DF500

Disk Array Subsystem

Maintenance Manual

~for WEB~

REV.5

Read this manual carefully and keep it.
• Before starting operation, read the safety instructions carefully and fully understand them. • After reading this manual, keep it at hand for your reference.

HITACHI

Preface

In this manual, the operation procedure of WEB is explained for the maintenance personnel who maintains the DF500 Disk array device.

Cautionary Notes

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- This manual may be revised without prior notice.
- The disk array is a “class 1 laser system” which emits no hazardous laser beam. Be sure to operate it according to this manual. Do not perform any operations other than those written in this manual. Otherwise, unexpected failures or accidents may be caused.

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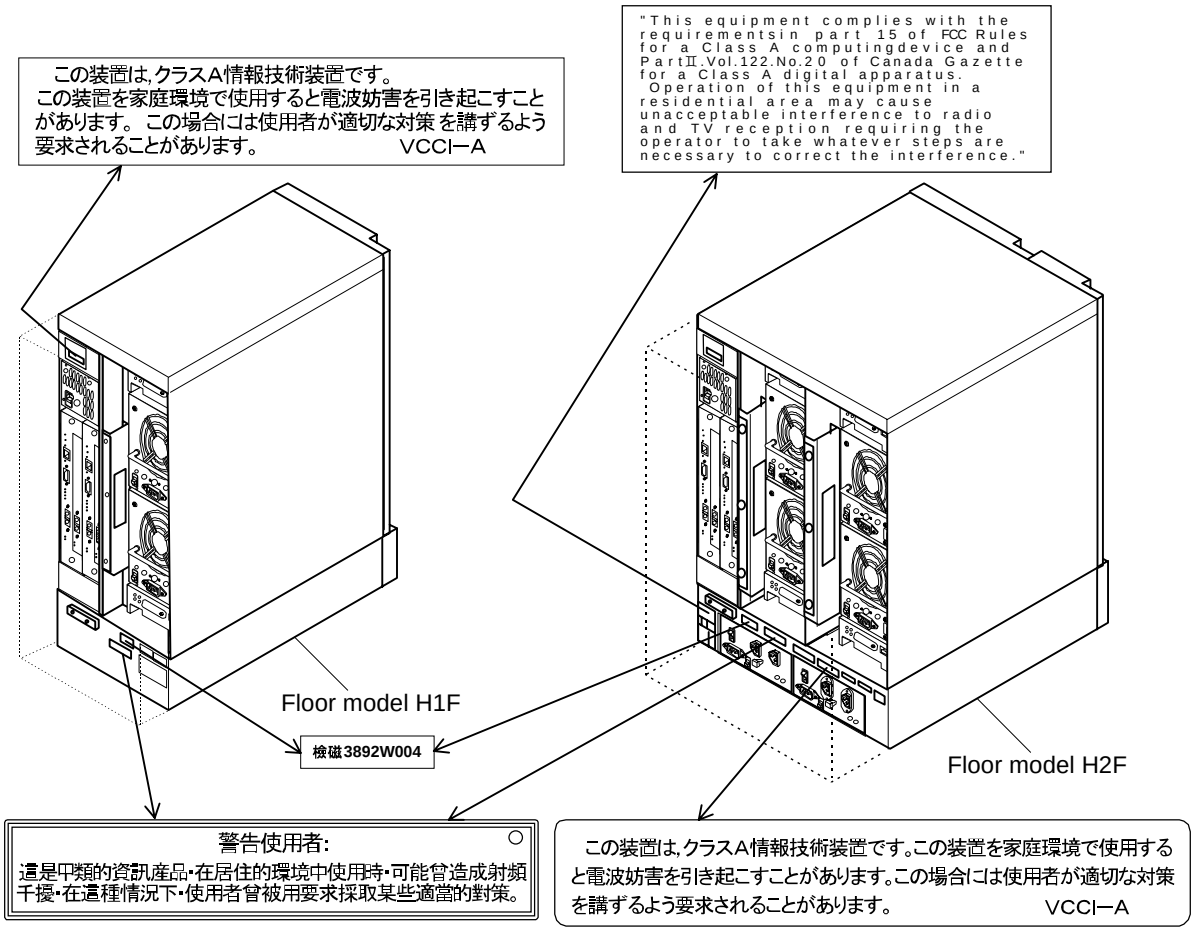
Note

EMI Regulation

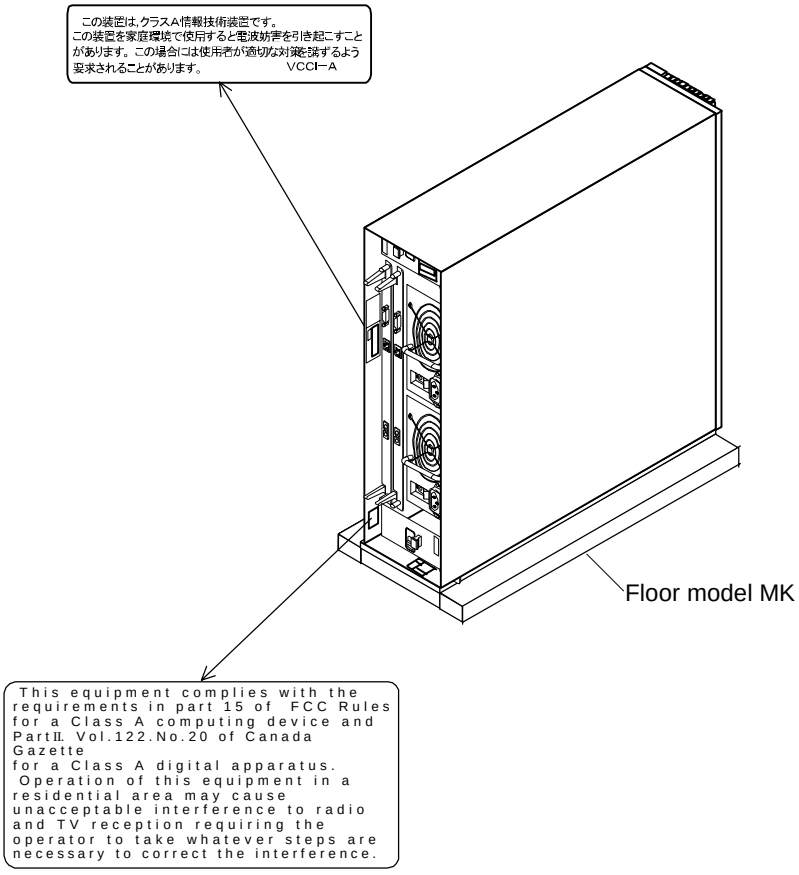
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense. Testing was done with shielded cables. Therefore, in order to comply with the FCC regulations, you must use shielded cables with you installation.

EMI Regulation Labels Affixed on the Subsystem.

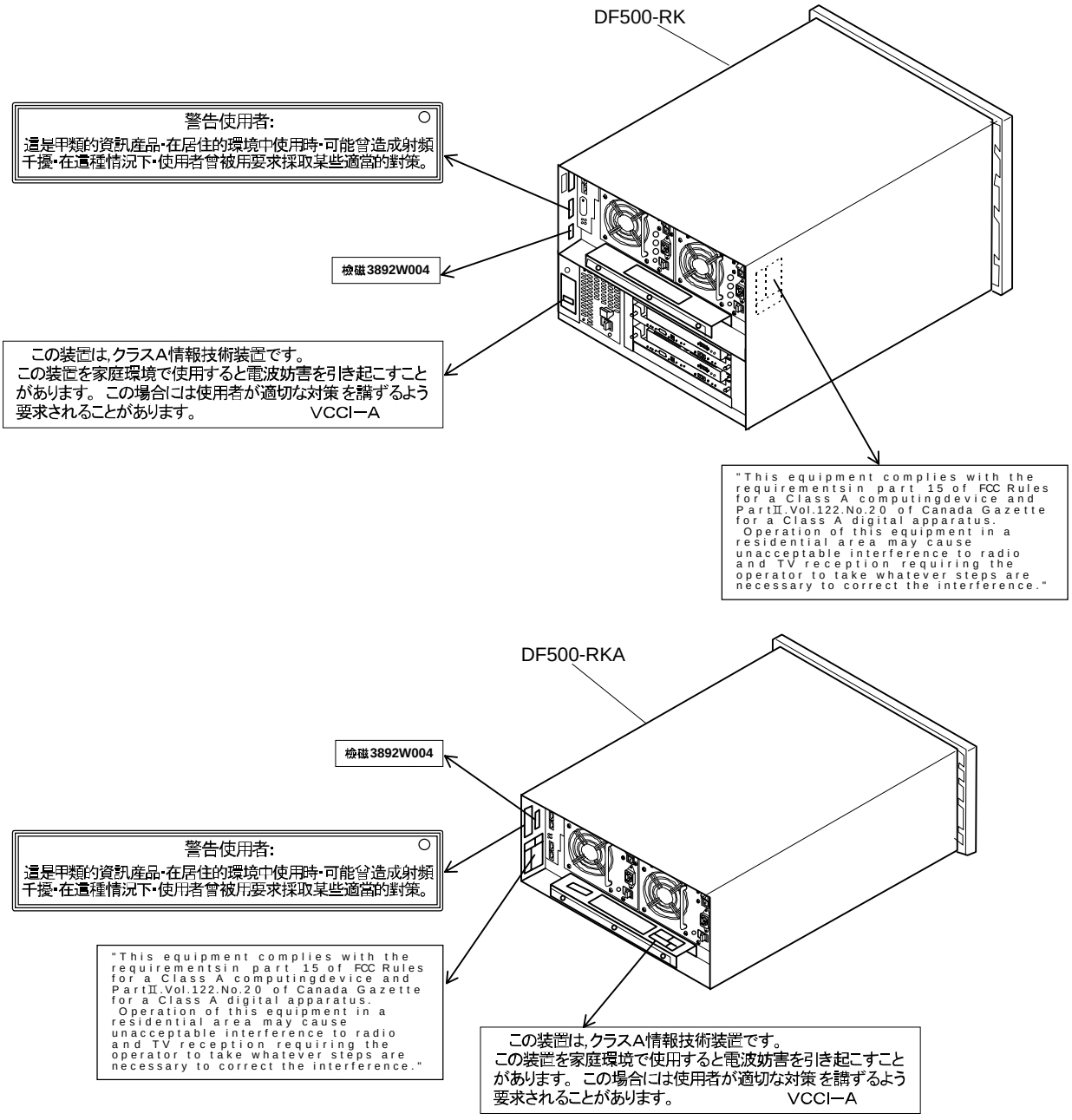
Floor model H1F/H2F



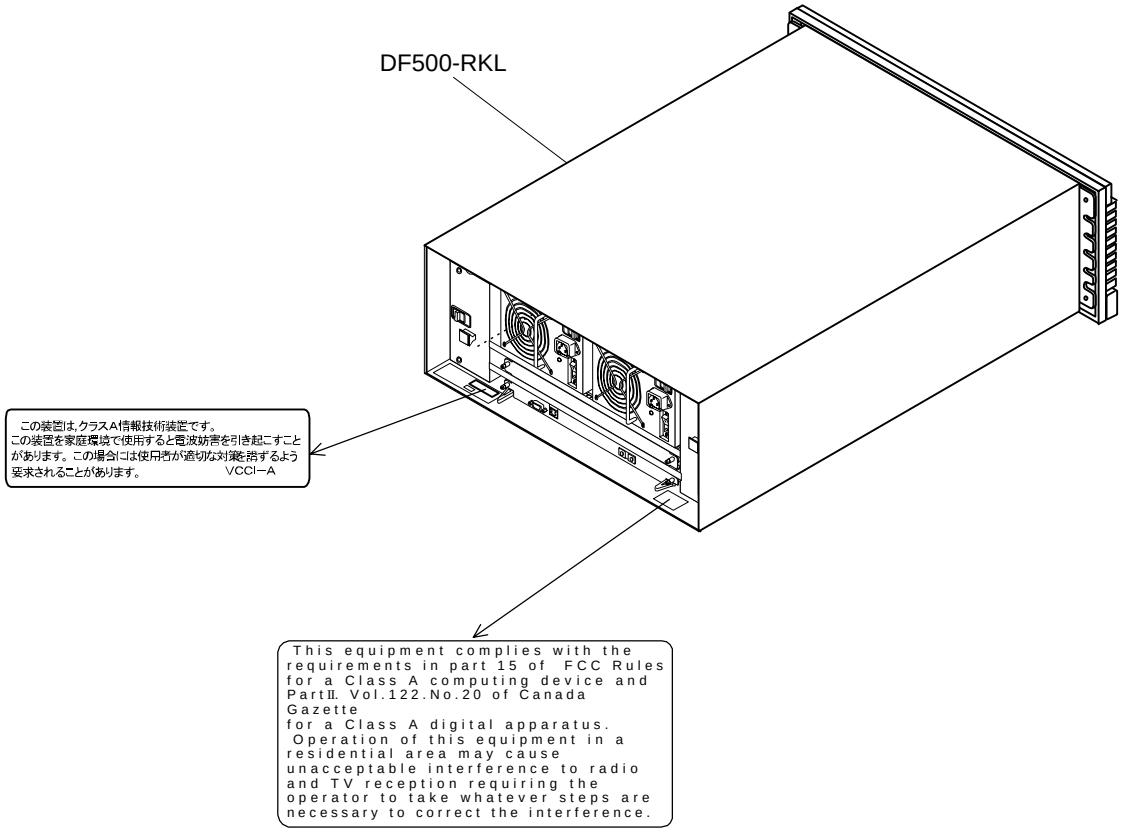
Floor model MK



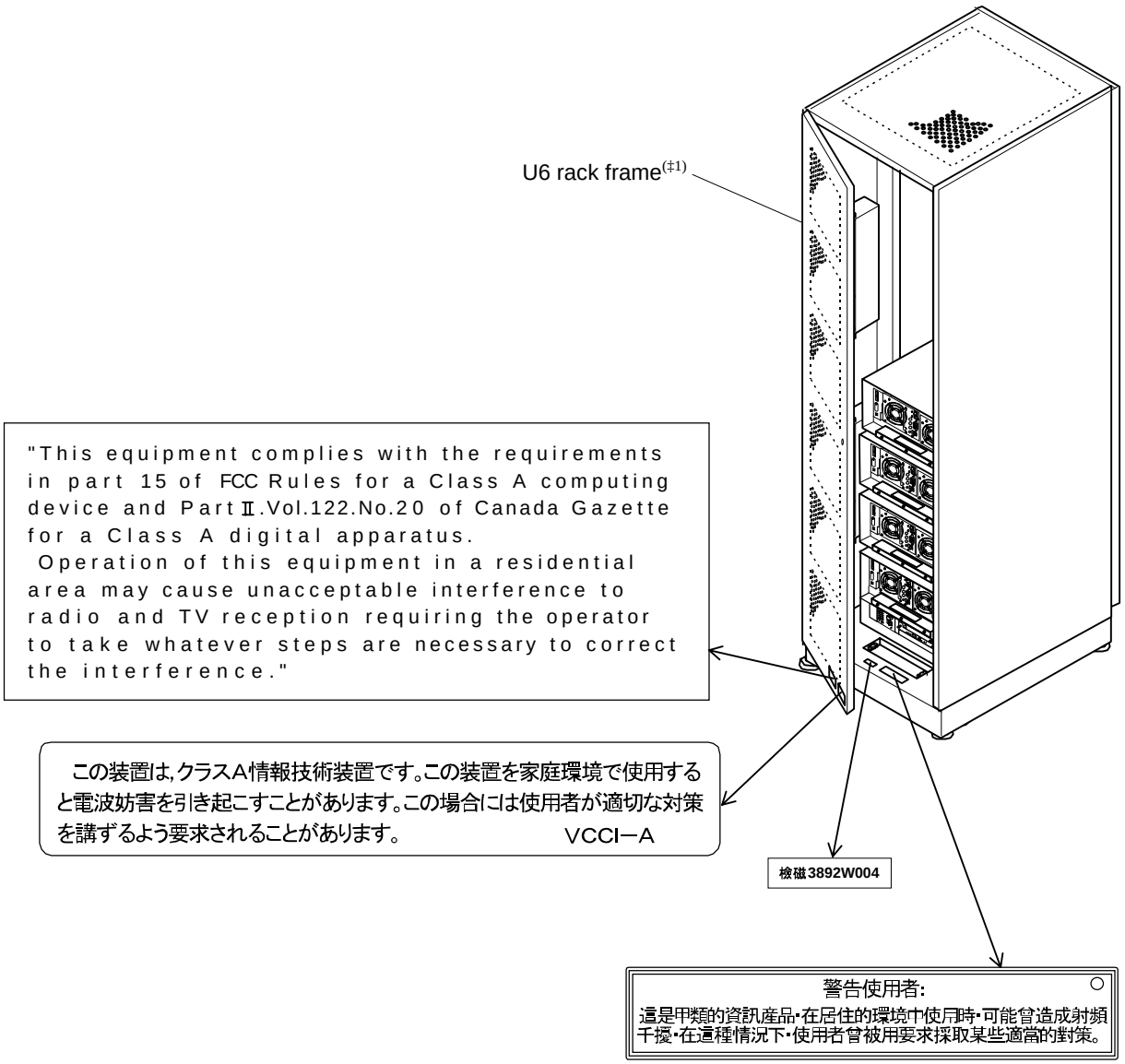
Rackmount model RK/RKA



Rackmount model RKL



Rackmount model with U6 rack frame



‡1 : The illustration shows an example of the disk array subsystem in which the DF500-RK/RKA is installed.

Contents

⚠ SAFETY SUMMARY

1. ⚠ General Safety Guidelines

Read the following safety guidelines carefully and follow them when you conduct maintenance of the machine.

Before starting maintenance

- Maintenance of the machine must be done only by trained and qualified engineers.
- Read and follow the safety guidelines and procedures in this manuals.
- In this manual and on the machine, hazard warnings are provided to aid you in preventing or reducing the risk of death, personal injury, or product damage. Understand and follow these hazard warnings fully.
- The hazard warning which appear on the warning labels on the machine or in the manual have one of the following alert signal words WARNING, or CAUTION.

⚠ **DANGER :**	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ **WARNING :**	Indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.
⚠ **CAUTION :**	Indicates a potentially hazardous situation which, if not avoided, will or can result in minor or moderate injury, or serious damage of product.
⚠	The alert symbol shown left precedes every signal word for hazard warnings, and appears in safety related descriptions in the manual.

The signal word 'NOTICE' is used to present warnings which are not directly related to personal injury hazards.

- When warning labels become dirty or start peeling off, replace them.
- Keep in mind that the hazard warnings in this manual or on the machine cannot cover every possible case, as it is impossible to predict and evaluate all circumstances beforehand.
  Be alert and use your common sense.
- This disk array is a "class 1 laser system" which emits no hazardous laser beam.
  Be sure to operate it according to this manual. Do not perform any operations other than those written in this manual. Otherwise, unexpected failures or accidents may be caused.

⚠ SAFETY SUMMARY (Continued)

During work

- For each procedure, follow the given method and sequence of steps.
- Use the spare, consumables, and materials for maintenance which are specified in the manual; otherwise, personal injury or damage of the machine, as well as deterioration of the product's quality, may result.
- Use the special tools and instruments specified for the work in the manual or commercially available tools and instruments which fit the purpose.
- Use measurement instruments and powered tools which are properly calibrated or periodically inspected.
- Keep the maintenance area neat and tidy.
- Always put away parts, materials, or tool when not in use.
- Wear an eye protector where liquid may splash or anything may fly about.
- When lifting anything heavy, lift it using your legs with your back kept erect, to prevent injury to your back or spine.
  When lifting anything, for the weight of which CAUTION is indicated, use a proper lifting tool or have somebody help you.
- Keep a soldering iron and its stand away from you to prevent accidental contact and burns.
- When using sharp objects or cutting tools, make sure that no part of your body lies in the path of the blade, or point.
- Before finishing your work, check if the subsystem is returned to its original state. (Make sure that all parts removed during maintenance have been in stalled back in their original positions in the machine. Make sure that no tool or foreign material left in the machine.)

⚠ SAFETY SUMMARY (Continued)

Prevention of electric shocks

- Before starting work, make sure that, unless otherwise specifically instructed, there is no potential electric hazard in the maintenance area such as insufficient grounding or a wet floor.
- Before starting work, note where the emergency power-off switches are located and make sure you know how to operate them.
- Unless otherwise specifically instructed, cut off all power sources to the machine before staring maintenance. Just switching off the machine power supplies is usually not enough.
  When power is fed from a wall or floor outlet, unplug the power supply cord, or turn off the switch on the power distribution panel or board. Attach a notice on the panel or board prohibiting the use of the switch.
  If the machine power has been already turned off, make sure yourself that these conditions are satisfied.
- Do not touch any uninsured conductor or surface, where so instructed, which remains charged for a limited time after the external power supply to the machine is disconnected.
- When working on a machine which has a grounding terminal, make sure that the terminals properly connected to the facility's ground.
- When working close to a hazardously energized part, do not work alone; work with another person who can immediately turn off the power in an emergency.
- Do not wear any metallic item such as a wrist watch with a metallic surface, or metallic accessories.
  If you wear eyeglasses with a metallic frame, take care not to let the frame touch an uninsured surface.
- Make sure that your hands and arms are dry.
- Unless otherwise specifically instructed, use only one hand when it is necessary to work near an exposed live electric circuit.
  This prevents the completion of the circuit through both hands even if you accidentally touch the circuit.
- Do not use a dental mirror near an exposed live electric circuit.
  The mirror surface is conductive and can become hazardous even if it is made of plastic.
- Unless otherwise specifically instructed, do not supply power to any subassembly such as a power supply unit or a motor while it is removed from the machine.

⚠ SAFETY SUMMARY (Continued)

Preventing being caught by rotating or moving parts

- Tuck in your tie, scarf, shirt, or any other loose clothing so that it will not be caught by a rotating or moving part.
- Tie up long hair.
- Unless otherwise specifically instructed, do not supply power to any device with rotating or moving parts which are not properly covered.
- When instructed to supply power to any device with rotating or moving parts whose covers have been removed, work with another person who can immediately turn off the power in an emergency.

Procedure in an emergency

For electric shock

- Do not panic. Do not become another victim through contact with the injured person.
- First, shut off the electric current passing through the victim.
  Use the emergency power-off switch, if there is one, or otherwise, a normal power-off switch. If this cannot be done, push the victim away from the source of the electric current by using a nonconductor object such as a dry wooden stick.
- Then, call an ambulance.
- If the victim is unconscious, artificial respiration may be necessary.
  A proper method for performing artificial respiration or resuscitation should be learned beforehand.
- If the victim's heart is not beating, cardiac resuscitation should be performed by a trained and qualified person.

For outbreak of fire

- First shut off all the power from the machine using the emergency power-off switch.
- If the fire continues burning after the power is shut off, take suitable actions including the use of a fire extinguisher or a call for the fire department.

⚠ SAFETY SUMMARY (Continued)

2. ⚠ Hazard Warning Statements

The following are the hazard warning statements contained in this manual.

2.1 ⚠ DANGER statements

No DANGER statement is contained.

2.2 ⚠ WARNING statements

No WARNING statement is contained.

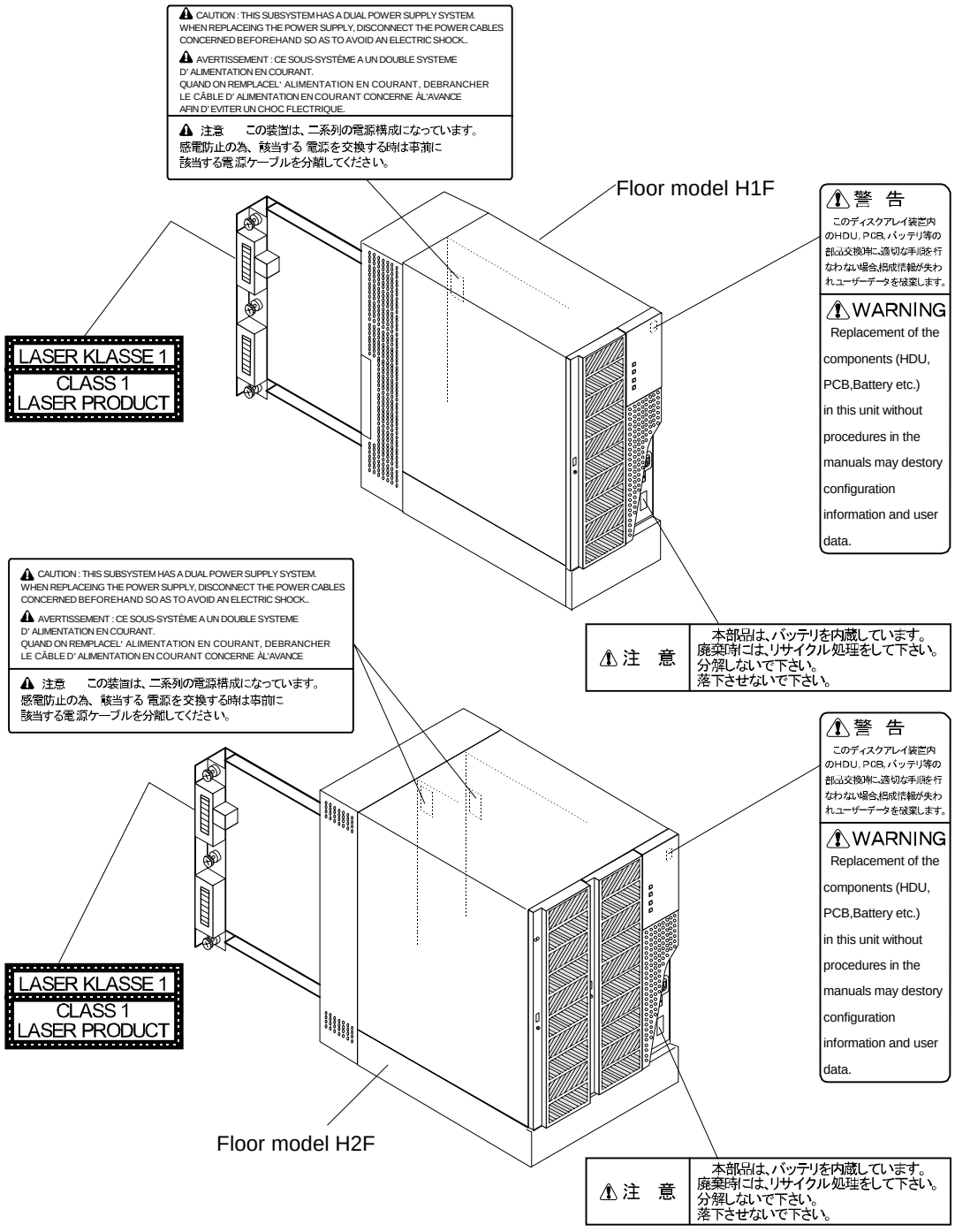
2.3 ⚠ CAUTION statements

No WARNING statement is contained.

