SVP SECTION

Contents

1. How to Operate the SVP (PC)

1.1 How to use Windows

(1) Notation
In this manual, "select" has the following three meanings, and (CL), (DC), or (DR) is added to the word for each meaning.

(CL) Click: Quickly press and release the left side button of mouse.
(DC) Double-click: Click the left side button of mouse twice in rapid succession.
(DR) Drag: To hold down the left side button of mouse while you trace the mouse to move the pointer to a desired position.   Then release the button.
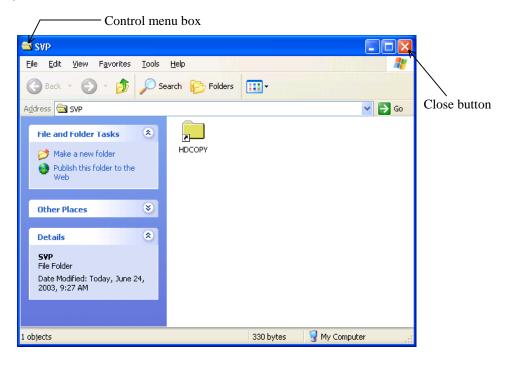
example: Select (DC) the [Install] icon in the 'SVP' window.
Move the pointer to [Install] with the mouse.   Then click the button the Move the pointer to [Install] with the left side button of mouse twice in rapid succession.

(2) Close
"Close" means to close the application window.
(Double-click the control menu box of the window or click the close button for window.)
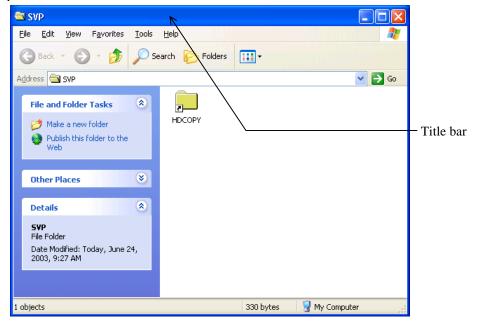
Control menu box

Close button
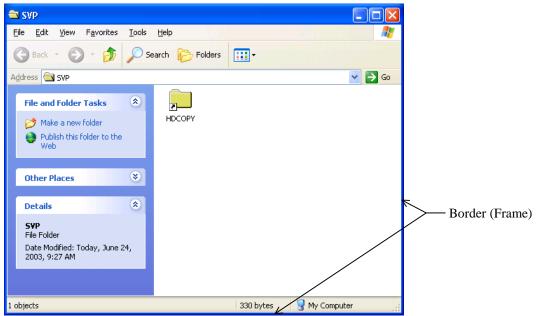
(3) Moving the Window
Move the pointer to the title bar with the trackball.
While pressing the button, move the window with the trackball or touchpad (DR) to a desired position and release the button.

Title bar

(4) Changing the window size
Move the pointer to the window border (frame) (the pointer changes to the double- headed arrow).   While pressing the button, move the border (the border changes to the broken line) until the window becomes a desired size, and release the button.

Border (Frame)
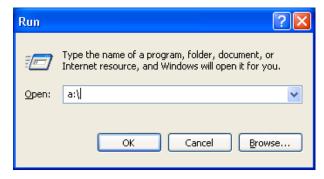
(5) Switching the screen (when two or more screens are opened)
    While pressing the [ALT] key , press [TAB] key (or [ESC] key) until your desired window title
    is displayed, and release the [ALT] key.

1.2 Running the SVP by Specifying a File Name

(1) <Select [Run]>
     Select (CL) [Run…] from the [Start] menu.

(2) <Entering a file name>
     Enter a file name in the "Open" box and
     select (CL) the [OK] button.
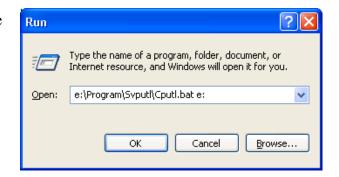
1.3 Executing SVP Connect Utility

Execute SVP Connect Utility through a Console PC. Execute the following procedure through the Console PC.

(1) Installing SVP Connect Utility
Insert the Host PP medium to the CD-R drive in the Console PC, and select (CL) [Run…] from the [Start] menu.
Enter "e:\Program\Svputl\Cputl.bat e:" in the "Open" box. Select (CL) the [OK] button.

Note: In the step above, the CD-R drive in the Console PC is assigned a drive letter E.
If the CD-R drive is assigned a drive letter D, enter "d:\Program\Svputl\Cputl.bat d:".

(2) Executing SVP Connect Utility
Double-click "RDPEXE.exe" in the desktop to execute the SVP Connect Utility.

Notice: The following alert might be displayed by environment of the OS. When it was displayed, please select (CL) [Unblock].

1.4 Before using the remote desktop exclusion function

This function is only available for the HDS version.

Note: The version corresponding to the Console PC is as shown in the following table.

OS version of the corresponding Console PC	Windows 2000 / XP / 2003 server

Check that the conditions of Sections 1.4.1 and 1.4.2 are satisfied.

1.4.1 Version check of Internet Explorer (IE) in the Console PC

Check the version of Internet Explorer (IE) in the Console PC.

(1)

Select (DR) the Internet Explorer icon from the desktop, and start IE.

(2)

Select (CL) the system menu [HELP] of IE, and select (CL) the version information from the popup menu.

(3)

Check the section of version in the dialog of the figure.
Check that the version is
6.0.1YYY.YYY.– (Y is a numeric value) and
6.0.2ZZZ.ZZZ.– (Z is a numeric value) or
later.
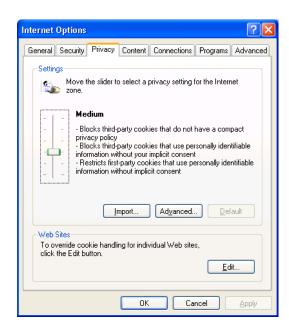
1.4.2 Checking Internet Explorer (IE) options in the Console PC

Check the Internet Explorer (IE) options.

(1)

Select (CL) the system menu [TOOL] of IE.

(2)

Select (CL) [Internet Options] from the popup menu.

(3)

Open the dialog, and select (CL) [Privacy] Tab.

(4)

Check that the policy is [Medium], [Medium High] or [High] in the section of Setting (or check that cookie of the first party is not blocked).

If Cookie is blocked, change it to the above-mentioned setting.

1.4.3 Checking SVP connecting person by the remote desktop exclusion function

Check the usage status of SVP in the Console PC according to the following procedure.

(1)

Enter the following URL in the address bar from IE (Internet Explorer) in the Console PC and display the authentication dialog window. If the connection environment to SVP by WebConsole is SSL, connect from https:···. In other cases, connect from http://···.

| http[s]://<IP address of SVP>/cgi-bin/rdpCheck/rdp001.cgi |

Note: Enter C of rdpCheck of URL with a capital letter.

(2)

If connected, a dialog of the BASIC authentication is displayed on IE, so that enter the user name and the password, and select (CL) the [OK] button. Contact the Hitachi Technical Support Division for the user name and the password.
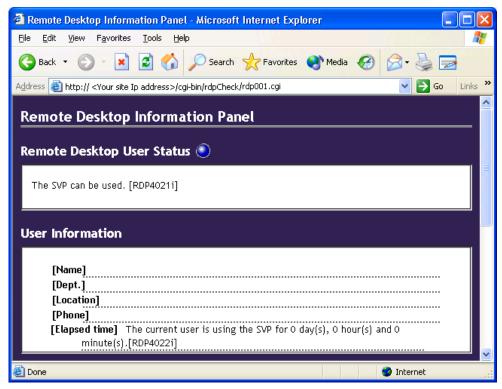
Window of the authentication dialog
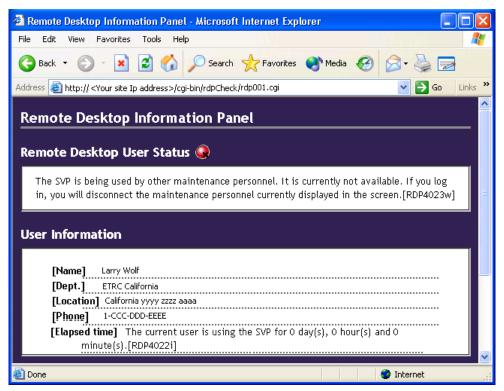
(3)

CGI starts and the usage status of SVP is displayed on IE. There are two types of the statuses of SVP such as connection enabled and connection disabled (others are using or busy as rebooting, etc.). If it is displayed as connection enabled, two-minute priority is given.

Window of the connection enabled status

Connect it to SVP according to the procedure in Section 1.5 because the status is the connection enabled to SVP.

Window of the connection disabled status

Note: Perform the SVP connection within two minutes after the window of IE is displayed. If
it is not connected within two minutes, other service personnel may automatically be
able to connect SVP. Also, in the status where the priority is given, the priority time
cannot be extended by reloading CGI in IE.
If the connection is disabled when the status is checked by IE, contact the service
personnel who is indicated in the window and who connects it at present, or wait until
the SVP becomes available. In the case of the connection disabled status, the window
checks the status of SVP every three minutes, and updates the status display
automatically. If you keep IE opened, it is possible to check if SVP becomes usable after
the service personnel at present disconnects SVP (at this time, if it becomes usable, the
priority is given for two minutes).
In either case, check that the usable status is displayed and then connect it to SVP.

1.5 Connecting the PC to the SVP

Connect the PC for connection to the SVP using SVP Connect Utility.
When connect the same SVP again, carry out "1.5.2 Restoring the previous connection".

1.5.1 Connection to the SVP

(1) Searching the SVP
Select (CL) [Search] in the 'SVP Connect Utility' window.
IP addresses and product serial numbers of the connectable SVPs are displayed in the list.
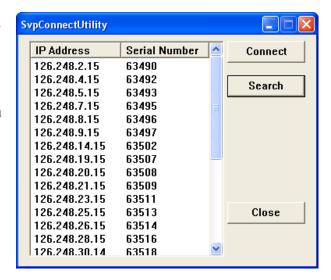
(2) Performing the connection
Select an SVP to be connected from the SVPs
in the list and select (CL) [Connect]. A
connection to the selected SVP is done.

Note: Please check that automatic connection
of a local disk drive is set up in the
case of connection.
(At the time of SvpConnectUtility use,
it is set up automatically.)

Go to "1.5.3 Checking the connected
subsystems".

1.5.2 Restoring the previous connection

After the certain SVP is disconnected, connect the same SVP again.

(1) Displaying the dialog box for entering an IP address
Select (CL) [Connect] in a state in which the SVP is not selected from the list. The "Input IP Address" dialog box is displayed.

(2) Restoring the previous connection
Select (CL) the pull down button of the entry box. Select the top one of the displayed IP addresses.
Select (CL) the [Connect] button.
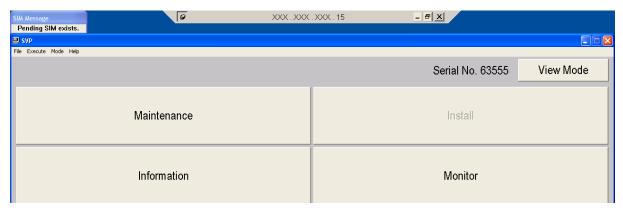
Note: When you reconnect it after a SVP reboot, please leave time more than five minutes.

Go to "1.5.3 Checking the connected subsystems".

1.5.3 Checking the connected subsystems

After the SVP is connected, the serial number of subsystem is displayed on the left of the mode button in the SVP screen. Please check whether the connected subsystem is correct.
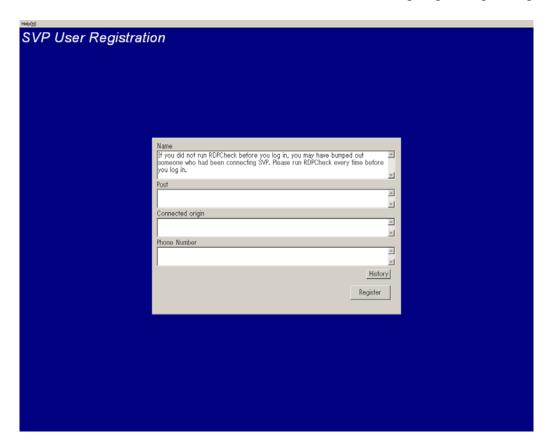
Note: If it connects with a wrong subsystem, maintenance operation is performed, a serious obstacle may occur.

1.6 User registration at the time of SVP connection

(1)

If connected to SVP, the user registration window for the service personnel is displayed on the front of the desktop as shown in the following figure.

Note: The window cannot be deleted or minimized without going through this procedure.

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(2)

Fill in necessary items in the text edit box of the user registration window, and then select (CL) the registration button.

Note: If the registration is completed, the user registration window is minimized (it cannot be terminated).

(3)

The information that the user registration is done by connecting to SVP once is stored up to 20 latest cases of the history.
If the history button is selected (CL) several times, the information entered in the past is displayed in the text edit box, so that select (CL) the registration button when your own information is displayed.

Note: Refer to the following table for the restriction of the entry field.

Entry field	Name	Describe the name of the connecting person	Up to 255 characters
	Post	Describe the division of the connecting person	Up to 127 characters
	Connected Origin	Describe the place of the connection source of the connecting person	Up to 127 characters
	Phone Number	Fill in the contact address of the connecting person	Up to 63 characters
Characters which can be entered	Alphabetical characters	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz	
	Numeric characters	0123456789	
	Signals	()-#$%&+-/*!"'~@.,:;<>^_ and 0x5c(ASCII)	
	Empty characters	Space characters 0x20(ASCII)	

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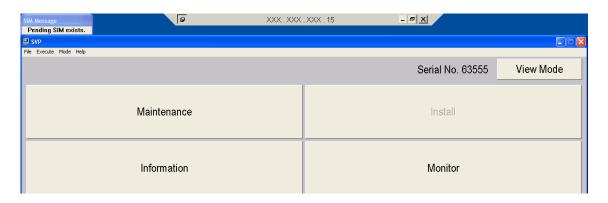
1.7 Disconnecting the SVP

Disconnect the Console PC from the SVP.

(1) Disconnection
Move the pointer to the upper central portion of the window. Select (CL) the mark "×" on the bar displayed.
The SVP window on the Console PC is closed.
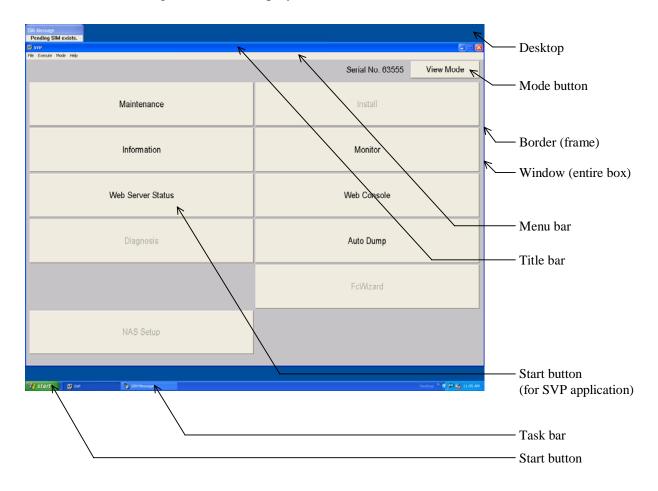
Note: When you want to terminate the connection to the SVP, perform it after verifying that the WebConsole window is not opened. If you have turned off the SVP connection accidentally during using WebConsole, connect the SVP again, and reopen WebConosle window after closing it.

1.8 Windows Screen Component Nomenclature

Either of the following windows is displayed.

Note: Each SVP screen on this maintenance manual is a sample, and it may not be the same as the
actual screen.

1.9 Power On

Usually, SVP starts automatically at the breakers-ON.
If some problems occurred (and you must start SVP), follow the procedures below (to start SVP).

(1) Power On SVP
    a. Press the Power Switch on the front side of the SVP main body.
    b. Make sure that the PWR LED on the front side of the SVP main body comes on.
       If not, re-execute Step a in (1).
       If the LED does not come on though the Step a in (1) is re-executed twice, replace the SVP.

(2) Windows Start (SVP Start)
    a. Wait for a few minutes until the Windows system starts up.
    b. Select (CL) [Search] of the SVP Connect Utility through the Console PC. Make sure that the SVP concerned is displayed in the list. If it is not displayed, re-execute Step a in (1).
       If the Windows system does not start up though the Step a in (1) is re-executed twice, replace the SVP.

Notice: If Windows doesn't start, check the following items.
    (1) Is the DKC "CE mode" ?
    (2) Are the two LEDs at the LAN cable socket always on?
    If above two conditions are satisfied, pull out the LAN cable until Windows starts.

1.10 Power Off

(1) Is the Console PC connected ?
  a.   See what is displayed on the Console PC.
       When the PC is not connected to the SVP concerned, connect the Console PC to the SVP.
       (See "1.5 Connecting the PC to the SVP" (SVP01-110).)

(2) Power Off SVP
  a.   Press SVP PS OFF Switch. (See LOC03-70.)

(3) The display of a dialog
  a.   A dialog is displayed.
       Select (CL) [Yes].
       (In the case of Windows Vista SVP, a
       power supply falls without a dialog being displayed.)
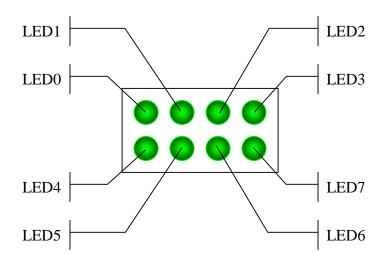
(4) Terminating the connection to the SVP (Exiting the Remote Desktop)
  a.   Move the pointer to the upper central portion of the window for connection.
  b.   Select (CL) the mark "×" on the bar
       displayed.
       (It is automatically cut by SVP being
       turned off.)

1.11 SVP LED display specification

    (1) LED arrangement
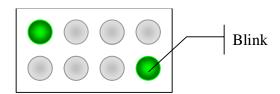
    (2) The meaning of LED
        LED0   : Lighting at the time of Master SVP
        LED1   : Lighting at the time of Standby SVP
        LED7   : It blinks at intervals of 1 second at the time of SVP action.
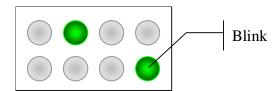
    (3) Lighting at the time of Master SVP

Blink

    (4) The LED Diode state at the time of Standby SVP

Blink

(5) The action at the time of JP3 insertion
Insertion of JP3 switches on LED by the following sequences.
① All LED putting out lights (for 1 second)
② All LED lighting (for 1 second)
③ All LED putting out lights (for 1 second)
④ All LED lighting (for 1 second)
⑤ The first octet display of an IP address (for 3 seconds)
⑥ The second octet display of an IP address (for 3 seconds)
⑦ The third octet display of an IP address (for 3 seconds)
⑧ The fourth octet display of an IP address (for 3 seconds)
⑨ All LED putting out lights (for 10 second)
⑩ JP3 insertion check. If still inserted, the sequence continuation. If it has not inserted, sequence is end.
⑪ Initialize Password
⑫ Initialize IP Address
⑬ All LED blinks (at interval of 1 second for 10 times, and 20 seconds)
⑭ SVP Reboot
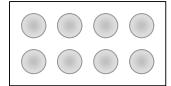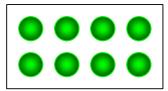
(6) IP address display
The data for 1Byte is displayed using eight LED.
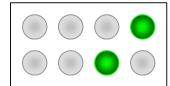
When it is 0x00   When it is 0xFF
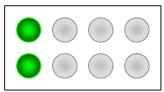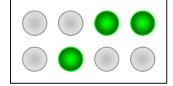
When it is 0x12   When it is 0x88

When it is 0x34   When it is 0x11
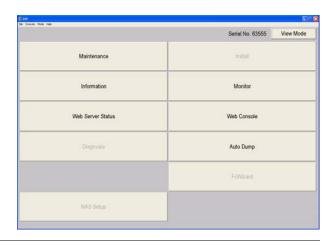
1.12 Mode

(1) <View Mode>
In view mode, only referring the subsystem
status is allowed.

Note: In view mode, pending SIMs (if exist)
        are reported to host.

(2) <Modify Mode>
In modify mode, referring and changing the
subsystem status are allowed.

For example, log/pin data indication and
status display on MAINTENANCE are
available in any mode, but hardware
replacement is available in only modify mode.

(3) <Change Mode>
If you push (CL) [View Mode] button, the mode changes from [View Mode] to [Modify
Mode], and SVP changes to Modify Mode.
If you push (CL) [Modify Mode] button, the mode changes from [Modify Mode] to [View
Mode], and SVP changes to View Mode.

⚠ **SAFETY SUMMARY**

Observe the following cautionary notices after using the SVP.

• Exit the window opened.

• Change the operation mode to "View."

If the above operation is not performed, a failure may not be notified because the SVP is
judged to be under maintenance.

1.13 How to reference the manual on CDR

1.13.1 Preface

The Maintenance Manual, which is provided being contained in a CDR, is written in the format of the HTML (Hyper Text Markup Language) file. To read the manual, it is required to install the special reader software beforehand.

1.13.2 How to reference the manual

To reference this manual.

(1) Insert the CDR into the drive of your PC.

(2) Use Explorer to locate the CDR drive.

(3) Double-click a desired file.
     The content of the selected file will be displayed on another window.

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1.14 Handling of USB memory

1.14.1 How to remove USB memory

When you remove a USB flash memory, perform it as follows. Data may be damaged if you remove it suddenly.

(1)

Double-click the icon of the round mark of the following figure in the lower right of the window.

(2)

A window as shown in the following figure is displayed. Select "USB Mass Storage Device" and press the [Stop] button.

(3)

A window as shown in the following figure is displayed. Select "USB Mass Storage Device" and press the [OK] button.
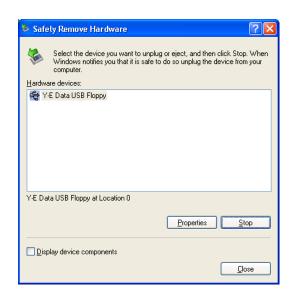
(4)

A window as shown in the following figure is displayed. Press the [Close] button. Removal became possible with this. Pull out the USB flash memory from the USB port.

2. Function of the SVP

2.1 TOD (Time Or Date) setting
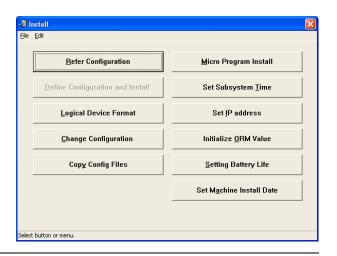
Note: • Please do not execute the TOD setting during the P/S ON procedure.
       • Please do not execute the TOD setting during collecting the LCP Dump.
       • Please do not execute the TOD setting during the port error recovery operation using the restart switch function.
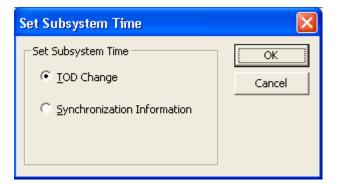
Note: In the case that there is MVOL of HRC asynchronous in this DKC and the amount of Sidefiles reach to the threshold, Async pair may be suspended.

Note: In the case that there is PVOL of XRC Replication in this DKC and the amount of Sidefiles reach to the threshold, XRC Replication pair may be suspended.

(1)

Change the mode to [Modify Mode] from [View Mode] (CL).

(2)

Select (CL) [Install].

(3)

Select (CL) [Set Subsystem Time] in the 'Install' window.
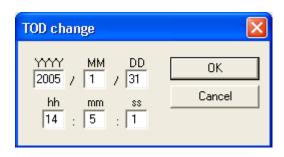
(4)

Select (CL) [TOD Change] in the 'Set Subsystem Time' window, and then select (CL) [OK].

(5)

Specify the date (year, month and day) and time
(hour, minute and second) and select (CL) [OK].

(6)

Close the 'Install' window.

Note: If you execute the performance measurement by Performance Monitor, don't push back
       the TOD.
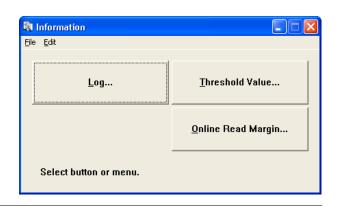
2.2 Log indication
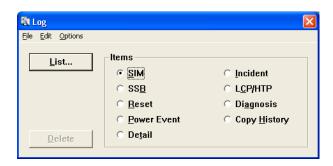
Prerequisite Operation:

(1)

Select (CL) [Information].

(2)

Select (CL) [Log...].

(3)

'Log' dialog box is displayed.

[1] SSB Log

(1)

Select (CL) [SSB] in the 'Log'.
Select (CL) [List...].

(2)
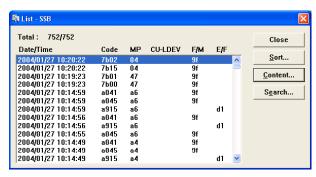
Select (CL) data to be indicated in the 'List-SSB' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

Note: To search for the desired log, select (CL) [Search...]. Then set the log for which you want to search individual List in the 'SSB Search Condition' dialog box and select (CL) [OK].

Note: Please do not change an application's window until search function finish.
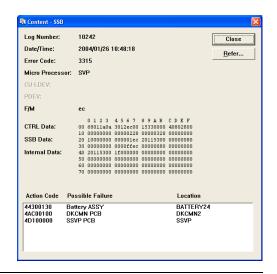
(3)

The detailed data is displayed in the 'Content-SSB' dialog box.
Select (CL) [Refer...] in the 'Content-SSB' dialog box to display the relative log.
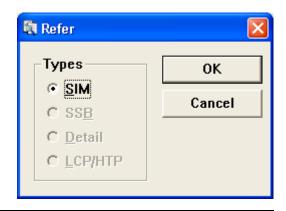
(4)

Select (CL) the log to be displayed in the 'Refer' dialog box.
([SIM] is selected in this example.)

(5)

Display the log to be selected.
('Content-SIM' is displayed in this example.)
See SIM LOG Section

(6)

Close the relative log when it is referred to.
Select (CL) [Close] in the 'Content-SSB' dialog box.
Select (CL) [Close] in the 'List-SSB' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
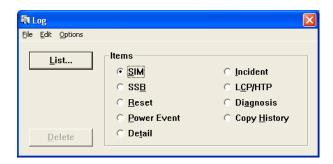
[2] SIM Log
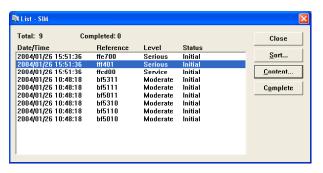
Note: When SIM log exists after SVP is started up, the 'SIM Message' window is displayed.
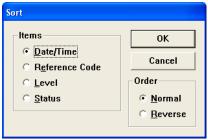
(1)

Select (CL) [SIM] in the 'Log' dialog box.
Select (CL) [List...].

(2)

Select (CL) data to be indicated in the 'List-SIM' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

(3)

The 'Content-SIM' dialog box is displayed.
Select (CL) [Refer...] in the 'Content-SIM' dialog box, when the relative log is displayed.

Note: In WCHK1 dump and ABEND dump received SIM (RC = 3080X0, 3081X0), the system error code is indicated in the format [YYYY] as in Reference Code 3080X0[YYYY].

Note: If Reference Code is 73XX00 or 1400X0, perform the recovery procedure for LAN error. (See TRBL05-90.)

(4)
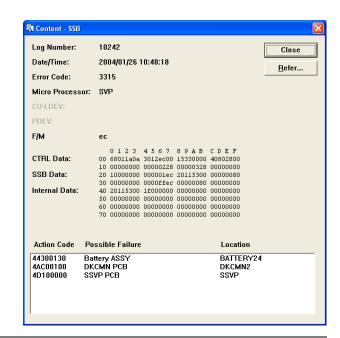
Select (CL) the log to be displayed in the 'Refer' dialog box.
([SSB] is selected in this example.)

(5)

The selected log is displayed.
('Content-SSB' is displayed in this example.)

(6)

Close the relative log when it is referred to.
Select (CL) [Close] in the 'Content-SIM' dialog box.
Select (CL) [Close] in the 'List-SIM' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

[3] Detail Log

(1)

Select (CL) [Detail] in the 'Log' dialog box.
Select (CL) [List...].

(2)
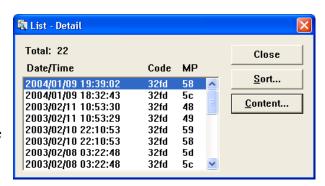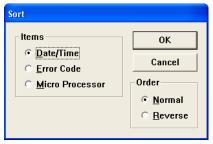
Select (CL) data to be indicated in the 'List-
Detail' dialog box and select (CL)
[Content...].
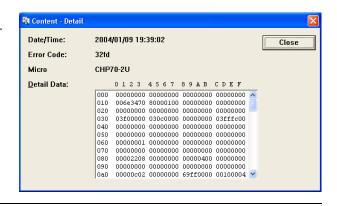
Note: To sort and list items, select (CL)
[Sort...] first.
Then select (CL) the desired item in the
[Items] and [Order] options in the
'Sort' dialog box, and select (CL)
[OK].

(3)

The 'Content–Detail' dialog box is displayed.

(4)

Select (CL) [Close] in the 'Content–Detail' dialog box.
Select (CL) [Close] in the 'List-Detail' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
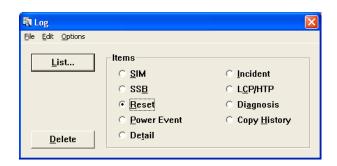
[4] Reset Log

(1)

Select (CL) [Reset] in the 'Log' dialog box.
Select (CL) [List...].

(2)
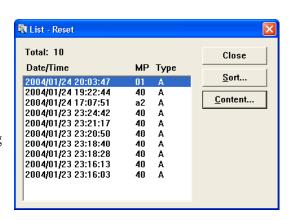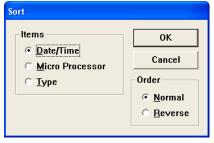
Select (CL) data to be indicated in the 'List-Reset'
dialog box and select (CL) [Content...].
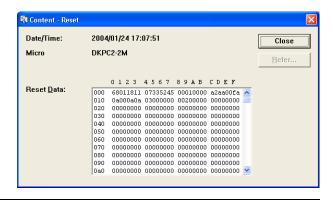
Note: To sort and list items, select (CL) [Sort...]
first.
Then select (CL) the desired item in the
[Items] and [Order] options in the 'Reset Log
Sort' dialog box, and select (CL) [OK].

(3)

The 'Content-Reset' dialog box is displayed.

(4)

Select (CL) [Close] in the 'Content-Reset' dialog box.
Select (CL) [Close] in the 'List-Reset' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
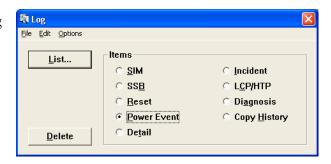
[5] Power Event Log

(1)

Select (CL) [Power Event] in the 'Log' dialog box.
Select (CL) [List...].
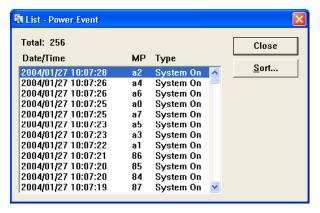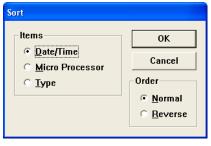
(2)

The 'List-Power Event' dialog box is displayed.

Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

(3)

Select (CL) [Close] in the 'List-Power Event' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
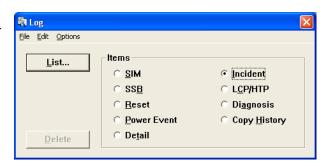
[6] Incident Log

(1)

Select (CL) [Incident] in the 'Log' dialog box.
Select (CL) [List...].

(2)
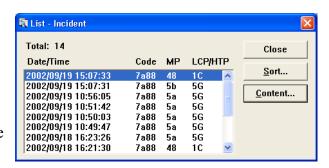
Select (CL) data to be indicated in the 'List-Incident' dialog box and select (CL) [Content...].
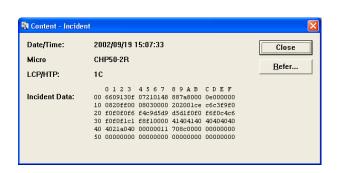
Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

(3)

The 'Content-Incident' dialog box is displayed.

(4)

To display the relative log, select (CL) [Refer...] in the 'Content-Incident' dialog box.
Select (CL) the log type to be displayed in the 'Refer' dialog box and then select (CL) [OK].

(5)

Select (CL) [Close] in the 'Content-Incident' dialog box.
Select (CL) [Close] in the 'List-Incident' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

[7] LCP Log

(1)

Select (CL) [LCP] in the 'Log' dialog box.
Select (CL) [List...].

(2)
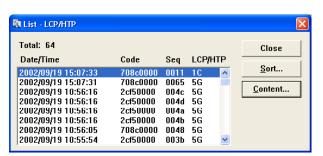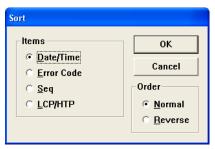
Select (CL) data to be indicated in the 'List-LCP/HTP' dialog box and select (CL) [Content...].
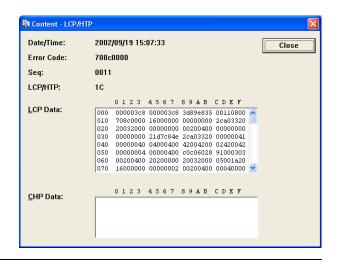
Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

Note: Refer to LOC04-40 for LCP/HTP port location.

(3)

The 'Content-LCP/HTP' dialog box is displayed.

(4)

Select (CL) [Close] in the 'Content-LCP' dialog box.
Select (CL) [Close] in the 'List-LCP' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
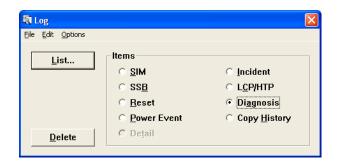
[8] Diagnosis Log

(1)

Select (CL) [Diagnosis] in the 'Log' dialog box.
Select (CL) [List...].

(2)
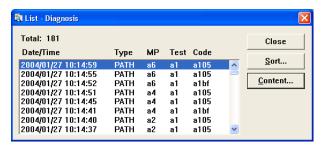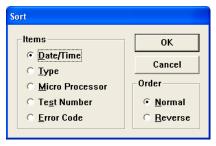
Select (CL) data to be indicated in the 'List-Diagnosis' dialog box and select (CL) [Content...].
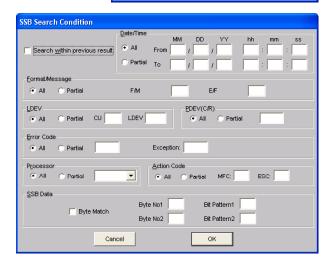
Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

(3)

The 'Content-Diagnosis' dialog box is displayed.

(4)

Select (CL) [Close] in the 'Content-Diagnosis' dialog box.
Select (CL) [Close] in the 'List-Diagnosis' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
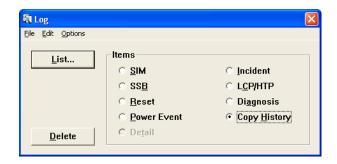
[9] Copy History Log

(1)

Select (CL) [Copy History] in the 'Log' dialog box.
Select (CL) [List...].

(2)
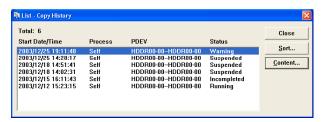
Select (CL) data to be indicated in the 'List-Copy History' dialog box and select (CL) [Content...].

Note: To sort and list items, select (CL) [Sort...] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].

(3)

The 'Content-Copy History' dialog box is displayed.

(4)

Select (CL) [Close] in the 'Content-Copy History' dialog box.
Select (CL) [Close] in the 'List-Copy History' dialog box.
Close the 'Log' dialog box and close the 'Information' window.

[10] MP# - Location correspondence table
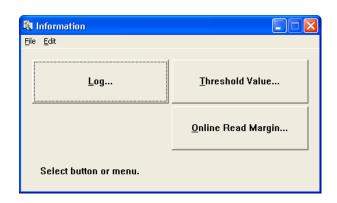
| Location			MP#	Location			MP#
CHA	Cluster1	CHA-1EU			CHA	Cluster2	CHA-2QU		
			CHP00-1EU	00				CHP80-2QU	40
			CHP01-1EU	01				CHP81-2QU	41
			CHP02-1EU	02				CHP82-2QU	42
			CHP03-1EU	03				CHP83-2QU	43
		CHA-1FU	CHP10-1FU	04			CHA-2RU	CHP90-2RU	44
			CHP11-1FU	05				CHP91-2RU	45
			CHP12-1FU	06				CHP92-2RU	46
			CHP13-1FU	07				CHP93-2RU	47
		CHA-1EL	CHP04-1EL	08			CHA-2QL	CHP84-2QL	48
			CHP05-1EL	09				CHP85-2QL	49
			CHP06-1EL	0a				CHP86-2QL	4a
			CHP07-1EL	0b				CHP87-2QL	4b
		CHA-1FL	CHP14-1FL	0c			CHA-2RL	CHP94-2RL	4c
			CHP15-1FL	0d				CHP95-2RL	4d
			CHP16-1FL	0e				CHP96-2RL	4e
			CHP17-1FL	0f				CHP97-2RL	4f
		CHA-1GU	CHP20-1GU	10			CHA-2TU	CHPA0-2TU	50
			CHP21-1GU	11				CHPA1-2TU	51
			CHP22-1GU	12				CHPA2-2TU	52
			CHP23-1GU	13				CHPA3-2TU	53
		CHA-1HU	CHP30-1HU	14			CHA-2UU	CHPB0-2UU	54
			CHP31-1HU	15				CHPB1-2UU	55
			CHP32-1HU	16				CHPB2-2UU	56
			CHP33-1HU	17				CHPB3-2UU	57
		CHA-1GL	CHP24-1GL	18			CHA-2TL	CHPA4-2TL	58
			CHP25-1GL	19				CHPA5-2TL	59
			CHP26-1GL	1a				CHPA6-2TL	5a
			CHP27-1GL	1b				CHPA7-2TL	5b
		CHA-1HL	CHP34-1HL	1c			CHA-2UL	CHPB4-2UL	5c
			CHP35-1HL	1d				CHPB5-2UL	5d
			CHP36-1HL	1e				CHPB6-2UL	5e
			CHP37-1HL	1f				CHPB7-2UL	5f
		CHA-1AL	CHP44-1AL	28			CHA-2ML	CHPC4-2ML	68
			CHP45-1AL	29				CHPC5-2ML	69
			CHP46-1AL	2a				CHPC6-2ML	6a
			CHP47-1AL	2b				CHPC7-2ML	6b
		CHA-1BL	CHP54-1BL	2c			CHA-2NL	CHPD4-2NL	6c
			CHP55-1BL	2d				CHPD5-2NL	6d
			CHP56-1BL	2e				CHPD6-2NL	6e
			CHP57-1BL	2f				CHPD7-2NL	6f
		CHA-1LU	CHP60-1LU	30			CHA-2XU	CHPE0-2XU	70
			CHP61-1LU	31				CHPE1-2XU	71
			CHP62-1LU	32				CHPE2-2XU	72
			CHP63-1LU	33				CHPE3-2XU	73
		CHA-1KU	CHP70-1KU	34			CHA-2WU	CHPF0-2WU	74
			CHP71-1KU	35				CHPF1-2WU	75
			CHP72-1KU	36				CHPF2-2WU	76
			CHP73-1KU	37				CHPF3-2WU	77
		CHA-1LL	CHP64-1LL	38			CHA-2XL	CHPE4-2XL	78
			CHP65-1LL	39				CHPE5-2XL	79
			CHP66-1LL	3a				CHPE6-2XL	7a
			CHP67-1LL	3b				CHPE7-2XL	7b
		CHA-1KL	CHP74-1KL	3c			CHA-2WL	CHPF4-2WL	7c
			CHP75-1KL	3d				CHPF5-2WL	7d
			CHP76-1KL	3e				CHPF6-2WL	7e
			CHP77-1KL	3f				CHPF7-2WL	7f

		Location		MP#			Location		MP#
DKA	Cluster1	DKA-1AU	DKP40-1AU	80	DKA	Cluster2	DKA-2MU	DKPC0-2MU	a0
			DKP41-1AU	81				DKPC1-2MU	a1
			DKP42-1AU	82				DKPC2-2MU	a2
			DKP43-1AU	83				DKPC3-2MU	a3
		DKA-1BU	DKP50-1BU	84			DKA-2NU	DKPD0-2NU	a4
			DKP51-1BU	85				DKPD1-2NU	a5
			DKP52-1BU	86				DKPD2-2NU	a6
			DKP53-1BU	87				DKPD3-2NU	a7
		DKA-1AL	DKP44-1AL	88			DKA-2ML	DKPC4-2ML	a8
			DKP45-1AL	89				DKPC5-2ML	a9
			DKP46-1AL	8a				DKPC6-2ML	aa
			DKP47-1AL	8b				DKPC7-2ML	ab
		DKA-1BL	DKP54-1BL	8c			DKA-2NL	DKPD4-2NL	ac
			DKP55-1BL	8d				DKPD5-2NL	ad
			DKP56-1BL	8e				DKPD6-2NL	ae
			DKP57-1BL	8f				DKPD7-2NL	af
		DKA-1LU	DKP60-1LU	90			DKA-2XU	DKPE0-2XU	b0
			DKP61-1LU	91				DKPE1-2XU	b1
			DKP62-1LU	92				DKPE2-2XU	b2
			DKP63-1LU	93				DKPE3-2XU	b3
		DKA-1KU	DKP70-1KU	94			DKA-2WU	DKPF0-2WU	b4
			DKP71-1KU	95				DKPF1-2WU	b5
			DKP72-1KU	96				DKPF2-2WU	b6
			DKP73-1KU	97				DKPF3-2WU	b7
		DKA-1LL	DKP64-1LL	98			DKA-2XL	DKPE4-2XL	b8
			DKP65-1LL	99				DKPE5-2XL	b9
			DKP66-1LL	9a				DKPE6-2XL	ba
			DKP67-1LL	9b				DKPE7-2XL	bb
		DKA-1KL	DKP74-1KL	9c			DKA-2WL	DKPF4-2WL	bc
			DKP75-1KL	9d				DKPF5-2WL	bd
			DKP76-1KL	9e				DKPF6-2WL	be
			DKP77-1KL	9f				DKPF7-2WL	bf
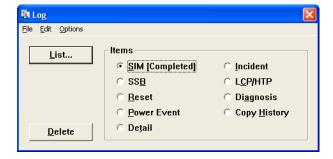
2.3 Log delete

[1] SSB Log
[2] SIM Log
[3] Detail Log
[4] Reset Log
[5] Power Event Log
[6] Incident Log
[7] LCP/MCP Log
[8] Diagnosis Log
[9] Copy History Log

(1)

Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information] in 'SVP' window.

