4. STATUS SECTION

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4 STATUS

4.1 Functions

All status items, including the status of the logic board, memory board, drive, and other components can be monitored through the SVP screens.
The following information items can be displayed:

(1) Status of the DKC and DKU
Status for the entire configurations or components of the DKC and DKU. The following status types are displayed on the hierarchical screens:
normal, blocked, failed, non-mounted, and operation.

(2) Copy status
During a copy operation, the type of copy, the copy destination, and progress are displayed.

(3) Logical device information
Information on the mounted logical devices is displayed.

(4) Parity group information
Information on the mounted parity group is displayed.

(5) Microprogram version information
The version information on the micro-program currently running and that saved on the SVP hard disk are displayed.

(6) LCP/MCP Path information
The physical/logical path status is displayed for the LCP, RCP and MCP.

A faulty part may not necessarily be located by the STATUS function. Information for action to be taken to correct the cause of a failure is not provided. Take action according to the action code (ACC). Since the SVP is used, the knowledge of SVP (PC) operations is required.

4.2 Explanation of Screens

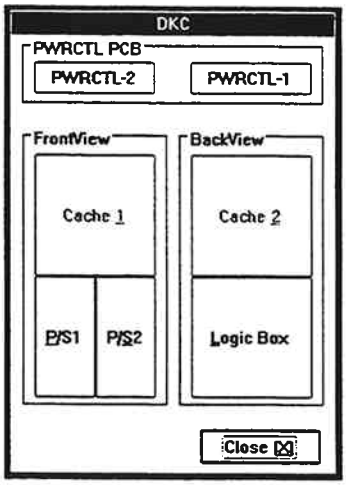
Items common to all status display screens is shown below.
The buttons, labeled with each part name are displayed on the screen. These buttons indicate the status, as follows:

Normal status	: Valid button (The name of the part is displayed clearly. The button is not blinking.)
Blocked status (Under maintenance or failure)	: Blinking button (The button is blinking.)
Non-mounted status	: Invalid button (The name of the part is dimmed.)
No information due to a failure	: " ---- " button (" ---- " is displayed on the button.)
Others	: A running status (for example, copy status) is indicated on the button or the lower layered screen.

For some parts, detailed information can be obtained. Select the button and call the lower layered screen.
For more information, see the hierarchy of screens and the explanation of each screen, shown below.

To go back to the previous layered screen, select (CL) [Close(X)].

An explanation is given using the 'DKC' window on the right.
(Assume that the Logic Box is blinking.)



Cache1,Cache2 ---------- Non-mounted
P/S1,P/S2 ---------- Normal
PWRCTL-1,PWRCTL-2 -- Normal
Logic Box ---------- Blocked (failure or under maintenance)

Detailed information on the blocked status is displayed on the lower layered screen which is brought up by selecting (CL) the Logic Box button. For PWRCTL-1 and PWRCTL-2, this screen is the lowest layered screen (see hierarchy in 4.3).

4.3 Relationships between Displayed Screens

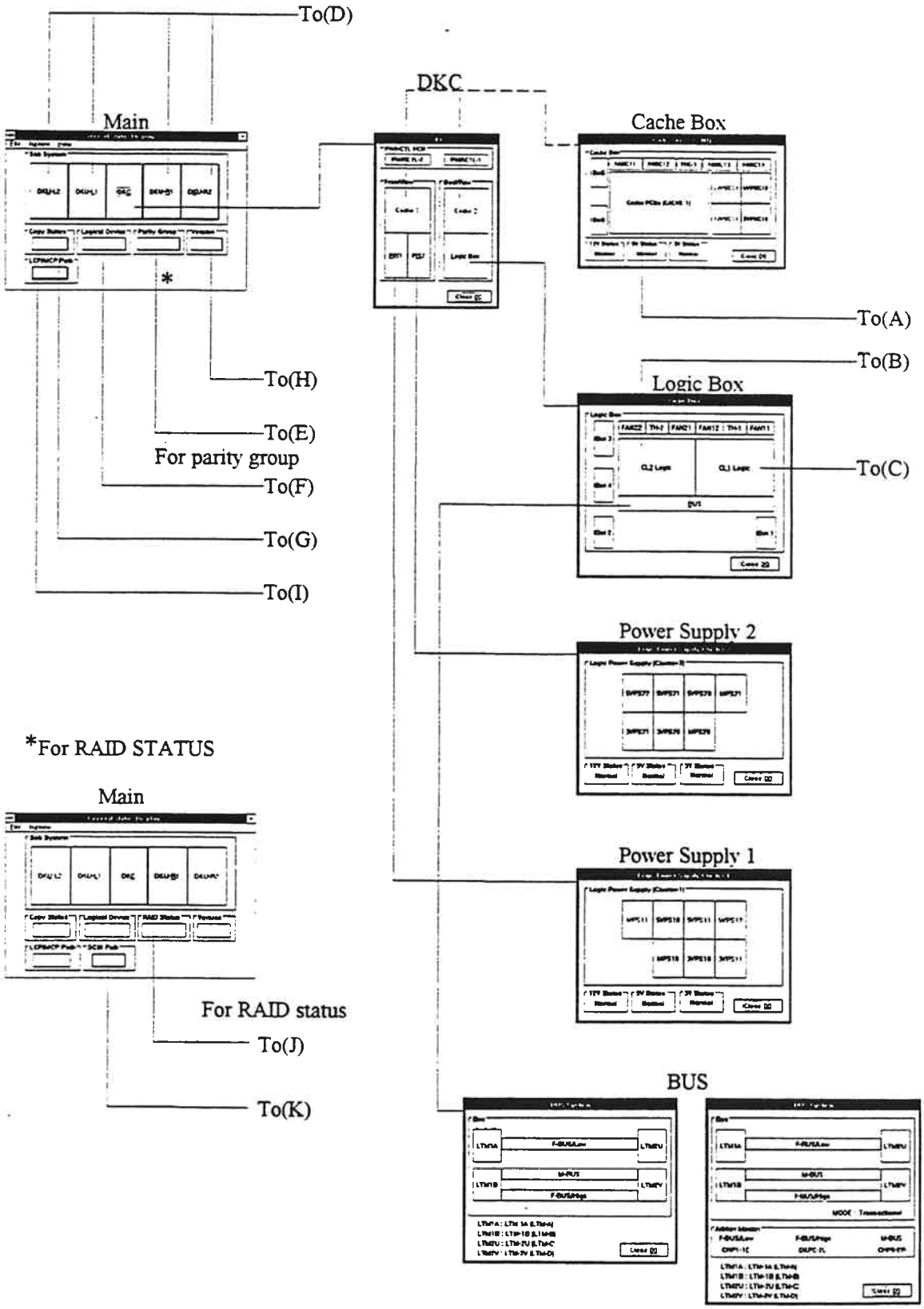


Figure 4-1 Hierarchy of Screens (1/6)

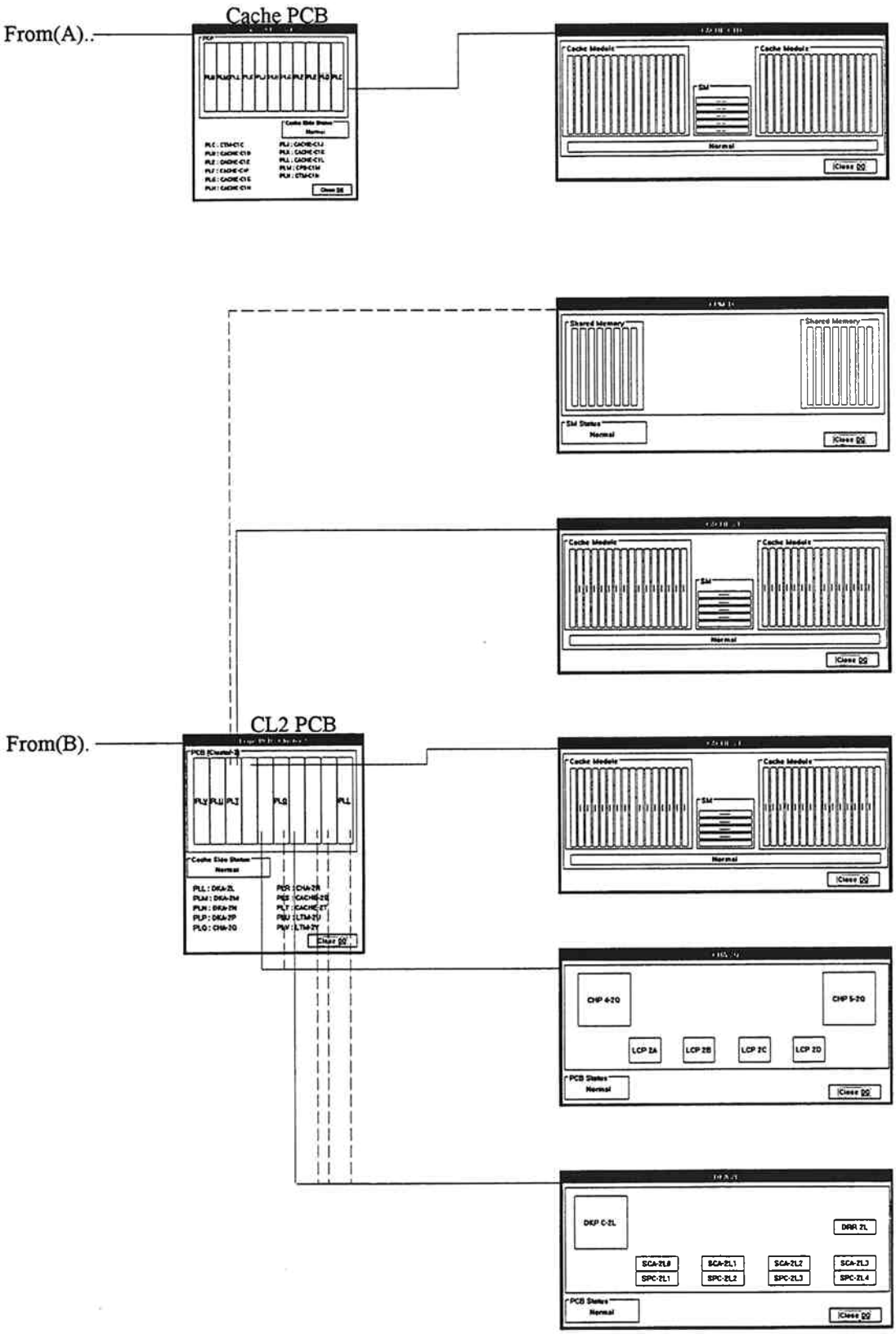


Figure 4-1 Hierarchy of Screens (2/6)