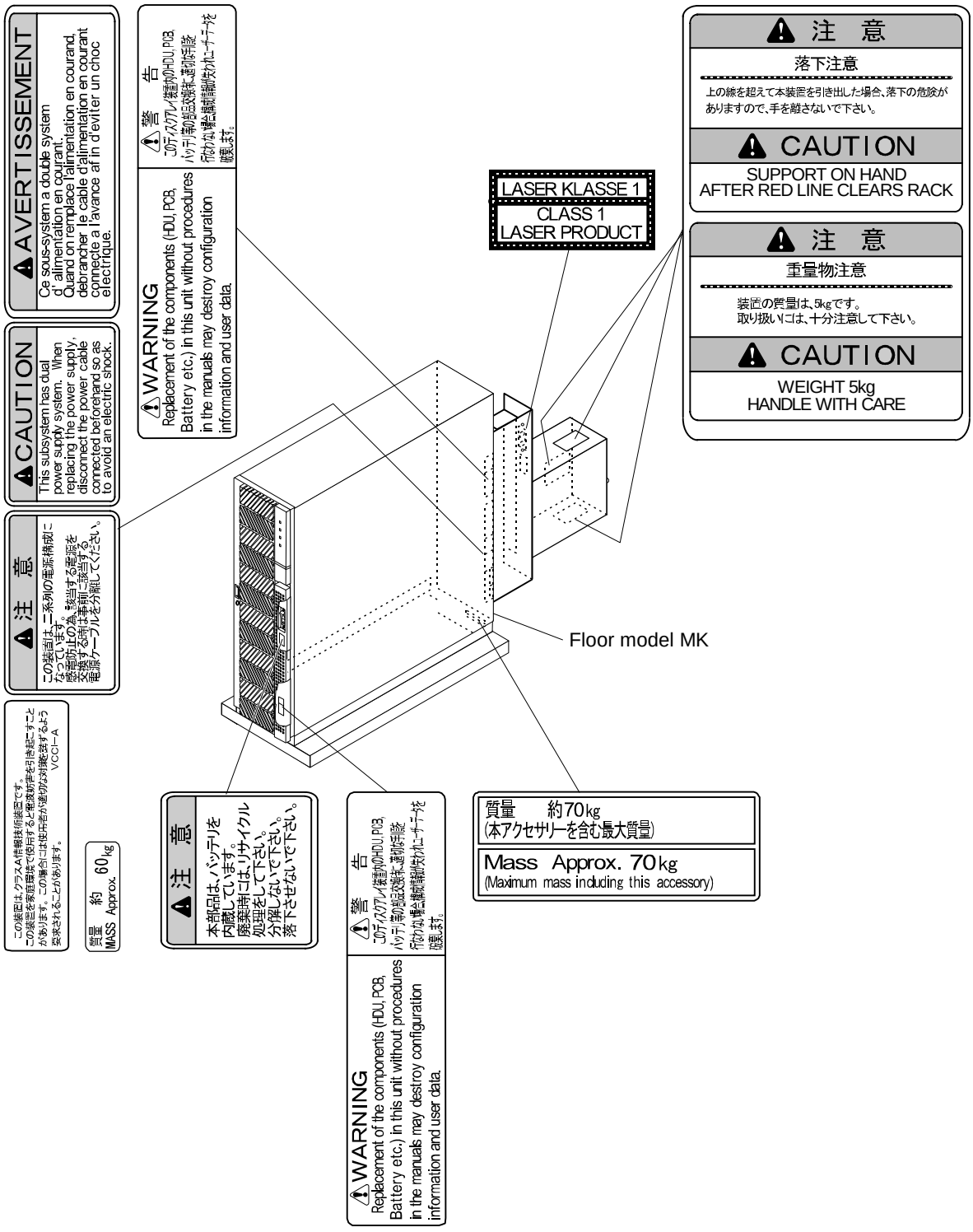
⚠ SAFETY SUMMARY (Continued)

3. ⚠ Warning Labels Affixed on the Subsystem

3.1 Floor model (H1F/H2F/MK)

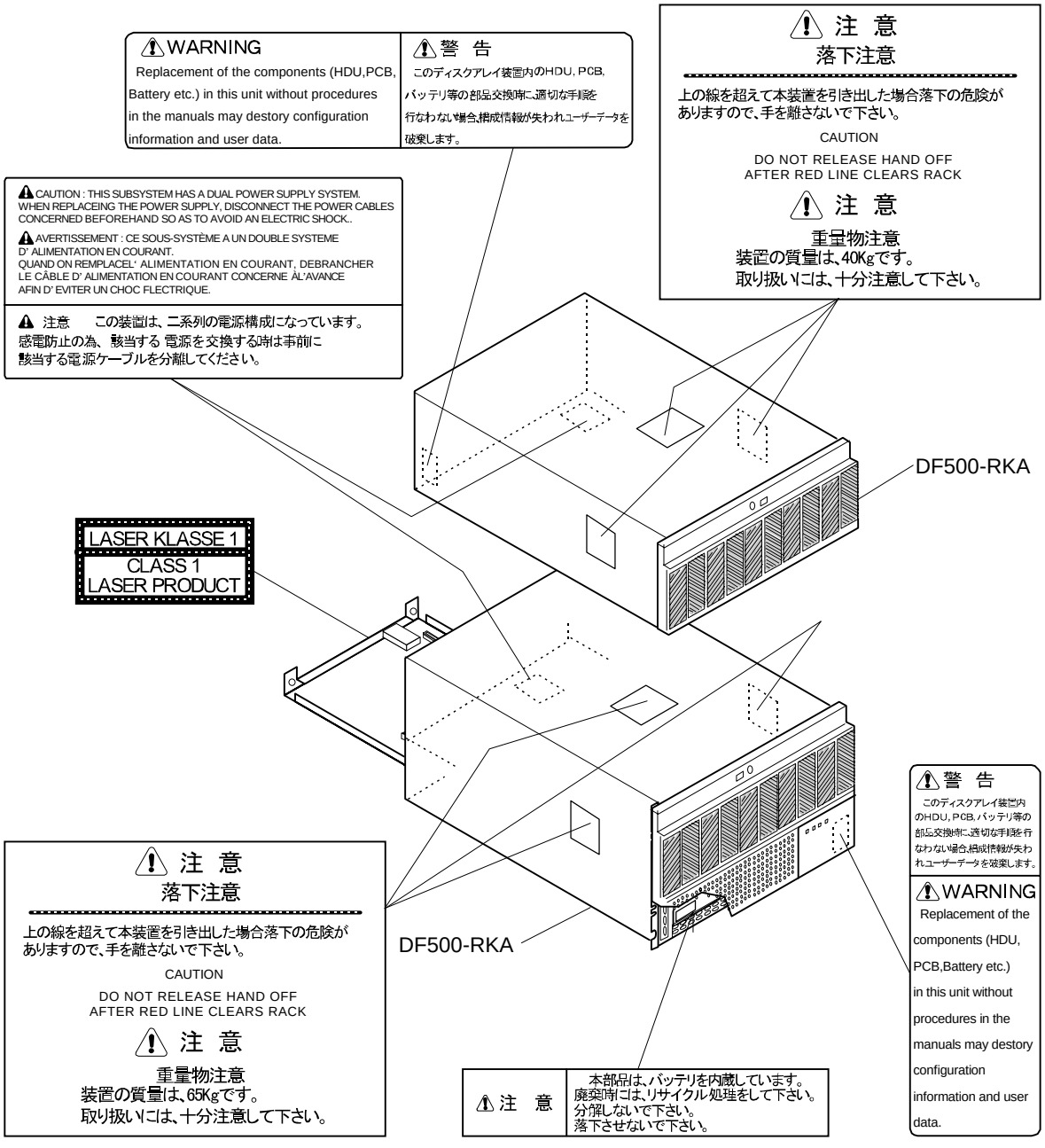


⚠ SAFETY SUMMARY (Continued)

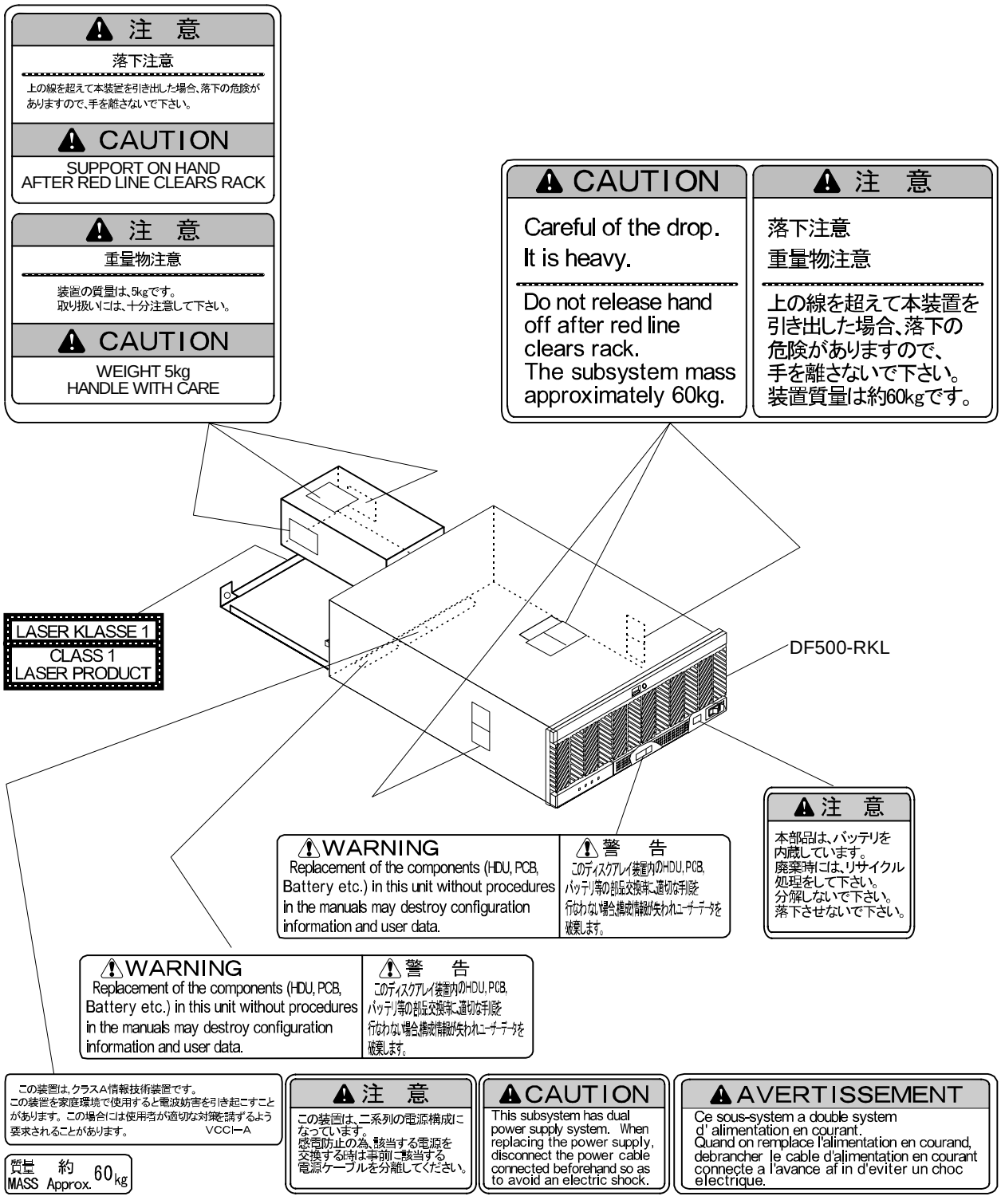


⚠ SAFETY SUMMARY (Continued)

3.2 Rackmount model (RK/RKA/RKL)

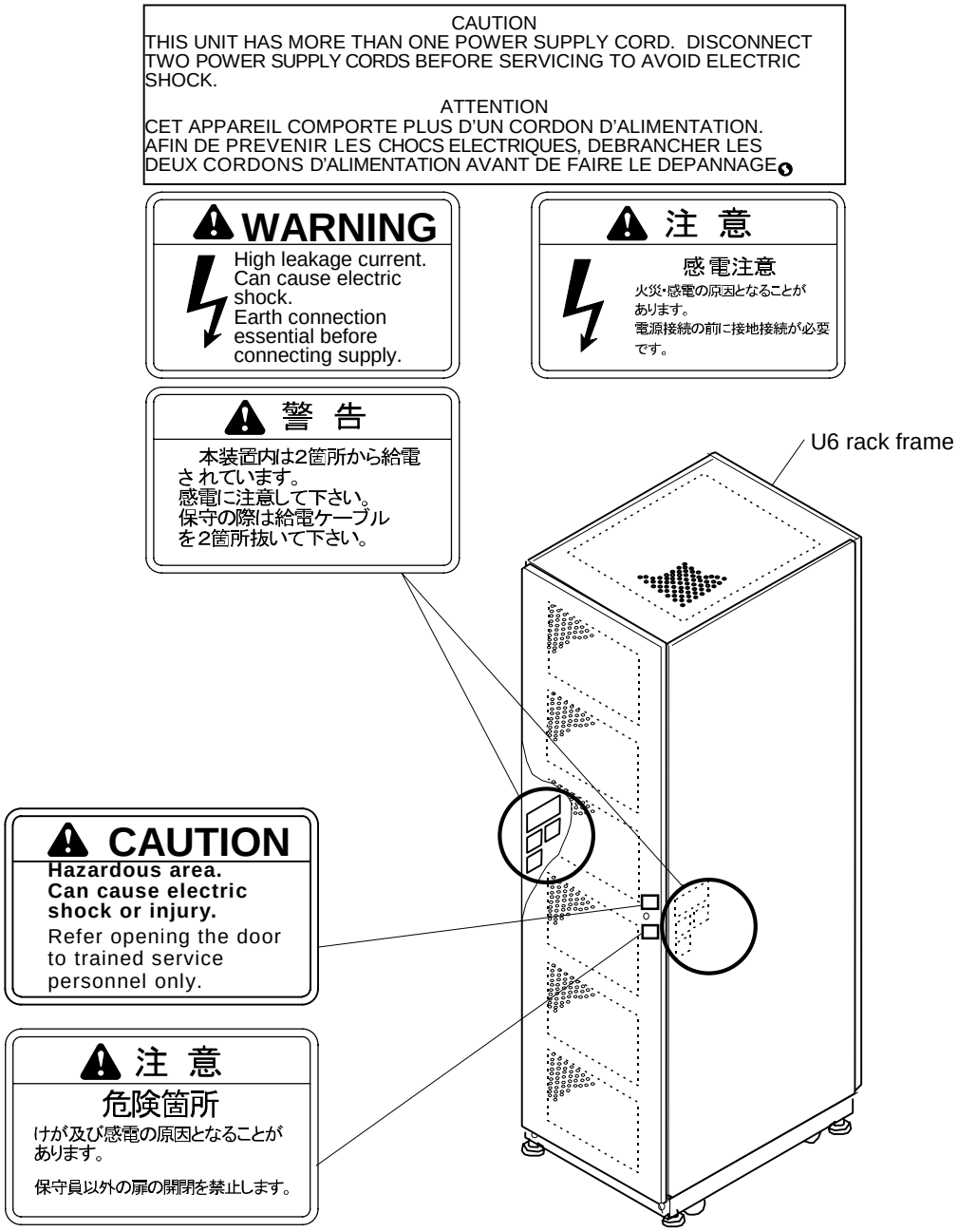


⚠ SAFETY SUMMARY (Continued)



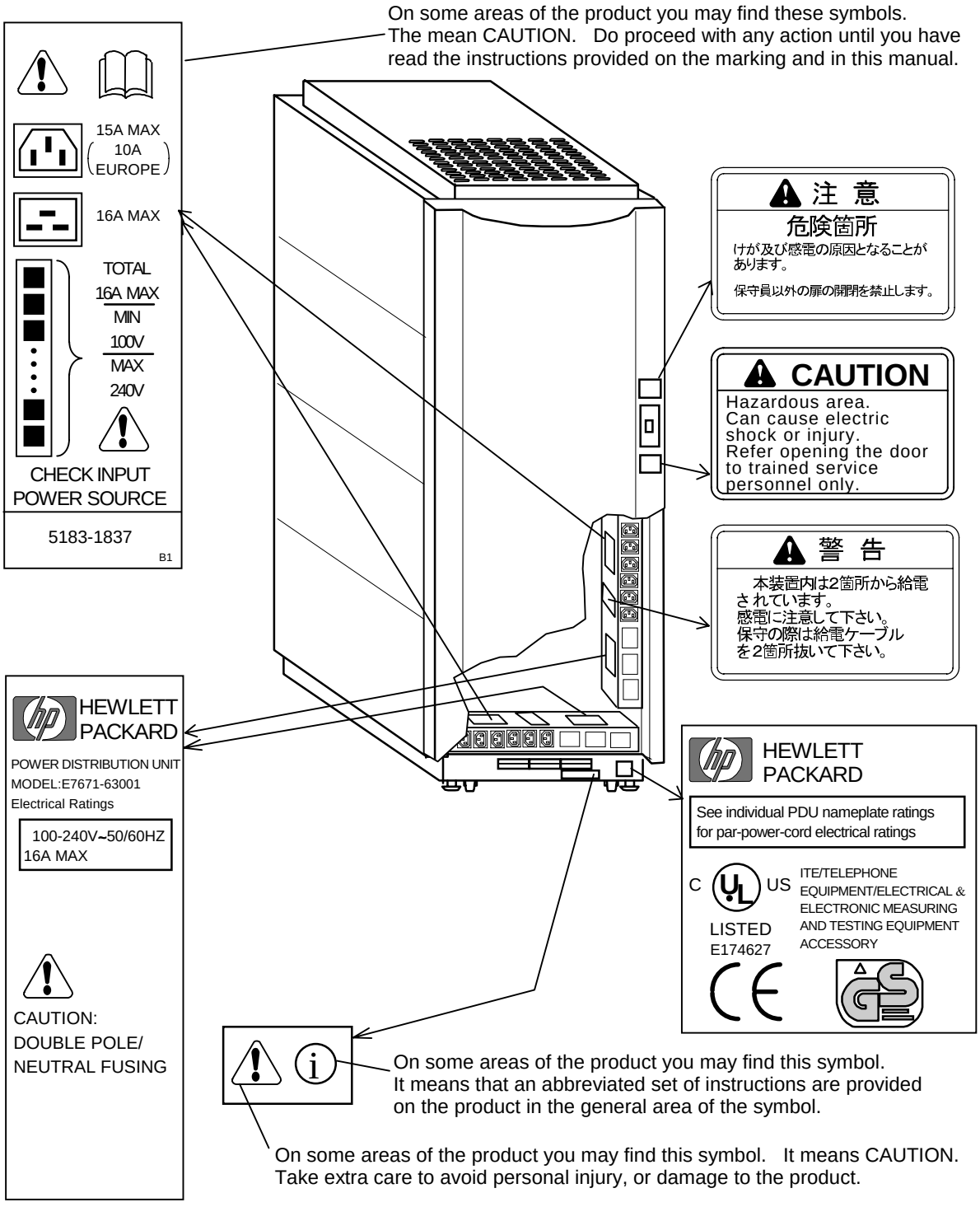
⚠ SAFETY SUMMARY (Continued)

3.3 Rackmount model with U6 rack frame



⚠ SAFETY SUMMARY (Continued)

3.4 Rackmount model with U4 rack frame



Chapter 1. Before Using WEB

1.1 The Operating Environment

The operating environment where is able to use WEB is shown below.

Table 1.1.1 Operating Environment

No.	Item	Description	Remark
1	OS	Microsoft Windows 95, 98, 2000/NT 4.0, ME Solaris2.6, AIRIX6.4	
2	PC	Pentium (Pentium Ⅱ (233 MHz or more) is recommended), Memory 40 Mbytes or more (64 Mbytes or more is recommended or more)	
3	WS	Turbo Sparc 170 M Hz, Memory 256 Mbytes or more R10000 195 M Hz, Memory 128 Mbytes or more	
4	Disk requirement	When a memory dump of 5 Mbytes or more is to be done, a capacity of more than 180 Mbytes/controller is required.	

Table 1.1.2 support browser

(○ : support ×: Unsupport)

No	Platform	OS	browser	Ver(*1)	Micro Rev.(*1)				
					0552 0552/A	05×3	05×4/B	05×5/C 05×6 05×7	After 05×8
1	WS	IRIX	Netscape Navigator	4.7	○	○	○	○	○
				4.76	×	×	×	○	○
		Solaris 2.6	Netscape Navigator	4.7	○	○	○	○	○
				4.76	×	×	×	○	○
2	PC	windows	Internet Exploror	5.0	○	○	○	○	○
				5.5(*2)	×	×	○	○	○
			Netscape Navigator	4.7	○	○	○	○	○
				4.75	×	×	×	×	○
				4.76	×	×	×	×	○

*1 : Throughout a table the nonexistent version is an unsupport.

*2 : Service Pack1 is included.

Notices on (restriction of) the support browser

- There may be a case where a new line is started in a window depending on a setting of the browser. In such a case, make the character size smaller.
  < Method of character size change >
  In the case of IE
  Select “Middle” or smaller size for the “Character Size” in the “Display”.
  In the case of Netscape
  Select the “Reduction of Font Size” in the “Display” and keep it being selected until paragraphs become easy to be read.
- There may be a case where an empty dialogue box is displayed during operation in the Maintenance mode. In such a case, close the window by clicking on the mark of “X” in the upper left corner of the dialogue box, restart the browser, and then make a retry from the entry of the URL.
- When a window size is changed while a page is displayed by Netscape, the succeeding operation in the Refresh mode may not be done normally. In such a case, display the page over again by clicking the Re-Display button.
- In the case of using Netscape
  Memory cache: 1024 kbytes (default) or larger
  Disk cache: 7680 kbytes (default) or larger
  < Method of cache size setting >
  Select the “Edition”, “Setting”, “Details”, and “Cache” in this order.
  Specify sizes of the memory cache and disk cache.

1.2 The Characteristic of the Network Function

- LAN interface
  The connector for 10Base-T/100Base-TX is equipped with the Controller. 10Base-T/100Base-TX is selected automatic.
- IP Address setting function by arp
  The IP Address setting function by the arp/ping command can be used. The IP Address setting function by arp/ping is limited to only when the IP Address is not changed from the factory setting value.
- Network parameter
  DF500 is having the following network parameter and can change/set up from the WEB browser/Disk array control program.

Network parameter	Description	Factory setting value	Remark
DHCP	Enable/Disable of the DHCP function is set up.	Disable	
IP Address	The IP Address is changed/set up.	192.168.0.16	(*1)
Subnet Mask	The Subnet Mask is changed/set up.	255.255.255.0	
Default Gateway	The Default Gateway is changed/set up.	–	

*1 : The network connection is possible in the above IP Address (192.168.0.16) for the unchanging from the factory setting value. Please manage the IP Address after the change certainly, if the IP Address is changed from the IP Address of factory setting.

1.3 Connection to the Network

Illustrations in this section show cases of the rackmount model. They are the same for the floor model.

1.3.1 Connection to the network

For WEB connection procedure, see MNTE 02-0230 to MNTE 02-0300.

(1) Connection to the network

• LAN connector position

Please connect the LAN cable with the LAN connector that was shown in the figure.

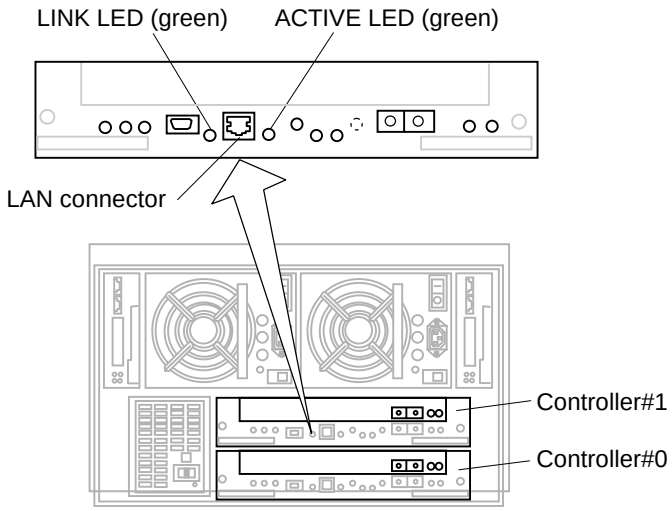


Figure 1.3.1 LAN Connector Position of (RK/RKA)

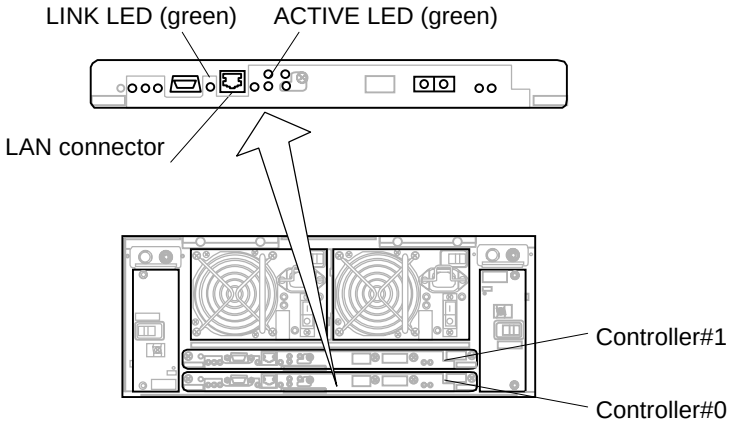


Figure 1.3.2 LAN Connector Position of RKL

(2) LED display

LINK LED

LED status	Network status
Green	That the link status of LAN is normal is shown.
Off	That the link status of LAN is abnormal is shown.

ACTIVE LED

LED status	Network status
Green	The data transmission by LAN is shown.
Off	The data transmission by LAN is not shown.

1.3.2 Setting/change of the network parameter

The setting/change of the network parameter is possible with the following method.

- Setting of the IP Address by arp/ping.....(1)

  Setting of the IP Address by the arp/ping command from Windows 98, ME, Windows 2000/NT 4.0 Setting.....(1-1)

  Setting of the IP Address by the arp/ping command from Windows 95, Windows NT 3.x.....(1-2)

  Setting of the IP Address by the arp/ping command from UNIX.....(1-3)

- Setting of the network parameter by the Web browser .....(2)

(1) Setting of IP Address by arp/ping

(1-1) Setting of the IP Address by the arp/ping command from Windows 95, ME, Windows 2000/NT 4.0 Setting

The IP Address can be set up by the arp/ping command in accordance with the following procedure.

Notice :
- Do this work after an array unit becomes Ready.
- The setting of the Controller that was connected with the LAN cable is only possible as the dual Controller configuration.
- Only the IP Address is possible set up in arp/ping. As for the setting of the network parameter other than it, please refer to the setting of the network parameters by the Web browsers of (2).
- The IP Address setting by arp/ping is limited to only when the IP Address of the device is not changed from the factory setting value (192.168.0.16) to prevent the change of the IP Address that is not planned.
- The setting of the IP Address by arp/ping is limited to only when the terminal that is used to setting is on the same network segment as device.

(a) Execute the command below following the MS-DOS prompt of the Windows PS connected to the same network segment to which the subsystem is connected

```
arp  -s  IP address  Physical address
ping  IP address
```

- IP address : The IP Address where you want to set up to the device.
- Pysical address : The Physical Address where it is displayed with the label of the Controller is divided to the units of 2 column with "-"and used.

Example : When IP Address 192.168.15.64 is set up to the Controller of the Physical Address 00:00:87:12:34:56 (when there are 192.168.15.32 devices in the same network segment)

```
arp  -s  192.168.15.64  00-00-87-12-34-56
ping  192.168.15.64
```

(b) If the message such as "Reply from 192.168.15.64····" comes back from the device, the IP Address is set up normally.

(c) In order to fix the IP Address, sequentially shutdown the subsystem once, wait for one minute, and then restart it.

(1-2) Setting of the IP Address by the arp/ping command from Windows 95, Windows NT 3.x
The IP Address can be set up by the arp/ping command in accordance with the following procedure.

Notice : • Do this work after an array unit becomes Ready.
- The setting of the Controller that was connected with the LAN cable is only possible as the dual Controller configuration.
- Only the IP Address is possible set up in arp/ping. As for the setting of the network parameter other than it, please refer to the setting of the network parameters by the Web browsers of (2).
- The IP Address setting by arp/ping is limited to only when the IP Address of the device is not changed from the factory setting value (192.168.0.16) to prevent the change of the IP Address that is not planned.
- The setting of the IP Address by arp/ping is limited to only when the terminal that is used to setting is on the same network segment as device.
- There is a problem in the arp command of Windows in Windows 95, Windows NT 3.x and need to issue ping to different network devices before executing the arp command in the IP Address and Physical Address of device. Please prepare the IP Address of the device that is connected with the same network segment.

(a) Execute the command below following the MS-DOS prompt of the Windows PS connected to the same network segment to which the subsystem is connected

```
ping   An IP address of other LAN device on the same network segment
arp   -s   IP address   Physical address
ping   IP address
```

- IP address : The IP Address where you want to set up to the device
- Pysical address : The Physical Address where it is displayed with the label of the Controller is divided to the units of 2 column with "-"and used.

Example : When IP Address 192.168.15.64 is set up to the Controller of the Physical Address 00:00:87:12:34:56 (when there are 192.168.15.32 devices in the same network segment)

```
ping   192.168.15.32
arp   -s   192.168.15.64  00-00-87-12-34-56
ping   192.168.15.64
```

(b) If the message such as “Reply from 192.168.15.64····” comes back from the device, the IP Address is set up normally.
(c) In order to fix the IP Address, sequentially shutdown the subsystem once, wait for one minute, and then restart it.

(1-3) Setting of the IP Address by the arp/ping command from UNIX
The IP Address can be set up by the arp/ping command in accordance with the following procedure.

Notice : • Do this work after an array unit becomes Ready.
- The setting of the Controller that was connected with the LAN cable is only possible as the dual Controller configuration.
- Only the IP Address is possible set up in arp/ping. As for the setting of the network parameter other than it, please refer to the setting of the network parameters by the Web browsers of (2).
- The IP Address setting by arp/ping is limited to only when the IP Address of the device is not changed from the factory setting value (192.168.0.16) to prevent the change of the IP Address that is not planned.
- The setting of the IP Address by arp/ping is limited to only when the terminal that is used to setting is on the same network segment as device.

