SVP SECTION

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1 How to Operate the SVP (PC)

This manual describes how to operate the SVP (PC) with a touchpad.

1.1 How to use a touchpad

Not Used

①

Not Used

②

Not Used

① : Touchpad
  Trace this device to move the pointer to a desired position.
② : Button
  Pressing this button selects an item on which the pointer is placed.
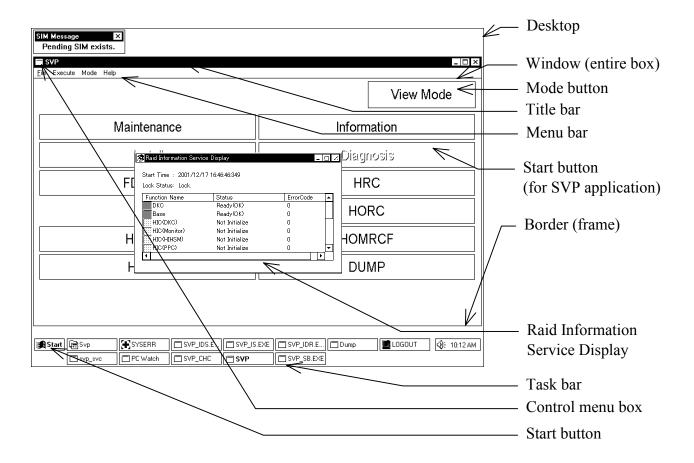
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1.2 Windows Screen Component Nomenclature

Either of the following windows is displayed.

Note 1: Each SVP screen on this maintenance manual is a sample, and it may not be the same as the actual screen.

Note 2: Raid Information Service Display shows a status of the service being done by the Web Console.
When Lock Status on this screen is Lock, you cannot perform maintenance from SVP. (You can change to Modify mode.)
Wait until Lock Status becomes Unlock. If you do not use Web Console from SVP or a remote machine, errors on this screen do not effect the operation. You can perform maintenance from SVP when Lock Status is Unlock.
(When an error occurs, retry process runs periodically, and Lock Status becomes Lock Status periodically.)
For farther details, refer to the section, "Web Console".

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1.3 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 button the touchpad.
(DC) Double-click: Click the button the touchpad twice in rapid succession.
(DR) Drag: To hold down the button above the touchpad while you trace the touchpad 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 touchpad. Then click the button the touchpad twice in rapid succession.
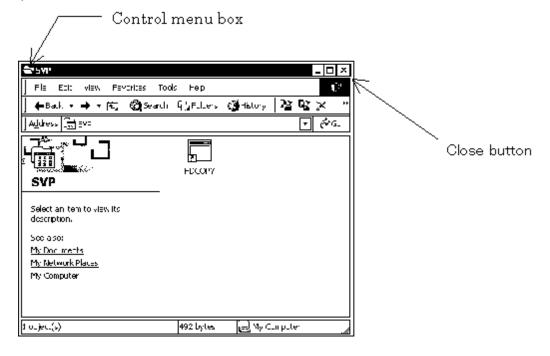
(2) Close
"Close" means to close the aplication window.
(Double-click the control menu box of the window or click the close button for Windows 95.)
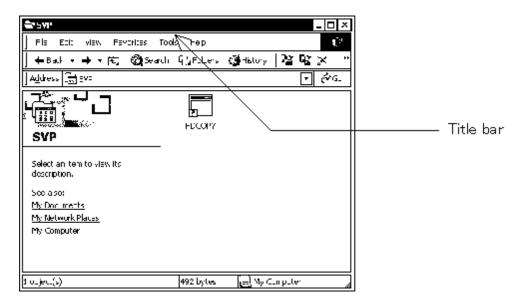
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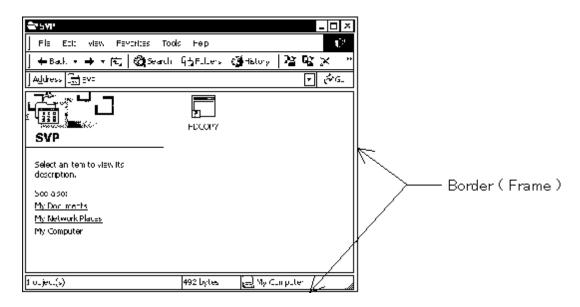
(3) Moving the Window
Move the pointer to the title bar with the trackball.
While pressing the button, move the window with the trackball or touchpad (DR) to a desired position and release the button.

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 (or ESC) until your desired window title is displayed, and release the ALT key.

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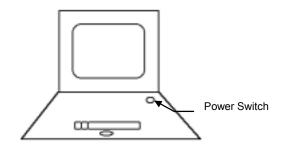
Usually, SVP starts automatically at the breakers-ON.
If some problems occurred (and you must start SVP), follow the procedures below (to start SVP).

(1) Power On SVP
 a. Press Power Switch on the SVP keyboard.
 b. Watch messages displayed on the SVP screen.
    If following messages are displayed, go to (2).
    If not, power off (press Power Switch)
    and on SVP to retry. (*1)
    If no message appears after retrying twice, re-
    install the SVP OS using the SVP image CD.
    Then install the latest micro code.
    If it still does not recover, replace the SVP.

Power Switch

[Message]
    Starting Windows…
    (Some other messages)

(2) Windows Start (SVP Start)
 a. Wait a few minutes until Windows system starts.
 b. Read the messages displayed on the SVP screen. (Go to SVPMSG section)
    Otherwise, power off (press Power Switch) and on SVP to retry. (*1)
    If no message appears after retrying twice, replace SVP.
    [End of Power On]

   *1: If you press only Power Switch on the SVP keyboard when SVP and Windows system
       are active, these systems will be frozen.
       You should be sure to press Power Switch to power off SVP.

   *2: 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.

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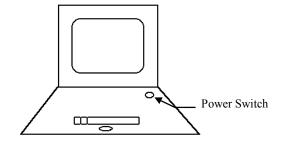
Blank Sheet

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1.5 Power Off

(1) What is running?
 a. See what is displayed.
  If Windows is displayed, go to (2).

(2) Exit Windows(Stop SVP)
 a. Select (CL) "Start" button.
 b. Select (CL) "Shut Down".
 c. Select (CL) "Shut Down the computer?", and Select
  (CL) [Yes].
  [End of Power Off]

(3) Power Off SVP
 a. Press Power Switch.
  [End of Power Off]

   Note : Do not press only Power Switch key.
      Since SVP does not stop perfectly, we do not guarantee the operation of SVP after re-
      power on.
      If only Power Switch key is pressed, please power off SVP.

Power Switch

1.6 Mode

(1) View Mode
In view mode, only referring the subsystem status is allowed.
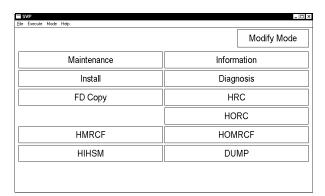
   Note: In view mode, pending SIMs (if exist) are reported to host.

SVP		
File Execute Mode Help		
		View Mode
Maintenance	Information	
Install	Diagnosis	
FD Copy	HRC	
	HORC	
HMRCF	HOMRCF	
HIHSM	DUMP	

(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.

SVP		
File Execute Mode Help		
		Modify Mode
Maintenance	Information	
Install	Diagnosis	
FD Copy	HRC	
	HORC	
HMRCF	HOMRCF	
HIHSM	DUMP	

(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.
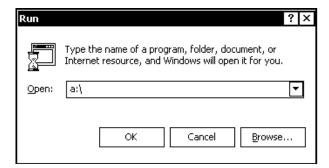
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1.7 Run

   (1) <Select [Run]>
        Select (CL) [Run...] by selecting [Start] button for the pull down menu.

   (2) <Input file name>
        Input file name in 'Open' and select (CL)
        [OK].

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1.8 How to reference the manual on CDR

Preface

The Maintenance Manual is released by CDR.
The manual is provided in the PDF (Portable Document Format). To read this manual, you must have a special reader software program in SVP.

How to install Acrobat Reader

The CDR contains the setup program of Acrobat Reader. You can use this setup program to install Acrobat Reader into SVP. To install Acrobat Reader:
(1) Insert the CDR into the drive of your PC.
(2) Use Explorer to locate the CDR drive.
(3) Double-click the "Acr\xxx.exe" to start the setup program.
(4) Follow instruction messages to install Acrobat Reader.

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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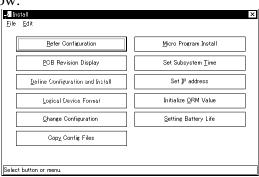
2 Function of the SVP

2.1 TOD (Time Or Date) setting
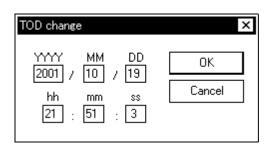
(1) Change the mode to [Modify Mode] from [View Mode] (CL).

(2) Select (CL) [Install].

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

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

```
TOD change                              [x]

YYYY      MM     DD
[2001] / [10] / [19]          [  OK  ]

 hh       mm     ss           [ Cancel ]
[21]  :  [51] : [3]
```

(5) Close the 'Install' window.

Note: If you execute the performance measurement by Performance Monitor, don't push back
the TOD.
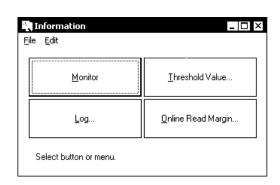
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2.2 Log indication
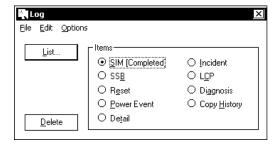
Prerequisite Operation:
(1)   Select (CL) [Information].

(2)   Select (CL) [Log...].
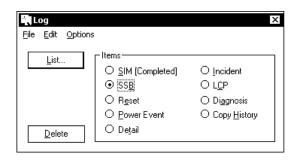
(3)   'Log' dialog box is displayed.

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[1] SSB Log

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

```
Log                                              ☒
File  Edit  Options
                    ┌Items─────────────────────────┐
    ┌─────────┐     │  ○ SIM [Completed]    ○ Incident    │
    │  List... │     │  ⊙ SSB                ○ LCP         │
    └─────────┘     │  ○ Reset              ○ Diagnosis    │
                    │  ○ Power Event        ○ Copy History │
    ┌─────────┐     │  ○ Detail                          │
    │  Delete  │     │                                    │
    └─────────┘     └────────────────────────────────────┘
```

(2) Select (CL) data to be indicated in the 'List-SSB'
dialog box and select (CL) [Content...].
Note1: 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].
Note2: 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].
Note3: In case of the log data exceeds 1000 cases
(Denominator of the total displays 1000 or more),
the log data can be displayed from new data to
1000 data out of the entry sequence on SVP.
The entry sequence sometimes differs from
occurrence order of the log.
Perform search function in order to check
occurrence order.
Note4: Please do not change an application's window
until search function finish.
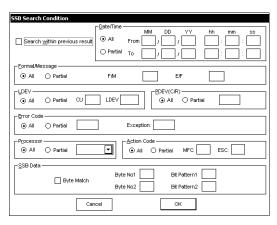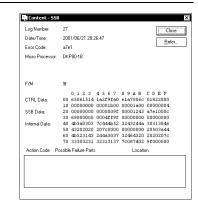
```
List - SSB                                       ☒
Total :  276/276                              ┌────────┐
Date/Time           Code  MP  CU-LDEV  F/M  E/F │ Close  │
2001/06/21 20:36:14 b440  00           9f     ▲ ├────────┤
2001/06/21 20:36:14 b440  02           9f       │ Sort... │
2001/06/21 20:36:14 001d  02   0:00    9f       ├────────┤
2001/06/21 20:36:11 b440  10           9f       │Content...│
2001/06/21 20:36:11 b440  12           9f       ├────────┤
2001/06/21 20:36:09 001d  33   0:00    9f       │Search...│
2001/06/21 20:36:09 001d  33   0:00    9f       └────────┘
2001/06/21 20:26:47 b440  00           9f
2001/06/21 20:26:47 b440  02           9f
2001/06/21 20:26:47 b440  12           9f
2001/06/21 20:26:47 b440  10           9f
2001/06/21 20:26:47 a7e1  21           9f     ▼
```

```
Sort
┌Items──────────────┐    ┌────────┐
│ ⊙ Date/Time       │    │   OK   │
│ ○ Error Code      │    └────────┘
│ ○ Micro Processor │    ┌────────┐
│ ○ Logical Device  │    │ Cancel │
│ ○ Action Code     │    └────────┘
│ ○ Format/Message  │    ┌Order────┐
│ ○ Exception/Format│    │ ⊙ Normal │
└───────────────────┘    │ ○ Reverse│
                         └─────────┘
```

```
SSB Search Condition
                              ┌Date/Time──────────────────────────┐
                              │         MM  DD  YY  hh  mm  ss     │
  ☐ Search within previous result  ⊙ All  From                     │
                              │  ○ Partial  To  /  /   :  :        │
                              └───────────────────────────────────┘
  ┌Format/Message──────────────────────────────┐
  │ ⊙ All  ○ Partial    F/M        E/F          │
  └────────────────────────────────────────────┘
  ┌LDEV──────────────────────┐ ┌PDEV(C/R)──────────┐
  │ ⊙ All  ○ Partial CU  LDEV │ │ ⊙ All  ○ Partial   │
  └──────────────────────────┘ └───────────────────┘
  ┌Error Code────────────────────────────────┐
  │ ⊙ All  ○ Partial      Exception:          │
  └──────────────────────────────────────────┘
  ┌Processor──────────────┐ ┌Action Code──────────────┐
  │ ⊙ All  ○ Partial   ▼  │ │ ⊙ All  ○ Partial MFC: ESC:│
  └───────────────────────┘ └─────────────────────────┘
  ┌SSB Data─────────────────────────────────────┐
  │            Byte No1     Bit Pattern1         │
  │ ☐ Byte Match                                 │
  │            Byte No2     Bit Pattern2         │
  └─────────────────────────────────────────────┘
           ┌────────┐         ┌────────┐
           │ Cancel │         │   OK   │
           └────────┘         └────────┘
```

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(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.
('SIM Log' 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...].

```
Log                                    ☒
File  Edit  Options

    List...        ┌Items─────────────────────┐
                   │ ⊙ SIM          ○ Incident │
                   │ ○ SSB          ○ LCP      │
                   │ ○ Reset        ○ Diagnosis│
                   │ ○ Power Event  ○ Copy History│
    Delete         │ ○ Detail                  │
                   └──────────────────────────┘
```

(2) Select (CL) data to be indicated in the 'List-SIM' dialog box and select (CL) [Content...].
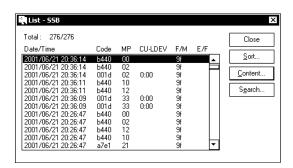Note: To sort and list items, select (CL) [Sort] first.
Then select (CL) the desired item in the [Items] and [Order] options in the 'Sort' dialog box, and select (CL) [OK].
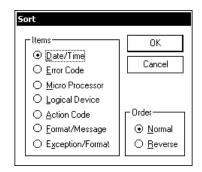
```
List - SIM                                                   ☒
Total: 25        Completed: 0                          ┌ Close ┐
Date/Time            Reference  Level     Status       ├ Sort... ┤
2001/06/21 20:26:48  ef1300     Serious   Initial      ├ Content... ┤
2001/06/21 20:26:47  3d9013     Moderate  Initial      └ Complete ┘
2001/06/21 20:26:47  3d9053     Moderate  Initial
2001/06/21 20:26:47  3d9052     Moderate  Initial
2001/06/21 20:24:00  ef1200     Serious   Initial
2001/06/21 20:24:00  ef1000     Serious   Initial
2001/06/21 20:24:00  ef1100     Serious   Initial
2001/06/21 20:23:43  3d9051     Moderate  Initial
2001/06/21 20:23:42  3d9050     Moderate  Initial
2001/06/21 20:23:42  3d9012     Moderate  Initial
2001/06/21 20:23:42  3d9011     Moderate  Initial
2001/06/21 20:23:40  3d9010     Moderate  Initial
2001/06/21 16:34:48  318001     Moderate  Initial
```

```
Sort
┌Items──────────────┐   ┌  OK    ┐
│ ⊙ Date/Time       │   └ Cancel ┘
│ ○ Reference Code  │   ┌Order─────┐
│ ○ Level           │   │ ⊙ Normal │
│ ○ Status          │   │ ○ Reverse│
└───────────────────┘   └──────────┘
```

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

Note1: 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].
Note2: If Reference Code is 73XX00 or 1400X0, perform the recovery procedure for LAN error. (see TRBL05-60.)
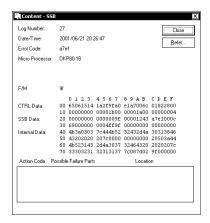
```
Content - SIM                                              ☒
Log Number:     30                           ┌ Close ┐
Date/Time:      2001/06/21 20:26:48          └ Refer ┘
Reference Code: ef1300
Error Section:  DRIVE ERROR(NORMAL R/W)
Error Detail:   DRIVE BLOCKADE(DRIVE ERROR)
Error Location: HDD-R1300
Alert Level:    Serious
Status:         Initial
                   0 1 2 3  4 5 6 7  8 9 A B  C D E F
SIM Data:       20 00000000 0000cfca 11800080 0100050c
                30 6900f41d 0000ef13 01000000 fe000000
Action Code  Possible Failure Parts            Location
10640300     HDD canister (DKR2C-J018FC )      HDD-R1300
```

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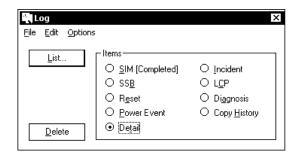
(5) The selected log is displayed.
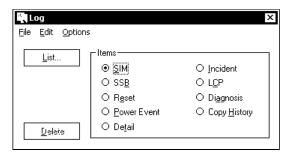('Content-SSB' is displayed in this example.)

(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.

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[3] Detail Log

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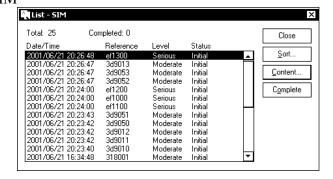Select (CL) [List...].

(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.

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[4] Reset Log

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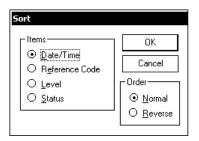Select (CL) [List...].

(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
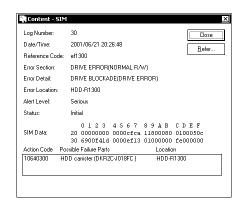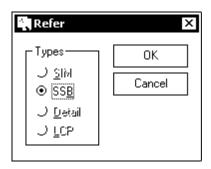Log Sort' dialog box, and select (CL)
[OK].

(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.

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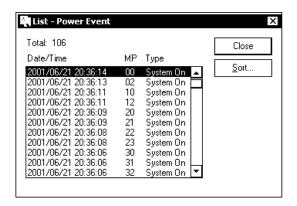
(1) Select (CL) [Power Event] in the 'Log' dialog box.
Select (CL) [List...].

Log
File Edit Options

List...

Items
- ○ SIM [Completed]   ○ Incident
- ○ SSB   ○ LCP
- ○ Reset   ○ Diagnosis
- ⊙ Power Event   ○ Copy History
- ○ Detail

Delete
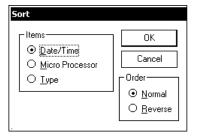
(2) The 'List-Power Event' dialog box is displayed.
Note: To sort and list items, select (CL)
[Sort] first.
Then select (CL) the desired item in the
[Items] and [Order] options in the 'Sort'
dialog box, and select (CL) [OK].

List – Power Event

Total: 106   Close

Date/Time	MP	Type
2001/06/21 20:36:14	00	System On
2001/06/21 20:36:13	02	System On
2001/06/21 20:36:11	10	System On
2001/06/21 20:36:11	12	System On
2001/06/21 20:36:09	20	System On
2001/06/21 20:36:09	21	System On
2001/06/21 20:36:08	22	System On
2001/06/21 20:36:08	23	System On
2001/06/21 20:36:06	30	System On
2001/06/21 20:36:06	31	System On
2001/06/21 20:36:06	32	System On

Sort...

Sort

Items
- ⊙ Date/Time
- ○ Micro Processor
- ○ Type

OK

Cancel

Order
- ⊙ Normal
- ○ Reverse

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

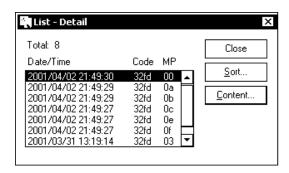| REV.0	Oct.2001					

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[6] Incident Log

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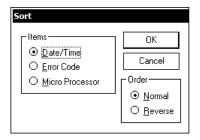Select (CL) [List...].
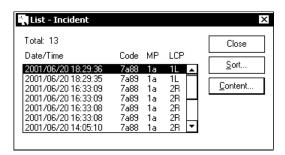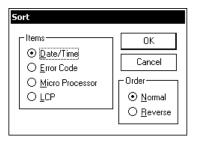
(2) Select (CL) data to be indicated in the 'List-Incident'
dialog box and select (CL) [Content...].
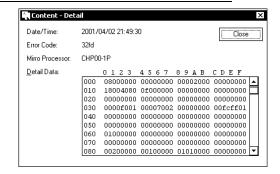Note: To sort and list items, select (CL)
[Sort] first.
Then select (CL) the desired item in the
[Items] and [Order] options in the 'Sort'
dialog box, and select (CL) [OK].
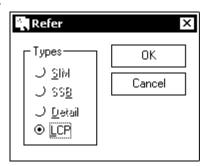
(3) The 'Content-Incident' dialog box is displayed.

(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].
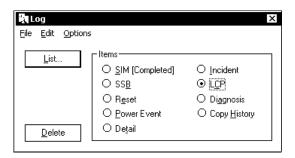
Refer

Types
- SIM
- SSB
- Detail
- ⊙ LCP

[OK]
[Cancel]

(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.

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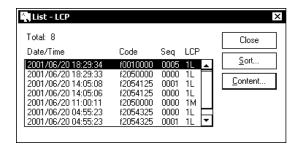
[7] LCP Log
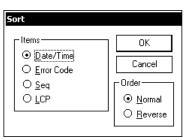
(1) Select (CL) [LCP] in the 'Log' dialog box.
    Select (CL) [List...].
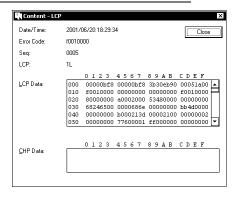
(2) Select (CL) data to be indicated in the 'List-LCP'
    dialog box and select (CL) [Content...].
    Note:To sort and list items, select (CL)
         [Sort] first.
         Then select (CL) the desired item in the
         [Items] and [Order] options in the 'Sort'
         dialog box, and select (CL) [OK].
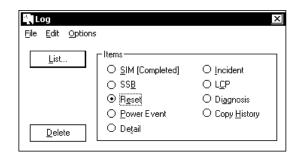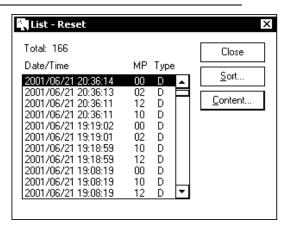
(3) The 'Content-LCP' dialog box is displayed.
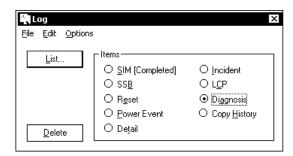
(4) Select (CL) [Close] in the 'Content-LCP' dialog box.
    Select (CL) [Close] in the 'List-LCP' dialog box.
    Close the 'Log' dialog box and close the 'Information'
    window.

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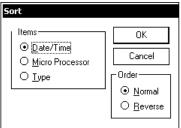SVP02-130

[8] Diagnosis Log

(1) Select (CL) [Diagnosis] in the 'Log' dialog box.
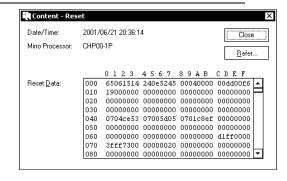   Select (CL) [List...].
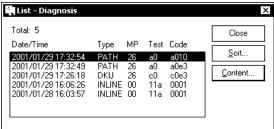
(2) Select (CL) data to be indicated in the 'List-Diagnosis'
    dialog box and select (CL) [Content...].
    Note: To sort and list items, select (CL)
        [Sort] first.
        Then select (CL) the desired item in the
        [Items] and [Order] options in the 'Sort'
        dialog box, and select (CL) [OK].
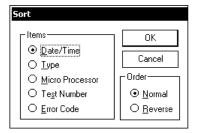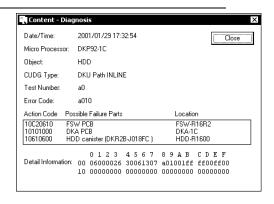
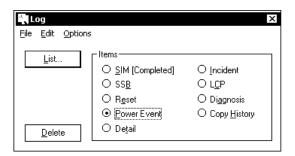(3) The 'Content-Diagnosis' dialog box is displayed.
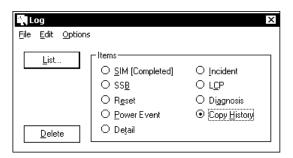
(4) Select (CL) [Close] in the 'Content-Diagnosis' dialog box.
    Select (CL) [Close] in the 'List-Diagnosis' dialog box.
    Close the 'Log' dialog box and close the 'Information'
    window.

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[9] Copy History Log

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

```
Log                                         ⊠
File  Edit  Options

   ┌─────────┐   ┌─Items──────────────────────────┐
   │  List...│   │  ○ SIM [Completed]   ○ Incident │
   └─────────┘   │  ○ SSB               ○ LCP      │
                 │  ○ Reset             ○ Diagnosis│
                 │  ○ Power Event       ⊙ Copy History│
   ┌─────────┐   │  ○ Detail                       │
   │  Delete │   └─────────────────────────────────┘
   └─────────┘
```
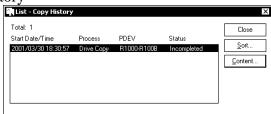
(2) Select (CL) data to be indicated in the 'List-Copy history'
dialog box and select (CL) [Content...].
Note: To sort and list items, select (CL)
[Sort] first.
Then select (CL) the desired item in the
[Items] and [Order] options in the 'Sort'
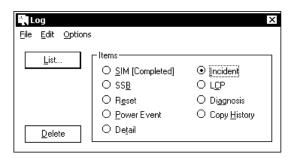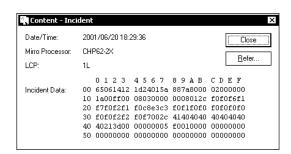dialog box, and select (CL) [OK].
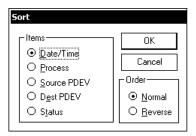
```
List - Copy History                                  ⊠
Total: 1
Start Date/Time      Process      PDEV        Status        ┌─────────┐
2001/03/30 18:30:57  Drive Copy   R1000-R100B  Incompleted  │  Close  │
                                                             └─────────┘
                                                             ┌─────────┐
                                                             │  Sort...│
                                                             └─────────┘
                                                             ┌─────────┐
                                                             │Content..│
                                                             └─────────┘
```

```
Sort
   ┌─Items──────────┐    ┌─────────┐
   │ ⊙ Date/Time    │    │   OK    │
   │ ○ Process      │    └─────────┘
   │ ○ Source PDEV  │    ┌─────────┐
   │ ○ Dest PDEV    │    │ Cancel  │
   │ ○ Status       │    └─────────┘
   └────────────────┘    ┌─Order───┐
                         │ ⊙ Normal│
                         │ ○ Reverse│
                         └─────────┘
```

(3) The 'Content-Copy History' dialog box is displayed.

```
Content - Copy History                               ⊠
Date/Time:    From   2001/03/30 18:30:57    ┌─────────┐
                                            │  Close  │
              To     2013/10/07 23:25:14    └─────────┘
Process:      Drive Copy
Factor:       SVP
PDEV:         From   R1000
              To     R100B
Status:       Incompleted
```

(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.

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[10] MP# - Location correspondence table

Multi Cabinet Model

| Location				MP#	Location				MP#
CHA	Cluster1	CHA-1P	CHP00-1P	00	DKA	Cluster1	DKA-1B	DKP80-1B	20
			CHP01-1P	01				DKP81-1B	21
			CHP02-1P	02				DKP82-1B	22
			CHP03-1P	03				DKP83-1B	23
		CHA-1Q	CHP10-1Q	04			DKA-1C	DKP90-1C	24
			CHP11-1Q	05				DKP91-1C	25
			CHP12-1Q	06				DKP92-1C	26
			CHP13-1Q	07				DKP93-1C	27
		CHA-1R	CHP20-1R	08			DKA-1D	DKPA0-1D	28
			CHP21-1R	09				DKPA1-1D	29
			CHP22-1R	0a				DKPA2-1D	2a
			CHP23-1R	0b				DKPA3-1D	2b
		CHA-1S	CHP30-1S	0c			DKA-1E	DKPB0-1E	2c
			CHP31-1S	0d				DKPB1-1E	2d
			CHP32-1S	0e				DKPB2-1E	2e
			CHP33-1S	0f				DKPB3-1E	2f
	Cluster2	CHA-2V	CHP40-2V	10		Cluster2	DKA-2H	DKPC0-2H	30
			CHP41-2V	11				DKPC1-2H	31
			CHP42-2V	12				DKPC2-2H	32
			CHP43-2V	13				DKPC3-2H	33
		CHA-2W	CHP50-2W	14			DKA-2J	DKPD0-2J	34
			CHP51-2W	15				DKPD1-2J	35
			CHP52-2W	16				DKPD2-2J	36
			CHP53-2W	17				DKPD3-2J	37
		CHA-2X	CHP60-2X	18			DKA-2K	DKPE0-2K	38
			CHP61-2X	19				DKPE1-2K	39
			CHP62-2X	1a				DKPE2-2K	3a
			CHP63-2X	1b				DKPE3-2K	3b
		CHA-2Y	CHP70-2Y	1c			DKA-2L	DKPF0-2L	3c
			CHP71-2Y	1d				DKPF1-2L	3d
			CHP72-2Y	1e				DKPF2-2L	3e
			CHP73-2Y	1f				DKPF3-2L	3f

Single Cabinet Model
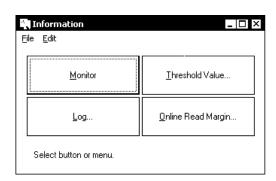
Location				MP#	Location				MP#
CHA	Cluster1	CHA-1C	CHP00-1C	00	DKA	Cluster1	DKA-1B	DKA80-1B	20
			CHP01-1C	01				DKA81-1B	21
			CHP02-1C	02				DKA82-1B	22
			CHP03-1C	03				DKA83-1B	23
		CHA-1D	CHP10-1D	04			DKA-1F	DKA90-1F	24
			CHP11-1D	05				DKA91-1F	25
			CHP12-1D	06				DKA92-1F	26
			CHP13-1D	07				DKA93-1F	27
		CHA-1F	CHP20-1F	08		Cluster2	DKA-2L	DKPC0-2L	30
			CHP21-1F	09				DKPC1-2L	31
			CHP22-1F	0a				DKPC2-2L	32
			CHP23-1F	0b				DKPC3-2L	33
	Cluster2	CHA-2G	CHP40-2G	10			DKA-2K	DKPD0-2K	34
			CHP41-2G	11				DKPD1-2K	35
			CHP42-2G	12				DKPD2-2K	36
			CHP43-2G	13				DKPD3-2K	37
		CHA-2J	CHP50-2J	14					
			CHP51-2J	15					
			CHP52-2J	16					
			CHP53-2J	17					
		CHA-2K	CHP60-2K	18					
			CHP61-2K	19					
			CHP62-2K	1a					
			CHP63-2K	1b					

REV.2	Oct.2001	Feb.2002	Jun.2002			

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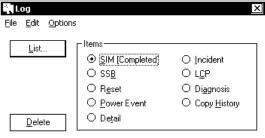
[1] SSB Log
[2] SIM Log
[3] Detail Log
[4] Reset Log
[5] Power Event Log
[6] Incident Log
[7] LCP/MCP Log
[8] Diagnosis Log
[9] Copy History Log

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

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

(3) In the Log dialog box, select (CL) an item to be deleted.
Select (CL) [Delete].

Log

File Edit Options

List...

Items
- ⦿ SIM [Completed]   ○ Incident
- ○ SSB   ○ LCP
- ○ Reset   ○ Diagnosis
- ○ Power Event   ○ Copy History
- ○ Detail

Delete

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

Delete

(?) [INF2802i]

The specified log file will be deleted.
Are you sure you want to delete it?

Yes   No

(5) Close the 'Log' dialog box and close the
'Information' window.

REV.0	Oct.2001						

2.4 Monitoring

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

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

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[1] Displaying a graph for items

(1) Select (CL) [Start...].

(2) Select (CL) [Interval] , [File Output] , and [Item] in the
     'Monitoring' dialog box and select (CL) [OK].
     Note 1 : "Interval" indicates a time interval from 5 to3600 at
              which samples are taken.
     Note 2 : Up to three items can be selected in the "Item" list
              box. The selectable values are:

Processor Operation	: Operation ratio of the processor
Cache Used	: Use ratio of the cache
Write Pending Data	: Write pending data ratio
Sidefile	: Sidefile ratio of the subsystem
Async Write Pending Data	: Async write pending data ratio
Read Hit Rate	: Read hit ratio of the subsystem
CHA SM Access Path	: Use ratio of the CHA - SM Access Path.
DKA SM Access Path	: Use ratio of the DKA - SM Access Path.
CHA CM Access Path	: Use ratio of the CHA - CM Access Path.
DKA CM Access Path	: Use ratio of the DKA - CM Access Path.
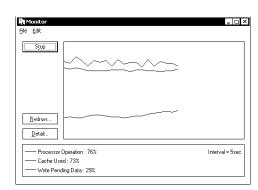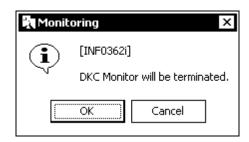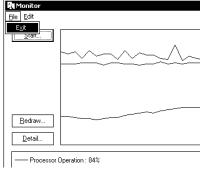
(3) After a few minutes, a graph is displayed for the
     item selected in step (2).

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(4) When [Stop] is selected (CL) during the display of the
graph, displaying is interrupted.
If [OK] is selected (CL) in the 'Monitoring' dialog box,
displaying is stopped.

(5) Select (CL) the [File] menu in the 'Monitor' dialog box and select
(DR) [Exit].

(6) Close the 'Monitor' dialog box and close the 'Information' window.

| REV.1 | Oct.2001 | Feb.2002 | | | | |

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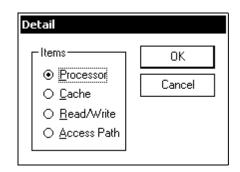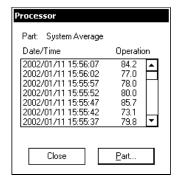
[2] Displaying the operation ratio of the processor

(1) Display a graph (see steps listed above).
Select (CL) [Processor Operation] in the "Item" list box.