(2)

Select (CL) [Log...] in the 'Information'
dialog box.

(3)

In the 'Log' dialog box, select (CL) a log to
be deleted and select (CL) [Delete].
(For example, select [SIM].)
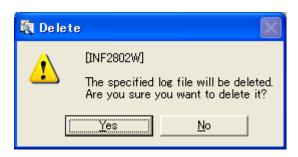
If the SIM log is deleted, SIM Log Complete
(SVP02-560) should be executed beforehand.

(4)

Select (CL) [Yes] in the 'Delete' dialog box.
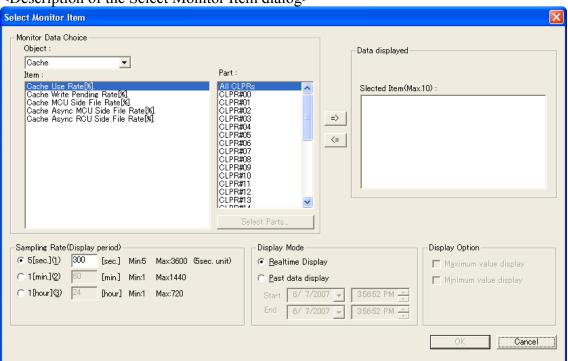
(5)

Close the 'Log' dialog box and close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

2.4 Monitoring

2.4.1 Monitoring

<Description of the Select Monitor Item dialog>

■ Monitor Data Choice
    Object......................Select the desirable object. You can select "Cache", "Processor", "Port", or "LDEV" (Logical Device).
    Item ....Items corresponding to the selected object are displayed. You can select multiple items.
    Part.........................Parts corresponding to the selected object are displayed. You can select only one part.

■ Data Displayed
    Selected Item...........The selected items are displayed. You can select up to 10 items in one panel.

[=>] button...................This button adds the displayed items. The selected data is added as data that is already selected as the displayed data.
[<=] button...................The selected items are removed from the list of displayed data.

■ Sampling Rate (Display Period)
Specify the time interval of updating data and the period that data is displayed.
You can specify the display period depending on the selected time interval.

	"Object"		Display period
	Select "Cache", "Processor", "Port", or "LDEV"	Select "Program Product"	
5[sec.]	○	—	5 seconds to 3600 seconds (1 hour) (units of 5 seconds)
1[min.]	○	—	1 minute to 1440 minutes (24 hours)
1[hour]	○	○	1 hour to 720 hours (30 days)

*1: If you specify 1440 minutes, the data may not be displayed depending on the window size.

■ Display Mode
Select the display mode. There are two modes. "Real time Display" displays the current status.
"Past data display" displays the data in the past.
"Real time Display".........The data will be updated in the specified time interval.
"Past data display"...........You can specify the range of the displayed data.
                              Specify the start time of the display in Start, and specify the end time
                              of the display in End.
                              The period you have specified in Sampling Rate (Display Period) is
                              ignored.
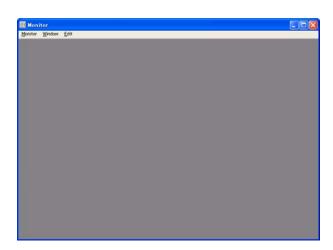
■ Display Option
You can select either to display or not to display the maximum/minimum values when you
specify 1[min.] or 1[hour] in the Sampling Rate (Display Period). When you select this option,
the maximum/minimum values are indicated by the dotted lines in the graph.
If you place a check mark in Maximum Value Display, the maximum value will be displayed. If
you place a check mark in Minimum Value Display, the minimum value will be displayed.

■ Display data item list

#	Part	Item	Description	Remarks
1	Cache	Cache Use Rate	Cache Use Rate	
2		Cache Write Pending Rate	Cache Write Pending Rate	
3		Cache MCU Side File Rate	Cache MCU Side File Rate (Total Side File use rate of CC/XRC/Async MCU)	
4		Cache Async MCU Side File Rate	Cache Async MCU Side File Rate (MCU Side File use rate of DKC)	
5		Cache Async RCU Side File Rate	Cache Async RCU Side File Rate (RCU Side File use rate of DKC)	
6	MP	MP processing Rate	MP processing Rate	
7	Port (Fibre)	Lost of Signal Count	Lost of Signal Count	Displaying only with Fibre PCB.
8		Bad Received Character Count	Bad Received Character Count	
9		Loss of Synchronization Count	Loss of Synchronization Count	
10		Link Failure Count	Link Failure Count	
11		Received EOFa Count	Received EOFa Count	
12		Discarded Frame Count	Discarded Frame Count	
13		Bad CRC Count	Bad CRC Count	
14		Protocol Error Count	Protocol Error Count	
15		Expired Frame Count	Expired Frame Count	
16	Port (HTP/ FNP)	HTP/FNP Ex Multiple	HTP/FNP Ex Multiple	Displaying only with FICON PCB.
17		HTP/FNP Interrupt Count	HTP/FNP Interrupt Count	
18		HTP/FNP Delay Time	HTP/FNP Delay Time	
19		HTP/FNP Read Data Transfer Rate	HTP/FNP Read Data Transfer Rate	
20		HTP/FNP Write Data Transfer Rate	HTP/FNP Write Data Transfer Rate	
21		HTP/FNP Processing Rate	HTP/FNP Processing Rate	
22	Port	Port Total IOPS	IOPS (Read/Write Command Transfer)	Not Displaying with Main Frame PCB. Displaying only with Initiator Port and External Port.
23		Port Total Transfer Rate	Transfer Rate (Read/Write Command Transfer)	
24		Port Total Response Time	Response Time (Read/Write Command Transfer)	
25		Port Input IOPS	IOPS (Read Command Transfer)	
26		Port Input Transfer Rate	Transfer Rate (Read Command Transfer)	
27		Port Input Response Time	Response Time (Read Command Transfer)	
28		Port Output IOPS	IOPS (Write Command Transfer)	
29		Port Output Transfer Rate	Transfer Rate (Write Command Transfer)	
30		Port Output Response Time	Response Time (Write Command Transfer)	
31	LDEV	IOPS	IOPS	It is necessary to select Gathering LDEV Processing Information. (Refer to 2.4.3)
32		Transfer Rate	Transfer Rate	
33		Read Hit Rate	Read Hit Rate (A hit rate only for random read.)	

(1) Display the Monitor panel
Press the "Monitor" button in the SVP main panel to start the monitoring feature.
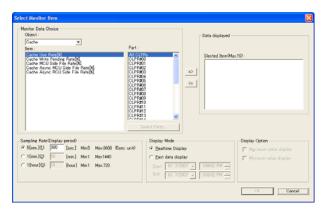
(2) Display the Select Monitor Item panel
Select (CL) [Monitor]–[Open...] from the
menu in the Monitor panel.

(3) Select data to be displayed
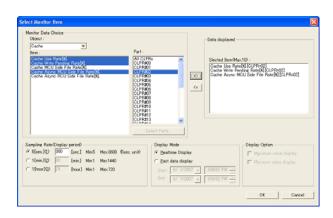
① Select the data you want to display
Select the category whose data you want to display in [Object] in Monitor Data Choice. Available data will appear in [Item]. Select the data you want to display (You can select multiple items). The parts relevant to the selected item will be displayed in [Part]. Choose the desirable part (You can select only one part). After selecting [Object], [Item], and [Part], select [=>] button to add the selected items to [Selected Item].
You can display data on up to 10 items. If there is no data in [Selected Item], the [OK] button will not be activated.
If the object part (LDEV:CU:LDEV) is not gathering LDEV processing information, the monitor is not normally displayed. (Refer to "2.4.3 Gathering LDEV Processing Information Selection Function".)

② Select the display interval and period
In [Sampling Rate (Display period)], specify the time interval of updating data and the period that data is displayed. Select 5[sec.], 1[min.], or 1[hour] for the time interval of updating data. The interval depends on the data you have selected. You can change the period that the data is displayed.
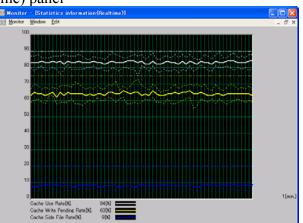
③ Specify the display mode
In [Display Mode], select either [Real Time Display] or [Past data display]. When you select [Past data display], specify Start and End of the display. If you select [Past data display], the period you have specified in ② will be ignored.

④ Specify the display option
When you select 1[min.] or 1[hour] in Display period, you can choose either to display or not to display the maximum/minimum value within the time interval.

After selecting all the necessary items, select (CL) [OK] to display the Statistics information panel.
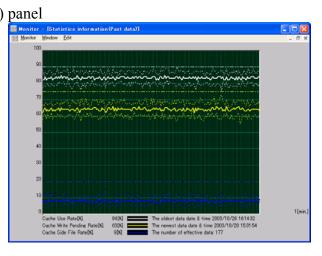
    (4) Description of the Statistics information (Real Time) panel
The specified data obtained during the specified display period is displayed in the panel, and it is updated in the specified time interval. The data on the left is older data, and that on the right is newer data.
The legends are displayed under the graph (Selected data and colors of lines in the graph). The solid lines indicate the data. The thin dotted lines of the same color as the solid lines indicate the maximum/minimum values of the data. The dot-dot-dash lines of the same color as the solid lines show the threshold (if set).
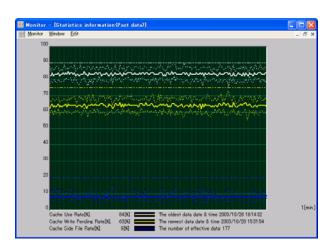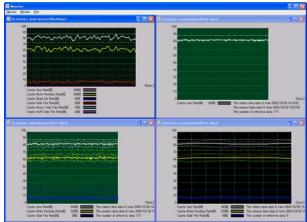
    (5) Description of Statistics information (Past data) panel
The specified data obtained during the specified period is displayed in the panel. The data is displayed in the same way as Real Time, but the data is not updated. The dates and times of the oldest/latest available data in the specified period and the number of effective data are shown on the right of the legends.

(6) Align the displayed windows
You can align the windows from the
[Window] menu. To cascade the windows,
select (CL) [Window]–[Cascade]. To tile
them, select (CL) [Window]–[Tile]. To
arrange the minimized windows, select (CL)
[Window]–[Icon]. To close all windows,
select (CL) [Window]–[All Close].
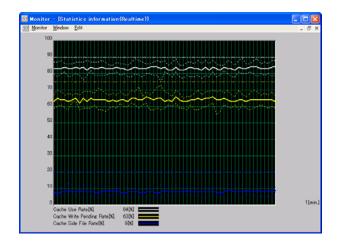
A list of available windows is displayed under
the menu.   You can select one window to
display it in the foreground.
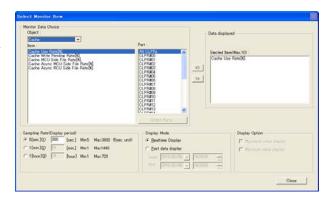
(7) Exit the Monitor window
Select (CL) [Monitor]–[Exit] from the menu.

(8) Change the contents displayed in the Statistics information window
① Display the Select Monitor Item panel
From the menu in the 'Monitor' window, select (CL) [Edit]-[Item Add/Delete...].

② Change display items
To add display items, select the category of data you want to display in "Object" in 'Monitor Data Choice'. Available data will appear in "Item". Select the data you want to display. The parts relevant to the selected items will be displayed in "Part". Choose the desirable part. After selecting "Object", "Item", and "Part", select [=>] button to add the selected items to "Selected Item".

To delete display items, select the items you want to delete from "Selected Item". After selecting the items you want to delete, click [<=] button to delete the selected items from "Selected Item".

You can display data on up to 10 items.
If you add LDEV items to "Selected Item", the monitoring data is not displayed unless the object part (LDEV:CU:LDEV) is the target of gathering LDEV processing information normally. (See "2.4.3 Gathering LDEV Processing Information Selection Function".)

③ Change the display interval and period
In "Sampling Rate(Display period)", specify the time interval of updating data and the period that data is displayed.

④ Change the display mode
In [Display Mode], select either "Realtime Display" or "Past data display".

⑤ Change the display option
When you select "1[min.]" or "1[hour]" in Display period, you can choose either to display or not to display the maximum/minimum value within the time interval.
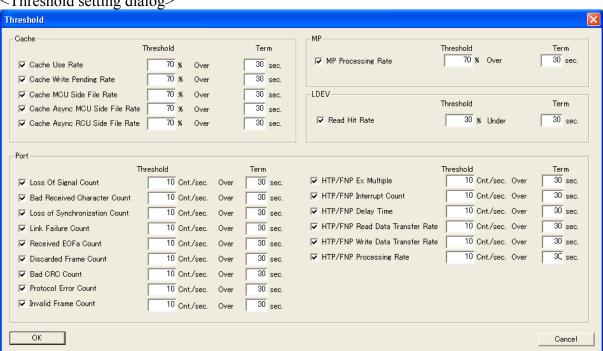
After selecting all the necessary items, select (CL) [Close] to display the Statistics information window.

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2.4.2 Processing Information Monitoring Function

■ Overview

The threshold monitoring is performed using the monitoring function. A threshold and a term are set for each item, and if the threshold is exceeded continuously in the set term, SIM is reported remotely.

<Threshold setting dialog>

■ List of items to be able to set the threshold

#	Part	Item	Description	Remarks
1	Cache	Cache Use Rate	Cache Use Rate	
2		Cache Write Pending Rate	Cache Write Pending Rate	
3		Cache MCU Side File Rate	Cache MCU Side File Rate	
4		Cache Async MCU Side File Rate	Cache Async MCU Side File Rate	
5		Cache Async RCU Side File Rate	Cache Async RCU Side File Rate	
6	MP	MP Processing Rate	MP Processing Rate	
7	Port	Lost of Signal Count	Lost of Signal Count	Monitoring only with Fibre PCB
8	(Fibre)	Bad Received Character Count	Bad Received Character Count	
9		Loss of Synchronization Count	Loss of Synchronization Count	
10		Link Failure Count	Link Failure Count	
11		Received EOFa Count	Received EOFa Count	
12		Discarded Frame Count	Discarded Frame Count	
13		Bad CRC Count	Bad CRC Count	
14		Protocol Error Count	Protocol Error Count	
15		Invalid Frame Count	Invalid Frame Count	
16	Port	HTP/FNP Ex Multiple	HTP/FNP Ex Multiple	Monitoring only with FICON PCB
17	(HTP/	HTP/FNP Interrupt Count	HTP/FNP Interrupt Count	
18	FNP)	HTP/FNP Delay Time	HTP/FNP Delay Time	
19		HTP/FNP Read Date Transfer Rate	HTP/FNP Read Date Transfer Rate	
20		HTP/FNP Write Date Transfer Rate	HTP/FNP Write Date Transfer Rate	
21		HTP/FNP Processing Rate	HTP/FNP Processing Rate	
22	LDEV	Read Hit Rate	Read Hit Rate	(*1)

*1: • The threshold is bottom judgment.
   • In the case of LDEV number with a little cache Reading count, SIM is restrained.
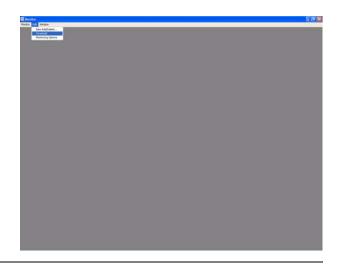
(1) Start of monitor window
Select (CL) the [Monitor] button on the SVP main window, and start the monitoring function.

(2) Starting threshold setting window
Select [Edit]–[Threshold] from the menu on
the 'Monitor' window.

(3) Setting threshold
① Monitoring items
Select (CL) items that you want to
perform the threshold monitoring in the
'Threshold' window.
② Threshold and term
Enter the threshold and the consecutive
exceeding term of each selected item.

When the selection and the input of all items
are completed, select (CL) [OK] and close the window.

(4) Exiting the monitor window
Select (CL) [Monitor]–[Exit] from the menu.
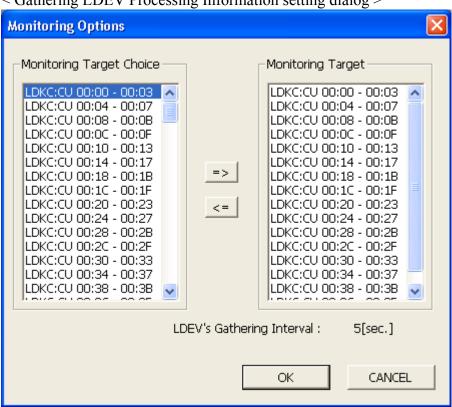
2.4.3 Gathering LDEV Processing Information Selection Function

■ Overview

Gathering LDEV of processing information received by SVP is selected for an increase of the number of LDEV and monitor items in RAID600.

Gathering processing information LDKC:CU is selected from This window.

< Gathering LDEV Processing Information setting dialog >

■ Monitoring Target Choice
Select the Gathering processing information item (LDKC:CU).
You can select multiple items.

■ Target Choice
The selected items are displayed.

[=>] button .... The selected item is added as item that is already selected as the gathering
                processing information item (LDKC:CU).
[<=] button .... The selected items are removed from the gathering processing information
                item (LDKC:CU).

■ LDEV's Gathering Interval
The selected gathering processing information item (LDKC:CU) of Gathering Interval is
displayed.
LDEV's Gathering Interval corresponding to the number of selected gathering processing
information items (LDKC:CU) is displayed.

Selected Target Choice Item	LDEV's Gathering Interval
0	0[sec.] (No collecting)
16 or less (64CU or less)	5[sec.]
17 or more (65CU or more)	60[sec.]
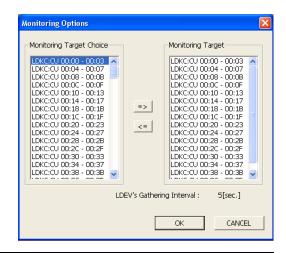
(1) Start of monitor window
     Select (CL) the [Monitor] button on the SVP main window, and start the monitoring function.

(2) Starting gathering LDEV processing information setting window
     Select [Edit]-[Monitoring Options] from the
     menu on the 'Monitor' window.

(3) Setting gathering LDEV processing information
     Select the gathering processing information whose
     items (LDKC:CU) you want to gather in Monitoring
     Target Choice (You can select multiple items).
     After selecting the gathering processing information
     items, select [=>] button to add the selected items to
     [Target Choice].

     When the selection items are complete, select (CL)
     [OK] and close the window.

(4) Exiting the monitor window
     Select (CL) [Monitor]–[Exit] from the menu.
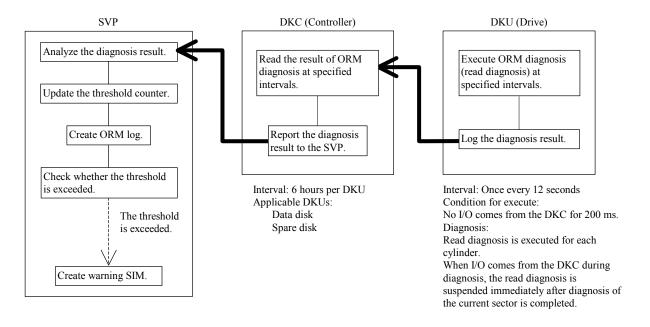
2.5 Online read margin (ORM)

[Overview]

The on-line read margin test (ORM) function is a read diagnostic function provided for preventive maintenance of disk drives. The diagnostic is automatically executed in each drive. The DKC reads the diagnostic result at specified intervals and reports it to the SVP.

The SVP calculates the error ratio to the threshold value which is set in advance, and indicates it in the OVER RATE Display (see [1], (2)). When the Rate in the display exceeds 100%, it means the error count is exceeding the threshold, the SVP creates the warning SIM. It is, however, not reported to the Host. The disk drive reporting the SIM should be exchanged with higher priority than other normal drives.

SVP

```
Analyze the diagnosis result.
          │
Update the threshold counter.
          │
Create ORM log.
          │
Check whether the threshold
is exceeded.
          │
          │ The threshold
          │ is exceeded.
          ▼
Create warning SIM.
```

DKC (Controller)

```
Read the result of ORM
diagnosis at specified
intervals.
          │
Report the diagnosis
result to the SVP.
```

Interval: 6 hours per DKU
Applicable DKUs:
    Data disk
    Spare disk

DKU (Drive)

```
Execute ORM diagnosis
(read diagnosis) at
specified intervals.
          │
Log the diagnosis result.
```

Interval: Once every 12 seconds
Condition for execute:
No I/O comes from the DKC for 200 ms.
Diagnosis:
Read diagnosis is executed for each cylinder.
When I/O comes from the DKC during diagnosis, the read diagnosis is suspended immediately after diagnosis of the current sector is completed.

The following table shows SIM reported by SVP.
     Case of the error of FC/SATA Drive   : See Table 2.5-1
     Case of the error of Flash Drive   : See Table 2.5-2
They are Unrecovered Read Error, Recovered Read Error, Unrecovered Seek error, Recovered Seek Error, Not Ready and Other Errors. Each has three types of counters indicated as Today, 7 days and Total. Refer to [1], (4) for the Over Rate Counter Display. In the Over Rate Counter Display, the error ratio which has the largest number among those classified types is displayed for each drive to represent each error.

The warning SIMs to be reported in the ORM are shown below.

Table 2.5-1   ORM SIM and Reference Code (FC/SATA Drive)

No.	Error Type	Reference Code	Meaning
1	Unrecovered Read Error	501X	Drive Unit Error
2	Recovered Read Error	(X = 0 ~ F)	
3	Unrecovered Seek Error	502X	Drive Media Error
4	Recovered Seek Error	(X = 0 ~ F)	
5	Not Ready		
6	Other Errors		

Table 2.5-2   ORM SIM and Reference Code (Flash Drive)

No.	Error Type	Reference Code	Meaning
1	Total Defect Count	501X (X = 0 ~ F)	Drive Unit Error
2	Total Uncorrected Errors	—	Informed Only
3	Errors Corrected With Possible Delays		
4	Highest Erase Count For All Channels		
5	Lowest Erase Count For All Channels		

(1)
    Check SVP Mode.
    The Following operation needs SVP Mode to be 'Modify'. (See SVP01-220)
    [2] Resetting an error count
    [4] Altering a threshold
    [6] Resetting thresholds

(2)
    Select (CL) the [Information] in the 'SVP' window.

(3)
    Select (CL) [Online Read Margin...] in the
    'Information' window.
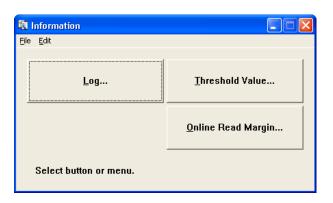
[1] Displaying an error count, thresholds, and log

(1)

Select (CL) [Display Over Rate...] in the 'Online Read margin' window.

(2)
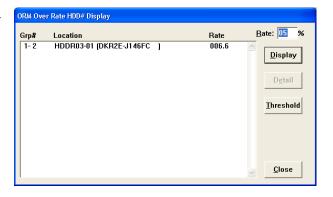
Enter a number from 0 to 100 at "Rate" in the 'ORM Over Rate HDD# Display' dialog box.
Select (CL) [Display].
Then only the HDDs which have the rate of equal to or greater than the input number at "Rate" will appear in the display.
Rate : ratio of the number of errors for the threshold value.
Grp# : the parity group.
    SPARE : spare HDD
    RSRVD : reserved HDD with sparing
       * : spare HDD in use.

(3)

When more detailed information is needed for the particular drive, select (CL) the HDD from the HDD Location list box.
Select (CL) [Detail].

(4)
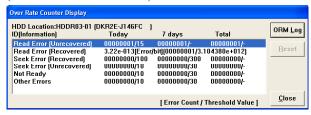
In the 'Over Rate Counter Display' dialog box, select (CL) the error for which detailed log is to be displayed from the "ID" list box. Select (CL) [ORM Log].

Note: In the case of Flash Drive, I cannot choose [ORM Log].

(FC/SATA Drive Selected)

(Flash Drive Selected)

• In case of FC/SATA Drive

Item		Description
ID (Information) (*1)	Read Error (Unrecovered)	: A disk media error was detected. After ten times retries, the error was judged that it might become a serious media error which could not be recovered with ECC or retries.
	Read Error (Recovered)	: A disk media error was detected. After ten times retries, the error was judged that it was an intermittent read error and recoverable, and included in the error rate management for the preventive maintenance.
	Seek Error (Recovered)	: A seek error was detected. After ten times retries, the error was judged to be recoverable.
	Seek Error (Unrecovered)	: A seek error was detected. After ten times retries, the error was judged to be unrecoverable.
	Not Ready	: Not Ready status of the drive was detected.
	Other Errors	: Any error which does not belong to the above classification was detected.
Today		One day count and cleared at AM 0:00 every day.
7 days		For the cumulative value in the latest 7 days.
Total		Shows the total cumulative count.

(*1)

Except for "Read Error (Recovered)":
Each error category indicates the Error Count and the Threshold value.
The "-" for the Threshold value means no threshold is set.

For "Read Error (Recovered)":
Only the Read Error (Recovered) has an error rate expression. It is not managed with error count per day, per 7 days or Total.
The error rate of the Read Error [Recovered] is calculated in the following formula:
Error rate = Number of error sectors/Number of ORM scan bits

Note: Only the result from approximately the latest one volume scan in ORM is used for the calculation.
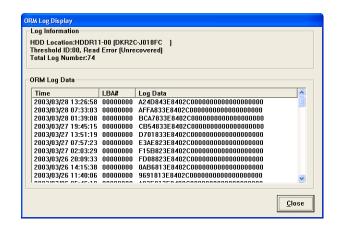
• In case of Flash Drive

Item	Description
Information	Total Defect Count : Total Defect Count Total Uncorrected Errors : The total of the uncorrectable error Errors Corrected With Possible Delays : The total of the delay error Highest Erase Count For All Channels : Highest Erase Count For All Channels Lowest Erase Count For All Channels : Lowest Erase Count For All Channels
Today	One day count and cleared at AM 0:00 every day.
7 days	For the cumulative value in the latest 7 days.
Total	Shows the total cumulative count.

Because these information is multiplication values since HDD operation time, SVP display only total indication.
The "-" for the Threshold value means no threshold is set.

(5)

The nature of the error selected in step (4) is displayed.

Byte	Bit	Name	Explanation
0-3		UCT	Time when the diagnostic result was reported from the DKC to the SVP.
4	0	Log Valid	When this bit is 1, it indicates that this log is valid.
	1	Address Valid	When this bit is 1, it indicates that the address information in bytes 8 to F is valid.
	2-3	(Reserved)	Reserved
	4-7	Sense Key	Error sense key in the SCSI drive report. (*1)
5		Additional Sense Code	Additional sense code in the SCSI drive report .(*1)
6		Sense Code Qualifier	Additional sense code qualifier in the SCSI drive report. (*1)
7		Seek Error Count	Number of seek errors within 10 seek error retries.
8-9		CC	Address of the cylinder where the error occurred.
A		H	Address of the head where the error occurred.
B		S	Address of the sector where the error occurred.
C-F		LBA	LBA where the error occurred.

*1: Definition and contents of the error codes are same as those of the SSB for ordinary DKU errors.

(6)

Select (CL) [Close] in the 'ORM Log Display' dialog box.

(7)

Select (CL) [Close] in the 'Over Rate Counter Display' dialog box.

(8)

Select (CL) [Close] in the 'ORM Over Rate HDD# Display' dialog box.

(9)

Close the 'Information' window.

[2] Resetting an error count

(1)

Select (CL) [Display Over Rate...] in the
'Online Read Margin' window.

(2)

Enter a number from 0 to 100 at 'Rate' in the
'ORM Over Rate HDD# Display' dialog box.
Select (CL) [Display].
Then only the HDDs which have the rate of
equal to or greater than the input number at
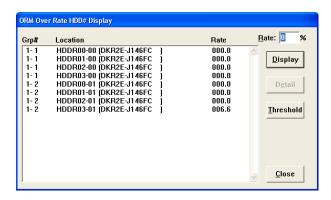"Rate" will appear in the display.
Rate : ratio of the number of errors for the
       threshold value.
Grp# : the parity group.
     SPARE : spare HDD
     RSRVD : reserved HDD with sparing
       * : spare HDD in use.

(3)
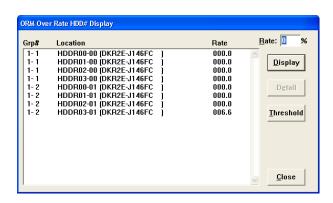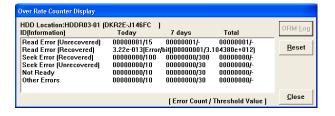
In the 'ORM Over Rate HDD# Display'
dialog box, select (CL) the HDD for which an
error count and thresholds are to be reset from
the HDD Location list box. Select (CL)
[Detail].

(4)

In the 'Over Rate Counter Display' dialog
box, select (CL) [Reset] button.

(5)

Select (CL) [OK] in the 'Threshold Counter Reset' dialog box.

Threshold Counter Reset

[INF2667W]

Are you sure you want to reset Threshold Counter of all ID?

OK   Cancel

(6)

Select (CL) [Close] in the 'Over Rate Counter Display' dialog box.

(7)

Select (CL) [Close] in the 'ORM Over Rate HDD# Display' dialog box.

(8)

Close the 'Information' window.

[3] Displaying thresholds

(1)

Select (CL) [Alter and Display...] in the
'Online Read Margin' window.

(2)

In the 'ORM Threshold Alter/Display' dialog
box, select (CL) an HDD from the "HDD#"
list box and select (CL) [Display]. In order to
display threshold of another interval, select
(CL) the interval from the "Type" radio
button.

Note: Multiple HDDs can be selected (CL)
from the "HDD#" list box while the
control key is being held down.
When "Flash Drive" is selected in the
"HDD#" list box, HDD other than
"Flash Drive" cannot be selected at the
same time.
In this case, each "Threshold" field in
the "Threshold Value" list box shows
the threshold for the HDD that is
highlighted in the "HDD#" list box.

Grp# : the parity group.
SPARE : spare HDD
RSRVD : reserved HDD with sparing
* : spare HDD in use.

(FC/SATA Drive Selected)

(Flash Drive Selected)
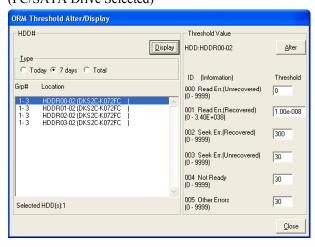
Note: When selected (CL) HDD from the
"HDD#" list box is "Flash Drive", "Information" field in the "Threshold Value" shows
the item of "Flash Drive".
In order to display threshold of "Total Defect Count", select (CL) "Total" from the
"Type" radio button.
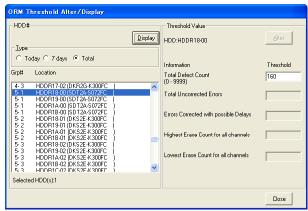
(3)

Select (CL) [Close] in the 'ORM Threshold Alter/Display' dialog box and close the
'Information' window.

[4] Altering a threshold

(1)

Select (CL) [Alter and Display...] in the
'Online Read Margin' window.

(2)
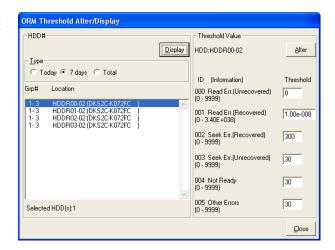
In the 'ORM Threshold Alter/Display' dialog
box, select (CL) an HDD from the "HDD#"
list box and select (CL) [Display]. In order to
display threshold of another interval, select
(CL) the interval from the "Type" radio
button.

Grp# : the parity group.
   SPARE : spare HDD
   RSRVD : reserved HDD with sparing
     * : spare HDD in use.

(3)

In the 'ORM Threshold Alter/Display' dialog box, alter the threshold in the "Threshold" field in the "Threshold Value" list box. Then select (CL) [Alter].

Note: When multiple HDDs are selected in the "HDD#" list box, the thresholds of all HDDs are altered to the same value. When "Flash Drive" is selected in the "HDD#" list box, HDD other than "Flash Drive" cannot be selected at the same time.

(FC/SATA Drive Selected)
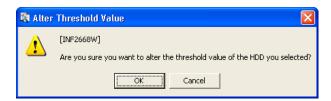
(Flash Drive Selected)

(4)

Select (CL) [OK] in the 'Alter Threshold Value' dialog box.

(5)

Select (CL) [Close] in the 'ORM Threshold Alter/Display' dialog box and close the 'Information' window.

[5] Displaying the ORM running status

(1)

Select (CL) [Running Status...].

(2)

In the 'ORM Running Status Display' dialog box, the ORM running status is displayed as the number of sectors.

Note: The "HDD#" list box shows the location numbers of HDDs. "Scan" shows the number of scanned sectors. "Total" shows the total number of sectors in the drive. "Times" shows the number of times the entire drive was scanned. Result of calculating "Scan" / "Total".

Grp# : shows the parity group.
　　SPARE : spare HDD
　　RSRVD : reserved HDD with sparing
　　　　* : spare HDD in use.
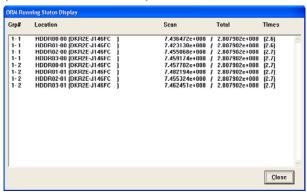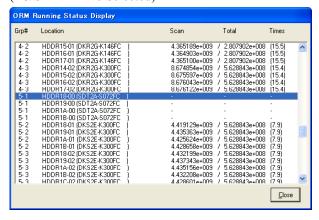
Note: When "Flash Drive" is displayed, "Scan", "Total", "Times" is "-".

(FC/SATA Drive Selected)

(FC/SATA Drive Selected)

(3)
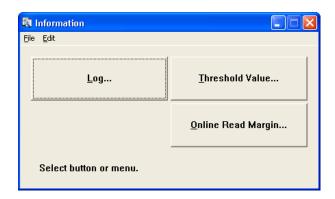
Select (CL) [Close] in the 'ORM Running Status Display' dialog box and close the 'Information' window.
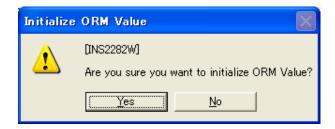
[6] Resetting thresholds

(1)

Select (CL) [File]-[Exit] in the 'Information' window.

(2)

Select (CL) [Install] in the 'SVP'.

(3)

Select (CL) [Initialize ORM Value] in the 'Install' window.

(4)

Select (CL) [Yes] in the 'Initialize ORM Value' dialog box.
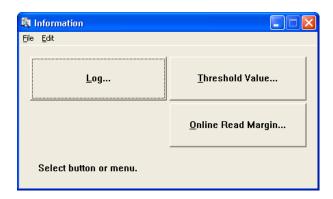
(5)
      Select (CL) [OK] in the 'Initialize ORM Value' dialog box.

2.6 SIM Reporting Specification

[1] DKC SIM
[2] Cache SIM
[3] Media SIM
[4] Device SIM

(1)
Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information].

---

(2)
Select (CL) [Log...] in the 'Information window'.

---

(3)
Select (DR) [SIM Report...] from the [Options] menu in the 'Log' dialog box.
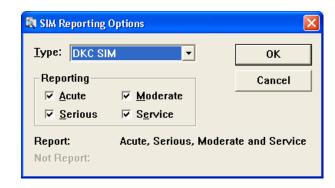
(4)

Select (CL) SIM report type from the 'Type' list box.

Type : DKC SIM
       Cache SIM
       Media SIM
       Device SIM

Select (CL) the level to be reported in the
'SIM Reporting Option' dialog box, and also select (CL) [OK].

SIM message report level are arranged as follows in order of the higher level.
Acute > Serious > Moderate > Service
Selecting level, means all higher levels are to be reported.

(5)

Close the 'Log' dialog box and also close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

2.7 Management of drive threshold values
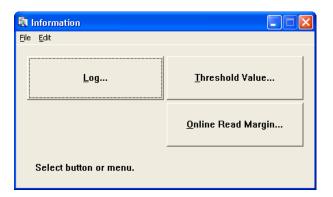
(1)

Check SVP Mode.
The Following operation needs SVP Mode to be 'Modify'. (See SVP01-220)
[2] Altering threshold value
[4] Resetting an error count

(2)

Select (CL) the [Information] window in the 'SVP' window.

(3)

Select (CL) [Threshold Value...] in the
'Information' window.
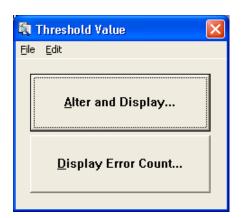
[1] Displaying threshold values

(1)

Select (CL) [Alter and Display...] in the 'Threshold Value' window.

(2)

Select (CL) an HDD location from the "HDD#" list box in the 'Threshold Alter/Display' dialog box and select (CL) [Display].
In order to display threshold of another interval, select (CL) the interval from the "Type" list box.

Note: Multiple HDD locations can be selected (CL) from the "HDD#" list box while the control key being held down. The threshold value in the "Threshold Value" list box shows the threshold value for the HDD location that is highlighted in the "HDD#" list box.
　　　　Recovered: Threshold of errors recoverable by retry.
　　　　Unrecd:　Threshold of errors not recoverable by retry.
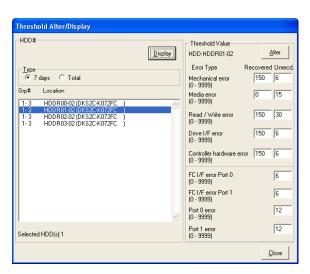
Grp# : the parity group.
　　　SPARE　: spare HDD
　　　RSRVD : reserved HDD with sparing
　　　　　*　: spare HDD in use.
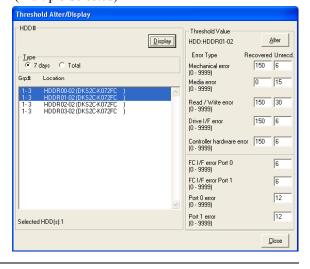
(Multiple Selected)

(3)

Select (CL) [Close] in the 'Threshold Alter/Display' dialog box and close the 'Information' window.
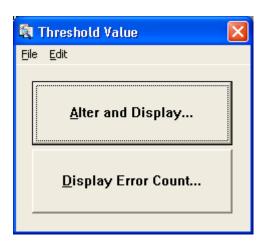
[2] Altering threshold value

(1)

Select (CL) [Alter and Display...] in the 'Threshold Value' window.

