Copyright © 2014, Hitachi, Ltd.

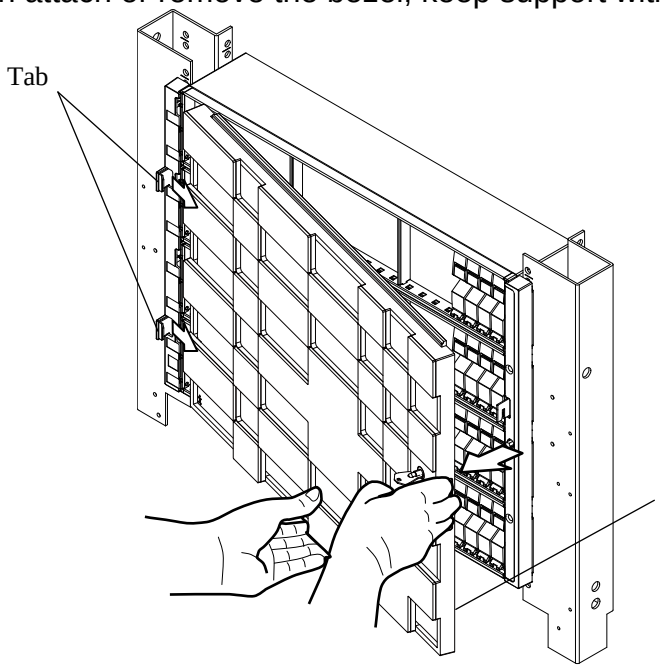
3. Hardware Installation

3.1 Common Item of Installation and De-Installation

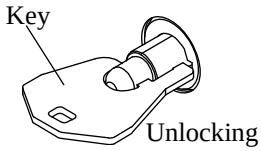
3.1.1 Bezel Opening-Closing Procedure

⚠ CAUTION

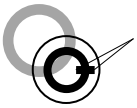
Attach or remove the bezel carefully following the procedure. Otherwise, you may hurt your fingers by pinching them or your feet by dropping them.
The bezel is the detachable structure, and, please be careful about the handling because it's heavy. When attach or remove the bezel, keep support with both hands as below.



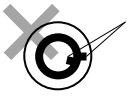
NOTICE:
- To prevent part failures caused by static electrical charge built up on your own body, be sure to wear a wrist strap connected to the chassis before starting and do not take it off until you finish.
- When inserting and turning the key, have it inserted completely. If it is turned when it is inserted half way, a damage of it may be caused.
- When removing the key after locking up the bezel, pull it off aligning its groove with the positioning mark on the lock.
  When the key is pulled off in the state where its groove is not aligned with the positioning mark on the lock, a damage of the lock may be caused.



Operate while pressing the key to the keyhole.



Insert or pull off the key aligning its groove with the positioning mark on the lock.



The key cannot be pulled off when its groove is not aligned with the positioning mark on the lock.

Copyright © 2014, Hitachi, Ltd.

1. DKC Bezel (8U)
   A key is necessary to attach or remove a bezel.

   Procedure for removal

   a. Insert the key into the keyhole on the bezel and release the lock of the bezel (①).
   b. Pull the key toward you while holding the lower right portion of the bezel, and then disengage the right side of the bezel from the ball catch (②).

      NOTE: When disengaging the bezel, work with the opening angle between the bezel and the chassis of up to 45 degrees.
      Do not force the bezel open too wide. Otherwise, a damage of bezel may be caused.

   c. Disengage the bezel from the left tabs and then remove it (③).

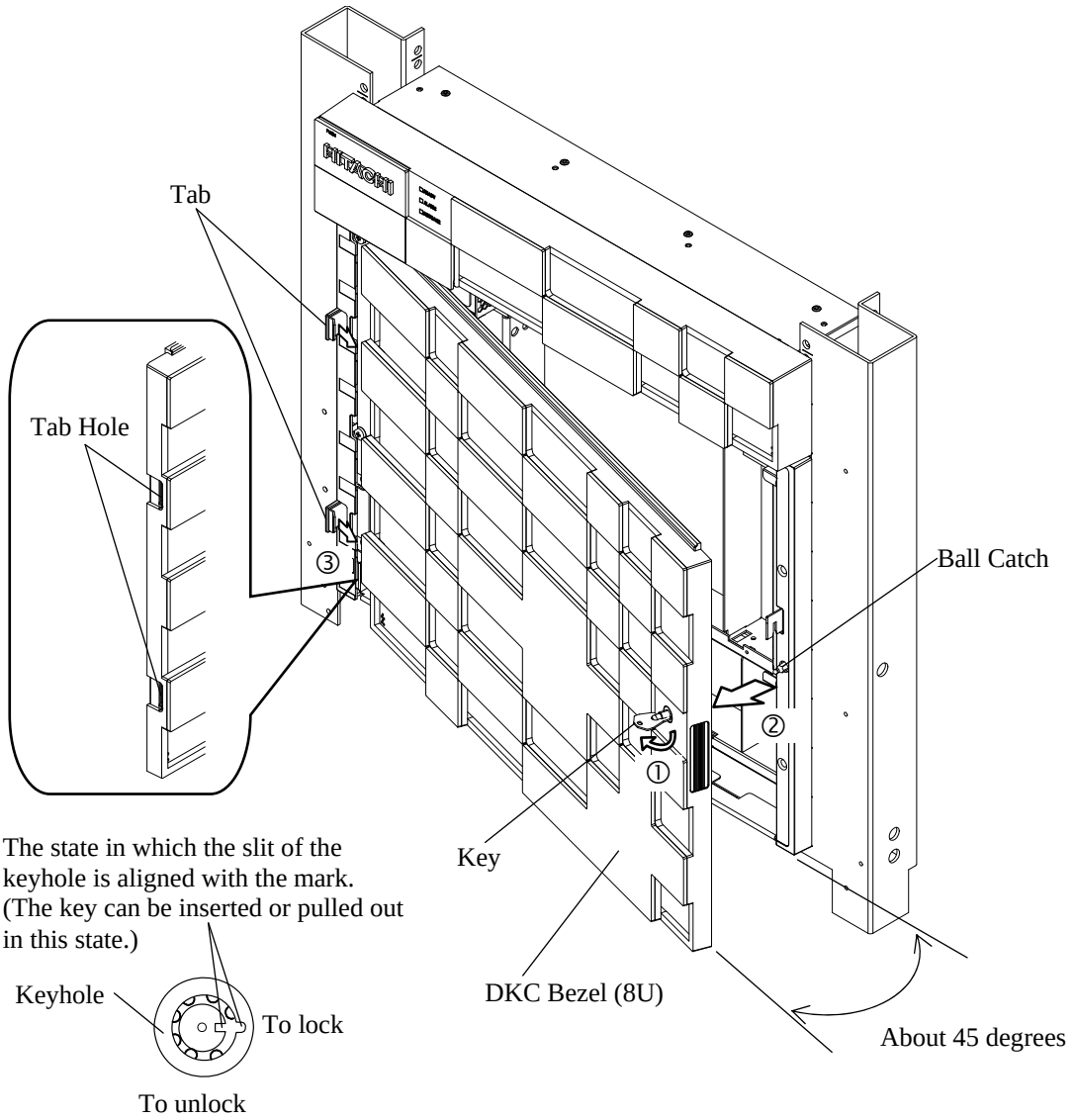


Fig. 3.1.1-1 Removal of DKC Bezel (8U)

Copyright © 2014, Hitachi, Ltd.

Procedure for attachment

a. Unlock the bezel with the key, and hold the key and bottom of bezel with your both hands.
b. Insert the tabs on the left front side of the chassis into the tab holes on the bezel (①).
c. Fix the bezel by pressing the right side of the bezel to engage it with the ball catch on the front side of the chassis (②).
d. Lock the bezel with the key (③).

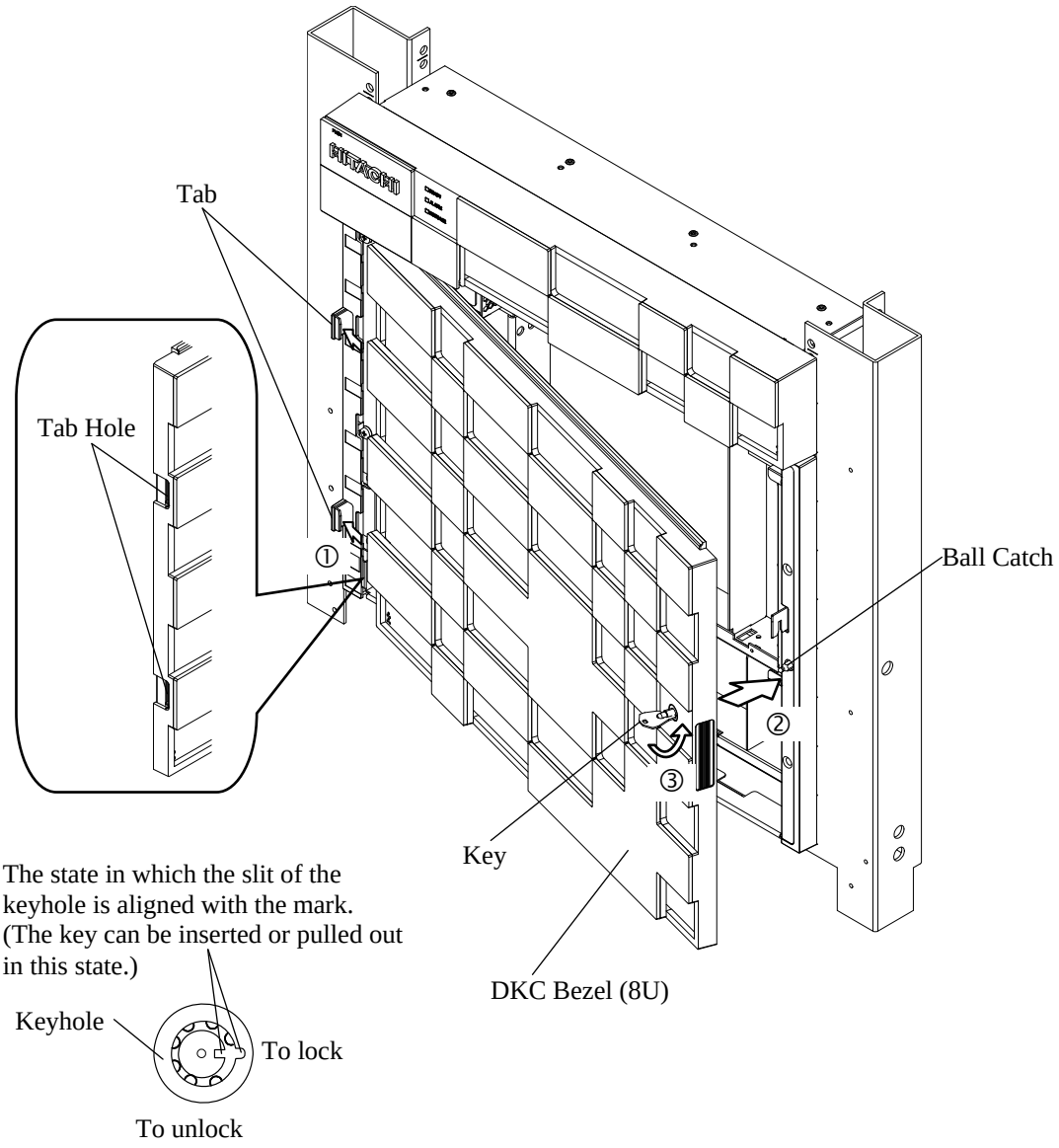


Fig. 3.1.1-2 Attachment of DKC Bezel (8U)

Copyright © 2014, Hitachi, Ltd.

2. DKC Bezel (2U)

Operator Panel Opening Procedure

a. Push the “PUSH” as it is shown in the upper part of the operator panel, and open the operator panel.

Operator Panel Closing Procedure

a. Close the operator panel and push the “PUSH” part until it clicks.

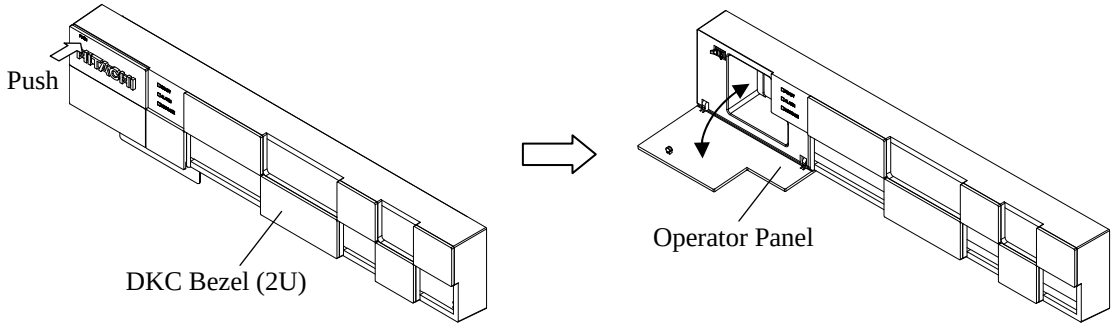


Fig. 3.1.1-3 Operator Panel Opening-Closing Procedure

Procedure for removal

a. Remove the DKC Bezel (8U) from the DKC.
b. Pull the bezel toward you holding its sides and disengage it from the ball catches to remove the bezel.

Procedure for attachment

a. Hold the side of spare bezel with both hands.
b. After making the hooks of the bezel engaged, press the bezel against the main body until it is stopped.

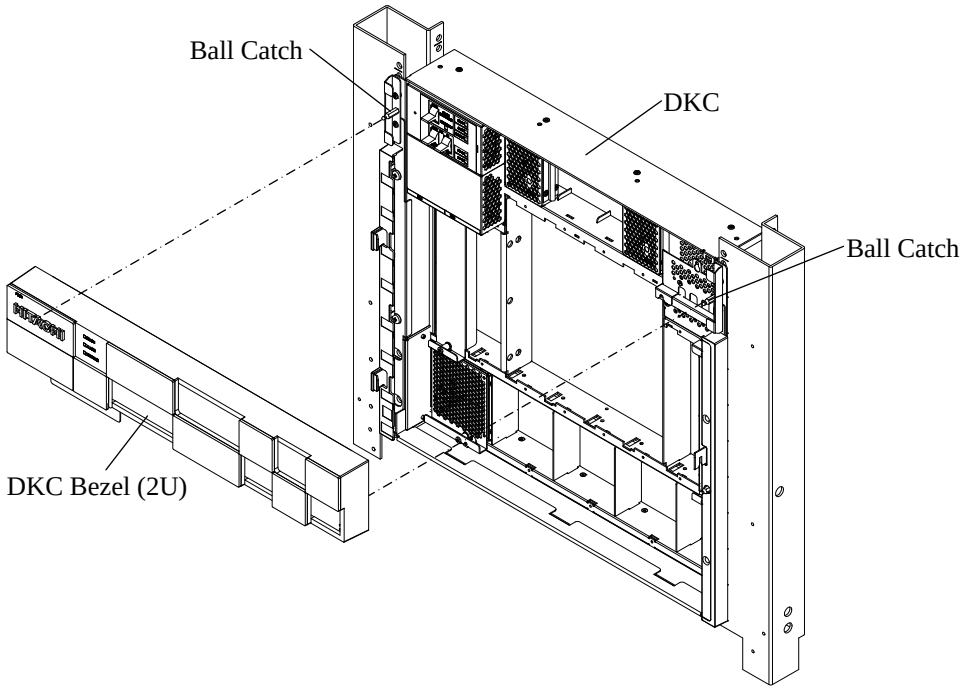


Fig. 3.1.1-4 Removal/Attachment of DKC Bezel (2U)

Copyright © 2014, Hitachi, Ltd.

3. DKU Bezel
   A key is necessary to attach or remove a bezel.

   Procedure for removal

   a. Insert the key into the keyhole on the bezel and release the lock of the bezel (①).
   b. Pull the key toward you while holding the lower right portion of the bezel, and then disengage the right side of the bezel from the ball catch (②).

      NOTE: When disengaging the bezel, work with the opening angle between the bezel and the chassis of up to 45 degrees.
      Do not force the bezel open too wide. Otherwise, a damage of bezel may be caused.

   c. Disengage the bezel from the left tabs and then remove it (③).

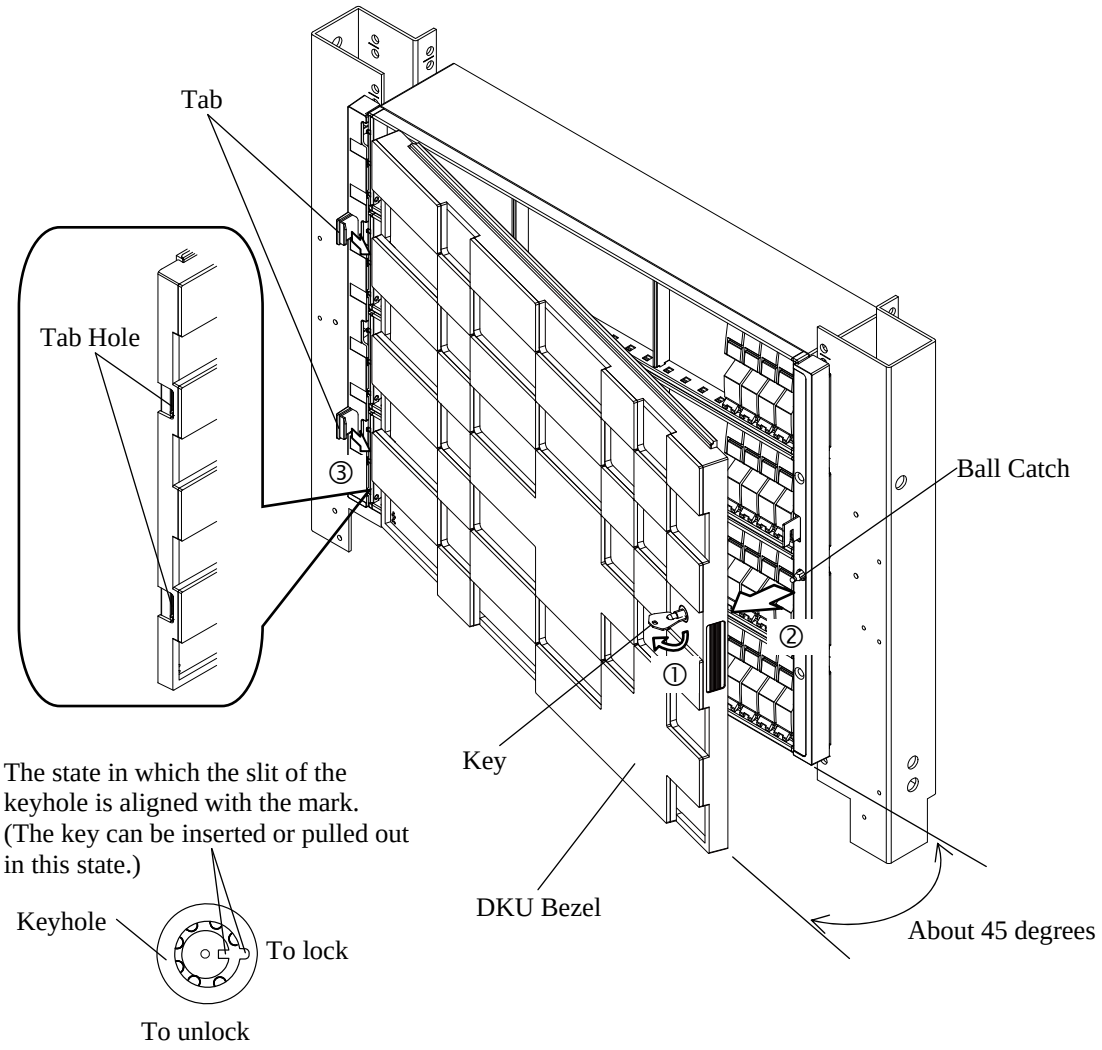


Fig. 3.1.1-5 Removal of DKU Bezel

Copyright © 2014, Hitachi, Ltd.

Procedure for attachment

a. Unlock the bezel with the key, and hold the key and bottom of bezel with your both hands.
b. Insert the tabs on the left front side of the chassis into the tab holes on the bezel (①).
c. Fix the bezel by pressing the right side of the bezel to engage it with the ball catch on the front side of the chassis (②).
d. Lock the bezel with the key (③).

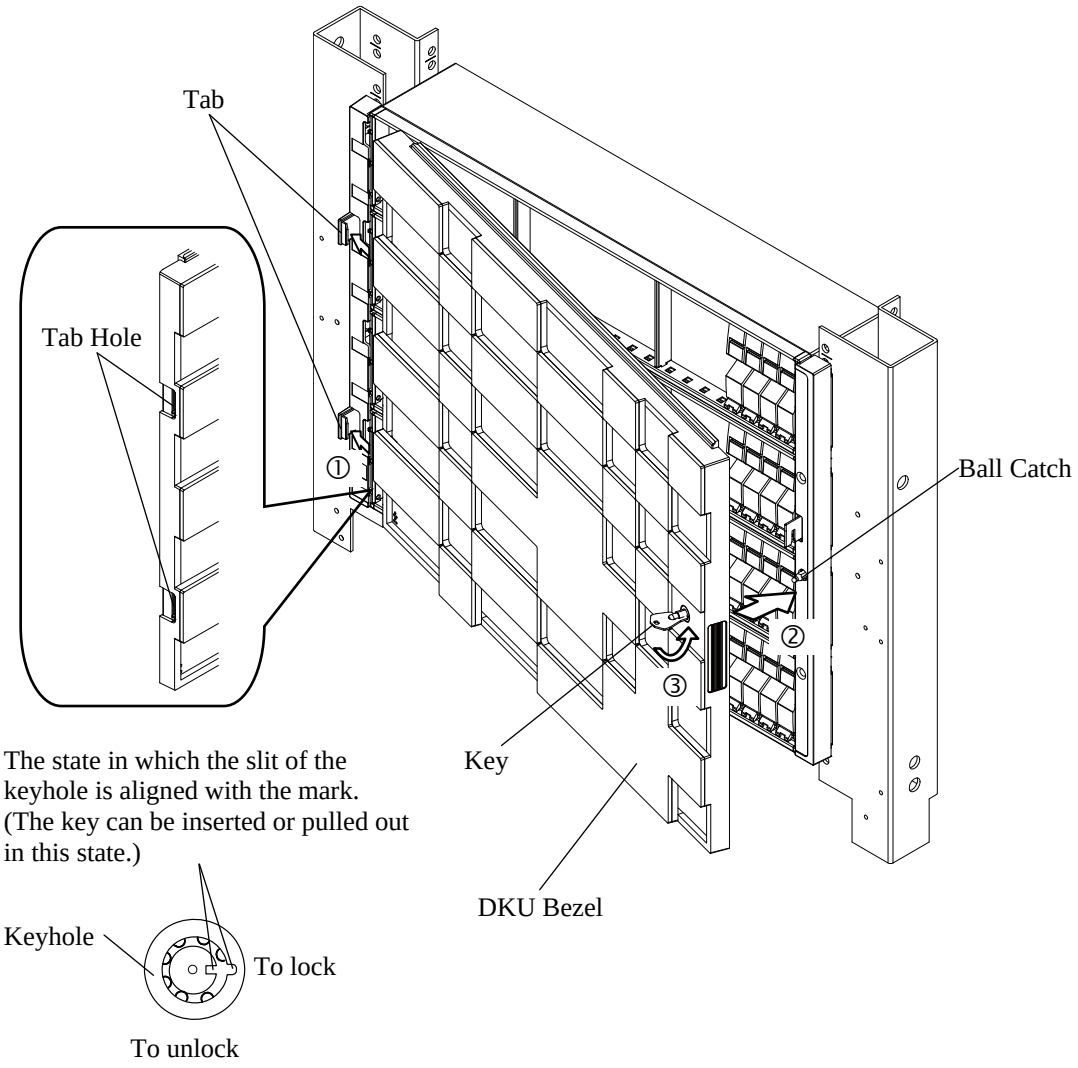


Fig. 3.1.1-6 Attachment of DKU Bezel

Copyright © 2014, Hitachi, Ltd.

3.1.2 Attaching the Wrist Strap

- In order to protect parts from the electrostatic discharge, every worker must put a wrist strap on his/her wrist before starting installation or maintenance work and start the work after connecting the grounding clip to a metallic portion of the frame. (The wrist strap must be put on when connecting the LAN, RS232C or channel interface cable.)
- When handling a part, hold it in the way that fingertips of the hand putting the wrist strap on touch a metallic portion of the part.
  (The above is necessary in order to discharge the charged static electricity and prevent a charge caused by handling.)
- Be sure to keep the wrist strap close to the storage system.
- Be sure to touch the storage system with the wrist strap put on. If you touch the storage system without putting on the wrist strap, the static electricity charged on your body flows to the storage system in an instant because no resistance exists between your body and the storage system causing a storage system trouble.
- Wear a wrist strap until the work is finished when working with the door of device or the bezel open (for change of channel interface cable connection etc.).

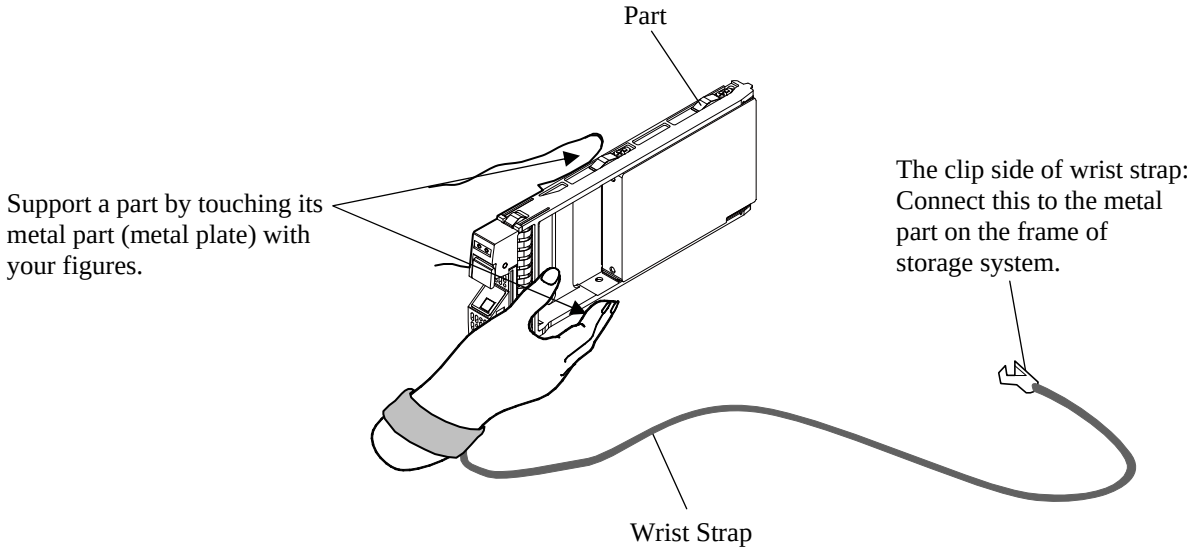


Fig. 3.1.2-1 Attachment of Wrist Strap

Copyright © 2014, Hitachi, Ltd.

3.1.3 Notes when installing or removing the part

3.1.3.1 Notes when handling the PCB

1. Check that the main edge connector of the PCB has linearity.

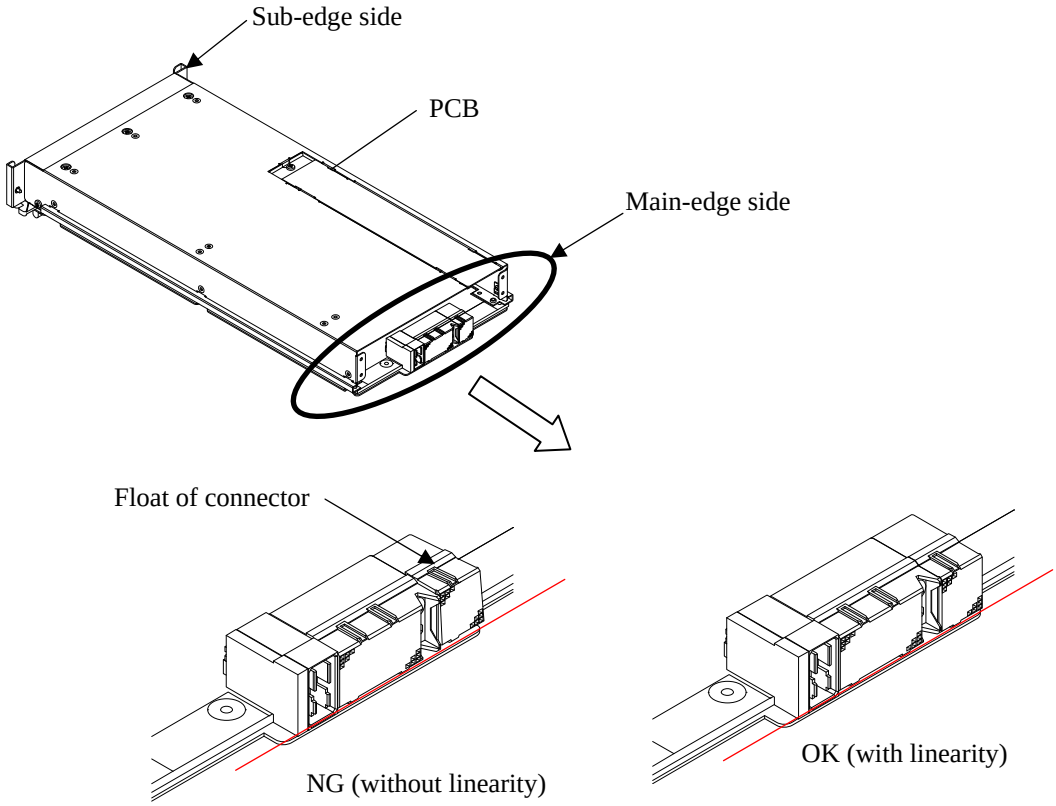


Fig. 3.1.3.1-1 Checking connectors

2. When there is a float or a position gap in a connector, mark it with a label, etc.

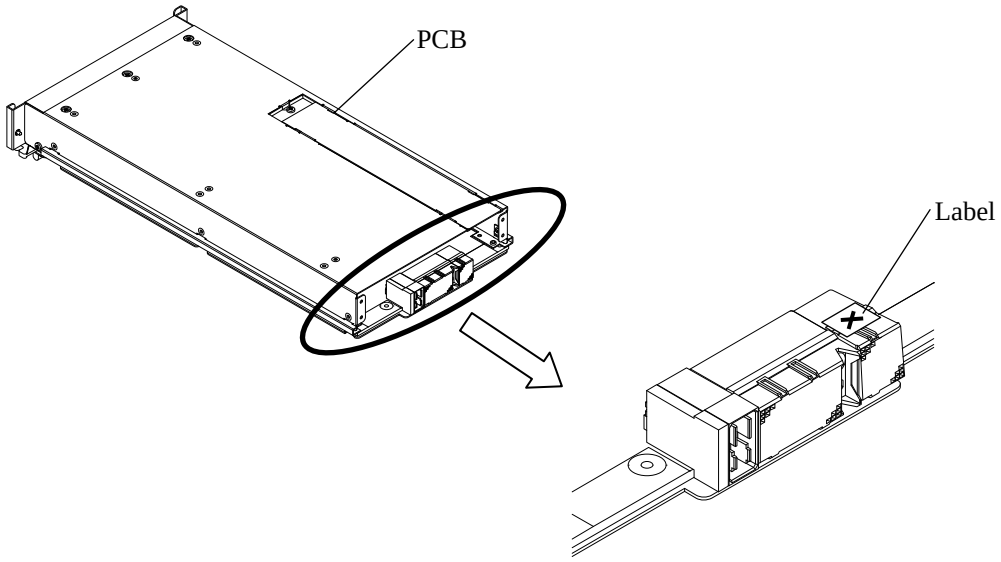


Fig. 3.1.3.1-2 Marking of defective connectors

Copyright © 2014, Hitachi, Ltd.

3. Handle it as follows not to damage the main edge connector of the PCB.
   (1) When holding the PCB, hold the middle part of the PCB with both hands.
   Holding the main-edge side or sub-edge side of the PCB may cause a breakdown of the PCB by dropping it under its weight or hitting it against something. Moreover, holding the sub-edge side of the PCB may cause a loosening or disconnecting of the connector.

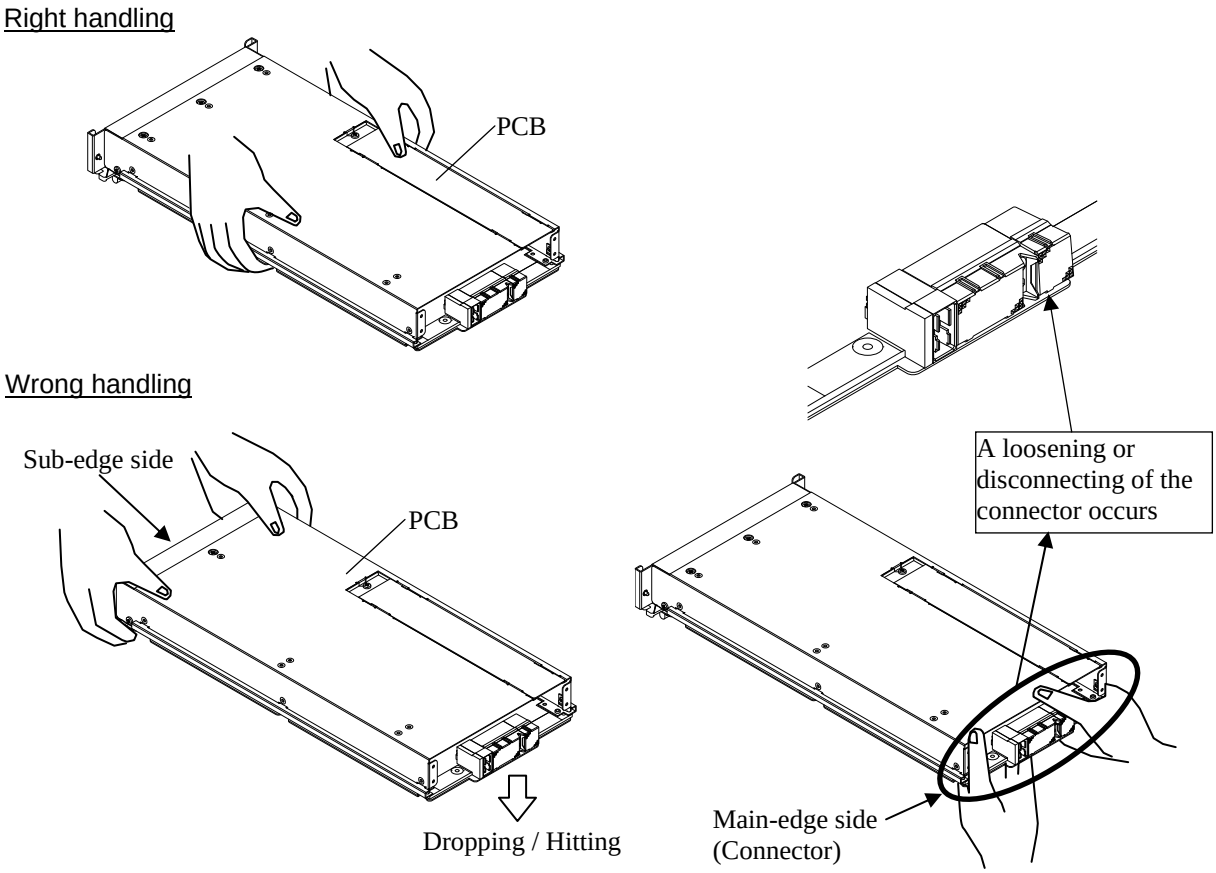


Fig. 3.1.3.1-3 Handling of the PCB (at maintenance)

(2) When moving the PCB, be careful enough not to make it hit a carrier, a table or a unit.

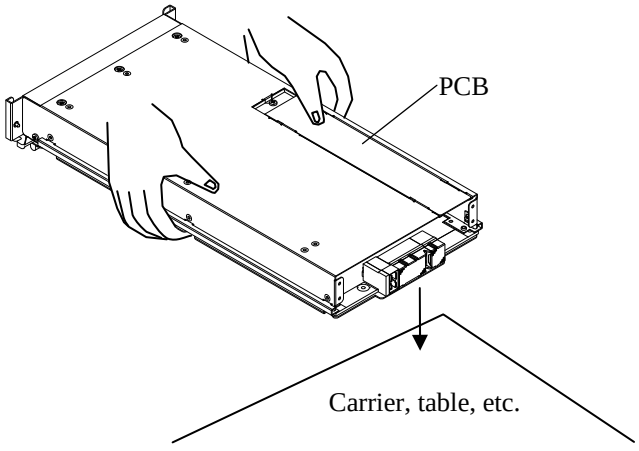


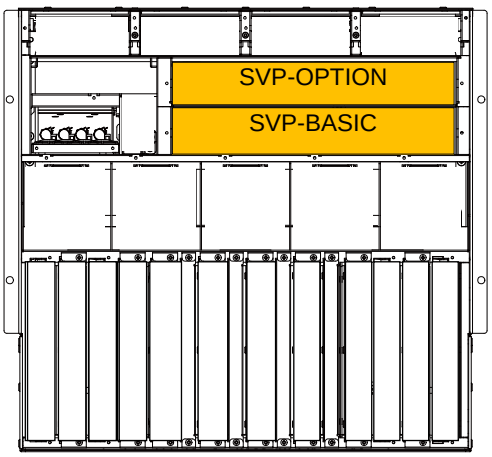
Fig. 3.1.3.1-4 Handling of the PCB (at moving)

Copyright © 2014, Hitachi, Ltd.

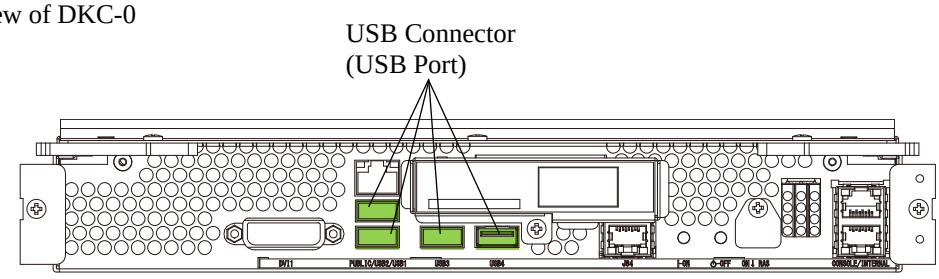
3.1.4 About the storage media used for installation / maintenance process

The media showed in following table are attached in storage system, in order to advance installation, maintenance, and failure analysis smoothly. Please implement installation or collect information according to the work procedure indicated in each section.

No.	Media	Description	Installation device	Remarks
1	CD-ROM	CD-R for micro program storage. Used for installation or micro program download in time of micro FC.	CD-R Drive of CE Laptop PC	Attached to the device
2	USB Memory	The USB memory for configuration information backup. Used for configuration information storage in time of device configuration change.	USB Connector of SVP	Attached to the device
3	USB Memory	USB memory for collecting device dump information. Used for collecting dump information in time of failure analysis or operation investigation.	USB Connector of SVP	Attached to the device



Rear View of DKC-0



Front View of SVP

*1: Maintenance PC(Console PC) should be prepared by each maintenance personnel, because it is not attached in the equipment as standard equipment.

Fig. 3.1.4-1 Information Collection Device for each Media

Copyright © 2014, Hitachi, Ltd.

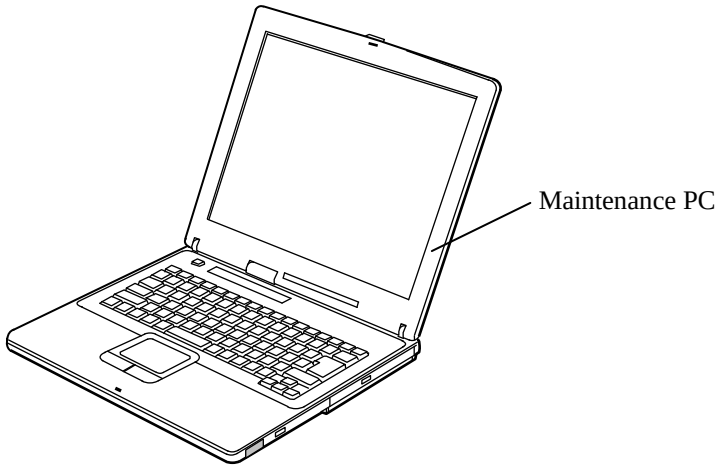
3.1.5 Maintenance PC(Console PC)

3.1.5.1 Specifications for the Maintenance PC

A laptop PC that can be used as the Maintenance PC must meet specifications shown in Table 3.1.5.1-1.

Table 3.1.5.1-1 Maintenance PC Specifications

Item	Specification
OS	Windows Vista / Windows 7 / Windows 8
Disk Drive	Available hard disk space: 500MB or upper
Display	1024 × 768 (XGA) or higher-resolution 1280 × 1024 (SXGA) Recommendation
DVD Drive	Need
LAN	Ethernet 10Base-T / 100Base-TX / 1000Base-T
USB	Need



Copyright © 2014, Hitachi, Ltd.

3.1.5.2 Installation Location of Maintenance PC

When using the Maintenance PC in the storage system, it is necessary to open the PC tray on the rear door.
However, the Maintenance PC is needed to be prepared by each maintenance personnel, because it is not attached in the equipment.

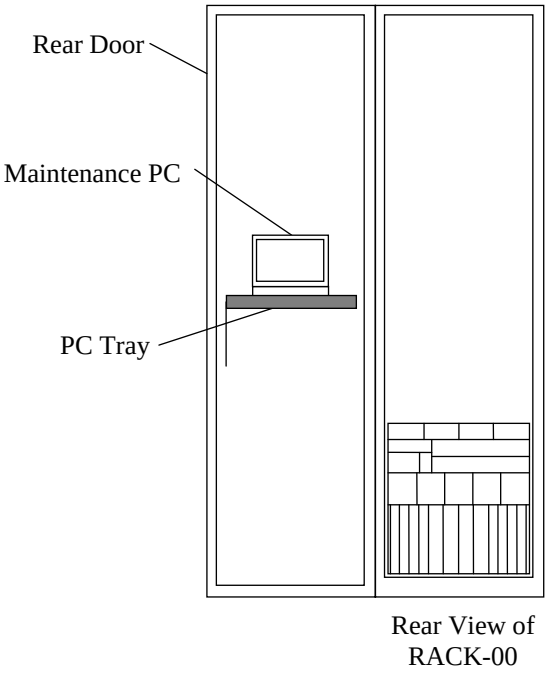


Fig. 3.1.5.2-1 Installation Location of PC Tray

Copyright © 2014, Hitachi, Ltd.

3.1.5.3 Attachment / Removal Procedure of Maintenance PC

1. Attachment Procedure of Maintenance PC
   a. Take out the LAN cable.
   b. Loosen the screw on the back side of the rear door and slide the stopper upward. Then tighten the screw.

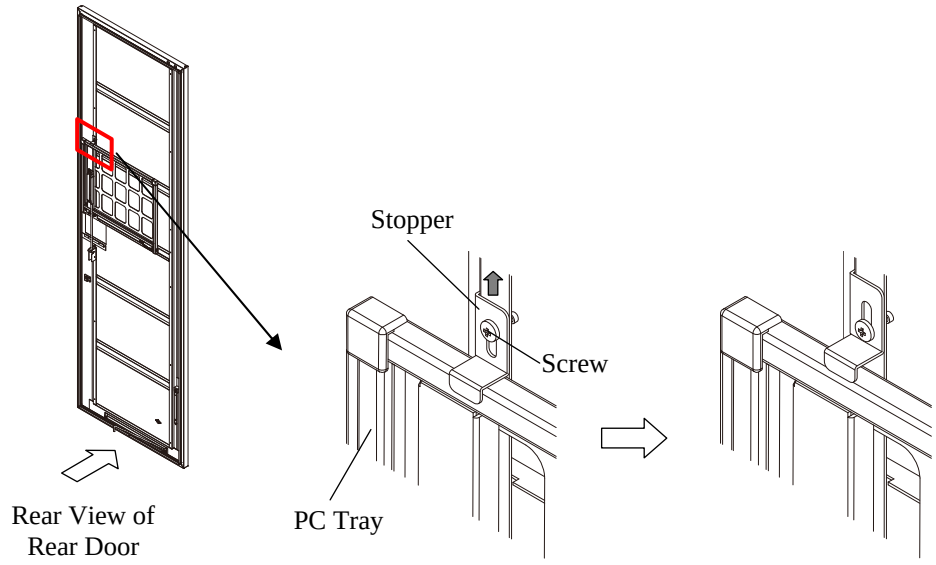


Fig. 3.1.5.3-1 Movement of Stopper

   c. Open the PC tray so that it is in a horizontal position.

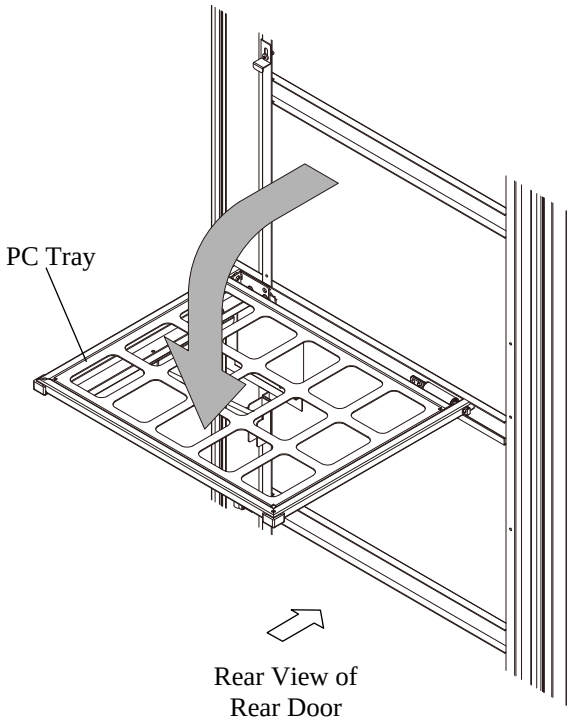


Fig. 3.1.5.3-2 Movement of PC Tray

Copyright © 2014, Hitachi, Ltd.

d. Connect the power cable and LAN cable to the Maintenance PC.
e. Connect the LAN cable to CONSOLE port of the SVP-BASIC. (Refer to Fig. 3.1.5.3-3.)
   Connect the LAN cable to CONSOLE port of the SVP-OPTION when a trouble occurs on SVP-BASIC. (Refer to Fig. 3.1.5.3-4.)
   When DKC-0 and DKC-1 are placed away from each other and replacement, installation or de-installation of components on DKC-1 is required, you can connect the Maintenance PC to HUBBOX on DKC-1. For connecting the LAN cable to HUBBOX, see Fig. 3.1.5.3-5.

   [Notes when performing maintenance with the Maintenance PC connected to HUBBOX on DKC-1]
   - When replacing a failed HUBBOX on DKC-1 or failed LAN cable to connect between controller modules, connect the Maintenance PC to SVP on DKC-0.
   - If performing maintenance with the Maintenance PC connected to DKC-1, a 100V AC outlet is required nearby.
   - Perform maintenance while reconfirming which DKC is maintained so as not to replace incorrect components by mistake when doing replacement, installation or de-installation.
   - If you need to change the connection of the Maintenance PC to a different DKC during maintenance, perform “(b) Disconnect the SVP”.
     (See “1.5 Disconnecting the SVP” (SVP01-130 ~ 140).)
     Log in to the same SVP after changing the connection of the Maintenance PC.
     (See “1.4.2 Restoring the previous connection” (SVP01-90).)

f. Connect the power cable to vacant connector of the PDU.
g. Power on the Maintenance PC.
h. When Windows is started, connect the PC to the SVP using the remote desktop function.

Copyright © 2014, Hitachi, Ltd.

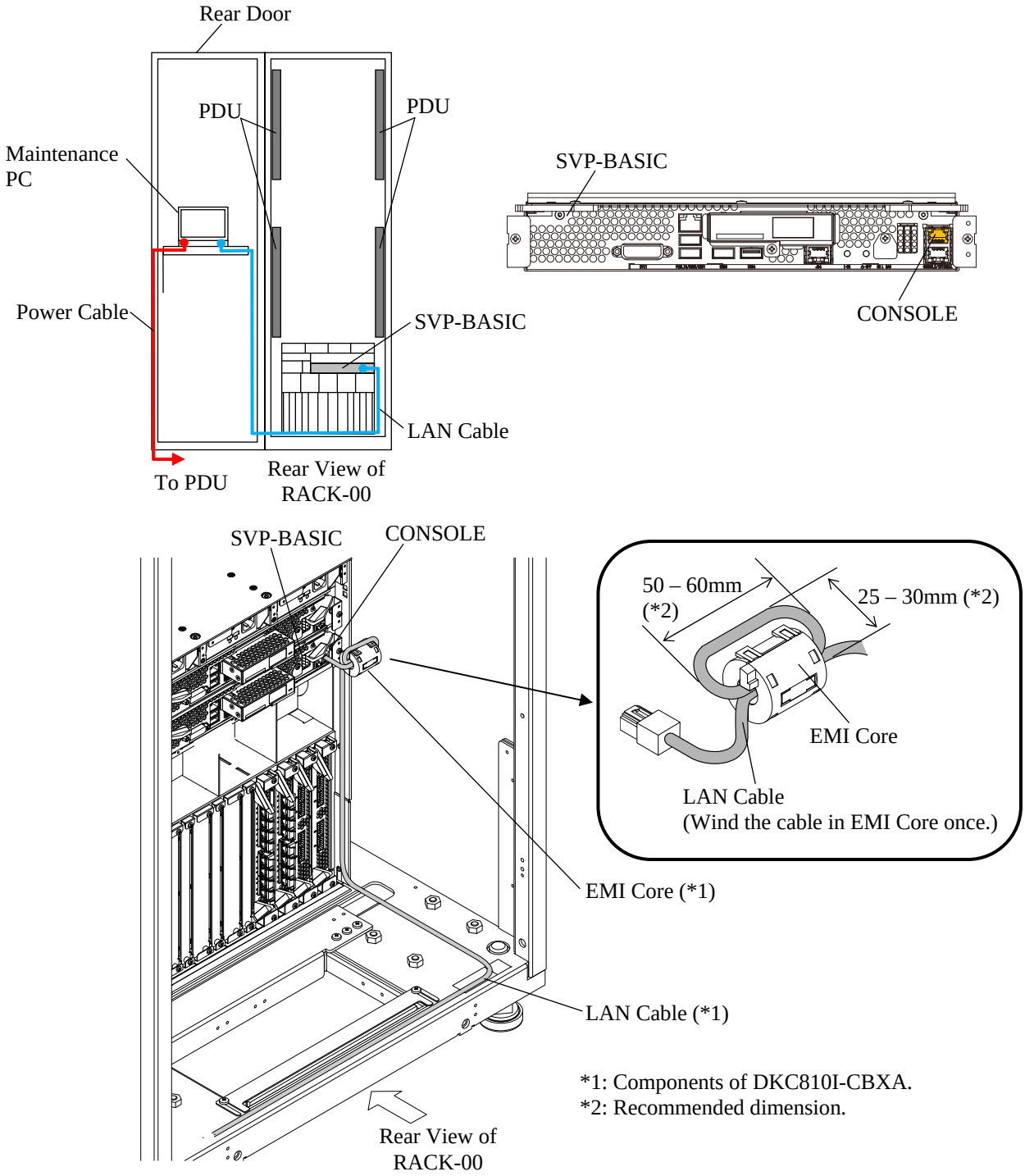


Fig. 3.1.5.3-3 Connection of Cables (SVP-BASIC)

Copyright © 2014, Hitachi, Ltd.

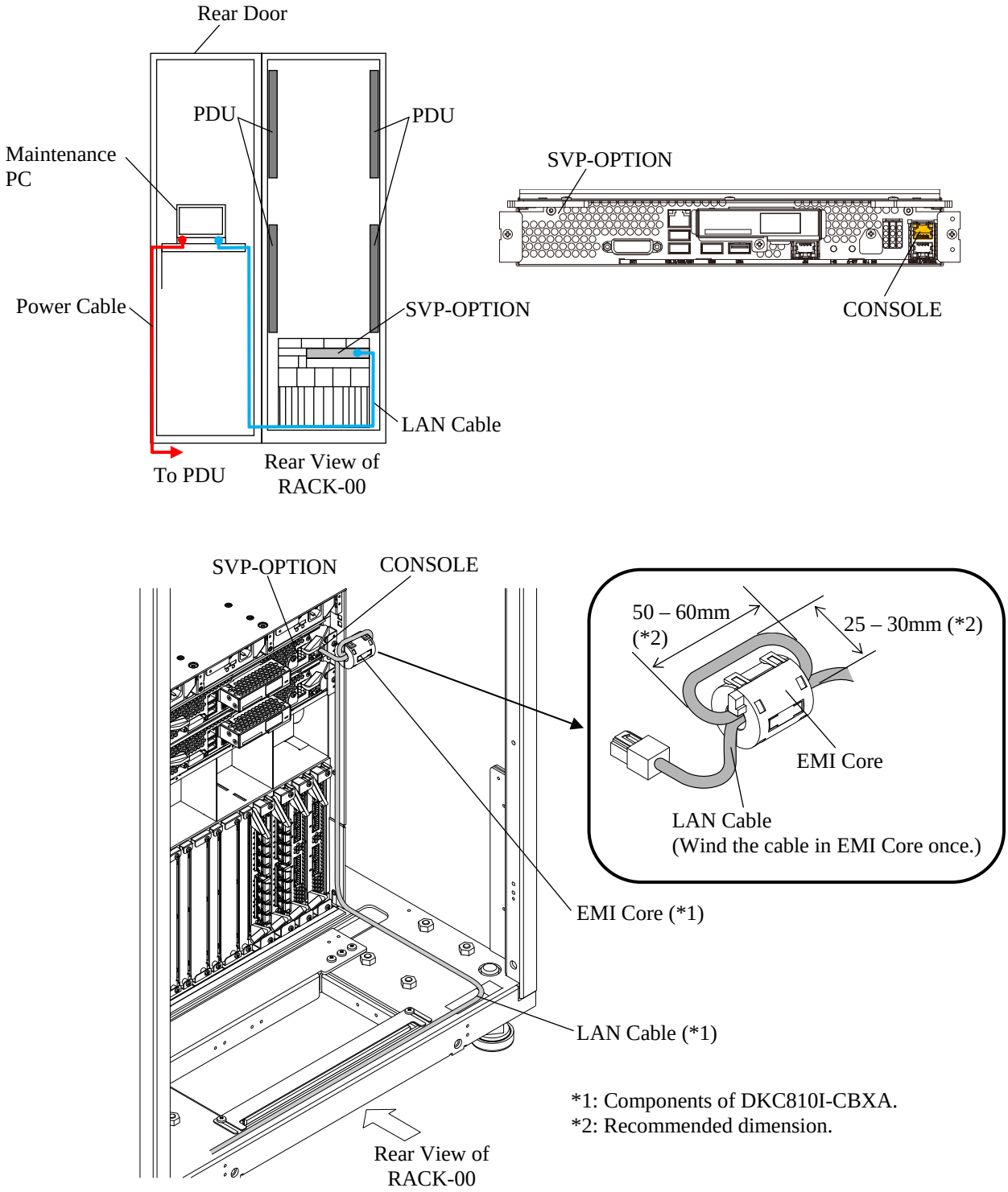


Fig. 3.1.5.3-4 Connection of Cables (SVP-OPTION)

Copyright © 2014, Hitachi, Ltd.

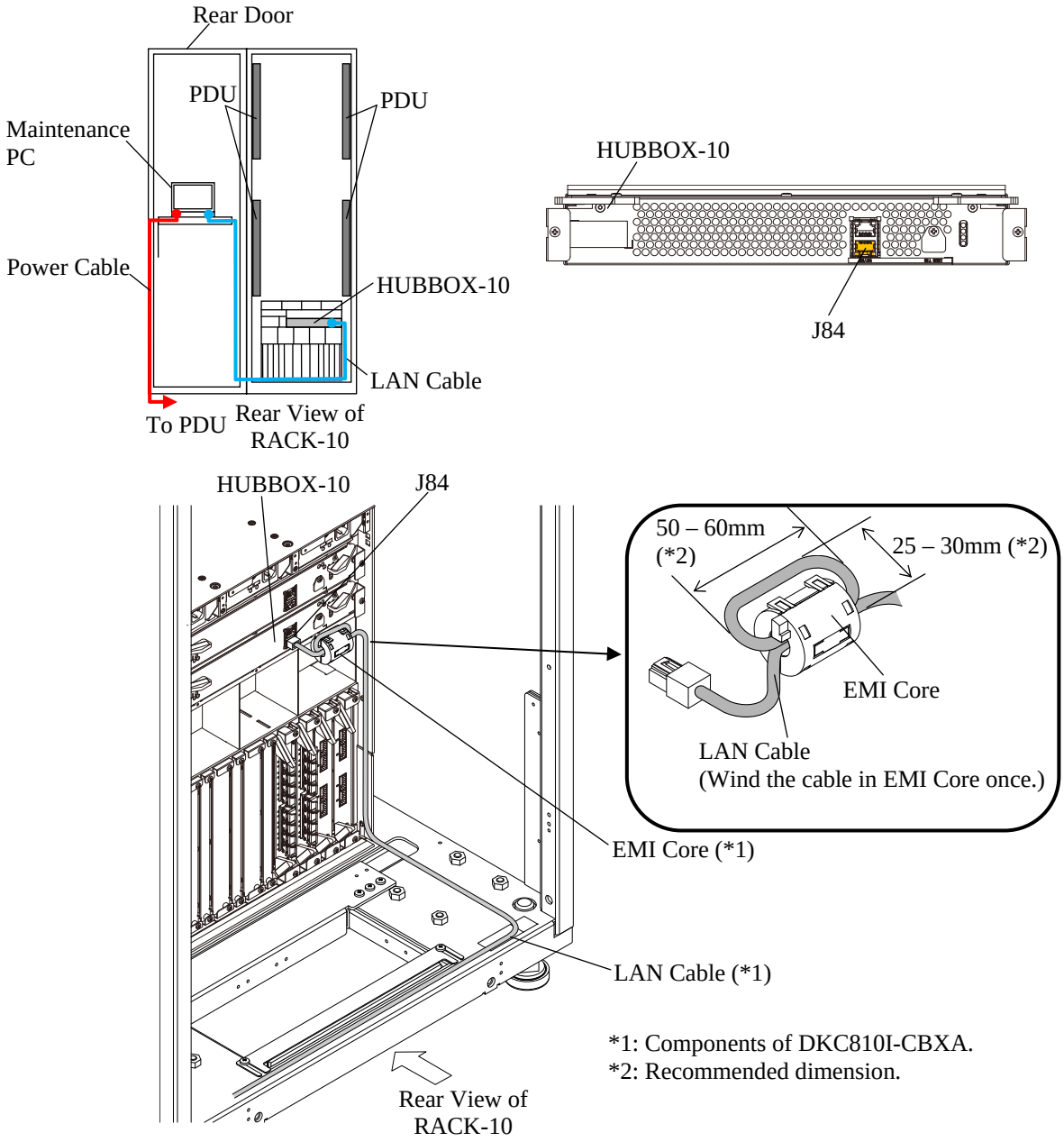


Fig. 3.1.5.3-5 Connection of Cables (HUBBOX-10)

2. Removal Procedure of Maintenance PC
   a. Quit the remote desktop function, and then power off the Maintenance PC.
   b. Disconnect the power cable from the connector of the PDU. (Refer to Fig. 3.1.5.3-3, Fig. 3.1.5.3-4 or Fig. 3.1.5.3-5.)
   c. Disconnect the LAN cable from the CONSOLE port of the SVP-BASIC, the CONSOLE port of SVP-OPTION or the J84 of the HUBBOX.
   d. Disconnect the power cable and LAN cable from the Maintenance PC.
   e. Close and return the PC tray in place on the rear door. (Refer to Fig. 3.1.5.3-2.)
   f. Loosen the screw on the back side of the rear door and slide the stopper downward. Then tighten the screw. (Refer to Fig. 3.1.5.3-1.)
   g. Store the LAN cable.

Copyright © 2014, Hitachi, Ltd.

3.1.6 Notes when connecting the DEV interface cable

1. When connecting the DEV interface Cable, hold the connector with your fingers and insert it into the PCB until it clicks. Do not turn the connector 90 degrees or more when inserting it into the PCB. If the connector has to be turned 90 degrees or more, do not turn only the connector but turn the connector and the cable together fitting the angle and connect it to the PCB.
   The procedure of binding the DEV interface Cable to the rack frame must be done only after the connector is connected.

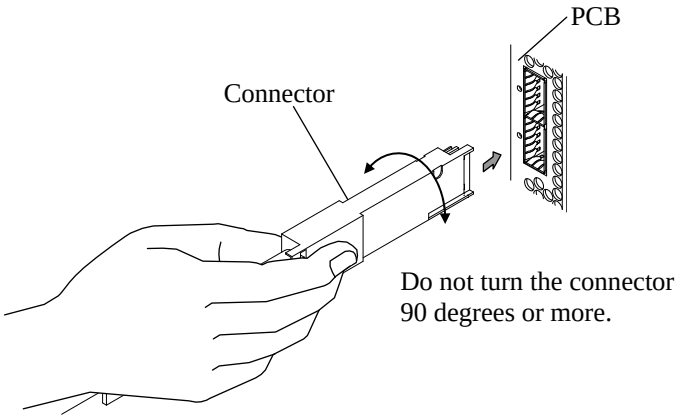


Fig. 3.1.6-1 Connecting Connector

2. After inserting the DEV interface Cable into the blade, pull the connector gently to confirm that the connector will not be disconnected.

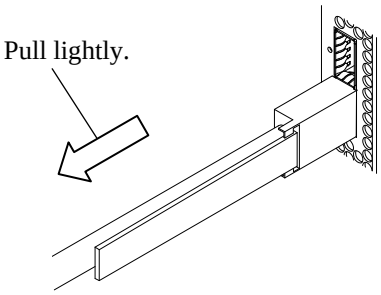


Fig. 3.1.6-2 Confirming Fixation

Copyright © 2014, Hitachi, Ltd.

3.1.7 Notes when connecting and disconnecting MFC cable

1. How to Connect Cable
   a. Insert the connector into the PCB until it clicks, holding the edge of the handle of the connector.

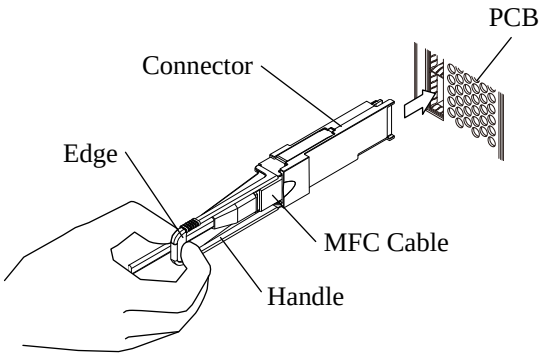


Fig. 3.1.7-1 Connecting Cable

2. How to Disconnect Cable
   a. Pull out the connector straight, putting your finger on the handle of the connector.

   Note: Pulling out the MFC cable at an angle may get the edge of the connector caught in the cable insertion opening on the PCB and damage the cable.

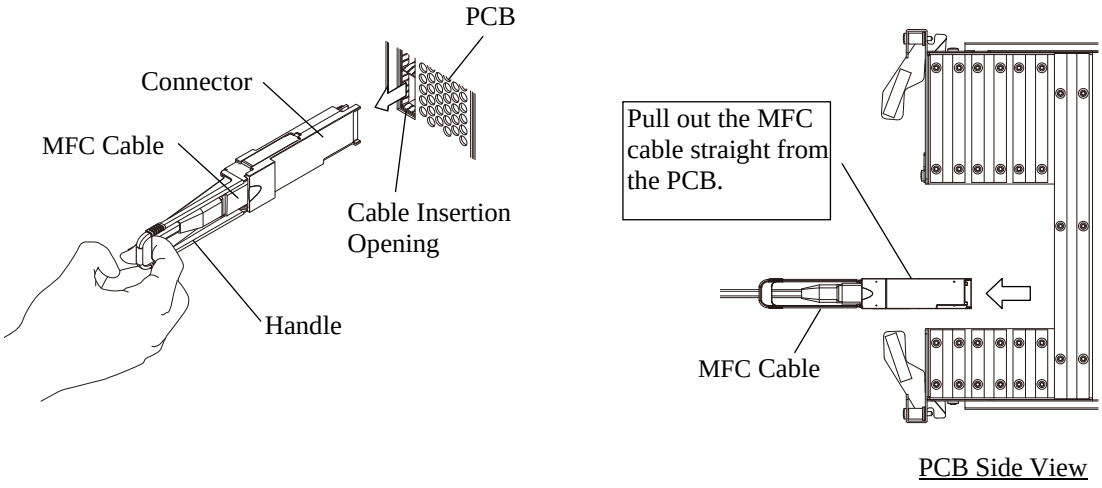


Fig. 3.1.7-2 Disconnecting Cable

Copyright © 2014, Hitachi, Ltd.

3.2 UNPACKING AND INSPECTION

Receiving and Inspection

Before unpacking the unit, check the physical condition of the packed unit.

1. Prior to unpacking, check the container for visible damage or any indication of excessive shock, tilt or anything else abnormal during transportation and handling.

