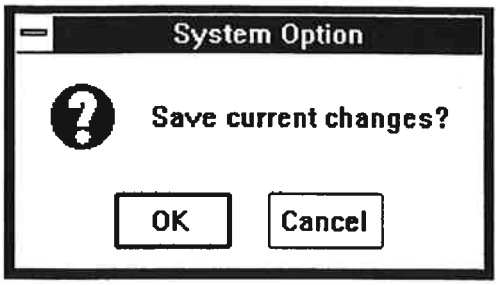
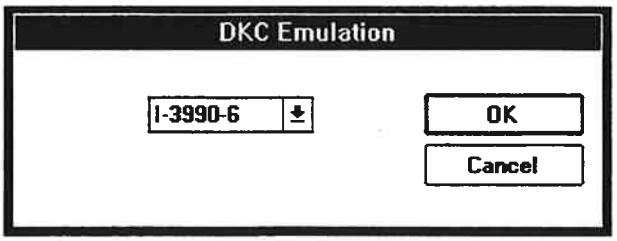
7-2. <Save system option>

Select [OK] (CL) in response to confirmation message "Save current change?".
Selecting [Cancel] (CL) returns the screen to step 6.



7-3. <Set DKC emulation type>

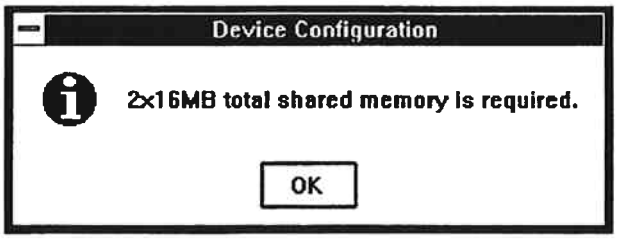
Define the device configuration information from 'DKC Emulation' according to the device configuration worksheet.
Selecting (CL) [OK] or [Cancel] returns the screen to step 6.



8.

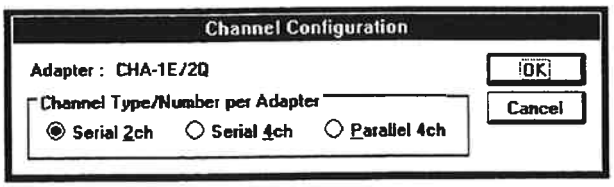
Select [OK] to the message "2×xxxMB total shared memory is required".

When you select [OK], 'Channel Configuration' is automatically displayed.



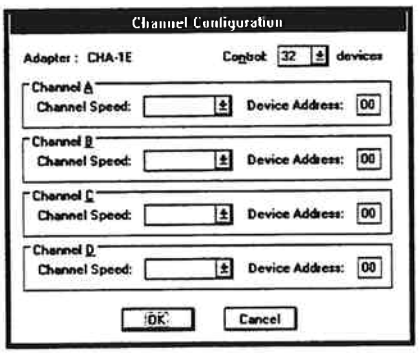
9.

Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.
After setting up all items, select [OK] (CL).
(Repeat this operation for all installed CHA PCB.)
When you select [Parallel 4ch] from this screen,the next 'Channel Configuration' is displayed.Processing skips to step 11 if you select another item.
Selecting [Cancel] returns the screen to step 6.



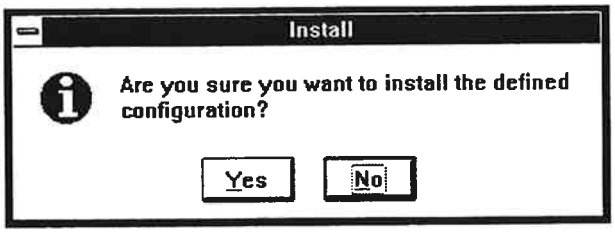
10. <Set Parallel CH>

Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.
After setting up all items, select [OK] (CL).
The next message screen is displayed.
Selecting [Cancel] returns the screen to step 9.



11 <Include configuration information>

Select [Yes] (CL) in response to the confirmation message "Are you sure you want to install the defined configuration?".
"Wait..." is displayed, then "Turn off DKC subsystem" is displayed.
Selecting [No] suppresses the configuration inclusion processing and terminates the installation procedure.



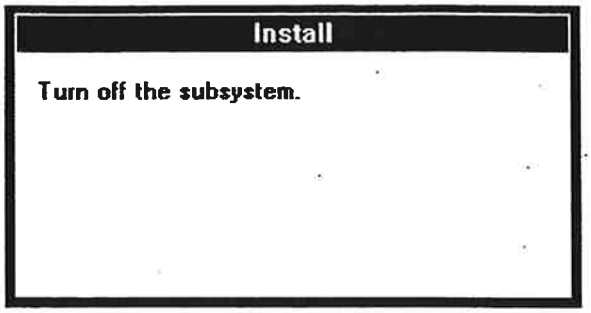
12.

BLANK

13. <Power off DKC P/S>

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

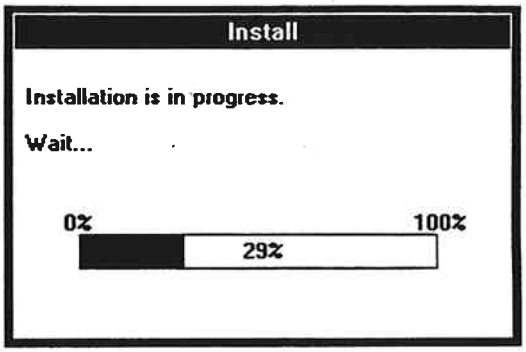
After a while "Installation is in progress." is displayed.



14.

This step causes the contents of the SVP HD to be loaded into SM and FM.

When this procedure is completed, message "Please insert config FD in FDD." is displayed.



15.

Insert the configuration FD into FDD, select [OK].

16.

When this procedure is completed, message "Buckup is done. Remove FD." is displayed.
Remove the FD, select [OK].

17.

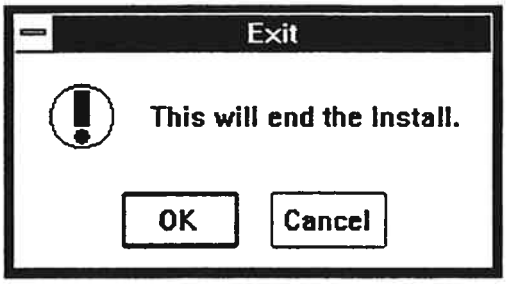
After making sure that DKC power is turned off, select [OK] in response to "Installation was finished.".
Select [OK] in response to "Please reboot PC.".
The initial Install screen is restored.

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

18.

Close 'Install'.

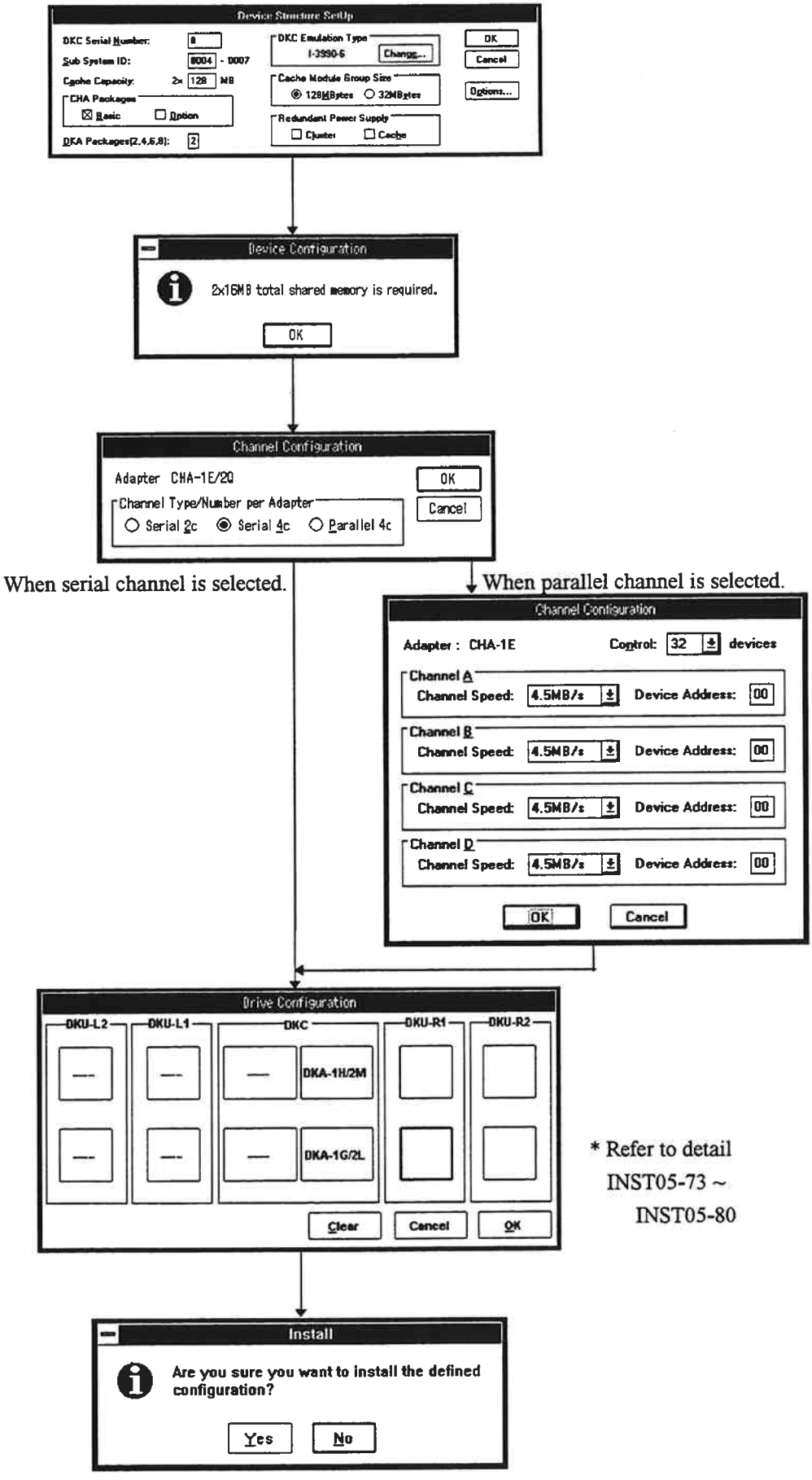
Select [OK] in response to "This will end the Install.".
Exit Windows and reboot SVP.



Go to INST02-12 step (20).

19. <Installation configuration> Before SVP version is 01-04-xx/00

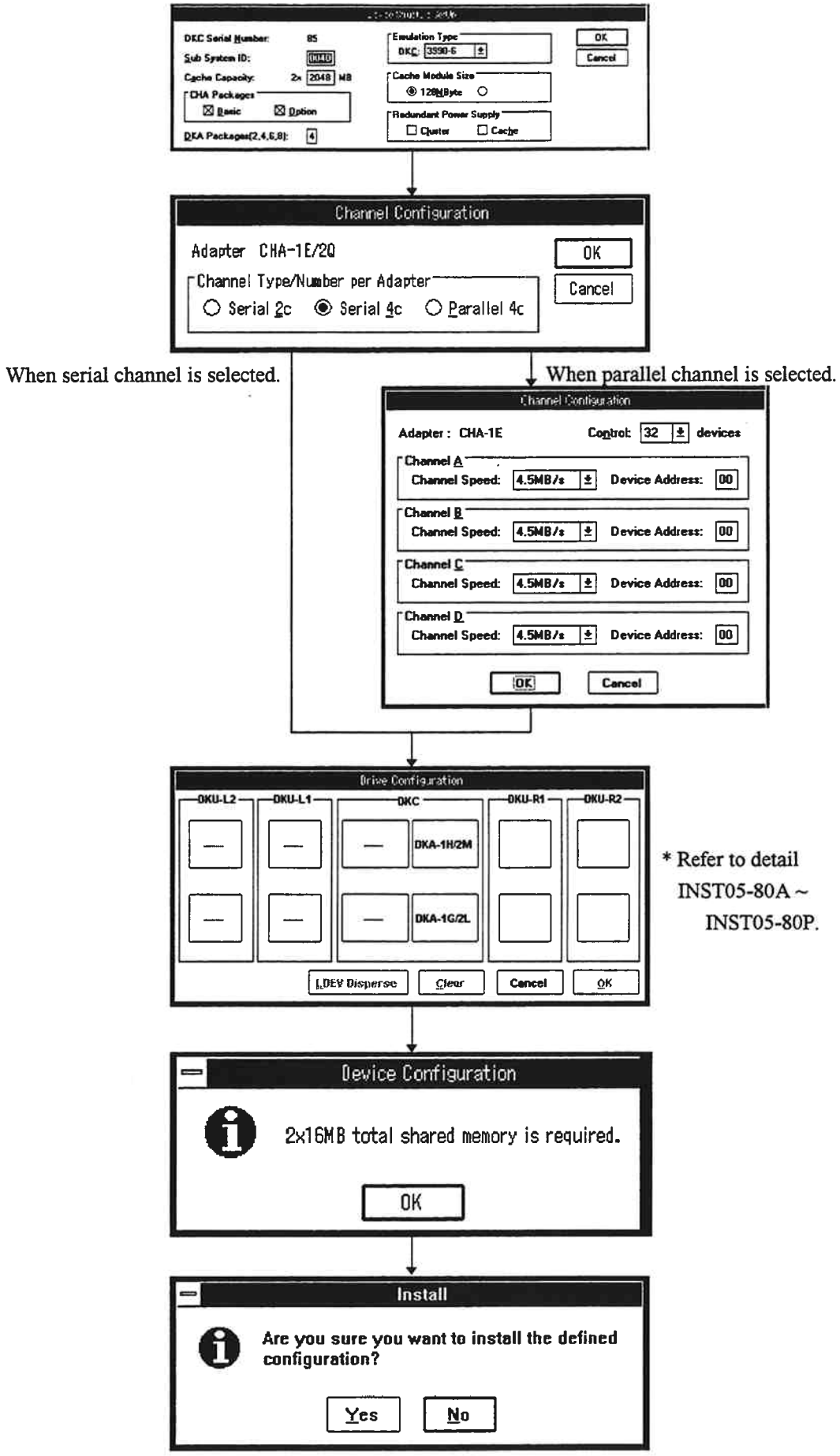
(1-1) Over view



* Refer to detail
INST05-73 ~
INST05-80

<Installation configuration> After SVP version is 01-05-xx/00

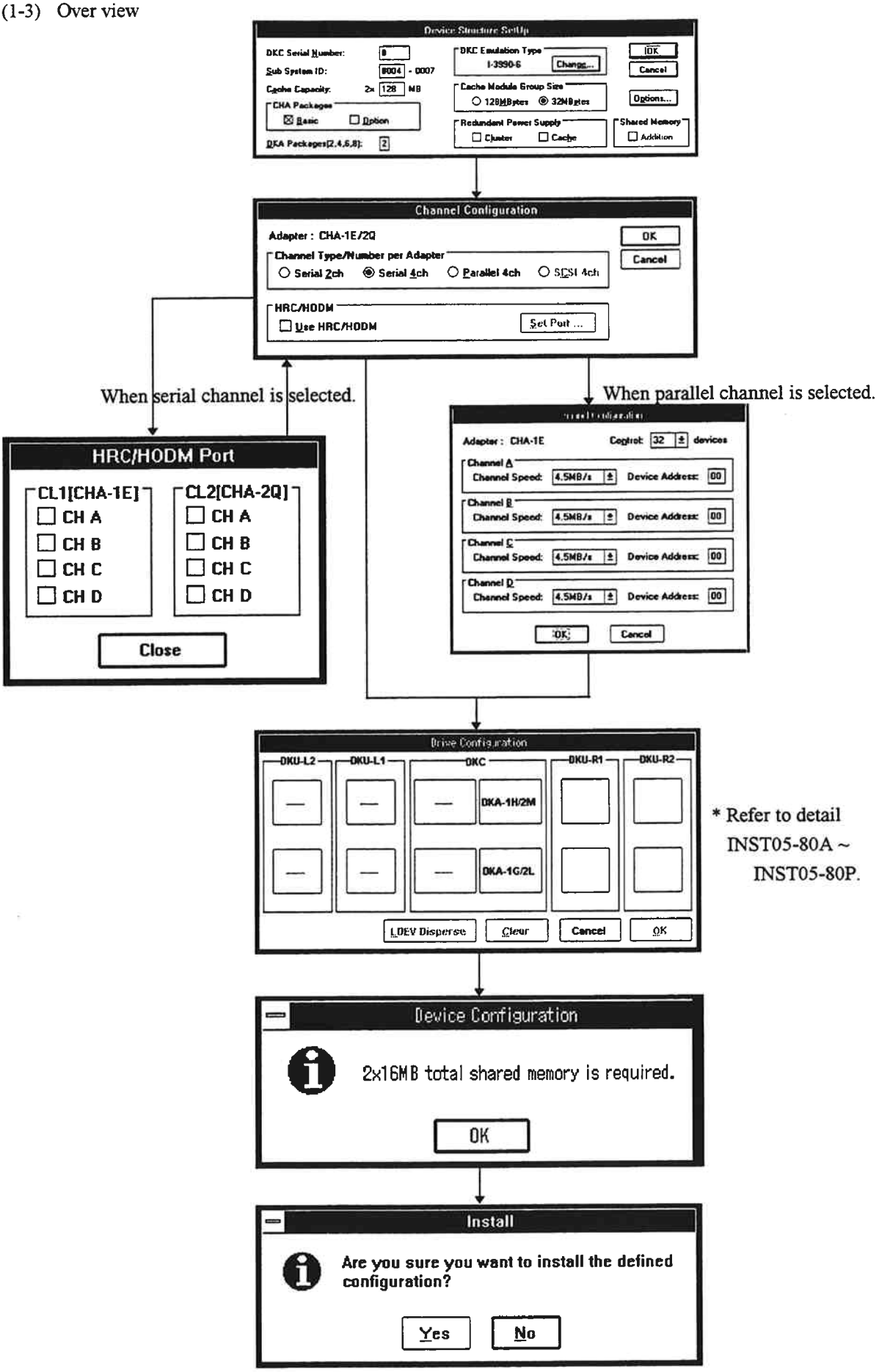
(1-2) Over view



* Refer to detail INST05-80A ~ INST05-80P.

<Installation configuration>　After SVP version is 01-06-xx/00

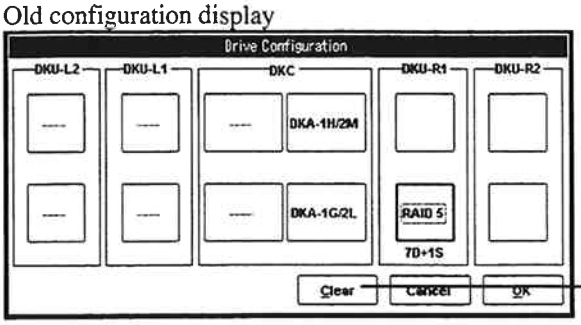
(1-3)　Over view



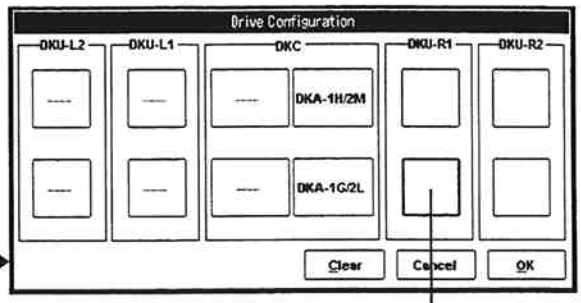
* Refer to detail
INST05-80A ~
INST05-80P.

(2) Installation drive structure information

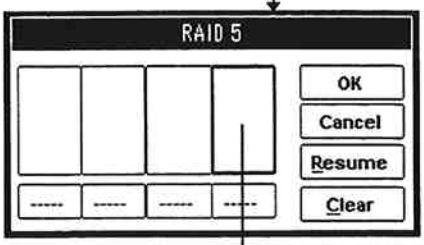
Old configuration display

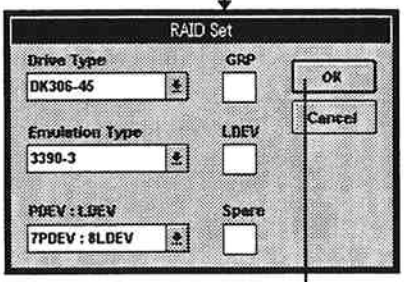


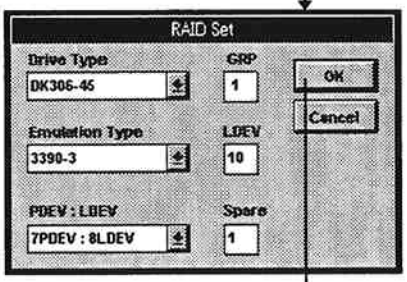
New installation

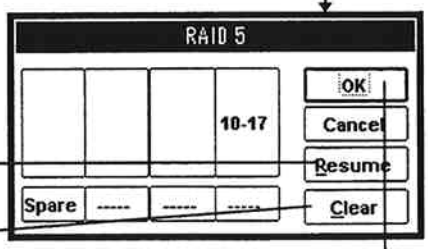


* When you install first time "Drive Configuration" displays the old configuration.
If the data is old, you must clear it by the clear button.



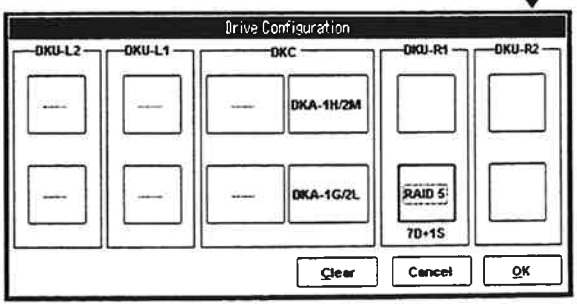






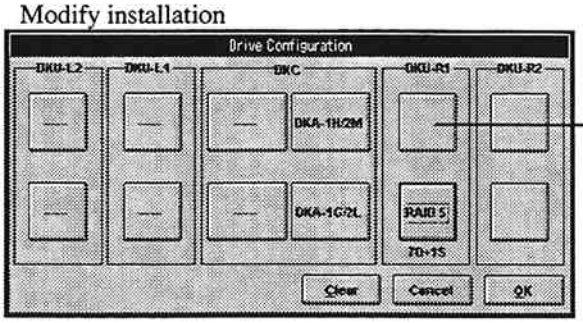
Clicking the resume button returns you to the previous screen. (last screen)

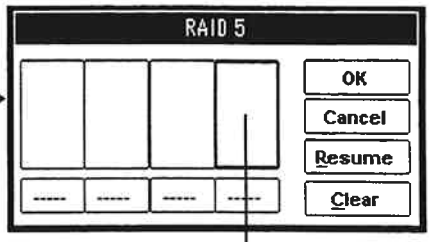
All the settings for selected B4 are cleared if you select clear.

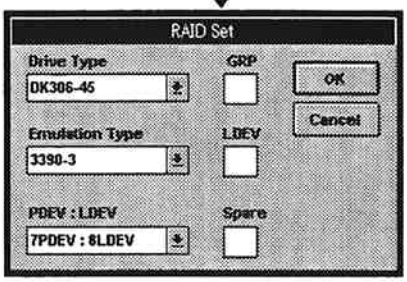


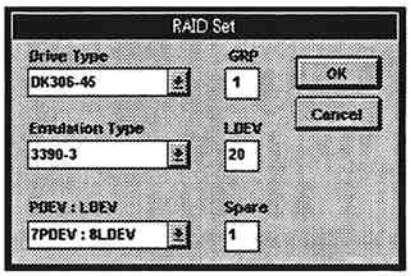
(3) Installation of device structure information

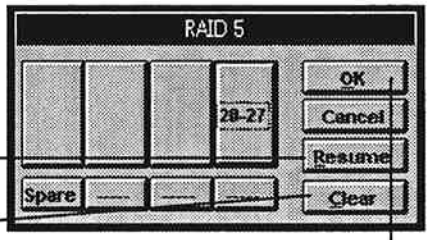
Modify installation







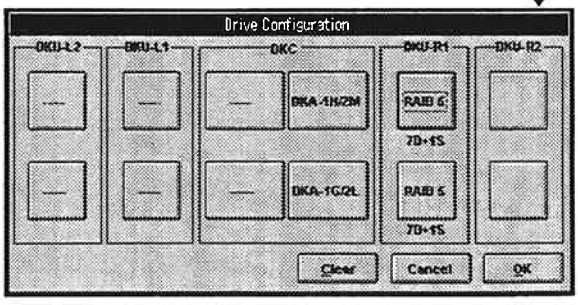




Clicking the resume button returns you to the previous screen. (last screen)

All the settings for selected B4 are cleared if you select clear.

* B4 DKU is divided into upper and lower sections, B4 indicates either of these sections.

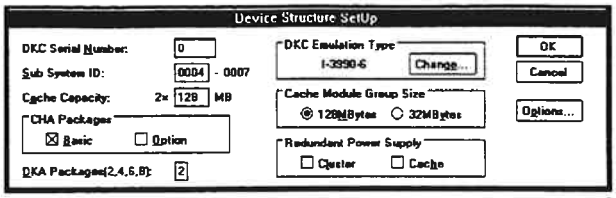


Notice:

- When you press any group button using "RAID Set" display, setup will begin from first available blank group.
- Once you setup, change can not be made. To change setup, please use clear.
- When you press any spare button using "RAID Set" display, setup will begin from first available spare drive. (when spare button is pressed during RAID5, only spare drive setup will be made at "RAID Set" display.)

20. <Define configuration information>

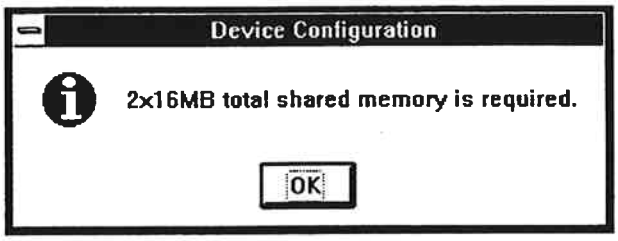
Define the device configuration information from 'Device Structure Setup' according to the device configuration worksheet.
Message "2×xxxMB shared memories required" is shown.
This procedure ends when you select [Cancel].



21.

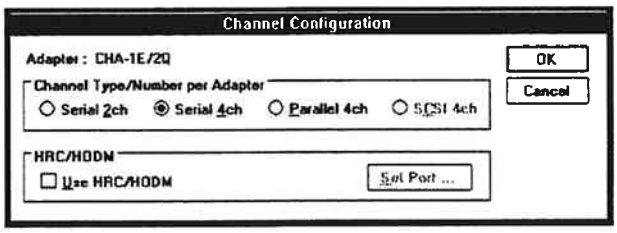
Select [OK] to the message
"2×xxxMB total shared memory is required".

When you select [OK],
'Device Configuration' is automatically displayed.



22.

Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.
After setting up all items, select [OK] (CL).
(Repeat this operation for all installed CHA PCB.)

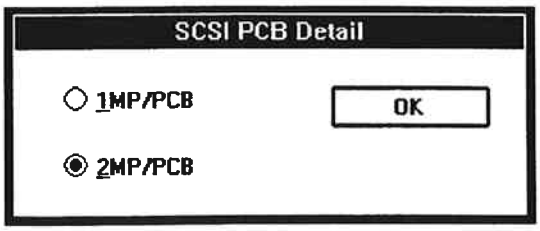


- When you select [Serial 2ch] or [Serial 4ch] from this screen, [Use HRC & HODM] check button changes to enable.
  If you want to establish this DKC as MCU, select (CL) [Use HRC & HODM] and select (CL) [Set Port...] button and go to step 22-1.
- When you select [Parallel 4ch] from this screen, the next 'Channel Configuration' is displayed.
- When you select [SCSI 4ch] from this screen, go to step 22-0. Processing skips to step 24 if you select another item.

Selecting [Cancel] returns the screen to step 20.

22-0. <Set 1MP/2MP>

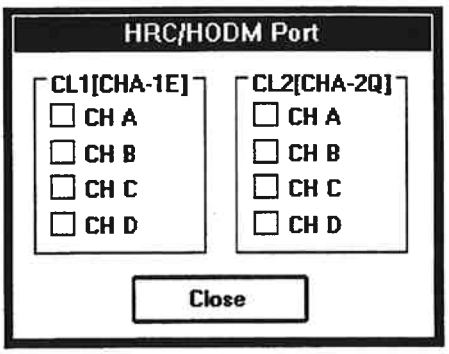
Select (CL) the number of MP and select (CL) [OK].



22-1. <Set RCP Port>

Check (CL) the port that you want to establish RCP port and select (CL) [Close].

The screen returns to step 22.

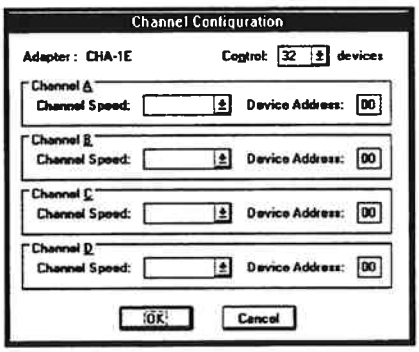


23. <Set Parallel CH>

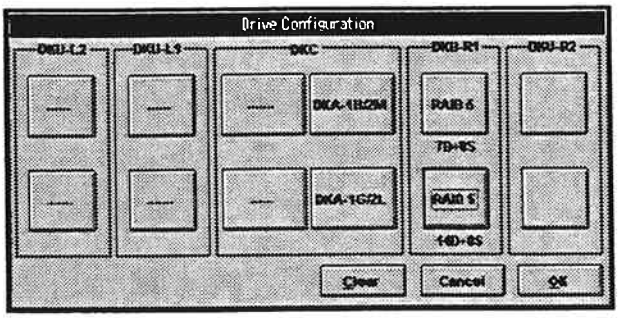
Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.

After setting up all items, select [OK] (CL).

Selecting [Cancel] returns the screen to step 22.



24. <Drive Configuration Definition for RAID5 installation>



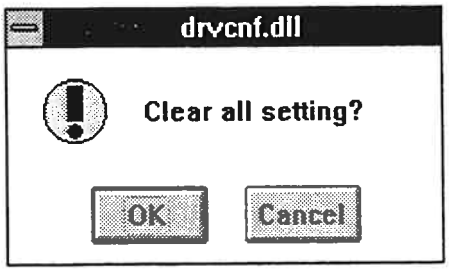
The "Drive Configuration" screen appears.
The B4 status of DKU-L1 and DKU-L2 is shown on the left side of the screen. The B4 status of DKU-R1 and DKU-R2 is shown on the right side
The current status is shown on the buttons as follows.