(2)
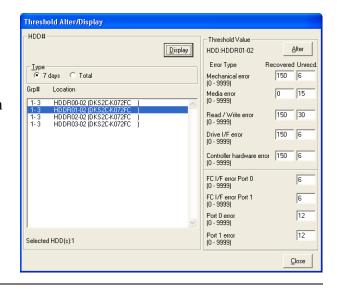
Select (CL) an HDD location from the "HDD#" list box in the 'Threshold Alter/Display' dialog box and select (CL) [Display]. In order to display threshold of another interval, select (CL) the interval from the "Type" list box.

Grp# : the parity group.
      SPARE : spare HDD
      RSRVD : reserved HDD with sparing
         *   : spare HDD in use.
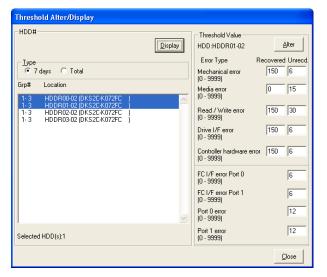
(3)

Alter a threshold value in the "Threshold Value" list box in the 'Threshold Alter/Display' dialog box.
Then select (CL) [Alter].

Note: When multiple HDD locations are selected (CL) from the "HDD#" list box with the control key being hold down, the thresholds for all the selected HDDs are modified to the same value.

(4)

    Select (CL) [OK] in the 'Alter Threshold
Value' dialog box.

(5)

    Select (CL) [Close] in the 'Threshold Alter/Display' dialog box and close the 'Information'
window.
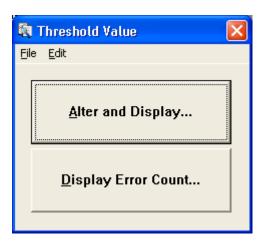
[3] Displaying an error count

(1)

Select (CL) [Display Error Count...] in the 'Threshold Value' Window.

(2)
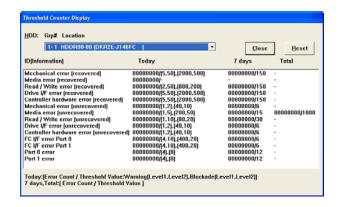
Select (CL) an HDD location from the HDD Location drop-down list in the 'Threshold Counter Display' dialog box to display the error count for the HDD.

Grp# : the parity group.
     SPARE : spare HDD
     RSRVD : reserved HDD with sparing
        * : spare HDD in use.

Note: Please execute this operation with P/S ON.
     When with P/S OFF or the communication error occurs, the display of part Today is displayed by "Unknown".

(3)

Select (CL) [Close] in the 'Threshold Counter Display' dialog box and close the 'Information' window.
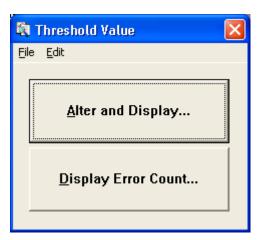
[4] Resetting an error count

(1)

    Select (CL) [Display Error Count...] in the 'Threshold Value' window.

(2)
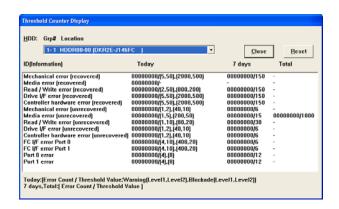
    Select (CL) the HDD location, for which you want to reset the error count, from the "HDD Location" drop-down list in the 'Threshold Counter Display' dialog box and also select (CL) [Reset].

    Grp# : the parity group.
        SPARE : spare HDD
        RSRVD : reserved HDD with sparing
          * : spare HDD in use.

(3)

    Select (CL) [OK] in the 'Threshold Counter Reset' dialog box.
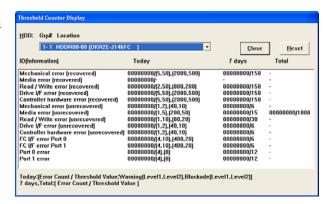
(4)

　　　After confirming that the error count has been
reset in the 'Threshold Counter Display'
dialog box select (CL) [Close] and close the
'Information' window.
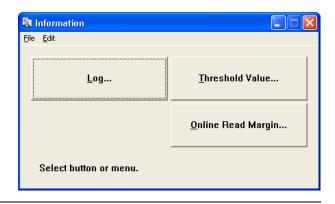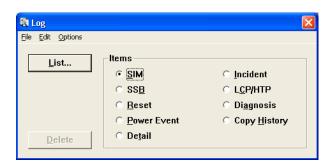
2.8 SIM Log Complete

(1)

Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Information].

(2)
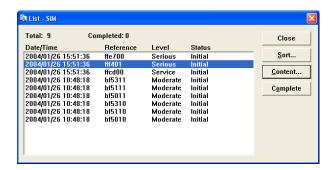
Select (CL) [Log...] in the 'Information'
dialog box.

(3)

Select (CL) [SIM] and [List...] in the 'Log'.

(4)

Select (CL) data to be completed in the 'List-
SIM' dialog box and select (CL) [Complete].
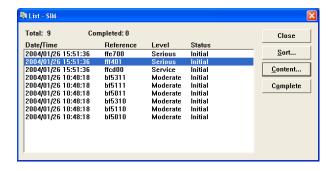
(5)

Select (CL) [Yes] in the 'Complete' dialog box.

(6)

In the 'List-SIM' dialog box, make sure that
"Completed" is displayed in the status.

(7)

Select (CL) [Close] in the 'List-SIM' dialog box.
Close the 'Log' dialog box and close the 'Information' window.
Change the mode from [Modify Mode] to [View Mode].

Note: When the Message of an Operator Panel is on, even if it is performed complete of all
SIMs, please check SIM Complete carried out by displaying SIM.
When not Complete carried out, please wait for 5 minutes and operate SIM Log
Complete again.

2.9 Dump/AutoDump

Auto Dump is a useful function to provide the user with free selection of the dump data type and the output media so that the user can collect dump information.

[1] Auto Dump

(1) Connect the external USB memory.
     When information is collected to the external USB memory, connect the USB memory.
     When information is not collected to the external USB memory, go to Step 2.
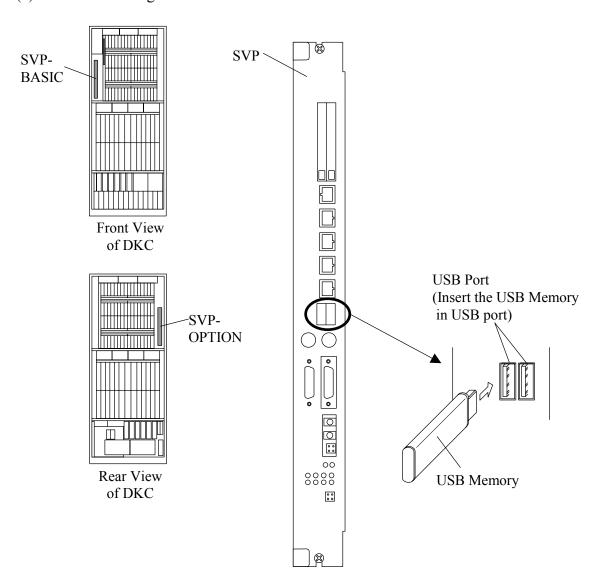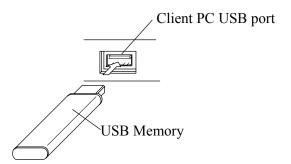
① Insert the USB Memory in USB port on the SVP.
  (a) When connecting to the SVP

SVP-
BASIC

SVP

Front View
of DKC

SVP-
OPTION

USB Port
(Insert the USB Memory
in USB port)

USB Memory

Rear View
of DKC
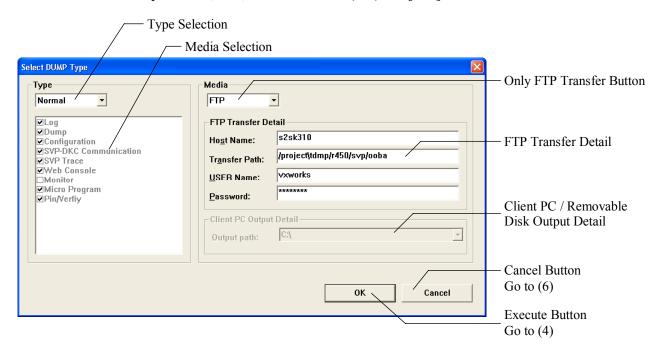
(b) When connecting to the Client PC

Client PC USB port

USB Memory

(2)

Select (CL) [AutoDump] button.

(3)

Select a dump type and a medium for output and make settings of the FTP transfer detail and
the Client PC output detail, etc., and then select (CL) the [OK] button.

Type Selection

Media Selection

Only FTP Transfer Button

FTP Transfer Detail

Client PC / Removable
Disk Output Detail

Cancel Button
Go to (6)

Execute Button
Go to (4)

Note1: Please check that automatic connection of a local disk drive is set up in the case of
connection to SVP. (At the time of Svp Connect Utility use, it is set up automatically.)

Note2: If you execute the TOD setting during collecting the LCP Dump, the collecting the
LCP Dump may fail. Then, please execute collecting the LCP Dump again.
And if you execute collecting LCP Dump at about the time set by Synchronization
Information function, the collecting the LCP Dump may fail. Then, please execute
collecting the LCP Dump again.

<<Dump Type>>

Rapid:

This dump type is to get log information, SVP operation history, or configuration information. SVP will compress these files automatically. The compressed files will be stored in a few FDs.

This dump type will be used when the initial analysis of error is needed. In this case, you should gather the files used by this type and send it to the Center. After sending this files, you should gather dump data by selecting "Normal" type and send it to the Center to analyze more details.

Normal:

This dump type is to get dump data (you can get DUMP information of all adapters) adding to the log files used by "Rapid" type. SVP will compress these dump files automatically. You should get dump data by using this dump type after sending the "Rapid" type of data to Center.

Detail:

This type is to get monitor information adding to the dump files used by "Normal" type. (You can not get performance monitor information.) This data will be needed when the performance of the DKC wants to be checked. If there is no order to get these data, you do not need to use this type.

DUMP:

The dump of this type selects the processors and gets dumps from them individually.

Log:

The dump of this type collects log information only. The dump is used when it is required to send only the log information immediately to the Technical Support Division before making the initial analysis.

Monitor:

The dump of this type collects all monitor information and configuration information.

Config Backup:

The dump of this type collects the configuration information backup data stored in a hard disk of the SVP.

Obstacle PCB Infor:

The dump of this type collects the obstacle PCB Information data stored in a hard disk of the SVP.

Custom:

> The dump of this type selects source items from the detailed information items and collects information from them.
>
> When none of the detailed information items is checked off, the function of the dump of this type becomes the same as that of the dump whose type is No Gather.

No Gather:

> The dump of this type only outputs "c:\dkc200\tmp\hdcp.tgz", which has already been got, to a selected medium without compressing the data.
>
> The dump of this type cannot collect information when the "c:\dkc200\tmp\hdcp.tgz" does not exist or an HDD is selected as a medium for the output.

<<Media>>

HDD:

> SVP will store the compressed files to HDD. The file name is "c:\dkc200\tmp\hdcp.tgz". If you can transfer the files to your center directly, this type will be useful.
>
> (Notice: When operating the maintenance, SVP will sometimes delete the files. Do not use the maintenance operation before sending the files to your center.)

FTP:

> SVP will store the compressed files to HDD. The file name is "c:\dkc200\tmp\hdcp.tgz". After the compression processing end, Transfer processing of compression data is performed to the transfer place directory of a specification server inputted into FTP Transfer Detail.

Client PC:

> The compressed data is output to the directory which has been entered in the Client PC Output Detail box of the PC remotely connected to the SVP.
>
> When information is collected to the external USB memory of the Client PC, please select "Client PC" as a medium and specify the drive of the USB memory into Client PC Output Detail.

Removable Disk:

> The compressed data is output to the directory which has been entered in the Removable Disk of SVP PC.
>
> When information is collected to the external USB memory of the SVP PC, please select "Removable Disk" as a medium and specify the drive of the USB memory into Removable Disk Output Detail.

<<FTP Transfer Detail>>

Host Name: The host name of a FTP transfer place or an IP address is inputted. (*1)

Transfer Path: The directory of a FTP transfer place is inputted.

USER Name: The user name which login to a FTP server is inputted.

Password: The password which login to a FTP server is inputted.

<<Client PC Output Detail>>

Output path: Enter a directory, to which data of the PC remotely connected to the SVP is
                   output, into this box. (A list of drives of the PC concerned is displayed as an
                   initial display.)

<<Removable Disk>>

Output path: Enter a directory, to which data of the Removable Disk of the SVP PC is output,
                   into this box. (A list of Removable Disk drives of the SVP PC is displayed as an
                   initial display.)
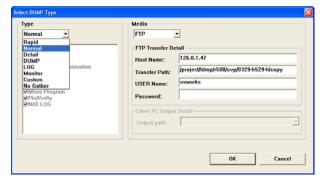
   *1: It is in between "[" and "]" when you input the address of IPv6.
       (Eg.) [0000:0000:0000:0000:0000:0000:0000:0000]

(4) Doing the dump and data compression
A dump is done when a dump type is selected out of "Normal", "Detail", "DUMP", and
"Custom" (in the case where "Dump" has been selected from the detailed information items).
Go to Step (4-1-1).

When "No Gather" is selected as a dump
type, a message, "Do you want to output what
has already been got without collecting dump,
log, and operation information and SVP
operation history?" is displayed. A selection
(CL) of the [OK] button in response to the
message makes an output to the selected
medium.
Go to Step (5).
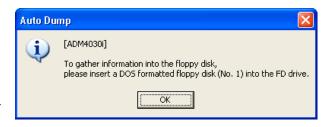
When a dump type other than the above is selected, a data compression is done.
Go to Step (4-2).

The following messages are displayed before doing the dump and data compression when a
Media is select out of "Client PC", and "Removable Disk".

"To gather information into the floppy disk,
please insert a DOS formatted floppy disk
(No. 1) into the FD drive." is displayed.
When you output to FD.
insert the FD and select (CL) the [OK] button.

"Free space in the output destination drive is
XXXMB. Do you want to continue?" is
displayed.
Select (CL) the [Yes] button.
(XXX is free space in the output destination
drive.)
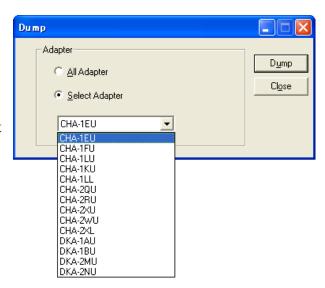
(4-1-1)

When "DUMP" is selected as a dump type, select (CL) [Select Adapter], and select (CL) "Location No." of the processor and select (CL) the [DUMP] button.

When [All Adapter] is selected, dumps are got from all the processors.
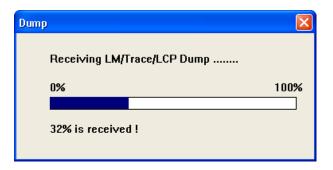
When a dump type other than the above is selected, go to Step (4-1-2).

(4-1-2)

A box indicating progress of the dump is displayed.
When the dump terminates normally, go to step (4-1-4).
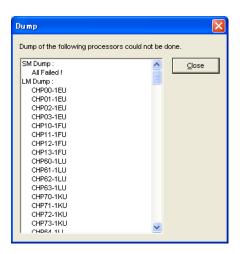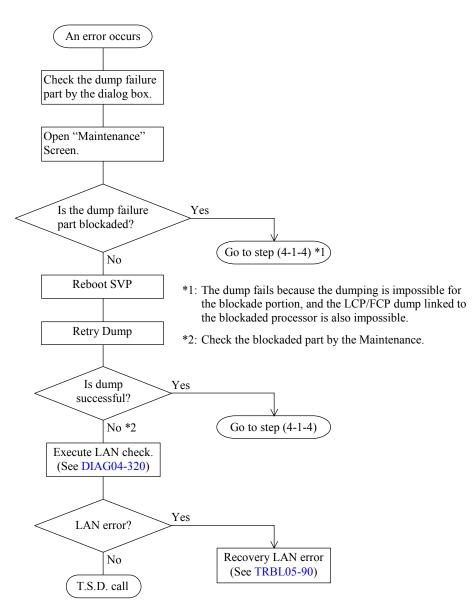
(4-1-3)

When an error occurs, the following dialog box is displayed.
Perform the following procedure and retry the dump.

Dump

Dump of the following processors could not be done.

```
SM Dump :
   All Failed !
LM Dump :
   CHP00-1EU
   CHP01-1EU
   CHP02-1EU
   CHP03-1EU
   CHP10-1FU
   CHP11-1FU
   CHP12-1FU
   CHP13-1FU
   CHP60-1LU
   CHP61-1LU
   CHP62-1LU
   CHP63-1LU
   CHP70-1KU
   CHP71-1KU
   CHP72-1KU
   CHP73-1KU
   CHP64-1LL
```

Close

(An error occurs)

→ Check the dump failure part by the dialog box.

→ Open "Maintenance" Screen.

→ ◇ Is the dump failure part blockaded? — Yes → (Go to step (4-1-4) *1)

No ↓

Reboot SVP

→ Retry Dump

→ ◇ Is dump successful? — Yes → (Go to step (4-1-4))

No *2 ↓

Execute LAN check. (See DIAG04-320)

→ ◇ LAN error? — Yes → Recovery LAN error (See TRBL05-90)

No ↓

(T.S.D. call)

*1: The dump fails because the dumping is impossible for the blockade portion, and the LCP/FCP dump linked to the blockaded processor is also impossible.

*2: Check the blockaded part by the Maintenance.

(4-1-4)
    A data compression is done.
    Go to Step (4-2).

(4-2) Data compression
    The 'FD Copy' window is displayed and a data compression is
    done.

(5) Output to a selected medium.
    An output is done to a selected medium

    When an HDD was selected, go to Step (5-1-1).
    When an FTP was selected, go to Step (5-2-1).
    When a Client PC was selected, go to Step (5-3-1).
    When a Removable Disk was selected, go to Step (5-4-1).
    When Client PC or Removable Disk was selected and output to FDD, go to Step (5-5-1).

(5-1-1) When the HDD is selected as a medium for the output

A message, "Gathering information data was completed." is displayed. Select (CL) the [OK] button.
Go to Step (6).

Auto Dump

(i) [ADM3708i]

Gathering information data was completed.

OK
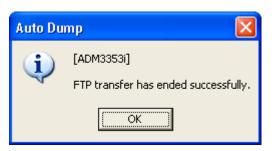
(5-2-1) When the FTP is selected as a medium for the output

When the [FTP] was selected as the media for the output, a transfer of the compressed data is started.

ftp Dump

ftp://126.0.1.47/project/tdmp/r500/svp/0329-h529-fdcopy/hdcp.tg
524KB/ 720KB [1046KB/Sec] 00h 00m 00s

Cancel

(5-2-2)

After the data transfer is completed, a message, "FTP transfer has ended successfully." is displayed.
Select (CL) the [OK] button.
Go to Step (6).

Auto Dump

(i) [ADM3353i]

FTP transfer has ended successfully.

OK
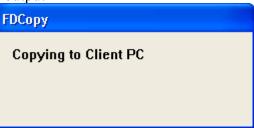
(5-3-1) When the Client PC is selected as an medium for the output
   "Copying to Client PC." is displayed and a copying
   to the Client PC is done.

When the copying fails, a message, "Output
to the client PC is failed. Do you want to
specify the output destination in the client PC
again?" is displayed.
Select (CL) the [Yes] button and reset the
directory for the output in the 'Client PC' window.

(5-3-2)
   A message, "Gathering information data was
   completed." is displayed. Select (CL) the [OK]
   button.
   Go to Step (6).

(5-4-1) When the Removable Disk is selected as an medium for the output
    "Copying to Removable Disk" is displayed and a
    copying to the Removable Disk is done.

(5-4-2)
    A message, "Gathering information data was
    completed." is displayed. Select (CL) the [OK]
    button.
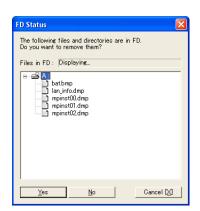
    When information is collected to the USB
    memory of the SVP PC, go to Step (6).

(5-5-1)

If the file is not contained in the FD when the FD is checked
through the 'FD Status' dialog box, go to Step (5-5-2). When the
file is contained in the FD, a message, "The following files and
directories are in FD. Do you want to remove them?" is
displayed. When you want to delete the files, select (CL) the
[Yes] button and go to Step (5-5-2). If you want to leave the files,
select (CL) the [No] button and go to Step (5-5-2).
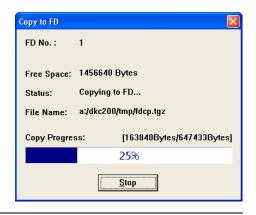
When an error occurs, a message, "Could not access FD.
FD is not DOS formatted. FD is not inserted. FD is write
protected." is displayed.
Check the matters displayed and then select (CL) the
[Retry] button. Return to Step (5-5-1).

(5-5-2)

"Copying to FD..." is displayed and the copying is done.
(If a capacity of the FD becomes insufficient, return to
Step (5-5-1) and replace the FD with a new one.)

(5-5-3)

A message, "Gathering information data was
completed." is displayed. Select (CL) the [OK]
button.
Go to Step (6).

(6)

Gathering Information Local Mode if it is enabled. A message, "Do you want to release Gathering Information Local mode?" is displayed.
When you want to release the Gathering Information Local mode, select (CL) the [Yes] button.

When the Client PC is selected as a medium for the output, and When information is collected to the USB memory of Client PC, go to Step (6-2).

When the Removable Disk is selected as a medium for the output, and When information is collected to the USB memory of the SVP PC, go to Step (6-1).

(6-1) Remove the USB memory from SVP PC
Select (CL) the "Safely Remove Hardware" icon in the task tray.

Since the menu bar is displayed, select (CL) "Safely remove USB Mass Storage Device - Drive (X:)."

*1: "X:" is a drive letter of the USB memory.

*2: When a device other than the USB memory is selected, the other devices will stop. If a wrong selection is made, insert the device that has been selected by mistake again.

Remove the USB memory from the USB port of the SVP.

(6-2) Remove the USB memory from Client PC
   When the collection of information using AutoDump is completed, remove the USB memory
   from the Client PC.

> How to remove the USB memory from Client PC changes with Client PCs to be
> used.
> Please perform removal processing suitable at each Client PC.
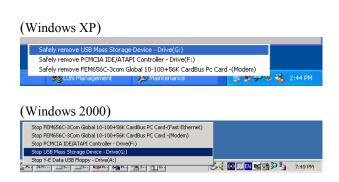
   example: In the case of Client PC which sets Windows XP (the English version) or Windows
            2000 (the English version) to OS

1. When the collection of information using
    AutoDump is completed, select (CL) the
    (Windows XP)
    "Safely Remove Hardware"
    (Windows 2000)
    "Unplug or Eject Hardware"
    icon in the task tray.

    (Windows XP)

    (Windows 2000)

2. Since the menu bar is displayed,
    select(CL) the
    (Windows XP)
    "Safely remove USB Mass Storage
    Device– Drive(X:)"
    (Windows 2000)
    "Stop USB Mass Storage Device–
    Drive(X:)".

    (Windows XP)

    (Windows 2000)

    *1: "X:" is a drive letter of the USB memory.

    *2: When a device other than the USB memory is selected, the other devices will stop. If
         a wrong selection is made, insert the device, which has been selected by mistake
         again.

3. (In the case of Client PC which sets Windows 2000 to OS)
    Confirm that the following message
    appears, and then select(CL) [OK].

4.   Remove the USB memory from the USB port of the Client PC.

[2] SSVP DUMP

(1)
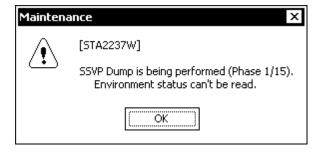
Please set the maintenance jumper in JP9 of DKC PANEL, and remove the jumper.
(Refer to LOC06-60)
The "SSVP DUMP" Starts.
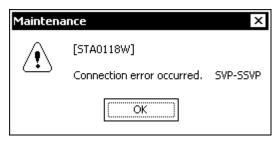
(2)

Open the Maintenance window (see SVP section).
Check that the message "SSVP Dump is being performed (XXXX). Environment status can't be read." is displayed and select (CL) [OK].

If the message "Connection error occurred. SVP-SSVP" is displayed, check the wiring connection and select (CL) [OK] to start from step (1) again.
If step (1) is performed three times and the same message "Connection error occurred. SVP-SSVP" is displayed, replace SSVP (See REP01-300).

(3)

The SSVP ALARM lamp blinks after completion of dump. (Refer to LOC03-60)
(For about 10 minutes after performing step (1))

(4)

Copy the dump file to FD.
(Refer to SVP02-580 [1] Auto Dump)
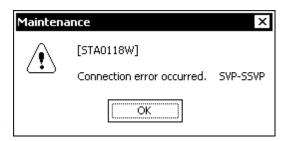
(5)

Please set the maintenance jumper in JP8 of DKC PANEL, and remove the jumper.
(Refer to LOC06-60)
SSVP is reset.

(6)

Open the Maintenance window.
If the message "Connection error occurred. SVP-SSVP" is displayed, select (CL) [OK] to perform step (5) again.
If step (5) is performed three times and the same message "Connection error occurred. SVP-SSVP" is displayed, replace SSVP (See REP01-300).

Maintenance	☒
⚠ [STA0118W]	
Connection error occurred. SVP-SSVP	
OK	

(7)

If the message shown at step (6) is not displayed, the SSVP IMPL is completed.

2.10 Logical Device Maintenance
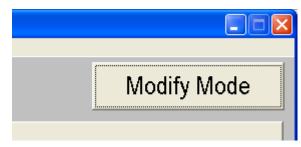
2.10.1 Format of Logical Device

> Notice:
> Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1)　<Preparation>
　　　Close each menu of the starting SVP entirely.

---

(2)　<Start>
　　　Change the mode to [Modify Mode].

　　　Select (CL) the [Maintenance] in the 'SVP' window.

　　　Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

(3) <Selection of Logical Device>

Notice:
Be careful enough not to make a mistake in selecting a device.

Select (CL) the target device (or group) from
the list in the right of the 'Logical Device'
window.

(4) <Execution>
Select (CL) [Format] on the tool bar in the
'Logical Device' window.

(5) <Check>
Check the device (or group) to be formatted in
the 'LDEV Maintenance' window, and select
(CL) [Format].

(6) <Password Input>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a
system down or a data loss and requires an input of a password. Ask the technical
support division about the appropriateness of the operation, and input the password after
getting an approval of executing the operation.

Corresponding to the following message,
enter the password and select (CL) the [OK]
button.
"Data in the specified logical device may be
lost due to this operation. You need the
password to continue."

(7) <Progress Check>
The progress in the format processing is displayed.

(8) <Completion Check>
When the format is completed, the following message is
displayed. Select (CL) [OK].
"Formatting was finished."

Note: When executing it by either following specification, if
the SATA drive is included in the format target, SIM =
0x4100XX is output at the end.
  • It is specified in ECC Group units.
  • When System Option 269 is set, all LDEVs in ECC Group are specified.

(9) <Post-processing>
Close the 'Logical Device' window.
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.10.2 Block Logical Device

Notice:
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>
Close each menu of the starting SVP entirely.

(2) <Start>
Change the mode to [Modify Mode].

Select (CL) the [Maintenance] in the 'SVP' window.

Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

(3) <Selection of Logical Device>

Notice:
Be careful enough not to make a mistake in selecting a device.
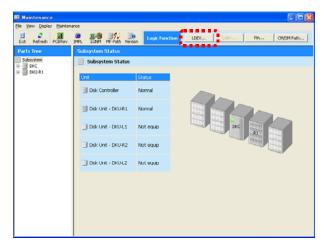
Select (CL) the target device (or group) from
the list in the right of the 'Logical Device'
window.

(4) <Execution>
Select (CL) [Block] on the tool bar in the
'Logical Device' window.
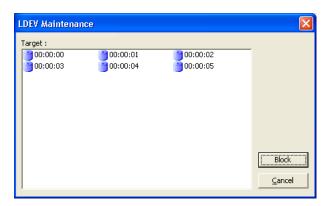
(5) <Check>
Check the device (or group) to be blocked in the 'LDEV Maintenance' window, and select (CL) [Block].
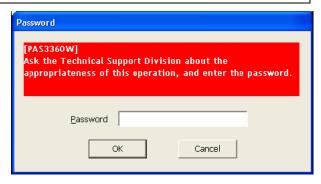
(6) <Password Input>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.
"Ask the Technical Support Division about the appropriateness of this operation, and enter the password."

(7) <Processing Wait>
The following message is displayed.
"Blocking the logical device..."

(8) <Completion Check>
    When the blockade is completed, the following
    message is displayed. Select (CL) [OK].
    "Blocking the logical device is completed."

    Maintenance

    [ONL0765i]

    Blocking the logical device is completed.

    OK

(9) <Post-processing>
    Close the 'Logical Device' window.
    Close the 'Maintenance' window.
    Change the mode to [View Mode].

2.10.3 Restore the Logical Device

Notice:
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>
Close each menu of the starting SVP entirely.

(2) <Start>
Change the mode to [Modify Mode].

Select (CL) the [Maintenance] in the 'SVP' window.

Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

(3) <Selection of Logical Device>

Notice:
Be careful enough not to make a mistake in selecting a device.
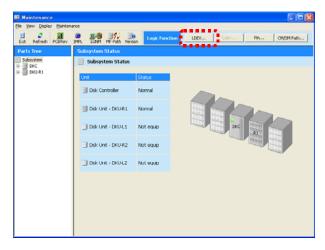
Select (CL) the target device (or group) from the list in the right of the 'Logical Device' window.

(4) <Execution>
Select (CL) [Restore] on the tool bar in the 'Logical Device' window.
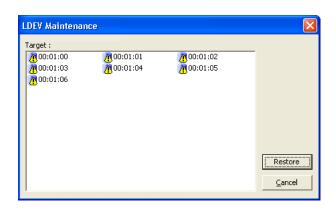
(5) <Check>
     Check the device (or group) to be restored in
     the 'LDEV Maintenance' window, and select
     (CL) [Restore].

(6) <Selection of Recovery Processing>
     Select (CL) [Restore Type] in the 'Restore Logical
     Devices' window, and select (CL) [OK].
     "Normal Restoration"
     "Forcible Restoration"

■Normal Restoration
Explanation:
     In case LDEV(s) is (are) blocked due to multiple PDEV failures in one parity group, this
     option spins up the PDEV which was blocked last to restore the LDEV(s).
When to choose this option?
     Use this option when you would like to restore the LDEV(s) that is (are) blocked due to
     multiple PDEV failures in one parity group.

Notice:
The purpose of this action is to restore the PDEV blocked last and restore the parity
group status to "correction access". Therefore do not replace or self-replace any failed
HDD in the parity group before performing this action.

■Forcible Restoration

Explanation:

This option restores only the LDEV status forcibly without considering data consistency etc.

When all PDEV status in the parity group is "normal", the LDEV status is changed from "blocked" to "normal".

When to choose this option?

In case "Normal Restoration" cannot restore LDEV, use this option by following the instructions of the technical support division.

After PDEV is manually restored, the LDEV status is changed to "normal" forcibly.

> Notice:
> The data consistency may not be guaranteed. Contact the technical support division to ask for instructions.

(7)

This message is displayed only when "Forcible Restoration" is selected in Step (6).

Select (CL) [Yes] in the "Forcible restoration is not available for LDEV whose "Protection Level" is SATA-E method. After that restoration, it might be the state of blocked LDEV again due to an internal error. Check if there is not SATA-E method LDEV. Do you want to continue this process?".

(8) <Password Input>

This operation is required only when "Forcible Restoration" is selected in Step (6).

> Notice:
> This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.

"Ask the Technical Support Division about the appropriateness of this operation, and enter the password."

(9) <Processing Wait>
The following message is displayed.
"Restoring the logical device..."

In case that, "Normal Restoration" is selected in Step (6).
If multiple PDEV failures, the restoration processing of the recoverable PDEV is performed
here.

This processing cannot recover it when the
following message is displayed.
"The replaced physical devices could not spin
up."

Perform the procedure RDK7 refer to
REP01-250.

(10) <Completion Check>
When the restoration is completed, the following
message is displayed. Select (CL) [OK].
"Restoring the logical device is completed."

(11) <Check of Device Status>
Check the target device status in the 'Logical Device' window.

(12) <Post-processing>
Close the 'Logical Device' window.
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.10.4 Verify Logical Device

> Notice:
> Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) <Preparation>
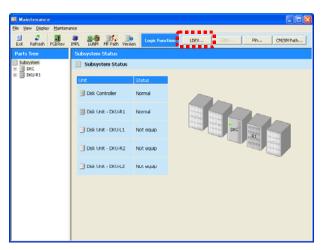Close each menu of the starting SVP entirely.

(2) <Start>
Change the mode to [Modify Mode].

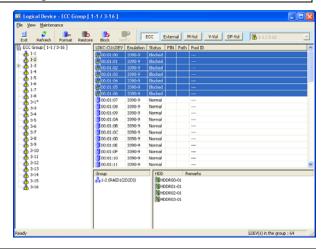Select (CL) the [Maintenance] in the 'SVP' window.

Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

(3) <Selection of Logical Device>

Notice:
Be careful enough not to make a mistake in selecting a device.
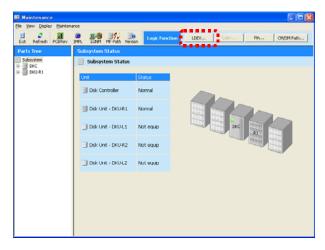
Select (CL) the target device (or group) from
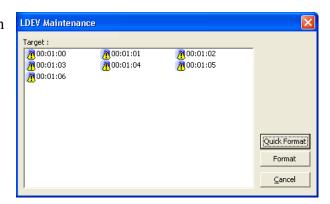the list in the right of the 'Logical Device'
window.

(4) <Execution>
Select (CL) [Verify] on the tool bar in the
'Logical Device' window.
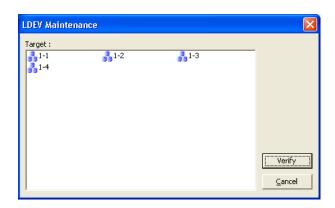
(5) <Check>
Check the device (or group) which executes
the parity synchronization check in the
'LDEV Maintenance' window, and select
(CL) [Verify].
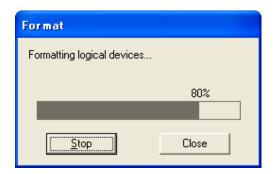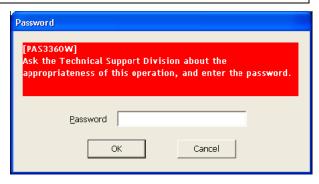
(6) <Password Input>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a
system down or a data loss and requires an input of a password. Ask the technical
support division about the appropriateness of the operation, and input the password after
getting an approval of executing the operation.

Corresponding to the following message,
enter the password and select (CL) the [OK]
button.
"Ask the technical support division about the
appropriateness of this
operation, and enter the password."

(7) <Selection of Check Content>
Input the corresponding items in the 'Verify
Logical Devices' window, and select (CL) [OK].
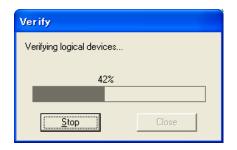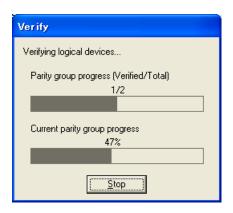
(8) <Progress Check>
The progress in the processing of the parity synchronization check is displayed.

[Stop]:   Stops the parity synchronization check.

When the check is started on condition that a parity group or on HDEV is specified.

When the check is started on condition that two or more parity groups are specified.
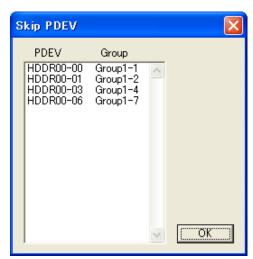
(9) <The check of PDEV which has not checked>
This operation is required only when the PDEV that was not able to execute the parity synchronization check exists.

The PDEV that was not able to execute the check is displayed.

It is possible that the check was not performed because the target PDEV has been blocked or the processing was stopped by pressing [Stop].
Check the status of the target PDEV after completing the synchronization check.

Check the content, and select (CL) [OK].

(10) <Output of Check Result File>

This operation is required only when the device with the parity error exists resulting from the check.

Select (CL) [Yes] or [No] for the following message.
"Do you want to save the result of Verify to a file? (MAX : ***)
A result file will be saved and compressed when "Auto Dump" is performed."
***: The time required for the processing
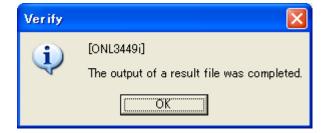
When [Yes] is selected (CL), the following message is displayed after the file output.
"The output of a result file was completed."

(11) <Check of Check Result>
This operation is required only when the device with the parity error exists resulting from the check.

The information of the device with the parity error is displayed. Check the details, and select (CL) [Close].
The content of the check window of the check result is shown below.

- Check window of the device with the parity error
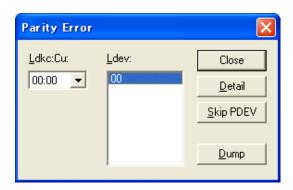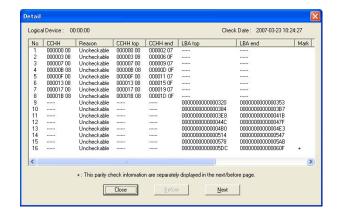
Table 2.10-1   List of Parity Error Windows

Item	Description
[Detail]	Displays the detailed information window of the device selected in [CU] – [LDEV].
[Skip PDEV]	Displays the 'Skip PDEV' window again (refer to Step (9)).
[Dump]	Output the check result to the file (refer to Step (10)).

- Detailed Information Window
  The details of the parity errors are displayed.

*1: In case of the OPEN device, only LBA is displayed. However, "-----" is displayed in [CCHH/LBA] in case of the parity slot that the LBA display is impossible.

*2: In the device which configures the extension LU (Open VOL), LDEV#:XXX of the target slot and the head LDEV#:YYY of the extension LU are displayed as "Logical Device: XXX (YYY)."
     However, if the LDEV# selected in the 'Parity Error' window is the head device, "(YYY)" is not displayed.
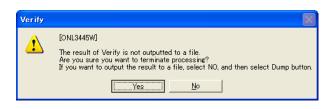
(12) <Check of Result File Output>
This operation is required only when the output of the result file is not executed.

Select (CL) [Yes] or [No] for the following message.
"The result of verify is not outputted to a file. Are you sure you want to terminate processing?
If you want to output the result to a file, select [No], and then select the [Dump] button."

(13) <Completion Check>
When the parity synchronization check is completed, the following message is displayed.
Select (CL) [OK].
"Verifying the logical devices is finished."

When it is stopped, the following message is displayed.
"Verifying the logical devices is interrupted by SVP."

(14) <Post-processing>
Close the 'Logical Device' window.
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.10.5 LDEV recovery for multiple PDEV failures

Refer to SVP02-830.

Blank Sheet

Blank Sheet
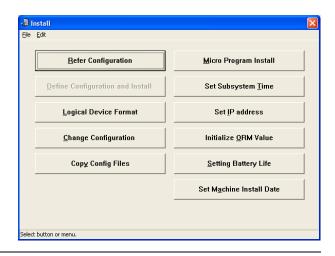
Blank Sheet

2.10.6 Format all blocked Logical Devices together
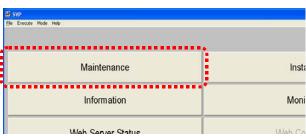
> Notice:
> Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1)

Select (CL) [Logical Device Format].

(2)

Select (CL) [Yes] in response to "This process will format blocked logical devices only. Are you sure you want to continue this process?".

(3)
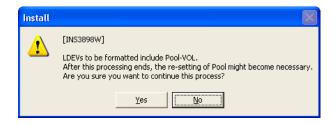
Select (CL) [OK] in response to "This process will format logical devices at low speed. When you want to format all logical devices, change the current mode to INTIAL SETUP MODE, and then retry the "Logical Device Format" operation.".

(4)

When LDEVs to be formatted include Pool-VOL, Select (CL) [Yes] in response to "LDEVs to be formatted include Pool-VOL. After this processing ends, the re-setting of Pool might become necessary. Are you sure you want to continue this process?".