2. Obtain and check shipping manifest for missing units.

3. If anything abnormal is found, appropriate action should be taken before starting an installation.

Unpacking Procedure

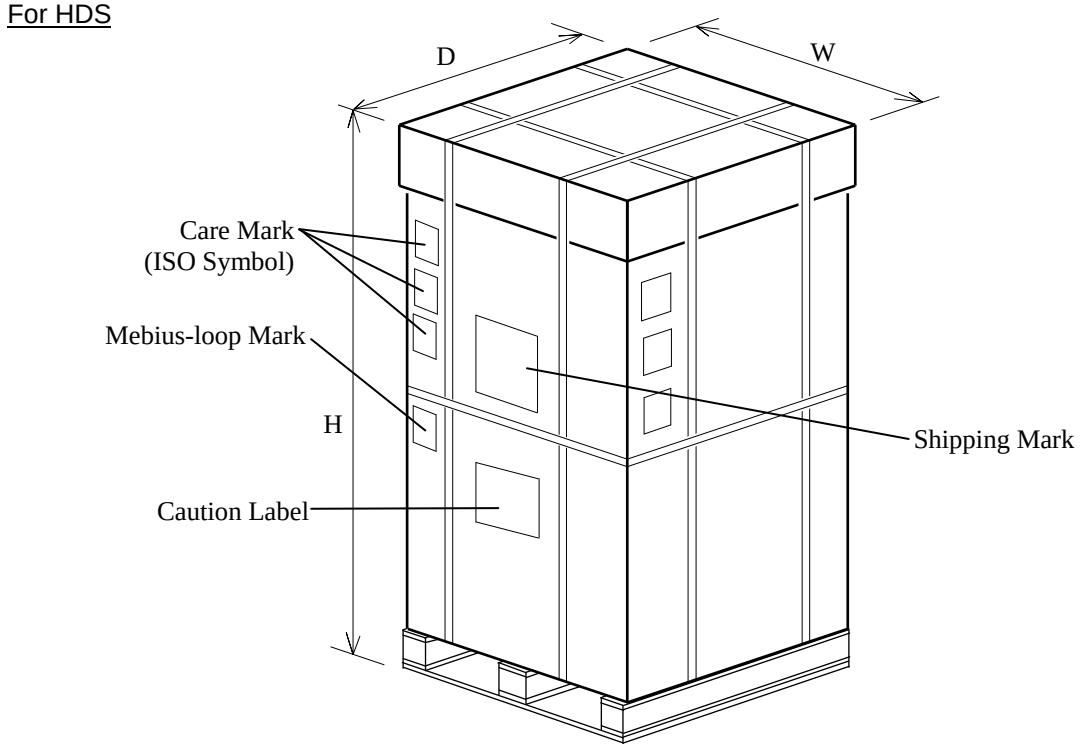
NOTE:
- Be very careful when handling the equipment.
- Do not drop the equipment from a height more than 5 mm (0.2in.) high.
- Floor unevenness must be less than 10 mm (0.4in.). Move slowly and lift the four screw jacks at the bottom of each frame to the highest position to prevent contact with the ramp.

Copyright © 2014, Hitachi, Ltd.

3.2.1 Unpacking

1. Card board crate overview is shown in Fig. 3.2.1-1.

For HDS



For HP

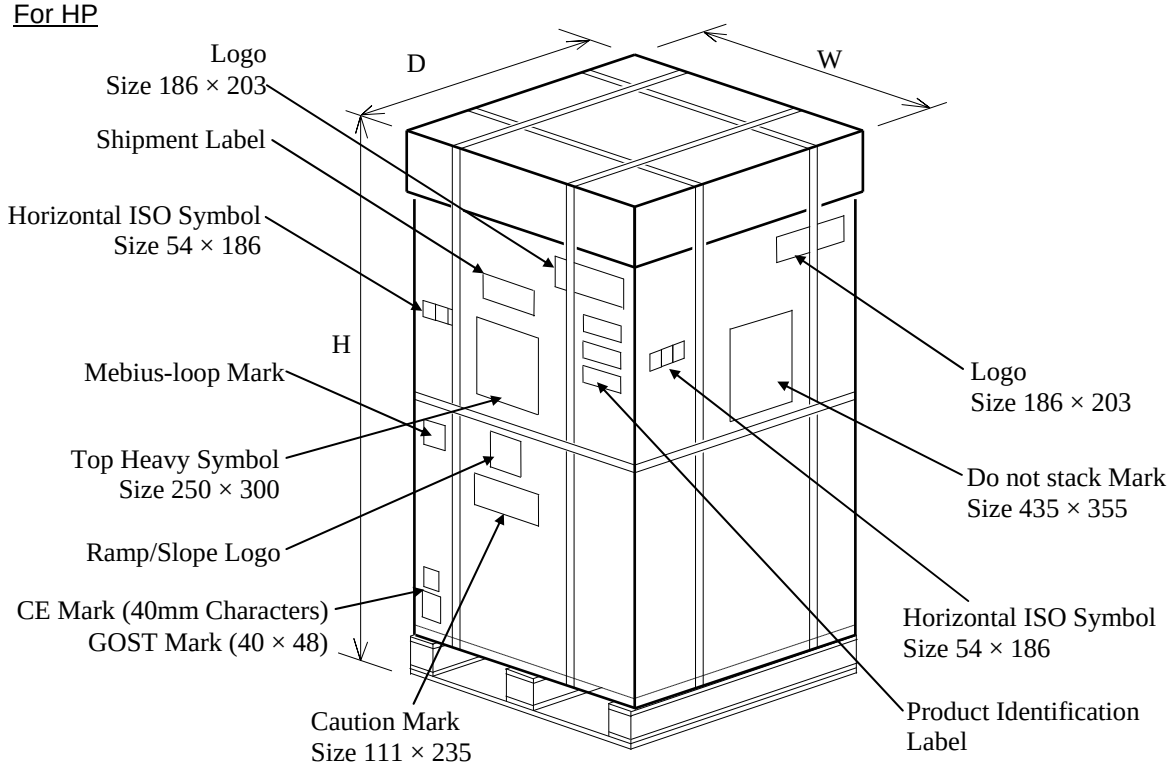


Fig. 3.2.1-1 Card Board Crate Overview

Copyright © 2014, Hitachi, Ltd.

3.3 Installation of Rack and Side Cover (DKC-F810I-RK42/SCOV/SCOVH)

⚠ CAUTION

Make sure that the equipment is moved by two or more persons.
Be sure to move the equipment by pushing it from the front face in the direction of movement.
It is acceptable for two persons to move the equipment carefully from the front face and rear face only when installing it. Do not push the equipment from the side face in principle.
The front caster of the rack frame is not a rotary type but a fixed type not to incline the equipment at over the tipping angle. Therefore, the equipment should not be rotated quickly.

Moving the equipment normally

Move the rack frame only from the front face in principle.
Push the rack frame slowly with thumbs and the bases of them on both ends of the front face.
When changing moving direction, do so little by little in cooperation with an assistant instead of changing moving direction quickly.
An assistant should not pull only the rear door strongly because doing so may cause the deformation of the rear door.

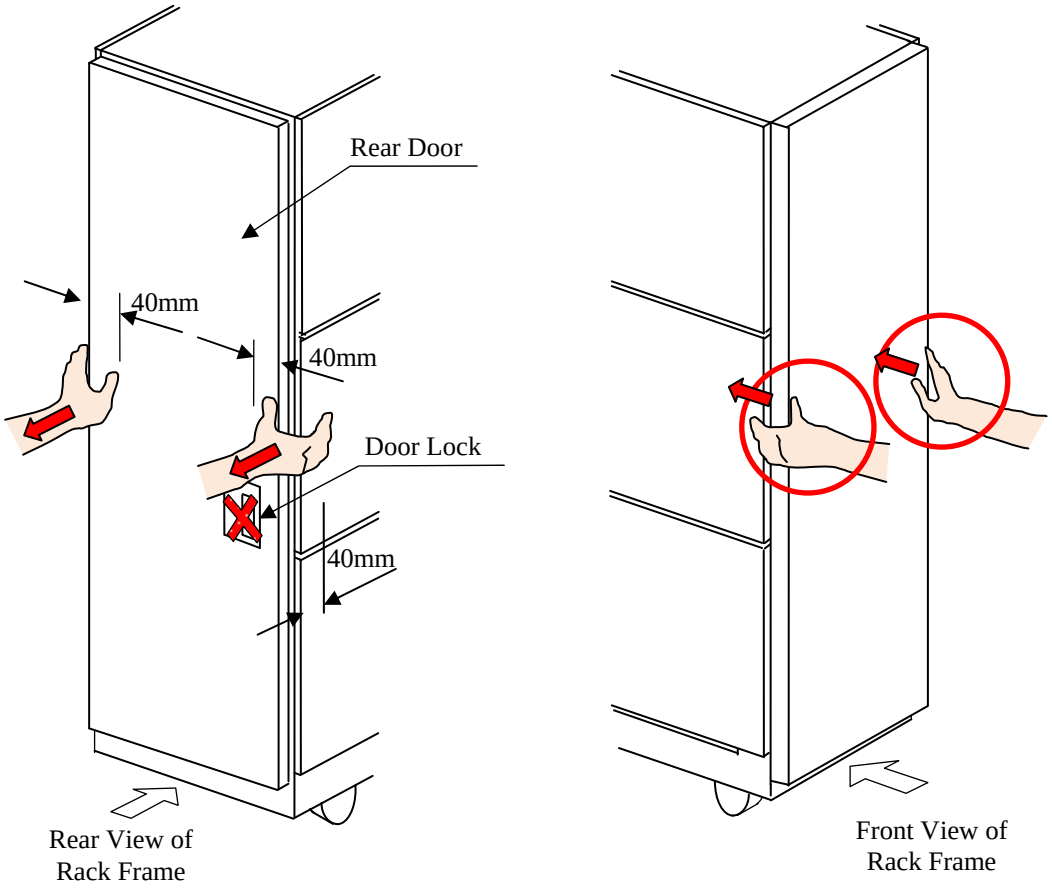


Fig. 3.3-1 Normal Movement Operation

Copyright © 2014, Hitachi, Ltd.

Moving the equipment forward with limited space

When moving the equipment in the direction of the front of the rack frame, two persons must cooperate. One pulls the front face of the rack frame in the direction of the installation location and the other pushes the rear face of the rack frame with hands on the both ends of the rear door at the position that is more than 50mm far from the door lock holding side covers. Do not push the door lock directly.

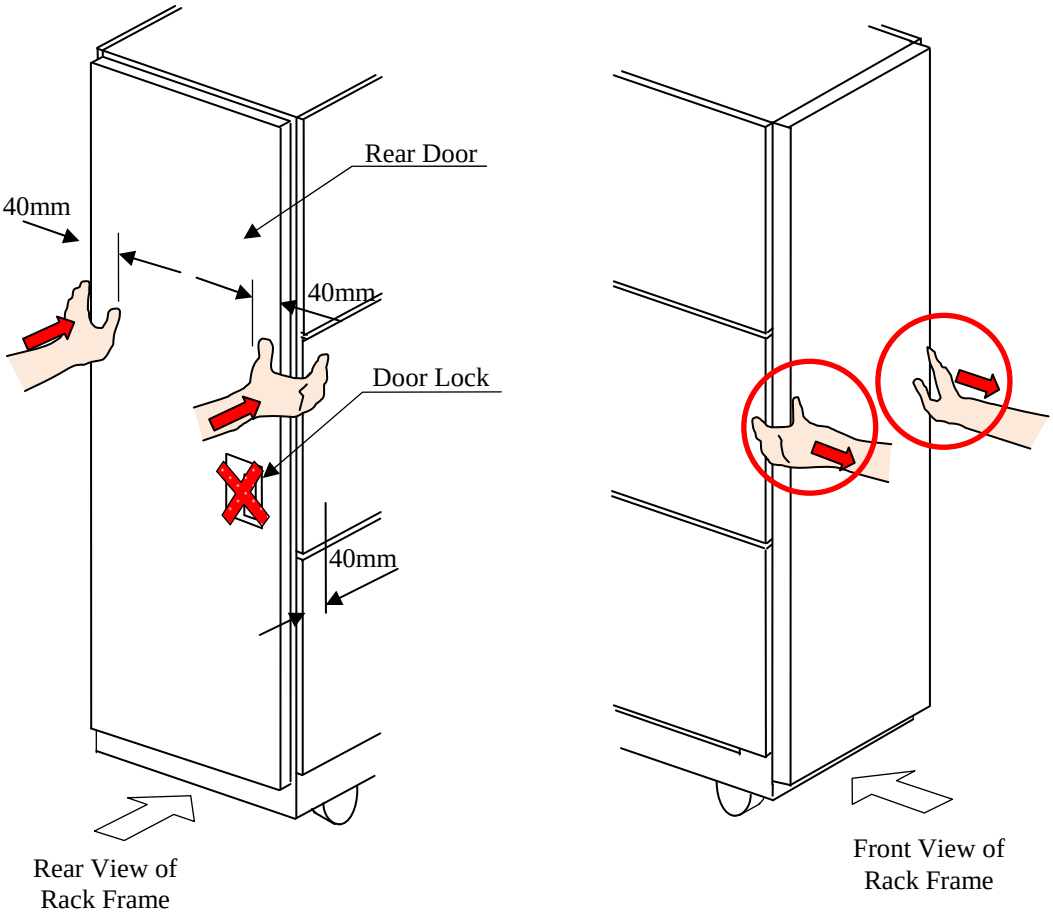


Fig. 3.3-2 Forward Movement Operation

Copyright © 2014, Hitachi, Ltd.

Moving the equipment in a lateral direction

When locating the equipment next to the equipment that was already installed, two persons must cooperate. One pulls the front face of the rack frame and the other holds the side face of the rack frame to move it.

Push the side face of the rack frame slowly with thumbs and bases of them on both edges of the side cover of the middle rack. Do not push the side face when the equipment is in a sloping place. Some of the equipment that has an upper center of gravity may fall down. Pushing the central part of the side cover excluding the part within 40mm from the edge, or boundary part of the side cover strongly may make the side cover caved in.

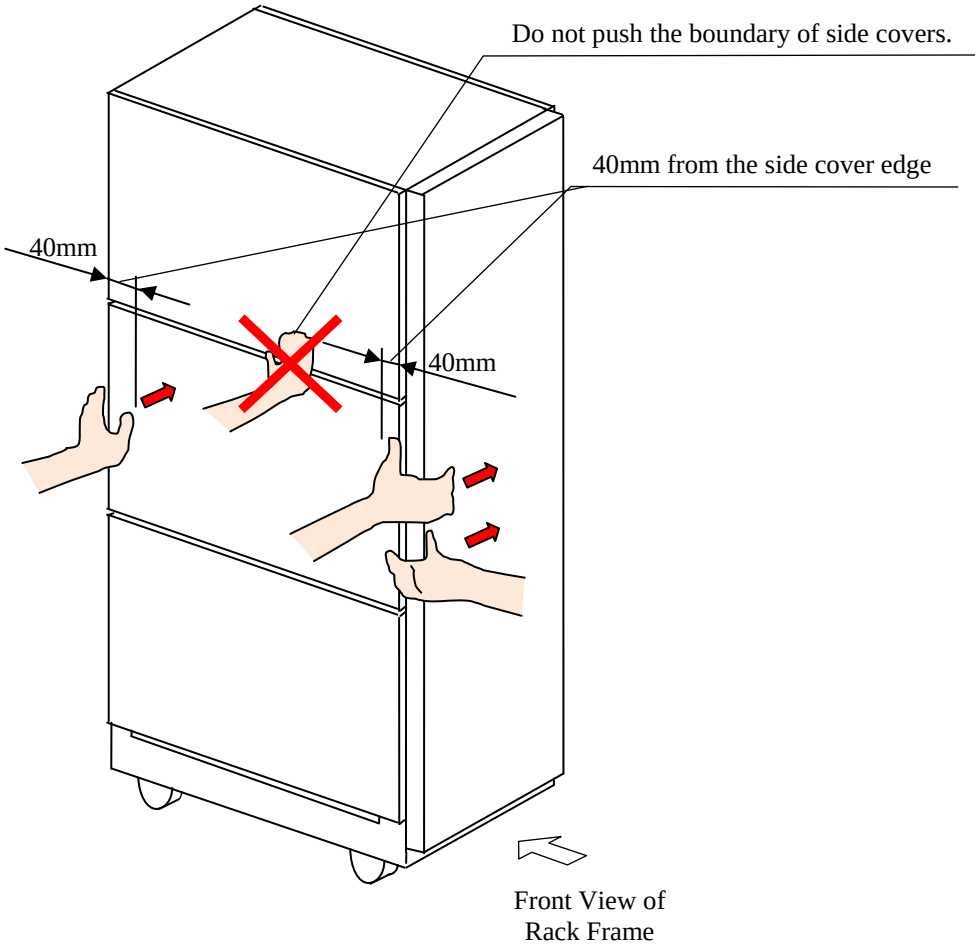


Fig. 3.3-3 Lateral Movement Operation

Copyright © 2014, Hitachi, Ltd.

Table 3.3-1 Parts List

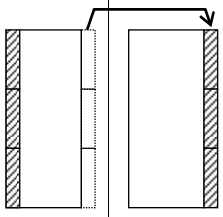
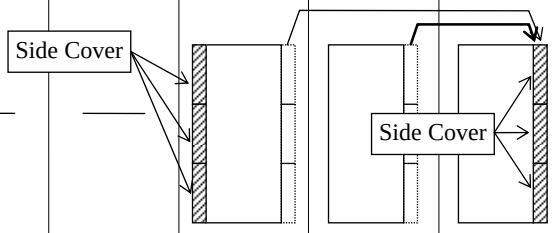
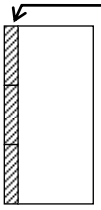
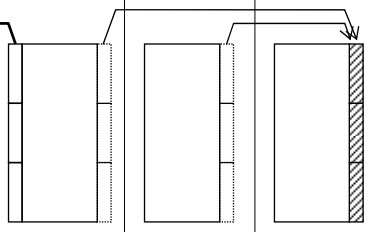
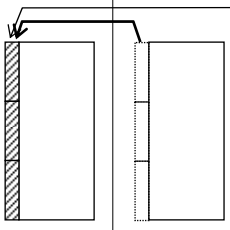
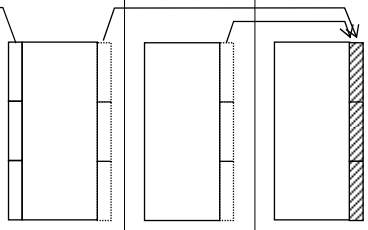
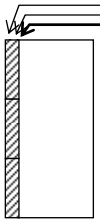
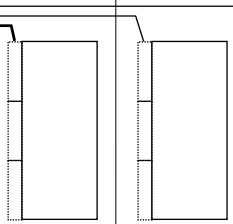
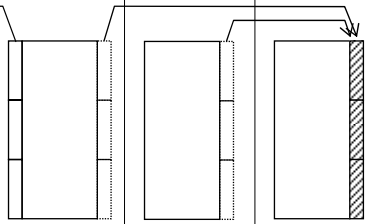
No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-RK42	42U Rack Frame	1510159-C	1	
		Packing Work ①	3284263-D	1	
		Screw	SB410N	8	Components of Packing Work ①
		Packing Work ②	3283388-B	1	
		HEX Socket Bolt	BS871N	2	Components of Packing Work ②
		Washer	WP008N	4	
		Nut	NF008S	2	
		Packing Work ③	3283388-D	1	
		Screw	SB406N	2	Components of Packing Work ③
		Lock Washer	WT004N	2	
		FG Cable	5524153-1	1	
		Packing Work ④	3287251-A	1	
		Rack Nut	5510146-1	4	Components of Packing Work ④
		Packing Work ⑤	3287251-C	1	
		Screw	SB510N	4	Components of Packing Work ⑤
		Fix Plate	5546451-1	2	Fix Plate S
		Loop Cable Tie	5552567-1	4	
		Nameplate (HDS)	2854918-4	1	ITPD
		(DKC-F810I-RK42)	2855886-4/504		HICAM/HICEF
		Nameplate (HP)	2855811-4	1	ITPD
		(H6F54A)	2855994-4/504		HICAM/HICEF
2	DKC-F810I-SCOV	Side Cover	2853308-1	3	
		Side Cover	2853308-2	3	
		Screw	SB406N	12	
		Screw	SB432N	6	
		Washer	5513553-433	6	
3	DKC-F810I-SCOVH	Side Cover	2854995-1	1	HITACHI Logotype
		Side Cover	2854995-2	1	HITACHI Logotype
		Side Cover	2853308-2	1	
		Side Cover	2854995-3	1	HITACHI Logotype
		Side Cover	2854995-4	1	HITACHI Logotype
		Side Cover	2853308-1	1	
		Screw	SB406N	12	
		Screw	SB432N	6	
		Washer	5513553-433	6	

Copyright © 2014, Hitachi, Ltd.

3.3.1 Installation Procedure of Rack and Side Cover

1. Confirmation of Rack Frames Installation Location
   a. Confirm the Rack Frames installation location and the Side Covers installation position.
   b. When the Side Covers are needed to remove, remove the Side Covers referring to Fig. 3.3.1-5.

Table 3.3.1-1 Removal and Re-installation of Side Cover

Configuration	RACK-12	RACK-11	RACK-10	RACK-00	RACK-01	RACK-02
2 Frames	———	———	———			———
3 Frames	———	———	———			
4 Frames		———				
5 Frames	———					
6 Frames						

Copyright © 2014, Hitachi, Ltd.

2. Installation of Rack Frames
   a. Move the Rack Frames to the installation location.
   b. Line up the position between the rack frames to connect.
   c. Adjust the height and the inclination of the Rack Frames by the four screw jacks in the lower part of the Rack Frames. Ensure the clearance between the caster and the floor by approximately 2.5mm when the height adjustment is performed. (One revolution of screw jack = 2.5mm)

⚠ CAUTION

Caution of Over-Turning/Jammed Connecting Bolts:
Work carefully for the height adjustment. A lack of balance that only one part rises too much causes the over-turning. The height of the screw jacks shall be adjusted in 1/4 rotations evenly into the four places in order. Failure to do this may put too much stress on the connecting bolts and jam the bolts, making it impossible to remove them in the worst case scenario.

Caution of Breakage:
This equipment is very heavy and applies pressure to screw jacks. If you fail to jack up the equipment by rotating the four screw jacks in 1/4 turn increments evenly, the screw jacks may jam and be broken.

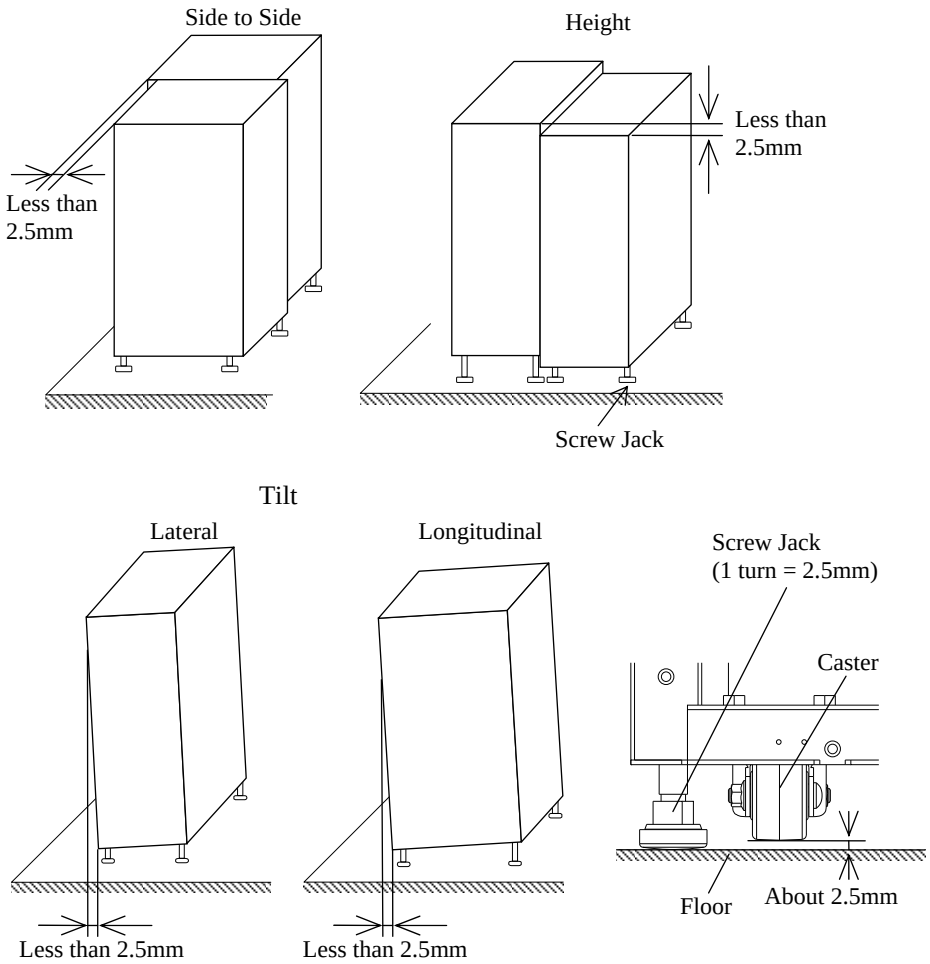


Fig. 3.3.1-1 Adjusting Screw Jacks

Copyright © 2014, Hitachi, Ltd.

3. Connection of Rack Frames
   a. Remove the two screws from the front side of the Rack Frames to be connected and then remove the two panels by moving them upward.

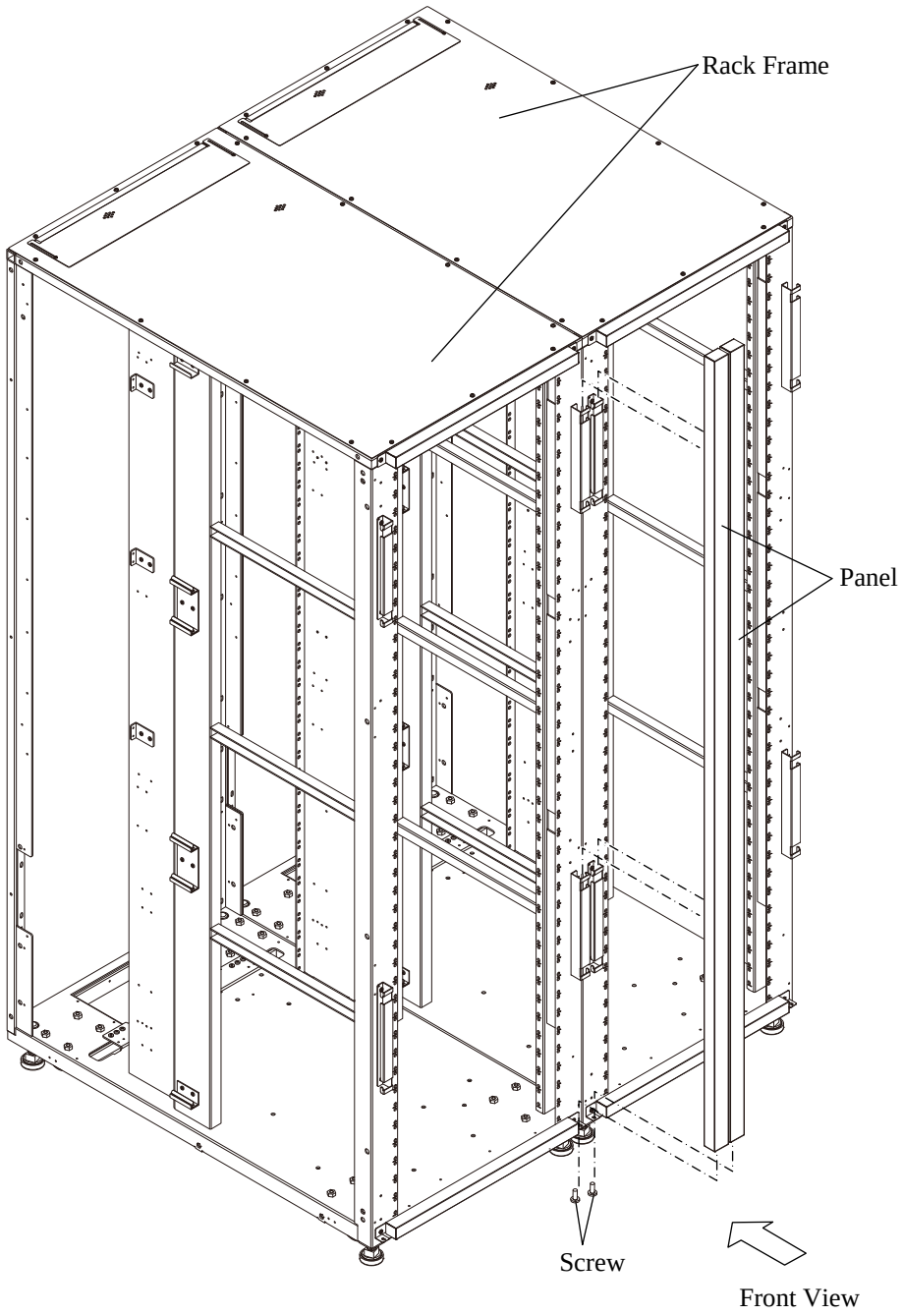


Fig. 3.3.1-2 Removal of Panels

Copyright © 2014, Hitachi, Ltd.

b. Connect the front of Rack Frames with the two fix plates and the eight screws.

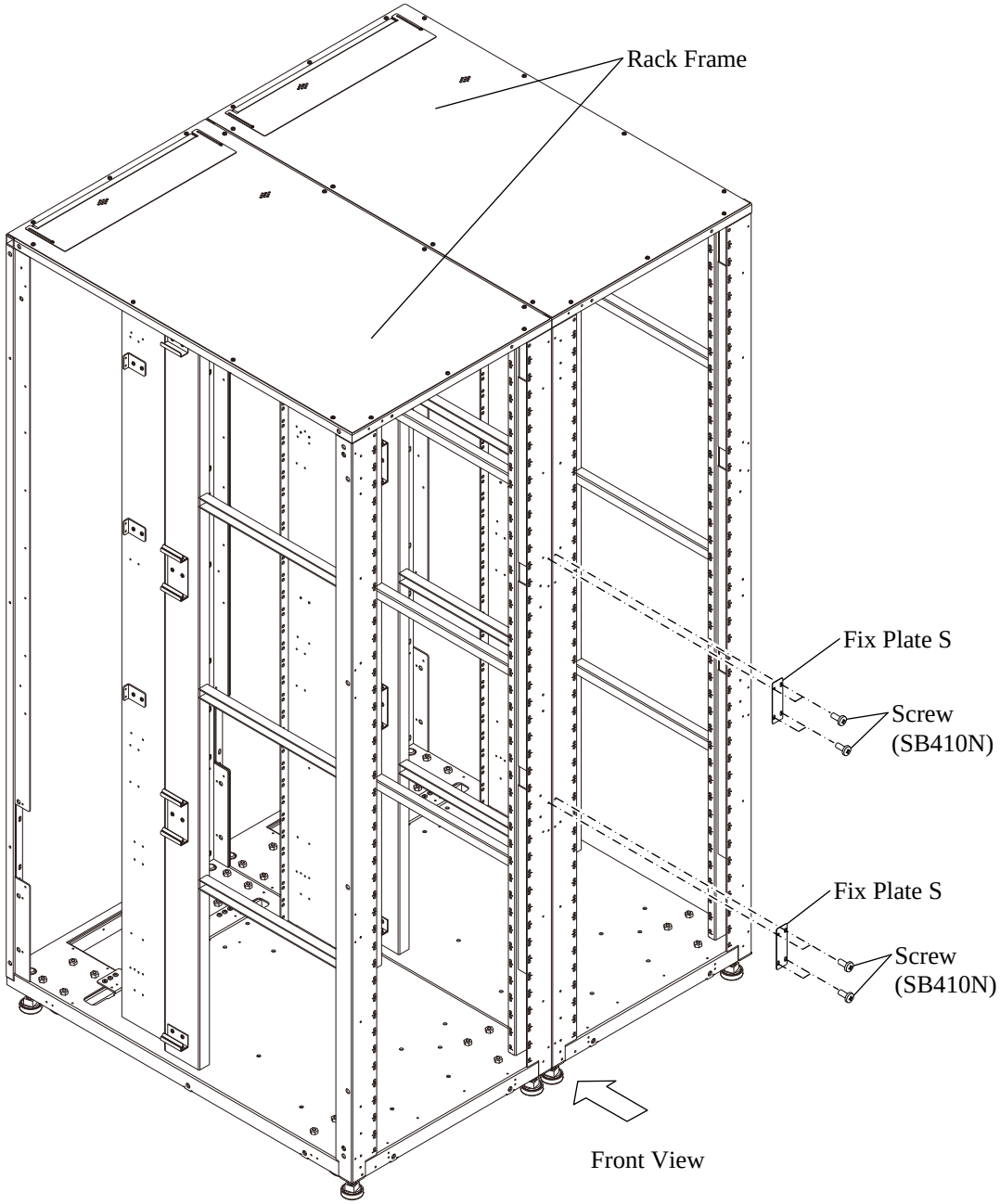


Fig. 3.3.1-3 Connection of Rack Frames (Front)

Copyright © 2014, Hitachi, Ltd.

c. Connect the Rack Frames with the two HEX socket bolts, the four washers and the two nuts.
d. Reinstall the two panels that is removed on the procedure a, and secure them with the two screws. (Refer to Fig. 3.3.1-2.)

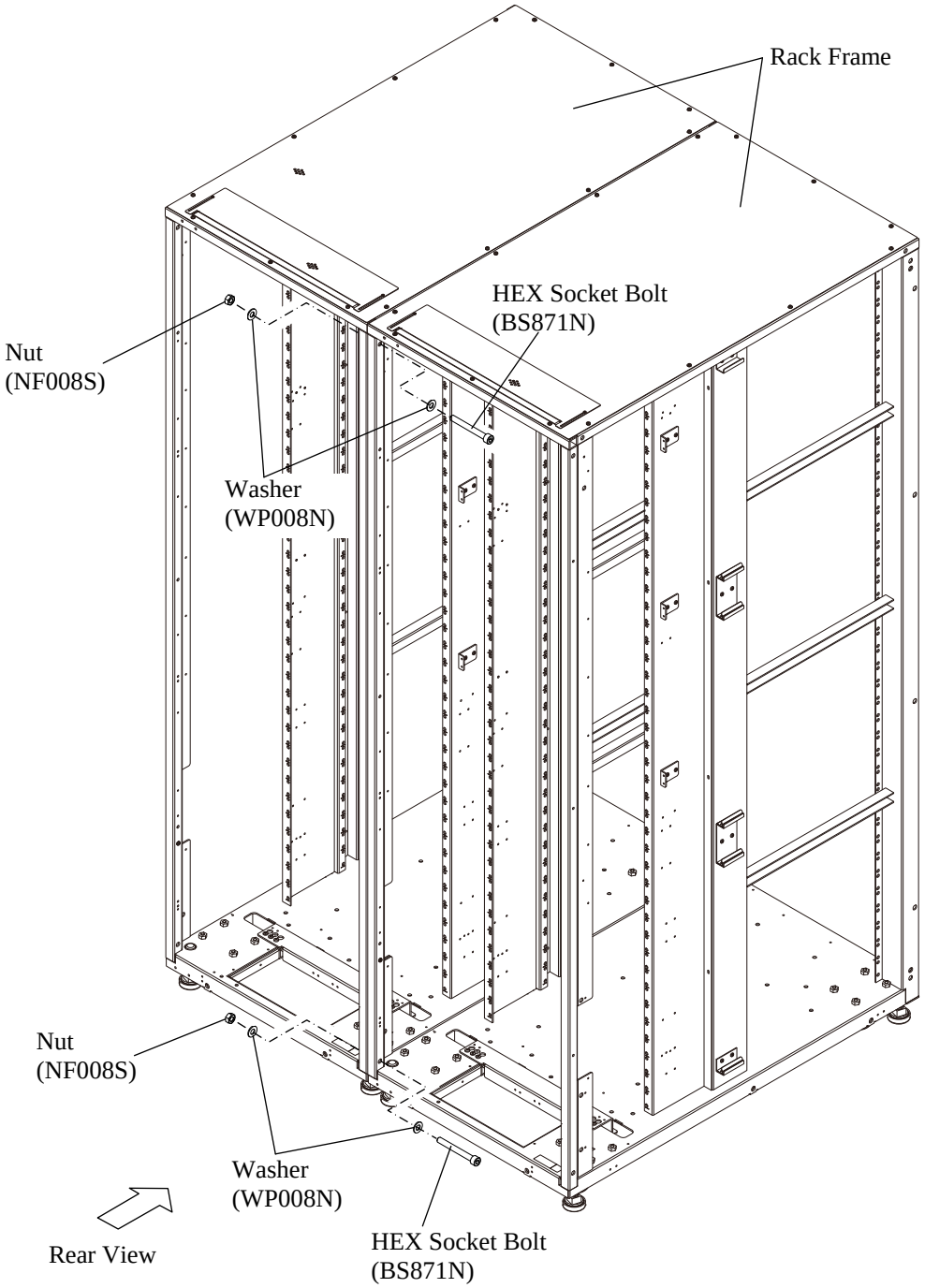


Fig. 3.3.1-4 Connection of Rack Frames (Rear)

Copyright © 2014, Hitachi, Ltd.

4. Installation of Side Covers

⚠ CAUTION

Paying attention to falls:
Dropping a side cover may cause injury.
When installing or removing the side cover, hold the cover firmly with both hands and be careful not to drop it on your feet. Make sure the side cover is hung on the hook of the rack frame side when it is installed.

a. Install the three side covers by hanging them on the hooks of the rack frame side on the left end of the storage system. Install the side covers from the lower sequentially.
Remove the side covers from the top sequentially when removing them.
b. Secure them with the six screws ①, the three screws ② and the three washers.
c. Install the side covers on the right end of the Storage system as well as the left end.

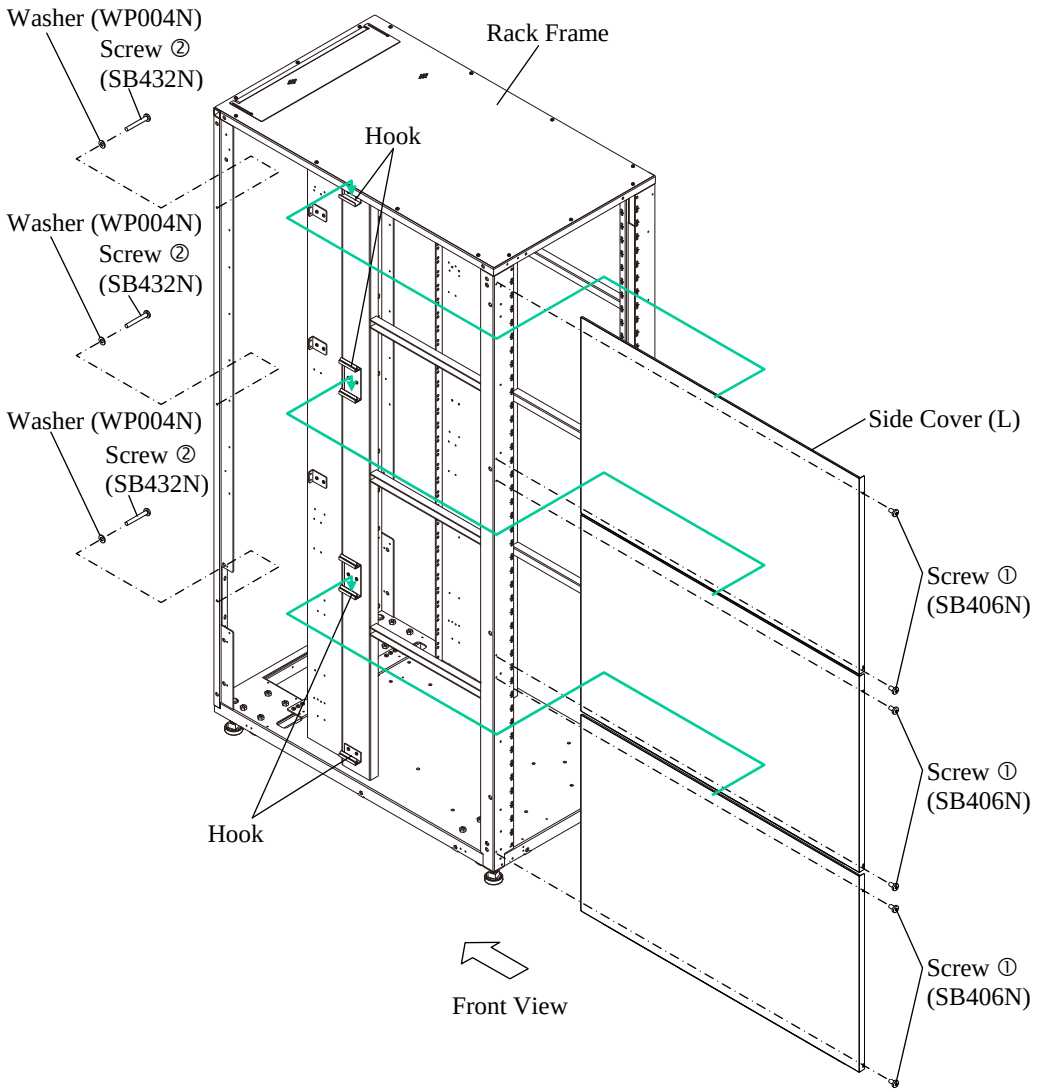


Fig. 3.3.1-5 Attachment of Side Covers (SCOV)

Copyright © 2014, Hitachi, Ltd.

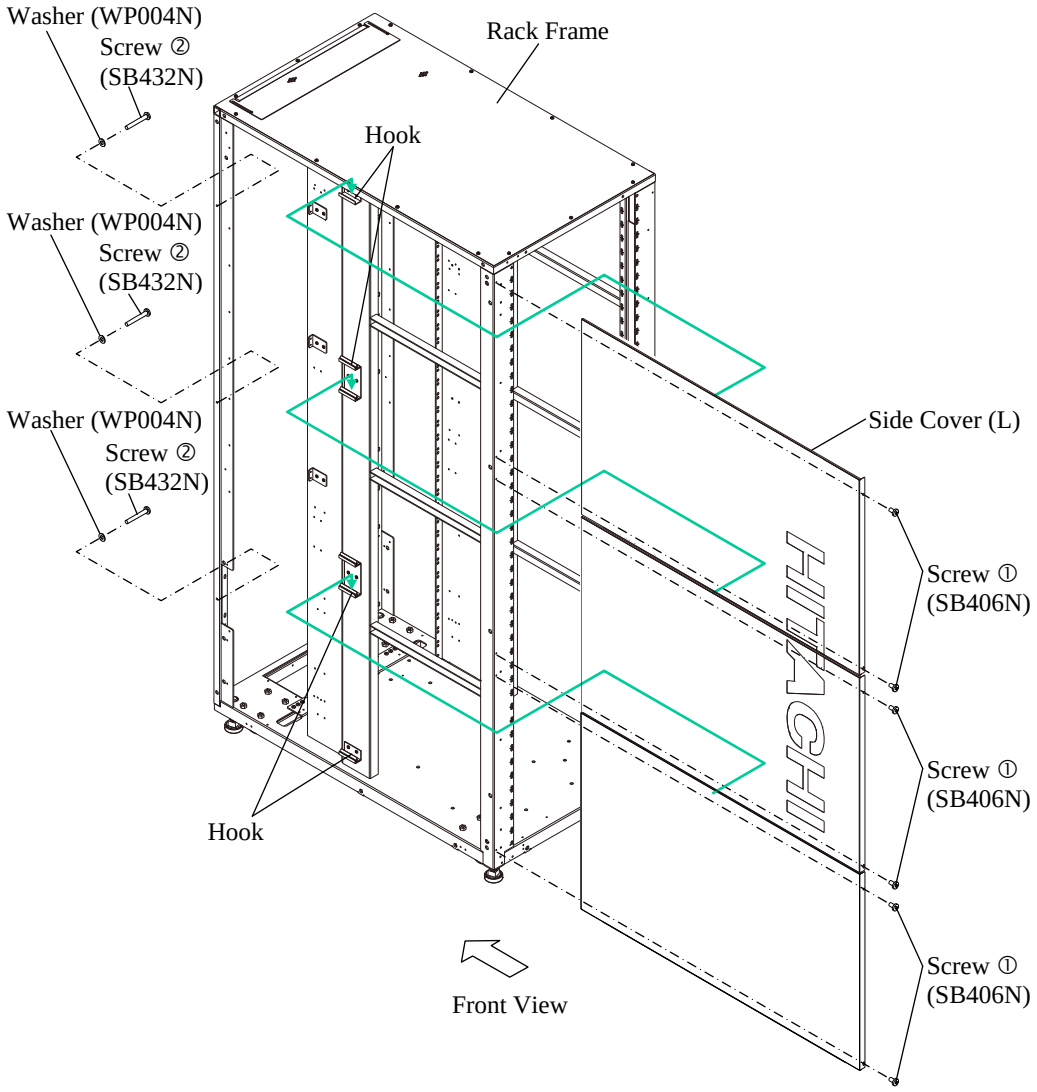
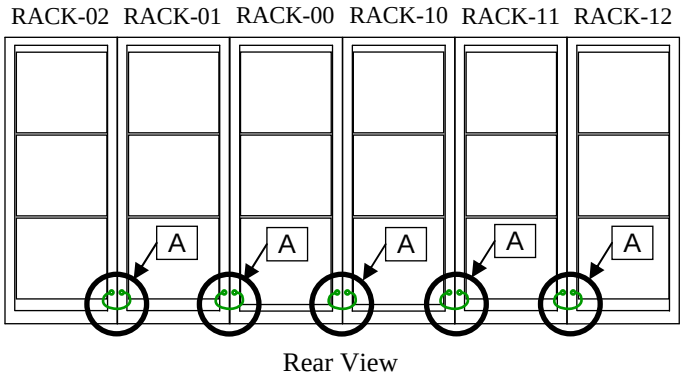


Fig. 3.3.1-6 Attachment of Side Covers (SCOVH)

Copyright © 2014, Hitachi, Ltd.

5. Attachment of FG cable
   a. Attach the FG cable to the rear side of the racks, and secure it with the two screws and the two lock washers.



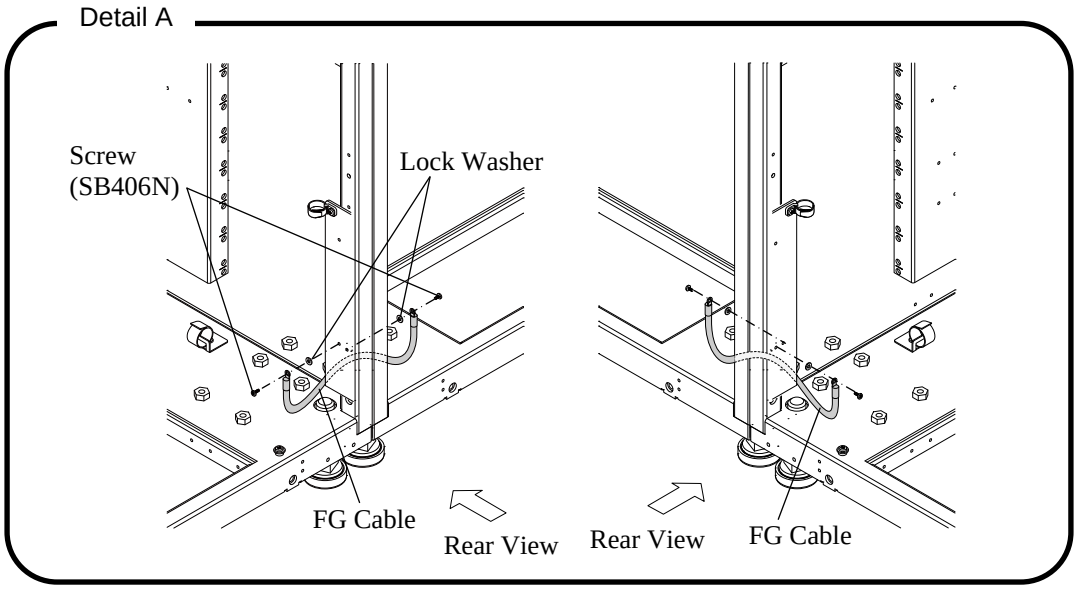


Fig. 3.3.1-7 Attachment of FG Cable

Copyright © 2014, Hitachi, Ltd.

6. Attachment of Nameplate
   a. Attach the DKC-F810I-RK42 nameplate to the RACK bottom base of the rear side.

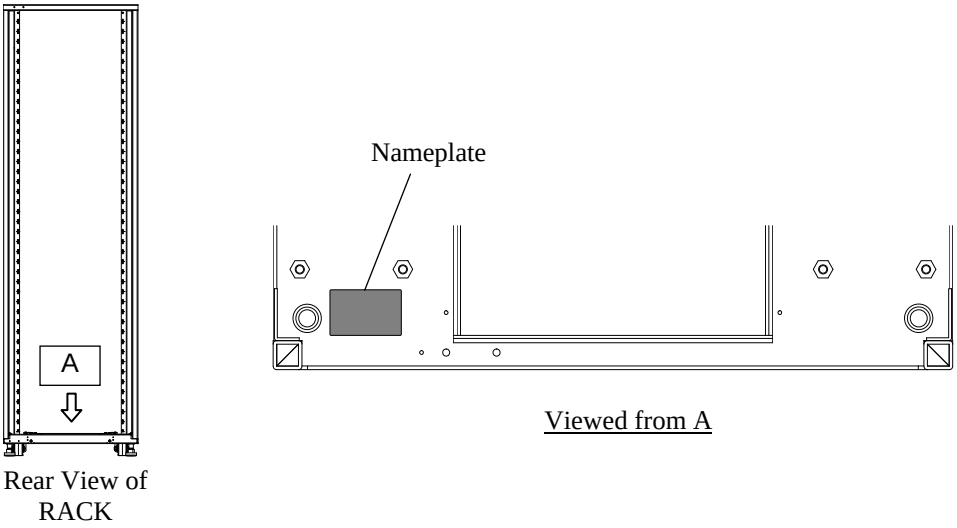


Fig. 3.3.1-8 Attachment of Nameplate

7. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.4 Installation of Controller Chassis (DKC810I-CBXA, DKC-F810I-CBXB/CRF42/CRF3R/BCH/BCP)

Notes when installing the DKC-F810I-CBXB:

Please note that an installation for the additional CHA, DKA, HDD and so on at the same time as CBXB must be executed in steps as follows.

[Installation Sample]

Step1: Installation of Controller Chassis (DKC-F810I-CBXB) INST03-04-10
Step2: Installation of Processor Blade, HUB, Inter-Controller Connecting Kit/Cable and Cache Memory (DKC-F810I-MP/HUB/MOD5/MFC5/MOD1J/MFC1J/CM16G/CM32G/CPEX/BKMS/BKML/BMM128/BMM256) INST03-07-10
Step3: Installation of Channel Adapter (DKC-F810I-8FC16/16FC8/16MS8/16ML8) INST03-08A-10
Step4: Installation of Drive Chassis (DKC-F810I-UBX/SBX/FBX) INST03-05-10
Step5: Installation of Disk Adapter, DEV Interface Cable and Drive INST03-11-10

Operate the step 1 to 2 when installing only the additional CBXB.
For the installation of the additional CHA/DKA/HDD at the same time as the CBXB, operate sequentially the step 3 to 5 after finishing the step 1 to 2.
Installing the additional parts for the step 3 to 5 at the same time as the step 1 to 2 is not possible.
Red LEDs for each part light when the parts mentioned above are installed at the same time.
In this case, remove the part at its related operation step and follow the correct procedures to reinstall it.

Copyright © 2014, Hitachi, Ltd.

Table 3.4-1 Parts List of DKC810I-CBXA

Item No.	Part Name	Part No.	Quantity	Remarks
1	DKC	1510157-B	1	
2	Rear Stopper	3287250-1	1	
3	Rear Stopper	3287250-2	1	
4	WA Socket Bolt	3261959-516	4	
5	WA Socket Bolt	3261959-408	4	
6	Screw	SB510N	8	
7	HU Jumper	5521578-1	6	Maintenance Jumper
8	Rack Nut	5510146-1	12	
9	Cable Duct	3287313-A	1	
10	Cable Duct	3287313-B	1	
11	Label (QTY)	3268905-1	1	
12	Label (V/Hz/PH.)	3283091-1	2	
13	S/R ASSY	3287308-A	1	
14	Screw	SB406N	2	
15	Parts Location	5557373-1	1	
16	Label (VCCI)	5545024-1	1	For HDS/HP
17	Label (BSMI-D3300)	3265644-4	1	For HDS
18	Label NOISE (FCC/CSA)	3283107-1	1	For HDS/HP
19	Label (KOREA-KC)	3287464-1	1	For HDS
20	Label (BSMI)	3269907-1	1	For HP
21	Label (BSMI NAME)	5552998-1	1	
22	CE Address Label	2854907-1	1	For HDS
		3290520-1		
23	CE Address Label	2854907-2	1	For HP
		3290520-2		
24	Modular Plug Cord	5533144-5	1	
25	EMI Core	5513535-1	3	
26	Nameplate (HDS)	2854917-4	1	ITPD
	(DKC810I-CBXA)	2855885-31		HICAM
		2855885-531		HICEF
27	Nameplate (HP)	2854917-6	1	ITPD
	(H6F56A (Regulatory))	2855885-33		HICAM
		2855885-506		HICEF
28	Nameplate (HDS)	2854918-1	1	ITPD
	(DKC810I-CBXA (Traceable))	2855886-1		HICAM
		2855886-501		HICEF

Copyright © 2014, Hitachi, Ltd.

Table 3.4-2 Parts List of DKC-F810I-CBXB

Item No.	Part Name	Part No.	Quantity	Remarks
1	DKC	1510157-B	1	
2	Rear Stopper	3287250-1	1	
3	Rear Stopper	3287250-2	1	
4	WA Socket Bolt	3261959-516	4	
5	WA Socket Bolt	3261959-408	4	
6	Screw	SB510N	8	
7	HU Jumper	5521578-1	6	Maintenance Jumper
8	Rack Nut	5510146-1	12	
9	Cable Duct	3287313-A	1	
10	Cable Duct	3287313-B	1	
11	Label (QTY)	3268905-1	1	
12	Label (V/Hz/PH.)	3283091-1	2	
13	S/R ASSY	3287308-A	1	
14	Screw	SB406N	2	
15	Parts Location	5546147-1	1	
16	Label (VCCI)	5545024-1	1	For HDS/HP
17	Label (BSMI-D3300)	3265644-4	1	For HDS
18	Label NOISE (FCC/CSA)	3283107-1	1	For HDS/HP
19	Label (KOREA-KC)	3287464-1	1	For HDS
20	Label (BSMI)	3269907-1	1	For HP
21	Label (BSMI NAME)	5552998-1	1	
22	CE Address Label	2854907-1	1	For HDS
		3290520-1		
23	CE Address Label	2854907-2	1	For HP
		3290520-2		
24	—	—	—	
25	—	—	—	
26	Nameplate (HDS) (DKC-F810I-CBXB)	2854917-5	1	ITPD
		2855885-32		HICAM
		2855885-532		HICEF
27	Nameplate (HP) (H6F57A (Regulatory))	2854917-7	1	ITPD
		2855885-34		HICAM
		2855885-507		HICEF
28	Nameplate (HDS) (DKC-F810I-CBXB (Traceable))	2854918-2	1	ITPD
		2855886-2		HICAM
		2855886-502		HICEF

Copyright © 2014, Hitachi, Ltd.

Table 3.4-3 Parts List of DKC-F810I-CRF42

Item No.	Part Name	Part No.	Quantity	Remarks
101	Rail	3287119-2	2	
102	Rack Nut	5510146-1	8	
103	WA Socket Bolt	3261959-510	8	

Table 3.4-4 Parts List of DKC-F810I-CRF3R

Item No.	Part Name	Part No.	Quantity	Remarks
201	Rail L	3287401-A	1	
202	Rail R	3287401-B	1	

Table 3.4-5 Parts List of DKC-F810I-BCH

Item No.	Part Name	Part No.	Quantity	Remarks
301	Bezel (8U) ASSY	3287331-B	1	
302	Bezel (2U) ASSY	3287332-A	1	
303	Bezel Bracket (2U)	5555016-A	2	
304	Bezel Bracket R	5555017-A	1	
305	Side Cover L	2854990-101	1	
306	Side Cover R	2854991-1	1	
307	Lower Cover	3287273-1	1	
308	Bezel Bracket L	3287274-1	1	
309	Sheet (BLIND)	5555005-1	1	
310	Screw	SB305N	6	
311	TAG INST	5557047-A	1	Key

Table 3.4-6 Parts List of DKC-F810I-BCP

Item No.	Part Name	Part No.	Quantity	Remarks
301	HP Bezel (8U) ASSY	3290503-B	1	
302	HP Bezel (2U) ASSY	3290504-A	1	
303	Bezel Bracket (2U)	5555016-A	2	
304	Bezel Bracket R	5555017-A	1	
305	Side Cover L	2854990-2	1	
306	Side Cover R	2854991-2	1	
307	Lower Cover	3287273-1	1	
308	Bezel Bracket L	3287274-1	1	
309	Sheet (BLIND)	5557315-1	1	
310	Screw	SB305N	6	
311	TAG INST	5557047-A	1	Key

Copyright © 2014, Hitachi, Ltd.

3.4.1 Installation Procedure of Controller Chassis

1. Installing the rails (If the rails are already installed, this installation procedure is not required.)

   EIA units and intervals of mounting holes of 19-inch rack frame conforming to EIA standard
   - A unit (U) space conforming to EIA standard is 19 inches wide and 44.45 mm high as shown in the figure below.
   - The boundary of the unit falls on the middle of the interval of 12.7 mm.
   - Universal intervals: Repeat of 44.45 mm (15.875 mm + 15.875 mm + 12.7 mm)
     Wide intervals: Repeat of 44.45 mm (31.75 mm + 12.7 mm)
     Maximum number of mountable unit spaces: 42U

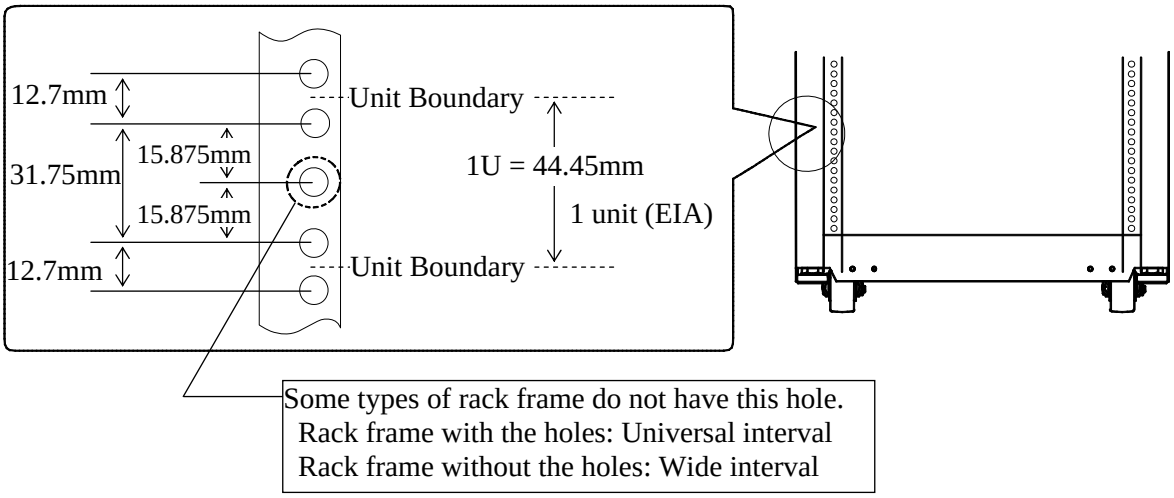


Fig. 3.4.1-1 Attachment Hole Size of Rack

Copyright © 2014, Hitachi, Ltd.

The addresses are given as 1, 2, 3, and so on counted from the bottom of the rack frame. The following figure shows a layout example of installing Controller Chassis in 42 units rack frame. However, installing positions of Controller Chassis may differ according to the construction within the rack frame.

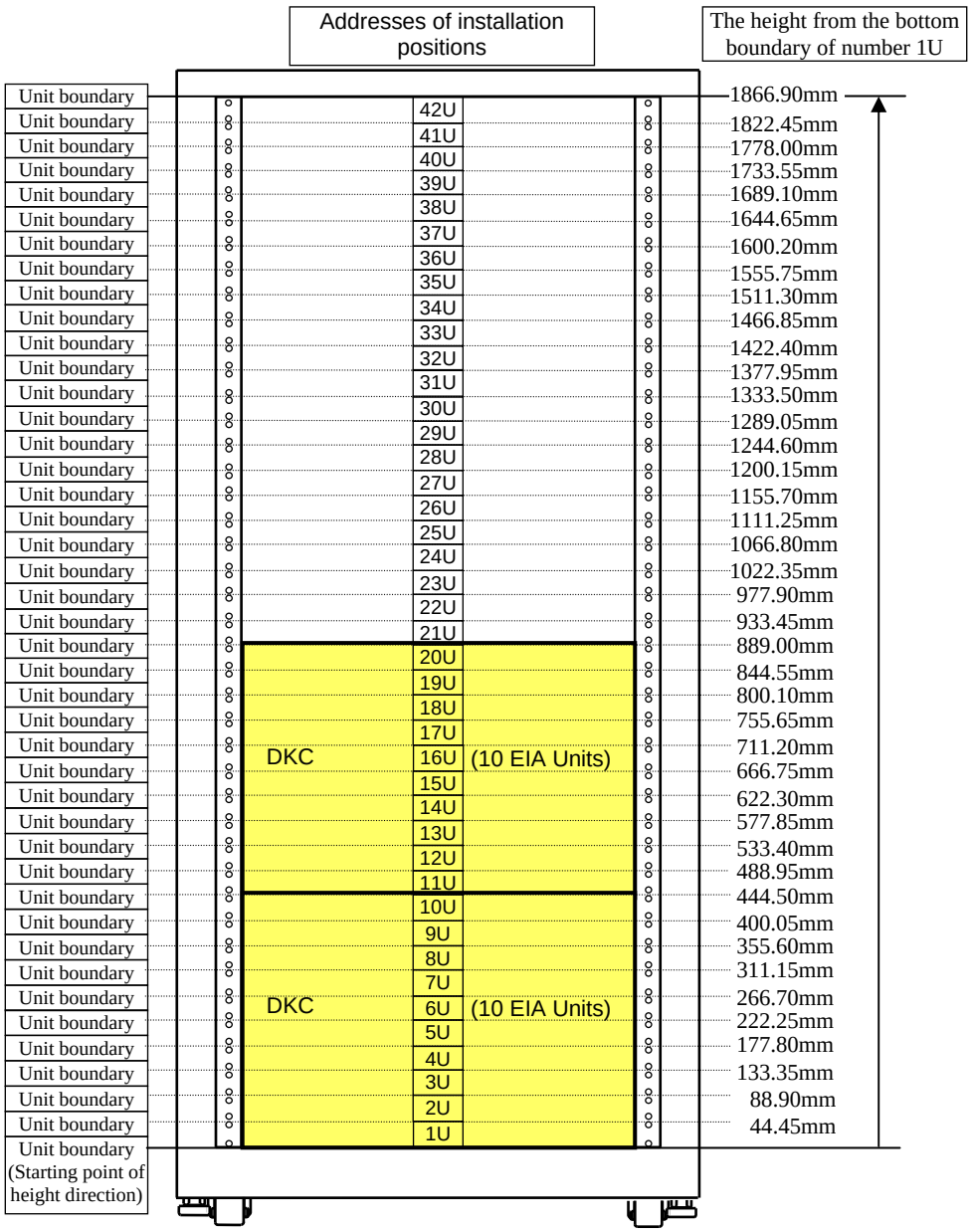


Fig. 3.4.1-2 Whole Layout of Installation Position Addresses

Copyright © 2014, Hitachi, Ltd.

1-1 In the Case of Standard Rails

a. On the right side of the installation location in the rack frame, align the round holes of the rail with those of the rack frame and insert the rack nuts (at four places in total in front and rear).

b. Fasten the rail to the rack frame using the WA socket bolts (at two places each on the front and rear sides).

c. Install the rail to the left side of the rack frame in the same way.