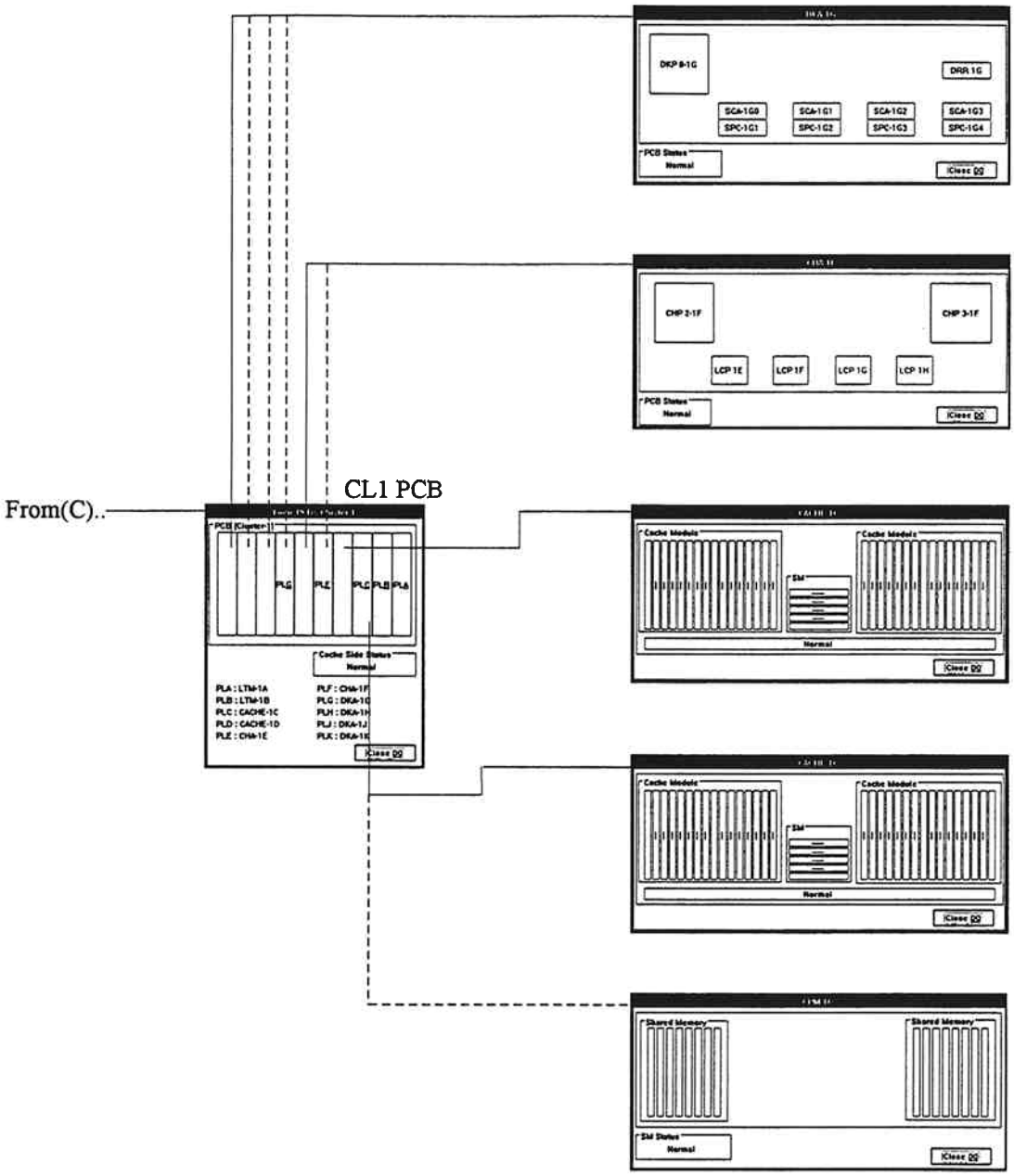
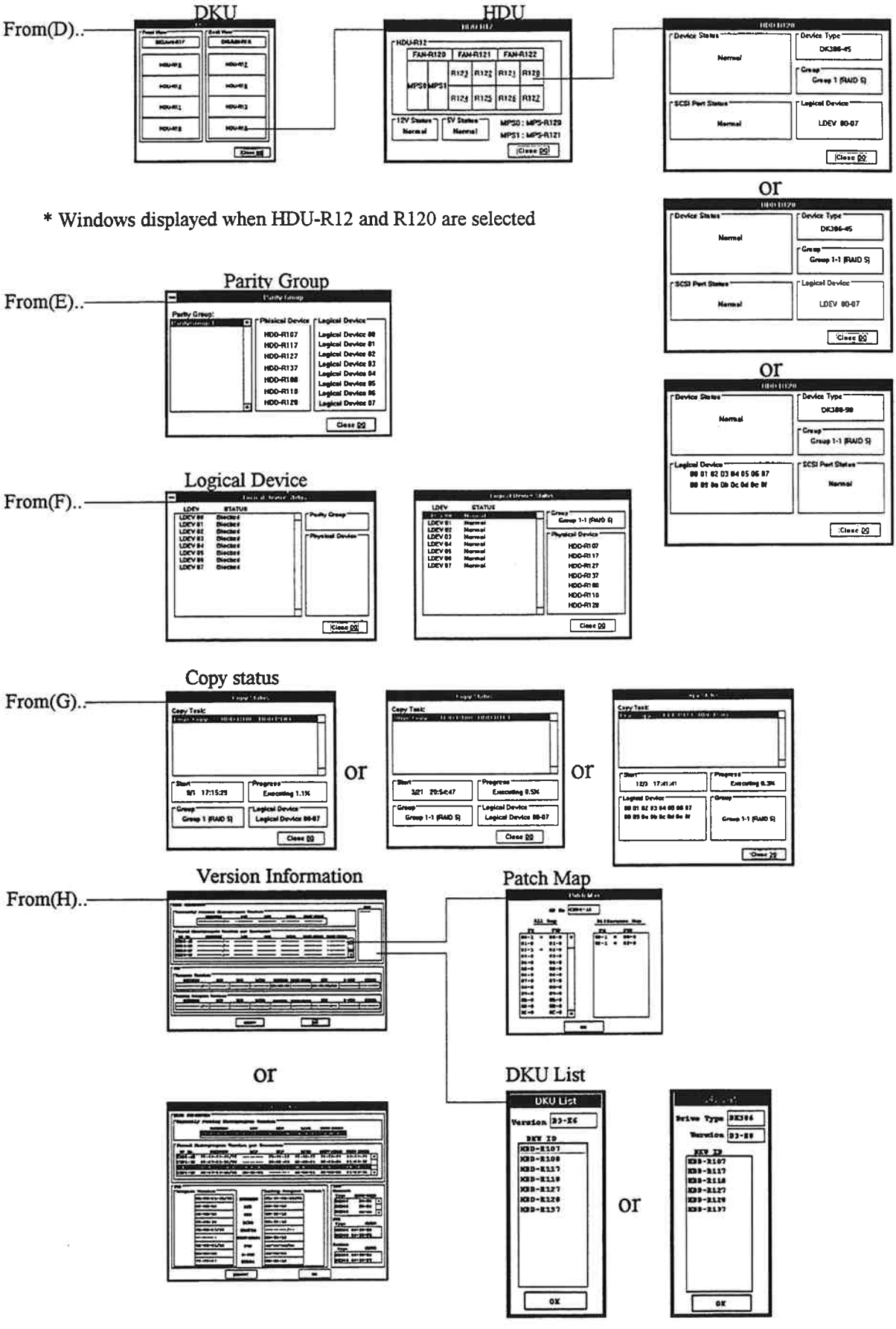
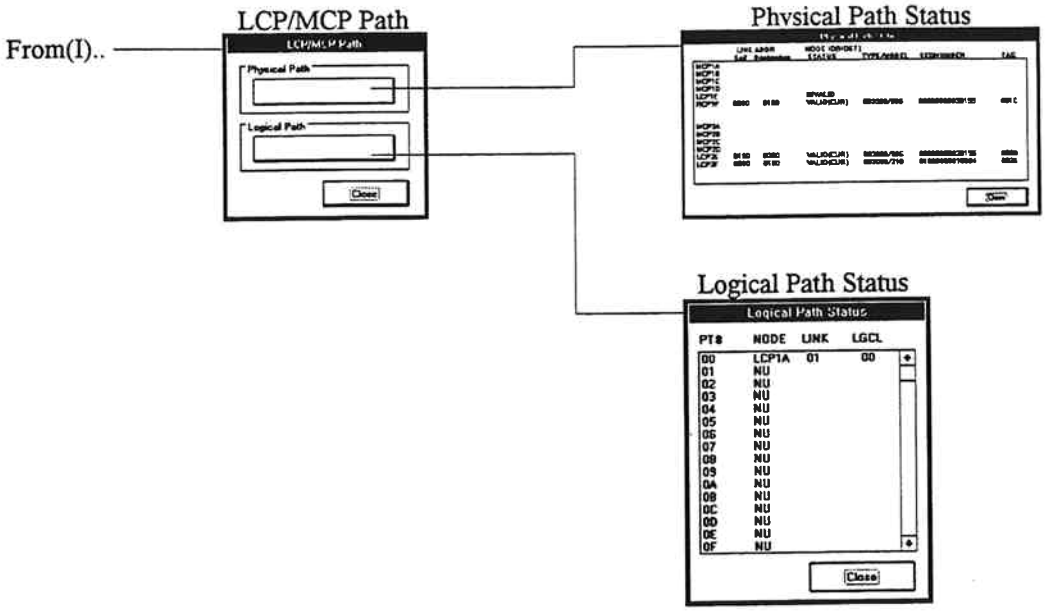


Figure 4-1 Hierarchy of Screens (3/6)



* Windows displayed when HDU-R12 and R120 are selected

Figure 4-1 Hierarchy of Screens (4/6)



From(J).. (Case of RAID 5)