(5)
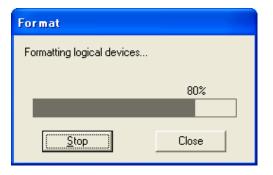
Notice:
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

"Data in the specified logical device may be lost due to this operation. You need the password to continue." is displayed.
Enter the password and select (CL) [OK].

(6)

"Formatting logical devices..." is displayed.

(7)

Select (CL) [OK] in response to "Formatting was finished.".

Note: When System Option 269 is set and all LDEVs in ECC Group are other than the format target, SIM = 0x4100XX is not output at the end even if the SATA drive is included in the format target.

(8)

Close the 'Install' window.

2.10.7 Quick Format of Logical Devices

> Notice:
> Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.
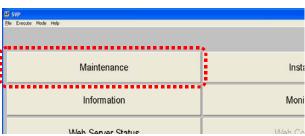
(1) <Preparation>
  Close each menu of the starting SVP entirely.

---

(2) <Start>
  Change the mode to [Modify Mode].

  Select (CL) the [Maintenance] in the 'SVP' window.

  Select (CL) [LDEV...] on the dialog bar in the 'Maintenance' window.

(3) <Selection of Logical Device>

Notice:
Be careful enough not to make a mistake in selecting a device.

Select (CL) the target device (or group) from
the list in the right of the 'Logical Device'
window.

(4) <Execution>
Select (CL) [Format] on the tool bar in the
'Logical Device' window.
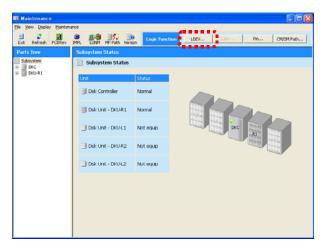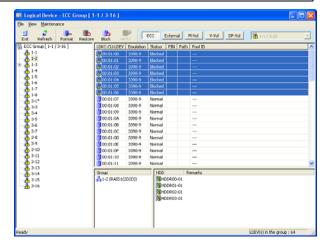
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SC02540Z
SVP02-993
Rev.1 / Feb.2008, Apr.2008
DKC610I
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(5) <Check>
Check the device (or group) to be restored in the 'LDEV Maintenance' window, and select (CL) [Quick Format].

Select (CL) [OK] in response to "The setting of the System Disk needs to be completed and the System Disk volume needs to be normal to execute Quick Format.".

Select (CL) [Yes] in response to "Quick Format is executed. Do you continue to this operation?"

(6) <Password Input>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.
"Data in the specified logical device may be lost due to this operation. You need the password to continue."

(7) <Progress confirmation>
The processing progress preparing Quick Format is
displayed.
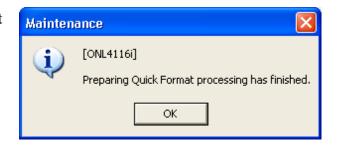
(8) <End confirmation>
When the processing preparing Quick Format
is completed, the following message is
displayed.
Select (CL) [OK].
"Preparing Quick Format processing has
finished."

Note: After Quick Format is finished, SIM = 0x410100 is output when executing Quick
Format from SVP.
When all Quick Format is finished, the above SIM is output if Quick Format is executed
from Storage Navigator while executing Quick Format from SVP.
When Quick Format is executed only from Storage Navigator, SIM is not output.

(9) <Post-processing>
Close the 'Logical Device' window.
Close the 'Maintenance' window.
Change the mode to [View Mode].
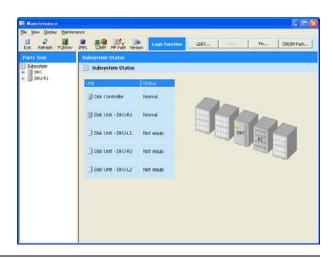
2.11 Pin Data indication

Prerequisite operation

(1)

    Select (CL) [Maintenance].

---
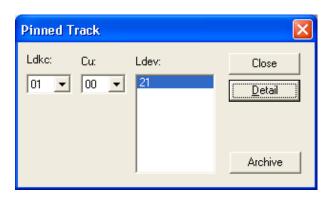
(2)

    Select (CL) [PIN...] in the 'Maintenance' dialog box.

(3)

    Display an LDEV with a pinned slot. Select (CL) the LDEV, details of which you want to display, in "Ldkc:", "Cu:", "Ldev:" and select (CL) [Detail].

                -------------------- Go to Step (4).

    Note: When the pinned slot is gone, the LDEV, an occurrence of the pinned slot in which was reported by a SIM, is not displayed.

    When you want to output pinned data to a file, select (CL) the [Archive] button.

                -------------------- Go to Step (5).
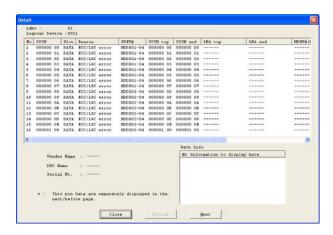
    When you close the "Pinned Track" window, select (CL) the [Close] button.

                -------------------- Go to Step (7).

(4)

Display the detail of a Pin Slot.
(If there are more than 17 Pin Slots, the
[Next] button will display other Pin Slots.)

Note: If a Pin Slot has some recoverable
trouble, the detail of the Pin Slot will
not be displayed. In case of OPEN-
LDEV, only LBA's Pin Slots are
displayed. But, if the Pin Slot of
LBA's can't be displayed, "-----" is
displayed in both CCHH and LBA
columns.

When you want to close the 'Detail' window, select (CL) [Close] button.
-------------------- Return to Step (3).

(5)

"Do you want to output pinned data to a file? You can get the pinned data file by executing the
FD Copy or Auto Dump," is displayed.
When you want to output the result to a file, select (CL) [Yes].
-------------------- Go to Step (6).
When you do not want to output the result to a file, select (CL) [No].
-------------------- Return to Step (3).

(6)

"Output of the pinned data file was completed", is displayed.
-------------------- Return to Step (3).

(7)

Select (CL) [Close] in the 'Detail' dialog box.
Select (CL) [Close] in the 'Pin Volume' dialog box.
Close the 'Maintenance' window.

2.12 Multi PCB Replace

(1) <Set path offline>
Set the path offline from HOST when replacing CHA.

<div style="border:1px solid">

[Notes for the case where DKN-200-NGW1 (NAS Unit) is connected to this device]

[Points to be checked in advance]
Prior to this operation, if all of the following three cases applies to this device, execute [Correspondence when connecting the NAS Unit].
1. NAS Unit is connected to this device. (*1)
2. NAS Unit is in operation. (*2)
3. A failure has not occurred on the NAS Unit. (*3)
   *1: Confirm with the disk array device administrator to check whether the NAS Unit is connected or not.
   *2: Confirm with the NAS Unit administrator to check whether the NAS service is operating or not.
   *3: Ask the NAS Unit administrator to check whether failure has occurred or not by checking with the NAS administration software, NAS Manager GUI, List of RAS Information, etc. In case of failure, execute the maintenance operation together with the NAS maintenance personnel.

[Correspondence when connecting the NAS Unit]
Confirm with the NAS Unit administrator whether it is possible to terminate the NAS service. Determine how to react according to the confirmation result.
1. If the NAS service can be terminated:
   Before starting this operation, ask the NAS Unit administrator for the planned shutdown of the NAS Unit.
   After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
2. If the NAS service cannot be terminated:
   When the replacement operation of CHA used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status.
   Before starting the operation of the next CHA replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.
In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of CHA used by the NAS Unit.

</div>

(2) <Mode Change>
Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Maintenance].

(3) <Maintenance>
The 'Maintenance' window is displayed.

Select (CL) the [Maintenance]-[Multi PCB
Replace]-[Cluster n]on the menu.
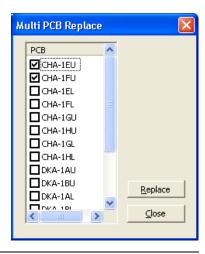
(4)　<Select CHA/DKA>

Notice:
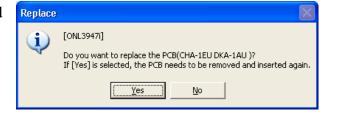
- When the subsystem is placed online, ask the customer to place it offline.
- The CUIR function is effective, and Multi PCB Replace of PCB other than Mainframe Fibre CHA and Mainframe Fibre CHA are not enforceable.
- When the screen prompting an operator to input a password in order to prevent multiple maintenance, contact the technical support division to ask for instructions.

Select (CL) CHA/DKA PCB.
Select (CL) [Replace].

(5)　<Confirm the PCB replace>
After you confirm that the PCB to be replaced is correct, select (CL) the [Yes] button in response to "Do you want to replace the PCB(CHA-nnn DKA-nnn)? If [Yes] is selected, the PCB needs to be removed and inserted again.".

(6) <Confirm Channel Path offline>
Select (CL) [Yes] or [OK] in response to
"Please confirm you have already varied off
the concerned Channel paths for all HOST
connected to this PCB. If OK, please press
[OK]."

If a Fibre channel adapter is installed:
After you confirm that you have stopped
concerned SCSI Channel paths, select (CL)
[Yes].

CHA and CHA (SCSI) exist:
After you confirm that you have stopped
concerned Channel paths and SCSI channel
paths, select (CL) [Yes].

*For Mainframe Fibre CHA
The channel path offline confirmation message is not displayed when the CUIR function is effective, and the following messages are displayed.
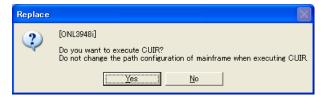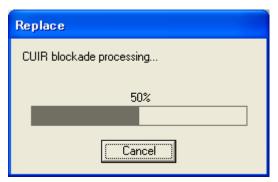
Note: In the case of the FNP port, the CUIR function is not performed.

Select (CL) [Yes] in response to:
"Do you want to execute CUIR? Do not change the path configuration of mainframe when executing CUIR".
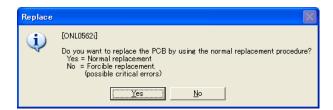
"CUIR blockade processing..." is displayed.

(7) <Caution message for system down>

| Notice: |
| Select (CL) [Yes] in response to the message below. |

"Automatic subsystem check for error prevention will be performed when blocking target the PCB.
Yes = Normal replacement
No = Forcible replacement
(Possible critical errors)"

(8) <CHA/DKA blocking>
* For CHA
"The CHA-xxx is being blocked... Usually, several minutes (maximum 15 minutes)"
* For DKA
"The DKA-xxx is being blocked..."
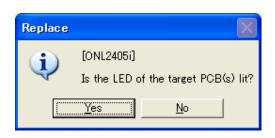
(9) <Check to see if shut down LED is lit>
Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to "Is the LED of the target PCB(s) lit?".
If [No] is selected:
Select in response to "Is the LED of the target PCB(s)
lit?" again.

Notice:
If the jumper is inserted in the wrong PCB, a system down may occur.

<Forcing shut down LED on>
If [No] is selected twice:
Insert a jumper in response to "Please insert
jumper into the target PCB(CHA-xxx DKA-
xxx), then pull it out without considering the status of the LED.".
Select (CL) [OK] after the jumper is inserted. Go to step (10).

For CHA (Serial)--------------- HARDWARE D (REP03-160)
For CHA (Fiber) --------------- HARDWARE E (REP03-200)
For CHA (MF Fibre) ---------- HARDWARE F (REP03-240)
For DKA ----------------------- HARDWARE J (REP03-360)

---

(10) <Beginning of CHA / DKA Replacement>
"Please replace the PCB(CHA-xxx DKA-
xxx). After replacement, please select OK." is
displayed.
Select (CL) [OK] after replacing the PCBs.

For CHA (Serial)--------------- HARDWARE D (REP03-160)
For CHA (Fiber) --------------- HARDWARE E (REP03-200)
For CHA (MF Fibre) ---------- HARDWARE F (REP03-240)
For DKA ----------------------- HARDWARE J (REP03-360)
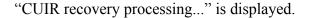
(11)
  Select (CL) [OK] in response to "Please replace the PCB(s).   After replacement, please press OK.".
  "Waiting for Power Event... Usually, several minutes (maximum 15 minutes)" is displayed.

(12) <CUIR recovering when Mainframe Fibre CHA is replaced>
  When the CUIR function is effective, and the following messages are displayed.

  Select (CL) [Yes] in response to:
  "CUIR recovery processing is executed.
  Connect the cable as it was before the
  blockade processing. Please select [OK] after
  you finish connecting the cable."

  "CUIR recovery processing..." is displayed.

(13) <Check the recovery processing>
  The following message is displayed:
  * For DKA
  "Restoring the DKA-xxx..."
  "DKA-xxx is being path recovered..."

(14) <Check the end of CHA/DKA recovery>
    Select (CL) [OK] in response to "Replace finished.".

> **Replace** ✕
>
> ⓘ   [ONL2411i]
>
>   Replace finished.
>
>   [OK]

[Notes for the case where DKN-200-NGW1 (NAS Unit) has been connected to this device]

If the NAS Unit is connected to this device, ask the NAS Unit administrator to confirm the following points.

[Points to be checked after completing this operation]
1. If the NAS service is terminated:
   After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
2. If the NAS service is not terminated:
   When the replacement operation of CHA used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next CHA replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.

In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of CHA used by the NAS Unit.

Notice:
When one or more PCBs are replaced normally, "Replace finished." will be displayed.
So please confirm PCBs' status.

---

(15) <Path on-line when CHA is replaced>
When a CHA is replaced, set the path (from the host) on the replaced CHA to ONLINE by
your customer.

*:   (12) When <CUIR recovering when Mainframe Fibre CHA is replaced> is executed,
processing concerned is unnecessary.

(16) <SIM Complete>
Go to SVP02-560.

(17)
Close the 'Maintenance' window.
Change the mode from [Modify Mode] to [View Mode].

2.13 System Option

[Overview]
Change the following system option when the system operates.

① Spare Disk Recovering ------ Select the performance density when data is copied to a spare disk.
(correction copy and drive copy)
- Interleave : Everytime 4-slot copy is completed, copy job sleeps
for the time dependent on load of HOST I/O.
- Full Speed : No sleep. (No considering HOST job)

⚠ CAUTION

Please do not use if no channel paths is varied offline.

---

② Disk Copy Pace ------------- Specification of copy pace is supported with the "Interleave" mode
at Spare Disk Recovering.   Three modes are supported.
- Medium : Optimization mode.   The copy time depends on load
of HOST I/O.
- Faster : Copy job is prior to HOST job.
- Slower : HOST job is prior to copy job.

③ Copy Operation--------------- • Dynamic Sparing : Copy automatically to a spare disk if disk
failure exceeded the threshold value.
- Correction Copy : Execute correction copy to a spare disk
automatically when one drive has blocked.

④ Read Configuration Data Mode
---------------------- To change the method of adding S/N which DKC reports by the
Read Configuration Data command.
- OFF : Compatible method
- ON : 4096 support method (default)

⑤ Cache Segment Size --------- Define the Cache Segment Size.

⚠ CAUTION

When you change defining of Cache Segment Size, please perform dummy replacement
of SM-1SA and SM-2SB after change surely.

---

⑥ Link Fail Threshold ---------- Define the threshold value to report the link failure.

⑦ WR Through ------------------ This option sets the write through operation of each LDEV to be performed when a failure occurs in the Cache Memory PCB of one of the duplicated systems.
- Destage ： ON ： The write through operation is performed. (default)
    OFF ： The write through operation is not performed.

When ON is selected (default) :
    When a failure occurs in the Cache Memory PCB of one of the duplicated systems during a writing of data sent from a host, what is called the write through operation is performed in which completion of a writing is reported to the host after waiting for completion of a writing to a disk drive. Normally, select ON from the viewpoint of usability of data.

When OFF is selected :
    When a failure occurs in the Cache Memory PCB of one of the duplicated systems during a writing of data sent from a host, what is called the write after operation is performed in which completion of a writing is reported to a host when the data has been written to the cache memory and it is made possible to reduce lowering of writing performance caused by the Cache Memory PCB failure. However, when the Cache Memory PCB of the other one of the duplicated systems is detached while the subsystem is operating with one of the duplicated systems, write pending data that exists in the operation mode above will be lost. Therefore, set this system option only when the LDEV concerned is duplicated to another DKC by means of the duplicated writing instructed by a host.
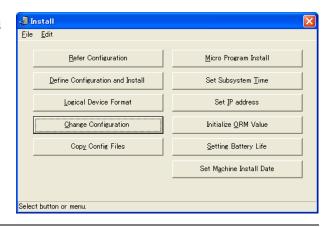
(1)
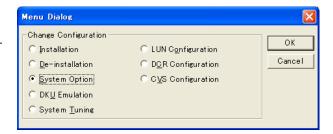
Change the Mode from [View Mode] to [Modify Mode].
Select (CL) [Install].

(2)

Select (CL) the [Change Configuration] menu in the 'Install' window and select (CL) [OK].
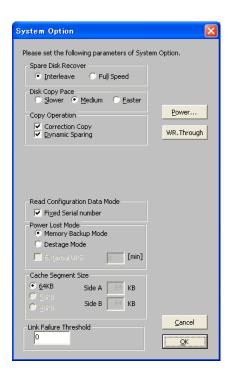
(3)

Select (CL) the [System Option] menu in the 'Menu Dialog' window and select (CL) [OK].

(4)

Select (CL) the desired item in the 'System Option' dialog box, and select (CL) [OK]. Go to step (5).

When [Power...] is selected (CL), the 'Power Supply' window is displayed. Go to step (4-1).

When [WR.Through] is selected (CL), the 'Synchronous Destage Mode Define' window is displayed. Go to step (4-2).
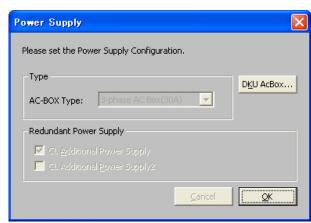
(4-1)
Set the type of power supply in 'Power Supply'.

After setting, select (CL) [OK].   Return to Step (4).

When you want to set the type of DKU AC power supply, select (CL) [DKU AcBox...]. Go to step (4-1-1).

Refer to INST01-81 for the SVP screen display and the conversion of the option type names.

(4-1-1) <Selecting the type of DKU AC power supply>
Define the type of AC BOX in the DKU.
When [AC-BOX...] is selected (CL), Go to Step (4-1-2).
When [OK] is selected (CL), Return to Step (4-1).
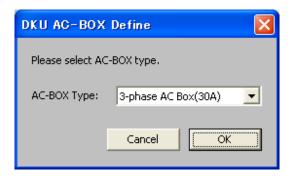
(4-1-2) <DKU AC-BOX Define window>
Set the AC Box type of DKU and select (CL) the [OK] button.
Return to Step (4-1-1).

Refer to INST01-81 for the SVP screen display and the conversion of the option type names.
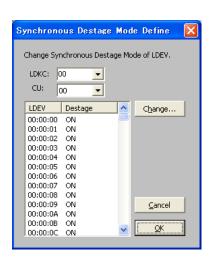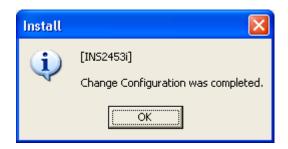
(4-2) <Set the Destage Mode >
   Set the configuration information in 'Synchronous Destage
   Mode Define'.

   After setting all the items, select (CL) [OK].   Return to Step
   (4).

   If you do not want to reflect the setting, select (CL) [Cancel].
   Return to Step (4).
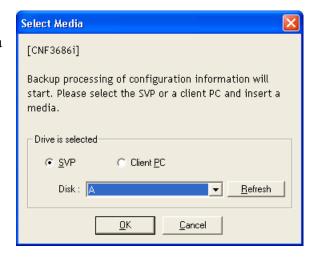
(5)
   "Loading configuration..." is displayed.

(6)
   "Change Configuration was completed." is
   displayed.
   Select (CL) [OK].

(7)
   "Backup processing of configuration
   information will start. Please select the SVP or a
   client PC and insert a media." is displayed.
   Insert the Config media into selected drive, and
   select (CL) [OK].

   Note: For the procedure of backing up the
          configuration information to a CD-R, see
          page MICRO08-140.

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SC02540Z
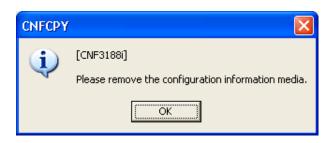
SVP02-1140
Rev.0 / Mar.2007

DKC610I
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(8)

When this procedure is completed, the
message "Please remove the configuration
information media." is displayed.
Remove the configuration information media,
Select (CL) [OK].

CNFCPY

[CNF3188i]

Please remove the configuration information media.
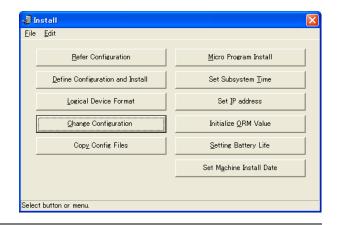
OK

(9)

Close the 'Install' window.
Select (CL) [File]-[Exit].

Install

File   Edit

Refer Configuration

Micro Program Install

Define Configuration and Install

Set Subsystem Time

Logical Device Format

Set IP address

Change Configuration

Initialize ORM Value

Copy Config Files

Setting Battery Life

Set Machine Install Date

Select button or menu.

(10)

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

2.14 Blocking of Cluster

<div style="border:1px solid black;">

⚠ CAUTION

This is a special operation.   Ask the technical support division about the appropriateness of the operation.

</div>

[Notes for the case where DKN-200-NGW1 (NAS Unit) is connected to this device]

[Points to be checked in advance]
    Prior to this operation, if all of the following three cases applies to this device, execute [Correspondence when connecting the NAS Unit].
    1. NAS Unit is connected to this device. (*1)
    2. NAS Unit is in operation. (*2)
    3. A failure has not occurred on the NAS Unit. (*3)
        *1: Confirm with the disk array device administrator to check whether the NAS Unit is connected or not.
        *2: Confirm with the NAS Unit administrator to check whether the NAS service is operating or not.
        *3: Ask the NAS Unit administrator to check whether failure has occurred or not by checking with the NAS administration software, NAS Manager GUI, List of RAS Information, etc. In case of failure, execute the maintenance operation together with the NAS maintenance personnel.

[Correspondence when connecting the NAS Unit]
    Confirm with the NAS Unit administrator whether it is possible to terminate the NAS service. Determine how to react according to the confirmation result.
    1. If the NAS service can be terminated:
    Before starting this operation, ask the NAS Unit administrator for the planned shutdown of the NAS Unit.
    After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
    2. If the NAS service cannot be terminated:
    When the replacement operation of blocking of Cluster used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next blocking of Cluster replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.
    In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of blocking of Cluster used by the NAS Unit.

The following is an example procedure for blocking of Cluster-1.

(1)

    Change the Mode from [View Mode] to [Modify Mode].
    Select (CL) [Maintenance] in the 'SVP' window.

(2)

    Select (CL) [Maintenance]–[Blockade]–
    [Cluster n] from the menu.

(3) <Beginning of Blocking>
    Select [Yes] (CL) in response to "Please
    confirm the concerned channel path(s) is(are)
    not used.   Do you want to block xxxxx?".

    Valid xxxxx values are listed below.
    • Cluster-1
    • Cluster-2

(4)

Processing to Cluster block.

"Reading configuration..."
"Blocking cache memory..."
"Blocking shared memory..."
"Blocking CHA..."
"Blocking CHP..."
"Blocking DKA..."
"Blocking DKP..."
"Blocking CSW..."
"Blocking Cluster failure report..."
"Processing to disable the environment check..."

(5)

End of Cluster block
Select (CL) [OK] in response to "The blockade has finished.   Cluster is blocked.".

(6)

Select (CL) [OK] in response to "Cluster-X is failed!".

(7)

Close the 'Maintenance' window.

2.15 Recovering of Cluster

[Notes for the case where DKN-200-NGW1 (NAS Unit) is connected to this device]

[Points to be checked in advance]
   Prior to this operation, if all of the following three cases applies to this device, execute [Correspondence when connecting the NAS Unit].
   1. NAS Unit is connected to this device. (*1)
   2. NAS Unit is in operation. (*2)
   3. A failure has not occurred on the NAS Unit. (*3)
      *1: Confirm with the disk array device administrator to check whether the NAS Unit is connected or not.
      *2: Confirm with the NAS Unit administrator to check whether the NAS service is operating or not.
      *3: Ask the NAS Unit administrator to check whether failure has occurred or not by checking with the NAS administration software, NAS Manager GUI, List of RAS Information, etc. In case of failure, execute the maintenance operation together with the NAS maintenance personnel.

[Correspondence when connecting the NAS Unit]
   Confirm with the NAS Unit administrator whether it is possible to terminate the NAS service. Determine how to react according to the confirmation result.
   1. If the NAS service can be terminated:
      Before starting this operation, ask the NAS Unit administrator for the planned shutdown of the NAS Unit.
      After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
   2. If the NAS service cannot be terminated:
      When the replacement operation of recovering of Cluster used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next recovering of Cluster replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.
   In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of recovering of Cluster used by the NAS Unit.

Note: Before recovering of Cluster, please reboot SVP.

The following is an example procedure for blocking of Cluster-1.

(1)
    Change the Mode from [View Mode] to [Modify Mode].
    Select (CL) [Maintenance] in the 'SVP' window.

---

(2)
    Select (CL) [Maintenance]–[Recover]–
    [Cluster n] from the menu.

---

(3) <Beginning of Recovery>
    Select [Yes] (CL) in response to "Do you want to
    recover xxxx?".

    Valid xxxx values are listed below.
    • Cluster-1
    • Cluster-2

If Cluster 1/2 is fail.	Go to 4
If Cluster 1/2 is blockade.	Go to 8
If Cluster 1/2 is normal.	Go to 9
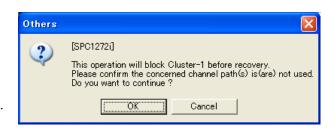
(4)

Confirm varied Off-line.
Select [OK] (CL) in response to "This
operation will block xxxxx before recovery.
Please confirm the concerned channel path(s)
is(are) not used.　Do you want to continue?".

Valid xxxxx values are listed below.
- Cluster-1
- Cluster-2

(5)

Processing to Cluster block.

"Reading configuration..."
"Checking status of Cluster..."
"Blocking Cluster..."
"Blocking cache memory..."
"Blocking shared memory..."
"Blocking CHA..."
"Blocking CHP..."
"Blocking DKA..."
"Blocking DKP..."
"Blocking CSW..."
"Blocking Cluster failure report..."
"Processing to disable the environment check..."

(6)

⚠ **CAUTION**

- In this section, operate only DKCPSxx and DKC BATTERY-xx in the appropriate cluster.

- Do not operate other PSs and BATTERY. Otherwise, a system down or a part failure way occur.

- This operation Lights up the SUBSYSTEM ALARM LED.   Ignore the Light because it goes out with the operation of the CHK RST switch.

Turn Off/On the power supply of the target cluster according to the next message, and select (CL) the [OK] button.

"Execute the following procedure.

1. Set all DKC BATTERYs Cluser-X to OFF.
2. Remove the power cable from all DKC PSs in Cluster-X.
3. Insert the power cable back into all DKC PSs in Cluster-X.
4. Set all DKC BATTERYs in Cluster-X to ON.
5. Turn the CHK RST switch on DKC-PANEL to CHK RST.
6. Select [OK]."

Valid X values are listed below.
- Cluster-1: 1
- Cluster-2: 2

---

(7)

The SVP automatically checks the power supplies to determine if cluster is recoverable.

(8)

Processing to Cluster recover.

"Reading configuration..."
"Checking status of Cluster..."
"Restoring Cluster..."
"Checking Power on..."
"Waiting for Power Event... Usually, several minutes (maximum 15 minutes)"
"Reading configuration..."
"Restoring DKA (PDEV Spin up)..."
"Restoring DKP Path..."
"Restoring Cluster failure report..."
"Setting C-Port register..."
"Running INLINE CUDG..."
"Running CM/SM Path test..."
"Restoring shared memory..."
"Restoring cache memory..."
"Processing to enable the environment check..."

(9) <End of Cluster Recover>
Select (CL) [OK] in response to "Recovery
has finished.   The cluster is enabled.   The
concerned channel path(s) are available.
Vary the concerned channel path(s) online.".

Others ⓘ [SPC1269i]

Recovery has finished. The cluster is enabled.
The concerned channel path(s) are available.
Vary the concerned channel path(s) online.

[OK]

(10)

Close the 'Maintenance' window.

[Notes for the case where DKN-200-NGW1 (NAS Unit) has been connected to this device]

If the NAS Unit is connected to this device, ask the NAS Unit administrator to confirm the following points.

[Points to be checked after completing this operation]
1. If the NAS service is terminated:
   After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
2. If the NAS service is not terminated:
   When the replacement operation of recovering of Cluster used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next recovering of Cluster replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.

In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of recovering of Cluster used by the NAS Unit.

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SC02540Z

SVP02-1210
Rev.0 / Mar.2007

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2.16 PCB/SFP Revision Display

(1)

Select (CL) [Maintenance] in the 'SVP' window.

(2)

Select (CL) [PCBRev] in the 'Maintenance' window.

(3)

'Reading or Writing PCB revision informations...' is displayed.

(4)

Select a PCB/MP/PORT whose revision you want to display in the 'PCB Revision Display' window.

- When [Write] is selected (CL) in the 'PCB Revision Display' window, the revision will be displayed again after the processing is completed.
  (When [Write] is selected, perform (1) after changing the mode from [View Mode] to [Modify Mode].)

(5)

Select (CL) [Close] in the 'PCB Revision Display' dialog box.

(6)

Close the 'Maintenance' window.

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SC02540Z

SVP02-1230
Rev.2 / Dec.2009, Mar.2011

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2.17 Setting Battery Life

Set the Battery Life warning SIM to prompt to prepare the periodical exchange maintenance of a battery before the lifetime of the battery (3 years) equipped in the Subsystem.
Set the number of days remained until you generate [Battery Life Warning SIM] based on your maintenance plan.

1.

Change the mode from [View Mode] to [Modify Mode].
Select (CL) [Install].
Select (CL) the [Setting Battery Life] menu in the 'Install' window.

2.

Select (CL) [Set...] applying the check to [Battery Life Warning SIM]. Go to step (3).
Select (CL) [Exit] button and go to Step (4).

Note: If the date is displayed as "****/**/**", follow step (3) to set the date.

3.

Select (CL) [OK] after inputting the remainder days until Warning SIM is reported.
Return to step (2).

Note: After executing the periodical exchange of a battery, set 33 month (990 days).

Note: Determine the number of days remained based on your maintenance plan.

Note: The input ranges of "Remained Battery life" are from 1 to 3650. Please set [Battery Life Warning SIM] of (2) to check off when not reporting on Warning SIM.
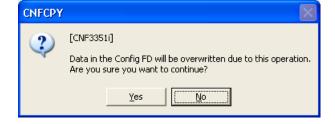
4.

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed. Insert the Config media into selected drive, and select (CL) [OK].

Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

5.
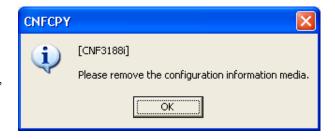
"Data in the Config FD will be overwritten due to this operation. Are you sure you want to continue?" is displayed. Select (CL) [Yes].

6.

When this procedure is completed, the message "Please remove the configuration information media." is displayed.
Remove the configuration information media, Select (CL) [OK].

7.

"Backup Configuration..." is displayed.

8.
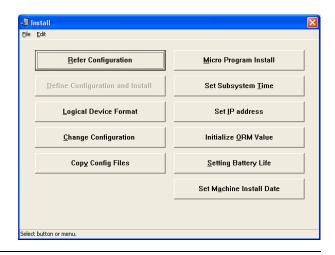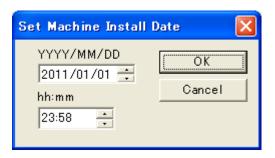
Close the 'Install' window.

2.18 Setting Machine Install Data

(1)

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

(2)

Select (CL) the [Install] in the [Modify Mode].

(3)

Select (CL) the [Set Machine Install Data]
menu in the 'Install' window.

(4)

Input the Date and Time.
Select (CL) the [OK] button.

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SC02540Z

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(5)

"Backup Configuration..." is displayed.

(6)

"A setting of a machine installation data has ended successfully." is displayed.
Select (CL) the [OK] button.
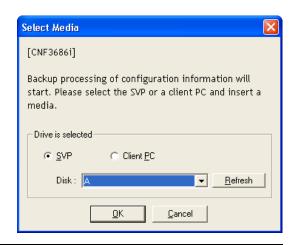
(7)

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed.
Insert the Config media into selected drive, and select (CL) the [OK] button.

Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

(8)

"Data in the Config media will be overwritten due to this operation. Are you sure you want to continue?" is displayed. Select (CL) the [Yes] button.

(9)
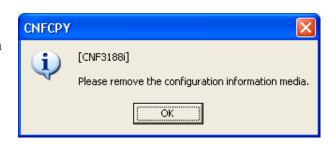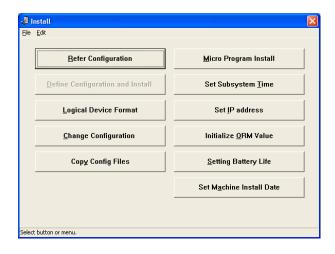
When this procedure is completed, message "Please remove the configuration information media." is displayed. Remove the configuration information media, select (CL) [OK] button.

(10)

Close the 'Install' window.
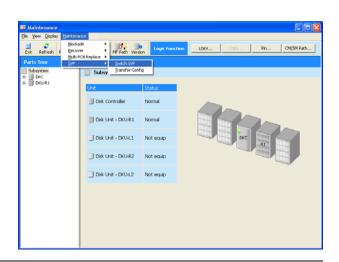
2.19 SVP Switching

This function is valid when the SVP High Reliability Kit is installed.

Notice: This operation needs that Standby SVP is a View mode.

Notice: When screen saver operates (60 minutes pass without operation) with a Standby SVP having been connected to the remote desktop, this operation fails.

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

(2)
Select (CL) [Maintenance]-[SVP]-[Switch SVP] from the menu.
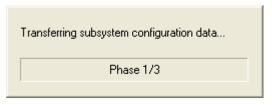
(3) <Execution>
Execute switching.
Select (CL) [Yes].

* Switching takes about 20 minutes.

(4) <Configuration Information Transfer>
The message "Transferring subsystem configuration data..." is displayed.

The SVP transfers the configuration information automatically to reflect the configuration information of the master SVP on the standby side SVP. Therefore, if the transfer processing of the configuration information overlaps, the actually transferred status display may be repeated.

(5) <SVP Switching Start Check>
The message "Switching SVPs has started." is displayed.
The subsystem is automatically restarted and in the
Standby status by SVP switching.
(SVP and Console PC are disconnected.)

(6) <Connection to SVP after Switching Operation>
It waits for about 3 minutes until a change is completed.
After Standby SVP starts as Master SVP by the switching indication, use the connection utility
connect Console PC and the switched SVP.
Select (CL) IP Address of SVP in the "SvpConnectUtility" window and select (CL) [Connect].
(IP Address is the same with that of SVP at the time of the SVP switching indication.)
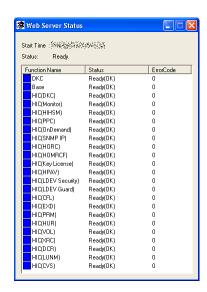
(7) <Initial Window>
Press the "Web Server Status" button.

(8) <Web Server Status Window>
If all function's Status displays Ready, switching is completed.

Note: The "A duplicate name exists on the network."
message may be displayed by network environment
after a change. Although the message may be
displayed, there is especially no problem.

2.20 Configuration Information Transfer

This function is valid when the SVP High Reliability Kit is installed.
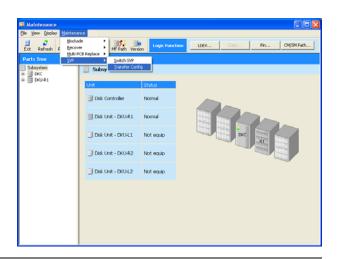
Notice: This operation needs that Standby SVP is a View mode.

Notice: When screen saver operates (60 minutes pass without operation) with a Standby SVP having been connected to the remote desktop, this operation fails.

Execute the following operation for Master SVP.

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

---

(2)

Select (CL) [Maintenance]-[SVP]-[Transfer Config] from the menu.

---

(3)

Select (CL) [Yes] for the message "Do you want to transfer configuration data?".

---

(4)

The message "Transferring subsystem configuration data..." is displayed.
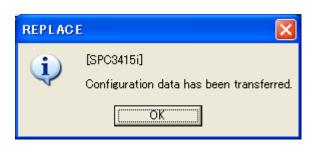
The SVP transfers the configuration information automatically to reflect the configuration information of the master SVP on the standby side SVP. Therefore, if the transfer processing of the configuration information overlaps, the actually transferred status display may be repeated.

(5)

When configuration data has been transferred, the message "Configuration data has been transferred." is displayed.
Select (CL) [OK].
If errors occur on the way, check the problems of connection and setting of the replaced SVP (Standby).

REPLACE

[SPC3415i]

Configuration data has been transferred.

OK

(6)

Close the "Maintenance" window.

(7)

Change the SVP mode to [View Mode].

2.21 SFP type change operation

2.21.1 Batch type change

(1) <Set path offline>

⚠ CAUTION

The path to be placed offline is that connected with the SFP concerned.

[Notes for the case where DKN-200-NGW1 (NAS Unit) is connected to this device]

[Points to be checked in advance]
  Prior to this operation, if all of the following three cases applies to this device, execute
  [Correspondence when connecting the NAS Unit].
  1. NAS Unit is connected to this device. (*1)
  2. NAS Unit is in operation. (*2)
  3. A failure has not occurred on the NAS Unit. (*3)
      *1: Confirm with the disk array device administrator to check whether the NAS Unit
          is connected or not.
      *2: Confirm with the NAS Unit administrator to check whether the NAS service is
          operating or not.
      *3: Ask the NAS Unit administrator to check whether failure has occurred or not by
          checking with the NAS administration software, NAS Manager GUI, List of RAS
          Information, etc. In case of failure, execute the maintenance operation together
          with the NAS maintenance personnel.

[Correspondence when connecting the NAS Unit]
  Confirm with the NAS Unit administrator whether it is possible to terminate the NAS
  service. Determine how to react according to the confirmation result.
  1. If the NAS service can be terminated:
     Before starting this operation, ask the NAS Unit administrator for the planned
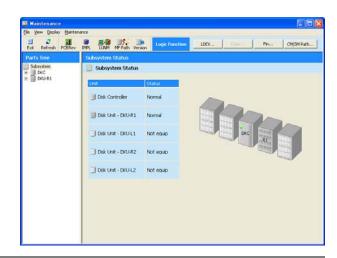   shutdown of the NAS Unit.
     After completing this operation, ask the NAS Unit administrator to reboot the NAS
     Unit.
  2. If the NAS service cannot be terminated:
     When the replacement operation of SFP used by the NAS Unit is completed, the
     Fibre Channel path (FC path) of the NAS Unit might go into the Failure status.
     Before starting the operation of the next SFP replacement, contact the NAS Unit
     administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager
     User's Guide", confirm the FC path status and, if the status is Failure, ask for the
     recovery of the FC path.
  In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit
  maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen
  (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to
  check the status of the FC path and to recover the FC path if it is in a failure status
  after completing the replacement operation of SFP used by the NAS Unit.

(2) \<Preparation\>
Close the all SVP menu.

(3) \<Input password\>
Select "Shift" + "Ctrl" + "F" on the SVP window.
Enter the password "RAID-SFP" and select (CL) [OK].

(4) \<Check the mode\>
The 'SFP Mode' is Displayed.

(5) \<Replace SFP\>
Refer HARDWARE T21(REP03-1540).

(6) <Set path online>

⚠ **CAUTION**

The path to be placed online is that connected with the SFP concerned.

[Notes for the case where DKN-200-NGW1 (NAS Unit) has been connected to this device]

If the NAS Unit is connected to this device, ask the NAS Unit administrator to confirm the following points.

[Points to be checked after completing this operation]
1. If the NAS service is terminated:
   After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
2. If the NAS service is not terminated:
   When the replacement operation of SFP used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next SFP replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.
In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of SFP used by the NAS Unit.

2.21.2 Changing type specification

(1) <Set path offline>

⚠ **CAUTION**

The path to be placed offline is that connected with the SFP concerned.