If [Detail...] is selected (CL) in 'Monitor', 'Detail' will be displayed select (CL). [[Processor...] in 'Detail' and select (CL) [OK].

```
┌─ Detail ──────────────────────────┐
│ ┌─ Items ──────┐    ┌──────────┐   │
│ │ ⊙ Processor  │    │   OK     │   │
│ │ ○ Cache      │    └──────────┘   │
│ │ ○ Read/Write │    ┌──────────┐   │
│ │ ○ Access Path│    │  Cancel  │   │
│ └──────────────┘    └──────────┘   │
└────────────────────────────────────┘
```

(2) Select (CL) [Part...] in the 'Processor' dialog box.

```
┌─ Processor ──────────────────────┐
│ Part:   System Average           │
│                                  │
│ Date/Time            Operation   │
│ 2002/01/11 15:56:07    84.2   ▲  │
│ 2002/01/11 15:56:02    77.0      │
│ 2002/01/11 15:55:57    78.0      │
│ 2002/01/11 15:55:52    80.0      │
│ 2002/01/11 15:55:47    85.7      │
│ 2002/01/11 15:55:42    73.1      │
│ 2002/01/11 15:55:37    79.8   ▼  │
│                                  │
│   ┌─ Close ─┐     ┌─ Part... ─┐  │
└──────────────────────────────────┘
```
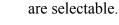
(3) Select (DR) the contents of "Parts" in the 'Part' dialog box and select (CL) [OK].
Note: In the Parts list box, the following values are selectable.

```
┌─ Part ───────────────────────────┐
│                     ┌──────────┐  │
│ ┌─System Average ▼┐ │   OK     │  │
│ └─────────────────┘ └──────────┘  │
│                     ┌──────────┐  │
│                     │  Cancel  │  │
│                     └──────────┘  │
└───────────────────────────────────┘
```

System Average   : Average in the system
CHP (CHT) Average : Average for the CHP[CHT]
CHP (CHA) Average : Average for the CHP[CHA]
CHP (CHN) Average : Average for the CHP[CHN]
DKP (DKF) Average : Average for the DKP
CHP00-1P   : Average for a particular processor
   •
   •
   •

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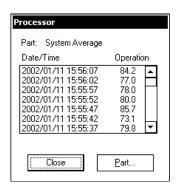
(4) Select (CL) [Close] in the 'Processor' dialog box.

Processor

Part: System Average

Date/Time	Operation
2002/01/11 15:56:07	84.2
2002/01/11 15:56:02	77.0
2002/01/11 15:55:57	78.0
2002/01/11 15:55:52	80.0
2002/01/11 15:55:47	85.7
2002/01/11 15:55:42	73.1
2002/01/11 15:55:37	79.8

[Close]   [Part...]
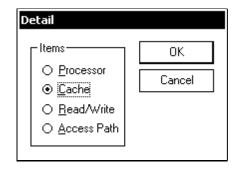
(5) Close the 'Monitor' dialog box and close the 'Information' window.
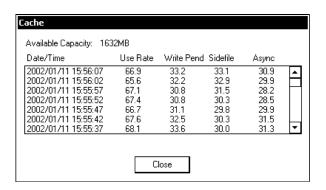
REV.1	Oct.2001	Feb.2002				

[3] Displaying the use ratio of the cache and the write pending data ratio in a tabular form.

(1) Display a graph (see section [1] (SVP02-200) above).
     Select (CL) [Write Pending Data], [Cache Used] or [Sidefile] in the "Item" list box.
     Select (CL) [Detail...] in the 'Monitor'. Select (CL) [Cache] in the 'Detail' and select (CL) [OK].

Detail

Items
- ○ Processor
- ⊙ Cache
- ○ Read/Write
- ○ Access Path

OK

Cancel
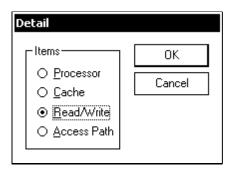
(2) Select (CL) [Close] in the 'Cache' dialog box.

Cache

Available Capacity: 1632MB

Date/Time	Use Rate	Write Pend	Sidefile	Async
2002/01/11 15:56:07	66.9	33.2	33.1	30.9
2002/01/11 15:56:02	65.6	32.2	32.9	29.9
2002/01/11 15:55:57	67.1	30.8	31.5	28.2
2002/01/11 15:55:52	67.4	30.8	30.3	28.5
2002/01/11 15:55:47	66.7	31.1	29.8	29.9
2002/01/11 15:55:42	67.6	32.5	30.3	31.5
2002/01/11 15:55:37	68.1	33.6	30.0	31.3

Close

(3) Close the 'Monitor' dialog box and close the 'Information' window.

REV.1	Oct.2001	Feb.2002				
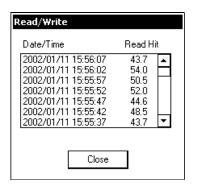
[4] Displaying the read hit ratio in a tabular form

(1) Display a graph by executing steps (1) to (3) in
"[1] Displaying a graph for items" in advance.
In step (2), select (CL) [Read Hit Rate] in the "Item"
list box.
Select (CL) [Detail...] in the 'Monitor'. Select (CL)
[Read/Write] in the 'Detail' and select (CL) [OK].

Detail

Items
- ○ Processor
- ○ Cache
- ⊙ Read/Write
- ○ Access Path

OK

Cancel
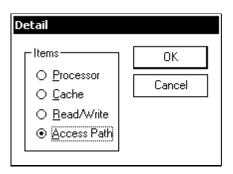
(2) Select (CL) [Close] in the 'Read/Write' dialog box.

Read/Write

Date/Time	Read Hit
2002/01/11 15:56:07	43.7
2002/01/11 15:56:02	54.0
2002/01/11 15:55:57	50.5
2002/01/11 15:55:52	52.0
2002/01/11 15:55:47	44.6
2002/01/11 15:55:42	48.5
2002/01/11 15:55:37	43.7

Close

(3) Close the 'Monitor' window and close the 'Information' window.

REV.1	Oct.2001	Feb.2002				
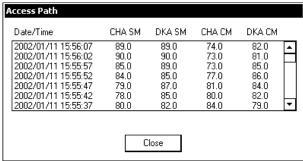
[5] Displaying the use ratio of the Access Path in a tabular form

(1) Display a graph by executing steps (1) to (3) in
"[1] Displaying a graph for items" in advance.
Select (CL) [Detail...] in the 'Monitor'. Select (CL)
[Access Path] in the 'Detail' and select (CL) [OK].

Detail

Items
○ Processor
○ Cache
○ Read/Write
⊙ Access Path

OK

Cancel

(2) Select (CL) [OK] in the 'Access Path' dialog box.

Access Path

Date/Time	CHA SM	DKA SM	CHA CM	DKA CM
2002/01/11 15:56:07	89.0	89.0	74.0	82.0
2002/01/11 15:56:02	90.0	90.0	73.0	81.0
2002/01/11 15:55:57	85.0	89.0	73.0	85.0
2002/01/11 15:55:52	84.0	85.0	77.0	86.0
2002/01/11 15:55:47	79.0	87.0	81.0	84.0
2002/01/11 15:55:42	78.0	85.0	80.0	82.0
2002/01/11 15:55:37	80.0	82.0	84.0	79.0

Close

(3) Close the 'Monitor' window and close the 'Information' window.

REV.1	Oct.2001	Feb.2002				
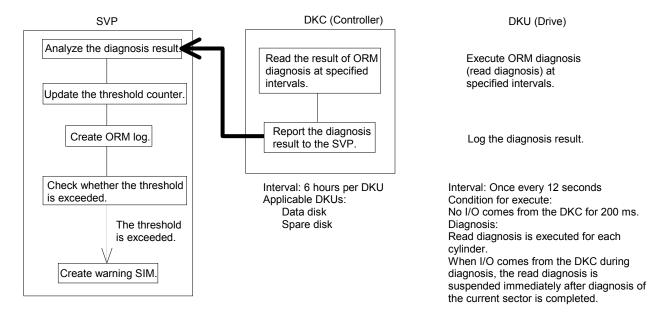
2.5 Online read margin (ORM)

[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                          DKC (Controller)                    DKU (Drive)

 ┌──────────────────────────┐      ┌────────────────────────────┐
 │ Analyze the diagnosis    │◄─────┐    ┌────────────────────┐   Execute ORM diagnosis
 │ result.                  │      │    │ Read the result of │   (read diagnosis) at
 └──────────────────────────┘      │    │ ORM diagnosis at   │   specified intervals.
              │                    │    │ specified          │
 ┌──────────────────────────┐      │    │ intervals.         │
 │ Update the threshold     │      │    └────────────────────┘
 │ counter.                 │      │              │
 └──────────────────────────┘      │    ┌────────────────────┐
              │                    │    │ Report the         │   Log the diagnosis result.
 ┌──────────────────────────┐      └────│ diagnosis result   │
 │ Create ORM log.          │           │ to the SVP.        │
 └──────────────────────────┘           └────────────────────┘
              │
 ┌──────────────────────────┐      Interval: 6 hours per DKU    Interval: Once every 12 seconds
 │ Check whether the        │      Applicable DKUs:             Condition for execute:
 │ threshold is exceeded.   │          Data disk               No I/O comes from the DKC for 200 ms.
 └──────────────────────────┘          Spare disk              Diagnosis:
              ┆ The threshold                                   Read diagnosis is executed for each
              ┆ is exceeded.                                    cylinder.
              ▼                                                 When I/O comes from the DKC during
 ┌──────────────────────────┐                                   diagnosis, the read diagnosis is
 │ Create warning SIM.      │                                   suspended immediately after diagnosis of
 └──────────────────────────┘                                   the current sector is completed.
```

The SVP classifies the errors into six types in the Over Rate Counter Display. 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.

ORM SIM and Reference Code

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

REV.1	Oct.2001	Oct.2003				

(1)   Check SVP Mode.
The Following operation needs SVP Mode to be 'Modify'. (See SVP01-80)
[2] Resetting an error count
[4] Altering a threshold
[6] Resetting thresholds
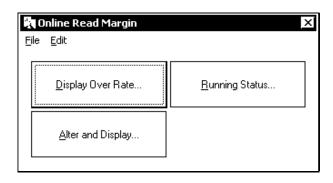
(2)   Select (CL) the [Information] in the 'SVP' window.

(3)   Select (CL) [Online Read Margin...] in the
'Information' window.

Information

File   Edit

| Monitor | Threshold Value... |
| Log... | Online Read Margin... |

Select button or menu.

| REV.1 | Oct.2001 | Aug.2002 | | | | |

SVP02-280

[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.

(Multi Cabinet Model)

(Single Cabinet Model)

REV.1	Oct.2001	Jun.2002				
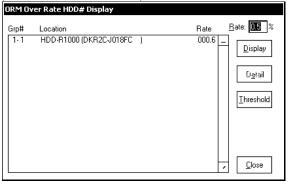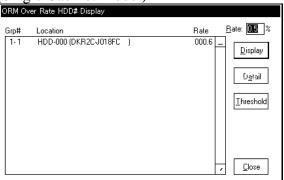
(3) When more detailed information is needed for the particular drive, select (CL) the HDD from the "HDD Location" list box.
Select (CL) [Detail].

(Multi Cabinet Model)

ORM Over Rate HDD# Display

Grp#	Location	Rate	Rate: 0.5 %
1-1	HDD-R1000 (DKR2C-J018FC)	000.6	

Display

Detail

Threshold

Close

(Single Cabinet Model)

ORM Over Rate HDD# Display

Grp#	Location	Rate	Rate: 0.5 %
1-1	HDD-000 (DKR2C-J018FC)	000.6	

Display

Detail

Threshold

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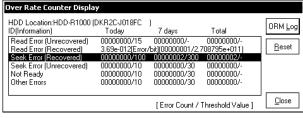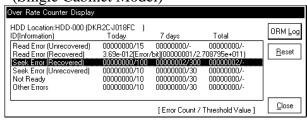
(4) In the 'Over Rate Counter Display' dialog box, select (CL) the error for which detailed log is to be displayed from the "ID" list box. Select (CL) [ORM LOG].

(Multi Cabinet Model)

Over Rate Counter Display

HDD Location:HDD-R1000 (DKR2C-J018FC)

ID(Information)	Today	7 days	Total	
Read Error (Unrecovered)	00000000/15	00000000/-	00000000/-	ORM Log
Read Error (Recovered)	3.69e-012[Error/bit](00000001/2.708795e+011)			Reset
Seek Error (Recovered)	00000000/100	00000002/300	00000002/-	
Seek Error (Unrecovered)	00000000/10	00000000/30	00000000/-	
Not Ready	00000000/10	00000000/30	00000000/-	
Other Errors	00000000/10	00000000/30	00000000/-	

[Error Count / Threshold Value]   Close

(Single Cabinet Model)

Over Rate Counter Display

HDD Location:HDD-000 (DKR2C-J018FC)

ID(Information)	Today	7 days	Total	
Read Error (Unrecovered)	00000000/15	00000000/-	00000000/-	ORM Log
Read Error (Recovered)	3.69e-012[Error/bit](00000001/2.708795e+011)			Reset
Seek Error (Recovered)	00000000/100	00000002/300	00000002/-	
Seek Error (Unrecovered)	00000000/10	00000000/30	00000000/-	
Not Ready	00000000/10	00000000/30	00000000/-	
Other Errors	00000000/10	00000000/30	00000000/-	

[Error Count / Threshold Value]   Close

REV.1	Oct.2001	Jun.2002				

The errors detected in the ORM are classified into six types of error category. Each error has the following definition.

(a) 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.

(b) 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.

(c) Seek Error [Recovered]

A seek error was detected. After ten times retries, the error was judged to be recoverable.

(d) Seek Error [Unrecovered]

A seek error was detected. After ten times retries, the error was judged to be unrecoverable.

(e) Not Ready

Not Ready status of the drive was detected.

(f) Other Errors

Any error which does not belong to the above classification was detected.

They are also managed with different time periods. "Today" is for one day count and cleared at AM 0:00 every day. "7 days" is for the cumulative value in the latest 7 days. "Total" shows the total cumulative count.

In this Over Rate Counter Display, each error category indicates the Error Count and the Threshold value except for the Read Error [Recovered]. The "-" for the Threshold value means no threshold is set.

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.
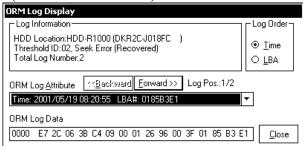
In the example display, "4.13e-011" means the error rate is "4.13×10^{-11}". This is corresponding to the raw error count and scan bits shown as "00000001/2.422270e+010", where the error count is one sector and the scan bits is 2.422270×10^{10}.

SVP02-310
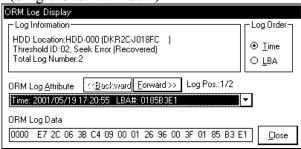
(5) The nature of the error selected in step (4) is displayed.

(Multi Cabinet Model)

(Single Cabinet Model)
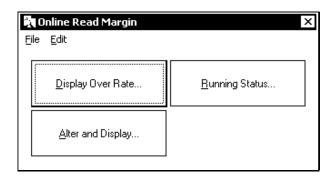
Byte	Bit	Name	Explanation
0 - 3		UCT	Time when the diagnostic result was reported from the DKC to the SVP
4	7	Log Valid	When this bit is 1, it indicates that this log is valid.
	6	Address Valid	When this bit is 1, it indicates that the address information in bytes 8 to F is valid
	5 - 4	(Reserved)	Reserved
	3 - 0	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.

REV.0	Oct.2001					

[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.
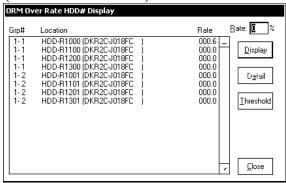
    Rate : ratio of the number of errors for the
           threshold value.
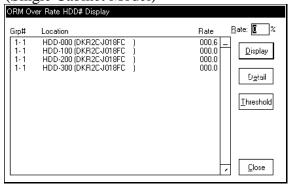   Grp# : the parity group.
           SPARE : spare HDD
   RSRVD : reserved HDD with sparing
   * : spare HDD in use.

(Multi Cabinet Model)

(Single Cabinet Model)

REV.1	Oct.2001	Jun.2002				
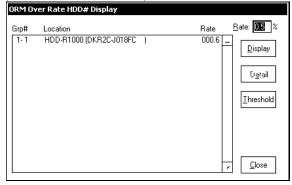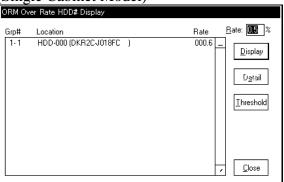
(3) In the 'ORM Over Rate HDD# Display' dialog box, select (CL) the HDD for which an error count and thresholds are to be reset from the "HDD Location" list box. Select (CL) [Detail].

(Multi Cabinet Model)
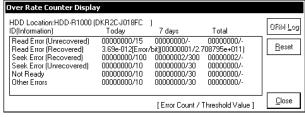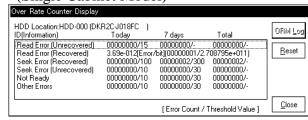
(Single Cabinet Model)

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

(Multi Cabinet Model)

(Single Cabinet Model)
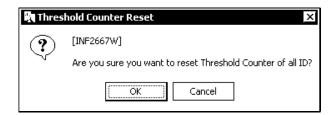
REV.1	Oct.2001	Jun.2002					

(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.

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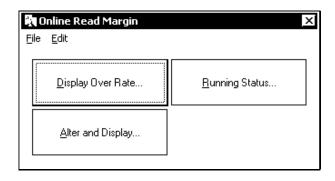
(7) Select (CL) [Close] in the 'ORM Over Rate HDD# Display' dialog box.

---

(8) Close the 'Information' window.

| REV.0 | Oct.2001 | | | | | | |

[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" list box.

    Note: Multiple HDDs can be selected (CL)
           from the "HDD#" list box while the
           control key is being held down.
           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.

(Multi Cabinet Model)

Multiple Selected (Multi Cabinet Model)

| REV.1 | Oct.2001 | Jun.2002 | | | | |

(Single Cabinet Model)

ORM Threshold Alter/Display

┌─ HDD# ─────────────────────────────────┐   ┌─ Threshold Value ──────────────┐
│   [Display] │   │ HDD:HDD-000   [Alter] │
│ ┌─ Type ────────────────────────────┐   │   │   │
│ │ ⦿ Today ○ 7 days ○ Total   │   │   │ ID   (Information)   Threshold │
│ │   │   │   │ 000 Read Err.(Unrecovered) [15]   │
│ Grp#   Location   │   │   │ 001 Read Err.(Recovered) [1.00e-008] │
│ ┌──────────────────────────────────┐ │   │   │   │
│ │ 1-1   HDD-000 (DKR2C-J018FC   )   │ │   │   │ 002 Seek Err.(Recovered) [100] │
│ │ 1-1   HDD-100 (DKR2C-J018FC   )   │ │   │   │   │
│ │ 1-1   HDD-200 (DKR2C-J018FC   )   │ │   │   │ 003 Seek Err.(Unrecovered) [10] │
│ │ 1-1   HDD-300 (DKR2C-J018FC   )   │ │   │   │   │
│ │   │ │   │   │ 004 Not Ready   [10] │
│ │   │ │   │   │   │
│ │   │ │   │   │ 005 Other Errors   [10] │
│ └──────────────────────────────────┘ │   │   │   │
│ Selected HDD(s):1   │   │   │   [Close]   │
└───┘   └────────────────────────────────┘

Multiple Selected (Single Cabinet Model)

ORM Threshold Alter/Display

┌─ HDD# ─────────────────────────────────┐   ┌─ Threshold Value ──────────────┐
│   [Display] │   │ HDD:HDD-000   [Alter] │
│ ┌─ Type ────────────────────────────┐   │   │   │
│ │ ⦿ Today ○ 7 days ○ Total   │   │   │ ID   (Information)   Threshold │
│ │   │   │   │ 000 Read Err.(Unrecovered) [15]   │
│ Grp#   Location   │   │   │ 001 Read Err.(Recovered) [1.00e-008] │
│ ┌──────────────────────────────────┐ │   │   │   │
│ │ 1-1   HDD-000 (DKR2C-J018FC   )   │ │   │   │ 002 Seek Err.(Recovered) [100] │
│ │ 1-1   HDD-100 (DKR2C-J018FC   )   │ │   │   │   │
│ │ 1-1   HDD-200 (DKR2C-J018FC   )   │ │   │   │ 003 Seek Err.(Unrecovered) [10] │
│ │ 1-1   HDD-300 (DKR2C-J018FC   )   │ │   │   │   │
│ │   │ │   │   │ 004 Not Ready   [10] │
│ │   │ │   │   │   │
│ │   │ │   │   │ 005 Other Errors   [10] │
│ └──────────────────────────────────┘ │   │   │   │
│ Selected HDD(s):2   │   │   │   [Close]   │
└───┘   └────────────────────────────────┘

(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" list box.

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

(Multi Cabinet Model)

(Single Cabinet Model)

REV.1	Oct.2001	Jun.2002				

SVP02-390
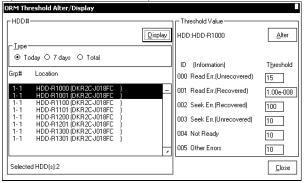
(3) In the 'ORM Threshold Alter/Display' dialog box, alter the threshold in the "Threshold" field in the"Threshold Value" list box. Then select (CL)[Alter].

　　Note: When multiple HDDs are selected in the "HDD#" list box, the thresholds of all HDDs are altered to the same value.
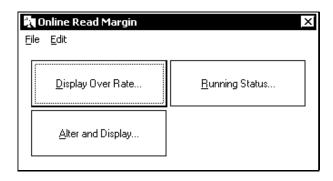
(Multi Cabinet Model)

(Single Cabinet Model)

(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.

REV.1	Oct.2001	Jun.2002				

[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.
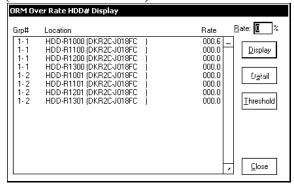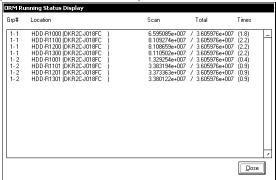
     Grp# : shows the parity group.
            SPARE : spare HDD
            RSRVD : reserved HDD with sparing
   * : spare HDD in use.
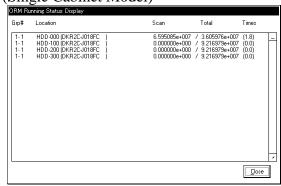
(Multi Cabinet Model)

(Single Cabinet Model)
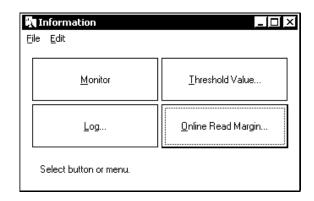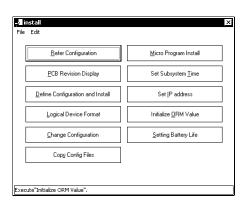
(3) Select (CL) [Close] in the 'ORM Running Status Display'
     dialog box and close the 'Information' window.

[6] Resetting thresholds

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

Information

File   Edit

| Monitor | Threshold Value... |
| Log... | Online Read Margin... |

Select button or menu.
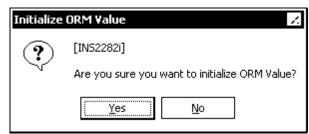
(2) Select (CL) [Install] in the 'SVP'.

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

install

File   Edit

Refer Configuration	Micro Program Install
PCB Revision Display	Set Subsystem Time
Define Configuration and Install	Set IP address
Logical Device Format	Initialize ORM Value
Change Configuration	Setting Battery Life
Copy Config Files	

Execute"Initialize ORM Value".

| REV.0 | Oct.2001 | | | | | |

SVP02-420
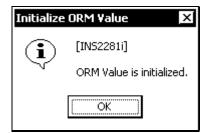
(4) Select (CL) [Yes] in the 'Initialize ORM Value' dialog box.

Initialize ORM Value

(?) [INS2282i]

Are you sure you want to initialize ORM Value?

[Yes]   [No]
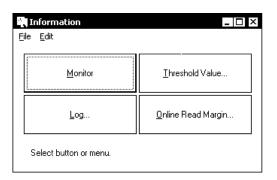
(5) Select (CL) [OK] in the 'Initialize ORM Value' dialog box.

Initialize ORM Value ✕

(i) [INS2281i]

ORM Value is initialized.

[OK]

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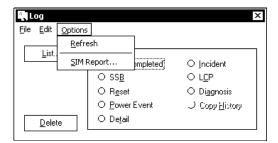
2.6 SIM Reporting Specification

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

(1)   Select (CL) [Information].

(2)   Select (CL) [Log...] in the 'Information window'.
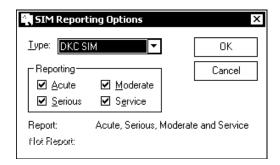
(3)   Select (DR) [SIM Report...] from the [Options]
      menu in the 'Log' dialog box.

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(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.

REV.0	Oct.2001						

SVP02-450

2.7 Management of drive threshold values
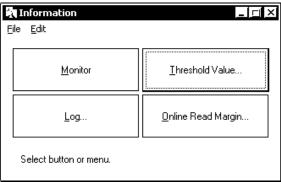
(1) Check SVP Mode.
   The Following operation needs SVP Mode to be 'Modify'. (See SVP01-80)
   [2] Altering threshold value
   [4] Resetting an error count
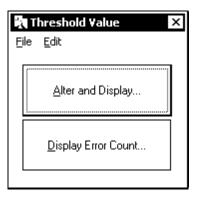
(2) Select (CL) the [Information] window in the 'SVP' window.

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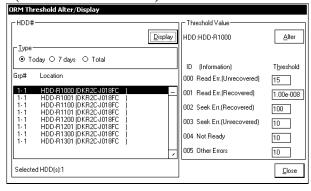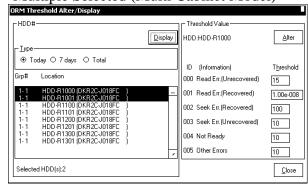Grp# : the parity group.
    SPARE : spare HDD
    RSRVD : reserved HDD with sparing
      * : spare HDD in use.
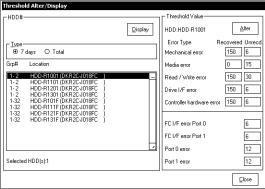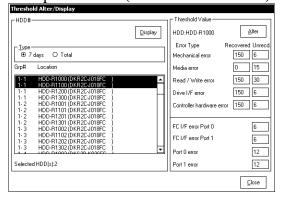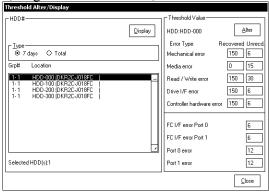
(Multi Cabinet Model)

Multiple Selected (Multi Cabinet Model)

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SVP02-470
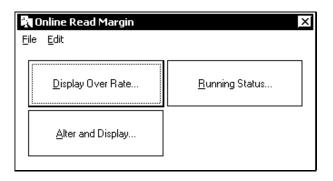
(Single Cabinet Model)

Multiple Selected (Single Cabinet Model)

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

| REV.0 | Oct.2001 | | | | | |

SVP02-480
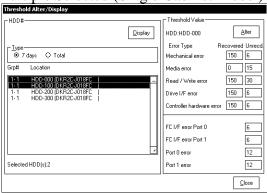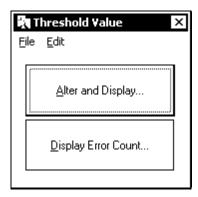
[2] Altering threshold value

(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.

(Multi Cabinet Model)

(Single Cabinet Model)

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SVP02-490
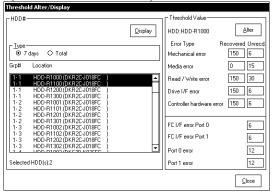
(3) Alter a threshold value in the "Threshold Value"
list box in the 'Threshold Alter/Display'
dialog box.
Then select (CL) [Alter].
Note: When multiple HDD locations are
selected(CL) from the "HDD#" list box
with the control key being hold down,
the thresholds for all the selected HDDs
are modified to the same value.
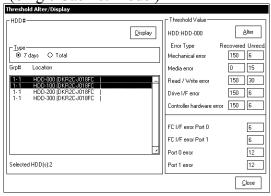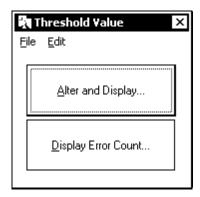
(Multi Cabinet Model)

(Single Cabinet Model)

(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.

REV.2	Oct.2001	Jun.2002	Aug.2002			

SVP02-500

[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.
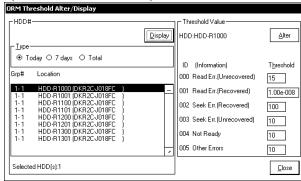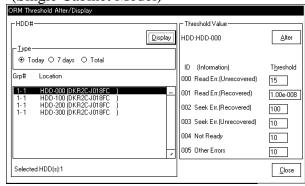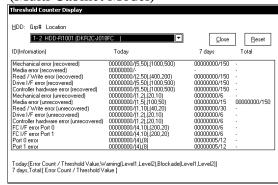
Grp# : the parity group.
    SPARE : spare HDD
    RSRVD : reserved HDD with sparing
   * : spare HDD in use.
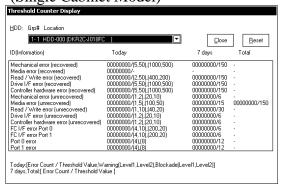
(Multi Cabinet Model)

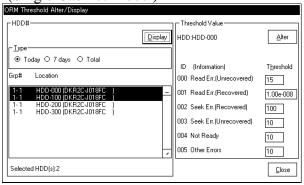(Single Cabinet Model)

(3) Select (CL) [Close] in the 'Threshold Counter Display' dialog box and close the 'Information' window.

REV.1	Oct.2001	Jun.2002				

SVP02-510

[4] Resetting an error count
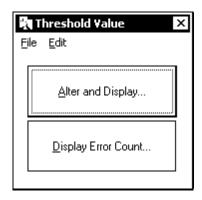
(1) Select (CL) [Display Error Count...] in the 'Threshold Value' window.

(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.

(Multi Cabinet Model)

(Single Cabinet Model)

(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.

(Multi Cabinet Model)

Threshold Counter Display

HDD: Grp# Location

1- 2 HDD-R1001 (DKR2CJ018FC) [Close] [Reset]

ID(Information)	Today	7 days	Total
Mechanical error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Media error (recovered)	00000000/-	-	-
Read / Write error (recovered)	00000000/(2,50),(400,200)	00000000/150	-
Drive I/F error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Controller hardware error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Mechanical error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Media error (unrecovered)	00000000/(1,5),(100,50)	00000000/15	00000000/150
Read / Write error (unrecovered)	00000000/(1,10),(40,20)	00000000/30	-
Drive I/F error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Controller hardware error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
FC I/F error Port 0	00000000/(4,10),(200,20)	00000000/6	-
FC I/F error Port 1	00000000/(4,10),(200,20)	00000000/6	-
Port 0 error	00000000/(4),(8)	00000005/12	-
Port 1 error	00000000/(4),(8)	00000005/12	-

Today:[Error Count / Threshold Value;Warning(Level1,Level2),Blockade(Level1,Level2)]
7 days,Total:[Error Count / Threshold Value]

(Single Cabinet Model)

Threshold Counter Display

HDD: Grp# Location

1- 1 HDD-000 (DKR2CJ018FC) [Close] [Reset]

ID(Information)	Today	7 days	Total
Mechanical error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Media error (recovered)	00000000/-	-	-
Read / Write error (recovered)	00000000/(2,50),(400,200)	00000000/150	-
Drive I/F error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Controller hardware error (recovered)	00000000/(5,50),(1000,500)	00000000/150	-
Mechanical error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Media error (unrecovered)	00000000/(1,5),(100,50)	00000000/15	00000000/150
Read / Write error (unrecovered)	00000000/(1,10),(40,20)	00000000/30	-
Drive I/F error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
Controller hardware error (unrecovered)	00000000/(1,2),(20,10)	00000000/6	-
FC I/F error Port 0	00000000/(4,10),(200,20)	00000000/6	-
FC I/F error Port 1	00000000/(4,10),(200,20)	00000000/6	-
Port 0 error	00000000/(4),(8)	00000000/12	-
Port 1 error	00000000/(4),(8)	00000000/12	-

Today:[Error Count / Threshold Value;Warning(Level1,Level2),Blockade(Level1,Level2)]
7 days,Total:[Error Count / Threshold Value]

REV.1	Oct.2001	Jun.2002				

SVP02-530

2.8 DUMP/LOG FD Copy

Prerequisite operation.

(1) Select (CL) [FD Copy].
If this function has been terminated
abnormally (e.g, Ctrl + Alt + Delete), you
should reboot SVP and retry again.

FD COPY – File

Please, select "Start" for files to compress
and copy to FD.

Start   Close
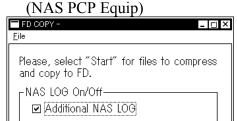
Copying the dump and log files to a floppy disk.

(1) Select (CL) [Start] in the 'FD Copy' dialog box.

(NAS PCB Not Equip)

```
FD COPY -                          _ □ ×
File
  Please, select "Start" for files to compress
  and copy to FD.


         Start              Close
```

(NAS PCP Equip)

```
FD COPY -                          _ □ ×
File
  Please, select "Start" for files to compress
  and copy to FD.
  ┌NAS LOG On/Off───────────────
  │  ☑ Additional NAS LOG

         Start              Close
```
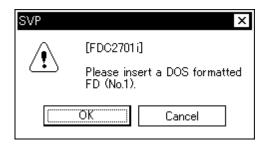
*: When the "Additional NAS LOG" check box is not
   Checked at the time of NAS PCB equipment, NAS
   LOG is not gathered.

(2) The message "Please insert a DOS formatted FD
   (NO.1) " will be displayed in the 'FD SET' dialog box.
   In response to this message, insert a floppy disk and
   select (CL) [OK].

```
SVP                                      ×
        [FDC2701i]
  ⚠
        Please insert a DOS formatted
        FD (No.1).

      OK              Cancel
```

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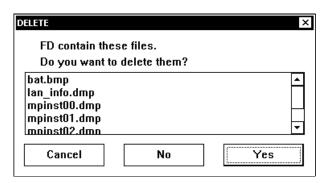
(3) If the floppy disk contains files, the message "FD contain these files. Do you want to delete them ?" is displayed.
If you want to delete these files, select (CL) [YES] and proceed to step (4).
If you don't want to delete these files, select (CL) [NO] and proceed to step (4).
If an error occurs, check the items indicated in the 'ACCESS ERROR!!' dialog box then select (CL) [Retry].
(The screen goes back to the beginning of step (4).)

DELETE   ⊠

FD contain these files.
Do you want to delete them?

bat.bmp
lan_info.dmp
mpinst00.dmp
mpinst01.dmp
mpinst02.dmp

| Cancel | No | Yes |

SVP   ⊠

⚠ [FDC0237i]

Could not access FD.
FD is not DOS formatted.
FD is not inserted.
FD is write protected.

| Retry | Cancel |
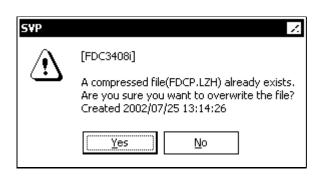
(4) When a compressed file(FDCP.LZH) doesn't exist in HDD, proceed to step (5).
When a compressed file exists in HDD, "A compressed File(FDCP.LZH) already exists." is displayed.
If you want to start compressing again, select (CL) [Yes] and proceed to step (5).
If you want to start coping only, select (CL) [No] and "Do you want to copy the compressed file to the FD" is displayed.
Select (CL) [OK] and proceed to step (6).
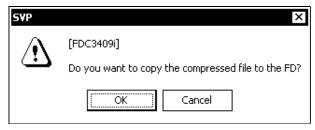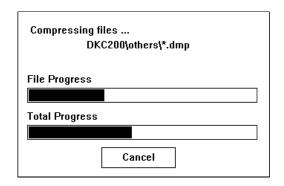
SVP   ⊠

⚠ [FDC3408i]

A compressed file(FDCP.LZH) already exists.
Are you sure you want to overwrite the file?
Created 2002/07/25 13:14:26

| Yes | No |

SVP   ⊠

⚠ [FDC3409i]

Do you want to copy the compressed file to the FD?

| OK | Cancel |

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(5) The message "Compressing files..." is displayed,
and compressing is started.