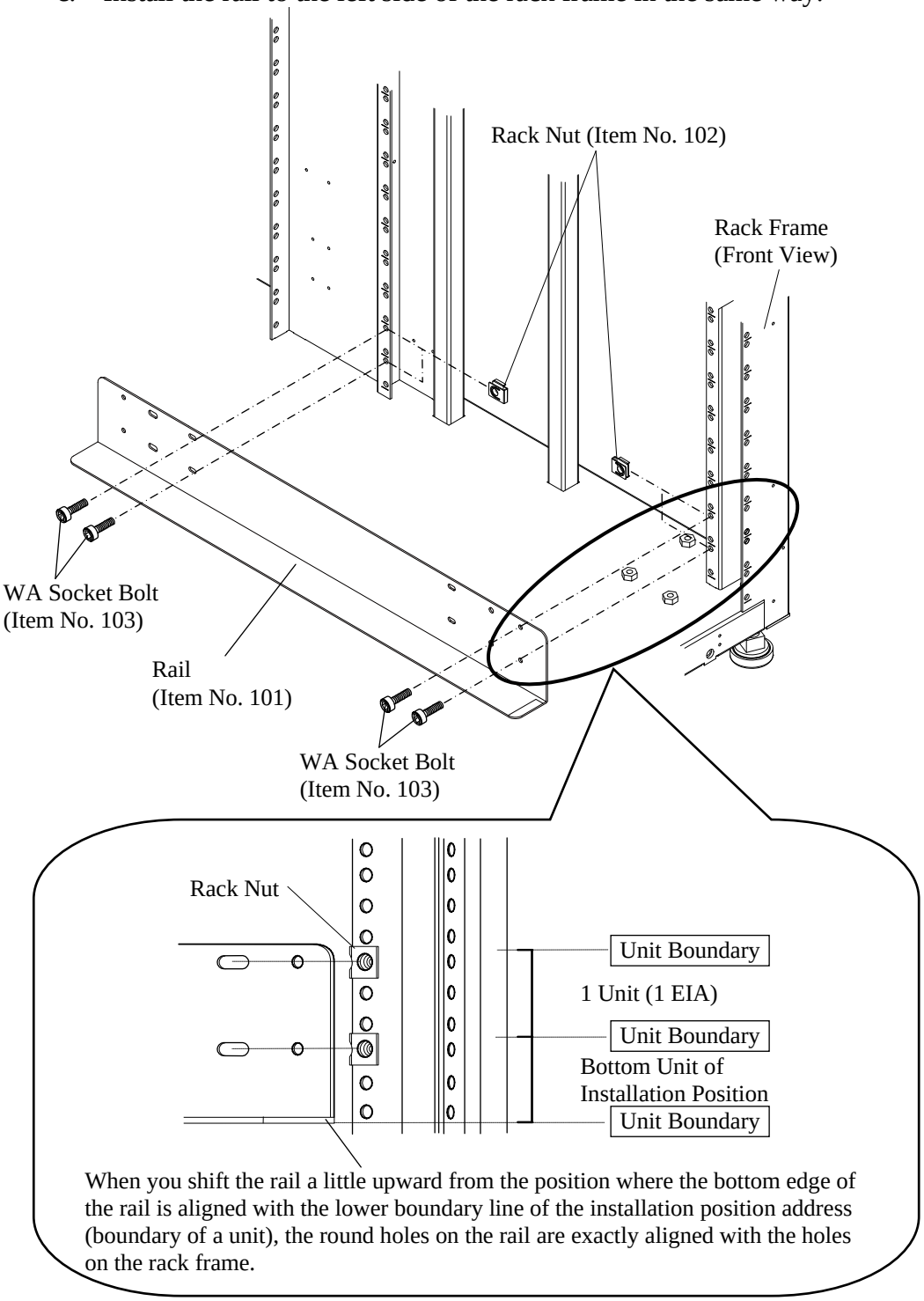


Fig. 3.4.1-3 Attachment of Rails

Copyright © 2014, Hitachi, Ltd.

1-2 In the Case of Adjustable Rails

a. Remove the four screws and four washers from the front and rear side of the rail.

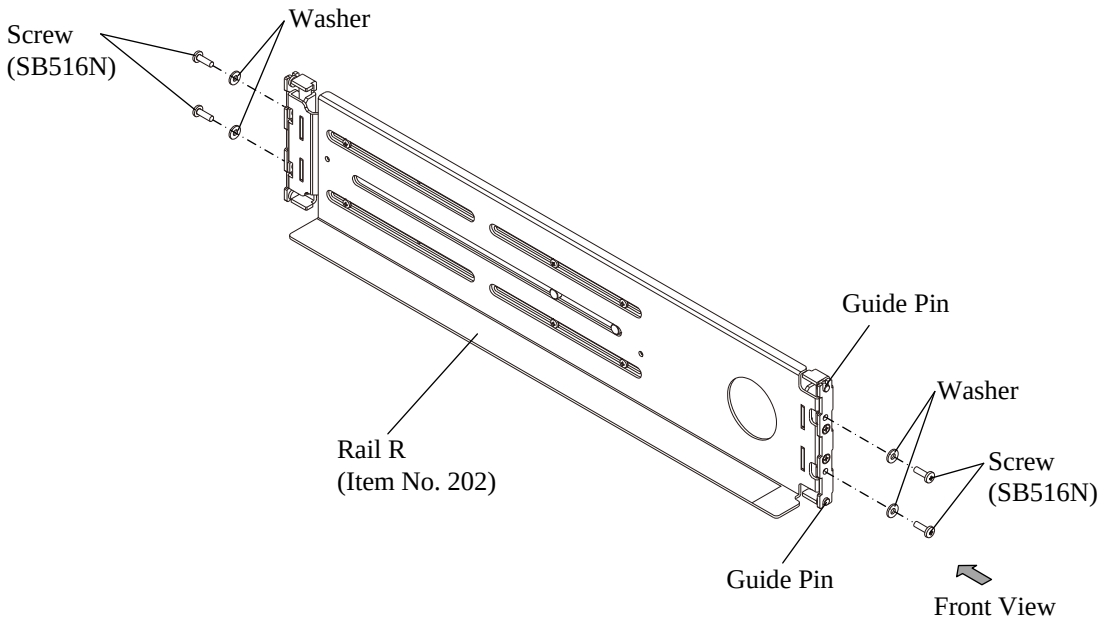


Fig. 3.4.1-4 Removal of Screws and Washers

Copyright © 2014, Hitachi, Ltd.

b. If the insertion holes on the rack frame are square, reinstall the two Positioning Plates on the front and rear side of the rail.
If the insertion holes on the rack frame are round, go to Procedure c.

b-1 Remove the four screws from the front and rear side of the rail and remove the two Positioning Plates.

b-2 Turn the two Positioning Plates 180 degrees and reinstall and secure them to the rail with the four screws.

c. Do the same procedure for the left rail.

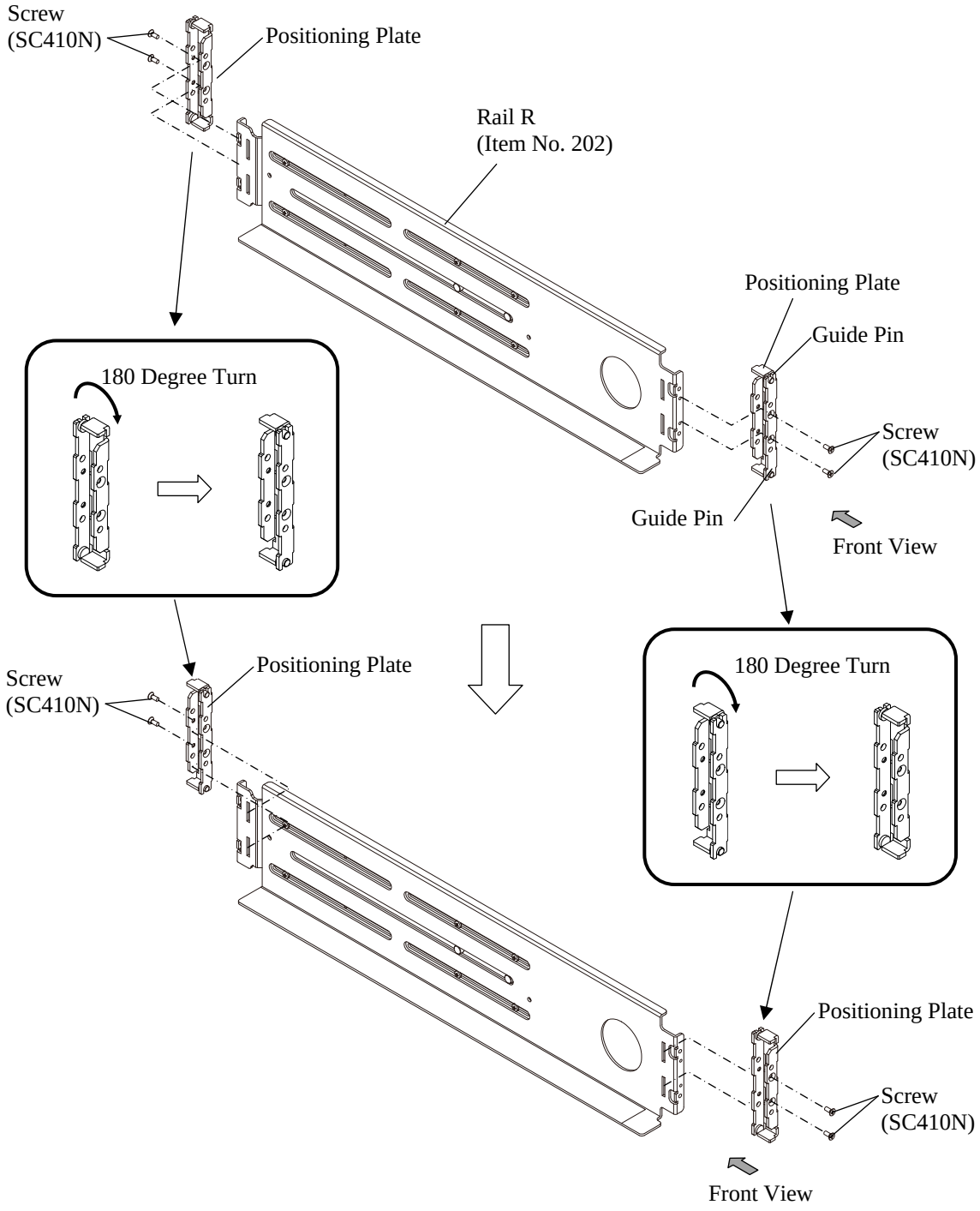
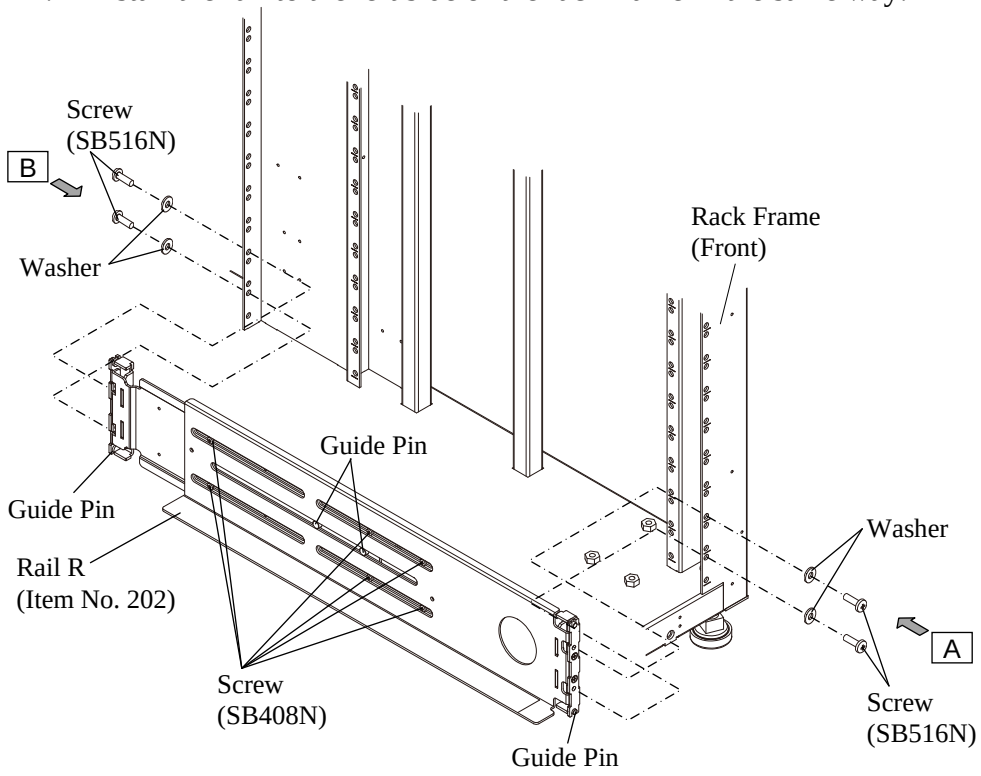


Fig. 3.4.1-5 Reinstallation of Positioning Plates

Copyright © 2014, Hitachi, Ltd.

d. Loosen the six screws on the side of the rail and adjust the length of the rail. (See Fig. 3.4.1-6 or Fig. 3.4.1-7.)
   If the length of the rail does not become the same as the width of the rack frame even after the screws are loosen, remove the six screws and adjust the length again. Then tighten the six screws in the four holes on both sides and the two holes near the Guide Pins.
e. Fit the Guide Pins (or the edges of the Positioning Plate) into the holes on the right front side of the rack frame and tighten the two washers and two screws temporarily.
f. Fit the Guide Pins (or the edges of the Positioning Plate) into the holes on the right rear side of the rack frame and tighten the two washers and two screws temporarily.
g. Fully tighten the four screws that were tightened temporarily in Procedure e and f, pressing the rail against the side of the rack frame.
h. Tighten the six screws on the rail.
i. Install the rail to the left side of the rack frame in the same way.



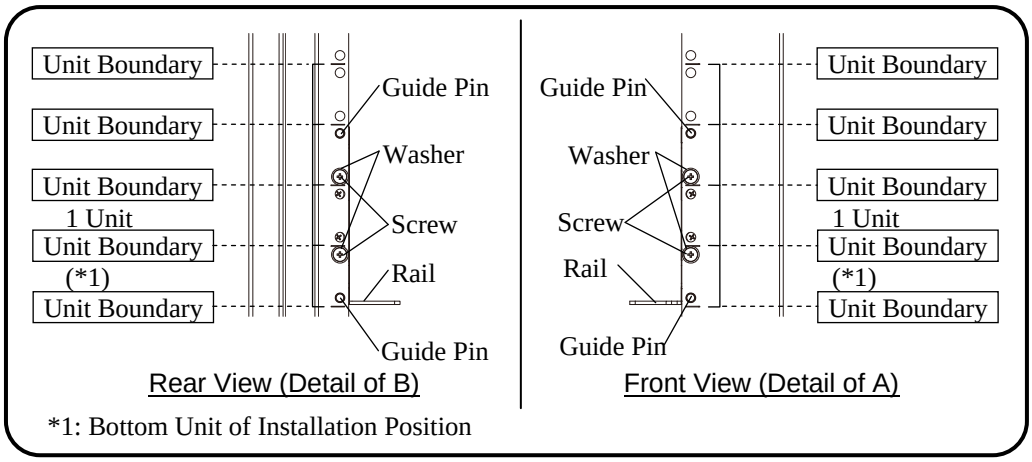
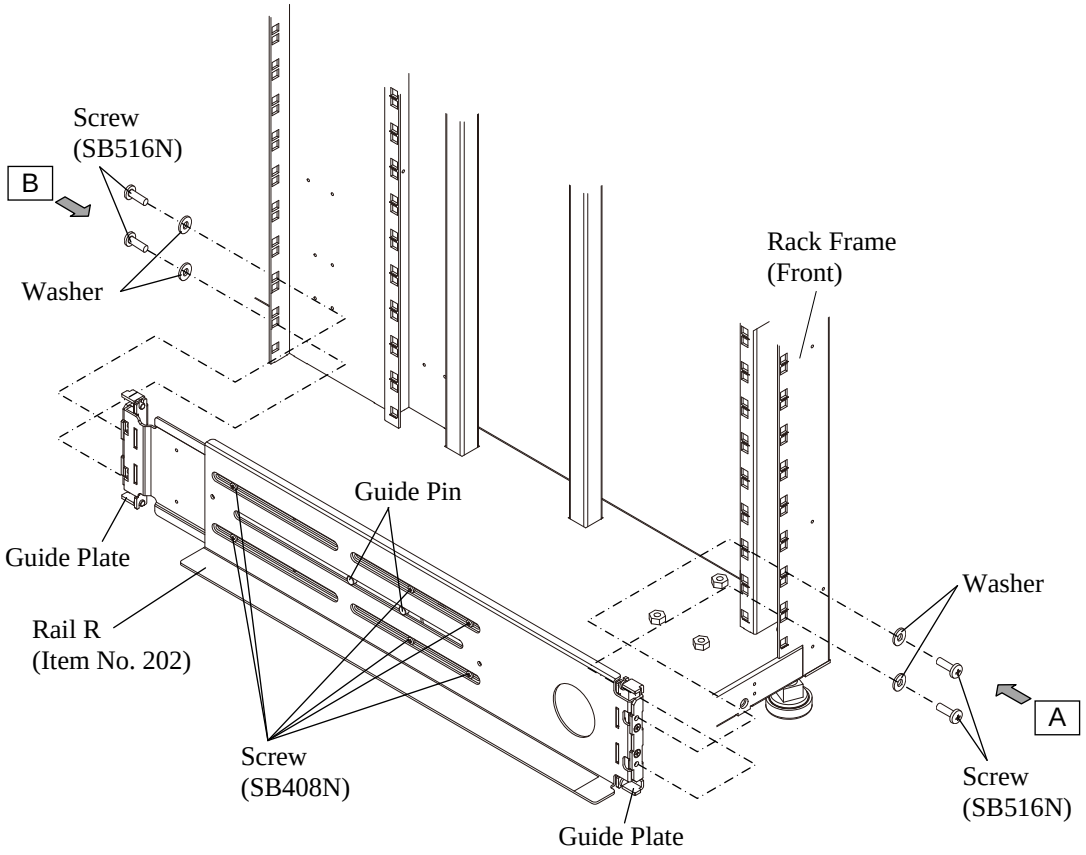


Fig. 3.4.1-6 Attachment of Adjustable Rails (in the Case of Round Insertion Holes.)

Copyright © 2014, Hitachi, Ltd.



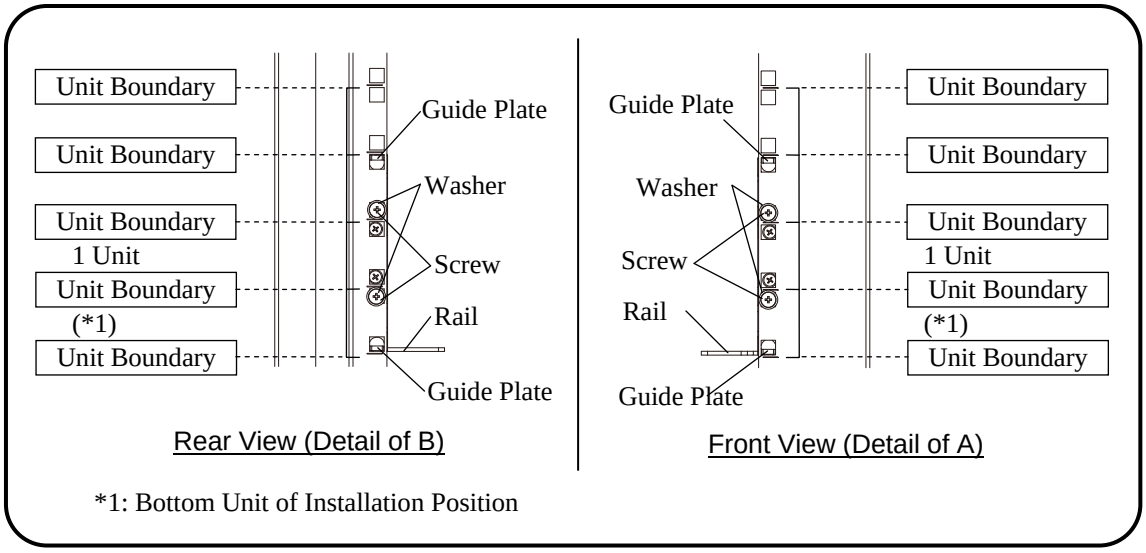
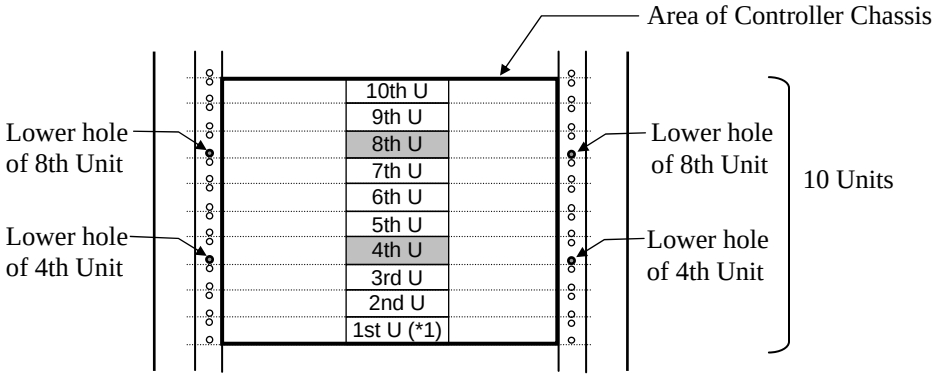


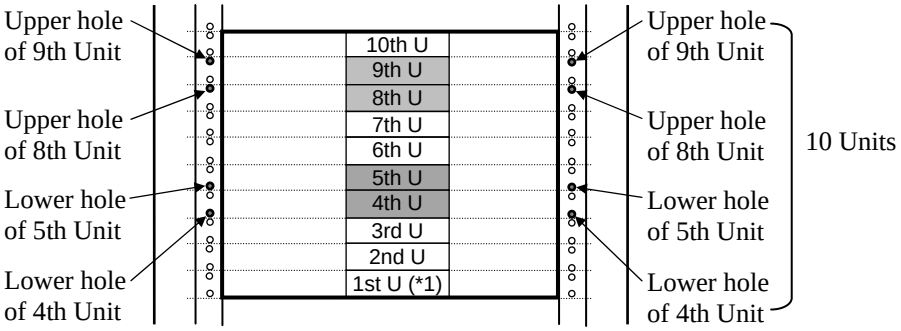
Fig. 3.4.1-7 Attachment of Adjustable Rails (in the Case of Square Insertion Holes.)

Copyright © 2014, Hitachi, Ltd.

2. Installing rack nuts
   a. Fit the two rack nuts to each of the right and left beams on the front side of the rack frame.
   b. Fit the four rack nuts to each of the right and left beams on the rear side of the rack frame.



Front View of Rack Frame



Rear View of Rack Frame

*1: Bottom Unit of Installation Position

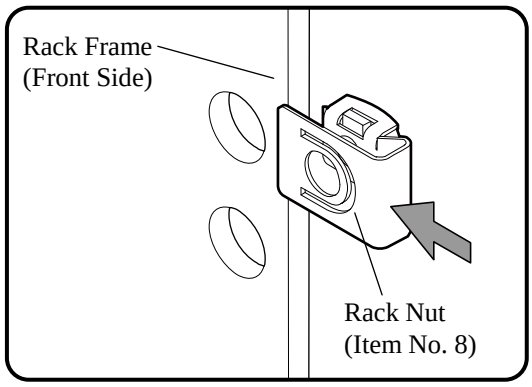


Fig. 3.4.1-8 Attachment of Rack Nuts

Copyright © 2014, Hitachi, Ltd.

3. Installing the DKC

⚠ CAUTION

Paying attention to falls:
Work carefully because the mass of the single DKC is about 140 kg.

a. Install the DKC on the Rack frame referring to mounting procedure using the special lifter. (See INST03-15-10 through 40.)
b. When the bezels are not installed in the DKC, secure the front of the DKC with the four screws.
When the bezels are installed in the DKC, go to Procedure c. (The DKC is secured with the screws and bezel brackets in the procedure described later.)

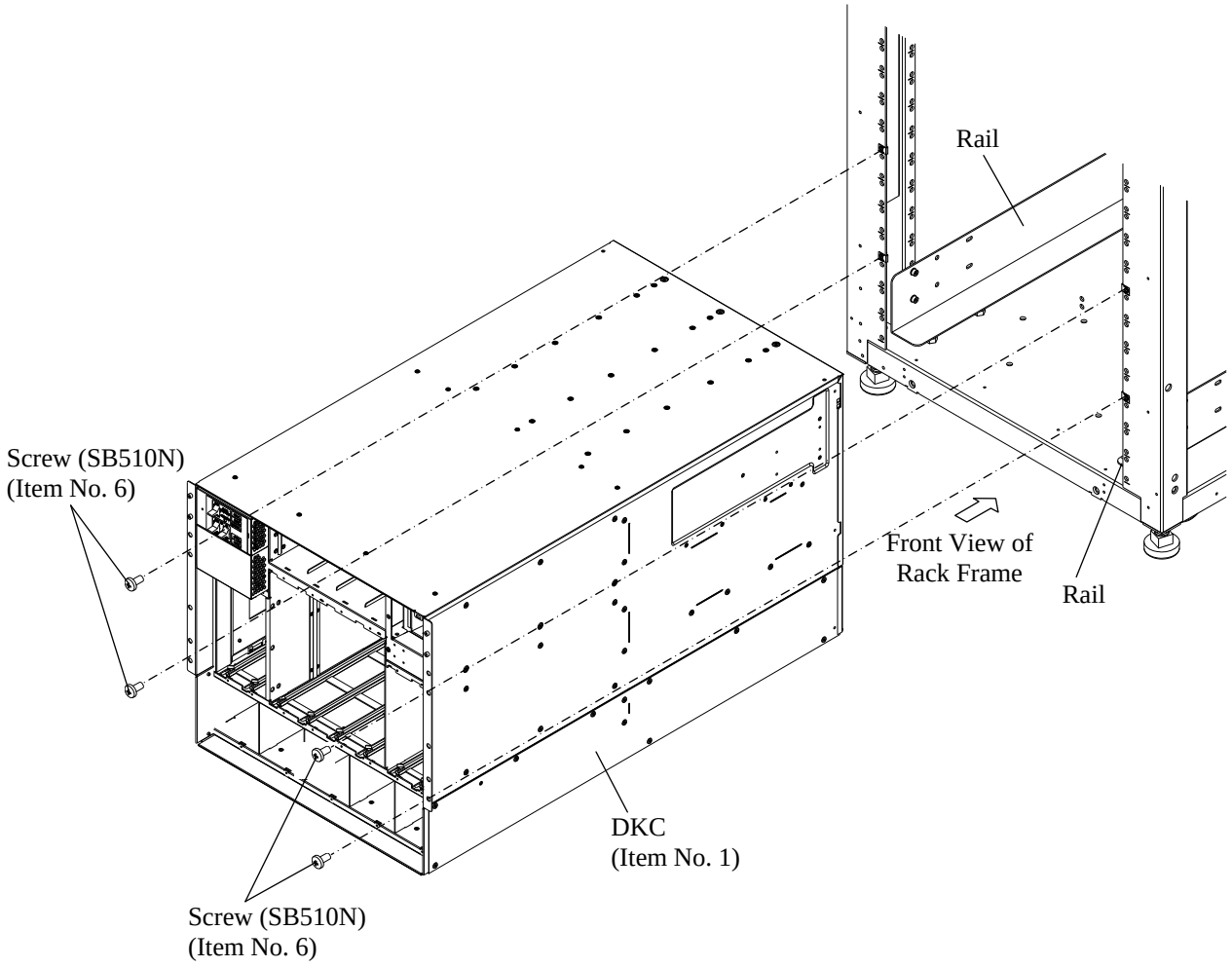


Fig. 3.4.1-9 Installing DKC

Copyright © 2014, Hitachi, Ltd.

c. Attach the two rear stoppers on the rear side of DKC and tighten the WA socket bolts.

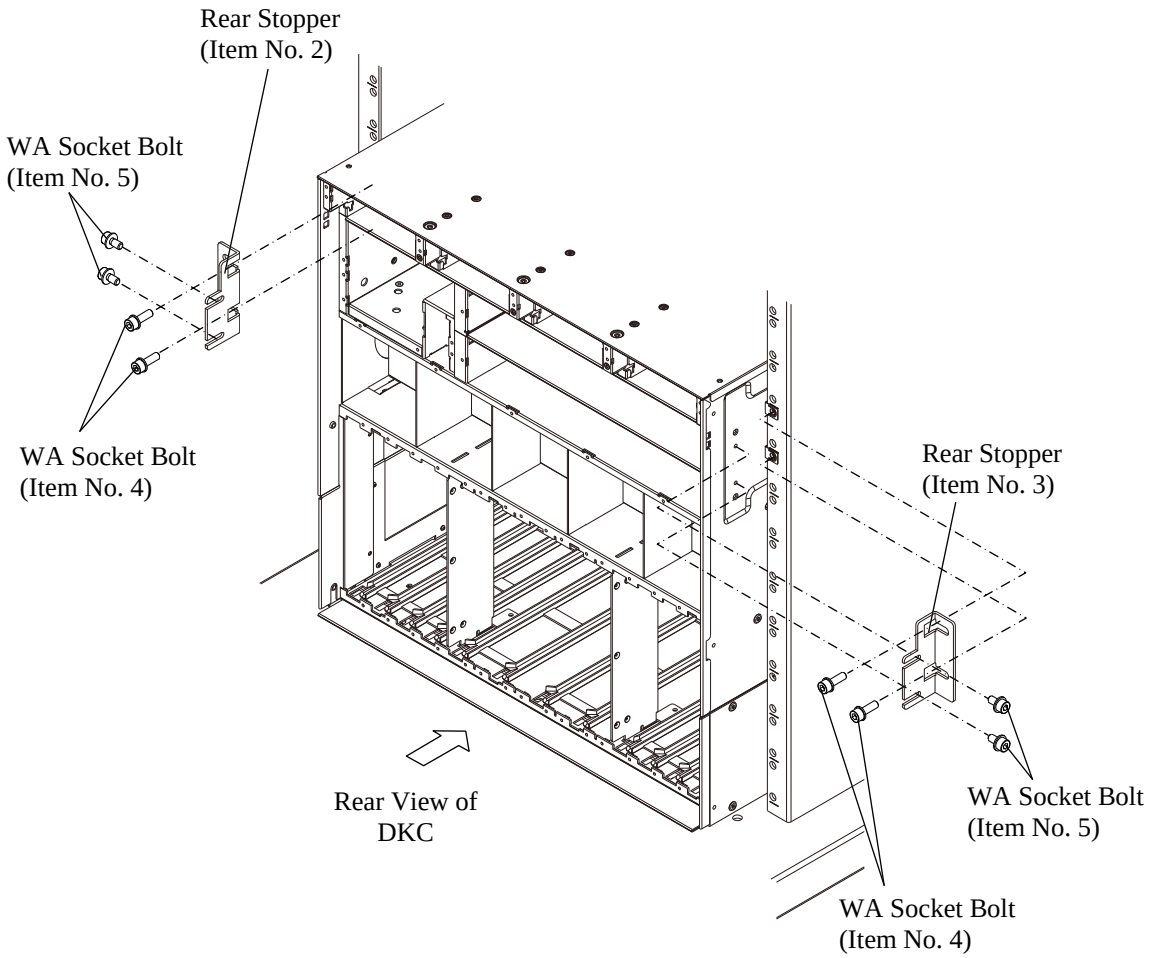


Fig. 3.4.1-10 Attachment of Stoppers

Copyright © 2014, Hitachi, Ltd.

d. Attach the two cable ducts on the rear side of rack and tighten the four screws.

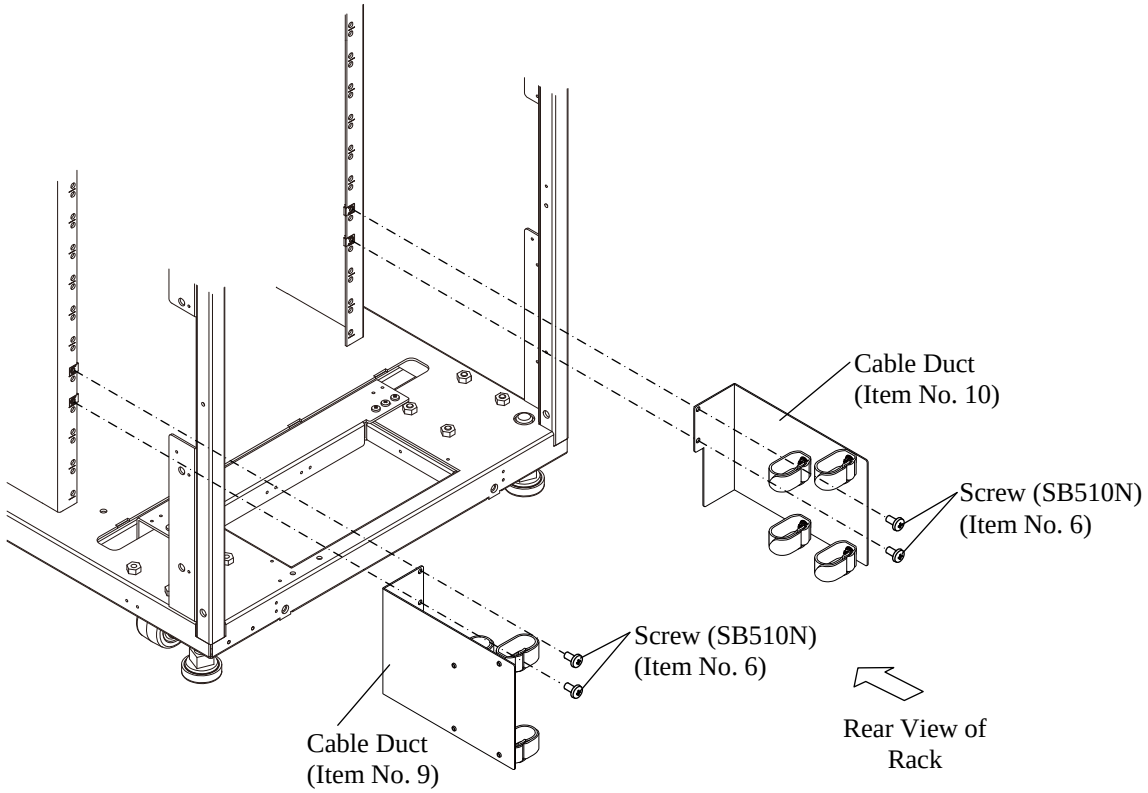


Fig. 3.4.1-11 Attachment of Cable Ducts

e. Attach the S/R ASSY on the rear side of rack and tighten the two screws.

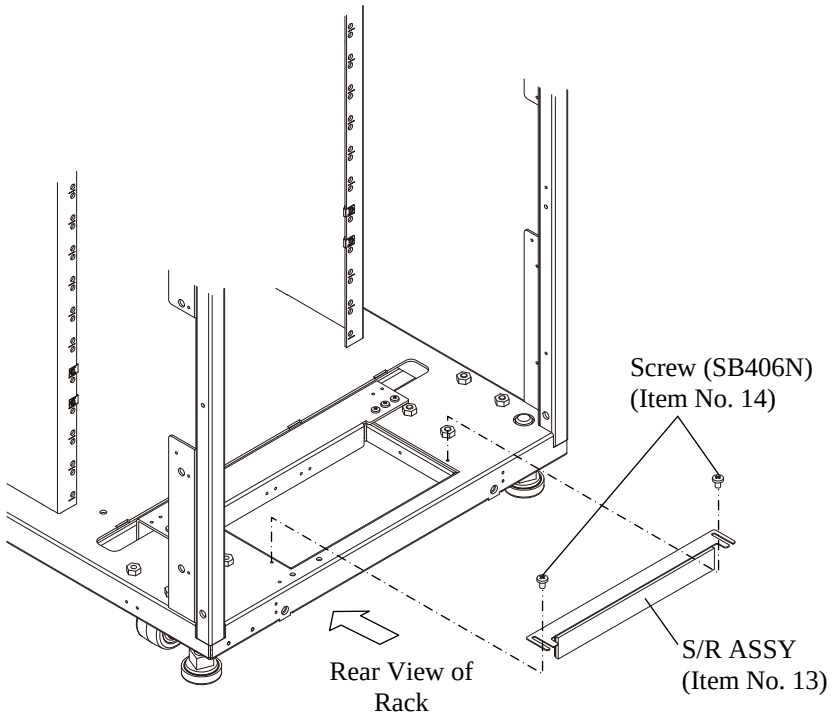
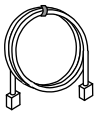


Fig. 3.4.1-12 Attachment of S/R ASSY

Copyright © 2014, Hitachi, Ltd.

4. Storage of parts
   a. Put the modular plug cord, three EMI cores, and Parts Location in the storage bag.

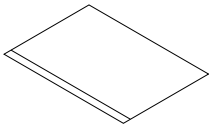
Modular Plug Cord
(Item No. 24) (*1)



EMI Core
(Item No. 25) (*1)



Parts Location
(Item No. 15)



*1: For DKC-F810I-CBXB, these parts are unattached.

Fig. 3.4.1-13 Storage of Parts

Copyright © 2014, Hitachi, Ltd.

5. Jumper Setting

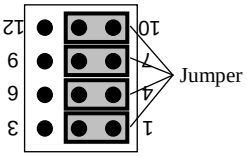
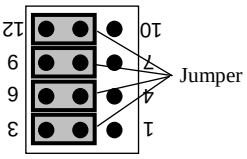
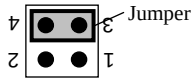
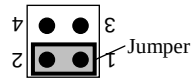
NOTE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

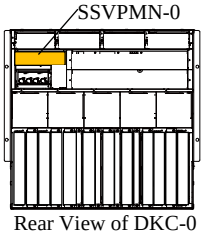
a. Set the jumpers (JP1 and JP2) in the SSVPMN.

⚠ CAUTION

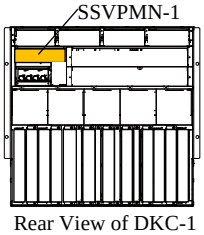
A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

Table 3.4.1-1 Installation of Jumper in SSVPMN

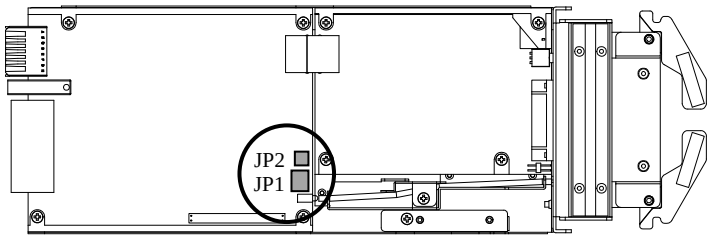
Function Name	Jumper No.	Settings	Remarks
SSVPMN	JP1 (MODULE ID)	Set the MODULE ID of the DKC equipped with SSVPMN. • MODULE0 ... SSVPMN-0 (DKC-0) Plug the jumper cap on #1, 4, 7, 10.	For SSVPMN-0 JP1 
		• MODULE1 ... SSVPMN-1 (DKC-1) Plug the jumper cap on #3, 6, 9, 12.	For SSVPMN-1 JP1 
	JP2 (AUTOPSON)	Power on the storage system by switching PS ON/PS OFF after turn on the AC power. (Initial setting) Set only the SSVPMN-0 in the Jumper. (#3-4) No setting of SSVPMN-1 is needed.	Disable Setting JP2 
		The storage system is powered on automatically after turn on the AC power. Set only the SSVPMN-0 in the Jumper. (#1-2) No setting of SSVPMN-1 is needed.	Enable Setting JP2 



Rear View of DKC-0



Rear View of DKC-1

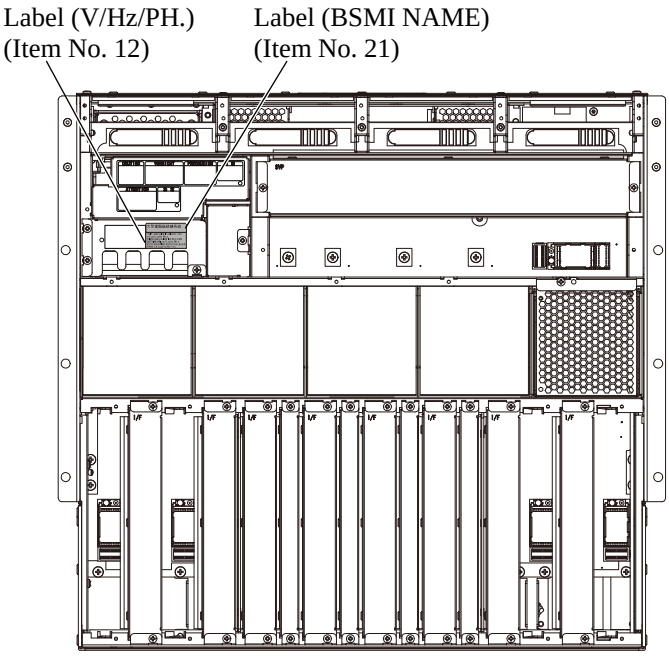


Top View of SSVPMN

Fig. 3.4.1-14 Installation of Jumper in SSVPMN

Copyright © 2014, Hitachi, Ltd.

6. Labeling
   a. Attach the label (V/Hz/PH.) on the rear side of DKC. The label (V/Hz/PH.) should be selected among the sheet of label (V/Hz/PH.) corresponding to the operating voltage, frequency and phase.
      When the corresponding operating voltage, frequency and phase are not exist, write the values in the label that is not listed the value of the operating voltage, frequency and phase.
   b. Attach the label (BSMI NAME) on the rear side of DKC.



Rear View of DKC

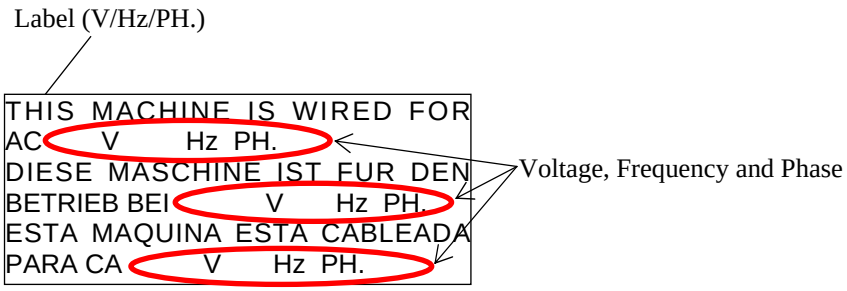


Fig. 3.4.1-15 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

c. Attach the labels and nameplates on the front side of DKC. (Refer to Fig. 3.4.1-16 or Fig. 3.4.1-17.)

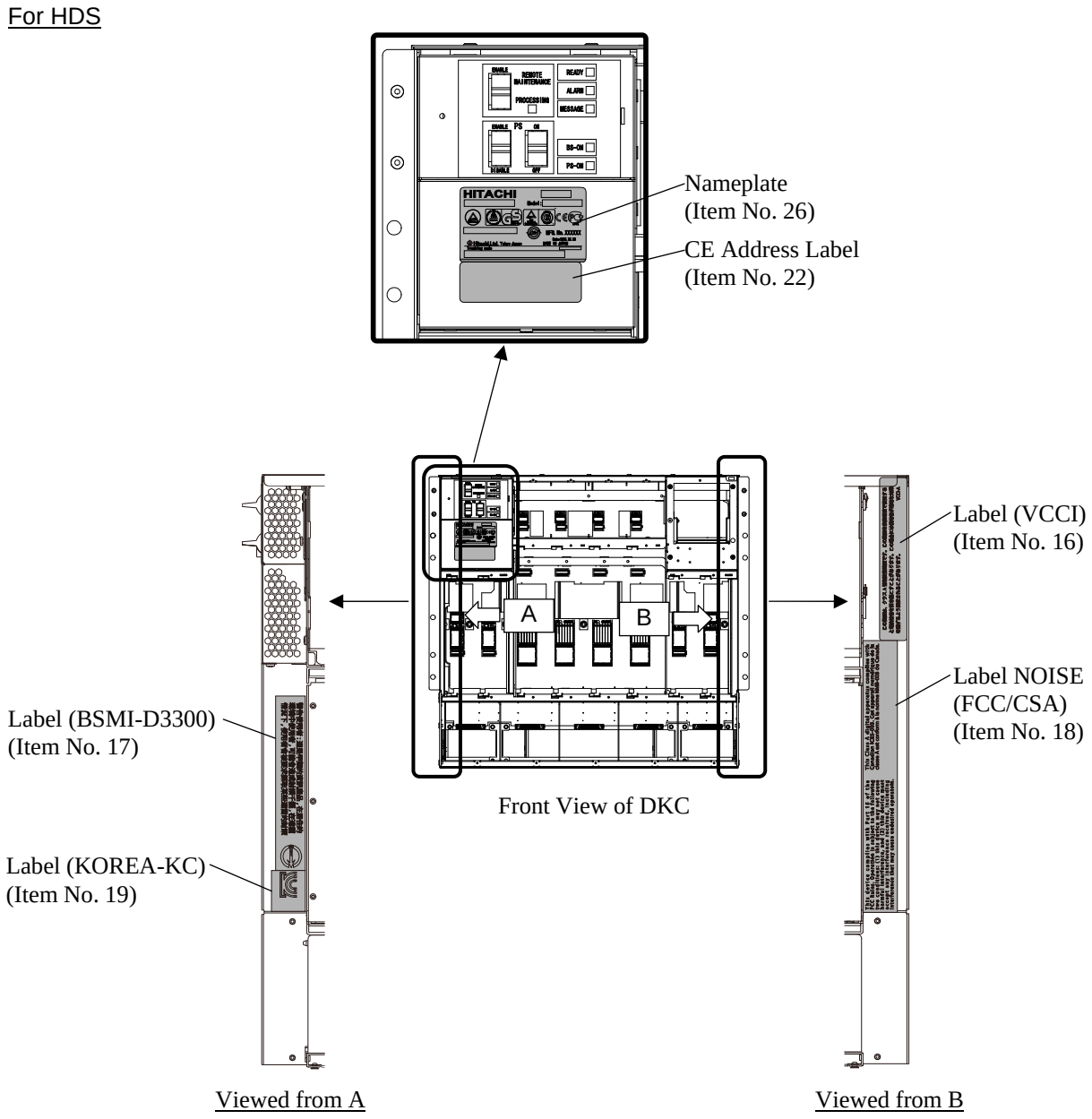


Fig. 3.4.1-16 Attachment of Labels and Nameplate (For HDS)

Copyright © 2014, Hitachi, Ltd.

For HP

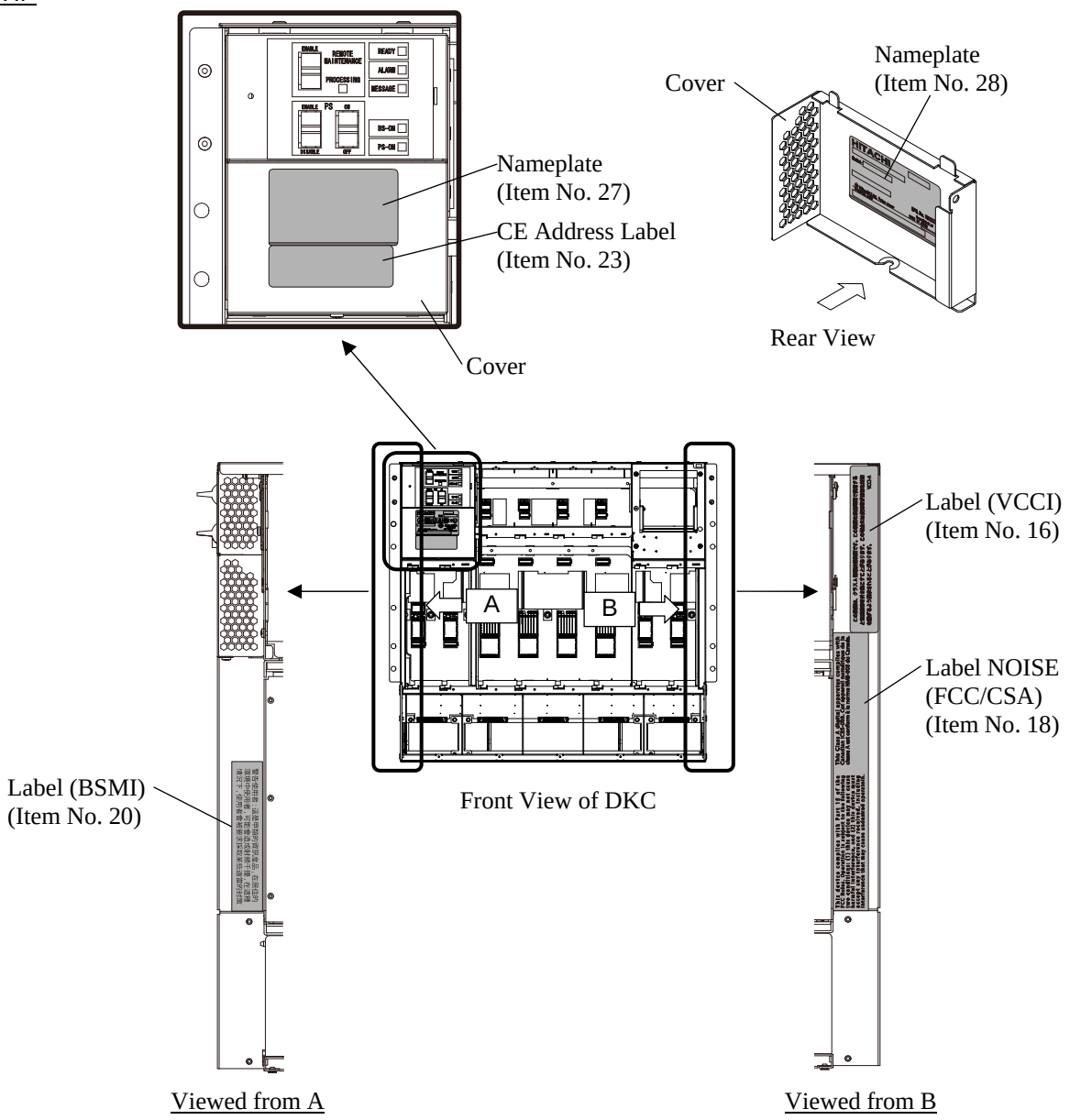


Fig. 3.4.1-17 Attachment of Labels and Nameplate (For HP)

Copyright © 2014, Hitachi, Ltd.

3.4.2 Installation Procedure of Bezel

1. When you need to install Controller Chassis Bezel (DKC-F810I-BCH), attach the bezels to the front side of DKC.
   When you do not need to install Controller Chassis Bezel (DKC-F810I-BCH), go to procedure 3.

   a. Secure the Bezel Bracket L and the Bezel Bracket R to the front of the DKC with the four screws.
   b. Secure the two Bezel Brackets (2U) with the four screws.
   c. Secure the Lower Cover to the Bezel Bracket L and the Bezel Bracket R with the two screws.
   d. Install the Side Cover L in the Bezel Bracket L on the front left side of the DKC.
   e. Install the Side Cover R in the Bezel Bracket R on the front right side of the DKC.

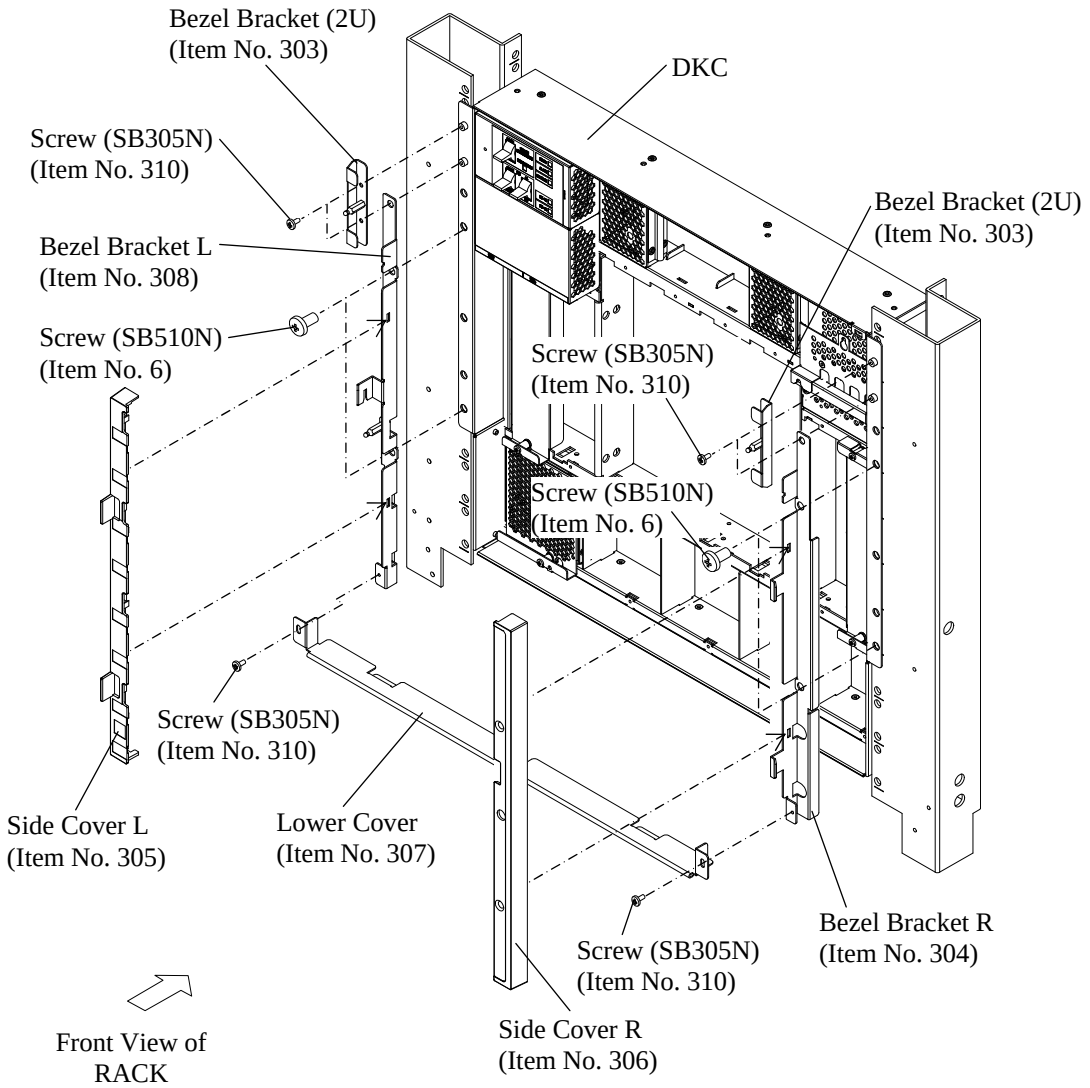


Fig. 3.4.2-1 Attachment of Parts

Copyright © 2014, Hitachi, Ltd.

2. Attachment of Bezels
   a. When installing the bezels to the DKC-F810I-CBXB, attach the Sheet (BLIND) to the DKC Bezel (2U).
      When installing the bezels to the DKC810I-CBXA, go to Procedure b.

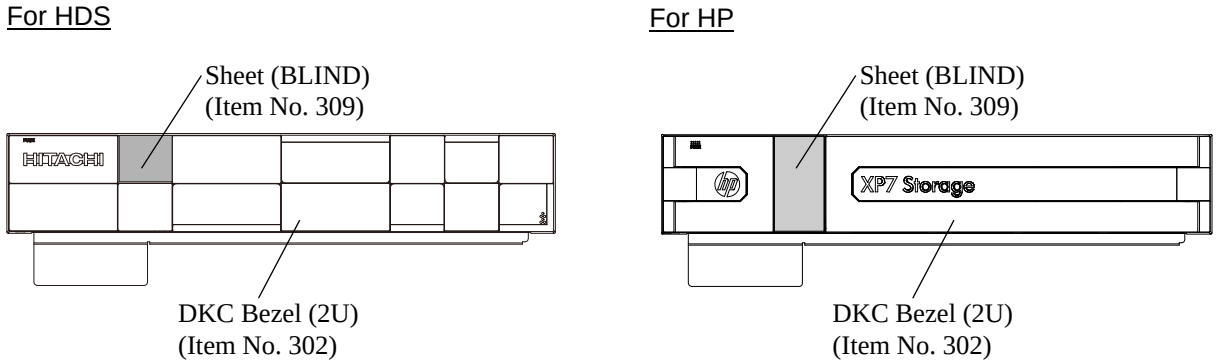


Fig. 3.4.2-2 Attachment of Sheet (BLIND)

   b. Hold the side of bezel with both hands.
   c. After making the hooks of the bezel engaged, press the bezel against the main body until it is stopped.

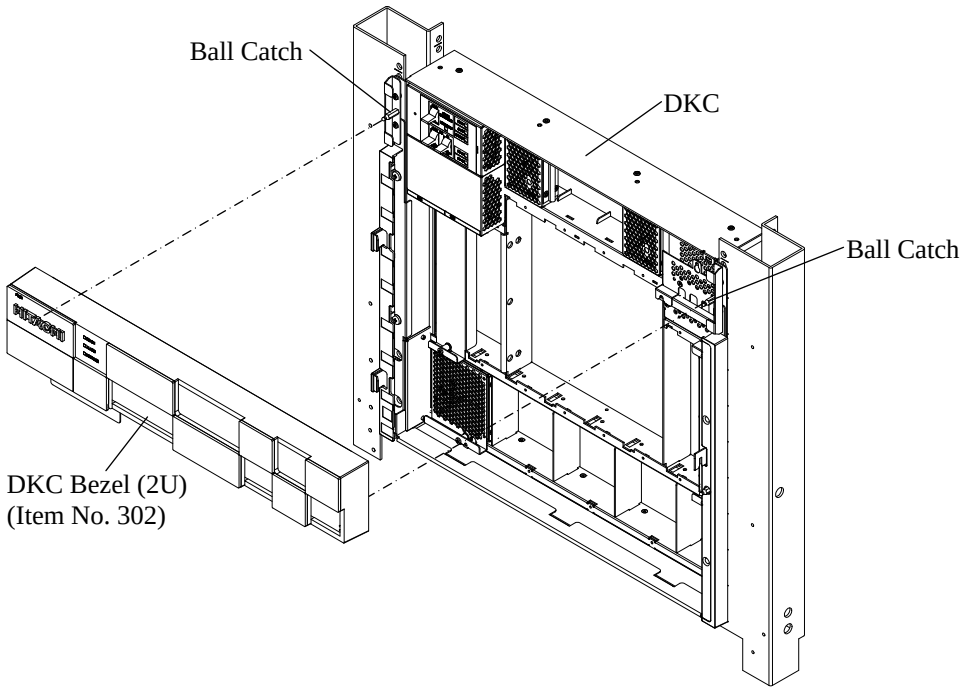


Fig. 3.4.2-3 Attachment of DKC Bezel (2U)

Copyright © 2014, Hitachi, Ltd.

d. Unlock the bezel with the key, and hold the key and bottom of bezel with your both hands.
e. Insert the tabs on the left front side of the chassis into the tab holes on the bezel (①).
f. Fix the bezel by pressing the right side of the bezel to engage it with the ball catch on the front side of the chassis (②).
g. Lock the bezel with the key (③).

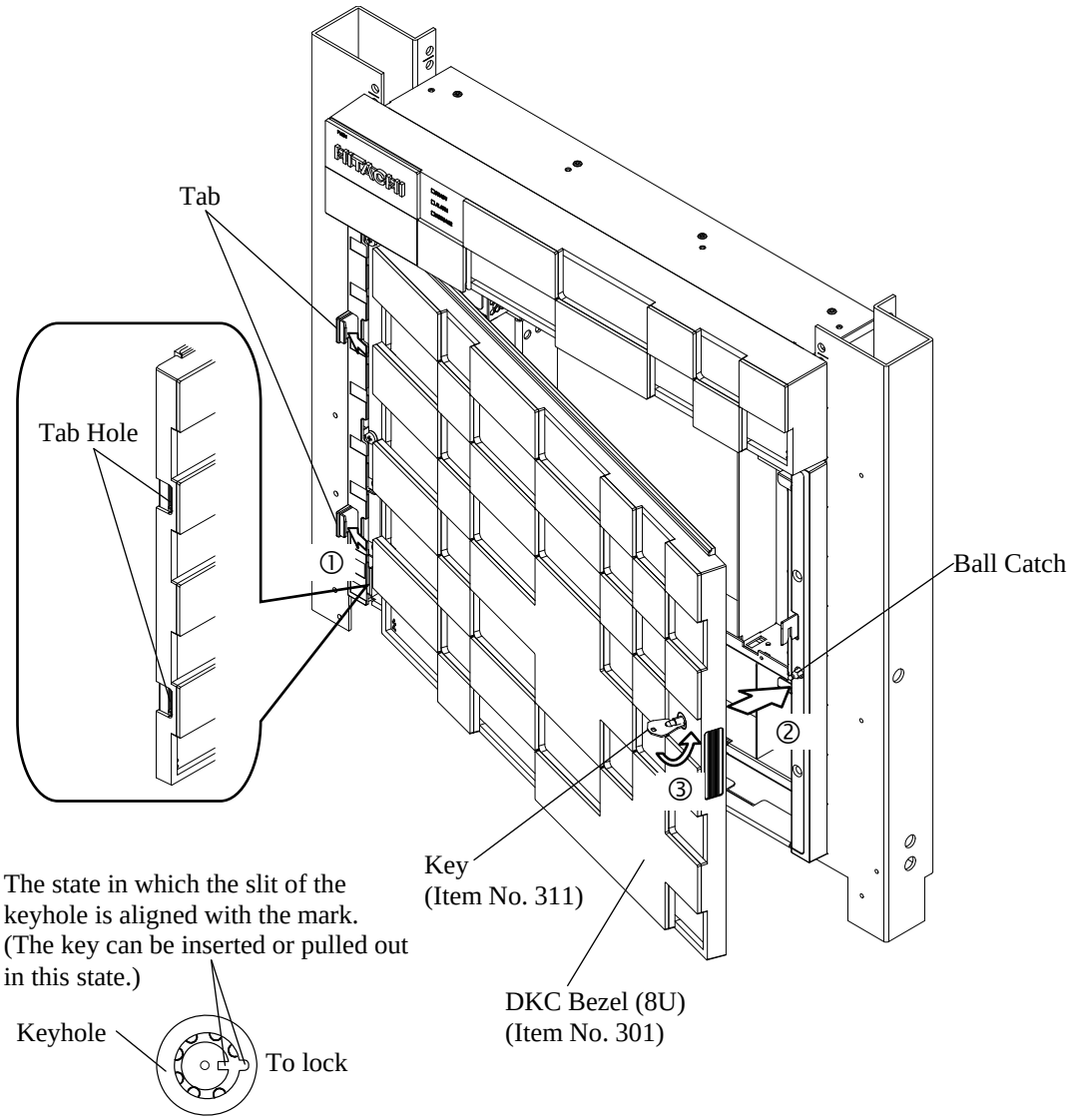


Fig. 3.4.2-4 Attachment of DKC Bezel (8U)

3. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.5 Installation of Drive Chassis (DKC-F810I-UBX/SBX/FBX/SBBRAL/BUH/BUP/FMDRAL/BFH/BFP)

Do this work after confirming the below-mentioned notes.

NOTICE:
- Confirm Control Chassis (DKC810I-CBXA/DKC-F810I-CBXB) is installed.
- Confirm drive is not installed. De-install drive if drive is installed.

3.5.1 Rough time of installation

Rough time of RAID Group installation becomes addition of the following A, B, C, D, and E.

Table 3.5.1-1 Rough time of installation

	Process	time	NOTE
A	Chassis setting time	SBX/UBX: 90min FBX: 50min	
B	HDD setting time	1min / 1HDD	
C	Micro code overhead for Path initialization	90sec × (The number of existing chassis + number of increase chassis)	*1
D	Micro code over head for HDD spin up	20sec × (number of increase HDD)	*1
E	LDEV Formatting time	Refer to THEORY 3.5	

*1: Twice time at the high performance model are possessed.

Copyright © 2014, Hitachi, Ltd.

3.5.2 Parts List

Table 3.5.2-1 Parts List of DKC-F810I-UBX (MDKC810I-UBX × 8)

Item No.	Part Name	Part No.	Quantity	Remarks
1	LFF SBB	5552746-A	8	HDU
2	Loop Cable Tie	5552567-1	16	
3	Label (DKU-BOX)	3287114-1	3	
4	Label (VCCI)	5545024-1	8	For HDS/HP
5	Label (BSMI-D3300)	3265644-4	8	For HDS
6	Label (BSMI)	3269907-1	8	For HP
7	Label-Noise (FCC/CSA)	3283107-1	8	For HDS/HP
8	Label (KOREA-KC)	3287464-1	8	For HDS
9	Label (BSMI NAME)	5552998-1	8	For HDS/HP
10	Label (UL3)	5515795-1	1	For HDS/HP
11	CE Address Label	2854907-1	8	For HDS
		3290520-1		
12	CE Address Label	2854907-2	8	For HP
		3290520-2		
13	Label Location (HDU)	5550568-1	2	Label Location ①
14	Label Location (HDU)	5550568-2	2	Label Location ②
15	Label Location (HDU)	5550568-3	2	Label Location ③
16	Label Location (HDU)	5550568-4	2	Label Location ④
17	Label Location (HDU)	5550568-5	2	Label Location ⑤
18	Label Location (HDU)	5550568-6	2	Label Location ⑥
19	Label Location (HDU)	5550568-7	2	Label Location ⑦
20	Label Location (HDU)	5550568-8	2	Label Location ⑧
21	Side Bezel	2853845-1	8	
		2855177-1		
22	Location Label (HDD)	5557125-1	2	
23	Tag (HDD LABEL)	5557126-1	2	
24	Nameplate (HDS)	2854917-23	8	ITPD
		2855885-23/523		HICAM/HICEF
25	Nameplate (HP)	2854917-26	8	ITPD
		2855885-26/526		HICAM/HICEF

Copyright © 2014, Hitachi, Ltd.