[Notes for the case where DKN-200-NGW1 (NAS Unit) is connected to this device]

[Points to be checked in advance]
　　Prior to this operation, if all of the following three cases applies to this device, execute
　　[Correspondence when connecting the NAS Unit].
　　1. NAS Unit is connected to this device. (*1)
　　2. NAS Unit is in operation. (*2)
　　3. A failure has not occurred on the NAS Unit. (*3)
　　　　*1: Confirm with the disk array device administrator to check whether the NAS Unit
　　　　　　is connected or not.
　　　　*2: Confirm with the NAS Unit administrator to check whether the NAS service is
　　　　　　operating or not.
　　　　*3: Ask the NAS Unit administrator to check whether failure has occurred or not by
　　　　　　checking with the NAS administration software, NAS Manager GUI, List of RAS
　　　　　　Information, etc. In case of failure, execute the maintenance operation together
　　　　　　with the NAS maintenance personnel.

[Correspondence when connecting the NAS Unit]
　　Confirm with the NAS Unit administrator whether it is possible to terminate the NAS
　　service. Determine how to react according to the confirmation result.
　　1. If the NAS service can be terminated:
　　　　Before starting this operation, ask the NAS Unit administrator for the planned
　　　　shutdown of the NAS Unit.
　　　　After completing this operation, ask the NAS Unit administrator to reboot the NAS
　　　　Unit.
　　2. If the NAS service cannot be terminated:
　　　　When the replacement operation of SFP used by the NAS Unit is completed, the
　　　　Fibre Channel path (FC path) of the NAS Unit might go into the Failure status.
　　　　Before starting the operation of the next SFP replacement, contact the NAS Unit
　　　　administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager
　　　　User's Guide", confirm the FC path status and, if the status is Failure, ask for the
　　　　recovery of the FC path.
　　In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit
　　maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen
　　(NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to
　　check the status of the FC path and to recover the FC path if it is in a failure status
　　after completing the replacement operation of SFP used by the NAS Unit.

(2) <Preparation>
Close each menu of the starting SVP entirely.

(3) <Start>
Change the mode to [Modify Mode].
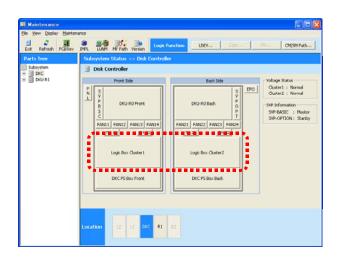
Select (CL) the [Maintenance] in the 'SVP' window.

(4) <Instruction of DKC Information>
Select (CL) [Disk Controller].
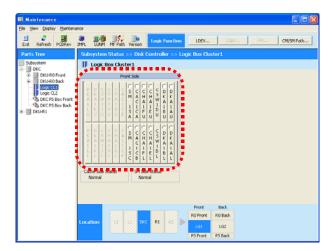
(5) <Display of Logic Box Information>
     Select (CL) [Logic Box Cluster<u>n</u>].
     (n: Cluster number which installs SFP of the
     maintenance target)
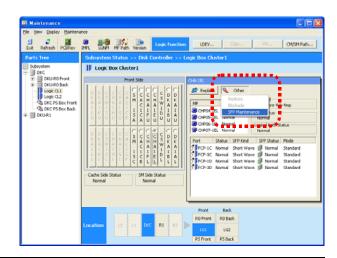
(6) <Display of CHA Information>
     Select (CL) [CHA <u>n</u><u>XX</u>] which installs SFP
     of the maintenance target.
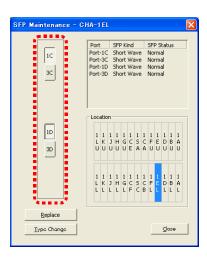
(7) <Start of SFP Maintenance Window>
Select (CL) [Other] – [SFP Maintenance].

(8) <Instruction of SFP Type Change>
Select (CL) the ports to change the type (it is possible to select two or more), and select (CL) [Type Change].
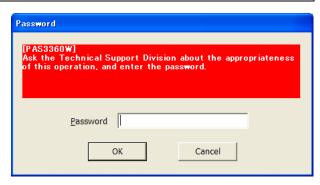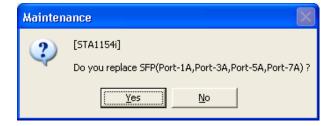
(9) <Enter the password>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a
system down or a data loss and requires an input of a password. Ask the technical
support division about the appropriateness of the operation, and input the password after
getting an approval of executing the operation.

Enter the password and select (CL) [OK].

Password

[PAS3360W]
Ask the Technical Support Division about the appropriateness
of this operation, and enter the password.

Password [   ]

OK   Cancel
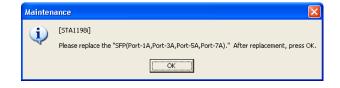
(10) <Confirming execution of the change>
After making sure that the port for which the
type change is to be executed, select (CL) the
[Yes] button in response to the message, "Do
you replace SFP(Port-nn, ...) ?".

Maintenance

[STA1154i]

Do you replace SFP(Port-1A,Port-3A,Port-5A,Port-7A) ?

Yes   No

(11) <Replacing the SFP>
A message, "Please replace the "SFP(Port-
nn, ...)." After replacement, press OK." is
displayed.

Maintenance

[STA1198i]

Please replace the "SFP(Port-1A,Port-3A,Port-5A,Port-7A)." After replacement, press OK.

OK

(Select (CL) [OK] after replacing the SFP.)
Refer to the hardware part replacement procedure T21 (on page REP03-1540).

(12) <Set path online>

⚠ **CAUTION**

The path to be placed online is that connected with the SFP concerned.

[Notes for the case where DKN-200-NGW1 (NAS Unit) has been connected to this device]

If the NAS Unit is connected to this device, ask the NAS Unit administrator to confirm the following points.

[Points to be checked after completing this operation]
1. If the NAS service is terminated:
   After completing this operation, ask the NAS Unit administrator to reboot the NAS Unit.
2. If the NAS service is not terminated:
   When the replacement operation of SFP used by the NAS Unit is completed, the Fibre Channel path (FC path) of the NAS Unit might go into the Failure status. Before starting the operation of the next SFP replacement, contact the NAS Unit administrator, refer to "Recovering from FC path errors" of "Hitachi NAS Manager User's Guide", confirm the FC path status and, if the status is Failure, ask for the recovery of the FC path.

In addition, if there are any personnel for the NAS Unit maintenance, ask the NAS Unit maintenance personnel to refer to "NAS IMS 2.9.8 Displaying LU Path Setting Screen (NAS IMS 02-0490)" in "DKN-200-NGW1 NAS Unit Maintenance Manual", and ask to check the status of the FC path and to recover the FC path if it is in a failure status after completing the replacement operation of SFP used by the NAS Unit.

2.22 Setting Synchronization Information

2.22.1 Setting Synchronization Information

[Outline]

This function sets the SVP's time automatically using the SNTP protocol. To use this function, it is required that an SNTP server exists in the same LAN in which the SVP exists. After the setting is made, the SVP resets the time by referring to the specified IP address for the current time once a day at the specified time. When the setting is not made, the SVP does not make the reference.

Note: To use this function, it is required that an SNTP server exists in the same LAN in which the SVP exists.
The SVP's Time Zone is the G.M.T. (Greenwich mean time). If the other Time Zone is used, the SVP's time may not be set correctly.
This function does not work when the SVP is being maintained or the setting is being made through Storage Navigator. In such a case, the setting is postponed until the next day.
In case time set goes wrong, check a setup of a SNTP server's IP address, and a use port, and give the mode as View mode after a setup again.   Moreover, the cause by the side of a SNTP server can be considered as other factors.
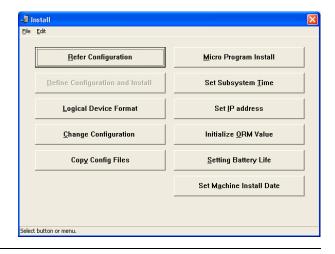
Note: • Please do not execute the P/S ON procedure at the synchronization check time.
• Please do not execute collecting the LCP Dump at the synchronization check time.
• Please do not execute the port error recovery operation using the restart switch function at the synchronization check time.
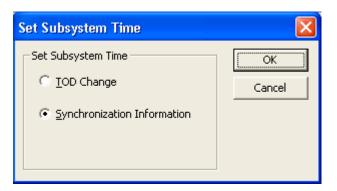
Note: In the case that there is MVOL of HRC asynchronous in this DKC and the amount of Sidefiles reach to the threshold, Async pair may be suspended.

Note: In the case that there is PVOL of XRC Replication in this DKC and the amount of Sidefiles reach to the threshold, XRC Replication pair may be suspended.

(1)

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

(2)

Select (CL) [Install] in the [Modify Mode] panel.

(3)

Select (CL) [Set Subsystem Time] in the
'Install' window.

(4)

Select (CL) [Synchronization Information] in
the 'Set Subsystem Time' window, and then
select (CL) [OK].
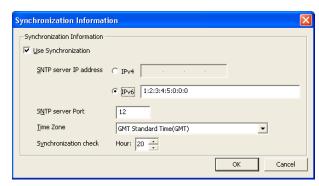
(5)

A window for specifying information for compensating the SVP's time is displayed. Set the necessary information and select (CL) [OK].

(Example: In the case of U.S. West Coast standard time)

Use Synchronization   : In case of checking it, this function is valid.
                         In case of no checking it, this function is invalid.
SNTP server IP address : IP address of the SNTP server
SNTP server Port   : Port (0 to 65535) used by the SNTP server
Time Zone   : Time zone of local time
Synchronization check : Time to reset the SVP's time (0 to 23, time of 24-hour clock)

Note: The SVP TOD Set up need to be adjusted to local time until the SNTP time synchronization occurs at the hour set up in "Synchronization Check hour".
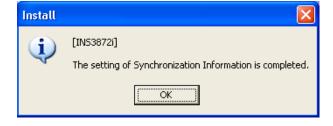
Note: Localities with Daylight savings changes will have an offset of one hour when the day time savings starts. Please not that Windows Automatic Daylight savings is not to be set on the SVP PC.

Note: Since the OS of SVP cannot set IPv6 in the Windows XP environment, do not enter it.

---

(6)

"Back up Configuration…" is displayed.

---

(7)
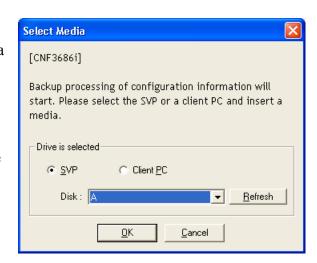
"The setting of Synchronization Information is completed." is displayed.
Select (CL) [OK].

(8)

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed.
Insert the Config media into selected drive, and select (CL) [OK].
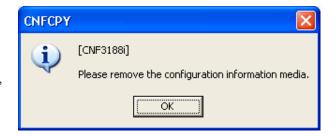
Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

(9)
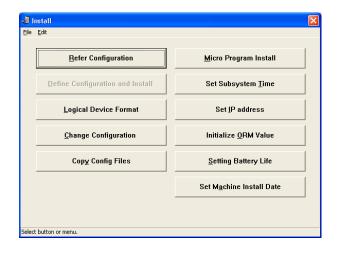
When this procedure is completed, the message "Please remove the configuration information media." is displayed.
Remove the configuration information media, Select (CL) [OK].

(10)

Close the 'Install' window.

2.22.2 Confirm Setting Synchronization Information

(1)

Select (CL) [Programs]-[Accessories]-[Command Prompt] from the [Start] menu.

(2)

Execute command "Ping X.X.X.X" (X.X.X.X is SNTP server IP address).
Confirm it is displayed with "Reply from X.X.X.X: bytes=32 time<Xms TTL=XXX".

When it was displayed with "Request timed out.", stop confirmation work.

Confirm network connection with SNTP server, and please set Synchronization Information again.

(3)

For confirmation, set temporary Synchronization check in now time of SVP, following the procedure "2.22.1 Setting Synchronization Information".
(An example: If the existing time of SVP is 13:XX, set 13 to Synchronization check.)

(4)

Change the mode to [View Mode] from [Modify Mode] (CL).
(SVP carry out synchronization at the time by changing in View Mode.)

(5)

Wait for one minute, confirm that there are not the following SSB LOG. If there is not it, SVP can communicate normally.

Code=3348 : Setting failure of the SNTP time.(Connection failure to a server)
Code=3349 : Setting failure of the SNTP time.(Server does not reply)
Code=334A : Setting failure of the SNTP time.(Practice error)

When SSB LOG is created, please confirm it about setting of a use port, the Synchronization check time. If there setting are right, please confirm to a manager of an SNTP server. Please set Synchronization Information again.

(6)

Following the procedure "2.22.1 Setting Synchronization Information", set the setting.
Set Synchronization check following the subsystem worksheet.

2.23 (Blank)

Blank Sheet

Blank Sheet

Blank Sheet

Blank Sheet

Blank Sheet

Blank Sheet

2.24 Fixed time SVP reboot setting

2.24.1 Fixed time SVP reboot the setting method

[OverView]

Reboot of SVP is automatically performed at the time specified once per day by confirming this setup. Moreover, reboot is not performed when SVP is in the following states. In that case, reboot is postponed till the next day.

- When SVP is in Modify mode
- When StorageNavigator is used (except for the HP type)
- When RemoteConsole is used
- When FD is inserted
- When an account for User Maintenance is logged in

Note: When the SVP High Reliability Kit is installed, information transmission to Standby SVP is performed once per day. The time of fixed time reboot should set up by placing from transmission time for 1 hour. If it sets up within 1 hour from transmission time, information transmission to Standby SVP may not be performed correctly. For example, please set up by avoiding 14:00 from 13:00 with the equipment which transmits at 13:00.

Note: When the SVP High Reliability Kit is installed, information transmission to Standby SVP is performed once per a day. The Standby SVP reboots for the application after the information transfer. Even if a Standby SVP does not have setting of periodical reboot, Standby SVP reboots. For example, Standby SVP reboots at around 13:30 with the equipment which transmits at 13:00. The time of a reboot changes by transfer information quantity.

Note: When screen saver operates (60 minutes pass without operation) with a SVP having been connected to the remote desktop, fixed time reboot fails.

(1)

Select (CL) [Run…] from the [Start] menu. Enter "c:\dkc200\mp\pc\RbtSet.exe" in the "Open" box. Select (CL) the [OK] button.

(2)

Since the screen which sets up reboot time is displayed, reboot time is inputted and a check is attached to [Reboot]. Select (CL) the [OK] button.
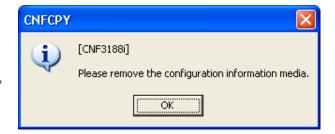
(3)

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed. Insert the Config media into selected drive, and select (CL) [OK].

Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

(4)

When this procedure is completed, the message "Please remove the configuration information media." is displayed.
Remove the configuration information media, select (CL) [OK].

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2.24.2 Fixed time SVP reboot the setting release method

(1)

Select (CL) [Run…] from the [Start] menu. Enter "c:\dkc200\mp\pc\RbtSet.exe" in the "Open" box. Select (CL) the [OK] button.

(2)

Since the screen which sets up reboot time is displayed, The check of [Reboot] is removed. Select (CL) the [OK] button.

(3)

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed. Insert the Config media into selected drive, and select (CL) [OK].

Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

(4)

When this procedure is completed, the message "Please remove the configuration information media." is displayed.
Remove the configuration information media, select (CL) [OK].

2.25 (Blank)

2.26 (Blank)

2.27 Restoring Failed MP

> ⚠ **CAUTION**
>
> This is a special procedure to recover a MP blockade operation without the need to self-replace the card under certain conditions specified below.
>
> To use this procedure, please open a case with your technical support center and proceed under their guidance.
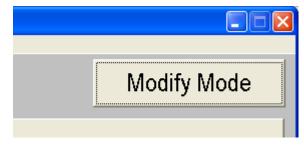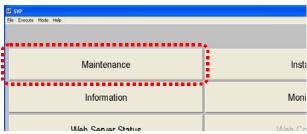
<Usage Conditions>
- To recover a MP in which WCHK1 occurred due to a microprogram problem.
  Eg.) Cause of WCHK1 is EC = 1644.
- To recover a MP in which WCHK1 occurred due to an issue outside the DKC (Host/SAN).
  Eg.) Cause of WCHK1 is EC = B405, and it is evident that it is caused by external factor.
      (Switch etc.)
- Requested as a recovery procedure for an issue notified by an Early Notice/Alert.
- Requested by following the procedure described in Maintenance Manual.

<Usage Restrictions>
- Not to be used to recover hardware failures.

(1)   <Preparation>
      Close each menu of the starting SVP entirely.

(2)   <Start>
      Change the mode to [Modify Mode].

      Select (CL) the [Maintenance] in the 'SVP'
      window.

(3) <Display of DKC Information>
Select (CL) [Disk Controller].
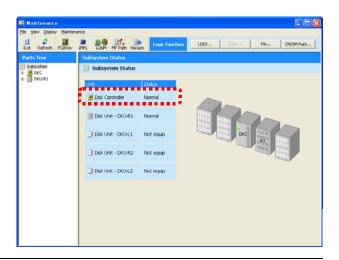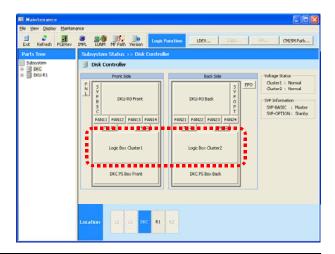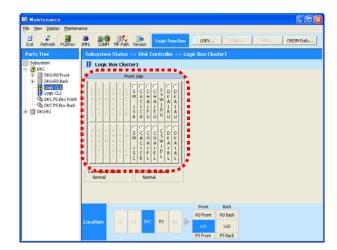
(4) <Display of Logic Box Information>
Select (CL) [Logic Box Cluster*n*].
(n: Cluster number which installs MP of the
maintenance target)
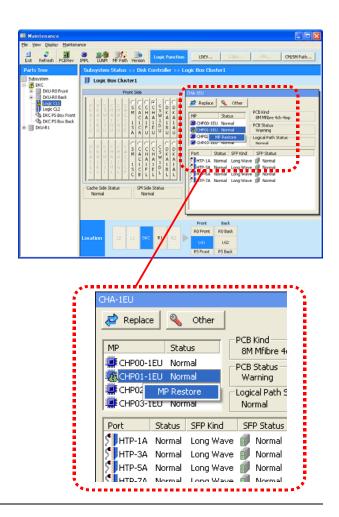
(5) <Display of CHA/DKA Information>
Select (CL) [CHA nXX] or [DKA nXX]
which installs MP of the maintenance target.

(6) <Execution>
Select (CL) the right button of the mouse in the status that MP of the maintenance target on the MP information list is selected (CL).

Select (CL) [MP Restore] in the displayed popup menu.

(7) <Password Input>
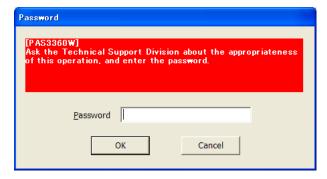
Notice:
When the blockade of MP attributes to a hardware failure, it is possible that subsystem down or data lost occurs. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) the [OK] button.
"Ask the Technical Support Division about the appropriateness of this operation, and enter the password."
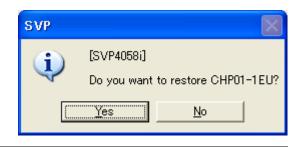
(8) <Execution Check>
Select (CL) the [Yes] button for the following
message.
"Do you want to restore X?"
  X: Target MP

(9) <Waiting for the completion of processing>
The following message is displayed.
"Please wait... Restoring the MP..."

(10) <Check of the recovery completion of failed MP>
Select (CL) [OK] for the following message.
"Restore finished."

(11) <Check of processing result >
Check the status of the target MP with 'Logic
Box Clustern' in the 'Maintenance window'.

(12) <Post-processing>
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.28 System Tuning SVP Procedure

2.28.1 System Tuning

⚠ CAUTION

Powering off/on is required owing to the performance of this operation.

⚠ CAUTION

- The Case where IP Address is changed from System Tuning, when SVP High Reliability kit is installed.

  When SVP High Reliability kit is installed, Both Master SVP and Standby SVP need to be set IP Address.
  Firstly set IP Address of Standby SVP. (Refer to INST05-50)
  After completing it, please set the IP Address of Master SVP.
  Although "RC=7ff200" may occur, there is no problem.   Please complete SIM before operation.

Overview
This function modifies the part of established subsystem configuration data.
The data to be modified is control data closely related to a host device, so the data can not be modified on on-line.
After modification of the data, power DKC off and on.
The data to be modified is listed below.

'DKC Configuration'----------------------- DKC Serial Number
'IP Address Configuration'---------------- IP address
'Power Supply'------------------------------ Power Supply Type
'DKC Emulation Configuration' --------- DKC Emulation Type
'CU Number'-------------------------------- CU number of each channel port
'DKA Configuration' ---------------------- Back-end fibre (DKA-HDD) Transfer Rate
'DKU Equipment Configuration'--------- DKU AC-BOX type
'Set SSID Boundary'----------------------- Sub System ID Boundary
'Subsystem ID Configuration' ------------ Sub System ID
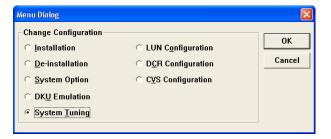
1. <Start [Install]>
   Change the Mode from [View Mode] to [Modify Mode].
   Select [Install] from 'SVP' (CL).

2.
   Select [Change Configuration] (CL) from
   'Install'.

3. <Specify the beginning of installation>
   Select [System Tuning] from 'Menu Dialog'
   (CL), and select [OK] (CL).

4.

> ⚠ **CAUTION**
>
> Powering off/on is required owing to the performance of this operation.
>
> Ask the technical support division about the appropriateness of the operation, and input a password after getting an approval of executing the operation.

(1)

Enter the password and select [OK] (CL).
Password is needed for this operation.
Please call Technical Support Division to obtain a password and authorization.

If [Cancel] is selected (CL), terminate the installation procedure.
'DKC Configuration' is automatically displayed next.

(2)

Select (CL) [OK] in response to the confirmation message
"<Important CAUTION>
When you continue this operation, finally you need DKC PS OFF, so customer can not use the volume in this subsystem continuously.".

5. <DKC Configuration window>
Define the configuration information following the subsystem configuration worksheet.

[System Option…]: Makes a setting of the WDCP/DDUMP. Go to Step 6.
[Power Supply…]: Makes a setting of the power supply type. Go to Step 7.
[IP Address Configuration]: Makes a setting of the IP address. Go to Step 8.
[>>Next]: Makes the other settings. Go to Step 9.
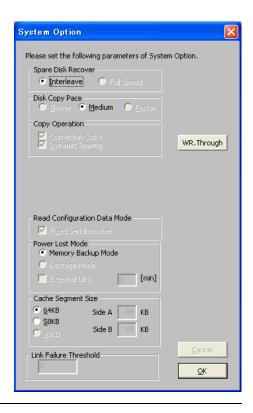
6.
     Define the configuration information following the
     subsystem configuration worksheet.

     After setting all the items, select (CL) the [OK] button.
     Return to Step 5.
     When the [Cancel] button is selected (CL), the 'System
     Option' window is closed and the 'DKC Configuration'
     window is displayed again. Return to Step 5.

7.   <Power Supply window>
     Define the configuration information following the
     subsystem configuration worksheet.

     Set the power supply information and select (CL)
     the [OK] button. Return to Step 5.

     Refer to INST01-81 for the SVP screen display and
     the conversion of the option type names.

8. <IP Address Configuration window>
    Define the configuration information following the
    subsystem configuration worksheet.

    Set the IP address and the subnet mask, and then select (CL)
    the [OK] button. Return to Step 5.
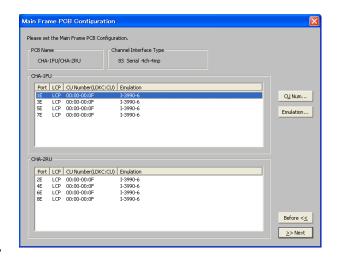
9. <Mainframe PCB Configuration window>
    Define the configuration information
    following the subsystem configuration
    worksheet.

    [DKC Emulation]: Sets the DKC emulation.
    Go to Step 9-2.
    [CU Num…]: Sets the CU number of each
    port. Go to Step 9-1.

    Select (CL) the [>>Next] button. Go to Step
    9-3.
    When the [Before<<] button is selected (CL),
    return to Step 5.
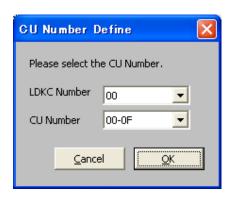
    Note: This is displayed only when the Serial (8S) and Mfibre (8M) channel is installed.

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9-1 <CU Number Define window>

A window for setting the CU number of the specified port is displayed.
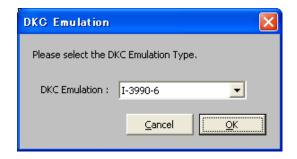
After the setting is completed, select (CL) the [OK] button. When the [Cancel] button is selected (CL), the window is returned to that of Step 9.

9-2 <DKC Emulation window>

Set the 'DKC Emulation' and select (CL) the [OK] button. Return to Step 9.
Select (CL) the [Cancel] button. (Return to Step 9.)

9-3 <SVP message>

Select (CL) [OK] in response to the confirmation message "Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port.".
Go to step 10.

Note: This windows is displayed when Serial (8S) and Mfibre (8M) Channel is installed.
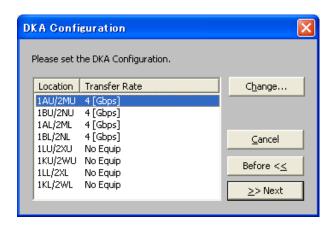
10. <DKA Configuration window>
　　Define the configuration information
　　following the subsystem configuration
　　worksheet.
　　[Change...]: Sets the Back-end fibre (DKA-
　　HDD) Transfer Rate. Go to Step 10-1.
　　Select (CL) the [>>Next] button. Go to Step
　　11.
　　When the [Before<<] button is selected (CL),
　　return to Step 9.
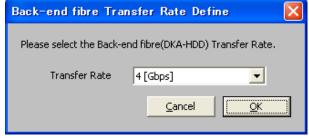
10-1 <Back-end fibre Transfer Rate Define window>
　　Set the 'Transfer Rate' and select (CL) the
　　[OK] button. Return to Step 10.
　　Select (CL) the [Cancel] button. (Return to
　　Step 10.)

　　The settable disk types differ depending on
　　the definition of the Back-end fibre (DKA-
　　HDD) transfer rate.

11. <Definition of DKU power supply type>
Define the DKU power supply type.
When [AC-BOX...] is selected (CL), go to Step 11-1.
After the setting is completed, select (CL) the [>>Next] button. Go to Step 12.
When the [Before<<] button is selected (CL), the window is returned to the preceding window.
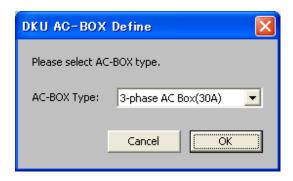
11-1 <DKU AC-BOX Define window>
Set the AC Box type of DKU and select (CL) the [OK] button. Return to Step 11.

Refer to INST01-81 for the SVP screen display and the conversion of the option type names.
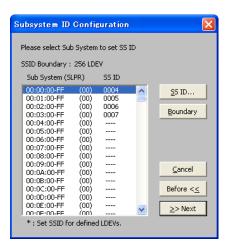
12. <Subsystem ID Configuration window>
Define the configuration information following the subsystem configuration worksheet.

[SSID]: Makes definition of the subsystem ID. Go to Step 12-1.
[Boundary]: Makes definition of the subsystem ID boundary. Go to Step 12-2.
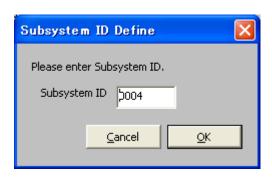
After the setting is completed, select (CL) the [>>Next] button. Go to Step 13.
This operation procedure is completed when the [Cancel] button is selected (CL).
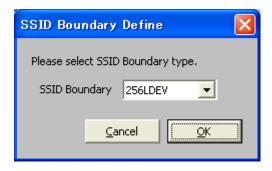
12-1 <Subsystem ID Define window>

Define the subsystem ID and select (CL) the [OK] button. Return to Step 12.
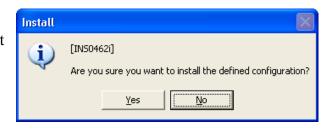
12-2 <SSID Boundary Define window>

Define the subsystem ID boundary and select (CL) the [OK] button. Return to Step 12.

13. <Include configuration information>

(1)

Select (CL) [Yes] in response to the confirmation message "Are you sure you want to install the defined configuration?". Selecting (CL) [No] suppresses the configuration inclusion processing and terminates the installation procedure.

(2)

Select (CL) [OK] in response to the confirmation message
"<Important CAUTION>
When you continue this operation, finally you need DKC PS OFF. Are you sure you want to continue this operation?".

(3)

Select (CL) [OK] in response to the
confirmation message
"<Important CAUTION>
When you select [OK] button, you can't
cancel this operation. Are you sure you want to continue this operation?
If you terminate this operation by some forcible method, the subsystem be in
UNRECOVERABLE SERIOUSLY DAMAGE.".

IMPORTANT CAUTION

[INS2587W]

<Important CAUTION>
When you select [OK] button, you can't cancel this operation. Are you sure you want to continue this operation?
If you terminate this operation by some forcible method, the subsystem be in UNRECOVERABLE SERIOUSLY DAMAGE.

OK   Cancel

(4)
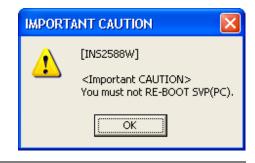
Select (CL) [OK] in response to the confirmation
message
"<Important CAUTION>
You must not RE-BOOT SVP(PC).".

IMPORTANT CAUTION

[INS2588W]

<Important CAUTION>
You must not RE-BOOT SVP(PC).

OK

14.

Make sure that "Turn off DKC, and wait." is displayed
and perform the power-off procedure from the DKC
maintenance panel.

Turn off DKC, and wait.

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15.

"Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed. Insert the Config media into selected drive, and select (CL) [OK].
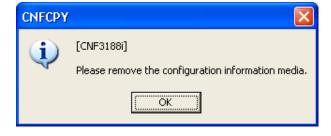
Note: For the procedure of backing up the configuration information to a CD-R, see page MICRO08-140.

16.

When this procedure is completed, the message "Please remove the configuration information media." is displayed.
Remove the configuration information media, Select (CL) [OK].

17.

After making sure that the DKC power is turned off, select [OK] (CL) in response to "System Tuning has finished. Make sure that PS-ON LED at DKC-PANEL is off, and then select [OK].".

Note : The SVP power will not turn off even when DKC is powered off.

18.

"This will reboot SVP." is displayed.
Select [OK] (CL).

2.29 Memory Backup Mode/Destage Mode setting

Please execute the setting change of Memory Backup Mode/Destage Mode according to Installation/De-installation of Additional Battery procedure.

Note1 : When the number of batteries mounted is more than the number depending on the configuration, Power Lost Mode cannot be changed. Decrease the number of batteries to the number depending on the configuration and then change the Power Lost Mode. Add the batteries more than the number depending on the configuration after changing the Power Lost Mode.

Note2 : When it is a composition of Cache capacity definition of 256GB or more, Destage Mode cannot be defined.

Note3 : The DKCPANEL JP2 jumper plugging (INST03-03-60) and the SVP Power Lost Mode checkbox must always be set to reflect the same battery operation mode setting otherwise these modes will not function properly.

(1) Setting change to Destage Mode
     Refer to Installation of Additional Battery procedure (INST03-16-10).

(2) Setting change to Memory Backup Mode
     Refer to De-installation of Additional Battery procedure (INST04-10-10).

2.30 Failed Cache/SM recovery

> ⚠️ **CAUTION**
>
> This is a special procedure to recover a Cache/SM blockade operation without the need to self-replace the card under certain conditions specified below.
>
> To use this procedure, please open a case with your technical support center and proceed under their guidance.

[Failed SM recover]
<Usage Conditions>
• To recover a SM package blocked due to volatilization of one side.
  Eg.) Both SIM = FFE20x and FFDF0x are reported, and "x" is the same value.
• To recover a SM package blocked due to time difference of power failure between SM A and B sides.
  Eg.) SIM = FFEF00 is reported, but SIM = FFE20x is not reported around the same time.
• Requested as a recovery procedure for an issue notified by an Early Notice/Alert.
• Requested by following the procedure described in Maintenance Manual.

<Usage Restrictions>
• Not to be used to recover hardware failures.

[Failed Cache recovery]
<Usage Conditions>
• Requested as a recovery procedure for an issue notified by an Early Notice/Alert.
• Requested by following the procedure described in Maintenance Manual.

<Usage Restrictions>
• Not to be used to recover hardware failures.

(1) <Preparation>
Close each menu of the starting SVP entirely.

---

(2) <Start>
Change the mode to [Modify Mode].

Select (CL) the [Maintenance] in the 'SVP' window.

(3) <Display of DKC Information>
Select (CL) [Disk Controller].
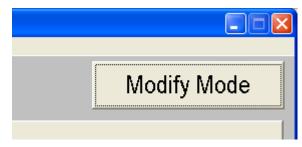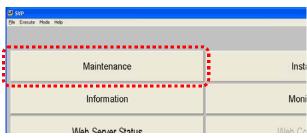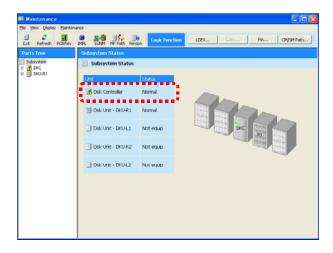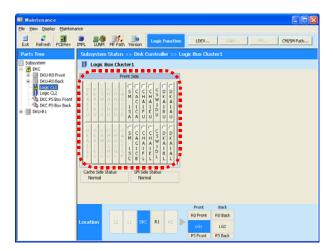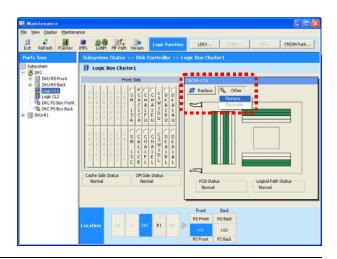
(4) <Display of Logic Box Information>
     Select (CL) [Logic Box Cluster<u>n</u>].
     (<u>n</u>: Cluster number which installs Cache/SM
     of the maintenance target)

(5) <Display of Cache/SM Information>
     Select (CL) [CAC <u>n</u>XX] or [SM <u>n</u>XX] of the
     maintenance target.

(6) \<Execution\>
Select (CL) [Other] – [Restore].

(7) \<Password Input\>
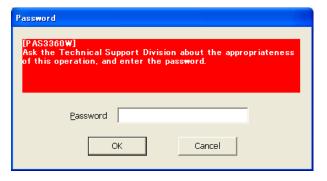
| Notice: |
| When the blockade of PCB attributes to a hardware failure, it is possible that subsystem down or data lost occurs. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation. |

Corresponding to the following message, enter the password and select (CL) the [OK] button.
"Ask the Technical Support Division about the appropriateness of this operation, and enter the password."
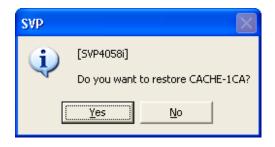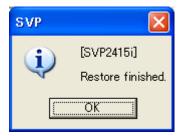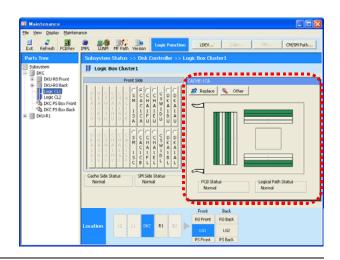
(8) <Execution Check>
Select (CL) the [Yes] button for the following
message.
"Do you want to restore X?"
X: Target PCB

(9) <Waiting for the completion of processing>
The following message is displayed.
"Please wait... Restoring the X..."
X: Target PCB

(10) <Check of the recovery completion>
Select (CL) [OK] for the following message.
"Restore finished."

(11) <Check of processing result >
Check the status of the target PCB with
'Logic Box Clustern' in the 'Maintenance
window'.

(12) <Post-processing>
Close the 'Maintenance' window.
Change the mode to [View Mode].

2.31 Change CM Module group size

(1)
   Close the all SVP menu.
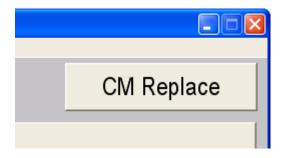
---

(2)   <Enter the password>

> ### ⚠ CAUTION
>
> This is a special (exceptional) operation that requires an input of a password. Ask the technical support division and input the password.

   Press [Shift] + [Ctrl] + [C] in the 'SVP' window.
   Enter the password, and select (CL) [OK].
   (Please call Technical Support Division for asking it.)

---
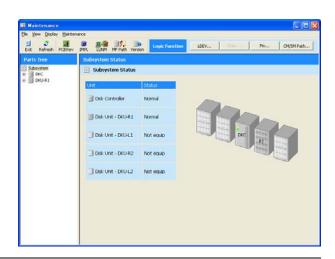
(3)   <CM Replace Mode>
      'CM Replace' is displayed.
      Select (CL) [Maintenance].
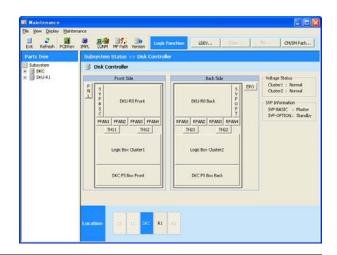
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SC02540Z

SVP02-1750
Rev.1 / Feb.2008, Mar.2011

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(4) \<Maintenance window\>
Select (CL) [Disk Controller] in the
'Maintenance' window.
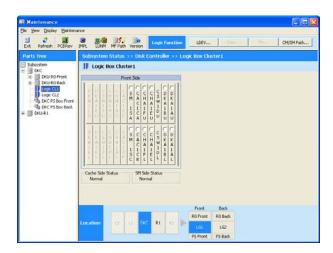
(5) \<DKC window\>
Select (CL) [Logic Box ClusterX] in the
'DKC' window.

(6) \<Select Cache\>
Select (CL) part.
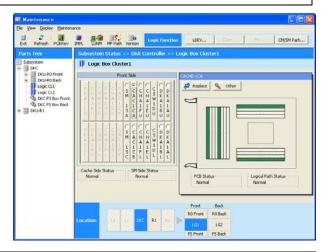
(7)　<Replace>
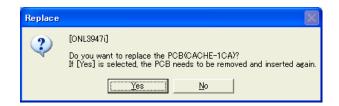
⚠ CAUTION

When the screen appears prompting the operator to input a password to prevent multiple maintenance or for executing a pin check, contact the technical support division to ask for instructions.

Check status display.
Select (CL) [Replace].

If any other message than the list is displayed, see the SVP Message Section (SVPMSG00-00).

---
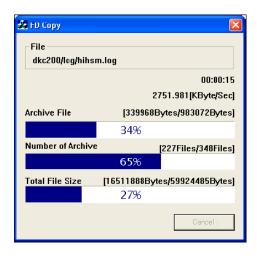
(8)　<Check beginning of cache replacement>
Select (CL) [Yes] after making sure that the package to be replaced is correct in response to:

"Do you want to replace the PCB(CACHE-nnn)?
If [Yes] is selected, the PCB needs to be removed and inserted again."

---
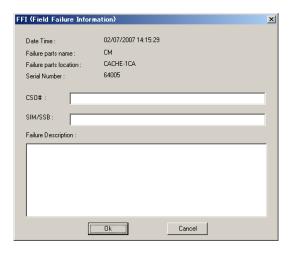
(9)　<Compression of the error information>
The error information is compressed.
The dialog of FDCopy is displayed.

---

(10) <Get the error information>
Input the Field Failure Information, and select (CL) [OK].
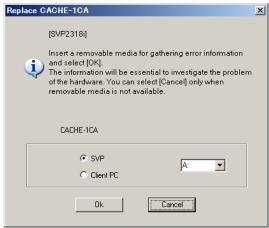
If the model is "USP V", enter the value of Site ID & Case ID in the CSO# field.

"Insert a removable media for gathering error information and select [OK]. The information will be essential to investigate the problem of the hardware. You can select [Cancel] only when removable media is not available." is displayed.