- .....: Installation disabled
- Blank: Uninstalled
- RAID level : Installed

The drive configuration is shown in the format "Data drive count + Spare drive count" under the buttons.
The DKA status is the middle of the screen as follows.

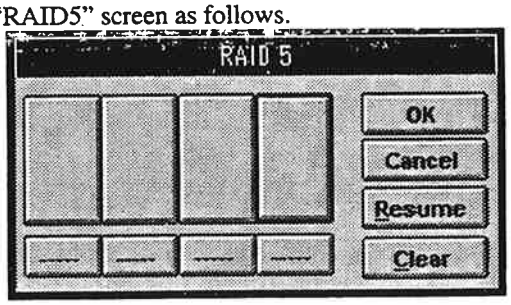
- .... : Uninstalled
- DKA name : Installed

* DKU is divided into upper and lower section. B4 indicates either of these sections. To define the drive configuration for a section, click the B4 button for the section.

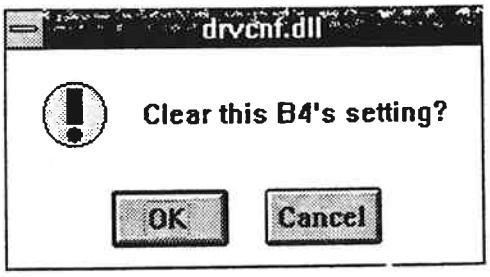


Clicking the clear button displays the message shown on the right.
(All the setting are cleared if you select OK)

(1) Group setting
The "RAID5" screen appears if you select the RAID TYPE button in the "RAID TYPE" screen or if you select the B4 button for which the RAID level is set (or for which another B4 is set in the same DKA) in the "Drive Configuration" screen.
The group status is shown on the vertically displayed buttons in the "RAID5" screen as follows.



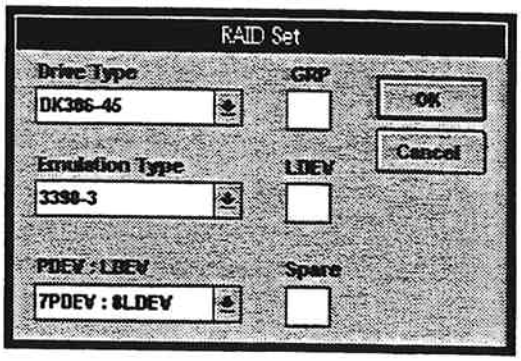
Blank : Uninstalled
LDEV number : Installed
The spare drive status is shown on the horizontally displayed buttons as follows.
"...." : Uninstalled
"Spare" : Installed
Clicking the group button or spare button for uninstalled status displays the "RAID Set" screen.
Clicking the group button or spare button for installed status displays the "DELETE" screen (the spare button is only selectable for DKU-R1 B4 or DKU-L1 B4).
Clicking the Cancel button cancels the settings, clears the "RAID5" screen, and redisplays the "Drive Configuration" screen.
Clicking the Resume button returns you to the previous screen (last screen).
Clicking the Clear button displays the message shown on the right.
(All the settings for selected B4 are cleared if you select OK.)



(2) Drive configuration setting

Select the group button or spare button for uninstalled status in the "RAID5" screen to display the "RAID Set" screen.

In the "RAID Set " screen, select and set the following.



- PDEV : LDEV

  Select a PDEV count and its associated LDEV count.

- Emulation Type

  Select an emulation type.

- Drive type

  Select a drive type.

- GRP

  Set the number of consecutive groups to be installed.

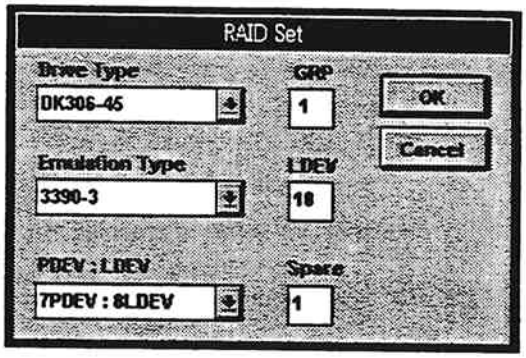
- LDEV

  Set the first LDEV number to be assigned to the selected group.

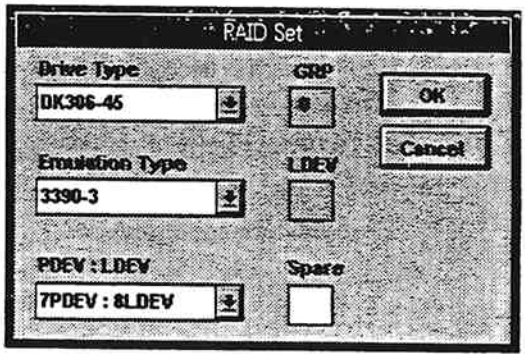
- Spare

  Set the number of spares to be assigned to selected B4.

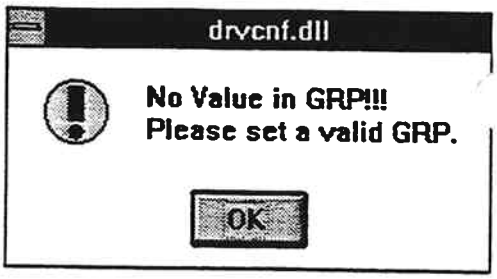
Clicking the OK or Cancel button clears the "RAID Set " screen and redisplays the "RAID5" screen.



* Some items might not be set or selected depending on the selected B4 position, group button, or spare button. (Arrows for items which cannot be selected are shaded. Fields for items which cannot be set are displayed in gray.)



If you click the OK button without entering a value for an item which you should set, the message on the right appears. This message asks you to enter a value.



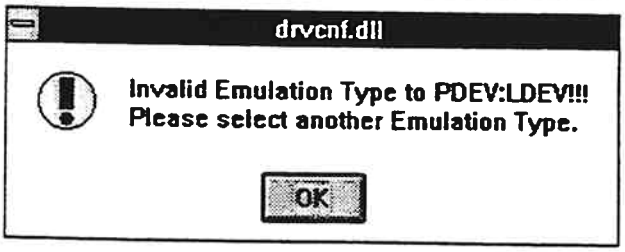
If you enter an invalid value for an item which you should set, the message on the right appears. This message asks you to enter the correct value.

If you enter an invalid character for an item which you should set, the message on the right appears.
This message asks you to enter the correct character.

If LDEV numbers beginning with the one you entered are already assigned to another group, the message on the right appears. This message asks you to enter the correct value.

If a match is not found with the specified emulation type within 32 boundaries (0x00 through 0x1F, 0x20 through 0x3F, ...) for LDEV ID or within B4 for the same DKA, the message on the right appears. This message asks you to enter the correct value.

When the emulation type is 3390-3, PDEV : LDEV must be 7PDEV : 8LDEV. If another PDEV : LDEV is selected, the message on the right appears. This message asks you to enter the correct value.



(3) Delete screen

If you select the group button or spare button for installed status, the "DELETE" screen appears.
In the "DELETE" screen, set the following items.

- GRP

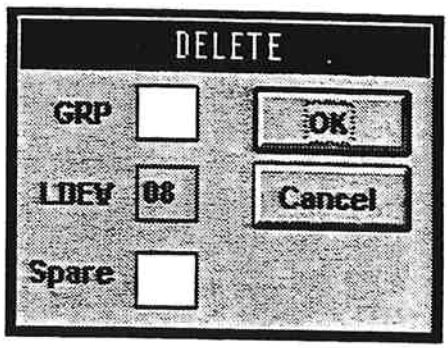
  Set the number of consecutive groups to be deleted.

- LDEV

  The first LDEV number assigned to the selected group is displayed.(You cannot enter an LDEV number.)

- Spare

  Set the number of spares to be deleted.



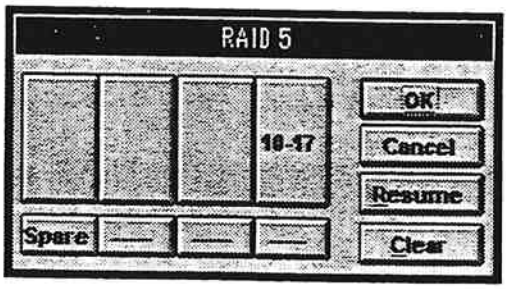
Click the OK button to confirm the settings. Or else, click the Cancel button to cancel the settings.
Clicking the OK or Cancel button clears the "DELETE" screen and redisplays the "RAID5" screen.

* Some items might not be set depending on the selected B4 position, group button, or spare button. (Fields for items which cannot be set are displayed in gray.)

The error message which might appear when you enter a value is the same as that for the "RAID Set" screen.

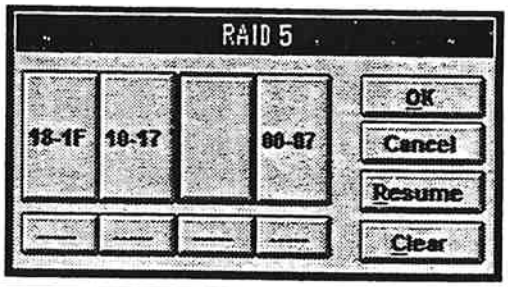
(4) Post-setting screen

If you click the OK button in the "RAID Set " screen, the assigned LDEV number is shown on the group button for an installed group in the "RAID5" screen. If you set the number of spares, "Spare" is displayed on the same number of spare button for installed spares.

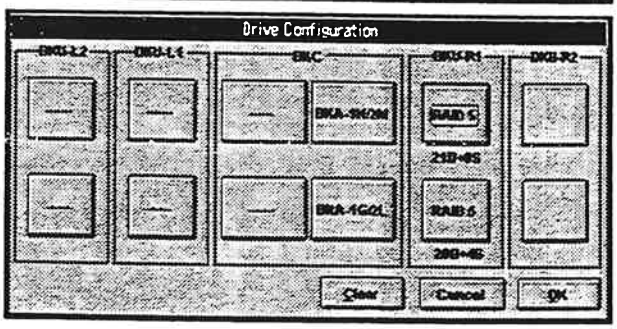


The LDEV number are added to the first and subsequent blank groups regardless of which blank group button was clicked. The LDEV number are added from right to left in the "RAID5" screen.

If you click the OK button in the "DELETE" screen, the display is removed from the group button for a deinstalled group in the "RAID5" screen. If you set the number of spares, "_____" appears on the same number of spare buttons for deinstalled spares. Spares are deleted from right to left in the "RAID5" screen.

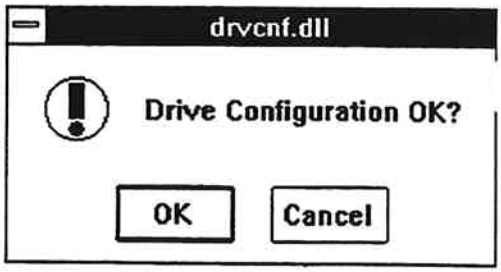


If you click the OK button in the "RAID5" screen, the raid type is shown on the B4 button for installed status in the "Drive Configuration" screen. The drive configuration is shown under that button.



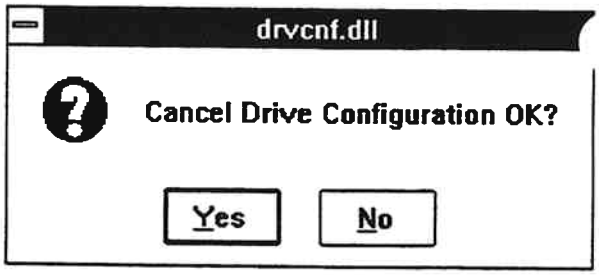
After making settings for all the necessary B4s, click the OK button to confirm the settings. Or else, click the Cancel button to cancel the settings.

Select the OK button in the "Drive Configuration" screen. The message on the right appears. Select the OK button to perform the next step. Or else, select the Cancel button to redefine the configuration.



If you select the OK button to confirm the settings when group 1 for B4-1 is not defined, the message on the right appears. In this case, return to the "Drive Configuration" screen.

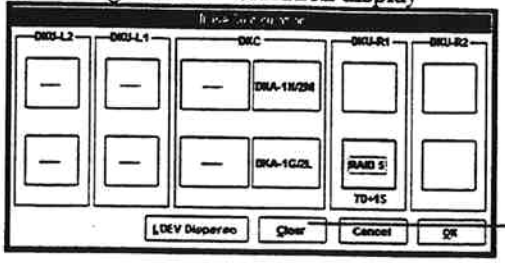
If you select the Cancel button in the "Drive Configuration" screen, the message on the right appears. Select Yes to cancel the drive configuration settings. Or else, select No to redefine the drive configuration.



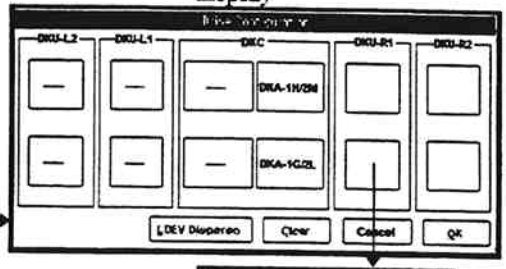
Go to INST05-60 step 11.

25. (1) Installation drive structure information

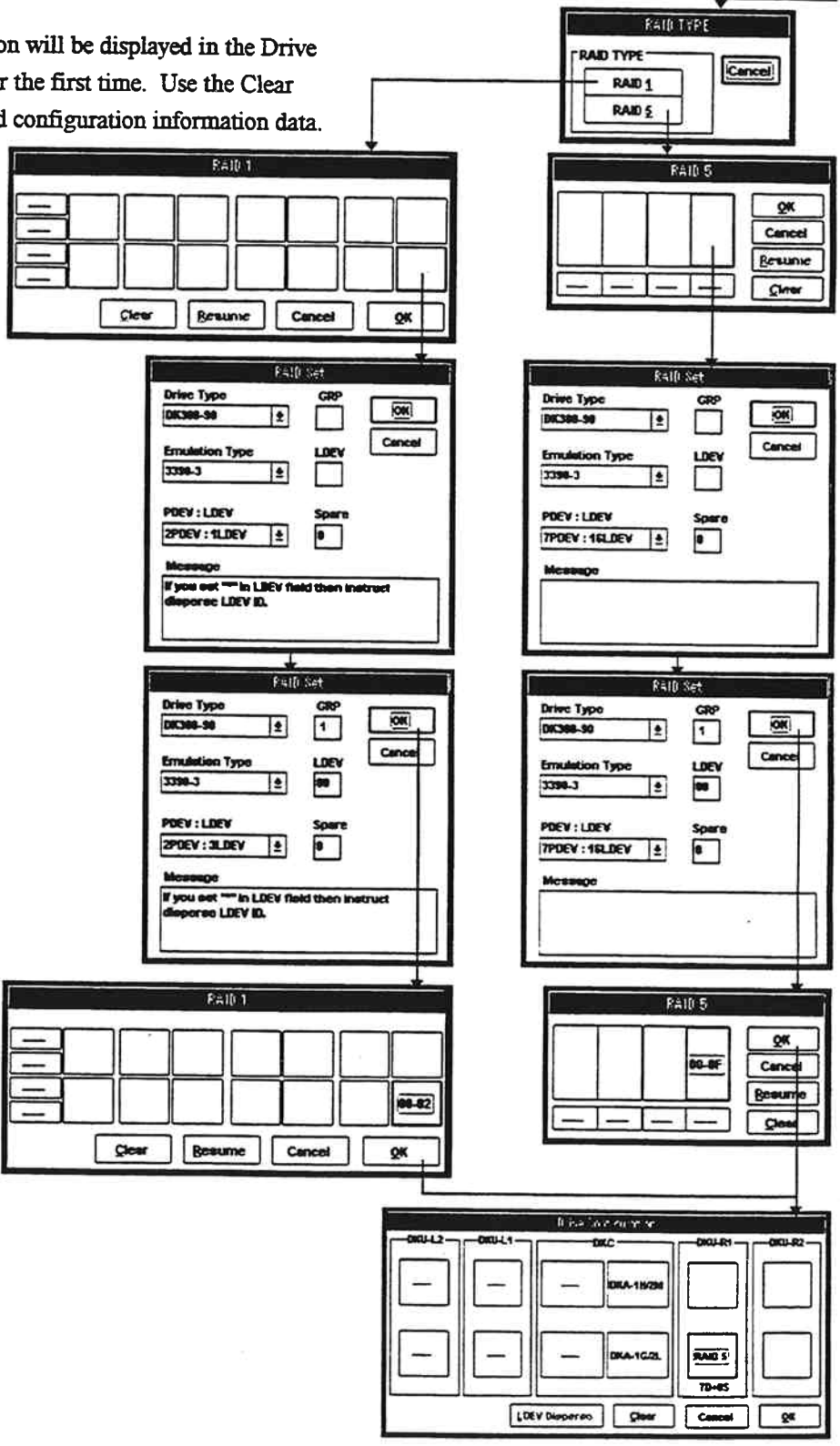
Old configuration information display



New installation display



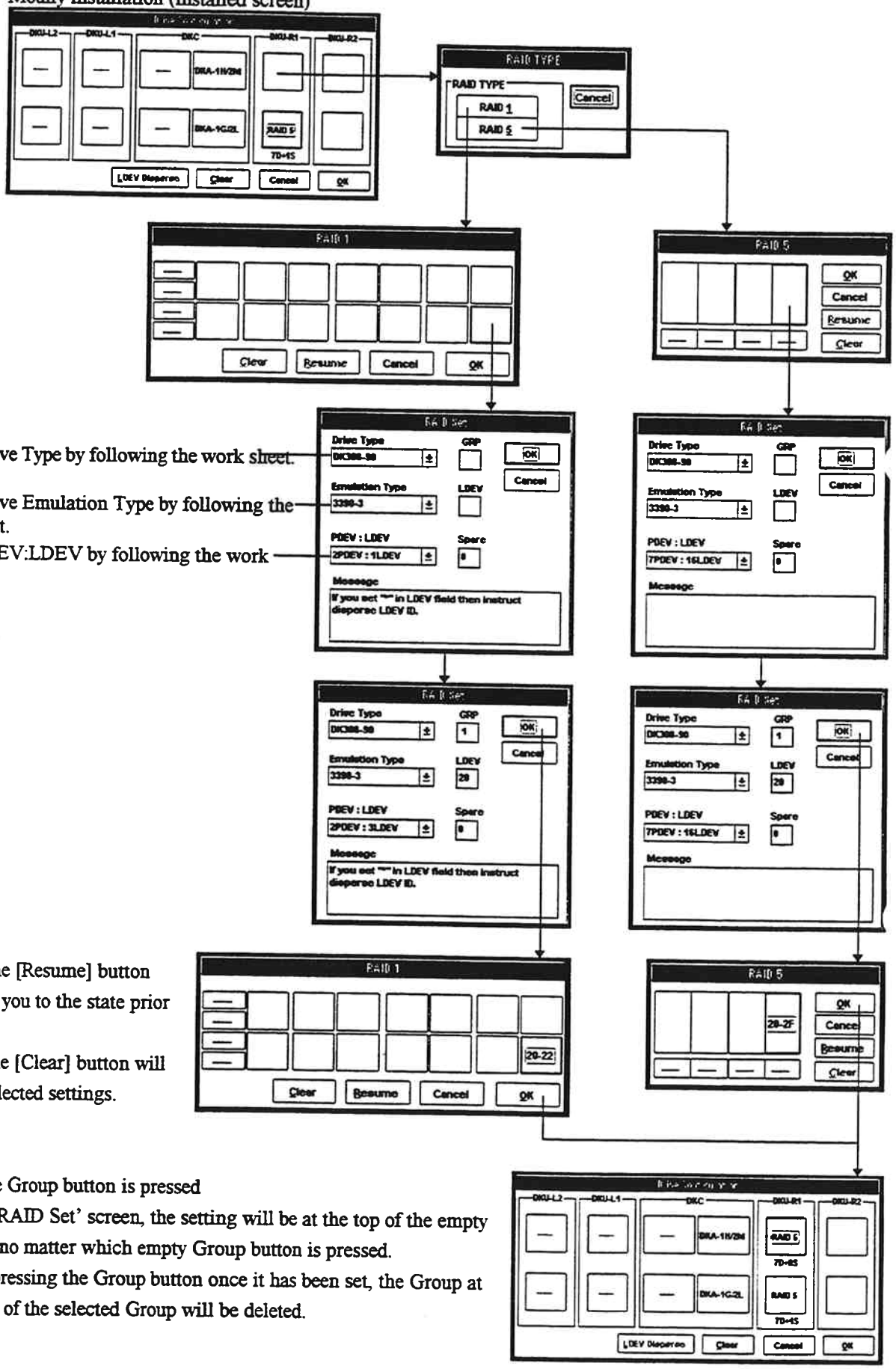
* The old configuration information will be displayed in the Drive configuration when installing for the first time. Use the Clear button to delete in the case of old configuration information data.



Pressing the [Resume] button will return you to the state prior to setting. (last screen)
Pressing the [Clear] button will clear all selected settings.

(2) Installation of drive configuration information (Additional installation: Group)

Modify installation (installed screen)

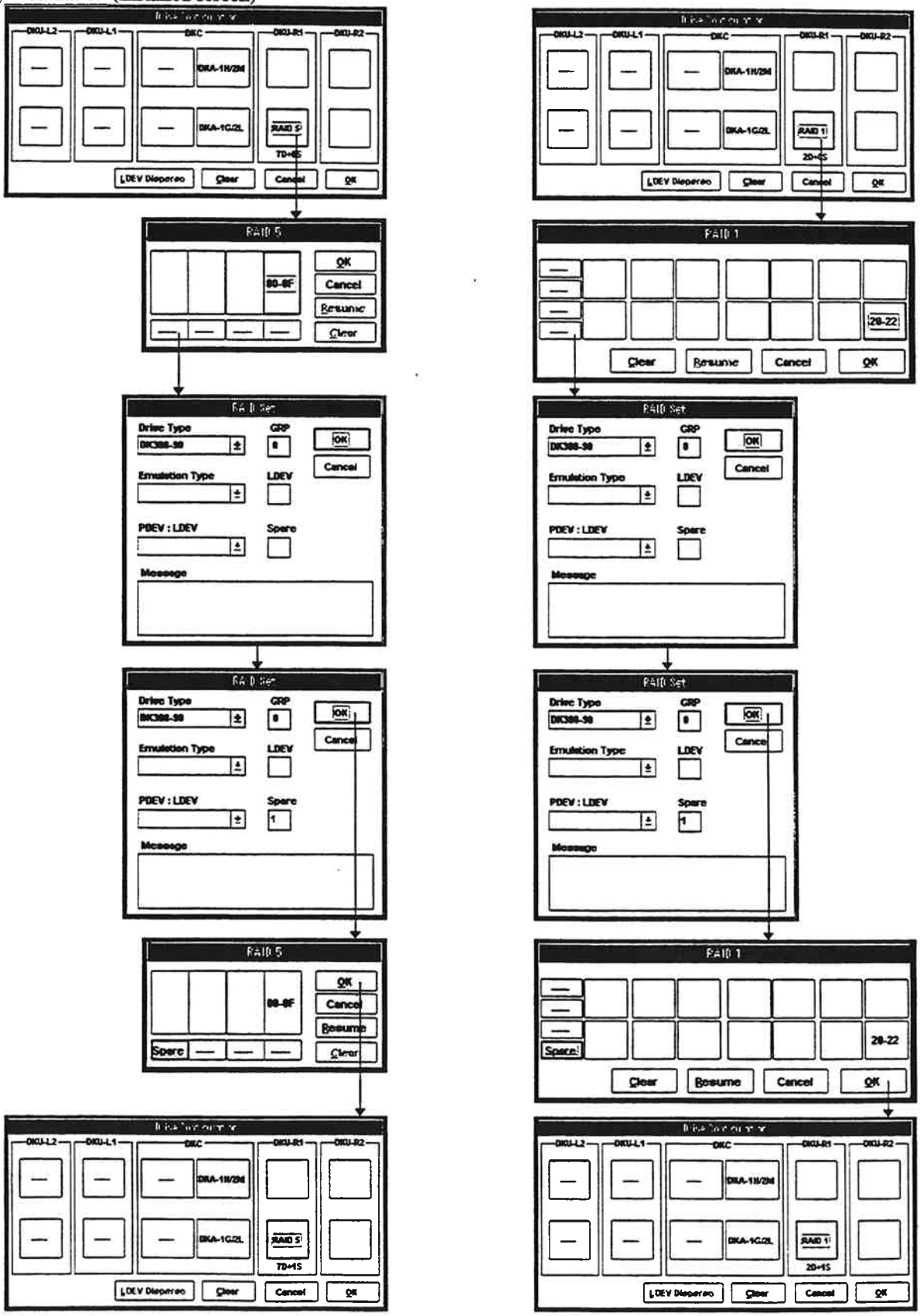


* When the Group button is pressed

- In the 'RAID Set' screen, the setting will be at the top of the empty Group, no matter which empty Group button is pressed.
- When pressing the Group button once it has been set, the Group at the rear of the selected Group will be deleted.

(3) Installation of drive configuration information (Additional installation: Spare)

Modify installation (installed screen)

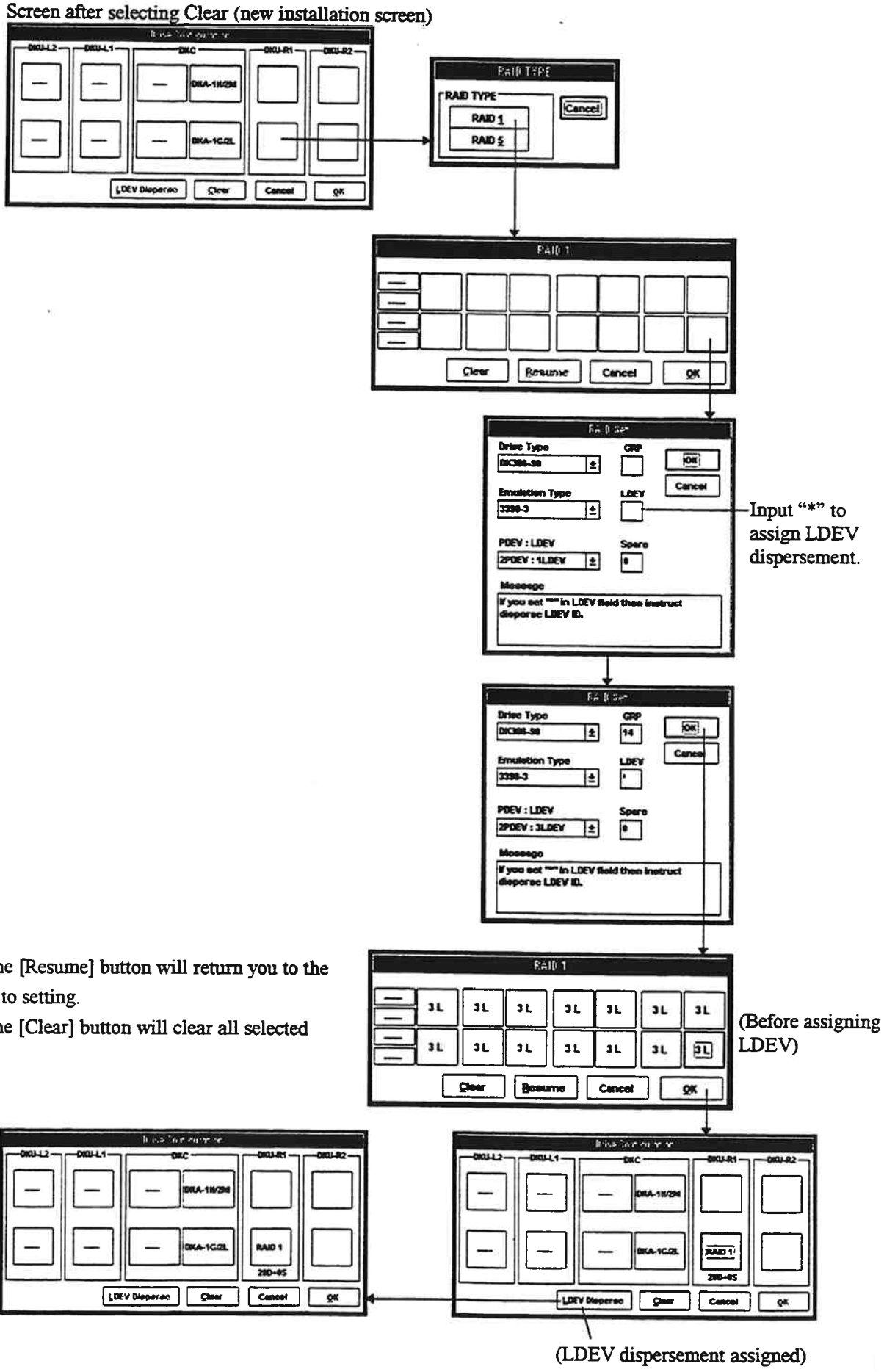


* When the Spare button is pressed

- In the 'RAID Set' screen, the setting will be at the top of the empty Spare, no matter which empty Spare button is pressed.
- When pressing the Spare button once it has been set, the Spare at the rear of the selected Spare will be deleted.

(4) Installation of drive configuration information (LDEV dispersement setting)

Screen after selecting Clear (new installation screen)



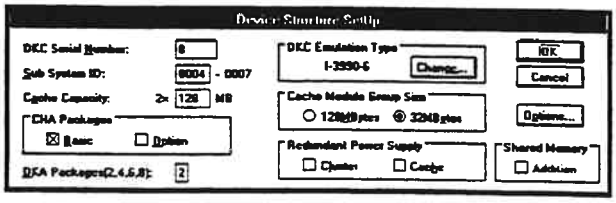
Pressing the [Resume] button will return you to the state prior to setting.

Pressing the [Clear] button will clear all selected settings.

26. <Define configuration information>

Define the device configuration information from 'Device Structure Setup' according to the device configuration worksheet.

This procedure ends when you select [Cancel].



