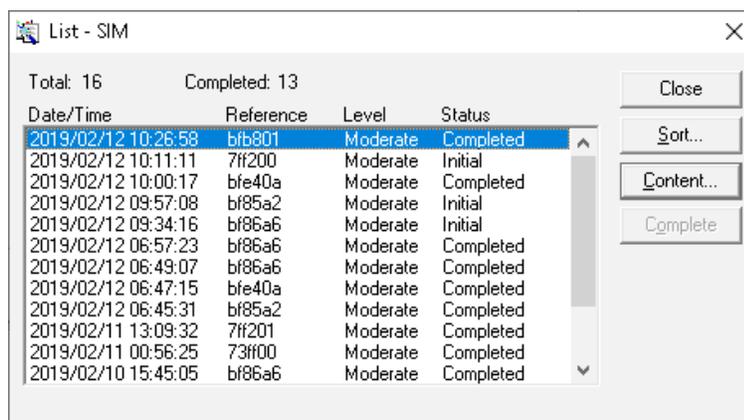
- (4) In the List-SIM window, select the data for which you end the process, and then click [Complete].



- (5) In the Complete window, click [Yes].



- (6) In the List-SIM window, confirm that the “Status” of the data has become “Completed”.



- (7) In the List-SIM window, click [Close].

Close the Log window, then the Information window.

Change the mode from [Modify Mode] to [View Mode].

NOTE: If the MESSAGE LED is lit on the HSNPANEL after you complete all SIMs, display SIMs to check that SIM statuses are “Completed”. If SIM statuses are not “Completed”, wait for five minutes, and then perform the procedure for completing the SIM log again.

## 10. Checking Normality

Perform the normality check according to “Checking Normality (TRBL02-06-10)”.