```
Compressing files ...
            DKC200\others\*.dmp

File Progress
[████████             ]

Total Progress
[████████             ]

              [ Cancel ]
```

(6) The message "Copying files to FD..." is displayed,
and copying is started.
(If the capacity of the floppy disk becomes
insufficient, go back to step (2) and replace
the floppy disk with a new one.)

```
Copying files to FD ...


         DKC200\TMP\fdcp.lzh

              [ Cancel ]
```

(7) The message "Delete DUMP files in HDD." is displayed
in the 'DUMP DELETE' dialog box.
Select (CL) [OK] and delete DUMP files in HDD.

```
DUMP DELETE                      [x]


       Delete DUMP files in HDD.


              [    OK    ]
```
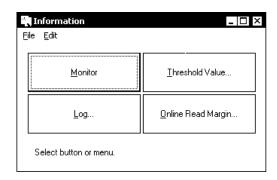
(8) Close the 'Fdcopy' dialog box.
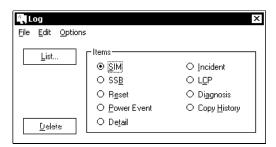
2.9 SIM Log Complete

    (1)   Select (CL) [Information].
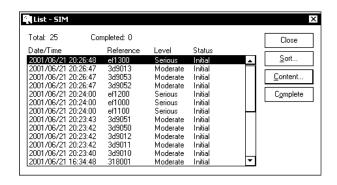
    (2)   Select (CL) [Log...] in the 'Information' dialog box.
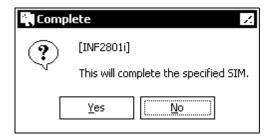
    (3)   Select (CL) [SIM] and [List...] in the 'Log'.

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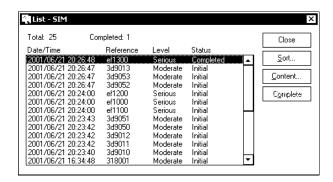
(4) Select (CL) data to be completed in the 'List-SIM' dialog box and select (CL) [Complete].

List - SIM

Total: 25	Completed: 0		
Date/Time	Reference	Level	Status
2001/06/21 20:26:48	ef1300	Serious	Initial
2001/06/21 20:26:47	3d9013	Moderate	Initial
2001/06/21 20:26:47	3d9053	Moderate	Initial
2001/06/21 20:26:47	3d9052	Moderate	Initial
2001/06/21 20:24:00	ef1200	Serious	Initial
2001/06/21 20:24:00	ef1000	Serious	Initial
2001/06/21 20:24:00	ef1100	Serious	Initial
2001/06/21 20:23:43	3d9051	Moderate	Initial
2001/06/21 20:23:42	3d9050	Moderate	Initial
2001/06/21 20:23:42	3d9012	Moderate	Initial
2001/06/21 20:23:42	3d9011	Moderate	Initial
2001/06/21 20:23:40	3d9010	Moderate	Initial
2001/06/21 16:34:48	318001	Moderate	Initial

Close
Sort...
Content...
Complete

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

Complete

(?) [INF2801i]

This will complete the specified SIM.

Yes   No

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

List - SIM

Total: 25	Completed: 1		
Date/Time	Reference	Level	Status
2001/06/21 20:26:48	ef1300	Serious	Completed
2001/06/21 20:26:47	3d9013	Moderate	Initial
2001/06/21 20:26:47	3d9053	Moderate	Initial
2001/06/21 20:26:47	3d9052	Moderate	Initial
2001/06/21 20:24:00	ef1200	Serious	Initial
2001/06/21 20:24:00	ef1000	Serious	Initial
2001/06/21 20:24:00	ef1100	Serious	Initial
2001/06/21 20:23:43	3d9051	Moderate	Initial
2001/06/21 20:23:42	3d9050	Moderate	Initial
2001/06/21 20:23:42	3d9012	Moderate	Initial
2001/06/21 20:23:42	3d9011	Moderate	Initial
2001/06/21 20:23:40	3d9010	Moderate	Initial
2001/06/21 16:34:48	318001	Moderate	Initial

Close
Sort...
Content...
Complete

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

REV.0	Oct.2001						

2.10 Dump

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.

Note 1: Please use DUMP in order to select MP.
Note 2: You can use DUMP as usual.
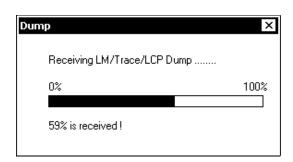
[1] Manual Dump

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

(2) Select (CL) "Location No." of the processor in the 'Dump' dialog box, and select (CL) [Dump]. When [All Adapters] is selected, dumps from all the processors are performed.
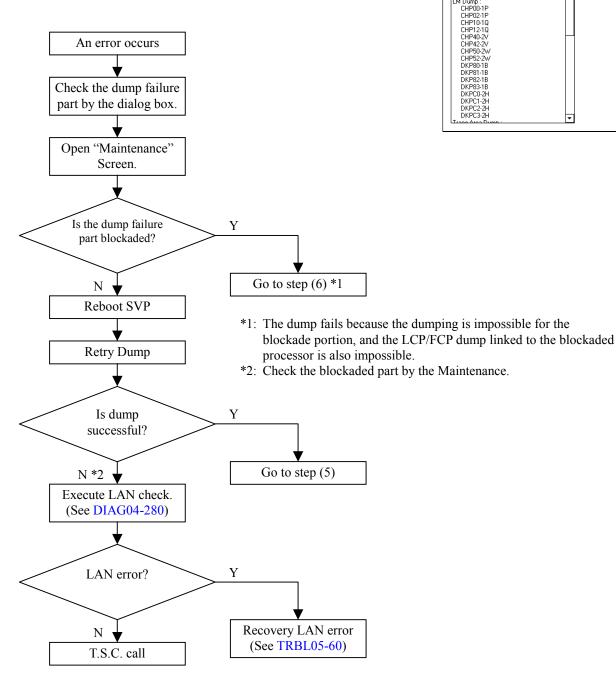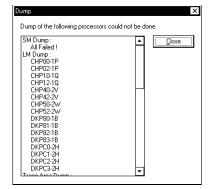
(3) A box indicating progress of the dump is displayed. When the dump terminates normally, go to step (5).

REV.1	Oct.2001	Feb.2002				

SVP02-600

(4) 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 :                              [▲]   [ Close ]
   All Failed !
LM Dump :
   CHP00-1P
   CHP02-1P
   CHP10-1Q
   CHP12-1Q
   CHP40-2V
   CHP42-2V
   CHP50-2W
   CHP52-2W
   DKP80-1B
   DKP81-1B
   DKP82-1B
   DKP83-1B
   DKPC0-2H
   DKPC1-2H
   DKPC2-2H
   DKPC3-2H                          [▼]
```

```
        ┌──────────────────────┐
        │   An error occurs    │
        └──────────┬───────────┘
                   │
        ┌──────────▼───────────┐
        │ Check the dump failure│
        │ part by the dialog box.│
        └──────────┬───────────┘
                   │
        ┌──────────▼───────────┐
        │ Open "Maintenance"   │
        │      Screen.         │
        └──────────┬───────────┘
                   │
            ◇──────▼──────◇        Y
           ╱ Is the dump    ╲───────────┐
           ╲ failure part    ╱           │
            ╲ blockaded?    ╱            │
             ◇──────┬──────◇            │
                   │ N            ┌──────▼──────────┐
        ┌──────────▼───────────┐ │ Go to step (6) *1│
        │     Reboot SVP       │ └─────────────────┘
        └──────────┬───────────┘
                   │
        ┌──────────▼───────────┐
        │     Retry Dump       │
        └──────────┬───────────┘
                   │
            ◇──────▼──────◇        Y
           ╱   Is dump     ╲───────────┐
           ╲  successful?   ╱           │
             ◇──────┬──────◇            │
                   │ N *2         ┌──────▼──────────┐
        ┌──────────▼───────────┐ │ Go to step (5)  │
        │ Execute LAN check.   │ └─────────────────┘
        │ (See DIAG04-280)     │
        └──────────┬───────────┘
                   │
            ◇──────▼──────◇        Y
           ╱   LAN error?   ╲───────────┐
             ◇──────┬──────◇            │
                   │ N            ┌──────▼──────────┐
        ┌──────────▼───────────┐ │ Recovery LAN error│
        │     T.S.C. call      │ │ (See TRBL05-60)  │
        └──────────────────────┘ └─────────────────┘
```

*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.

REV.1	Oct.2001	Feb.2002				

(5) "Dump is received successfully" is displayed.
Select (CL) [OK].

```
┌─────────────────────────────────────────┐
│ Dump                                  ⊠ │
├─────────────────────────────────────────┤
│                                         │
│        Dump is received successfully !  │
│                                         │
│                                         │
│              ┌──────────┐               │
│              │    OK    │               │
│              └──────────┘               │
│                                         │
└─────────────────────────────────────────┘
```
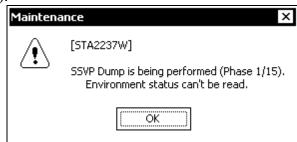
(6) When copying the dump file to on FD, execute "[1] Copying the dump file to floppy disk" in
Section 2.8 "DUMP/LOG FD Copy".

REV.0	Feb.2002					

SVP02-615
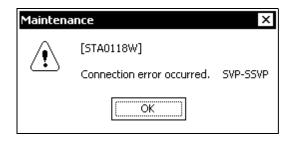
[2] SSVP DUMP

(1) Push the SSVP DUMP switch.
(Refer to LOCATION03-40, LOCATION03-60.)

(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].

Maintenance ☒

⚠ [STA2237W]

SSVP Dump is being performed (Phase 1/15).
Environment status can't be read.

[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 REP01-170).

Maintenance ☒

⚠ [STA0118W]

Connection error occurred.   SVP-SSVP

[OK]

(3) The SSVP ALARM lamp blinks after completion of dump.
(For about 10 minutes after performing step (1))

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SVP02-620
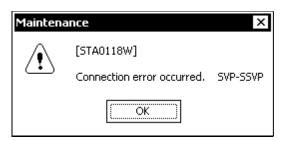
(4) Copy the dump file to FD.
Perform "2.8 DUMP/LOG FD Copy" on page SVP02-540.

(5) Push the SSVP Alarm Reset switch.
(Refer to LOCATION03-40, LOCATION03-60.)

(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 REP01-170).

Maintenance	☒
⚠	[STA0118W]
	Connection error occurred. SVP-SSVP
	OK
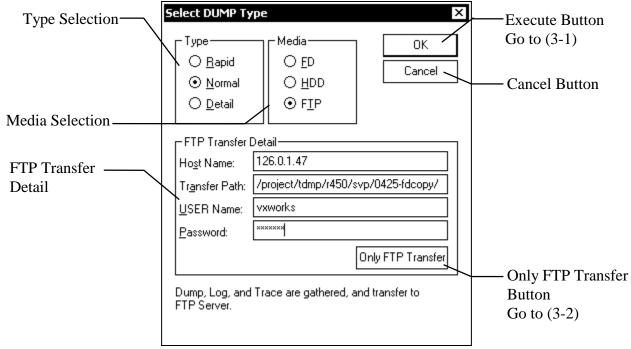
REV.1	Oct.2001	Feb.2002				

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

REV.0	Oct.2001					

SVP02-640

[3] Auto Dump

(1) Select (CL) [**AutoDump**] button

(2) Select one of three dump types and one of two media types and specify the FTP Transfer Detail, and select (CL) [OK] or [Only FTP Transfer].

Type Selection

Media Selection

FTP Transfer Detail

Select DUMP Type ☒

┌ Type ┐ ┌ Media ┐
○ Rapid   ○ FD
⊙ Normal   ○ HDD
○ Detail   ⊙ FTP

OK — Execute Button Go to (3-1)

Cancel — Cancel Button

┌ FTP Transfer Detail ┐
Host Name: 126.0.1.47
Transfer Path: /project/tdmp/r450/svp/0425-fdcopy/
USER Name: vxworks
Password: ×××××××

Only FTP Transfer — Only FTP Transfer Button Go to (3-2)

Dump, Log, and Trace are gathered, and transfer to FTP Server.

<Dump Type>
(a)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.
(b)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.
(c)Detail This type is to get monitor information adding to the dump files used by "Normal" type. 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.

<Media>

(a)FDD   SVP will store the compressed files to FD. If the data could not be stored in one FD, SVP will divide the compressed files into smaller files and store them into several FDs. If you cannot transfer the compressed files to your center from the SVP, you could use this media type to save files into several FDs and transfer them by using other PC which can connect to the center.

(b)HDD   SVP will store the compressed files to HDD. The file name is "c:\dkc200\tmp\hdcp.lzh". 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.)

(c)FTP   SVP will store the compressed files to HDD. The file name is "c:\dkc200\tmp\hdcp.lzh". 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.

<FTP Transfer Detail>

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

(b)Transfer Path   The directory of a FTP transfer place is inputted.

(c)USER Name   The user name which login to a FTP server is inputted.

(d)Password   The password which login to a FTP server is inputted.

<[Only FTP Transfer] Button>

When FTP mode is selected, only transmission of the "c:\dkc200\tmp\hdcp.lzh" already compressed Performed to the transmission place directory of a specification server which inputted into FTP Transfer Detail without refreshing it.

(3-1) Executing Auto Dump

SVP will execute Auto Dump. Refer to the following section during the process.

2.9 DUMP/LOG FD Copy

2.11 DUMP
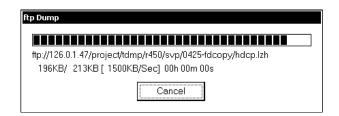
Go to (4)

(3-2) Select (CL) [OK] in response to the confirmation message
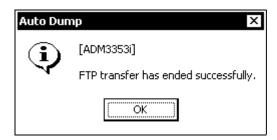
"Do you want to transfer the already gathered dumps, logs, history of SVP operation, and usage data to an FTP server without refreshing them?"

REV.2	Oct.2001	Feb.2002	Jun.2002			

SVP02-660

(4) Starting FTP Transfer
When [FTP] is selected as an [Media], transfer processing of compression data begins.

```
ftp Dump
████████████████████████████████████
ftp://126.0.1.47/project/tdmp/r450/svp/0425-fdcopy/hdcp.lzh
   196KB/  213KB [ 1500KB/Sec]  00h 00m 00s
                    [ Cancel ]
```

(5) Finish FTP Transfer
After finishing the FTP transfer function, SVP will display the message "FTP transfer has ended successfully.". Select (CL) [OK] to end this process.

```
Auto Dump                                    [×]
  (i)   [ADM3353i]

        FTP transfer has ended successfully.

              [ OK ]
```

REV.0	Jun.2002					

2.11 Logical Device Maintenance

2.11.1 Logical Device
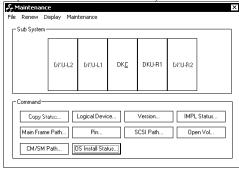
Prerequisite Operation: From [1] to [7]
(1)   Select (CL) [Maintenance] in the 'SVP' window.
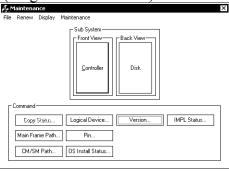
(2)   Select (CL) [Logical Device] in the 'Maintenance' Window.

If the shredding process is running for some logical devices from Storage Navigator, go to (3).
If the Shredding process is not running, go to (4).

(Multi Cabinet Model)

(Single Cabinet Model)

REV.4	Oct.2001	Apr.2002	Jun.2002	Dec.2002	Sep.2004	

(3) "Shredding" is displayed.

If processing is finished. ------------- Go to (4).
If you want to close the Window, select (CL)
[Close].   ------------- Go to (2).
If you want to interrupt this process, select (CL)
[Stop].
Note: Confirm to user that the process is
interrupted.   ------------- Go to (4).

Shredding

(01/08) Result Outputting

| 12% |

| Stop | Close |
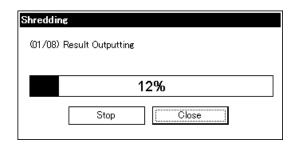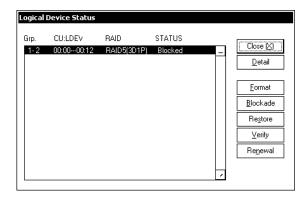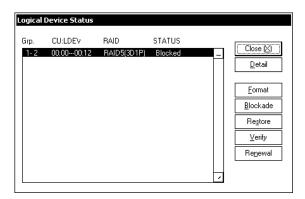
(4) "Logical Device Status" is displayed.

Logical Device Status

Grp.	CU:LDEV	RAID	STATUS
1-2	00:00--00:12	RAID5(3D1P)	Blocked

Close (X)
Detail

Format
Blockade
Restore
Verify
Renewal
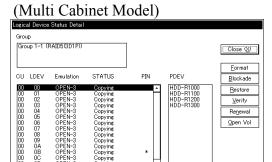
Prerequisite Operation: [8]
(1) Change the mode to [MODIFY Mode], select (CL) [Install].

[1] Physical Device List

(1) Select (CL) an LDEV from the LDEV list box in the 'Logical Device Status' dialog box and select (CL) [Detail].

Logical Device Status

Grp.	CU:LDEV	RAID	STATUS
1-2	00:00---00:12	RAID5(3D1P)	Blocked

Close [X]
Detail
Format
Blockade
Restore
Verify
Renewal

(2) 'Logical Device Status Detail' is displayed. And select (CL) [Close].

(Multi Cabinet Model)

Logical Device Status Detail

Group
Group 1-1 (RAID5(3D1P))

Close (X)
Format
Blockade
Restore
Verify
Renewal
Open Vol

CU	LDEV	Emulation	STATUS	PIN	PDEV
00	00	OPEN-3	Copying		HDD-R1000
00	01	OPEN-3	Copying		HDD-R1100
00	02	OPEN-3	Copying		HDD-R1200
00	03	OPEN-3	Copying		HDD-R1300
00	04	OPEN-3	Copying		
00	05	OPEN-3	Copying		
00	06	OPEN-3	Copying		
00	07	OPEN-3	Copying		
00	08	OPEN-3	Copying		
00	09	OPEN-3	Copying		
00	0A	OPEN-3	Copying		
00	0B	OPEN-3	Copying	*	
00	0C	OPEN-3	Copying		
00	0D	OPEN-3	Copying		
00	0E	OPEN-3	Copying	*	
00	0F	OPEN-3	Copying		
00	10	OPEN-3	Copying	*	

(Single Cabinet Model)

Logical Device Status Detail

Group
Group 1-2 (RAID5(3D1P))

Close (X)
Format
Blockade
Restore
Verify
Renewal
Open Vol

CU	LDEV	Emulation	STATUS	PIN	PDEV
02	00	OPEN-3	Blocked		HDD-001
02	01	OPEN-3	Blocked		HDD-101
02	02	OPEN-3	Blocked		HDD-201
02	03	OPEN-3	Blocked		HDD-301
02	04	OPEN-3	Blocked		
02	05	OPEN-3	Blocked		
02	06	OPEN-3	Blocked		
02	07	OPEN-3	Blocked		
02	08	OPEN-3	Blocked		
02	09	OPEN-3	Blocked		
02	0A	OPEN-3	Blocked	*	
02	0B	OPEN-3	Blocked		
02	0C	OPEN-3	Blocked		
02	0D	OPEN-3	Blocked		
02	0E	OPEN-3	Blocked		
02	0F	OPEN-3	Blocked		
02	10	OPEN-3	Blocked		

(3) Select (CL) [Close] in the 'Logical Device Status' dialog box. Close the 'General Status Display' window.

REV.1	Oct.2001	Jun.2002				

[2] FORMAT 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) Select (CL) ECC group from the LDEV list box in the 'Logical Device Status' dialog box.

Format by Ldev unit :
Select (CL) [Detail] ------------ Go to (2-1)
Format by ECC group :
Select (CL) [Format] ----------- Go to (2-2)
(It can select multiple items at once)

Note: Execute Format Logical Device after you confirm the target Logical Device is blocked.

Logical Device Status

Grp.	CU:LDEV	RAID	STATUS
1-2	00:00---00:12	RAID5(3D1P)	Blocked

Close (X)
Detail
Format
Blockade
Restore
Verify
Renewal

(2-1) Select (CL) LDEVs which you want to format from "Logical Device Status Detail", and select (CL) [Format]. Go to (2-2).
(It can select multiple items at once.)

(Multi Cabinet Model)

Logical Device Status Detail

Group
Group 1-1 (RAID5(3D1P))

Close (X)
Format
Blockade
Restore
Verify
Renewal
Open Vol

CU	LDEV	Emulation	STATUS	PIN	PDEV
00	00	OPEN-3	Copying		HDD-R1000
00	01	OPEN-3	Copying		HDD-R1100
00	02	OPEN-3	Copying		HDD-R1200
00	03	OPEN-3	Copying		HDD-R1300
00	04	OPEN-3	Copying		
00	05	OPEN-3	Copying		
00	06	OPEN-3	Copying		
00	07	OPEN-3	Copying		
00	08	OPEN-3	Copying		
00	09	OPEN-3	Copying		
00	0A	OPEN-3	Copying		
00	0B	OPEN-3	Copying	*	
00	0C	OPEN-3	Copying		
00	0D	OPEN-3	Copying		
00	0E	OPEN-3	Copying	*	
00	0F	OPEN-3	Copying		
00	10	OPEN-3	Copying	*	

(Single Cabinet Model)

Logical Device Status Detail

Group
Group 1-2 (RAID5(3D1P))

Close (X)
Format
Blockade
Restore
Verify
Renewal
Open Vol

CU	LDEV	Emulation	STATUS	PIN	PDEV
02	00	OPEN-3	Blocked		HDD-001
02	01	OPEN-3	Blocked		HDD-101
02	02	OPEN-3	Blocked		HDD-201
02	03	OPEN-3	Blocked		HDD-301
02	04	OPEN-3	Blocked		
02	05	OPEN-3	Blocked		
02	06	OPEN-3	Blocked		
02	07	OPEN-3	Blocked		
02	08	OPEN-3	Blocked		
02	09	OPEN-3	Blocked		
02	0A	OPEN-3	Blocked	*	
02	0B	OPEN-3	Blocked		
02	0C	OPEN-3	Blocked		
02	0D	OPEN-3	Blocked		
02	0E	OPEN-3	Blocked		
02	0F	OPEN-3	Blocked		
02	10	OPEN-3	Blocked		

(2-2) Select (CL) the corresponding LDEV from the LDEV ID list
in the 'Logical Device' dialog box and select (CL) [OK].

If the target LDEV was not blocked, return to the 'Logical Device
Status' dialog box.

(3) "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].

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

REV.1	Oct.2001	Apr.2002				

SVP02-710

(4) "Formatting the logical device..." is displayed.

Format

Formatting logical devices...

9%

[Stop]
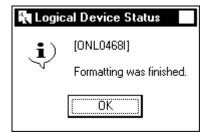
Notice
When REFER CONFIG etc. is executed during LDEV FORMAT of open volume, there is the rare case that MAINTENANCE WINDOW may disappear. Then please reboot SVP and execute LDEV FORMAT again.
For your information, even while rebooting SVP, LDEV FORMAT is executed without intermission. When you open LDEV FORMAT WINDOW again, you can see the current status of LDEV FORMAT.

---

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

Logical Device Status

i) [ONL0468I]

Formatting was finished.

[OK]

---

(6) Select (CL) [Close] in the 'Logical Device Status' dialog box.
Close the 'Maintenance' window.

REV.1	Oct.2001	Feb.2002					

[3] 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) Select (CL) ECC group from the LDEV list box in the 'Logical Device Status' dialog box.

Blockade by Ldev unit :
Select (CL) [Detail]   Go to (2-1)
Blockade by ECC group :
Select (CL) [Blockade] Go to (2-2)
(It can select multiple items at once)
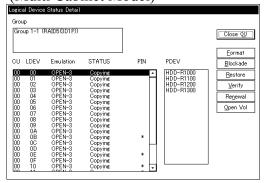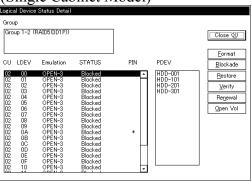
Notice
Execute Format Logical Device after you confirm the target Logical Device is blocked.

(2-1) Select (CL) LDEVs which you want to format from "Logical Device Status Detail", and select (CL) [Blockade]. Go to (2-2).
(It can select multiple items at once.)

(Multi Cabinet Model)

(Single Cabinet Model)

REV.1	Oct.2001	Jun.2002				

SVP02-730
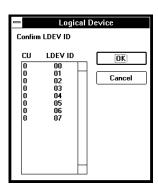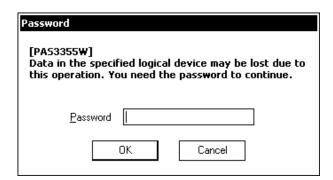
(2-2) Select the corresponding LDEV from the LDEV ID list in
the 'Logical Device' dialog box and select (CL) [OK].

(3) "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].
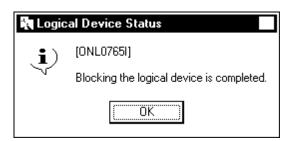
Notice
This is a special (exceptional) operation that can cause a serious failure such as a
system down or a data loss and requires an input of a password. Ask the technical
support center about the appropriateness of the operation, and input the password
after getting an approval of executing the operation.

---

(4) "Blocking the logical device..." is displayed.

REV.1	Oct.2001	Apr.2002				

(5)   Select (CL) [OK] in response to "Blocking the logical device is completed.".

```
┌─────────────────────────────────────────┐
│ █▌Logical Device Status          [    ]  │
│                                          │
│    ┌─┐    [ONL0765I]                     │
│    │i)                                   │
│    └─┘    Blocking the logical device is completed. │
│                                          │
│            ┌──────────────┐              │
│            │      OK       │             │
│            └──────────────┘              │
└─────────────────────────────────────────┘
```

(6)   Select (CL) [Close] in the 'Logical Device Status' dialog box.
       Close the 'Maintenance' window.

REV.0	Oct.2001					

[4] 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) Select (CL) ECC group from the LDEV list box in the 'Logical Device Status' dialog box.
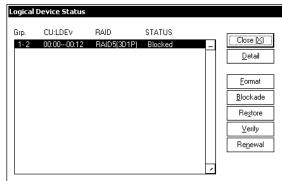
Restore by Ldev unit :
Select (CL) [Detail] ------------ Go to (2-1)
Restore by ECC group :
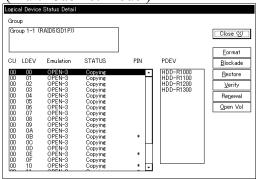Select (CL) [Restore] ---------- Go to (2-2)
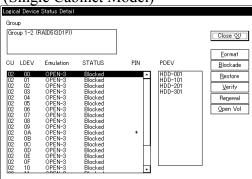(It can select multiple items at once)

Note: Execute Restore Logical Device after you confirm the target Logical Device is blocked.

(2-1) Select (CL) LDEVs which you want to format from "Logical Device Status Detail", and select (CL) [Restore]. Go to (2-2).
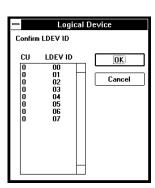(It can select multiple items at once.)

(Multi Cabinet Model)

(Single Cabinet Model)

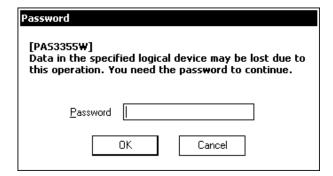| REV.1	Oct.2001	Jun.2002				

SVP02-760

(2-2) Select (CL) the corresponding LDEV from the LDEV ID list in the 'Logical Device' dialog box and select (CL) [OK].

If the target LDEV was not blocked, return to the 'Logical Device Status' dialog box.
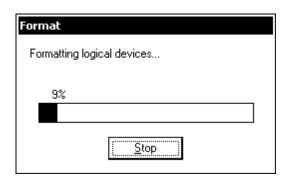

(3) Select (CL) the corresponding item from the Restore Type in the 'Restore Logical Device' dialog box and select (CL) [OK].

If "Forcible Restoration" is selected, the message "Ask the TSC about the appropriateness of this operation, and enter the password." is displayed.
Enter the password and select (CL) [OK].
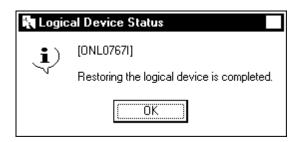
Notice
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

(4) "Restoring..." is displayed.

REV.2	Oct.2001	Feb.2002	Apr.2002			

(5) Select (CL) [OK] in response to "Restoring the logical device is completed.".

Logical Device Status

ⓘ [ONL0767I]

Restoring the logical device is completed.

[OK]

(6) Select (CL) [Close] in the 'Logical Device Status' dialog box.
Close the 'Maintenance' window.

REV.0	Oct.2001					

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[5] Refer the system configuration data

(1) Select (CL) [Renewal] in the 'Logical Device
     Status' dialog box.

Logical Device Status

Grp.	CU:LDEV	RAID	STATUS
1- 2	00:00---00:12	RAID5(3D1P)	Blocked

Close [X]
Detail
Format
Blockade
Restore
Verify
Renewal

(2) "Reading the subsystem configuration..." is displayed.

(3) Select (CL) [Close] in the 'Logical Device Status'
     dialog box.
     Close the 'Maintenance' window.
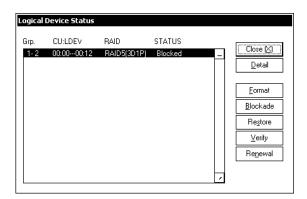
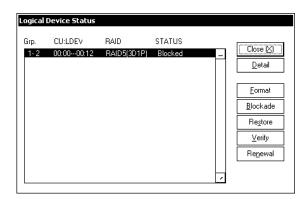| REV.0	Oct.2001					

[6] 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.
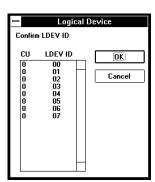
(1) Select (CL) an LDEV from the LDEV list box
      in the 'Logical Device Maintenance List' dialog
      box and select (CL) [Verify...].
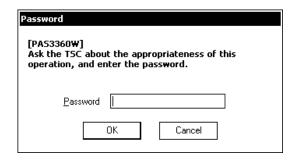
```
Logical Device Status

Grp.    CU:LDEV     RAID        STATUS              Close (X)
1-2     00:00---00:12  RAID5(3D1P)   Blocked   _     Detail

                                                    Format
                                                    Blockade
                                                    Restore
                                                    Verify
                                                    Renewal
```

(2) Select (CL) the corresponding LDEV from the LDEV ID list
      in the 'Logical Device' dialog box and select (CL) [OK].

      If the target LDEV was not Normal, return to the 'Logical Device
      Status' dialog box.
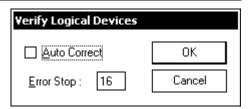
```
Logical Device

Confirm LDEV ID

CU    LDEV ID          OK
0      00
0      01            Cancel
0      02
0      03
0      04
0      05
0      06
0      07
```

	REV.0	Oct.2001					

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

Password

[PA53360W]
Ask the TSC about the appropriateness of this
operation, and enter the password.

Password [   ]

OK   Cancel

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

Select (CL) 'Auto Correct' or input the value of Error
Stop, and select (CL) [OK].

Verify Logical Devices

☐ Auto Correct   OK

Error Stop : [16]   Cancel

---
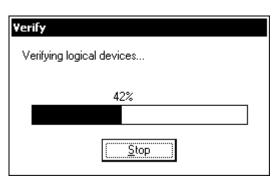
(4) "Verifying logical devices…" is displayed and
the parity synchronization check is started.
When you want to interrupt the check, select (CL)
the [Stop] button.
The routine goes to Step (5).
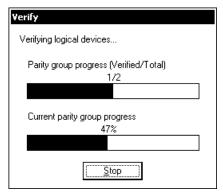
When the parity synchronization check is completed,
if a PDEV that could not be checked exists, the
routine goes to Step (6), or if an LDEV whose parity
is not synchronized exist, the routine goes to
Step (7), or if neither of the above exists, the
routine goes to Step (13).

Verify

Verifying logical devices...

42%

[████████   ]

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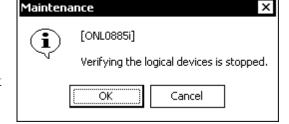
When the check is started on condition that
a parity group or an HDEV is specified

Verify

Verifying logical devices...

Parity group progress (Verified/Total)
1/2

[████████   ]

Current parity group progress
47%

[████████   ]

Stop

When the check is started on condition that
two or more parity groups are specified

| REV.3 | Oct.2001 | Apr.2002 | Sep.2002 | Dec.2002 | | |

(5) When you select (CL) the [Stop] button in the "Verify" window that shows progress of the check and select (CL) the [OK] button in response to a message, "The synchronization check of the logical device is interrupted," that asks whether or not to interrupt the check, the parity synchronization check is interrupted immediately.
When a PDEV that could not be checked exists, the routine goes to Step (6).
When an LDEV whose parity is not synchronized exist, the routine goes to Step (7).
When neither of the above exists, the routine goes to Step (13).
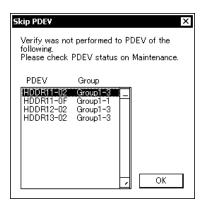
Maintenance
[ONL0885i]
Verifying the logical devices is stopped.

   OK   Cancel

(6) The PDEV that could not be checked is displayed.
The PDEV concerned may have not been checked because it was detached or the synchronization check was interrupted.
Check the status of the PDEV concerned after the synchronization check is terminated.
When you close the "Skip PDEV" window, select (CL) the [OK] button.
When an LDEV whose parity is not synchronized exists, if Step (9) is not displayed yet, the routine goes to Step (7), or if Step (9) has already been displayed, the routine goes to Step (9).
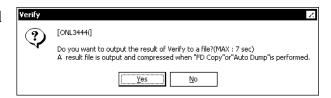
Skip PDEV
Verify was not performed to PDEV of the following.
Please check PDEV status on Maintenance.

PDEV	Group
HDDR11-02	Group1-3
HDDR11-0F	Group1-1
HDDR12-02	Group1-3
HDDR13-02	Group1-3

OK
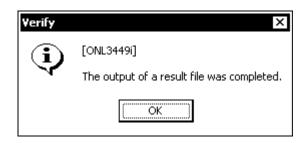
(7) "Do you want to output the result of Verify to a file?(MAX : ***) A result file is output and compressed when "FD Copy" or "Auto Dump" is performed." is displayed.
(Time required for processing is displayed on ***.)

Verify
[ONL3444i]
Do you want to output the result of Verify to a file?(MAX : 7 sec)
A result file is output and compressed when "FD Copy"or"Auto Dump"is performed.

Yes   No

If you want to output the result to a file, select (CL) [Yes] and go to (8).
If you want to not output the result to a file, select (CL) [No] and go to (9).

(8) "Receiving the Verify result..." is displayed.
"Compressing the Verify result..." is displayed.
"The output of a result file was completed." is
displayed.

```
Verify                                    [X]
  (i)   [ONL3449i]

        The output of a result file was completed.

              [    OK    ]
```
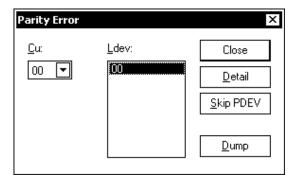
(9) An LDEV having parity errors is displayed.
Select (CL) an LDEV to be indicated in the 'Parity
Error' dialog box and select (CL) [Detail...].
Go to (10).

If you want close the 'Parity Error' dialog box,
select (CL) [Close].
When select (CL) [Yes] by (7), go to (13).
When select (CL) [No] by (7), go to (12).

```
Parity Error                              [X]
  Cu:          Ldev:            [   Close   ]

  [00  ▼]      [00          ]   [   Detail  ]

                                [  Skip PDEV ]

                                [   Dump    ]
```

If you want to output the result to a file, select (CL)
[Dump] and go to (7).