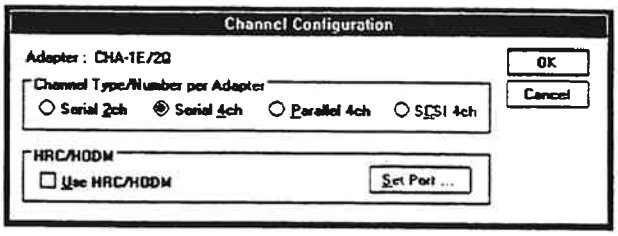
27.

Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.

After setting up all items, select [OK] (CL).

(Repeat this operation for all installed CHA PCB.)

When you select [Serial 2ch] or [Serial 4ch] from this screen, [Use HRC & HODM] check button change to enable



If you want to estabish this DKC as MCU, select (CL) [Use HRC & HODM] and select (CL) [Set Port...] button and go to step 27-1.

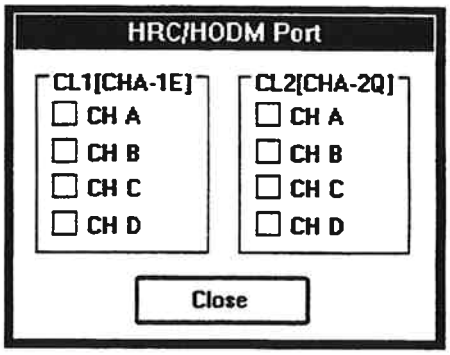
When you select [Parallel 4ch] from this screen, the next 'Channel Configuration' is displayed. Processing skips to step 29 if you select another item.

Selecting [Cancel] returns the screen to step 26.

27-1. <Set RCP Port>

Check (CL) the port that you want to establish RCP port and select (CL) [Close].

The screen returns to step 27.

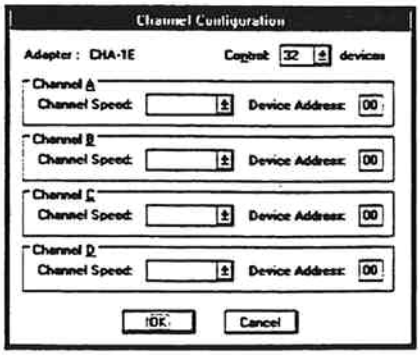


28. <Set Parallel CH>

Define the device configuration information from 'Channel Configuration' according to the device configuration worksheet.

After setting up all items, select [OK] (CL).

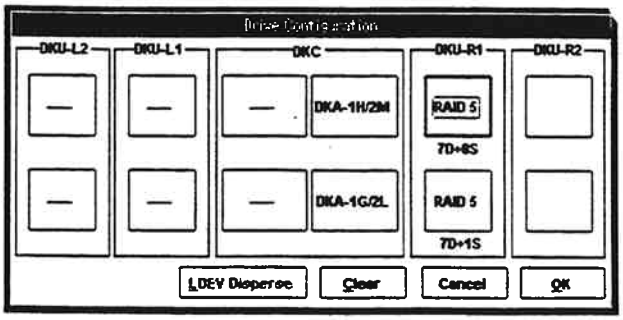
Selecting [Cancel] returns the screen to step 27.



29. Drive configuration definition during installation

The 'Drive Configuration' screen will be displayed. Condition of DKU-L1, L2 of B4 will be displayed on the left side of the screen, and the condition of DKU-R1, R2 of B4 will be displayed on the right.

- "....." : Cannot Set
- No display : No setting
- RAID level : Set complete



Below the button will display the Drive configuration.
The Drive configuration displays the number of data drives + the number of spare drives.
The center of the screen will display the installation of the DKA.

- "....." : Uninstalled
- DKA title : Installed

* B4 represent half of the divided upper and lower DKU.

Press the B4 button to set the Drive configuration. Information for the following screen, when the B4 button is pressed, is set forth below.

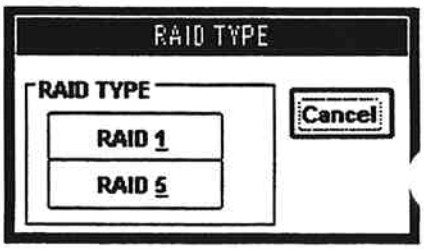
O : setting is completed, × : not set

B4 setting selected	B4 setting of identical DKA	Following screen
×	×	RAID Type select screen
O	×	RAID Type Group screen set at selected B4
×	O	RAID Type Group screen set at B4 of identical DKA
O	O	RAID Type Group screen set at selected B4

(1) RAID Type select screen

The function of the RAID Type select screen is to set the RAID level of selected B4.

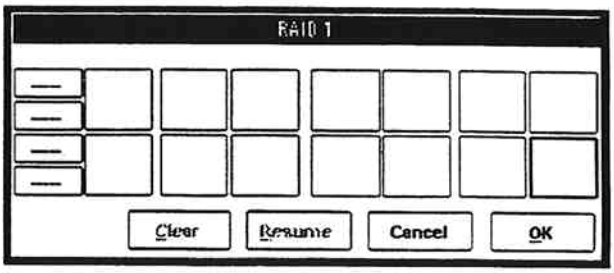
RAID Type select screen when RAID1, RAID5 are permitted.



Select the RAID Type button to set in the selected B4. By selecting the RAID Type button (RAID1, RAID5), the RAID Type screen will end and the screen of the selected RAID Type Group setting will appear.
To return to the Drive configuration screen, press Cancel.

(2) Group setting

The group screen (RAID1, RAID5) will appear when the RAID TYPE button is selected in the RAID TYPE screen, as well as when the button (including the case where other B4 is set on the identical DKA) of set RAID level of B4 button in the Drive Configuration screen is selected.

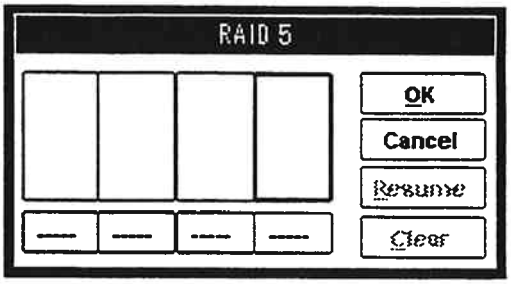


In the 'RAID 1' screen square buttons indicate the group.

No display : No setting
LDEV#-LDEV# : Set complete (continuous assignment)
LDEV#, LDEV# : Set complete (dispersement assigned)
LDEV number L : Set complete (dispersement not assigned)

The button that is long sideways indicate spare drives.

"----" : No setting
"Spare" : Set complete



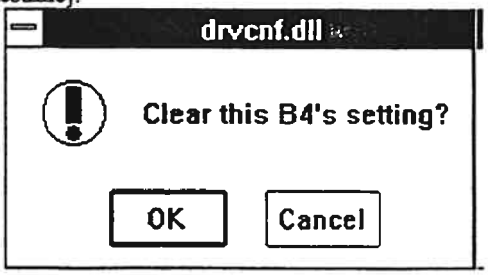
The button that is longer than wide at the center of the screen indicate Group, in the RAID5 screen.

No display : No setting
LDEV# : Set complete

The button that is long sideways at the bottom of the screen indicate spare drives.

"----" : No setting
"Spare" : Set complete

- The 'RAID Set' screen will be displayed when the Group button with no setting, or the Spare button is pressed.
- The 'DELETE' screen will be displayed when the Group button with setting, or the Spare button is pressed (The Spare button can only be selected when in B4 of DKU-R1, DKU-L1).
- Return to the Configuration screen by pressing the [Cancel] button, which will cancel setting and end Group screen.
- Return to the previous (one before) setting condition by pressing [Resume].
- Clear selected B4 setting by pressing [Clear] (message shown in the right will appear. To clear, select [OK].)

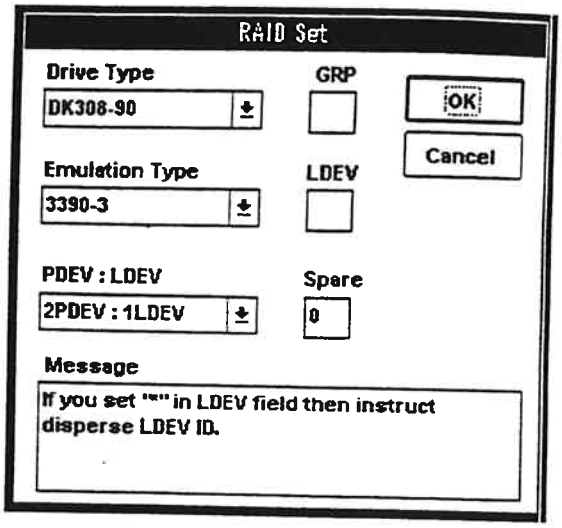


(3) Drive configuration setting

To display 'RAID Set' screen, select Group with no setting in the Group setting screen, or press the Spare butto

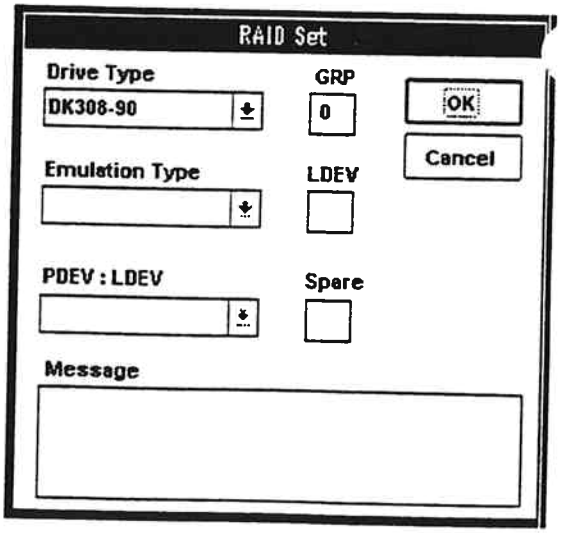
Make the following settings in the 'RAID Set' screen when selecting a Group button with no setting in RAID1, RAID5.

- Drive Type
  Select Drive Type
- Emulation Type
  Select Emulation Type
- PDEV:LDEV
  Select corresponding PDEV number and LDEV number
- GRP
  Select Group number for continuous setting
- LDEV
  Set first number of LDEV number that corresponds to the selection Group, or press "*" to assign dispersement.

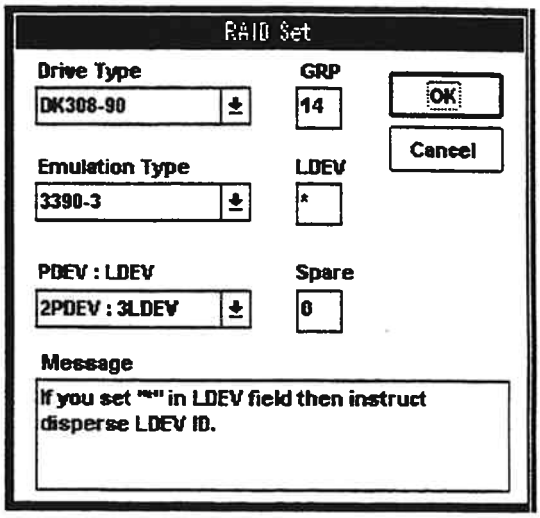


Make the following setting at the 'RAID Set' screen when pressing the Spare button of RAID1, RAID5 with no setting.

- Drive Type
  Select drive type
- Spare
  Select Spare number assigned to the selected B4



Press [OK] after setting each item. Press [Cancel] to cancel setting.
Pressing the [OK] or [Cancel] will end the 'RAID Set' screen and return to the Group setting screen.



Pressing the [OK] button without value in the proper item will display a message shown in the right. Set accordingly.

Input of invalid numbers in the required items will display a message shown in the right. Reset proper value.

Input of invalid characters in the required items will display a message shown in the right. Reset proper value.

Input of first LDEV number assigned to LDEV that overlap with other existing Groups will display message shown in the right. Adjust proper LDEV.

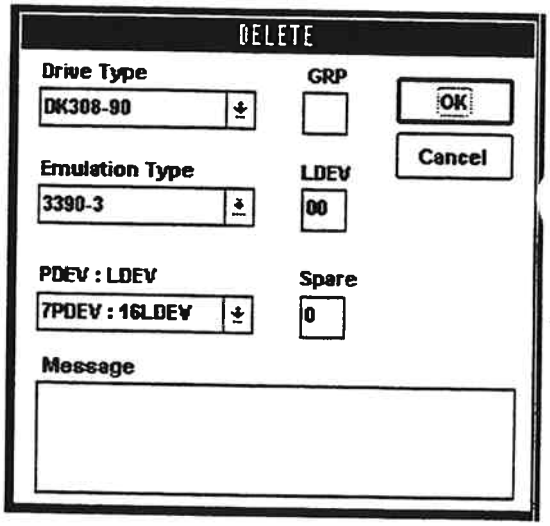
In a case that the selected Emulation Type is not identical within 32 boundary (0x00 - 0x1F, 0x20 - 0x3F, ...) of LDEV ID, and if the identical DKA of B4 is not identical, then the message shown in the right will appear. Adjust accordingly.

(4) Setting deletion screen

To display 'DELETE' screen, select a Group that has been set in the Group Setting screen, or press the Spare button.

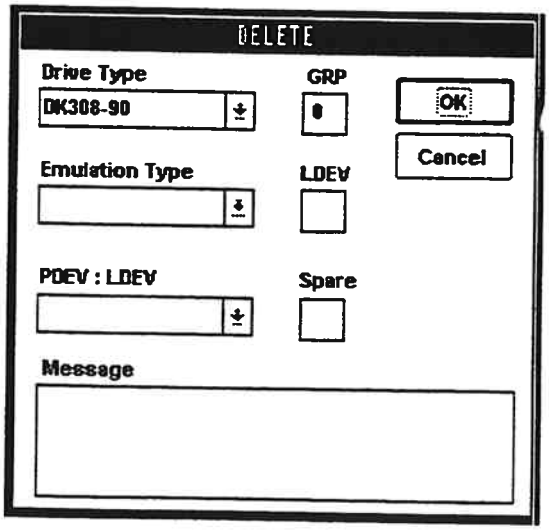
Make the following setting when selecting Group button in the 'DELETE' screen.

- GRP
  Set Group number for continuous deletion.
- Drive Type
  Displays Drive Type of selected Group (unselectable)
- Emulation Type
  Displays Emulation Type of selected Group (unselectable)
- PDEV:LDEV
  Displays the corresponding PDEV and LDEV number of selected Group (unselectable)
- LDEV
  Displays the first LDEV number assigned to the selected group or "*" in the case of dispersement assigned Group (cannot input)



Make the following setting when pressing the Spare button in the 'DELETE' screen.

- Spare
  Set Spare number for deletion
- Drive Type
  Displays Drive Type of the selected Spare (unselectable)



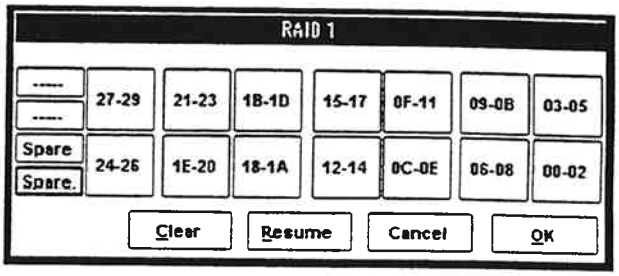
Press [OK] after completing setting. Press [Cancel] to cancel setting.
Pressing [OK]/[Cancel] will end the 'DELETE' screen, and return you to the Group Setting screen.
Error messages for input are the same as in the 'RAID Set' screen.

(5) Screen after setting

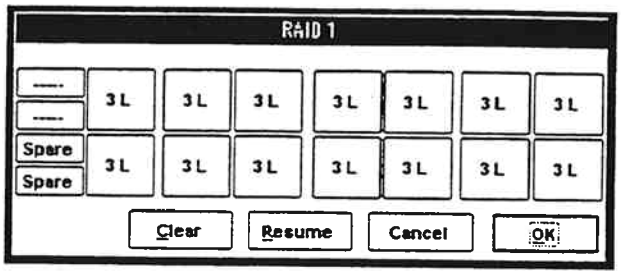
When pressing the [OK] button at the 'RAID Set' screen, assigned LDEV number will be displayed on top of the set group button. If there are Spare number settings, "Spare" will be displayed on top of the spare button for the total number set.

Adding will be from the top of the buttons with no settings regardless of the button pressed.

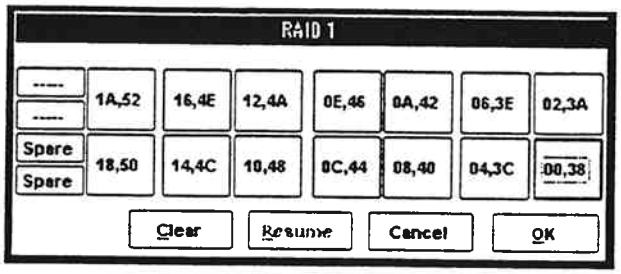
Adding will be from the bottom right and up, in the case of 'RAID 1'.
Adding will be in an upward direction for Spares (in the case of continuous assignment).



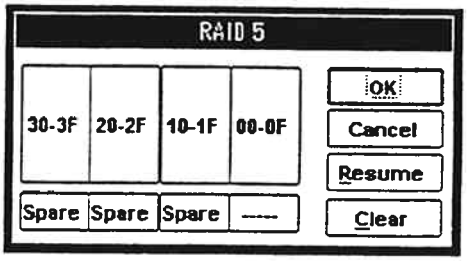
(In the case of non-assigned LDEV dispersement)



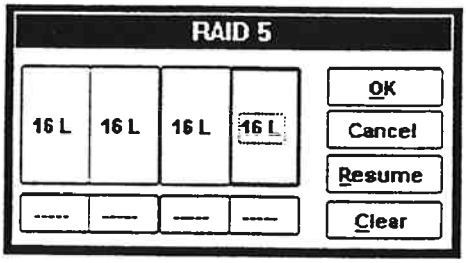
(In the case of assigned LDEV dispersement, after selecting the [LDEV Disperse] button at the 'Drive Configuration' screen)



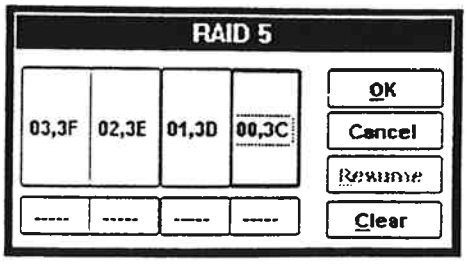
Adding will move in a direction to the left from the right side, in the case of 'RAID 5'.
Adding will move in a direction to the right from the left side, in the case for Spares.



(In the case of non-assigned LDEV dispersement)

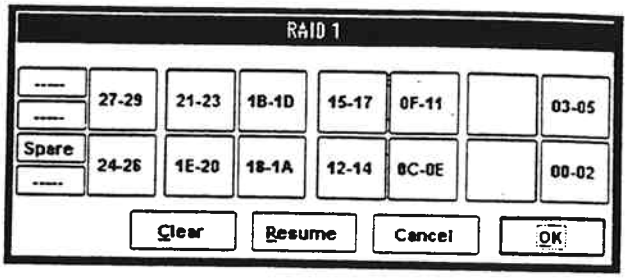


(In the case of assigned LDEV dispersement, after selecting the [LDEV Disperse] button at the 'Drive Configuration' screen)

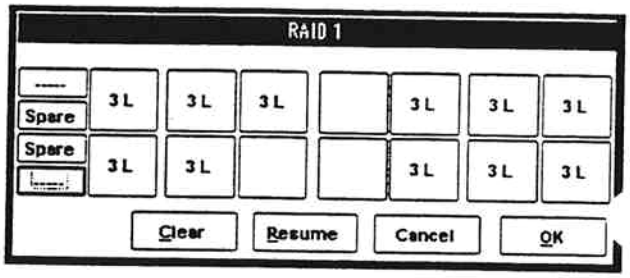


When returning after pressing the [OK] button in the 'DELETE' screen of the Group button, the Group screen will delete the display on top of the deleted Group button.
When returning after pressing the [OK] button in the 'DELETE' screen of the Spare button, the Group screen will display "------" for each of the delete Spare numbers.

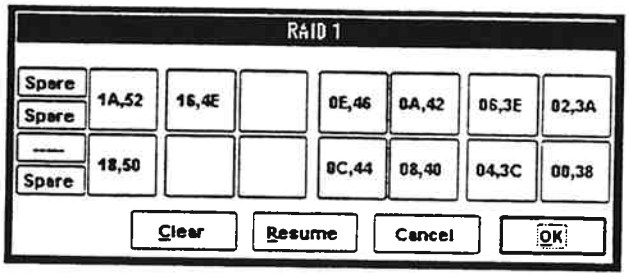
Deletion of Groups will take an upward direction from the selected Group, in the case of 'RAID 1'.
For Spares, deletion will take an upward direction from the selected Spare (in the case of continuous assignment).



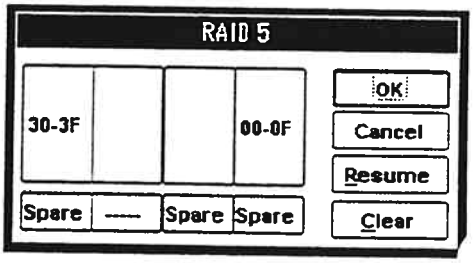
(In the case of non-assigned LDEV dispersement)



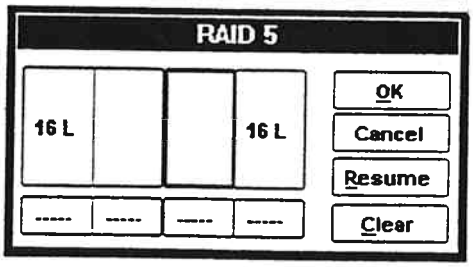
(In the case of assigned LDEV dispersement, after selecting the [LDEV Disperse] button at the 'Drive Configuration' screen)



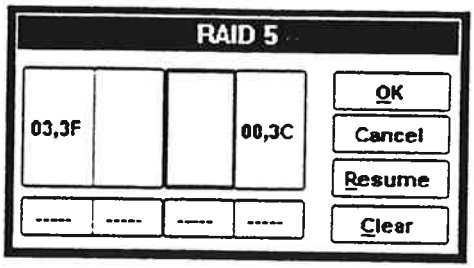
Deletion of Groups will go to left from the selected Group, in the case of 'RAID 5'.
Deletion of Spares will go to right from the selected Spare, in the case of Spares.



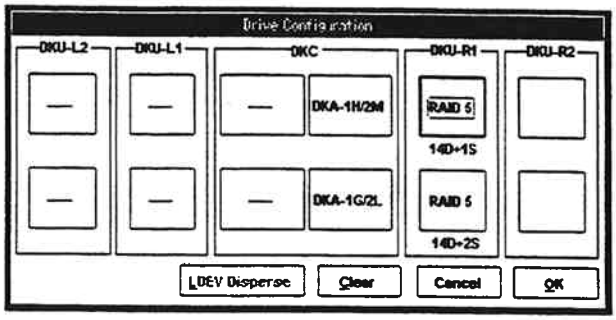
(In the case of non-assigned LDEV dispersement)



(In the case of assigned LDEV dispersement, after selecting the [LDEV Disperse] button at the 'Drive Configuration' screen)

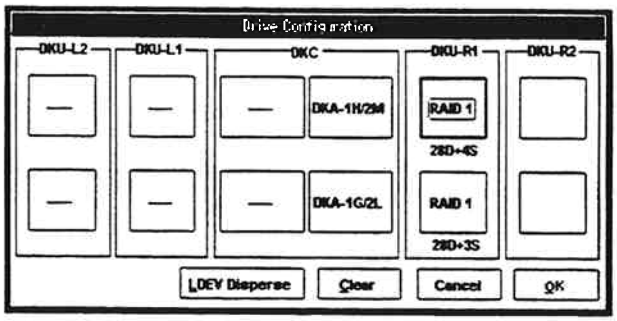


When returning by pressing [OK] at the Group screen, after setting continuous assignment, RAID Type will be displayed on top of the set B4 button and Drive configuration will be displayed at the bottom, in the 'Drive Configuration' screen.



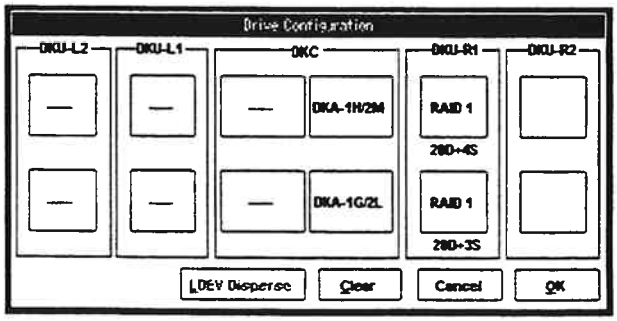
Press the [OK] button when all settings for necessary B4 are complete.
Press [Cancel] to cancel defining Drive configuration.

When pressing the [OK] button at the Group screen after selecting dispersement assignment, RAID Type will be displayed at the top and Drive configuration at the bottom of the selected B4 button, in the 'Drive Configuration' screen.
During this time, the [OK] button will not be in use and the [LDEV Disperse] button will be in use.



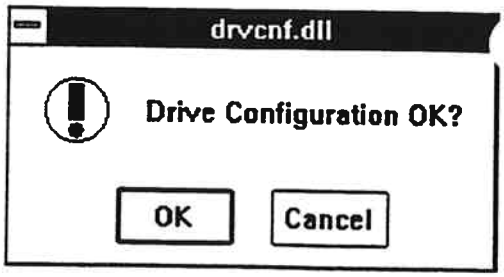
Press the [LDEV Disperse] button to execute LDEV disperse process, when all settings for necessary B4 are complete.
The message shown in the right will appear when pressing the [LDEV Disperse] button, executing the LDEV disperse process.

Pressing the [OK] button here will return you to the 'Drive Configuration' screen. The [LDEV Disperse] button will not be in use, and the [OK] button will be in use.



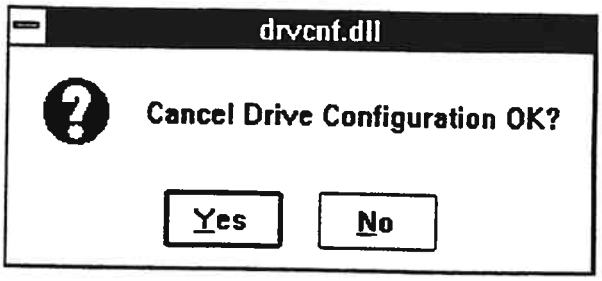
Press [Cancel] to cancel defining drive configuration.

Pressing the [OK] button at the 'Drive Configuration' screen will display the message to the right. Press [OK] to proceed and [Cancel] to redefine.



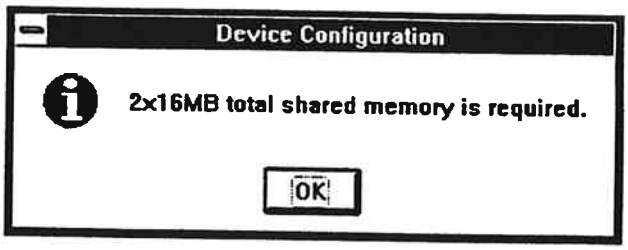
When SCSI path are set, go to INST05-80Q Step 31.

Pressing the [Cancel] button will display the message to the right. Press [Yes] to cancel 'Drive Configuration' and [No] to redefine.



30.

Select [OK] to the message
"2×xxxMB total shared memory is required".

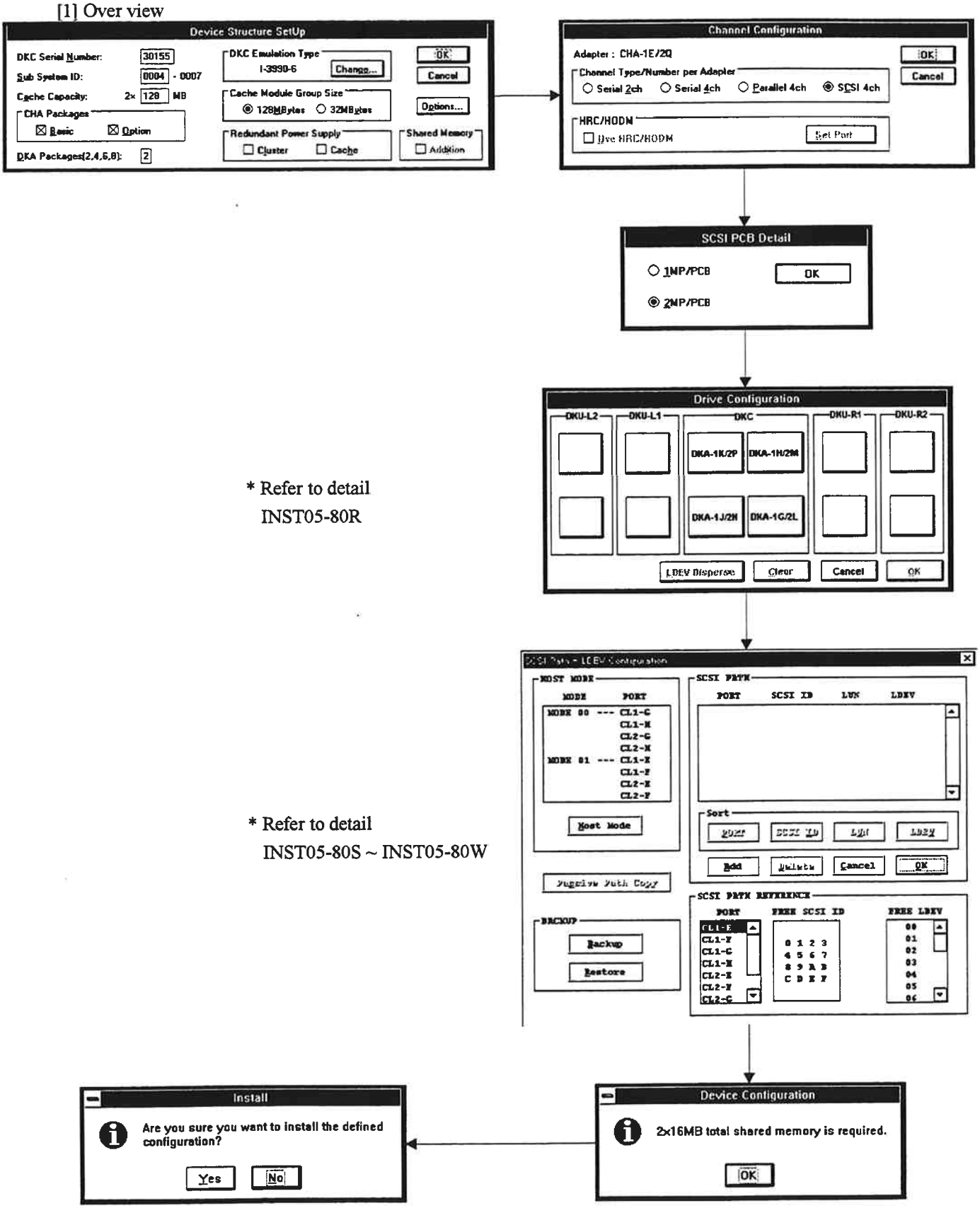


When you select [OK],
Confirmation message is automatically displayed.