Table 3.5.2-2 Parts List of DKC-F810I-SBX (MDKC810I-SBX × 8)

Item No.	Part Name	Part No.	Quantity	Remarks
1	SFF SBB	5552745-A	8	HDU
2	Loop Cable Tie	5552567-1	16	
3	Label (DKU-BOX)	3287114-1	3	
4	Label (VCCI)	5545024-1	8	For HDS/HP
5	Label (BSMI-D3300)	3265644-4	8	For HDS
6	Label (BSMI)	3269907-1	8	For HP
7	Label-Noise (FCC/CSA)	3283107-1	8	For HDS/HP
8	Label (KOREA-KC)	3287464-1	8	For HDS
9	Label (BSMI NAME)	5552998-1	8	For HDS/HP
10	Label (UL3)	5515795-1	1	For HDS/HP
11	CE Address Label	2854907-1	8	For HDS
		3290520-1		
12	CE Address Label	2854907-2	8	For HP
		3290520-2		
13	Label Location (HDU)	5550568-1	2	Label Location ①
14	Label Location (HDU)	5550568-2	2	Label Location ②
15	Label Location (HDU)	5550568-3	2	Label Location ③
16	Label Location (HDU)	5550568-4	2	Label Location ④
17	Label Location (HDU)	5550568-5	2	Label Location ⑤
18	Label Location (HDU)	5550568-6	2	Label Location ⑥
19	Label Location (HDU)	5550568-7	2	Label Location ⑦
20	Label Location (HDU)	5550568-8	2	Label Location ⑧
21	Side Bezel	2853845-1	8	
		2855177-1		
22	—	—	—	
23	—	—	—	
24	Nameplate (HDS)	2854917-24	8	ITPD
		2855885-24/524		HICAM/HICEF
25	Nameplate (HP)	2854917-27	8	ITPD
		2855885-27/527		HICAM/HICEF

Copyright © 2014, Hitachi, Ltd.

Table 3.5.2-3 Parts List of DKC-F810I-FBX (MNF100R8-BOX × 4)

Item No.	Part Name	Part No.	Quantity	Remarks
1	FMU Chassis	3286597-A	4	FMU
2	Loop Cable Tie	5552567-1	8	
3	Label Location (HDU)	5550568-1	2	Label Location ①
4	Label Location (HDU)	5550568-2	2	Label Location ②
5	Label Location (HDU)	5550568-3	2	Label Location ③
6	Label Location (HDU)	5550568-4	2	Label Location ④
7	Label Location (HDU)	5550568-5	2	Label Location ⑤
8	Label Location (HDU)	5550568-6	2	Label Location ⑥
9	Label Location (HDU)	5550568-7	2	Label Location ⑦
10	Label Location (HDU)	5550568-8	2	Label Location ⑧
11	Label (DKU-BOX)	3287114-1	3	
12	Label (VCCI)	5545024-1	4	For HDS/HP
13	Label (BSMI-D3300)	3265644-4	4	For HDS
14	Label (BSMI)	3269907-1	4	For HP
15	Label-Noise (FCC/CSA)	3283107-1	4	For HDS/HP
16	Label (KOREA-KC)	3287464-1	4	For HDS
17	Label (BSMI NAME)	5552998-1	4	For HDS/HP
18	CE Address Label	3290520-1	4	For HDS
19	CE Address Label	3290520-2	4	For HP
20	Nameplate (HDS)	2854917-25	4	ITPD
		2855885-36/536		HICAM/HICEF
21	Nameplate (HP)	2854917-28	4	ITPD
		2855885-37/528		HICAM/HICEF

Copyright © 2014, Hitachi, Ltd.

Table 3.5.2-4 Parts List of DKC-F810I-BUH

Item No.	Part Name	Part No.	Quantity	Remarks
101	Bezel (8U) ASSY	3287331-A	2	
102	Bezel Bracket R	5555018-A	2	
103	Side Cover L	2854990-101	2	
104	Side Cover R	2854991-1	2	
105	Bezel Bracket L	3287271-1	2	
106	Nut Plate L	5552831-1	4	
107	Nut Plate R	5552831-2	4	
108	Screw	SB305N	16	
109	TAG INST	5557047-A	2	Key

Table 3.5.2-5 Parts List of DKC-F810I-BUP

Item No.	Part Name	Part No.	Quantity	Remarks
101	HP Bezel (8U) ASSY	3290503-A	2	
102	Bezel Bracket R	5555018-A	2	
103	Side Cover L	2854990-2	2	
104	Side Cover R	2854991-2	2	
105	Bezel Bracket L	3287271-1	2	
106	Nut Plate L	5552831-1	4	
107	Nut Plate R	5552831-2	4	
108	Screw	SB305N	16	
109	TAG INST	5557047-A	2	Key

Table 3.5.2-6 Parts List of DKC-F810I-SBBRAL

Item No.	Part Name	Part No.	Quantity	Remarks
201	Slide Rail	5552699-3	16	
202	Screw (M5)	—	32	(*1)
203	Screw (M4)	—	32	(*1)
204	Nut (M4)	—	32	(*1)

*1: Appended goods of Item No.2

Copyright © 2014, Hitachi, Ltd.

Table 3.5.2-7 Parts List of DKC-F810I-BFH

Item No.	Part Name	Part No.	Quantity	Remarks
301	Bezel (8U) NF ASSY	3287459-A	1	DKU Bezel
302	Bezel Bracket (NF) R	5557048-A	1	Bezel Bracket R
303	Side Cover L	2854990-101	1	
304	Side Cover R	2854991-1	1	
305	Bezel Bracket (NF) L	3287399-1	1	Bezel Bracket L
306	Nut Plate (NF) L	5555348-1	2	Nut Plate L
307	Nut Plate (NF) R	5555348-2	2	Nut Plate R
308	Screw	SB305N	8	
309	TAG INST	5557047-A	1	Key

Table 3.5.2-8 Parts List of DKC-F810I-BFP

Item No.	Part Name	Part No.	Quantity	Remarks
301	HP Bezel (8U) NF ASSY	3290508-A	1	DKU Bezel
302	Bezel Bracket (NF) R	5557048-A	1	Bezel Bracket R
303	Side Cover L	2854990-2	1	
304	Side Cover R	2854991-2	1	
305	Bezel Bracket (NF) L	3287399-1	1	Bezel Bracket L
306	Nut Plate (NF) L	5555348-1	2	Nut Plate L
307	Nut Plate (NF) R	5555348-2	2	Nut Plate R
308	Screw	SB305N	8	
309	TAG INST	5557047-A	1	Key

Table 3.5.2-9 Parts List of DKC-F810I-FMDRAL

Item No.	Part Name	Part No.	Quantity	Remarks
401	Rail L	2854516-A	4	
402	Rail R	2854516-B	4	
403	Packing Work ①	3286610-A	4	
404	Screw	3261898-512	16	(*1)
405	Packing Work ②	3286610-B	4	
406	Square Spacer	5550614-1	24	(*2)

*1: Appended goods of Item No.403

*2: Appended goods of Item No.405

Copyright © 2014, Hitachi, Ltd.

3.5.3 Installation Procedure of Drive Chassis (DKC-F810I-UBX/SBX)

1. Confirmation of installation position
   EIA units and intervals of mounting holes of 19-inch rack frame conforming to EIA standard
   - A unit (U) space conforming to EIA standard is 19 inches wide and 44.5 mm high as shown in the figure below.
   - The boundary of the unit falls on the middle of the interval of 12.7 mm.
   - Universal intervals: Repeat of 44.45 mm (15.875 mm + 15.875 mm + 12.7 mm)
     Wide intervals: Repeat of 44.45 mm (31.75 mm + 12.7 mm)
     Maximum number of mountable unit spaces: 42

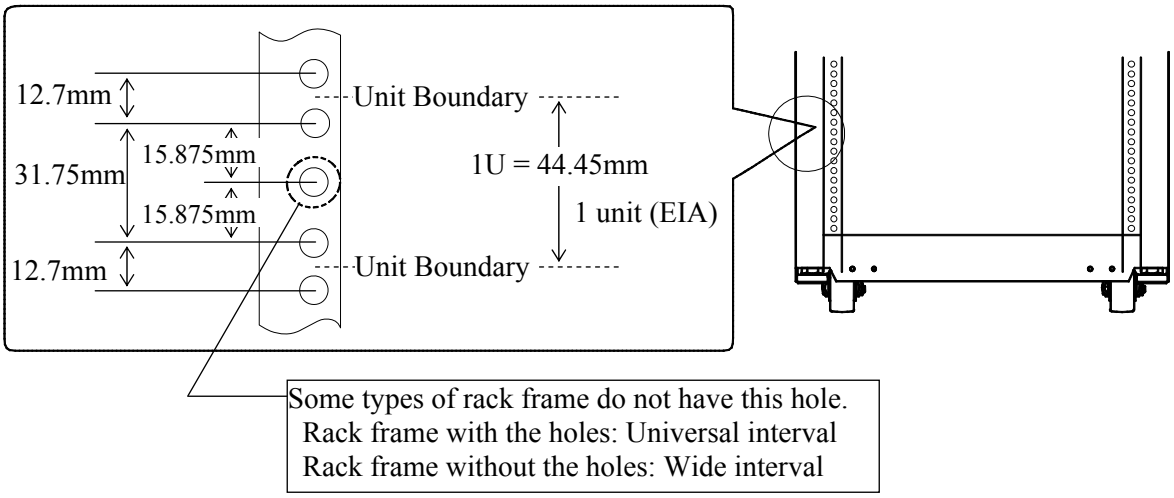


Fig. 3.5.3-1 Attachment Hole Size of Rack

Copyright © 2014, Hitachi, Ltd.

The addresses are given as 1, 2, 3, and so on counted from the bottom of the rack frame.
The following figures show a layout example of installing Drive chassis in 42 units rack frame.
However, installing positions of Drive chassis may differ according to the construction within the rack frame.

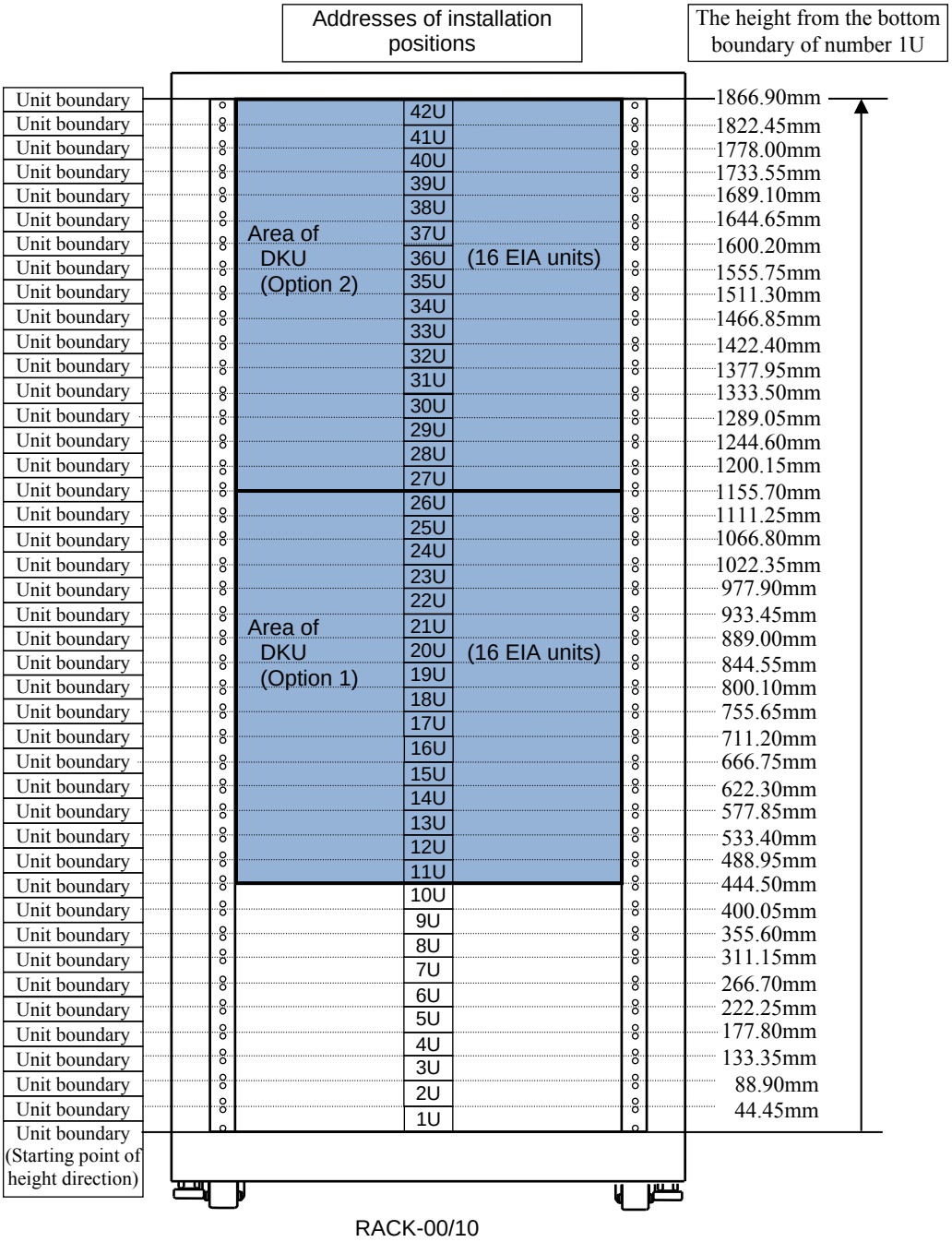
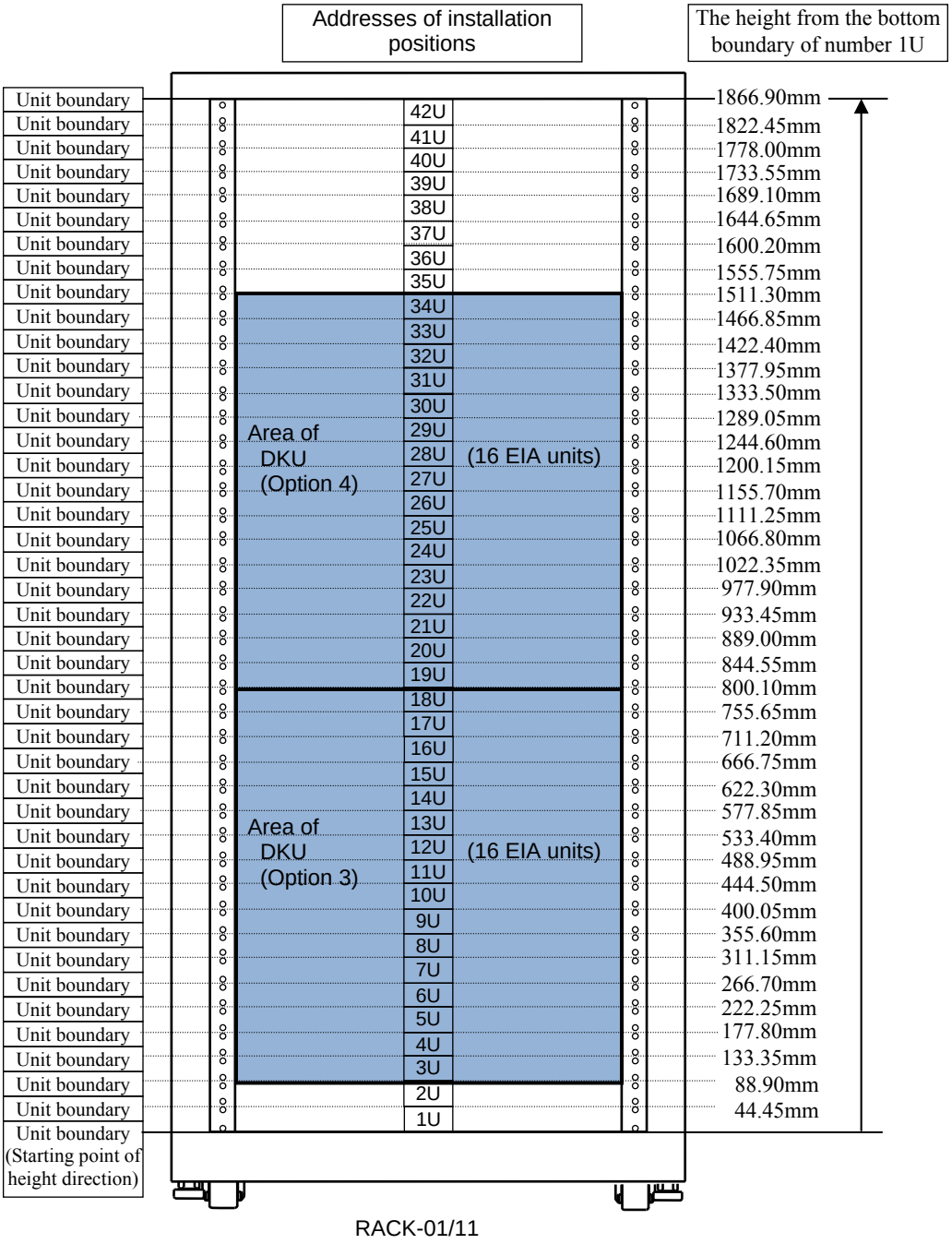


Fig. 3.5.3-2 Whole Layout of Installation Position Addresses (RACK-00/10)

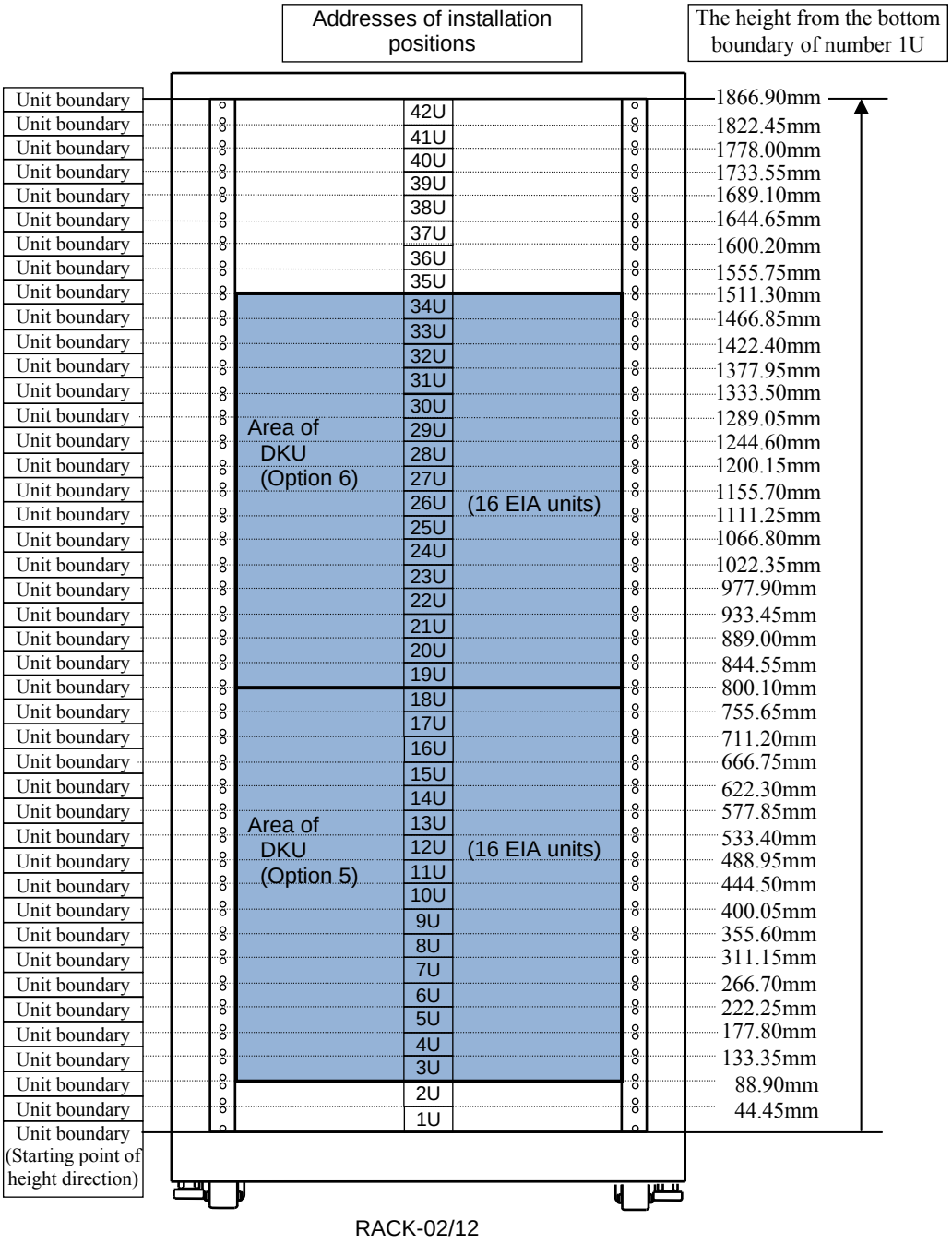
Copyright © 2014, Hitachi, Ltd.



RACK-01/11

Fig. 3.5.3-3 Whole Layout of Installation Position Addresses (RACK-01/11)

Copyright © 2014, Hitachi, Ltd.



RACK-02/12

Fig. 3.5.3-4 Whole Layout of Installation Position Addresses (RACK-02/12)

Copyright © 2014, Hitachi, Ltd.

2. Installing rails
   a. Remove the Positioning Pin ① from the front of the rail.
   b. Remove the screw and nut from the side of the rail.
   c. If the insertion hole on the rack is square, replace the Positioning Pin ② with the included Positioning Pin (φ9.2 screw head).
      If the insertion hole on the rack is round, go to Procedure d. (Leave the Positioning Pin ② of φ6.8 screw head as it is.)
   d. Remove the Positioning Pin ③ from the rear of the rail.
   e. If the insertion hole on the rack is square, replace the Positioning Pin ④ with the included Positioning Pin (φ9.2 screw head).
      If the insertion hole on the rack is round, go to Procedure f. (Leave the Positioning Pin ④ of φ6.8 screw head as it is.)
   f. Secure the included spring to the parts for securing the spring on the rear of the rail. (Any direction is possible.)
   g. Do the same procedure for the other rails.

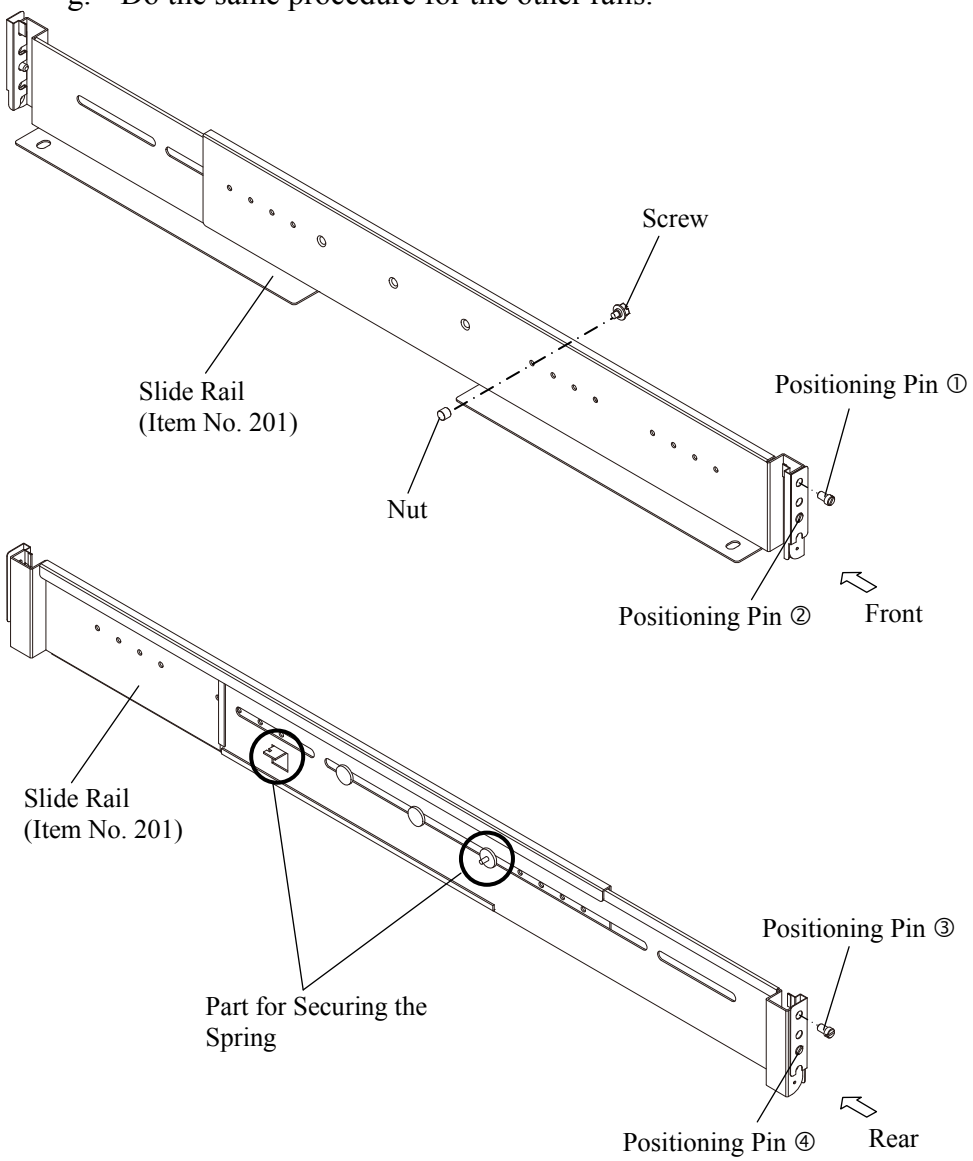


Fig. 3.5.3-5 Procedure Prior to Rail Installation

Copyright © 2014, Hitachi, Ltd.

h. Bring down two Clips on the front and rear edge of the rail.
i. Fit Positioning Pins of the rail (two pins in total on the front and back edge) into holes on the right side of the rack at the position where you want to install the DKU.
j. Raise the Clips of the rail to fix the rail to the rack.

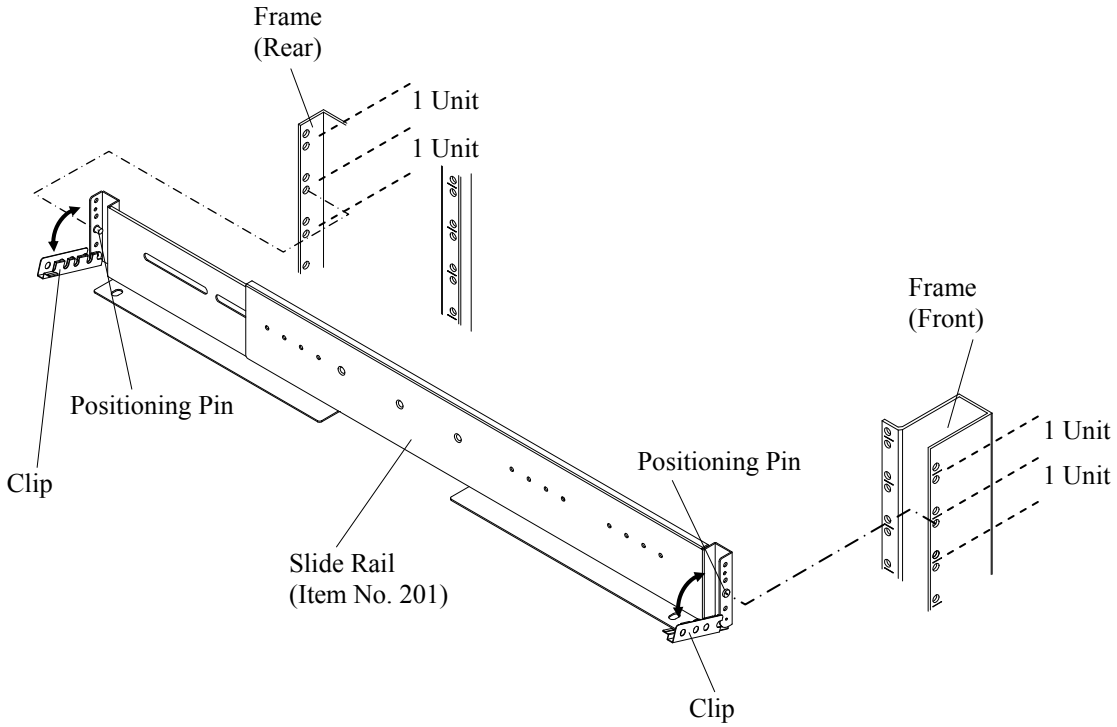


Fig. 3.5.3-6 Attachment of Rails

Copyright © 2014, Hitachi, Ltd.

k. Tighten the screw and loop cable tie on the rear edge of the rail to fit the rail to the rack. Do not tighten a screw on the front edge of the rail, as it shall be tightened afterward.
m. Install the rail into the left side of the rack in the same way as procedures h to k. The same rails are used for right and left side of the rack, therefore the front and rear of the rail on the left side are opposite to those of the rail on the right side.
n. Install the other rails in the same manner.

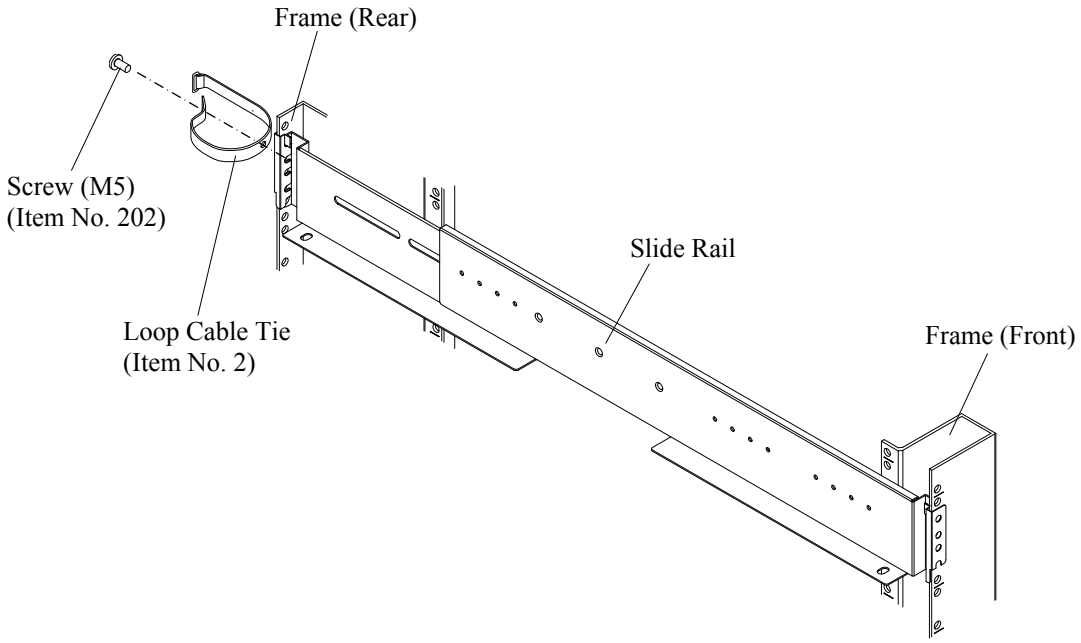
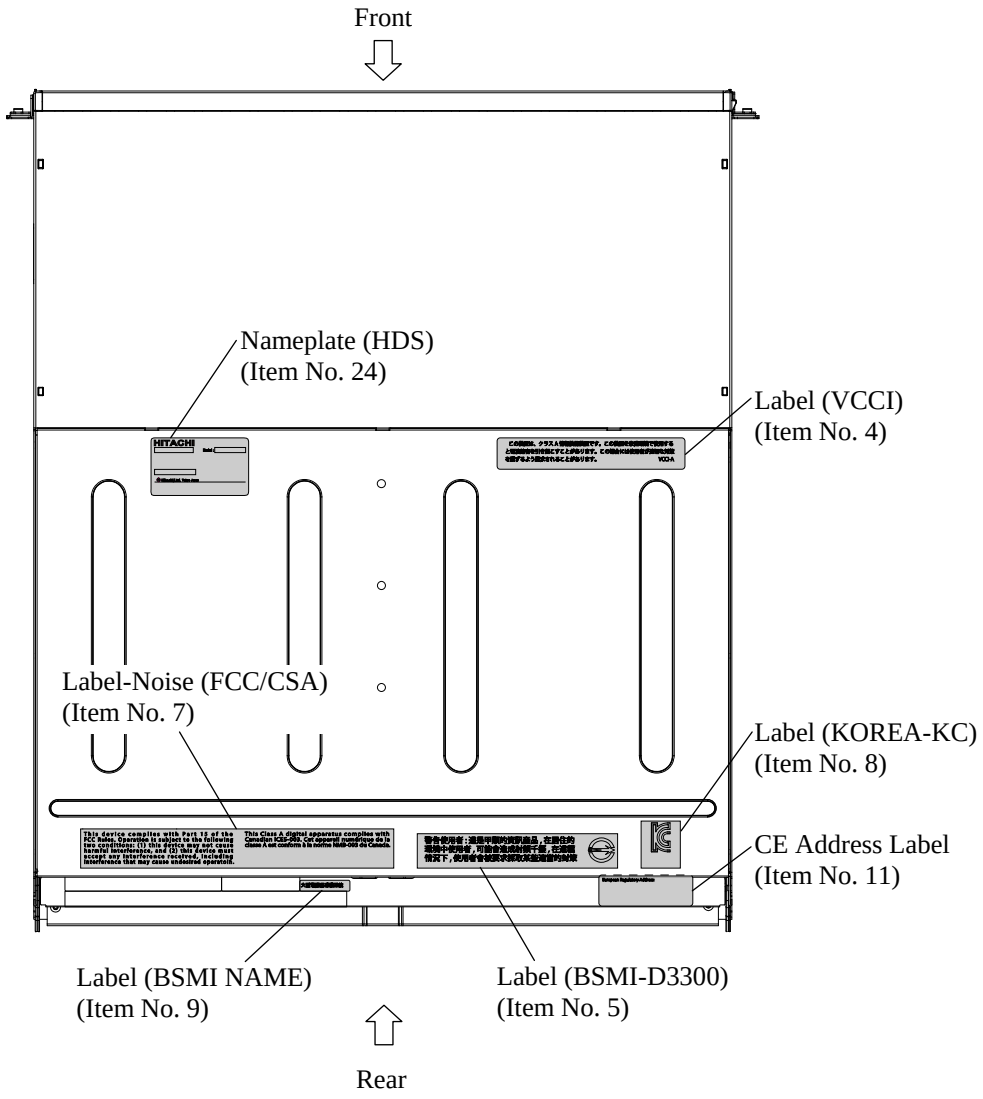


Fig. 3.5.3-7 Attachment of Screw and Loop Cable Tie

Copyright © 2014, Hitachi, Ltd.

3. Attach the labels
   a. Attach the labels, showing corresponding locations to top side and rear side of the HDU. Refer to Fig. 3.5.3-8 or Fig. 3.5.3-9.
   b. Attach the labels to the other HDU in the same manner.

For HDS

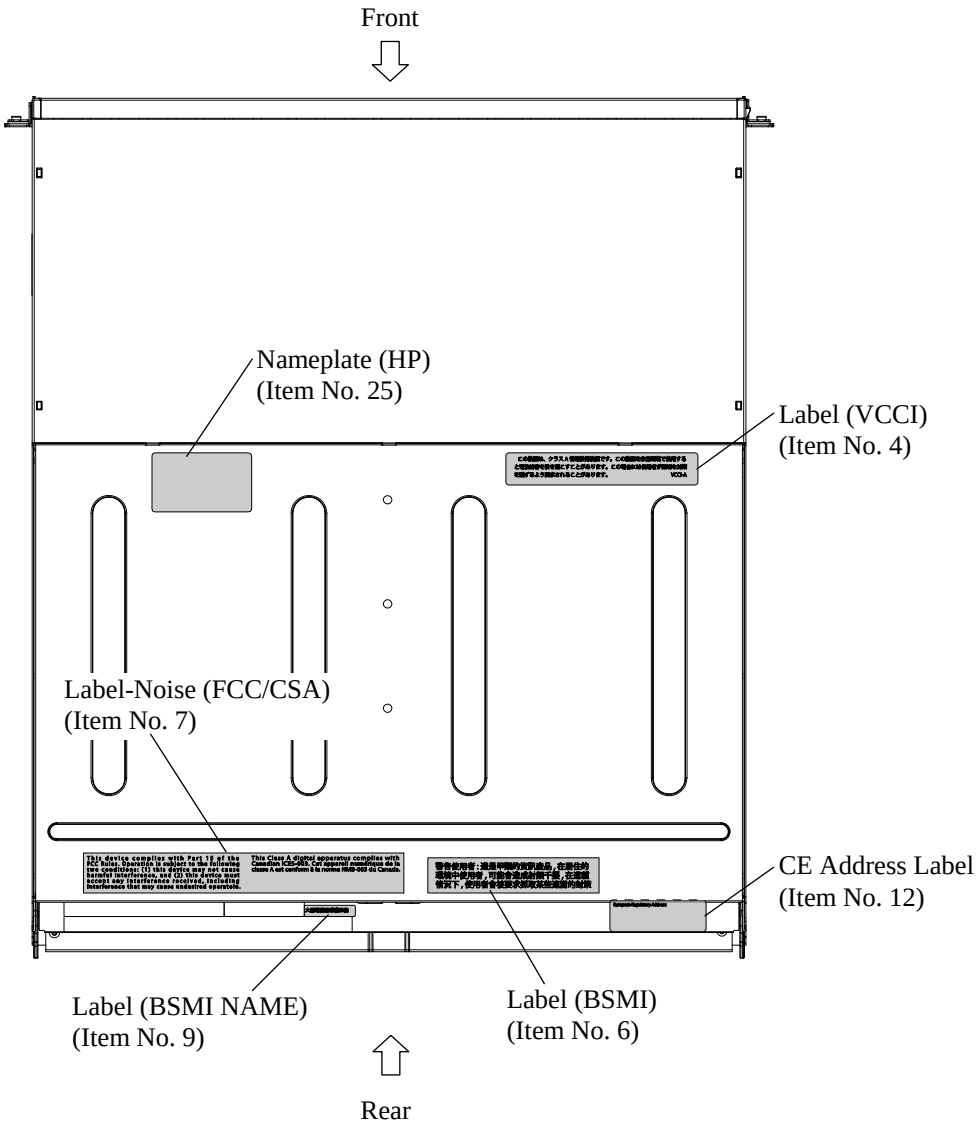


Top View of HDU

Fig. 3.5.3-8 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

For HP



Top View of HDU

Fig. 3.5.3-9 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

c. Attach the label to the right bottom of the rear door. If the label is already attached, this procedure is not necessary.

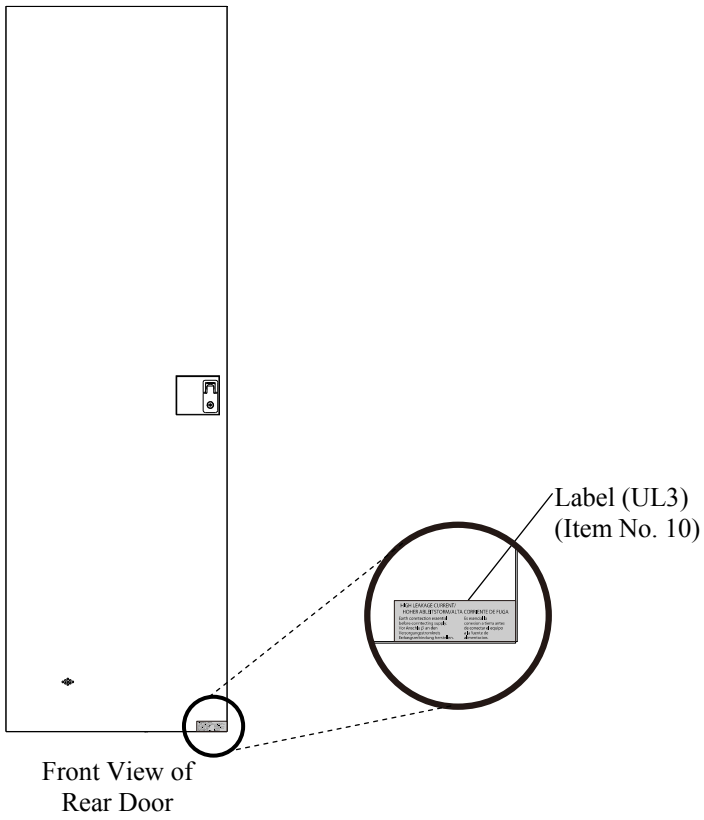


Fig. 3.5.3-10 Attachment of Label

Copyright © 2014, Hitachi, Ltd.

4. Removing parts
   If the HDU is installed at height below 1m or installed by using the special lifter, this procedure is not required because the HDU is installed into the rack frame with its parts mounted. (Go to procedure 5.)
   If other than above, remove the parts first and then install the HDU into the rack frame.

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

   a. Attach a label or the like for identification of installation location to a removed part so that it can be installed in the same place in the HDU.
   b. Pull the right and left levers and remove the SSW.
   c. Remove the other SSW in the same manner.

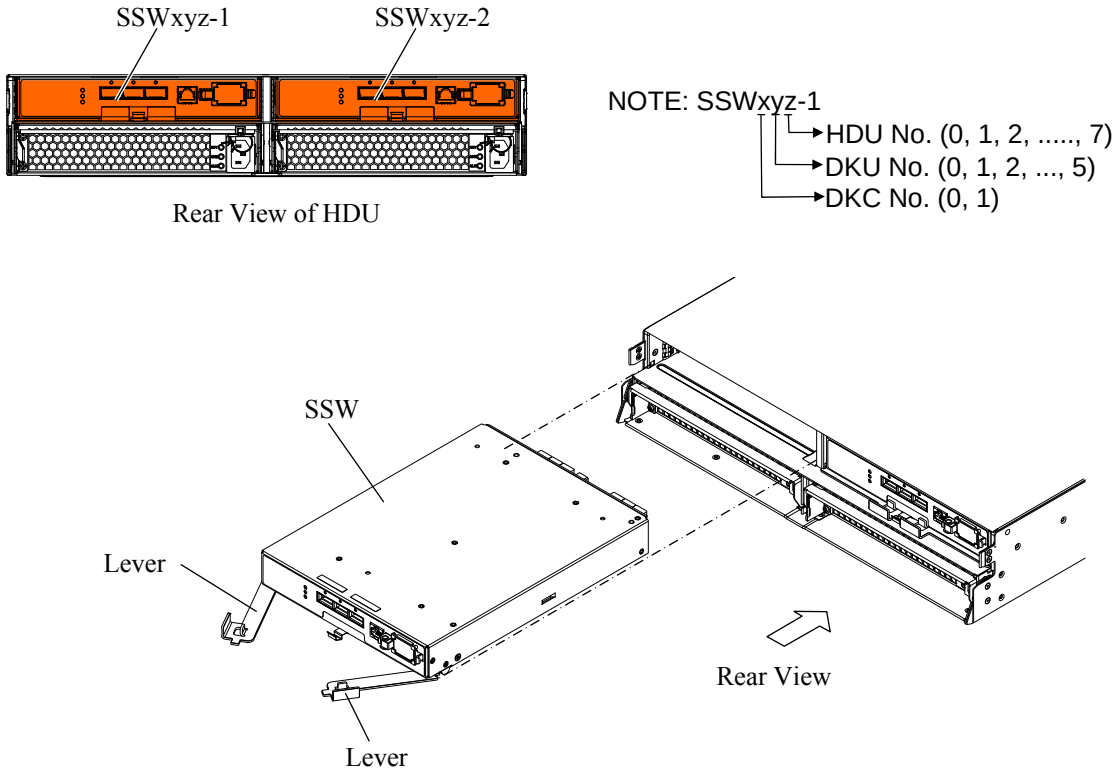


Fig. 3.5.3-11 Removal of SSW

Copyright © 2014, Hitachi, Ltd.

d. Bring the handle down and forward (②) while pushing the latch of the DKUPS inward (①).
e. Pull the DKUPS and remove it from the HDU.
f. Remove the other DKUPS in the same manner.

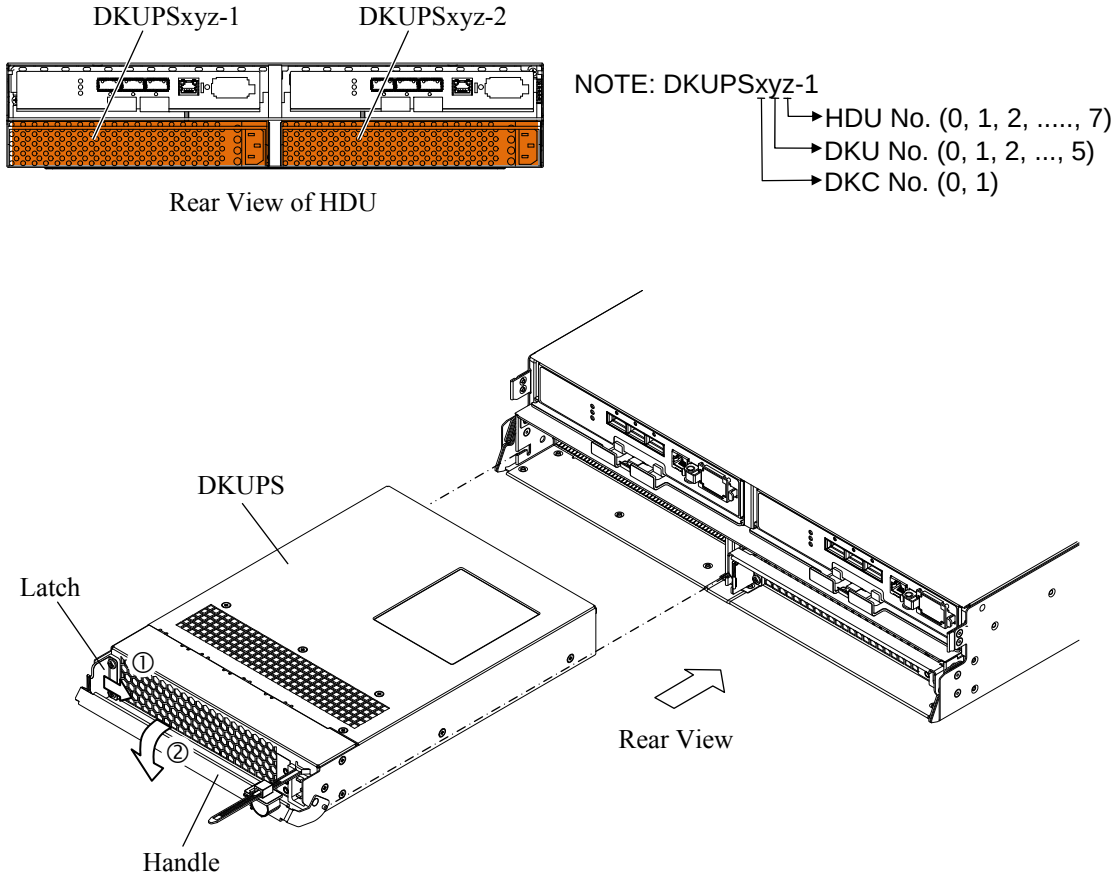


Fig. 3.5.3-12 Removal of DKUPS

Copyright © 2014, Hitachi, Ltd.

5. Installing the DKU

⚠ CAUTION

Paying attention to falls:
Work carefully because the mass of the single LFF SBB is about 27 kg and SFF SBB is about 23 kg.

Beware over turning and dropping:
To prevent HDU from over turning and dropping, the installation work must be done by two or more personnel.

a. Install the HDU on the front side of the Rack frame referring to mounting procedure using the special lifter. (See INST03-15-10 through 40.)
b. When the bezels are not installed in the DKU, secure the front of the DKU with the two screws.
   When the bezels are installed in the DKU, go to Procedure c. (The DKU is secured with the screws and bezel brackets in the procedure described later.)
c. Install the other HDUs in the same manner.

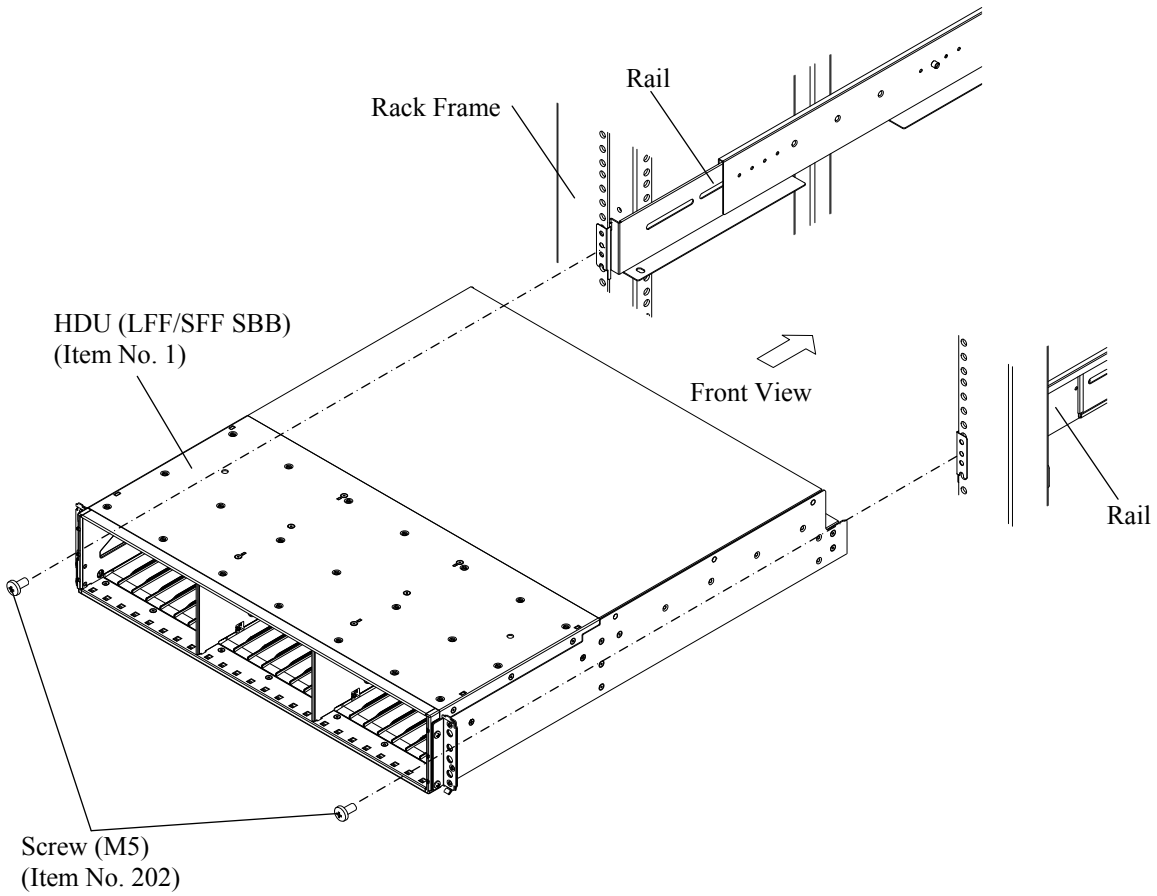


Fig. 3.5.3-13 Installing HDU

Copyright © 2014, Hitachi, Ltd.

6. Reinstalling removed parts
   If parts were removed in procedure 4, reinstall the parts.
   If parts were not removed, go to procedure 7.

   a. Make the handle of the DKUPS completely fall down and forward. (See Fig. 3.5.3-12.)
   b. Insert the DKUPS into the slot and push it to the full.
   c. Completely raise the handle and fix the DKUPS.
   d. Install the other DKUPS in the same manner.
   e. Make the right and left levers of the SSW open. (See Fig. 3.5.3-11.)
   f. Insert the SSW until the edge of the lever comes in contact with the HDU.
   g. Close the right and left levers to insert the SSW completely.
   h. Install the other SSW in the same manner.

7. Installing the Side Bezel
   If the bezels are not installed in the DKU, install the Side Bezel on the front of the HDU.
   If the bezels are installed in the DKU, go to Procedure 8.

   a. Install the Side Bezel, putting the upper side of the Side Bezel on the hook on the front left of the HDU and pushing the bottom side.
   b. Install the Side Bezel in the other HDUs in the same manner.

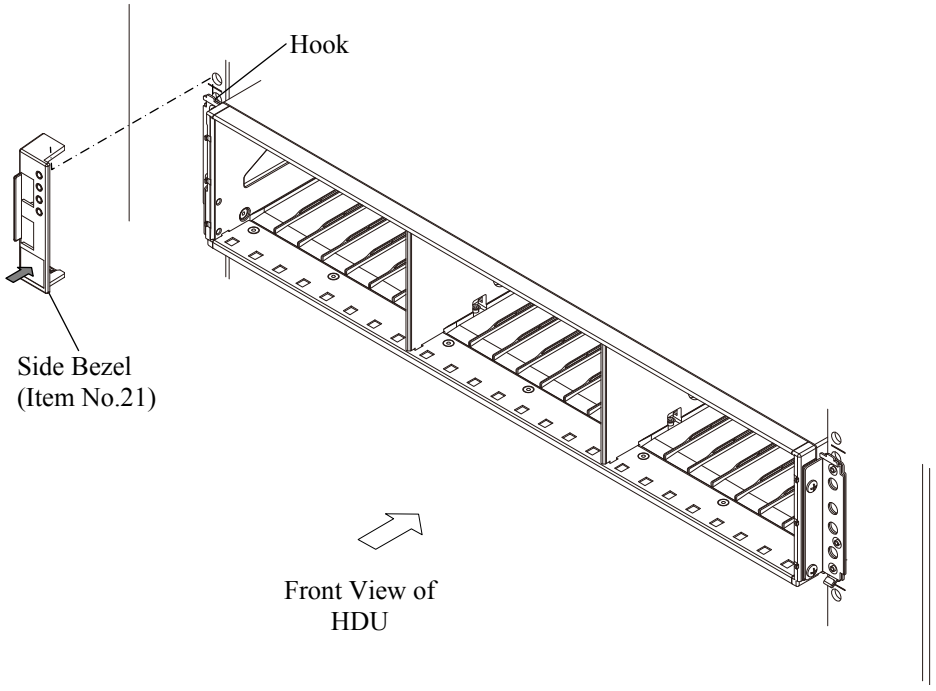
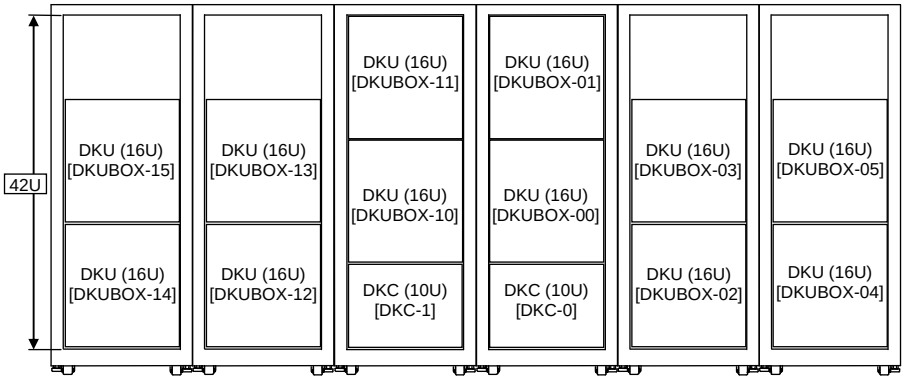


Fig. 3.5.3-14 Attachment of Side Bezel

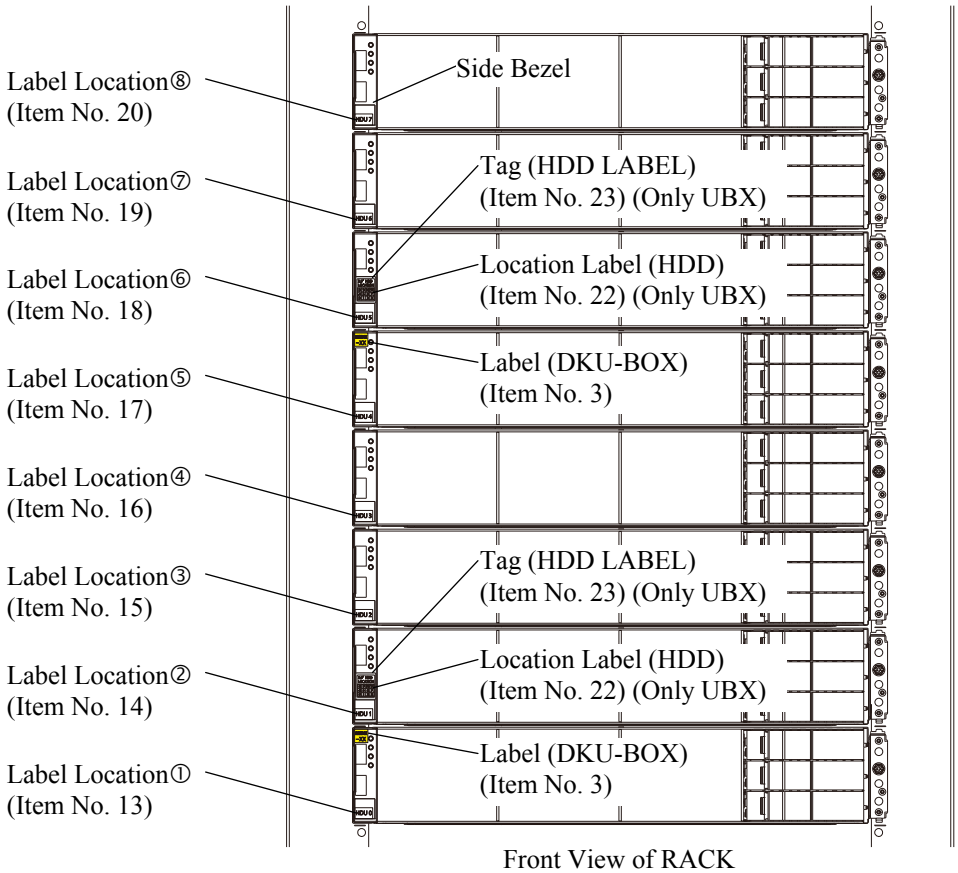
Copyright © 2014, Hitachi, Ltd.

8. Attaching the Labels
   a. If the bezels are not installed in the DKU, attach the eight Label Locations and the two Labels (DKU-BOX) of the corresponding locations to the Side Bezels on the front side of the rack.
      If the bezels are installed in the DKU, go to Procedure c. (Attach the labels to the side covers of the bezels in the procedure described later.)
   b. If the drive chassis is UBX, attach the two Tags (HDD LABEL) and the two Location Labels (HDD) above the Tags (HDD LABEL) to the Side Bezels.
      If the drive chassis is SBX, go to Procedure c.

Standard Configuration



Front View



Front View of RACK

Fig. 3.5.3-15 Attachment of Labels (Front)

Copyright © 2014, Hitachi, Ltd.

c. Attach the ten labels to the rear side of the rail.

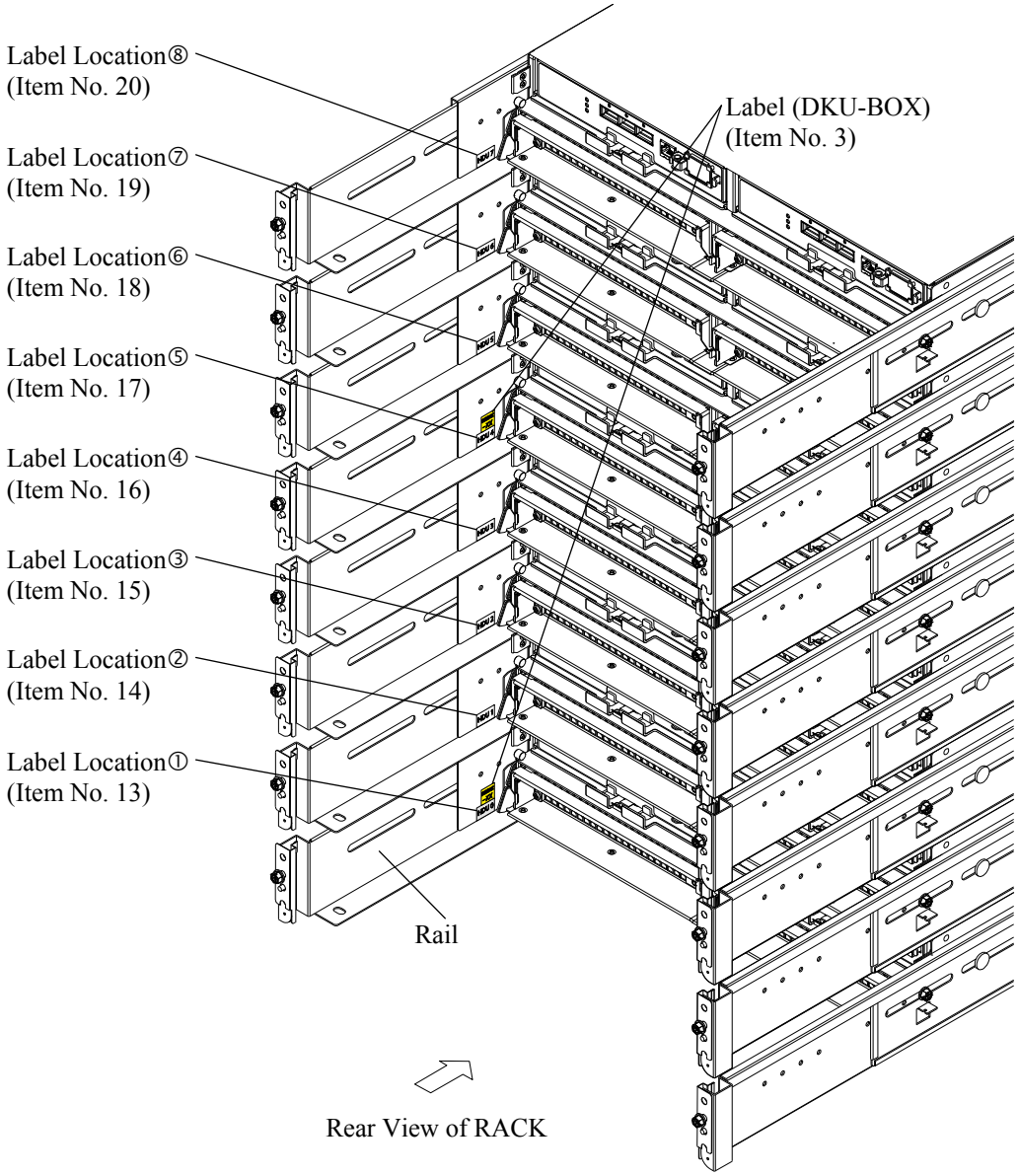
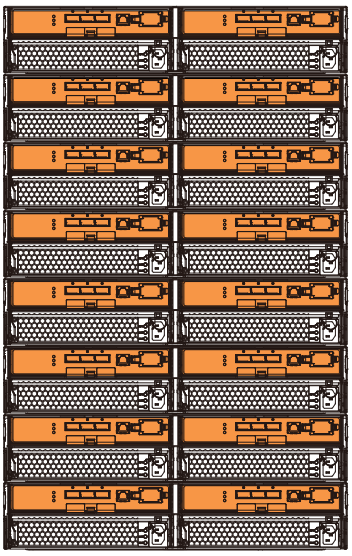


Fig. 3.5.3-16 Attachment of Labels (Rear)

Copyright © 2014, Hitachi, Ltd.

9. Switch Setting
   a. Open the cover of all the SSWs.



Rear View of UBX/SBX

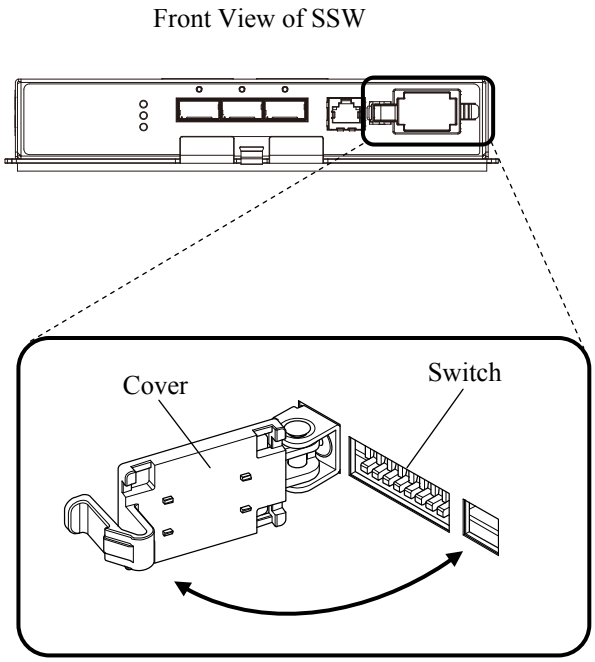


Fig. 3.5.3-17 Opening Cover

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION
A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

b. Set the switches in the SSWs as indicated in the Fig. 3.5.3-18 through Fig. 3.5.3-30. Switch settings must be made at 112 places in total per option.
c. Close the cover of all the SSWs. (Refer to Fig. 3.5.3-17.)

NOTICE:
- Use something sharp (ex. a pen or a mini screwdriver etc) when set the SSW switches.
- When the switch setting of SSW is wrong, execute the replace process of SSW and change the switch setting. The switch setting will not be effective unless the SSW PCB is dismounted and mounted.