When you want to display the "Skip PDEV" window again, select (CL) the [Skip PDEV]
button. The routine is returned to Step (6).

(10) Detail of parity errors.
(When "No." exist more than 17, select (CL)
[Next].)
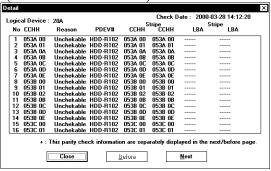
Note: For OPEN-LDEV, only LBA's are
displayed. If LBA of the error slot can not
be displayed, "----" is displayed in both
CCHH and LBA columns.
As for "Logical Device:", LDEV#:"XXX"
of the error slot and LDEV#:"(YYY)" at
the head of extension LU are displayed.
But, the LDEV at the head of extension LU
doesn't display "(YYY)".
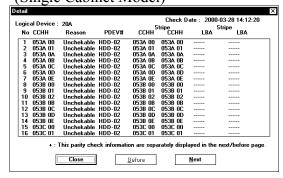
(Multi Cabinet Model)

```
Detail                                                        [X]
Logical Device : 20A                    Check Date :  2000-03-28 14:12:20
                                    Stripe          Stripe
  No  CCHH     Reason      PDEV#    CCHH    CCHH     LBA     LBA
   1  053A 00  Unchekable  HDD-R102  053A 00  053A 00  ------  ------
   2  053A 01  Unchekable  HDD-R102  053A 01  053A 01  ------  ------
   3  053A 0A  Unchekable  HDD-R102  053A 0A  053A 0A  ------  ------
   4  053A 0B  Unchekable  HDD-R102  053A 0B  053A 0B  ------  ------
   5  053A 0C  Unchekable  HDD-R102  053A 0C  053A 0C  ------  ------
   6  053A 0D  Unchekable  HDD-R102  053A 0D  053A 0D  ------  ------
   7  053A 0E  Unchekable  HDD-R102  053A 0E  053A 0E  ------  ------
   8  053B 00  Unchekable  HDD-R102  053B 00  053B 00  ------  ------
   9  053B 01  Unchekable  HDD-R102  053B 01  053B 01  ------  ------
  10  053B 02  Unchekable  HDD-R102  053B 02  053B 02  ------  ------
  11  053B 0B  Unchekable  HDD-R102  053B 0B  053B 0B  ------  ------
  12  053B 0C  Unchekable  HDD-R102  053B 0C  053B 0C  ------  ------
  13  053B 0D  Unchekable  HDD-R102  053B 0D  053B 0D  ------  ------
  14  053B 0E  Unchekable  HDD-R102  053B 0E  053B 0E  ------  ------
  15  053C 00  Unchekable  HDD-R102  053C 00  053C 00  ------  ------
  16  053C 01  Unchekable  HDD-R102  053C 01  053C 01  ------  ------
     + : This parity check information are separately displayed in the next/before page.
        [   Close   ]      [  Before  ]      [   Next   ]
```

(Single Cabinet Model)

```
Detail                                                        [X]
Logical Device : 20A                    Check Date :  2000-03-28 14:12:20
                                    Stripe          Stripe
  No  CCHH     Reason      PDEV#    CCHH    CCHH     LBA     LBA
   1  053A 00  Unchekable  HDD-02  053A 00  053A 00  ------  ------
   2  053A 01  Unchekable  HDD-02  053A 01  053A 01  ------  ------
   3  053A 0A  Unchekable  HDD-02  053A 0A  053A 0A  ------  ------
   4  053A 0B  Unchekable  HDD-02  053A 0B  053A 0B  ------  ------
   5  053A 0C  Unchekable  HDD-02  053A 0C  053A 0C  ------  ------
   6  053A 0D  Unchekable  HDD-02  053A 0D  053A 0D  ------  ------
   7  053A 0E  Unchekable  HDD-02  053A 0E  053A 0E  ------  ------
   8  053B 00  Unchekable  HDD-02  053B 00  053B 00  ------  ------
   9  053B 01  Unchekable  HDD-02  053B 01  053B 01  ------  ------
  10  053B 02  Unchekable  HDD-02  053B 02  053B 02  ------  ------
  11  053B 0B  Unchekable  HDD-02  053B 0B  053B 0B  ------  ------
  12  053B 0C  Unchekable  HDD-02  053B 0C  053B 0C  ------  ------
  13  053B 0D  Unchekable  HDD-02  053B 0D  053B 0D  ------  ------
  14  053B 0E  Unchekable  HDD-02  053B 0E  053B 0E  ------  ------
  15  053C 00  Unchekable  HDD-02  053C 00  053C 00  ------  ------
  16  053C 01  Unchekable  HDD-02  053C 01  053C 01  ------  ------
     + : This parity check information are separately displayed in the next/before page.
        [   Close   ]      [  Before  ]      [   Next   ]
```

REV.1	Sep.2002	Dec.2002				

(11) Select (CL) [Close] in the 'Detail' dialog box.
    Go to (9).

---

(12) "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 Dump
    button." is displayed.

If you want to terminate processing, select (CL) [Yes] and go to (13).
If you want to output the result to a file, select (CL) [No] and go to (9).

---

(13) When the parity synchronization check is not
    interrupted, a message, "Parity synchronization check
    was completed normally," is displayed.

    When the parity synchronization check is interrupted,
    a message, "The SVP interrupted the synchronization
    check of the logical device," is displayed.

---

(14) Select (CL) [close] in the 'Logical Device Status' dialog box.
    Close the 'Maintenance' window.

| REV.3 | Oct.2001 | Jun.2002 | Sep.2002 | Dec.2002 | | |

SVP02-830

[7] LDEV recovery for multiple PDEV failures

If this procedure is performed, the blockaded PDEV within a parity group will be restore and LDEV will be recovered in the collection access state. (It may be unable to restore depending on the contents of the obstacle of PDEV.)

Notice:
This function does not eliminate an obstacle factor. After data backup, PDEV replace and LDEV format may be required.
Please inform a technical support center and be sure to follow the directions for this judgment.

---

(1) Select (CL) ECC group from the LDEV list box
     in the 'Logical Device Status' dialog box.

     Restore by Ldev unit :
     Select (CL) [Detail] ------------ Go to (2-1)
     Restore by ECC group :
     Select (CL) [Restore] ---------- Go to (2-2)
     (It can select multiple items at once)
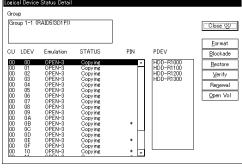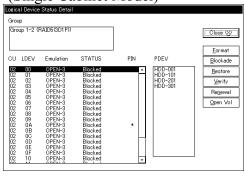
      Note: Execute Restore Logical Device after you
             confirm that the target Logical Device is blocked.

(2-1) Select (CL) LDEVs which you want to format
      from "Logical Device Status Detail", and
      select (CL) [Restore]. Go to (2-2).
      (It can select multiple items at once.)

(Multi Cabinet Model)

(Single Cabinet Model)

| REV.2 | Oct.2001 | Jun.2002 | Dec.2002 | | | |

(2-2) Select (CL) the corresponding LDEV from the LDEV ID list
in the 'Logical Device' dialog box and select (CL) [OK].
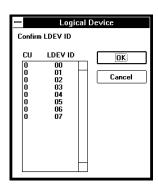
If the target LDEV was not blocked, return to the 'Logical Device
Status' dialog box.
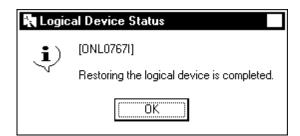
(3) "Restoring..." is displayed.
The recoverable PDEV is restored.

If "The replaced physical devices could not
spin up." is displayed, this recovery procedure
cannot be performed.
Execute the Work ID = RDK7 on page
REP01-150.

(4) Select (CL) [OK] in response to "Restoring the
logical devices is completed.".

(5) Please refer ECC group status.
If status is 'Blocked', execute the Work ID = RDK7 on page REP01-150.
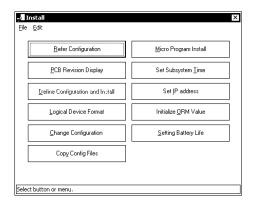
Select (CL) [Close] in the 'Logical Device Status' dialog box.
Close the 'Maintenance'.

REV.1	Oct.2001	Dec.2002				

SVP02-850

[8] Only a Blockade Logical Device FORMAT with together
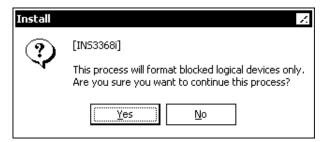
Notice
Executing this operation may cause a serious error such as a system down or a data loss. Accordingly, confirmation of the appropriateness of the operation and input of a password on the succeeding password input screen is required.

(1) Select (CL) [Logical Device Format].

Install
File Edit

Refer Configuration	Micro Program Install
PCB Revision Display	Set Subsystem Time
Define Configuration and Install	Set IP address
Logical Device Format	Initialize QRM Value
Change Configuration	Setting Battery Life
Copy Config Files	

Select button or menu.

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

Install

[INS3368i]

This process will format blocked logical devices only.
Are you sure you want to continue this process?

Yes   No

(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.".

Install

[INS3448W]

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.

OK   Cancel

| REV.1 | Apr.2002 | Sep.2002 | | | | |
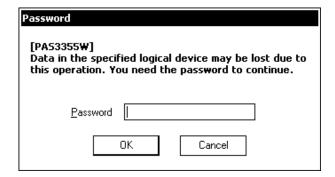
(4) "Data in the specified device may be lost due to this operation. You need the password to continue." is displayed.
Enter the password and select (CL) [OK].
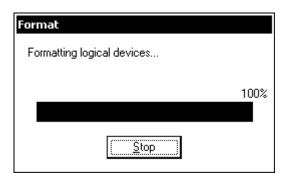
Password

[PAS3355W]
Data in the specified logical device may be lost due to this operation. You need the password to continue.

Password

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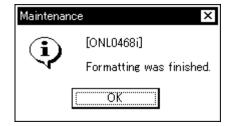
Notice
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

---

(5) "Formatting logical device..." is displayed.

Format

Formatting logical devices...

100%

Stop

---

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

Maintenance ✕

ⓘ [ONL0468i]

Formatting was finished.

OK

---

(7) Close the 'Install' window.

| REV.1 | Apr.2002 | Sep.2002 | | | | | |

2.11.2 Open VOL
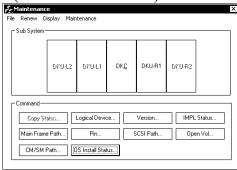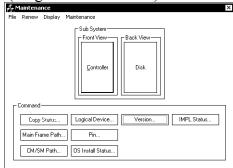
(1) Select (CL) the [Maintenance] in the 'SVP' window.

(2) Select (CL) [Open VOL] in the 'Maintenance' Window.

　　If the shredding process is running for some logical devices from Storage Navigator, go to (3).
If the Shredding process is not running, go to (4).

(Multi Cabinet Model)

(Single Cabinet Model)

| REV.3 | Oct.2001 | Jun.2002 | Dec.2002 | Sep.2004 | | |

(3) "Shredding" is displayed.

If processing is finished. ------------- Go to (4).
If you want to close the Window, select (CL)
[Close].   ------------- Go to (2).
If you want to interrupt this process, select (CL)
[Stop].
Note: Confirm to user that the process is
interrupted.   -------------- Go to (4).

Shredding

(01 /08) Result Outputting

12%

| Stop | Close |

(4) 'Open VOL' is displayed.

Open VOL   ☒

CU [00] ▼   Close (X)

CU:LDEV	Open VOL	Path	Status
00:00	OPEN-9		Blocked
00:01	OPEN-9		Blocked
00:02	OPEN-9		Blocked
00:03	OPEN-9		Blocked
00:04	OPEN-9		Blocked
00:05	OPEN-9		Blocked
00:06	OPEN-9		Blocked
00:07	OPEN-9		Blocked
00:08	OPEN-9		Blocked
00:09	OPEN-9		Blocked
00:0A	OPEN-9		Blocked
00:0B	OPEN-9		Blocked
00:0C	OPEN-9		Blocked
00:0D	OPEN-9		Blocked
00:0E	OPEN-9		Blocked

Detail...

Format

Blockade

Restore

REV.2	Oct.2001	Sep.2002	Sep.2004			
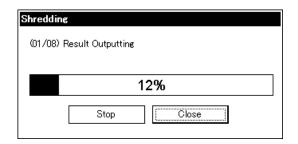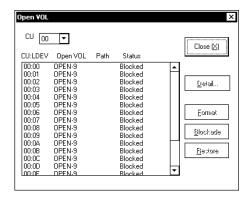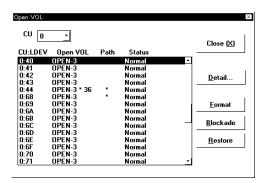
[1] FORMAT Open VOL
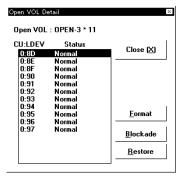
(1) Select (CL) Open VOL from the Open VOL list box in
    the 'Open VOL' window.

    Format by LDEV unit:
    Select (CL) [Detail] ------------Go to (2)
    Format by Open VOL:
    Select (CL) [Format] -----------Go to (3)
    (It can select multiple items at once.)

    Note: Execute Format Open VOL after you confirm
           that the target Open VOL is blocked.
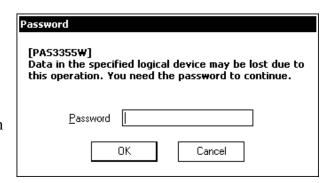
(2) Select (CL) LDEVs which you want to format from 'Open VOL
    Detail' window, and select (CL) [Format]. Go to (3).
    (It can select multiple items at once.)
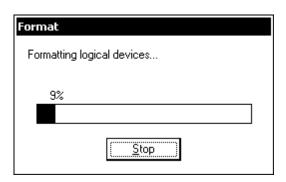
(3) "Data in the specified logical device may be
    lost due to this operation. You need the
    password to continue." is displayed.
    Enter the password and select (CL) [OK].

    Password is needed for this operation.
    Please call Technical Support Center to obtain
    the password and authorization.

REV.2	Oct.2001	Apr.2002	Sep.2002			

SVP02-880

(4) "Formatting the logical device..." is displayed.

Format

Formatting logical devices...

9%

Stop

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

Logical Device Status

[ONL0468I]

Formatting was finished.

OK

(6) Select (CL) [Close] in the 'Open VOL' window.
Close the 'Maintenance' window.

REV.1	Oct.2001	Feb.2002					
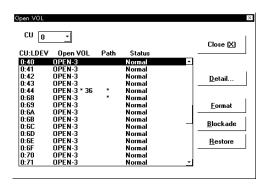
[2] Block Open VOL
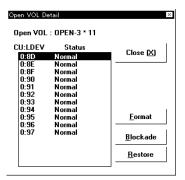
(1) Select (CL) Open VOL from the Open VOL list box in
the 'Open VOL' window.

Blocked by LDEV unit:
Select (CL) [Detail] ------------Go to (2)
Blocked by Open VOL:
Select (CL) [Block]-------------Go to (3)
(It can select multiple items at once.)

  Note: Execute Format Open VOL after you confirm
        that the target Open VOL is blocked.

(2) Select (CL) LDEVs which you want to block from the 'Open VOL
Detail' window, and select (CL) [Blockade]. Go to (3).
(It can select multiple items at once.)

(3) "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].
Password is needed for this operation.
Please call Technical Support Center to obtain
the password and authorization.

REV.2	Oct.2001	Apr.2002	Sep.2002			

SVP02-900

(4) "Blocking the logical device..." is displayed.

(5) Select (CL) [OK] in response to "Blocking the logical device is completed.".

```
Logical Device Status                    □

  i)    [ONL0765I]

        Blocking the logical device is completed.

              ┌──────────────┐
              │      OK       │
              └──────────────┘
```

(6) Select (CL) [Close] in the 'Open VOL' window.
Close the 'Maintenance' window.

SVP02-910
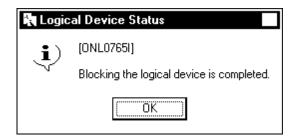
[3] Restore Open VOL

(1) Select (CL) Open VOL from the Open VOL list box in
the 'Open VOL' window.

Restore by LDEV unit:
Select (CL) [Detail] ------------Go to (2)
Restore by Open VOL:
Select (CL) [Restore]-----------Go to (3)
(It can select multiple items at once.)
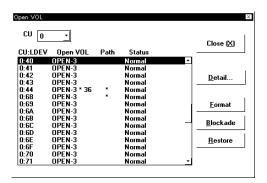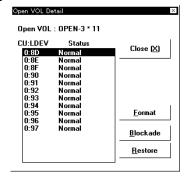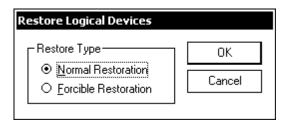
  Note: Execute Restore Open VOL after you confirm
        that the target Open VOL is blocked.

(2) Select (CL) LDEVs which you want to restore from the 'Open VOL
Detail' window, and select (CL) [Restore]. Go to (3).
(It can select multiple items at once.)

(3) Select (CL) the corresponding item from the
Restore Type in the 'Restore Logical Devices'
window and select (CL) [OK].
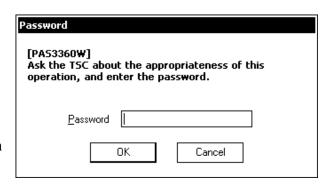
If "Forcible Restoration" is selected, the
message "Ask the TSC about the
appropriateness of this operation, and enter
the password." is displayed.
Enter the password and select (CL) [OK].
Password is needed for this operation.
Please call Technical Support Center to obtain
the password and authorization.

(4) "Restoring..." is displayed.

(5) Select (CL) [OK] in response to "Restoring the
logical device is completed.".

Logical Device Status

[ONL0767I]

Restoring the logical device is completed.

OK

(6) Select (CL) [Close] in the 'Open VOL' window.
Close the 'Maintenance' window.
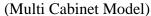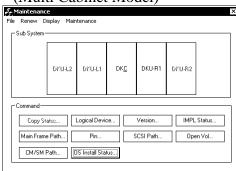
2.12 Pin Data indication
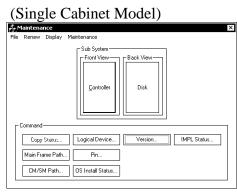
Prerequisite operation
(1) Select (CL) [Maintenance].

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

(Multi Cabinet Model)

(Single Cabinet Model)

REV.2	Oct.2001	Jun.2002	Dec.2002			

SVP02-940
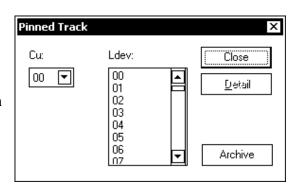
(3) Display an LDEV with a pinned slot. Select (CL) the LDEV, details of which you want to display, in "Ldev" and select (CL) "Detail….".
--------------Go to Step (4).

Pinned Track

Cu:	Ldev:	
00 ▼	00 01 02 03 04 05 06 07	Close / Detail / Archive

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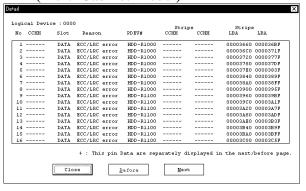
  Note: If a Pin Slot has some recoverable trouble, the detail of the Pin Slot will not be displayed. In case of OPEN-LDEV, only LBA's Pin Slots are displayed. But, if the Pin Slot of LBA's can't be displayed, "-----" is displayed in both CCHH and LBA columns.

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

(Multi Cabinet Model)

```
Detail                                                                    ☒
Logical Device : 0000
                                    Stripe          Stripe
No  CCHH    Slot   Reason       PDEV#   CCHH    CCHH    LBA      LBA
  1 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  00003660 000036BF
  2 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  000036C0 0000371F
  3 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  00003720 0000377F
  4 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  00003780 000037DF
  5 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  000037E0 0000383F
  6 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  00003840 0000389F
  7 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  000038A0 000038FF
  8 ------  DATA   ECC/LRC error  HDD-R1000  ------  ------  00003900 0000395F
  9 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003960 000039BF
 10 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  000039C0 00003A1F
 11 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003A20 00003A7F
 12 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003A80 00003ADF
 13 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003AE0 00003B3F
 14 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003B40 00003B9F
 15 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003BA0 00003BFF
 16 ------  DATA   ECC/LRC error  HDD-R1100  ------  ------  00003C00 00003C5F

          + : This pin Data are separately displayed in the next/before page.

        Close          Before          Next
```

(Single Cabinet Model)

```
Detail                                                                    ☒
Logical Device : 0000
                                    Stripe          Stripe
No  CCHH    Slot   Reason       PDEV#   CCHH    CCHH    LBA      LBA
  1 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  00003660 000036BF
  2 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  000036C0 0000371F
  3 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  00003720 0000377F
  4 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  00003780 000037DF
  5 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  000037E0 0000383F
  6 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  00003840 0000389F
  7 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  000038A0 000038FF
  8 ------  DATA   ECC/LRC error  HDD- 000  ------  ------  00003900 0000395F
  9 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003960 000039BF
 10 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  000039C0 00003A1F
 11 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003A20 00003A7F
 12 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003A80 00003ADF
 13 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003AE0 00003B3F
 14 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003B40 00003B9F
 15 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003BA0 00003BFF
 16 ------  DATA   ECC/LRC error  HDD- 100  ------  ------  00003C00 00003C5F

          + : This pin Data are separately displayed in the next/before page.

        Close          Before          Next
```

REV.2	Oct.2001	Jun.2002	Dec.2002			

(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].
                --------------Go to Step (3).

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

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

REV.0	Dec.2002					

SVP02-955

2.13 Multi PCB Replace

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

(2) <Maintenance>
The 'Maintenance' window is displayed.
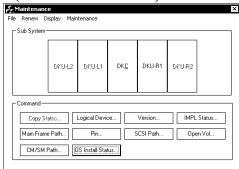
(Multi Cabinet Model)
In the 'Maintenance' window, check and select (CL) [Controller] to be replaced.

(Single Cabinet Model)
In the 'Maintenance' window, check and select (CL) [Controller] to be replaced.

(Multi Cabinet Model)
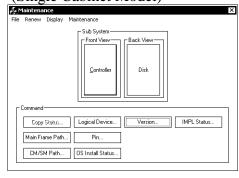
(Single Cabinet Model)

(3)
(Multi Cabinet Model)
<DKC window>
Select (CL) [Cluster-n] in the 'DKC'.
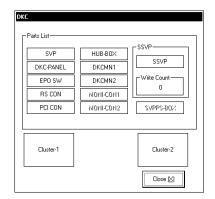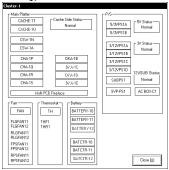
(Single Cabinet Model)
<Controller window>
Select (CL) [Cluster-n] in the 'Controller'.
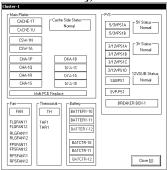
(4) <Select Multi PCB Replace>
    Select (CL) [Multi PCB Replace].
    Selecting (CL) [Close] returns you to step (3).
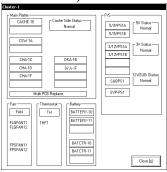
(Multi Cabinet Single Phase Model,
Multi Cabinet 3 Phase Model
[30A AC BOX])

(Multi Cabinet 3 Phase Model
[Without 30A AC BOX])

(Single Cabinet Model)

(ex. Cluster-1)

REV.2	Oct.2001	Jun.2002	Dec.2002			

SVP02-970
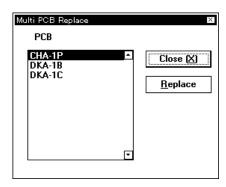
(5) <Select CHA/DKA>
Select (CL) CHA/DKA PCB.
Select (CL) [Replace].

```
Multi PCB Replace                    ☒
   PCB

  CHA-1P        ▲      ╔═══════════╗
  DKA-1B               ║  Close (X) ║
  DKA-1C               ╚═══════════╝
                       ┌───────────┐
                       │  Replace  │
                       └───────────┘




                 ▼
```
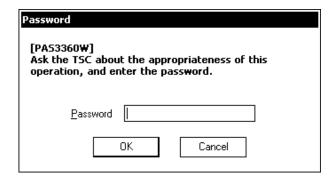
Notice:
When the subsystem is placed online, ask the customer to place it offline.

Notice:
When the screen prompting an operator to input a password in order to prevent
multiple maintenance, contact the technical support center to ask for instructions.

---

(6) <Enter Password>
Enter the password in response to
[Password?] and select (CL) [OK].

```
Password

[PAS3360W]
Ask the TSC about the appropriateness of this
operation, and enter the password.


      Password  │                        │

            ┌────────┐      ┌────────┐
            │   OK   │      │ Cancel │
            └────────┘      └────────┘
```

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.

---

(7) <Confirm Channel Path offline>
Select (CL) [OK] in response to
"Please confirm you have already varied off
the concerned Channel paths. If OK, please
press OK."

```
Replace                                                    [X]
  /!\   [ONL0839W]
        Please confirm you have already varied off the concerned Channel paths. If OK, please press OK.

              [ OK ]      Cancel
```

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

```
Replace                                                    [/]
  /!\   [ONL2393W]

        Confirm that you have already shut down the corresponding connected SCSI host(s) or switched to the alternate
        SCSI channel path(s).
        Do you want to continue processing?

              [ Yes ]      No
```

If a NAS adapter is installed:
After you confirm that you have stopped
concerned service, select (CL) [Yes].

```
Replace                                                    [/]
  /!\   [ONL3470i]

        Confirm that you have already shut down the corresponding service or switched the service to the alternative node.
        Do you want to continue processing?

              [ Yes ]      No
```

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

```
Replace                                                    [/]
  /!\   [ONL2464W]

        Confirm that you have already varied off the concerned channel paths.
        Also confirm that you have already shut down the corresponding connected SCSI host(s) or switched to the alternate
        SCSI channel path(s).
        Do you want to continue processing?

              [ Yes ]      No
```

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

```
Replace                                                    [/]
  /!\   [ONL3471i]

        Confirm that you have already varied off the concerned channel paths.
        Also confirm that you have already shut down the corresponding service or switched the service to the alternative
        node.
        Do you want to continue processing?

              [ Yes ]      No
```

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

```
Replace                                                    [/]
  /!\   [ONL3472i]

        Confirm that you have already shut down the corresponding connected SCSI host(s) or switched to the alternate
        SCSI channel path(s).
        Also confirm that you have already shut down the corresponding service or switched the service to the alternative
        node.
        Do you want to continue processing?

              [ Yes ]      No
```

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

```
Replace                                                    [/]
  /!\   [ONL3473i]

        Confirm that you have already varied off the concerned channel paths.
        Also confirm that you have already shut down the corresponding connected SCSI host(s) or switched to the alternate
        SCSI channel path(s).
        And confirm that you have already shut down the corresponding service or switched the service to the alternative
        node.
        Do you want to continue processing?

              [ Yes ]      No
```

REV.2	Oct.2001	Feb.2002	Dec.2002			

(8) <Caution message for system down>

Replace

⚠ [ONL0578W]

Do you want to pull out the DKA now?

[Yes]   [No]

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)"

---
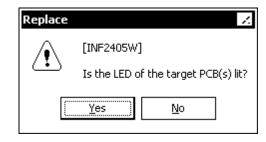
(9) <CHA/DKA blocking>
* For CHA
"The CHA-xx is being blocked... Usually, several minutes (maximum 15 minutes)"
* For DKA
"The DKA-xx is being blocked..."

---

(10) <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.

Replace

⚠ [INF2405W]

Is the LED of the target PCB(s) lit?

[Yes]   [No]

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, then pull it out without considering the status of the LED".

Replace

[ONL0843]

Please insert the jumper into the target PCB, then pull it out without considering the status of the LED.

[OK]

For CHA (SERIAL) HARDWARE C (REP03-80)
For FIBRE   HARDWARE D (REP03-110)
For DKA HARDWARE E (REP03-140)
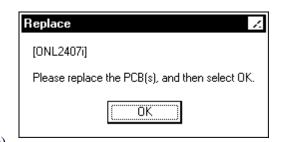
REV.2	Oct.2001	Feb.2002	Dec.2002			

(11) <Beginning of CHA / DKA Replacement>
"Please replace the PCB(s), and then select OK." is
displayed.
Select (CL) [OK] after replacing the PCBs.

Replace

[ONL2407i]

Please replace the PCB(s), and then select OK.

    OK

For CHA (Serial) Go to HARDWARE C (REP03-80)
For FIBRE   Go to HARDWARE D (REP03-110)
For DKA Go to HARDWARE E (REP03-140)

(12)
Select (CL) [OK] in response to "Please replace the PCB(s). After replacement, please press
OK."
"Waiting for Power Event... Usually, several minutes (maximum 10 minutes)" is displayed.

(13) <Check the recovery processing>
The following message is displayed:
* For DKA
"Restoring the DKA-xx..."
"DKA-xx is being path recovered..."
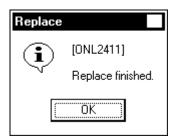
REV.0	Oct.2001					

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

```
Replace                          □
  (i)   [ONL2411]
        Replace finished.
      ┌──────────────┐
      │      OK       │
      └──────────────┘
```

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>
Whenever a CHA is replaced, set the path (from the host) on the replaced CHA to ONLINE by your customer.

(16) <SIM Complete>
Go to SVP02-580.

(17)
Close the 'Multi PCB Replace' window.
Close the 'Cluster-n' window.
Close the 'Maintenance' window.

| REV.0 | Oct.2001 | | | | | |

SVP02-1020

2.14 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.
- Offline : No sleep. (No considering HOST job)

> **NOTICE**
> 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> PS Off Timer ------------ Enters the Destage time. (25 [min])
- OFF : The Destage time is effectively.
- ON : The Destage time is ineffectively, and change the Destage time.
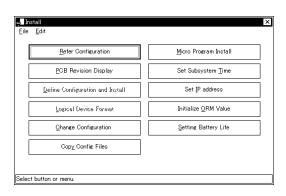
<6> AC Box ------------------- Change the DKC and DKU AC Box configuration.
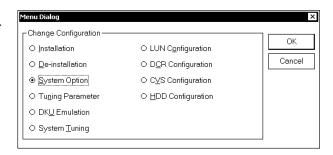
<7> Link Fail Threshold ----- Set up the threshold which notifies the link failure.

(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].
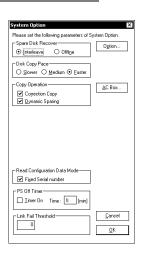
Install
File Edit

Refer Configuration	Micro Program Install
PCB Revision Display	Set Subsystem Time
Define Configuration and Install	Set IP address
Logical Device Format	Initialize ORM Value
Change Configuration	Setting Battery Life
Copy Config Files	

Select button or menu.

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

Menu Dialog

Change Configuration

○ Installation   ○ LUN Configuration   OK
○ De-installation   ○ DCR Configuration   Cancel
◉ System Option   ○ CVS Configuration
○ Tuning Parameter   ○ HDD Configuration
○ DKU Emulation
○ System Tuning
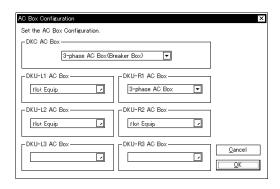
(4) Select (CL) the desired item in the 'System Option' dialog box, and select (CL) [OK].
[AC Box...]: Set the DKC and DKU AC Box configuration.
(Refer to step 4-1.)

System Option

Please set the following parameters of System Option.

Spare Disk Recover
◉ Interleave ○ Offline   Option...

Disk Copy Pace
○ Slower ○ Medium ◉ Faster

Copy Operation   AC Box...
☑ Correction Copy
☑ Dynamic Sparing

Read Configuration Data Mode
☑ Fixed Serial number

PS Off Timer
☐ Timer On   Time : [0] [min]

Link Fail Threshold   Cancel
[0]   OK

REV.4	Oct.2001	Feb.2002	Dec.2002	Oct.2003	Mar.2004	

SVP02-1040

(4-1) <Setting the AC Box configuration>
Set the DKC and DKU AC Box configuration, select (CL) the [OK]. Return to step 4.

(5) "Loading configuration..." is displayed.

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

(7) "Reading subsystem configuration data..." is displayed.
"Please insert the Config FD in the FDD." is displayed.
Insert the configuration FD into FDD, select (CL) [OK].
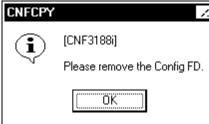
REV.1	Oct.2001	Oct.2003				

SVP02-1050
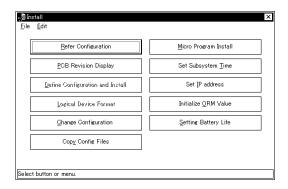
(8) When this procedure is completed, the message "Please remove the Config FD." is displayed.
Remove the FD, select (CL) [OK].

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

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

REV.2	Oct.2001	Dec.2002	Oct.2003			

SVP02-1060

2.15 Blocking of Cluster

⚠ CAUTION
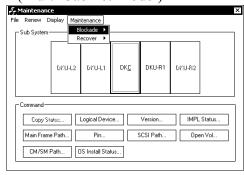
This is a special operation. Ask the technical support center about the appropriateness of the operation.

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

1. Select (CL) [Maintenance].
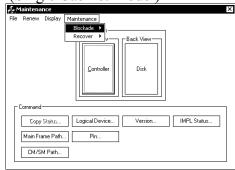
2. Select (CL) the [Maintenance] menu in the 'Maintenance' dialog box and select(DR) [Blockade].

(Multi Cabinet Model)

(Single Cabinet Model)

REV.4	Oct.2001	Feb.2002	Jun.2002	Aug.2002	Dec.2002	
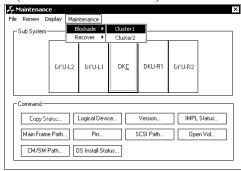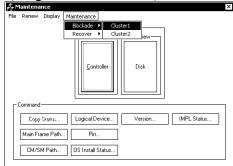
3. Select (DR) the [Cluster-n] to be blocked.

(Multi Cabinet Model)

(Single Cabinet Model)

| REV.3 | Oct.2001 | Feb.2002 | Jun.2002 | Dec.2002 | | |

4. Beginning of Blocking

   • When only serial or parallel channels, or they are mixed.
   Select [Yes] (CL) in response to "Please confirm you have already varied off the concerned channel path(s). Do you want to block xxxxx?".

   ```
   Others
     (?)   [SPC1188i]
           Please confirm you have already varied off the concerned channel path(s). Do you want to block Cluster-1 ?
                        [ Yes ]    [ No ]
   ```

   • When SCSI channels and other kinds are mixed.
   Select [Yes] (CL) in response to "Please confirm you have already varied off the concerned channel path(s). Please confirm you have already shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI channel path(s). Do you want to block xxxxx?".

   ```
   Others
     (?)   [SPC2148i]
           Please confirm you have already varied off the concerned channel path(s). Please confirm you have already
           shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI channel path(s). Do you want to
           block Cluster-1?
                        [ Yes ]    [ No ]
   ```

   • When only SCSI channels are installed.
   Select [Yes] (CL) in response to "Please confirm you have already shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI channel path(s). Do you want to block xxxxx?".

   ```
   Others
     (?)   [SPC2149i]
           Please confirm you have already shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI
           channel path(s). Do you want to block Cluster-1?
                        [ Yes ]    [ No ]
   ```

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

REV.2	Oct.2001	Feb.2002	Aug.2002			

SVP02-1090
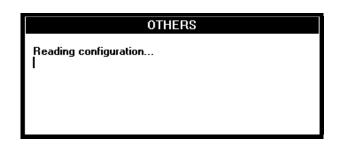
5. Processing to Cluster block.