Go to INST05-60 step 11.

31. <Installation new configuration> After SVP version is 01-07-2X/00

[1] Over view



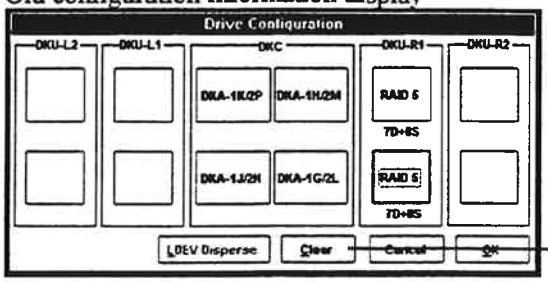
* Refer to detail
INST05-80R

* Refer to detail
INST05-80S ~ INST05-80W

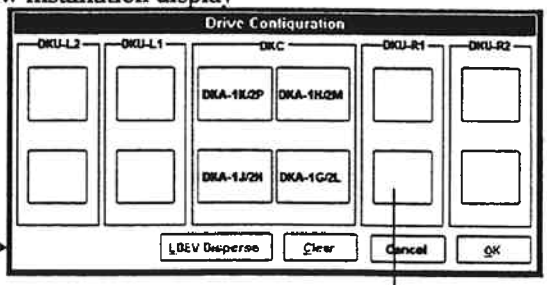
Go to INST05-60 step 11.

32. <Installation drive structure information>

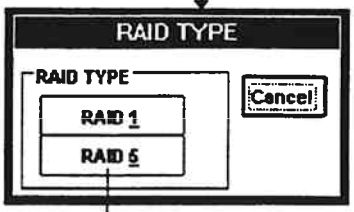
Old configuration information display

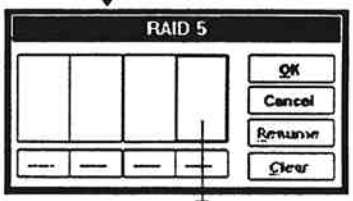


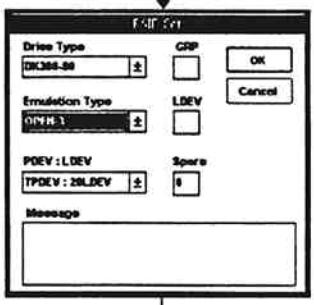
New installation display

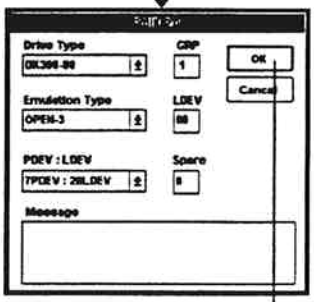


* The old configuration information will be displayed in the Drive configuration when installing for the first time. Use the Clear button to delete in the case of old configuration information data.



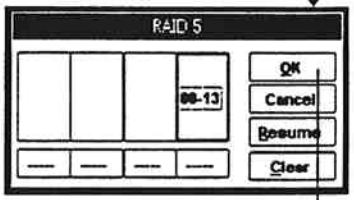




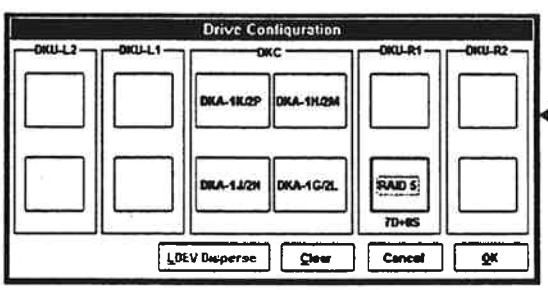


Pressing the [Resume] button will return you to the state prior to setting. (last screen)

Pressing the [Clear] button will clear all selected settings.

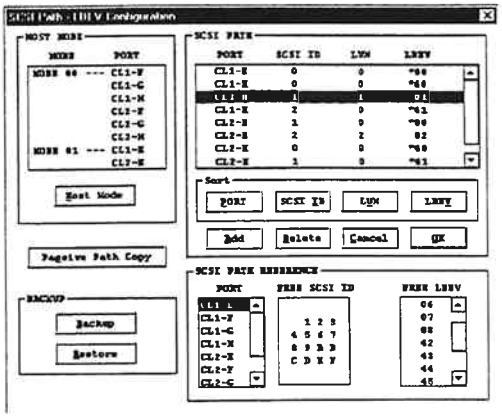


Go to INST05-80Q Step 31.



<SVP displays "SCSI Path-LDEV Configuration" screen>

(1) 'SCSI Path-LDEV Configuration' window



(1.1) <SCSI PATH> section (top of the window)

Path display : Indicates the current status of definitions to be added,deleted and sorted. Each line represents a SCSI Path definition.

PORT : PORT No.
SCSI ID : SCSI ID
LUN : LUN No.
LDEV : LDEV ID

Character strings having the following meanings are displayed before LDEV ID:

' ' : Assignment to (one) Path
'*' : Assignment to (multiple) Paths

(Reference) An example of assigning multiple Paths includes assignment to alternate Paths.

[PORT] button : Sorts path items in the SCSI PATH display section in ascending order by PORT No. The sorting priority is given as PORT → SCSI ID → LUN → LDEV.
[SCSI ID] button : Sorts path items in the SCSI PATH display section in ascending order by SCSI ID. The sorting priority is given as SCSI ID → PORT → LUN → LDEV.
[LUN] button : Sorts path items in the SCSI PATH display section in ascending order by LUN No. The sorting priority is given as LUN → PORT → SCSI ID → LDEV.
[LDEV] button : Sorts path items in the SCSI PATH display section in ascending order by LDEV No. The sorting priority is given as LDEV → PORT → SCSI ID → LUN.
[ADD] [Delete] [Cancel] [OK] : Adds or deletes definitions, or quits the program. For more information, see later.

If no sort operation is performed, the default priority is given as PORT → SCSI ID → LUN → LDEV.

(1.2) <SCSI PATH REFERENCE> section (button of the window)
PORT display : Displays the ports installed.
FREE SCSI ID display : Displays the SCSI ID not used with the port selected in PORT display.
FREE LDEV display : Displays the LDEV ID of an undefined path (The requirement is OPEN-LDEV).

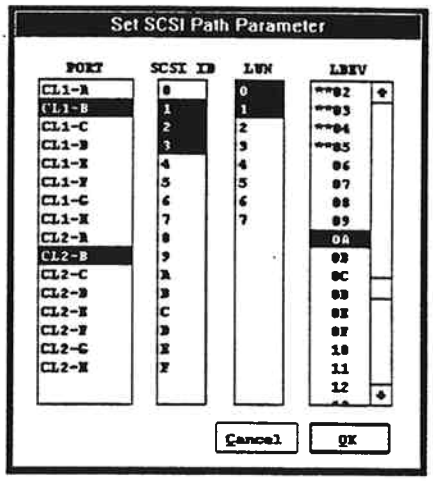
(1.3) <HOST MODE> section (left top of the window)
HOST MODE display : Displays the host identification data defined for the port installed.
[Host Mode] button : Defines the host identification data.

(1.4) <BACKUP> section (left bottom of the window)
[Backup] button : Output the displaying data to the backup file.
[Restore] button : Reads the data from the backup file and displays it.

(1.5) [Passive Path Copy] button :
Automatically create the alternative path from Cluster-1 to Cluster-2.

(2) Definition add operation

(2.1) 'Set SCSI Path Parameter' window



When the [ADD] button is selected in the 'SCSI Path-LDEV Configuration' window, the 'Set SCSI Path Parameter' window appears as shown to the right.
Definitions can be added in this window through the following operations:

1. Select PORT No. in the PORT display column (multiple selections allowed).
2. Select SCSI IDs in the SCSI ID display column (multiple selections allowed).
3. Select LUN No. in the LUN display column (multiple selections allowed).
4. Select LDEV IDs in the LDEV display column (multiple selections allowed).

[PORT] display column : Displays PORT No. installed.
[SCSI ID] display column : Displays SCSI IDs.
[LUN] display column : Displays LUNs.
[LDEV] display column : Displays LDEV ID to which OPEN-LDEV is assigned.

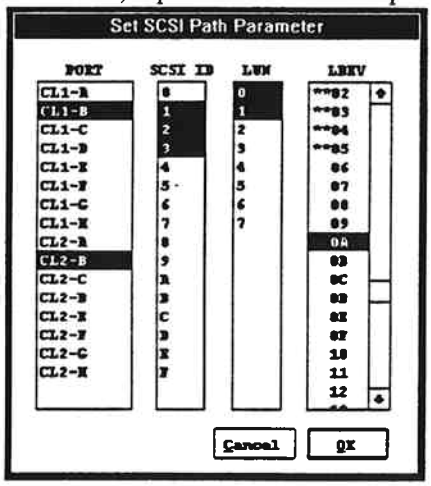
The character siring with the following meaning is displayed before LDEV ID:

' ' :Pass not assigned.
'*' :One path assigned.
'**' :Multiple paths assigned.

[Cancel] button : Cancels the selected content and returns to the 'SCSI Path-LDEV Configuration' window.
[OK] button : Sets path(s) according to the selected content and displays the 'Add SCSI Path' window for confirming an addition.

(2.1.1) Continuous assignment of LDEV IDs

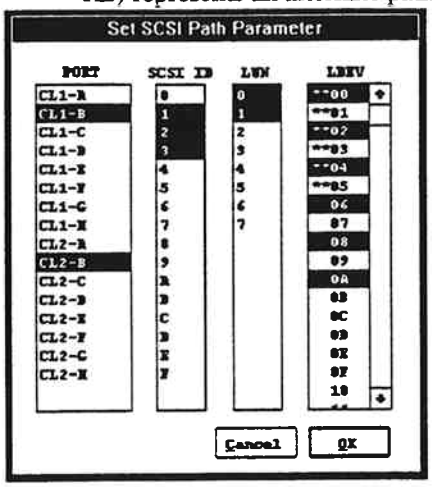
In the selected state shown below, the following paths are actually defined: The same symbol (such as X1 or X2) represents an alternate path.



	PORT	SCSI ID	LUN	LDEV
X1	CL1-B	1	0	0A
X2	CL1-B	1	1	0B
X3	CL1-B	2	0	0C
X4	CL1-B	2	1	0D
X5	CL1-B	3	0	0E
X6	CL1-B	3	1	0F
(X1)	CL2-B	1	0	0A
(X2)	CL2-B	1	1	0B
(X3)	CL2-B	2	0	0C
(X4)	CL2-B	2	1	0D
(X5)	CL2-B	3	0	0E
(X6)	CL2-B	3	1	0F

(2.1.2) Arbitrary assignment of LDEV IDs

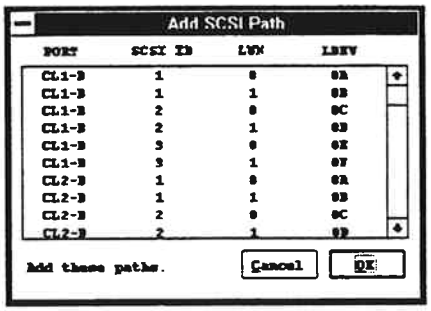
In the selected state shown below, the following paths are actually defined: The same symbol (such as X1 or X2) represents an alternate path



	PORT	SCSI ID	LUN	LDEV
X1	CL1-B	1	0	0A
X2	CL1-B	1	1	0B
X3	CL1-B	2	0	0C
X4	CL1-B	2	1	0D
X5	CL1-B	3	0	0E
X6	CL1-B	3	1	0F
(X1)	CL2-B	1	0	0A
(X2)	CL2-B	1	1	0B
(X3)	CL2-B	2	0	0C
(X4)	CL2-B	2	1	0D
(X5)	CL2-B	3	0	0E
(X6)	CL2-B	3	1	0F

(2.2) 'Add SCSI Path' window

When the [OK] button is selected in the 'Set SCSI Path Parameter' window, the definition add confirmation window appears as shown to the right.



Added path display column : Displays all the Paths set in the 'Set SCSI Path Parameter' window.

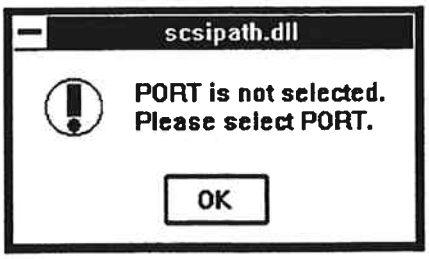
[Cancel] button : Returns to the 'Set SCSI Path Parameter' window without adding any paths displayed, and prompts the operator for modifying.

[OK] button : Adds the displayed path(s) to the 'SCSI Path-LDEV Configuration' window.

(2.3) Error message

If one of PORT, SCSI ID, LUN and LDEV is not selected, the message 'xxx is not Selected. Please select xxx.' is displayed to prompt operator for making a selection.

xxx — PORT, SCSI ID, LUN, LDEV



If PORT and LDEV are the same as the existing definitions, the setting is considered to be the same even when SCSI ID and LUN are different. The error message shown right is displayed to prohibit double definition.

If PORT, SCSI ID and LUN are the same as the existing definitions, no access to different LDEVs is allowed. If this restriction is violated, the message shown to the right is displayed to indicate that those have been entered.

If LDEVs beginning with the selected LDEV ID cannot be selected by the given number in continuous assignment (overflow), the message shown to the right is displayed.

In arbitrary assignment of LDEVs, LDEVs need to be selected by the number of (SCSI IDs) x (LUNs). If LDEVs are not matched in number, the message shown to the right is displayed to prompt the operator to correct one of SCSI IDs, LUNs and LDEVs.

If the total of existing paths and newly added ones is over 1000 paths, the message shown to the right is displayed to prompt the operator to correct the number of newly added paths.

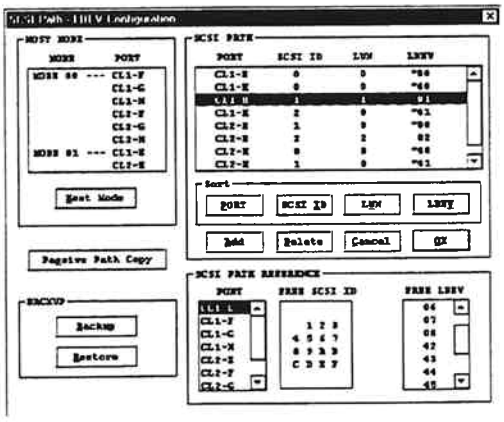
(3) Definition delete operation

(3.1) 'SCSI Path-LDEV Configuration' window

Definitions can be deleted in this window through the following operations:

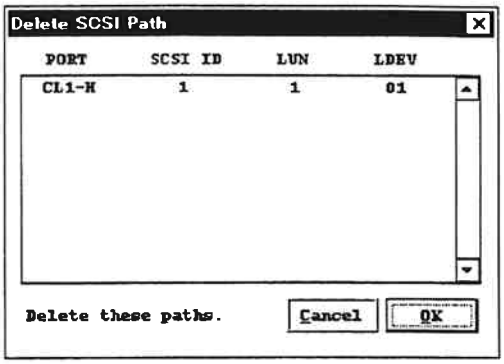
1. Select definitions to be deleted from the path display column (multiple selections allowed).
2. Select the [Delete] button.

[Delete] button : Displays the 'Delete SCSI Path' window for confirming deletion of the selected definition.



(3.2) 'Delete SCIS Path' window

When the [Delete] button is selected in the 'SCSI Path LDEV Configuration' window, the definition delete confirmation window appears as shown to the right.



Deleted path display column : Displays all the paths set in the 'SCSI Path-LDEV Configuration' window.

[Cancel] button : Returns to the 'SCSI Path-LDEV Configuration' window without deleting any paths displayed, and prompts the operator for modifying.

[OK] button : Deletes the displayed path(s) from the 'SCSI Path-LDEV Configuration' window.

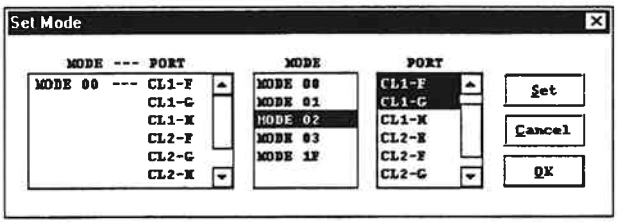
(3.3) Error message

If no definition is selected when the [Delete] button is clicked, the message shown to the right is displayed.

(4) Change of the definition of host identification data

(4-1) 'Set Mode' window

When the [Host Mode] is selected (CL) in the 'SCSI Path-LDEV Configuration' window, 'Set Mode' window is displayed as shown on the right.



MODE---PORT display :
Displays the host identification data defined to the port as a list.

MODE display : Displays the data which can be defined as the host identification data. (multiple selection is not allowable.)

PORT display : Displays ports for the CHS installed. (multiple selection is allowable.)

[Set] button : Set the host identification data to the port according to the selection and displays the 'MODE xx' window for confirmation of the setting.

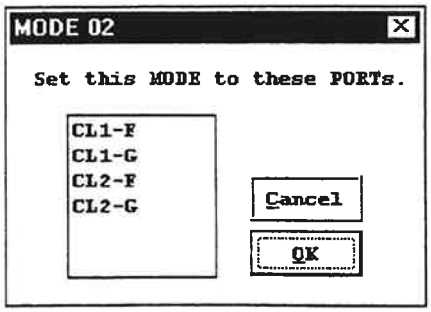
xx-----The value assigned to the selected host identification data.

[Cancel] button : Ignores all operations for change and returns the screen to the 'SCSI Path-LDEV Configuration' window.

[OK] button : Displays the settings in the <HOST MODE> section of the 'SCSI Path-LDEV Configuration' window.

(4-2) 'MODE xx' window

When [Set] is selected (CL) in the 'Set Mode' window, the setting confirmation screen as shown on the right is displayed.



Title of window : Displays the host identification data selected.
PORT display area : Displays the port selected.
[Cancel] button : Returns to the 'Set Mode' window without change of host identification data.
[OK] button : Assigns the host identification data displayed in the title of window to the port diaplayed in the PORT display area and returns to the 'Set Mode' window and updates the MODE---PORT display in the 'Set Mode' window.

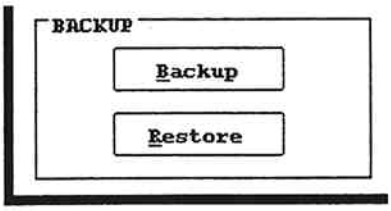
If you select mode 01, 02 or 03, SVP will set the same mode to the target port in Cluster-2.

---

(5) Backup/Restore function

(5.1) [Backup] button

Creates the backup file (one file) for the SCSI path definition data and host identification data which are displayed.
If the backup file has already existed, the confirmation message for overwriting is displayed.
This button can be selected at any time.



(5.2) [Restore] button

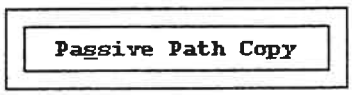
Reads the backup file and displays the data in the 'SCSI Path-LDEV Configuration' window. The read data which does not meet the installation of CHS or the setting of LDEV is not displayed.

---

(6) Passive path automatic definition

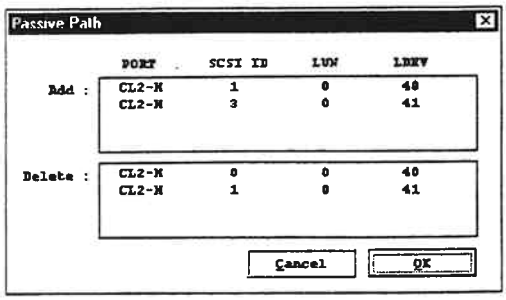
(6.1) [Passive Path Copy] button

If you select a path in Cluster-1, and select this button, SVP can create an alternative path to the same port in the Cluster-2 automatically.
After creating the path, please confirm it in "Passive Path" window.



(6.2) 'Passive Path' window

Add area : Display the paths which are created automatically.
Delete area : Display the other paths than the paths which are created automatically in the Cluster-2.
[OK] button : Add the path into Add area and delete the same path from Delete area.
[Cancel]button : Go back to the 'SCSI Path-LDEV configuration' window.

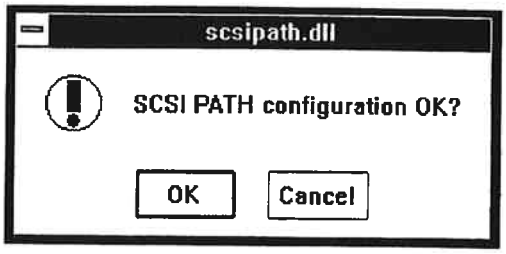


(7) Quitting SCSI path definition

To quit SCSI path definition, select the [Cancel] button in the 'SCSI Path-LDEV Configuration' window.
When the[Cancel] button is selected, the message shown to the right is displayed. To quit SCSI path definition, select [Yes].

(8) Exit from SCSI path definition

To exit from SCSI path definition, select the [OK] button in the 'SCSI Path-LDEV Configuration' window.
When the [OK] button is selected, the message shown to the right is displayed. To exit from SCSI path definition, select [OK].



3.5.2.3 Check Procedure

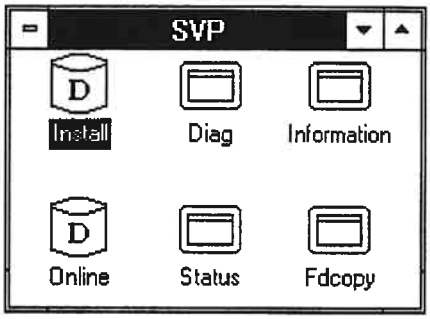
1. <Execute Power-on CUDG>

   Perform the power-on procedure from the DKC maintenance panel.
   (See INST03-2300)
   Power-on CUDG is automatically executed on the DKC logic circuitry.
   If an error occurs, SIM Log, SSB Log has logging.
   (See SVP02-30)

2. <Execute DKU Path inline test>

   Perform DKU Path inline tests on all DKAs installed during the new installation procedure to check the validity of the drives.
   See DIAGNOSIS SECTION for the test procedure. (DIAG04-190)

   Note: Before carrying out the DKU Path inline test, switch the current application to the program manager and have the SVP initial screen (which is shown in the right figure) displayed.



3. <Check subsystem status and all MPs micro-version>

   See STATUS04-10.

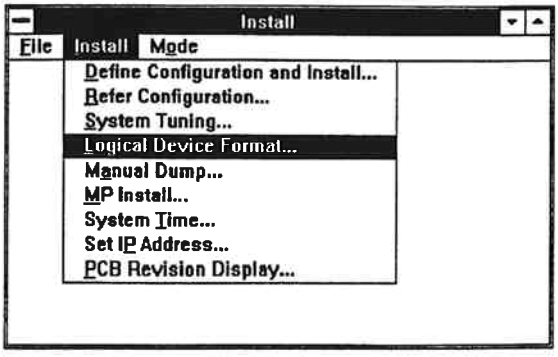
NOTICE
This operation is necessary only when a subsystem is newly installed. It is not performed afterward. If it is performed by mistake, a system down or a data loss may be caused.

4. <Format L-DEV>

   Select [Logical Device Format] from 'Install' on 'Install' (DR).

   Message "Do you want to format logical devices?" is displayed.

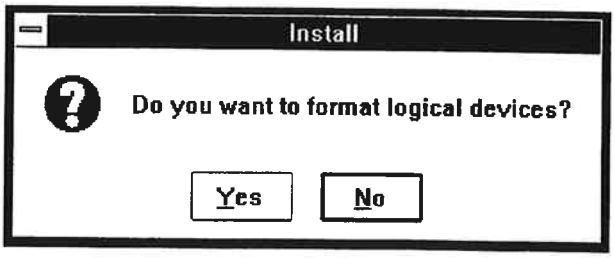
   Note: Execute Format Logical Device after confirming the target Logical Device is blocked.



4.1

Select [Yes] in response to the "Do you want to format logical devices?".

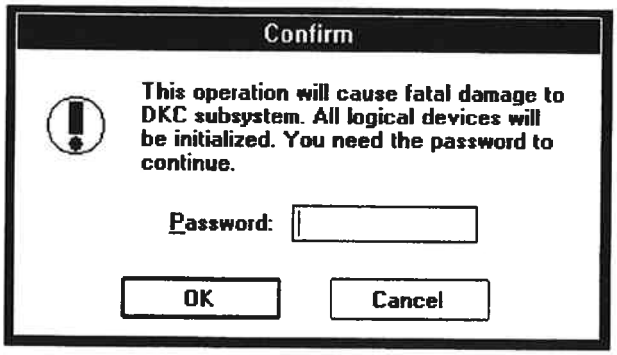
Selecting [No] returns the screen to 'Install'.



4.2

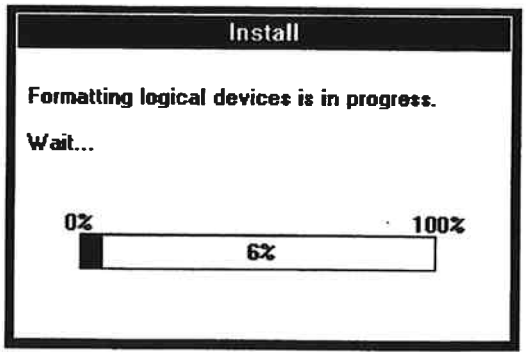
NOTICE
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if executed in an occasion other the new subsystem installation, and requires an input of a password. Ask the technical support center about the appropriateness of the operation, and input the password after getting an approval of executing the operation.

Enter the password and select [OK] (CL).
Password is needed for this operation.
Please call Technical Support Center to obtain password and authorization.
'Formatting L-DEV' is displayed.
Selecting [Cancel] returns the screen to 'Install'.



4.3

When L-DEV Formatting is complete, 'Formatting L-DEV' shown in the right figure disappears and "Formatting was finished." is displayed.



4.4

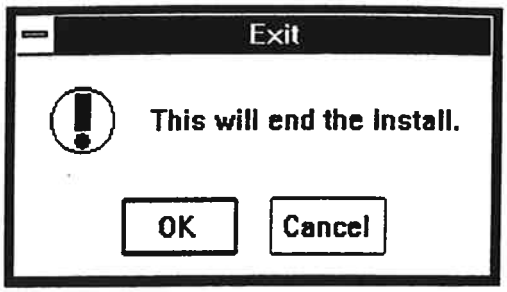
Select [OK] in response to "Formatting was finished.".
'Install' is displayed.

L-DEV formatting is abnormally terminated if the message "Formatting logical devices rejected by DKC." or "Formatting the logical device is failed." is displayed.
Identify the error cause according to the procedure shown in "Section 6 TROUBLE SHOOTING".

4.5

Close 'Install'.

Select [OK] in response to "This will end the Install.".



5. <Check subsystem status>
Check normality of all parts and Logical Devices with referring STATUS display.
See STATUS04-10.

6. <Check system interlock operation>
Start the test program from the host to check for normal subsystem's interlocked operation with the host.

7. <Delete error log>
Power cycle the subsystem to make sure that the subsystem starts normally (neither ALARM nor MESSAGE indicators should light).

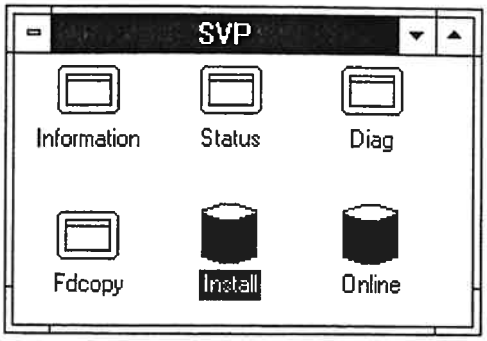
Delete all error log information from the SVP and transfer the subsystem to the user. See page SVP02-130.

Go to INST02-12 step(21).

3.5.2.4 Refer Configuration

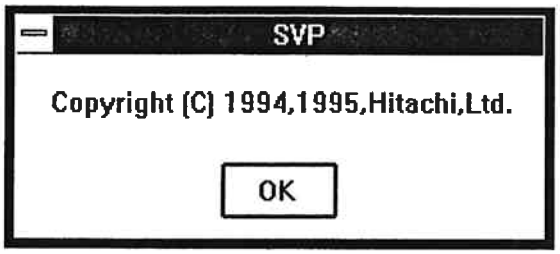
1. <Start [Install]>
   Select [Install] from 'SVP' (DC).
   'SVP' is displayed.

   If DK309-180 (DKU-F305I-1804/1801) is set, go to INST08-210.



2.
   Select [OK] from 'SVP' (CL).

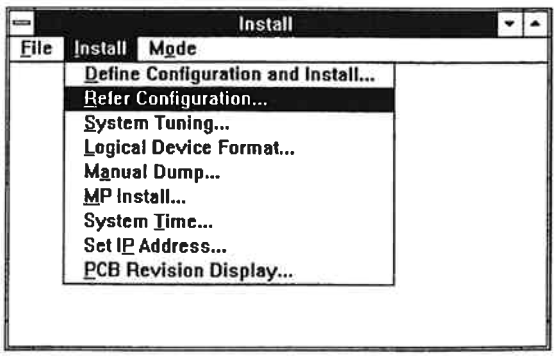
   'Install' is opened.



3. <Change SVP mode>
   Select [View] or [Modify] from [Mode] on 'Install' (DR).

   The SVP is switched into the View or Modify mode.

4. <Specify beginning of installation>
   Select [Refer Configuration...] from [Install] on 'Install' (DR).



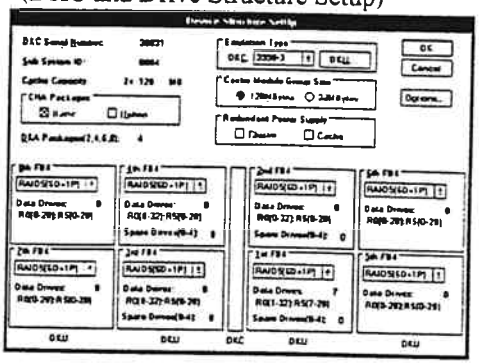
5. <Define configuration information>

When you select [OK] (CL), 'Channel Configuration' is automatically displayed.