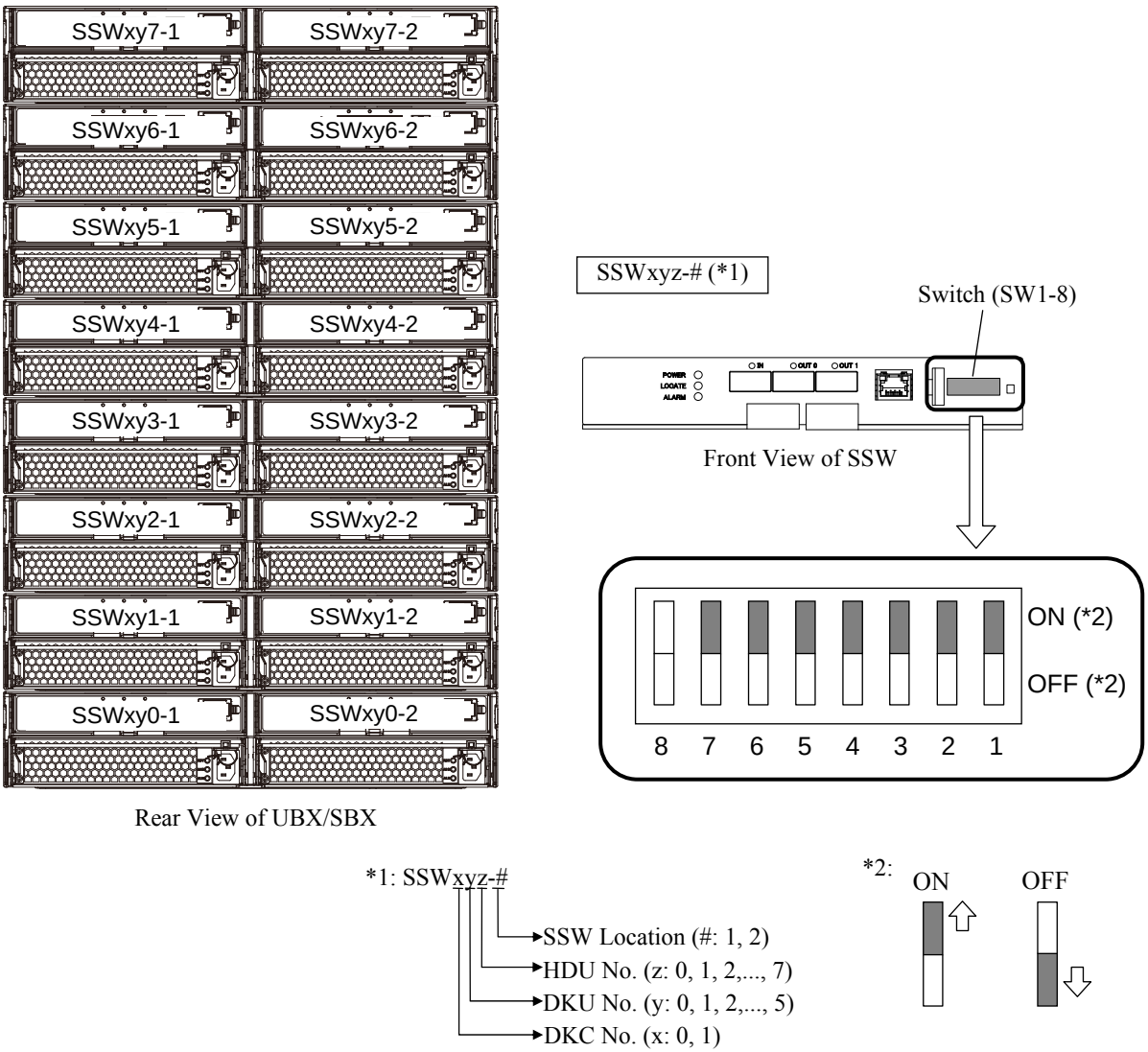


Fig. 3.5.3-18 Switch Setting of SSW

Copyright © 2014, Hitachi, Ltd.

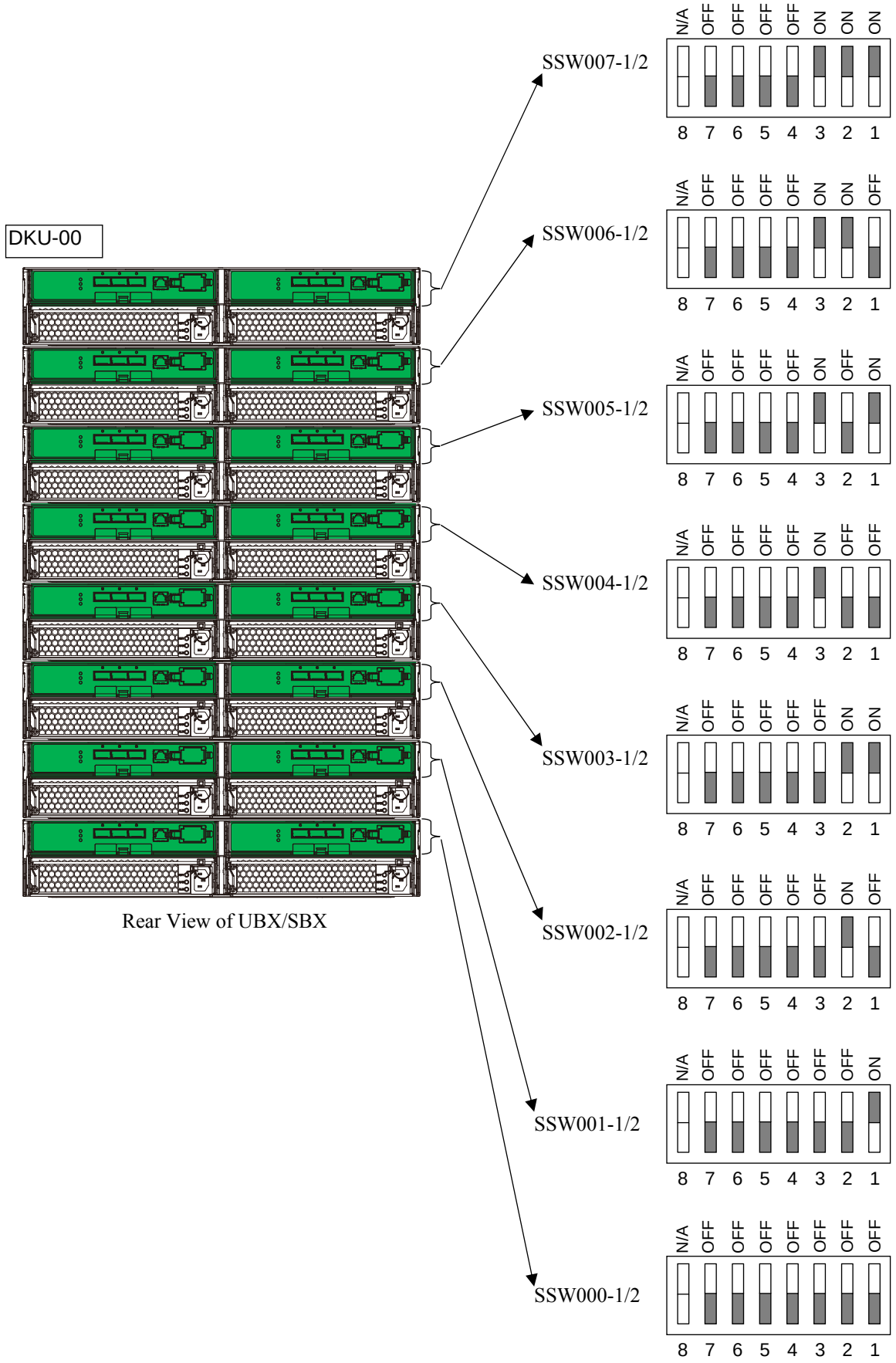


Fig. 3.5.3-19 Switch Setting of SSW (DKU-00)

Copyright © 2014, Hitachi, Ltd.

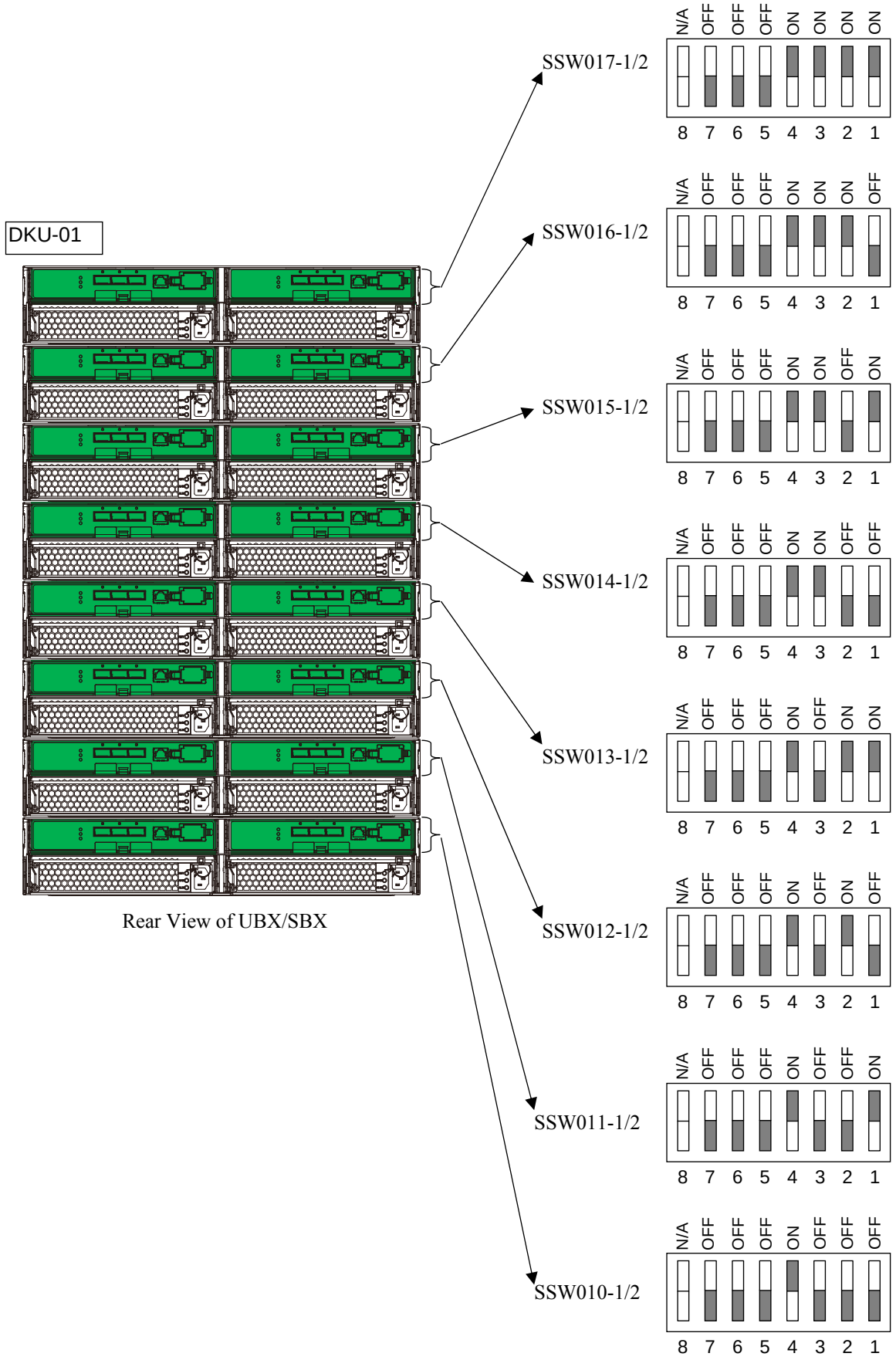


Fig. 3.5.3-20 Switch Setting of SSW (DKU-01)

Copyright © 2014, Hitachi, Ltd.

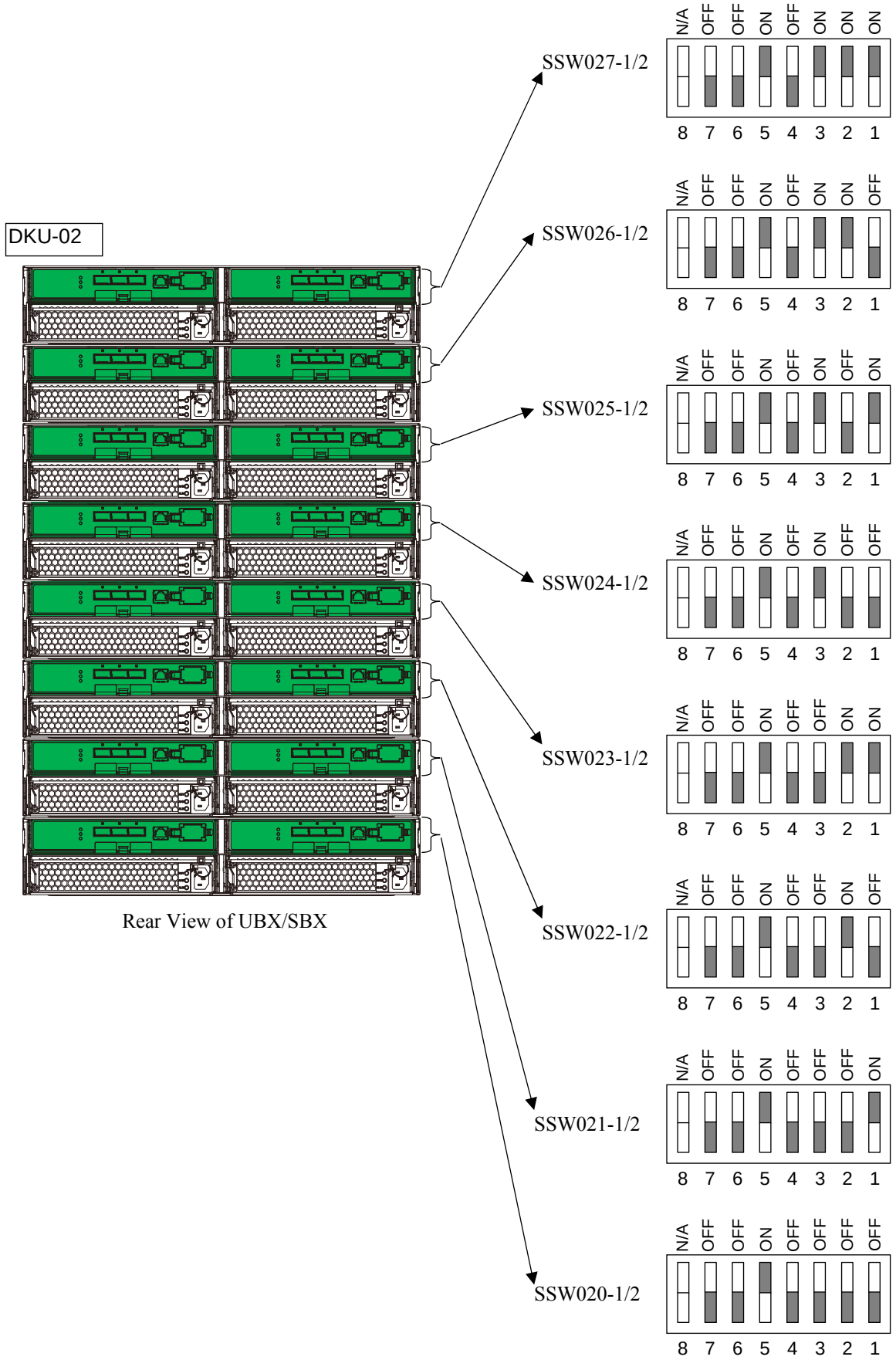


Fig. 3.5.3-21 Switch Setting of SSW (DKU-02)

Copyright © 2014, Hitachi, Ltd.

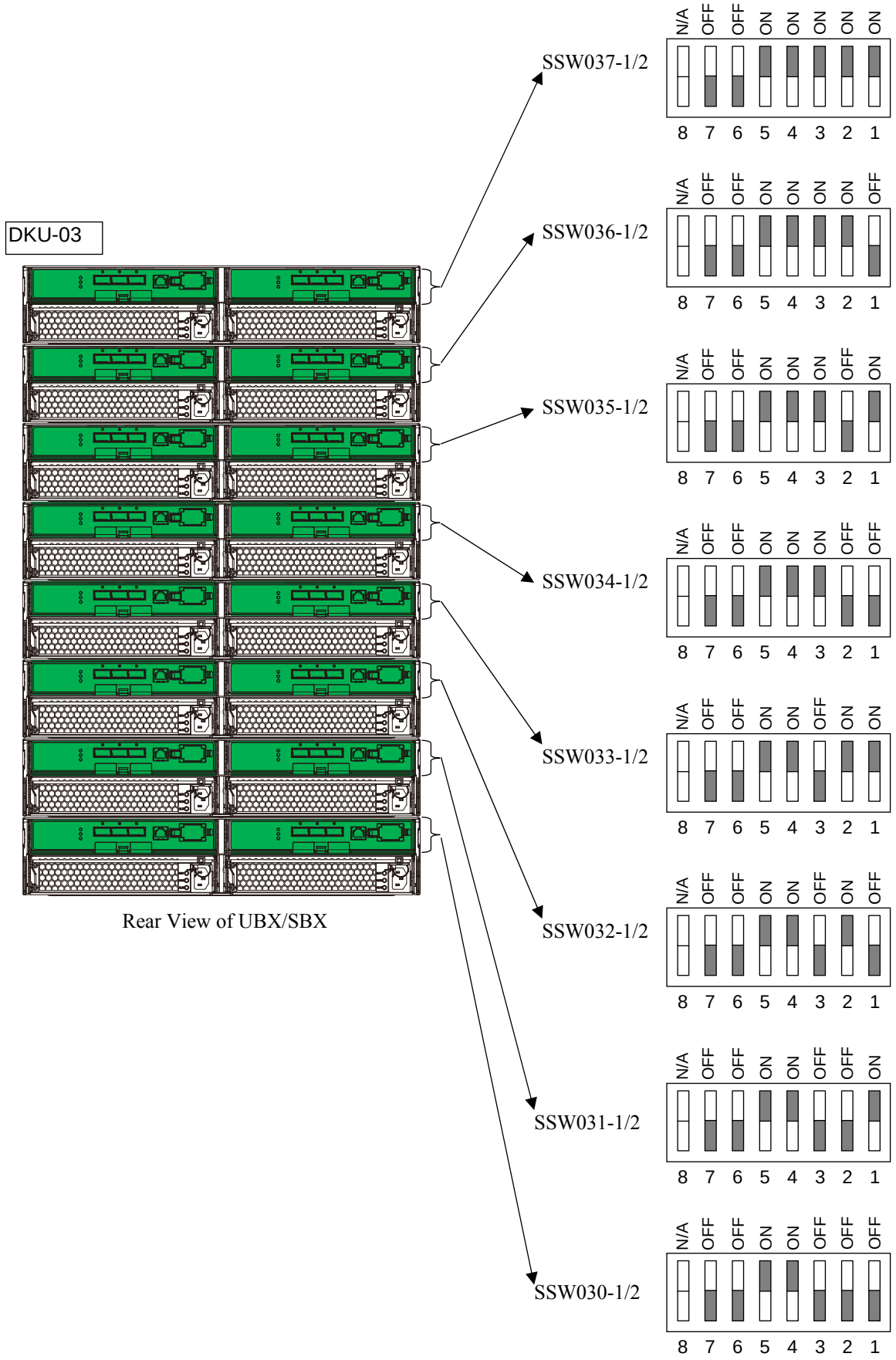


Fig. 3.5.3-22 Switch Setting of SSW (DKU-03)

Copyright © 2014, Hitachi, Ltd.

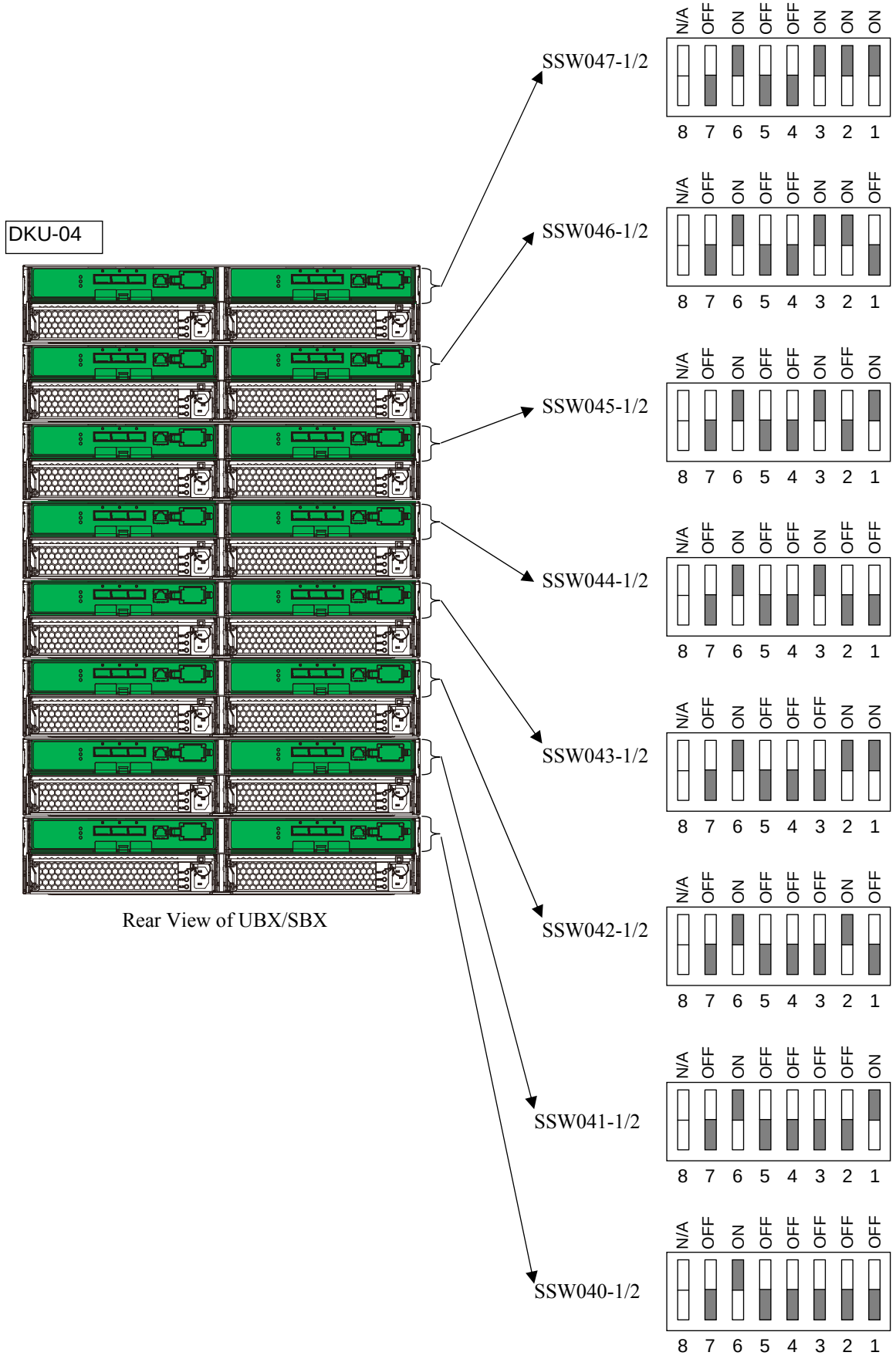


Fig. 3.5.3-23 Switch Setting of SSW (DKU-04)

Copyright © 2014, Hitachi, Ltd.

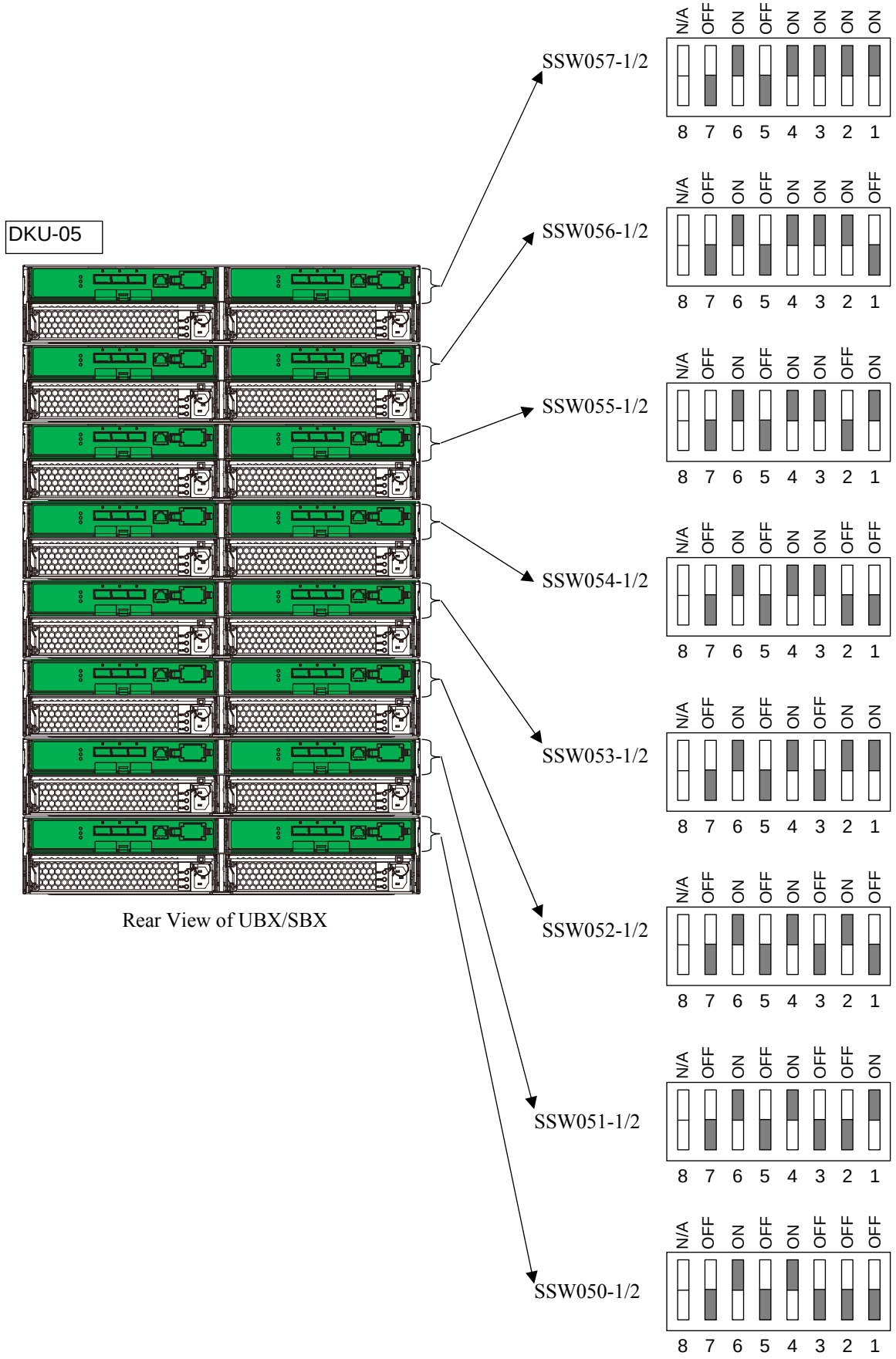


Fig. 3.5.3-24 Switch Setting of SSW (DKU-05)

Copyright © 2014, Hitachi, Ltd.

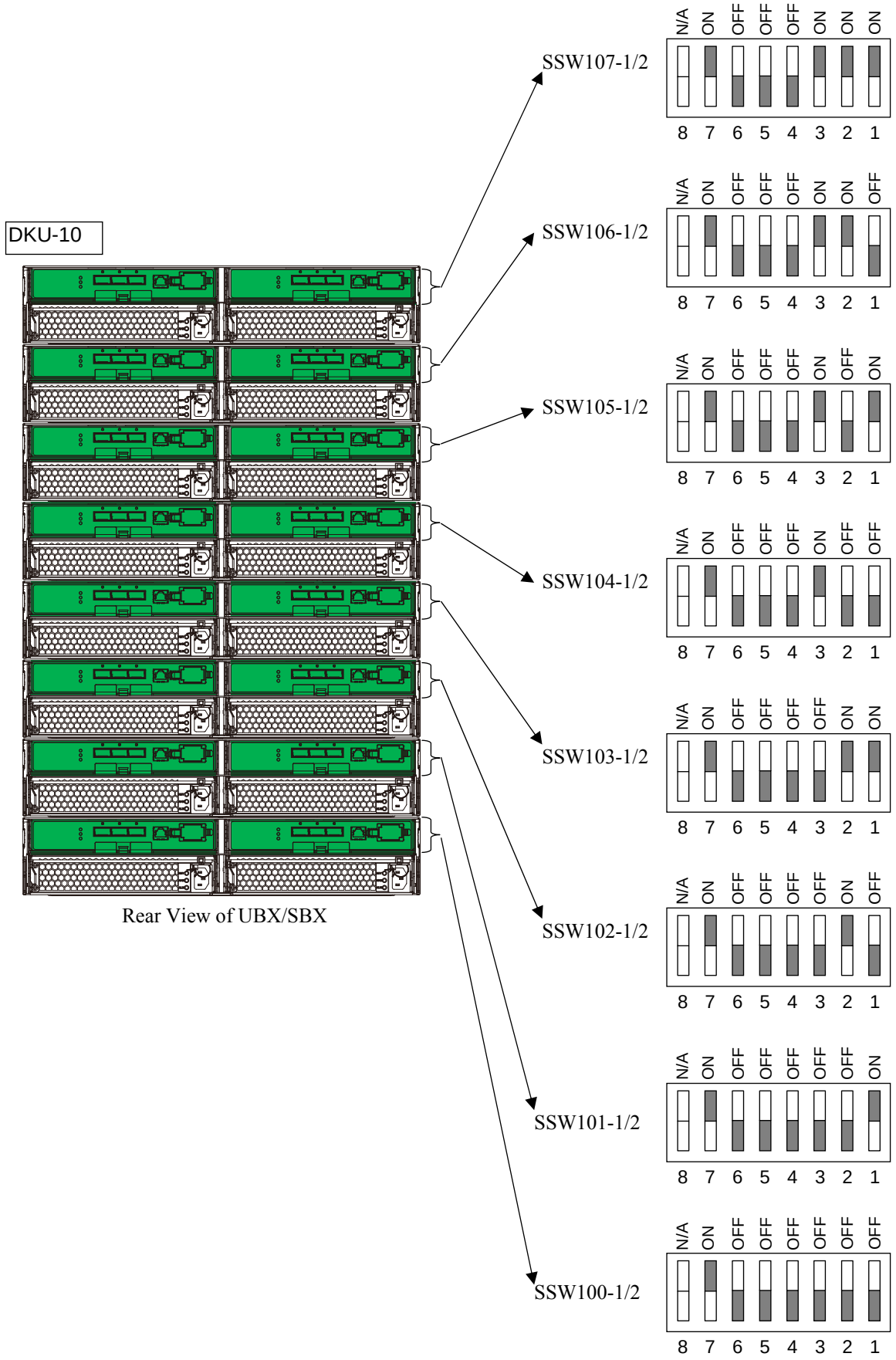


Fig. 3.5.3-25 Switch Setting of SSW (DKU-10)

Copyright © 2014, Hitachi, Ltd.

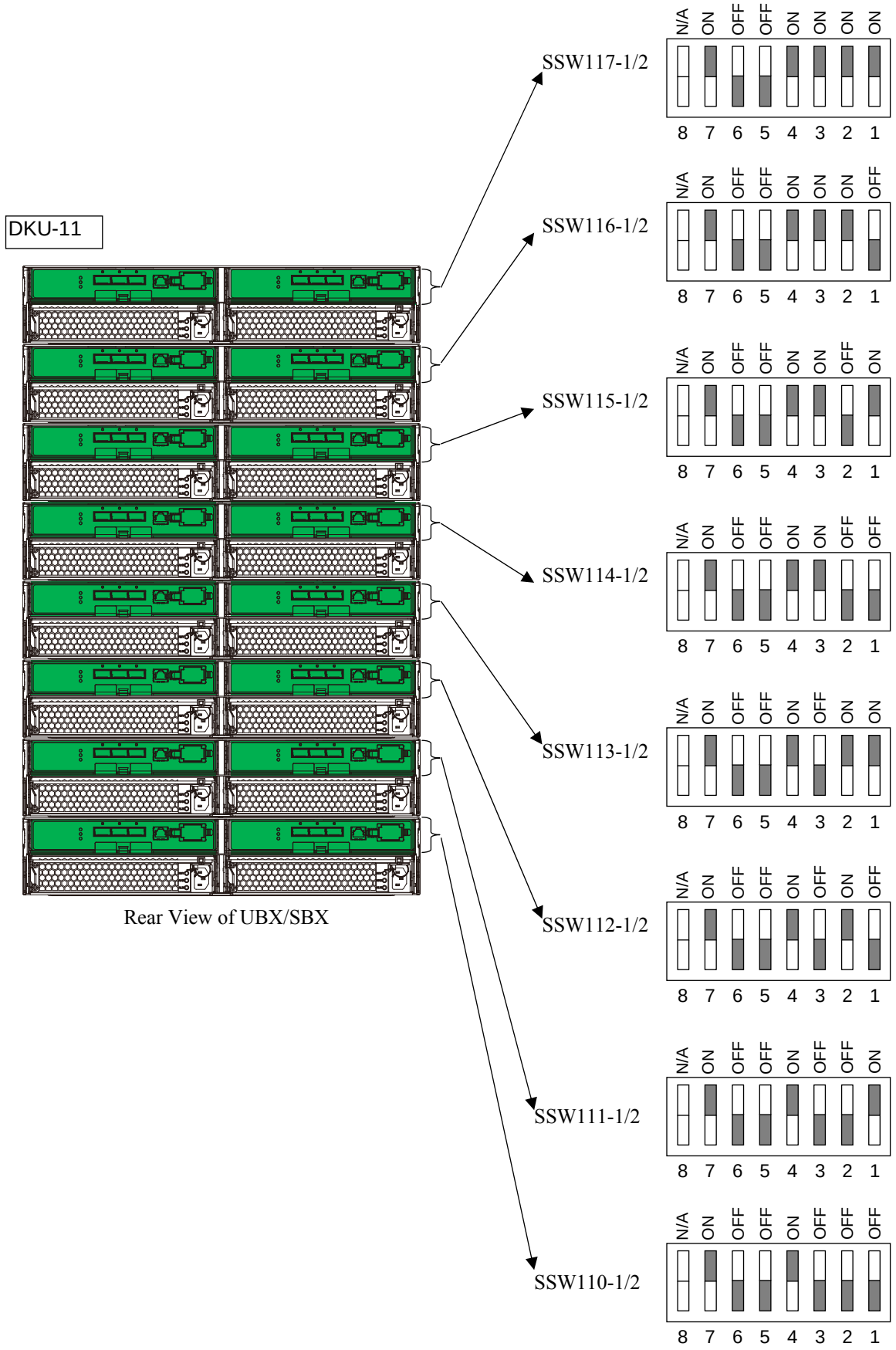


Fig. 3.5.3-26 Switch Setting of SSW (DKU-11)

Copyright © 2014, Hitachi, Ltd.

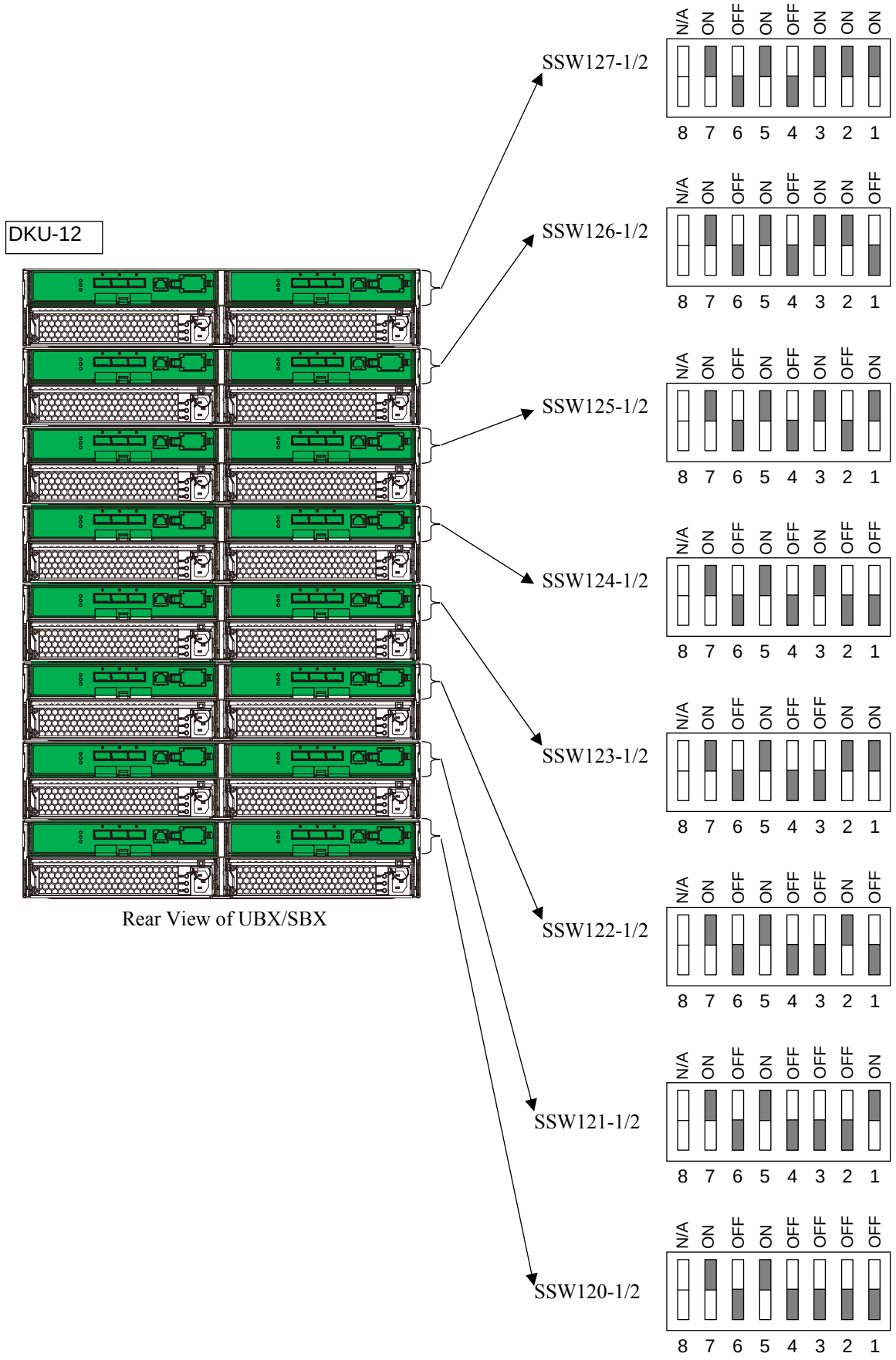


Fig. 3.5.3-27 Switch Setting of SSW (DKU-12)

Copyright © 2014, Hitachi, Ltd.

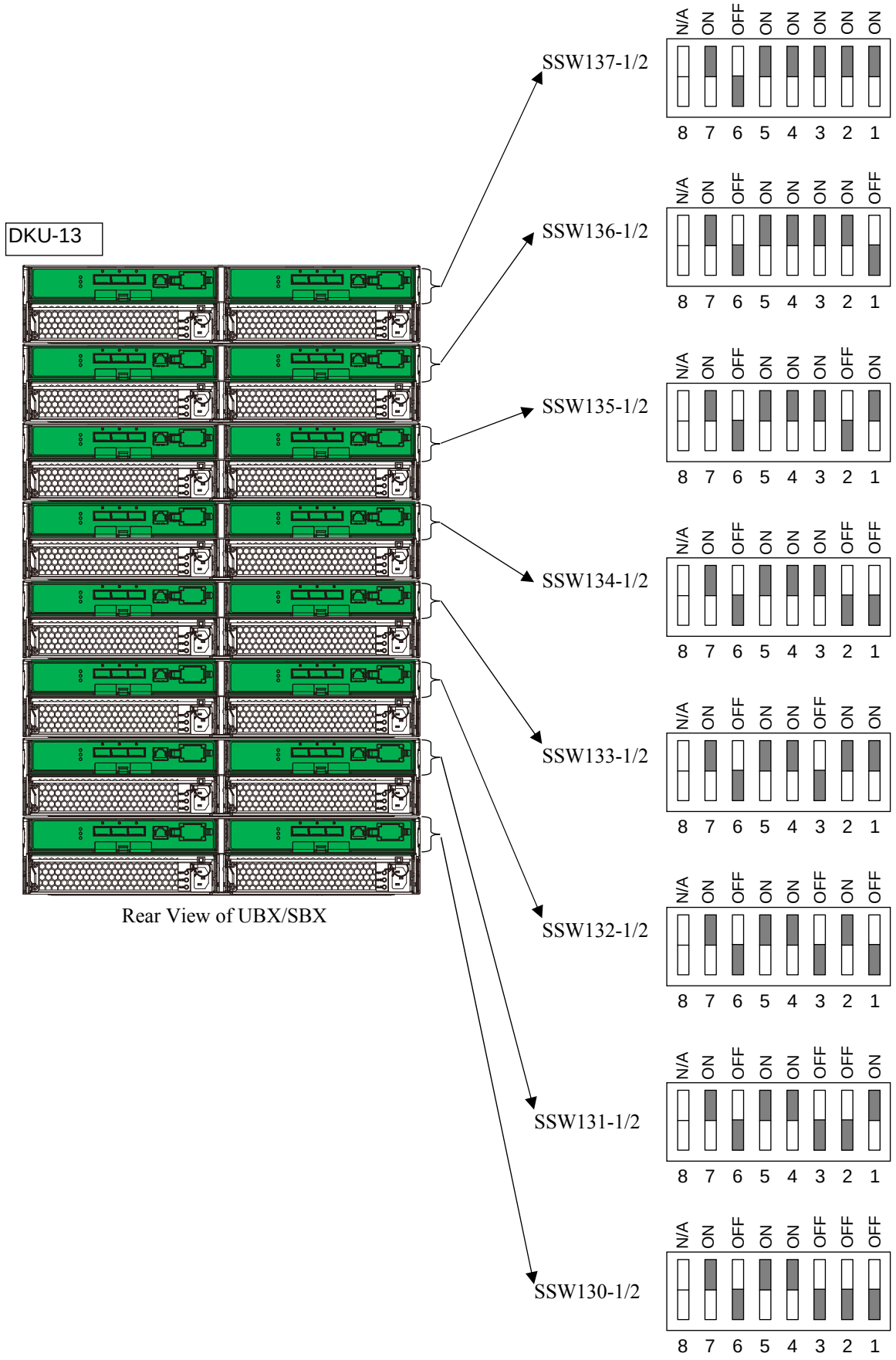


Fig. 3.5.3-28 Switch Setting of SSW (DKU-13)

Copyright © 2014, Hitachi, Ltd.

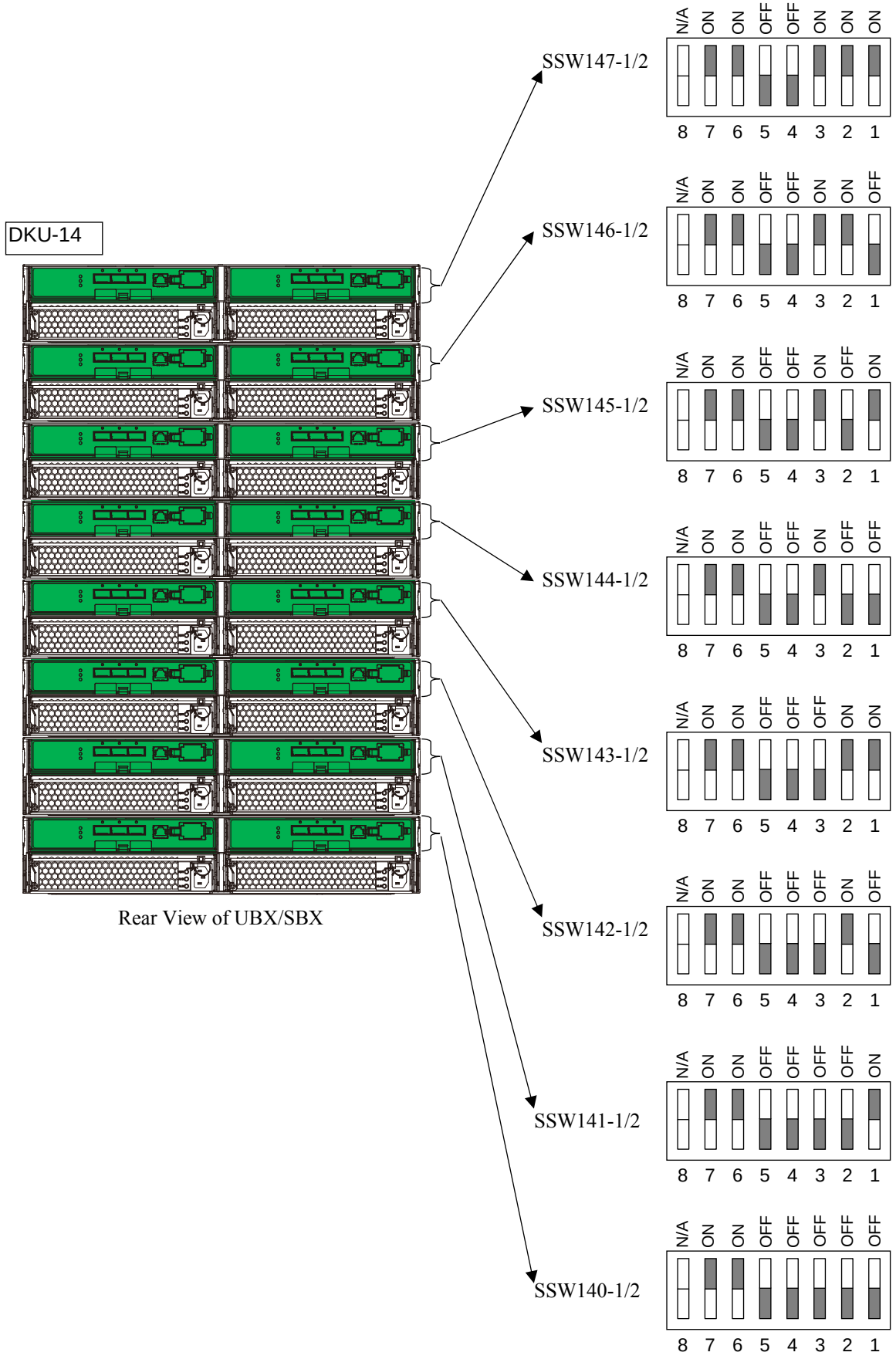


Fig. 3.5.3-29 Switch Setting of SSW (DKU-14)

Copyright © 2014, Hitachi, Ltd.

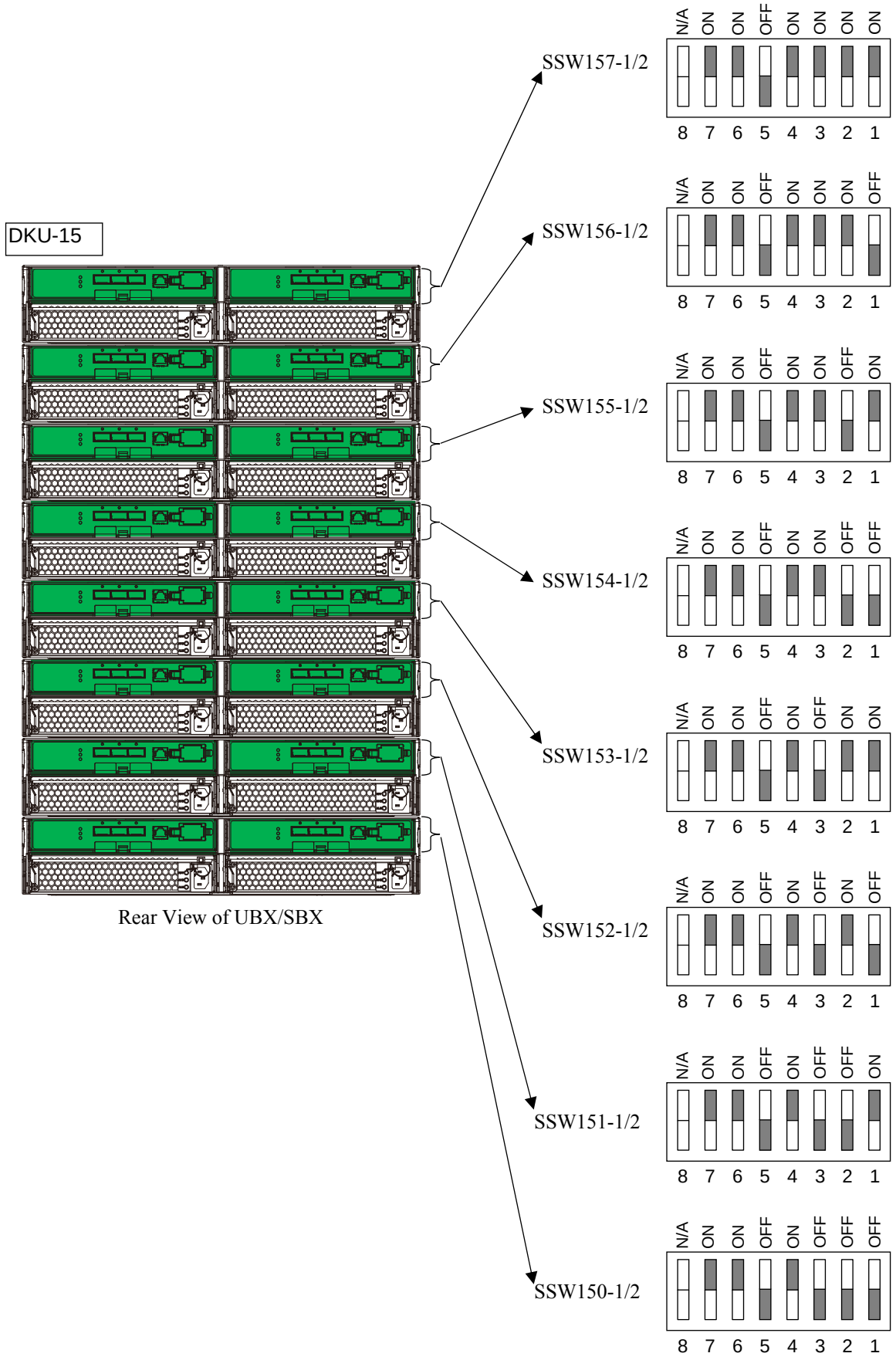


Fig. 3.5.3-30 Switch Setting of SSW (DKU-15)

Copyright © 2014, Hitachi, Ltd.

10. Attachment of Bezel (8U)
    a. Position drive chassis so that the protrusions on drive chassis align vertically.

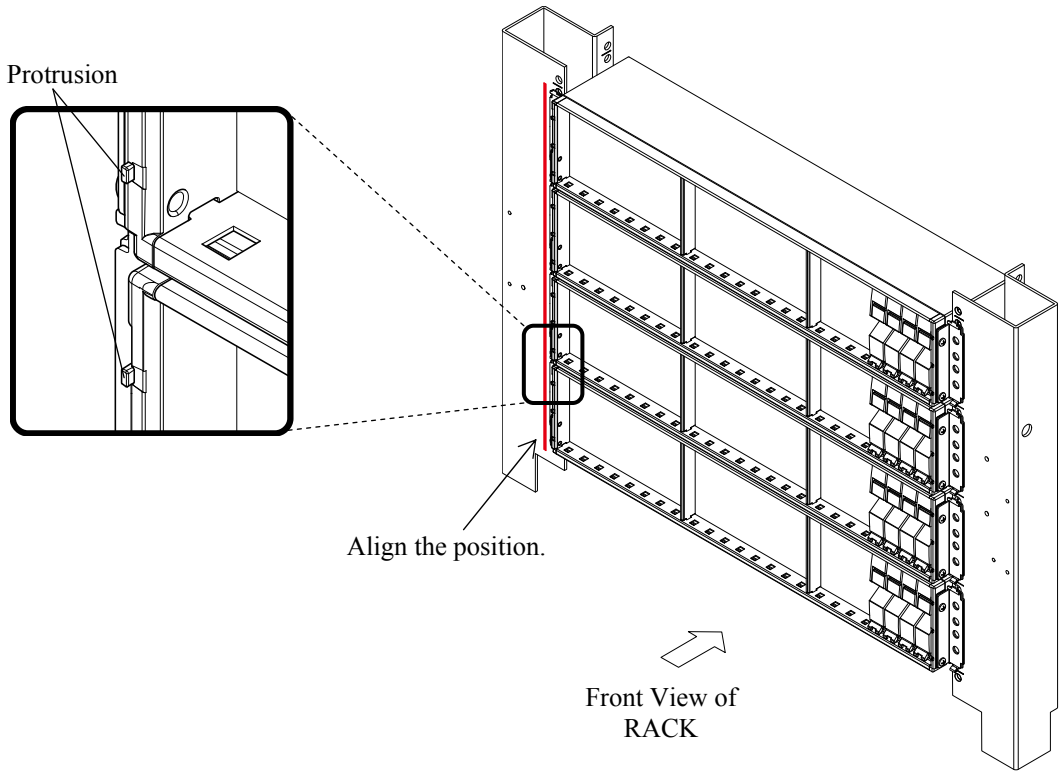


Fig. 3.5.3-31 Positioning Drive Chassis

Copyright © 2014, Hitachi, Ltd.

b. Secure the Nut Plate L (two) to the front left side of the DKU with the four screws. Tighten the screws pressing the Nut Plate L (two) upward and inward.
c. Secure the Nut Plate R (two) to the front right side of the DKU with the four screws. Tighten the screws pressing the Nut Plate R (two) upward and inward.

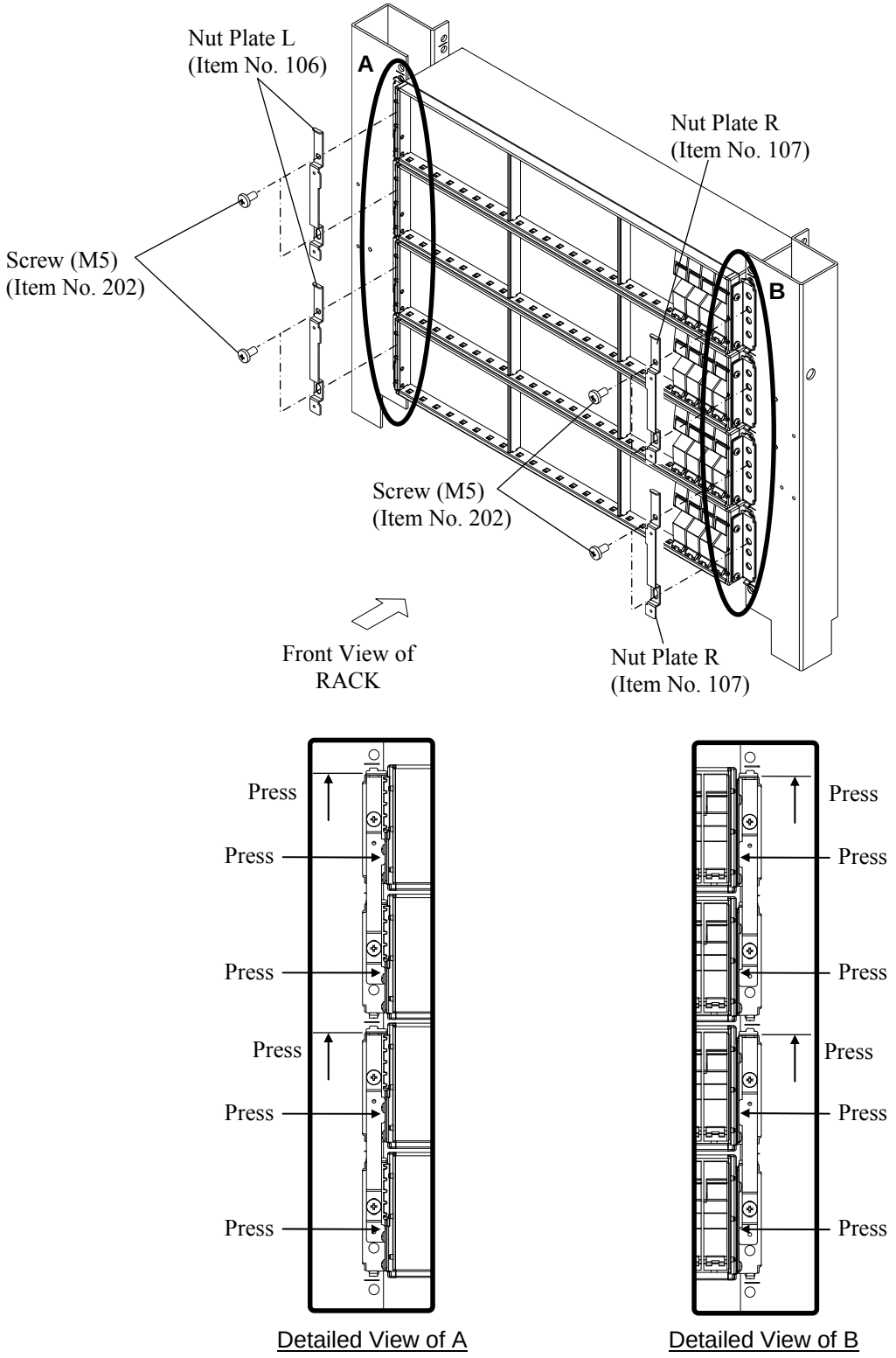


Fig. 3.5.3-32 Attachment of Nut Plates

Copyright © 2014, Hitachi, Ltd.

d. Hang the upper part of the Bezel Bracket L on the DKU and secure it to the Nut Plate L (two) with the four screws. Tighten the screws pressing the Bezel Bracket L inward.
e. Hang the upper part of the Bezel Bracket R on the DKU and secure it to the Nut Plate R (two) with the four screws. Tighten the screws pressing the Bezel Bracket R inward.

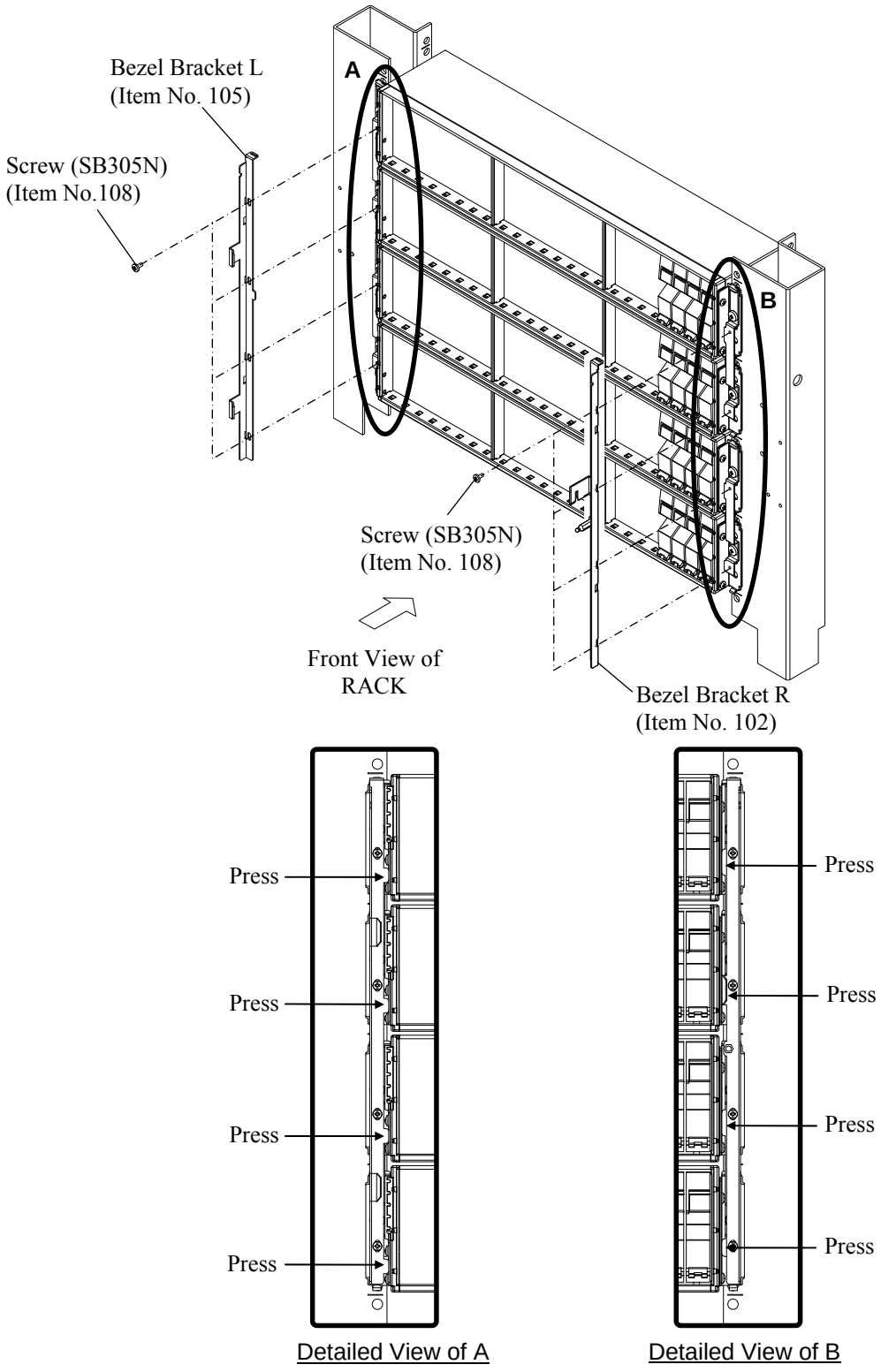


Fig. 3.5.3-33 Attachment of Bezel Brackets

Copyright © 2014, Hitachi, Ltd.

f. Fix the Bezel Bracket L so that the protrusions on drive chassis fit into the grooves on the Bezel Bracket L.
g. Install the Side Cover R in the Bezel Bracket R.
h. Install the parts to the other four HDU in the same manner.

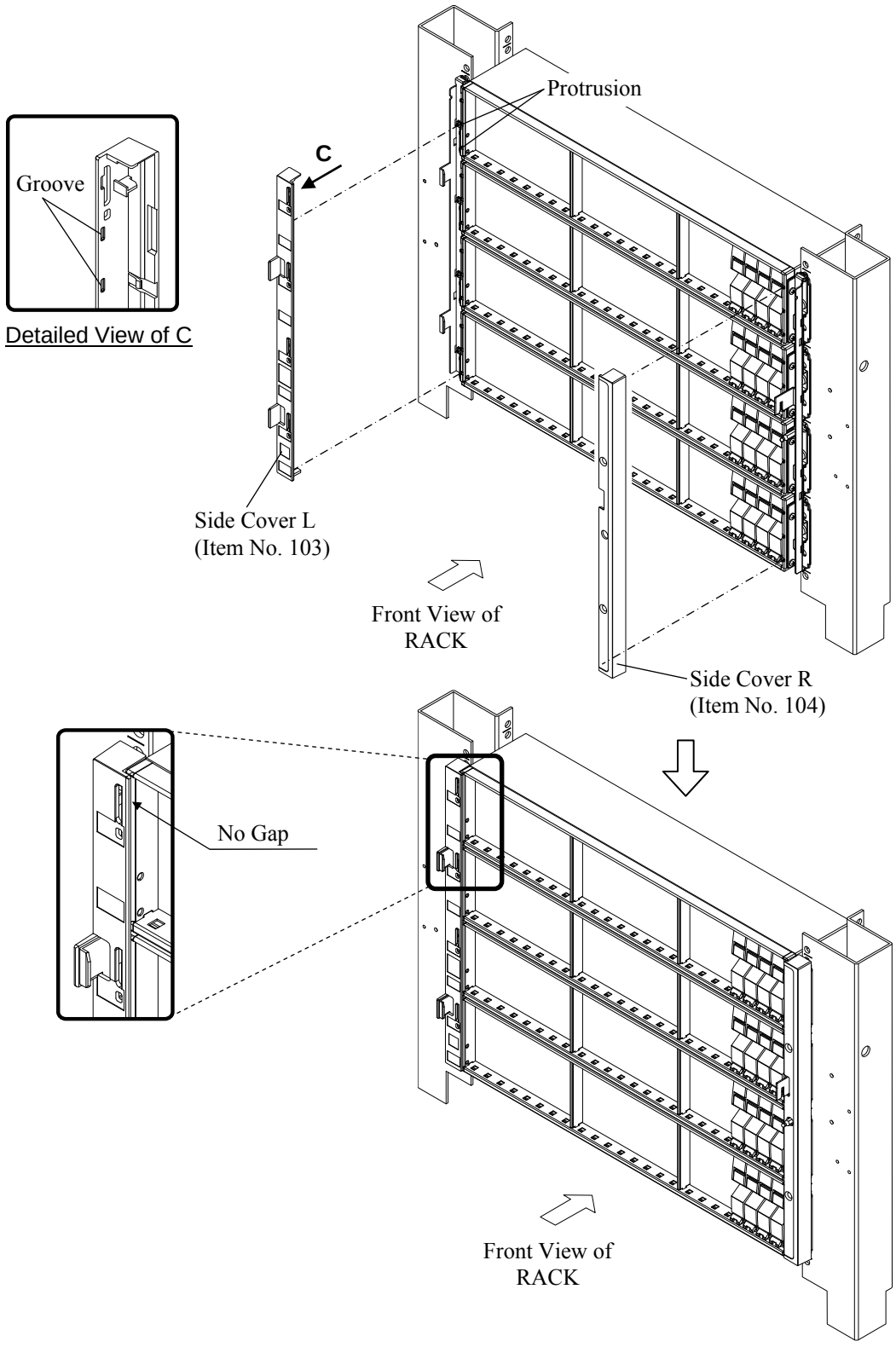


Fig. 3.5.3-34 Attachment of Side Covers

Copyright © 2014, Hitachi, Ltd.

i. Attach the eight Label Locations and the two Labels (DKU-BOX) of the corresponding locations to the two side covers on the front side of the rack.

j If the drive chassis is UBX, attach the two Location Labels (HDD) to the two Side Cover L.
If the drive chassis is SBX, go to Procedure k.