(a) Execute the command below following the UNIX machine connected to the same network segment to which the subsystem is connected.

```
arp  -s  IP address  Physical address  temp
ping  IP address
```

- IP address : The IP Address where you want to set up to the device.
- Pysical address : The Physical Address where it is displayed with the label of the Controller is divided to the units of 2 column with "-"and used.

Example : When IP Address 192.168.15.64 is set up to the Controller of the Physical Address 00:00:87:12:34:56 (when there are 192.168.15.32 devices in the same network segment)

```
arp  -s  192.168.15.64  00-00-87-12-34-56  temp
ping  192.168.15.64
```

(b) If the message such as "Reply from 192.168.15.64····" comes back from the device, the IP Address is set up normally.
(c) In order to fix the IP Address, sequentially shutdown the subsystem once, wait for one minute, and then restart it.

(2) Setting of the network parameter by the WEB browser
Please change the network parameter in accordance with the following procedure.

Notice : The network addresses for both Controllers are possible set up from the one side Controller as dual Controller configuration.

(a) Turn off the main switch of the subsystem and make sure that the POWER LED (green) on the panel goes out.
(b) Turn on the main switch of the subsystem.
(c) Proceed to the procedure starting from the step (d) after making sure that the READY LED (green) or ALARM LED (red) on the subsystem are on. (Also proceed to the procedure starting from the step (d) in the case where the READY LED (green) and ALARM LED (red) do not come on after waiting for ten minutes when the power is turned on.) (Refer to Figure 1.3.3.)
(d) Make sure that the WARNING LED (orange) is not blinking fast (at intervals of 125 ms). If it is blinking fast, wait for a while (80 seconds at the longest). It will cease to blink fast. There is no problem if it blinks slowly (at intervals of one second).
(e) Changing the maintenance mode.
- Single Controller
  Press the SRST switch of the single Controller.
- Dual controller
  (i) Press the SRST switch of the Controller#0.
  (ii) Wait for a while (about ten seconds) and press the SRST switch of the Controller#1 immediately (within ten seconds) after the FAIL LED (red) of the Controller#0 comes on.
  (Sometimes the buzzer may beeps when the SRST switch is pressed, however, you do not have to stop it until these operations are completed.)
  When the FAIL LED of the Controller#0 does not go out in spite of the above operation, power off the subsystem, return to step (b) without pulling out nor insert the Controller, and execute the procedure over again.

Notice : Because the Controller is shutdown status for the Maintenance Mode, the command from the host is impossible execution. Please change it to the Maintenance Mode after the confirmation of separation of the device from the host or shutdown of the host.

(iii) Start the setting after making sure that the subsystem has entered the Ready status.

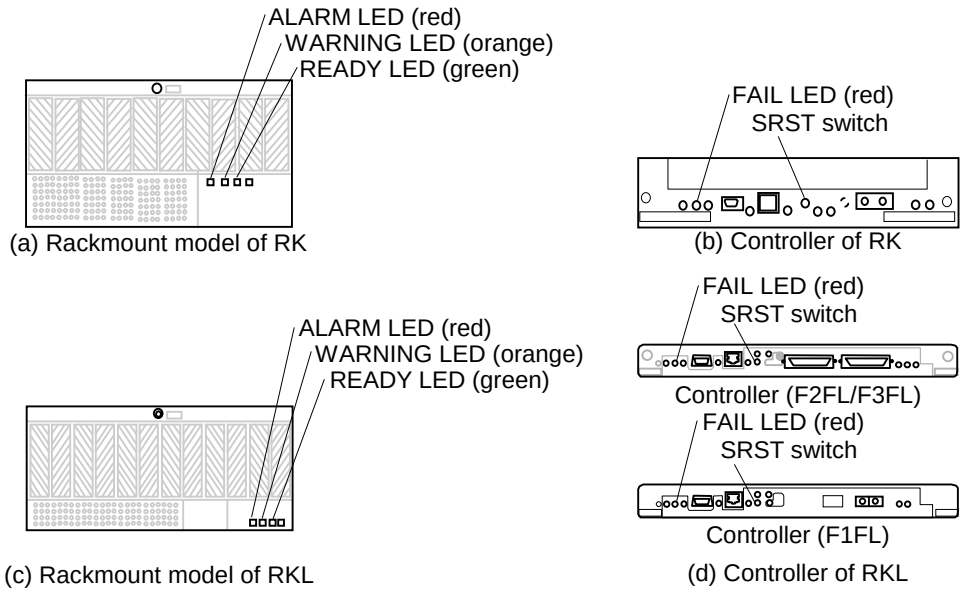
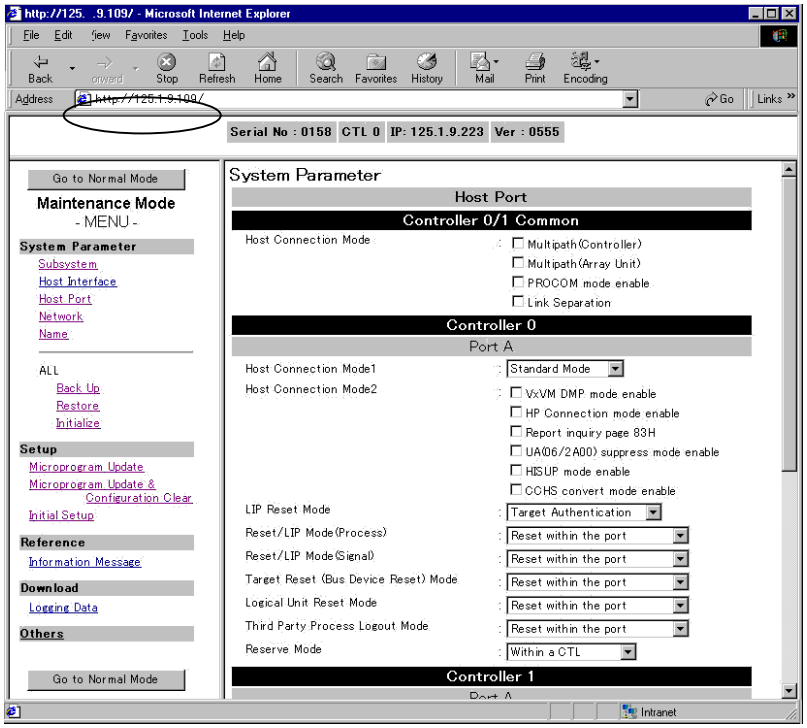


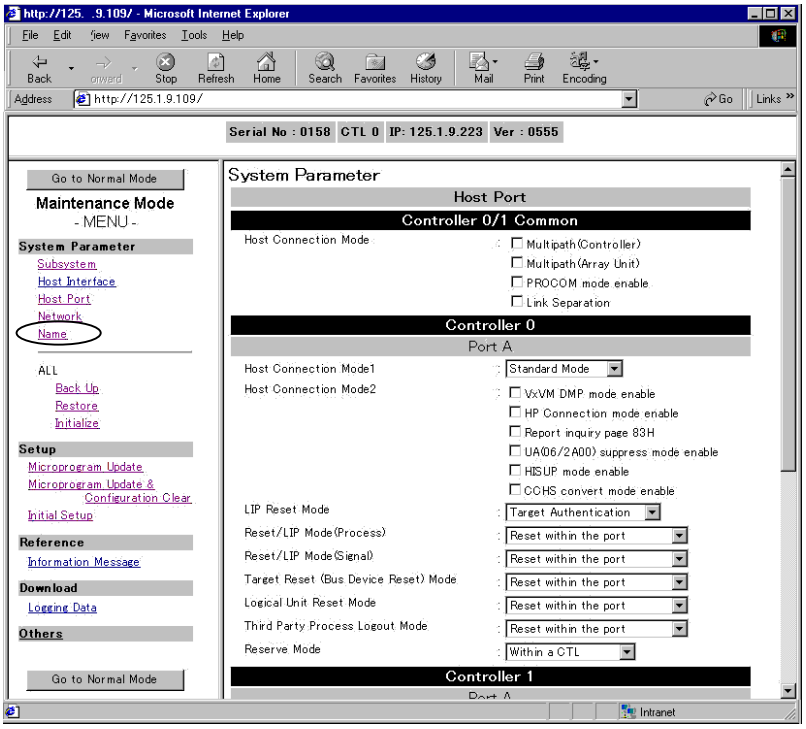
Figure 1.3.3 Indiction Locations

(f) Please input the IP Address of the Controller where was connected with the LAN cable to [Address] of the WEB browser. Please input the IP Address of one Controller as the dual system configuration.
The network parameters of both controllers can be set up from one Controller.
For details (see WEB 01-0040)

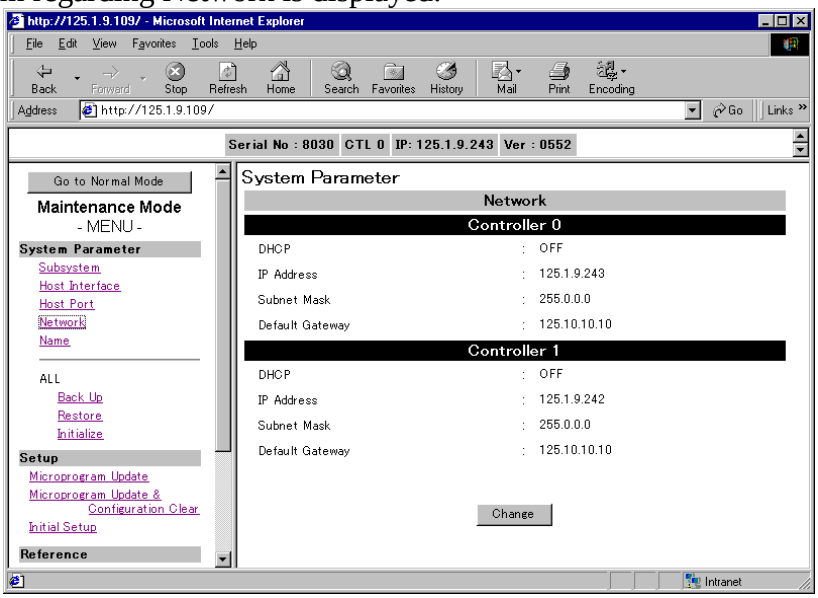
Notice : • Set the TCP/IP to "Disable DNS " because the connection takes a long time when the TCP/IP of the network is set to the condition in which the DNS is used. For the setting procedure, refer to the instruction manual of the PC to be used.
• Make sure that the browser is set to the condition in which the proxy server is not used because the connection cannot be done if the proxy server is set to be used. To make sure the setting, refer to the instruction manual of the browser to be used.



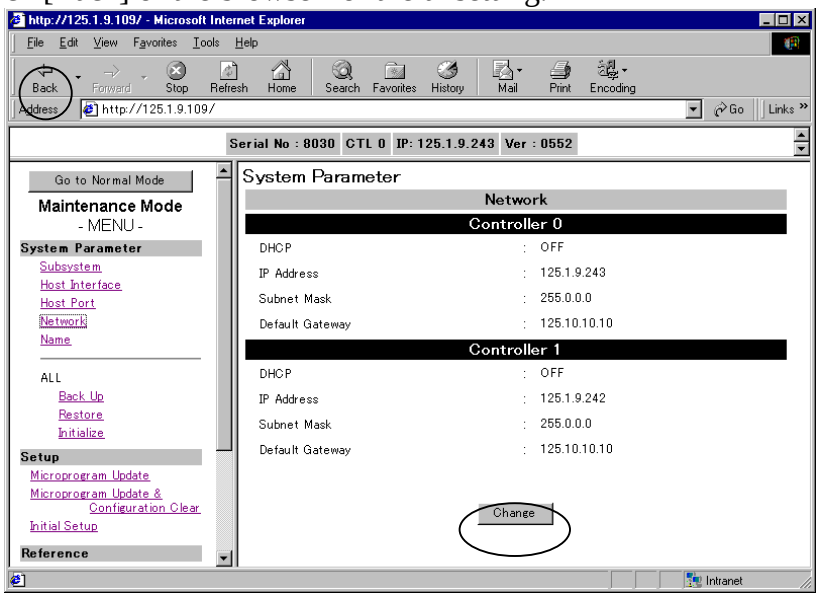
(g) Please click “Network”.



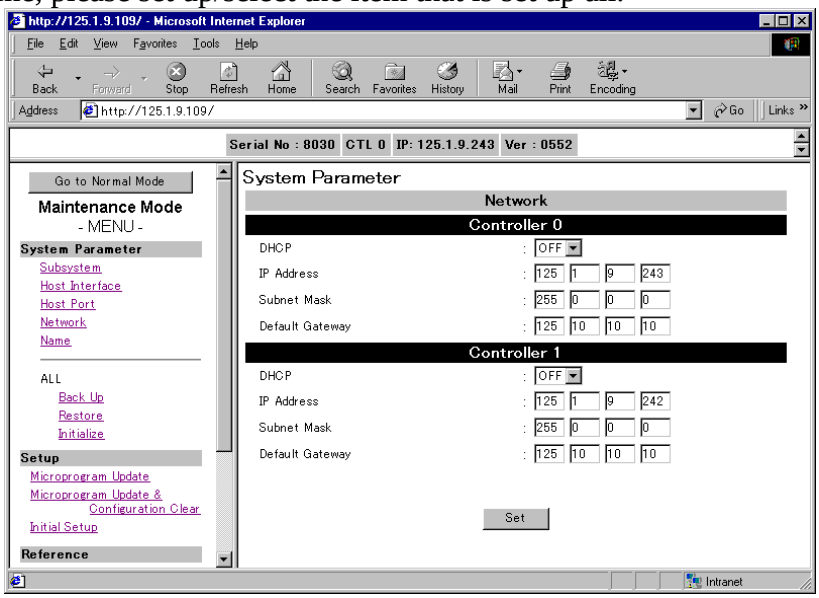
(h) The item regarding Network is displayed.



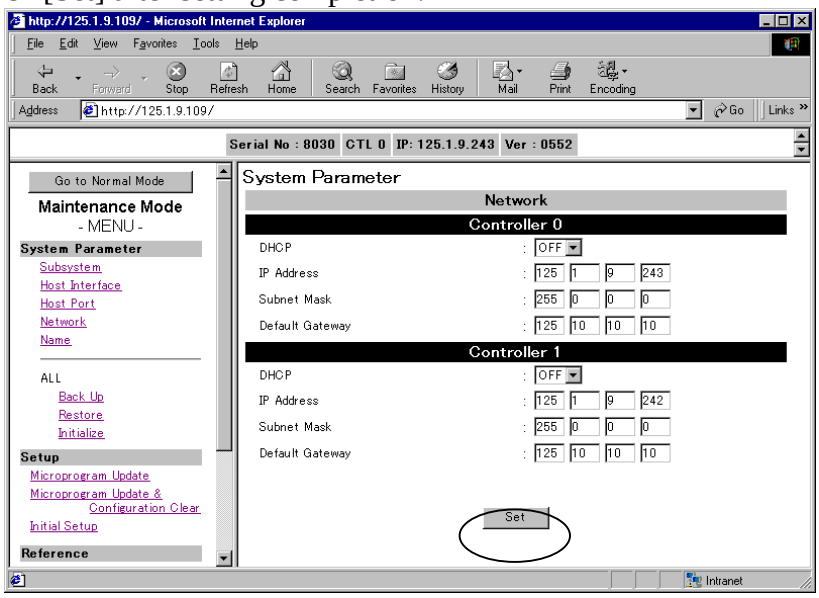
(i) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.



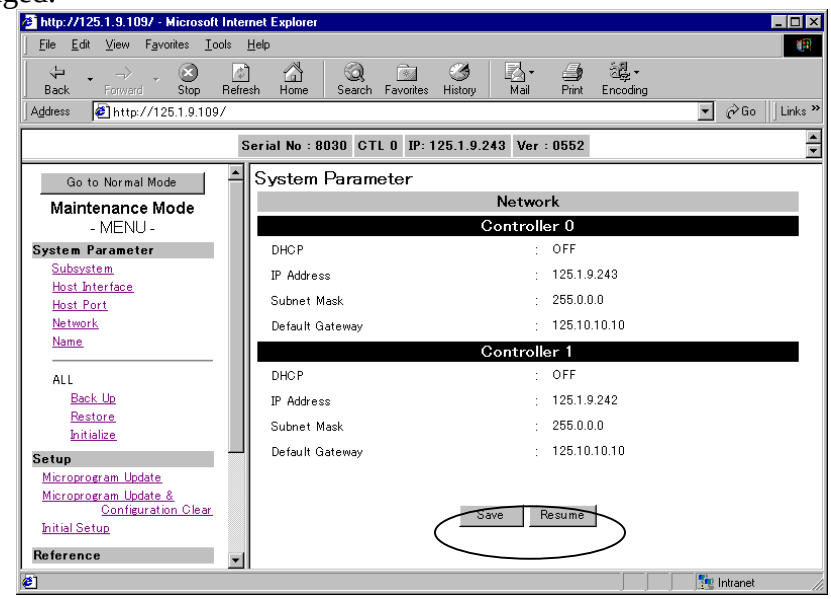
(j) Please set up/select the corresponding item (DHCP, IP Address, Subnet Mask, Default Gateway) that is set up from the pull-down menu or input them.
At this time, please set up/select the item that is set up all.



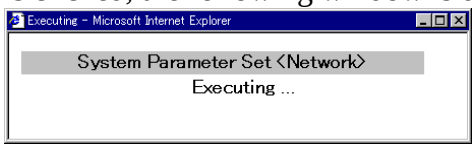
(k) Please click [Set] after setting completion.



(l) The screen that displayed the setting contents is displayed.
Please click [Save] if setting is correct. Please click [Resume], if the setting contents are changed.

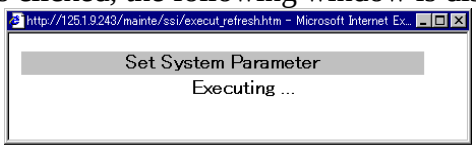


(m) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.



(n) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

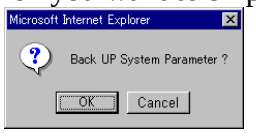
(o) If [OK] is clicked, the following window is displayed.



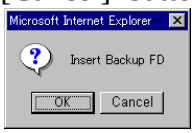
When the microprogram is Rev.05x3 or earlier, go to step (u) and subsequent steps after executing step (p). When the microprogram is Rev.05x4 or later, go to step (q) and subsequent steps after executing step (o).

(p) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

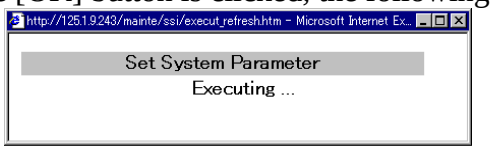
(q) The following window is displayed when the system parameter setting is completed.
Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(r) When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.

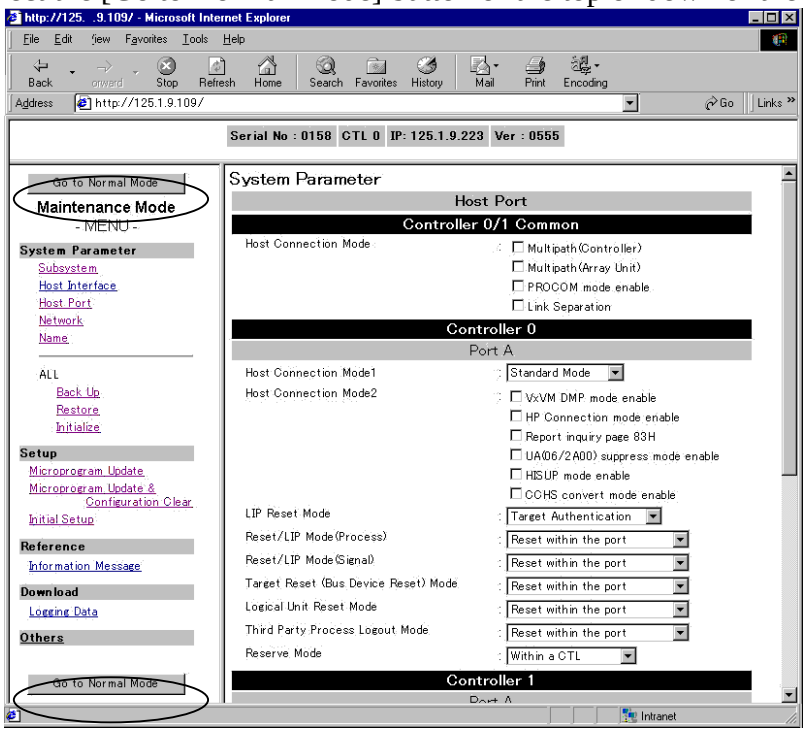


(s) When the [OK] button is clicked, the following window is displayed.

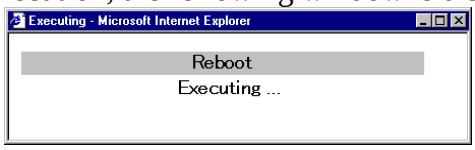


(t) When the following window is displayed after a while, the backup is completed. When the [OK] button is clicked, the window is returned to the menu window.

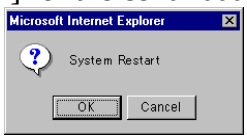
(u) Please click [Go to Normal Mode] to do setting effectively.
Please select the [Go to Normal Mode] button of the top or down of the menu window.



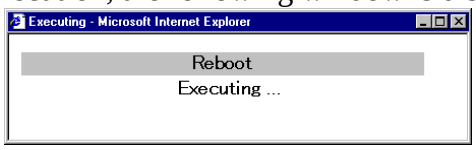
(v) During execution, the following window is displayed.



(w)The following confirmation message is displayed at the later time for a while. Please click [OK] for the continuation.



(x) During execution, the following window is displayed.



(y) If the return to the Usually Mode completes, the device becomes the Ready status. Please confirm that READY LED of the device front is lighted.

Notice : There is the possibility that the IP Address has returned to the source, if the Ping command is issued to an old IP Address after the change of the network parameter.
Please do not issue the Ping command to an old IP Address.

Chapter 2. The Normal Mode Operation Procedure

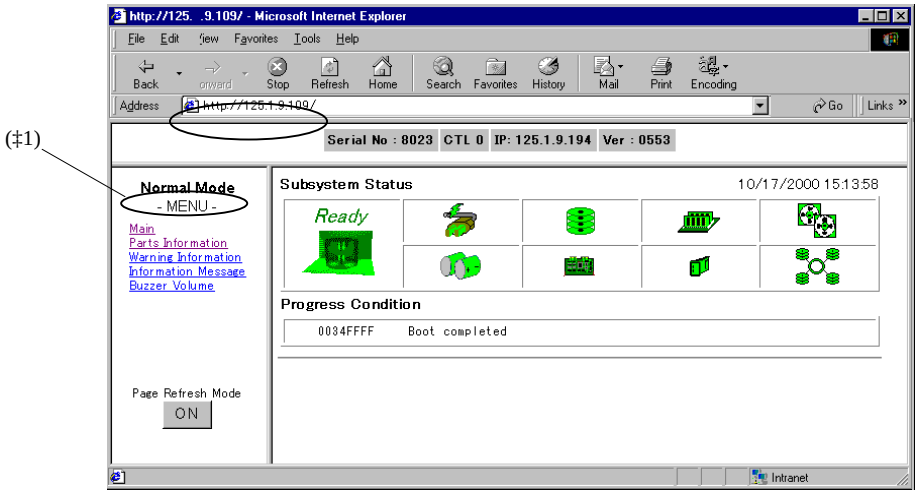
2.1 Method that Enters to the Normal Mode

Please change the IP Address of the Controller to [Address] of the WEB browser, to enter to the Normal Mode.

Please set up the IP Address of the Controller where was connected with the network as the dual system configuration. The status of the devices (both Controllers) can be monitored from one controller.
If it is connected, the next screen is displayed.

Notice : • Set the TCP/IP to "Disable DNS " because the connection takes a long time when the TCP/IP of the network is set to the condition in which the DNS is used. For the setting procedure, refer to the instruction manual of the PC to be used.

• Make sure that the browser is set to the condition in which the proxy server is not used because the connection cannot be done if the proxy server is set to be used. To make sure the setting, refer to the instruction manual of the browser to be used.



‡1 : The "Warning Information" is displayed by the microprogram revisions 05x3 and later.
It is displayed in the same way in the succeeding screens.

2.2 Screen Outline

If the function of the Normal Mode is shown with the menu form and clicked, the proper function is executed. The main screen outline of the Normal Mode is shown below.

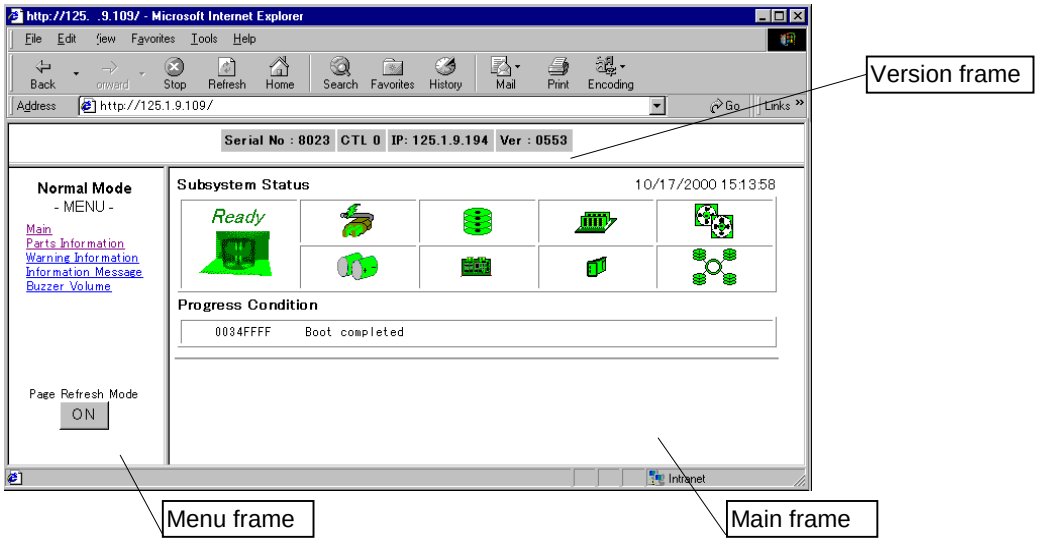


Figure 2.2.1 Main screen outline of the Normal Mode

(1) Version frame

The “Displayed item change” displays the following information.

- Serial No
  Shows information on the product.
- CTL
  Shows the number of the Controller to which the WEB is connected.
- IP
  The IP Address of the controller where it was connected is shown.
- Ver
  The version of the Microprogram of the device is shown.

(2) Menu frame

If the function of the Normal Mode is displayed with the menu frame and clicked, the proper function is executed.

- Main
  The Main screen of the Normal Mode is displayed.
- Parts Information
  The status of the exchange parts is displayed.
- Warning Information
  The fault information that was detected during the status of the device information are displayed.
  The “Warning Information” is displayed by the microprogram revisions 05x3 and later.
- Information Message
  The fault information that was detected during the device operation and the status of the device information are displayed.
- Buzzer Volume
  The screen that the Buzzer Volume is set up is displayed.
- Page Refresh Mode
  This is the button that sets up on/off of an automatic redisplay function.
  As the [ON] display : This is not refreshed.
  As the [OFF] display : The screen of the mainframe is refreshed every 5 seconds.
  The refresh time currently (RTC) is displayed on the right top.

Notice : When the PC enters the suspension status during operation while the Page Refresh Mode is set to [ON], the WEB may not operate correctly after the PC is released from the suspension status.
In the case where the WEB is connected for the purpose of status monitoring, etc., set the power management of the PC so that the PC should not enter the suspension status.

(3) Main frame

- Subsystem Status
  The status of the device and the status of the exchange parts are displayed.
- Progress Condition
  The Progress Condition as the device booting is displayed.

2.3 Main Screen of the Normal Mode

The main screen of the Normal Mode is consisted of the Patrol Lamp, the summary of exchange parts status, the Progress Condition display box.

The Patrol Lamp shows the status of subsystem.
The “summary of replaceable component statuses” notifies of the trouble of the replaceable component by showing the component concerned colored in red.

The Main screen of the Normal Mode is shown below.