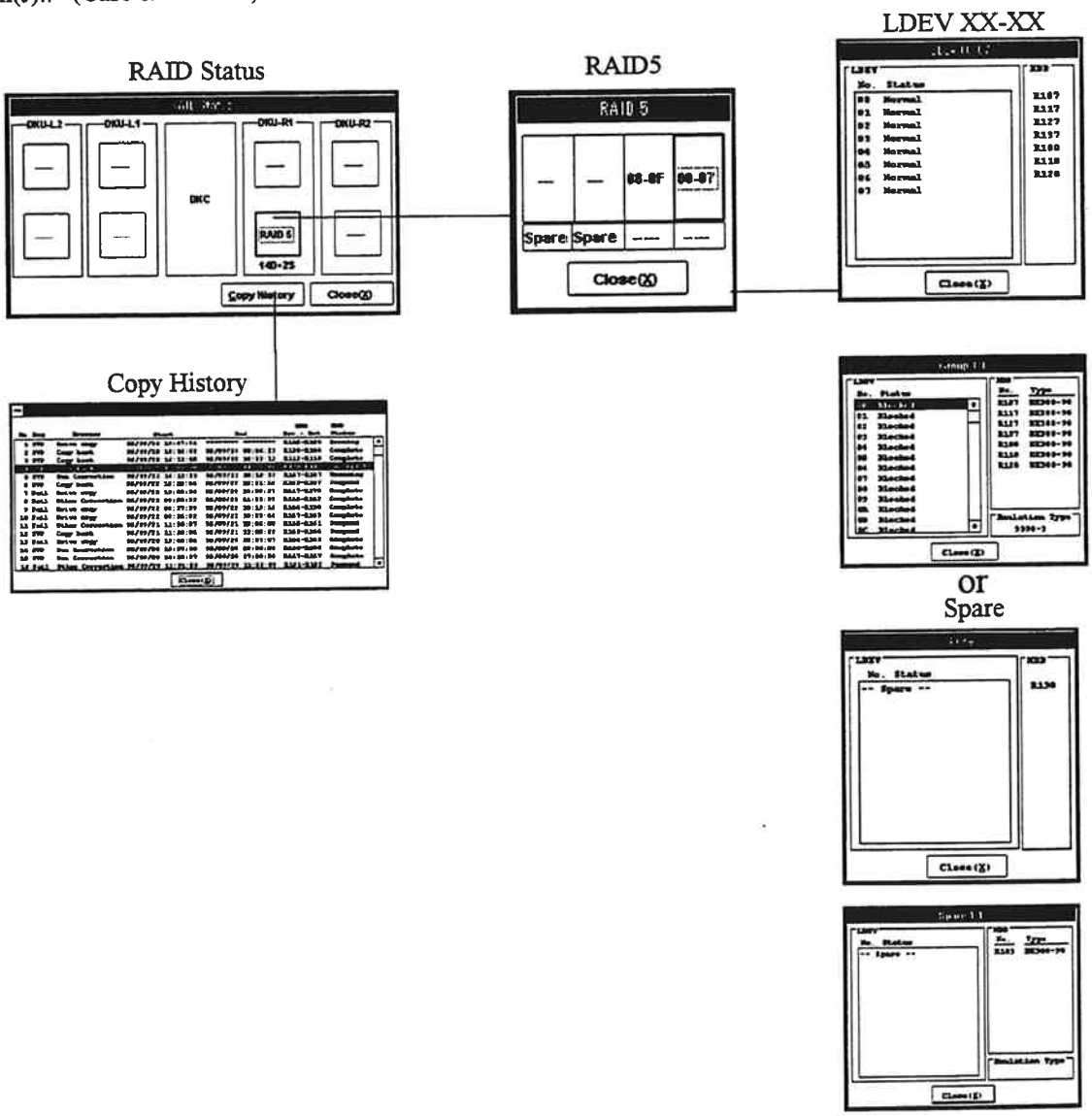
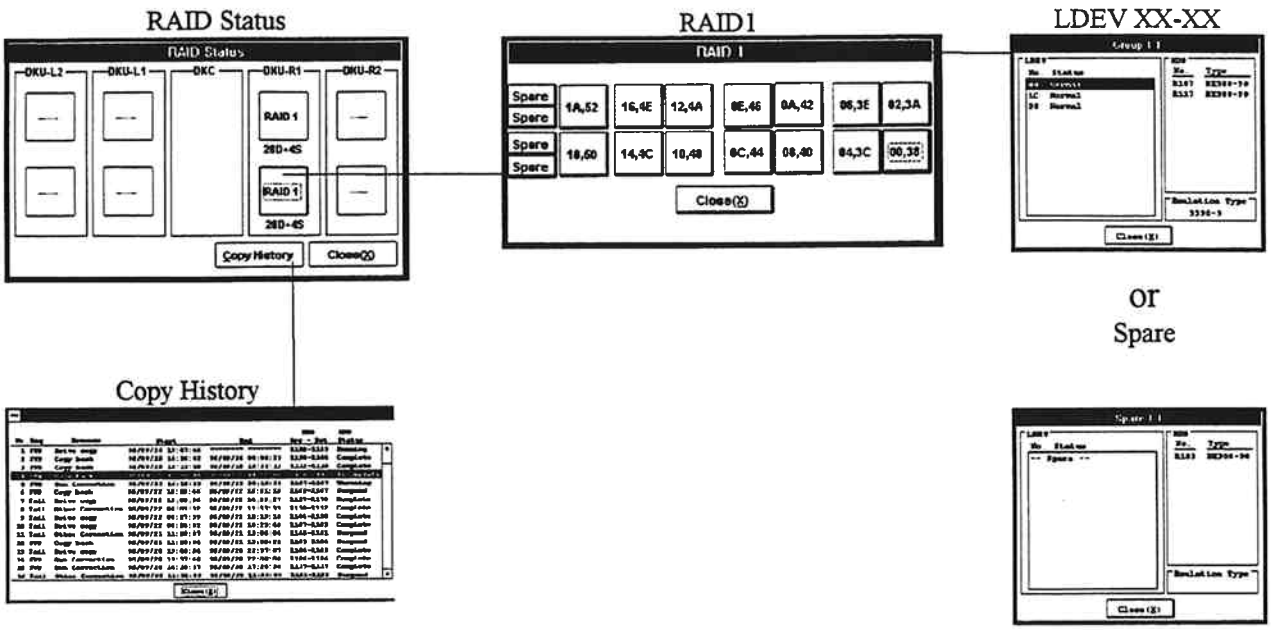


Figure 4-1 Hierarchy of Screens (5/6)

From(J).. (Case of RAID 1)



From (K)..

SCSI Path-LDEV Configuration

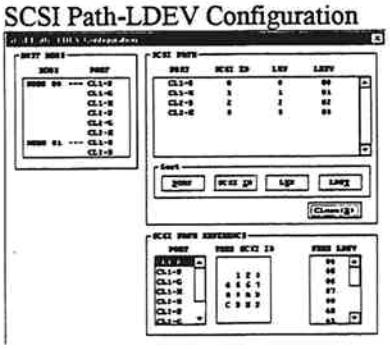
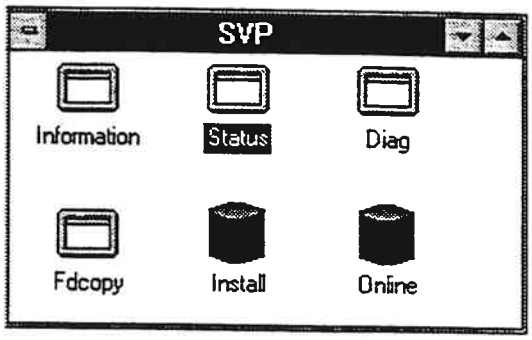


Figure 4-1 Hierarchy of Screens (6/6)

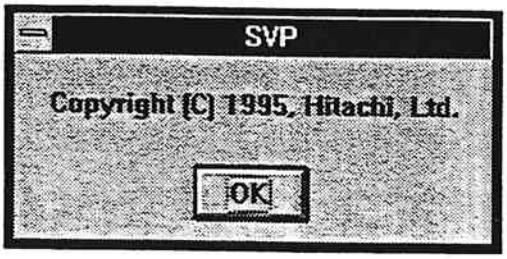
4.4 Activating and Terminating STATUS

4.4.1 Activating STATUS

(1) Select (DC) the [Status] icon in the 'SVP' window.

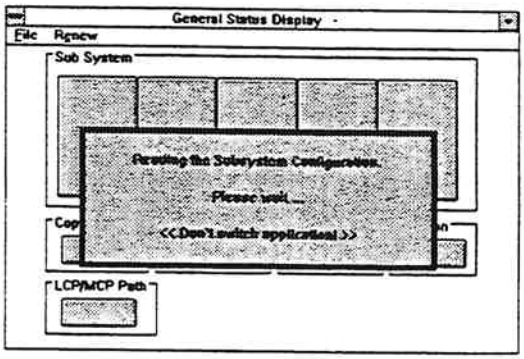


(2) The copyright information will appear.
Select (CL) [OK].

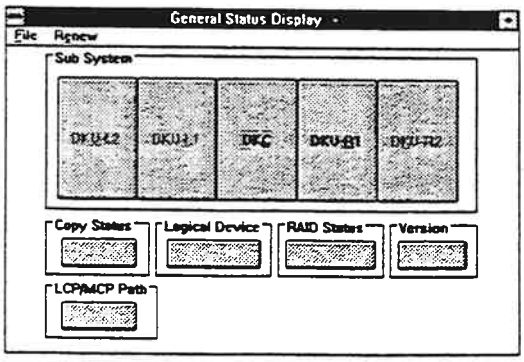


(3) The 'General Status Display' window will appear, on which the message "Reading the Subsystem Configuration. Please wait..." is displayed.
Upon completion of reading the system configuration information, go to step (4). If a read error occurs, go to step (5).

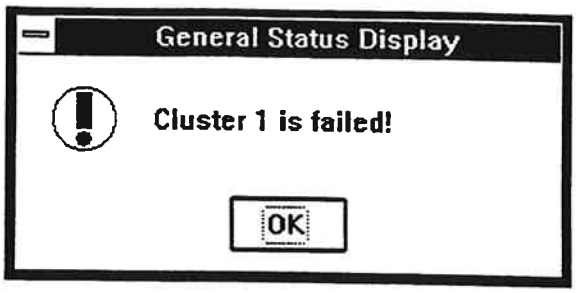
* Please do not change an application's window until SVP-DKC communication finish.



(4) The main screen shown on the right will appear on the 'General Status Display' window, completing activation of STATUS.

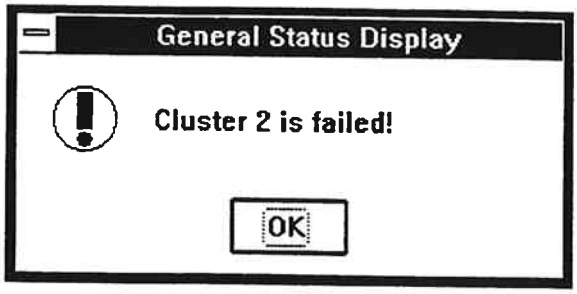


(4-1) If an error occurs, the nature of error is displayed.
"Cluster X is failed!"
X : 1 or 2
Select (CL) [OK].

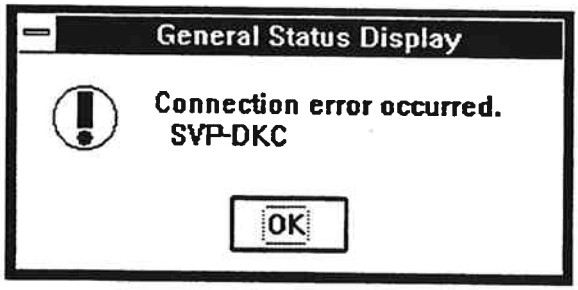


If status of power supplies is failure (refer to step 4.5.3 (STATUS05-20)), see TROUBLE SHOOTING SECTION (refer to step 6.3.2.7 (TRBL03-80)).

If status of power supplies is normal (refer to step 4.5.3 (STATUS05-20)), see SVP SECTION (refer to step 10.2.19 (SVP02-840)).

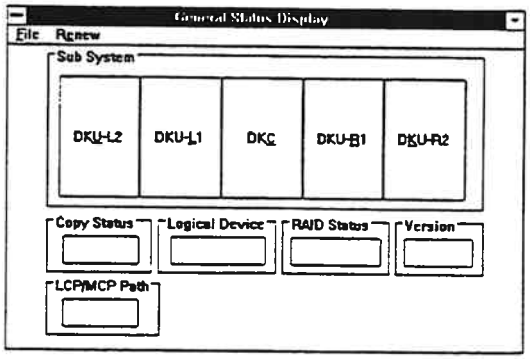


(5) If an error occurs, the nature of the error is displayed.
① "Connection error occurred. SVP-XXX" is displayed.
XXX : DKC or SSVP
② "Initializing SSVP (Phase X/16) Please Wait"
X : 1~15
③ "SSVP Dump is being performed (Phase X/15).
Environment Status Can't be read."
X : 1~15
Select (CL) [OK].



(6) The similar screen as in step (4) will appear, but the buttons are indicated by "----" to indicate an error.
Terminate STATUS and remove the cause of the error. Then reactivate STATUS.

Note : When a communication error has 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 SVP-DKC communication error occurs.



* When a communication error has occurred on either SVP-DKC or SVP-SSVP, refer to the "6.5.4 Recovery Procedure for LAN Error (TRBL05-70)".

4.4.2 Terminating STATUS

(1) Close the 'General Status Display' window.