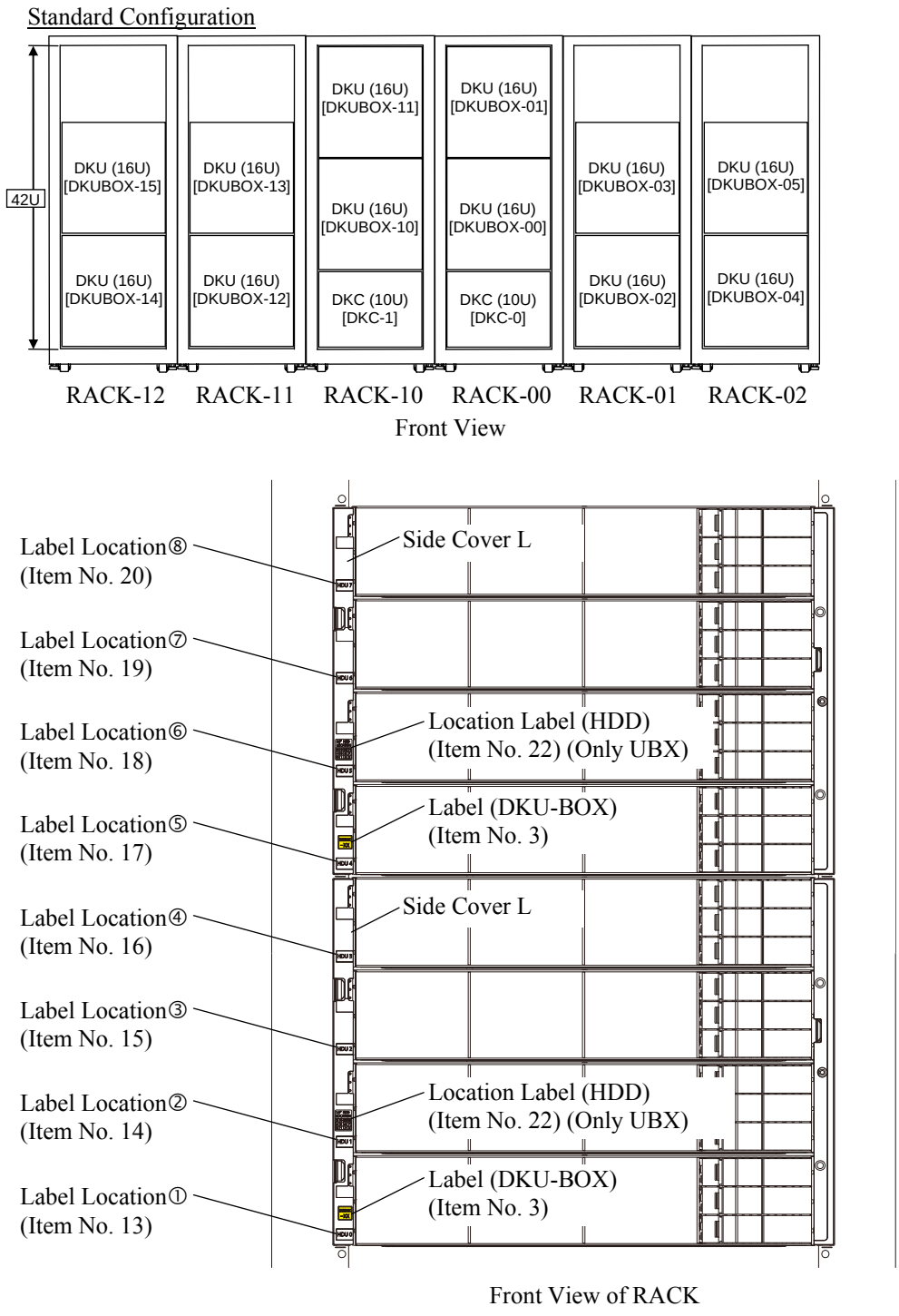


Fig. 3.5.3-35 Attachment of Labels (Front)

Copyright © 2014, Hitachi, Ltd.

k. Unlock the bezel with the key, and hold the key and bottom of bezel with your both hands.
m. Insert the tabs on the left front side of the chassis into the tab holes on the bezel (①).
n. Fix the bezel by pressing the right side of the bezel to engage it with the ball catch on the front side of the chassis (②).
p. Lock the bezel with the key (③).
q. Install the bezel to the other four HDU in the same manner.

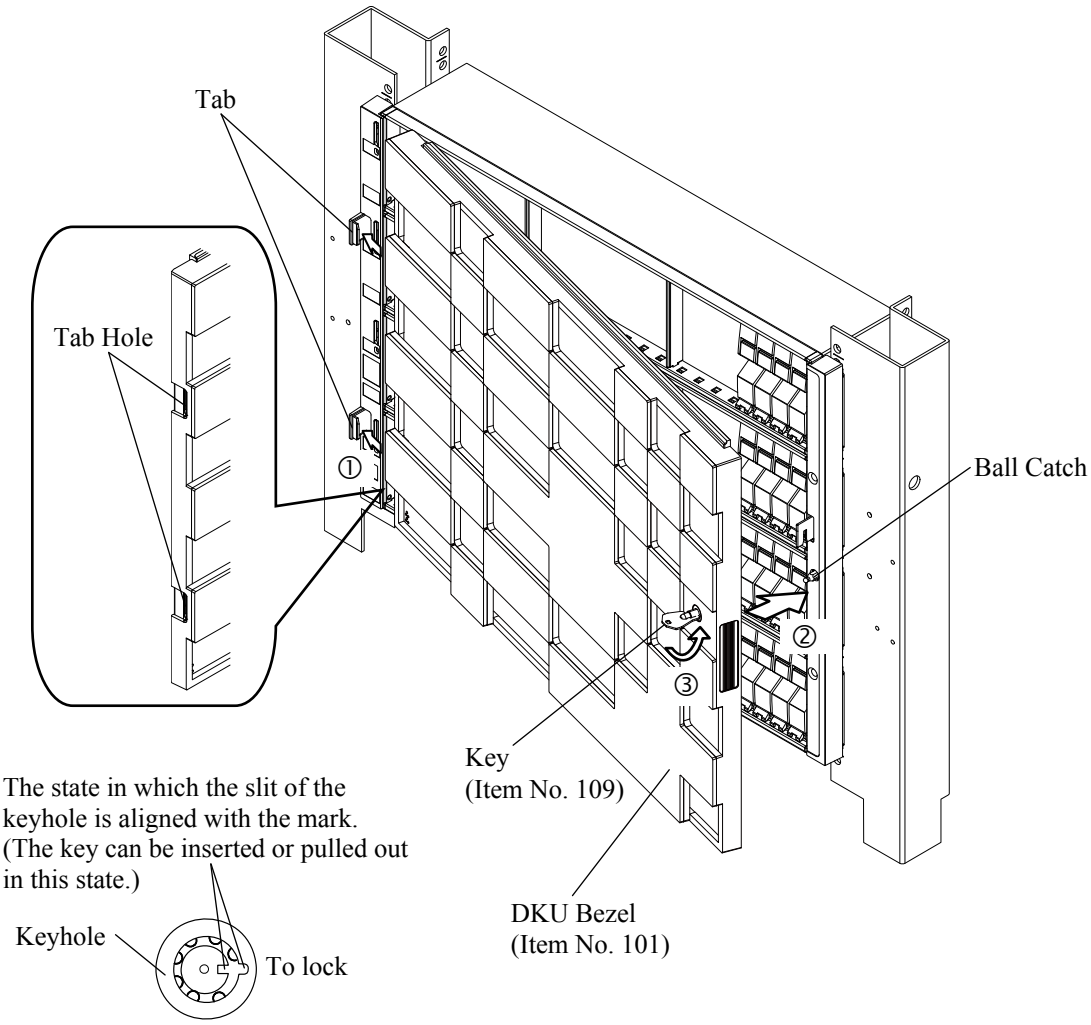


Fig. 3.5.3-36 Attachment of DKU Bezel

11. Return to the working table and do the rest of the work.
New Installation: INST02-10
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.5.4 Installation Procedure of FMD Chassis (DKC-F810I-FBX)

1. Confirmation of installation position
   EIA units and intervals of mounting holes of 19-inch rack frame conforming to EIA standard
   - A unit (U) space conforming to EIA standard is 19 inches wide and 44.5 mm high as shown in the figure below.
   - The boundary of the unit falls on the middle of the interval of 12.7 mm.
   - Universal intervals: Repeat of 44.45 mm (15.875 mm + 15.875 mm + 12.7 mm)
     Wide intervals: Repeat of 44.45 mm (31.75 mm + 12.7 mm)
     Maximum number of mountable unit spaces: 42

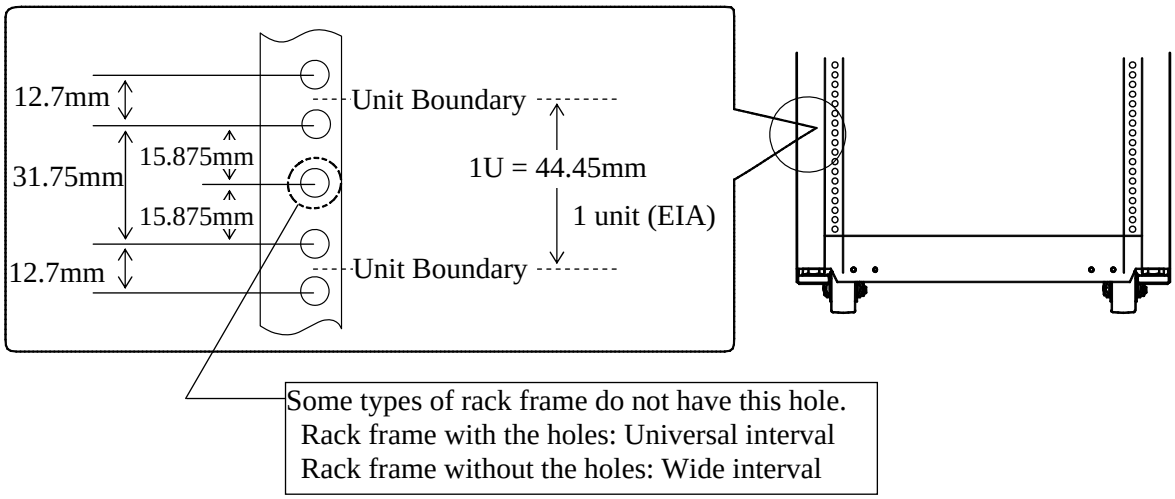


Fig. 3.5.4-1 Attachment Hole Size of Rack

Copyright © 2014, Hitachi, Ltd.

The addresses are given as 1, 2, 3, and so on counted from the bottom of the rack frame.
The following figures show a layout example of installing Drive chassis in 42 units rack frame.
However, installing positions of FMD Chassis may differ according to the construction within the rack frame.

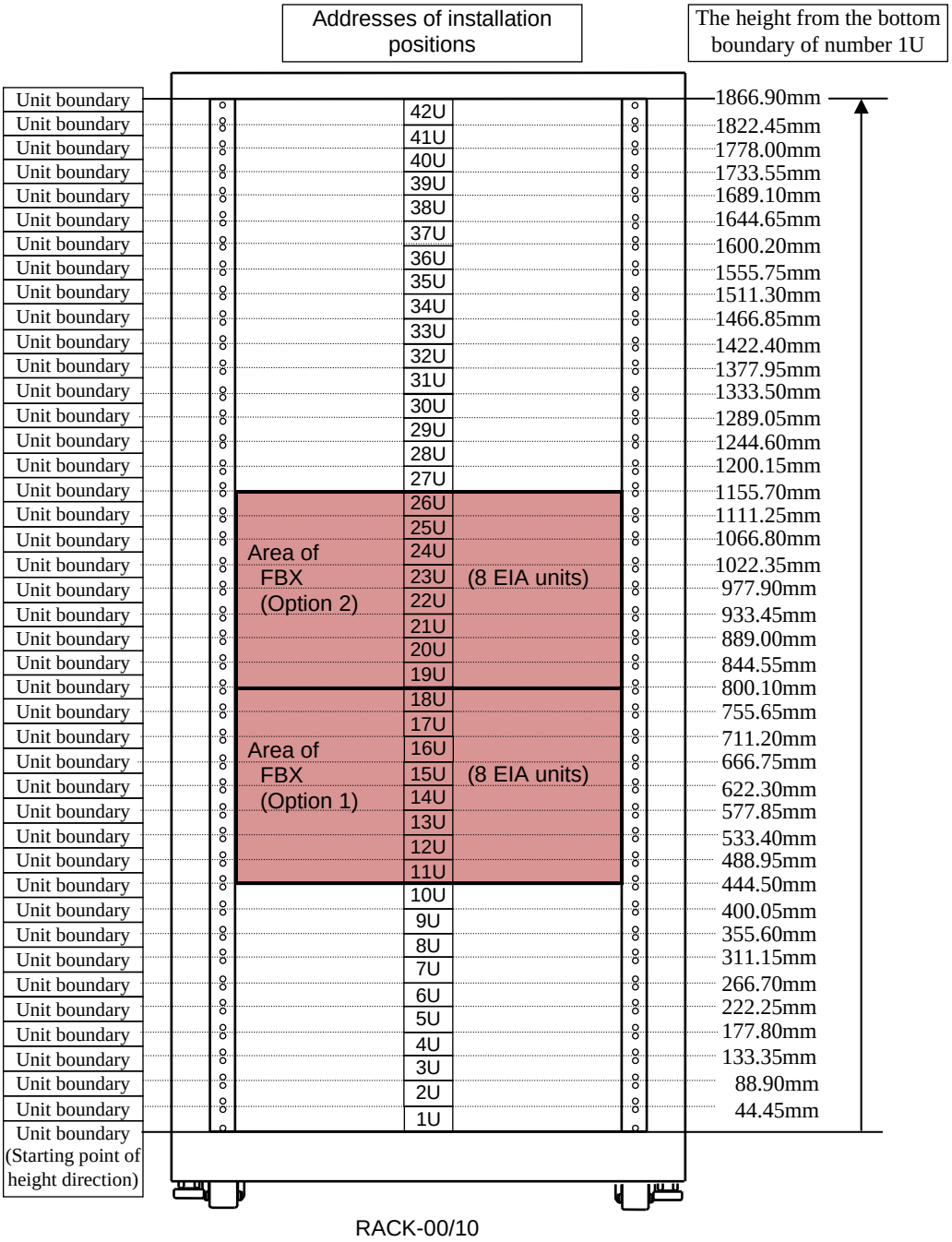
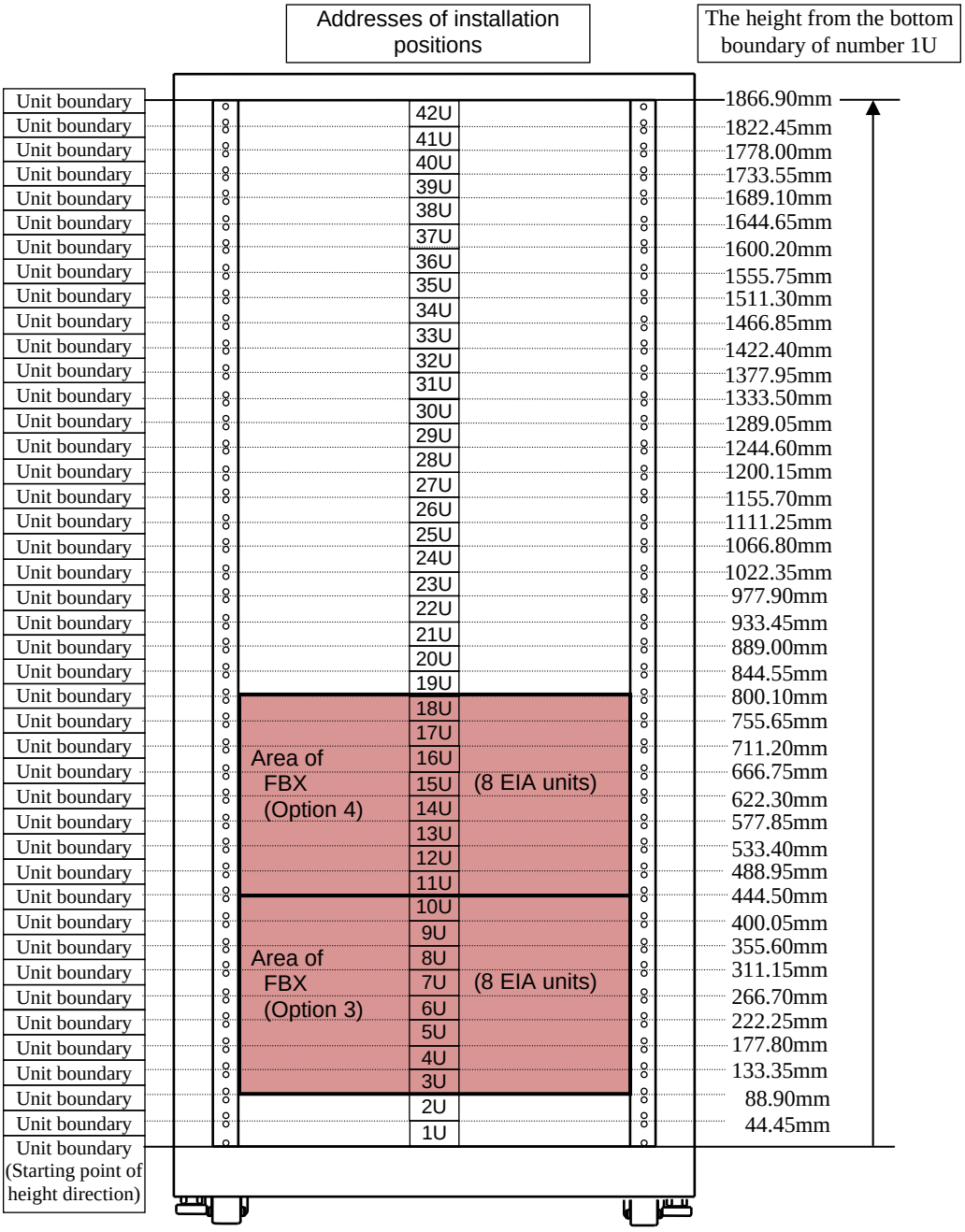


Fig. 3.5.4-2 Whole Layout of Installation Position Addresses (RACK-00/10)

Copyright © 2014, Hitachi, Ltd.



RACK-01/11

Fig. 3.5.4-3 Whole Layout of Installation Position Addresses (RACK-01/11)

Copyright © 2014, Hitachi, Ltd.

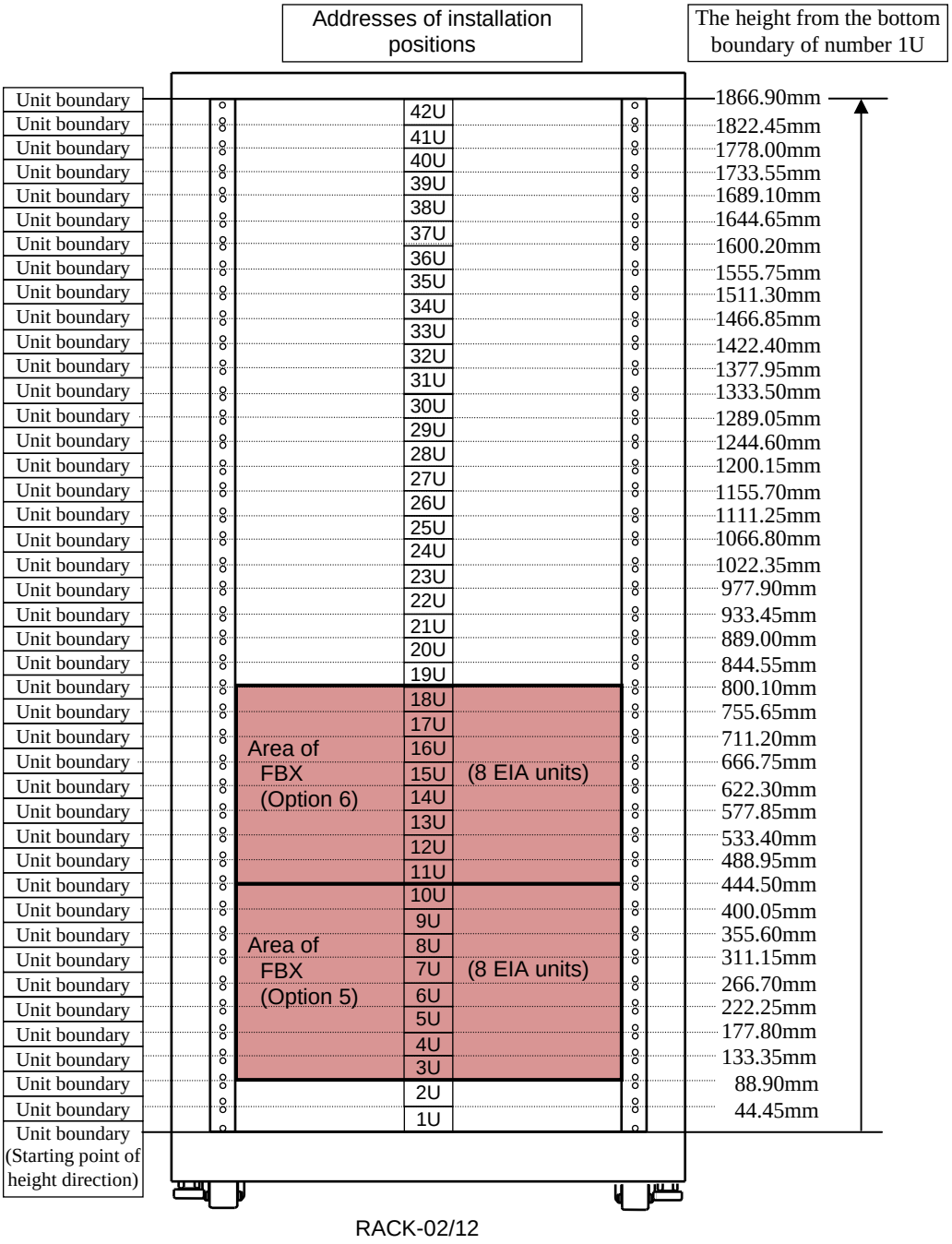
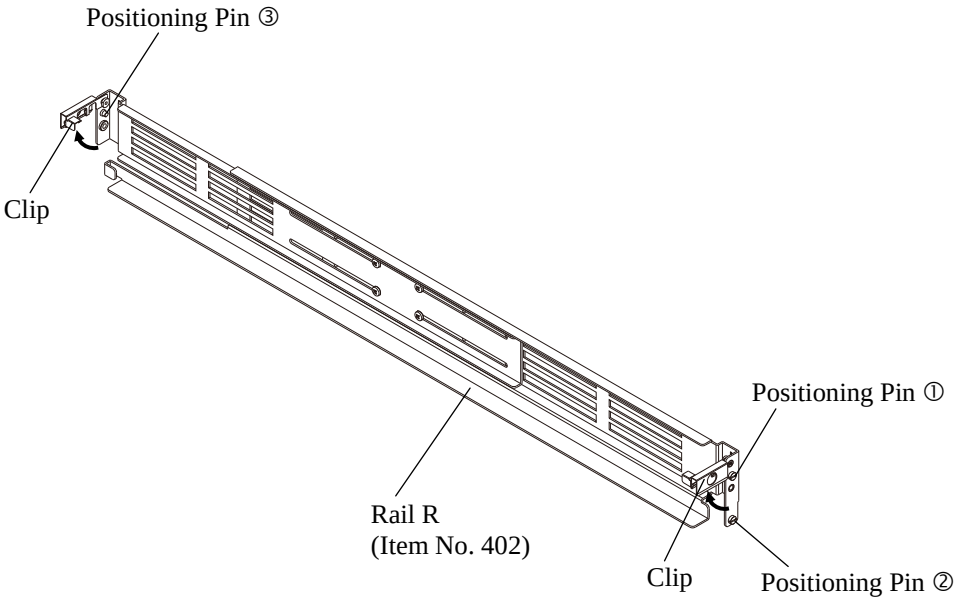


Fig. 3.5.4-4 Whole Layout of Installation Position Addresses (RACK-02/12)

Copyright © 2014, Hitachi, Ltd.

2. Installing the rails.
   a. Raise two Clips on the front and rear edge of the rail.
   b. If the insertion hole on the rack is square, put the Square Spacer on the Positioning Pin ①.
      If the insertion hole on the rack is round, go to Procedure c.
   c. If the insertion hole on the rack is square, put the Square Spacer on the Positioning Pin ②.
      If the insertion hole on the rack is round, go to Procedure d.
   d. If the insertion hole on the rack is square, put the Square Spacer on the Positioning Pin ③.
      If the insertion hole on the rack is round, go to Procedure e.
   e. Do the same procedure for the other rails.



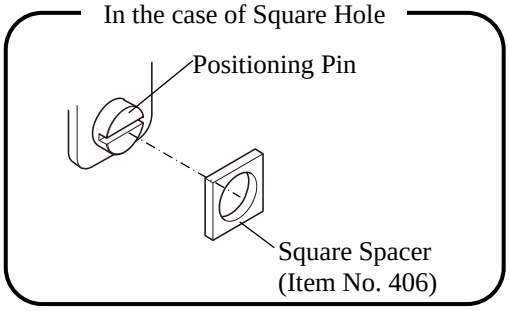


Fig. 3.5.4-5 Procedure Prior to Rail Installation

Copyright © 2014, Hitachi, Ltd.

f. Loosen the four screws on the side of the rail and adjust the length of the rail.
   If the length of the rail does not become the same as the width of the rack frame even after the screws are loosen, remove the four screws and adjust the length again.
g. Fit Positioning Pins of the rail (three pins in total on the front and back edge) into holes on the right side of the rack at the position where you want to install the DKU.
h. Bring down the Clips of the rail to fix the rail to the rack.
i Tighten the four screws on the rail.
j. Install the rail into the left side of the rack in the same way as procedures f to i.

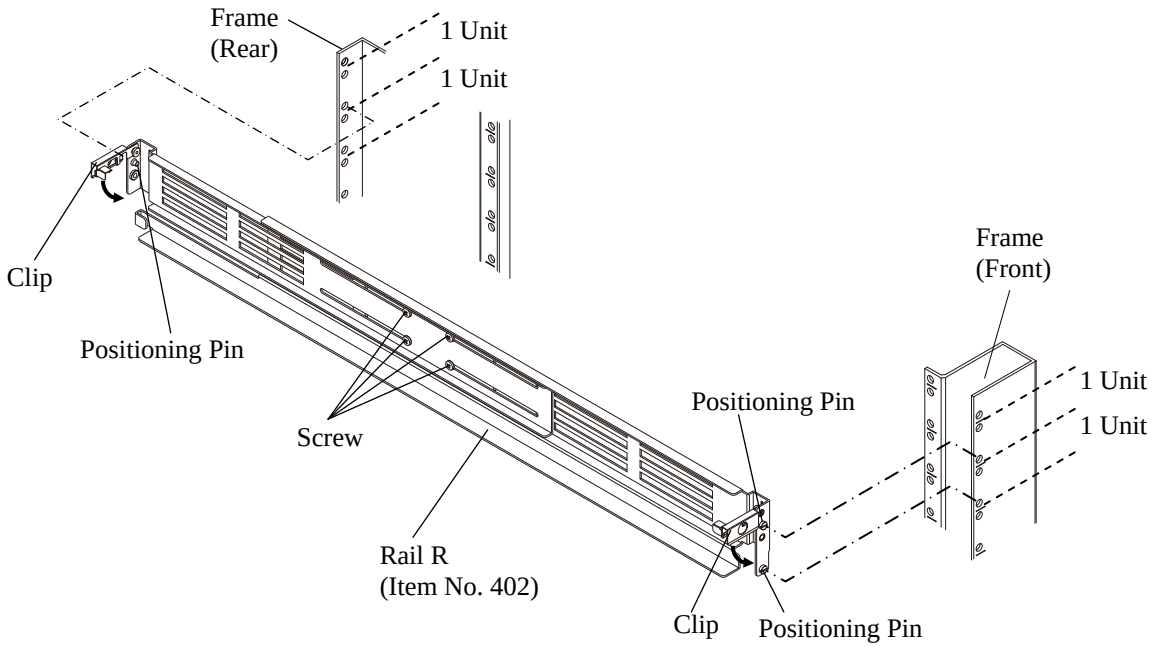


Fig. 3.5.4-6 Attachment of Rails

Copyright © 2014, Hitachi, Ltd.

k. Tighten the screws and loop cable ties on the rear edge of the rails to fit the rails to the rack.
   Do not tighten a screw on the front edge of the rail, as it shall be tightened afterward.
m. Install the other rails in the same manner.

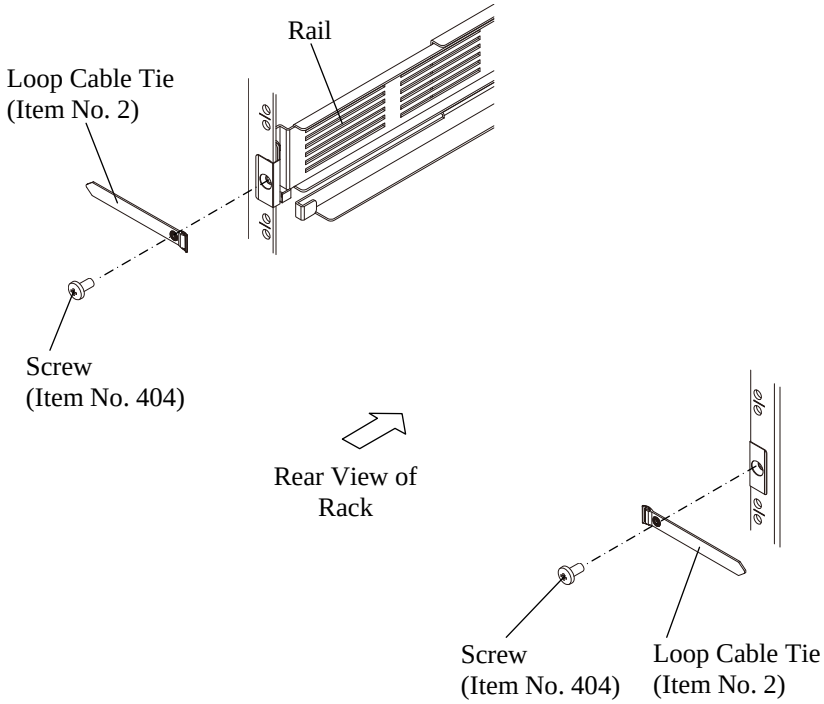


Fig. 3.5.4-7 Attachment of Screws and Loop Cable Ties

Copyright © 2014, Hitachi, Ltd.

3. Removing parts
   If the FBX is installed at height below 1m or installed by using the special lifter, this procedure is not required because the FBX is installed into the rack frame with its parts mounted. (Go to procedure 4.)
   If other than above, remove the parts first and then install the FBX into the rack frame.

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

   a. Attach a label or the like for identification of installation location to a removed part so that it can be installed in the same place in the FBX.
   b. Press the latches of the SSW inward to unlock the levers.
   c. Pull the right and left levers and remove the SSW.
   d. Remove the other SSW in the same manner.

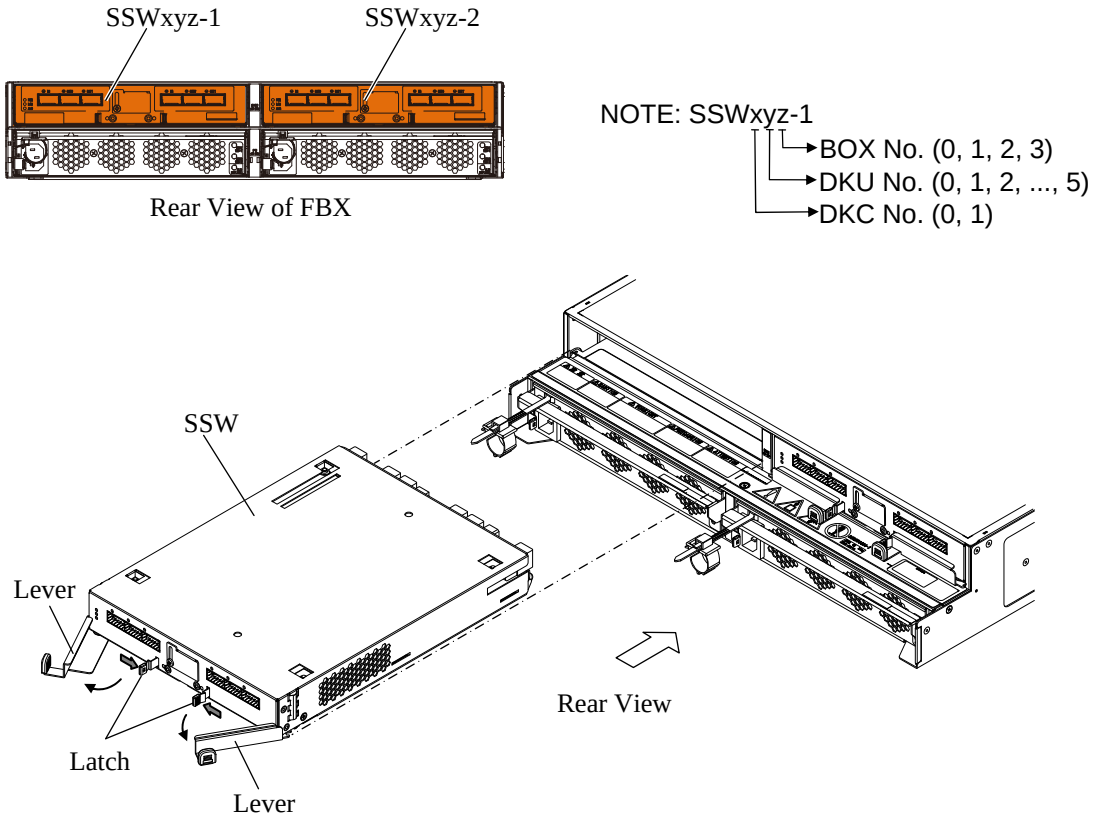


Fig. 3.5.4-8 Removal of SSW

Copyright © 2014, Hitachi, Ltd.

e. Bring the handle down and forward (②) while pushing the latch of the DKUPS inward (①).
f. Pull the DKUPS and remove it from the FBX.
g. Remove the other DKUPS in the same manner.

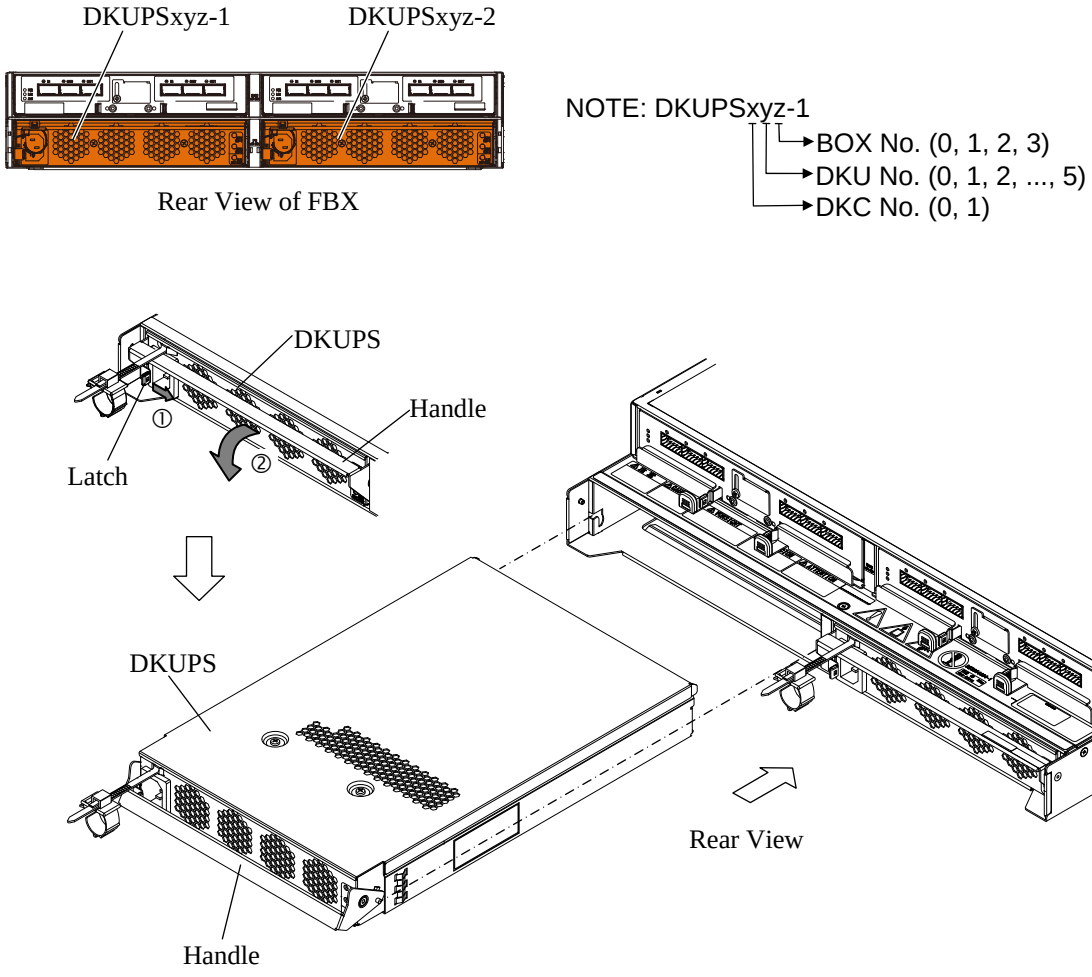


Fig. 3.5.4-9 Removal of DKUPS

Copyright © 2014, Hitachi, Ltd.

4. Installing the FBX

⚠ CAUTION

Paying attention to falls:
Work carefully because the mass of the single FMU is about 20 kg.

Beware over turning and dropping:
To prevent FMU from over turning and dropping, the installation work must be done by two or more personnel.

a. Install the FMU on the front side of the Rack frame referring to mounting procedure using the special lifter. (See INST03-15-10 through 40.)
   At this time, be sure the plate of the rear side of the FMU is in the stopper of the rail.
b. When the bezel is not installed in the FBX, secure the front of the FMU with the two screws.
   When the bezel is installed in the FBX, go to Procedure c. (The FMU is secured with the screws and bezel brackets in the procedure described later.)
c. Install the other FMUs in a same manner.

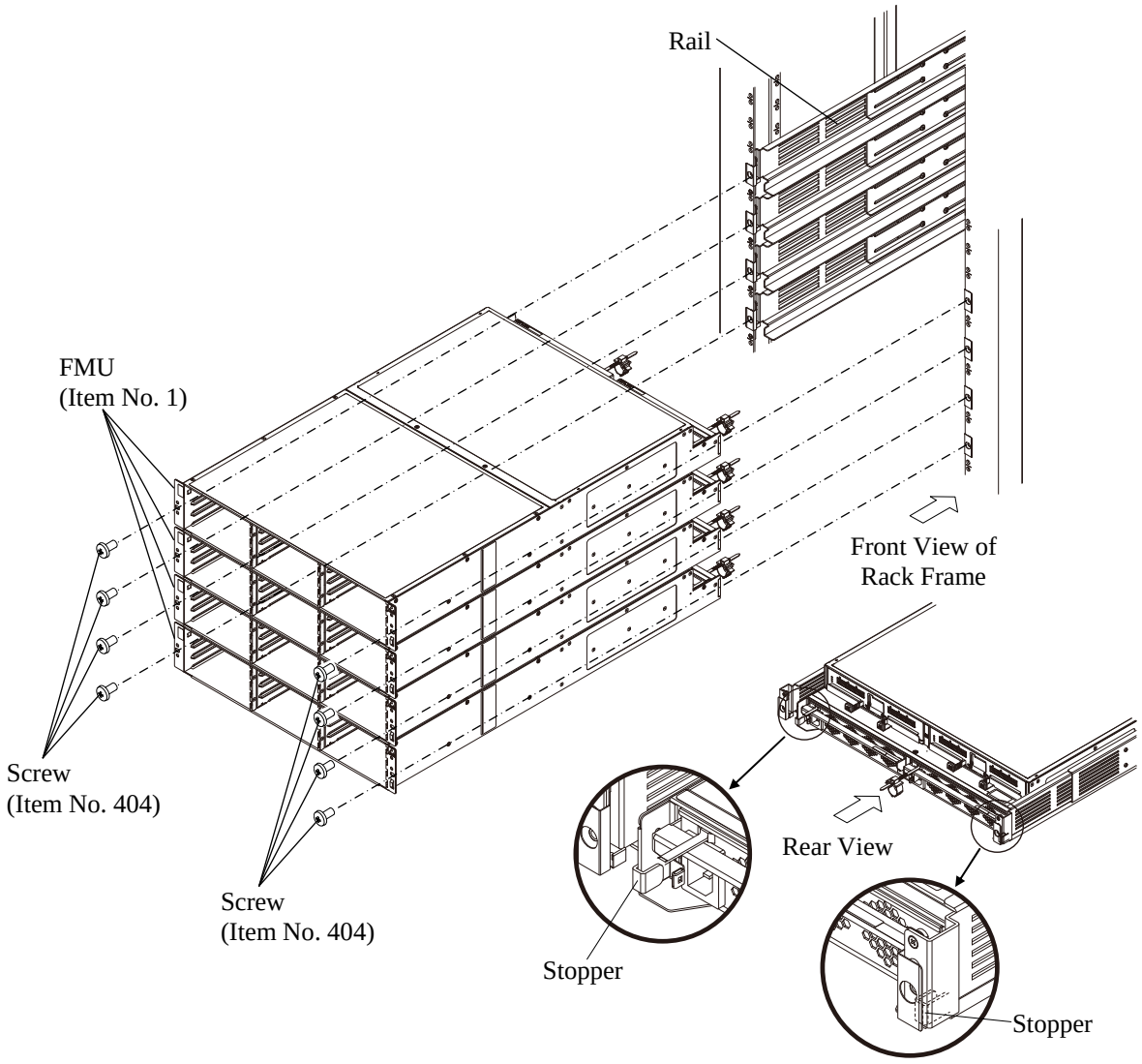
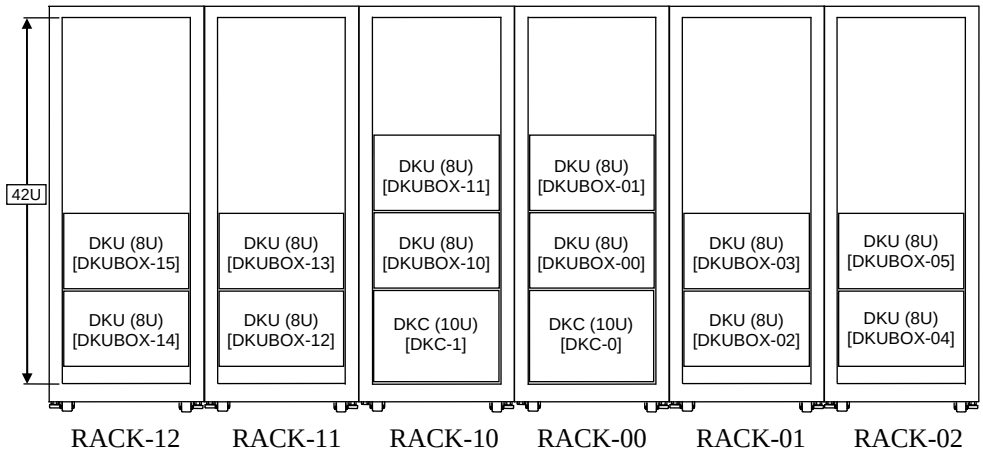


Fig. 3.5.4-10 Installing FBX

Copyright © 2014, Hitachi, Ltd.

d. If the bezel is not installed in the FBX, attach the eight Label Locations and the Label (DKU-BOX) of the corresponding location to the plate on the left side of the front of the FBX.
If the bezel is installed in the FBX, go to Procedure e. (Attach the labels to the side covers of the bezels in the procedure described later.)

Standard Configuration



Front View

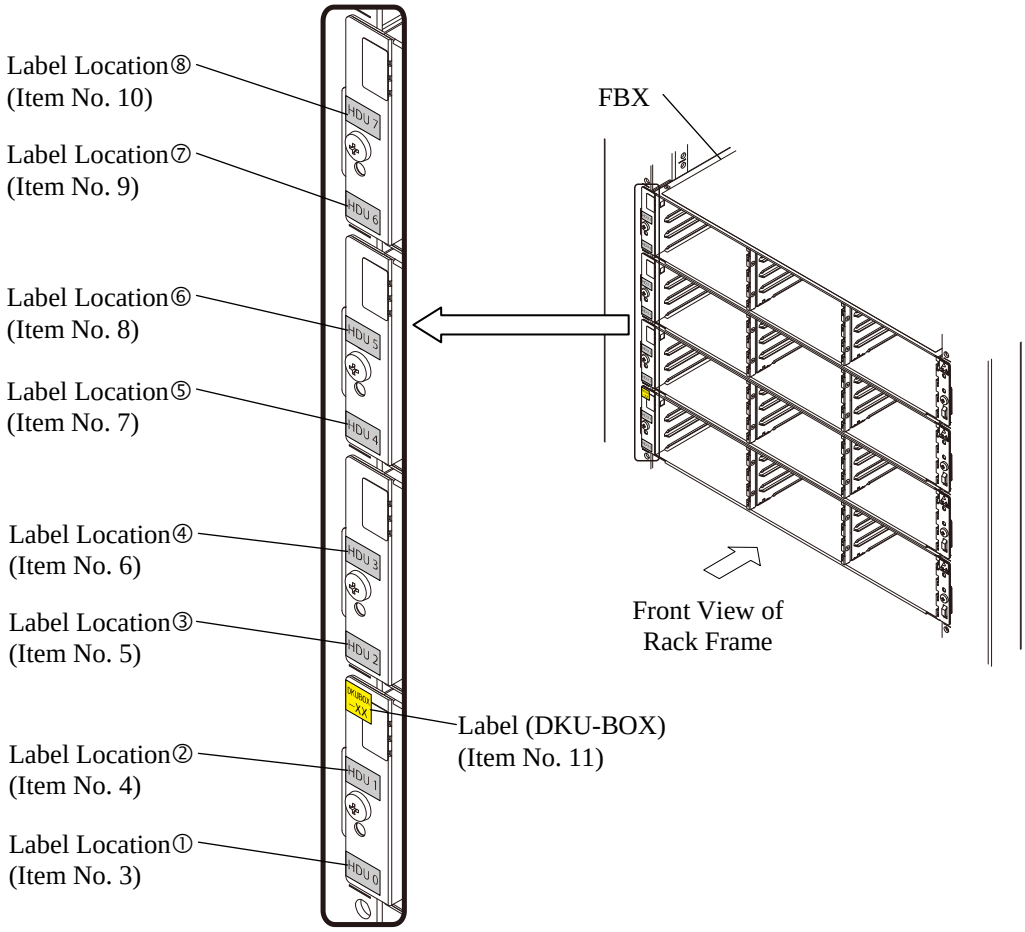


Fig. 3.5.4-11 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

e. Attach the eight Label Locations and the Label (DKU-BOX) of the corresponding location to a rail on the left side of the rear of the FBX.

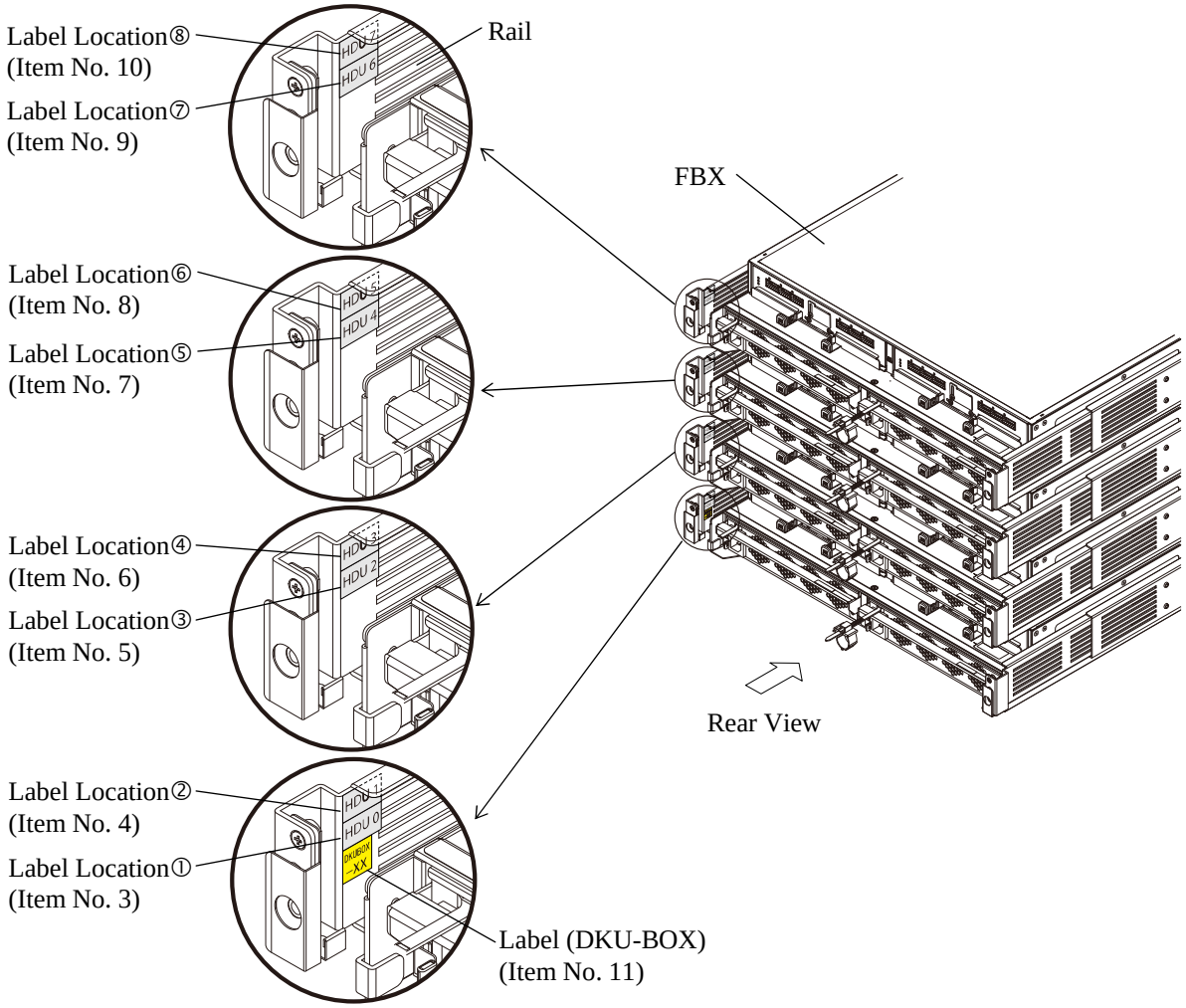


Fig. 3.5.4-12 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

5. Reinstalling removed parts
   If parts were removed in procedure 3, reinstall the parts.
   If parts were not removed, go to procedure 6.

   a. Make the handle of the DKUPS completely fall down and forward. (See Fig. 3.5.4-9.)
   b. Insert the DKUPS into the slot and push it to the full.
   c. Completely raise the handle and fix the DKUPS.
   d. Install the other DKUPS in the same manner.
   e. Make the right and left levers of the SSW open. (See Fig. 3.5.4-8.)
   f. Insert the SSW until the edge of the lever comes in contact with the chassis.
   g. Close the right and left levers to insert the SSW completely.
   h. Install the other SSW in the same manner.

Copyright © 2014, Hitachi, Ltd.

6. Attaching the labels
   a. Attach the labels, showing corresponding locations to top side and rear side of the FMU.
   b. Attach the labels to the other FMU in the same manner.

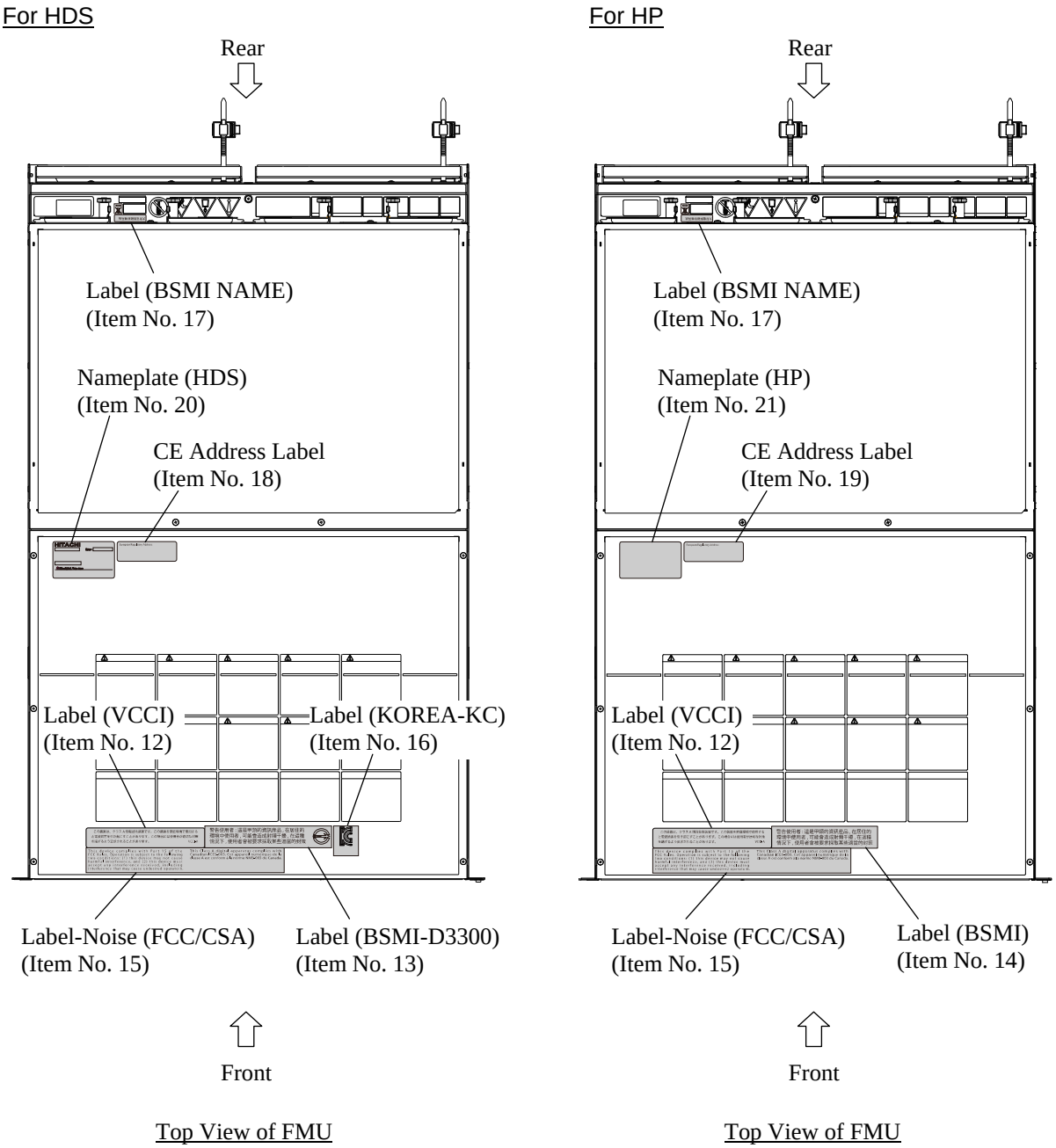


Fig. 3.5.4-13 Attachment of Labels

Copyright © 2014, Hitachi, Ltd.

7. Switch Setting
   a. Loosen the screw of the SSW and open the cover.
   b. Open the cover of all the SSWs in the same manner.

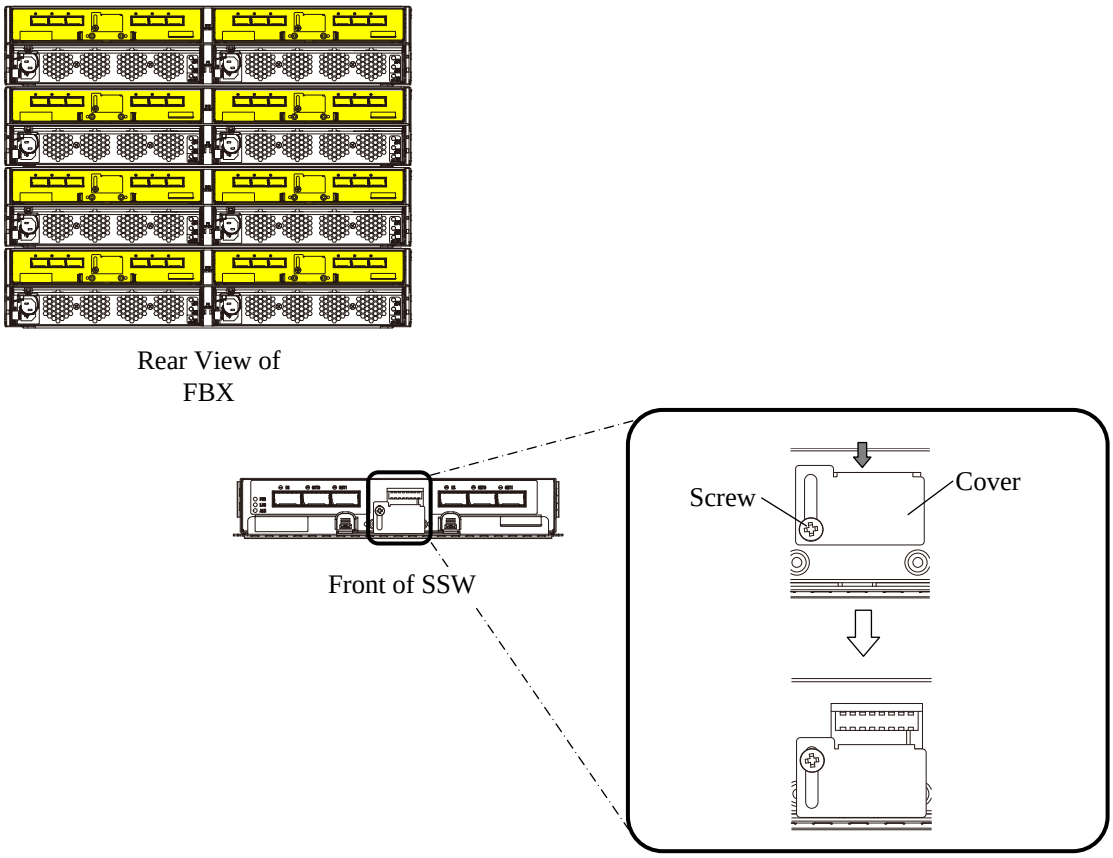


Fig. 3.5.4-14 Opening Cover

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if a wrong setting is made.
Operate very carefully referring to the setting table not to make a mistake in the setting.

c. Set the switches in the SSWs as indicated in the Fig. 3.5.4-15 through Fig. 3.5.4-27. Switch settings must be made at 56 places in total per option.

NOTICE:
- Use something sharp (ex. a pen or a mini screwdriver etc.) when set the SSW switches
- When the switch setting of SSW is wrong, execute the replace process of SSW and change the switch setting. The switch setting will not be effective unless the SSW is dismounted and mounted.

d. Close the cover of the SSW and tighten the screw. (Refer to Fig. 3.5.4-14.)
e. Close and fasten the cover of all the SSWs in the same manner.

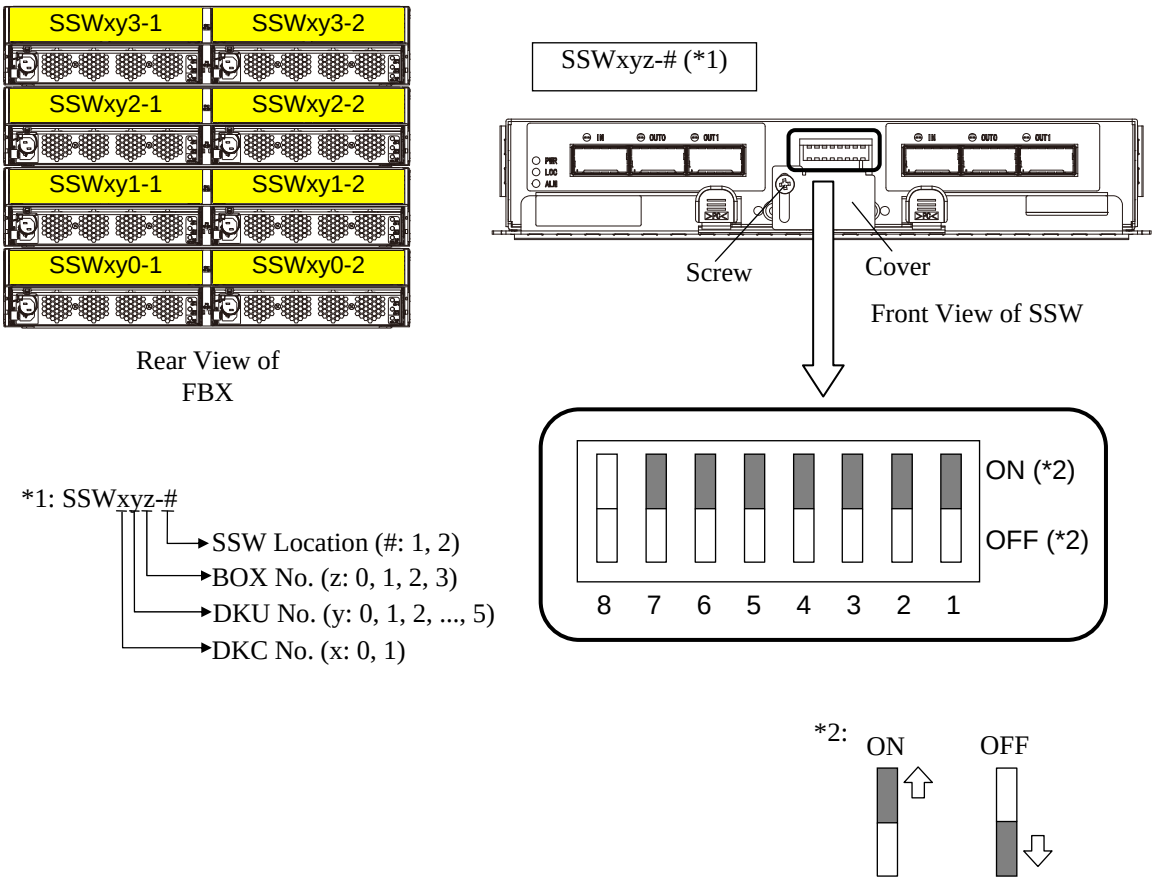


Fig. 3.5.4-15 Switch Setting of SSW

Copyright © 2014, Hitachi, Ltd.