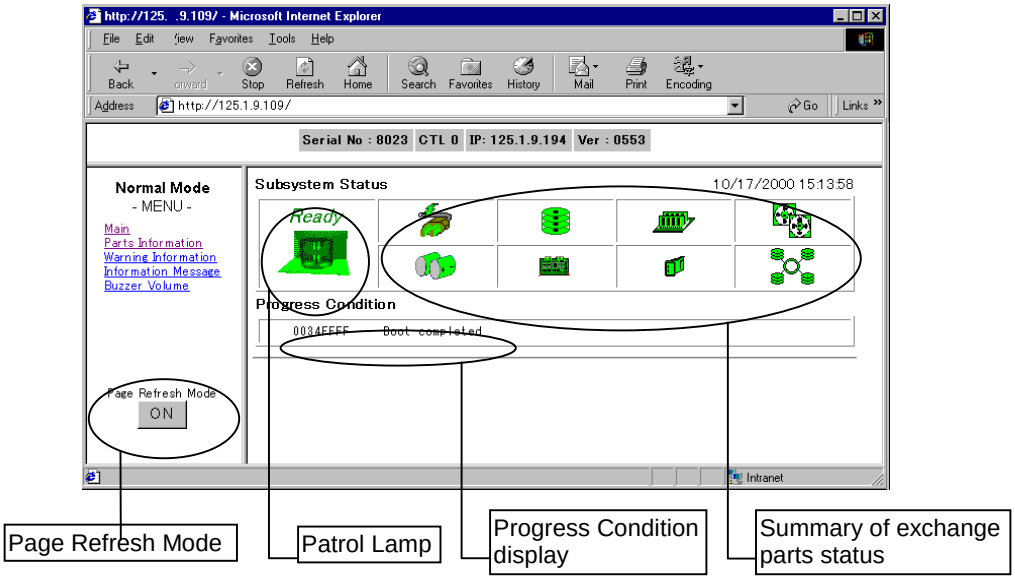


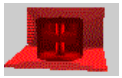
Figure 2.3.1 Main screen of the Normal Mode

(1) Page Refresh Mode

This is the button that sets up on/off of an automatic redisplay function.
If this is clicked, the mode of on/off changes.
As the [ON] display : This is not refreshed.
As the [OFF] display : The page of the mainframe is refreshed every 5 seconds.
The refresh time currently (RTC) is displayed on the right top.

(2) Patrol Lamp

Monitoring the device, the status is displayed. The Status of the Patrol Lamp is shown below

Image	Status
Booting···	• During the start
 Green	• Normal
 Yellow	• Warning status
 Red	• Alarm status

(3) Display of Progress Condition

The Progress Condition as the device booting is displayed.

(4) Summary of Exchange Parts Status

The condition of the exchange parts is displayed. If the image of the part is clicked, the details of the proper part are displayed. The status of each exchange part is shown below.

AC/DC power supply

Image	Status
 Green	• Normal
 Red	• AC/DC power supply error

Disk drive

Image	Status
 Green	• Normal
 Red	• Disk drive error

Cache memory

Image	Status
 Green	• Normal
 Red	• Cache memory error

Fan unit

Image	Status
 Green	• Normal
 Red	• Fan unit error

Battery unit

Image	Status
 Green	• Normal
 Red	• Battery error

Controller

Image	Status
 Green	• Normal
 Red	• Controller error

ENC board

Image	Status
 Green	• Normal
 Red	• ENC board error

Fibre loop

Image	Status
 Green	• Normal
 Red	• Fibre loop error

2.4 Display of Exchange Parts Status (Parts Information)

The display screen of exchange part status displays the status of the Disk drive, Controller, Cache memory, Fiber loop, Fan unit, Battery unit, AC/DC power supply, ENC board that are implemented. Furthermore, this is not displayed, if it is not implemented. Also, the exchange part of abnormal status displays a red image. The Parts Information screen is shown below.

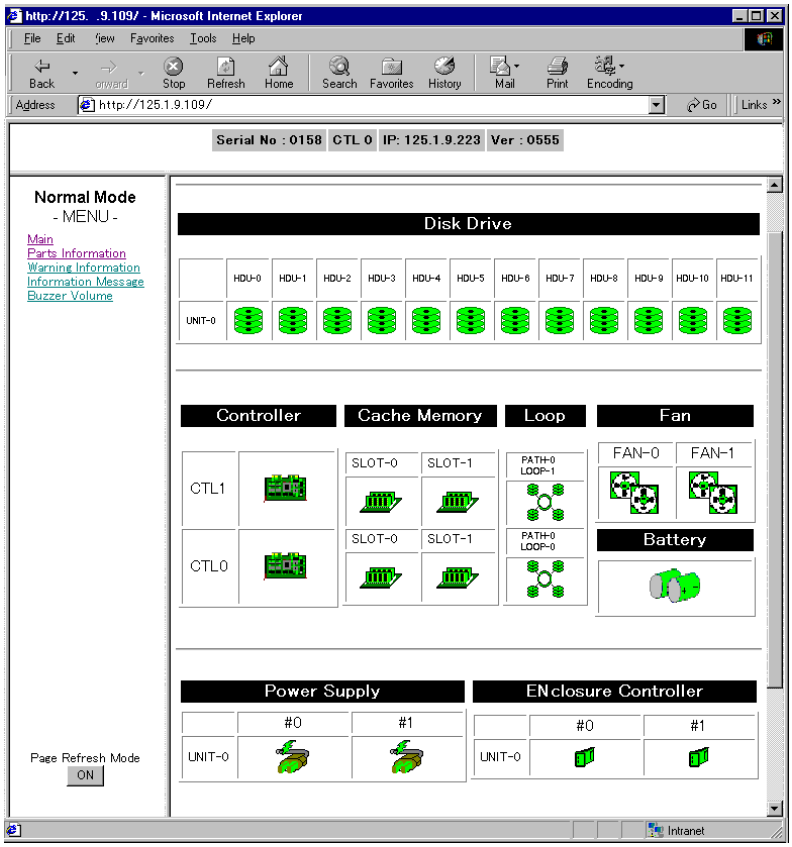


Figure 2.4.1 Screen of the Parts Information

The meaning of the image that displays it with the display screen of exchange part status is shown below.

(1) Disk dive

Image	Status
 Green	• Normal
 Red	• Fault has occurred to the Disk drive
 Red line	• Disk drive port that the fault occurred is not implementing the Disk drive
No display	• Disk drive is not implemented (Except for the status where the Disk drive that the fault occurred was drawn out)

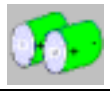
(2) Controller

Image	Status
 Green	• Normal
 Red	• Shutdown of the Controller (Status where it is not implemented with the setting of the dual system configuration is included)
 Yellow	• Fault of the battery backup circuit
No display	• Even the fault has not occurred without being implemented with the setting of single system configuration

(3) Cache memory

Image	Status
 Green	• Normal
 Red	• Fault (Status where is not implemented and extracted the fault cache memory is included)
No display	• It is not implemented and there is not a fault

(4) Battery unit

Image	Status
 Green	• Normal
 Red	• There is a fault or not implemented

(5) Fan unit

Image	Status
 Green	• Normal
 Red	• There is a fault or not implemented

(6) AC/DC power supply

Image	Status
 Green	• Normal
 Red	• It is fault occurred or not implemented

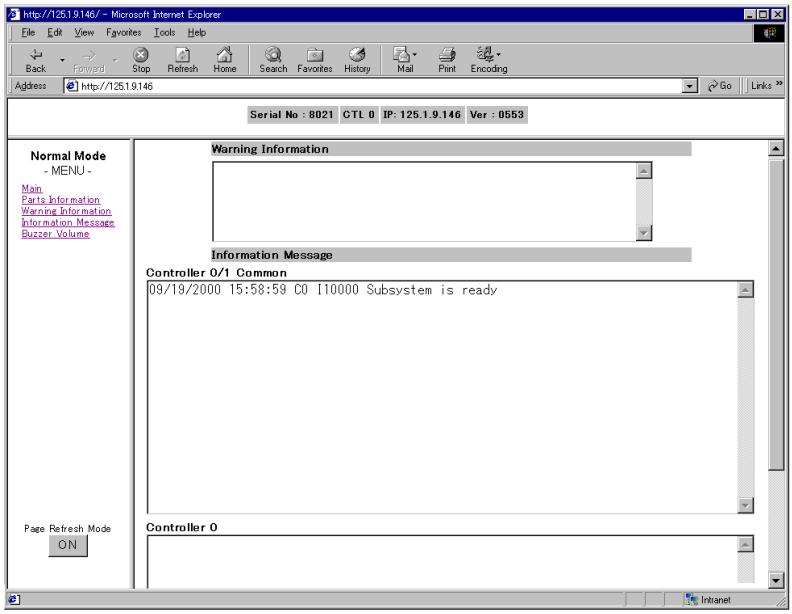
(7) ENC board

Image	Status
 Green	• Normal
 Red	• It is fault occurred or not implemented

(8) Fibre loop

Image	Status
 Green	• Normal
 Red	• Fault

When checking the status of a component through a message, a clicking on the 'Warning Information' of the menu frame in the main window changes the screen to the one shown below and a detailed message explaining the component status is displayed.



2.5 Information Message

The fault information and status information of the device that detected it in during the device operation are displayed.

The fault information and status information after the device booting are displayed in the Controller 0/1 Common box.
The fault information and status information as the device booting are displayed in the box of Controller 0 and Controller 1 every the controller.

The Information Message screen is shown below.

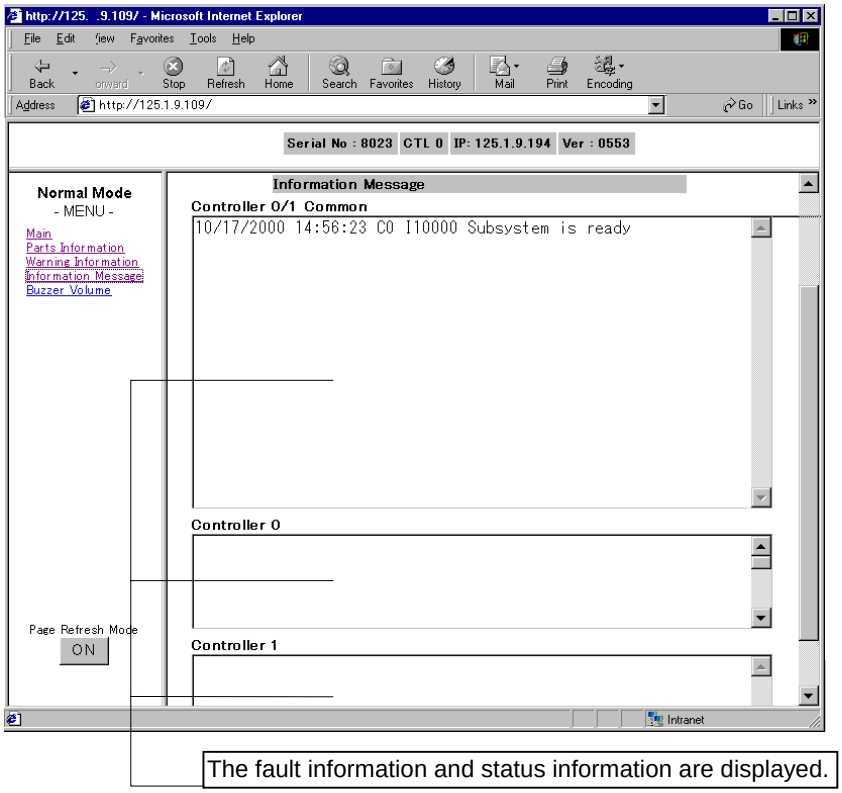


Figure 2.5.1 Screen of the Parts Information

2.6 Setting of the Buzzer Volume

The Buzzer Volume can be adjusted with 5 stages.

Notice : Make this setting in the environment in which I/O's from a host computer are not issued while the system is maintained or before the host is started up.

Please click "Buzzer Volume" of menu frame to enter into the Buzzer Volume setting screen.
The Buzzer Volume setting screen is shown below.

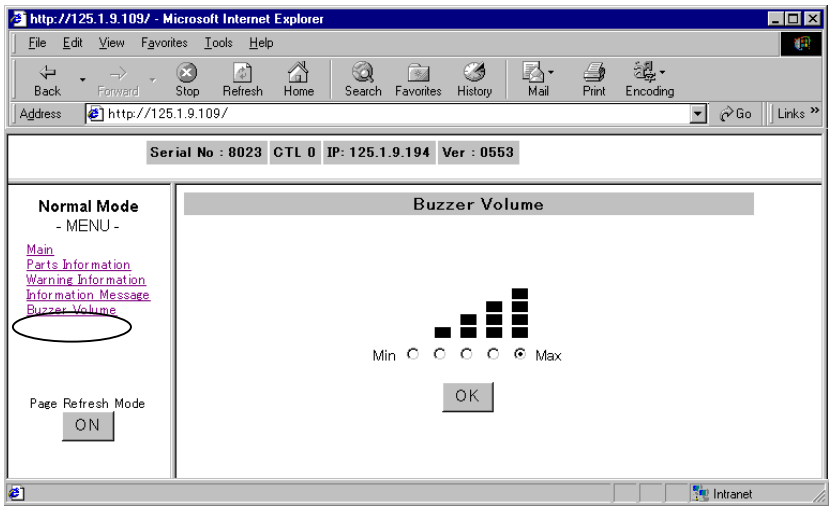


Figure 2.6.1 Screen of the Setting Buzzer Volume

If the Buzzer Volume is designated with the radio button and the [OK] button is clicked, the Buzzer Volume is changed.

Chapter 3. The Maintenance Mode Operation Procedure

3.1 Display Method of the Maintenance Mode

(1) Proceed to the procedure starting from the step (2) after making sure that the READY LED (green) or ALARM LED (red) on the front bezel of the RK are on. (Also proceed to the procedure starting from the step (2) in the case where the READY LED (green) and ALARM LED (red) do not come on after waiting for ten minutes when the power is turned on.) (Refer to Figure 3.1.1.)

(2) Please confirm that WARNING LED (orange) of RK front bezel is not flickering with the high speed (125 ms the intervals).
Please wait for a while (longest about 80 seconds), if it is flickering at high speed. The high speed flickering disappears. As for the low speed (1 second the interval) flickering, there is not a problem.

(3) Changing the maintenance mode.
- Single Controller
  Press the SRST switch of the single Controller.
- Dual controller

(a) Press the SRST switch of the Controller#0.

(b) Wait for a while (about ten seconds) and press the SRST switch of the Controller#1 immediately (within ten seconds) after the FAIL LED (red) of the Controller#0 comes on.
(Sometimes the buzzer may beeps when the SRST switch is pressed, however, you do not have to stop it until these operations are completed.)
When the FAIL LED of the Controller#0 does not go out in spite of the above operation, power off the subsystem and then power on the subsystem without pulling out nor insert the Controller. After that, return to step (1) and execute the procedure over again.

Notice : Because the Controller is shutdown status for the Maintenance Mode, the command from the host is impossible execution. Please change it to the Maintenance Mode after the confirmation of separation of the device from the host or shutdown of the host.

(c) Start the setting after making sure that the subsystem has entered the Ready status.

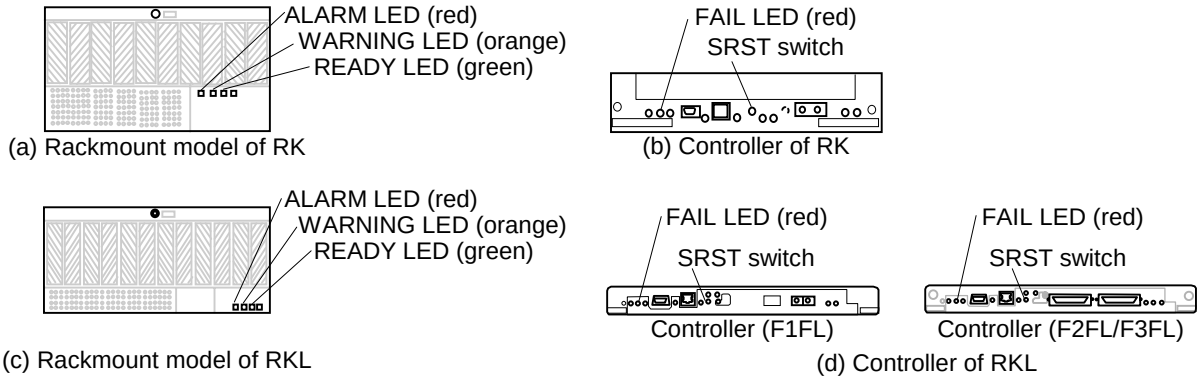


Figure 3.1.1 Indication Position

Illustrations in Figure 3.1.1 show cases of the rackmount model. They are the same for the floor model.

Notice : • Set the TCP/IP to "Disable DNS" because the connection takes a long time when the TCP/IP of the network is set to the condition in which the DNS is used. For the setting procedure, refer to the instruction manual of the PC to be used.
• Make sure that the browser is set to the condition in which the proxy server is not used because the connection cannot be done if the proxy server is set to be used. To make sure the setting, refer to the instruction manual of the browser to be used.

(4) Please input the IP Address of the Controller where it was connected with the network to the browser. Please input the page by the update button of the browser if it has already been connected with WEB.

Notice : The contents that were set up with "System Parameter" and "Others" and the Microprogram that was installed with "Setup" come into effect after the rebooting of the Controller.

3.2 Reference/Setting of the System Parameter

System Parameter is being classified to the following group and selecting each group executes the reference/setting.

(1) Subsystem
Reference/setting of the system parameter regarding the Subsystem is executed (refer to Subsection “3.2.1 Subsystem” (WEB 03-0040)).

(2) Host Interface
Reference and setting of the system parameter regarding the host interfacing are executed (refer to Subsection “3.2.2 Host Interface” (WEB 03-0100)).

(3) Host Port
Reference and setting of the system parameter regarding the host port are executed (refer to Subsection “3.2.3 Host Port” (WEB 03-0150)).

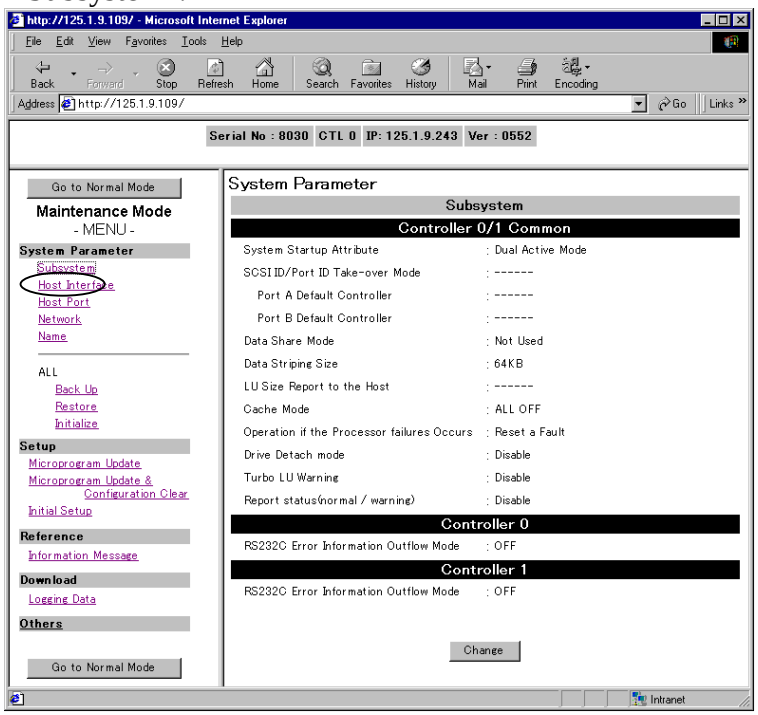
(4) Network
Reference and setting of the system parameter regarding the network are executed (refer to Subsection “3.2.4 Network” (WEB 03-0210)).

(5) Name
Reference and setting of the system parameter such as the Vendor ID, Product ID, Controller Name are executed (refer to Subsection “3.2.5 Name” (WEB 03-0260)).

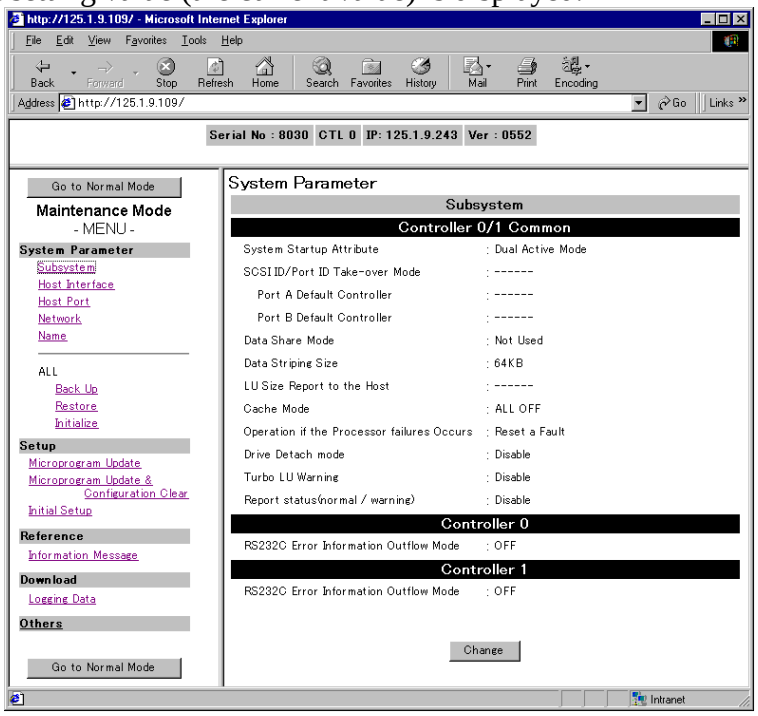
3.2.1 Subsystem

This function sets up/refer to the item regarding the Subsystem in the device.

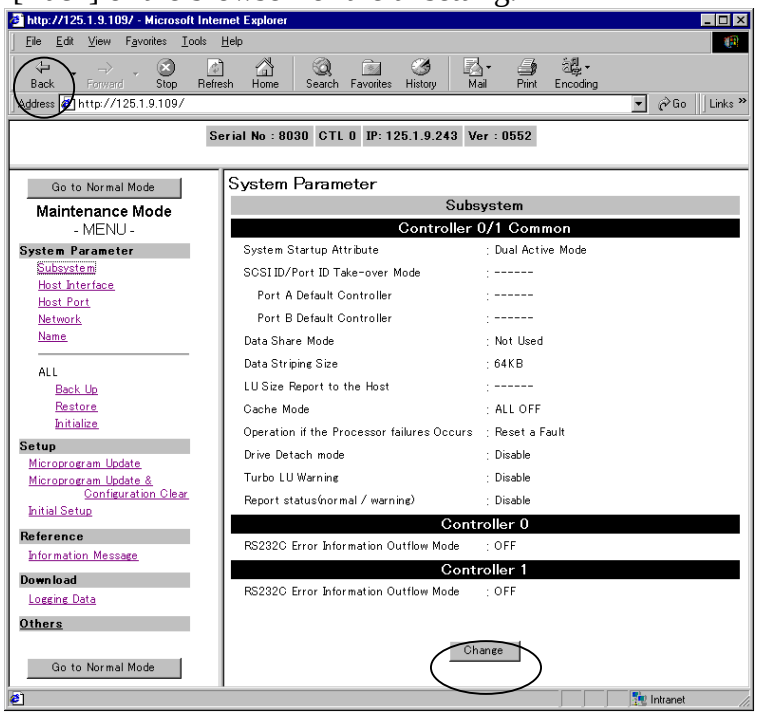
(1) Please click “Subsystem”.



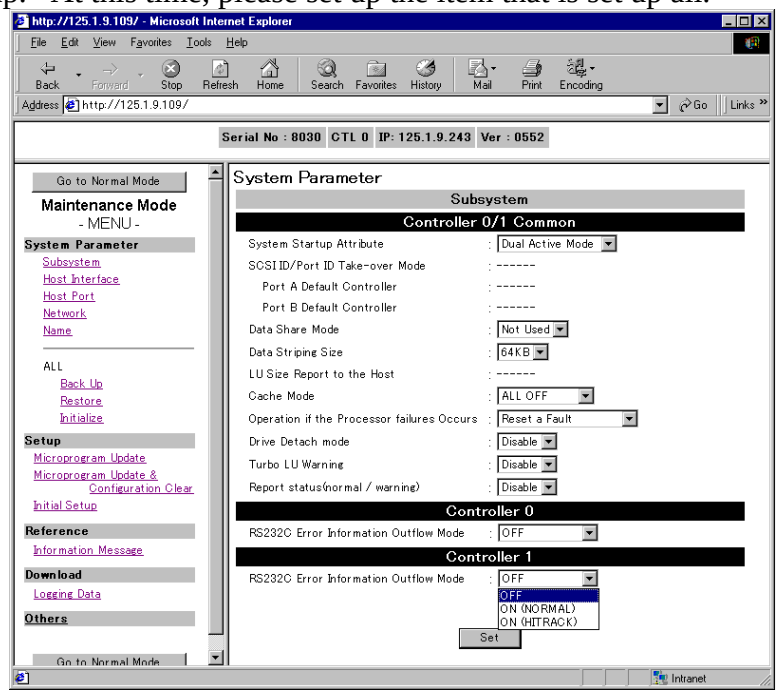
(2) The present setting value (the current value) is displayed.



(3) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.



(4) Please select the item that is set up from the pull-down menu of the corresponding item that is set up. At this time, please set up the item that is set up all.



Explanation with regard to each item

[Controller 0/1 Common]

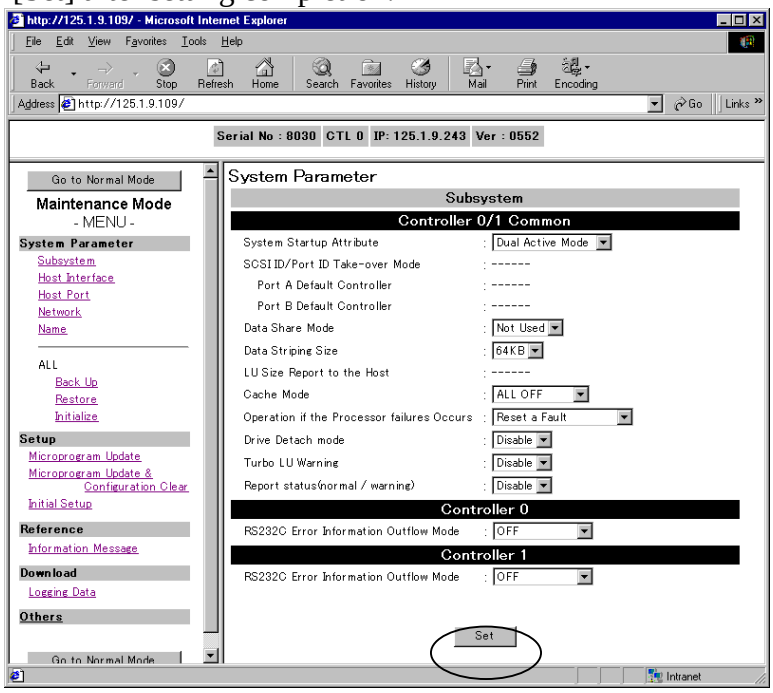
- System Start Attribute
  The System Operation Attribute is designated.
  [Single Mode] : This is Single controller configuration.
  [Dual Active Mode] : This is Dual controllers configuration.
  [Hot Standby Mode] : This is Hot standby configuration.
- Data Share Mode
  The Data Share Mode Attribute is designated.
  [Used] : This is used with the Data Share Mode.
  [Not Used] : This is not used with the Data Share Mode.
- Data Striping Size
  The Data Striping Size is designated.
  [64 KB] : The Striping data is created with 64 kbytes.
  [32 KB] : The Striping data is created with 32 kbytes.
  [16 KB] : The Striping data is created with 16 kbytes.
- LU Size Report to the Host
  Specifies the LU size to be reported to a host.
  This is invalid for the Fibre Channel version subsystem.
  [Auto Adjst] : The LU size to be reported to a host is decided automatically by the subsystem.
  [Not Adjst] : The LU size to be reported to a host is made the same as the value input from the Disk Array management program.
- Cache Mode
  The Allocation Mode of the random read exclusive use buffer is designated.
  [ALL OFF] : The exclusive use buffer is not allocated for the random read.
  [Random Mode] : The exclusive use buffer is allocated for the random read.
- Operation if the Processor Failures Occurs
  The operation as the processor fault occurrence is designated.
  [Reset a Faule] : A fault is reset.
  [Shutdown the System] : The controller is shutdown.
- Drive Detach Mode
  The Drive Shutdown Mode is designated.
  [Enable] : The Drive Shutdown Mode is effectively.
  [Disable] : The Drive Shutdown Mode is ineffectively.
- Turbo LU Warning
  If the LU cache residence function became ineffective, the Warning Report Mode is designated.
  [Enable] : The Warning is reported.
  [Disable] : The Warning is not reported.