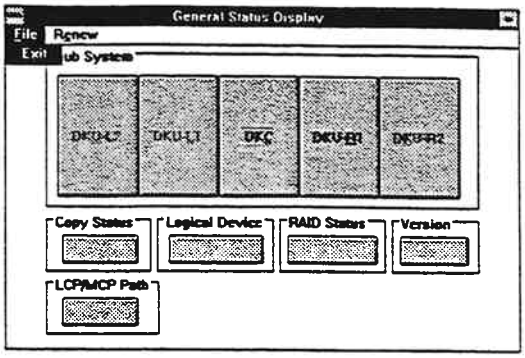
Select (CL) [File] - [Exit] in menu bar on 'General Status Display'. (Screen on the right.)

or

Select (DC) Control Box at the left on the title bar.

or

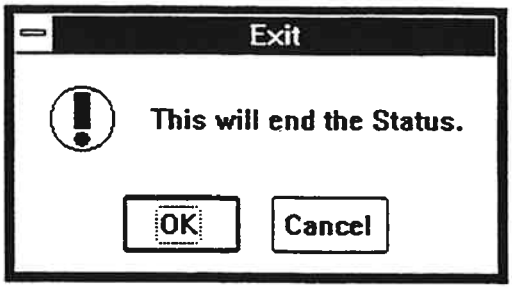
Select (CL) Control Box - [Close].



(2) The 'Exit' dialog box will appear.

Select (CL) [OK].

STATUS is now terminated.



4.5 STATUS Display

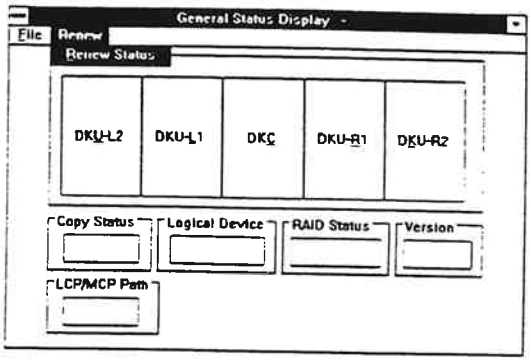
4.5.1 Updating the STATUS display

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)

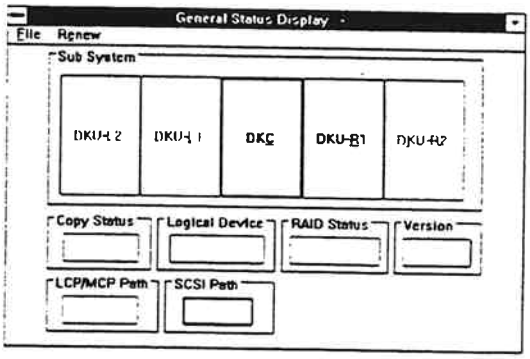
or

(2) Terminate STATUS and activate it again.



4.5.2 Main screen

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



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,L1,L2 . 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

Copy Status ..... Status of copy work
Blinking "Copy" in the button : Copy work is in progress. (Details are displayed on the lower layered screen.)
No display in the button : Copy work is not performed. (The lower layered screen is not provided.)

Parity Group ..... Parity group information is displayed on the lower layered screen. (Note)

Logical Device ..... Logical device information is displayed on the lower layered screen.

Version ..... Version information on the micro-program is displayed on the lower layered screen.

LCP/MCP Path ..... LCP/MCP Path information is displayed on the lower layered screen.

RAID Status ..... RAID settings and copy history are displayed.

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

The menus in the menu bar are explained below.

Renew ..... The configuration information is read. The status display is updated.(Select (CL) [Renew] - [Renew Status].)

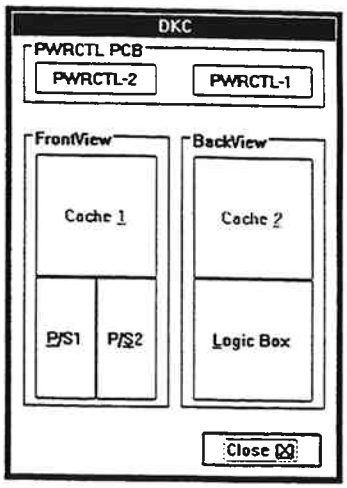
File ..... The pull-down menu to terminate STATUS appears.
Selecting (CL) [Exit] terminates STATUS.

4.5.3 DKC

(1) Status of DKC

Select (CL) [DKC] on the main screen.

The 'DKC' window will appear.



Cache1 ------- Status of Cache Box clusters 1 and 2 (Details are
Cache2 displayed on the lower layered screen.)
Valid button : Normal
Blinking button: Failure or under maintenance
Invalid button : Non-mounted

Logic Box --- Status of the Logic Box (Details are displayed on the lower layered screen.)
Valid button : Normal
Blinking button: Failure or under maintenance
" ---- "button : No information due to an SVP-DKC error

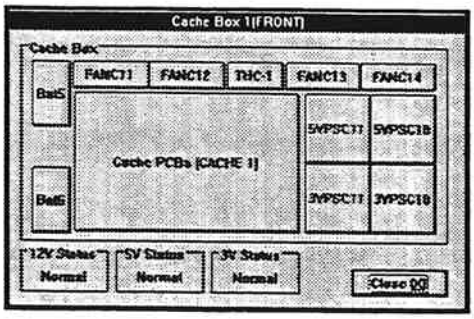
P/S1 ---------- Status of power supplies for Logic Box clusters 1 and 2
P/S2 (Details are displayed on the lower layered screen.)
Valid button : Normal
Blinking button: Failure or under maintenance
" ---- "button : No information due to SVP-SSVP error

PWRCTL 1 -- Status of PWRCTL.
PWRCTL 2 Valid button : Normal
Blinking button: Failure

(2) Status of Cache Boxes 1 and 2

Select (CL) [Cache1] or [Cache2] in the 'DKC' window.

The 'Cache Box' window will appear.



Cache PCBs - Status of the PCBs in the Cache Box (Details are displayed on the lower layered screen.)
Valid button : Normal
Blinking button : Failure or under maintenance

3VPSCn0 ---- Status of the Cache Box power supplies
5VPSCn0 Valid button : Normal
3VPSCn1 Blinking button : Failure
5VPSCn1

FANCn0 ----- Status of the fans in the Cache Box
FANCn1 Valid button : Normal
FANCn2 Blinking button : Failure
FANCn3

THC-n -------- Status of the temperature in the Cache Box
Valid button : Normal
Blinking button : Abnormal

Bat5/7 -------- Status of the expanded Cache Box power supplies
Bat6/8 Valid button : Normal
Blinking button : Abnormal

12V Status --- Status of the 12 voltage in the Cache Box

5V Status ---- Status of the 5 voltage in the Cache Box

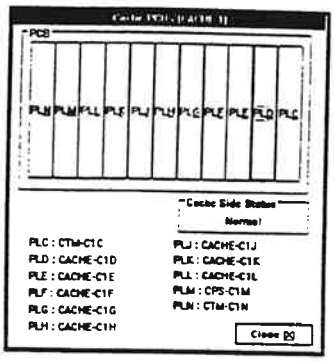
3V Status ---- Status of the 3 voltage in the Cache Box
- Normal
- Warning (abnormal)

The number n is 1 for Cache Box 1 or 2 for Cache Box 2.

(3) Status of PCB (Cache Box)

Select (CL) [Cache PCBs] in the 'Cache Box' window.

The 'Cache PCBs' window will appear.



PLC ---------- Cache Terminator (always valid display)

PLD ---------- Cache PCB status (Details are displayed on the lower
PLE layered screen.)
PLF Valid button : Normal
PLG Blinking button : Failure or under maintenance
PLH Invalid button : Non-mounted
PLI
PLJ
PLK
PLL

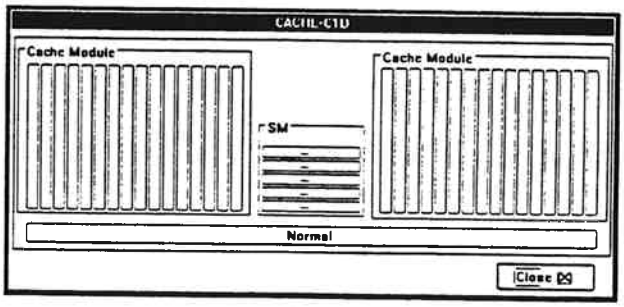
PLM ---------- CPS (always valid display)

PLN ---------- Cache Terminator (always valid display)

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

(4) Status of each PCB (Cache Box)

Select (CL) one of [PLD] to [PLL] in the 'Cache PCBs' 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

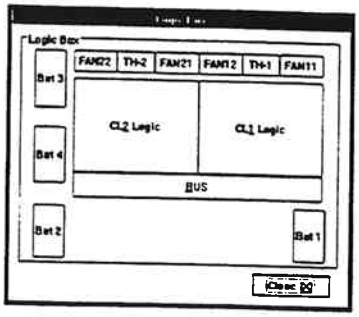
SM ---------- Status of the shared memory module
- Valid button : Normal
- Blinking '*' in the button : Failure or under maintenance
- '--' displayed in the button : Non-mounted

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)

(5) Status of the Logic Box

Select (CL) [Logic Box] in the 'DKC' window.

The 'Logic Box' window will appear.



CL1 Logic — Status of Logic clusters 1 and 2 (Details are
CL2 Logic displayed on the lower layered screen.)

Valid button	: Normal
Blinking button	: Failure or under maintenance
Invalid button	: Non-mounted
" — "button	: No information due to SVP-DKC error

Bat1 ——— Status of the Logic Box batteries

Bat2

Bat3

Bat4

Valid button	: Normal
Blinking button	: Failure
" — "button	: No information due to SVP-SSVP error

FAN11 ——— Status of the fans in the Logic Box

FAN12

FAN21

FAN22

Valid button	: Normal
Blinking button	: Failure
" — "button	: No information due to SVP-SSVP error

TH-1 ——— Status of the temperature in the Logic Box

TH-2

Valid button	: Normal
Blinking button	: Abnormal
" — "button	: No information due to SVP-SSVP error

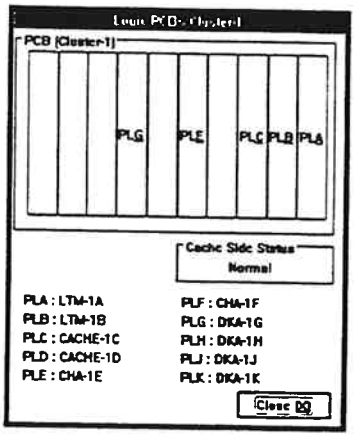
BUS ——— Status of buses (Details are displayed on the lower layered screen.)

Valid button	: Normal
Blinking button	: Failure or under maintenance

(6) Status of PCB (Logic Box cluster 1)

Select (CL) [CL1 Logic] in the 'Logic Box' window.

The 'Logic PCBs' window for cluster 1 will appear.



PLA ——— Terminator (always valid display)

PLB

PLC ——— PCB back board status (Details are displayed on the

PLD lower layered screen.)

PLE

PLF

PLG

PLH

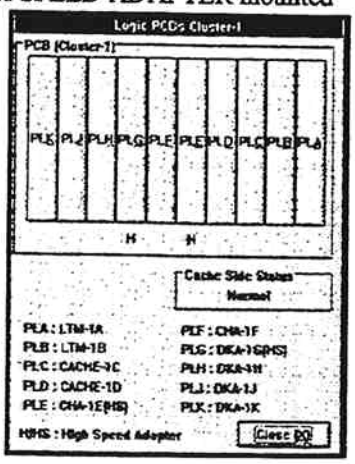
PLJ

PLK

Valid button	: Normal
Blinking button	: Failure or under maintenance
Invalid button	: Non-mounted

H/HS ——— Display of high speed adapter mounted .