A Primary copy is always placed on the SVP HD in the "c:\dkc200\others\pcbinfo\" directory with the following file name format "YYMMDDhhmmss.tzg".
(YY denotes Year, MM denotes Month, DD denotes Day, hh denotes Hour, mm denotes Minute, and ss denotes Second).
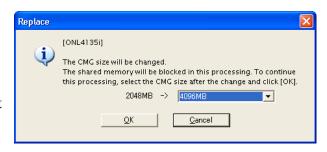
If Client PC is selected, a second copy is placed into the root directory of the drive selected on the Client PC. Please burn this to CDROM from the Client PC and return it with the defective part.
It is suggested to move it from the root directory to another directory of the CE's choosing if desired. Unfortunately it is not possible to select this directory initially. Therefore it must be a manual process.

(11) <Change the Cache Memory Module Size>
Select (CL) [OK] in response to:

"The CMG size will be changed.
The shared memory will be blocked in this
processing. To continue this processing, select
the CMG size after the change and click
[OK]."
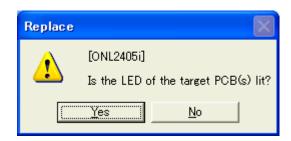
(12) <Cache blocking>
"The Cache Memory PCB(CACHE-nnn) is being blocked." is displayed.

(13) <Check shut down LED>
Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to "Is the LED of the target PCB lit?".

When [No] is selected, the same message is
displayed again. Check the LED and then reply to a
message.

<Forcing shut down LED on>

⚠ **CAUTION**

If the jumper is inserted in the wrong PCB, a system down may be caused.

If [No] is selected:
Insert a jumper in response to "Please insert
the jumper into target PCB(CACHE-nnn),
then pull out the PCB without considering the status of the LED.". (Refer REP03-120)
Select (CL) [OK] after the jumper is inserted. Go to step (14).
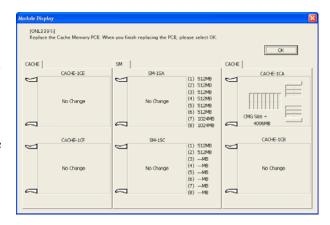
(14) <Cache Replacement>
   At this point refrain from pressing the [OK]
   button.
   "Replace the Cache Memory PCB. When you
   finish replacing the PCB, please select OK."
   is displayed.

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

   (Uninstalled module is displayed as looks
   depressed.)

(15) <Replace cache PCB>
   Replace cache.
   And select (CL) [OK].

   See HARDWARE C (REP03-110)

(16) <Restoring the Cache Memory>
   "Restoring the Cache Memory PCB(CACHE-nnn)..." is displayed.

(17) <Restoring the Shared Memory>
   "Restoring the Shared Memory PCB(SM-nnn)... " is displayed.

(18) <Check the end of Cache/Shared Memory recovery>
　　　Select (CL) [OK] in response to "Replace finished.".

(19)
　　　Close 'CACHE-nnn' window.
　　　Close 'Cluster-n' window.
　　　If finishing in the Cluster-2 side, go to (21).

(20) <Change the Cache Memory module size in Cluster-2 side>
　　　Perform steps (5) to (18).
　　　Select [CACHE-2CC], [CACHE-2CD], [CACHE-2CG] or [CACHE-2CH].

(21)
　　　Close 'DKC' window.
　　　Close 'Maintenance' window.
　　　Change the mode to [View Mode].
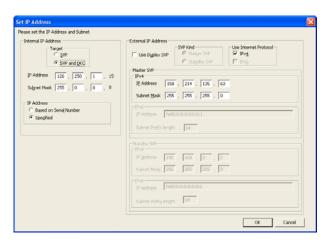
2.32 Setting IP address

[1] In case of SVP and DKC

(1)
Change the mode from [View Mode] to [Modify Mode].

---

(2)
Select (CL) [Install] from the 'SVP' window.

---

(3)
Select (CL) [Set IP address] from the 'Install' window.

---

(4) <Changing IP address>
Select (CL) "SVP and DKC" in the "Target" of the "Internal IP Address", and select (CL) [OK] after setting the IP Address and Subnet Mask of "Internal IP Address" and the "External IP Address".

Note: When the Subnet Mask of Internal IP Address is set with a value different from the DKC, the previous value of the Subnet Mask might be displayed after setting. When the value that has been set is not displayed, set the value that corresponds with the DKC again.

(5) <Rebooting SVP>
Select (CL) [OK] to the message "This will reboot SVP.".

When the message "Failed to change IP address." is displayed,
changing the IP address ended as an abnormal end. Identify the
cause of the error according to the procedure (TRBL05-680)
described in the troubleshooting section.

⚠ CAUTION
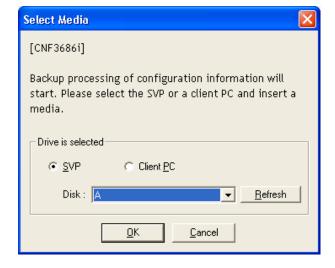
When remote connection of the Client PC is disconnected during this operation,
reconnect with the changed IP address and continue this operation. Perform the
reconnection by waiting for 5 minutes or more after clicking the [OK] of the [INS1105i]
message. (Refer to SVP01-110 regarding the operation for connecting to the SVP)

---

(6) <IP address setting completed>
Select (CL) [OK] for "The IP address setting has
completed".
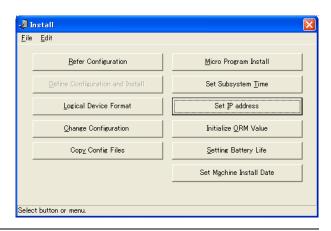
(7)   \<Backup for configuration information\>
    ① The message "Backup processing of
        configuration information will start.
        Please select the SVP or a client PC and
        insert a media." is displayed. Set the
   Config media to the selected drive and
        select (CL) [OK].

Select Media

[CNF3686i]

Backup processing of configuration information will
start. Please select the SVP or a client PC and insert a
media.

Drive is selected
     ⦿ SVP   ○ Client PC

     Disk : A   ▼   Refresh

         OK   Cancel

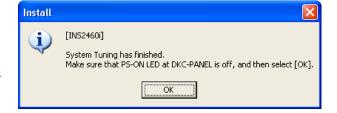   ② When backup of configuration
        information is completed, the message
        "Please remove the configuration
        information media." is displayed. Remove
        the configuration information media and
        select (CL) [OK].

CNFCPY

[CNF3188i]

Please remove the configuration information media.

        OK
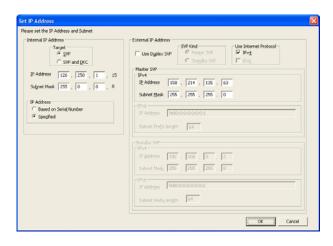
[2] In case of SVP

(1)

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

(2)

Select (CL) [Install] from the 'SVP' window.

(3)

Select (CL) [Set IP address] from the 'Install' window.

(4) <Changing IP address>
Select (CL) "SVP" in the "Target" of the "Internal IP Address", and select (CL) [OK] after setting the IP Address and Subnet Mask of "Internal IP Address" and the "External IP Address".
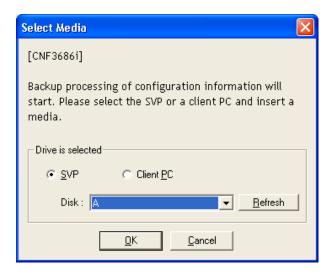
Note: When the Subnet Mask of Internal IP Address is set with a value different from the DKC, the previous value of the Subnet Mask might be displayed after setting. When the value that has been set is not displayed, set the value that corresponds with the DKC again.

(5) <Backup for configuration information>
  ① The message "Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media." is displayed. Set the Config media to the selected drive and select (CL) [OK].

Select Media [X]
[CNF3686i]
Backup processing of configuration information will start. Please select the SVP or a client PC and insert a media.
Drive is selected
⊙ SVP   ○ Client PC
Disk : [A ▼] Refresh
OK   Cancel

  ② When backup of configuration information is completed, the message "Please remove the configuration information media." is displayed. Remove the configuration information media and select (CL) [OK].

CNFCPY [X]
ⓘ [CNF3188i]
Please remove the configuration information media.
OK

  ③ <Rebooting SVP>
      Select (CL) [OK] to the message "This will reboot SVP.".

      When the message "Failed to change IP address." is displayed, changing the IP address ended as an abnormal end. Identify the cause of the error according to the procedure (TRBL05-680) described in the troubleshooting section.

Set IP Address [X]
ⓘ [INS1105i]
This will reboot SVP.
OK

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2.33 DKA type change operation

This operation can change the type from DKA to EDKA, and from EDKA to DKA.

(1)

Close the all SVP menu.
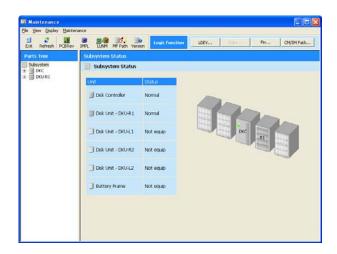
(2) <Input password>

⚠ CAUTION

This is a special (exceptional) operation that requires an input of a password. Ask the technical support division and input the password.
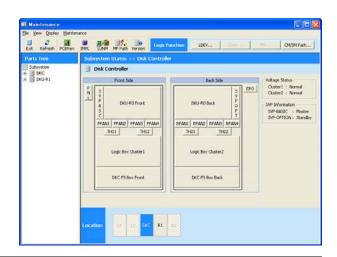
Select [Shift] + [Ctrl] + [A] on the 'SVP' window.
Enter the password and select (CL) [OK].
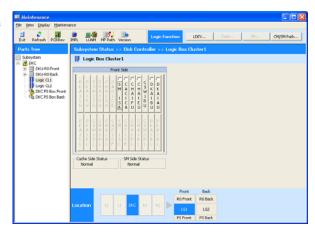
(3) <DKA Mode>
The 'Dka Mode' is displayed.

(4) <Maintenance window>
Select (CL) [Disk Controller] in the
'Maintenance' window.
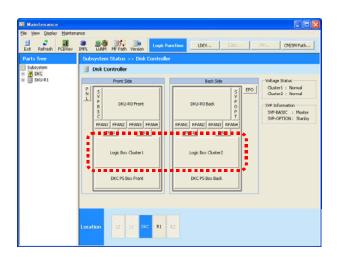
(5)   <Display of Logic Box Information>
   Select (CL) [Logic Box Cluster<u>n</u>].
      (n: Cluster number which installs MP of the
      maintenance target)

(6)   <Display of DKA Information>
      Select (CL) [DKA-xx] which installs MP of the
      maintenance target.
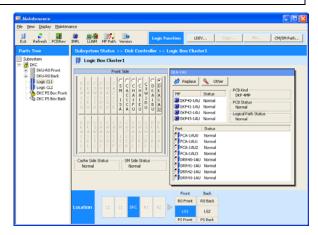
(7)   <Instruction to Replace DKA>

⚠ **CAUTION**

When the screen appears prompting the operator to input a password to prevent multiple
maintenance or for executing a pin check, contact the technical support division to ask
for instructions.
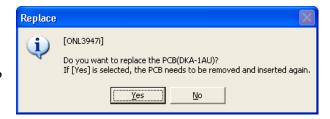
      Check status display.
      Select (CL) [Replace].

(8) <Check beginning of DKA replacement>
     If any other message than the list is displayed, see the SVP Message Section
     (SVPMSG00-00).

     Select (CL) [Yes] after making sure that the
     package to be replaced is correct in response
     to:
     "Do you want to replace the PCB(DKA-nnn)?
     If [Yes] is selected, the PCB needs to be
     removed and inserted again."

     Replace

     [ONL3947i]

     Do you want to replace the PCB(DKA-1AU)?
     If [Yes] is selected, the PCB needs to be removed and inserted again.

     Yes   No
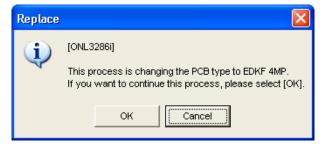
(9) <Micro transfer>
     "Now Down Loading...[XX %]" is displayed.

     Down Load File (E-DKA)

     Now Down Loading... [24 %]

(10) <The check of DKA type change>
     Select (CL) [OK] in response to "This process
     is changing the PCB type to xx. If you want to
     continue this process, please select [OK].".
     (xx is the DKA type after change.)

     Replace

     [ONL3286i]

     This process is changing the PCB type to EDKF 4MP.
     If you want to continue this process, please select [OK].

     OK   Cancel

(11) <Caution message for system down>

⚠ CAUTION
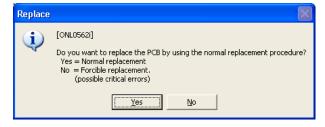
Select (CL) [Yes] in response to the message below.

"Do you want to replace the PCB by using the
normal replacement procedure?
  Yes = Normal replacement
  No = Forcible replacement.
    (Possible critical errors)"
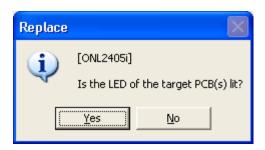
---

(12) <DKA blocking>
  "DKA-nnn is being blocked..."
  "DKA-nnn is lighting the LED..."

---

(13) <Check to see if the shut down LED is lit>
  Select (CL)
  * [Yes] if LED is on
  * [No] if LED is off
  in response to "Is the LED of the target PCB(s) lit?".
  If [No] is selected:
  Select in response to "Is the LED of the target PCB(s)
  lit?" again.

  <Forcing shut down LED on>

⚠ CAUTION

If the jumper is inserted in the wrong PCB, a system down may occur.

If [No] is selected twice:
Insert a jumper in response to "Please insert
the jumper into the target PCB(DKA-nnn),
then pull out the PCB without considering the
status of the LED".
(See REP03-360)

(14) <Beginning of DKA Replacement>
"Please replace the PCB(DKA-nnn). After
replacement, please select OK." is displayed.
Select (CL) [OK] after replacing the PCBs.

See HARDWARE J (REP03-360).

(15) <Waiting for Power Event>
"Waiting for Power Event...
Usually several minutes (maximum 15 minutes)." is displayed.

(16) <DKU PATH INLINE>
"DKU PATH INLINE is now running..." is displayed.

(17) <Check DKA recovery processing>
"Restoring the DKA..." is displayed.

When the operation is in a transition period,
the following message is displayed.
"The DKA types of the Cluster 1 and Cluster
2 are different. Change the DKA types, and
make sure that the Cluster 1 and Cluster 2
have the same DKA type." Select (CL) [OK] to this message.

(18) <Check the end of DKA recovery>
     Select (CL) [OK] in response to "Replace finished.".

⚠ **CAUTION**

Confirm the version of the exchanged DKA microprogram on the "STATUS" screen.

---

(19)
     Close the 'DKA-nnn' window.
     Close the 'cluster-n' window.
     Close the 'Controller' window.
     Change the mode to [View Mode].
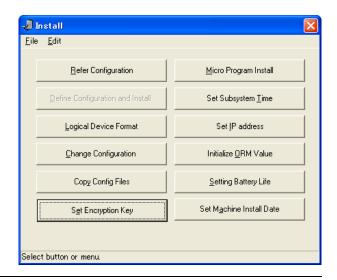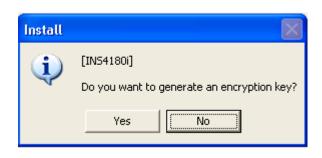
2.34 Encryption Key setting operation

(1) <Start [Install]>
Change the Mode from [View Mode] to [Modify Mode].
Select [Install] from 'SVP' (CL).

(2)
Select [Set Encryption Key] (CL) from 'Install'.

(3)
Select (CL) [Yes] to the confirmation message "Do you want to generate an encryption key?". When [No] is selected (CL), generation of the encryption key is cancelled and the operation is terminated.

*When encryption key is not generated, proceed to (5).
*When encryption key is already generated, the following message is displayed, so select (CL) [OK].
"Encryption key is already generated. If you execute this processing, the existing encryption key will be invalid and the existing data will be lost. A password is required to continue the processing."

(4) <Password Input>

Notice:
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Corresponding to the following message, enter the password and select (CL) [OK]. "Ask the Technical Support Division about the appropriateness of this operation, and enter the password."

(5) <The completion of generation of the encryption key>
Select (CL) [OK] in response to "Generation of the encryption key has completed normally.".

2.35 Use of OnlineDumpTool

> Caution:
> ① OnlineDumpTool is a tool to be installed in the CE Laptop PC, not to operate on the SVP.
> ② The version of the microprogram that is supported OnlineDump must be DKCMAIN Ver.60-07-51-00/00 or later.
>   When the version of the microprogram is DKCMAIN Ver.60-07-51-00/00 or older, the collected dump files must be written to the dump medium (FD/CD-R) that is included in the spare parts.

[Conditions to run the tool]
OS   : Windows® XP(32bit), Windows Vista®(32bit), Windows® 7(32bit)
Browser   : Microsoft® Internet Explorer® Version6 or later

2.35.1 Installation

[1] Pre-check
    Please check if a PC to be installed can access to Internet using a browser, Internet Explorer®.

[2] Installation of tool
    Please create a folder where you wish in your PC to be installed, and copy the following file:
    OnlineDumpUpload-a.exe
    "-a" stands for a version of the tool (a to z)
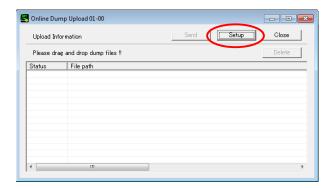
[3] Settings

(1)
    Select (DC) "OnlineDumpUpload-a.exe".
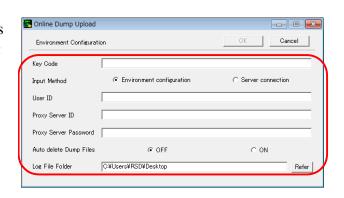
(2)
    The 'Upload Information' window is displayed, and then select (CL) [Setup].

(3)

The 'Environment Configuration' window is displayed, and then set the following values: "Key Code", "Input Method", "User ID", "Proxy Server ID", "Proxy Server Password", "Auto Delete Dump Files", and "Log File Folder".

(a) Key Code
   Input a "Key Code" informed by an administrator.

(b) Input Method
   Select whether the "User ID", "Proxy Server ID" and "Proxy Server Password" are set on the tool in advance, or input the values at each uploading of dump file(s).
   You can select from the following methods to set "User ID", "Proxy Server ID" and "Proxy Server Password": pre-setting in the tool or

   Environment configuration........Set the values on the tool in advance.
   "User ID", "Proxy Server ID" and "Proxy Server Password" are pre-set in the tool. Upon upload operation, you do not need to input these values. Please select this input method normally.

   Server connection.....................Input the values at each uploading of dump file(s).
   Upon every upload operation, you need to input "User ID", "Proxy Server ID" and "Proxy Server Password". If you wish to share a CE Laptop PC with someone else and keep these values secret, please select this input method.

(c) User ID
   Input a User ID informed by an administrator.
   Do not input User ID when the Server connection is selected in the step (b).
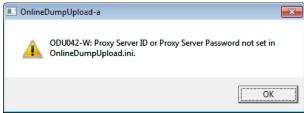
(d) Proxy Server ID/Proxy Server Password
If there is a Proxy Server in your network environment for which the CE Laptop PC uploads a dump, input an ID and password of Proxy Server.

Case#	Network environment			Setting			
	Proxy Server Exist/ None Exist	Proxy Server password Exist/ None Exist	How to check	Input Method setting			
				Environment configuration		Server connection	
				Proxy Server ID	Proxy Server Password	Proxy Server ID	Proxy Server Password
Case 1	Exist	Exist	If you input ID and password when accessing to Internet using a browser (Internet Explorer©), then your network environment is Case 1.	Input Proxy Server ID.	Input Proxy Server password.	No setting necessary	
Case 2	Exist	None Exist	If: - your network environment is not Case 1; and - window "a" is displayed, when setting Proxy Server ID & Password as blank and selecting [OK] in the step (4).	No setting necessary	No setting necessary		
Case 3	None Exist	None Exist	If: - your network environment is not Case 1; and - window "a" is not displayed, when setting Proxy Server ID & Password as blank and selecting [OK] in the step (4).	No setting necessary	No setting necessary		

Window a

(e) Auto Delete Dump Files
If "Auto Delete Dump Files" is ON, after upload completes, an original file uploaded will be automatically erased.
OFF : not automatically erased
ON : automatically erased

(f) Log File Folder
A location of a folder in which history files are stored is specified here.
The default value is the same folder as the tool is stored.
A folder can be selected by selecting (CL) [Refer].
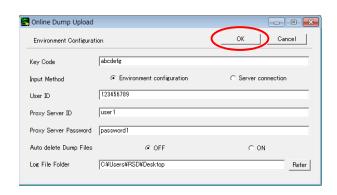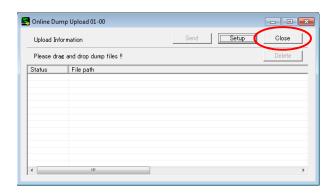
(4)

Select (CL) [OK] in the 'Environment Configuration' window.

(5)

Select (CL) [Close] in the 'Upload Information' window.

(6)

The following files are created in the same folder as OnlineDumpUpload-a.exe is stored:
OnlineDumpUpload.ini
OnlineDumpUpload-a.log (property: hidden file)

2.35.2 Uninstallation

When you uninstall the tool, please delete the following files:

OnlineDumpUpload-a.exe

OnlineDumpTool.ini

OnlineDumpUpload-a.log (property: hidden file)

Up-loadingResult.log (property: hidden file)

Up-loadingResult_YYMMDD-nn.txt

    (YY: year, MM: month, DD: date, -nn: automatically-assigned sequential number)

2.35.3 Upload procedure

There are two different procedures for uploading.
Both of the uploading procedures are the same except for the way of starting the tool.
Choose either of uploading procedure depending on their features.

Upload a dump file by dragging and dropping it onto the OnlineDumpTool.	
Feature	Easy operation that uploads dump file(s) by one click operation.
Procedure	From (1-1) to (1-3).

Execute uploading by running OnlineDumpTool.	
Feature	Uploading all dump files at once after confirming the file names.
Procedure	From (2-1) to (2-6).

(1) The procedure for uploading dump files onto the OnlineDumpTool by dragging and dropping.

(1-1)
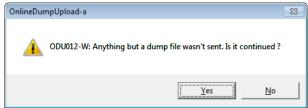
Drag and drop a dump file you wish to upload onto the OnlineDumpUpload-a.exe icon.

NOTE:
• Multiple files can be uploaded at a time.

• Any files except for a dump file cannot be uploaded.
If you select other files, then the following window is displayed.

[Yes]: Execute uploading except for the file
which was not sent, if multiple files are selected.
[No]: Stop uploading.
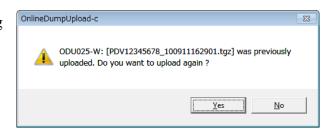
• If the same file is re-sent, then the following
  confirmation message is displayed.

[Yes]: Uploading is executed.
[No]: Uploading is canceled.

OnlineDumpUpload-c

ODU025-W: [PDV12345678_100911162901.tgz] was previously
uploaded. Do you want to upload again ?

[Yes]   [No]
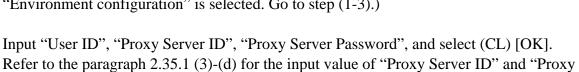
(1-2)

When selecting the "Server connection" in the
field of "Input Method" in the setting of
2.35.1 (3)-(b), the following 'Login' window
is displayed.
(The window is not displayed when the
"Environment configuration" is selected. Go to step (1-3).)

Online Dump Upload

Login   OK   Cancel

User ID

Proxy Server ID

Proxy Server Password

Input "User ID", "Proxy Server ID", "Proxy Server Password", and select (CL) [OK].
Refer to the paragraph 2.35.1 (3)-(d) for the input value of "Proxy Server ID" and "Proxy
Server Password".

(1-3)

Start uploading

During uploading, the following window is displayed.

When all selected files are uploaded, the following window is displayed.
Select (CL) [OK].

If there is/are file(s) failed to upload in selected files, the following window is displayed.
If you wish to retry uploading, select (CL) [Send].
If you wish to exit without retry, select (CL) [Close].
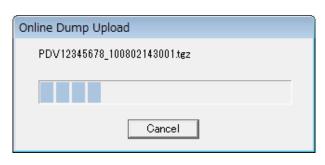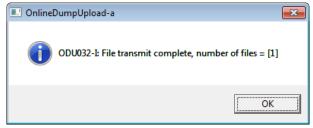
If you set "Auto Delete Dump Files" to ON, in the setting of 2.35.1 (3)-(e), the following window is displayed.
If you wish to delete the original dump file uploaded, select (CL) [Yes]. (*1)
If you do not wish to delete the original dump file uploaded, select (CL) [No].
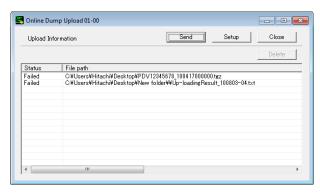
*1: The deleted file is sent to the recycle bin.

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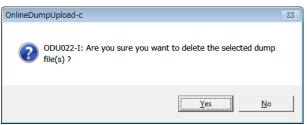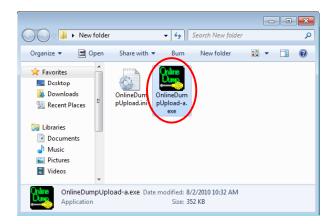
(2)   The procedure for uploading dump files by running the OnlineDumpTool.

(2-1)
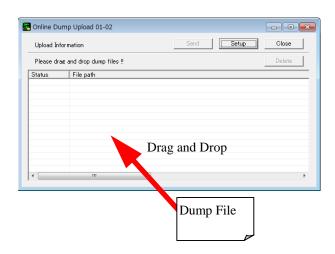
Select (DC) the OnlinedumpUpload-a.exe icon.

(2-2)
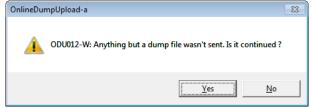
Drag and drop the dump file onto the 'Online Dump Upload' window to upload.

Drag and Drop

Dump File

NOTE:
• Multiple files can be uploaded at a time.
• Uploading files can be added.

• Any files except for a dump file cannot be uploaded.
  If you select other files, then the following window is displayed.

ODU012-W: Anything but a dump file wasn't sent. Is it continued ?

[Yes]: Execute uploading except for the file
        which was not sent, if multiple files are selected.
[No]: Stop uploading.
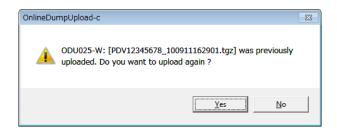
• When the uploading has completed, the
  reconfirmation message is displayed.

[Yes]: Uploading is executed.
[No]: Uploading is canceled.

OnlineDumpUpload-c

ODU025-W: [PDV12345678_100911162901.tgz] was previously uploaded. Do you want to upload again ?

Yes   No

(2-3)

When selecting the "Server connection" in the
field of "Input Method" in the setting of
2.35.1 (3)-(b), the following 'Login' window
is displayed.
(The window is not displayed when the
"Environment configuration" is selected. Go to step (2-4).)

Online Dump Upload

Login   OK   Cancel

User ID
Proxy Server ID
Proxy Server Password
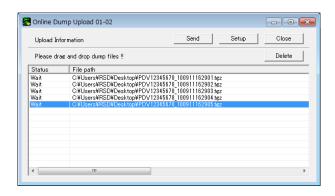
Input "User ID", "Proxy Server ID", "Proxy Server Password", and select (CL) [OK].
Refer to the paragraph 2.35.1 (3)-(d) for the input value of "Proxy Server ID" and "Proxy
Server Password".

(2-4)
Select (CL) [Send] to start uploading.

Online Dump Upload 01-02

Upload Information   Send   Setup   Close

Please drag and drop dump files !!   Delete

Status	File path
Wait	C:¥Users¥RSD¥Desktop¥PDV12345678_100911162901.tgz
Wait	C:¥Users¥RSD¥Desktop¥PDV12345678_100911162902.tgz
Wait	C:¥Users¥RSD¥Desktop¥PDV12345678_100911162903.tgz
Wait	C:¥Users¥RSD¥Desktop¥PDV12345678_100911162904.tgz
Wait	C:¥Users¥RSD¥Desktop¥PDV12345678_100911162905.tgz

NOTE:
• Select (CL) a file and [Delete] to delete the selected file from the list.
• Select (CL) [Close] to close the window without uploading.

(2-5)

The uploading window is displayed.
The uploading status is displayed in the Status field during uploading.
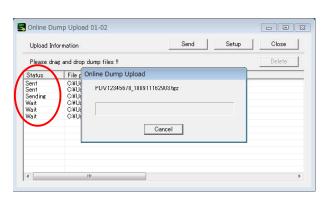
Connecting: In the connecting process to the server.
Sending: Uploading.
Sent: Uploaded. (completed)
Wait: Waiting to start uploading.
Failed: The uploading has failed.
Cancel: The uploading has canceled.

(2-6)

When all selected files are uploaded, the following window is displayed.
Select (CL) [OK].

If there is/are file(s) failed to upload in selected files, the following window is displayed.
If you wish to retry uploading, select (CL) [Send].
If you wish to exit without retry, select (CL) [Close].
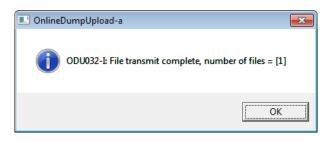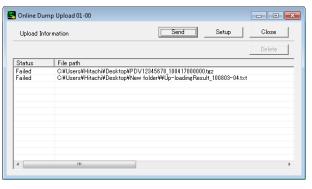
If you set "Auto Delete Dump Files" to ON, before a window showing upload completed is displayed, the following window is displayed.
If you wish to delete the original dump file uploaded, select (CL) [Yes]. (*1)
If you do not wish to delete the original dump file uploaded, select (CL) [No].
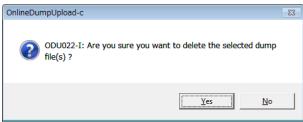
*1: The deleted file is sent to the recycle bin.

2.35.4 Reference of uploaded results

History information of an uploaded file is stored in a txt file.
A folder location is the same folder as specified in 2.35.1 [3] Settings.
A history file is created every transmission.

2.35.5 Message Table

The messages that are displayed on OnlineDumpTool are described below Table 2.35.5-1.

Table 2.35.5-1   Displayed Messages on OnlineDumpTool

Code No.	Items	Contents

ODU004-E	Message	ODU004-E: Login error, URL = [Address1 ~ 4] detail = *1
		*1: detail = Check Your ID or Password
		              = Proxy Authentication Required
		              = Multi login
		              = The server name or address could not be resolved
		              = Not expectation HTML
		              = The operation timed out

	Action	detail = Check the key cord when the "Check Your ID or Password" massage is displayed. detail = Check the user ID and password of the Proxy server when the "Proxy Authentication Required" message is displayed. detail = Login again after a while when the "Multi login" or "The operation timed out" (There is no response from the Web server.) message is displayed. For other than the above, setup the OnlineDumpTool again.
ODU010-E	Message	ODU010-E: Cannot read OnlineDumpUpload.ini, path = [file path name].
	Cause	The OnlineDumpUpload.ini cannot be read.
	Action	(1) Check whether the OnlineDumpUpload.ini file can be read. (2) Setup the OnlineDumpTool again.
ODU011-W	Message	ODU011-W: Key code or user id not set in OnlineDumpUpload.ini.
	Cause	The key code and user ID are not specified to the OnlineDumpUpload.ini.
	Action	Specify the key code and user ID on Environment configuration screen.
ODU012-W	Message	ODU012-W: Anything but a dump file wasn't sent. Is it continued?
	Cause	The file that cannot be transmitted is included.
	Action	Select [OK] to continue and [Cancel] to discontinue. When [OK] is selected, only the transmittable file is transmitted.
ODU015-E	Message	ODU015-E: Internet API exception happend, detail = [error detail].
	Cause	An unexpected error is detected at HTTP Communication API.
	Action	Setup the OnlineDumpTool again.
ODU022-I	Message	ODU022-I: Are you sure you want to delete the selected dump file(s)?
	Cause	"Auto delete Dump Files" setting is set to [On].
	Action	Select [Yes] to delete the files and [No] to cancel it.

(To be continued)

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(Continued from the preceding page)

Code No.	Items	Contents
ODU023-E	Message	ODU023-E: A value was specified incorrectly, detail = [cause of error].
	Cause	The error is detected in the specified value.

	Action	(1) When the detail is "The smallest number of characters";
		 • Specifiy the string of five characters or more for the account and the key code.
		 • Specifiy the string of one character or more for the user ID. No spaces allowed.
		 (2) When the detail is "Prohibited character";
		      Use the alphanumeric characters.
		 (3) When the detail is "Prohibited character string";
		      Use the string other then below.
		      script, meta, table, body, frame, form, style, background, xmp
		      applet, plaintext, cookie

ODU025-W	Message	ODU025-W: [dump-filename-.tgz] was previously uploaded. Do you want to upload again?
	Cause	The file is an uploaded dump file.
	Action	Select [OK] to upload the files and [Cancel] to cancel it.
ODU026-E	Message	ODU026-E: Cannot write OnlineDumpUpload.ini, section = [section name] key = [key code] value = [value] path = [file path].
	Cause	The OnlineDumpUpload.ini is not able to write.
	Action	(1) Check if the OnlineDumpUpload.ini file exists. (2) Setup the OnlineDumpTool again.
ODU028-W	Message	ODU028-W: Web server was busy. Please execute after wait a moment.
	Cause	The Web server was busy.
	Action	Execute it again after a while.
ODU032-I	Message	ODU032-I: File transmit complete, number of files = [Number of transmitted files]
	Cause	The file transfer is completed.
	Action	None
ODU037-W	Message	ODU037-W: This tool cannot be executed concurrently.
	Cause	This tool has already been running.
	Action	Finish this tool, and operate it with the running tool.
ODU038-W	Message	ODU038-W: Please set Address or Account, detail = [%s].
	Cause	The address or account is not set.
	Action	Setup the OnlineDumpTool again.

(To be continued)

(Continued from the preceding page)
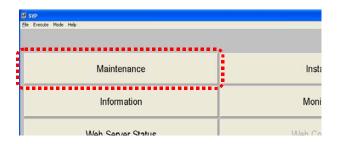
Code No.	Items	Contents
ODU042-W	Message	ODU042-W: Proxy Server ID or Proxy Server Password not set in OnlineDumpUpload.ini.
	Cause	Although the setting of the Proxy Server is "On" in the IE, the Proxy Server ID and the Proxy Server Password are not specified to OnlineDumpUpload.ini.
	Action	Specify the Proxy Server ID and the Proxy Server Password on the Environment configuration screen.
ODU044-W	Message	ODU044-W: Log file folder was not exist, folder = [folder name].
	Cause	The folder that does not exist in the Log file folder was specified.
	Action	Check the folder that is specified for Log file folder. If it does not exist, specify Log file folder again on the Environment configuration screen.
ODU045-W	Message	ODU045-W: The file was drag & drop already, file = [file name]
	Cause	The file has already been dragged and dropped.
	Action	None
ODU046-W	Message	ODU046-W: Exclusion of a file, file = [file name].
	Cause	The file has excluded from the upload screen.
	Action	None
ODU047-W	Message	ODU047-W: The cancel button was pressed.
	Cause	The process has canceled because the cancel button has pressed.
	Action	None
ODU048-W	Message	ODU048-W: A folder can't be sent. Is it continued?
	Cause	A folder can't be sent.
	Action	Select [OK] to continue the process, and [Cancel] to cancel it.

3. Activating and Terminating STATUS

3.1 Activating STATUS

(1) <Start>
Select (CL) the [Maintenance] in the 'SVP' window.
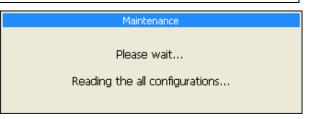
(2) <Start Condition Check>

Notice:
Do not change the application window until completing the communication of SVP-DKC and SVP-SSVP.

The following message is displayed.
"Please Wait..."
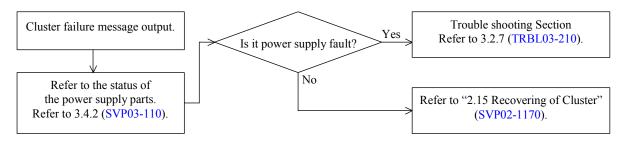
(3) <Start Error>
When an error occurred while starting the status, the message to indicate the error factor is output.

- Cluster failure
"Cluster-n is failed!"
n: 1 or 2

Restore it according to the following operation flow.

```
┌──────────────────────────┐        ╱╲                    Yes   ┌────────────────────────────┐
│ Cluster failure message  │──────╱      ╲──────────────────────│  Trouble shooting Section  │
│ output.                  │      ╲ Is it power ╱                │  Refer to 3.2.7 (TRBL03-210).│
└──────────────────────────┘       ╲ supply fault? ╱            └────────────────────────────┘
         │                          ╲    ╱
         ▼                           ╲╱   No
┌──────────────────────────┐                                    ┌────────────────────────────┐
│ Refer to the status of   │                                    │ Refer to "2.15 Recovering  │
│ the power supply parts.   │                                    │ of Cluster"                │
│ Refer to 3.4.2 (SVP03-110).│                                   │ (SVP02-1170).              │
└──────────────────────────┘                                    └────────────────────────────┘
```

- SSVP is operating
"Initializing SSVP (Phase n/16). Please wait."
n: 1 to 16

"SSVP Dump is being performed (Phase n/15). Environment status can't be read"
n: 1 to 16

Execute the procedure from Step (1) again after checking that the target processing is completed.

- Communication failure
  "Connection error occurred. SVP-XXX"
  XXX: DKC or SSVP

Maintenance

[STA0117E]

Connection error occurred.   SVP-DKC

OK

Maintenance

[STA0118E]

Connection error occurred.   SVP-SSVP

OK

Refer to "5.3 Recovery Procedure for LAN Error (TRBL05-90)".

---
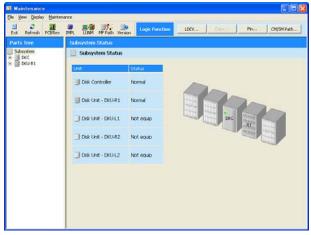
(4) <Status Display>
The subsystem information is displayed in the 'Maintenance' window, and the status starts. ("-----", or "Unknown" is displayed in the point where the information acquisition is impossible due to a communication failure.)

Note: Displayed information is the subsystem information on point that starts the screen.
To refer to latest information, select [Refresh].
(Refer to "3.3 Updating the STATUS display (SVP03-50)")
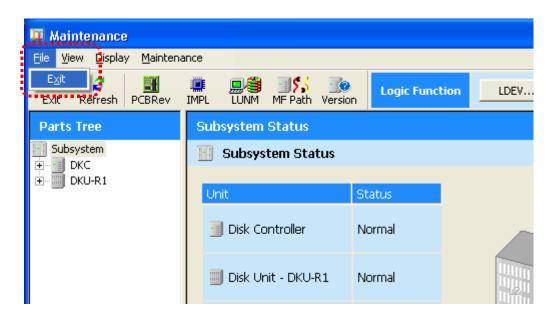
3.2 Terminating STATUS
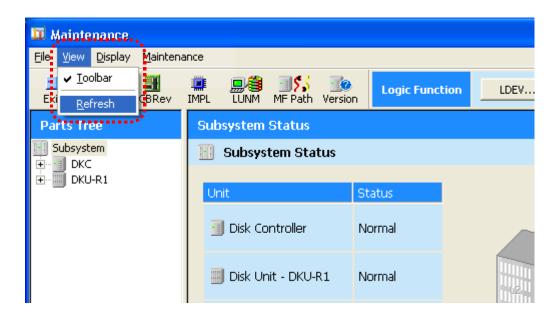
Select (CL) [File] – [Exit] on the menu bar in the 'Maintenance' window.

3.3 Updating the STATUS display

Select (CL) [View]-[Refresh] on the menu bar in the 'Maintenance' window.

3.4 Main screen

The main window of the 'Maintenance' window is configured as shown below.
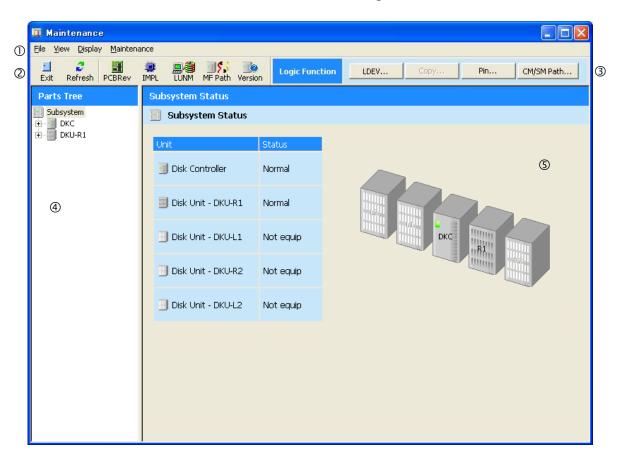
Table 3.4-1   Overview of Each Part in the Main Window

#	Item	Description
①	Menu	Menu items that can be operated using this function
②	Tool bar	Consists of buttons for operating some of the functions in the menu.
③	Dialog bar	Displays logical statuses. You can check the detailed information by pressing a button.
④	Tree	Displays statuses of parts in hierarchical order conscious of hardware configuration.
⑤	Information view	Displays a status of each part.