   "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..."

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

7. Close the 'Maintenance' window.

REV.0	Oct.2001					

SVP02-1100

2.16 Recovering of Cluster
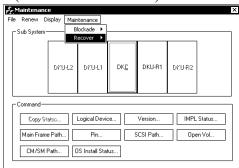
Note: Before recovering of Cluster, please reboot SVP.

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

1. Select (CL) [Maintenance]
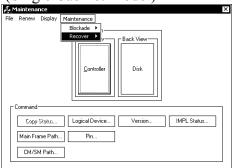
2. Select (CL) the [Maintenance] menu in the 'Maintenance' and select(DR) [Recover].

(Multi Cabinet Model)

(Single Cabinet Model)

REV.4	Oct.2001	Feb.2002	Jun.2002	Aug.2002	Dec.2002	

SVP02-1110
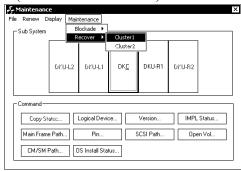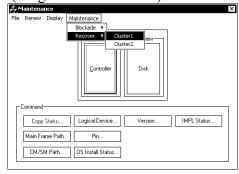
3. Select (DR) [Cluster-n] to be recovered. (Multi Cabinet Model)

(Single Cabinet Model)
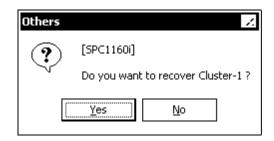
4. Beginning of Recovery
Select [Yes] (CL) in response to "Do you want to recover xxxx?".

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

If Cluster 1/2 is fail.　　　Go to 5
If Cluster 1/2 is blockade.　Go to 8
If Cluster 1/2 is normal.　　Go to 9

Others

[SPC1160i]

Do you want to recover Cluster-1 ?

Yes　　No

5. Confirm varied Off-line.
   • When only serial or parallel channels, or they are mixed.
   Select [OK] (CL) in response to "This
   operation will block xxxxx before recovery.
   Please confirm you have already varied off the
   concerned channel path(s). Do you want to
   continue?".

   • When SCSI channels and other kinds are mixed.
   Select [OK] (CL) in response to "This
   operation will block xxxxx before recovery.
   Please confirm following items.
   1. Varied off the channel path(s).
   2. Shutdown connecting SCSI host(s) or
   switched to the alternate SCSI channel path(s).
   Do you want to continue?".

   • When only SCSI channels are installed.
   Select [OK] (CL) in response to "This
   operation will block xxxxx before recovery.
   Please confirm you have already shutdown
   concerned connecting SCSI host(s) or
   switched to the alternate SCSI channel path(s). Do you want to continue?".

   Valid xxxxx values are listed below.
   • Cluster-1
   • Cluster-2
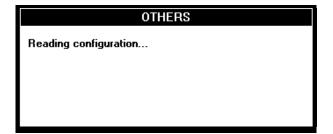
REV.1	Oct.2001	Feb.2002				

6. 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..."

```
┌─────────────────────────────────┐
│            OTHERS               │
├─────────────────────────────────┤
│ Reading configuration...        │
│                                 │
│                                 │
│                                 │
└─────────────────────────────────┘
```

7.

> ⚠ **CAUTION**
>
> - In this section, operate only 5/3VPSxA and 5/3VPSxB in the appropriate cluster.
> - Do not operate other PSs. 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 LED TEST/CHK RST switch.

Select [OK] (CL) response to
"Please perform the following operation.
1.Switch all 5/3VPSs in Cluster-X to DISABLE.
2.Switch all 5/3VPSs in Cluster-X to ENABLE.
3.Turn the LED TEST/CHK RST switch on DKC-PANEL to CHK RST.
4.Select OK.".
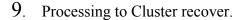
Valid X values are listed below.
- Cluster-1 --- 1
- Cluster-2 --- 2

REV.1	Oct.2001	Aug.2002				

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

9. 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 CSW Path test..."
"Restoring shared memory..."
"Restoring cache memory..."
"Processing to enable the environment check..."

OTHERS
Reading configuration...

REV.0	Oct.2001					

SVP02-1150

10. End of Cluster Recover
    • When only serial or parallel channels, or they are mixed.
    Select (CL) [OK] in response to "The restore has finished. Cluster is enabled. The concerned channel path(s) are available. Please vary the path(s) on.".
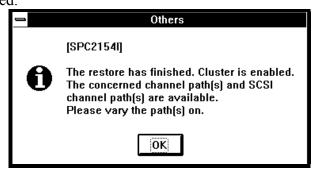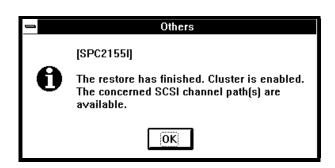
    • When SCSI channels and other kinds are mixed.
    Select (CL) [OK] in response to "The restore has finished. Cluster is enabled. The concerned channel path(s) and SCSI channel path(s) are available. Please vary the path(s) on.".

    • When only SCSI channels are installed.
    Select (CL) [OK] in response to "The restore has finished. Cluster is enabled. The concerned SCSI channel path(s) are available.".
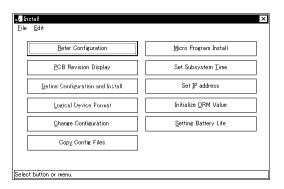
11. Close the 'Maintenance' window.

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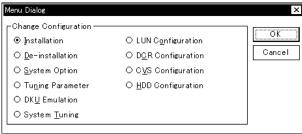
2.17 HDD Configuration

(1) Select (CL) [Install].
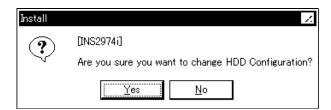
(2) Select (CL) [Change Configuration] on the 'Install' map screen in the 'Install' screen.

```
Install
File   Edit

   Refer Configuration            Micro Program Install

   PCB Revision Display           Set Subsystem Time

   Define Configuration and Install   Set IP address

   Logical Device Format          Initialize QRM Value

   Change Configuration           Setting Battery Life

   Copy Config Files

Select button or menu.
```

(3) Select (CL) [HDD Configuration] on the 'Menu Dialog' screen, and select (CL) [OK].

```
Menu Dialog
 Change Configuration
   ⊙ Installation          ○ LUN Configuration      OK
   ○ De-installation       ○ DCR Configuration      Cancel
   ○ System Option         ○ CVS Configuration
   ○ Tuning Parameter      ○ HDD Configuration
   ○ DKU Emulation
   ○ System Tuning
```
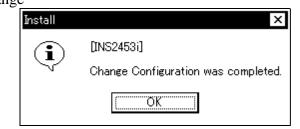
(4) Select (CL) [Yes] in response to the message "Are you sure you want to change HDD Configuration?".

```
Install
   ?   [INS2974i]
       Are you sure you want to change HDD Configuration?

            Yes        No
```

REV.0	Oct.2001					

SVP02-1170
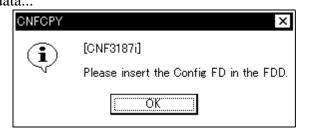
(5) The message "Loading Configuration..." is displayed.
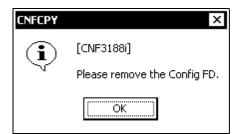
(6) Select (CL) [OK] in response to the message "Change Configuration was completed." to terminate the processing.

```
Install                                    ×
   (i)   [INS2453i]

         Change Configuration was completed.

              [      OK      ]
```

(7) The message "Reading subsystem configuration data..." is displayed, and also the message "Please insert the Config FD in the FDD." is displayed. Insert Config FD into FDD and select (CL) [OK].

```
CNFCPY                                     ×
   (i)   [CNF3187i]

         Please insert the Config FD in the FDD.

              [      OK      ]
```

(8) After the completion of FD backup, the message "Please remove the Config FD." is displayed. Pull out FD from FDD and select (CL) [OK].

```
CNFCPY                                     ×
   (i)   [CNF3188i]

         Please remove the Config FD.

              [      OK      ]
```

| REV.0 | Oct.2001 | | | | | |

SVP02-1180
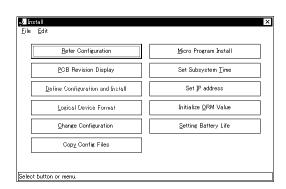
2.18 PCB Revision Display

(1) Select (CL) [Install] in the 'SVP' window.
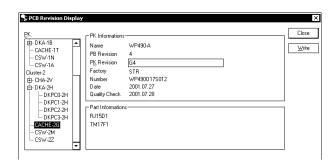
(2) Select (CL) [PCB Revision Display] in the 'Install' window.

(3) 'Reading or Writing PCB revision informations...' is displayed.

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(4) Select a PCB 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.


```
PCB Revision Display                                          ×
PK:                    ┌ PK Informations ──────────┐    ┌ Close ┐
⊞ DKA-1B          ▲    Name          WP490-A             └───────┘
   CACHE-1T            PB Revision    4                  ┌ Write ┐
   CSW-1N             PK Revision    G4                  └───────┘
   CSW-1A             Factory        STR
Cluster-2             Number         WP490O17S012
⊞ CHA-2V             Date           2001.07.27
⊟ DKA-2H             Quality Check   2001.07.28
   DKPC0-2H
   DKPC1-2H          ┌ Part Informations ───────────┐
   DKPC2-2H          RJ15D1
   DKPC3-2H          TM17F1
  CACHE-2G
   CSW-2M
   CSW-2Z      ▼
```

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

(6) Close the 'Install' window.

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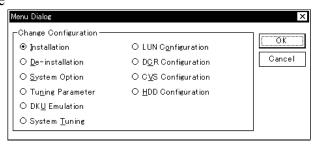
2.19 Tuning Parameter

(1) Exchange threshold information. (See MICRO-FC08-10)
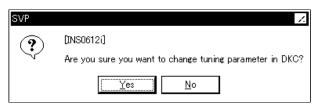
(2) Select (CL) [Install].

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

(4) Select (CL) the [Tuning Parameter] menu in the 'Menu Dialog' window and select (CL) [OK].

```
Menu Dialog                                                    ☒
┌─ Change Configuration ──────────────────────────┐    ┌─────────┐
│  ⦿ Installation          ○ LUN Configuration    │    │   OK    │
│  ○ De-installation       ○ DCR Configuration    │    └─────────┘
│  ○ System Option         ○ CVS Configuration    │    ┌─────────┐
│  ○ Tuning Parameter      ○ HDD Configuration    │    │ Cancel  │
│  ○ DKU Emulation                                │    └─────────┘
│  ○ System Tuning                                │
└─────────────────────────────────────────────────┘
```

REV.0	Oct.2001					

SVP02-1210

(5) Select (CL) [Yes] for a message of confirming.

SVP

(?) [INS0612i]

Are you sure you want to change tuning parameter in DKC?

[Yes]   [No]
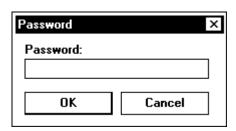
(6) Select (CL) [OK] for a message of finishing.

SVP   [×]

(i) [INS1043i]

Process is normal end.

[OK]

| REV.0 | Oct.2001 | | | | | |

SVP02-1220
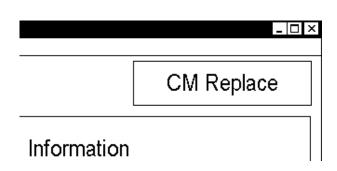
2.20 Change CM Module group size

1.   Close the all SVP menu.

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

```
Password                              ×
Password:
┌─────────────────────────────────┐
│                                 │
└─────────────────────────────────┘
  ┌──────────────┐  ┌──────────────┐
  │      OK      │  │    Cancel    │
  └──────────────┘  └──────────────┘
```

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

```
                                    _ □ ×
┌──────────────────────┐
│     CM Replace       │
└──────────────────────┘

   Information
```

REV.2	Oct.2001	Aug.2002	Sep.2003			

4. <Maintenance window>
'Maintenance' window is displayed.

(Multi Cabinet Model)
In the 'Maintenance' window, check and select
(CL) [DKC] to be replaced.

(Single Cabinet Model)
In the 'Maintenance' window, check and select
(CL) [Controller] to be replaced.

(Multi Cabinet Model)

(Single Cabinet Model)

5.
(Multi Cabinet Model)
<DKC window>
Select (CL) [Cluster-n] in the 'DKC'.
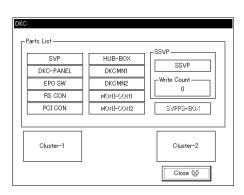
(Single Cabinet Model)
<Controller window>
Select (CL) [Cluster-n] in the 'Controller'.

REV.3	Oct.2001	Jun.2002	Aug.2002	Sep.2003		

SVP02-1240
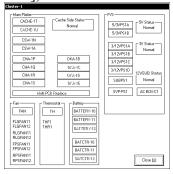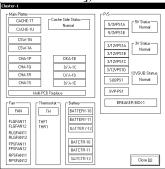
6. <Select Cache>
Select (CL) part.

(Multi Cabinet Single Phase Model,
Multi Cabinet 3 Phase Model
[30A AC BOX])

(Multi Cabinet 3 Phase Model
[Without 30A AC BOX])

(Single Cabinet Model)

(ex. Cluster-1)

	REV.0	Sep.2003					

SVP02-1245

7. <Replace>
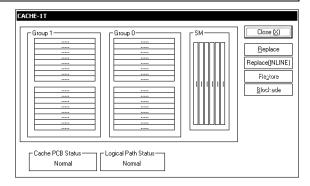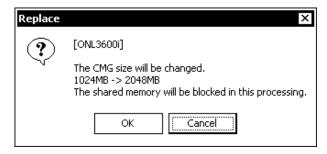
> ### ⚠ CAUTION
>
> When the screen appears prompting the operator to input a password to prevent multiple maintenance or for executing a pin check, contact the technical support center to ask for instructions.

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

8. <Change the Cache Memory Module Size>
Select (CL) module size in the 'Cache Memory Module Size Mode', and select (CL) [OK].

"The CMG size will be changed. xxxxMB -> xxxxMB The shared memory will be blocked in this processing.", and select (CL) [OK].
xxxx is CMG of before and after size.

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

9. <Check beginning of cache blocking>
Select (CL) [Yes] after making sure that the package to be blocked is correct in response to:
"Are you sure you want to block the Shared Memory and Cache Memory PCB? If you select [Yes], physically pulling off and putting in of PCB will be unavoidable."

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SVP02-1250
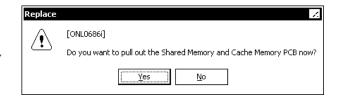
10. <Cache blocking>
"The Cache Memory PCB is being blocked." is displayed.
"The Shared Memory PCB is being blocked…" is displayed.

11. <Check removal of cache>
Select (CL) [Yes] in response to:
* For CACHE (with SM)
"Do you want to pull out the Shared Memory and Cache Memory PCB now?"
* For CACHE
"Do you want to pull out the Cache Memory PCB now?"

Replace

[ONL0686i]

Do you want to pull out the Shared Memory and Cache Memory PCB now?

Yes   No
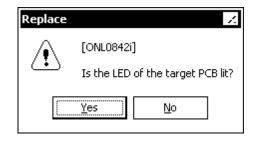
12. <Check shut down LED>
Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to "Is the LED of the target PCB lit?".
When [No] is selected , the same message is displayed again.
Check the LED and then reply to a message.

Replace

[ONL0842i]

Is the LED of the target PCB lit?

Yes   No

<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 jumper into the target PCB (CACHE-nn), then pull it out without considering the status of the LED".
(Refer REP03-50)

Replace

[ONL0843i]

Please insert the jumper into the target PCB(CACHE-1T), then pull out the PCB without considering the status of the LED.

OK
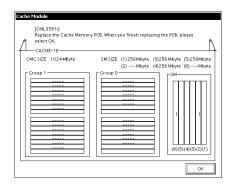
13. <Cache Replacement>
    At this point refrain from pressing the [OK] button.
    "Replace the Cache Memory PCB. When you finish
    replacing the PCB, please select OK." is displayed.

    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.)

14. <Replace cache PCB>
    Replace cache.

    See HARDWARE B (REP03-50)

15. <Check the beginning of cache/SM recovery>

⚠ CAUTION
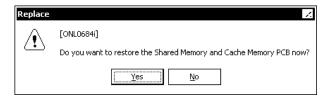
Selecting "No" stops the recovery and places the cache in the status being blocked
for maintenance.

Select (CL) [Yes] in response to:
* For CACHE (with SM)
"Do you want to restore the Shared Memory
and Cache Memory PCB now?"
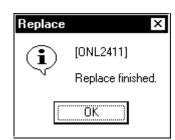
REV.2	Oct.2001	Aug.2002	Sep.2003			

16. <Restoring the Shared Memory>
 "Restoring the Shared Memory PCB..." is displayed.

17. <Restoring the Cache Memory>
 "Restoring the Cache Memory PCB..." is displayed.

18. <Check the end of Cache/Shared Memory recovery>
 Select (CL) [OK] in response to "Replace finished.".

```
┌─────────────────────────────────┐
│ Replace                    [X]  │
├─────────────────────────────────┤
│   ┌──┐   [ONL2411]              │
│   │ i│                          │
│   └──┘   Replace finished.      │
│                                 │
│        ┌──────────────┐         │
│        │     OK       │         │
│        └──────────────┘         │
└─────────────────────────────────┘
```

REV.3	Oct.2001	Feb.2002	Aug.2002	Sep.2003		

SVP02-1270

19.

Close 'CACHE-xx' 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 19.
Select [Cluster-2], [CACHE-2G] or [CACHE-2F].

21.

Close 'DKC' window.
Close 'Maintenance' window.
Change the mode to [View Mode].

REV.2	Oct.2001	Aug.2002	Sep.2003			

SVP02-1280
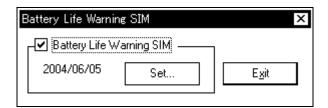
2.21 Setting Battery Life
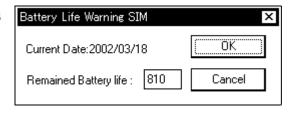
Set the Battery Life warning SIM to prompt to prepare the periodical exchange maintenance of a battery before the lifetime of the battery (2.5 years) equipped in the Subsystem.
Set the number of days remained until you generate [Battery Life Warning SIM] based on your maintenance plan.

1.

Select (CL) the [Setting Battery Life] menu in the 'Install' window.

2.

Select [Set...] applying the check to 'Battery Life Warning SIM'.

Battery Life Warning SIM	✕
☑ Battery Life Warning SIM	
2004/06/05 Set... Exit	

3.

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

Battery Life Warning SIM	✕
Current Date:2002/03/18	OK
Remained Battery life : 810	Cancel
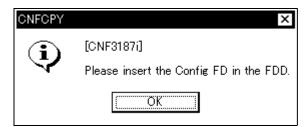
Note 1: After executing the periodical exchange of a battery, set 27 month (810 days).

Note 2: Default value is 27 month (810 days), which is 3 month earlier than the lifetime of a battery (2.5 years).
Determine the number of days remained based on your maintenance plan.
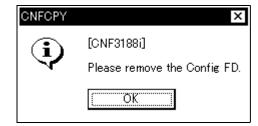
4.

"Please insert the Config FD in the FDD." is displayed. Insert the configuration FD into FDD, select (CL) [OK].

CNFCPY

[CNF3187i]

Please insert the Config FD in the FDD.

OK

5.

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

CNFCPY

[CNF3188i]

Please remove the Config FD.

OK

6.

"Backup Configuration…" is displayed.

CNFCPY Wait…

Backup Configuration…

7.

Close the 'Install' window.

REV.0	Aug.2002					

2.22 Switch SVPs

This SVP function is valid if SVP High Reliability Kit is installed.

[1] Operating Master SVP
(1) <Initial screen>

---
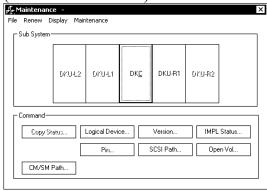
(2) <Operation mode change>
Change the mode to [Modify Mode].
Select (CL) [Maintenance].

---

(3) <Maintenance window>
The 'Maintenance' window is displayed.
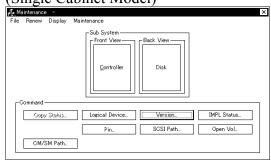
(Multi Cabinet Model)
In the 'Maintenance' window, check and select (CL) [DKC] to be replaced.

(Single Cabinet Model)
In the 'Maintenance' window, check and select (CL) [Controller] to be replaced.

(Multi Cabinet Model)

(Single Cabinet Model)

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(4)
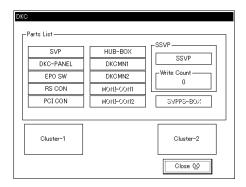
(Multi Cabinet Model)
<DKC window>
Select (CL) [SVP] in the 'DKC'.
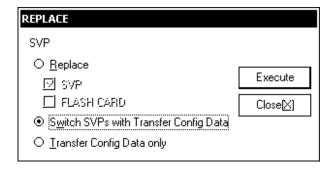
(Single Cabinet Model)
<Controller window>
Select (CL) [SVP] in the 'Controller'.
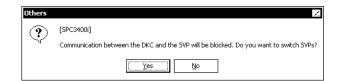
(5) <Replace window>
Select (CL) "Switch SVPs with Transfer
Config Data" in the 'Replace' window.
And select (CL) [Execute].

(6) <Execution>
Select (CL) [Yes].

* The switching takes about 30 minutes.
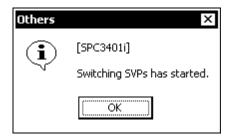
(7) <Transfer status>
"Transferring subsystem configuration data…" in
displayed.

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SVP02-1320

(8) <Checking beginning of the SVP switching>
The message "Switching SVPs has started." is displayed.
The SVP is powered off automatically owing to the SVP
switching. Make sure that the Standby SVP has started up.

[2] Operating Standby SVP
(1)
The Standby SVP restarts automatically again after the Standby SVP is powered on.
Wait until restart is end.

(2) <Initial screen>
When the RAID Information window is
displayed, the switching has been completed.

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2.23 Transferring Configuration Data

This SVP function is valid if SVP High Reliability Kit is installed.
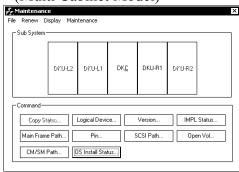
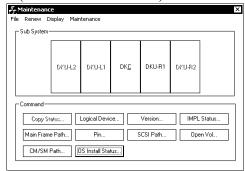(1) Change the mode to [Modify Mode].
Select (CL) [Maintenance].
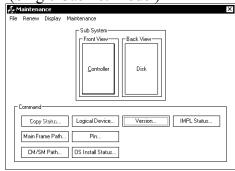
(2) The "Maintenance" window is displayed.
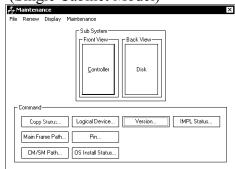
(Multi Cabinet Model)
In the 'Maintenance' window, check and select (CL)
[DKC] to be replaced.

(Single Cabinet Model)
In the "Maintenance' window, check and select (CL)
[Controller] to be replaced.

(Multi Cabinet Model)

(Single Cabinet Model)

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(3)　　　　　　　　　　　　　　　　　　　　　　　(Multi Cabinet Model)
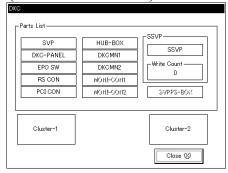
(Multi Cabinet Model)
In the 'DKC' window, check and select (CL) [SVP] to be
replaced.
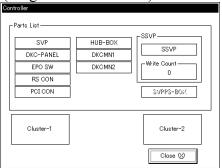
(Single Cabinet Model)
In the 'Controller' window, check and select (CL) [SVP] to
be replaced.
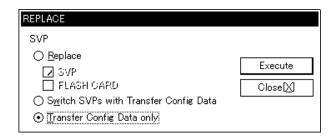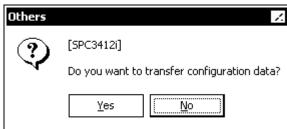
(Single Cabinet Model)

(4) Select (CL) "Transfer Config Data only", and
select (CL) [Execute].

(5) In response to a message "Do you want to transfer
configuration data?", select (CL) [Yes].

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SVP02-1350
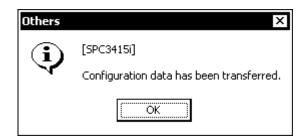
(6) "Transferring subsystem configuration data..."
is displayed.

```
Transferring subsystem configuration data...

       Phase 1/3
```

(7) "Configuration data has been transferred."
is displayed, when Configuration data has been
transferred. Select (CL) [OK].
If error has occurred while transferring, correct
that a replaced SVP has problem of connecting
and/or setting.

```
Others                             ☒
 (i)   [SPC3415i]
       Configuration data has been transferred.
              OK
```

(8)

(Multi Cabinet Model)
Close 'DKC' window.
Close 'Maintenance' window.

(Single Cabinet Model)
Close 'Controller' window.
Close 'Maintenance' window.

(9)
Change the SVP mode to [View Mode].

| REV.0 | Oct.2003 | | | | | |

SVP02-1360

3 Activating and Terminating STATUS

3.1 Activating STATUS
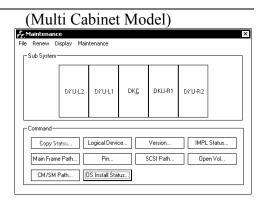
   (1) Select (CL) the [Maintenance] in the 'SVP' window.
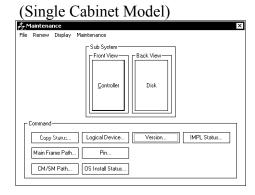
   (2) The 'Maintenance' window will appear, on which the message "Reading the Subsystem Configuration. Please wait..." is displayed. Upon completion of reading the system configuration information, go to step (3). If a read error occurs, go to step (4) or (5).

> **Reading the Subsystem Configuration.**
>
> **Please wait ...**

       * :   Please do not change an application's window until SVP-DKC communication finishes.

   (3) The main screen on the right will appear the 'Maintenance' window, and the status activates.

(Multi Cabinet Model)

(Single Cabinet Model)

| REV.3 | Oct.2001 | Jun.2002 | Aug.2002 | Dec.2002 | | |

(4) If an error occurs, the details of error is displayed.
"Cluster X is failed!"
X : 1 or 2
Select (CL) [OK].
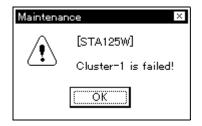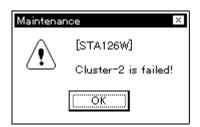
If the status is power supply fault (refer to step SVP03-70), see
TROUBLE SHOOTING SECTION (refer to step 3.2.7
(TRBL03-180)).

If the status is normal power supply (refer to step SVP03-70), see
SVP SECTION (refer to step 2.16 (SVP02-1110)).

> Maintenance [×]
> ⚠ [STA125W]
> Cluster-1 is failed!
> [OK]

> Maintenance [×]
> ⚠ [STA126W]
> Cluster-2 is failed!
> [OK]
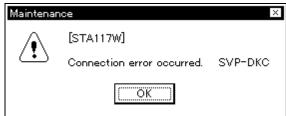
(5) If an error occurs, the details of the error is displayed.
① "Connection error occurred. SVP-XXX" is
displayed.
XXX : DKC or SSVP
② "Initializing SSVP (Phase X/16) Please Wait"
X : 1~16
③ "SSVP Dump is being performed (Phase
X/15). Environment Status cannot be read."
X : 1~15
Select (CL) [OK].

> Maintenance [×]
> ⚠ [STA117W]
> Connection error occurred.   SVP-DKC
> [OK]

REV.1	Oct.2001	Aug.2002			
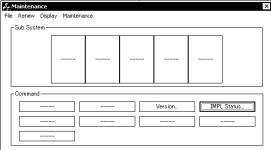
(6) The similar screen as in step (3) will appear, but "-----" on the button shows that it has an error. Terminate the STATUS and remove the cause of the error, and then reactivate STATUS.
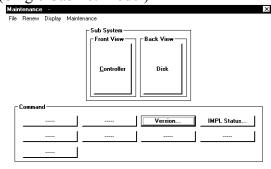
Note: When a communication error occurred on either the SVP-DKC or the SVP-SSVP, the status that was taken through communication is displayed.
The example on the right is the screen displayed when a communication error occurs in SVP-DKC and SVP-SSVP.

* When a communication error occurred on either SVP-DKC or SVP-SSVP, refer to "5.3 Recovery Procedure for LAN Error (TRBL05-60)".

(Multi Cabinet Model)

(Single Cabinet Model)

| REV.3 | Oct.2001 | Feb.2002 | Jun.2002 | Aug.2002 | | |

3.2 Terminating STATUS

(1) Close the 'Maintenance' window.
Select (CL) [File] - [Exit] in menu bar on
'Maintenance'. (Screen on the right.)
or
Select (DC) Control Box at the left on the title bar.
or
Select (CL) Control Box - [Close].

3.3 Updating the STATUS display

The STATUS display remains unchanged while the screen is displayed or being switched.
To display the latest status, follow the procedure below.

(1) Select (CL) [Renew] - [Renew Status] in the
menu bar on the main screen. (Screen on the
right)
or
(2) Terminate STATUS and activate it again.

| REV.0 | Oct.2001 | | | | | |

SVP03-40

3.4 Main screen

After the STATUS is activated, the buttons on the 'Maintenance' window indicate each status as follows.

(Multi Cabinet Model)   (Multi Cabinet Model)

DKC................... Status of the DKC (Details are displayed
                   on the lower layered screen.)
                      Valid button   : Normal
                      Blinking button : Failure or under
                                      maintenance

DKU-R1,R2,R3,L1,L2,L3
         .... Status of the DKU (Details are displayed
                   on the lower layered screen.)
                      Valid button   : Normal
                      Blinking button : Failure or under maintenance or during a copy operation
                      Invalid button   : Non-mounted

(Single Cabinet Model)   (Single Cabinet Model)

Controller........... Status of the Controller (Details are
                   displayed on the lower layered screen.)
                      Valid button   : Normal
                      Blinking button : Failure or under
                                        maintenance

Disk................... Status of the Disk (Details are displayed on
                   the lower layered screen.)
                      Valid button   : Normal
                      Blinking button : Failure or under maintenance or during a copy operation
                      Invalid button   : Non-mounted

Copy Status........ Status of copy operation
                      Blinking button : Copy operation is in progress. (Details are displayed on the
                                      lower layered screen.)
                      Invalid button   : Copy operation is not performed. (The lower layered screen
                                      is not provided.)

Logical Device... Logical device information is displayed on the lower layered screen.
                      Valid button   : Normal
                      Blinking button : Failure or vender maintenance.
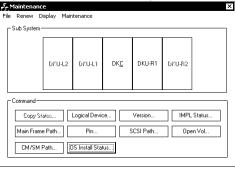
Version.................... Version information on the micro-program is displayed on the lower layered screen.

SCSI Path................ SCSI Path definition is displayed.

Pin........................... Pinned Track is displayed.

IMPL Status............ Each MP of IMPL Sequence codes are displayed.

Main Frame Path .... LCP Path and HTP Path information are displayed on the lower layered screen.

Open Vol................. Open Volume information is displayed on the lower layered screen.
        Valid button   : Normal
        Blinking button : Failure or vender maintenance.
        No displayed   : Non open volume

CM/SM Path........... CM/SM Path information is displayed on the lower layered screen.

OS Install Status ..... OS Install Status for CHN PCBs are displayed on the lower layered screen.
        Valid button   : Normal
        Blinking button : Installing or uninstalled
        No displayed   : Non-mounted CHN PCBs

The menus in the menu bar are explained below.

Renew .... A menu to read the configuration information, and update the status display.
(Select (CL) [Renew] – [Renew Status].)

File .... A menu to display the pull down menu to close the STATUS. Select (CL)
[Exit] to close the STATUS.

Display.................... A menu to display 'Cluster' by selecting (CL) [PCBs Cluster1] or [PCBs
Cluster2] from the pull down menu.

3.5 DKC (Controller)

(1) Status of DKC (Controller)
Select (CL) [DKC] ([Controller]) on the main screen.
The 'DKC' ('Controller') window will appear.
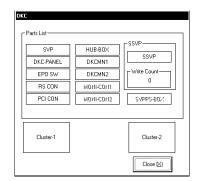
DKCMN-1 ....Status of DKCMN-1 and
DKCMN-2   DKCMN-2
                Valid button   : Normal
                Blinking button : Failure

Cluster-1.............Status of Cluster-1 and Cluster-2
Cluster-2   (Details are displayed on the lower layered screen.)

DKC Panel ....Only part names are displayed.
EPO SW
SVP
SSVP/HUB
RS CON
PCI CON
SVPPS-BOX

Write Count........Memory write Count of SSVP is displayed.

REV.1	Oct.2001	Dec.2002				

(2) Status of Cluster-1 and Cluster-2
Select (CL) [Cluster-1] or [Cluster-2] in the 'DKC' window.
The 'Cluster-1/2' window will appear.

3VPSnA .... Status of the power supplies
(3/12VPSnA)   Valid button   : Normal
5V/3VPSnA   Blinking button : Failure
3VPSnB   Remark: Parenthetic PS installed ENABLER
(3/12VPSnB)   KIT.
5V/3VPSnB
3VPSnC
(3/12VPSnC)
3VPSnD
(3/12VPSnD)
SUBPSn
SVP-PSn

(Multi Cabinet Single Phase Model,
Multi Cabinet 3 Phase Model
[30A AC BOX])

BREAKER BOX-n .. Only Breaker Box names are
displayed.

AC BOX-Xn .... Only AC Box names are displayed.

5V Status .... Status of the 5 voltage
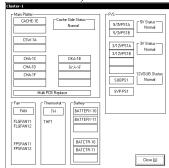
3V Status .... Status of the 3 voltage

12VSUB Status .... Status of the 12 voltage
                         • Normal
                         • Warning (abnormal)

(Multi Cabinet 3 Phase Model
[Without 30A AC BOX])

(Single Cabinet Model)

FLGFANn1 .... Status of the fans
FLGFANn2   Valid button   : Normal
RLGFANn1   Blinking button : Failure
RLGFANn2
RPSFANn1
RPSFANn2

THFn .... Status of the temperature
THRn   Valid button   : Normal
                    Blinking button : Abnormal

(ex. Cluster-1)

BATTERY-n0 .... Status of the expanded power supplies
BATTERY-n1   Valid button   : Normal
BATTERY-n2   Blinking button : Abnormal
BAT-CTR-n0
BAT-CTR-n1

REV.3	Oct.2001	Feb.2002	Jun.2002	Dec.2002		

SVP03-80

Cache Side Status..... Status of the Cache Side
- Normal
- Warning (abnormal)
- Failed (blocked due to a failure)
- Blocked (blocked for maintenance)

CACHE-nx............... Status of Cache (Details are displayed on the lower layered screen.)
Valid button   : Normal
Blinking button : Failure or under maintenance
Invalid button   : Non-mounted

CHA-nx.................. Status of the CHA (Details are displayed on the lower layered screen.)
Valid button   : Normal
Blinking button : Abnormal
Invalid button   : Non-mounted

DKA-nx.................. Status of the DKA (Details are displayed on the lower layered screen.)
Valid button   : Normal
Blinking button : Abnormal
Invalid button   : Non-mounted

n=1:Cluster1, n=2:Cluster2

REV.1	Oct.2001	Aug.2002				

(3) Status of each PCB (Cache)
Select (CL) one of [Cache-nxx/nx] in the
'Cluster-1/2' window.

The window for the selected PCB will appear.
The same configuration is used for all PCBs.