• Report status (normal/warning)
The Report Mode of the Warning Status is designated.
[Enable] : The Report Mode of the Warning Status is effectively.
[Disable] : The Report Mode of the Warning Status is ineffectively.

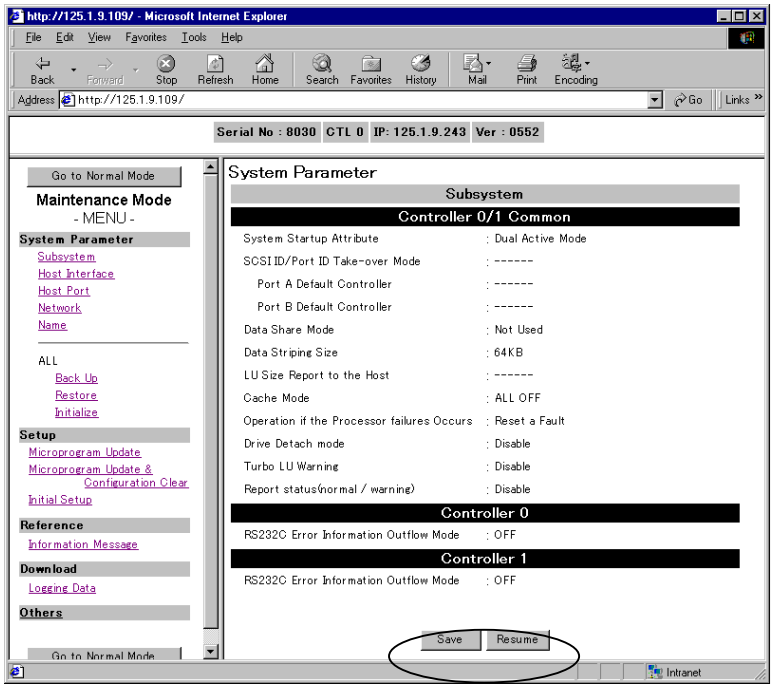
[Controller 0] / [Controller 1]

• RS232C Error Information Outflow Mode
The Error Information Outflow Mode to RS232C is designated.
[OFF] : The output of the error information is controlled.
[ON (NORMAL)] : The output of the error information is not controlled.
[ON (HITRACK)] : The output of the error information in HITRACK is controlled.

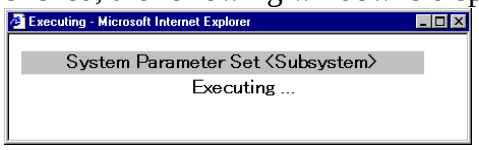
(5) Please click [Set] after setting completion.



(6) The screen that confirms the following setting contents is displayed.
Please click [Save] if the setting is correct. Please click [Resume] if the setting contents are changed.

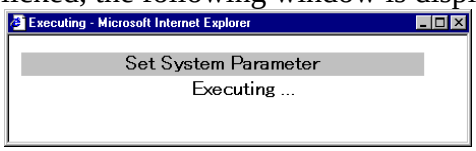


(7) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.



(8) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

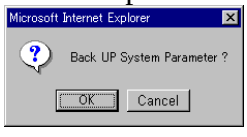
(9) If [OK] is clicked, the following window is displayed.



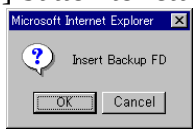
When the microprogram is Rev.05x3 or earlier, execution of step (10) completes the routine.
When the microprogram is Rev.05x4 or later, go to step (11) after executing step (9).

(10) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

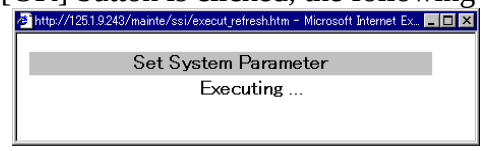
(11) The following window is displayed when the system parameter setting is completed.
Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(12)When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.



(13)When the [OK] button is clicked, the following window is displayed.

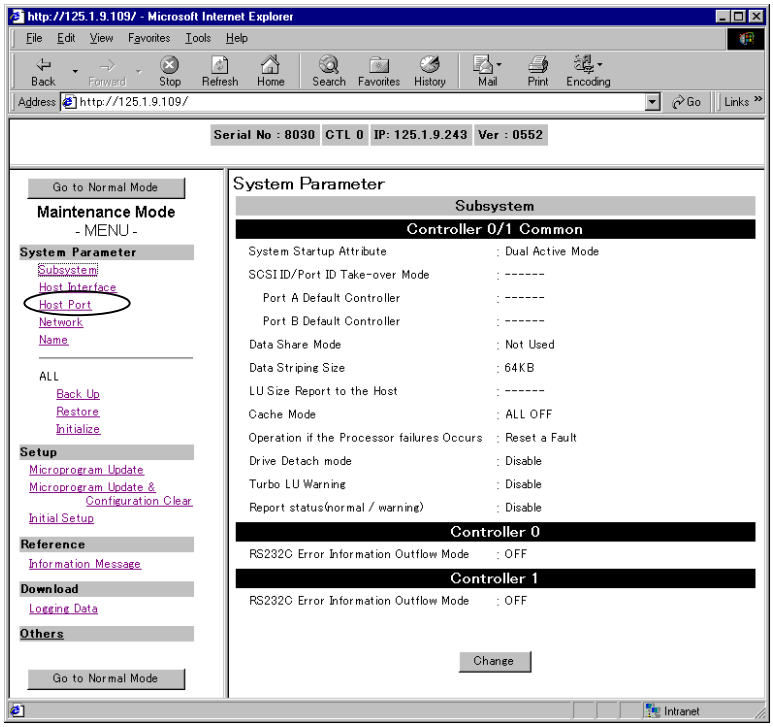


(14)When the following window is displayed after a while, the backup is completed. When the [OK] button is clicked, the window is returned to the menu window.

3.2.2 Host Interface

This function sets up/refer to the item regarding the host interfacing of the device.

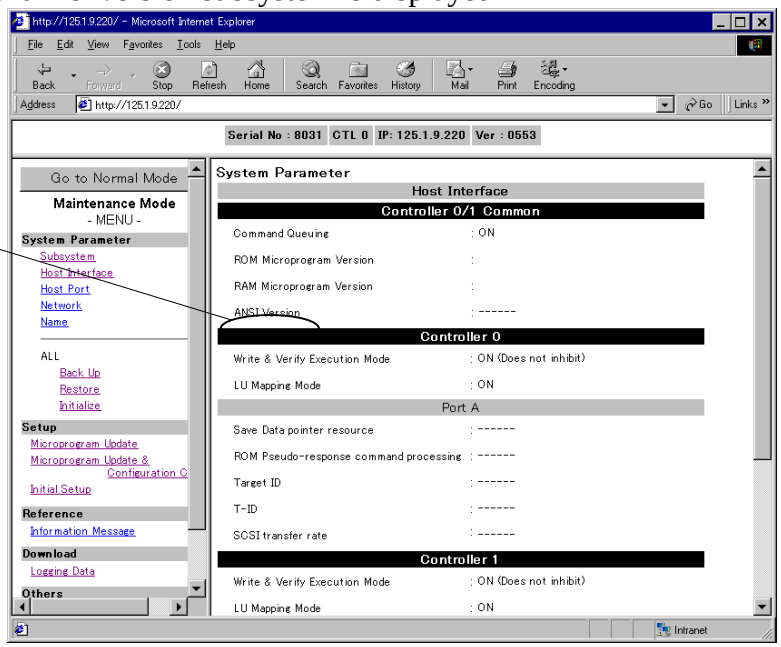
(1) Please click “Host Interface”.



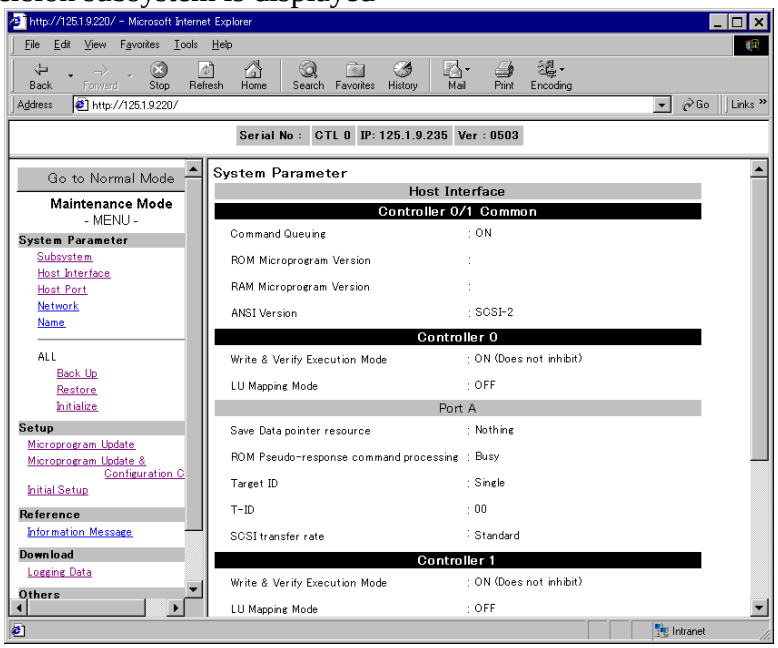
(2) The present setting value (the current value) is displayed.

- Fibre Channel version subsystem is displayed

(‡1)



- SCSI version subsystem is displayed (‡2)

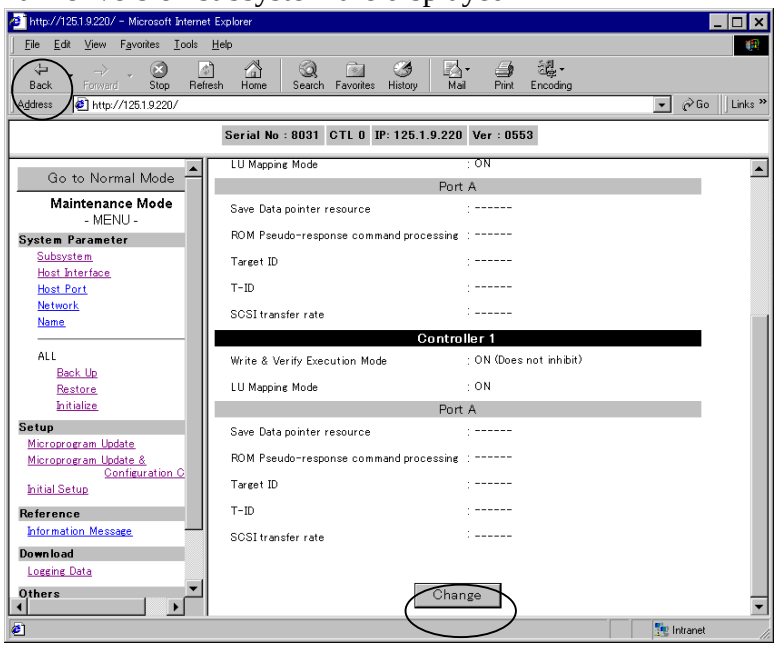


‡1: The “ANSI Version” is displayed for each of the Controller 0 and Controller 1 by the microprogram revision earlier than 05x3. It is displayed in the same way in the succeeding windows.

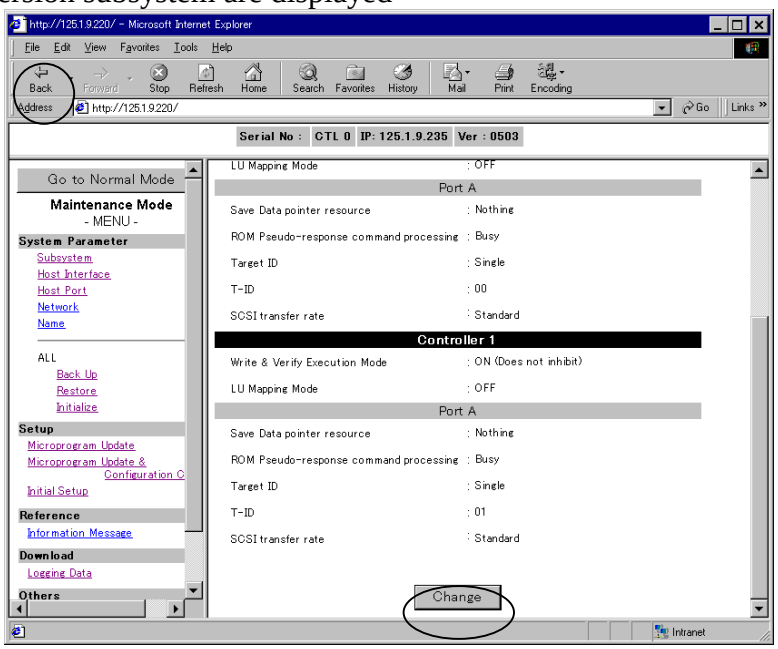
‡2: The window for the SCSI version subsystem is displayed by the microprogram revisions 0503 and later. Windows for the SCSI version subsystem are displayed in the same way on the following pages.

(3) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.

- Fibre Channel version subsystem are displayed

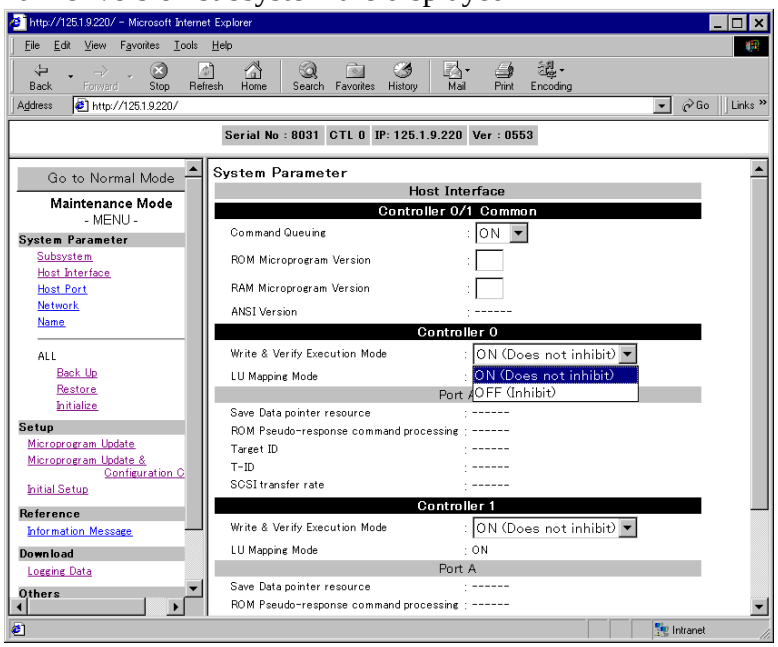


- SCSI version subsystem are displayed

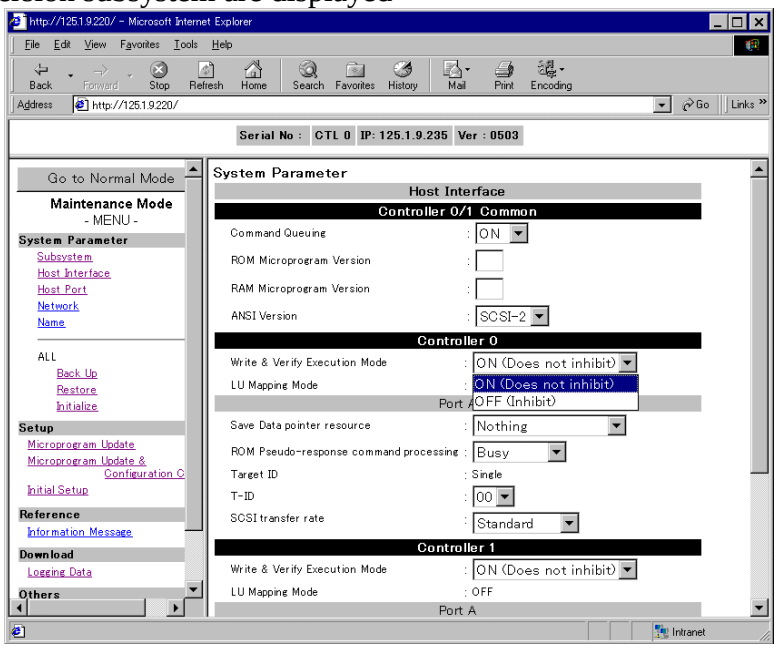


(4) Please select the item that is set up from the pull-down menu of the corresponding item that is set up. At this time, please set up the item that is set up all.

- Fibre Channel version subsystem are displayed



- SCSI version subsystem are displayed



Explanation with regard to each item

[Controller 0/1 Common]

- Command Queuing : The response value in the Inquiry command is shown.
  [ON] : The command queuing is executed.
  [OFF] : The command queuing is controlled.
- ROM Microprogram Version :
  The response value of Product Revision Level (ROM Microprogram Version) in the Inquiry command is shown.
- RAM Microprogram Version :
  The response value of Product Revision Level (RAM Microprogram Version) in the Inquiry command is shown.
- ANSI Version :
  The ANSI Version that responses with the Inquiry command is shown.

[Controller]

- Write & Verify Executing Mode
  The operations inside the Write & Verify command from the host are shown.
  [ON (Does not inhibit)] : The Write & Verify are executed.
  [OFF (Inhibit)] : This is executed and replace to the Write.
- LU Mapping Mode :
  Whether or not LU Mapping is used is shown.

[Port A] / [Port B]

This item is not used in the fibre channel version.

- Save data pointer resource
  Shows whether the report on the Save Data Pointer to a host computer is required or not.
  [Nothing] : Not to be reported.
  [Only After Data] : To be reported after transferring data.
  [Only After Cmd] : To be reported after receiving a command.
  [After Data and Cmd] : To be reported after receiving data and a command.
- ROM Pseudo response command processing
  Shows the mode of the response to a host from a powering on till the controller becomes ready.
  [Busy] : Response is to be made with BUSY.
  [Not Ready] : Response is to be made with Not Ready.
- Target ID
  Shows an ID of a target (controller).
  [Single] : Sets a single target ID.
  [Multiple] : Sets a multi target ID.

• T-ID
Sets an ID of a target (controller) within a range from 00 to 15.
This item can be set only when the Target ID is specified as Single. When the Target ID is specified as Multiple, this item is set by the Disk array management program or Disk array management program2.

• I/F Board Type / Rate
Shows information on the transfer rate control.

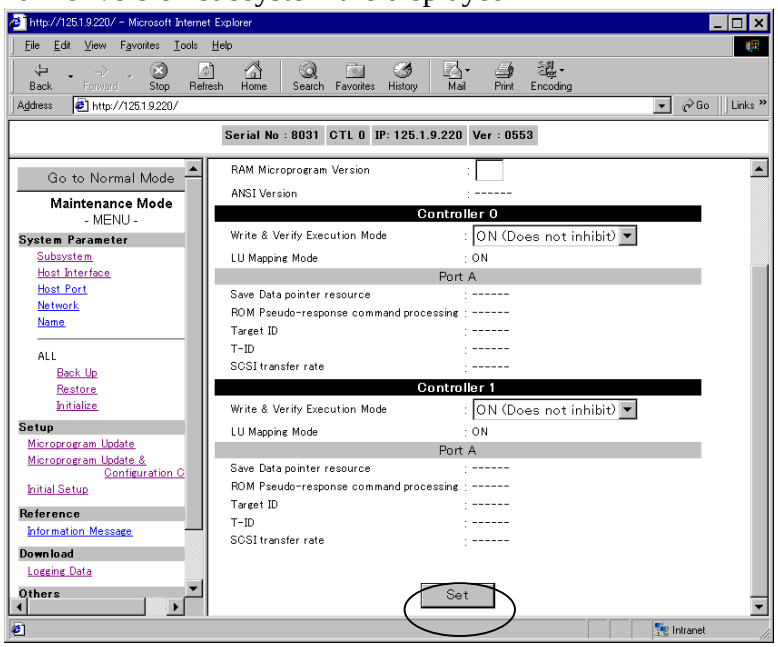
[Single End] : Sets the transfer rate of single ended SCSI when the Interface board is installed.
[Differencial] : Sets the transfer rate of differential SCSI when the Interface board is installed.
[Ultra2] : Sets the transfer rate of Ultra 2 SCSI when the I/F board is installed.

The following parameters can be set for the transfer rate.

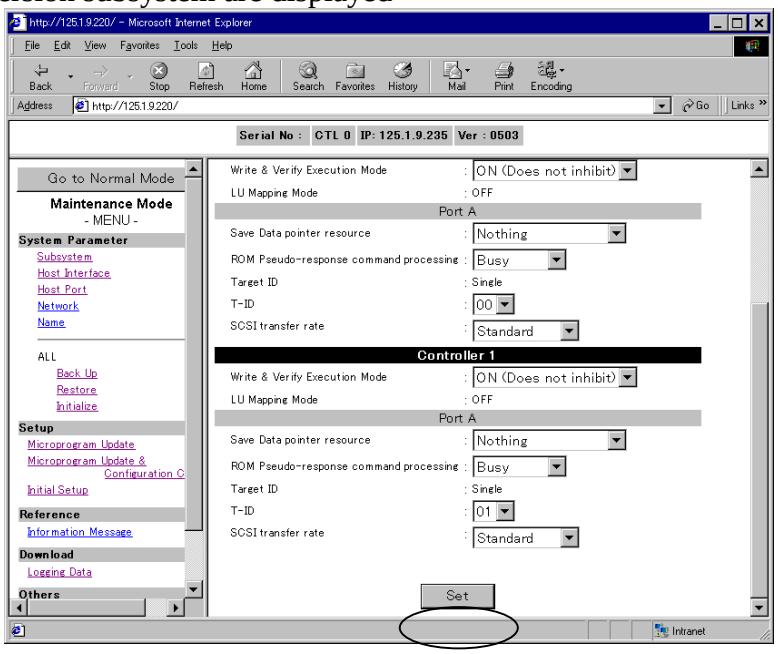
[Standard] : Data transfer rate is decided automatically.
[ASYNC] : The transfer is done asynchronously.
[5(10)MB/S] : The rate can be set up to 5 (10) bytes/s.
[10(20)MB/S] : The rate can be set up to 10 (20) bytes/s.
[20(40)MB/S] : The rate can be set up to 20 (40) bytes/s.
[40(80)MB/S] : The rate can be set up to 40 (80) bytes/s. (This setting is valid only when Ultra 2 SCSI is installed.)

(5) Please click [Set] after setting completion.

- Fibre Channel version subsystem are displayed

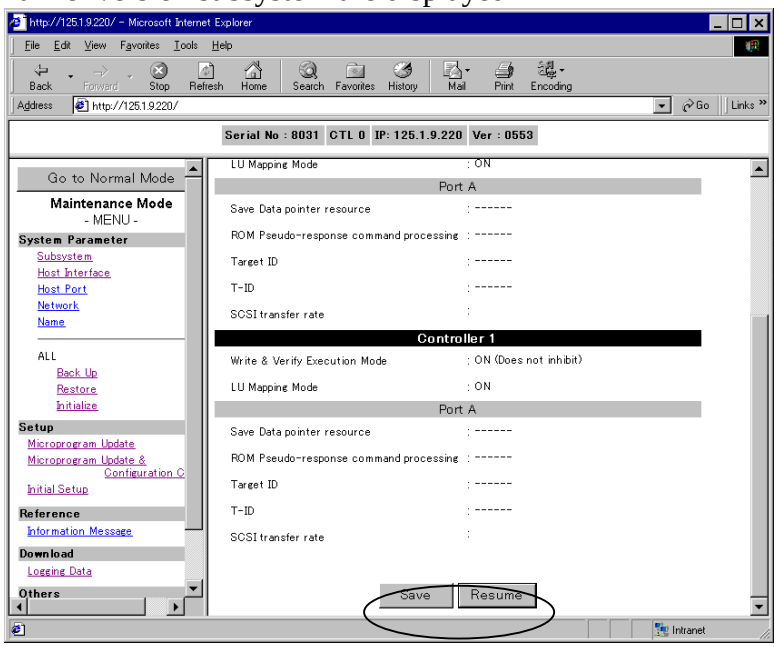


- SCSI version subsystem are displayed

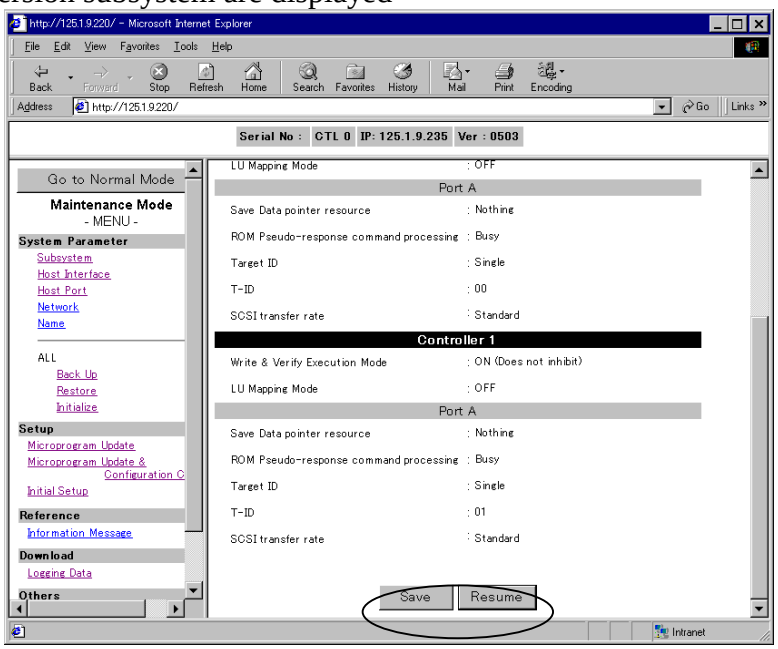


(6) The screen that confirms the following setting contents is displayed.
Please click [Save] if the setting is correct. Please click [Resume] if the setting contents are changed.

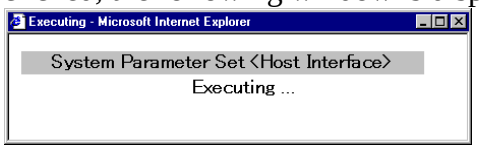
- Fibre Channel version subsystem are displayed



- SCSI version subsystem are displayed

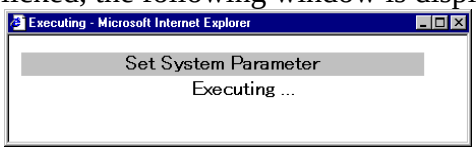


(7) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.



(8) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

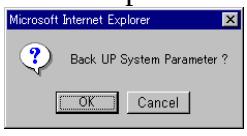
(9) If [OK] is clicked, the following window is displayed.



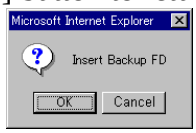
When the microprogram is Rev.05x3 or earlier, execution of step (10) completes the routine.
When the microprogram is Rev.05x4 or later, go to step (11) after executing step (9).

(10) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

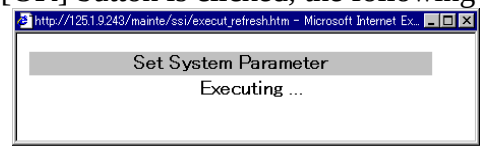
(11) The following window is displayed when the system parameter setting is completed.
Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(12)When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.



(13)When the [OK] button is clicked, the following window is displayed.

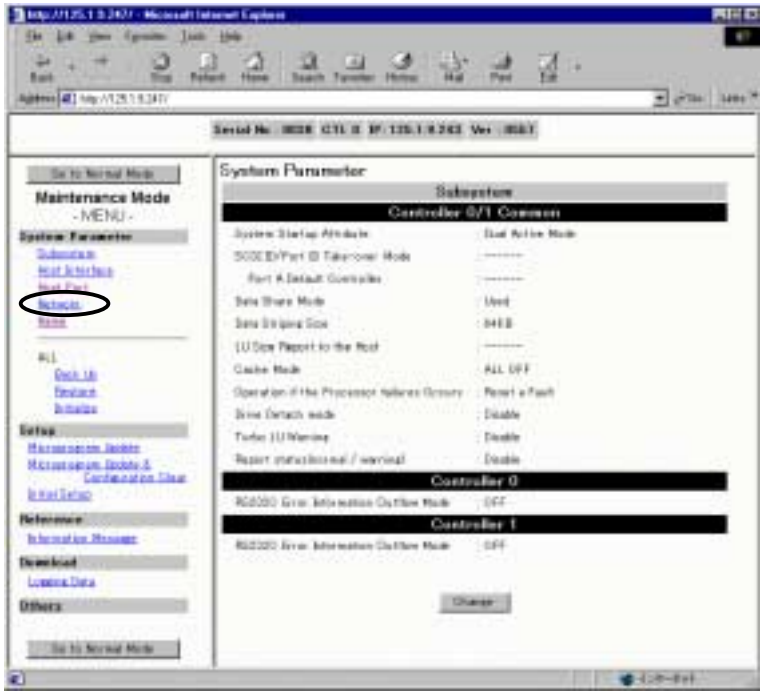


(14)When the following window is displayed after a while, the backup is completed. When the [OK] button is clicked, the window is returned to the menu window.