This procedure finishes when you select [Cancel] (CL).

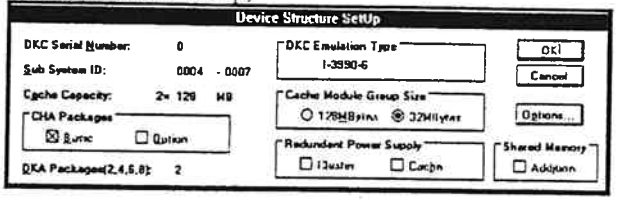
If [Options...] is selected (CL), 'System Option Setup' is automatically displayed.

(DKC and Drive Structure Setup)



* When the DKC Structure Setup Screen is displayed, go to step 11 (INST05-104).

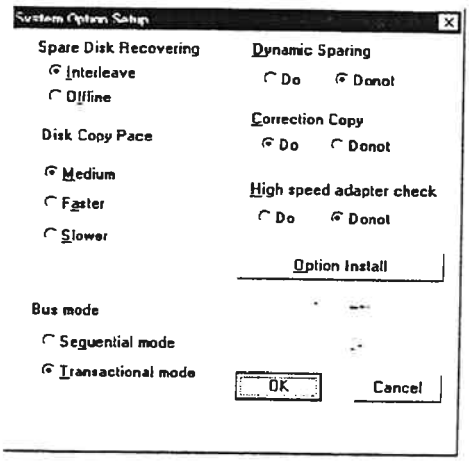
(DKC Structure Setup)



6.

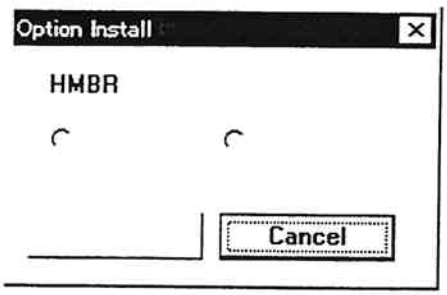
Selecting (CL) [OK] or [Cancel] returns the screen to step 5.

If [Option Install] is selected (CL), 'Option Install' is displayed.



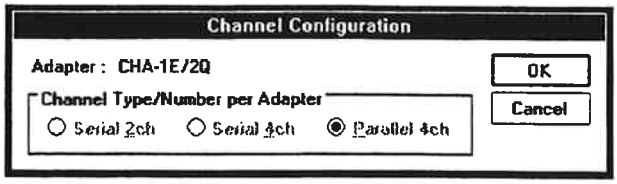
7.

Selecting (CL) [Cancel] returns the screen to step 6.



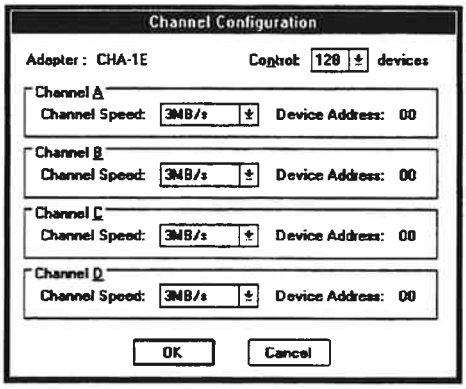
8.

When you select [Parallel 4ch] (CL) from this screen, the next 'Channel Configuration' is displayed. This procedure finishes when you select another item. Selecting [Cancel] (CL) returns the screen to step 5.



9. <Set Parallel CH>

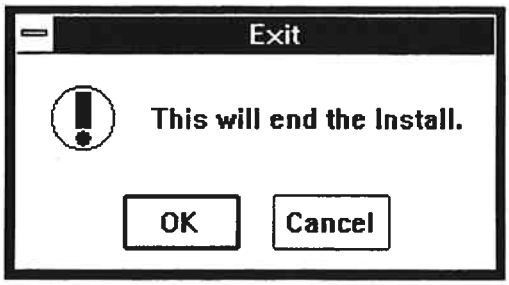
This procedure finishes when you select [OK] (CL). Selecting [Cancel] (CL) returns the screen to step 8



10.

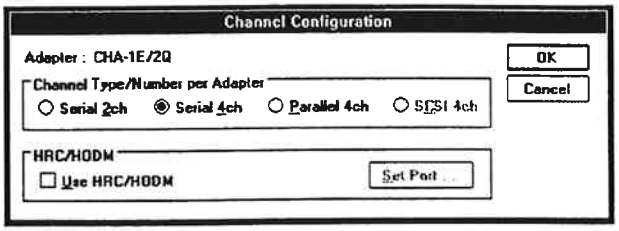
Close 'Install'.

Select [OK] (CL) in response to "This will end the Install.".



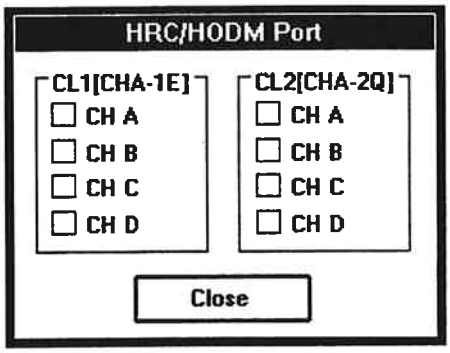
11.

When you select [Parallel 4ch] (CL) from this screen, the next 'Channel Configuration' is displayed.
When you select [Use HRC/HODM] (CL) from this screen.
The [Set Port...] button is enabled. Selecting [Set Port...] (CL) skip the screen to step 11-1.
Processing skip to step 13 if you select another item.
Selecting [Cancel] (CL) returns the screen to step 5.



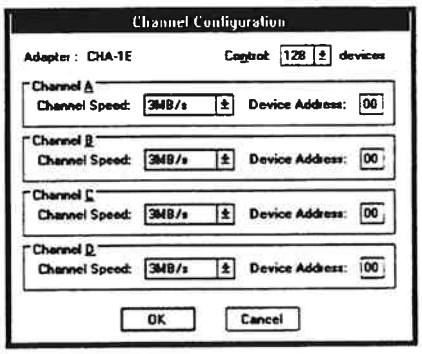
11-1. <Set RCP Port>

RCP port setting is displayed. Set HRC/HODM ports.
Then by selecting [Close] (CL) returns the screen to step 11.



12. <Set Parallel CH>

This procedure finishes when you select [OK] (CL), the next 'Drive Configuration' is displayed.
Selecting [Cancel] (CL) returns the screen to step 11.



13. <Drive Configuration information for RAID 5>

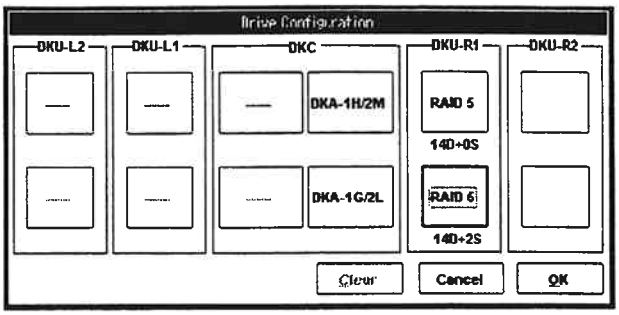
The 'Drive Configuration' screen appears.
The B4 status of DKU-L1 and DKU-L2 is shown on the left side of the screen. The B4 status of DKU-R1 and DKU-R2 is shown on the right side.
The current status is shown on the buttons as follows.

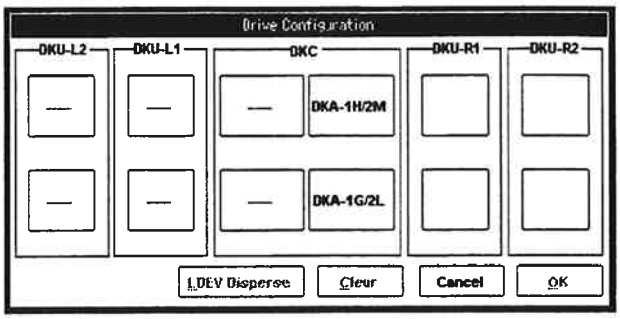
- ..... : Installation disabled
- Blank : Uninstalled
- RAID level : Installed

The drive configuration is shown in the format "Data drive count + Spare drive count" under the buttons.
The DKA status is the middle of the screen as follows.

- ..... : Uninstalled
- DKA name : Installed

* DKU is divided into upper and lower section. B4 indicates either of these sections. To define the drive configuration for a section, click the B4 button for the section.





Selecting [Cancel] (CL) returns the screen to step 5 (INST05-102).
Selecting [OK] (CL), go to step 10 (INST05-103).

When SCSI path is used, go to step 14 (INST05-107).

If this message is appeared, reading data is broken.
Please call Technical Support Center.

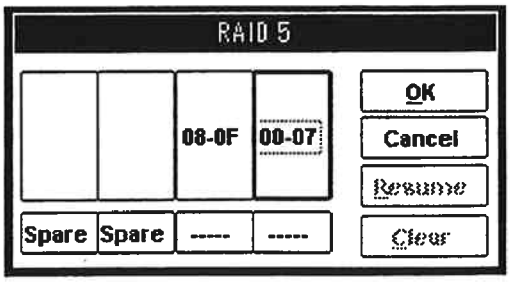
(1) Group setting information

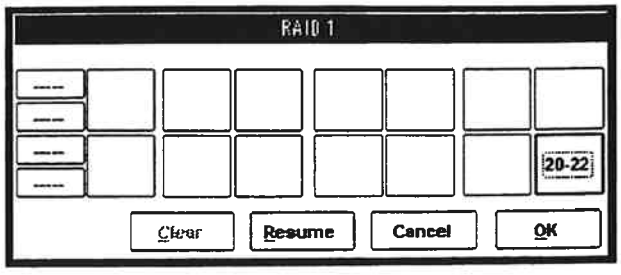
The 'RAID 5' screen appears if you select the RAID TYPE button in the 'RAID TYPE' screen or if you select the B4 button for which the RAID level is set (or for which another B4 is set in the same DKA) in the 'Drive Configuration' screen.
The group status is shown on the vertically displayed buttons in the 'RAID 5' screen as follows.

Blank : Uninstalled
LDEV number : Installed

The spare drive status is shown on the horizontally displayed buttons as follows.

"..." : Uninstalled
"Spare" : Installed

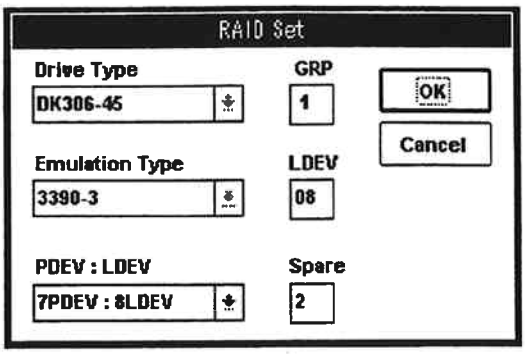




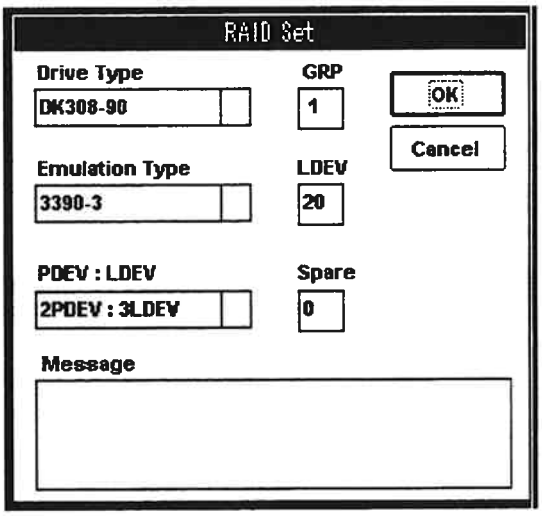
Clicking the group button or spare button for installed status displays the 'RAID Set' screen (the spare button is only selectable for DKU-R1 B4 or DKU-L1 B4).
Clicking the OK or Cancel button cancels the settings, clears the 'RAID 5' screen, and redisplays the 'Drive Configuration' screen.

(2) Drive configuration information

Select the group button or spare button for uninstalled status in the 'RAID 5' screen to displayed the 'RAID Set' screen.
In the 'RAID Set' screen, select and set the following.



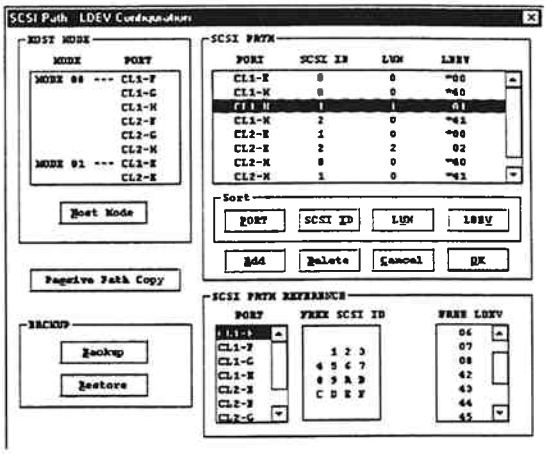
- PDEV : LDEV
  Installed a PDEV count and its associated LDEV count.
- Emulation Type
  Installed an emulation type.
- Drive Type
  Installed a drive type.
- GRP
  Installed the number of consecutive groups to be installed.
- LDEV
  Installed the first LDEV number to be assigned to the selected group.
- Spare
  Installed the number of spares to be assigned to selected B4.



A blank is displayed when the invalid data is installed.
Clicking the OK or Cancel button clears the 'RAID Set' screen and redisplays the 'RAID 5' screen
(INST05-105 (1)).

14. <SVP displays "SCSI Path-LDEV Configuration" screen>

(1) 'SCSI Path-LDEV Configuration' window



(1.1) <SCSI PATH> section (top of the window)

Path display : Indicates the current status of definitions to be added, deleted and sorted. Each line represents a SCSI Path definition.

PORT : PORT No.
SCSI ID : SCSI ID
LUN : LUN No.
LDEV : LDEV ID

Character strings having the following meanings are displayed before LDEV ID:

' ' : Assignment to (one) Path
'*' : Assignment to (multiple) Paths

(Reference) An example of assigning multiple Paths includes assignment to alternate Paths.

[PORT] button : Sorts path items in the SCSI PATH display section in ascending order by PORT No. The sorting priority is given as PORT → SCSI ID → LUN → LDEV.
[SCSI ID] button : Sorts path items in the SCSI PATH display section in ascending order by SCSI ID. The sorting priority is given as SCSI ID → PORT → LUN → LDEV.
[LUN] button : Sorts path items in the SCSI PATH display section in ascending order by LUN No. The sorting priority is given as LUN → PORT → SCSI ID → LDEV.
[LDEV] button : Sorts path items in the SCSI PATH display section in ascending order by LDEV No. The sorting priority is given as LDEV → PORT → SCSI ID → LUN.

If no sort operation is performed, the default priority is given as PORT → SCSI ID → LUN → LDEV.

(1.2) <SCSI PATH REFERENCE> section (button of the window)

PORT display : Displays the ports installed.
FREE SCSI ID display : Displays the SCSI ID not used with the port selected in PORT display.
FREE LDEV display : Displays the LDEV ID of an undefined path (The requirement is OPEN-LDEV).

(1.3) <HOST MODE> section

PORT-MODE display : Displays the host mode to the installed ports.

Selecting [Cancel] (CL) returns the screen to step 5 (INST05-102).
Selecting [OK] (CL), go to step 10 (INST05-103).

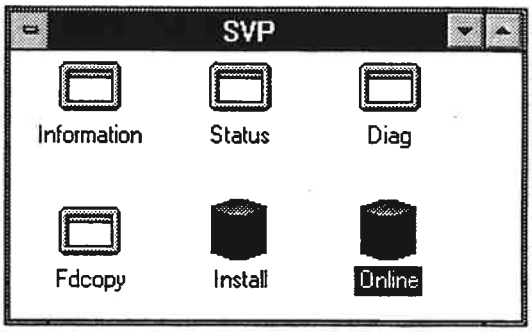
3.5.3 Installation and De-installation SVP procedure

3.5.3.1 SCSI Cable Connection (Disconnection) Procedures

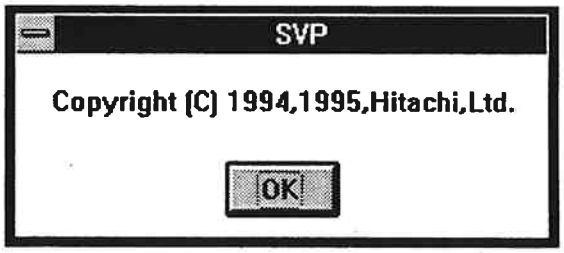
When installing or de-installing DKU-F205I-B4 options on or from the 3rd and 4th frames, it becomes necessary to connect (or disconnect) SCSI cables between the frames. In this case, it is necessary to temporarily maintenance-block the target DKA. The maintenance block procedure is shown below. If there is no need to install (or de-install) DKU-F205I-B4 options on or from the 3rd and 4th frames, skip to the following step:3.5.3.2 Setting up the New Device Structure Information on page INST05-180.

1. <Activate [Maintenance Online]>
   Select [Online] from 'SVP' (DC).

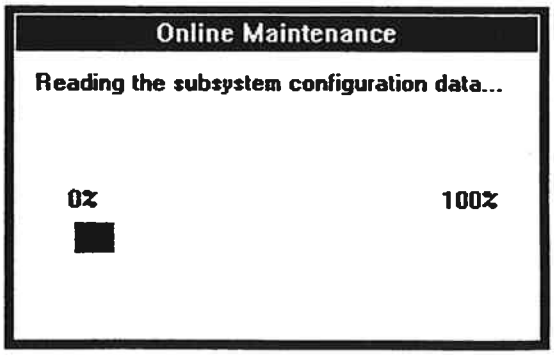
   'SVP' is displayed.



2. Select [OK] from 'SVP' (CL).
   "Reading the subsystem configuration data..." is displayed.



3. When the indicator shown in the "Reading the subsystem configuration data..." message reaches 100%, [Maintenance Online] is available.



4. <Change SVP mode>

Select [Modify] from [Mode] on 'Maintenance Online' (DR).

The SVP is switched into Modify mode.

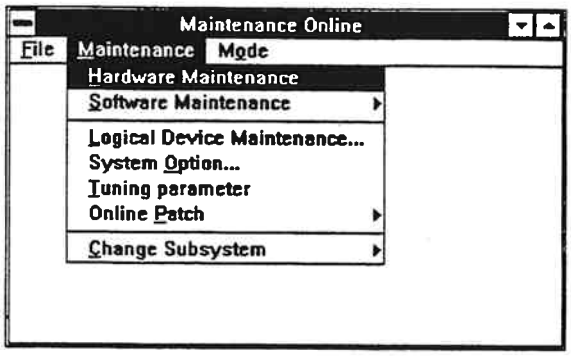
[In case of Installation/De-Installation]

Non-Disruptive Installation : Go to INST02-20 step (3).
Non-Disruptive De-Installation: Go to INST02-30 step (2).
Disruptive Installation : Go to INST02-41 step (13).
Disruptive De-Installation : Go to INST02-50 step (2).

5. <Start [Hardware Maintenance]>

Select [Hardware Maintenance] from [Maintenance] on 'Maintenance Online' (DR).

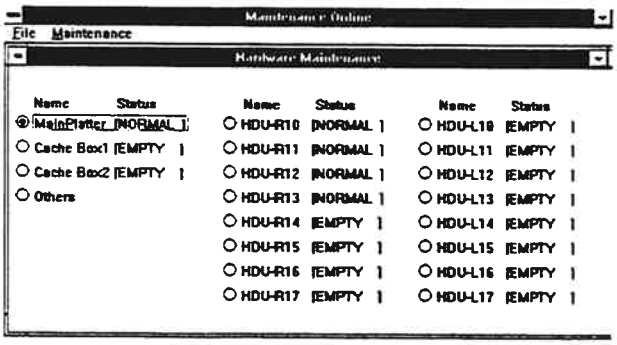
'Hardware Maintenance' is opened.



6. <Check subsystem status and select platter>

Select [Main Platter] from 'Hardware Maintenance' (CL).

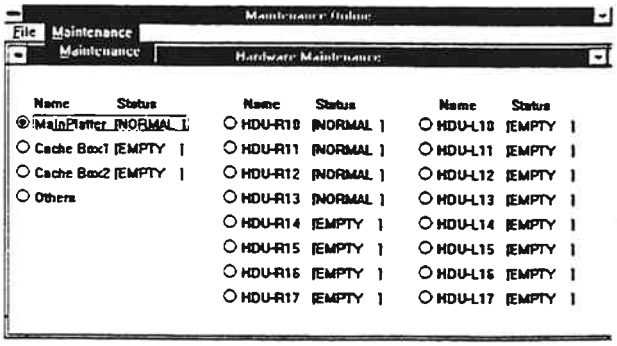
Make sure that all status values on the screen are [NORMAL]. If there is any error, correction of that error must take precedence. See page TRBL03-020.



7. <Start [MainPlatter Maintenance]>

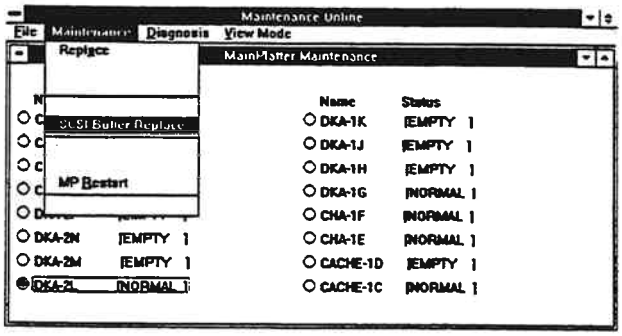
Following step 6, select [Maintenance] from [Maintenance] (DR).

'MainPlatter Maintenance' is opened.



8. <Perform maintenance blocking on DKA>

Select the DKA (one path) to which SCSI cables are to be connected (or disconnected) from 'MainPlatter Maintenance'. (See LOCATION04-40.) Subsequently, select [SCSI Buffer Replace] from [Maintenance] (DR).



9.

In response to "Are you sure you want to replace the SCSI buffer? If you select [Yes], blocking of the DKA will be unavoidable.", make sure that the selected DKA is correct and select [Yes] (CL). If the DKA proves to be incorrect, select [No] and restart the procedure at step 8.

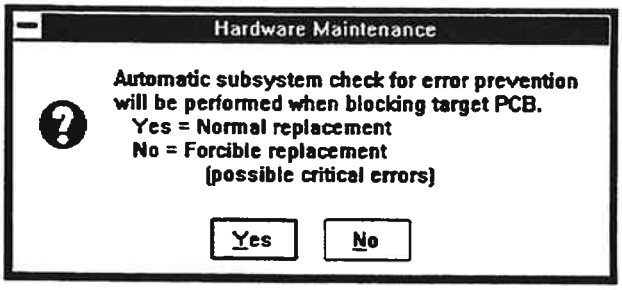
10.

Select [Yes] in response to "Automatic subsystem check for error prevention will be performed when blocking target PCB.

Yes = Normal replacement

No = Forcible replacement

(Possible critical errors)"

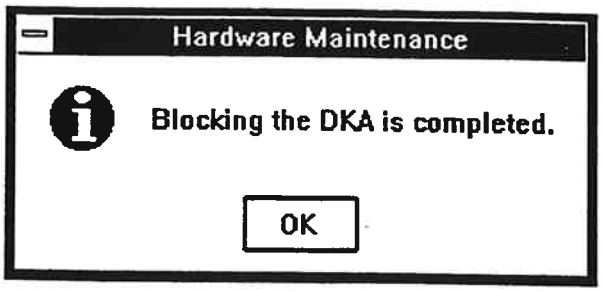


11.

"The DKA is being blocked..." is displayed.

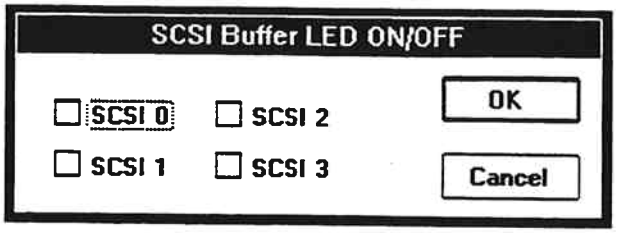
12.

When blocking is completed, "Blocking the DKA is completed." is displayed. Select [OK] in response to this message (CL).



13. <Turn on SCSI-BUFF shut down LEDs>

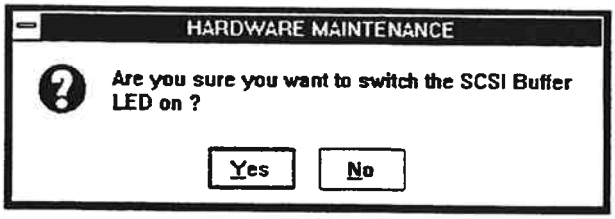
Select all SCSI-Buff (for 4 paths) from 'SCSI Buffer LED ON/OFF' (CL) and select [OK] (CL).



14.

Select [Yes] in response to "Are you sure you want to switch the SCSI Buffer LED on?" (CL).

The corresponding SCSI-BUFF shut down LEDs turn on. Perform the SCSI cable hardware procedure.



Hardware	Cluster No.	Flowchart Page
Connection	Cluster 1	INST02-56 step ③
	Cluster 2	INST02-57 step ⑤
Disconnection	Cluster 1	INST02-58 step ②
	Cluster 2	INST02-58 step ④

15. <Replace SCSI Buffer>

Remove SCSI BUF PCB, and insert it to turn off shut down LED (It is not necessary to replace SCSI BUF PCB.).
(see REP03-410)
Select [OK] in response to "Please replace the SCSI Buffer. If OK, press return." (CL).

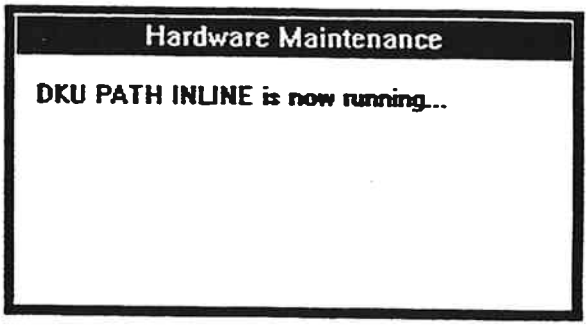
BLANK

16.

"Do you want to restore the DKA now?" is displayed.
Select [Yes] (CL).

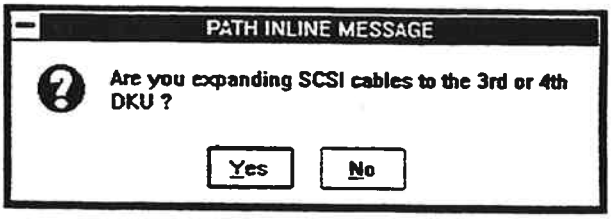
17.

"DKA PATH INLINE is now running..." is displayed.



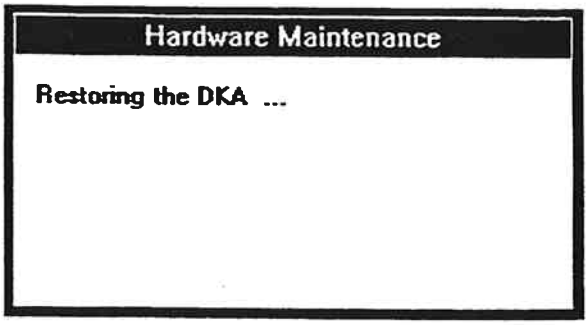
18.

"Are you expanding SCSI cables to the 3rd or 4th DKU?" is displayed.
In case of installation for the 3rd or 4th DKU, select [Yes] (CL).
In case of except installation for the 3rd or 4th DKU, select [No] (CL).



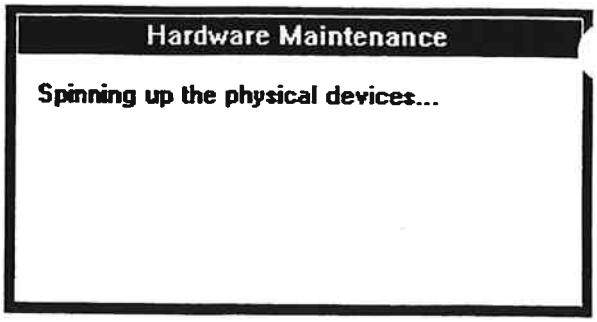
19.

"Restoring the DKA..." is displayed.



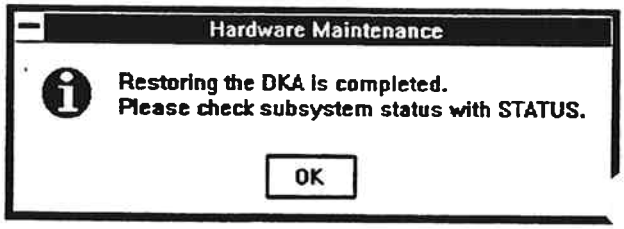
20.

"Spinning up the physical devices..." is displayed.



21.

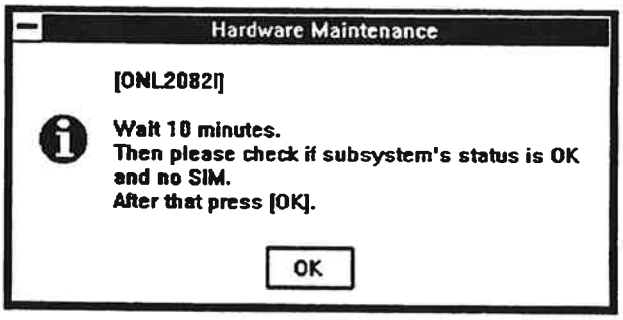
"Restoring the DKA is completed. Please check subsystem status with STATUS." is displayed.
Select [OK] (CL).



21-1.

If you select [Yes] in step 18.
"Wait 10 minutes.
Then please check if subsystem's status is OK and no SIM. After that press [OK]." is displayed.

After this message was displayed, please wait for 10 minutes.
Then please check the subsystem status with STATUS, and SIM with INFORMATION.
After checking, please select [OK] (CL).