HIGH SPEED ADAPTER mounted

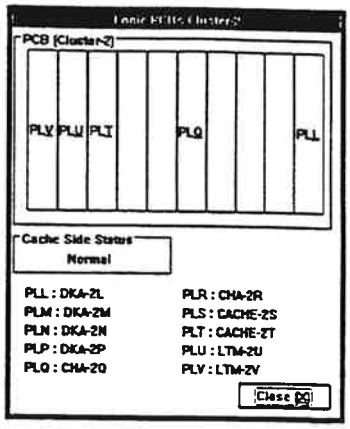


Cache Side Status - Status of the cache memory

- Normal
- Warning (abnormal)
- Blocked (blocked for maintenance)
- Failed (blocked due to a failure)

(7) Status of PCB (Logic Box cluster 2)

Select (CL) [CL2 Logic] in the 'Logic Box' window.
The 'Logic PCBs' window for cluster 2 will appear.

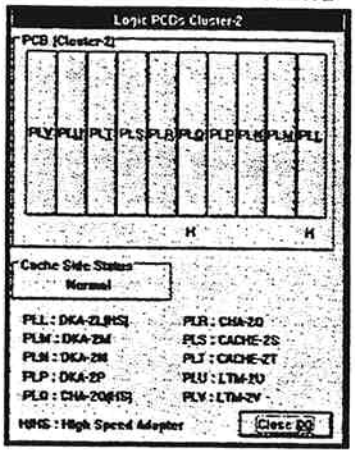


PLL ——— PCB back board status (Details are displayed on the
PLM lower layered screen.)
PLN Valid button : Normal
PLP Blinking button : Failure or under maintenance
PLQ Invalid button : Non-mounted
PLR
PLS
PLT

PLU ——— Terminator (always valid display)
PLV

H/HS ——— Display of high speed adapter mounted.

HIGH SPEED ADAPTER mounted

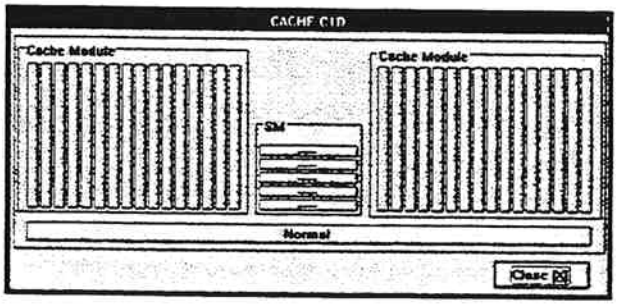


Cache Side Status - Status of the cache memory
- Normal
- Warning (abnormal)
- Blocked (blocked for maintenance)
- Failed (blocked due to a failure)

(8) Status of individual PCBs in the Logic Box

(a) Status of the PLD and PLS

Select (CL) [PLD] or [PLS] in the 'Logic PCBs' window.
The 'CACHE' window will appear.
The Cache PCB part location number is displayed in the title.



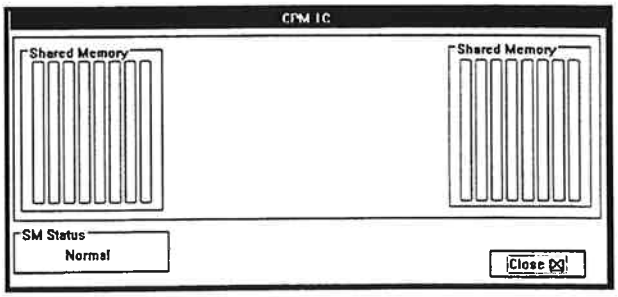
Cache Module —— Status of the cache memory module (Displayed for each module group)
Valid button : Normal
Blinking '*' in the button : Failure
'¦' displayed in the button : Non-mounted

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)

(b) Status of the PLC and PLT

Select (CL) [PLC] or [PLT] in the 'Logic PCBs' window. When the cache capacity is less than 4 GB, the displayed screen is the same as for the PLD or PLT. When the cache capacity is 4 GB or more, the 'Cache Port Master' window appears.



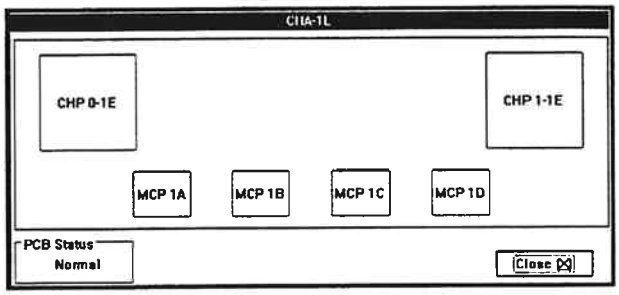
Shared Memory -- Status of shared memory
- Valid button : Normal
- Blinking '*' in the button : Failure or under maintenance

SM Status --------- Status of shared memory
- Normal
- Failed (blocked)

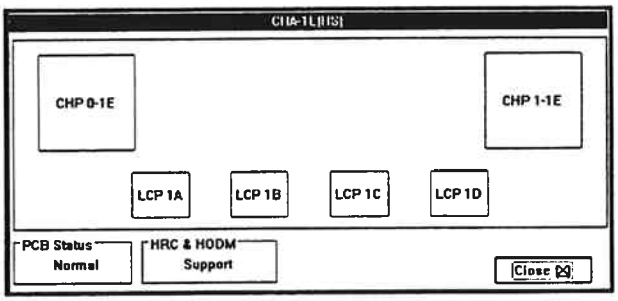
(c) Status of the PLE, PLF, PLQ, and PLR

Select (CL) [PLE] , [PLF] , [PLQ] , or [PLR] in the 'Logic PCBs' window. The 'CHA' window will appear. The CHA part location number is displayed in the title.

MCP mounted



LCP mounted

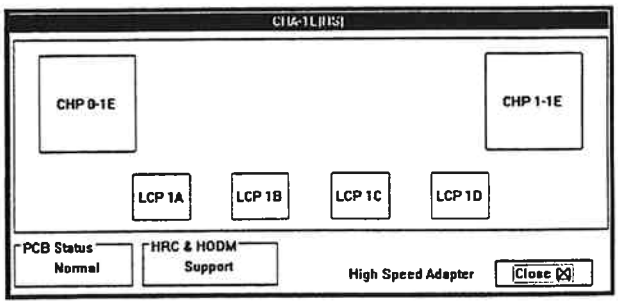


CHPX-XX --- Status of program CHP in the CHA
- Valid button : Normal
- Blinking button : Failure

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

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

HIGH SPEED ADAPTER mounted

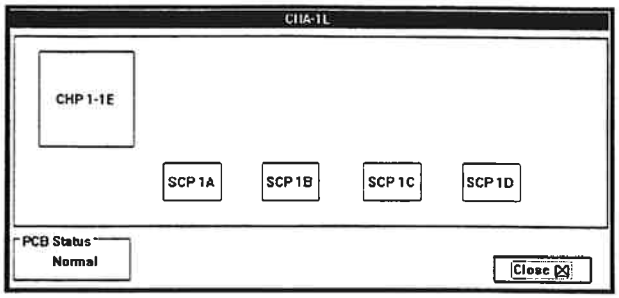


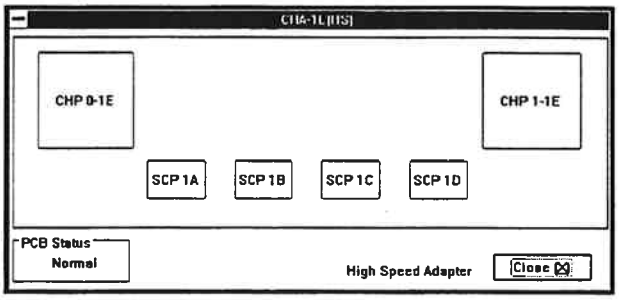
High Speed Adapter --- Display of high speed adapter.

HRC & HODM---------- HRC & HODM potential of the CHA package.
- Support
- Not support
- Unknown

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

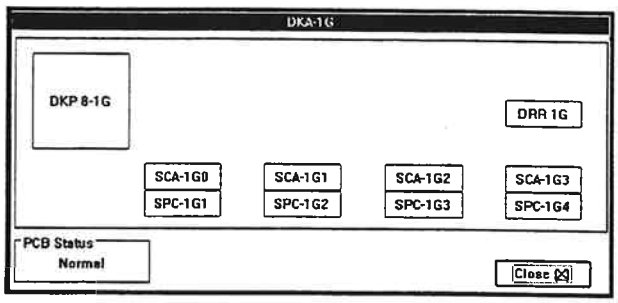
SCP mounted





(d) Status of the PLG to PLK or PLL to PLP

Select (CL) one of [PLG] to [PLK] or [PLL] to [PLP] in the 'Logic PCBs' window. The 'DKA' window will appear.



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

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

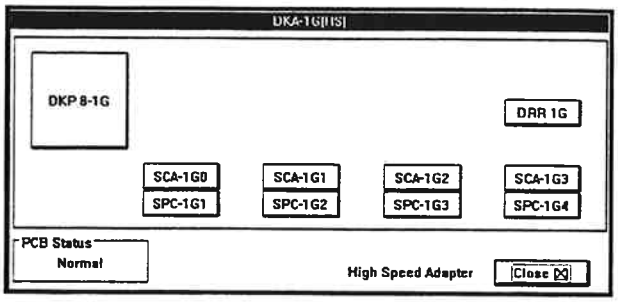
SPC-XXX --- Status of the SPC (No. 1 ~ 4)

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

High Speed Adapter --- Display of high speed adapter.

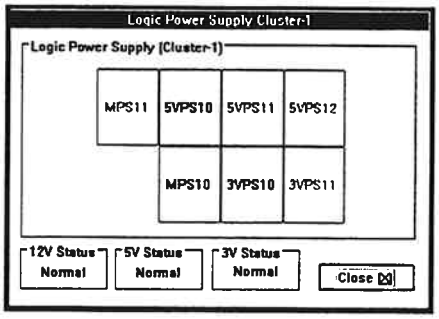
HIGH SPEED ADAPTER mounted



(9) Status of the Logic Box power supplies in the DKC

Select (CL) [P/S1] or [P/S2] in the 'DKC' window.

The power supply window will appear.



MPSn0 ------- Status of the basic power supply for the Logic Box
3VPSn0
5VPSn0
5VPSn1
- Valid button : Normal
- Blinking button : Failure

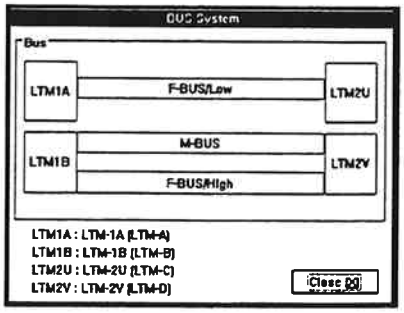
MPSn1 ------- Status of the expanded power supply for the Logic Box
3VPSn1
5VPSn2
- Valid button : Normal
- Blinking button : Failure
- Invalid button : Non-mounted

The number n is 1 for P/S1 or 2 for P/S2.

(10) Status of the buses in the DKC

Select (CL) [BUS] in the 'Logic Box' window.

The status of each bus will be displayed.