3.2.3 Host Port

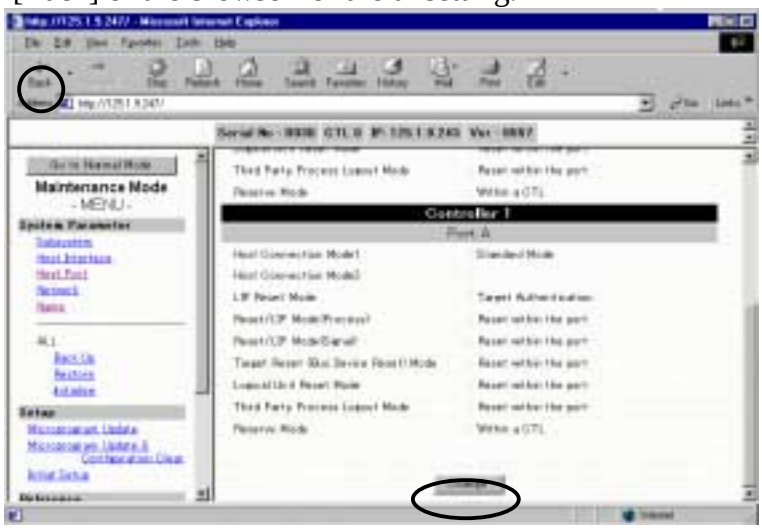
This function sets up/refer to the item regarding the host interfacing of the device.

(1) Please click “Host Port”.



(2) The present setting value (the current value) is displayed.

(3) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.



(4) Please select the item that is set up from the pull-down menu and check box of the corresponding item that is set up.
At this time, please set up the item that is set up all.

Explanation with regard to each item

[Controller 0/1 Common]

The operation mode that is shown below can be set up with Controller 0/1.

• Host Connection Mode

The Host Connection Mode as the Subsystem is shown.

[Multipath (controller)]

If this is changed “On”, the determination of sequential read is executed in the unit of the Controller and the tip judgement is triggered.(‡1)

[Multipath (Array Unit)]

If this is changed “On”, the determination of sequential read is executed as the Subsystem and the tip judgement is triggered.(‡1)

[PROCOM mode enable]

If this is changed “On”, the PROCOM mode is set up. Please do not set up the exception when it is connected with the PROCOM Company host.

[Link Separation]

When this mode is turned on, the Link Separation mode is set. turn this mode on when the HBA is directly connected with the subsystem and the I/O path switching function is used(‡3).

[NX Host mode enable]

When this mode is turned on, the NX Host mode is set. Normally, do not set this mode.

[Controller 0] / [Controller 1], [Port A] / [Port B]

The host connection mode that is shown below can be set up with the port unit.

• Host Connection Mode1

[Standard Mode]

This is a standard operation mode and this mode is set up usually.

[IBM 7135 I/O Path Switch]

Turn this mode on when the subsystem is used in the IBM 7135 I/O path switching emulation mode.(‡2)

[NCR I/O Path Switch]

Turn this mode on when the subsystem is used in the NCR I/O Path switching emulation mode.(‡2)

[TRESPASS Mode]

Please change “On”, if it is connected with the NUMA-Q server or VxVM DMP is used with Active/Passive mode.

[Wolfpack Mode]

Please change “On”, if it is used with the MSCS (Microsoft Cluster Server) configuration.

[Open VMS Mode]

Please change “On”, if it is used with the Open VMS.

‡1 : Please do not change Multipath (Controller) and Multipath (Array Unit) to “On” simultaneously both. Also, if both are “Off”, the determination of sequential read (Initiator, Command Reception Port, and LU).

‡2 : This item is not displayed for the Fibre Channel version subsystem.

‡3 : This item is not displayed for the SCSI version subsystem.

- Host Connection Mode2
  [VxVM DMP mode enable]
  Please change “On”, if it is used with the VxVM DMP.
  [ODE Mapper mode enable]
  Please change “On”, if it is used with the ODE Mapper.(‡1)
  [HP Connection mode enable]
  Please change “On”, if it is connected with the host made of the HP Company.(‡2)
  [Report inquiry page 83H]
  Please change “On”, if the Hitachi Path Manager is used.
  [UA(06/2A00) suppress mode enable]
  Please change “On”, if it is connected with the RS/600.
  [HISUP mode enable]
  Turn this mode on when the Qlogic HBA is used on Windows 2000/NT and make more than nine LUs recognized.
  [CCHS convert mode enable]
  Please change “On”, if it is connected with the HITACHI 3050.
  [Standard INQUIRY data expand mode]
  Please change “On”, if it is used with the MRCF-Lite.
  [Product ID DF400 mode enable]
  Turn this on when the host computer uses the VxVM DMP (Ver.3.0.1).
- LIP Reset Mode
  For the SCSI version subsystem, this item is displayed as “- - - -” and cannot be set.
  [Target Authentication]
  Please set up, if the Target Authentication processing is executed as LIP receipt and the continuation possible command is continued.
  [LIP Port All Reset Mode]
  Please set up, if all the commands are cleared as LIP receipt.
- Reset/LIP Mode(Process)
  [Reset Within the Port]
  This does not cause to spread the SCSI Reset/LIP processing over other ports.
  [Spread Reset to Other Port(s)]
  This causes to spread the SCSI Reset/LIP processing over other ports.
- Reset/LIP Mode(Signal)
  [Reset Within the Port]
  This does not cause to spread the SCSI Reset/LIP signal over other ports.
  [Spread Reset to Other Port(s)]
  This causes to spread the SCSI Reset/LIP signal over other ports.
- Target Reset (Bus Device Reset) Mode
  [Reset Within the Port]
  This does not cause to spread the Target Reset over other ports.
  [Spread Reset to Other Port(s)]
  This causes to spread the Target Reset over other ports.

‡1 : This item is not displayed for the Fibre Channel version subsystem.

‡2 : This item is not displayed for the SCSI version subsystem.

• Logical Unit Reset Mode
For the SCSI version subsystem, this item is displayed as "- - - -" and cannot be set.
[Reset Within the Port]
This does not cause to spread the Logical Unit Reset over other ports.
[Spread Reset to Other Port]
This causes to spread the Logical Unit Reset over other ports.
• Third Party Process Logout Mode
For the SCSI version subsystem, this item is displayed as "- - - -" and cannot be set.
[Reset Within the Port]
This does not cause to spread the Third Party Process Logout over other ports.
[Spread Reset to Other Port]
This causes to spread the Third Party Process Logout over other ports.
• Reserve Mode
[Within a CTL]
This does the Reserve of the LU (Logical Unit) effectively in the controller.
[Within a Subsystem]
This does the Reserve of the LU (Logical Unit) effectively between the dual controllers.

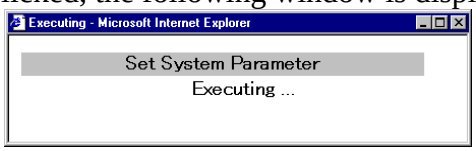
(5) Please click [Set] after setting completion.

(6) The screen that confirms the following setting contents is displayed.
Please click [Save] if the setting is correct. Please click [Resume] if the setting contents are changed.

(7) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.

(8) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

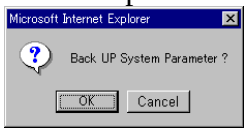
(9) If [OK] is clicked, the following window is displayed.



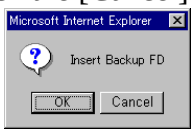
When the microprogram is Rev.05x3 or earlier, execution of step (10) completes the routine.
When the microprogram is Rev.05x4 or later, go to step (11) after executing step (9).

(10) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

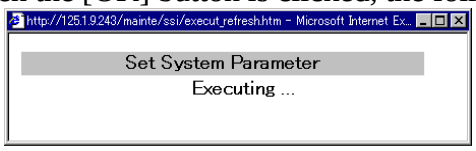
(11) The following window is displayed when the system parameter setting is completed.
Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(12) When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.



(13) When the [OK] button is clicked, the following window is displayed.

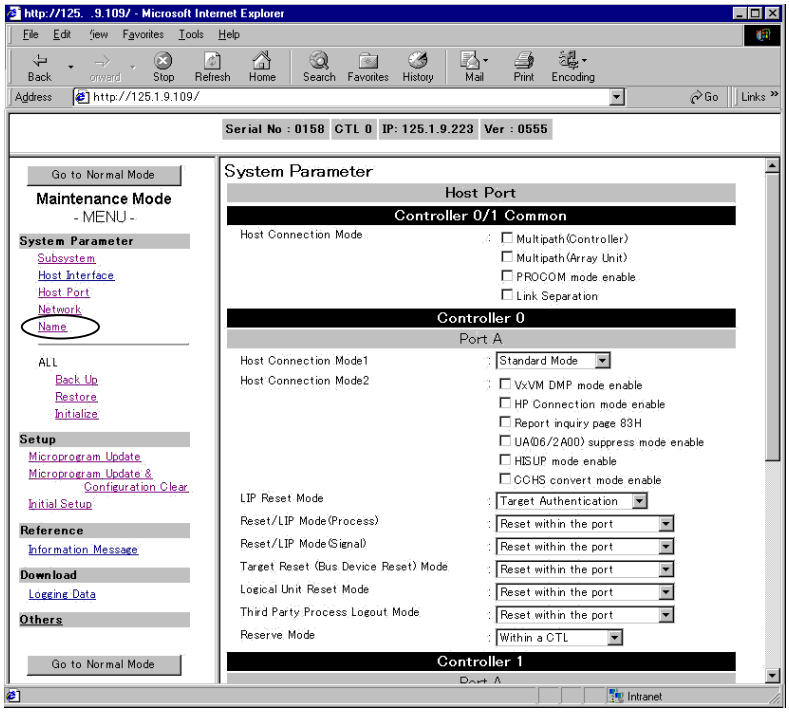


(14) When the following window is displayed after a while, the backup is completed. When the [OK] button is clicked, the window is returned to the menu window.

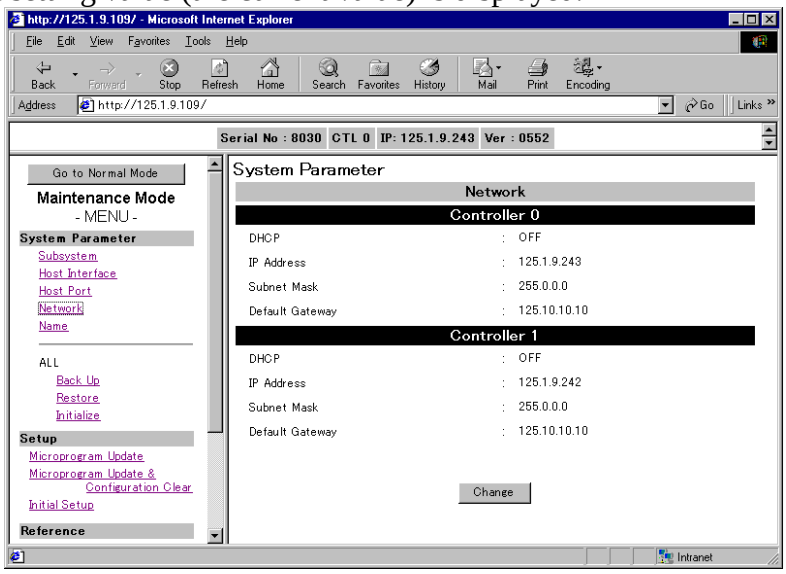
3.2.4 Network

This function sets up/refer to the item regarding the host interfacing of the device.

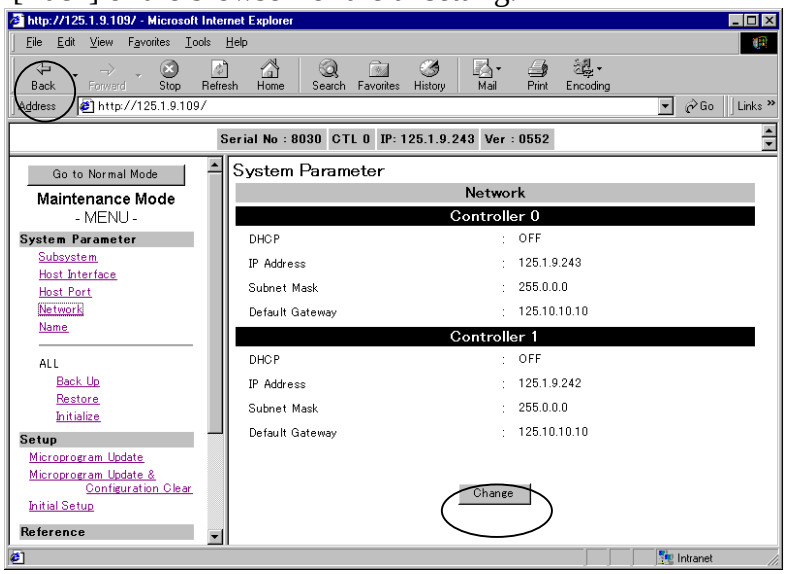
(1) Please click “Network”.



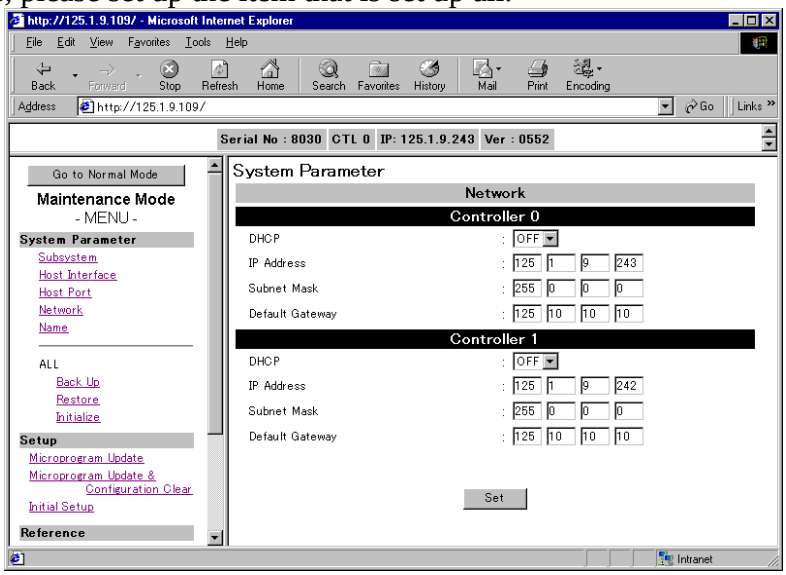
(2) The present setting value (the current value) is displayed.



(3) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.



(4) Please set up/select the corresponding item that is set up from the pull-down menu or input them.
At this time, please set up the item that is set up all.



Explanation with regard to each item

[Controller 0/1 Common]

- DHCP

  [OFF]

  Valid the DHCP mode.

  [ON]

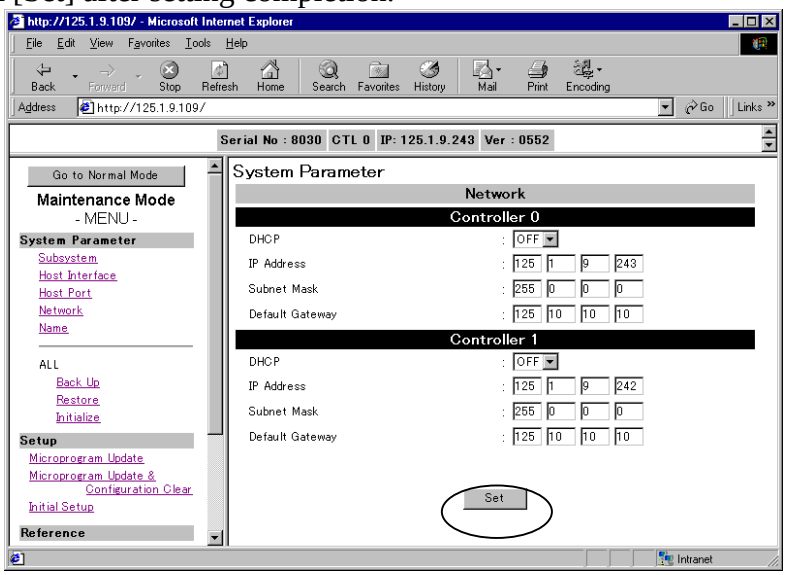
  Identifier the DHCP mode.
- IP Address

  Sets the IP ADDRESS.
- Subnet Mask

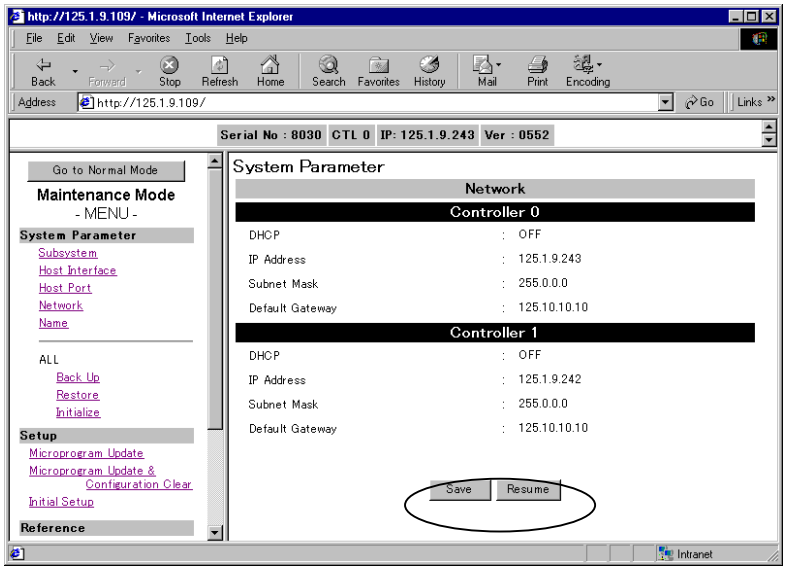
  Sets the SUB NET MASK.
- Default Getway

  Sets the DEFAULT GATEWAY.

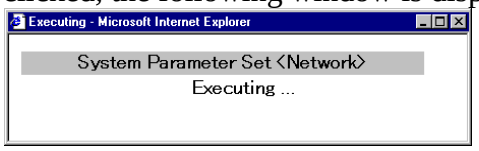
(5) Please click [Set] after setting completion.



(6) The screen that confirms the following setting contents is displayed.
Please click [Save] if the setting is correct. Please click [Resume] if the setting contents are changed.

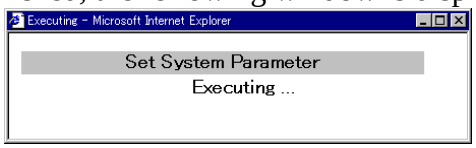


(7) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.



(8) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

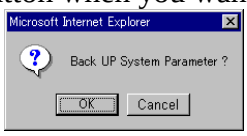
(9) If [OK] is clicked, the following window is displayed.



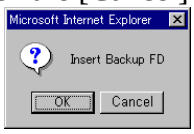
When the microprogram is Rev.05x3 or earlier, execution of step (10) completes the routine.
When the microprogram is Rev.05x4 or later, go to step (11) after executing step (9).

(10) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

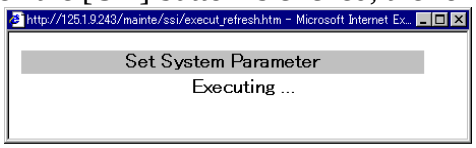
(11) The following window is displayed when the system parameter setting is completed. Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(12) When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.



(13) When the [OK] button is clicked, the following window is displayed.

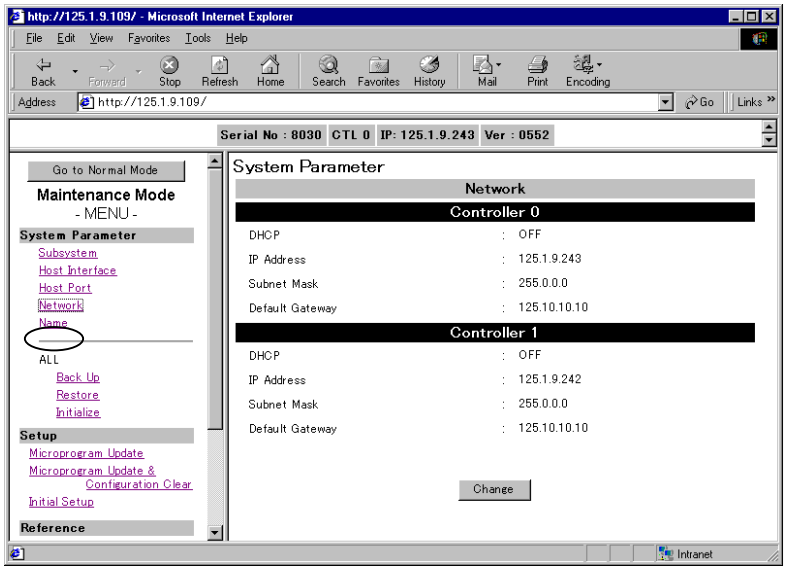


(14) When the following window is displayed after a while, the backup is completed. When the [OK] button is clicked, the window is returned to the menu window.

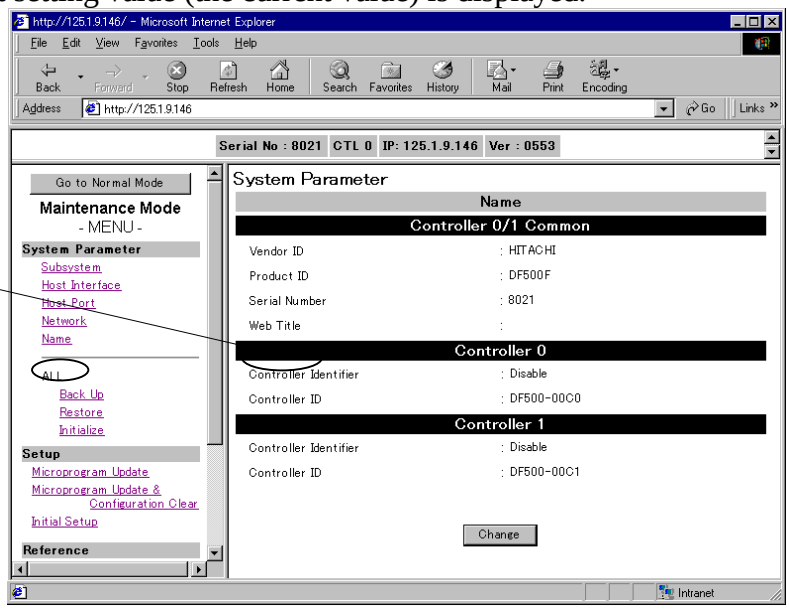
3.2.5 Name

This function can set up/refer to the item of the vendor name, model name etc. of the device.

(1) Please click “Name”.

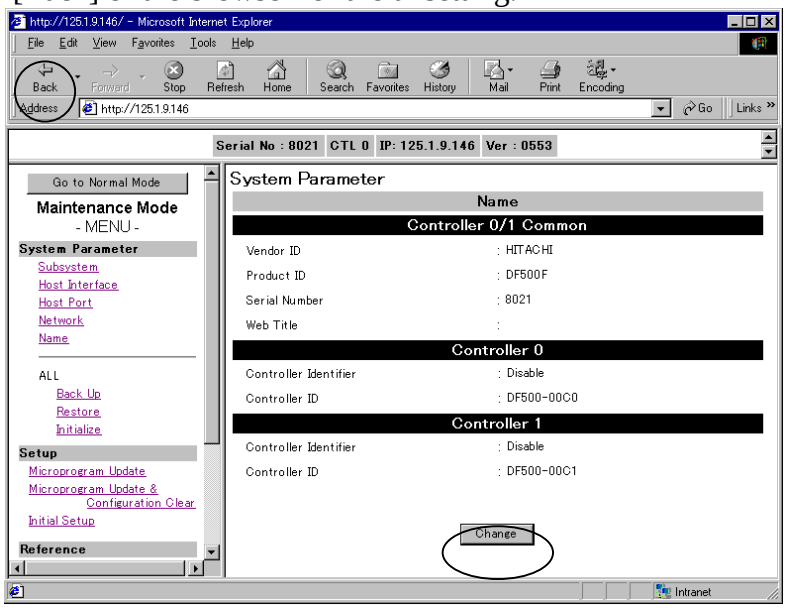


(2) The present setting value (the current value) is displayed.

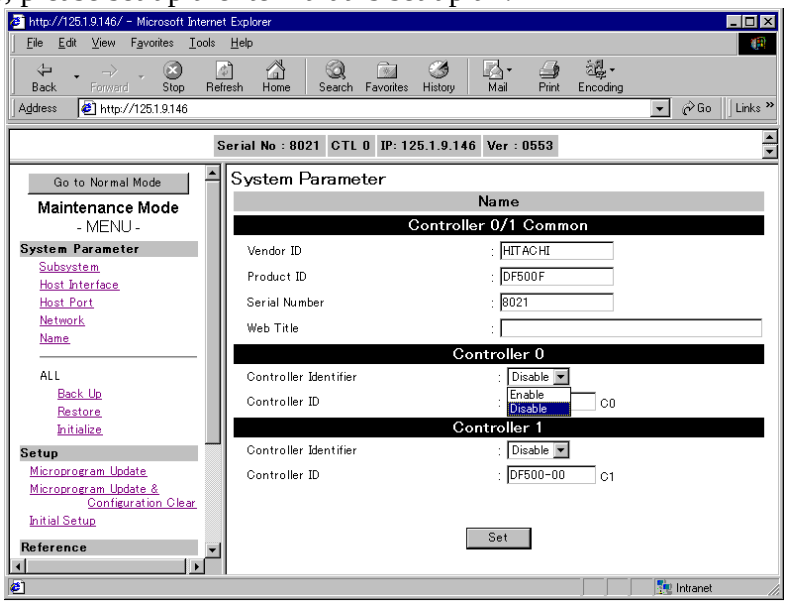


‡1: This is displayed by the microprogram revisions 05x3 and later in theWeb Title.
It is displayed in the same way in the succeeding windows.

(3) Please click [Change] for the setting.
Please click [Back] of the browser for the unsetting.



(4) Please set up/select the corresponding item that is set up from the pull-down menu or input them.
At this time, please set up the item that is set up all.



Explanation with regard to each item

[Controller 0/1 Common]

- Vendor Type

  The vendor name that is reported with the Inquiry command is set up.

- Product Type

  The model name that is reported with the Inquiry command is set up.

- Serial Number

  The serial number name that is reported with the Inquiry command is set up.

- Web Title

  Sets the Web Title.

  This is displayed by the microprogram revisions 05x3 and later.

[Controller 0] / [Controller 1]

- Controller Identifier

  (The setting mode of the controller extension is designated.)

  [Enable]

  Valid the Controller Identifier.

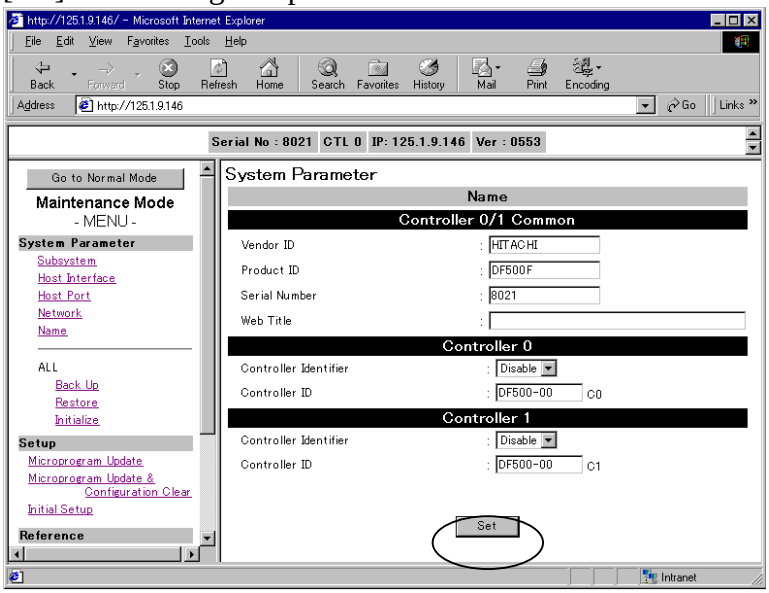
  [Disable]

  Identifier the Controller Identifier.