Cache Module .... Status of the cache
　　　　　　　　　　　memory module
　　　　　　　　　　　(Displayed for each module group)
　　　　　　　　　　　　　Valid button　　　: Normal
　　　　　　　　　　　　　Blinking '*' in the button : Failure
　　　　　　　　　　　　　'--' displayed in the button　: Non-mounted

SM............................ Status of the shared memory module
　　　　　　　　　　　　　Valid button　　　: Normal
　　　　　　　　　　　　　Blinking '*' in the button : Failure or under maintenance
　　　　　　　　　　　　　'¦' displayed in the button : Non-mounted

PCB Status .... Status of this package
　　　　　　　　　　　　　Valid button　　　: Normal
　　　　　　　　　　　　　Blinking button : Warning (abnormal)
　　　　　　　　　　　　　　　　　　　　　　: Blocked (blocked for maintenance)
　　　　　　　　　　　　　　　　　　　　　　: Failed (blocked due to a failure)
　　　　　　　　　　　　　　　　　　　　　　: Cache Access Error (PCB blocked and CMG
　　　　　　　　　　　　　　　　　　　　　　　normal)

Logical Path Status... Status of PCB Logical Path
　　　　　　　　　　　　　• Normal
　　　　　　　　　　　　　• Warning (abnormal)
　　　　　　　　　　　　　• Blocked (blocked for maintenance)
　　　　　　　　　　　　　• Failed (blocked due to a failure)

REV.0	Oct.2001					

(4) Status of the CHA
Select (CL) one of [CHA-nx] in the 'Cluster-1/2' window. The 'CHA' window will appear.
The CHA part location number is displayed in the title.

CHPX-XX................ Status of program CHP in the CHA
      Valid button   : Normal
      Blinking button : Failure

LCPXX.................... Status of program LCP in the LCM
      Valid button   : Normal
      Blinking button : Failure
      Invalid button   : Non-mounted

FCP XX................... Status of FCP
      Valid button   : Normal
      Blinking button : Failed or Blocked
      (status displayed under FCP button)
      Invalid button   : Non-mounted

HTP XX .... Status of program HTP
      Valid button   : Normal
      Blinking button : Failed
      Invalid button   : Non-mounted

NOP XX.................. Status of program NOP
      Valid button   : Normal
      Blinking button : Failed
      Invalid button   : Non-mounted

IOP XX .... Status of program IOP
      Valid button   : Normal
      Blinking button : Failed
      Invalid button   : Non-mounted

PCB Status .... Status of the CHA package
      • Normal
      • Warning (abnormal)
      • Blocked (blocked for maintenance)
      • Failed (blocked due to a failure)

Logical Path Status... Status of PCB Logical Path
      • Normal
      • Warning (abnormal)
      • Blocked (blocked for maintenance)
      • Failed (blocked due to a failure)

Mode .... Mode of the CHA package
      • Standard
      • Switching to Standard
      • Switching to High Speed
      • High Speed
      • Switching to High Speed (2 Port)
      • High Speed (2 Port)

REV.1	Jun.2003	Sep.2003				

(5) Status of the DKA

Select (CL) one of [DKA-nx] in the 'Cluster-1/2' window. The 'DKA' window will appear.

```
DKA-1B                                          ┌────────┐
                                                │Close (X)│
┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐     ├────────┤
│        │ │        │ │        │ │        │     │Replace │
│DKP80-1B│ │DKP81-1B│ │DKP82-1B│ │DKP83-1B│     ├────────┤
│        │ │        │ │        │ │        │     │Replace(Inline)│
└────────┘ └────────┘ └────────┘ └────────┘     ├────────┤
 DRR80-1B   DRR81-1B   DRR82-1B   DRR83-1B       │Restore │
 FCA-1B0    FCA-1B1    FCA-1B2    FCA-1B3        │Blockade│
                                                └────────┘
┌PCB Status┐ ┌Logical Path Status┐
│ Normal   │ │     Normal        │
└──────────┘ └───────────────────┘
```

DKPX-XX................ Status of programs DMP and
                        DSP in the DKA
                          Valid button   : Normal
                          Blinking button：Failure or under maintenance

FCA-XXX................ Status of the FCA (No. 0 ~ 3)

PCB Status .... Status of the DKA package
                          • Normal
                          • Warning (abnormal)
                          • Blocked (blocked for maintenance)
                          • Failed (blocked due to a failure)

DRR-XX .... Status of DRR
                          Valid button   : Normal
                          Blinking button：Failure

Logical Path Status... Status of PCB Logical Path
                          • Normal
                          • Warning (abnormal)
                          • Blocked (blocked for maintenance)
                          • Failed (blocked due to a failure)

REV.0	Oct.2001						

SVP03-120

3.6 DKU (Disk)

(1) Status of the DKU (Disk)
Select (CL) [DKU-R1], [DKU-R2], [DKU-R3], [DKU-L1], [DKU-L2] or [DKU-L3] (Disk) in the main screen. The 'DKU' ('Disk') window will appear.
The DKU (Disk) part location number is displayed in the title.

(Multi Cabinet Model)

HDU-XXn .... Status of the HDUs constituting the
HDU-n   selected DKU (Disk)
       (Details are displayed on the lower layered screen.)
           Valid button   : Normal
           Blinking button : Failure or under maintenance or copy work in progress
           Invalid button   : Non-mounted

(Single Cabinet Model)

DKUMN-XXF ... Status of DKU monitor
DKUMN-XXR   Valid button   : Normal
DKUMN-n   Blinking button : Failure
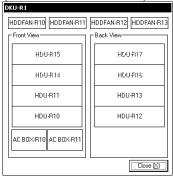
AC BOX-XXn.... Only AC BOX names are displayed.
AC BOX-n
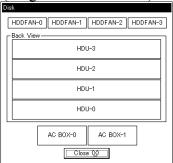
XX represents XX in DKU-XX: for example, R1 for DKU-R1 and L2 for DKU-L2.

REV.1	Oct.2001	Jun.2002				

(2) Status of the HDU (Multi Cabinet Model)
Select (CL) one of [HDU-XXn] ([HDU-n]) in the 'DKU' ('Disk')window. The 'HDU' window will appear.

XXn......Status of the HDDs constituting the HDU
nn   (Details are displayed on the lower layer screen.)
                    Valid button   : Normal
                    Blinking button   : PDEV error, failure, or under
                                              maintenance
                                              (Single Cabinet Model) Blocked
                                              port Copy work in progress
                    Invalid button   : Non-mounted
                    " ---- "button   : No information due to
                                               SVP-DKC error

(Multi Cabinet Model [DKU405])

MPS0............. Status of the HDU power supplies
MPS1   Valid button   : Normal
                       Blinking button : Failure
                       " ---- "button   : No information
                                                  due to SVP-SSVP error

FAN-XX0...... Status of the fans in the HDU
FAN-n   Valid button   : Normal
                       Blinking button : Failure
                       " ---- "button   : No information
                                                  due to SVP-SSVP error

(Single Cabinet Model)

• Multi Cabinet Model..... Only Fibre switch names are
  FSWXXn-Rn   displayed.
  FSWXXn-Ln   " ---- "button   : No
•Single Cabinet Model   information due
  FSWn-Rn   to SVP-SSVP error
  FSWn-Ln

JMPXXn-Rn ......Status of the HDU JMP
JMPXXn-Ln   Valid button   : Normal
JMPn-Rn   Blinking button : Failure
JMPn-Ln   " ---- "button   : No information due to SVP-DKC error
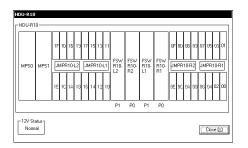
12V Status..........Status of the 12 voltage

5V Status............Status of the 5 voltage
                                • Normal
                                • Warning (abnormal)
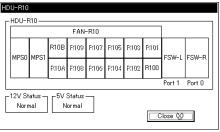
YYY represents YYY in HDU-YYY: when HDU-R12 is selected, for example, YYY is R12.

REV.2	Oct.2001	Feb.2002	Jun.2002			

(3) Status of the HDD
     Select (CL) one of [YYY0] to [YYYB] in the 'HDU' window.
     The 'HDD' window will appear.
     The HDD part location number is displayed in the title.

```
┌─HDD-R1002──────────────────────────────────┐
│ ┌─Device Type──────────┐    ┌─────────────┐ │
│ │ DKR2C-J018FC         │    │  Close (X)  │ │
│ └──────────────────────┘    ├─────────────┤ │
│   Group                     │   Replace   │ │
│ ┌──────────────────────┐    ├─────────────┤ │
│ │Group 1-3 (RAID5(3D1P))│   │Replace(INLINE)│
│ │                      │    ├─────────────┤ │
│ │                      │    │  Restore    │ │
│ └──────────────────────┘    ├─────────────┤ │
│ ┌─Device Status────────┐    │  Blockade   │ │
│ │                      │    ├─────────────┤ │
│ │                      │    │ Spare Disk  │ │
│ │       Normal         │    ├─────────────┤ │
│ │                      │    │ Restore Data│ │
│ │                      │    ├─────────────┤ │
│ └──────────────────────┘    │Correction Copy│
│ ┌─Port Status──────────┐    ├─────────────┤ │
│ │                      │    │Drive Interrupt│
│ │      Normal          │    ├─────────────┤ │
│ │                      │    │ LDEV Detail │ │
│ │                      │    ├─────────────┤ │
│ └──────────────────────┘    │   Renewal   │ │
│                             └─────────────┘ │
└────────────────────────────────────────────┘
```

Device Type .... Model name of the HDD

Group .... Number of the parity group to which the
                      HDD belongs

LDEV Detail ...... The involved logical devices are listed.

Device Status...... The status of the HDD and the work name are displayed.
- Normal
- Correction Copy (xx%)
- Copy Back (xx%)
- Drive Copy (xx%)
- Dynamic Sparing (xx%)
- Blocked (blocked for maintenance)
- Failed (blocked due to failure)
- Warning (Either Port is blocked.)
- Failed (Both Ports are blocked.)
- Free (available spare disk.)
- Reserved (unavailable spare disk. The spare disk is reserved.)
  During a copy operation, copy destination/copy source is displayed.
- to HDD-xx   : Data are copied from this drive to HDD-xx.
- from HDD-xx : Data are copied from HDD-xx to this drive.

Port Status .... Port status
- Normal
- Warning (Port 0 failed): port 0 is blocked.
- Warning (Port 1 failed): port 1 is blocked.
- Failed: Both ports are blocked.

REV.1	Oct.2001	Aug.2002				

3.7 Copy status

(1) Select (CL) [Copy Status] in the main screen.
The 'Copy Status' window will appear.

(Multi Cabinet Model)

Copy Task ....The operations of the drive copy currently
running are listed.
Correction Copy to HDD-XXXX
Dynamic Sparing HDD-XXXX->HDD-XXXX
Copy Back   HDD-XXXX->HDD-XXXX
Drive Copy   HDD-XXXX->HDD-XXXX

(Single Cabinet Model)

Group ....The number of the parity group to which the
target drive belongs.

Start ....Date and time when the job started

Progress................Degree of job progress (indicated in
percentage)

LDEV Detail ....Select (CL) one job item from the list.
And select (CL) the Button. The following
information on the selected LDEV ID will be
displayed.
CU......................CU ID
LDEV ID............Logical Device ID
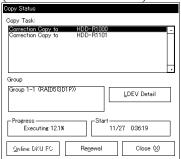
Online DKU FC ...During Online micro exchange processing or
discontinuation processing, the Button is Displayed.
On the selected (CL) the Button, OEM micro
exchange progress screen will be displayed.
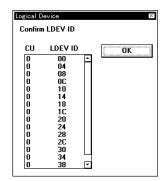
Renewal................Updating the STATUS. And the Status display.
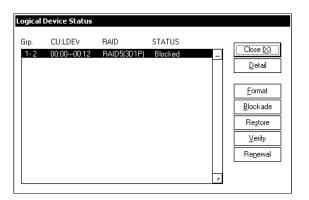
3.8 Logical device

(1) Select (CL) [Logical Device] in the main screen.
The 'Logical Device Status' window will appear.

Grp ....Grp ID
CU:LDEV ....List of the mounted logical
devices
RAID...............RAID Level
Status...............Status of the logical device

Select (CL) a logical device from the list. And select
(CL) [Detail] in the 'logical device status' screen.
The following information on the selected logical
device will be displayed:

Parity Group ....Parity group to which the Logical
Device belongs
PDEV ....The number of the HDD including the
Logical Device
PIN ....If an LDEV has PIN, SVP will
indicate the PIN status as '*'.
'*' : PIN occurred.
' ' : Normal (PIN did not occur).
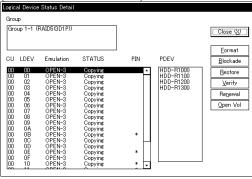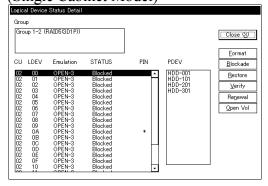
(Multi Cabinet Model)

(Single Cabinet Model)

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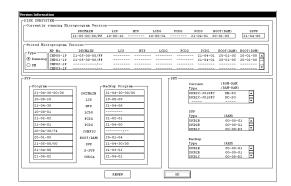
3.9 Micro-program version

Select (CL) [Version] from the main screen.
The message indicating that the version data of the
currently running micro-program is being read is
displayed, followed by the message indicating that the
version data of the disk drive is read. Finally, the
message indicating that the version data of the micro-
program in the processor is being read is displayed.
Then, the 'Version Information' dialog box is displayed.

* Do not change the application's window until SVP-
  DKC communication finishes.

DISK SUBSYSTEM area : Displays the version of the currently running micro-program.
  • Representative version
  • Version of each processor
SVP area : Displays the version of the micro-program saved in the SVP.
  • Latest version in the SVP
  • Old version in the SVP
DKU area
  • Drive version

In the version display areas, a hyphen "-" indicates that micro-program is not installed.
In the version display areas, a question mark "?" indicates that version data could not be obtained,
and the letter "x" indicates that the obtained data is invalid.
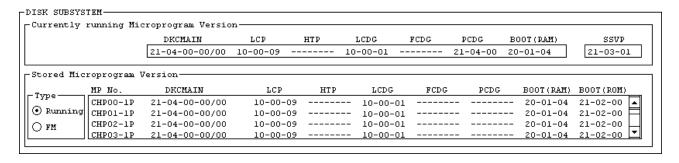
If the version of the PCB which has already been installed is indicated as "x", exchange the micro-
code corresponding to "x" by micro FC (refer to MICRO-FC SECTION 4.4 Hard Disk Download
(MICRO-FC04-160)).

To obtain new version data, select (CL) [RENEW]. The contents of the display will be updated
accordingly.

To quit the version display, select (CL) [OK]. This will take you back to the main screen.

[1] DISK SUBSYSTEM area

```
┌DISK SUBSYSTEM─────────────────────────────────────────────────────────────────────┐
│┌Currently running Microprogram Version─────────────────────────────────────────┐  │
││              DKCMAIN      LCP      HTP      LCDG     FCDG     PCDG    BOOT(RAM)      SSVP   │
││            ┌─────────────────────────────────────────────────────────────┐   ┌────────┐│
││            │21-04-00-00/00  10-00-09  --------  10-00-01  --------  21-04-00  20-01-04│   │21-03-01││
││            └─────────────────────────────────────────────────────────────┘   └────────┘│
│└───────────────────────────────────────────────────────────────────────────────┘  │
│┌Stored Microprogram Version────────────────────────────────────────────────────┐  │
││         MP No.    DKCMAIN        LCP      HTP      LCDG     FCDG     PCDG    BOOT(RAM) BOOT(ROM) │
│┌Type┐  │CHP00-1P  21-04-00-00/00  10-00-09  --------  10-00-01  --------  --------  20-01-04  21-02-00 │▲│
││⊙ Running│CHP01-1P  21-04-00-00/00  10-00-09  --------  10-00-01  --------  --------  20-01-04  21-02-00 │ │
││○ FM    │CHP02-1P  21-04-00-00/00  10-00-09  --------  10-00-01  --------  --------  20-01-04  21-02-00 │ │
│└────┘  │CHP03-1P  21-04-00-00/00  10-00-09  --------  10-00-01  --------  --------  20-01-04  21-02-00 │▼│
│└───────────────────────────────────────────────────────────────────────────────┘  │
└───────────────────────────────────────────────────────────────────────────────────┘
```

(1) Representative version and version for each processor
     The Currently running Micro-program Version area displays the representative version of
     micro-program currently running.
     The Stored Micro-program Version per Processor area displays the version of the currently
     running micro-program for each processor.
     (This parameter specifies the kind of DKCMAIN micro program version.) If you select
     "Running", currently running DKCMAIN micro program version in SM is displayed. If you
     select "FM", DKCMAIN micro program version in FM is displayed.
     A micro-program is divided into eight items: MAIN, LCP, HTP, LCDG, FCDG, PCDG,
     BOOT (RAM), BOOT (ROM). The version of MAIN is displayed in the form of VV-RR-NN-
     PP/nn. The other versions are displayed in the form of VV-RR-NN.
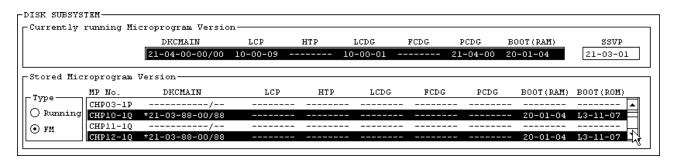
     The representative version may be displayed in reverse video. This display indicates that there
     is a processor version that does not match the representative version. The processor displayed
     in reverse video in the Stored Micro-program Version per Processor area is the one that caused
     a mismatch. An asterisk "*" in front of a version number indicates the mismatching item in the
     mismatching processor.

```
┌DISK SUBSYSTEM─────────────────────────────────────────────────────────────────────┐
│┌Currently running Microprogram Version─────────────────────────────────────────┐  │
││              DKCMAIN      LCP      HTP      LCDG     FCDG     PCDG    BOOT(RAM)      SSVP   │
││            ┌─────────────────────────────────────────────────────────────┐   ┌────────┐│
││            │21-04-00-00/00  10-00-09  --------  10-00-01  --------  21-04-00  20-01-04│   │21-03-01││
││            └─────────────────────────────────────────────────────────────┘   └────────┘│
│└───────────────────────────────────────────────────────────────────────────────┘  │
│┌Stored Microprogram Version────────────────────────────────────────────────────┐  │
││         MP No.    DKCMAIN        LCP      HTP      LCDG     FCDG     PCDG    BOOT(RAM) BOOT(ROM) │
│┌Type┐  │CHP03-1P  -----------/--  --------  --------  --------  --------  --------  --------  -------- │▲│
││○ Running│CHP10-1Q  *21-03-88-00/88  --------  --------  --------  --------  --------  20-01-04  L3-11-07 │ │
││⊙ FM    │CHP11-1Q  -----------/--  --------  --------  --------  --------  --------  --------  -------- │ │
│└────┘  │CHP12-1Q  *21-03-88-00/88  --------  --------  --------  --------  --------  20-01-04  L3-11-07 │▼│
│└───────────────────────────────────────────────────────────────────────────────┘  │
└───────────────────────────────────────────────────────────────────────────────────┘
```

REV.2	Oct.2001	Jun.2002	Dec.2002			

(2) Patch status display
Select (DC) one line from the list in the Stored Micro-program
Version per Processor area on the 'Version Information' dialog
box.
A 'Patch Map' dialog box will be displayed, showing the patch
status for the target processor.

MP No .... Processor ID
All Map .... List of all maps. All maps in the FM and
SVP are displayed. When a match is not
found between a map in the FM and the corresponding map in the SVP, an
asterisk "*" is displayed between them.
Difference Map.... Only the maps which do not provide a match between the FM and SVP in
All Map.

The example on the right is processor CHP0-1E and shows the contents for patch ID numbers
00 and 02 are contained in the flash memory (FM) but not in the SVP.

To quit the patch status map display, select (CL) [OK].

(3) Drive version
The DKU area on the 'Version Information' dialog box lists
drive versions as ROM Version-RAM Version. If types of
drives are OEM drives, it lists version as RAM Version (xx-
xx) only.
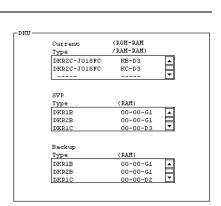
Type   : Types of drives currently running (DKxxx).
Current : Version of micro-program currently running.
SVP   : New version of micro-program stored in SVP hard
disk. (00-00-RAM Version)
Backup   : Old version of micro-program stored in SVP hard
disk. (00-00-RAM Version)

(4) Drive name display

(Multi Cabinet Model)
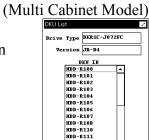
Select (DC) one line from the list in the DKU area on the 'Version Information' dialog box. The 'DKU List' dialog box will be displayed, in which the drive identified by the version are listed.

Drive Type ...... Types of drives identified by the selected version.
Version .... Selected version
DKU ID .... List of IDs of the drives identified by the selected version.
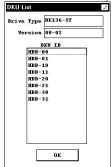
To quit 'Drive List', select (CL) [OK].

(Single Cabinet Model)
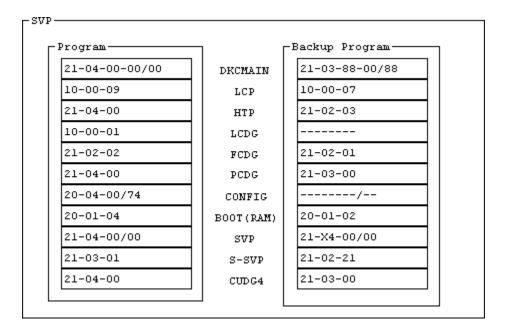
REV.1	Oct.2001	Jun.2002				

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[2] SVP area

```
┌─SVP──────────────────────────────────────────────────────────────┐
│  ┌─Program─────────────┐              ┌─Backup Program──────────┐  │
│  │ 21-04-00-00/00      │   DKCMAIN    │ 21-03-88-00/88          │  │
│  │ 10-00-09            │     LCP      │ 10-00-07                │  │
│  │ 21-04-00            │     HTP      │ 21-02-03                │  │
│  │ 10-00-01            │    LCDG      │ --------                │  │
│  │ 21-02-02            │    FCDG      │ 21-02-01                │  │
│  │ 21-04-00            │    PCDG      │ 21-03-00                │  │
│  │ 20-04-00/74         │   CONFIG     │ --------/--             │  │
│  │ 20-01-04            │  BOOT(RAM)   │ 20-01-02                │  │
│  │ 21-04-00/00         │     SVP      │ 21-X4-00/00             │  │
│  │ 21-03-01            │    S-SVP     │ 21-02-21                │  │
│  │ 21-04-00            │    CUDG4     │ 21-03-00                │  │
│  └─────────────────────┘              └─────────────────────────┘  │
└───────────────────────────────────────────────────────────────────┘
```

This area displays the versions of two generations (previous and most recent) of micro-programs saved on the SVP hard disk. Each micro-program is divided into eleven items: MAIN, LCP, HTP, LCDG, FCDG, PCDG, CONFIG, BOOT (RAM), SVP, S-SVP, and CUDG4. The version of MAIN is displayed in the form of VV-RR-NN-PP/nn while that of SVP, CONFIG is displayed in the form of VV-RR-NN/nn. The other versions are displayed in the form of VV-RR-NN.

Program Version ....The latest version is displayed.
Backup Program Version ....The old version is displayed.
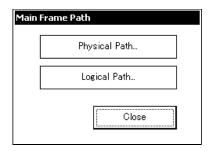
3.10 LCP/HTP Path

Select (CL) [Main Frame Path] from the main screen.
The message shown on the right is displayed while the SVP is
reading path information from the DKC.

```
Wait...
```

Upon completion of reading the path information, the Main Frame
Path screen is displayed for selecting the physical or logical path.
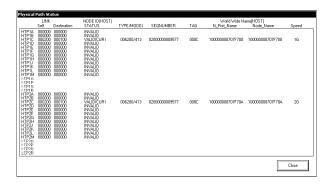
* Do not change window until SVP-DKC communication finishes.

Main Frame Path

Physical Path...

Logical Path...

Close

(1) Physical Path
Select (CL) [Physical Path] in the screen.
The 'Physical Path Status' window will
appear.

LCPxx/RCPxx/HTPxx..LCP/RCP/HTP
                     mountposition

LINK ADDR
    Self............................ LCP/RCP link address
    Destination................ Connection destination (host) link address

NODE ID (HOST)
    STATUS .... Node ID obtainment status
    TYPE/MODEL .... Connection destination type/model name
    SEQNUMBER.......... Connection destination production number
    TAG .... Connection destination tag

World Wide Name (HOST)
    N_Port_Name .... Connection destination N_Port name
    Node_Name .... Connection destination NODE name
    Speed........................ Link bandwidth

To exit the display, press [Close].

| REV.4 | Oct.2001 | Apr.2002 | Jun.2002 | Aug.2002 | Dec.2002 | |

(2) Logical Path

Select (CL) [Logical Path] in the screen.
The 'Logical Path Status' window will appear.

PT# ....Path number
NODE.........LCPxx : LCP with the logical path.
RCPxx : RCP with the logical path.
HTPxx : HTP with the logical path.
NU : Unused logical path
LINK...........Link address of the connected host
"NA" is displayed when the RCP is specified.
SW#, Area ID, Port ID are displayed when the HTP is specified.
LGCL..........Logical address of the connected host.

Since data can be displayed only in 16 rows within a screen, use the scroll bar to display data hidden from the screen.
To exit the display, press (CL) [Close].

CU# ....Control unit address:
Y : Connected
N : Not connected
[CU#:00-0F] ....To CU#00-0F the display, press (CL) [CU#00-0F].
[CU#:10-1F] ....To CU#10-1F the display, press (CL) [CU#10-1F].
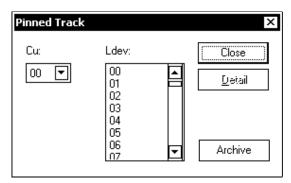
REV.4	Oct.2001	Feb.2002	Jun.2002	Aug.2002	Jun.2003	

3.11 Pin

(1) Select (CL) [Pin] in the main screen.
The 'Pinned Track' windows will appear.

CU ---------- CU ID
Ldev -------- Logical device number in which PIN
exists.

Select (CL) an Ldev from the list. And select (CL) [Detail] on the 'Pinned Track' screen. The following information concerning the selected Ldev will be displayed.

(Multi Cabinet Model)

CCHH ----- Number of cylinder and head in
which PINs exist.
Slot -------- Kind of Track in which PIN exists.
DATA : DATA Track
PRTY : Parity Track
Reason ---- Cause of Pin.
ELC/LRC error : See TRBL04-20.
WRITE error : See TRBL04-30.
PDEV# ---- HDD number of Logical device
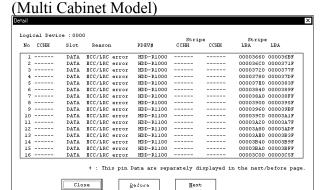
with PIN.
Stripe ------ The first and the last CCHH of
parity stripes. The first and the last
LBA of parity stripes.
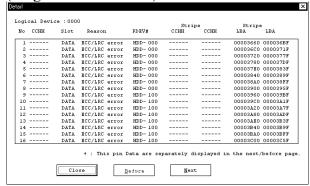
Select (CL) [Next] to display the next PIN
detailed information.
Select (CL) [Before] to display the previous
PIN detailed information.

(Single Cabinet Model)

3.12 LUN Management

(1) Outline
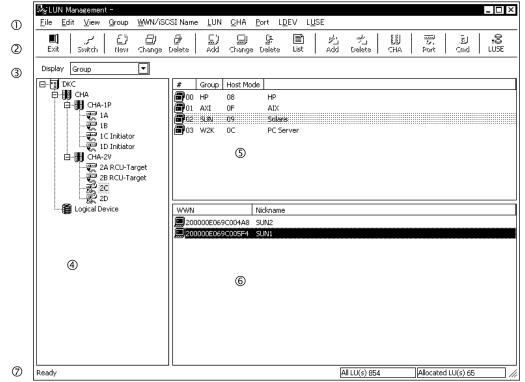
Figure 1.1 Main Window

The Main window consists of the following elements.

Table 1.1 Outline of Main Window Elements

#	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.

REV.3	Oct.2001	Sep.2002	Dec.2002	Sep.2003		

Menu items and their details are shown below.

Table 1.2 List of Menu Items

Menu	Submenu	Description	Tool bar
File	Exit	• Closes the window.	(Exit)
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
Group	New	• Not selectable.	(New)
	Change	• Not selectable.	(Change)
	Delete	• Not selectable.	(Delete)
WWN/ iSCSI Name	Add	• Not selectable.	(Add)
	Change…	• Not selectable.	(Change)
	Delete	• Not selectable.	(Delete)
	Login List	The hosts identified by the following WWNs/iSCSI Names login to the DKC.	"List"
LUN	Add	• Not selectable.	(Add)
	Delete	• Not selectable.	(Delete)
	Command Device…	• Not selectable.	(Cmd)
CHA	Change…	• Not selectable.	(CHA)
Port	Parameter…	• Not selectable.	(Port)
	Security Switch	• Not selectable	(Switch)
Device	Command Device…	• Not selectable.	(Cmd)
	Property	• Refers to LUN information from LDEV.	None
LUSE	LU Size Expansion	• Activates the LU Size Expansion window.	(LUSE)

(2) CHA Window
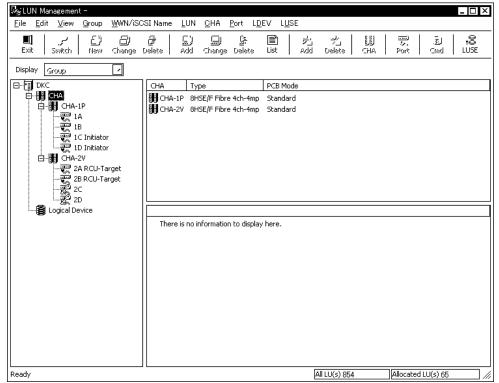
Figure2.1 CHA Window

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 2.1 Details of CHA Window

Item	Description
Upper list	Displays installed CHA PCB's supported by this function. Displayed items: PCB name, Host Interface Type, Operate mode (Standard mode: Standard / High Speed mode: High Speed / 2 Port High Speed mode: High Speed (2 Port)) In the case of the NAS or iSCSI, the PCB operation mode is displayed as "---".
	Provided with a sorting function.
Lower list	Displays nothing.

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(3) Port Window
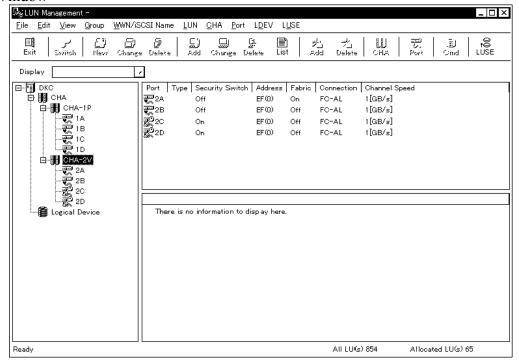
Figure3.1 Port Window

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 3.1 Details of Port Window

Item	Description
Upper list	Displays installed ports supported by this function.
	Displayed items: Port name, type (Initiator, RCU target, or none), AL-PA, Security Switch, fabric, connection type, and channel speed
	In the case of the NAS, only the Port name is displayed.
	In the case of the iSCSI, the Port name, type, information on the Security Switch, IP Address, Subnet Mask, Gateway, iSCSI Name, iSCSI Alias, Port Number, Keep Alive Timer, MAC Address, iSNS, iSNS Port Number and iSNS IP Address are displayed.
	Provided with a sorting function.
Lower list	Displays no item.

REV.3	Oct.2001	Sep.2002	Sep.2003	Sep.2004		

(4) Group Window
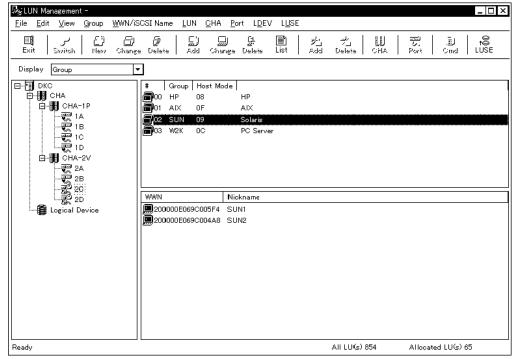
Figure4.1 Group Window

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 4.1 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 (up to eight characters) Besides, in the case of the iSCSI, an iSCSI Name and a nickname are displayed. (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.

REV.2	Oct.2001	Sep.2002	Sep.2003			

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(5) LUN Window
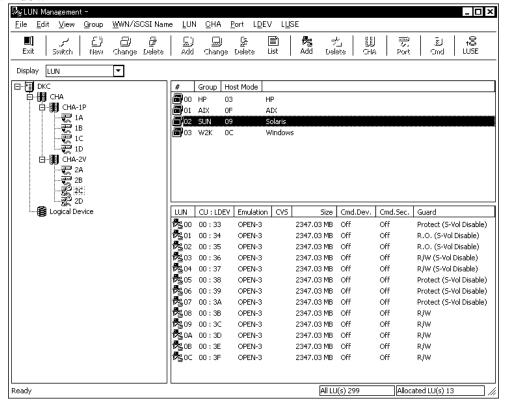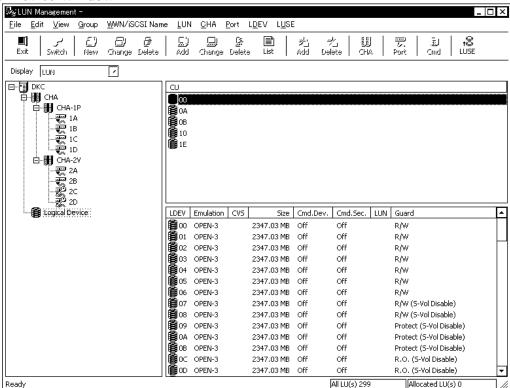
Figure5.1 LUN Window

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 5.1 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 (two hexadecimal digits), CU: LDEV number, emulation type (number of connectable in decimal), CVS (Defined: "*", Not defined: No indication), size (in Mbytes), Cmd.Dev., Cmd.Sec., and the attribute of LDEV guard. The symbol '+' added to CU:LDEV# denotes the existence of path setting as follow: '+' A LUN is set. '++'Multiple LUNs are set. (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.

(6) Logical Device Window

Figure6.1 Logical Device Window

When "Logical Device" in the tree view is selected (CL), CU numbers of installed LDEV's supported by this function are displayed in the upper right list. In the lower right list ,details of a CU selected from the upper right list are displayed.

Table 6.1 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 (Defined: "*", Not defined: No indication), size (in Mbytes), Cmd.Dev., Cmd.Sec., definition of LUN (Defined: "*", Not defined: No indication), and the attribute of LDEV guard. (Displays nothing when no item to be selected exists in the upper list or more than one item has been selected.
	Provide with a sorting function.