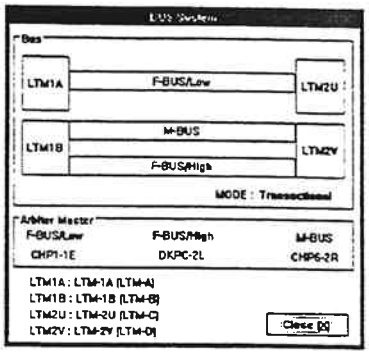


F-BUS/Low ------- Status of the F-BUS and M-BUS
F-BUS/High
M-BUS
- Valid button : Normal
- Blinking button : Failure or under maintenance

LTM1A ---------- Terminator (Only terminator names are displayed.)
LTM1B
LTM2U
LTM2V

MODE ---------- An action of the Bus
- "Transactional" : Transactional mode
- "Sequential" : Sequential mode
- "----------" : Not support
- "Unknown" : Get information error

ARBITER MASTER A name of processor for each Bus Arbiter Master
- MP name : Arbiter Master MP
- "None" : Arbiter Master MP not exist
- "----" : Not support
- "Unknown" : Get information error



* Status of Bus Mode and Bus Arbiter Master for each Bus status
Six statuses exist as follows.

Bus status	Bus mode	Arbiter Master		
		F-BUS/L	F-BUS/H	M-BUS
Normal (1)	Transactional	Y	Y	Y
Normal (2)	Sequential	N	Y	Y
M-BUS failed	Sequential	Y	Y	N
F-BUS/L failed	Sequential	N	Y	Y
F-BUS/H failed	Sequential	Y	Y	N
F-BUS/H & M-BUS failed	Sequential	Y	N	N

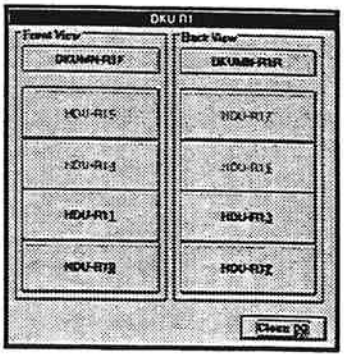
Y : Arbiter Master MP exists

N : Arbiter Master MP not exist

4.5.4 DKU

(1) Status of the DKU

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



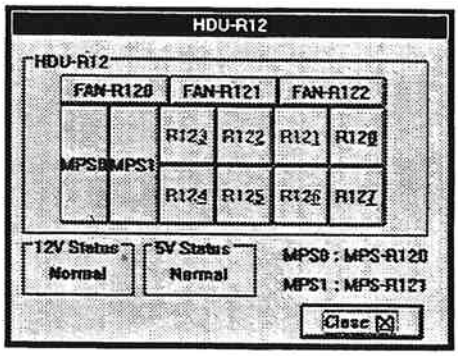
HDU-XX0 --- Status of the HDUs constituting the selected DKU
HDU-XX1 (Details are displayed on the lower layered screen.)
HDU-XX2 Valid button : Normal
HDU-XX3 Blinking button : Failure or under maintenance
HDU-XX4 or copy work in progress
HDU-XX5 Invalid button : Non-mounted
HDU-XX6
HDU-XX7

DKUMN-XXF ---- Status of DKU monitor
DKUMN-XXR Valid button : Normal
Blinking button : Failure

XX represents XX in DKU-XX: for example, R1 for DKU-R1 and L2 for DKU-L2.

(2) Status of the HDU

Select (CL) one of [HDU-XX0] to [HDU-XX7] in the 'DKU' window.
The 'HDU' window will appear.



YYY0 ---------- Status of the HDDs constituting the HDU
YYY1 (Details are displayed on the lower layer
YYY2 screen.)
YYY3 Valid button : Normal
YYY4 Blinking button: PDEV error, failure, or
YYY5 under maintenance
YYY6 Blocked port Copy work in progress
YYY7 Invalid button : Non-mounted
" ---- "button : No information due to SVP-DKC error

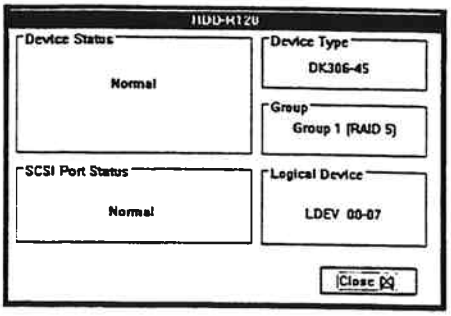
MPS0 ---------- Status of the HDU power supplies
MPS1 Valid button : Normal
Blinking button: Failure
" ---- "button : No information due to SVP-SSVP error

FAN-YYY0 ----- Status of the fans in the HDU
FAN-YYY1 Valid button : Normal
FAN-YYY2 Blinking button: Failure
" ---- "button : No information due to SVP-SSVP error

YYY represents YYY in HDU-YYY: when HDU-R12 is selected, for example, YYY is R12.

(3) Status of the HDD

Select (CL) one of [YYY0] to [YYY7] in the 'HDU' window.
The 'HDD' window will appear.
The HDD part location number is displayed in the title.

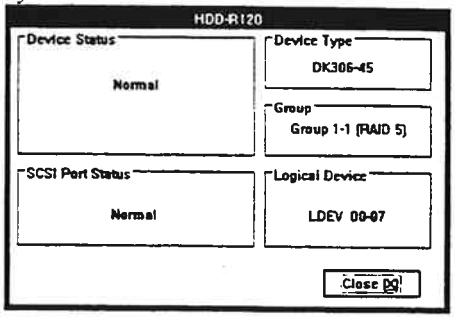


Device Type ------- Model name of the HDD

Group ---------- Number of the parity group to which the HDD belongs (Note 1)

Logical Device --- The involved logical devices are listed.

Device Status ----- The status of the HDD and the work name are displayed.



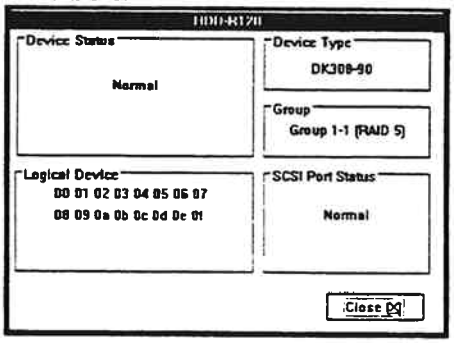
- Normal
- Correction Copy (xx%) (Note 2)
- Copy Back (xx%)
- Drive Copy (xx%)
- Dynamic Sparing (xx%)
- Blocked (blocked for maintenance)
- Failed (blocked due to failure)
- Warning (Either SCSI port is blocked.)
- Failed (Both SCSI ports are blocked.)
- Free (available spare disk.)
- Reserved (not available spare disk. The spare disk is reserved.)

During a copy operation, copy destination/copy source is displayed.

- to HDD-xx : Data is copyed form this drive to HDD-xx.
- from HDD-xx : Data is copyed from HDD-xx to this drive.

SCSI Port Status --- SCSI port status

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

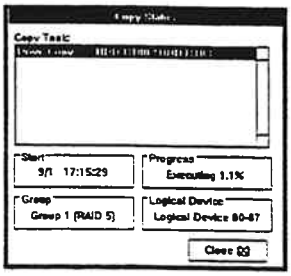


(Note 1) In RAID 0 method, Parity group consists of only one drive.

(Note 2) This system does not execute Correction Copy in RAID 0 method.

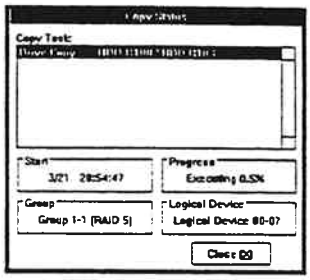
4.5.5 Copy status

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



Copy Task ---- The operations of the drive copy currently running are listed.

Correction Copy to	HDD-XXXX	(Note 1)
Dynamic Sparing	HDD-XXXX->HDD-XXXX	
Copy Back	HDD-XXXX->HDD-XXXX	
Drive Copy	HDD-XXXX->HDD-XXXX	



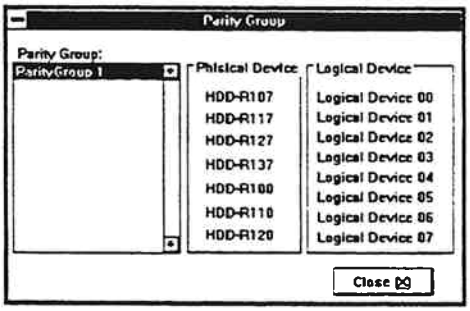
Select (CL) one job item from the list. The following information concerning the selected job will be displayed:

Start ---------- Date and time when the job started
Parity Group ---- Number of the parity group to which the target drive belongs (Note 2)
Progress ---------- Degree of job progress (indicated in percent)
Logical Device ---- Logical Device in the target drive

(Note 1) This system does not execute Correction Copy in RAID 0 method.
(Note 2) In RAID 0 method, Parity group consists of only one drive.

4.5.6 Parity group

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



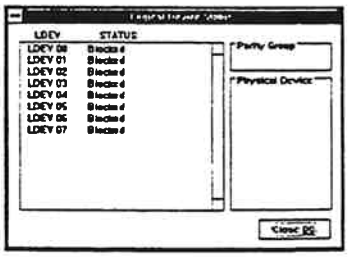
Parity Group ------ List of mounted parity groups

Select (CL) a parity group from the list. The following information concerning the selected parity group will be displayed:

Physical Device --- HDD number in the parity group
Logical Device ---- Logical Device number in the parity group

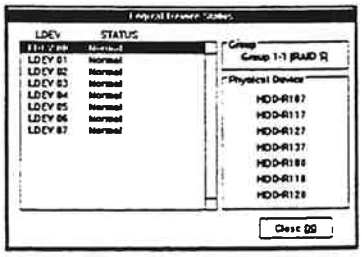
4.5.7 Logical devices

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



LDEV ---------- List of the numbers of the mounted logical devices
Status ----------Status of the logical device

Select (CL) a logical device from the list. The following information concerning the selected logical device will be displayed:



Parity Group ------ Parity group to which the Logical Device belongs
Physical Device --- Number of the HDD including the Logical Device

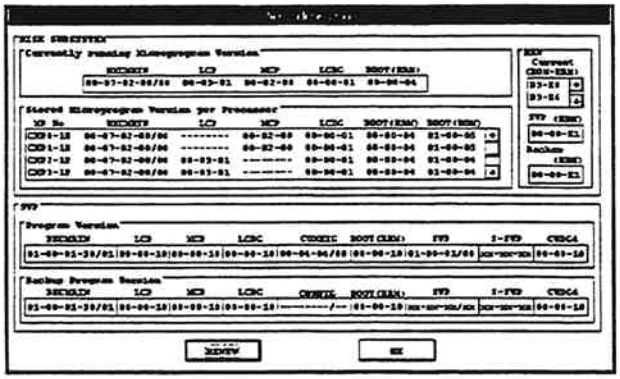
4.5.8 Micro-program version

Select (CL) [Version] from the main screen.