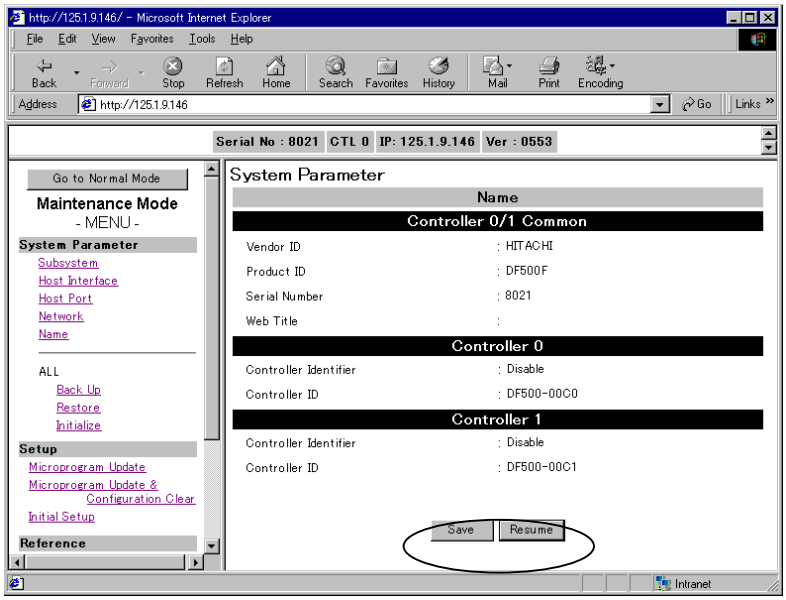
- Controller ID

  Sets the Controller Identifier.

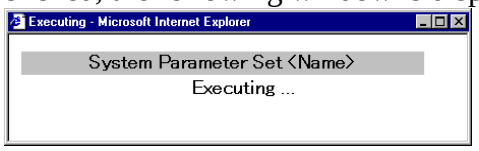
(5) Please click [Set] after setting completion.



(6) The screen that confirms the following setting contents is displayed.
Please click [Save] if the setting is correct. Please click [Resume] if the setting contents are changed.

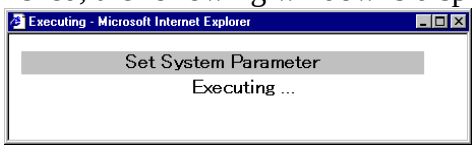


(7) If [Resume] is clicked, it returns to the setting window of before.
If [Save] is clicked, the following window is displayed.



(8) The following window is displayed at the later time for a while.
Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.
If [Cancel] was clicked, the system parameter is not set up.

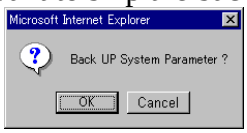
(9) If [OK] is clicked, the following window is displayed.



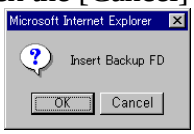
When the microprogram is Rev.05x3 or earlier, execution of step (10) completes the routine.
When the microprogram is Rev.05x4 or later, go to step (11) after executing step (9).

(10) If the following window is displayed at the later time for a while, the setting is completion.
If [OK] is clicked, it returns to the menu.

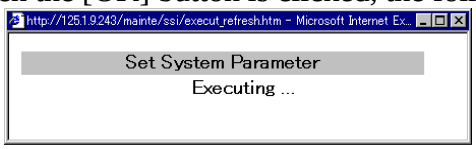
(11) The following window is displayed when the system parameter setting is completed.
Click the [OK] button when you want to backup the system parameters or [Cancel] button when you want to skip the backup and return to menu window.



(12) When the [OK] button is clicked, the following window is displayed. Insert the backup FD in the subsystem and click the [OK] button. When you discontinue the backup, click the [Cancel] button to return to the menu window.



(13) When the [OK] button is clicked, the following window is displayed.



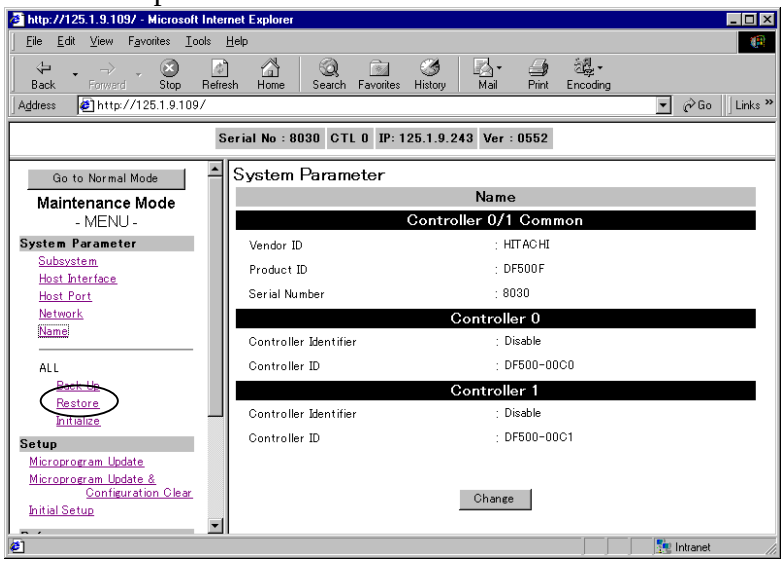
(14) When the following window is displayed after a while, the backup is completed.
When the [OK] button is clicked, the window is returned to the menu window.

3.2.6 ALL

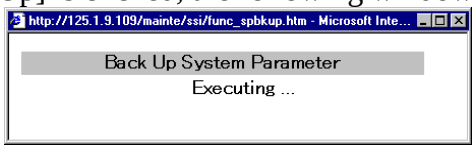
(1) Back Up

This function backs up the system parameter information of the device to the FD.

(a) Please click “Back Up”.

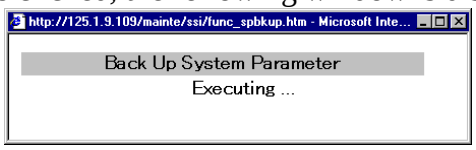


(b) If [Back Up] is clicked, the following window is displayed.



(c) Please insert the FD that the system parameter is backed up into the FDD and click [OK], if the following window is displayed at the later time for a while.

(d) If [OK] is clicked, the following window is displayed.

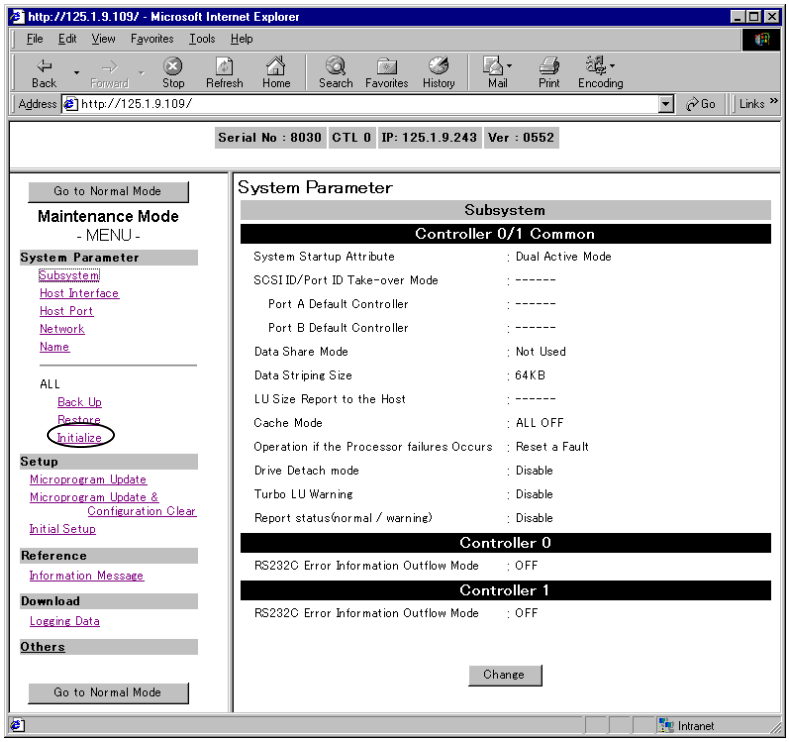


(e) Please back up after setting completion, the following window is displayed.
If [OK] is clicked, it returns to the menu.

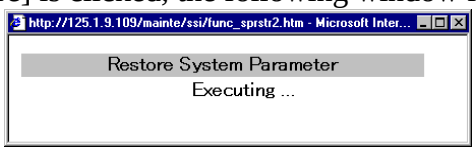
(2) Restore

This function sets up the system parameter information of the device to the contents of the backup FD.

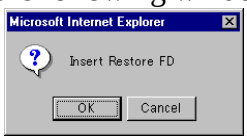
(a) Please click “Restore”.



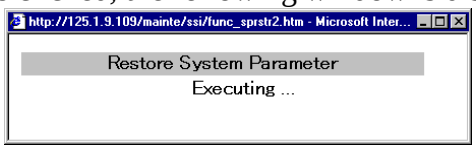
(b) If [Restore] is clicked, the following window is displayed.



(c) Please insert the FD that the system parameter is backed up into the FDD and click [OK], if the following window is displayed at the later time for a while.



(d) If [OK] is clicked, the following window is displayed.

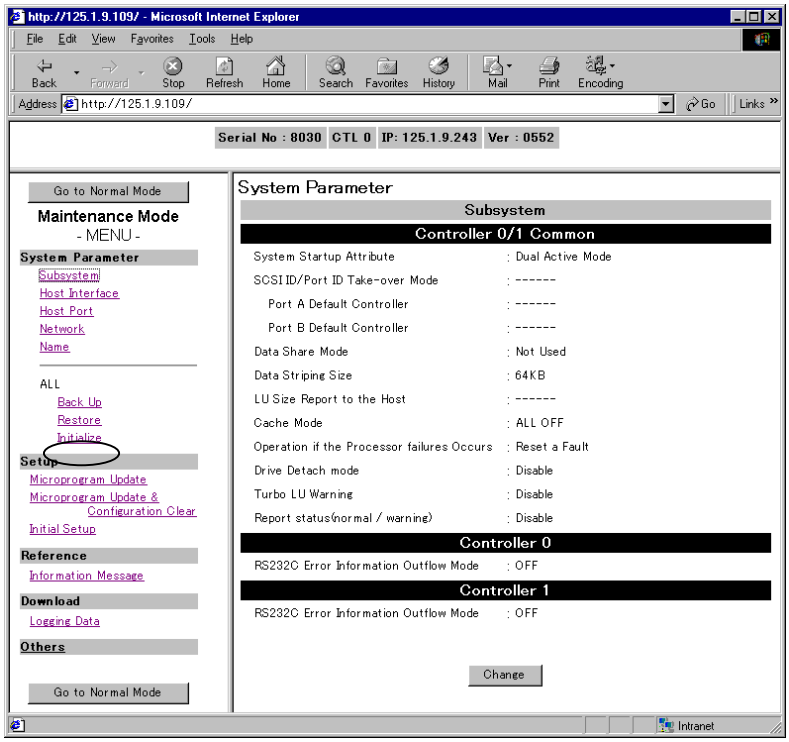


(e) Please writing of back up FD after setting completion, the following window is displayed.
If [OK] is clicked, it returns to the menu.

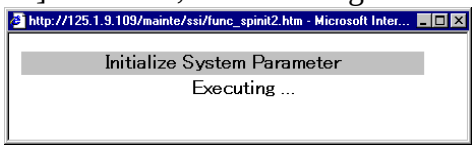
(3) Initialize

This function sets up the system parameter information of the device to the initial state. If this function was executed, the resetting of the system parameter becomes needed, because the system parameter becomes the initial state.

(a) Please click “Initialize”.

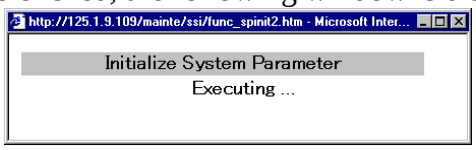


(b) If [Initialize] is clicked, the following window is displayed.



(c) If the following confirmation message is displayed for a while. Please click [OK], if it is continued.

(d) If [OK] is clicked, the following window is displayed.



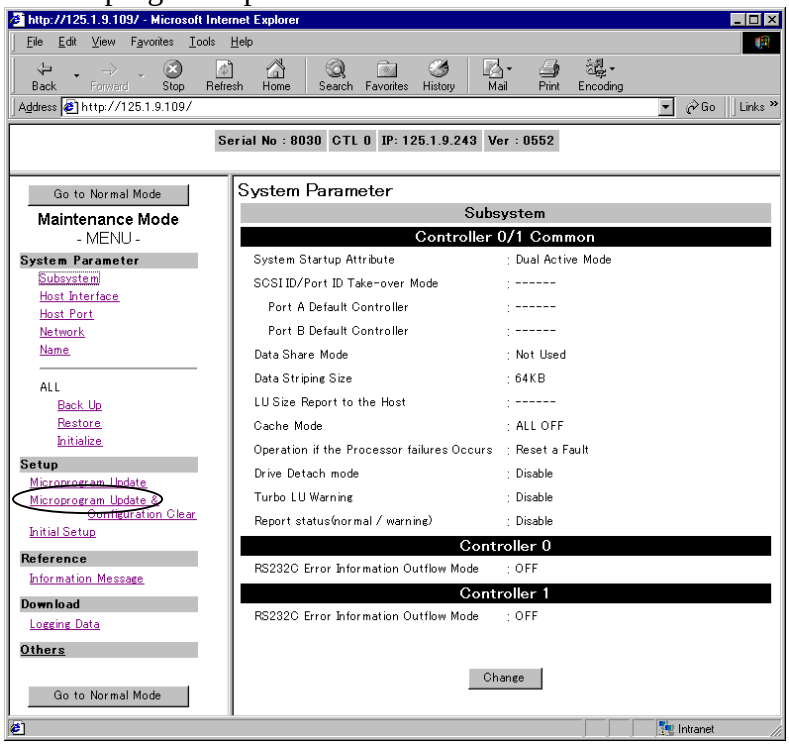
(e) The system parameter becomes the initial state, the following window is displayed. If [OK] is clicked, it returns to the menu.

3.3 Setup

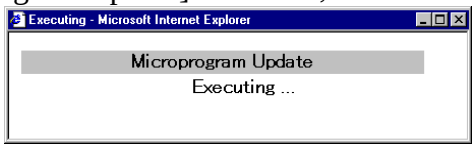
3.3.1 Microprogram Update

This function updates and installs the Microprogram of the device.

(1) Please click “Microprogram Update”.



(2) If [Microprogram Update] is clicked, the following window is displayed.



(3) When the message shown below is displayed after a while, insert the FD (#1) into the Floppy disk drive following the message requiring the FD to be inserted and click on [OK].

(4) Please exchange the FD and click [OK], if the message is displayed as the FD is exchanged with the timing of the FD exchange (repeat this with all the number of sheets of the FD).

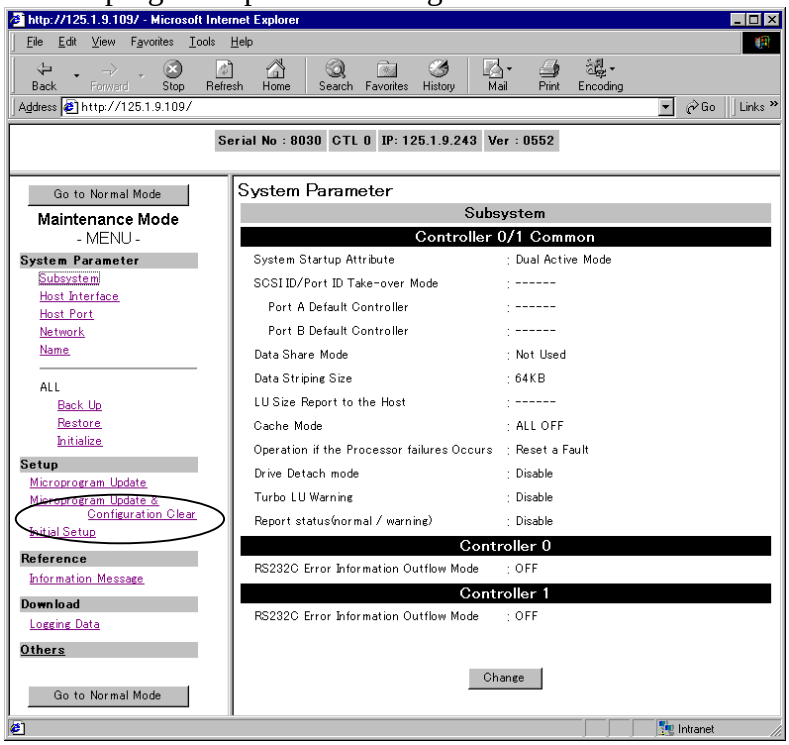
(5) When the process completes normally, the following window is displayed. Take out the FD from the Floppy disk drive and click on [OK].

3.3.2 Microprogram Update & Configuration Clear

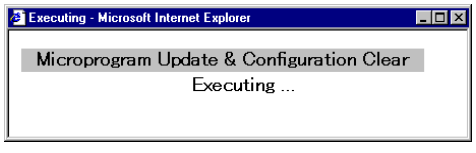
This function clears the configuration information of the device and installs new the Microprogram.

Notice : Even the user data is cleared, along with the RAID group, the LU (Logical Unit) that were created, because the configuration information of the array device is cleared, when this function is used.
The update of the usual Microprogram should use "Microprogram Update", not this function.

(1) Please click “Microprogram Update & Configuration Clear”.



(2) If [Microprogram Update & Configuration Clear] is clicked, the following window is displayed.



(3) When the message shown below is displayed after a while, insert the FD (#1) into the Floppy disk drive following the message requiring the FD to be inserted and click on [OK].

(4) If the Microprogram is installed before, the following confirmation message is displayed. Please click [OK] if the setting is correct. Please click [Cancel] if the setting contents ar.

(5) Please exchange the FD and click [OK], if the message is displayed as the FD is exchanged with the timing of the FD exchange (repeat this with all the number of sheets of the FD).

(6) When the process completes normally, the following window is displayed. Take out the FD from the Floppy disk drive and click on [OK].

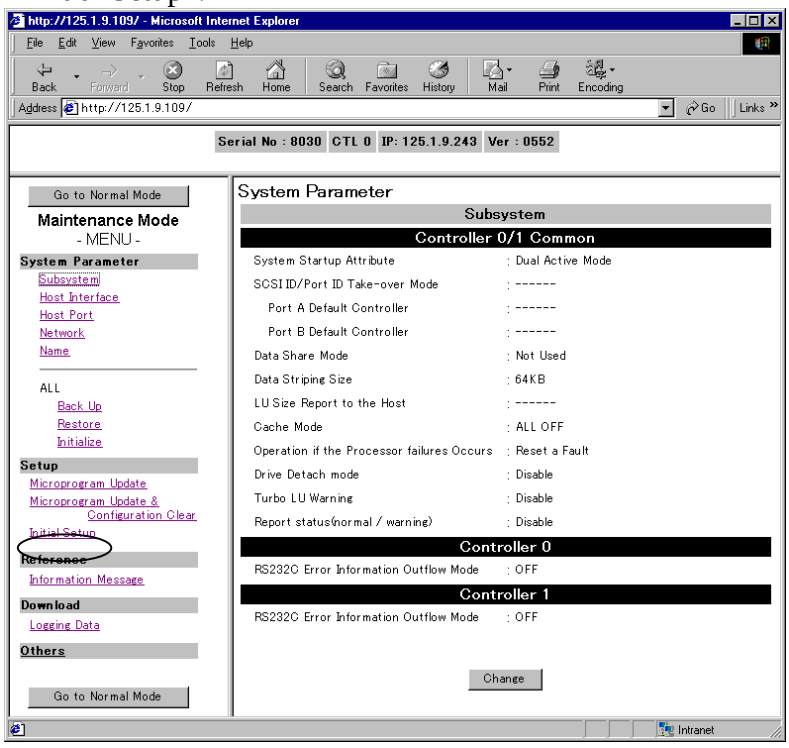
3.3.3 Initial Setup

This function installs the Microprogram after the clear of the configuration information of the array device, and set up the system parameter to the initial state.

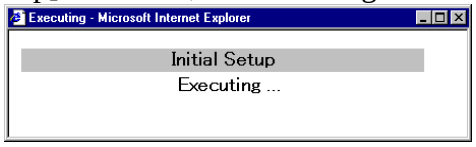
The system parameter setting and configuration information setting are necessary after the execution of this function.

Notice : Even the user data is cleared, along with the RAID group, the LU (Logical Unit) that were created, because the configuration information of the array device is cleared, when this function is used.
The update of the usual Microprogram should use “Microprogram Update”, not this function.

(1) Please click “Initial Setup”.



(2) If [Initial Setup] is clicked, the following window is displayed.



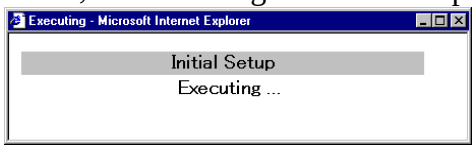
(3) When the message shown below is displayed after a while, insert the FD (#1) into the Floppy disk drive following the message requiring the FD to be inserted and click on [OK].

(4) If the Microprogram is installed before, the following confirmation message is displayed. Please click [OK], if the setting is continued. Please click [Cancel], if the setting is stopped.

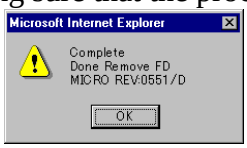
(5) Please exchange the FD and click [OK], if the message is displayed as the FD is exchanged with the timing of the FD exchange (repeat this with all the number of sheets of the FD).

(6) If normal completion, the following window is displayed.
Please click [OK], if the system parameter is clear. Please click [Cancel], if the system parameter is not clear.

(7) If [OK] is clicked, the following window is displayed.



(8) When the process completes normally, the following window is displayed.
After making sure that the process has completed normally, click on [OK].

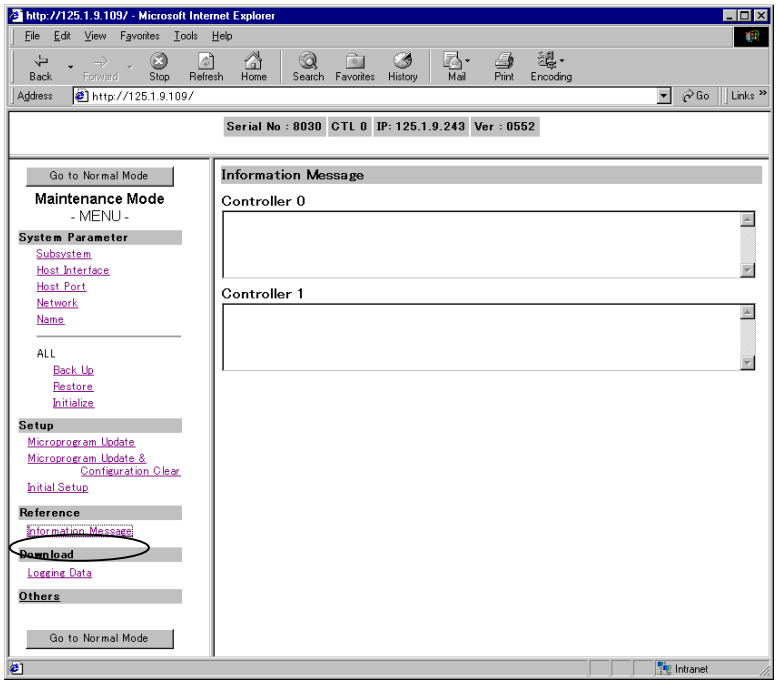


3.4 Reference

3.4.1 Information Message

If the abnormality occurred to the array device, this function displays the fault information.

The fault information of Controller # 0 is displayed in “Information Message” and the fault information of Controller # 1 is displayed in “Information Message”.



3.5 Download

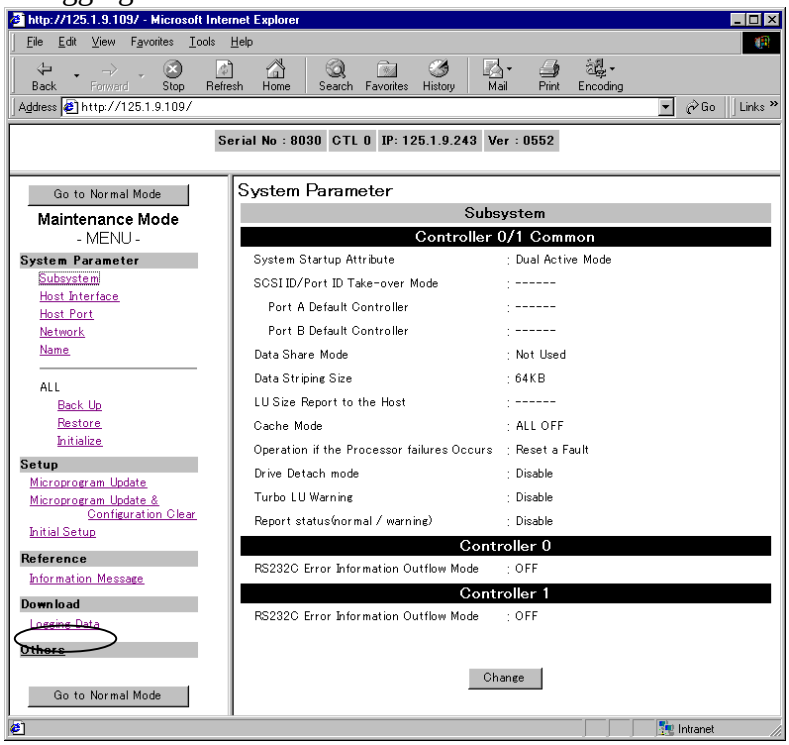
3.5.1 Logging Data

This function downloads the logging information of the device.

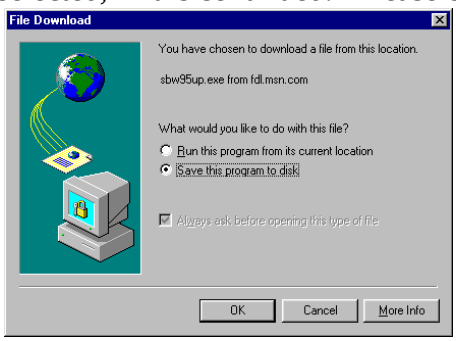
The vacancy capacity of about 180 Mbytes is necessary on the PC to download.

Notice : When this function is used, the menu other than Logging Data comes not to use it.
Please enter into the Maintenance Mode again by the reset switch of the Controller, once again, if other menus are used, after this function was used.

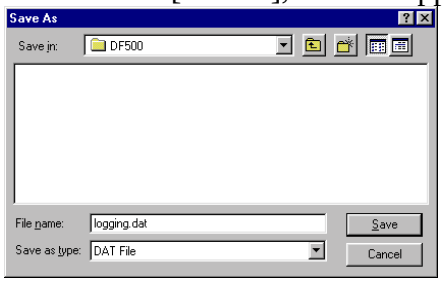
(1) Please click “Logging Data”.



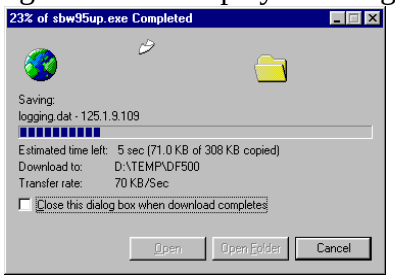
(2) The following window is displayed. Please click [OK] after “this file is preserved to the disk(S)” is selected, if it is continued. Please click [Cancel], if it is stopped.



(3) If the following window is displayed. Please click [Save] after file name is setting, if it is continued. Please click [Cancel], if it is stopped.



(4) The following window is displayed during execution download.

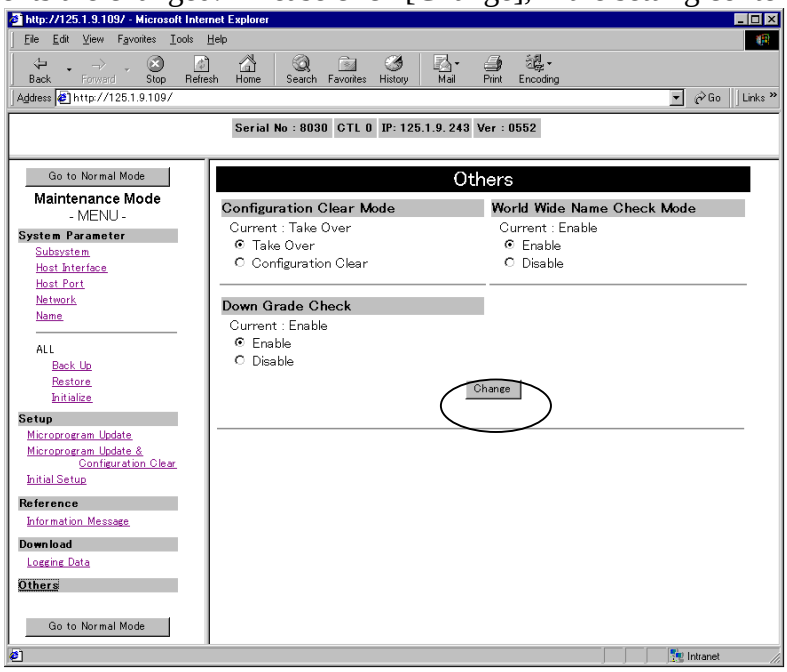


(5) The download completes.