① Menu

② Tool bar

Table 3.4-2   Menu / Tool bar

Menu	Sub menu		Description	Toolbar
File	Exit		Terminates the application.	Exit
View	Toolbar		Displays/does not display the tool bar.	None
	Refresh		Updates information being displayed.	Refresh
Display	PCB Revision...		Displays the 'PCB Revision Display'.	PCBRev
	IMPL Status...		Displays the 'IMPL Status'.	IMPL
	LUN Manager...		Displays the 'LUN Manager'.	LUNM
	Main Frame Path...		Displays the 'Main Frame Path'.	MF Path
	Version...		Displays the 'Version'.	Version
Maintenance	Blockade	Cluster1	Blocks the Cluster 1.	None
		Cluster2	Blocks the Cluster 2.	None
	Recover	Cluster1	Recovers the Cluster 1 from the blockade.	None
		Cluster2	Recovers the Cluster 2 from the blockade.	None
	Multi PCB Replace	Cluster1	Replaces all PCBs of the Cluster 1 together.	None
		Cluster2	Replaces all PCBs of the Cluster 2 together.	None
	SVP	Switch SVP	Switches the SVP.	None
		Transfer Config	Transfers the configuration information to the Standby SVP.	None

③ Dialog bar

| Logic Function | LDEV... | Copy... | Pin... | CM/SM Path... |
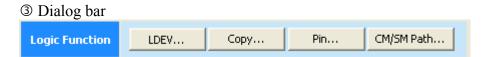
Table 3.4-3   List of Dialog Bars

Button	Detailed information displayed	Processing when pressed
LDEV...	Status of the logical device Steady lighting of the button : Normal Blinking of the button : Failed or under maintenance	Displays 'Logical Device'.
Copy...	Status of copying Blinking of the button : Copying is in progress. Extinction of the button : No copying is done.	Displays 'Copy Status'.
Pin...	Pin information Blinking of the button : Pin information is present. Extinction of the button : No Pin information is present.	Displays 'Pinned Track'.
CM/SM Path...	Status of CM/SM path Steady lighting of the button : Normal Blinking of the button : Failed	Displays 'CM/SM Access Logical Path Status'.
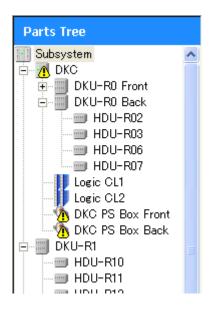
④ Tree

The maintenance target parts on the subsystem are displayed in the hierarchical order based on the hardware configuration.

Table 3.4-4   Contents of Tree
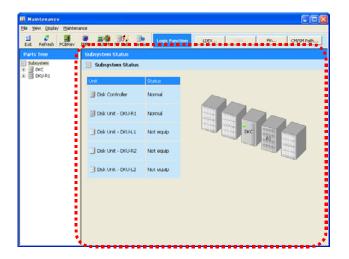
Display of the status	Displays the warning icon ⚠ when the status of the parts is not normal.
Item selection	Displays the target information on the information view

⑤ Information view

Displays the location of the part and its status. Also executes the maintenance function of the target part.
Refer to 3.4.1 to 3.4.10 for the details.

3.4.1 Subsystem information view

This view is displayed at the time of the initial start of the 'Maintenance' window.
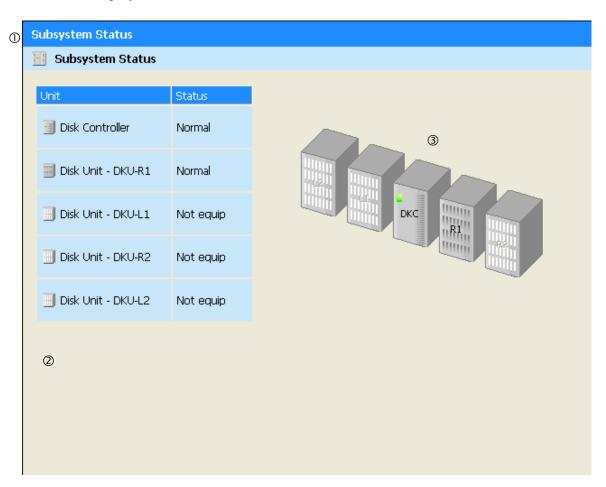
Table 3.4.1-1   Subsystem information view

#	Item		Description
①	Title	Information displayed	Displays the title of this view.
②	List	Information displayed	Displays the status of each unit in the list form. "Normal" : Normal "Warning" : Abnormal "Not equip" : Uninstalled
		Item selection	Displays the detailed information of the target unit.
③	Image	Information displayed	Displays the status of each unit in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled
		Item selection	Displays the detailed information of the target unit.

3.4.2 DKC information view

This view is displayed by selecting (CL) [Disk controller] on the subsystem information view.
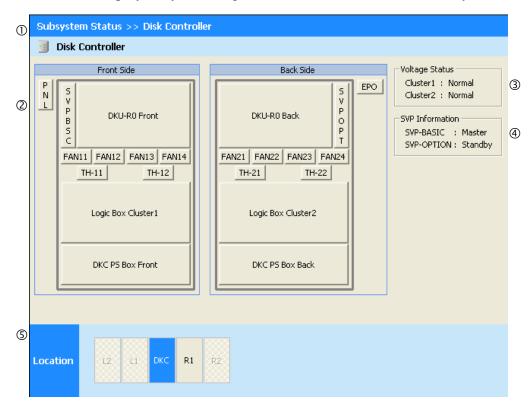
Table 3.4.2-1   DKC information view

#	Item		Description
①	Title	Information displayed	Displays the title of this view.
		Title selection	"Subsystem Status" Displays the subsystem information view.
②	Button	Information displayed	Displays each part or the status of each part in the installation image.
			Lighting : Normal
			Blinking : Abnormal
			Extinction / No display : Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	Information of voltage status	Information displayed	Displays the voltage status of each cluster.
			"Normal" : Normal
			"Warning" : Abnormal
④	SVP information	Information displayed	Displays the master/standby condition of each SVP.
			"Master" : Master SVP
			"Standby" : Standby SVP
⑤	Location information	Information displayed	Highlights (in blue) the installation position of the information displayed in this view on the subsystem.

3.4.3 Logic Box information view

This view is displayed by selecting (CL) [Logic Box Clustern] on the DKC information view.
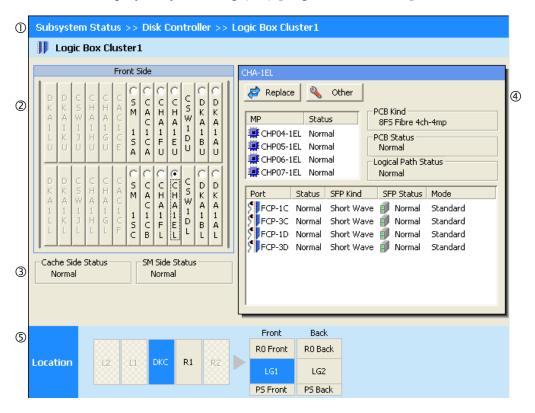
Table 3.4.3-1　Logic Box information view

#	Item		Description
①	Title	Information displayed	Displays the title of this view.
		Title selection	"Subsystem Status"　Displays the subsystem information view.
			"Disk Controller"　Displays the DKC information view.
②	Button	Information displayed	Displays the status of each part in the installation image.
			Lighting　　　　　　　　　: Normal
			Blinking　　　　　　　　　: Abnormal
			Extinction / No display　: Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	Information on the Cache/Share Memory side status	Information displayed	Displays the Cache/Shared Memory side status of each cluster.
			"Normal"　　　: Normal
			"Warning"　　: Abnormal
④	PCB Detailed Information	Displays the detailed information of each PCB or executes the maintenance processing of each PCB. (Refer to SVP03-130 ~ 180.)	
⑤	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

<PCB Detailed Information>

(1) CHA detailed information
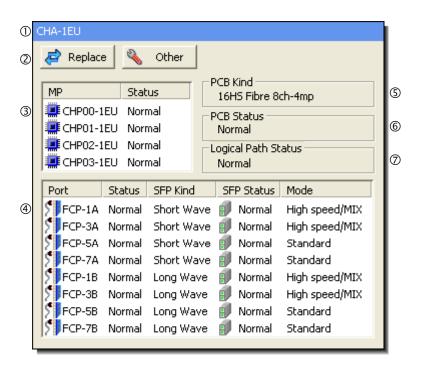
Table 3.4.3-2   CHA detailed information

#	Item	Description		
①	Title	Displays the location of CHA.		
②	Maintenance button	Executes the maintenance processing.		
		[Replace]	Executes the replacement processing.	
		[Other] – [Restore]	Executes the forcible recovery processing.	
		[Other] – [Blockade]	Executes the forcible blockade processing.	
		[Other] – [SFP Maintenance]	Starts the SFP maintenance window.	
③	MP list	[MP]	Displays the location of MP.	
		[Status]	Displays the status of MP.	
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
④	Port list	[Port]	Displays the location of the port.	
		[Status]	Displays the status of the port.	
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point
		[SFP Kind]	Displays the type of SFP.	
			"Short Wave"	: Short Wave
			"Long Wave"	: Long Wave
			"-----"	: Type is unknown.
		[SFP Status]	Displays the status of SFP.	
			"Normal"	: Normal
			"Failed"	: Blocked
			"Not fix"	: Status is uncertain.
		[Mode]	Displays the mode information of the port.	
			"Standard"	: Standard mode
			"High Speed/MIX"	: High-speed mode/Mixed mode
⑤	PCB type information	Displays the type of PCB.		
⑥	PCB status information	Displays the status of PCB.		
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point
⑦	Logical path information	Displays the logical path status of PCB.		
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point

(2) DKA detailed information

① DKA-1AU

② Replace   Other

MP	Status
③ DKP40-1AU	Normal
DKP41-1AU	Normal
DKP42-1AU	Normal
DKP43-1AU	Normal

PCB Kind ⑤
DKF 4MP

PCB Status ⑥
Normal

Logical Path Status ⑦
Normal

Port	Status
④ FCA-1AU0	Normal
FCA-1AU1	Normal
FCA-1AU2	Normal
FCA-1AU3	Normal
DRR40-1AU	Normal
DRR41-1AU	Normal
DRR42-1AU	Normal
DRR43-1AU	Normal
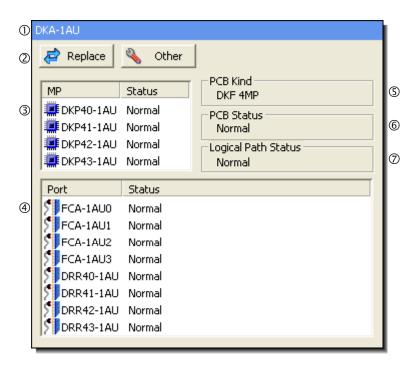
Table 3.4.3-3   DKA detailed information

#	Item	Description		
①	Title	Displays the location of DKA		
②	Maintenance button	Executes the maintenance processing.		
		[Replace]		Executes the replacement processing.
		[Other] − [Restore]		Executes the forcible recovery processing.
		[Other] − [Blockade]		Executes the forcible blockade processing.
③	MP list	[MP]	Displays the location of MP	
		[Status]	Displays the status of MP	
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
④	Port list	[Port]	Displays the location of Port	
		[Status]	Displays the status of Port	
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point
⑤	PCB type information	Displays the type of PCB.		
⑥	PCB status information	Displays the status of PCB.		
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point
⑦	Logical path information	Displays the logical path status of PCB.		
			"Normal"	: Normal
			"Blocked"	: Blocked by the maintenance
			"Failed"	: Blocked by the failure
			"Warning"	: There is an abnormal point

(3) Cache detailed information
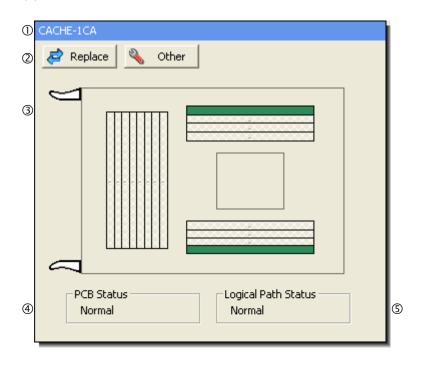
Table 3.4.3-4   Cache detailed information

#	Item	Description
①	Title	Displays the location of Cache
②	Maintenance button	Executes the maintenance processing.
		[Replace] Executes the replacement processing.
		[Other] – [Restore] Executes the forcible recovery processing.
		[Other] – [Blockade] Executes the forcible blockade processing.
③	Button	Displays the status of the Cache memory module in the installation image.
		Lighting : Normal
		Blinking('*') : Abnormal
		Extinction('-') : Uninstalled
④	PCB status information	Displays the status of PCB.
		"Normal" : Normal
		"Blocked" : Blocked by the maintenance
		"Failed" : Blocked by the failure
		"Warning" : There is an abnormal point
		"Cache Access Error" : Access error (PCB is normal, CMG is abnormal)
⑤	Logical path information	Displays the logical path status of PCB.
		"Normal" : Normal
		"Blocked" : Blocked by the maintenance
		"Failed" : Blocked by the failure
		"Warning" : There is an abnormal point

(4) SM detailed information
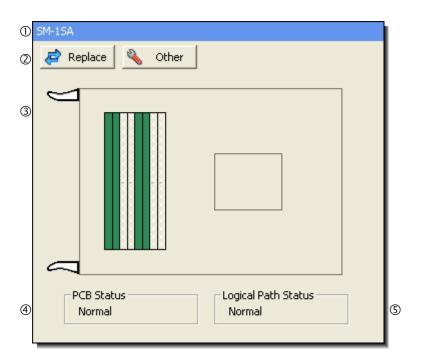
Table 3.4.3-5   SM detailed information

#	Item	Description
①	Title	Displays the location of SM
②	Maintenance button	Executes the maintenance processing. [Replace] Executes the replacement processing. [Other] − [Restore] Executes the forcible recovery processing. [Other] − [Blockade] Executes the forcible blockade processing.
③	Button	Displays the status of SM Module in the installation image. Lighting : Normal Blinking('*') : Abnormal Extinction('-') : Uninstalled
④	PCB status information	Displays the status of PCB. "Normal" : Normal "Blocked" : Blocked by the maintenance "Failed" : Blocked by the failure "Warning" : There is an abnormal point
⑤	Logical path information	Displays the logical path status of PCB. "Normal" : Normal "Blocked" : Blocked by the maintenance "Failed" : Blocked by the failure "Warning" : There is an abnormal point

3.4.4 DKC PS Box information view (Front)

This view is displayed by selecting (CL) [DKC PS Box Front] on the DKC information view.
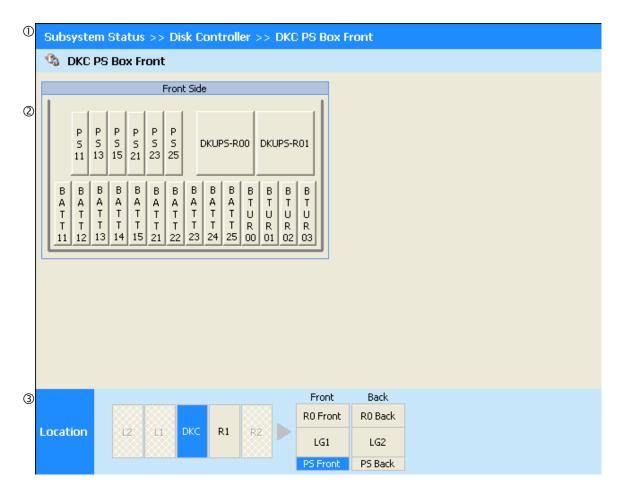
Table 3.4.4-1   Logic Box information view (Front)

#	Item	Description			
①	Title	Information displayed	Displays the title of this view.		
②	Button	Title selection	"Subsystem Status"	Displays the subsystem information view.	
			"Disk Controller"	Displays the DKC information view.	
		Information displayed	Displays the status of each part in the installation image.		
			Lighting : Normal		
			Blinking : Abnormal		
			Extinction : Uninstalled		
		Button selection	Executes the replacement processing of each part.		
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.		

3.4.5 DKC PS Box information view (Back)

This view is displayed by selecting (CL) [DKC PS Box Back] on the DKC information view.
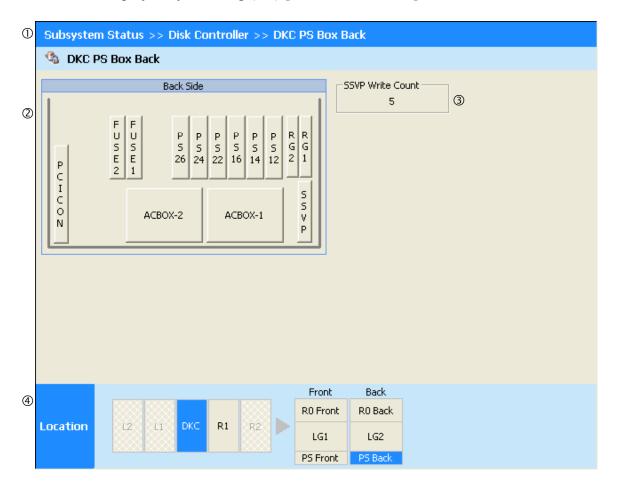
Table 3.4.5-1   Logic Box information view (Back)

#	Item		Description	
①	Title	Information displayed	Displays the title of this view.	
		Title selection	"Subsystem Status"	Displays the subsystem information view.
			"Disk Controller"	Displays the DKC information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled	
		Button selection	Executes the replacement processing of each part.	
③	SSVP memory count information	Information displayed	Displays the memory count number of SSVP in integer.	
④	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.	

3.4.6 DKU-R0 information view

This view is displayed by selecting (CL) [DKU-R0 Front] or [DKU-R0 Back] on the DKC information view.
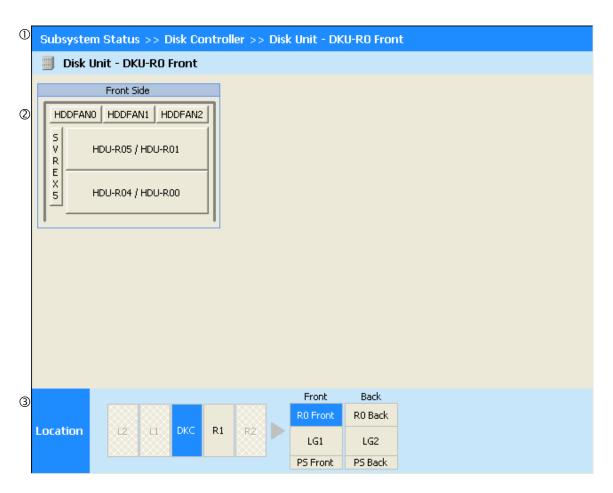
Table 3.4.6-1   DKU-R0 information view

#	Item	Description		
①	Title	Information displayed	Displays the title of this view.	
		Title selection	"Subsystem Status"	Displays the subsystem information view.
			"Disk Controller"	Displays the DKC information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled	
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.	
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.	

3.4.7 Disk Unit information view

This view is displayed by selecting (CL) [Disk Unit – DKU-XX] on the subsystem information view.

① ② ③
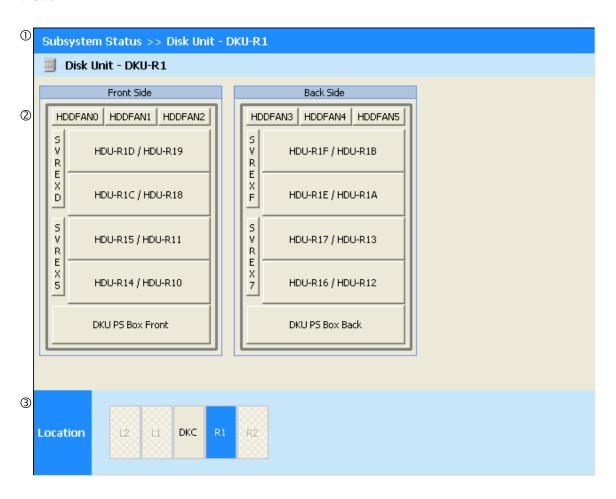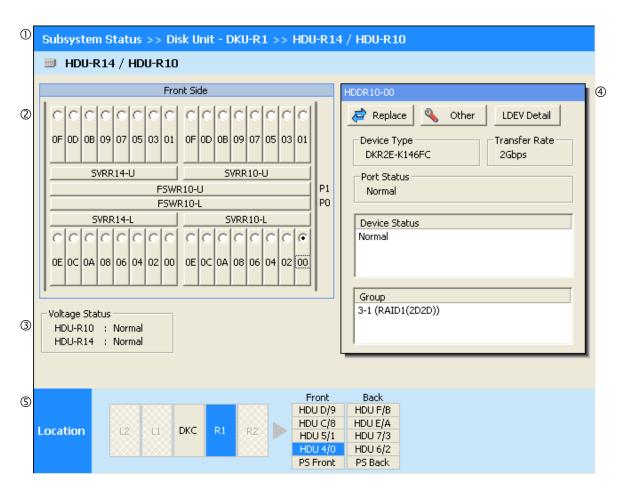
Table 3.4.7-1　 Disk Unit information view

#	Item	Description	
①	Title	Information displayed	Displays the title of this view.
		Title selection	"Subsystem Status"　 Displays the subsystem information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting　　　 : Normal　 Blinking　　　 : Abnormal　 Extinction　　 : Uninstalled
		Button selection	Displays the detailed information of each part or executes the replacement processing of each part.
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.

3.4.8 HDU information view

This view is displayed by selecting (CL) [HDU-XXX/HDU-XXX] on the DKU-R0 information view or the Disk Unit information view.
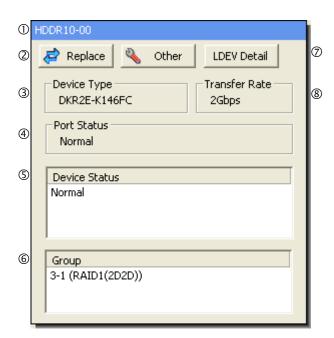
Table 3.4.8-1   HDU information view

#	Item	Description		
①	Title	Information displayed	Displays the title of this view.	
		Title selection	"Subsystem Status"	Displays the subsystem information view.
			"Disk Controller"	Displays the DKC information view.
			"Disk Unit – DKU-XX"	Displays the DKU-R0 information view or the DKU unit information view.
②	Button	Information displayed	Displays the status of each part in the installation image.	
			Lighting : Normal	
			Blinking : Abnormal	
			Extinction : Uninstalled	
		Button selection	Executes the replacement processing of each part.	
③	Information of the voltage status	Information displayed	Displays the voltage status of each part.	
			"Normal" : Normal	
			"Warning" : Abnormal	
			"Not equip" : Uninstalled	
④	HDD Detailed Information	Displays the detailed information of each HDD. (Refer to SVP03-250 ~ 260.)		
⑤	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.	

<HDD detailed information >

① HDDR10-00

② ⇄ Replace   🔧 Other   LDEV Detail   ⑦

③ Device Type   Transfer Rate   ⑧
   DKR2E-K146FC   2Gbps

④ Port Status
   Normal

⑤ Device Status
   Normal

⑥ Group
   3-1 (RAID1(2D2D))

Table 3.4.8-2   HDD detailed information

#	Item	Description	
①	Title	Displays the location of HDD	
②	Maintenance button	Executes the maintenance processing.	
		[Replace] – [Replace]	Executes the replacement processing.
		[Replace] – [Replace(INLINE)]	Executes the replacement processing (INLINE processing skip).
		[Other] – [Restore]	Executes the forcible recovery processing.
		[Other] – [Blockade]	Executes the forcible blockade processing.
		[Other] – [Restore Data]	Executes the data recovery processing.
		[Other] – [Spare Disk]	Executes the spare save processing.
		[Other] – [Correction Copy]	Executes the correction copy processing.
		[Other] – [Drive Interrupt]	Instructs the copy processing stop.
③	Model name information	Displays the model name of HDD.	
④	Port status information	Displays the port status of HDD.	
		"Normal"	: Normal
		"Warning(Port 0 failed)"	: Port 0 blocked
		"Warning(Port 1 failed)	: Port 1 blocked
		"Failed"	: Both port blocked
⑤	HDD status information	Displays the status of HDD	
		"Normal"	: Normal
		"Correction Copy(x%)"	: Executing the correction copy (rate of progress)
		"Copy Back(x%)"	: Restoring the data from the spare disk (rate of progress)
		"Drive Copy(x%)"	: Copying the data to the spare disk (rate of progress)
		"Dynamic Sparing(x%)"	: Executing the Dynamic sparing (rate of progress)
		"Blocked"	: Blocked owing to the maintenance.
		"Failed"	: Blocked owing to a failure.
		"Warning"	: Either of ports is blocked
		"Free"	: Spare disk is usable.
		"Reserved"	: Spare disk is not usable. It is already reserved.
		"to HDD-XX"	: Data is copied to HDD-XX.
		"from HDD-XX"	: Data is copied from HDD-XX.
⑥	Group information	Displays the group name to which HDD belongs and its RAID level.	
⑦	LDEV button	Displays the LDEV information of group.	
⑧	Transfer rate information	Displays Backend Fiber Transfer rate information.	

3.4.9 DKU PS Box information view (Front)

This view is displayed by selecting (CL) [DKU PS Box Front] on the Disk Unit information view.
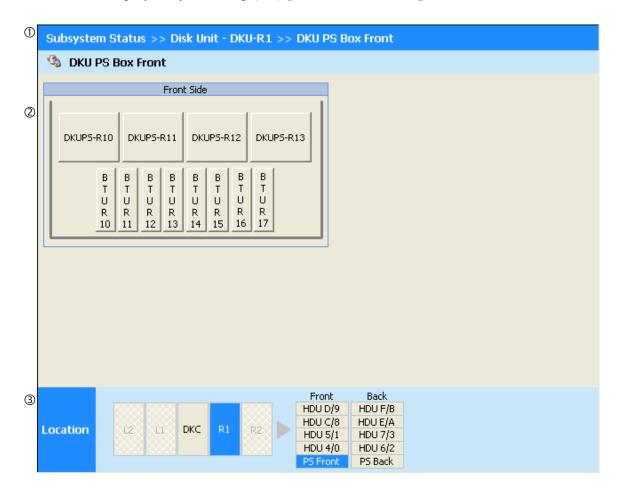
Table 3.4.9-1   DKU PS Box information view (Front)

#	Item		Description	
①	Title	Information displayed	Displays the title of this view.	
		Title selection	"Subsystem Status"	Displays the subsystem information view.
			"Disk Unit – DKU-XX"	Displays the DKU unit information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled	
		Button selection	Executes the replacement processing of each part.	
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.	

3.4.10 DKU PS Box information view (Back)

This view is displayed by selecting (CL) [DKU PS Box Back] on the Disk Unit information view.
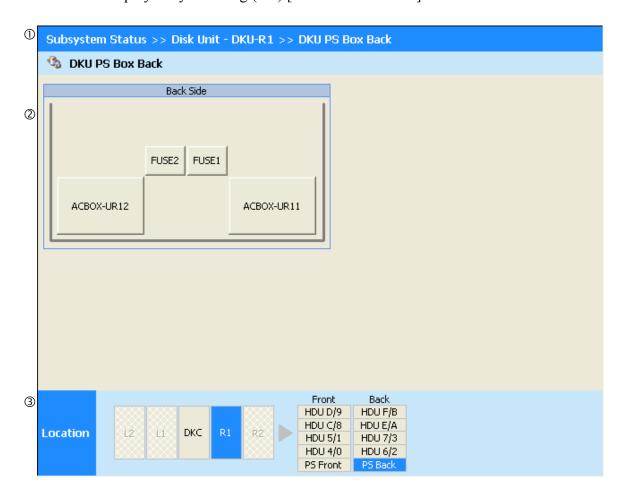
Table 3.4.10-1   DKU PS Box information view (Back)

#	Item		Description	
①	Title	Information displayed	Displays the title of this view.	
		Title selection	"Subsystem Status"	Displays the subsystem information view.
			"Disk Unit – DKU-XX"	Displays the Disk Unit information view.
②	Button	Information displayed	Displays the status of each part in the installation image. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled	
		Button selection	Executes the replacement processing of each part.	
③	Location information	Information displayed	Highlights (in blue) the location of the information displayed in this view on the subsystem.	

3.5 Copy Status view

This window is displayed by selecting (CL) [Copy...] on the dialog bar in the main window.
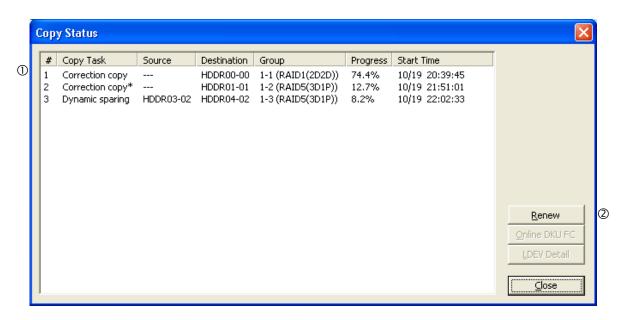
Table 3.5-1   Copy Status view

#	Item	Description		
①	List	Displays the information on the copy operation executing right now.		
		[Copy Task]	Displays the type of the copy operation.	
			"Correction Copy"	: Correction copy
				"*" display: Waiting for the automatic copy back.
			"Dynamic Sparing"	: Dynamic sparing
			"Copy Back"	: Copy back
			"Drive Copy"	: Drive copy
		[Source]	Displays the location of the copy source HDD.	
		[Destination]	Displays the location of the copy destination HDD.	
		[Group]	Displays the group name to which the copy destination HDD belongs and its RAID level.	
		[Progress]	Displays the rate of progress of the copy operation.	
		[Start Time]	Displays the time when the copy operation started.	
②	Button	[Renew]	Updates the information displayed.	
		[Online DKU FC]		
		[LDEV Detail]	Displays the information of the LDEV belonging to the group in the selected list item.	

3.6 Logical device window

This window is displayed by selecting (CL) [LDEV...] on the dialog bar in the main window.
The logical device window is configured as shown below.
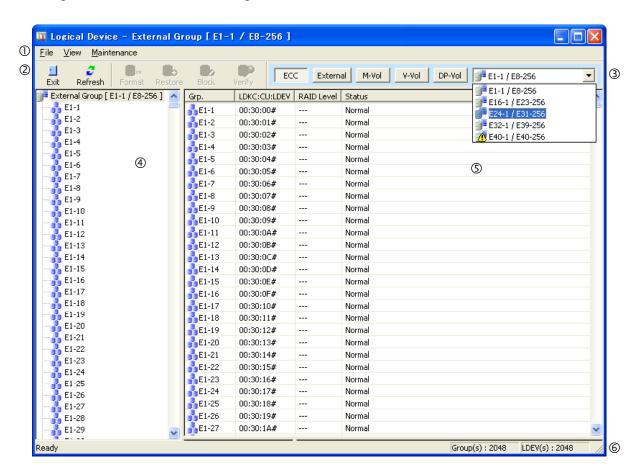
Table 3.6-1 Overview of Each Part in Logical Device Window

#	Item	Description
①	Menu	Menu items that can be operated using this function
②	Tool bar	Consists of buttons for operating some of the functions in the menu.
③	Dialog bar	Selects the device type and the range to display.
④	Tree	Displays the device in hierarchical order.
⑤	List	Displays the information of the logical device.
⑥	Status bar	Displays the information of the device number.

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① Menu

② Tool bar

Table 3.6-2 Menu / Tool bar

Menu	Sub menu		Description	Toolbar
File	Exit		Terminates the application.	Exit
View	Status Bar		Displays/does not display the status bar.	なし
	Go To	Up One Level	Moves it to one upper hierarchy.	なし
	Refresh		Updates information being displayed.	Refresh
Maintenance	Format		Executes the format processing.	Format
	Restore		Executes the maintenance recovery processing.	Restore
	Block		Executes the maintenance blockade processing.	Block
	Verify		Executes the parity synchronization check.	Verify

③ Dialog bar
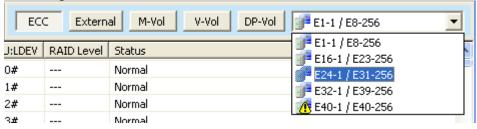
Table 3.6-3 Dialog bar

Item		Description
Button	Information displayed	Displays the status of the device in each type. Lighting : Normal Blinking : Abnormal Extinction : Uninstalled
	Button selection	Displays the information of the device in each type on the tree/list.
Comb box	Information displayed	Displays the defined group information by dividing it into 2048 at the maximum in the type selected with the button. : Normal : Abnormal
	Item selection	Displays the information of the target device on the tree/list.
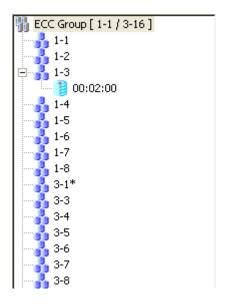
④ Tree

The logical device information is displayed in units of the
group information and the LUSE information.
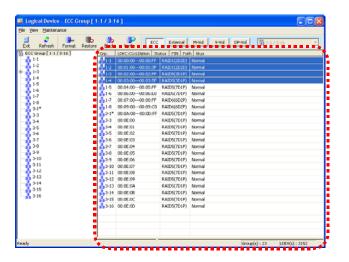
Table 3.6-4 Contents of Tree

Status display	Displays the warning icon ⚠ when the status of the parts is not normal.
Item selection	Displays the target information on the list.

⑤ List

The logical device information is displayed.
Refer to 3.6.1 to 3.6.3 for the details.

◎ Status Bar
　　The number of devices of the information displayed on the tree/list right now is displayed.
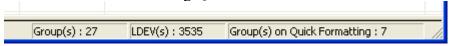
- In case of the group unit display
　　There is no device executing Quick Format.

Group(s) : 23	LDEV(s) : 3152

　　There is the device executing Quick Format.

Group(s) : 27	LDEV(s) : 3535	Group(s) on Quick Formatting : 7
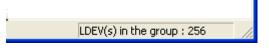
- In case of the device unit display
　　There is no device executing Quick Format.

LDEV(s) in the group : 256

　　There is the device executing Quick Format.

LDEV(s) in the group : 945	LDEV(s) on Quick Formatting in the group : 1
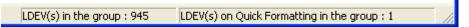
Table 3.6-5 Contents of Status Bar

Item	Description	
In case of the group unit display	"Group(s)"	Displays the total number of the groups displayed on the list.
	"LDEV(s)"	Displays the total number of the devices set in the groups displayed on the list.
	"Group(s) on Quick Formatting"	The number of groups including devices executing Quick Format is displayed in the listed and displayed groups.
In case of the LDEV unit display	"LDEV(s) in the group"	Displays the total number of the devices displayed on the list.
	"Formatting in the group"	The total device number executing Quick Format is displayed in the listed and displayed devices.

3.6.1 List of Group Information

Grp.	LDKC:CU:LDEV	RAID Level	Sys.	Status
1-1	00:00:00---00:00:FF	RAID1(2D2D)		Normal
① 1-2	00:01:00---00:01:3F	RAID1(2D2D)	*	Normal
1-3	00:02:00---00:02:FF	RAID5(3D1P)		Normal
1-4	00:03:00---00:03:5F	RAID5(3D1P)		Normal
1-5	00:04:00---00:05:FF	RAID5(7D1P)		Normal
1-6	00:06:00---00:06:E0	RAID5(7D1P)		Normal
1-7	00:07:00---00:08:FF	RAID6(6D2P)		Normal
1-8	00:09:00---00:09:C0	RAID6(6D2P)		Normal
3-1*	00:0A:00---00:0D:FF	RAID5(7D1P)		Normal
3-3	00:0E:00	RAID5(7D1P)		Normal
3-4	00:0E:01	RAID5(7D1P)		Normal
3-5	00:0E:02	RAID5(7D1P)		Normal
3-6	00:0E:03	RAID5(7D1P)		Normal
3-7	00:0E:04	RAID5(7D1P)		Normal
3-8	00:0E:05	RAID5(7D1P)		Normal
3-9	00:0E:06	RAID5(7D1P)		Normal
3-10	00:0E:07	RAID5(7D1P)		Normal
3-11	00:0E:08	RAID5(7D1P)		Normal
3-12	00:0E:09	RAID5(7D1P)		Normal
3-13	00:0E:0A	RAID5(7D1P)		Normal
3-14	00:0E:0B	RAID5(7D1P)		Normal
3-15	00:0E:0C	RAID5(7D1P)		Normal
3-16	00:0E:0D	RAID5(7D1P)		Normal

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Table 3.6-6 List of Group Information

#	Item	Description		
①	Detailed information	Displays detailed information such as a status of a group.		
		[Grp.]	Name of a group	
			"E"	: External Volume Group
			"V"	: Virtual Volume Group for Copy-on-Write Snapshot
			"X"	: DP Volume Group
			"M"	: Migration Volume Group
			"P"	: Pool Volume exists in group
			"*"	: RAID Concatenation
		[LDKC:CU:LDEV]	Device information belonging to a group	
			"#"	: External Volume
			"V"	: Virtual Volume for Copy-on-Write Snapshot
			"X"	: DP Volume
			"M"	: Migration Volume
		[RAID Level]	RAID level of a group	
		[Sys.]	Existence of System Disk. (System Disk exists in group: "*" display)	
		[Status]	Status of a group	
			"Normal"	: Normal
			"Normal (Quick Formatting exists)"	: Normal (Quick Formatting exists)
			"Blocked"	: Blocked
			"Copying"	: Copying
			"Correction Access"	: Correction access (without redundancy)
			"Correction Access with redundancy"	: Correction access (with redundancy)
			"Warning"	: Warning (mixed status in the group, etc.)
			"-----"	: No information available because the device in the group is uninstalled.
			"Formatting"	: Formatting

3.6.2 List of Device information

LDKC:CU:LDEV	Emulation	Sys.	Status	PIN	Path	Pool ID
00:02:00	OPEN-V*4		Normal		*	---
00:02:01	OPEN-V	*	Normal		*	---
00:02:02	OPEN-V		Normal		*	---
00:02:03	OPEN-V		Normal		*	---
00:02:04	OPEN-V		Normal		*	---
00:02:05	OPEN-V		Normal		*	---
00:02:06	OPEN-V		Normal		*	---
00:02:07	OPEN-V		Normal		*	---
00:02:08	OPEN-V		Normal		*	---
00:02:09	OPEN-V		Normal		*	---
00:02:0A	OPEN-V		Normal		*	---
00:02:0B	OPEN-V		Normal		*	---
00:02:0C	OPEN-V		Normal		*	---
00:02:0D	OPEN-V		Normal		*	---
00:02:0E	OPEN-V		Normal		*	---
00:02:0F	OPEN-V		Normal		*	---
00:02:10	OPEN-V		Normal		*	---
00:02:11	OPEN-V		Normal		*	---

①

Group	HDD	Remarks
1-3 (RAID5(3D1P))	HDDR00-02	
	HDDR01-02	
	HDDR02-02	
	HDDR03-02	

② ③

Table 3.6-7 List of Device information

#	Item	Description		
①	Detailed information	Displays detailed information such as a status of a device.		
		[LDKC:CU:LDEV]	Name of a device	
			"#"	: External Volume
			"V"	: Virtual Volume for Copy-on-Write Snapshot
			"X"	: DP Volume
			"M"	: Migration Volume
		[Emulation]	Emulation type	
		[Sys.]	Existence of System Disk. (System Disk exists: "*" display)	
		[Status]	Status of a device	
			"Normal"	: Normal
			"Normal (Quick Formatting)"	: Normal (Quick Formatting)
			"Normal (Quick Formatting exists)"	: Normal (Quick Formatting exists) (Only the head device of LUSE)
			"Blocked"	: Blocked
			"Copying"	: Copying
			"Correction Access"	: Correction access (without redundancy)
			"Correction Access with redundancy"	: Correction access (with redundancy)
			"Warning"	: Warning (mixed status in the LUSE, etc.)
			"Formatting"	: Formatting
		[Pin]	Existence of Pin (Pin exists: "*" display)	
		[Path]	Existence of Path (Path exists: "*" display)	
		[Pool ID]	ID number of Pool Volume	
			"-----"	: Not Pool Volume
②	Group information	Displays the group information to which the device belongs and its RAID level.		
③	HDD information	Displays HDD to install the group information to which the device belongs.		
		[HDD]	Location of HDD	
			🖴	: Normal
			🖴	: Blocked
		[Remarks]	Displays the additional information for HDD.	