22. <Connect (disconnect) Corresponding SCSI cables on other cluster>

Perform steps 8 to 21-1 on the corresponding path. After completing all SCSI cable connection (disconnection) steps, close 'MainPlatter Maintenance'.
The screen returns to 'Hardware Maintenance'.

23. <Check that no other parts are affected by this procedure>

Make sure that all status values on [Hardware Maintenance] are [NORMAL]. If there is any error, correct the error. Be sure and renew status first.

See page TRBL03-020.

If there is no influence imposed on the other parts, go to the pages listed in the table below.

Hardware	Flowchart Page
Installation	INST02-57 step ⑦
De-installation	INST02-59 step ⑥

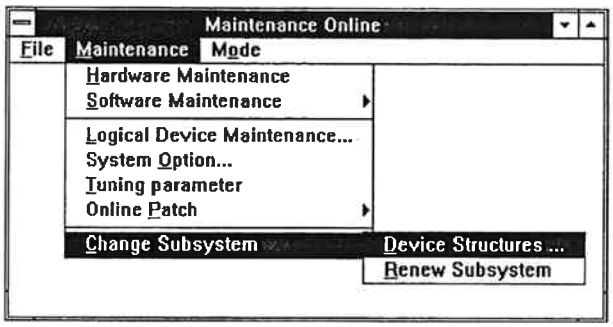
3.5.3.2 Setting up the New Device Structure Information

1. <Start [Maintenance Online]>
   Perform SCSI cable connection (disconnection)
   steps 1 to 4 explained in 3.5.3.1 (see page INST05-110).

   This step is not required if the screen is already shown.

   If you want to install or de-install DK309-180 (DKU-F305I-1804/1801), go to INST08-280.

2. <Start device structure setup screen>
   Select [Change Subsystem] from [Maintenance] on 'Maintenance Online', then select [Device Structure...] (DR).
   When the indicator shown in the "Reading the subsystem configuration data..." message reaches 100%,
   'Device Structure Setup' is opened.



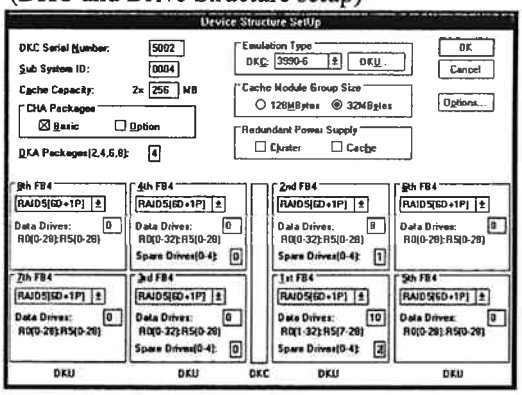
3. <Update device structure information>
   Fill the input items from 'Device Structure Setup' according to the configuration information worksheet.

   Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

   In case the RAID level is RAID 5, SVP displays the screen for RAID 5.

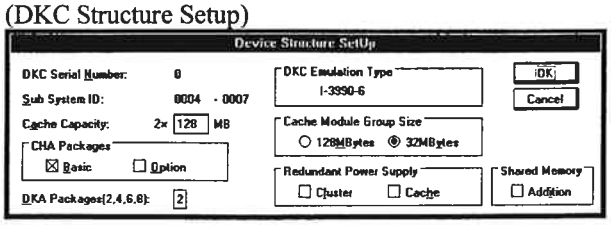
   In maintenance on-line, you can not change RAID level.
   After making sure that all input items are correct, select [OK] (CL).
   Go to step 4 (INST05-181).
   The next message is opened.

(DKC and Drive Structure setup)



* When the DKC Structure Setup screen is displayed, go to step 9 (INST05-191).

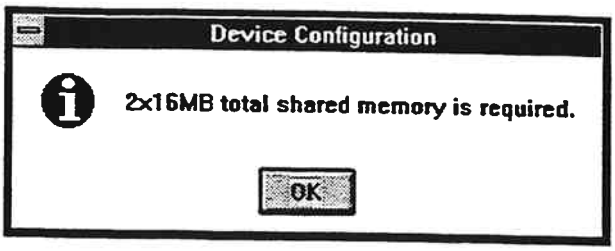
(DKC Structure Setup)



4.

"2×xxxMB total shared memory is required" is displayed.

Select [OK], and 'Channel Configuration' is opened.



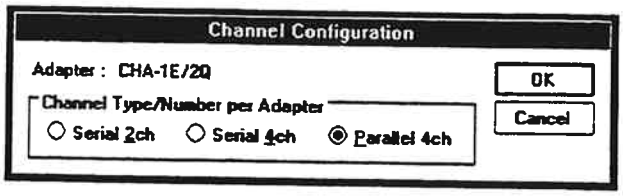
5.

Blank

6.

Fill the input items from 'Channel Configuration' according to the configuration information worksheet.
Repeat the process for each installed CHA

Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.



After making sure that all input items are correct, select [OK] (CL).

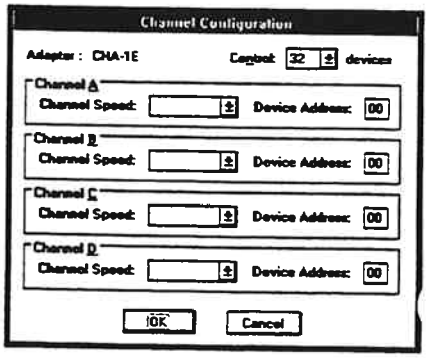
If you select [Parallel 4ch] the following screen 'Channel Configuration' is displayed.
For other selections go to Step 8.

7.

Fill in the input items from 'Channel Configuration' according to the configuration information worksheet.

Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

After making sure that all input items are correct, select [OK] (CL).

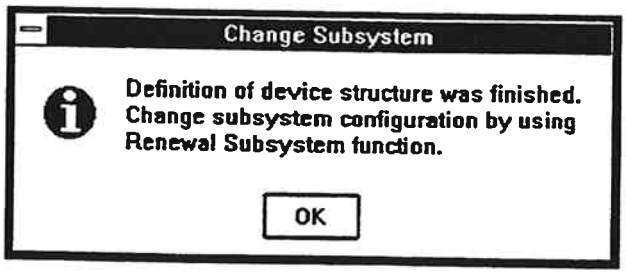


8.

Select [OK] (CL) in response to "Definition of device structure was finished. Change subsystem configuration by using Renewal Subsystem function.".

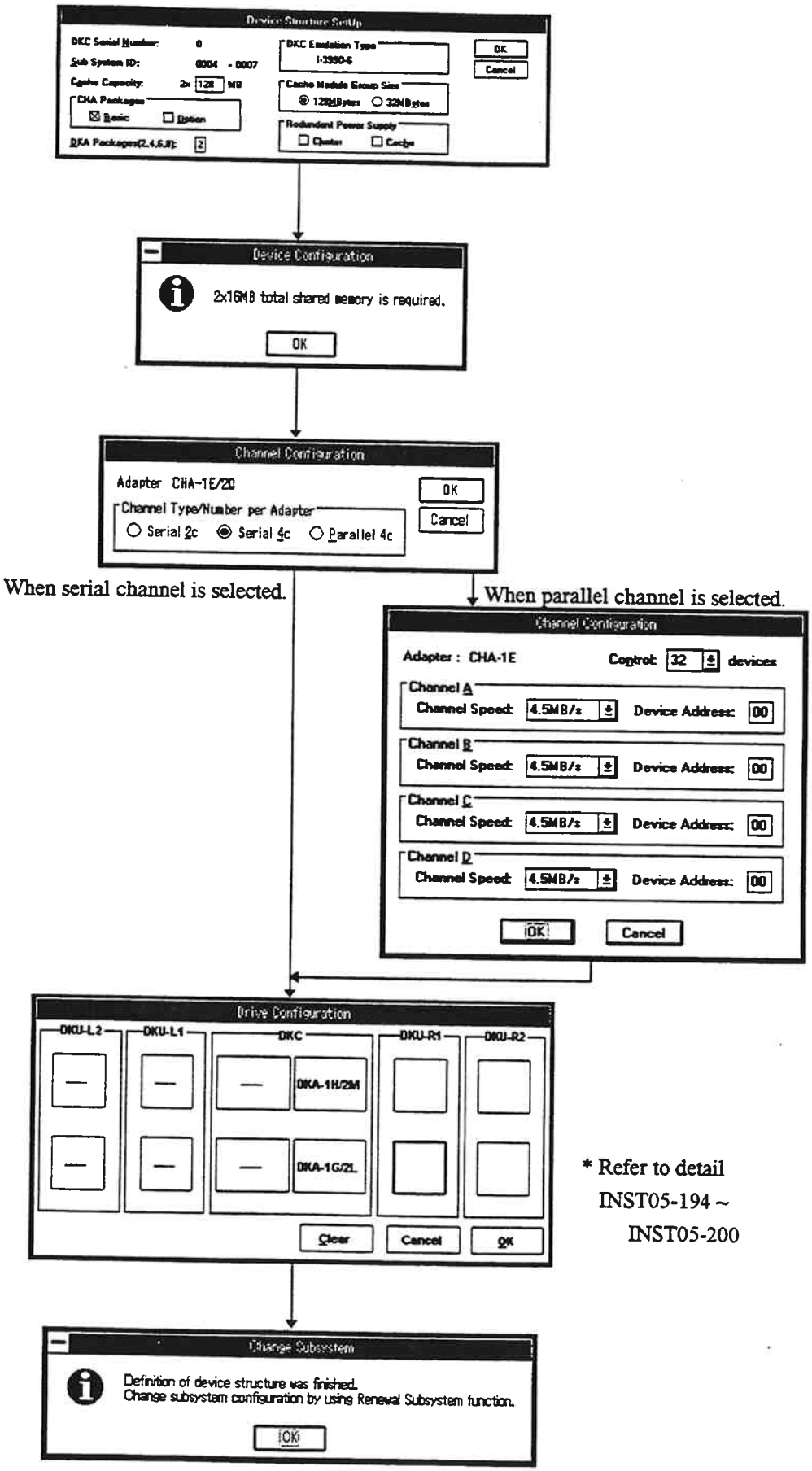
The screen returns to 'Maintenance Online'.

Go to step 16 (INST05-201).



9. <Installation configuration> Before SVP version is 01-04-xx/00

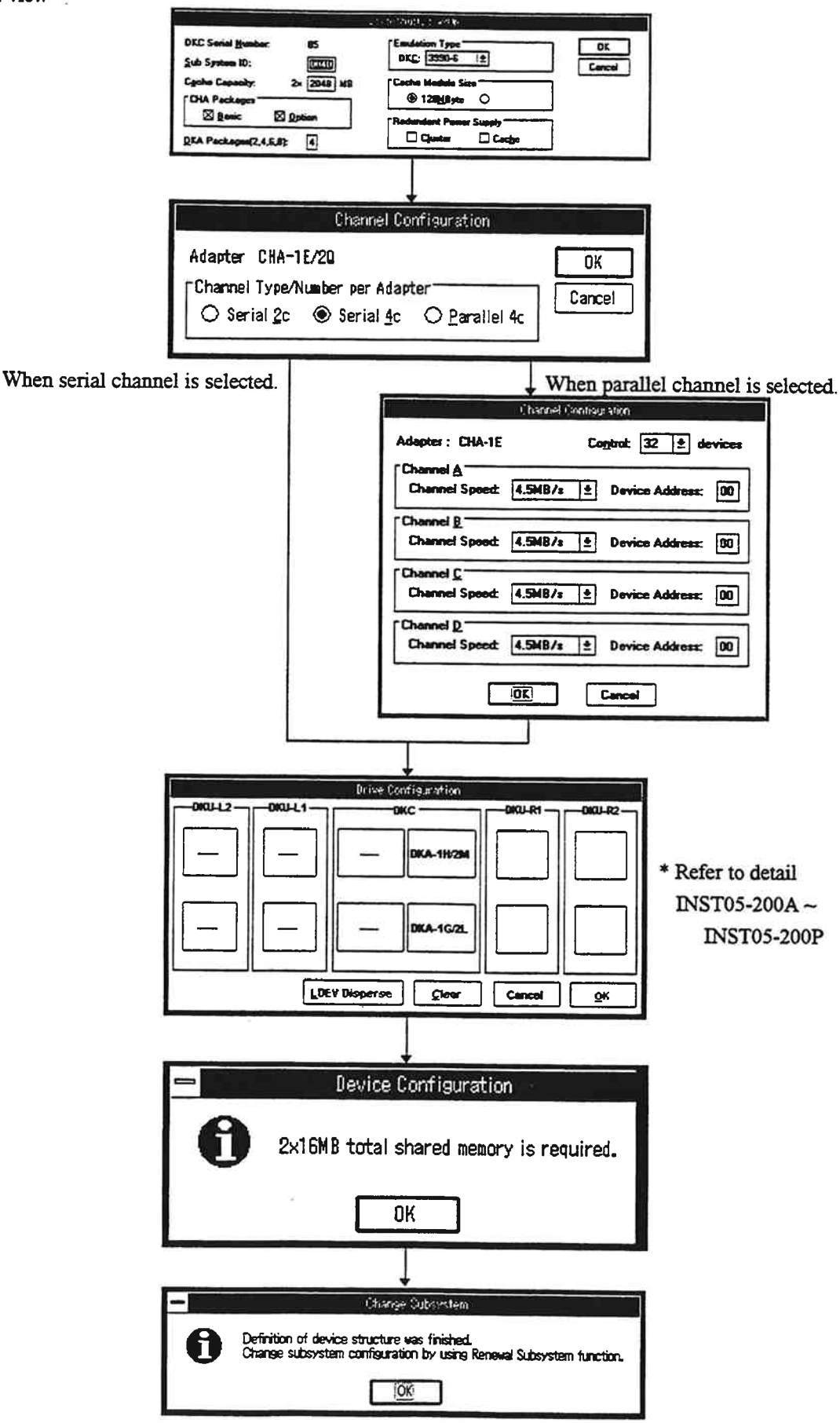
(1-1) Over view



* Refer to detail
INST05-194 ~
INST05-200

<Installation configuration> After SVP version is 01-05-xx/00

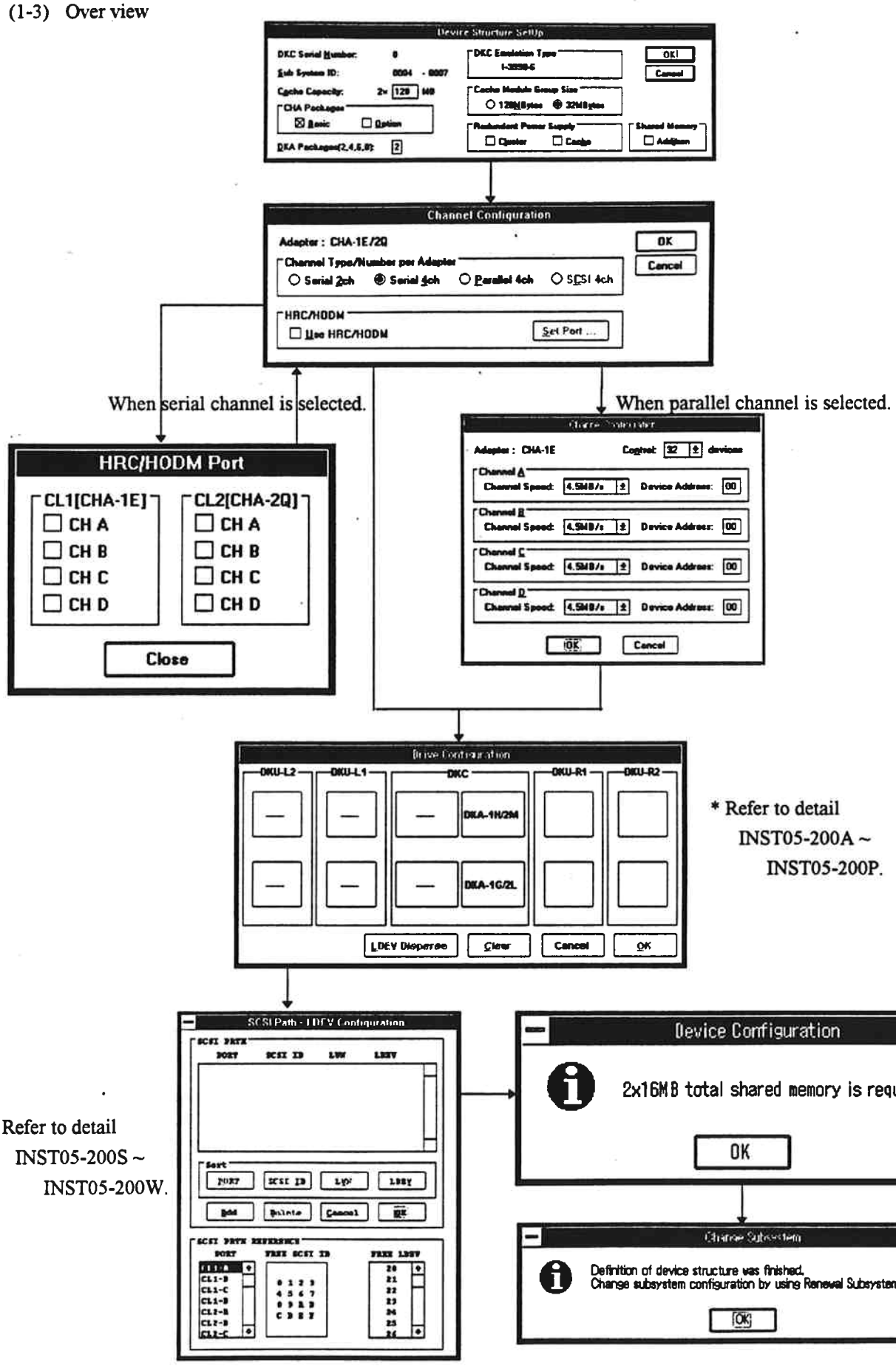
(1-2) Over view



* Refer to detail
INST05-200A ~
INST05-200P

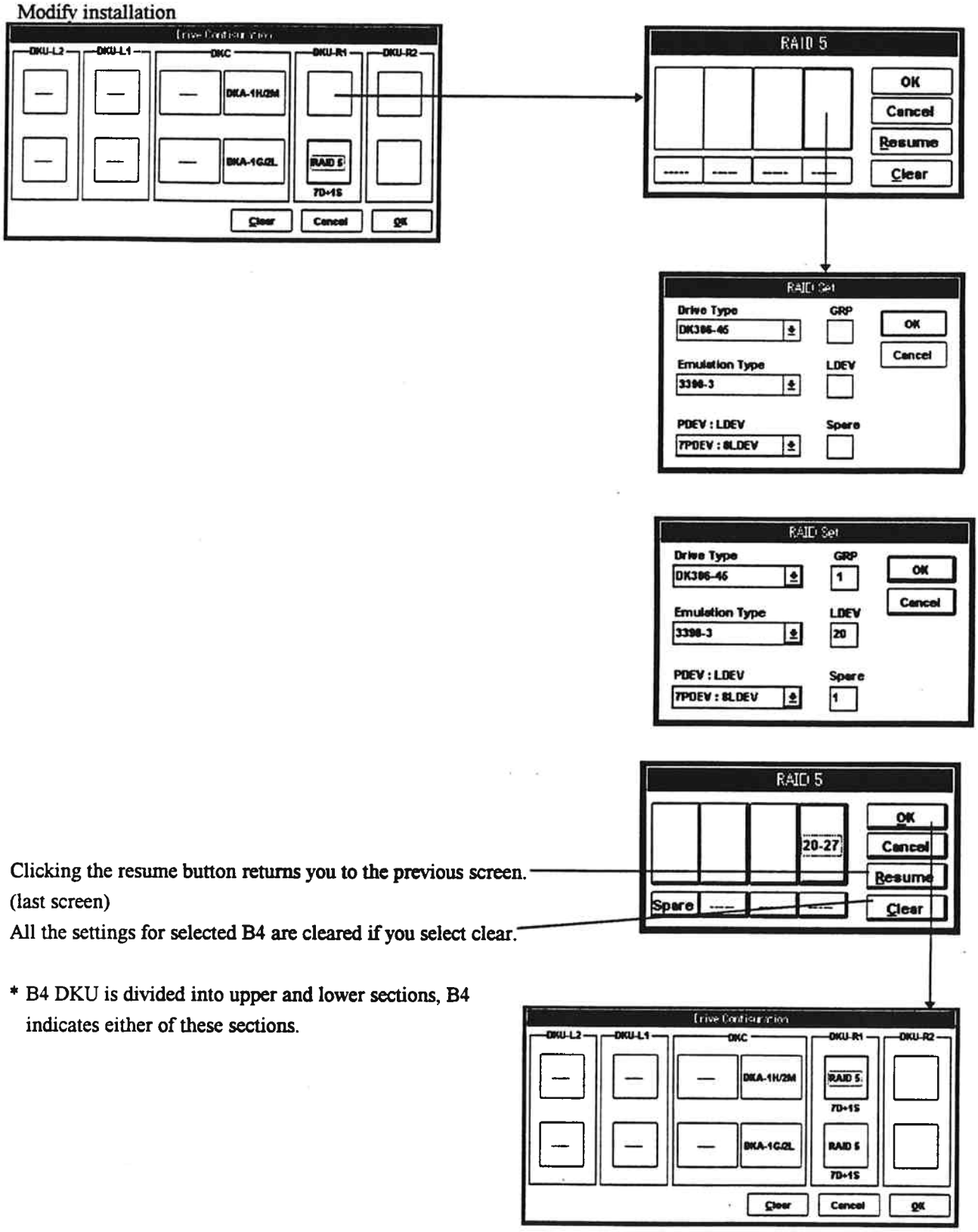
<Installation configuration> After SVP version is 01-06-xx/00

(1-3) Over view



(2) Installation of device structure information

Modify installation



Clicking the resume button returns you to the previous screen. (last screen)

All the settings for selected B4 are cleared if you select clear.

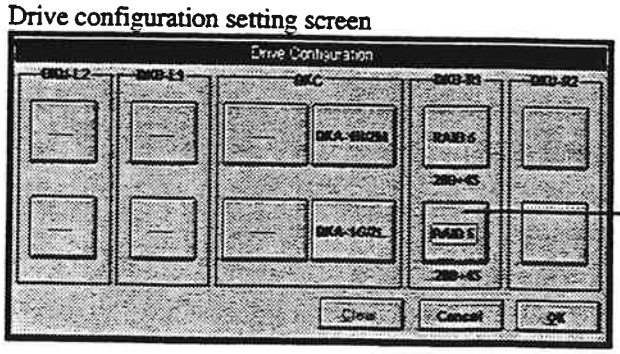
* B4 DKU is divided into upper and lower sections, B4 indicates either of these sections.

Notice:

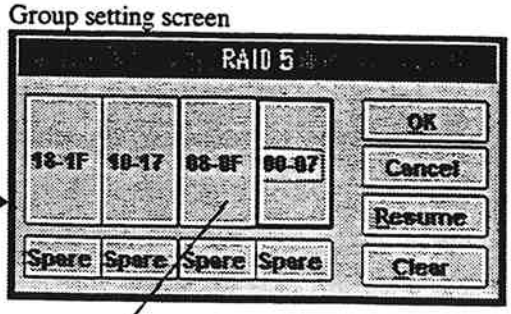
- When you press any group button using "RAID Set" display, setup will begin from first available blank group.
- Once you setup, change can not be made. To change setup, please use clear.
- When you press any spare button using "RAID Set" display, setup will begin from first available spare drive. (when spare button is pressed during RAID5, only spare drive setup will be made at "RAID Set" display.)

(3) Drive configuration for drive deinstallation (Drive elimination)

Drive configuration setting screen



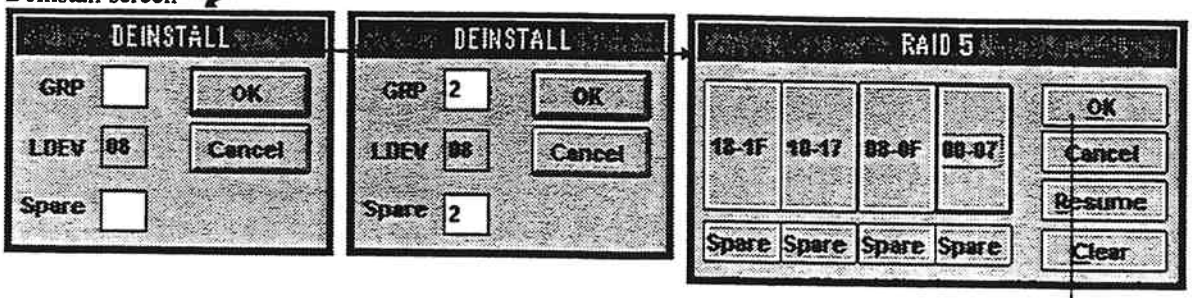
Group setting screen



Clicking the deinstall B4 button displays the "Group Setting" screen.

Cliking the deinstall group button displays the "Deinstall" screen.

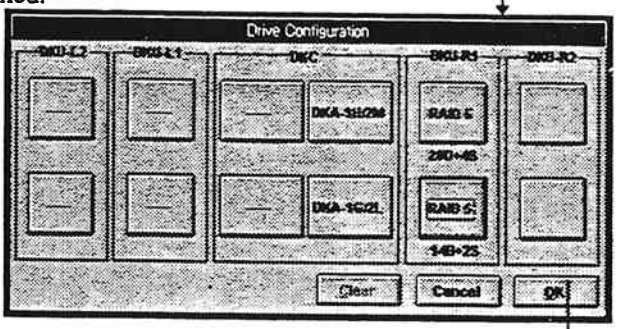
Deinstall screen



ex)

Grp : Set the number of consecutive groups(2groups) to be deinstalled.

Spare : Set the number of spares(2spares) to be deinstalled.



Displays the post-deinstall drive configuration.

Complete of deinstall drive configuration.

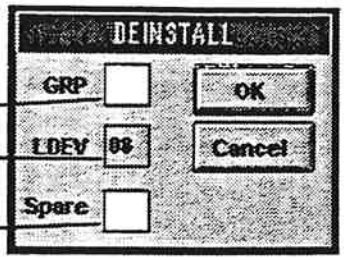
Explanation of screen :

Set the number of consecutive group to be deinstalled.

The first LDEV number assigned to the selected group is displayed.

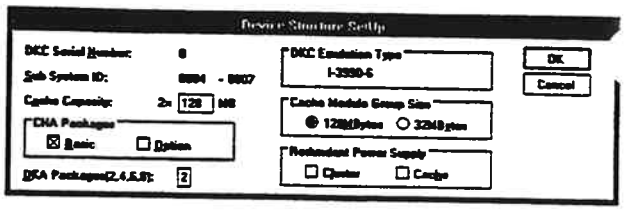
(you can not enter an LDEV number)

Set the number of spares to be deinstalled.



10. <Update device structure information>

Fill the input items from 'Device Structure Setup' according to the configuration information worksheet.



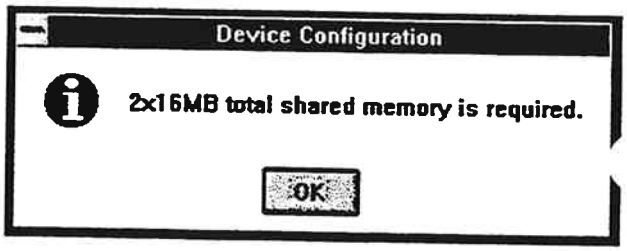
Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.
After making sure that all input items are correct, select [OK] (CL).

The next message is opened.

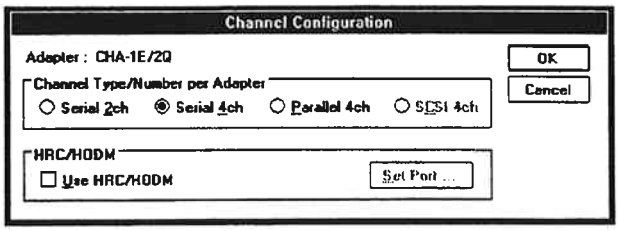
11.

"2×xxxMB total shared memory is required" is displayed.

Select [OK], and 'Channel Configuration' is opened.



12.



Fill the input items from 'Channel Configuration' according tc the configuration information worksheet.
Repeat the process for each installed CHA.

Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

After making sure that all input items are correct, select [OK] (CL).

If you select [Serial 2ch] or [Serial 4ch] from this screen, [Use HRC & HODM] check button changes to enable.

If you want to establish this DKC as MCU, select (CL) [Use HRC & HODM] and select (CL) [HRC & HODM] button and go to step 12-1.

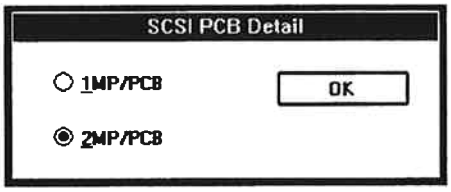
If you select [Parallel 4ch] the following screen 'Channel Configuration' is displayed.

If you select [SCSI 4ch], go to step 12-0.

For other selections go to Step 14.

12-0. <Set 1MP/2MP>

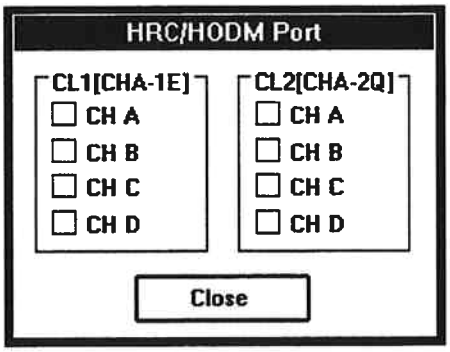
Select (CL) the number of MP and select (CL) [OK].



12-1. <Set RCP Port>

Check (CL) the port that you want to establsh RCP port and select (CL) [Close].

The screen returns to step 12.

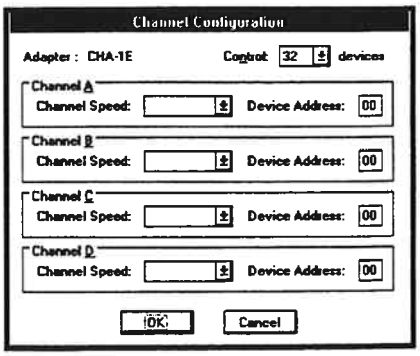


13.

Fill in the input items from 'Channel Configuration' according to the configuration information worksheet.

Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

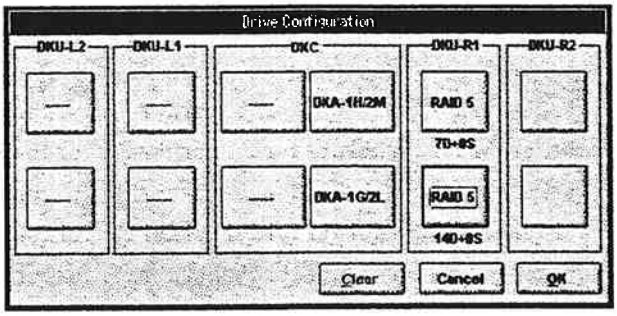
After making sure that all input items are correct, select [OK] (CL).



14. <Drive Configuration Definition for RAID5 Addition/Elimination>

The "Drive Configuration" screen appears.

The B4 status of DKU-L1 and DKU-L2 is shown on the left side of the screen. The B4 status of DKU-R1 and DKU-R2 is shown on the right side.



The current status is shown on the buttons as follows.

- ..... : Installation disabled
- Blank : Uninstalled
- RAID level : Installed
- Flashing : Added/eliminated

The drive configuration is shown in the format "Data drive count + Spare drive count" under the buttons.

The DKA status is shown in the middle of the screen as follows.

- .... : Uninstalled
- DKA name : Installed

* DKU is divided into upper and lower sections. B4 indicates either of these sections.
* You cannot perform any operation other than drive configuration definition, from the time you establish the increase/decrease mode until you finish this definition by clicking the OK/Cancel button.

To add or eliminate a drive, click the B4 button for the drive.

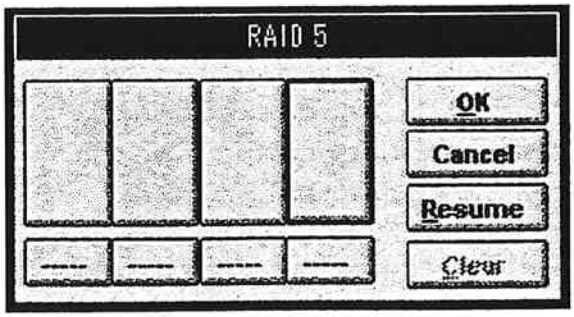
If this message is appeared, reading data is broken.
Please call Technical Support Center.

(1) Group setting

The "RAID5" screen appears if you select the RAID TYPE button in the "RAID TYPE" screen or if you select the B4 button for which the RAID level is set (or for which another B4 is set in the same DKA) in the "Drive Configuration" screen.

The group status is shown on the vertically displayed buttons in the "RAID5" screen as follows.

Blank : Uninstalled
LDEV number : Installed
Flashing : Added/eliminated



The spare drive status is shown on the horizontally displayed button as follows.

"...." : Uninstalled
"Spare" : Installed
Flashing : Added/eliminated

- Clicking the group button or spare button for uninstalled status displays the "RAID Set" screen.

* If you do this during the decrease mode, the message on the right appears indicating that addition is impossible.

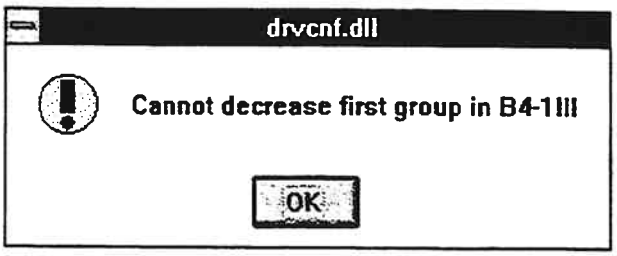
• Clicking the group button or spare button for uninstalled status displays the "DEINSTALL" screen (the spare button is only selectable for DKU-R1 B4 or DKU-L1 B4).

* If you do this during the increase mode, the message on the right appears indicating that addition is impossible.

• Clicking the Cancel button cancels the settings, clears the "RAID5" screen, and redisplays the "Drive Configuration" screen.

• Clicking the Resume button returns you to the previous screen (last screen).

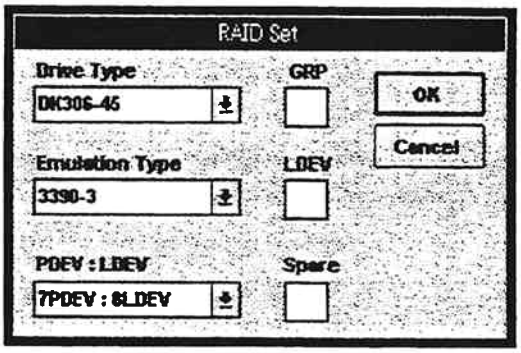
* If you try to eliminate group 1 in B4-1, the message on the right appears indicating that group 1 cannot be eliminated.



(2) Drive configuration setting

Select the group button or spare button for uninstalled status in the "RAID5" screen to display the "RAID Set" screen.

In the "RAID Set" screen, select and set the following.



• PDEV : LDEV

Select a PDEV count and its associated LDEV count.

• Emulation Type

Select an emulation type.

• Drive Type

Select a drive type.

• GRP

Set the number of consecutive groups to be installed.

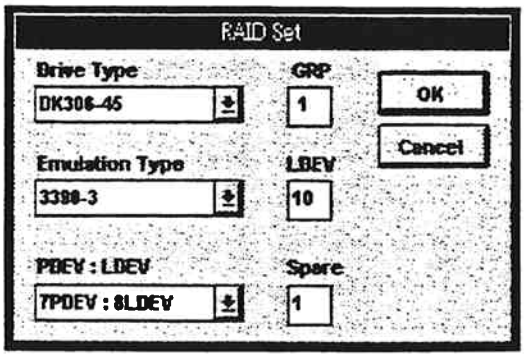
• LDEV

Set the first LDEV number to be assigned to the selected group.

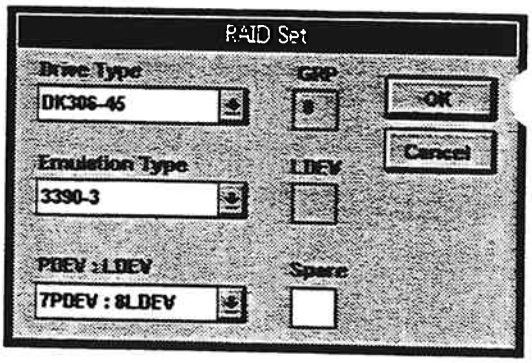
• Spare

Set the number of spares to be assigned to selected B4.

Then, click the OK button to confirm the settings. Or else, click the Cancel button to cancel the settings.
Clicking the OK or Cancel button clears the "RAID Set" screen and redisplays the "RAID5" screen.



* Some items might not be set or selected depending on the selected B4 position, group button, or spare button.
(Arrows for items which cannot be selected are shaded.
Fields for items which cannot be set are displayed in gray.)



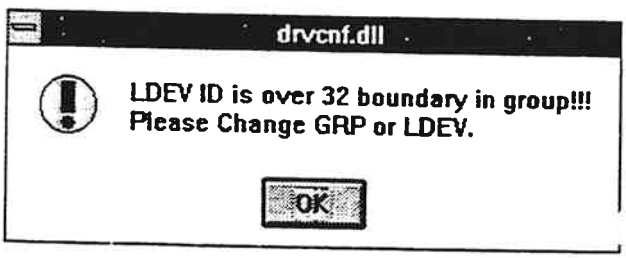
If you click the OK button without entering a value for an item which you should set, the message on the right appears.
This message asks you to enter a value.

If you enter an invalid value for an item which you should set, the message on the right appears. This message asks you to enter the correct value.

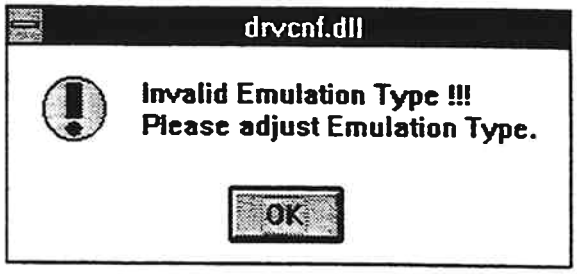
If you enter an invalid character for an item which you should set, the message on the right appears. This message asks you to enter the correct character.

If LDEV number beginning with the one you entered are already assigned to another group, the message on the right appears.
This message asks you to enter the correct value.

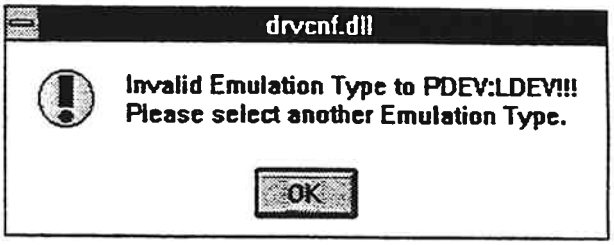
If the assigned LDEV ID exceeds 32 boundaries(0x00 through 0x1F, 0x20 through 0x3F, ...)in one group, the message on the right appears.
This message asks you to enter the correct value.



If a match is not found with the specified emulation type within 32 boundaries (0x00 through 0x1F, 0x20 through 0x3F, ...) for LDEV ID or within B4 for the same DKA, the message on the right appears. This message asks you to set the correct value.

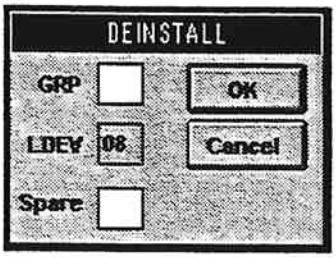


When the emulation type is 3390-3, PDEV : LDEV must be 7PDEV : 8LDEV. If another PDEV:LDEV is selected, the message on the right appears. This message asks you to set the correct value.



(3) Deinstall screen

If you select the group button or spare button for installed status, the "DEINSTALL" screen appears.
In the "DEINSTALL" screen, set the following items.



- GRP

  Set the number of consecutive groups to be deinstalled.

- LDEV

  The first LDEV number assigned to the selected group is displayed.
  (You cannot enter an LDEV number.)

- Spare

  Set the number of spares to be deinstalled.

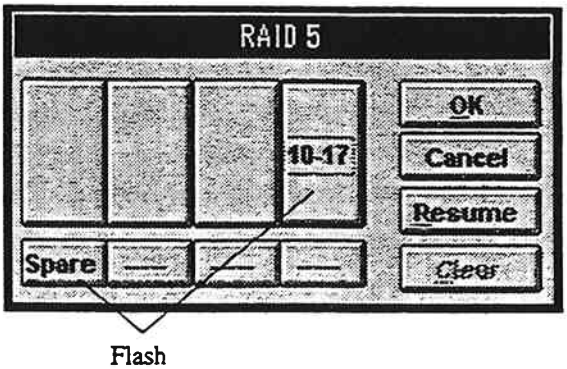
Then, click the OK button to confirm the settings. Or else, click the Cancel button to cancel the settings.
Clicking the OK or Cancel button clears the "DEINSTALL" screen and redisplays the "RAID5" screen.

* Some items might not be set depending on the selected B4 position, group button, or spare button.(Fields for items which cannot be set are displayed in gray.)

The error message which might appear when you enter a value is the same as that for the "RAID Set" screen.

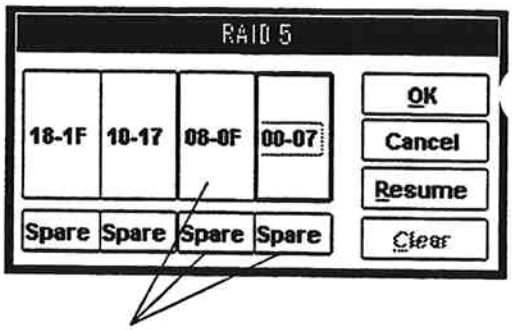
(4) Post-setting screen

If you click the OK button in the "RAID Set" screen, the assigned LDEV number on the group button for an installed group flashes in the "RAID5" screen. If you set the number of spares, "Spare" on the same number of spare buttons for installed spares flashes. The LDEV numbers are added to the first and subsequent blank group buttons regardless of which blank group button was clicked. The LDEV numbers are added from right to left in the "RAID5" screen.



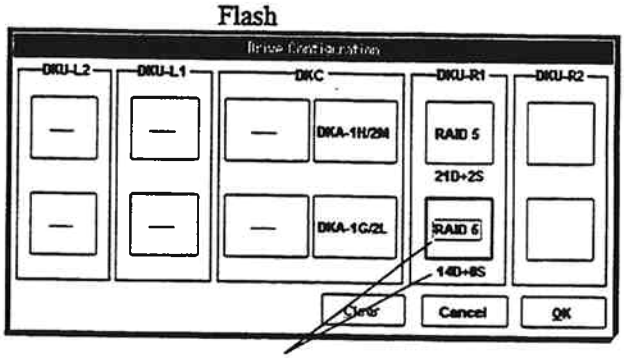
Flash

If you click the OK button in the "DEINSTALL" screen, the display on the group button for a deinstalled group flashes in the "RAID5" screen. If you set the number of spares, "Spare" on the same number of spare buttons for deinstalled spares flashes. Spares are deinstalled starting with the last one. Spares are deinstalled from right to left in the "RAID5" screen.



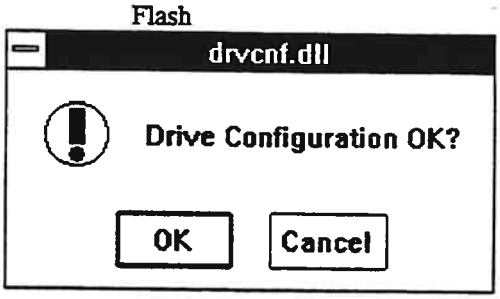
Flash

If you click the OK button in the "RAID5" screen, the RAID type on the B4 button for added/eliminated B4 flashes in the "Drive Configuration" screen. The drive configuration under that button also flashes. After making setting for all the necessary B4s, click the OK button to confirm the settings.



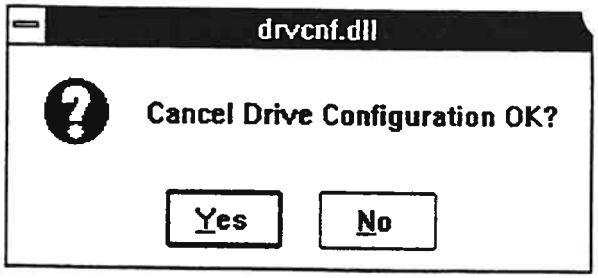
Flash

Select the OK button in the "Drive Configuration" screen. The message on the right appears. Select the OK button to perform the next step.
Or else, select the Cancel button to redefine the configuration.
If you select the OK button, go to step 15.



If you select the OK button to confirm the settings when group 1 for B4-1 is not defined, the message on the right appears. The "Drive Configuration" screen reappears.

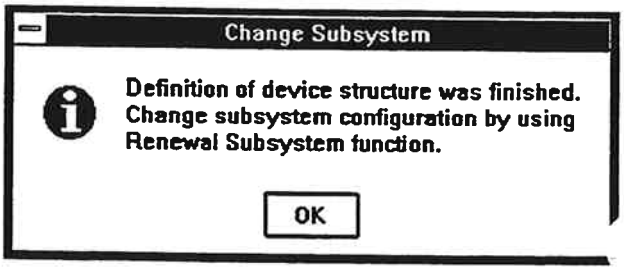
If you select the Cancel button in the "Drive Configuration" screen, the message on the right appears. Select Yes to cancel the drive configuration settings. Or else, select No to redefine the drive configuration.



15.

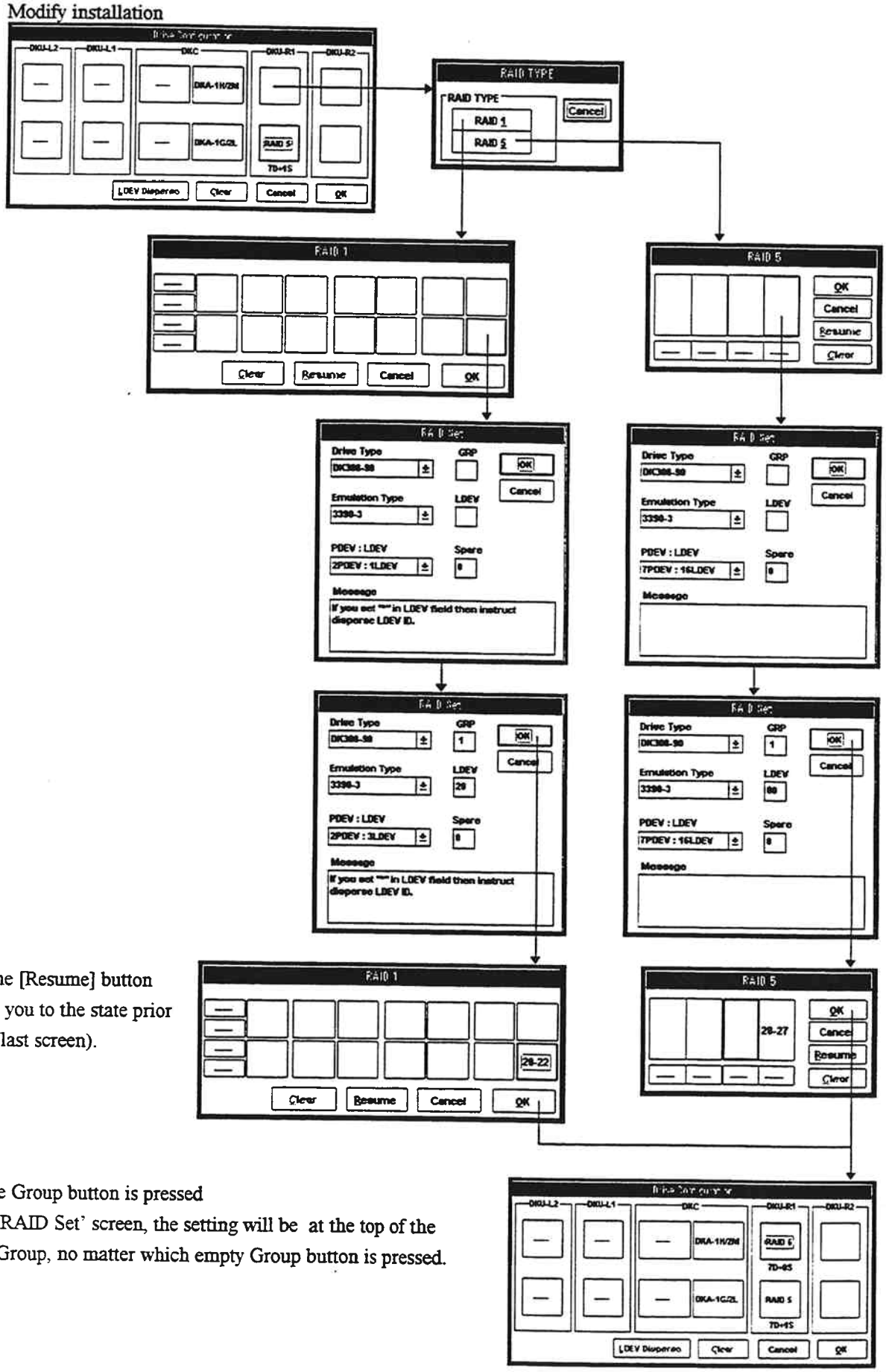
Select [OK] (CL) in response to "Definition of device structure was finished. Change subsystem configuration by using Renewal Subsystem function.".

The screen returns to 'Maintenance Online'.
Go to INST05-201 step 16.



15-1. (1) Drive structure install configuration setting (Group)

Modify installation



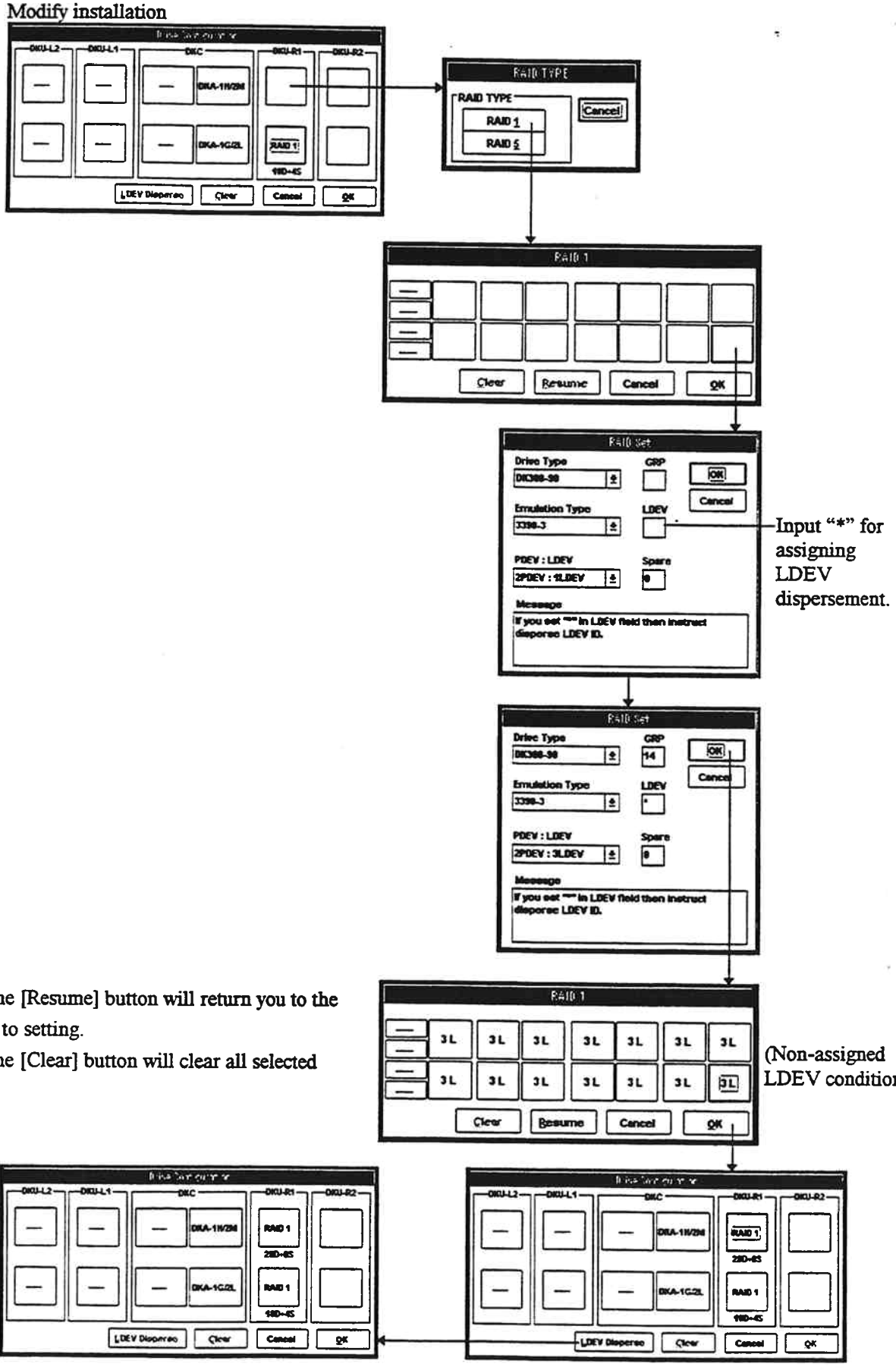
Pressing the [Resume] button will return you to the state prior to setting (last screen).

* When the Group button is pressed

- In the 'RAID Set' screen, the setting will be at the top of the empty Group, no matter which empty Group button is pressed.

(2) Drive structure install configuration setting (Group : LDEV dispersement setting)

Modify installation

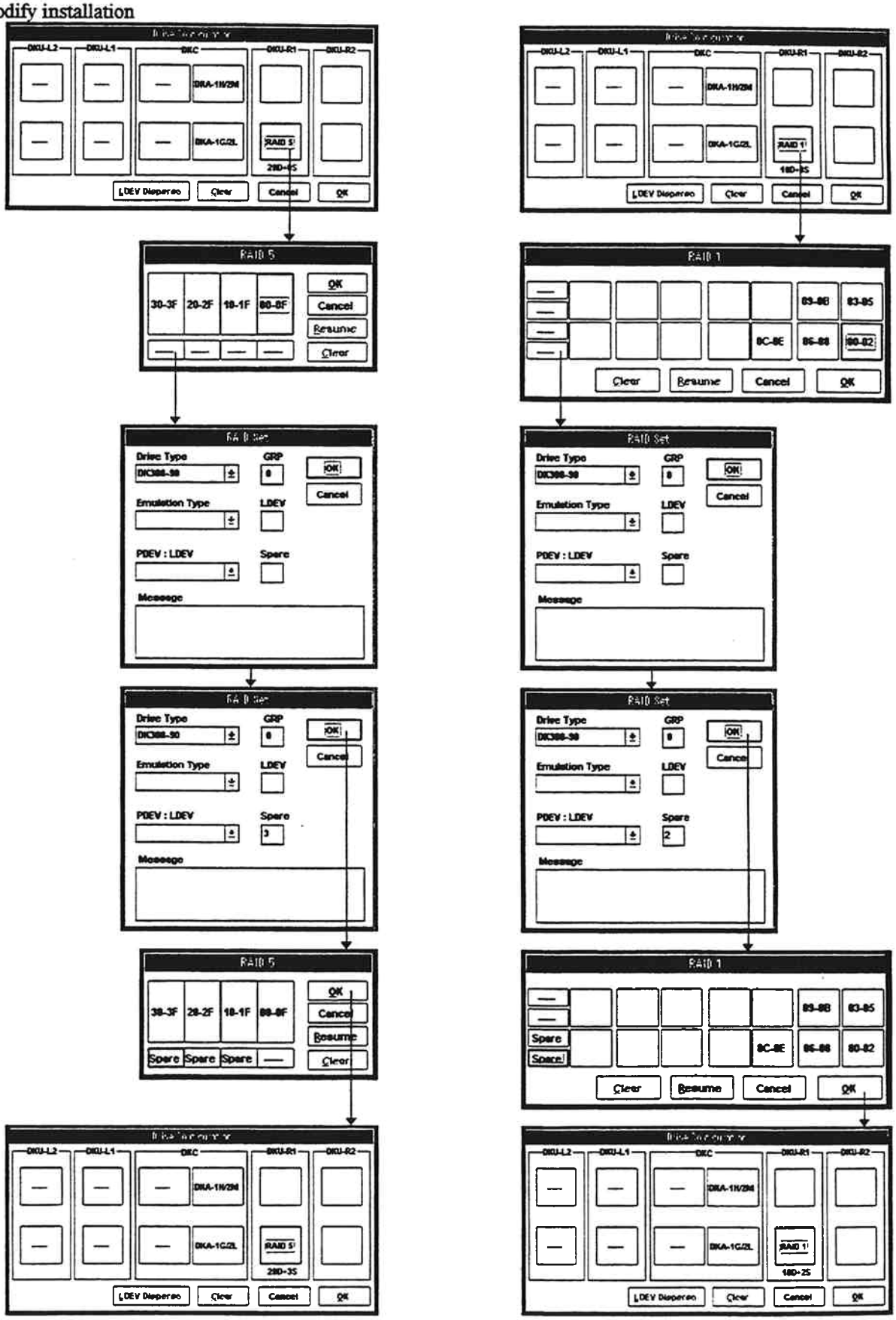


Pressing the [Resume] button will return you to the state prior to setting.

Pressing the [Clear] button will clear all selected settings.

(3) Drive structure install configuration setting (Spare)

Modify installation

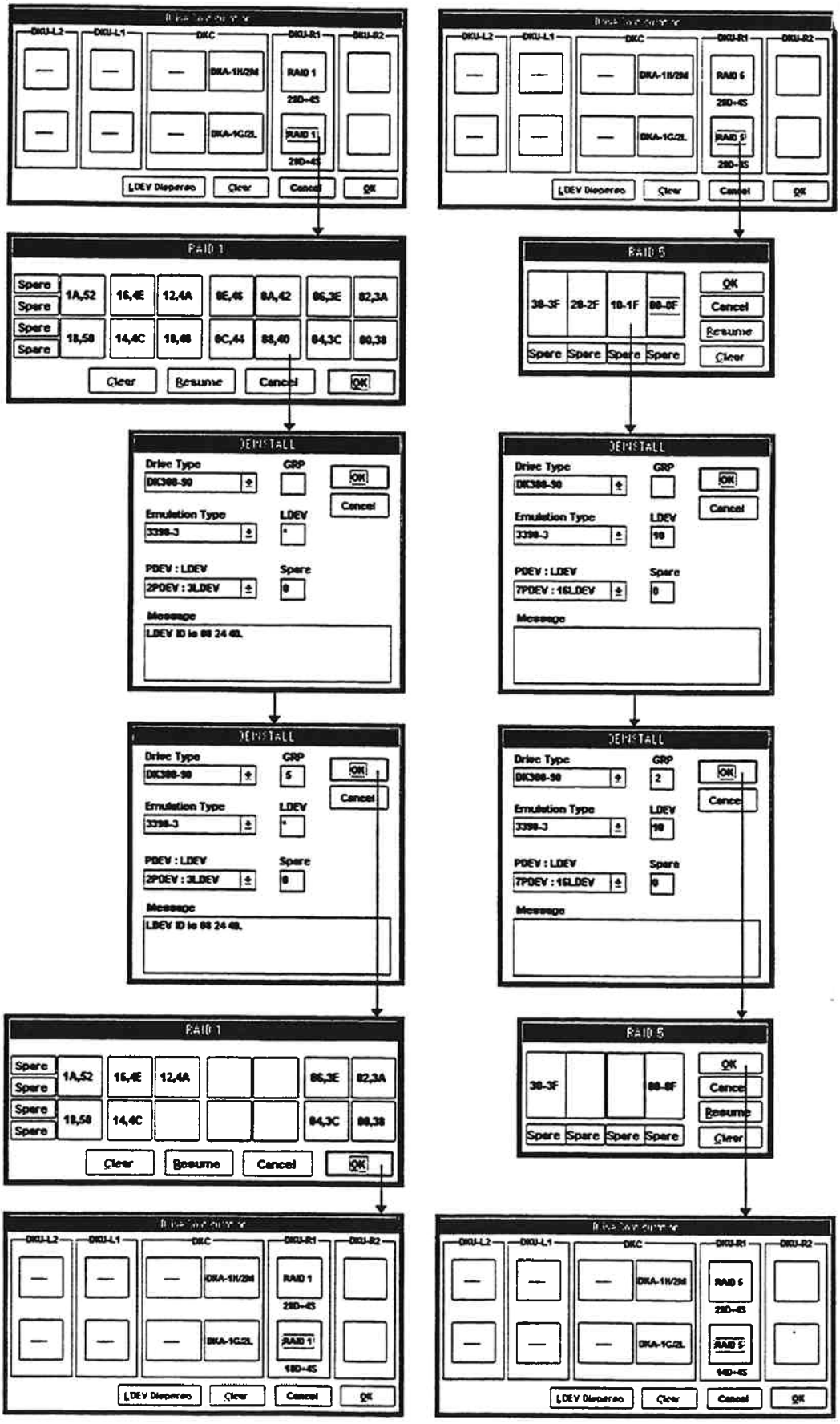


* When the Spare button is pressed

- In the 'RAID Set' screen, the setting will be at the top of the empty Spare, no matter which empty Spare button is pressed.