(7) The host's WWN/iSCSI Name list windows linked to DKC

Figure 7.1 Main Window
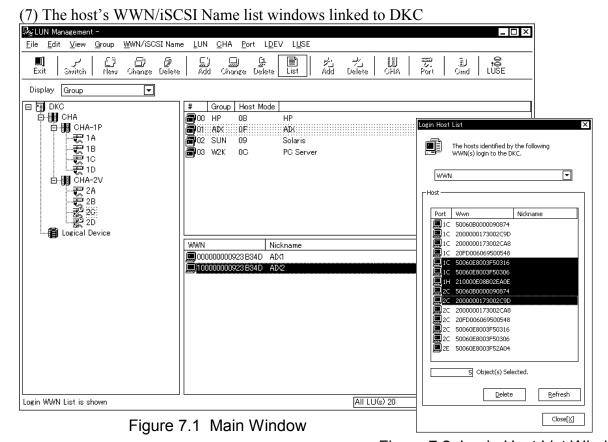
Figure 7.2 Login Host List Window

Select (DR) [Login List] form the [WWN/iSCSI Name] menu in the Main Window (Figure 7.1), Login Host List Window (Figure 7.2) is displayed.
When you select the 'WWN' or the 'iSCSI Name', the login WWNs or iSCSI Names are displayed respectively.
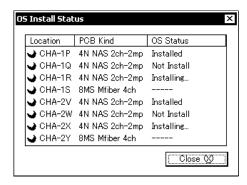
Table 7.1 Details Login WWN List window

Item	Description
Switch	WWN or iSCSI Name.
List	Displays a WWN/iSCSI Name list.
Delete button	Not selectable.
Refresh button	Not selectable.
Close button	Returns you the Main window.

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3.13 OS Install Status

When the [OS Install Status] is selected (CL) in the main window, the "OS Install Status" window is displayed.

Location	PCB Kind	OS Status
CHA-1P	4N NAS 2ch-2mp	Installed
CHA-1Q	4N NAS 2ch-2mp	Not Install
CHA-1R	4N NAS 2ch-2mp	Installing...
CHA-1S	8MS Mfiber 4ch	-----
CHA-2V	4N NAS 2ch-2mp	Installed
CHA-2W	4N NAS 2ch-2mp	Not Install
CHA-2X	4N NAS 2ch-2mp	Installing...
CHA-2Y	8MS Mfiber 4ch	-----

Close (X)

Location --------- Location name of the CHA
PCB Kind ------- Name of a PCB kind
OS Status -------- Installation status of the CHN OS

Indication	Status	Icon color
Installed	The OS has been installed.	Blue
Installing	The OS is being installed.	Yellow
Not Install	The OS is not installed.	Red
-----	Other than CHN PCB	Gray

Close ------------- To be used to close the window.

3.14 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.

REV.0	Dec.2002					
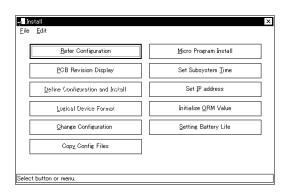
4 Option Install

4.1 Option install by one

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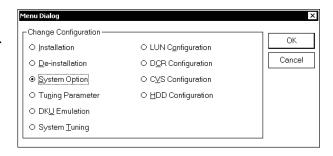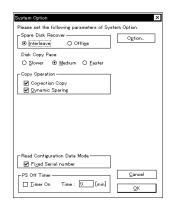
(2) Select Install
Select (CL) [Install].

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

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

REV.3	Oct.2001	Feb.2002	Aug.2002	Dec.2002		

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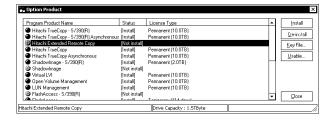
(5) Select Option
Select (CL) the [Option...] menu in the 'System Option' window.
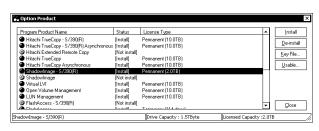
(6) Change Option
Option Install
Select (CL) option item you want to install
from 'Option List' and select (CL) [Install...]
button. Go to (7).
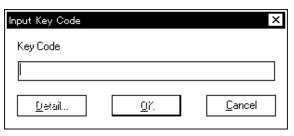
Option De-install
Select (CL) option item you want to de-install
from the 'Option List' and select (CL) [De-
install...] button. Go to (9).
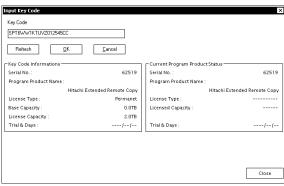
Note: Change the option according to the
        device configuration worksheet
        (License Key sheet).
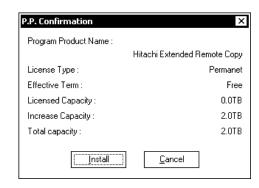
(7) Input Key Code
Input the key code and select (CL) [OK].

Note: When the [Detail…] button is pressed,
        details of key code are displayed.

| REV.2 | Oct.2001 | Feb.2002 | Dec.2002 | | | |

SVP04-20
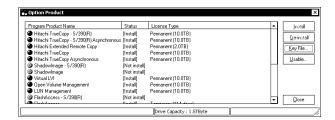
(8) Confirm option
Confirm option detail and select (CL) [Install].
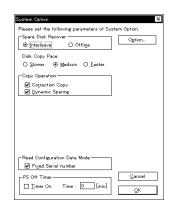
(9) Changing finish
- Option Install
  Confirm that Status is changed to [Install].
- Option De-install
  Confirm that Status is changed to [Not install].

Select (CL) [Close]
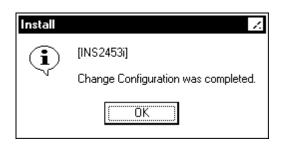
(10) Close System Option
Select (CL) [OK].

(11) "Loading configuration..." is displayed.

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(12) "Change configuration was completed." is displayed.
Select (CL) [OK].

```
Install                                    ⌁
  (i)    [INS2453i]

         Change Configuration was completed.

              ┌─────────┐
              ┊   OK    ┊
              └─────────┘
```

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

```
CNFCPY                                     ⌁
  (i)    [CNF3187i]

         Please insert the Config FD in the FDD.

              ┌─────────┐
              ┊   OK    ┊
              └─────────┘
```

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

```
CNFCPY                                     ⌁
  (i)    [CNF3188i]

         Please remove the Config FD.

              ┌─────────┐
              ┊   OK    ┊
              └─────────┘
```

(15) In the 'Install' window, select (CL) [File]-[Exit].

```
Install                                    ✕
File  Edit

  ┌──────────────────────┐  ┌──────────────────────┐
  │  Refer Configuration │  │ Micro Program Install│
  └──────────────────────┘  └──────────────────────┘
  ┌──────────────────────┐  ┌──────────────────────┐
  │  PCB Revision Display │  │  Set Subsystem Time  │
  └──────────────────────┘  └──────────────────────┘
  ┌──────────────────────┐  ┌──────────────────────┐
  │Define Configuration and Install│  │   Set IP address   │
  └──────────────────────┘  └──────────────────────┘
  ┌──────────────────────┐  ┌──────────────────────┐
  │ Logical Device Format │  │ Initialize ORM Value │
  └──────────────────────┘  └──────────────────────┘
  ┌──────────────────────┐  ┌──────────────────────┐
  │  Change Configuration │  │  Setting Battery Life│
  └──────────────────────┘  └──────────────────────┘
  ┌──────────────────────┐
  │   Copy Config Files   │
  └──────────────────────┘

Select button or menu.
```

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

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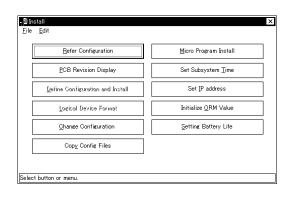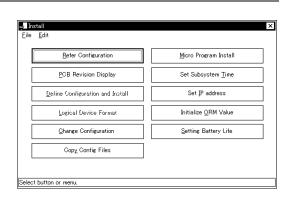
4.2 Option install with together

    (1) <Mode Change>
         Change the mode from [View Mode] to [Modify Mode].

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

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

Install	
File Edit	
Refer Configuration	Micro Program Install
PCB Revision Display	Set Subsystem Time
Define Configuration and Install	Set IP address
Logical Device Format	Initialize QRM Value
Change Configuration	Setting Battery Life
Copy Config Files	

Select button or menu.

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

Menu Dialog

Change Configuration

○ Installation	○ LUN Configuration	OK
○ De-installation	○ DCR Configuration	Cancel
◉ System Option	○ CVS Configuration	
○ Tuning Parameter	○ HDD Configuration	
○ DKU Emulation		
○ System Tuning		
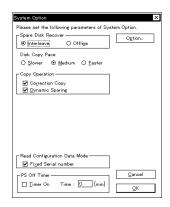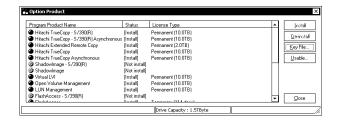
(5) Select Option
Select (CL) the [Option...] menu in the 'System Option' window.
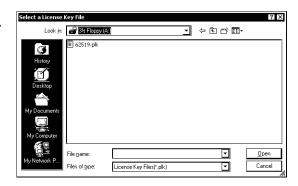
(6) Select Key File
Select (CL) the [Key File] button in the 'Option Product' dialog box.

(7) Select a License Key File
Select the License key file, and select (CL) [Open].

Note: Select a License Key File according to the device configuration worksheet (License Key sheet).
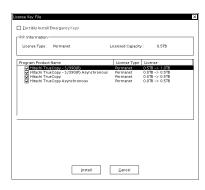
(8) Select Option
Check the option you want to install, and select (CL) the [Install] button.
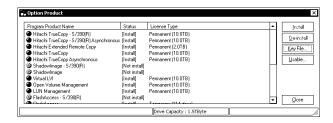
Note: P.P. information displays key information has already been installed.
Program Product Name, License Type, and License show information on license key files.
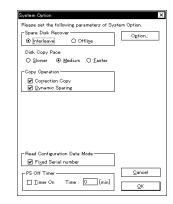
| REV.3 | Oct.2001 | Feb.2002 | Aug.2002 | Dec.2002 | | |

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(9) Changing finish
Confirm that Status is changed to [Install].
Select (CL) [Close].

(10) Close System Option
Select (CL) [OK].
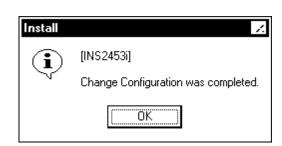
(11) "Loading configuration..." is displayed.

(12) "Change configuration was completed." is displayed.
Select (CL) [OK].

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

```
┌─────────────────────────────────────┐
│ CNFCPY                          [⚹]  │
├─────────────────────────────────────┤
│                                      │
│   ⓘ      [CNF3187i]                  │
│                                      │
│          Please insert the Config FD in the FDD. │
│                                      │
│          ┌───────────────┐          │
│          │      OK       │          │
│          └───────────────┘          │
└─────────────────────────────────────┘
```

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

```
┌─────────────────────────────────────┐
│ CNFCPY                          [⚹]  │
├─────────────────────────────────────┤
│                                      │
│   ⓘ      [CNF3188i]                  │
│                                      │
│          Please remove the Config FD. │
│                                      │
│          ┌───────────────┐          │
│          │      OK       │          │
│          └───────────────┘          │
└─────────────────────────────────────┘
```
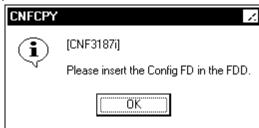
(15) In the 'Install' window, select [File] and then [Exit].

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

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4.3 Details for Screen

[1] The Option Product Panel
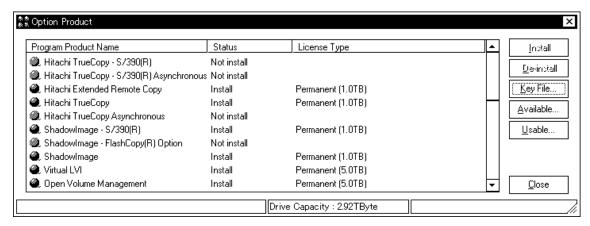
Figure 4.3.1 Option Product Panel

The Option Product panel has the following features:

■ The **Option List** displays the available DKCMAIN options.

■ The **Status** list shows the current status of each option (**Install** or **Not Install**).

■ The **Key Kind** list displays the license type (**Temporary**, **Permanent**, **Emergency** or **Enterprise**) and the maximum licensed capacity of the PDEVs (physical devices). If **[Frame Unlimited]** is displayed, this indicates that the licensed capacity for that option is unlimited.

■ The **Install…** button allows you to install the selected option.

■ The **De-install…** button deinstalls the selected option.

■ The **Key File...** button opens the Select a License Key File panel, which allows you to select one or more license key file(s) for the connected 9900 subsystem.

■ The **Available...** button opens the Available Program Product Install panel (see Figure 4.3.5).

■ The **Usable...** button opens the Option Product Capacity panel (see Figure 4.3.4), which displays the total capacity already used and the capacity licensed by specific options such as TrueCopy, ShadowImage, and Extended Remote Copy options.

■ The **Close** button closes the Option Product panel.

■ Status Bar displays the following items.
  • Drive Capacity :   The lowest license capacity needed it the disksubsystem is displayed.
  • Licensed Capacity :   The license capacity of the DKC option installed in the disksubsystem is displayed.
  • Term of validity :   The date when the License key (Temporary key, Emergency key) lapses is displayed.

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Note1: If you forcibly install an emergency key to an option that has already the permanent key, the license of that option will expire in 10 days.
DKC holds the licensed capacity of the previously installed permanent key.
After the Emergency key is installed, license capacity (Already Capacity) of the Permanent key is displayed in the Status Bar.

Note2: Note on installation of the license key whose installed capacity is larger than the licensed capacity.
• DKC accepts the license key input.
• Through Status is [Not install], the license capacity is held.
• Install the license key for [Existing Capacity (Base Capacity) + added capacity].
• Optional functions (Usable Capacity) are excluded.

Note3: When the license capacity is insufficient compared to the PDEV capacity after PDEV increase, the status becomes as follows.
• Capacity Insufficient : The License capacity is insufficient.
• Expired : License lapsed.
The License capacity is held.
The valid term of the license is 10 days from the Drive increase.
When the PDEV increase operation is interrupted after PDEV is compulsorily installed (SVPMSG ID: 3462), the state of License is changed.
Please change to the state of Install by Available Program Product Install Panel (Refer to SVP04-140).

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[2] The License Key File Panel
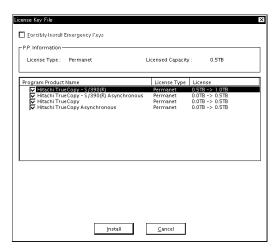
Figure 4.3.2 DKCMAIN License Key Panel
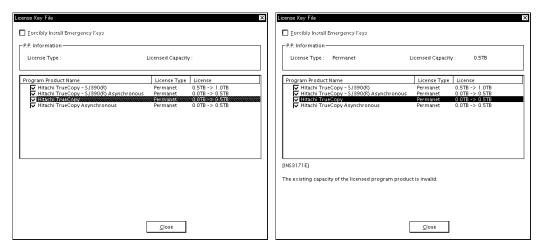
Figure 4.3.3 Examples of DKCMAIN License Key Installations

The License Key File panel has the following features:

(1) On the License Key File panel, check the box(es) for the desired option(s).

(2) Select **Install** to continue installation, or select **Cancel** to exit the License Key File panel.

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(3) If an installation fails, the failed option(s) will be displayed in red. Select a failed option if you want to review the contents of the error message. Once you have reviewed the contents of the error message, select **Close** to exit the License Key File panel, and then retry the installation.

(4) If the installation is complete successfully, the License Key File panel closes and you are returned to the Option Product panel. The displayed status of the selected options changes from **Not install** to **Install**.

Note1: You can install an emergency key to an option that has already been installed with the permanent key, by selecting the **Forcibly Install Emergency Keys** check box. However, the license of the forcibly installed option will expire in 10 days. DKC holds the licensed capacity of the previously installed permanent key.

Note2: Note on installation of the license key whose installed capacity is larger than the licensed capacity.
- DKC accepts the license key input.
- Through Status is [Not install], the licensed capacity is held.
- Install the license key for [Existing Capacity (Base Capacity) + added capacity].
- Optional functions (Usable Capacity) are excluded.

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[3] The Option Product Usable Capacity Panel

The Option Product Capacity panel (see Figure 4.3.4) displays the capacity already used and capacity licensed by each of the available options. To access the Option Product Capacity panel, select the **Usable…** button on the Option Product panel (see Figure 4.3.1).

```
┌──────────────────────────────────────────────────────────────┐
│ Option Product Usable Capacity                            [×] │
│ ┌──────────────────────────────────────────────────────────┐ │
│ │ Option List                  │ Already Used │ Licensed Capacity │ │
│ │ ● Hitachi TrueCopy - S/390(R)        0.11TB          1.0TB  │ │
│ │ ◐ Hitachi TrueCopy - S/390(R) Asynchron  0.50TB      0.5TB  │ │
│ │ ◐ Hitachi TrueCopy                   0.41TB          0.5TB  │ │
│ │ ● Hitachi TrueCopy Asynchronous      0.07TB          0.5TB  │ │
│ │ ⊙ ShadowImage - S/390(R)             ---.--TB        ------ │ │
│ │ ⊙ ShadowImage                        ---.--TB        ------ │ │
│ │ ⊙ Hitachi Extended Remote Copy       ---.--TB        ------ │ │
│ │                                                            │ │
│ │                                              [  Close  ]   │ │
│ └──────────────────────────────────────────────────────────┘ │
└──────────────────────────────────────────────────────────────┘
```
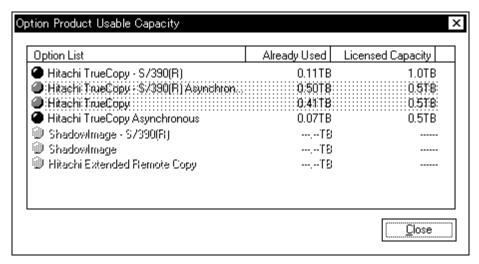
Figure 4.3.4 Option Product Capacity Panel

The Option Product Capacity panel has the following features:

■ The **Option List** displays the available DKCMAIN options[1].

■ The **Already Used** displays the total disk capacity that each option has already used.

■ The **Licensed** displays the total disk capacity that the user is licensed to use.

■ The **Close** button exits the Option Product Usable Capacity panel

Note: If the capacity already used has reached 80% of the capacity licensed, the option is highlighted in yellow. It is recommended that you add your licensed capacity for the options that are highlighted in yellow on the Option Product Capacity panel.

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[4] Available Program Product Install Panel

To access the Available Program Product panel, select the **Available…** button on the Option Product panel (see Figure 4.3.1).
This panel is a function to install Program Product by which the License capacity becomes more than the PDEV capacity after PDEV De-Install is processed.
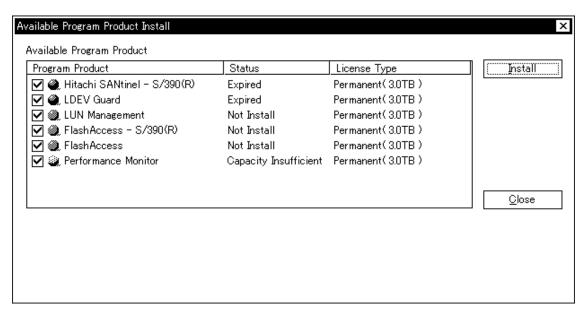
Figure 4.3.5 Available Program Product Panel

The Available Program Product panel has the following features:

■ The **Available Program Product List** displays the available Program Product.
  Available Program Product List displays Program Product by which the License capacity becomes more than the PDEV capacity.

■ The **Status** list shows the current status of each program product (**Install** or **Not Install** etc.).

■ The **License Type** list displays the licensed capacity.

■ The **Install** button allows you to install the selected option.
  On the Available Program Product panel, check the box(es) for the desired option(s).
  If an installation fails, the failed option(s) will be displayed in red. Select a failed option if you want to review the contents of the error message.
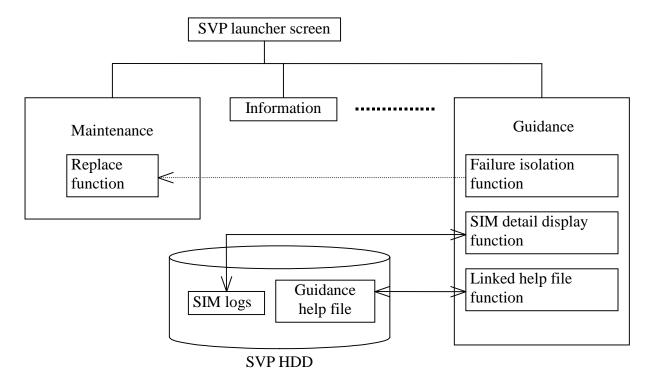
■ The **Close** button closes the Available Program Product Install panel.

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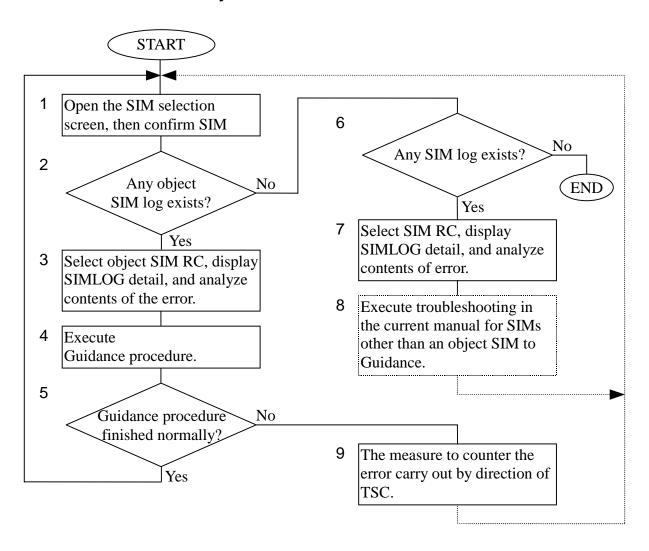
5 Guidance Operation Screen

5.1 Operation Manual of Guidance Function

Similar to Maintenance and Information, Guidance Function runs under the SVP launcher screen.

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5.2 Outline Of Countermeasure By Guidance

```
                    START

1  │ Open the SIM selection
   │ screen, then confirm SIM                6
                                                      Any SIM log exists?        No
2                                                                          
        Any object              No                          Yes                END
        SIM log exists?                       7  │ Select SIM RC, display
                  Yes                            │ SIMLOG detail, and analyze
3  │ Select object SIM RC, display              │ contents of error.
   │ SIMLOG detail, and analyze
   │ contents of the error.               8  │ Execute troubleshooting in
                                             │ the current manual for SIMs
4  │ Execute                                  │ other than an object SIM to
   │ Guidance procedure.                      │ Guidance.

5
        Guidance procedure        No
        finished normally?
                                          9  │ The measure to counter the
                  Yes                        │ error carry out by direction of
                                             │ TSC.
```

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5.3 Object SIM RC for Guidance Function

When the following SIM RC occurred, Guidance function can be execute.

List of object SIM RC for Guidance function (1/2)
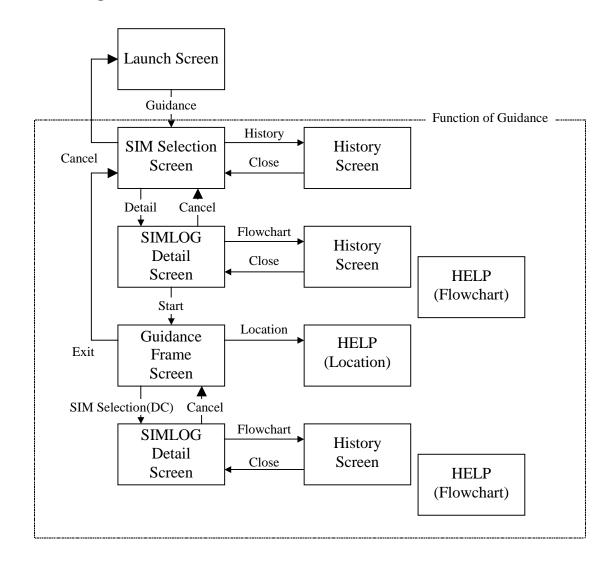
SIM RC	Name of failure	trouble ID	Guidance function
BF4XXX	P/S warning error	01	Guidance function can be measured to counter these failure as well as Troubleshoot in the maintenance manual.
BF2XXX	Voltage alarm	02	
BFA1XX	Environment disagreement error	03	
DF6XXX	Recovery procedure for common Fibre loop error	04	If a specific drive can be identified as a cause of failure, it is isolated and the location is displayed. If a cause of failure cannot be specified, the troubleshooting in the maintenance manual is referred to. In case of replacement, you can use the Replace function in the Maintenance Window.
DF7XXX			
DF8XXX			
DF9XXX			
CF90XX	Recovery procedure for LDEV blocking	05	Guidance function can not cope with these failure situation. Refer to the troubleshooting and finish Guidance.
EF9XXX			
DFAXXX			
DFBXXX			
XXXXXX	Replace	06	In this case, troubleshooting depends on Replace procedure by maintenance screen.
2180XX	RIO PATH closed	07	Guidance function can not cope with these failure situation. Refer to the troubleshooting and finish Guidance.
2190XX	AL_PA value conflict	08	
3993XX	Replace failure	09	
3D93XX			
399FXX	CHT PCB type inconsistency	0a	
FFE3XX	Shared memory failure	0b	TSC CALL message will be displayed to finish Guidance.
FFD3XX		0c	
FFDEXX		0d	Refer to the troubleshooting and finish Guidance.

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List of object SIM RC for Guidance function (2/2)

SIM RC	Name of failure	trouble ID	Guidance function
D40XXX ~ D45XXX, D48XXX, D4DXXX ~ D4FXXX, DB0XXX ~ DB5XXX, DBDXXX ~ DBFXXX	HRC/HODM/HORC failure	0e	Guidance function can not cope with these failure situation. Refer to the troubleshooting in the maintenance manual.
47DXXX	HMRCF/HOMRCF failure	0f	Guidance function can not cope with these failure situation. Refer to the troubleshooting in the maintenance manual.
47FXXX	HIHSM failure	10	Guidance function can not cope with these failure situation. Refer to the troubleshooting in the maintenance manual.

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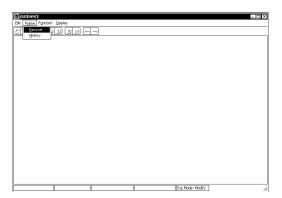
5.4 Guidance Change of Screen

```
                    ┌──────────────────┐
               ┌───►│  Launch Screen   │
               │    └──────────────────┘
               │              │ Guidance
               │              ▼
   ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐  Function of Guidance
   │           │                                                
               │    ┌──────────────┐  History  ┌──────────────┐ │
   │  Cancel   └───►│ SIM Selection├──────────►│   History    │
               ┌───►│    Screen    │◄──────────┤    Screen    │ │
   │           │    └──────────────┘   Close   └──────────────┘
               │      │ Detail  ▲ Cancel                         │
   │           │      ▼         │                                
               │    ┌──────────────┐ Flowchart ┌──────────────┐ │  ┌──────────────┐
   │           │    │   SIMLOG     ├──────────►│   History    │    │    HELP      │
               │    │   Detail     │◄──────────┤    Screen    │ │  │ (Flowchart)  │
   │           │    │   Screen     │   Close   └──────────────┘    └──────────────┘
               │    └──────────────┘                              │
   │           │           │ Start                                
               │           ▼                                      │
   │   Exit    │    ┌──────────────┐ Location  ┌──────────────┐
               └────┤   Guidance   ├──────────►│    HELP      │ │
   │                │    Frame     │           │  (Location)  │
                    │   Screen     │           └──────────────┘ │
   │                └──────────────┘                            
            SIM Selection(DC) │  ▲ Cancel                        │
   │                  ▼        │                                 
               ┌──────────────┐ Flowchart ┌──────────────┐ │  ┌──────────────┐
   │           │   SIMLOG     ├──────────►│   History    │    │    HELP      │
               │   Detail     │◄──────────┤    Screen    │ │  │ (Flowchart)  │
   │           │   Screen     │   Close   └──────────────┘    └──────────────┘
               └──────────────┘                              │
   │                                                         
   └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
```
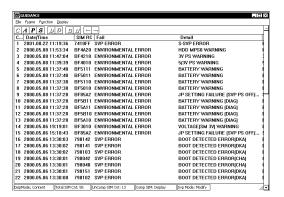
5.5 Operation of Guidance

[1] Start of Guidance

(1) Select (CL) [Guidance] menu.

(2) SIM selection screen is displayed.
(Initial screen of Guidance function)

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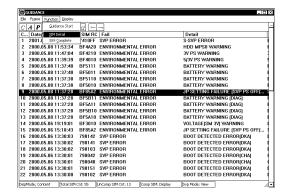
[2] SIMLOG Detail Screen

(1) When the SIM RC (SIM status is available)
is selected
When the Guidance function can be execute, the
[Detail & Go] button is displayed.
Select (CL) the [Guidance] button.
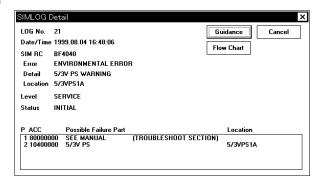
The SIMLOG detail dialog box is displayed.
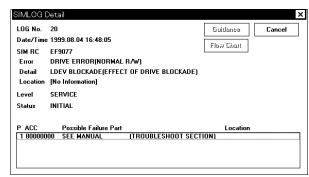
(2) When the SIM RC (SIM status is not available)
is selected
When the Guidance function is cannot be
executed, (when the Guidance status is not
available on the screen) the [Detail] button is
displayed.
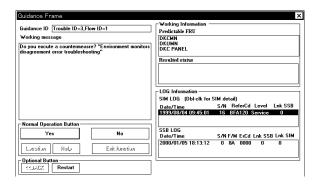
Since the Guidance function is disable,
[Guidance] button is not displayed.

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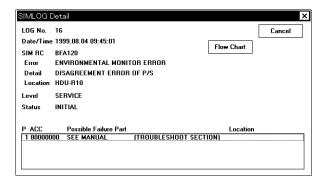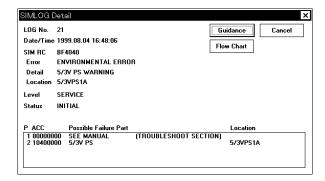
(3) When the Guidance function is running
Select (DC) SIMLOG in the list box.
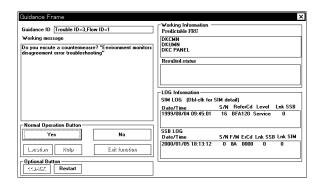
Since the Guidance function is running,
[Guidance] button is not displayed.

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[3] Start troubleshooting

(1) Select (CL) the [Guidance] button.

The Guidance frame screen is displayed.

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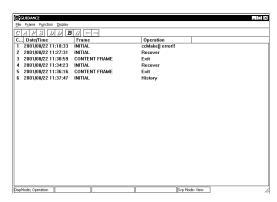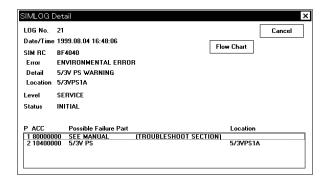
[4] History screen

(1) Start from initial screen.
Select (CL) the [HISTORY] menu.

(2) Start from the SIMLOG detail screen.
Select (CL) the [Flow Chart] button.
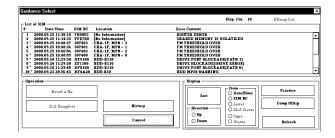
The [Up], [Down] and [Log Delete] buttons are not displayed.

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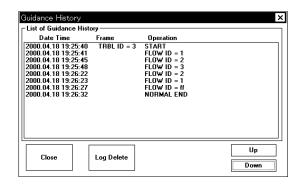
[5] Delete history
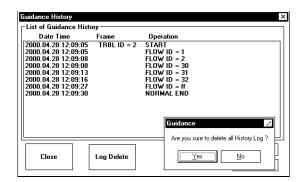
(1) Select (CL) the [HISTORY] button.
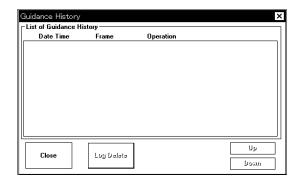
(2) Select (CL) the [Log Delete] button.

(3) When the confirmation message is displayed,
select (CL) the [Yes] button.

(4) All the logs are cleared.

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[6] SIM Complete

(1) Select (CL) SIM RC in the list box,
Select (CL) the [SIM Complete] menu.

(2) Select (CL) the [Yes] button.

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[7] Change of SIM selection screen

(1) 'ACC' screen displayed when select (DR) [ACC] menu or icon.

	GUIDANCE
File Frame Function Display	

Menu: Mode ▶ SIM Infor Mode ▶ | Content
Step ▶ Complete SIM Display Mode ▶ | ACC
Refresh | History Mode ▶ | Practice / SSB

C...	Date/Time		Detail
1	2001.08.22 11:...		S-SVP ERROR
2	2000.05.08 11:53:34	BF4A20 ENVIRONMENTAL ERROR	HDD MPS0 WARNING
3	2000.05.08 11:47:04	BF4210 ENVIRONMENTAL ERROR	3V PS WARNING
4	2000.05.08 11:39:39	BF4010 ENVIRONMENTAL ERROR	5/3V PS WARNING
5	2000.05.08 11:37:40	BF5111 ENVIRONMENTAL ERROR	BATTERY WARNING
6	2000.05.08 11:37:40	BF5011 ENVIRONMENTAL ERROR	BATTERY WARNING
7	2000.05.08 11:37:38	BF5110 ENVIRONMENTAL ERROR	BATTERY WARNING
8	2000.05.08 11:37:38	BF5010 ENVIRONMENTAL ERROR	BATTERY WARNING
9	2000.05.08 11:37:28	BF85A2 ENVIRONMENTAL ERROR	JP SETTING FAILURE [SVP PS OFF/...
10	2000.05.08 11:37:28	BF5B11 ENVIRONMENTAL ERROR	BATTERY WARNING [DIAG]
11	2000.05.08 11:37:28	BF5A11 ENVIRONMENTAL ERROR	BATTERY WARNING [DIAG]
12	2000.05.08 11:37:28	BF5B10 ENVIRONMENTAL ERROR	BATTERY WARNING [DIAG]
13	2000.05.08 11:37:28	BF5A10 ENVIRONMENTAL ERROR	BATTERY WARNING [DIAG]
14	2000.05.08 19:19:01	BF3010 ENVIRONMENTAL ERROR	VOLTAGE[SM 3V] WARNING
15	2000.05.08 15:18:43	BF85A2 ENVIRONMENTAL ERROR	JP SETTING FAILURE [SVP PS OFF/...
16	2000.05.06 13:30:03	790142 SVP ERROR	BOOT DETECTED ERROR[DKA]
17	2000.05.06 13:30:02	790141 SVP ERROR	BOOT DETECTED ERROR[DKA]
18	2000.05.06 13:30:02	790103 SVP ERROR	BOOT DETECTED ERROR[DKA]
19	2000.05.06 13:30:01	790042 SVP ERROR	BOOT DETECTED ERROR[CHA]
20	2000.05.06 13:30:01	790040 SVP ERROR	BOOT DETECTED ERROR[CHA]
21	2000.05.06 13:30:01	790151 SVP ERROR	BOOT DETECTED ERROR[DKA]
22	2000.05.06 13:30:00	790102 SVP ERROR	BOOT DETECTED ERROR[DKA]

DispMode; Content | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

	GUIDANCE

C...	Date/Time	SIM RC	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Act
1	2001.08.22 11:19:36	7410FF	SSVP ...	HUB P...							
2	2000.05.08 11:53:34	BF4A20	Multi ...	AC BO...	DKUM...	SSVP ...					
3	2000.05.08 11:47:04	BF4210	3V PS[..	()	DKCM...	()	SSVP ...				
4	2000.05.08 11:39:39	BF4010	5/3V P..	()	DKCM...	()	SSVP ...				
5	2000.05.08 11:37:40	BF5111	Batter..	Batter..	DKCM...	SSVP ...					
6	2000.05.08 11:37:40	BF5011	Batter..	Batter..	DKCM...	SSVP ...					
7	2000.05.08 11:37:38	BF5110	Batter..	Batter..	DKCM...	SSVP ...					
8	2000.05.08 11:37:38	BF5010	Batter..	Batter..	DKCM...	SSVP ...					
9	2000.05.08 11:37:28	BF85A2	RS CO...								
10	2000.05.08 11:37:28	BF5B11	Batter..	Batter..	DKCM...	SSVP ...					
11	2000.05.08 11:37:28	BF5A11	Batter..	Batter..	DKCM...	SSVP ...					
12	2000.05.08 11:37:28	BF5B10	Batter..	Batter..	DKCM...	SSVP ...					
13	2000.05.08 11:37:28	BF5A10	Batter..	Batter..	DKCM...	SSVP ...					
14	2000.05.06 19:19:01	BF3010	Batter..	Batter..	DKCM...						
15	2000.05.06 15:18:43	BF85A2	RS CO...								
16	2000.05.06 13:30:03	790142	FM W...								
17	2000.05.06 13:30:02	790141	FM W...								
18	2000.05.06 13:30:02	790103	FM W...								
19	2000.05.06 13:30:01	790042	FM W...								
20	2000.05.06 13:30:01	790040	FM W...								
21	2000.05.06 13:30:01	790151	FM W...								
22	2000.05.06 13:30:00	790102	FM W...								