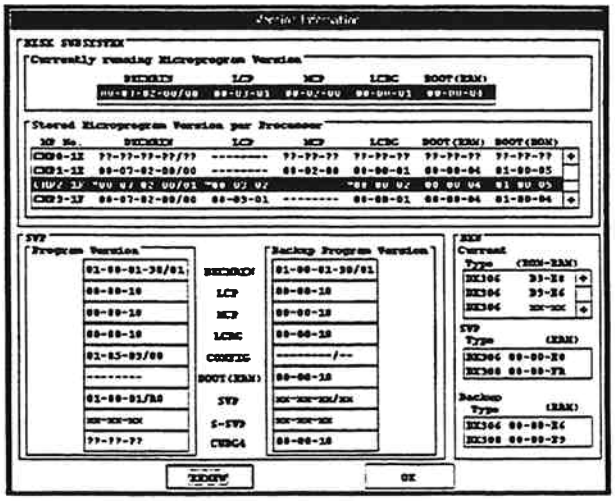
The message indicating that the version data of the micro-program currently running is being read is displayed, followed by the message indicating that the version data of the disk drive is read. Finally, the message indicating that the version data of the micro-program in the processor is being read is displayed.

Then, the 'Version Information' dialog box is displayed.

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



or



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 (There is a case that DKU area is displayed on the DISK SUBSYSTEM area.)

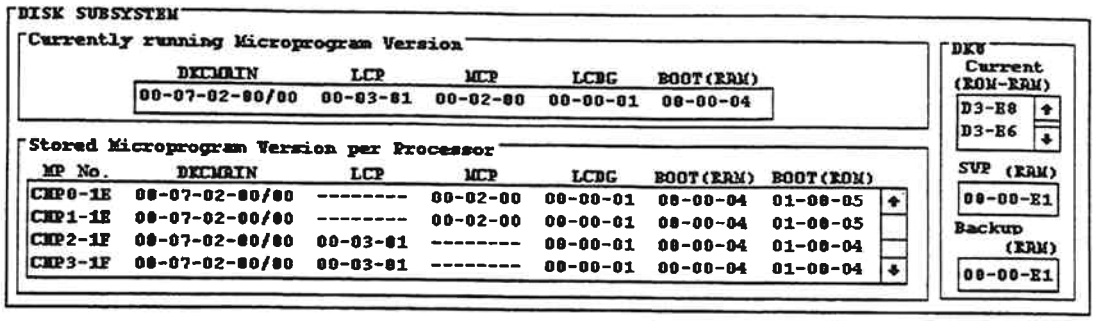
In the version display areas, a hyphen "-" indicates that micro-program is not installed.
In the version display areas, a question mark "?" indicates that version data could not be obtained while the letter "x" indicates that the obtained data is invalid.

If the version of the PCB which has already been installed is displayed as "x", please exchange the micro-code corresponding to "x" by micro FC (refer to MICRO-FC SECTION 5.4.4 Hard Disk Download (MICRO-FC04-85)).

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



(1) Representative version and version for each processor

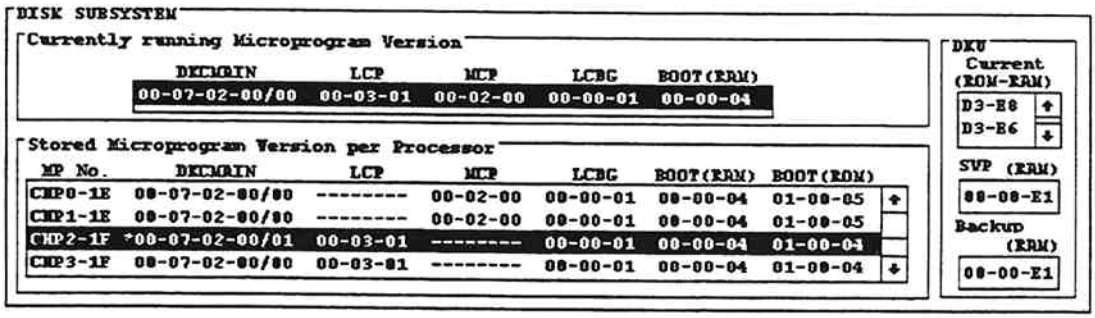
The Currently running Micro-program Version area displays the representative version of micro-program currently running.

The Stored Micro-program Version per Processor area displays the version of the currently running micro-program for each processor.

A micro-program is divided into six items: MAIN, LCP, MCP, LCDG, 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.

There is a case that DKU area is displayed on the lower half of 'Version Information' dialog box.



(2) Patch status display

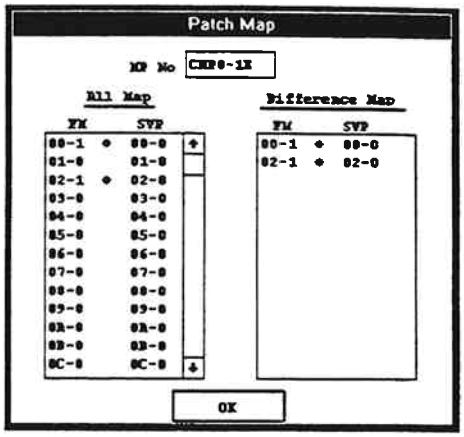
Select the (DC) one line from the list in the Stored Micro-program Version per Processor area on the 'Version Information' dialog box.

'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 shows that, in processor CHP0-1E, 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

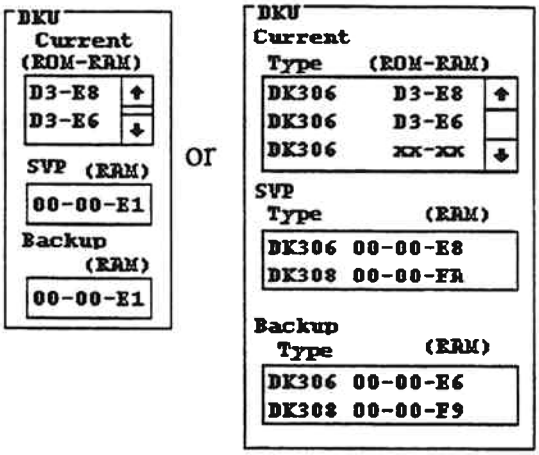
The DKU area on the 'Version Information' dialog box lists drive versions as ROM Version-RAM Version.

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

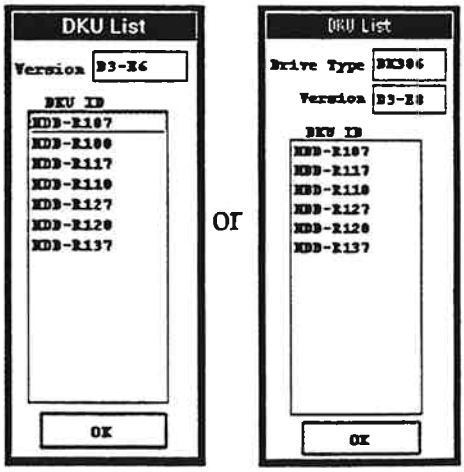
Select (DC) one line from the list in the DKU area on the 'Version Information' dialog box. The 'DKU List' dialog box will be displayed, in which the drive identified by the version are listed.

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].



[2] SVP area

SVP

Program Version

DKCMAIN	LCP	MCP	LCDG	CONFIG	BOOT(RAM)	SVP	S-SVP	CUDG4
01-00-01-30/01	00-00-10	00-00-10	00-00-10	00-04-04/00	00-00-10	01-00-01/00	xx-xx-xx	00-00-10

Backup Program Version

DKCMAIN	LCP	MCP	LCDG	CONFIG	BOOT(RAM)	SVP	S-SVP	CUDG4
01-00-01-30/01	00-00-10	00-00-10	00-00-10	--------/--	00-00-10	xx-xx-xx/xx	xx-xx-xx	00-00-10

or

SVP

Program Version		Backup Program Version
01-00-01-30/01	DKCMAIN	01-00-01-30/01
00-00-10	LCP	00-00-10
00-00-10	MCP	00-00-10
00-00-10	LCDG	00-00-10
01-05-03/00	CONFIG	--------/--
--------	BOOT(RAM)	00-00-10
01-00-01/A0	SVP	xx-xx-xx/xx
xx-xx-xx	S-SVP	xx-xx-xx
??-??-??	CUDG4	00-00-10

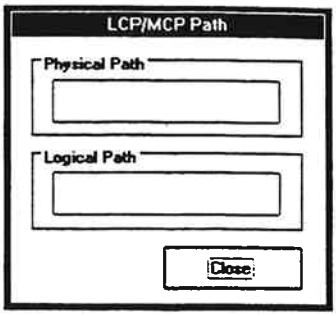
This area displays the versions of two generations (previous and most recent) of micro-programs saved on the SVP hard disk. Each micro-program is divided into nine items: MAIN, LCP, MCP, LCDG, CONFIG, BOOT (RAM), SVP, S-SVP, and CUDG4. The version of MAIN is displayed in the form of VV-RR-NN-PP/nn while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

4.5.9 LCP/MCP Path

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

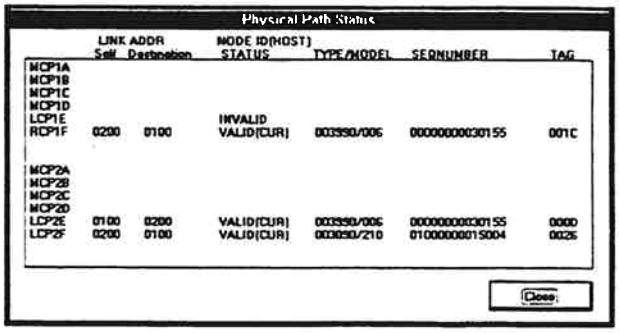
Upon completion of reading the path information, the LCP/MCP Path screen is displayed for selecting the physical or logical path.



* Please do not change window until SVP-DKC communication finish.

(1) Physical Path

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



LCPxx/RCPxx/MCPxx --- LCP/RCP/MCP mount position

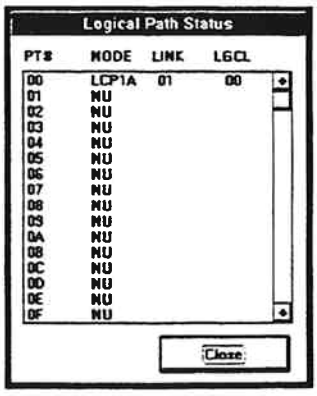
LINK ADDR
- Self ---------- LCP/RCP/MCP link address
- Destination ---------- Connection destination (host) link address

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

To exit the display, press [Close].

(2) Logical Path

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



PT# ---------- Path number

NODE ---------- LCPxx : LCP to which the logical path is allocated
RCPxx : RCP to which the logical path is allocated.
CLSW : Metal channel
NU : Unused logical path

LINK ---------- Link address of the connected host
"NA" is displayed when the metal channel is specified.

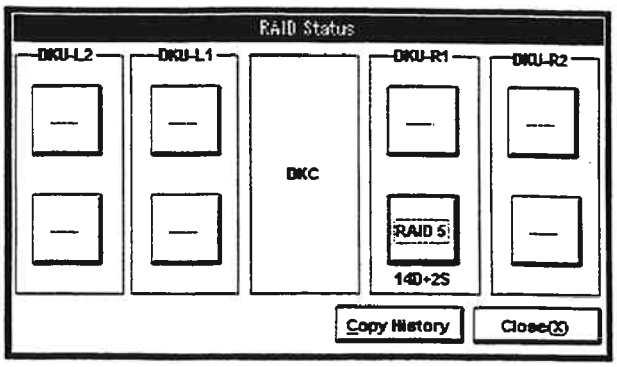
LGCL ---------- Logical address of the connected host
A blank is displayed when the metal channel is specified.

Since data can be displayed only in 16 rows within a screen, use the scroll bar to display data not included in the screen.

To exit the display, press [Close].

4.5.10 RAID Status Display

Select (CL) [RAID Status] in the main screen.
The "RAID Status" screen appears.