3.6 Other

The others are set up.
The contents that were set up in this function are not taken over and not step over the PS-OFF/ON.

(1) Please confirm the setting value of each item and click the check box of the item that the setting contents are changed. Please click [Change], if the setting contents are updated.



Explanation with regard to each item

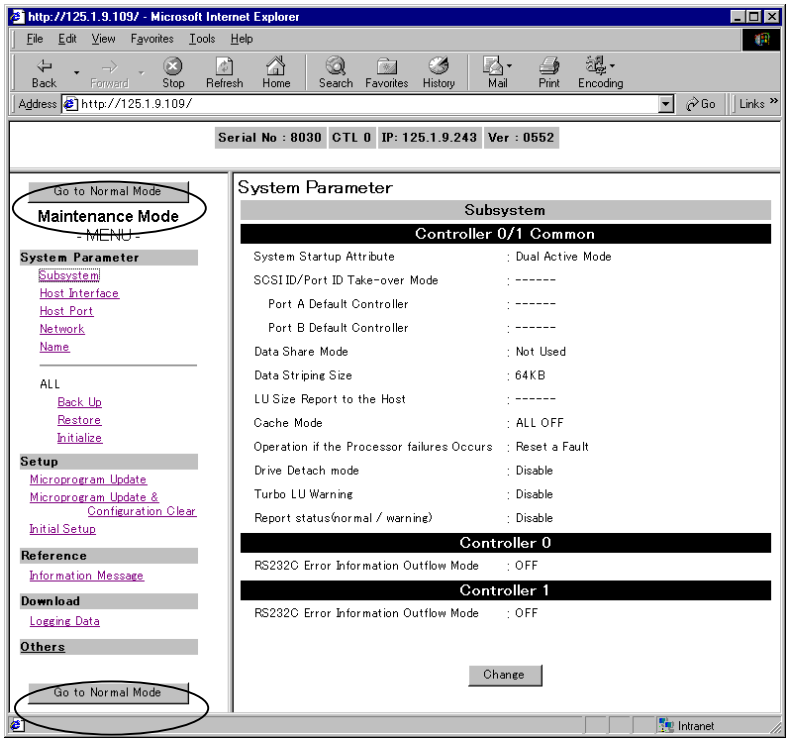
- Configuration Clear Mode
  The transfer information initialization as the booting is designated.
  [Take Over] : Transfer booting (default).
  [Configuration Clear] : Default booting.
- World Wide Name Check Mode
  The World Wide Name Check Mode as the booting is designated.
  [Enable] : The WWN Check is executed (default).
  [Disable] : The WWN Check is not executed.
- Data Down Grade Check Mode
  The Data Down Grade Check as the Update Microprogram (update) installation is designated.
  [Enable] : The Down Grade Check is executed (default).
  [Disable] : The Down Grade Check is not executed.

(2) Please confirm that the setting value was updated.

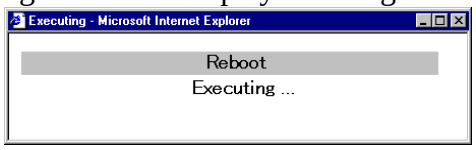
3.7 Return Method to the Normal Mode

The method that returns from the Maintenance Mode to the Normal Mode is shown.

(1) Please click [Go To Normal Mode]. The button of [Go To Normal Mode] is in the top and down on the menu window. Please select either button.

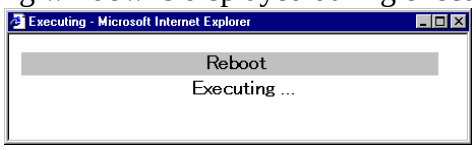


(2) The following window is displayed during execution.



(3) If the following confirmation message is displayed for a while. Please click [OK], if it is continued.

(4) The following window is displayed during execution.



(5) If the return to the Usually Mode completes, the array device becomes the Ready status. Please confirm that the READY LED of the device entire surface is lighted.

Appendix

Appendix A System Parameter Setting List

System Parameter Setting for DF500 (Fibre Channel) (1/3)

	Platforms		HP			SUN					
	HA	Alternate Path	None	Alternate Link	None	None	Safe Path	VxVM V2.6/2.6.1 DMP		VxVM V3.0.1 DMP	
		Fail Over	None	MC/ Service Guard		None	First Watch /VCS(*5)	None		First Watch /VCS(*5)	None
	Subsystem										
1	System Startup Attribute		Depends on System Configuration(*1)								
2	Data Share Mode		Depends on System Configuration(*2)								
3	Data Striping Size		64 kbytes (Standard setting)								
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)								
5	Operation if Processor fail Occurs		Reset a Fault (Standard setting)								
6	Drive Detach mode enable		Disable (Standard setting)								
7	Turbo LU Warning		Disable (Standard setting)								
8	Report status(normal / warning)		Enable (Standard setting)								
9	RS232C Error Information Outflow Mode		When R5-232C is used: On When R5-232C is not used: Off								
	Host Interface										
1	Command Queuing Mode		On (Standard setting)								
2	ROM Microprogram Version		No change is needed.								
3	RAM Microprogram Version		No change is needed.								
4	Write & Verify Executing Mode		On (Standard setting)								
5	LU Mapping Mode		Depends on System Configuration(*3)								
	Host Port										
1	Host Connection Mode		Without setting								
2	Host Connection Mode1		Standard Mode							TRESPASS Mode	
3	Host Connection Mode2		HP Connection mode enable		Without setting			VxVM DMP mode enable			
4	LIP Reset Mode		Target Authentication (Standard setting)								
5	Reset/LIP Mode(Process)		Reset within the port (Standard setting)								
6	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)								
7	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)								
8	Logical Unit Reset Mode		Reset within the port (Standard setting)								
9	Third Party Process Logout Mode		Reset within the port (Standard setting)								
10	Reserve Mode		Within a CTL (Standard setting(*7))								
	Network										
1	DHCP		OFF (Standard setting)								
2	IP Address		To be set according to the network setting								
3	Subnet Mask		To be set according to the network setting								
4	Default Gateway		To be set according to the network setting								
	Name										
1	Vendor ID		HITACHI (Standard setting)								
2	Product ID		DF500F (Standard setting)							DF400	
3	Serial Number		Without setting(*6)								
4	Controller Identifier		Disable (Standard setting)			Enable					
5	Controller ID		–			DF500-00 (Standard setting(*4))					

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.

*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure).

It is recommended to use the subsystem in the Data Share mode in the case where the LU ownership switching may occur.

*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.
*4 : Make the controller ID's of the CTL-00 and CTL-01 of the DF500 identical.
When the two or more DF-500's are connected to the system, set the Controller ID's which are not the duplications of each other.
When one of the host computers connected to the DF500 requires the Controller ID, set the Controller identifier to Enabled.
*5 : Veritas Cluster Server
*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.
*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.

System Parameter Setting for DF500 (Fibre Channel) (2/3)

	Platforms		IBM (AIX)			Sequent
	HA	Alternate Path	None	Hitachi Path Manager		MP Driver
		Fail Over	None	HACMP	None	None
	Subsystem					
1	System Startup Attribute		Depends on System Configuration(*1)			
2	Data Share Mode		Depends on System Configuration(*2)			
3	Data Striping Size		64 kbytes (Standard setting)			
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)			
5	Operation if the Processor failures Occurs		Reset a Fault (Standard setting)			
6	Drive Detach mode enable		Disable (Standard setting)			
7	Turbo LU Warning		Disable (Standard setting)			
8	Report status(normal / warning)		Enable (Standard setting)			
9	RS232C Error Information Outflow Mode		When R5-232C is used: On When R5-232C is not used: Off			
	Host Interface					
1	Command Queuing Mode		On (Standard setting)			
2	ROM Microprogram Version		No change is needed.			
3	RAM Microprogram Version		No change is needed.			
4	Write & Verify Executing Mode		On (Standard setting)			
5	LU Mapping Mode		Depends on System Configuration(*3)			
	Host Port					
1	Host Connection Mode		Without setting			Multipath(Controller)
2	Host Connection Mode1		Standard Mode			TRESPASS Mode
3	Host Connection Mode2		UA(06/2A00) suppress mode enable	Report inquiry page 83H		With out setting
4	LIP Reset Mode		Target Authentication (Standard setting)			
5	Reset/LIP Mode(Process)		Reset within the port (Standard setting)			
6	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)			
7	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)			
8	Logical Unit Reset Mode		Reset within the port (Standard setting)	Spread reset to other port(s)		Reset within the port (Standard setting)
9	Third Party Process Logout Mode		Reset within the port (Standard setting)			
10	Reserve Mode		Within a CTL (Standard setting(*7))			
	Network					
1	DHCP		OFF (Standard setting)			
2	IP Address		To be set according to the network setting			
3	Subnet Mask		To be set according to the network setting			
4	Default Gateway		To be set according to the network setting			
	Name					
1	Vendor ID		HITACHI (Standard setting)			
2	Product ID		DF500F (Standard setting)			
3	Serial Number		Without setting(*6)			
4	Controller Identifier		Disable (Standard setting)		Enable	
5	Controller ID		–		DF500-00 (Standard setting(*4))	

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.

*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure). It is recommended to use the subsystem in the Data Share mode in the case where the LU ownership switching may occur.

*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.

*4 : Make the controller ID's of the CTL-00 and CTL-01 of the DF500 identical.
When the two or more DF-500's are connected to the system, set the Controller ID's which are not the duplications of each other. When one of the host computers connected to the DF500 requires the Controller ID, set the Controller identifier to Enabled.

*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.

*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.

System Parameter Setting for DF500 (Fibre Channel) (3/3)

	Platforms		NT			Others
	HA	Alternate Path	None	Hitachi Path Manager	None	None
		Fail Over	None	MSCS		None
	Subsystem					
1	System Startup Attribute		Depends on System Configuration(*1)			
2	Data Share Mode		Depends on System Configuration(*2)			
3	Data Striping Size		64 kbytes (Standard setting)			
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)			
5	Operation if the Processor failures Occurs		Reset a Fault (Standard setting)			
6	Drive Detach mode enable		Disable (Standard setting)			
7	Turbo LU Warning		Disable (Standard setting)			
8	Report status(normal / warning)		Enable (Standard setting)			
9	RS232C Error Information Outflow Mode		When R5-232C is used : On When R5-232C is not used : Off			
	Host Interface					
1	Command Queuing Mode		On (Standard setting)			
2	ROM Microprogram Version		No change is needed.			
3	RAM Microprogram Version		No change is needed.			
4	Write & Verify Executing Mode		On (Standard setting)			
5	LU Mapping Mode		Depends on System Configuration(*3)			
	Host Port					
1	Host Connection Mode		Without setting			
2	Host Connection Mode1		Without setting	Wolfpack Mode		Without setting
3	Host Connection Mode2		With out setting	Report inquiry page 83H	Without setting	Without setting
4	LIP Reset Mode		Target Authentication (Standard setting)	LIP Port ALL Reset Mode		Target Authentication (Standard setting)
5	Reset/LIP Mode(Process)		Reset within the port (Standard setting)	Spread reset to other port(s)		Reset within the port (Standard setting)
6	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)	Spread reset to other port(s)		Reset within the port (Standard setting)
7	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)			
8	Logical Unit Reset Mode		Reset within the port (Standard setting)			
9	Third Party Process Logout Mode		Reset within the port (Standard setting)			
10	Reserve Mode		Within a CTL (Standard setting(*7))			
	Network					
1	DHCP		OFF (Standard setting)			
2	IP Address		To be set according to the network setting			
3	Subnet Mask		To be set according to the network setting			
4	Default Gateway		To be set according to the network setting			
	Name					
1	Vendor ID		HITACHI (Standard setting)			
2	Product ID		DF500F (Standard setting)			
3	Serial Number		Without setting(*6)			
4	Controller Identifier		Disable (Standard setting)			
5	Controller ID		–			

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.

*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure). It is recommended to use the subsystem in the Data Share mode in case the LU ownership switching may occur.

*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.

*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.

*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.

System Parameter Setting for DF500 ((SCSI) (1/3)

	Platforms		HP			SUN				
	HA	Alternate Path	None	Alternate Link	None	None	Safe Path	VxVM V2.6/2.6.1 DMP		VxVM V3.0.1 DMP
		Fail Over	None	MC/ Service Guard		None	First Watch /VCS(*5)	None	First Watch /VCS(*5)	None
	Subsystem									
1	System Startup Attribute		Depends on System Configuration(*1)							
2	Data Share Mode		Depends on System Configuration(*2)							
3	Data Striping Size		64 kbytes (Standard setting)							
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)							
5	Operation if the Processor failures Occurs		Reset a Fault (Standard setting)							
6	Drive Detach mode enable		Disable (Standard setting)							
7	Turbo LU Warning		Disable (Standard setting)							
8	Report status(normal / warning)		Enable (Standard setting)							
9	RS232C Error Information Outflow Mode		When R5-232C is used: On When R5-232C is not used: Off							
	Host Interface									
1	Command Queuing Mode		On (Standard setting)							
2	ROM Microprogram Version		No change is needed.							
3	RAM Microprogram Version		No change is needed.							
4	Write & Verify Executing Mode		On (Standard setting)							
5	LU Mapping Mode		Depends on System Configuration(*3)							
6	Save Data Pointer Resource		Nothing (Standard setting)							
7	ROM Pseudo Response		Busy (Standard setting)							
8	Target ID		Depends on System Configuration							
9	Interface Board Type/Rate		According to the I/F board type							
	Host Port									
1	Host Connection Mode		Without setting							
2	Host Connection Mode1		Standard Mode							TRESPASS Mode
3	Host Connection Mode2		Without setting					VxVM DMP mode enable		
4	Reset/LIP Mode(Process)		Reset within the port (Standard setting)							
5	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)							
6	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)							
7	Reserve Mode		Within a CTL (Standard setting(*7))							
	Network									
1	DHCP		OFF (Standard setting)							
2	IP Address		To be set according to the network setting							
3	Subnet Mask		To be set according to the network setting							
4	Default Gateway		To be set according to the network setting							
	Name									
1	Vendor ID		HITACHI (Standard setting)							
2	Product ID		DF500F (Standard setting)							DF400
3	Serial Number		Without setting(*6)							
4	Controller Identifier		Disable (Standard setting)					Enable		
5	Controller ID		–					DF500-00 (Standard setting)		

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.
*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure).
It is recommended to use the subsystem in the Data Share mode in the case where the LU ownership switching may occur.
*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.
*4 : Make the controller ID's of the CTL-00 and CTL-01 of the DF500 identical.
When the two or more DF-500's are connected to the system, set the Controller ID's which are not the duplications of each other.
When one of the host computers connected to the DF500 requires the Controller ID, set the Controller identifier to Enabled.
*5 : Veritas Cluster Server
*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.
*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.

System Parameter Setting for DF500 (SCSI) (2/3)

	Platforms		IBM (AIX)				Sequent
	HA	Alternate Path	None	Hitachi Path Manager		7135 Emulation	MP DRIVER
		Fail Over	None	HACMP	None	HACMP	None
	Subsystem						
1	System Startup Attribute		Depends on System Configuration(*1)				
2	Data Share Mode		Depends on System Configuration(*2)		Non Data Share		Depends on System Configuration(*2)
3	Data Striping Size		64 kbytes (Standard setting)				
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)				
5	Operation if the Processor failures Occurs		Reset a Fault (Standard setting)				
6	Drive Detach mode enable		Disable (Standard setting)				
7	Turbo LU Warning		Disable (Standard setting)				
8	Report status(normal / warning)		Enable (Standard setting)				
9	RS232C Error Information Outflow Mode		When R5-232C is used: On When R5-232C is not used: Off				
	Host Interface						
1	Command Queuing Mode		On (Standard setting)				
2	ROM Microprogram Version		No change is needed.				
3	RAM Microprogram Version		No change is needed.				
4	Write & Verify Executing Mode		On (Standard setting)				
5	LU Mapping Mode		Depends on System Configuration(*3)		S-TID, M-LUN		Depends on System Configuration(*3)
6	Save Data Pointer Resource		Nothing (Standard setting)				
7	ROM Pseudo Response		Busy (Standard setting)				
8	Target ID		Depends on System Configuration		Single(*8)		Depends on System Configuration
9	Interface Board Type/Rate		According to the I/F board type				
	Host Port						
1	Host Connection Mode		Without setting				Multipath(Controller)
2	Host Connection Mode1		Standard Mode		IBM 7135 I/O path Switch Mode		TRESPASS Mode
3	Host Connection Mode2			Report inquiry page 83H	UA(06/2A00) suppress mode enable		With out setting
4	Reset/LIP Mode(Process)		Reset within the port (Standard setting)				
5	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)				
6	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)				
7	Reserve Mode		Within a CTL (Standard setting(*7))				
	Network						
1	DHCP		OFF (Standard setting)				
2	IP Address		To be set according to the network setting				
3	Subnet Mask		To be set according to the network setting				
4	Default Gateway		To be set according to the network setting				
	Name						
1	Vendor ID		HITACHI (Standard setting)		IBM		HITACHI (Standard setting)
2	Product ID		DF500F (Standard setting)		71350210 00000000		DF500F (Standard setting)
3	Serial Number		Without setting(*6)				
4	Controller Identifier		Disable (Standard setting)		Enable		
5	Controller ID		–		DF500-00 (Standard setting(*4))		

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.

*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure). It is recommended to use the subsystem in the Data Share mode in the case where the LU ownership switching may occur.

*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.

*4 : Make the controller ID's of the CTL-00 and CTL-01 of the DF500 identical.
When the two or more DF-500's are connected to the system, set the Controller ID's which are not the duplications of each other. When one of the host computers connected to the DF500 requires the Controller ID, set the Controller identifier to Enabled.

*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.

*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.

System Parameter Setting for DF500 (SCSI) (3/3)

	Platforms		NT			NCR		Others
	HA	Alternate Path	None	Hitachi Path Manager	None	None	RDAC	None
		Fail Over	None	MSCS		None		None
	Subsystem							
1	System Startup Attribute		Depends on System Configuration(*1)					
2	Data Share Mode		Depends on System Configuration(*2)		Non Data Share			Depends on System Configuration(*2)
3	Data Striping Size		64 kbytes (Standard setting)					
4	Cache Mode		ALL OFF (Standard setting) (Only set for Performance Evaluation)					
5	Operation if the Processor failures Occurs		Reset a Fault (Standard setting)					
6	Drive Detach mode enable		Disable (Standard setting)					
7	Turbo LU Warning		Disable (Standard setting)					
8	Report status(normal / warning)		Enable (Standard setting)					
9	RS232C Error Information Outflow Mode		When R5-232C is used: On When R5-232C is not used: Off					
	Host Interface							
1	Command Queuing Mode		On (Standard setting)					
2	ROM Microprogram Version		No change is needed.					
3	RAM Microprogram Version		No change is needed.					
4	Write & Verify Executing Mode		On (Standard setting)					
5	LU Mapping Mode		Depends on System Configuration(*3)			S-TID, M-LUN		Depends on System Configuration
6	Save Data Pointer Resource		Nothing (Standard setting)					
7	ROM Pseudo Response		Busy (Standard setting)					
8	Target ID		Depends on System Configuration			Single		Depends on System Configuration
9	Interface Board Type/Rate		According to the I/F board type					
	Host Port							
1	Host Connection Mode		Without setting					
2	Host Connection Mode1		Without setting		Wolfpack Mode			Without setting
3	Host Connection Mode2		Without setting	Report inquiry page 83H	Without setting			Without setting
4	Reset/LIP Mode(Process)		Reset within the port (Standard setting)		Spread reset to other port(s)			Reset within the port (Standard setting)
5	Reset/LIP Mode(Signal)		Reset within the port (Standard setting)		Spread reset to other port(s)			Reset within the port (Standard setting)
6	Target Reset (Bus Device Reset) Mode		Reset within the port (Standard setting)					
7	Reserve Mode		Within a CTL (Standard setting(*7))					
	Network							
1	DHCP		OFF (Standard setting)					
2	IP Address		To be set according to the network setting					
3	Subnet Mask		To be set according to the network setting					
4	Default Gateway		To be set according to the network setting					
	Name							
1	Vendor ID		HITACHI (Standard setting)			SYMBIOS		HITACHI (Standard setting)
2	Product ID		DF500 (Standard setting)			INF-01-00		DF500 (Standard setting)
3	Serial Number		Without setting(*6)					
4	Controller Identifier		Disable (Standard setting)			Enable		Disable (Standard setting)
5	Controller ID		–			DF500-00 (Standard setting(*4))		–

*1 : The Hot Standby mode is used when only one of the two Controllers is normal.
*2 : The Data Share mode is used to prevent performance deterioration caused by the LU ownership switching to be done when a host computer issues commands frequently to a Controller, to which the computer has no ownership, in the normal or regression status (owing to a path or host computer failure).
It is recommended to use the subsystem in the Data Share mode in the case where the LU ownership switching may occur.
*3 : When the DF500 is connected, the LU which is not wanted to be accessed by the port must be masked by means of the LU mapping mode.
*4 : Make the controller ID's of the CTL-00 and CTL-01 of the DF500 identical.
When the two or more DF-500's are connected to the system, set the Controller ID's which are not the duplications of each other.
When one of the host computers connected to the DF500 requires the Controller ID, set the Controller identifier to Enabled.
*5 : Veritas Cluster Server
*6 : When this item is not set yet, set the last four digits of the serial number of the DF500.
*7 : When the Data Share mode is set, the subsystem operates in the Within a Subsystem mode even when the Within a CTL mode is set.
*8 : In the case of the 7135 Emulation mode, combination of the target ID's of the Controller 0 and Controller 1 must be 0 and 1, 2 and 3, or 4 and 5.

Revision Control

Legend for revision codes : AD : Addition CH : Change CR : Correction DL : Deletion

REV.	Date	DRW	CHKD	APPD	Sheet No.	Description	Code
0	Jul.31.2000	A.Yamanashi	A.Yamanashi	M.Sato	All	Issued	-
1	Aug.25.2000	K.Suzuki	K.Suzuki	Y.Takeuchi	All	Issued	-
2	Oct.10.2000	K.Suzuki	K.Suzuki	Y.Takeuchi	00-0000	Rev.1 → Rev.2	CH
					00-0080	"subsytem" was changed to "subsystem".	CR
					01-0010	Table was changed.	CH
					01-0030	"For WEB …" was added.	AD
					01-0080	Text of (c) and (ii) were modified.	CH
						Figure 1.3.2 was moved to page 01-0081.	DL
					01-0081	This page was newly added. (Figure 1.3.2 was moved to this page from page 01-0080.)	AD
					01-0090	Notice was added.	AD
					01-0130	Window design of (m) was modified.	CH
					02-0010	Notice and ‡1 were added.	AD
						Window design was modified.	CH
					02-0020	Window design was modified. (Pages 02-0040, 02-0080, 02-0090, 02-0120, 02-0130 for the same reason.)	CH
					02-0030	"Warning Information" was added.	AD
						Description of (2) was added.	AD
					02-0110	Window and "When checking …" were added	AD
					02-0130	Notice was added.	AD
					03-0010	Description of text and (b) were modified.	CH
					03-0020	Notice was added.	AD
					03-0060	"Auto adjst" and "Not adjst" were added.	AD
					03-0100	(2) was moved to the next page.	DL
					03-0101	This page was newly added. (Added (2), SCSI window and ‡1, ‡2.)	AD
					03-0110	(4) was moved to the next page. Added SCSI window.	DL/AD
					03-0111	This page was newly added. (Added (4), SCSI window.)	AD
					03-0120	"I/F Board Type / Rate" was moved to the next page. Text was added.	DL/AD
					03-0121	This page was newly added. (Added "I/F Board Type / Rate".)	AD
					03-0130	(6) was moved to the next page.	DL
						SCSI window was added.	AD
					03-0131	This page was newly added. ((6), SCSI window was added.)	AD
					03-0150	Window design of (2) was modified.	CH
					03-0160	Window design was modified. (Pages 03-0190 for the same reason.)	CH
					03-0170	"[Link Separation], [IBM 7135 I/O…], [NCR I/O…]", ‡2 and ‡3 were added.	AD

Legend for revision codes : AD : Addition CH : Change CR : Correction DL : Deletion

REV.	Date	DRW	CHKD	APPD	Sheet No.	Description	Code
					03-0180	"[ODE Mapper…], [HP Connection…], [Report inquiry…], [UA(06/2A00)…], [HISUP mode…]" and ‡1 were added.	AD
					03-0260	Window design of (2) was modified.	CH
						‡1 wad added.	AD
					03-0270	Window design of (3) and (4) were modified.	CH
					03-0280	"Web Title" was added.	AD
						Window design of (5) was modified.	CH
					03-0290	Window design of (6) was modified.	CH
3	Dec.10.2000	K.Suzuki	K.Suzuki	Y.Takeuchi	00-0000	Rev.2 → Rev.3	CH
					01-0080	Text of (e)-(ii) was changed.	CH
					01-0090	Window design of (f) was modified.	CH
					01-0100	Window design of (g) was modified.	CH
					01-0130	"When the microprogram is ... " and item (q) were added.	AD
					01-0131	This page was newly added. (Added (r), (s) and (t).)	AD
					01-0140	Window design of (u) was modified. Item No. were changed.	CH
					01-0150	Item No. were changed.	CH
					03-0010	(1) was added. The succeeding step numbers were changed.	AD
						Text of (3)-(b) was changed.	CH
					03-0020	(3) was changed to (4).	CH
					03-0090	"When the microprogram is ... " and item (11) were added.	AD
					03-0091	This page was newly added. (Added (12) ,(13) and (14).)	AD
					03-0140	"When the microprogram is ... " and item (11) were added.	AD
					03-0141	This page was newly added. (Added (12) ,(13) and (14).)	AD
					03-0150	Window design of (2) was modified.	CH
					03-0160	Window design of (3) and (4) was modified.	CH
					03-0180	"Reserve Mode" was moved to page 03-0181.	DL
					03-0181	This page was newly added. ("Third Party Process Logout Mode" was added. "Reserve Mode" was moved to this page from 03-0180.)	AD
					03-0190	Window design of (5) and (6) was modified.	CH
					03-0200	"When the microprogram is ... " and item (11) were added.	AD
					03-0201	This page was newly added. (Added (12) ,(13) and (14).)	AD
					03-0210	Window design of (1) was modified.	CH
					03-0250	"When the microprogram is ... " and item (11) to (14) were added.	AD
					03-0300	"When the microprogram is ... " and item (11) to (14) were added.	AD
4	Jan.10.2001	K.Suzuki	K.Suzuki	Y.Takeuchi	All	A revision owing to a change of the page format. (Revision numbers of all pages were advanced to 4.)	CH

Legend for revision codes : AD : Addition CH : Change CR : Correction DL : Deletion

REV.	Date	DRW	CHKD	APPD	Sheet No.	Description	Code
5	Mar.20.2001	K.Suzuki			00-0000	Rev.4 → Rev.5	CH
					00-0060	Appendix A added.	AD
					01-0010	Table1.1.1 NO.5 deleted.	DL
						"Notice on (restriction)…" was moved to page 01-0011.	
					01-0011	This page was newly added. (Table1.1.2 Support browser added. "Notice on (restriction)…" was moved to this page from 01-0010.)	AD
					01-0080	(e) (iii) added.	AD
					03-0010	(3) (c) added.	AD
					03-0121	T-ID Damp2 added.	AD
					03-0150	Window design of (1)(2) was modified.	CH
					03-0160	Window design of (3)(4) was modified.	CH
					03-0170	Description of [Link Separation] was changed.	CH
						[NX Host mode enable] was added.	AD
					03-0180	[Standard INQUIRY data expand mode] and [Product ID DF400 mode enable] added.	AD
						"Logical Unit Reset Mode" was moved to page 03-0181.	DL
					03-0181	"Logical Unit Reset Mode" was moved to this page from 03-0180.	AD
					03-0190	Window design of (5)(6) was modified.	CH
					70-0000	This page was newly added. (Appendix A added. Pages 70-0010 to 70-0090 for the same reason.)	AD