DispMode; ACC | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

(2) 'PRACTICE' screen displayed when select (DR) [Practice] menu or icon.

	GUIDANCE

Menu: Mode ▶ SIM Infor Mode ▶ | Content
Step ▶ Complete SIM Display Mode ▶ | ACC
Refresh | History Mode ▶ | Practice / SSB

C...	Date/Time	SIM RC	Actio...	Actio...	Actio...	Actio...	Act
1	2001.08.22 11:...	7410FF	SSVP ...	HUB P...			
2	2000.05.08 11:53:34	BF4A20	Multi ...	AC BO...	DKCM...	SSVP ...	
3	2000.05.08 11:47:04	BF4210	3V PS[..	()	DKCM...	()	SSVP ...
4	2000.05.08 11:39:39	BF4010	5/3V P..	()	DKCM...	()	SSVP ...
5	2000.05.08 11:37:40	BF5111	Batter..	Batter..	DKCM...	SSVP ...	
6	2000.05.08 11:37:40	BF5011	Batter..	Batter..	DKCM...	SSVP ...	
7	2000.05.08 11:37:38	BF5110	Batter..	Batter..	DKCM...	SSVP ...	
8	2000.05.08 11:37:38	BF5010	Batter..	Batter..	DKCM...	SSVP ...	
9	2000.05.08 11:37:28	BF85A2	RS CO...				
10	2000.05.08 11:37:28	BF5B11	Batter..	Batter..	DKCM...	SSVP ...	
11	2000.05.08 11:37:28	BF5A11	Batter..	Batter..	DKCM...	SSVP ...	
12	2000.05.08 11:37:28	BF5B10	Batter..	Batter..	DKCM...	SSVP ...	
13	2000.05.08 11:37:28	BF5A10	Batter..	Batter..	DKCM...	SSVP ...	
14	2000.05.06 19:19:01	BF3010	Batter..	Batter..	DKCM...		
15	2000.05.06 15:18:43	BF85A2	RS CO...				
16	2000.05.06 13:30:03	790142	FM W...				
17	2000.05.06 13:30:02	790141	FM W...				
18	2000.05.06 13:30:02	790103	FM W...				
19	2000.05.06 13:30:01	790042	FM W...				
20	2000.05.06 13:30:01	790040	FM W...				
21	2000.05.06 13:30:01	790151	FM W...				
22	2000.05.06 13:30:00	790102	FM W...				

DispMode; ACC | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

	GUIDANCE

C...	Date/Time	SIM RC	Alert ...	SIM ...	Maintenanc...	GUI...
1	2001.08.22 11:19:36	7410FF	Moder...	Initial	Replace[Plur..	Not s..
2	2000.05.08 11:53:34	BF4A20	Moder...	Initial	Replace[Plur..	Not s..
3	2000.05.08 11:47:04	BF4210	Moder...	Initial	Replace[Plur..	Not s..
4	2000.05.08 11:39:39	BF4010	Moder...	Initial	Replace[Plur..	Not s..
5	2000.05.08 11:37:40	BF5111	Moder...	Initial	Replace[Plur..	Not s..
6	2000.05.08 11:37:40	BF5011	Moder...	Initial	Replace[Plur..	Not s..
7	2000.05.08 11:37:38	BF5110	Moder...	Initial	Replace[Plur..	Not s..
8	2000.05.08 11:37:38	BF5010	Moder...	Initial	Replace[Plur..	Not s..
9	2000.05.08 11:37:28	BF85A2	Moder...	Initial	Replace	Not s..
10	2000.05.08 11:37:28	BF5B11	Moder...	Initial	Replace[Plur..	Not s..
11	2000.05.08 11:37:28	BF5A11	Moder...	Initial	Replace[Plur..	Not s..
12	2000.05.08 11:37:28	BF5B10	Moder...	Initial	Replace[Plur..	Not s..
13	2000.05.08 11:37:28	BF5A10	Moder...	Initial	Replace[Plur..	Not s..
14	2000.05.06 19:19:01	BF3010	Moder...	Compl...	Replace[Plur..	Com...
15	2000.05.06 15:18:43	BF85A2	Moder...	Compl..	Replace	Com...
16	2000.05.06 13:30:03	790142	Moder...	Compl...	Other mainte..	Com...
17	2000.05.06 13:30:02	790141	Moder...	Compl...	Other mainte..	Com...
18	2000.05.06 13:30:02	790103	Moder...	Compl...	Other mainte..	Com...
19	2000.05.06 13:30:01	790042	Moder...	Compl...	Other mainte..	Com...
20	2000.05.06 13:30:01	790040	Moder...	Compl...	Other mainte..	Com...
21	2000.05.06 13:30:01	790151	Moder...	Compl...	Other mainte..	Com...
22	2000.05.06 13:30:00	790102	Moder...	Compl...	Other mainte..	Com...

DispMode; Practice | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

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(3) 'Reference SSB' screen displayed when select (DR) [SSB] menu or icon.

(4) 'CONTENT' screen displayed when select (DR) [Content] menu or icon.

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[8] End of Guidance

(1) Select (DR) [Exit] menu at display frame
when you want to close screen.

(2) Select (DR) [Exit] menu at initial frame
when you want to finish application.

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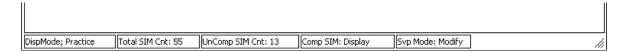
5.6 Detail of Screen

[1] Initial Frame

(1) ICON

$\boxed{C}$: Display content frame

$\boxed{A}$: Display ACC frame

$\boxed{P}$: Display practice frame

$\boxed{S}$: Display reference frame

$\boxed{D}$: Change display mode of complete SIM to display

$\boxed{\overline{D}}$: Change display mode of complete SIM to not display

$\boxed{B}$: Display before data

$\boxed{N}$: Display next data

$\boxed{\leftarrow}$: Scroll ACC data to left

$\boxed{\rightarrow}$: Scroll ACC data to right

(2) Status Bar

DispMode; Practice	Total SIM Cnt: 55	UnComp SIM Cnt: 13	Comp SIM: Display	Svp Mode: Modify	

Disp Mode   : Frame kind of SIM list display or guidance history display
Total SIM Cnt : SIM count
UnComp SIM Cnt : Un completed SIM count
Comp SIM   : Display mode of complete SIM
Svp Mode   : SVP mode
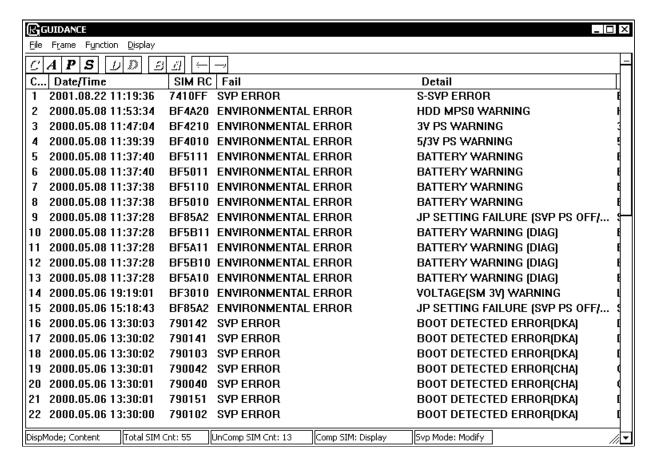
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(3) Display Data

(a) SIM selection screen 1(SIM Contents Information)

C...	Date/Time	SIM RC	Fail	Detail	
1	2001.08.22 11:19:36	7410FF	SVP ERROR	S-SVP ERROR	
2	2000.05.08 11:53:34	BF4A20	ENVIRONMENTAL ERROR	HDD MPS0 WARNING	
3	2000.05.08 11:47:04	BF4210	ENVIRONMENTAL ERROR	3V PS WARNING	
4	2000.05.08 11:39:39	BF4010	ENVIRONMENTAL ERROR	5/3V PS WARNING	
5	2000.05.08 11:37:40	BF5111	ENVIRONMENTAL ERROR	BATTERY WARNING	
6	2000.05.08 11:37:40	BF5011	ENVIRONMENTAL ERROR	BATTERY WARNING	
7	2000.05.08 11:37:38	BF5110	ENVIRONMENTAL ERROR	BATTERY WARNING	
8	2000.05.08 11:37:38	BF5010	ENVIRONMENTAL ERROR	BATTERY WARNING	
9	2000.05.08 11:37:28	BF85A2	ENVIRONMENTAL ERROR	JP SETTING FAILURE (SVP PS OFF/...	
10	2000.05.08 11:37:28	BF5B11	ENVIRONMENTAL ERROR	BATTERY WARNING (DIAG)	
11	2000.05.08 11:37:28	BF5A11	ENVIRONMENTAL ERROR	BATTERY WARNING (DIAG)	
12	2000.05.08 11:37:28	BF5B10	ENVIRONMENTAL ERROR	BATTERY WARNING (DIAG)	
13	2000.05.08 11:37:28	BF5A10	ENVIRONMENTAL ERROR	BATTERY WARNING (DIAG)	
14	2000.05.06 19:19:01	BF3010	ENVIRONMENTAL ERROR	VOLTAGE(SM 3V) WARNING	
15	2000.05.06 15:18:43	BF85A2	ENVIRONMENTAL ERROR	JP SETTING FAILURE (SVP PS OFF/...	
16	2000.05.06 13:30:03	790142	SVP ERROR	BOOT DETECTED ERROR(DKA)	
17	2000.05.06 13:30:02	790141	SVP ERROR	BOOT DETECTED ERROR(DKA)	
18	2000.05.06 13:30:02	790103	SVP ERROR	BOOT DETECTED ERROR(DKA)	
19	2000.05.06 13:30:01	790042	SVP ERROR	BOOT DETECTED ERROR(CHA)	
20	2000.05.06 13:30:01	790040	SVP ERROR	BOOT DETECTED ERROR(CHA)	
21	2000.05.06 13:30:01	790151	SVP ERROR	BOOT DETECTED ERROR(DKA)	
22	2000.05.06 13:30:00	790102	SVP ERROR	BOOT DETECTED ERROR(DKA)	

DispMode; Content | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

C	: item number
Date/Time	: Time stamp of SIMLOG generated.
SIM RC	: SIM RC (SSB22, 23, 13)
Fail	: Display location Information by edited SIM RC.
Detail	: Display contents of error by edited SIM RC.
Location	: Display location Information by edited SIM RC.
	(These contents are the same as Information screen.)
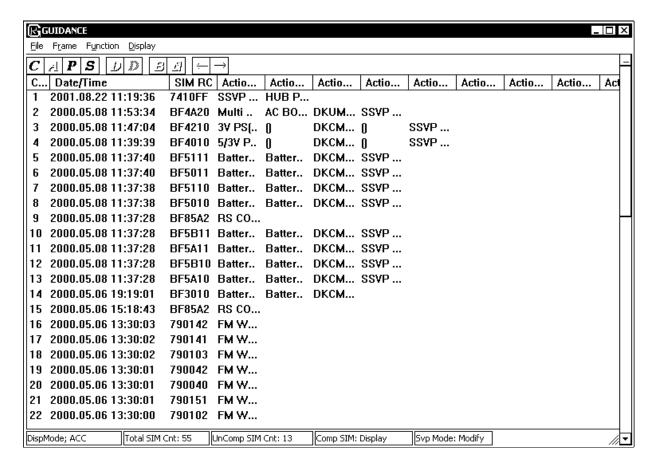
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(b) SIM selection screen 2(SIM ACC Information)

C...	Date/Time	SIM RC	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Act
1	2001.08.22 11:19:36	7410FF	SSVP ...	HUB P...							
2	2000.05.08 11:53:34	BF4A20	Multi ..	AC BO...	DKUM...	SSVP ...					
3	2000.05.08 11:47:04	BF4210	3V PS[..	0	DKCM...	0	SSVP ...				
4	2000.05.08 11:39:39	BF4010	5/3V P..	0	DKCM...	0	SSVP ...				
5	2000.05.08 11:37:40	BF5111	Batter..	Batter..	DKCM...	SSVP ...					
6	2000.05.08 11:37:40	BF5011	Batter..	Batter..	DKCM...	SSVP ...					
7	2000.05.08 11:37:38	BF5110	Batter..	Batter..	DKCM...	SSVP ...					
8	2000.05.08 11:37:38	BF5010	Batter..	Batter..	DKCM...	SSVP ...					
9	2000.05.08 11:37:28	BF85A2	RS CO...								
10	2000.05.08 11:37:28	BF5B11	Batter..	Batter..	DKCM...	SSVP ...					
11	2000.05.08 11:37:28	BF5A11	Batter..	Batter..	DKCM...	SSVP ...					
12	2000.05.08 11:37:28	BF5B10	Batter..	Batter..	DKCM...	SSVP ...					
13	2000.05.08 11:37:28	BF5A10	Batter..	Batter..	DKCM...	SSVP ...					
14	2000.05.06 19:19:01	BF3010	Batter..	Batter..	DKCM...						
15	2000.05.06 15:18:43	BF85A2	RS CO...								
16	2000.05.06 13:30:03	790142	FM W...								
17	2000.05.06 13:30:02	790141	FM W...								
18	2000.05.06 13:30:02	790103	FM W...								
19	2000.05.06 13:30:01	790042	FM W...								
20	2000.05.06 13:30:01	790040	FM W...								
21	2000.05.06 13:30:01	790151	FM W...								
22	2000.05.06 13:30:00	790102	FM W...								

DispMode; ACC   Total SIM Cnt: 55   UnComp SIM Cnt: 13   Comp SIM: Display   Svp Mode: Modify

P   : item number
Date Time   : Time stamp of generated SIMLOG.
SIM RC   : SIM RC (SSB22, 23, 13)
Action Code   : Action Code in SIMLOG

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(c) SIM selection screen 3(SIM Practice Information)

C...	Date/Time	SIM RC	Alert ...	SIM ...	Maintenanc...	GUI...
1	2001.08.22 11:19:36	7410FF	Moder...	Initial	Replace(Plur..	Not s..
2	2000.05.08 11:53:34	BF4A20	Moder...	Initial	Replace(Plur..	Not s..
3	2000.05.08 11:47:04	BF4210	Moder...	Initial	Replace(Plur..	Not s..
4	2000.05.08 11:39:39	BF4010	Moder...	Initial	Replace(Plur..	Not s..
5	2000.05.08 11:37:40	BF5111	Moder...	Initial	Replace(Plur..	Not s..
6	2000.05.08 11:37:40	BF5011	Moder...	Initial	Replace(Plur..	Not s..
7	2000.05.08 11:37:38	BF5110	Moder...	Initial	Replace(Plur..	Not s..
8	2000.05.08 11:37:38	BF5010	Moder...	Initial	Replace(Plur..	Not s..
9	2000.05.08 11:37:28	BF85A2	Moder...	Initial	Replace	Not s..
10	2000.05.08 11:37:28	BF5B11	Moder...	Initial	Replace(Plur..	Not s..
11	2000.05.08 11:37:28	BF5A11	Moder...	Initial	Replace(Plur..	Not s..
12	2000.05.08 11:37:28	BF5B10	Moder...	Initial	Replace(Plur..	Not s..
13	2000.05.08 11:37:28	BF5A10	Moder...	Initial	Replace(Plur..	Not s..
14	2000.05.06 19:19:01	BF3010	Moder...	Compl...	Replace(Plur..	Com...
15	2000.05.06 15:18:43	BF85A2	Moder...	Compl...	Replace	Com...
16	2000.05.06 13:30:03	790142	Moder...	Compl...	Other mainte..	Com...
17	2000.05.06 13:30:02	790141	Moder...	Compl...	Other mainte..	Com...
18	2000.05.06 13:30:02	790103	Moder...	Compl...	Other mainte..	Com...
19	2000.05.06 13:30:01	790042	Moder...	Compl...	Other mainte..	Com...
20	2000.05.06 13:30:01	790040	Moder...	Compl...	Other mainte..	Com...
21	2000.05.06 13:30:01	790151	Moder...	Compl...	Other mainte..	Com...
22	2000.05.06 13:30:00	790102	Moder...	Compl...	Other mainte..	Com...

DispMode; Practice | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

P   : item number
Date Time   : Time stamp of generated SIMLOG.
SIM RC   : SIM RC (SSB22, 23, 13)
Alert Level   : SIM alert level (Acute, Serious, Moderate, Service)
SIM Status   : SIM condition (Initial, Complete, Pending)
Maintenance Type : Kind of Maintenance (Guidance, Replace, Others, Nothing)
Guidance Status : Guidance condition (Available, Not Available, Not Supported, Completed)

(d) SIM selection screen 4 (Reference SSB Information)

C...	Date/Time	SIM RC	F/M	Error ...	Actio...	Actio...	Actio...	Actio...	Actio...	Actio...	Act
1	2001.08.22 11:19:36	7410FF	8C	3304	0	0	0	0	0	0	0
2	2000.05.08 11:53:34	BF4A20	EE	3324	0	0	0	0	0	0	0
3	2000.05.08 11:47:04	BF4210	EC	3314	0	0	0	0	0	0	0
4	2000.05.08 11:39:39	BF4010	EC	3315	0	0	0	0	0	0	0
5	2000.05.08 11:37:40	BF5111	EC	3315	0	0	0	0	0	0	0
6	2000.05.08 11:37:40	BF5011	EC	3315	0	0	0	0	0	0	0
7	2000.05.08 11:37:38	BF5110	EC	3315	0	0	0	0	0	0	0
8	2000.05.08 11:37:38	BF5010	EC	3315	0	0	0	0	0	0	0
9	2000.05.08 11:37:28	BF85A2	EC	3318	0	0	0	0	0	0	0
10	2000.05.08 11:37:28	BF5B11	EC	3315	0	0	0	0	0	0	0
11	2000.05.08 11:37:28	BF5A11	EC	3315	0	0	0	0	0	0	0
12	2000.05.08 11:37:28	BF5B10	EC	3315	0	0	0	0	0	0	0
13	2000.05.08 11:37:28	BF5A10	EC	3315	0	0	0	0	0	0	0
14	2000.05.06 19:19:01	BF3010	EC	3313	0	0	0	0	0	0	0
15	2000.05.06 15:18:43	BF85A2	EC	3318	0	0	0	0	0	0	0
16	2000.05.06 13:30:03	790142	8C	3309	0	0	0	0	0	0	0
17	2000.05.06 13:30:02	790141	8C	3309	0	0	0	0	0	0	0
18	2000.05.06 13:30:02	790103	8C	3309	0	0	0	0	0	0	0
19	2000.05.06 13:30:01	790042	8C	3309	0	0	0	0	0	0	0
20	2000.05.06 13:30:01	790040	8C	3309	0	0	0	0	0	0	0
21	2000.05.06 13:30:01	790151	8C	3309	0	0	0	0	0	0	0
22	2000.05.06 13:30:00	790102	8C	3309	0	0	0	0	0	0	0

DispMode; Ref. SSB | Total SIM Cnt: 55 | UnComp SIM Cnt: 13 | Comp SIM: Display | Svp Mode: Modify

P	: item number
Date Time	: Time stamp of generated SIMLOG.
SIM RC	: SIM RC (SSB22, 23, 13)
F/M	: Format / Message of SSB related to SIM
Error Code	: Error Code of SSB related to SIM
Action Code	: Action Code of SSB related to SIM

(e) History screen1(Operation History)

```
[R] GUIDANCE                                                    _ □ ☒
File  Frame  Function  Display
┌───┬───┬───┬───┬───┬───┬───┬───┬───┬───┐
│ C │ A │ P │ B │ D │ D │ B │ A │ ← │ → │
├───┴┬──┴───┴───┴───┴──┬┴───┴───┴──┬┴───┴──────┐
│ C...│ Date/Time        │ Frame         │ Operation          │
├─────┼──────────────────┼───────────────┼────────────────────┤
│  1  │ 2001/08/22 11:18:33 │ INITIAL       │ ccMake() error!!   │
│  2  │ 2001/08/22 11:27:31 │ INITIAL       │ Recover            │
│  3  │ 2001/08/22 11:30:59 │ CONTENT FRAME │ Exit               │
│  4  │ 2001/08/22 11:34:23 │ INITIAL       │ Recover            │
│  5  │ 2001/08/22 11:36:16 │ CONTENT FRAME │ Exit               │
│  6  │ 2001/08/22 11:37:47 │ INITIAL       │ History            │
│     │                  │               │                    │
└─────┴──────────────────┴───────────────┴────────────────────┘
DispMode; Operation  │        │        │        │ Svp Mode: View  │
```
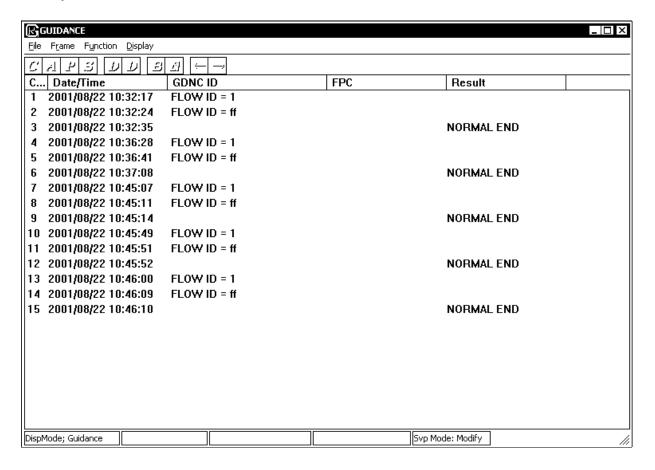
Date/Time   : Time stamp of executed guidance function.
Frame   : Display troubleshoot ID.
Operation   : Display result execution.

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(f) History screen2(Guidance Information)

```
┌────────────────────────────────────────────────────────────────────────────┐
│ ▣ GUIDANCE                                                         ─ □ ▨     │
│ File  Frame  Function  Display                                               │
│ ┌──┬──┬──┬──┬┬──┬──┬┬──┬──┬┬──┬──┐                                           │
│ │C │A │P │B ││D │D ││B │A ││←│→ │                                           │
│ ├──┴──┴──┴──┴┴──┴──┴┴──┴──┴┴──┴──┴─────────┬───────────┬─────────────────┬──┐│
│ │C... │ Date/Time        │ GDNC ID         │ FPC       │ Result          │  ││
│ │ 1   │ 2001/08/22 10:32:17 │ FLOW ID = 1   │           │                 │  ││
│ │ 2   │ 2001/08/22 10:32:24 │ FLOW ID = ff  │           │                 │  ││
│ │ 3   │ 2001/08/22 10:32:35 │               │           │ NORMAL END      │  ││
│ │ 4   │ 2001/08/22 10:36:28 │ FLOW ID = 1   │           │                 │  ││
│ │ 5   │ 2001/08/22 10:36:41 │ FLOW ID = ff  │           │                 │  ││
│ │ 6   │ 2001/08/22 10:37:08 │               │           │ NORMAL END      │  ││
│ │ 7   │ 2001/08/22 10:45:07 │ FLOW ID = 1   │           │                 │  ││
│ │ 8   │ 2001/08/22 10:45:11 │ FLOW ID = ff  │           │                 │  ││
│ │ 9   │ 2001/08/22 10:45:14 │               │           │ NORMAL END      │  ││
│ │10   │ 2001/08/22 10:45:49 │ FLOW ID = 1   │           │                 │  ││
│ │11   │ 2001/08/22 10:45:51 │ FLOW ID = ff  │           │                 │  ││
│ │12   │ 2001/08/22 10:45:52 │               │           │ NORMAL END      │  ││
│ │13   │ 2001/08/22 10:46:00 │ FLOW ID = 1   │           │                 │  ││
│ │14   │ 2001/08/22 10:46:09 │ FLOW ID = ff  │           │                 │  ││
│ │15   │ 2001/08/22 10:46:10 │               │           │ NORMAL END      │  ││
│ │                                                                         │  ││
│ ├────────────────┬──────────┬──────────┬──────────┬───────────────────┬──┴──┘│
│ │DispMode; Guidance │        │          │          │ Svp Mode: Modify  │   // │
│ └─────────────────────────────────────────────────────────────────────────┘ │
└────────────────────────────────────────────────────────────────────────────┘
```

Date/Time	: Time stamp of executed guidance function.
Gdnc id	: Display troubleshoot ID.
FPC	: Display ACC of Replace Part
Result	: Display result execution.

[2] SIMLOG detail screen

```
┌─────────────────────────────────────────────────────────────┐
│ SIMLOG Detail                                            [×]  │
│                                                               │
│ LOG No.   21                        ┌──────────┐ ┌──────────┐ │  Display part
│ Date/Time 1999.08.04 16:48:06       │ Guidance │ │  Cancel  │ │
│                                     └──────────┘ └──────────┘ │
│ SIM RC    BF4040                    ┌──────────┐              │
│  Error    ENVIRONMENTAL ERROR       │Flow Chart│              │
│  Detail   5/3V PS WARNING           └──────────┘              │
│  Location 5/3VPS1A                                            │
│                                                               │
│ Level     SERVICE                                            │
│                                                               │
│ Status    INITIAL                                            │
│                                                               │
│                                                               │
│ P  ACC        Possible Failure Part            Location       │  Operation part
│ ┌───────────────────────────────────────────────────────────┐│
│ │1 80000000  SEE MANUAL      (TROUBLESHOOT SECTION)          ││
│ │2 10400000  5/3V PS                             5/3VPS1A     ││
│ │                                                            ││
│ │                                                            ││
│ └───────────────────────────────────────────────────────────┘│
└─────────────────────────────────────────────────────────────┘
```
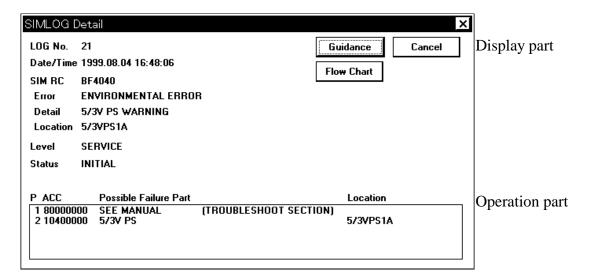
(1) Display part

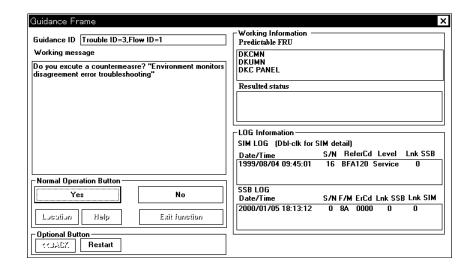This part is the same as the Information screen.

(2) Operation part

Guidance   : Executes a Guidance function.

Cancel   : Returns to the previous screen.

Flow Chart : Displays flow chart for Guidance function.

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[3] Guidance frame screen


```
Guidance Frame                                                    [×]
Guidance ID  [Trouble ID=3,Flow ID=1    ]      ┌Working Information────
                                               │ Predictable FRU
Working message                                │┌──────────────────────┐
┌─────────────────────────────────────────────┐│ DKCMN                 │
│Do you excute a countermeasre? "Environment monitors│ DKUMN           │
│disagreement error troubleshooting"          ││ DKC PANEL             │
│                                             ││──────────────────────│
│                                             │ Resulted status
│                                             │┌──────────────────────┐
│                                             ││                      │
│                                             ││                      │
│                                             │└──────────────────────┘
│                                             │└──────────────────────
│                                             │┌LOG Information────────
│                                             ││ SIM LOG  (Dbl-clk for SIM detail)
│                                             ││ Date/Time      S/N  ReferCd  Level  Lnk SSB
│                                             ││ 1999/08/04 09:45:01  16  BFA120  Service   0
│                                             ││
┌Normal Operation Button──────────────────────┐│ SSB LOG
│ ┌──────────────┐  ┌──────────────┐          ││ Date/Time      S/N F/M ErCd Lnk SSB Lnk SIM
│ │    Yes       │  │     No       │          ││ 2000/01/05 18:13:12  0  8A  0000   0     0
│ └──────────────┘  └──────────────┘          ││
│ ┌────────┐ ┌──────┐ ┌──────────────┐        ││
│ │Location│ │ Help │ │ Exit function│        ││
│ └────────┘ └──────┘ └──────────────┘        │└──────────────────────
┌Optional Button──────────────────────────────┐
│ ┌────────┐ ┌─────────┐                      │
│ │ <<BACK │ │ Restart │                      │
│ └────────┘ └─────────┘                      │
```

Guidance ID	: Displays trouble ID, flow ID on the current procedure.
Working Message	: Displays contents of next procedure (or current procedure).
Yes/No button	: Refers to Working Message for you to choose (CL) the [Yes]/[No] button.
Location button	: Displays replace part, location on the help screen linked to the Working Message.
Help button	: Displays additional information on the help screen.
Exit function button	: When a Guidance function is finished, select (CL) the [Exit function] button according to the Working Message.
BACK button	: Back to the previous condition ID.
Restart/Force Exit button	: Restart : Quits the procedure and restarts with initial procedure. Force Exit : Forced end of guidance function.
Predictable FRU	: Displays predicted FRU when the Guidance is executed.
Resulted status	: Displays replaced part or Guidance resulted status.
SIM LOG	: Displays object SIM LOG (Select (DC) SIM LOG so that you can display the SIM detail screen).
	: If the content of SIM LOG is abnormal, "SIM LOG is invalid." is displayed. When the Lnk SSB is invalid, Lnk SSB number is not displayed. (Space)
SSB LOG	: Displays SSB LOG linked SIM LOG. When the linked SSB or the linked SIM is invalid, each number is not displayed. (Space) Depending on the first SSB LOG, the following messages are displayed. (The second or later SSB LOGs are not displayed.)

① Related SSB do not exist. : Linked SSB in the SIM LOG is invalid.
② Related SSB can not read. : In case of the related SSB can not read.
   (Retry Restart Guidance)   (Guidance can be continued. If you obtain the same result when you make another attempt, it means that the related SSB does not exist.)
③ Related SSB is invalid. : SSB LOG content is abnormal.

5.7 Message of T.S.C CALL

MSG NO	ID NO	TRBL NO	Message
01	0x0101	1	The ACC in the SIM "BF4XXX" has data other than 3VPS, 5/3VPS, SUBPS, MPS.
02	0x0102	2	The wrong data exists on Byte13 of the SIM "BF2XYY".
03	0x0103	2	The wrong data exists on Byte23 of the SIM "BF2XYY".
04	0x0104	2	You can't measure error because of the failed cluster is now active.
05	0x0105	2	Measured the failed cluster, but the voltage alarm is still detected.
06	0x0106	2	You can't measure error because of the failed cluster is now active.
07	0x0107	2	You can't measure error because of the failed HDU is now active.
08	0x0108	2	Measured the failed HDU, but the voltage alarm is still detected. Pin5 and pin6 of Pxx-1 are short-circuit. Passed Flow-ID = 3E
09	0x0109	2	Measured the failed HDU, but the voltage alarm is still detected. pin7 and pin8 of Pxx-1 are short-circuit. Passed Flow-ID = 5A
0A	0x010A	2	Measured the failed HDD, but the voltage alarm is still detected.
0B	0x010B	2	Measured the failed DKUMN, but the voltage alarm is still detected.
0C	0x010C	2	Checked the PCB short-circuit of the failed cluster, but can't identify the cause of the failure. SIMRC byte13 $\neq$ 10 Passed Flow-ID = 87
0D	0x010D	2	Checked the PCB short-circuit of the failed cluster, but can't identify the cause of the failure. SIMRC byte13 =10 Passed Flow-ID = 8E
0E	0x010E	3	Replaced PCB of the failed cluster, but the voltage alarm is still detected.
0F	0x010F	3	Replaced the failed DKCMN, but the environment monitors mismatch error is still detected.
10	0x0110	3	Replaced the failed DKCMN, DKC PANEL, but the environment monitors mismatch error is still detected.
11	0x0111	3	Can't identify the cause of the environment monitors mismatch error. DKCMN and DKUMN are not blinking. Passed Flow-ID = 41
12	0x0112	3	Can't identify the cause of the environment monitors mismatch error. Replaced DKUMN, but DKUMN is blinking. Passed Flow-ID = 47
13	0x0113	3	Can't identify the cause of the environment monitors mismatch error. Can't execute PSOFF. Passed Flow-ID = 5A
14	0x0114	3	Can't identify the cause of the environment monitors mismatch error. DKUMN is not blinking. Passed Flow-ID = 60
15	0x0115	3	Replaced the failed DKUMN, but the environment monitors mismatch error is still detected.
16	0x0116	3	Can't identify the cause of the environment monitors mismatch error. Blinking either DKCMN or DKUMN. Passed Flow-ID = 76
17	0x0117	3	Can't identify the cause of the environment monitors mismatch error. Blinking either DKCMN or DKUMN. Passed Flow-ID = 7C
18	0x0118	3	Replaced the failed DKC PANEL, but the environment monitors mismatch error is still detected.
19	0x0119	3	Can't identify the cause of the environment monitors mismatch error. Blinking DKCMN. Passed Flow-ID = 90

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MSG NO	ID NO	TRBL NO	Message
1A	0x011A	3	Replaced the failed DKCPANEL, DKUMN, but the environment monitors mismatch error is still detected.
1B	0x011B	5	LDEV Blocking (SIM = CF90XX, DFAXXX, DFBXXX, EF9XXX) can't execute for Guidance.
1C	0x011C	4	Common Fiber Error (SIM = DF6XXX, DF7XXX, DF8XXX, DF9XXX) can't execute for Guidance.
1D	0x011D	7	RIO PATH Closed (SIM = 2180XX) can't execute for Guidance.
1E	0x011E	8	AL_PA value conflict (SIM = 2190XX) can't execute for Guidance.
1F	0x011F	9	Replace failure (SIM = 3993XX, 3D93XX) can't execute for Guidance.
20	0x0120	0a	CHT PCB type inconsistency (SIM = 399FX0) can't execute for Guidance.
21	0x0121	0b	Shared Memory (Real memory size inconsistent) failure (SIM = FFE3XX) can't execute for Guidance.
22	0x0122	0c	Shared Memory failure (SIM = FFD3XX) can't execute for Guidance.
23	0x0123	0d	Shared Memory (Loss of duplicated information) failure (SIM = FFDEXX) can't execute for Guidance.
24	0x0124	0e	HRC/HODM/HORC failure can't execute for Guidance.
25	0x0125	0f	HMRCF/HOMRCF failure (SIM = 47DXXX) can't execute for Guidance.
26	0x0126	—	The Guidance function was force finished for the FORCEEND button, after performed replace etc.
27	0x0127	10	HIHSM failure (SIM = 47FXXX) can't execute for Guidance.

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