3.6.3 List of LUSE information

LDKC:CU:LDEV	Emulation	Status	Grp.
① 00:02:00	OPEN-V	Normal	1-3
00:02:01	OPEN-V	Normal	1-3
00:02:02	OPEN-V	Normal	1-3
00:02:03	OPEN-V	Normal	1-3
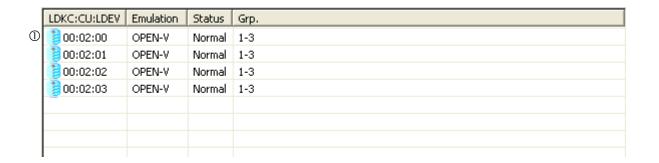
Table 3.6-8 List of LUSE information

#	Item	Description		
①	Detailed information	Displays detailed information such as a status of LUSE device.		
		[LDKC:CU:LDEV]	Name of a device	
			"#"	: External Volume
			"V"	: Virtual Volume for Copy-on-Write Snapshot
			"X"	: DP Volume
			"M"	: Migration Volume
		[Emulation]	Emulation type	
		[Status]	Status of a device	
			"Normal"	: Normal
			"Normal (Quick Formatting)"	: Normal (Quick Formatting)
			"Blocked"	: Blocked
			"Copying"	: Copying
			"Correction Access"	: Correction access (without redundancy)
			"Correction Access with redundancy"	: Correction access (with redundancy)
			"Warning"	: Warning (mixed status in the LUSE, etc.)
			"Formatting"	: Formatting
		[Grp.]	Displays the group information to which the device belongs	

3.6.4 Shredding operation information

When Shredding is executed from the user operation (Storage Navigator) to the logical device at the time of starting the logical device window, the operation progress window is displayed.
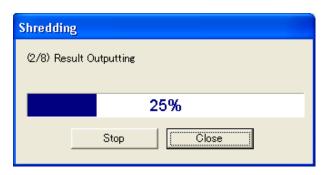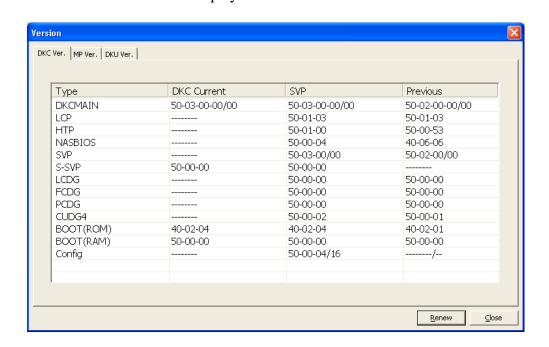
Table 3.6-9 Contents of Shredding Operation Progress Window

Item	Description
[Close]	Closes the progress window.
[Stop]	Stops Shredding. Caution: Be sure to check with the user in advance.

3.7 Version of Microprogram

Select (CL) [Version] in this order in the 'Maintenance' window.
The 'Version' window is displayed.

Type	DKC Current	SVP	Previous
DKCMAIN	50-03-00-00/00	50-03-00-00/00	50-02-00-00/00
LCP	--------	50-01-03	50-01-03
HTP	--------	50-01-00	50-00-53
NASBIOS	--------	50-00-04	40-06-06
SVP	--------	50-03-00/00	50-02-00/00
S-SVP	50-00-00	50-00-00	--------
LCDG	--------	50-00-00	50-00-00
FCDG	--------	50-00-00	50-00-00
PCDG	--------	50-00-00	50-00-00
CUDG4	--------	50-00-02	50-00-01
BOOT(ROM)	40-02-04	40-02-04	40-02-01
BOOT(RAM)	50-00-00	50-00-00	50-00-00
Config	--------	50-00-04/16	--------/--

When the each tab is selected (CL), information on the corresponding version is displayed.
① [DKC Ver.]   : A representative version is displayed. (Initial display)
② [MP Ver.]   : A version of each processor is displayed.
③ [DKU Ver.]   : A version of a Drive/FSW is displayed.

<About the display>
When a version of the microprogram concerned cannot be displayed for some reason, the following
is displayed.
"-" (Hyphen)   :The microprogram is not installed.
"?" (Question mark) : Getting of the version information failed.
"x"   : The data that has been got is outside the range of application.

<Update of the information>
To update the information, which is displayed through the selection of 'Version', to the latest one,
select (CL) the [Renew] button.

① The representative version
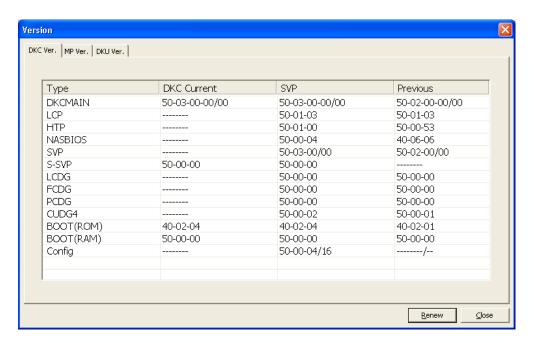
Table 3.7-1 Information to Be Displayed

Item	Description
DKC Current	Major version of the microprogram currently running
SVP	Latest version of the microprogram stored in the SVP
Previous	Former version of the microprogram stored in the SVP

②   Version of each processor
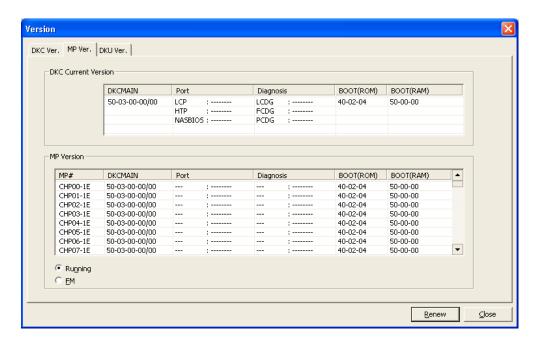
Table 3.7-2 Information to Be Displayed

Item	Description
DKC Current Version area	Major version of the microprogram currently running In regard to a version inconsistent with a corresponding version in the MP Version area or a binary version (Internal administrative information), the area concerned is displayed in red-white-reversal with an asterisk ("*").
MP Version area	Version of the microprogram of each processor currently running A version, which is displayed in red-white-reversal, is inconsistent with the DKC Current Version. A version displayed with an asterisk ("*") at the end of it is the inconsistent one. However, the microprogram of the "FM" is not displayed in red-white-reversal even if it is inconsistent. Besides, in regard to this area, information to be displayed can be changed with the radio button at the lower left part of the window. When "Running" is selected, a version of the microprogram that is running on the SM is displayed. When "FM" is selected, a version of the microprogram on the FM is displayed.

Concerning this item, when even a single piece of information is inconsistent, an icon "⚠," which shows an error, is displayed in the tab portion.

<Display of patch status>
Select (DC) a line from the list in the MP Version area.
The 'Patch Map' dialog box is displayed and the patch status of the processor concerned is shown.
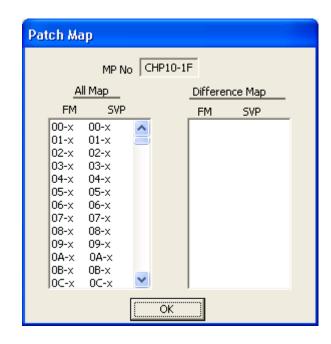
Table 3.7-3 Information to Be Displayed

Item	Description
MP No	ID of the processor
All Map	List of all the maps All the maps of the FM and SVP are displayed. If the FM map is inconsistent with the corresponding SVP map, an asterisk ("*") is displayed between them.
Difference Map	Only the inconsistent map(s) among all the maps is(are) displayed.

③   Version of the Drive/FSW
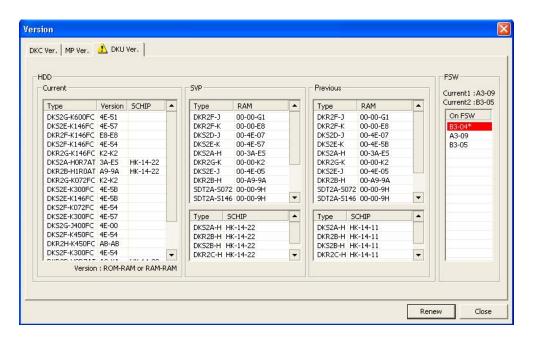
Table 3.7-4 Information to Be Displayed

Item	Description
• Display of "HDD"	

Display of "Current"	Version of the drive microprogram currently running.
	"Type" : Drive type
	"Version" : Version of drive microprogram
	                       OEM drive: RAM version – RAM version
	                       Other than above: ROM version – RAM version
	"SCHIP" : Version of SCHIP microprogram (S-ATA only)

Display of "SVP"	Latest version of the drive microprogram stored in the SVP. Top of list : Version of drive microprogram Bottom of list : Version of SCHIP microprogram
Display of "Previous"	Former version of the drive microprogram stored in the SVP. Top of list : Version of drive microprogram Bottom of list : Version of SCHIP microprogram
• Display of "FSW"	
Display of "Current1" and "Current2"	The main version of FSW microprogram when being using it. Current1: FSW-(SH449-A/M9x and less) Current2: FSW-(SH449-A/MAx more than) Note: The bottom figure of 'M9' or 'MA' is physical version. It is used only for management of a manufacturing factory.
Display of "FSW"	Version of the microprogram of each FSW being used now. Information which is carrying out red-and-white inversion (adding "*" to the end) indicates that the firmware cannot be correctly written in FSW.

When information which is carrying out red-and-white inversion has occurred in FSW display, an icon ⚠ to display an error is displayed in the tab part.

<Display of the drive name>
Select (DC) a line from the [HDD]-[Current] list.
The 'DKU List' window is displayed and a list of drives that are
consistent with the information is shown.
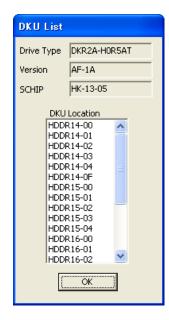
Table 3.7-5 Information to Be Displayed

Item	Description
Drive Type	Selected drive type.
Version	Selected drive microprogram version.
SCHIP	Selected SCHIP microprogram version.
DKU Location	List of the drive consistent with the selected information.

<Display of the FSW name>
Select (DC) a line from the [FSW]-[On Fsw] list.
The 'FSW List' window is displayed and a list of drives that are consistent with
the information is shown.

Table 3.7-6 Information to Be Displayed

Item	Description
Version	Selected FSW microprogram version.
FSW Location	List of the FSW consistent with the selected version.

3.8 Path of LCP/HTP

When [Main Frame Path...] is selected (CL) in the 'Maintenance' window, the 'Main Frame Path Information' window is displayed.
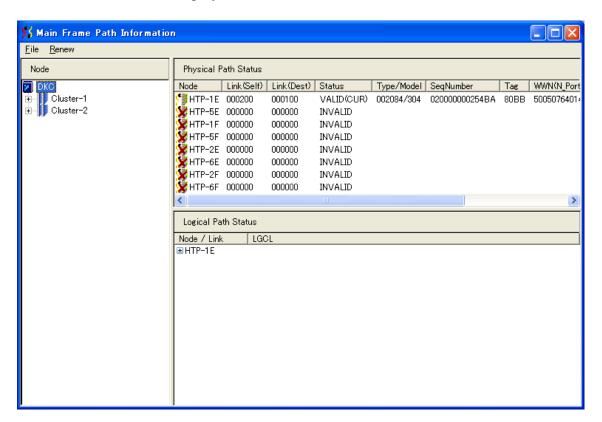
Table 3.8-1 Outline of Each Part

Item	Description
Menu	Menu items that can be operated by this function.
Tree	Installed ports are displayed hierarchically taking hardware configuration in consideration.
Upper list	Physical path information concerning the item selected from the tree is displayed.
Lower list	Logical path information concerning the item selected from the tree is displayed.

Table 3.8-2 List of Menus

Menu	Sub-menu	Description
File	Exit	Closes a window.
Renew	Renewal	Updates displayed information.

To exit the display, press [Close].

(1) Physical path
When a scope wanted to be referred to (subsystem, each cluster, each CHA, or port concerned) is selected (CL) from the tree, the related physical path information is displayed in a list at the upper right part of the window. (In the example shown in the figure below, CHA has been selected (CL) and the physical path information on the port installed in the CHA is displayed.)

Physical path information
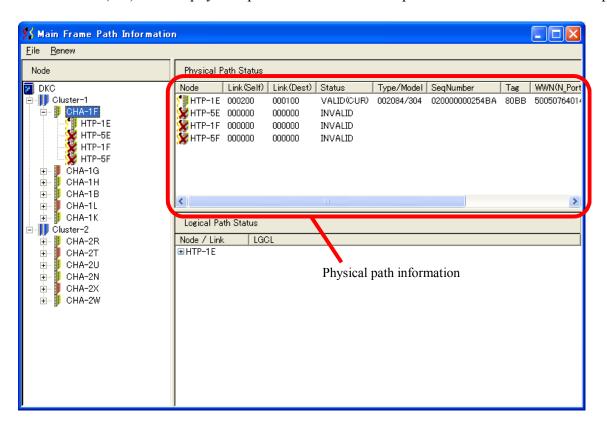
Table 3.8-3 Items Displayed in the Physical Path Information List

Item	Description
Node	Location where the LCP/HTP is installed.
Link(Self)	Link address of the LCP/HTP.
Link(Dest)	Link address of a host connected.
Status	Status in which a node ID is acquired.
Type/Model	Type/model name of a host connected.
SeqNumber	Product serial number of a host connected.
Tag	Tag of a host connected.
WWN(N_Port_Name)	N_port name of a host connected.
WWN(Node_Name)	Node name of a host connected.
Speed	Bandwidth of link transfer.

(2) Logical path
When a scope wanted to be referred to (subsystem, each cluster, each CHA, or port concerned) is selected (CL) from the tree, the related logical path information is displayed in a list at the lower right part of the window. (In the example shown in the figure below, CHA has been selected (CL) and the logical path information on the port installed in the CHA is displayed.)
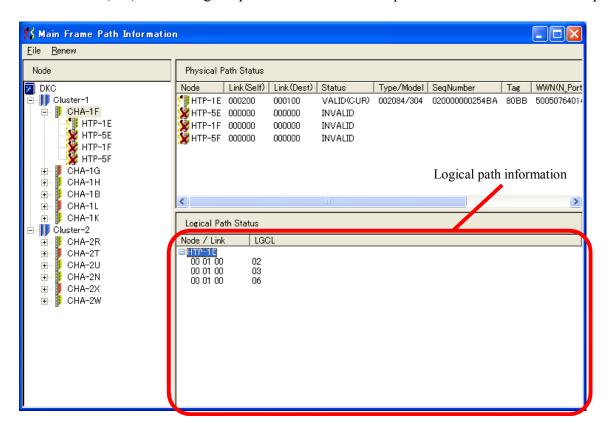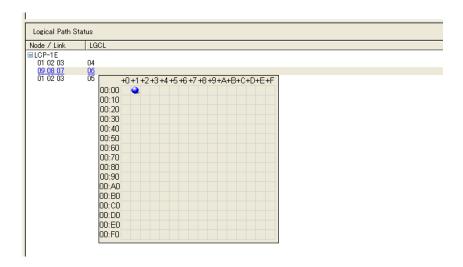
Table 3.8-4 Items Displayed in the Logical Path Information List

Item	Description
Node	Location where the LCP/HTP, in which the logical path exists, is installed.
Link	Link address of a host connected.
LGCL	Logical address of a host connected.
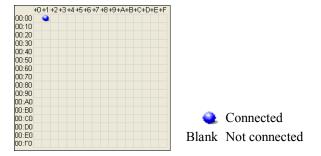
■ Seeing a CU# of the controller connected

To see a CU# (control unit address) of the controller connected, position the mouse pointer on the displayed LINK/LGCL information concerned and select (CL) the information after making sure that it is highlighted (underlined in blue).

<Window displaying CU# of the controller connected>
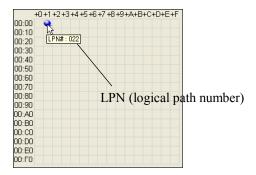
The CU# (control unit address) of the controller connected is displayed. In the example shown in the figure below, CU#00, CU#07, CU#08, and CU#0F are the CU#'s of the controllers connected.

Connected

Blank   Not connected

When the mouse pointer is positioned at the place displayed as the CU# of the controller connected, the corresponding LPN (logical path number) is displayed.

LPN (logical path number)

3.9 Pin

When [Pin...] is selected (CL) in the 'Maintenance' window, the 'Pinned Track' window is displayed.
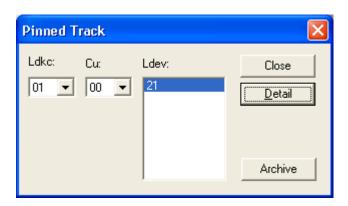
Table 3.9-1 List of Items

Item	Description
Ldkc	Logical DKC number
Cu	ID number of a Cu
Ldev	Number of a logical device in which pinned data exists

When a logical device is selected (CL) from the list in the 'Pinned Track' window and the [Detail] button is selected (CL), the 'Detail' window is displayed.
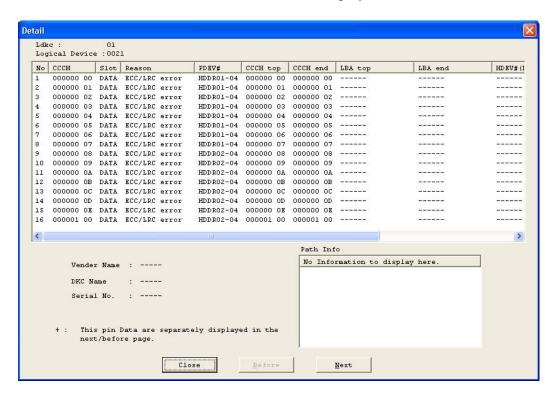
Table 3.9-2 List of Items

Item	Description
CCCH	Number of an assembly of a cylinder and head in which pinned data exists
Slot	Type of a track on which pinned data exists 　　DATA : Data track 　　PRTY : Parity track
Reason	Cause of pinned data. See the "4. Recovery for Pinned Tracks" (TRBL04-10) for the recovery procedure at the following reason. 　　ECC/LRC error 　　WRITE error 　　External VOL Read Error 　　External VOL Write Error
PDEV#	Number of an HDD of a logical device in which pinned data exists
CCCH top/end	CCCH at the top and end of a parity stripe
LBA top/end	LBA at the top and end of a parity stripe
HDEV# (DP)	HDEV number in Dynamic Provisioning
LBA (DP) top/end	LBA at the top and end of a parity stripe in Dynamic Provisioning
Vender Name	Name of a vender of a external Device
DKC Name	Name of a DKC of a external Device
Serial No.	Serial number of a external Device
Path Info	Path information of a external Device

3.10 LUN Management

(1) Outline
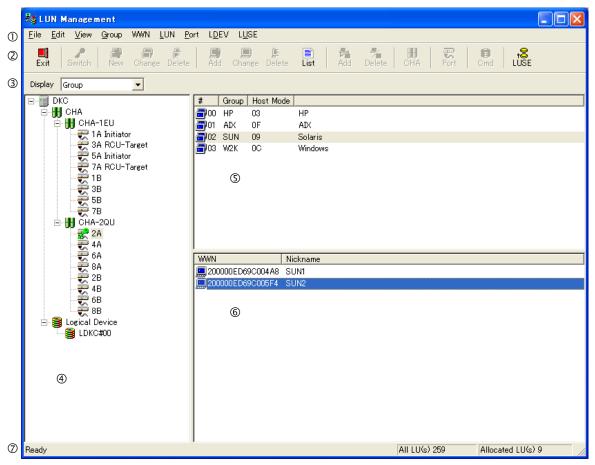
Fig. 3.10-1 Main Window

The Main window consists of the following elements.

Table 3.10-1 Outline of Main Window Elements

#	Item	Description
①	Menu	Menu of items operable by this function.
②	Tool bar	Part of the menu enabled to be operable by buttons.
③	Switch	When "Switch" displayed in the tree view is selected (Port), the status of the switch is selectable. The setting of the groups or LUN is selectable.
④	Tree	The structure that it is conscious of the hardware construction.(A port type is attached to a port.)
⑤	Upper list	Displays the details of an item selected from the tree.
⑥	Lower list	Displays the details of an item selected from the upper list, if any.
⑦	Status bar	Displays outlined function of each item on the menu and tool bar when the mouse is positioned on it. Also it displays the all of the LU figures and the LU figures with the pass definition.

Menu items and their details are shown below.

Table 3.10-2 List of Menu Items

Menu	Submenu	Description	Tool bar
File	Exit	• Closes the window.	▦ (Exit)
Edit	Copy	• Not selectable.	None
	Paste	• Not selectable.	None
View	Toolbar	• Makes the tool bar displayed or not.	None
	Status Bar	• Makes the status bar displayed or not.	None
	LDEV Size	• Changes the unit of LDEV size to be displayed to MB or GB.	None
	LUN Status	• Displays/does not display the LUN status (including the Host reserve status) in the LUN list.	None
Group	New	• Not selectable.	▦ (New)
	Change	• Not selectable.	▦ (Change)
	Delete	• Not selectable.	▦ (Delete)
	Host Mode	• Refers to the Host Mode and the Host Mode Option.	None
WWN	Add	• Not selectable.	▦ (Add)
	Change…	• Not selectable.	▦ (Change)
	Delete	• Not selectable.	▦ (Delete)
	Login List	• The hosts identified by the following WWN login to the DKC. (Only WWN has the deletion function.)	▤ "List"
LUN	Add	• Not selectable.	▦ (Add)
	Delete	• Not selectable.	▦ (Delete)
	Command Device...	• Not selectable.	▦ (Cmd)
	Force Reset	• Cannot be selected. (When the [View]–[LUN Status] menu cannot be selected, this menu does not exist.)	None
Port	Parameter…	• Not selectable.	▦ (Port)
	Security Switch	• Not selectable	▦ (Switch)
	CHA PCB Mode...	• Not selectable.	▦ (CHA)
LDEV	Command Device...	• Not selectable.	▦ (Cmd)
	Alternate	• Refers to LUN information from LDEV.	None
LUSE	LU Size Expansion	• Activates the LU Size Expansion window.	▦ (LUSE)

(2) CHA Window
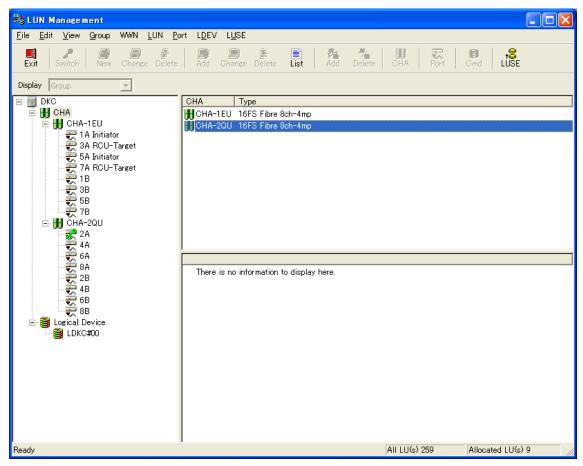
Fig. 3.10-2 CHA Window

When "CHA" in the tree view is selected (CL), installed CHA PCB's supported by this function are displayed in the upper right list.

Table 3.10-3 Details of CHA Window

Item	Description
Upper list	Displays installed CHA PCB's supported by this function. Displayed items: PCB name, Host Interface Type
	Provided with a sorting function.
Lower list	Displays nothing.

(3) Port Window
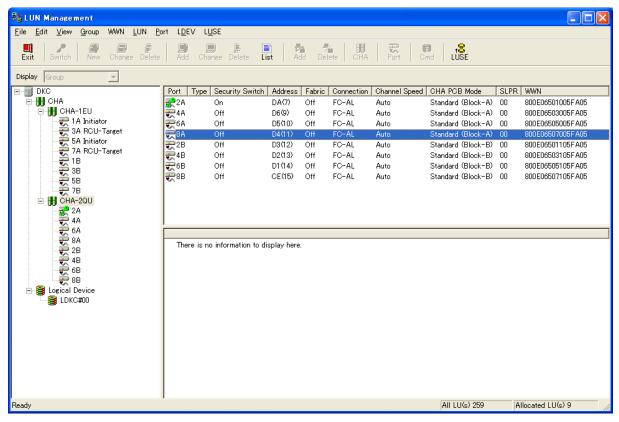
Fig. 3.10-3 Port Window

When "CHA locations" in the tree view is selected (CL), installed ports information supported by this function are displayed in the upper right list.

Table 3.10-4 Details of Port Window

Item	Description
Upper list	Displays installed ports supported by this function. Displayed items: Port name, type (Initiator, RCU target, External, or none:Target), AL-PA, Security Switch, fabric, connection type, and channel speed, Operate mode (Standard mode: Standard / High Speed mode: High Speed / MIX mode: MIX), SLPR number, WWN
	Provided with a sorting function.
Lower list	Displays no item.

(4) Group Window
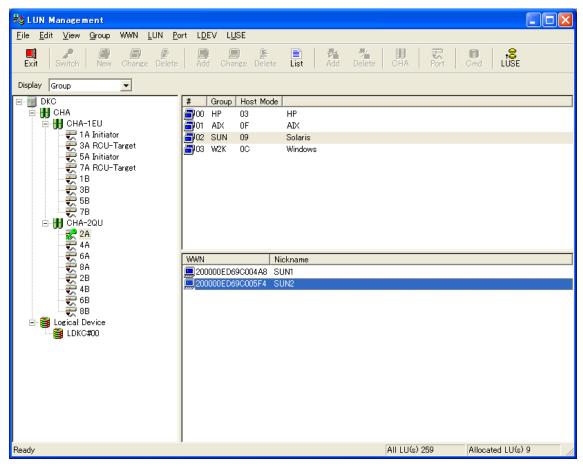
Fig. 3.10-4 Group Window

When "Port" in the tree view is selected, "Group" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed.

Table 3.10-5 Details of Group Window

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Displayed items: Group number, group name, and host mode (setting)
	Provided with a sorting function.
Lower list	Displays details of a group that has been selected from the upper list. Displayed items: WWN (16 hexadecimal digits) and nickname (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	Provided with a sorting function.

(5) LUN Window
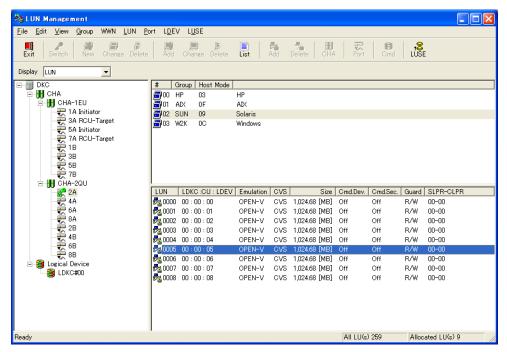

Fig. 3.10-5 LUN Window

When "Port" in the tree view is selected, "LUN" is set on the Display. Displays the group setting in the port that has been selected in the upper right list. In the lower right list, details of a group that has been selected from the upper right list are displayed

Table 3.10-6 Details of LUN Window

Item	Description
Upper list	Displays groups connected with the port that has been selected from the tree. Displayed items: Group number, group name, and host mode(setting)
	Provided with a sorting function.
Lower list	Displays LUN's defined as being contained in the group that has been selected from the upper list. Displayed items: LUN (four hexadecimal digits), LDKC:CU: LDEV number, emulation type (number of connectable in decimal), size (in Mbytes/Gbytes), and Cmd.Dev. ('On*' shows the remote command device), Cmd.Sec, and guard attribute, SLPR number – CLPR number. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.)
	(Note) The following symbols may be added to LDKC:CU:LDEV #. Each meaning is shown. '+' : One LUN is set in other host groups. '++' : Two or more LUNs are set in other host groups. '#' : An external volume is shown. 'V' : A virtual volume for Copy-on-Write Snapshot is shown. 'X' : A Dynamic Provisioning volume is shown.
	Provided with a sorting function.

(5-1) LUN Status Window
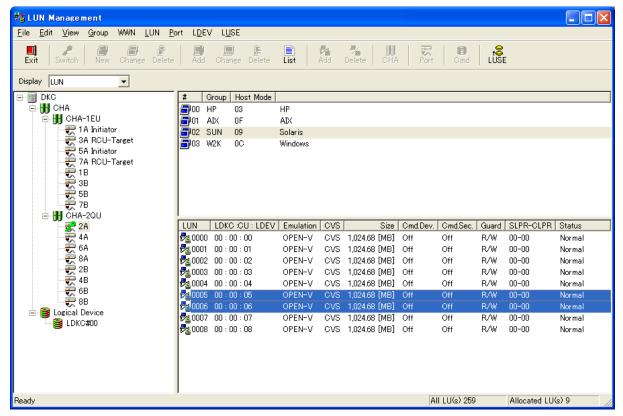
Fig.3.10-5.1 LUN Status Window

If you select LUN Status from View in the LUN Management panel, the LUN status will be
displayed in the LUN list in the panel.
The following statuses are displayed in the list (Multiple statuses may be displayed).
By selecting LUN Status from View again, you can obtain the information again.

Table 3.10-6-1 LUN Status List

Status	Explanation
Normal	Normal device
BLK	It is not ready due to blockade.
OPR	It is reserved by the normal Open Reserve command.
KEY	Persistent Group Reserve key is set.
PGR	It is reserved by the Persistent Group Reserve command.
MFR	It is reserved by Mainframe.
H35R	It is reserved from the H3500 server.
ACA	It is in the ACA ACTIVE status.

(6) Logical Device Window
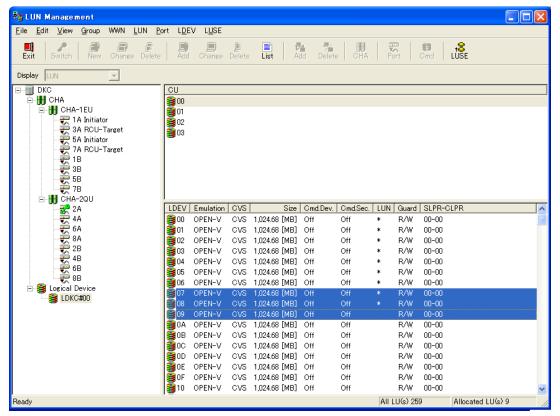
Fig. 3.10-6 Logical Device Window

When "Logical Device-LDKC#00" in the tree view is selected (CL), CU numbers of installed LDEV's supported by this function are displayed in the upper right list. In the lower right list, details of a CU selected from the upper right list are displayed.

Table 3.10-7 Details of Logical Device Window

| Item	Description
Upper list	Displays CU numbers of installed LDEV's supported by this function. Displayed items: CU number (two hexadecimal digits)
	Provided with a sorting function.
Lower list	Displays details of a CU selected from the upper list. Displayed items: LDEV number (two hexadecimal digits), emulation type (number of connectable in decimal), CVS, size(in Mbytes/Gbytes), Cmd.Dev. ('On*' shows the remote command device), Cmd.Sec., definition of LUN (Defined: "*", Not defined: No indication), and guard attribute, SLPR number – CLPR number. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected. (Note) The following symbols may be added to LDEV #. Each meaning is shown. '#' : An external volume is shown. 'V' : A virtual volume for Copy-on-Write Snapshot is shown. 'X' : A Dynamic Provisioning volume is shown.
	Provide with a sorting function.

(7) The host's WWN list windows linked to DKC

Fig. 3.10-7   Main Window
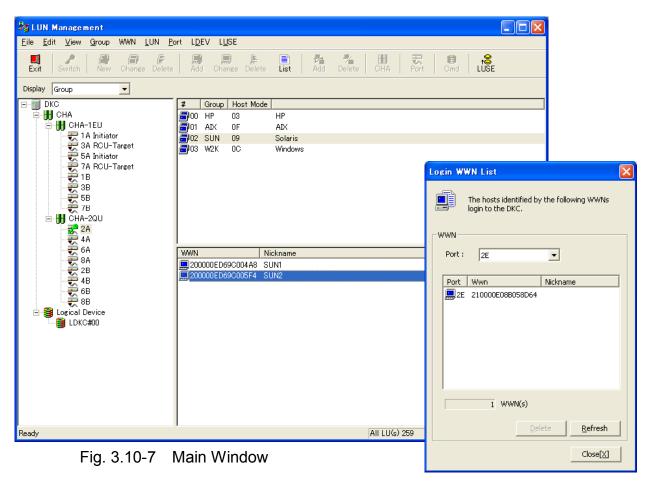
Fig. 3.10-8   Login WWN List Window

Select (DR) [Login List] form the [WWN] menu in the Main Window (Fig. 3.10-7), Login WWN List Window (Fig. 3.10-8) is displayed.

Table 3.10-8 Details Login WWN List window

Item	Description
Port	Specifies a port concerning the WWN to be displayed in the list. When "All Port" is selected, all WWNs in the list are displayed.
List	Displays a WWN list.
Delete button	Not selectable.
Refresh button	Not selectable.
Close button	Returns you the Main window.

(8) LUSE Window

Fig. 3.10-9   Main Window

Fig. 3.10-10   LU Size Expansion Define Window

A reference of an LUSE is to be done in the following procedure.
Select (DR) [LU Size Expansion …] from the [LUSE] menu in the main window (Fig. 3.10-9).
Detail of the 'LU Size Expansion Define' window (Fig. 3.10-10) is shown below.

Table 3.10-9 Detail and Operation of LU Size Expansion Define Window

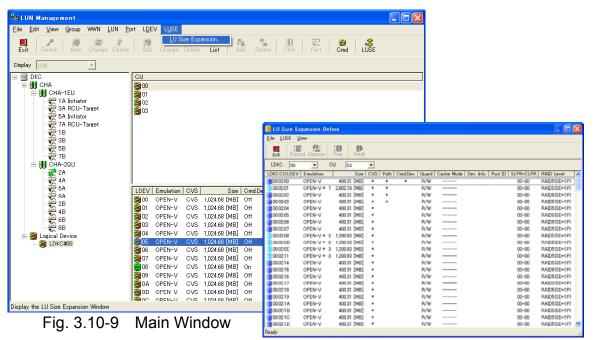| Item	Description
LDKC list	A list of LDKCs having LUs to be used for an LUSE.
CU list	A list of CUs having LUs to be used for an LUSE.
LU list	A list showing statuses of LUSEs made under the CU selected from the CU list Menu items and their functions are shown below. Displayed items: LUN, LDKC:CU:LDEV number, emulation type (number of connectable in decimal), size (in Mbytes/Gbytes), CVS, Path(Exists:*/Exists paths defined Host Mode OC.), Cmd.Dev., Cmd.Sec., guard attribute, Cache Mode, Dev. Info, Pool ID, SLPR number – CLPR number and RAID Level, Protection Level. Note1: The following symbols may be added to LDKC:CU:LDEV #. Each meaning is shown. '#' : An external volume is shown. 'V' : A virtual volume for Copy-on-Write Snapshot is shown. 'X' : A Dynamic Provisioning volume is shown. Note2: The following character strings are added to Protection level. SATA-W/V : Write & Verify method of SATA drives. SATA-E : Enhanced method of SATA drives. Standard : FC drives/SSD drives/external volumes/virtual volumes. (See THEORY OF OPERATION SECTION.)
Exit button	Closes the window.
Expand button	Not selectable.
Disperse button	Not selectable.
Free button	Not selectable.
Detail button	Refers to status of connection of LUSEs.

(9) Refers to status of connection of LUSEs

Fig. 3.10-11   LU Size
Expansion Define Window
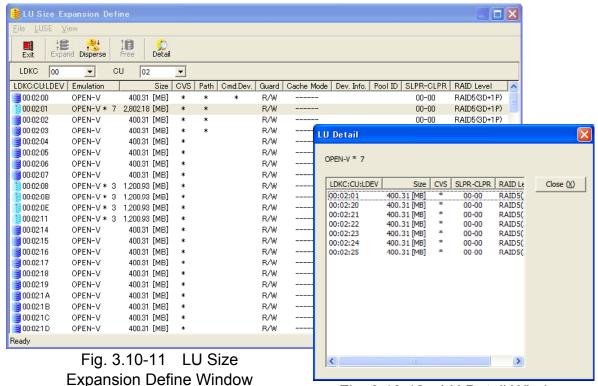
Fig. 3.10-12   LU Detail Window

Reference to a connection status of an LUSE is done in the following procedure.
Select an LUSE, whose connection status is to be referred to, in the 'LU Size Expansion Define'
window and select (DR) [Detail …] from the [LUSE] menu.
Since the 'LU Detail' window (Fig. 3.10-12) is displayed, refer to a status of the LU connection.
Detail of the 'LU Detail' window (Fig. 3.10-12) is shown below.

Table 3.10-10 Detail and Operation of LU Detail Window

Item	Description
LU list	Displays a status of the LU connection. Displayed items: LDKC:CU:LDEV number, size (in Mbytes/Gbytes), CVS, SLPR number – CLPR number and RAID Level, Protection Level.
Close button	Close the window.

3.11 CM/SM Path

(1) The window for displaying a path status of each PCB

CHA/DKA (Button) Location names are displayed under this button. When this button is pressed, the path statuses in the list are sorted using the CHA/DKA location name as a key word.

CSW (Button) ------- Location names are displayed under this button. When this button is pressed, the path statuses in the list are sorted using the CSW location name as a key word.

CM/SM (Button) ---- Location names are displayed under this button. When this button is pressed, the path statuses in the list are sorted using the CM/SM location name as a key word.

Status ----------------- A status of each path is displayed.

            Normal   : A status in which a path concerned is normal

            Warning : A status in which a failure occurred in a path concerned

Total ------------------ Total number of paths that can be displayed

Status (Check box)--

            Warning : Specifies display of failed paths and displays number of the failed paths.

            Normal   : Specifies display of normal paths and displays number of normal paths.

PCB (Check box) ---

            CHA   : Specifies display of paths connected to the CHA.

            DKA   : Specifies display of paths connected to the DKA.

            Cache Memory   : Specifies display of paths connected to the cache memory.

            Shared Memory : Specifies display of paths connected to the shared memory.

Detail (Button)------- Displays detailed path status.

Close (Button) ------- Terminates the display.

(2) Detailed path status display window

```
CM/SM Access Logical Path Status                                    ☒
   Detail Path Status
   CHP/DKP      CSW       CM/SM            Status       Total      8
   CHP00-1P              SM side-A    0    Normal      ┌Status─────────
   CHP00-1P              SM side-A    1    Normal      │ ☑ Blockade   0
   CHP01-1P              SM side-A    0    Normal      │ ☑ Normal     8
   CHP01-1P              SM side-A    1    Normal
   CHP02-1P              SM side-A    0    Normal
   CHP02-1P              SM side-A    1    Normal
   CHP03-1P              SM side-A    0    Normal
   CHP03-1P              SM side-A    1    Normal

                                                          Close
```

CHP/DKP ------------ Location names are
                      displayed in this
                      column.
CSW ----------------- Location names are
                      displayed in this
                      column.
CM/SM -------------- Location names are
                      displayed in this column.
Status ----------------- Status of each path is displayed.
                      Normal   : Status in which a path concerned is normal
                      Blockade : Status in which a path concerned is blocked
Total ------------------ Total number of paths that can be displayed
Status (Check box)--
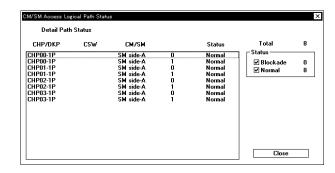   Blockade : Specifies display of blocked paths and displays number of the
                                 blocked paths.
                      Normal   : Specifies display of normal paths and displays number of the
                                 normal paths.
Close (Button) ------- Terminates the display.

3.12 Error or Failure Status Action

When an error status of, Warning, Failure, or other is displayed on the screen and any action is required, locate the part in error and follow the instructions according to the action code (ACC). The ACC can be obtained by executing the SSB log or the SIM log displayed function of the SVP.