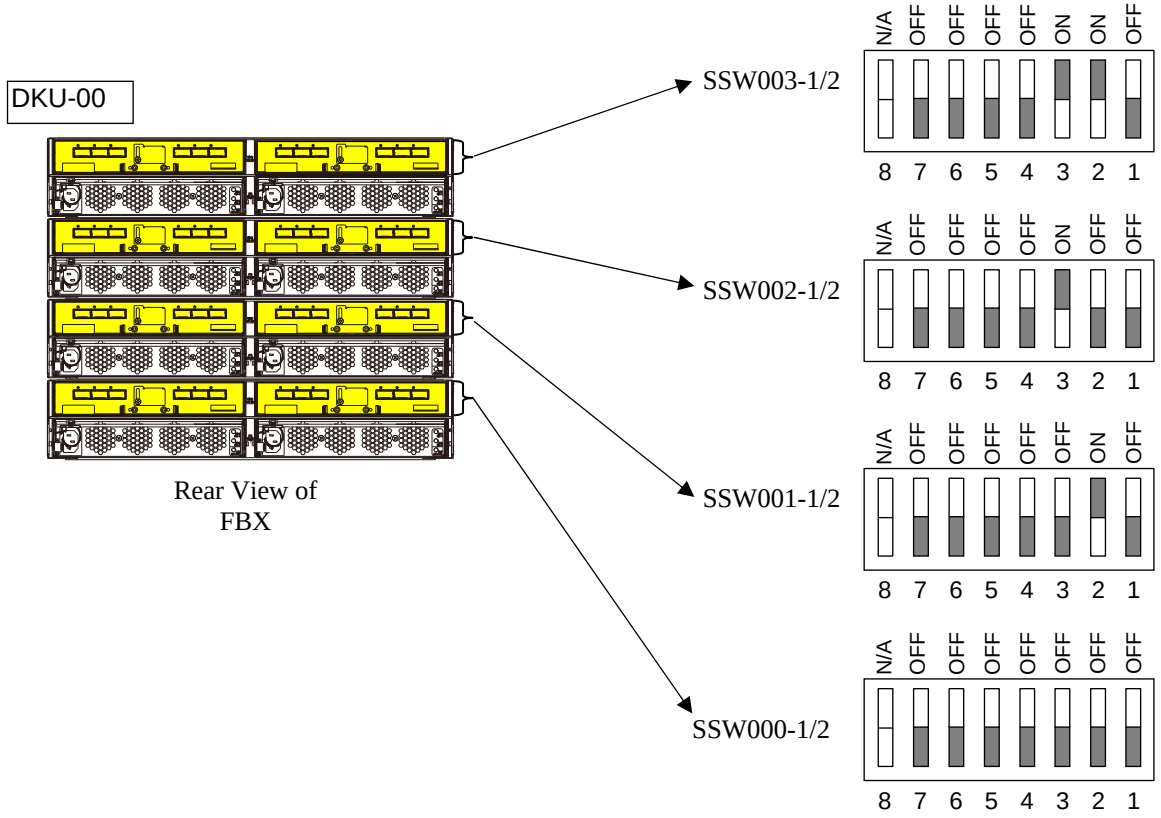


Fig. 3.5.4-16 Switch Setting of SSW (DKU-00)

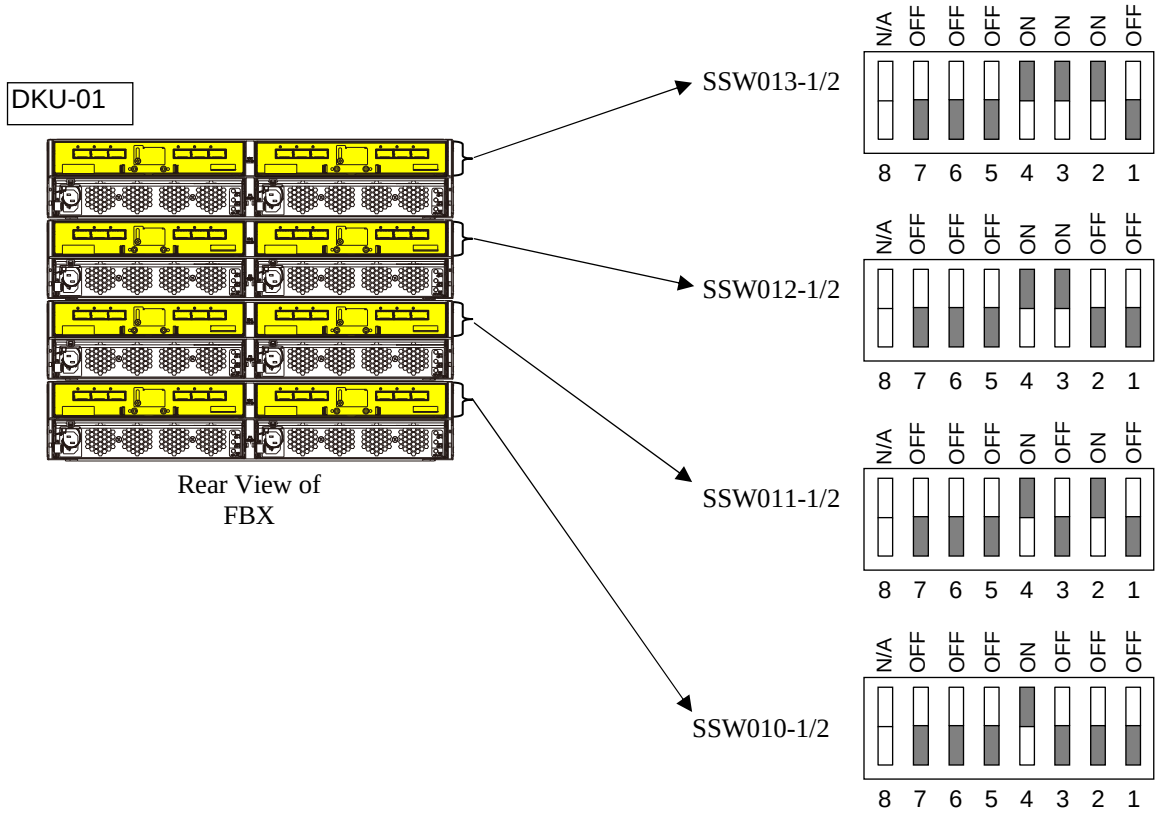


Fig. 3.5.4-17 Switch Setting of SSW (DKU-01)

Copyright © 2014, Hitachi, Ltd.

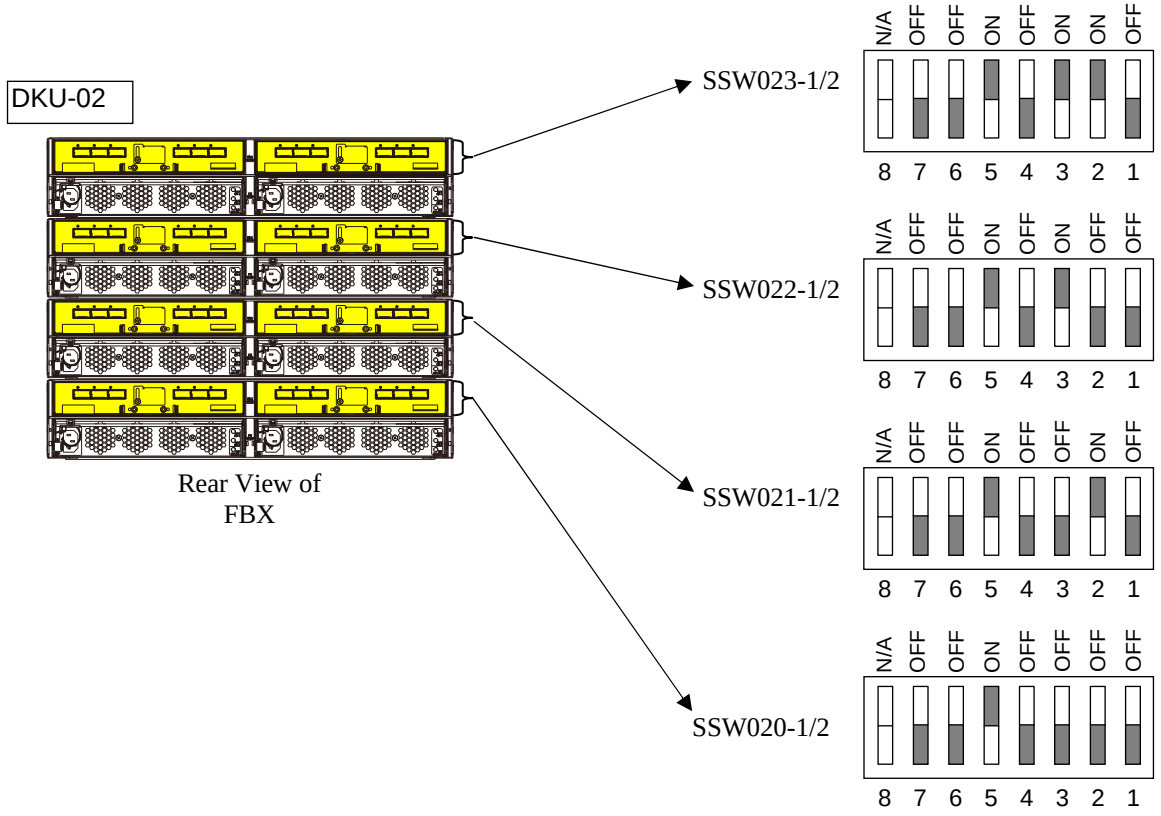


Fig. 3.5.4-18 Switch Setting of SSW (DKU-02)

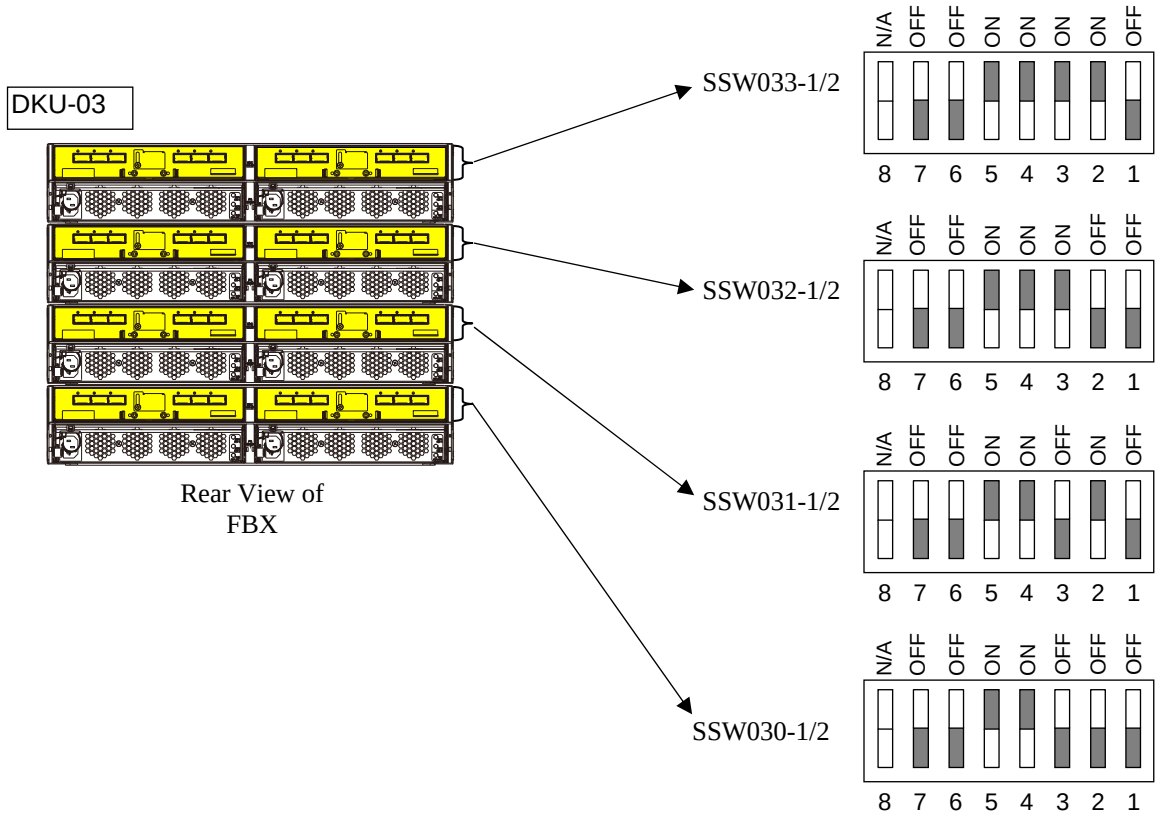


Fig. 3.5.4-19 Switch Setting of SSW (DKU-03)

Copyright © 2014, Hitachi, Ltd.

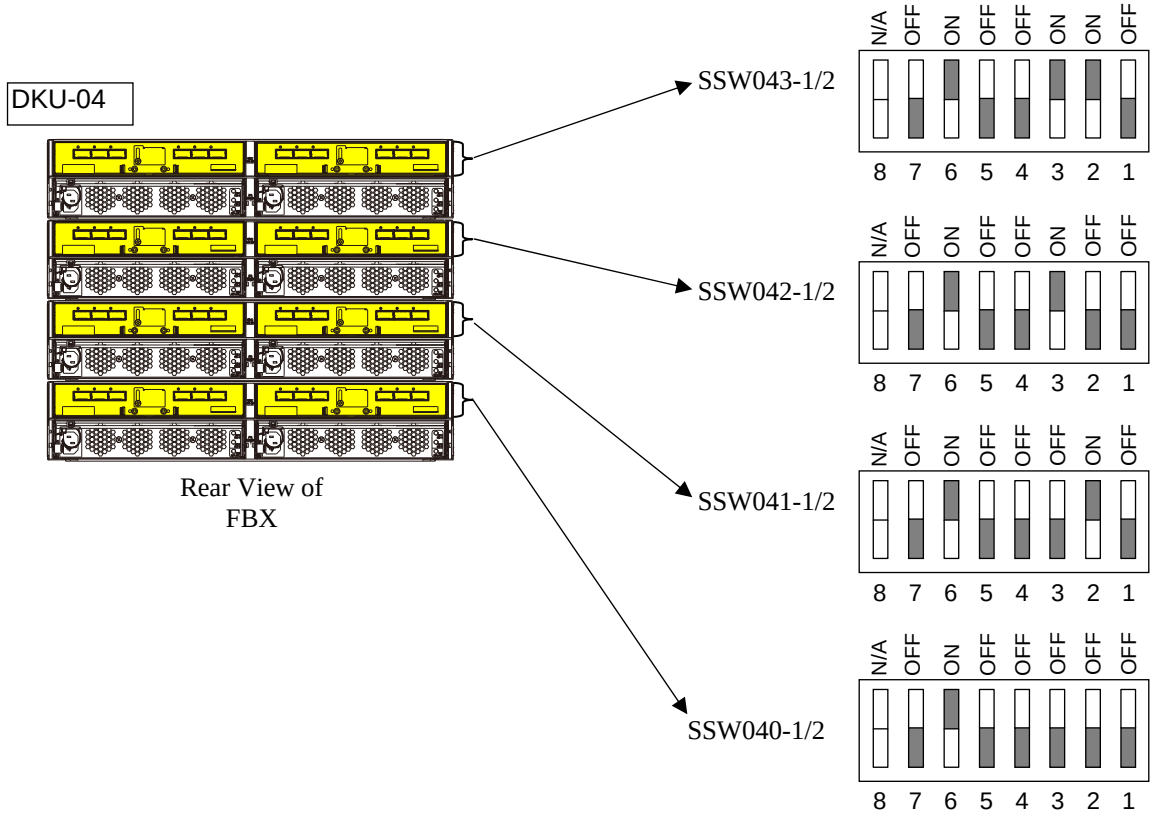


Fig. 3.5.4-20 Switch Setting of SSW (DKU-04)

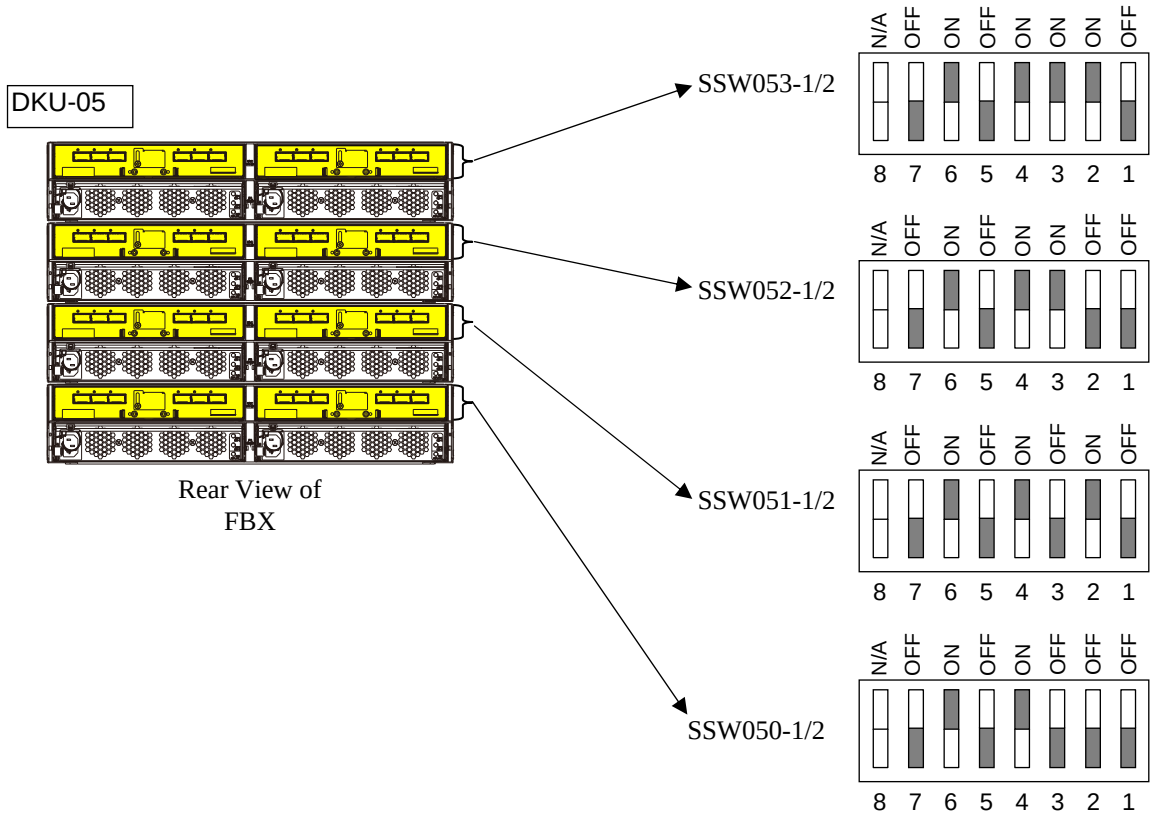


Fig. 3.5.4-21 Switch Setting of SSW (DKU-05)

Copyright © 2014, Hitachi, Ltd.

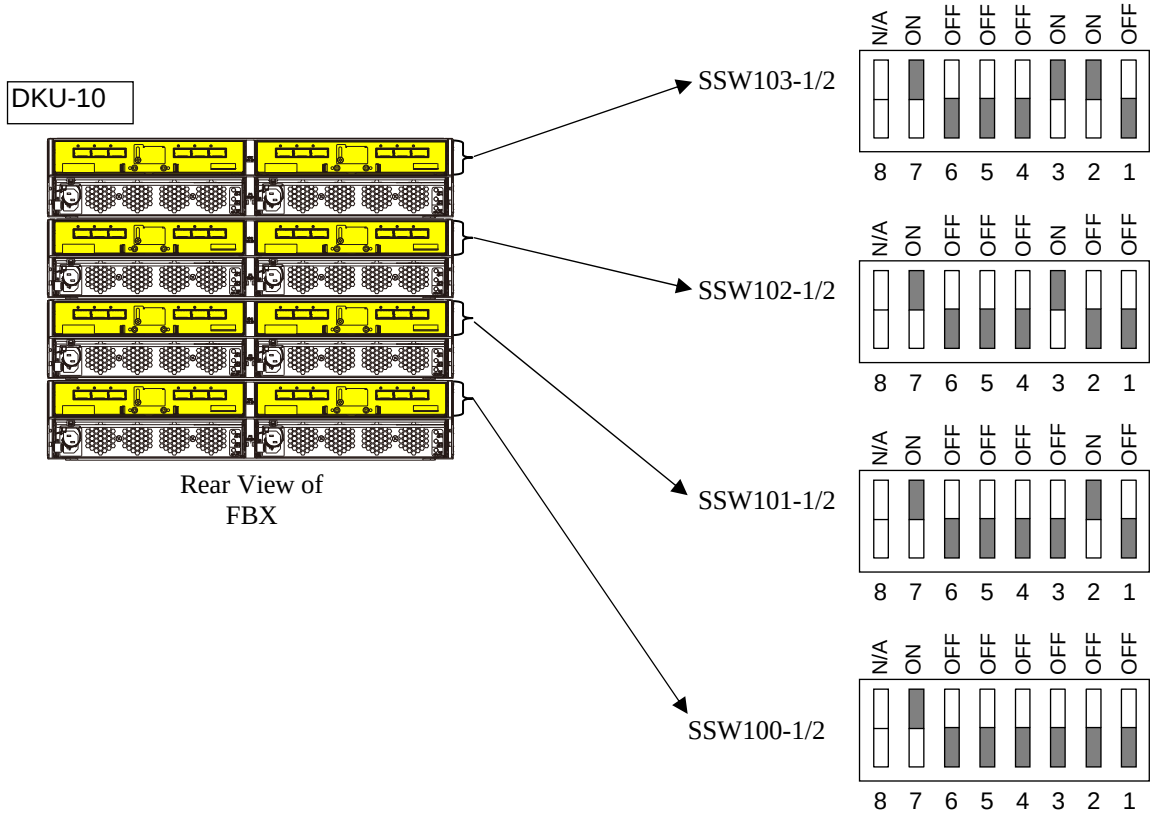


Fig. 3.5.4-22 Switch Setting of SSW (DKU-10)

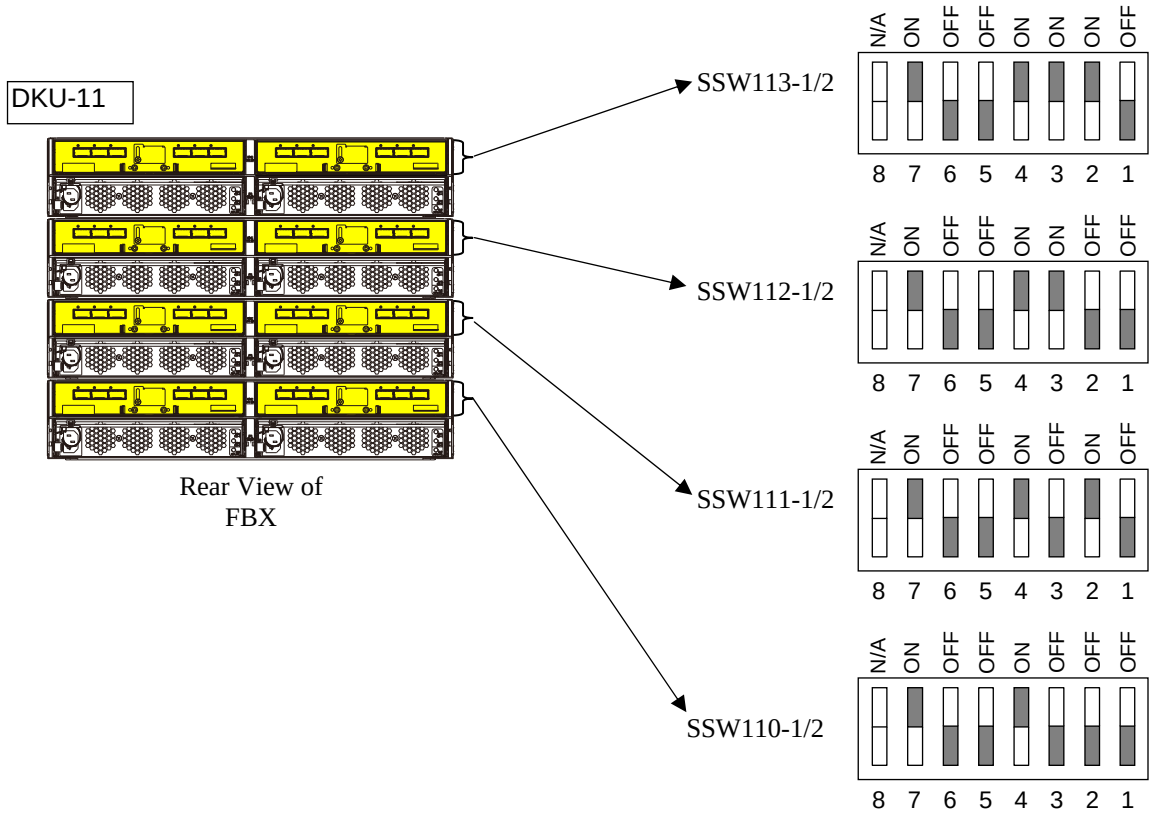


Fig. 3.5.4-23 Switch Setting of SSW (DKU-11)

Copyright © 2014, Hitachi, Ltd.

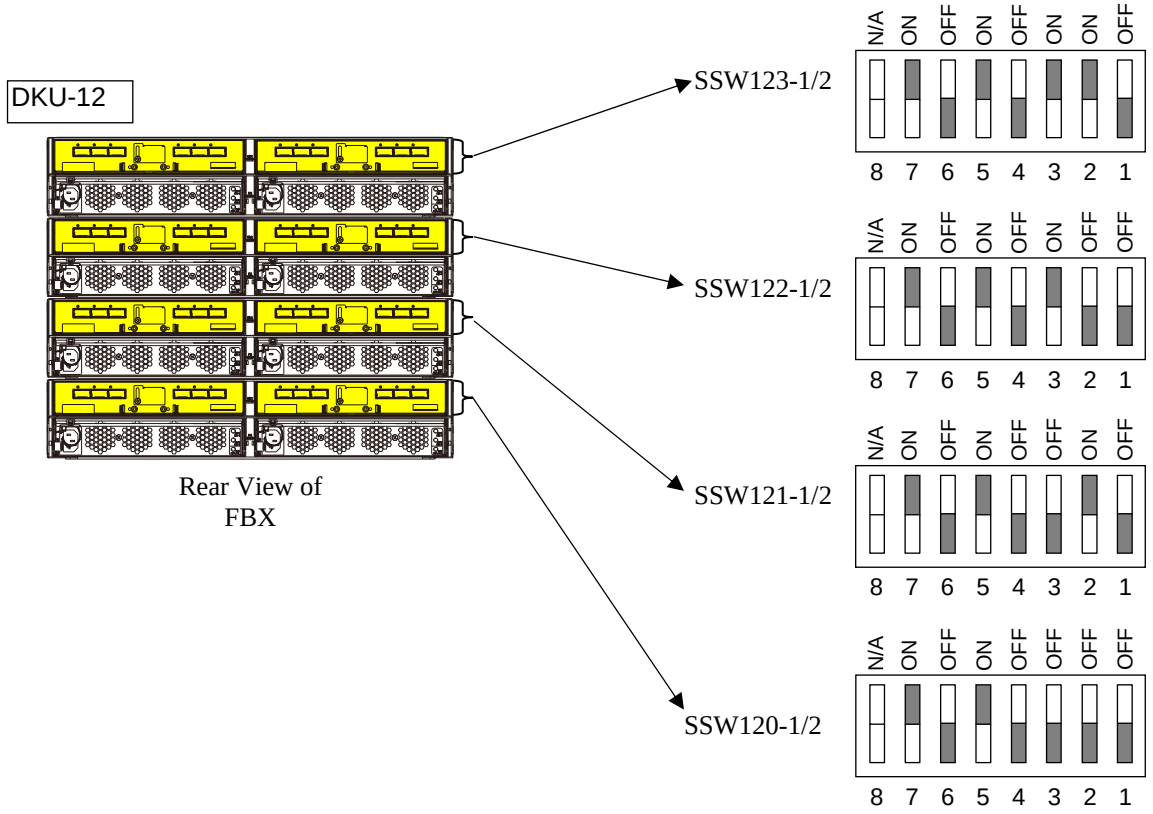


Fig. 3.5.4-24 Switch Setting of SSW (DKU-12)

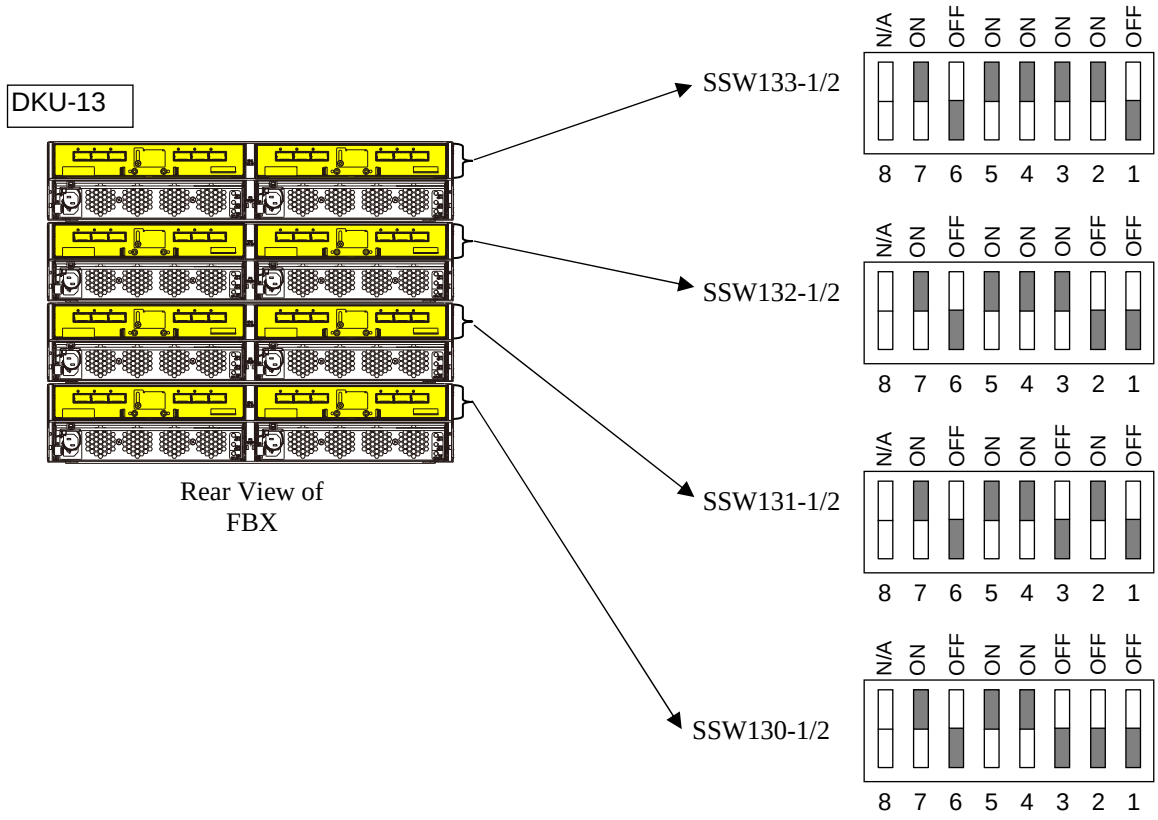


Fig. 3.5.4-25 Switch Setting of SSW (DKU-13)

Copyright © 2014, Hitachi, Ltd.

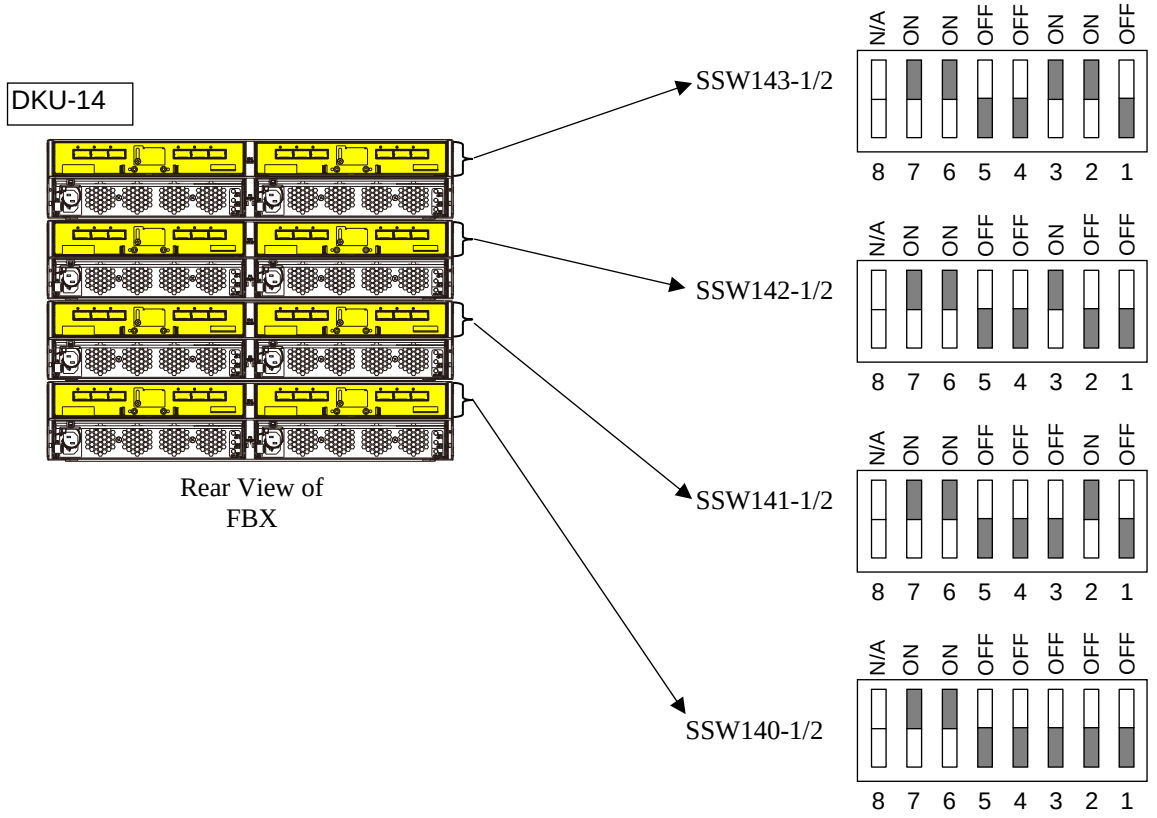


Fig. 3.5.4-26 Switch Setting of SSW (DKU-14)

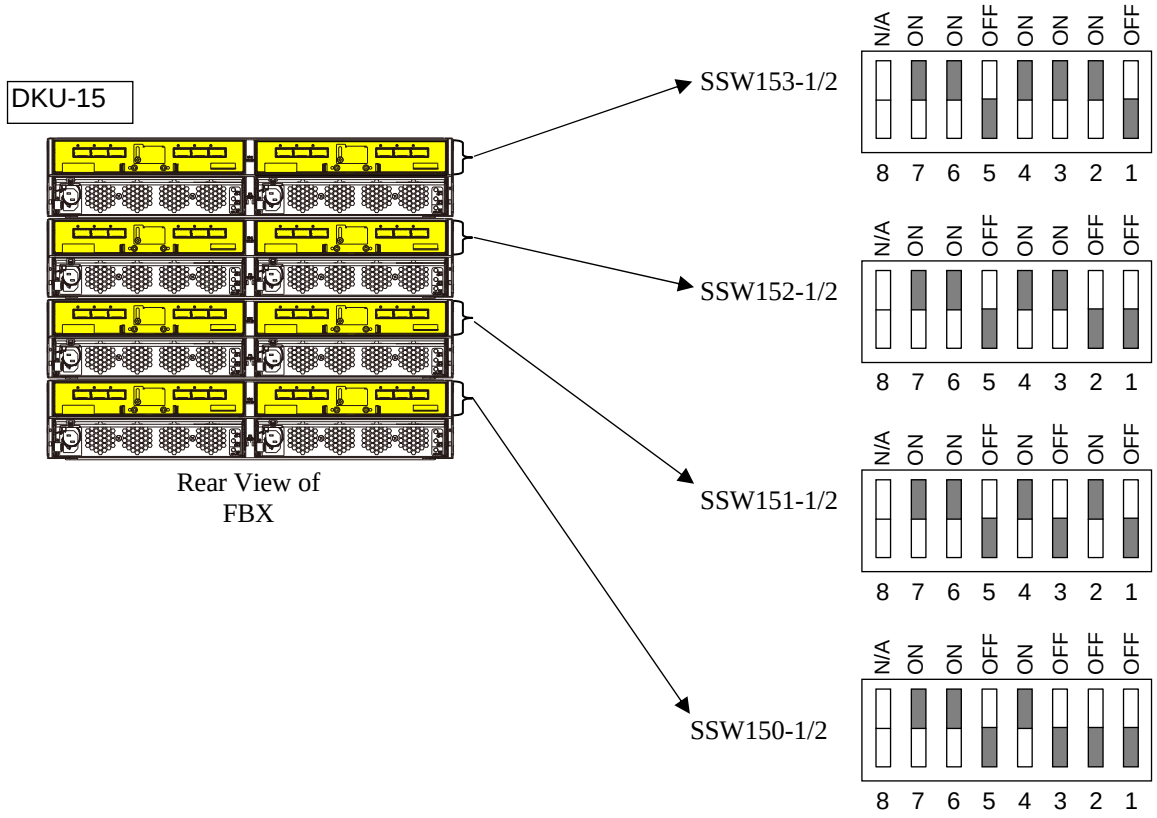


Fig. 3.5.4-27 Switch Setting of SSW (DKU-15)

Copyright © 2014, Hitachi, Ltd.

8. When you need to install FMD Chassis Bezel (DKC-F810I-BFH/BFP), attach the bezel. When you do not need to install FMD Chassis Bezel (DKC-F810I-BFH/BFP), go to Procedure 9.
   a. Position four FMUs so that the left edges of them are aligned.
   b. Secure the Nut Plate L (two) to the front left side of the DKU with the four screws.
   c. Secure the Nut Plate R (two) to the front right side of the DKU with the four screws.
   d. Secure the Bezel Bracket L to the Nut Plate L (two) with the four screws.
   e. Secure the Bezel Bracket R to the Nut Plate R (two) with the four screws.
   f. Install the Side Cover L in the Bezel Bracket L.
   g. Install the Side Cover R in the Bezel Bracket R.

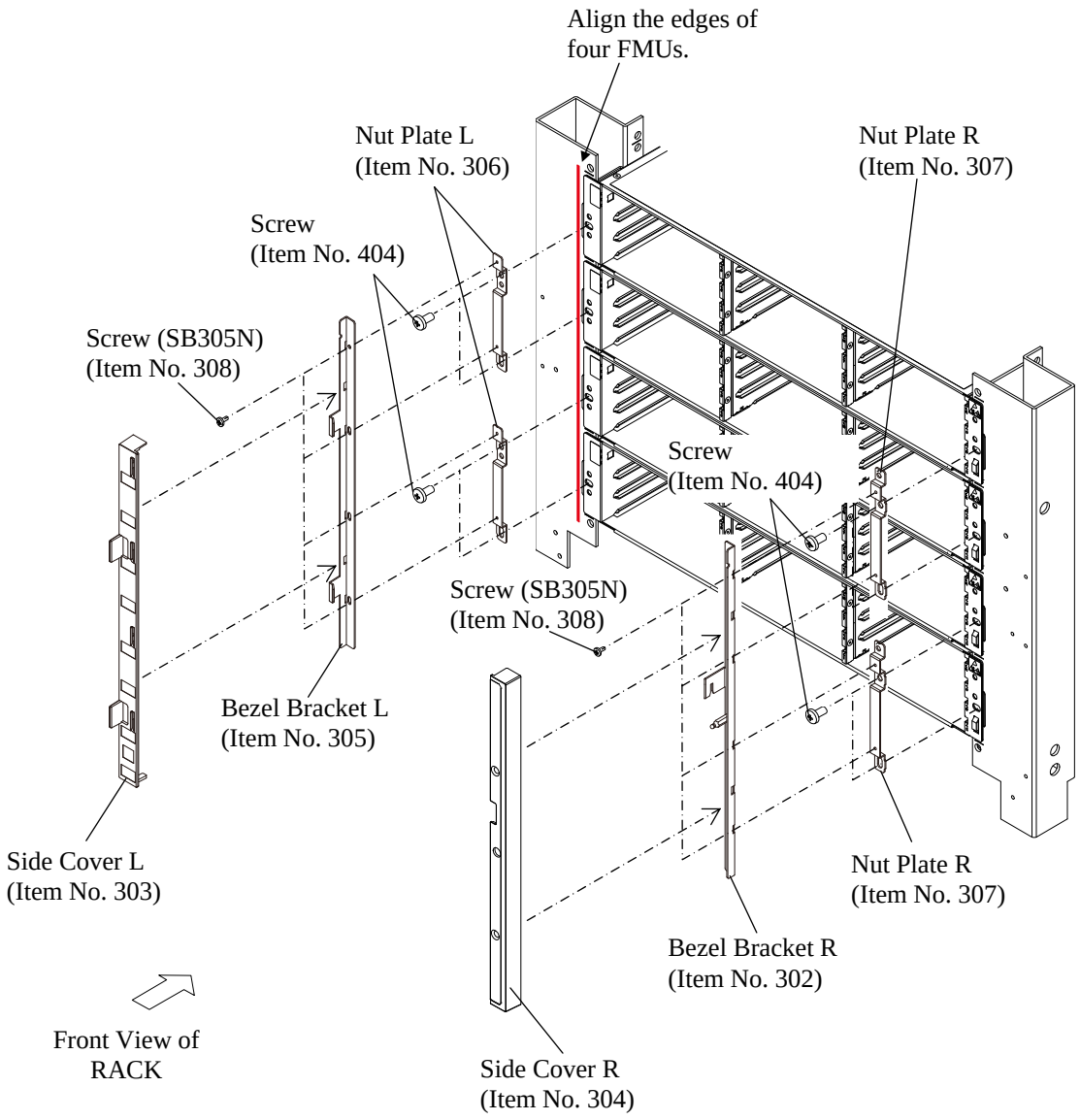
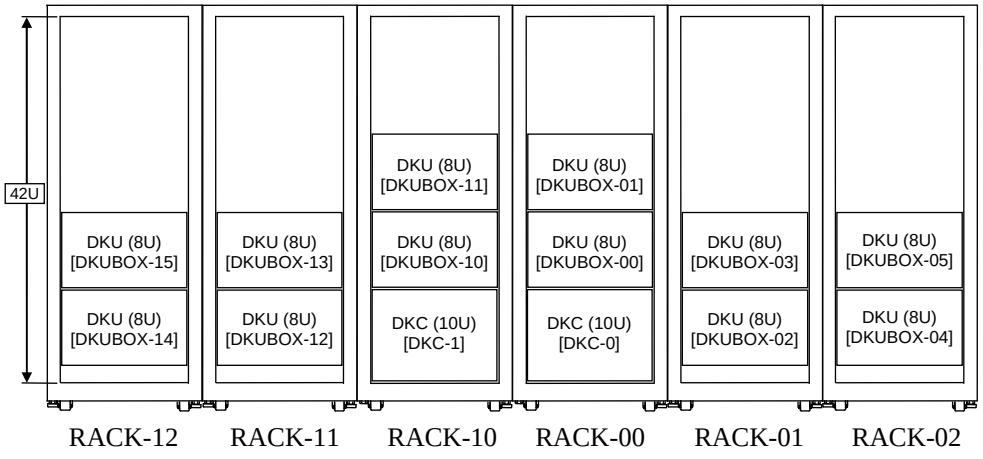


Fig. 3.5.4-28 Attachment of Parts

Copyright © 2014, Hitachi, Ltd.

h. Attach the eight Label Locations and the Label (DKU-BOX) of the corresponding location to the side cover on the front side of the rack.

Standard Configuration



Front View

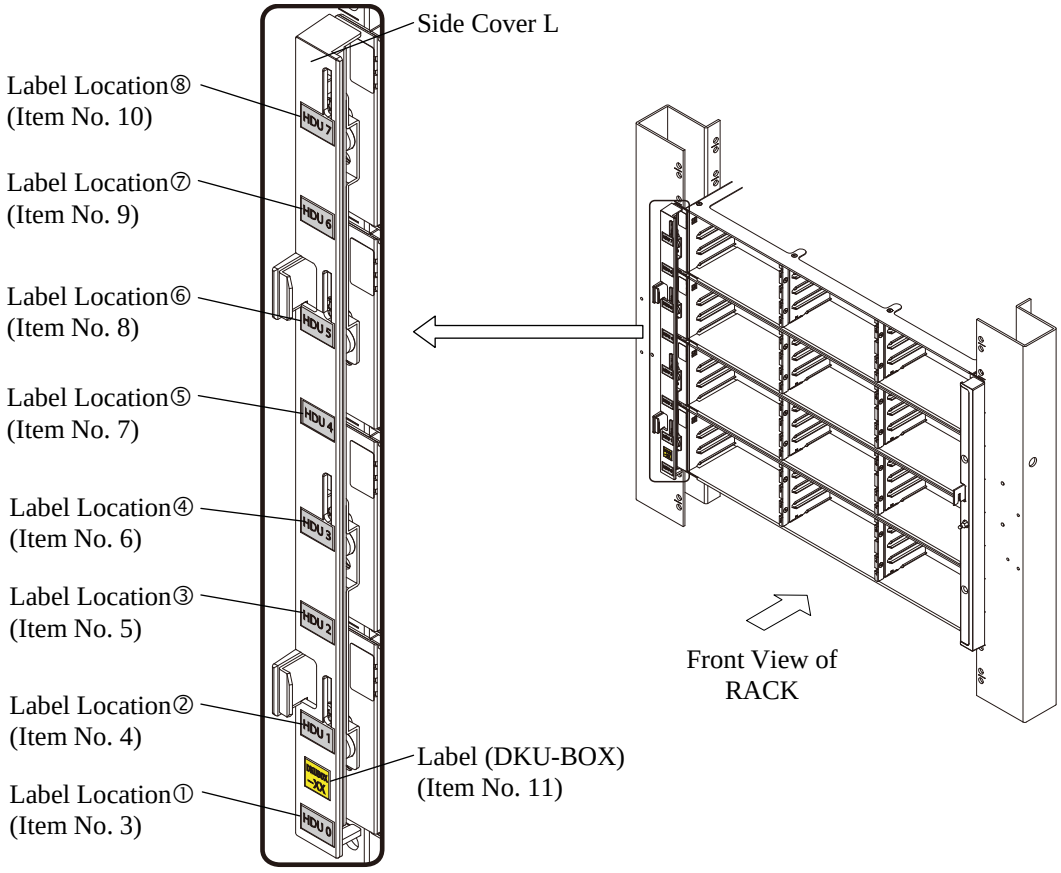


Fig. 3.5.4-29 Attachment of Labels (Front)

Copyright © 2014, Hitachi, Ltd.

i. Unlock the bezel with the key, and hold the key and bottom of bezel with your both hands.
j. Insert the tabs on the left front side of the chassis into the tab holes on the bezel (①).
k. Fix the bezel by pressing the right side of the bezel to engage it with the ball catch on the front side of the chassis (②).
l. Lock the bezel with the key (③).

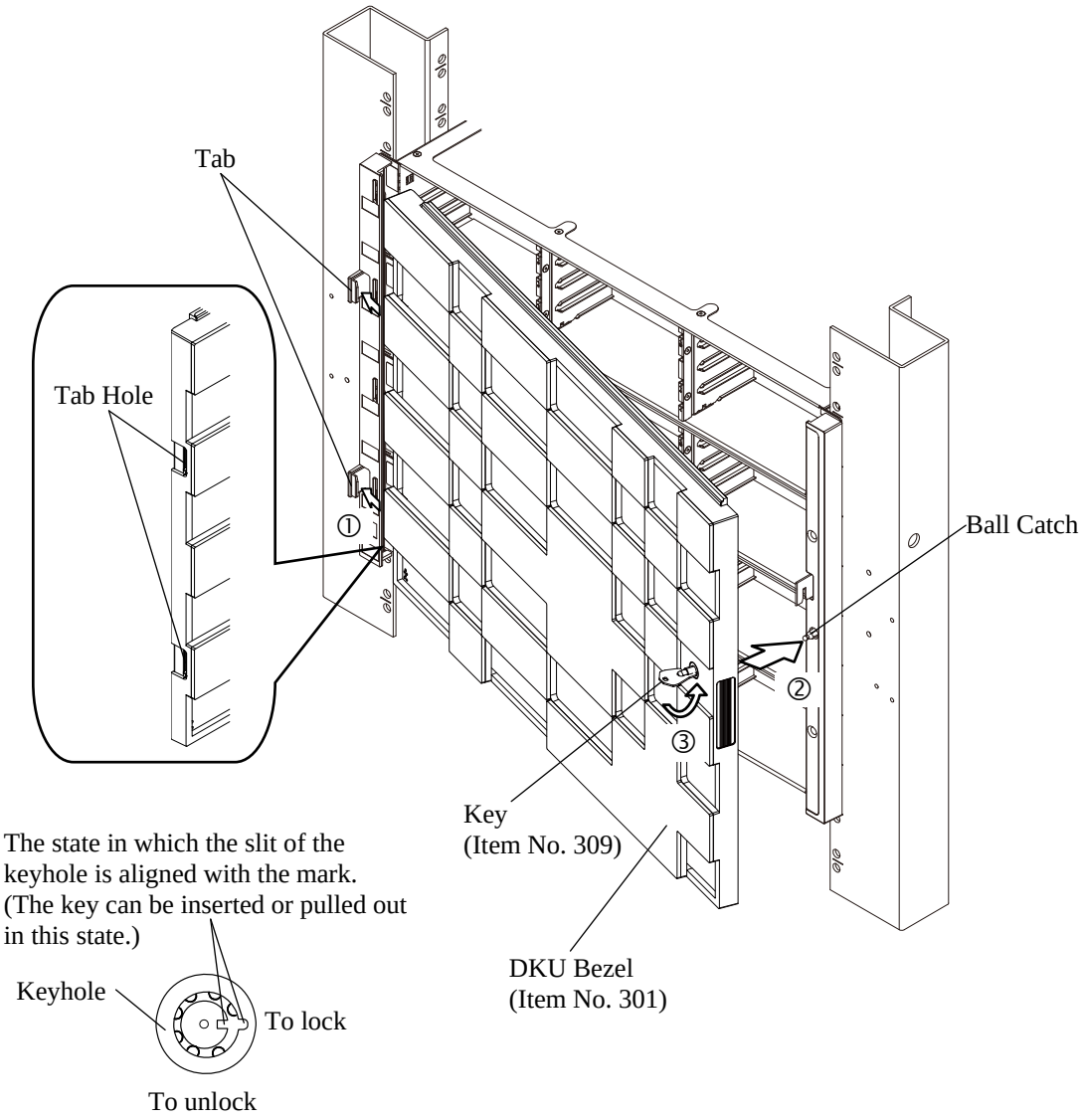


Fig. 3.5.4-30 Attachment of DKU Bezel

9. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.6 Installation of Power Cord Kit (DKC-F810I-PLUC/PHUC/PFUC/PLEC/PHEC/PFEC/ PLCC/PHCC/PFCC)

3.6.1 Installation of DKC Power Cord Kit (DKC-F810I-PLUC/PLEC/PLCC)

Table 3.6.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-PLUC	PS Cable ASSY	3287124-A	1	1,500mm White Label
		PS Cable ASSY	3287124-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287124-C	1	1,500mm White Label
		PS Cable ASSY	3287124-D	1	1,500mm Yellow Label
		Clamp Tape	5544251-3	3	
		Repeat Binder	5409042-3	4	
2	DKC-F810I-PLEC	PS Cable ASSY	3287126-A	1	1,500mm White Label
		PS Cable ASSY	3287126-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287126-C	1	1,500mm White Label
		PS Cable ASSY	3287126-D	1	1,500mm Yellow Label
		Clamp Tape	5544251-3	3	
		Repeat Binder	5409042-3	4	
3	DKC-F810I-PLCC	PS Cable ASSY	3287128-A	1	1,500mm White Label
		PS Cable ASSY	3287128-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287128-C	1	1,500mm White Label
		PS Cable ASSY	3287128-D	1	1,500mm Yellow Label
		Clamp Tape	5544251-3	3	
		Repeat Binder	5409042-3	4	

Copyright © 2014, Hitachi, Ltd.

1. Confirmation of Installation Position
   a. Refer to following figure to confirm the connection location of DKC Power Cord Kit on DKC. However, installing positions of DKC Power Cord Kit may differ according to the construction within the rack frame.

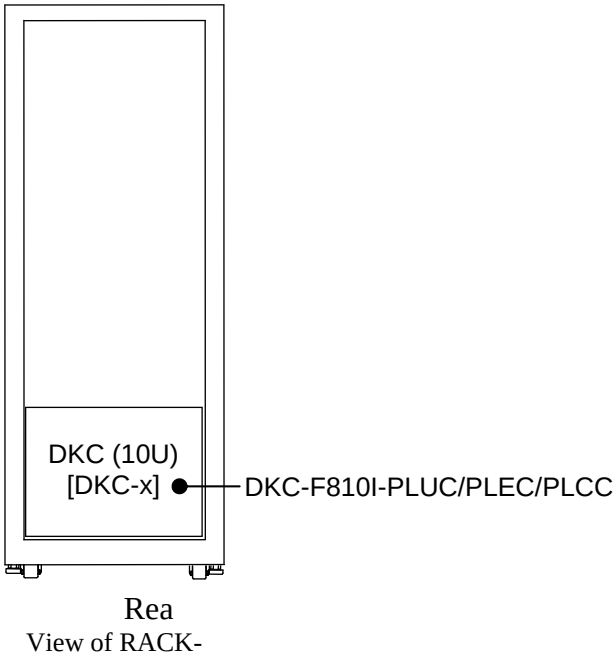


Fig. 3.6.1-1 Mounting Position of DKC Power Cord Kit

   b. Confirm the PDU patterns that are installed in the RACK.

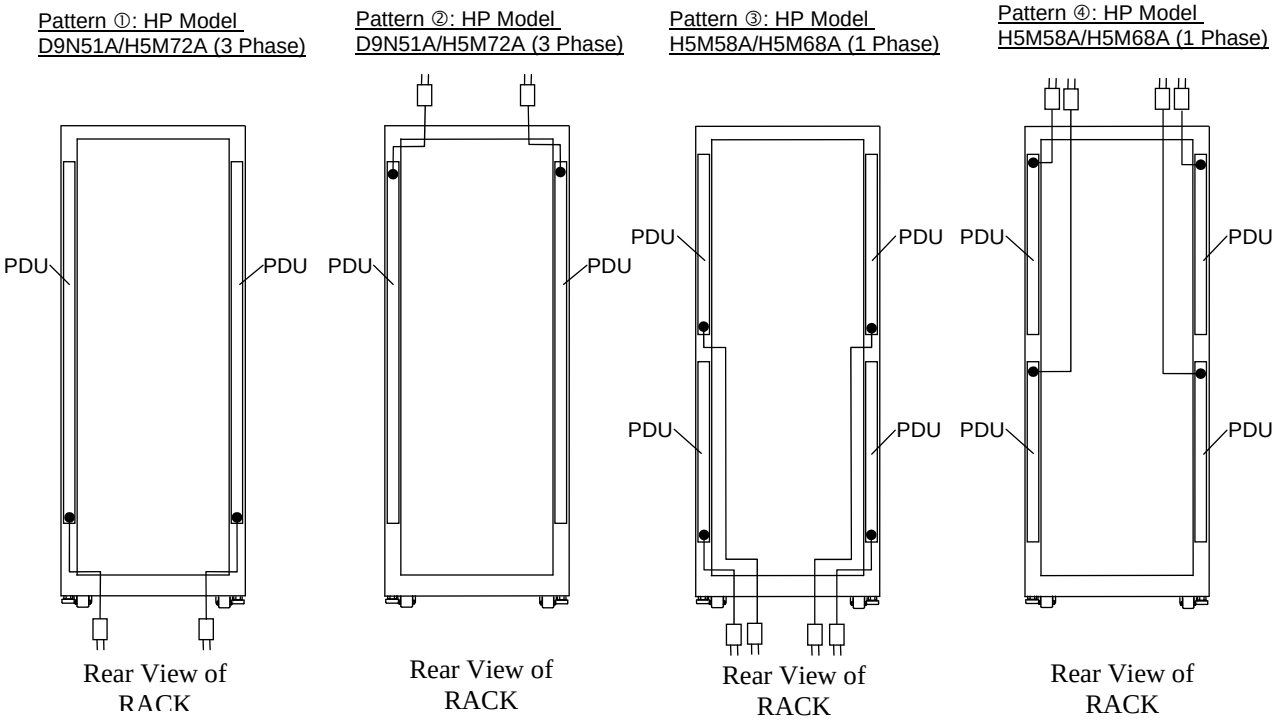


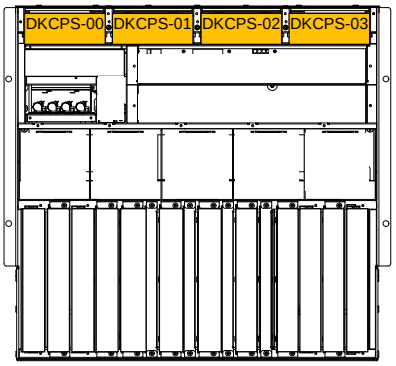
Fig. 3.6.1-2 PDU Pattern

Copyright © 2014, Hitachi, Ltd.

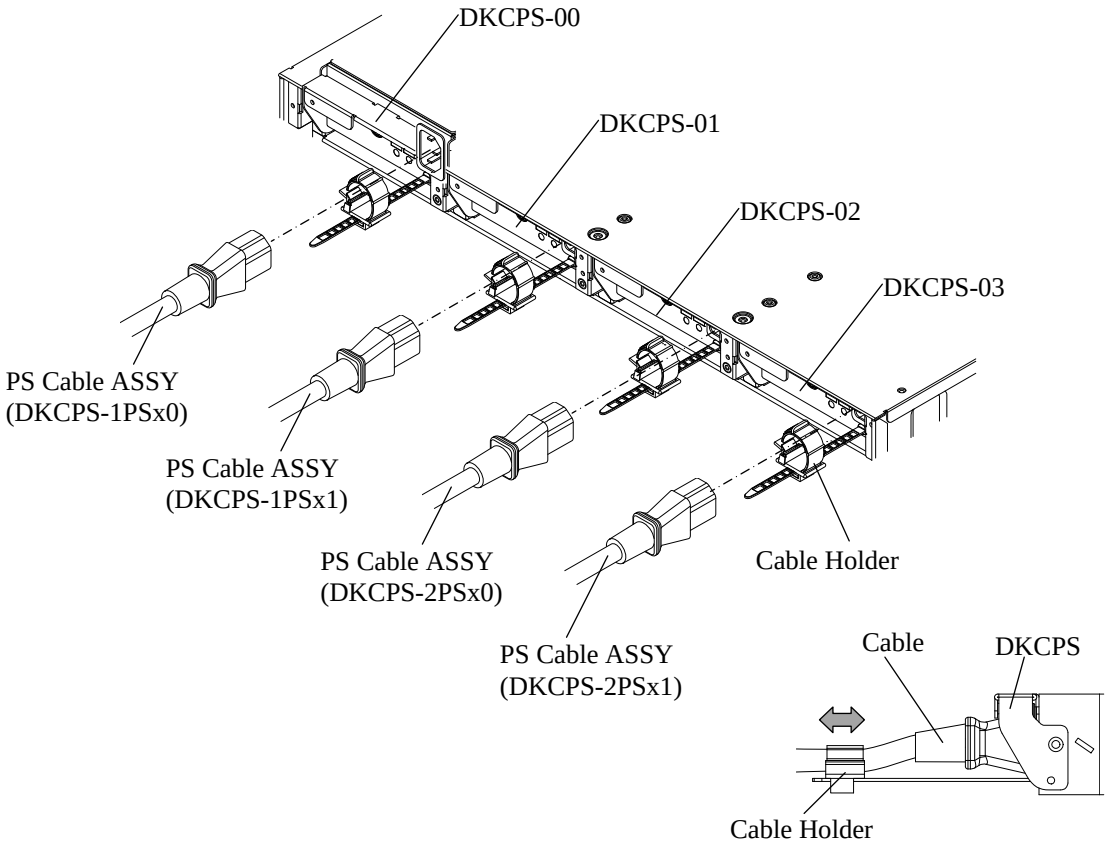
2. Connection of Cables (DKC Side)

For DKC-0

a. Connect the PS cable ASSYs (DKCPS-1PSx0, DKCPS-2PSx0, DKCPS-1PSx1 and DKCPS-2PSx1) to the DKCPSs and fix them with the cable holders.
b. Push the cable holders toward the DKCPSs.



Rear View of DKC-0



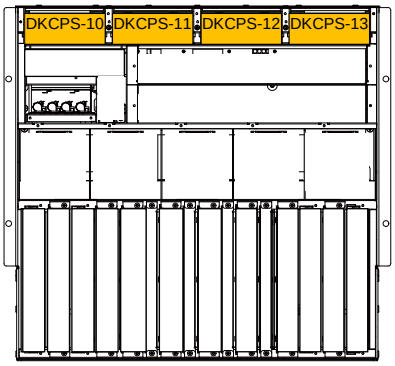
Side View of DKCPS

Fig. 3.6.1-3 Connection of Cables

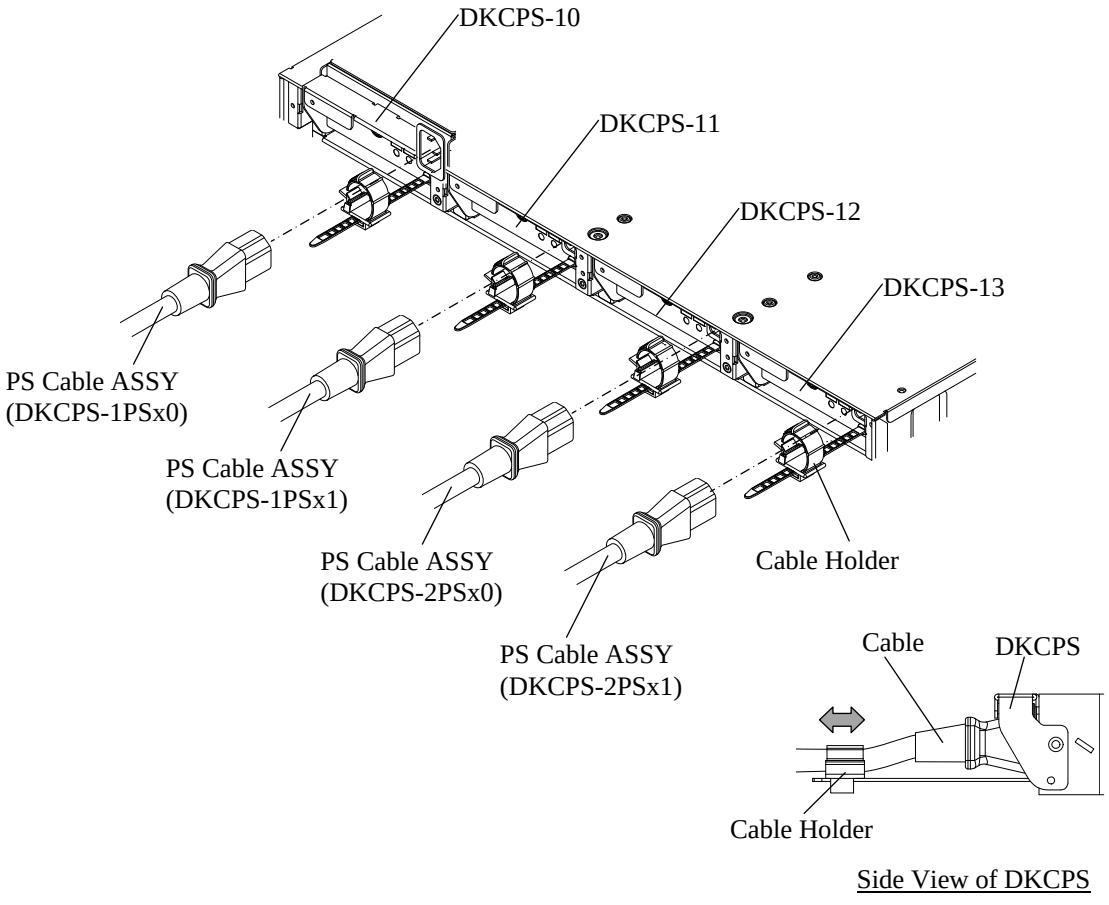
Copyright © 2014, Hitachi, Ltd.

For DKC-1

a. Wire the PS cable ASSYs (DKCPS-1PSx0, DKCPS-2PSx0, DKCPS-1PSx1 and DKCPS-2PSx1) for the DKCPSs. **However, do not connect the PS cable ASSYs with the DKCPSs at this stage**.



Rear View of DKC-1



Side View of DKCPS

Fig. 3.6.1-4 Attachment of Cables

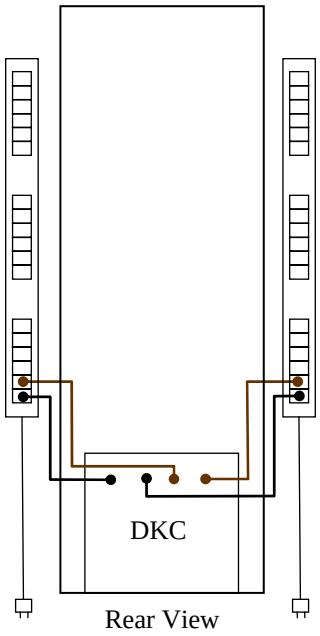
Copyright © 2014, Hitachi, Ltd.

3. Connection of Cables (PDU Side)
   a. Choose a rack configuration from the power cable connection diagrams in Fig. 3.6.1-5 to Fig. 3.6.1-8 and confirm the location of the power cable connection for the installed DKC.

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

[One DKC in a Rack]

Pattern ①-C1

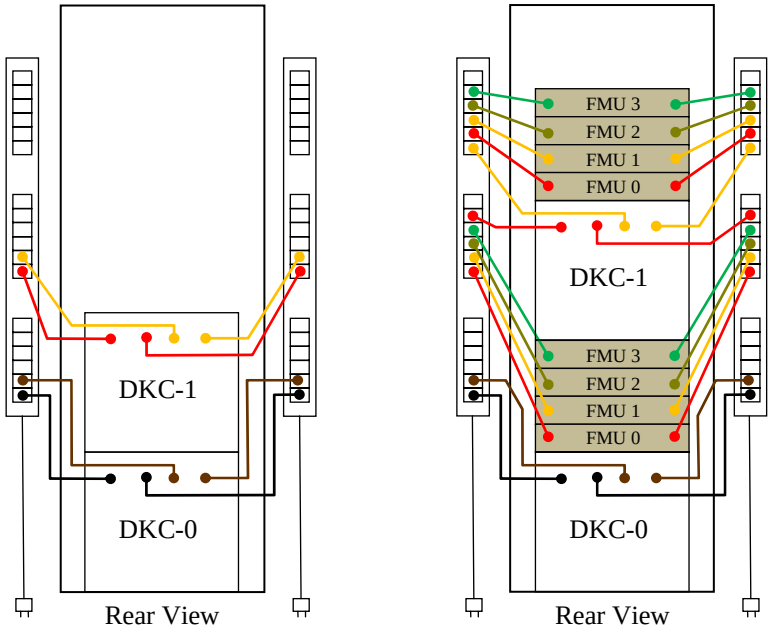


NOTE: DKC: CBXA/CBXB

[Two DKC in a Rack]

Pattern ①-C2-1

Pattern ①-C2-2



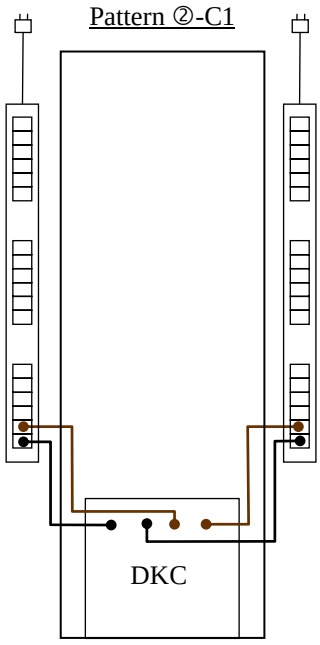
NOTE: DKC-0: CBXA
DKC-1: CBXB
FMU 0-3: FBX

Fig. 3.6.1-5 Power Cable Connection Diagram (Pattern ①)

Copyright © 2014, Hitachi, Ltd.