(4) Drive structure deinstall configuration setting (Group)

Modify installation



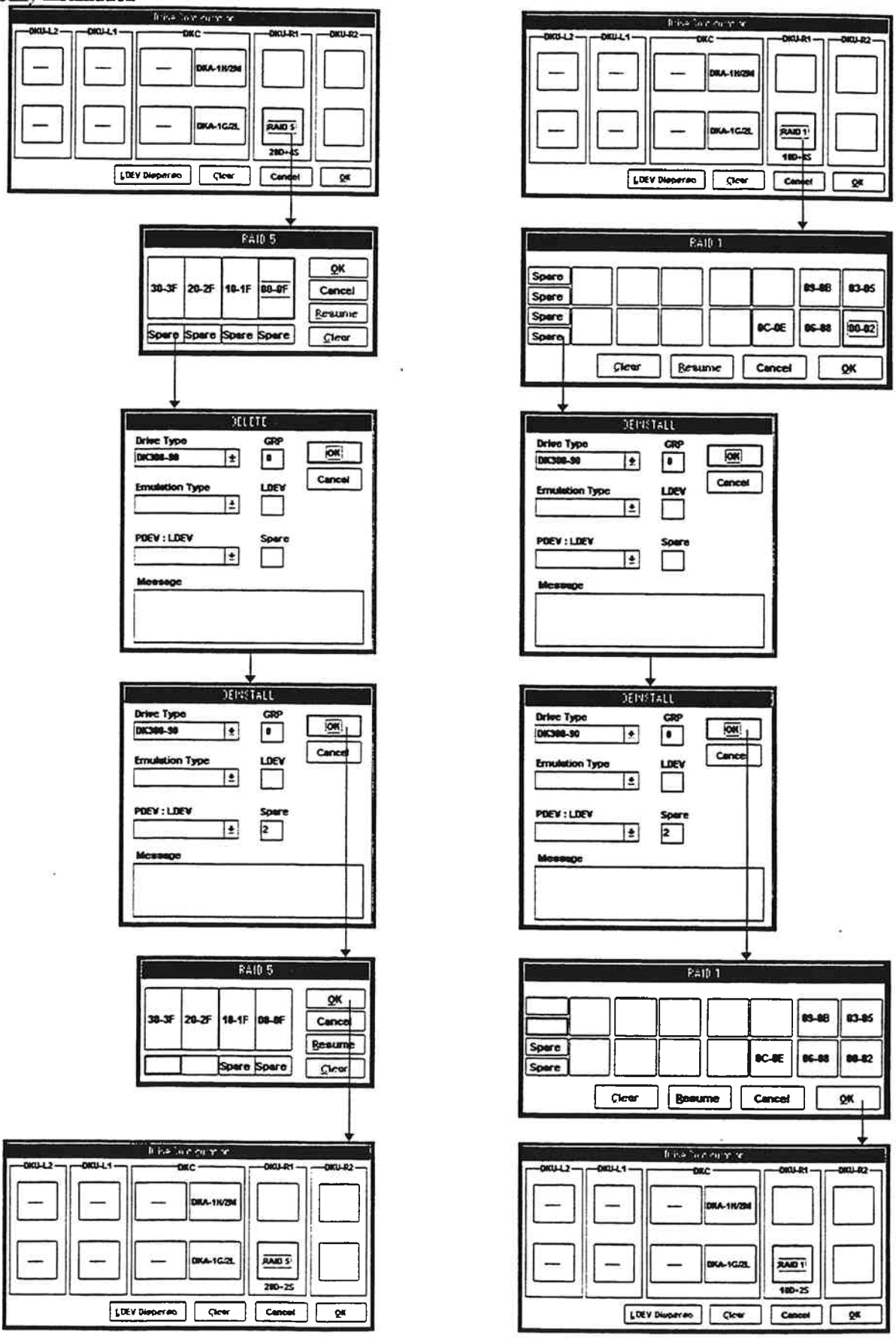
Pressing the [Resume] button will return you to the state prior to setting.

* When pressing the Group button

- Deletion will take place from the rear of the selected spare.

(5) Drive structure deinstall configuration setting (Spare)

Modify installation

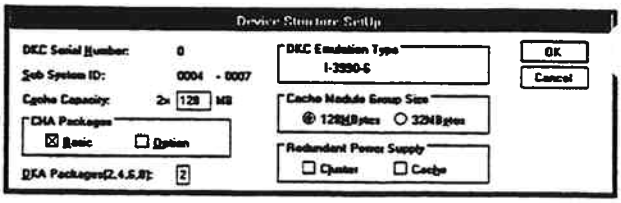


* When pressing the Spare button

- Deletion will take place from the rear of the selected spare.

15-2. <Update device structure information>

Fill the input items from 'Device Structure Setup' according to the configuration information worksheet.

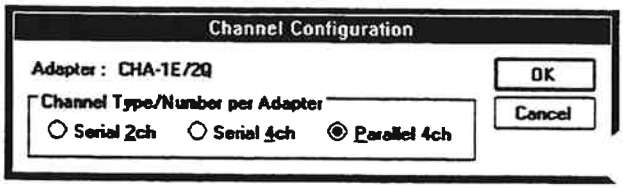


Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.
After making sure that all input items are correct, select [OK] (CL).

The next message is opened.

15-3.

Fill the input items from 'Channel Configuration' according to the configuration information worksheet.
Repeat the process for each installed CHA.



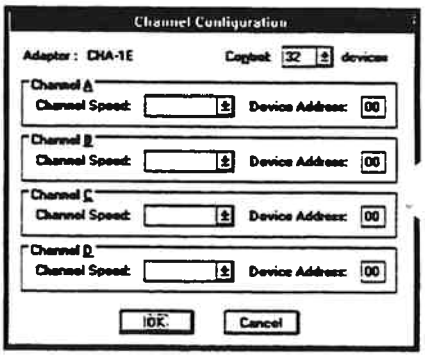
Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

After making sure that all input items are correct, select [OK] (CL).

If you select [Parallel 4ch] the following screen 'Channel Configuration' is displayed.
For other selections go to Step 15-6.

15-4.

Fill in the input items from 'Channel Configuration' according to the configuration information worksheet.

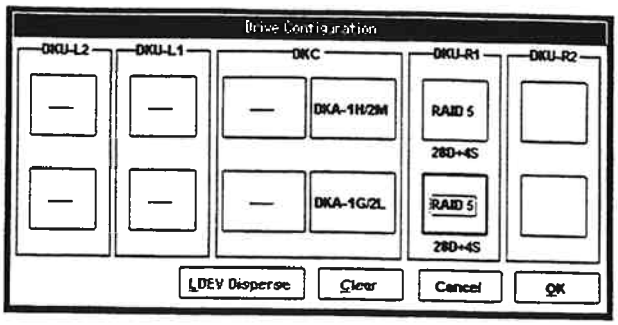


Note: Selecting an incorrect input item in this step may block a part that is not subject to non-disruptive installation or de-installation.

After making sure that all input items are correct, select [OK] (CL).

15-5. Drive configuration definition for adjustments

The 'Drive Configuration' screen will be displayed. Condition of DKU-L1, L2 of B4 will be displayed on the left side of the screen, and the condition of DKU-R1, R2 of B4 will be displayed on the right.



- "....." : Cannot Set
- No display : No setting
- RAID level : Set complete
- Flashing display : Structure adjustment complete

Below the button will display the Drive configuration. The Drive configuration displays the number of data drives + the number of spare drives.

The center of the screen will display the installation of the DKA.

- "....." : Uninstalled
- DKA title : Installed

* B4 represent half of the divided upper and lower DKU.

* No other functions can be performed until Drive configuration definition is complete by pressing [OK] or [Cancel] for the Drive configuration definition is set on the adjustment mode, selected at the beginning of the Startup screen.

Press the B4 button to set the Drive configuration. Information for the following screen, when the B4 button is pressed, is set forth below.

○ : setting is completed, × : not set

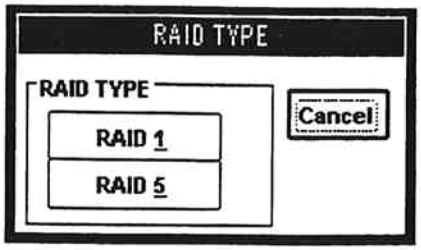
B4 setting selected	B4 setting of identical DKA	Following screen
×	×	RAID Type select screen
○	×	RAID Type Group screen set at selected B4
×	○	RAID Type Group screen set at B4 of identical DKA
○	○	RAID Type Group screen set at selected B4

* If a message shown in the right appears, call the Technical Support Center for the data may be invalid.

(1) RAID Type select screen

The function of the RAID Type select screen is to set the RAID level of selected B4.

RAID Type select screen when RAID1, RAID5 are permitted.

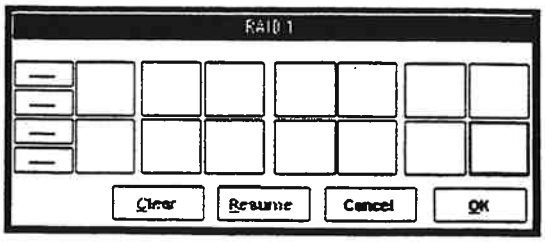


Select the RAID Type button to set in the selected B4. By selecting the RAID Type button (RAID1, RAID5), the RAID Type screen will end and the screen of the selected RAID Type Group setting will appear.

To return to the Drive configuration screen, press Cancel.

(2) Group setting

The group screen (RAID1, RAID5) will appear when the RAID TYPE button is selected in the RAID TYPE screen, as well as when the button (including the case where other B4 is set on the identical DKA) of set RAID level of B4 button in the Drive Configuration screen is selected.

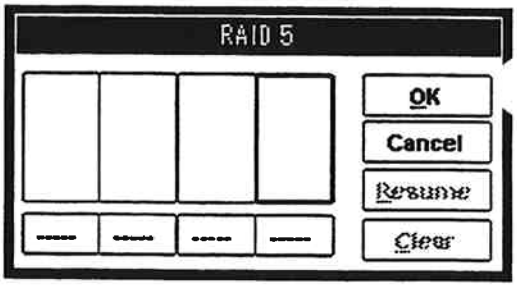


In the 'RAID 1' screen square buttons indicate the group.

No display : No setting
LDEV#-LDEV# : Set complete (continuous assignment)
LDEV#, LDEV# : Set complete (dispersement assigned)
LDEV number L : Set complete (dispersement not assigned)
Flashing display : Structure adjustment complete

The button that is long sideways indicate spare drives.

"----" : No setting
"Spare" : Set complete
Flashing display : Structure adjustment complete



The button that is longer than wide at the center of the screen indicate Group, in the RAID5 screen.

No display : No setting
LDEV# : Set complete
Flashing display : Structure adjustment complete

The button that is long sideways at the bottom of the screen indicate spare drives.

"----" : No setting
"Spare" : Set complete
Flashing display : Structure adjustment complete

- Pressing the Group with no setting, or the Spare button will display the 'RAID Set' screen as the installation mode.

* "Cannot increase" message will appear when attempting this in deinstall mode.

- Pressing the Group with setting, or the Spare button will display the deinstall screen as the deinstall mode (Spare button can be used in B4 or DKU-R1, DKU-L1).

* Cannot decrease" message will appear when attempting this in install mode.

* It is not possible to decrease first Group in B4-1. "Cannot decrease first group in B4-1!!!" message will appear when attempting to deinstall.

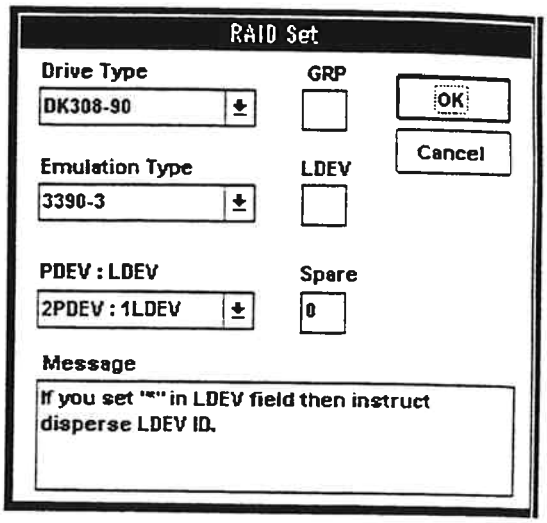
- Return to the Configuration screen by pressing the [Cancel] button, which will cancel setting and end Group screen.
- Return to the previous (one before) setting condition by pressing Resume.

(3) Drive configuration setting

To display 'RAID Set' screen, select Group with no setting in the Group setting screen, or press the Spare button.

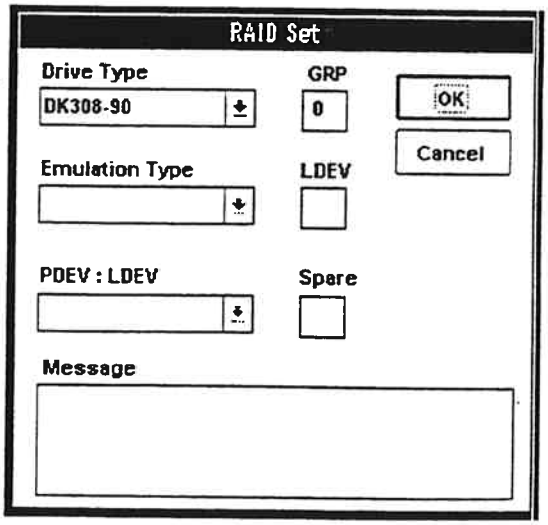
Make the following settings in the 'RAID Set' screen when selecting a Group button with no setting in RAID1, RAID5.

- Drive Type
  Select Drive Type
- Emulation Type
  Select Emulation Type
- PDEV:LDEV
  Select corresponding PDEV number and LDEV number
- GRP
  Select Group number for continuous setting
- LDEV
  Set first number of LDEV number that corresponds to the selection Group, or press "*" to assign dispersement.

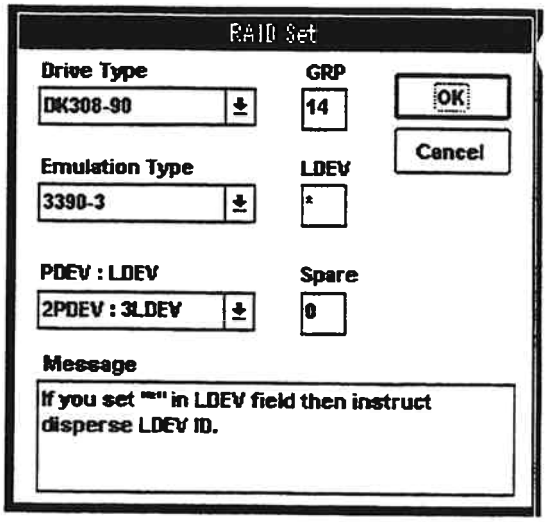


Make the following setting at the 'RAID Set' screen when pressing the Spare button of RAID1, RAID5 with no setting.

- Drive Type
  Select drive type
- Spare
  Select Spare number assigned to the selected B4



Press [OK] after setting each item. Press [Cancel] to cancel setting.
Pressing the [OK] or [Cancel] will end the 'RAID Set' screen and return to the Group setting screen.



Pressing the [OK] button without value in the proper item will display a message shown in the right. Set accordingly.

Input of invalid numbers in the required items will display a message shown in the right. Reset proper value.

Input of invalid characters in the required items will display a message shown in the right. Reset proper value.

Input of first LDEV number assigned to LDEV that overlap with other existing Groups will display message shown in the right. Adjust proper LDEV.

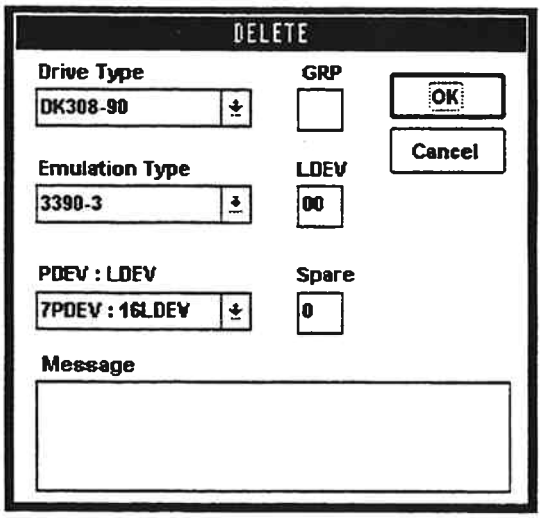
In a case that the selected Emulation Type is not identical within 32 boundary (0x00 - 0x1F, 0x20 - 0x3F, ...) of LDEV ID, and if the identical DKA of B4 is not identical, then the message shown in the right will appear. Adjust accordingly.

(4) Setting deletion screen

To display 'DEINSTALL' screen, select a Group that has been set in the Group Setting screen, or press the Spare button.

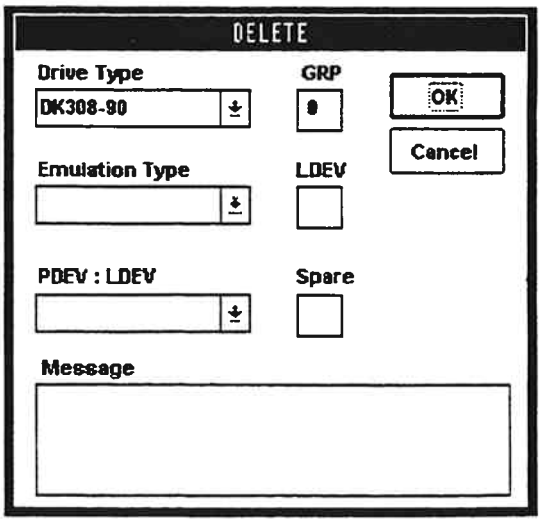
Make the following setting when selecting Group button in the 'DEINSTALL' screen.

- GRP
  Set Group number for continuous deletion.
- Drive Type
  Displays Drive Type of selected Group (unselectable)
- Emulation Type
  Displays Emulation Type of selected Group (unselectable)
- PDEV:LDEV
  Displays the corresponding PDEV and LDEV number of selected Group (unselectable)
- LDEV
  Displays the first LDEV number assigned to the selected group or "*" in the case of dispersement assigned Group (cannot input)



Make the following setting when pressing the Spare button in the 'DEINSTALL' screen.

- Spare
  Set Spare number for deletion
- Drive Type
  Displays Drive Type of the selected Spare (unselectable)



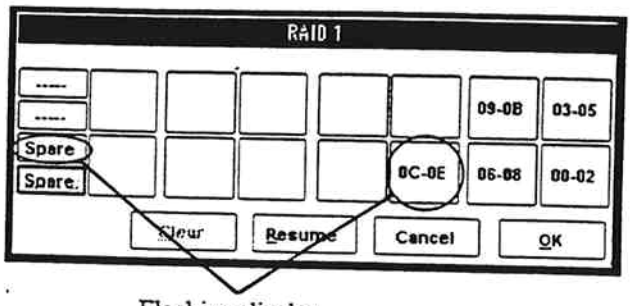
Press [OK] after completing setting. Press [Cancel] to cancel setting.
Pressing [OK]/[Cancel] will end the 'DEINSTALL' screen, and return you to the Group Setting screen.
Error messages for input are the same as in the 'RAID Set' screen.

(5) Screen after setting

When pressing the [OK] button at the 'RAID Set' screen, assigned LDEV number will be displayed on top of the adjusted group button. If there are Spare number settings, "Spare" will be displayed by flashing on top of the of the spare button for the total number set.

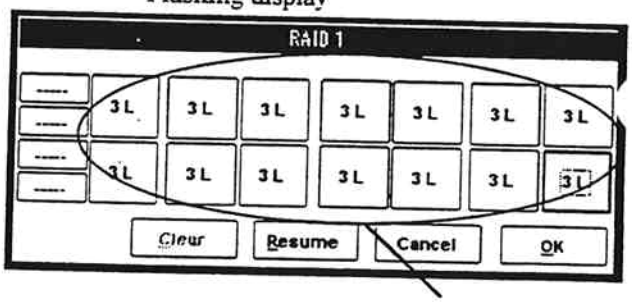
Adding will be from the top of the buttons with no settings regardless of the button pressed.

Adding will be from the bottom right and up, in the case of 'RAID 1'.
Adding will be in the direction from the bottom left to the top right for Spares (in the case of continuous assignment).



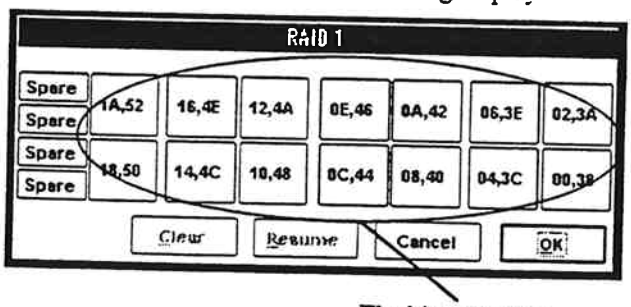
Flashing display

(In the case of non-assigned LDEV dispersement)



Flashing display

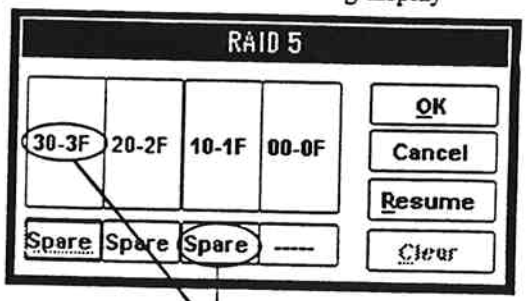
(In the case of assigned LDEV dispersement, after selecting the [LDEV Disperse] button at the 'Drive Configuration' screen)



Flashing display

Adding will move in a direction to the left from the right side, in the case of 'RAID 5'.
Adding will move in a direction to the right from the left side, in the case for Spares.

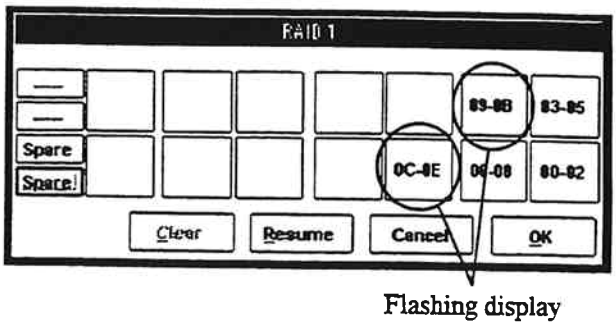
(The displays of group in both case of non-assigned LDEV dispersement and assigned LDEV dsipersement are common in the RAID level.)



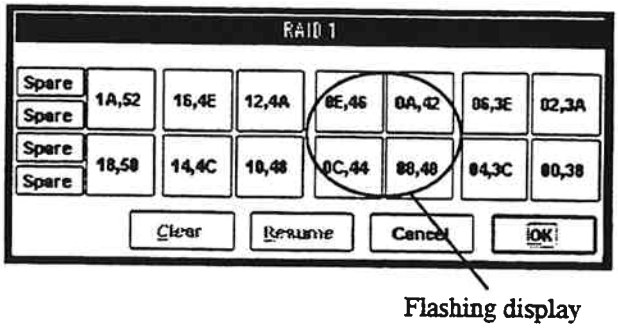
Flashing display

When returning after pressing the [OK] button in the 'DEINSTALL' screen of the Group button, the Group screen will delete the display by flashing on top of the deleted Group button.
When returning after pressing the [OK] button in the 'DEINSTALL' screen of the Spare button, the Group screen will display "Spare" by flashing for each of the delete Spare numbers.

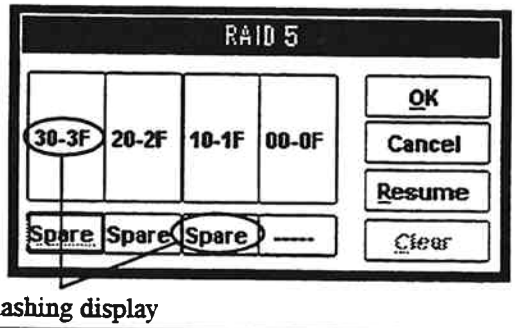
Deletion of Groups will take an upward direction from the selected Group, in the case of 'RAID 1'.
For Spares, deletion will take an upward direction from the selected Spare (in the case of continuous assignment) .



(In the case of assigned LDEV dispersement: when already assigned by disperse LDEV in start-up)

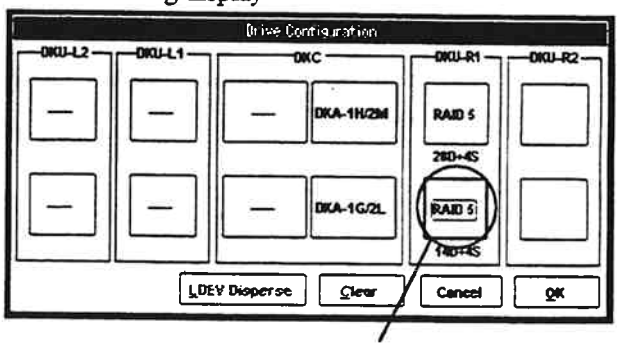


Deletion of Groups will go to left from the selected Group, in the case of 'RAID 5'.
Deletion of Spares will go to right from the selected Spare, in the case of Spares.

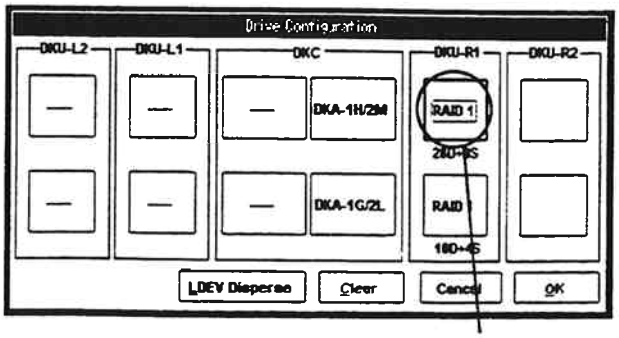


When returning to the Group screen by pressing [OK] after adjusting structure of continuous assignments, the display of adjusted B4 button above the RAID Type and the 'Drive Configuration' below, will flash.

Press the [OK] button when all settings for necessary B4 are complete.
Press [Cancel] to cancel defining Drive configuration.



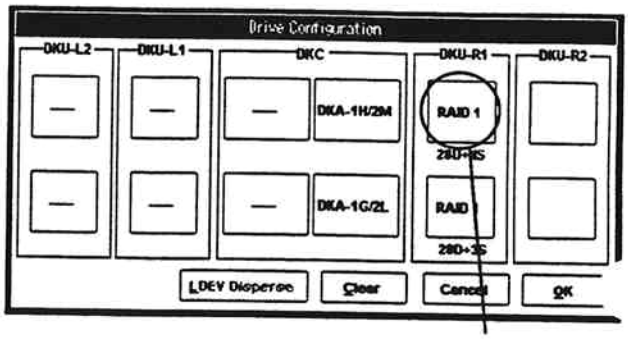
When returning to the Group screen by pressing [OK] after setting installed disperse assignment, the installed B4 button above the RAID Type button, and the 'Drive Configuration' below, will flash.
The [OK] button will not be in use, and the [LDEV Disperse] button will be in use.



Execute disperse LDEV assignment by the [LDEV Disperse] button when all installed setting of necessary B4 are complete.

Pressing the [LDEV Disperse] button will execute the assignment of disperse LDEV, and the message shown in the right will be displayed.

Pressing [OK] at this time will return you to the Drive Configuration screen. [LDEV Disperse] button will not be in use, and the [OK] button will be in use.

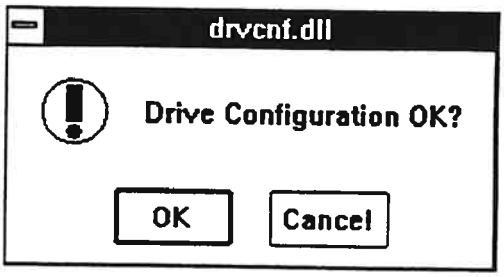


Flashing display

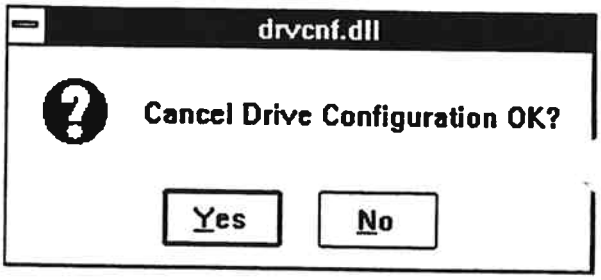
Press [Cancel] to cancel Drive configuration definition.

Pressing the [OK] button at the Drive Configuration screen will display a message shown in the right. Press [OK] to proceed, and [Cancel] to redefine.

When SCSI path are set, go to INST05-200Q Step 15-7.



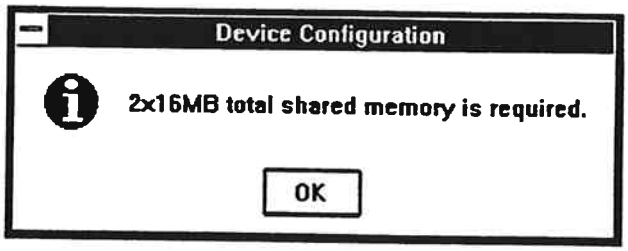
Pressing the [Cancel] button at the Drive Configuration screen will display a message shown in the right. Select [Yes] to Cancel Drive configuration definition, and [No] to redefine.



15-6.

"2×xxxMB total shared memory is required" is displayed.

Select [OK], and Confirmation message is automatically displayed.



Go to INST 05-201 step 16.