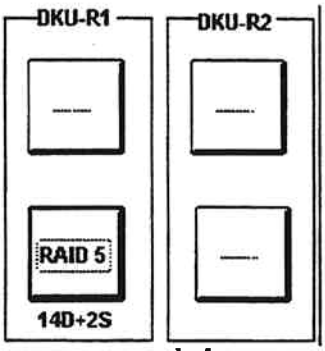
For DKU-L1 and DKU-L2, status of each B4 is shown on the left side of the screen. For DKU-R1 and DKU-R2, status of each B4 is shown on the right side.
* DKU is divided into upper and lower sections.
B4 indicates either of these sections.

Selecting [Copy History] displays the "Copy History" screen showing the copy history.
Selecting [Close] clears the "RAID Status" screen.

---

(1) B4 status display

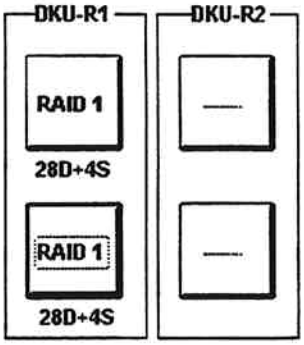
RAID level settings for each B4 are shown in the DKU fields in the "RAID Status" screen. If B4 is installed, the RAID level is shown on the button for that B4. The drive configuration is shown under the button. This configuration has the format "Data drive count + Spare drive count" (e.g., 14D + 2S).
If B4 is installed with only spare drives, there is no word on the button for that B4.
If B4 is not installed, there is "------" on the button for that B4.



example 1

In the example 1 on the right, lower B4 of DKU-R1 is installed. For this B4, the RAID level is RAID5, the data drive count is 14, and the spare drive count is 2. Upper B4 of DKU-R1 and DKU-R2 B4s are not installed.

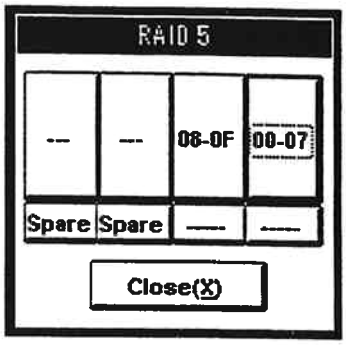
In the example 2 on the right, lower B4 of DKU-R1 is installed. For this B4, the RAID level is RAID1, the data drive count is 28, and the spare drive count is 4. Upper B4 of DKU-R1 is installed. DKU-R2 B4s are not installed.



example 2

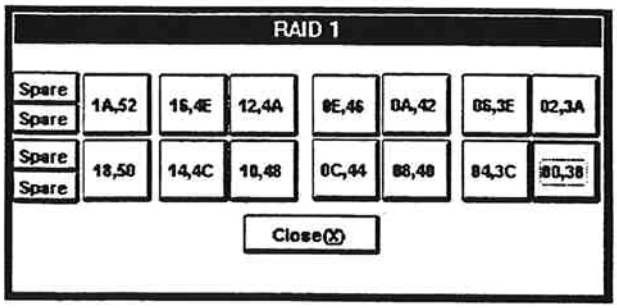
(2) Group status display

If you select (CL) the button which indicates the RAID level for B4 in the "RAID Status" screen, either the "RAID5" screen appears depending on the RAID level .The number of groups assigned to selected B4 is shown. Also the LDEV number and spare drive status for each group are shown.



The vertically displayed buttons in the "RAID5" screen are available for representing groups. Under these buttons, the horizontally displayed buttons are available for representing spare drives.

In the "RAID1" screen, the rectangular buttons displayed at bottom of the most left row, are available for representing spare drives. Other rectangular buttons and the square ones are available for representing groups.



If a group is installed, the LDEV numbers are shown on the button for the group. If a group is not installed, there is "------" on the button for the group.

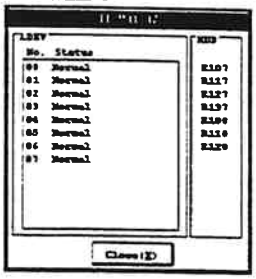
If a spare drive is installed, there is "Spare" on the button for the spare drive. If a spare drive is not installed, there is "------" on the button for the spare drive.

Selecting [Close] clears the "RAID5" or "RAID1" screen.

(3) LDEV status display

If you select (CL) a button on which an LDEV number or "Spare" is displayed in the "RAID5" or "RAID1" screen, the "LDEV" or "Spare" screen appears.

① RAID5

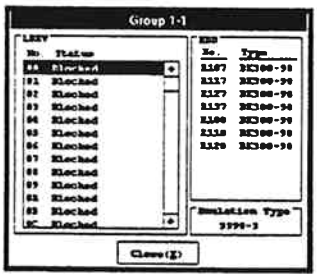


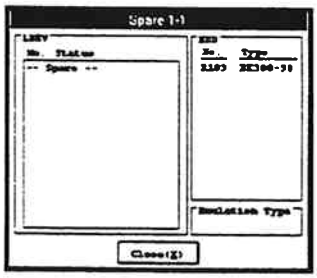
If you selected a button for a group, the LDEV number and status of the group are displayed. ID of the associated drive is also displayed.

Selecting [Close] clears the "LDEV" screen.

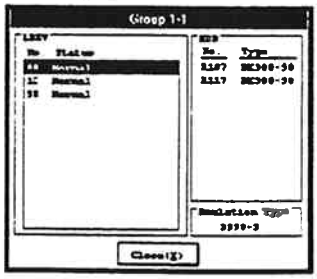
If you selected a button for a spare drive, ID of the spare drive is displayed.

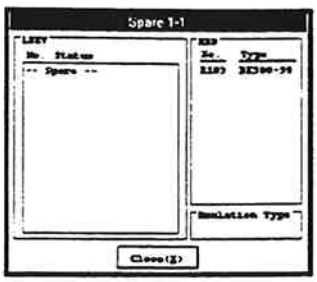
Selecting [Close] clears the "Spare" screen.





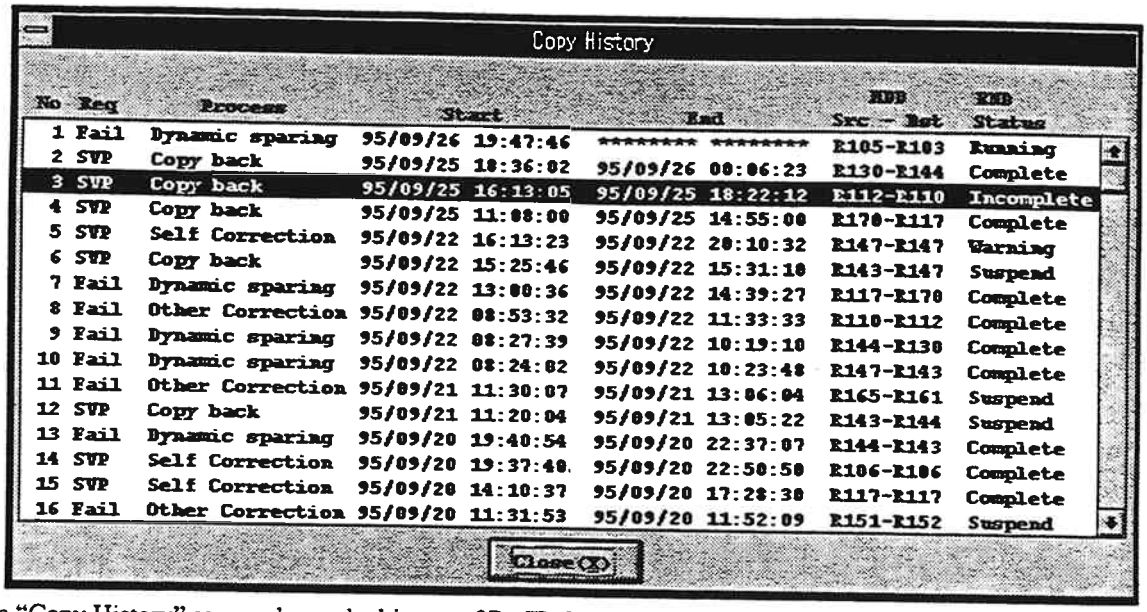
② RAID1





(4) Copy History display

Selecting (CL) [Copy History] in the "RAID Status" screen displays the "Copy History" screen.



The "Copy History" screen shows the history of RAID Copy.

No ---------- Serial number of a log. Numbering starts from 1 for the newest log.

Req ---------- Device which requested a copy

Fail : Failed device

SVP: SVP

Process ---------- Type of copy

Drive copy : The process of drive content copying by SVP.

Dynamic Sparing : The process of drive content copying (Drive Copy) to a spare drive before the drive is blocked.

Self Correction : The process of drive recovery by correction copy excution when the drive is blocked and replaces.

Other Correction : Correction copy (CC) of the drive content to a spare drive.

Copy back : Data drive content saved in the spare drive copied back (Drive copy) to the drive at the original location.

Start ---------- Logging start time ("****" appears if the first log is not found.)

End ---------- Logging end time ("****" appears if the last log is not found.)

HDD-Src Source HDD name ("****" appears if the obtained log data is invalid HDD part location number.)

HDD-Dst Destination HDD name ("****" appears if obtained log data is invalid HDD part location number.)

End Status ---------- End status

Complete : Normal termination

Incomplete : Abnormal termination

Suspend : Copying is suspended.

Warning : Normal termination (with a warning)

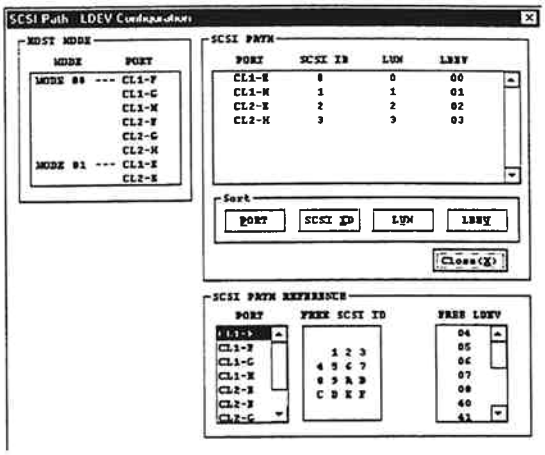
Running : Copying is underway.

The line which indicates abnormal termination is displayed in reverse video.

Selecting (CL) [Close] redisplays the "RAID Status" screen.

4.5.11 SCSI PATH Status

(1) Select (CL) [SCSI Path] in the main screen.
The 'SCSI Path-LDEV Configuration' window will appear.



(a) <SCSI PATH> section
Path display -------- List of defined SCSI Path.
[PORT] ---------- Sorts path items in the SCSI Path display
[SCSI ID] section in ascending order by PORT,
[LUN] SCSI ID, LUN or LDEV.
[LDEV]

(b) <SCSI PATH REFERENCE> section
PORT display ------ Displays the ports which are able to be defined SCSI Path.
FREE SCSI ID display ----Displays the SCSI ID not used with the port selected in PORT display.
FREE LDEV------- Displays the LDEV ID of an undefined path.

(c) <HOST MODE> section
MODE-PORT list ----- Host identification data defined to the ports installed.

4.6 Error or Failure Status Action

When an error status of, Warning, Failed, or other is displayed on the screen and action is required, locate the part in error and follow the instructions sccording to the action code (ACC). The ACC can be obtained by executing the SSB log or SIM log displayed function of the SVP.