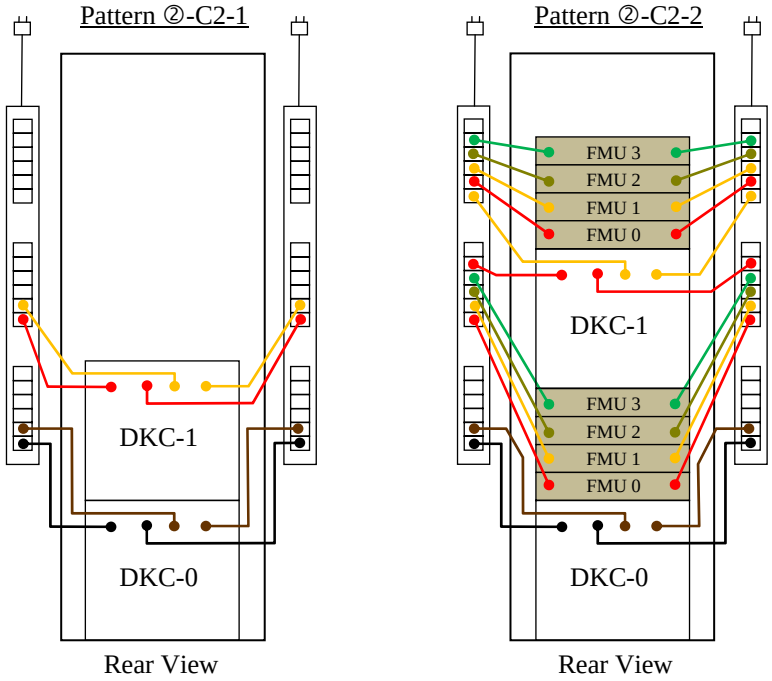
Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

[One DKC in a Rack]



NOTE: DKC: CBXA/CBXB

[Two DKC in a Rack]



NOTE: DKC-0: CBXA
DKC-1: CBXB
FMU 0-3: FBX

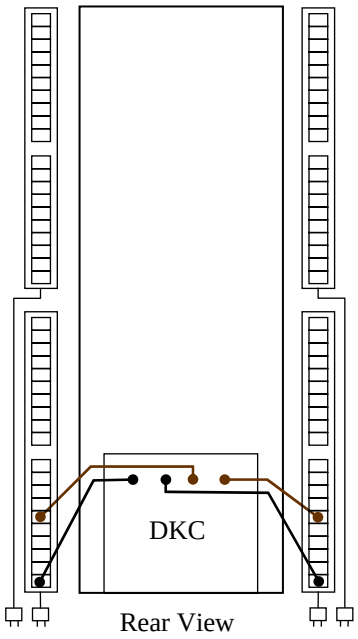
Fig. 3.6.1-6 Power Cable Connection Diagram (Pattern ②)

Copyright © 2014, Hitachi, Ltd.

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]

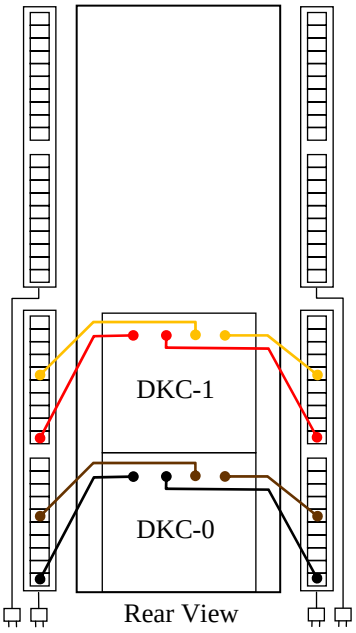
Pattern ③-C1



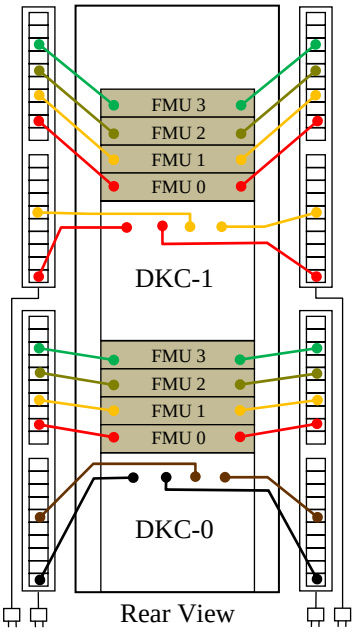
NOTE: DKC: CBXA/CBXB

[Two DKC in a Rack]

Pattern ③-C2-1



Pattern ③-C2-2

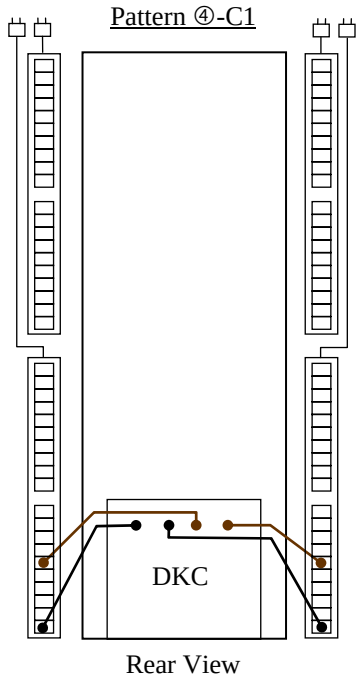


NOTE: DKC-0: CBXA
DKC-1: CBXB
FMU 0-3: FBX

Fig. 3.6.1-7 Power Cable Connection Diagram (Pattern ③)

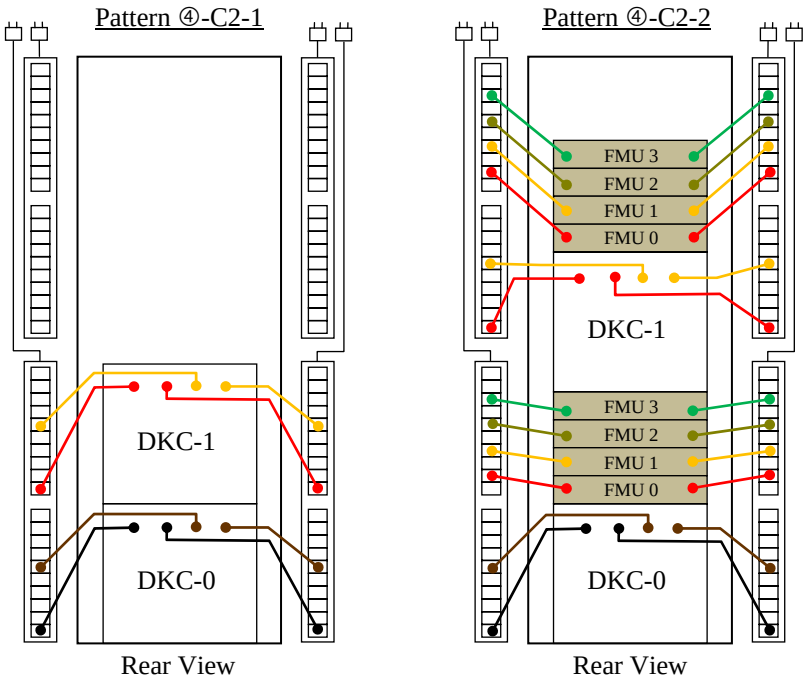
Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]



NOTE: DKC: CBXA/CBXB

[Two DKC in a Rack]



NOTE: DKC-0: CBXA
DKC-1: CBXB
FMU 0-3: FBX

Fig. 3.6.1-8 Power Cable Connection Diagram (Pattern ④)

Copyright © 2014, Hitachi, Ltd.

b. Connect the four PS cable ASSYs to the PDUs that were confirmed in Procedure a. Cable connection examples are shown in Fig. 3.6.1-9 to Fig. 3.6.1-12.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

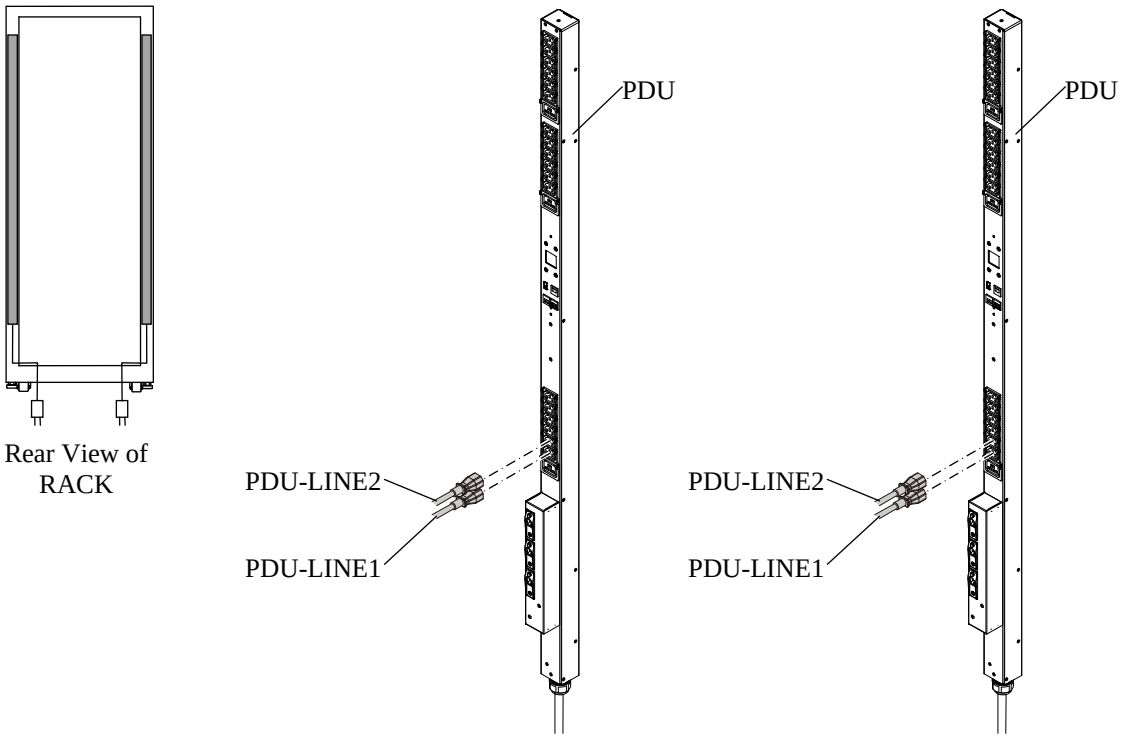


Fig. 3.6.1-9 Example of Connecting Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

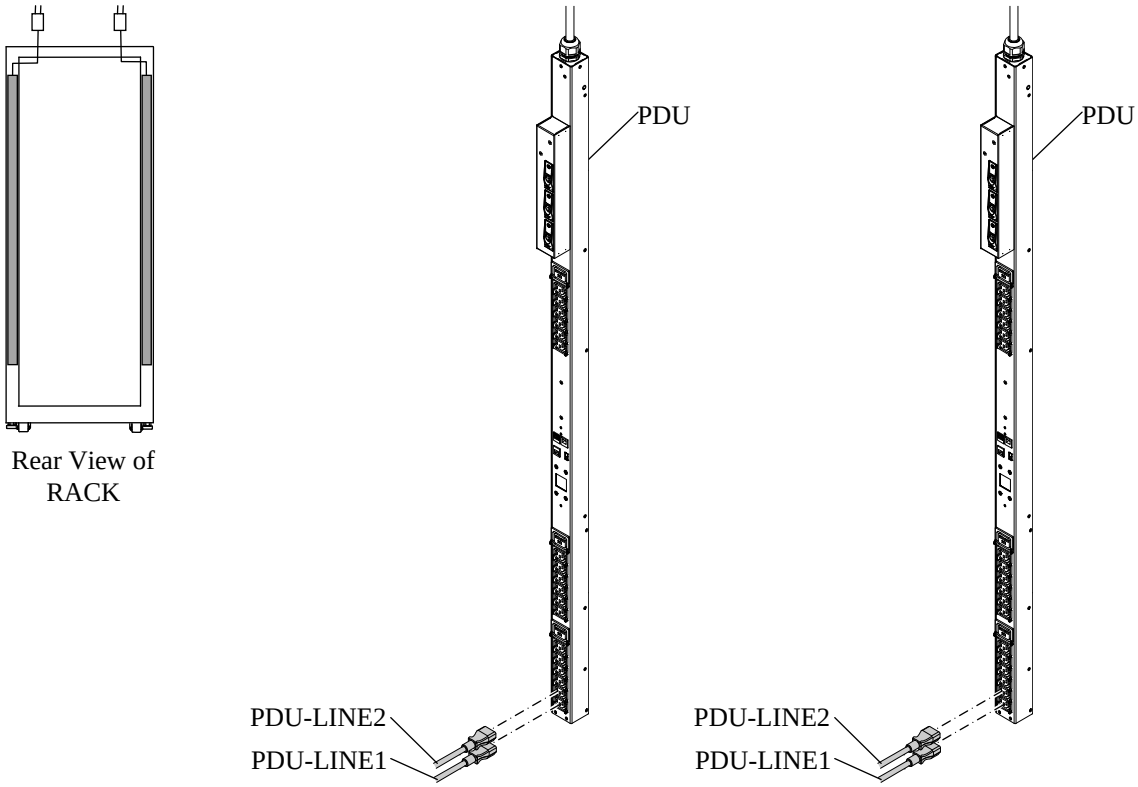


Fig. 3.6.1-10 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

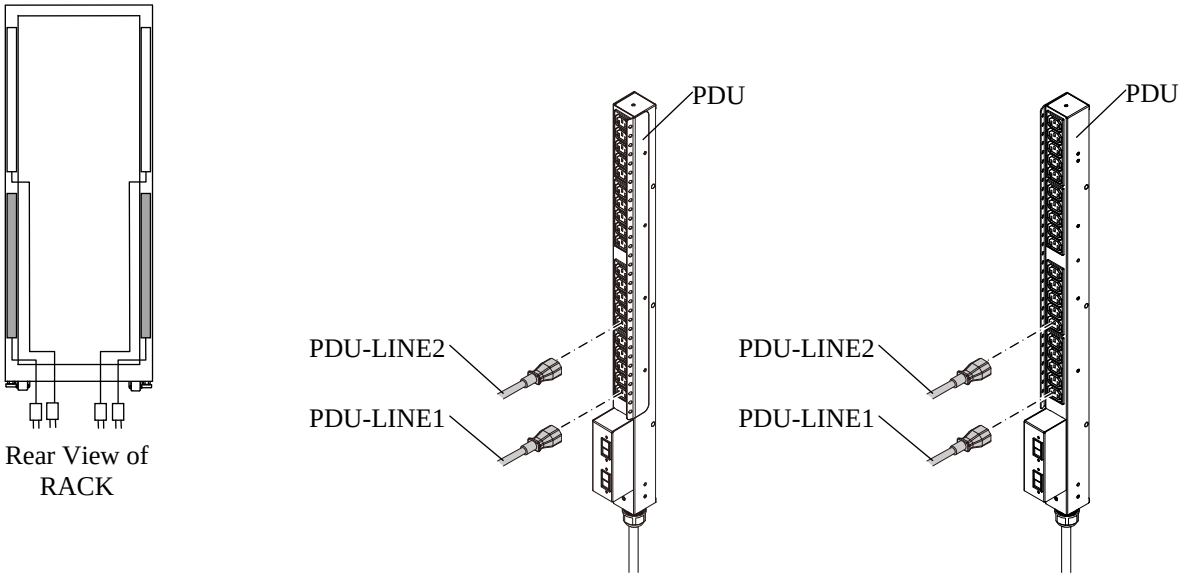


Fig. 3.6.1-11 Example of Connecting Cables (with PDU Cables Downside)

[Example]

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

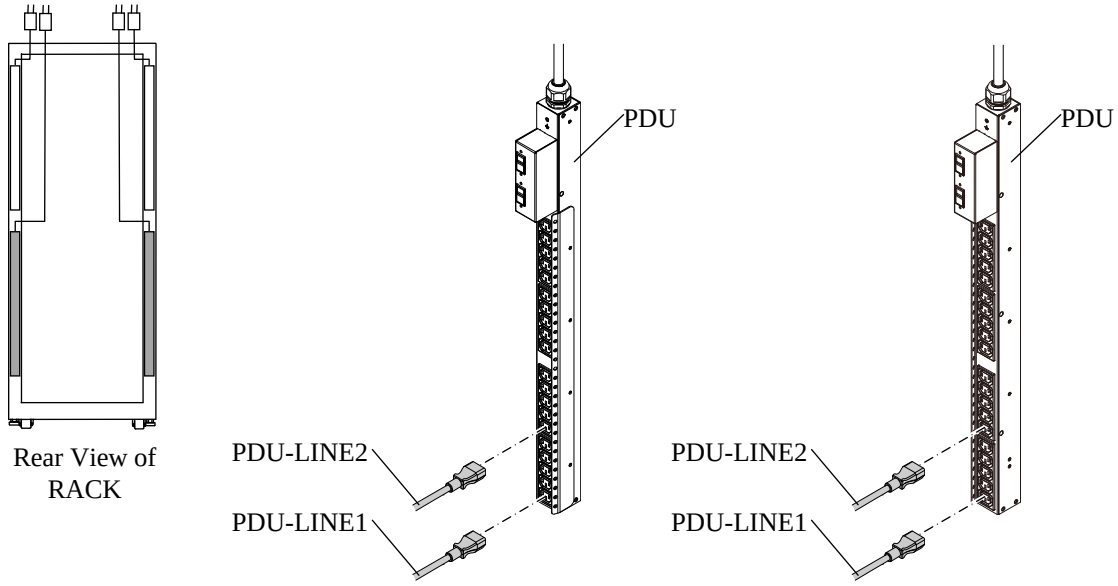


Fig. 3.6.1-12 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

c. Route the four PS cable ASSYs on the rear side of the rack and fix them with the binders. Then put the extra length of the cables in the covers.
Cable routing examples are shown in Fig. 3.6.1-13 to Fig. 3.6.1-16.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

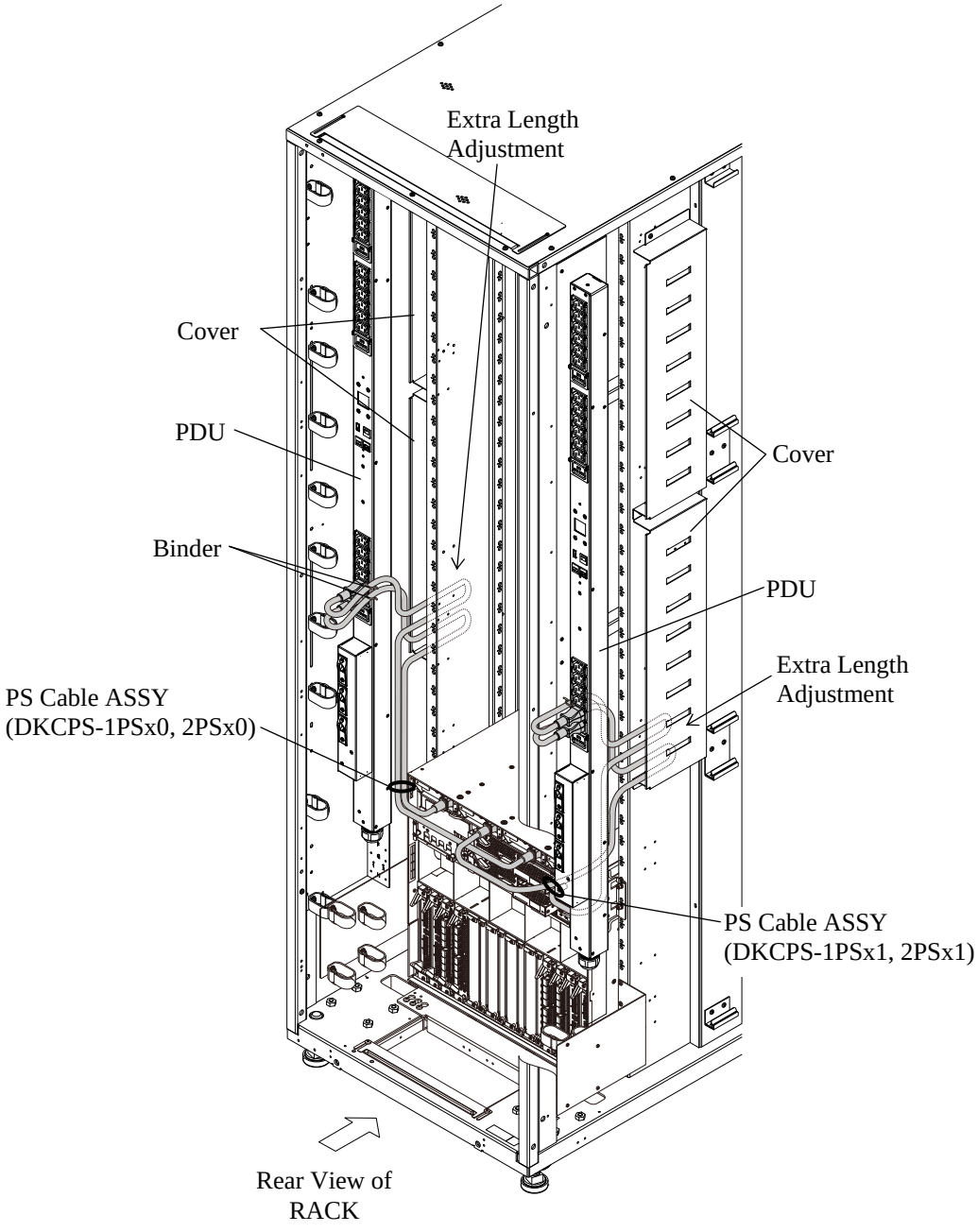


Fig. 3.6.1-13 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

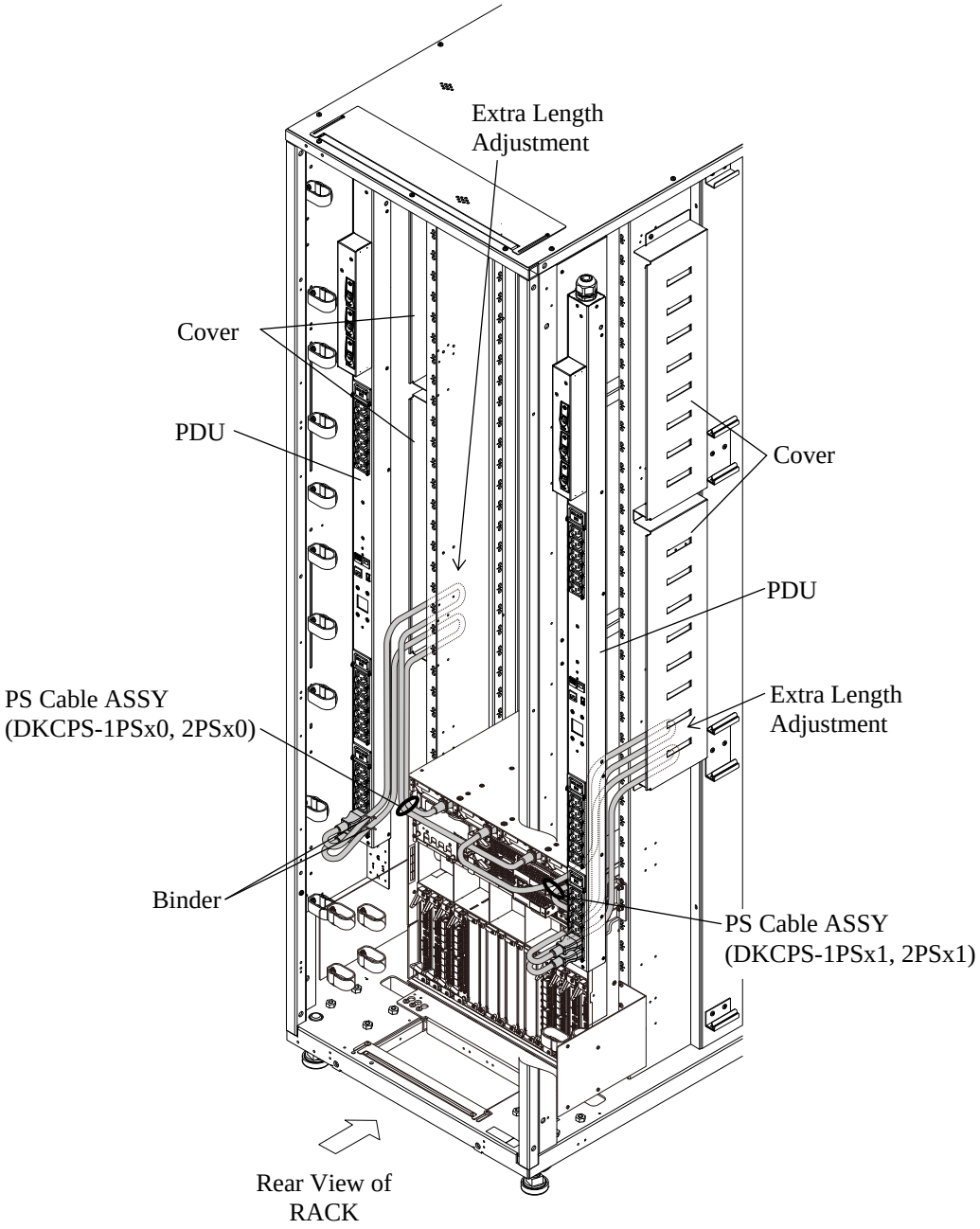


Fig. 3.6.1-14 Example of Fixing Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

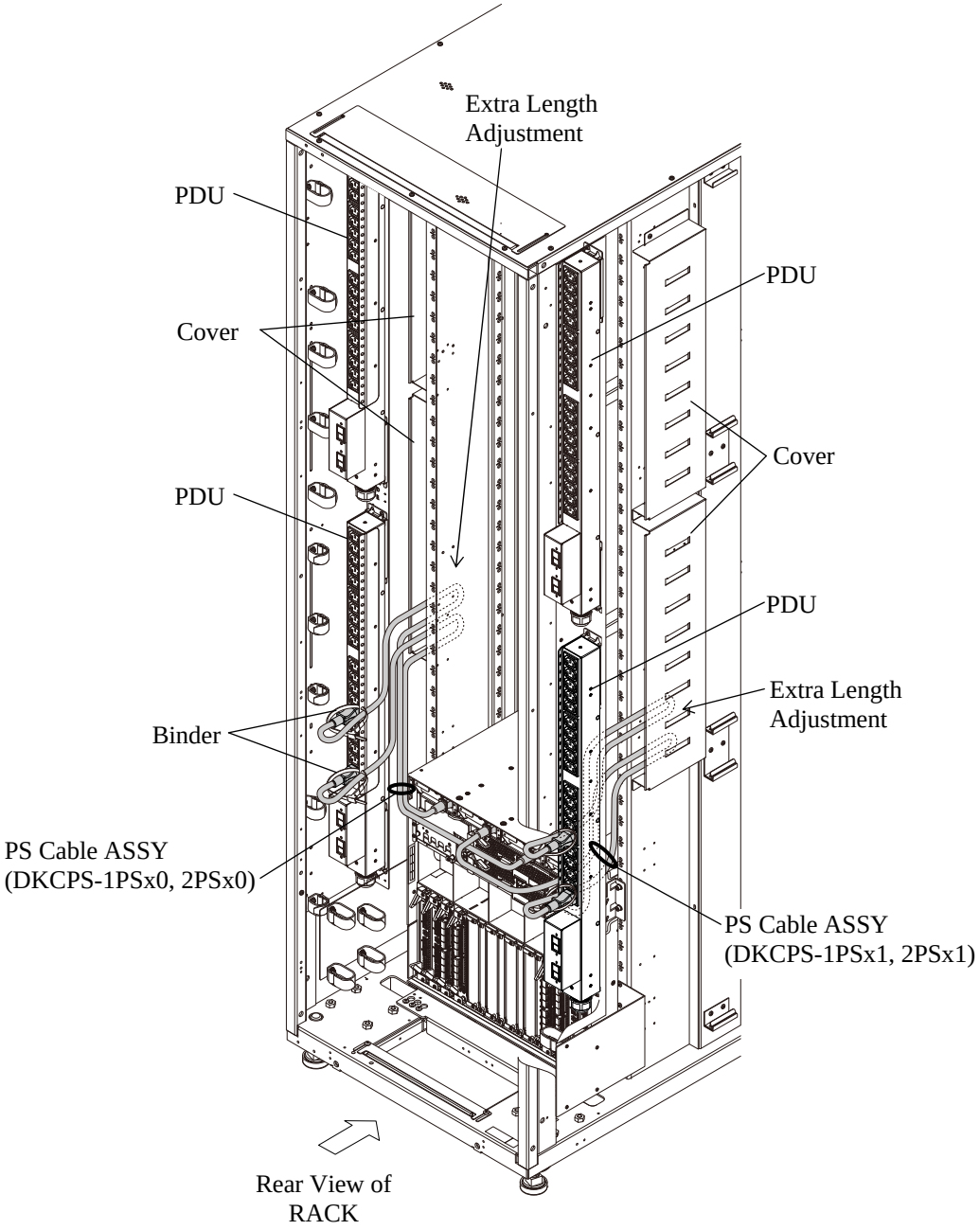


Fig. 3.6.1-15 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

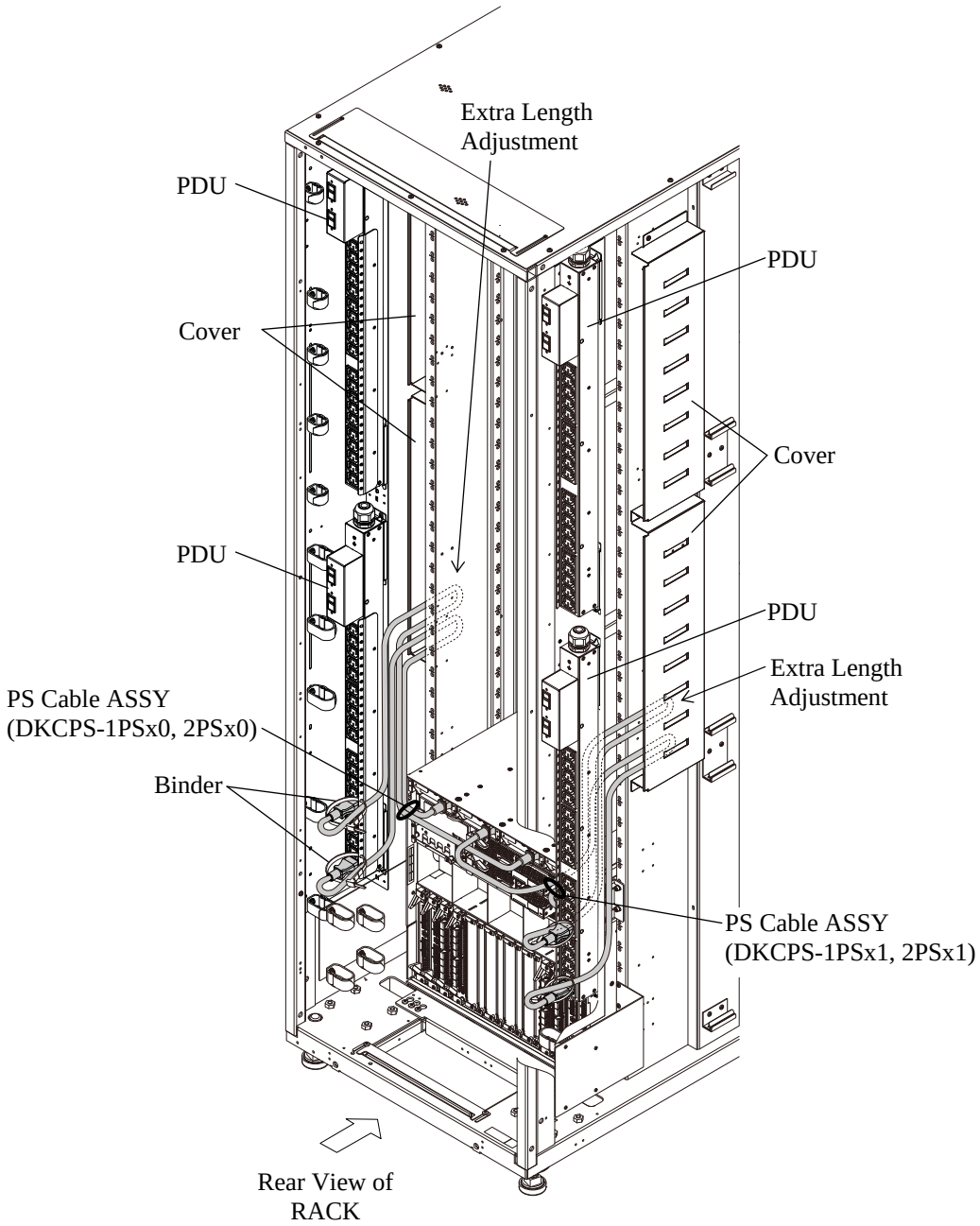


Fig. 3.6.1-16 Example of Fixing Cables (with PDU Cables Upside)

4. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.6.2 Installation of DKU Power Cord Kit (DKC-F810I-PHUC/PHEC/PHCC)

Table 3.6.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-PHUC	PS Cable ASSY	3287125-A	1	1,500mm White Label
		PS Cable ASSY	3287125-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-C	1	1,500mm White Label
		PS Cable ASSY	3287125-D	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-E	1	1,500mm White Label
		PS Cable ASSY	3287125-F	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-G	1	1,500mm White Label
		PS Cable ASSY	3287125-H	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-J	1	1,500mm White Label
		PS Cable ASSY	3287125-K	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-L	1	1,500mm White Label
		PS Cable ASSY	3287125-M	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-N	1	1,500mm White Label
		PS Cable ASSY	3287125-P	1	1,500mm Yellow Label
		PS Cable ASSY	3287125-Q	1	1,500mm White Label
		PS Cable ASSY	3287125-R	1	1,500mm Yellow Label
		Binder	5552817-1	16	
		Repeat Binder	5409042-3	8	
2	DKC-F810I-PHEC	PS Cable ASSY	3287127-A	1	1,500mm White Label
		PS Cable ASSY	3287127-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-C	1	1,500mm White Label
		PS Cable ASSY	3287127-D	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-E	1	1,500mm White Label
		PS Cable ASSY	3287127-F	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-G	1	1,500mm White Label
		PS Cable ASSY	3287127-H	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-J	1	1,500mm White Label
		PS Cable ASSY	3287127-K	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-L	1	1,500mm White Label
		PS Cable ASSY	3287127-M	1	1,500mm Yellow Label

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
2	DKC-F810I-PHEC	PS Cable ASSY	3287127-N	1	1,500mm White Label
		PS Cable ASSY	3287127-P	1	1,500mm Yellow Label
		PS Cable ASSY	3287127-Q	1	1,500mm White Label
		PS Cable ASSY	3287127-R	1	1,500mm Yellow Label
		Binder	5552817-1	16	
		Repeat Binder	5409042-3	8	
3	DKC-F810I-PHCC	PS Cable ASSY	3287129-A	1	1,500mm White Label
		PS Cable ASSY	3287129-B	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-C	1	1,500mm White Label
		PS Cable ASSY	3287129-D	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-E	1	1,500mm White Label
		PS Cable ASSY	3287129-F	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-G	1	1,500mm White Label
		PS Cable ASSY	3287129-H	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-J	1	1,500mm White Label
		PS Cable ASSY	3287129-K	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-L	1	1,500mm White Label
		PS Cable ASSY	3287129-M	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-N	1	1,500mm White Label
		PS Cable ASSY	3287129-P	1	1,500mm Yellow Label
		PS Cable ASSY	3287129-Q	1	1,500mm White Label
		PS Cable ASSY	3287129-R	1	1,500mm Yellow Label
		Binder	5552817-1	16	
		Repeat Binder	5409042-3	8	

Copyright © 2014, Hitachi, Ltd.

1. Confirmation of Installation Position
   a. Refer to following figure to confirm the connection location of DKU Power Cord Kit on DKU. However, installing positions of DKU Power Cord Kit may differ according to the construction within the rack frame.

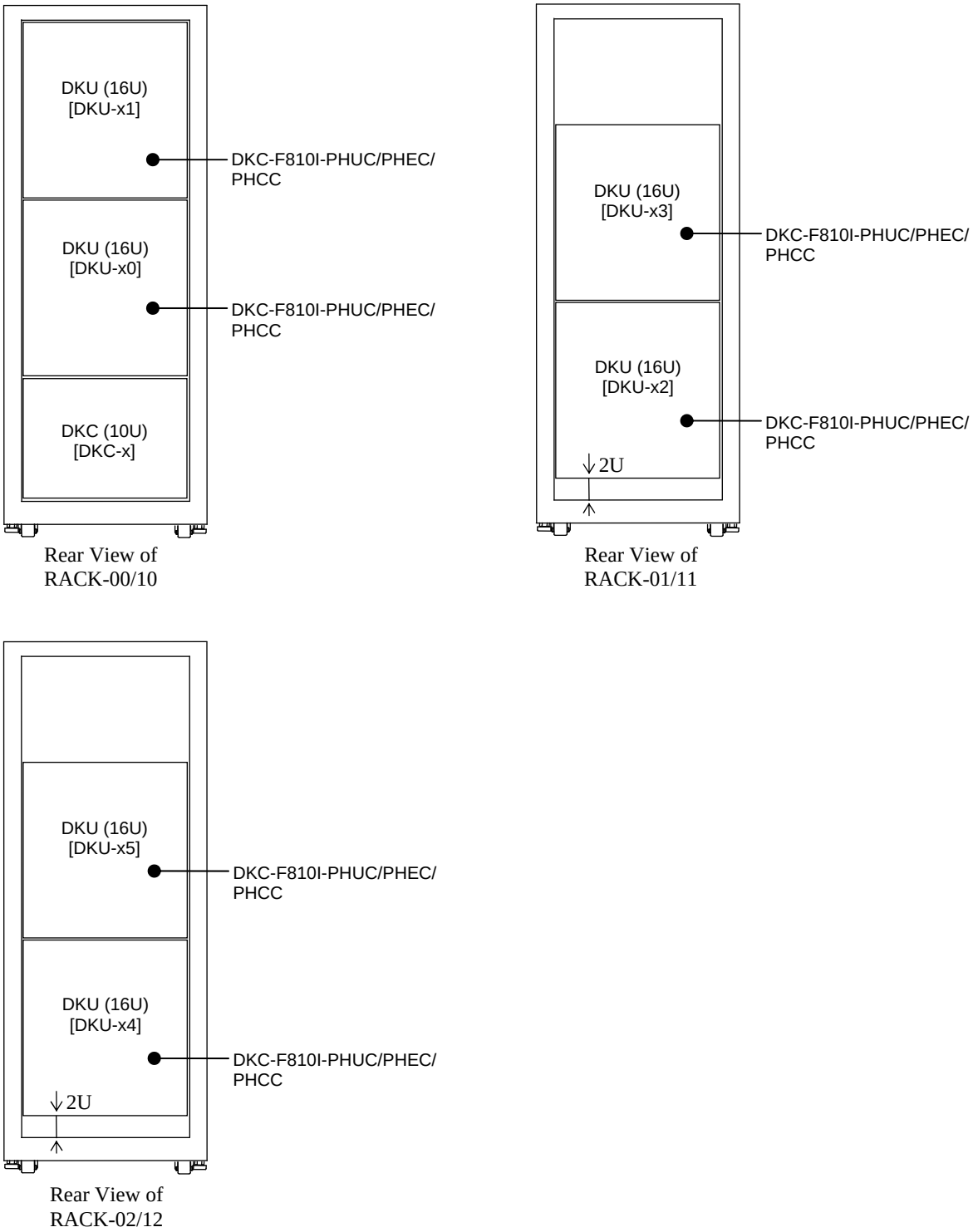


Fig. 3.6.2-1 Mounting Location of DKU Power Cord Kit

Copyright © 2014, Hitachi, Ltd.

b. Confirm the PDU patterns that are installed in the RACK.

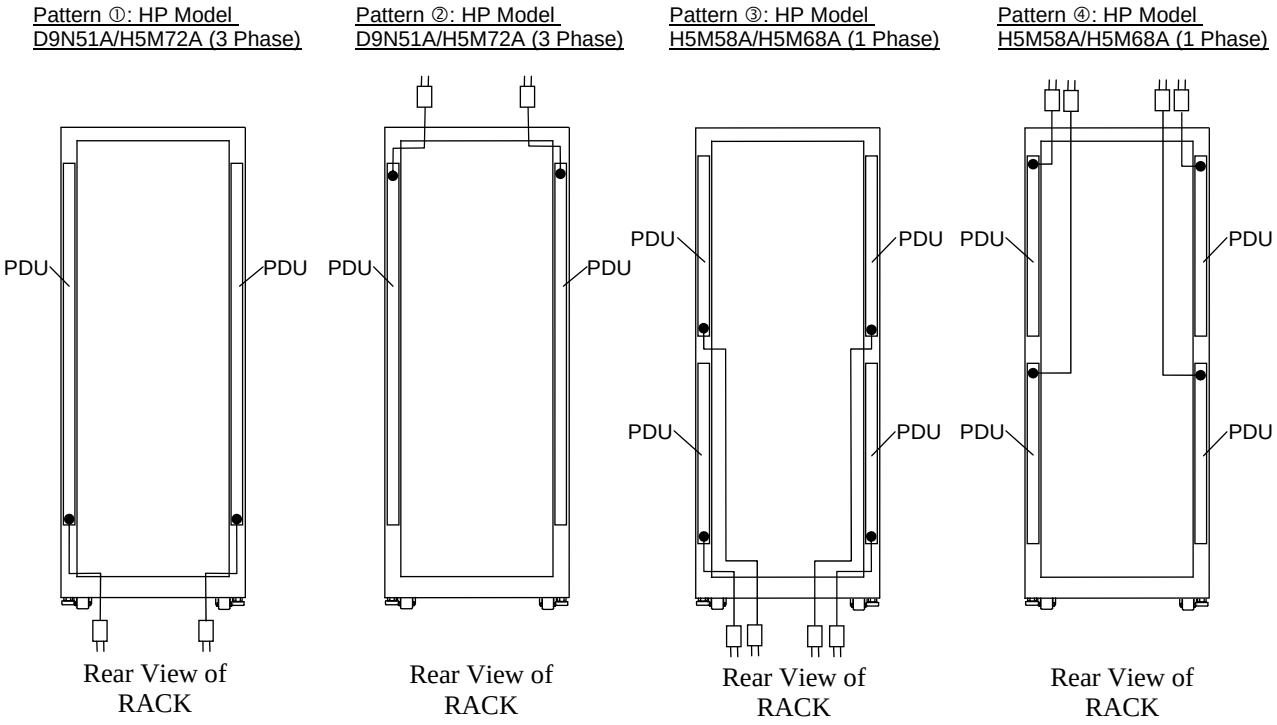


Fig. 3.6.2-2 PDU Pattern

Copyright © 2014, Hitachi, Ltd.

2. Connection of Cables (DKU Side)
   a. Put sixteen PS Cable ASSYs through cable holders and connect them to DKUPSs.
   b. Close the cable holder, and then push it toward the DKUPS till it stops, holding the end of the binder.

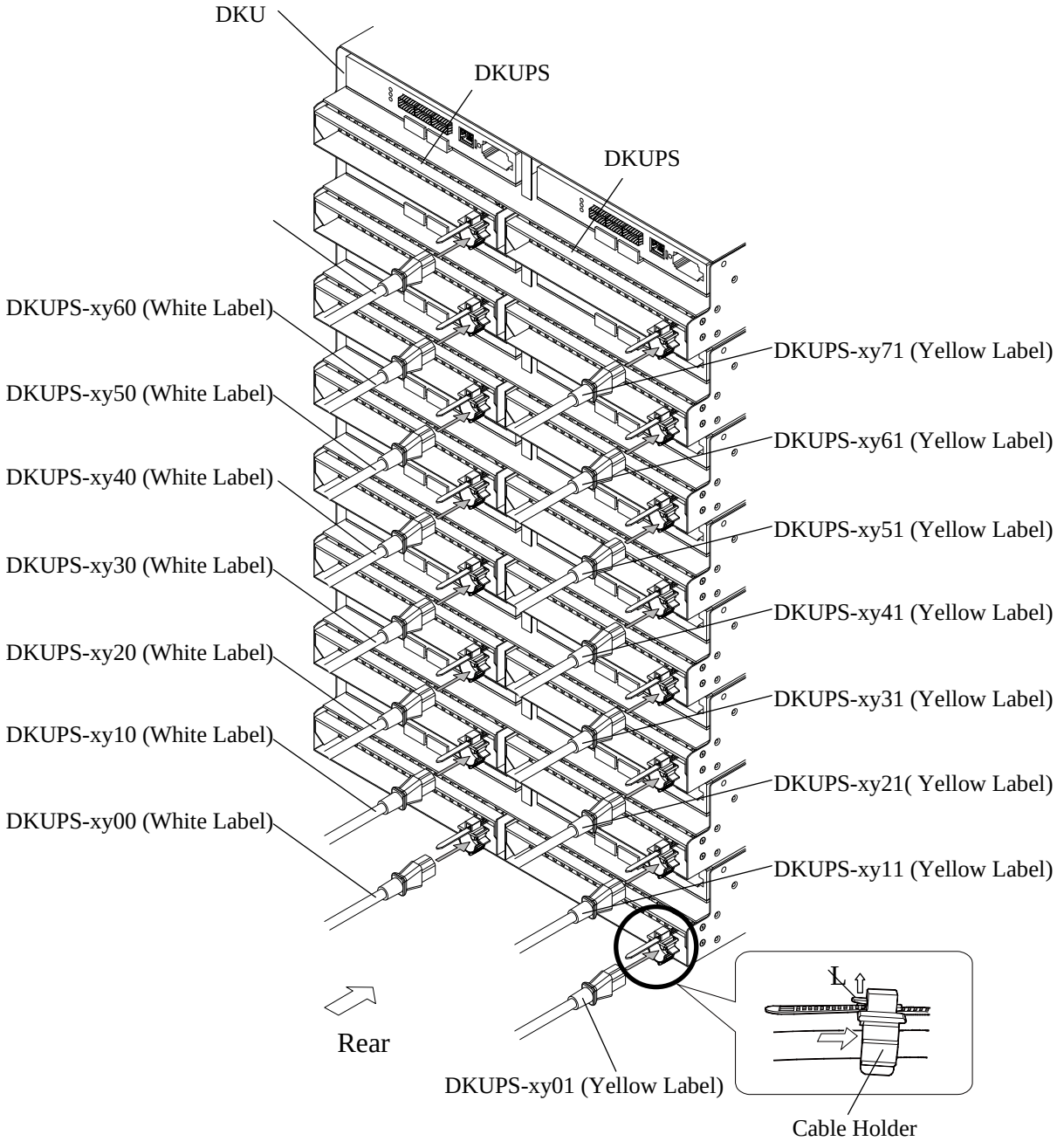


Fig. 3.6.2-3 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Attach the binders to the rails of the rear side of the DKUs to fix the cables.

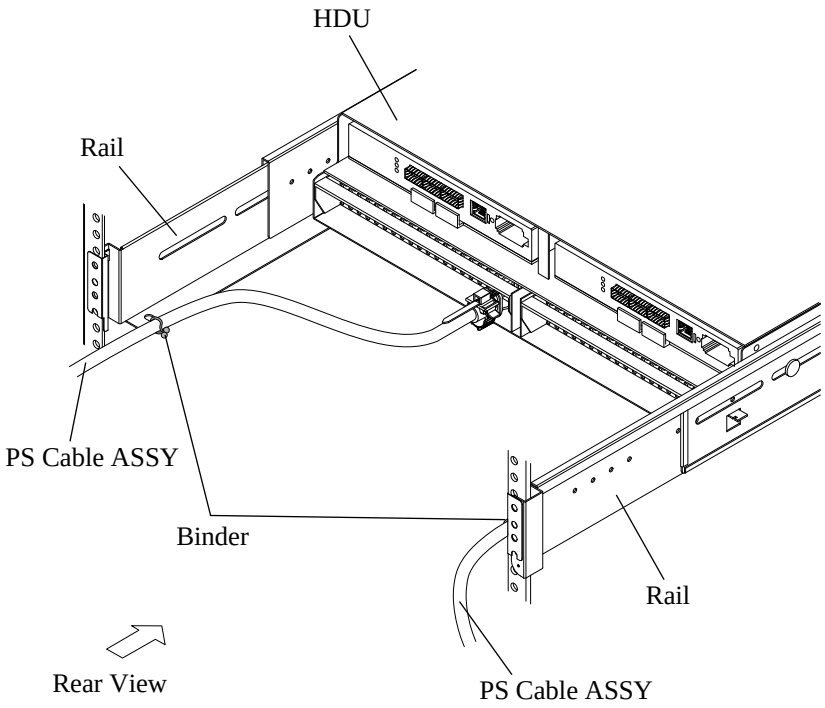


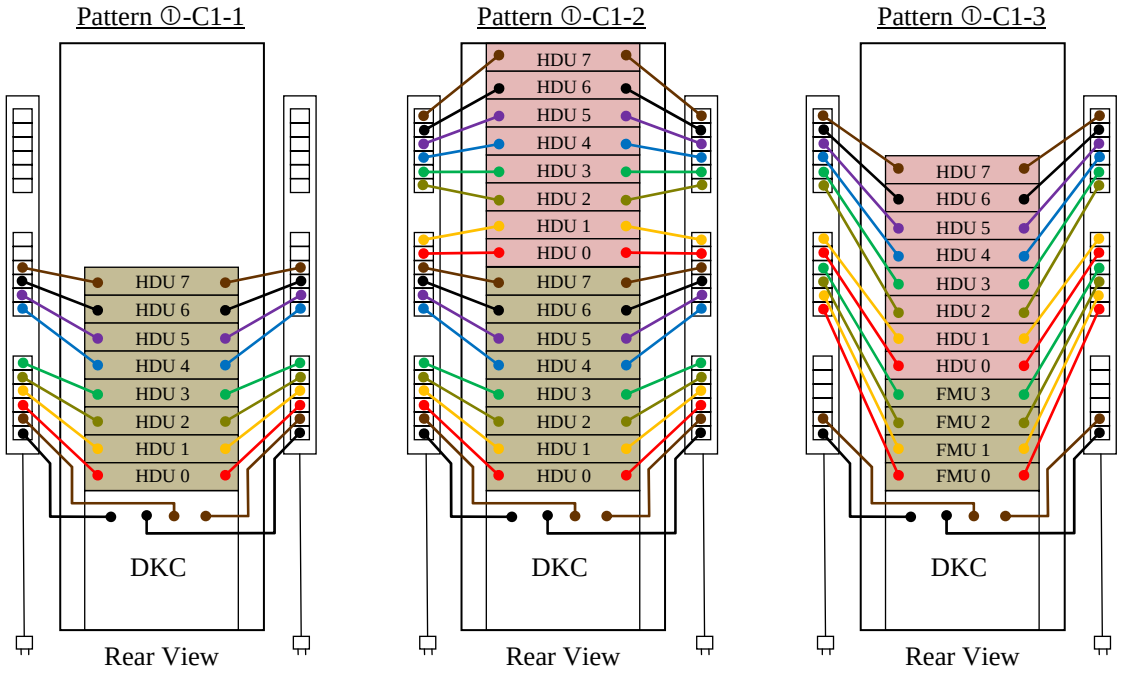
Fig. 3.6.2-4 Fixation of Cables

Copyright © 2014, Hitachi, Ltd.

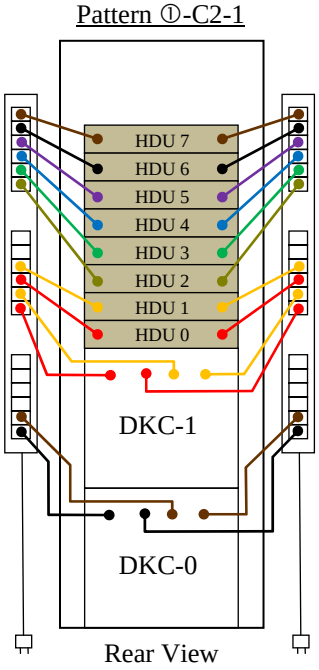
3. Connection of Cables (PDU Side)
   a. Choose a rack configuration from the power cable connection diagrams in Fig. 3.6.2-5 to Fig. 3.6.2-12 and confirm the location of the power cable connection for the installed DKU.

Pattern ①:HP Model D9N51A/H5M72A (3 Phase)

[One DKC in a Rack]



[Two DKC in a Rack]



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

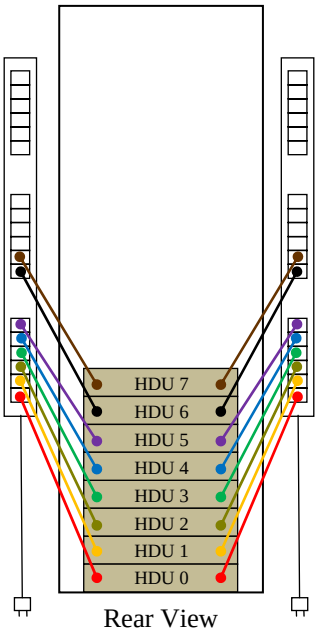
Fig. 3.6.2-5 Power Cable Connection Diagram (Pattern ① 1/2)

Copyright © 2014, Hitachi, Ltd.

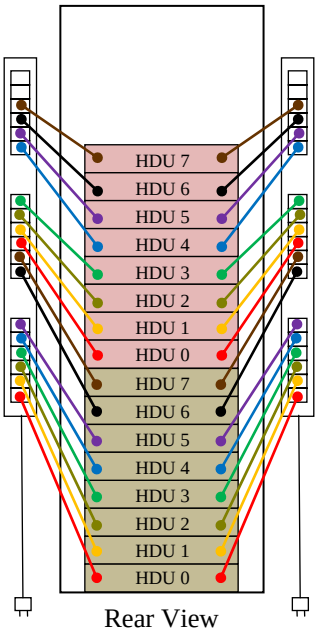
Pattern ①:HP Model D9N51A/H5M72A (3 Phase)

[Only DKU in a Rack]

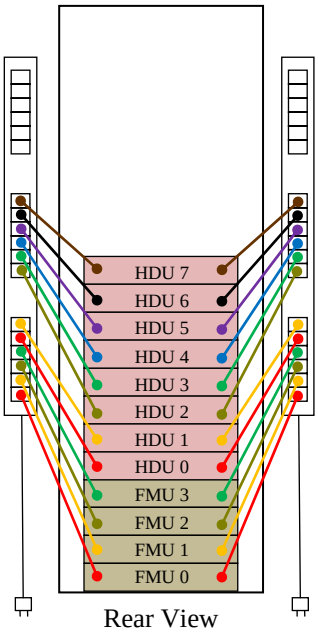
Pattern ①-U-1



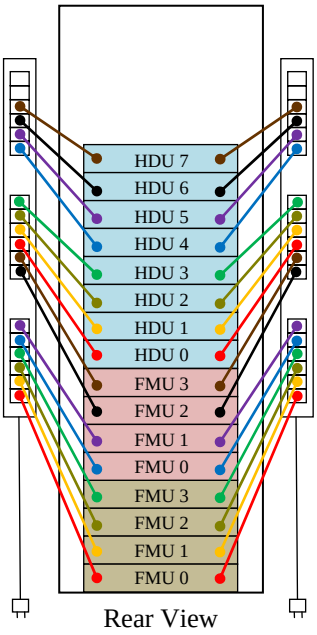
Pattern ①-U-2



Pattern ①-U-3



Pattern ①-U-4



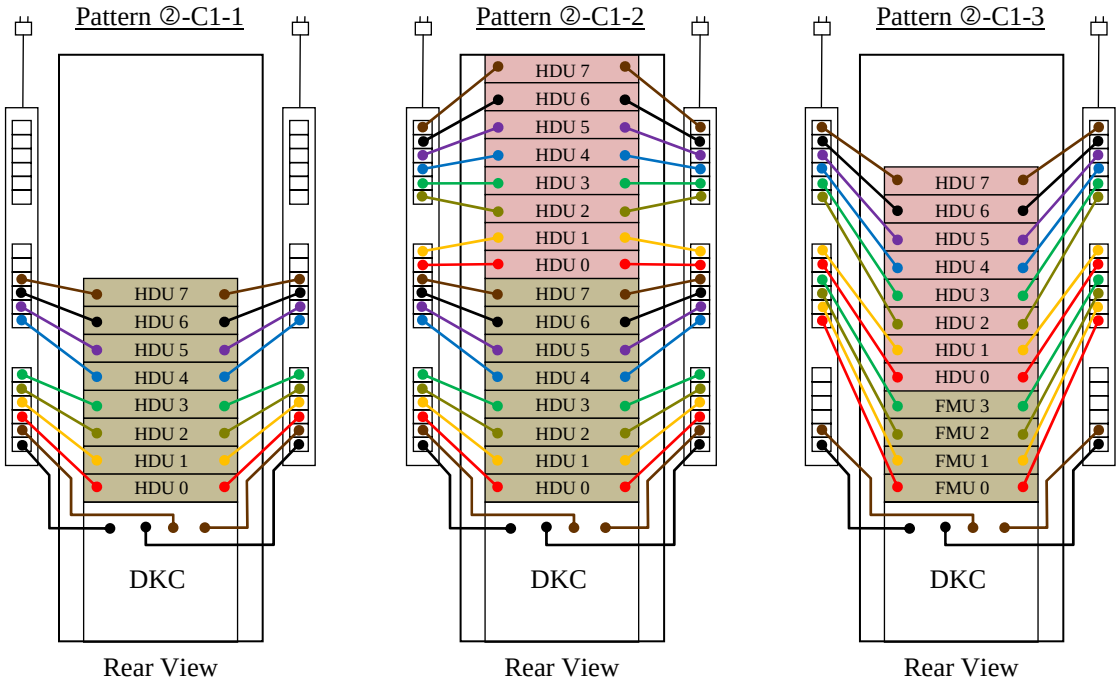
NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.2-6 Power Cable Connection Diagram (Pattern ① 2/2)

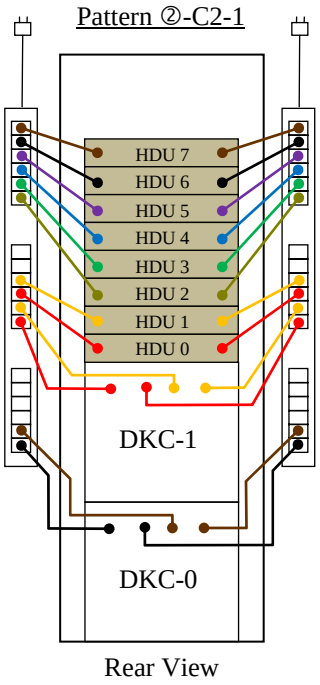
Copyright © 2014, Hitachi, Ltd.

Pattern ②:HP Model D9N51A/H5M72A (3 Phase)

[One DKC in a Rack]



[Two DKC in a Rack]



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

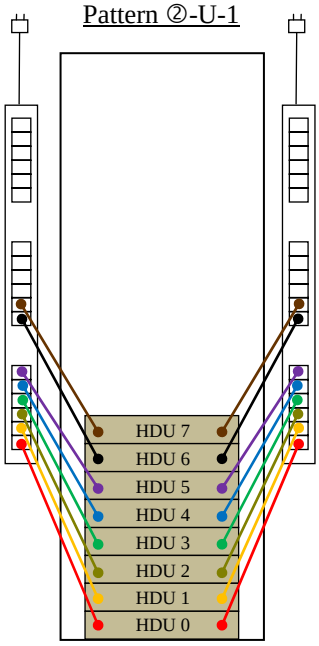
Fig. 3.6.2-7 Power Cable Connection Diagram (Pattern ② 1/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ②:Model D9N51A/H5M72A (3 Phase)

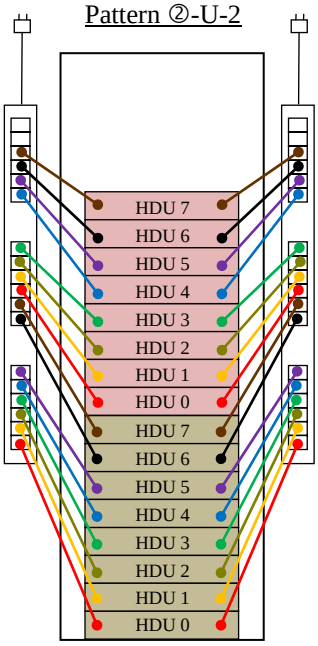
[Only DKU in a Rack]

Pattern ②-U-1



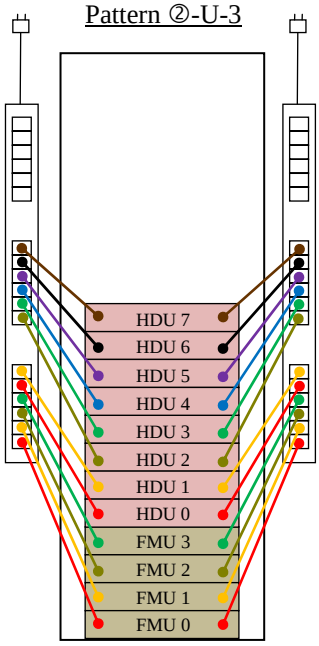
Rear View

Pattern ②-U-2



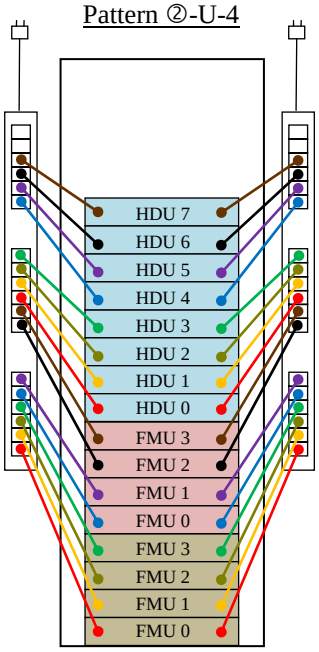
Rear View

Pattern ②-U-3



Rear View

Pattern ②-U-4



Rear View

NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

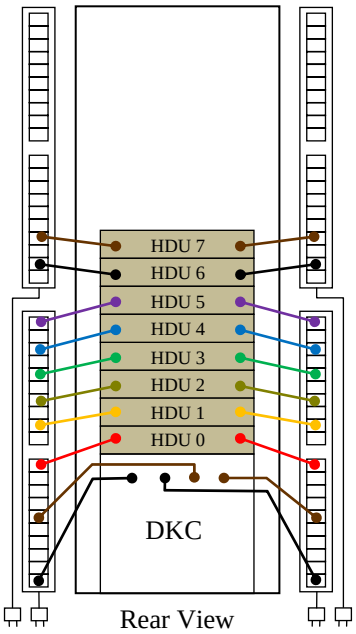
Fig. 3.6.2-8 Power Cable Connection Diagram (Pattern ② 2/2)

Copyright © 2014, Hitachi, Ltd.

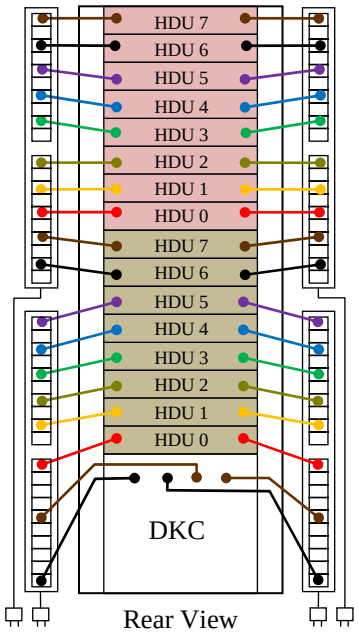
Pattern ③:HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]

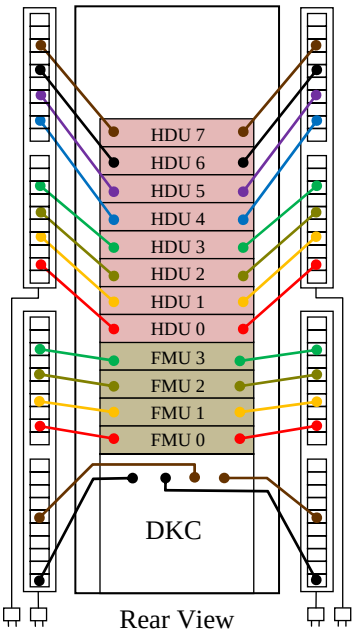
Pattern ③-C1-1



Pattern ③-C1-2

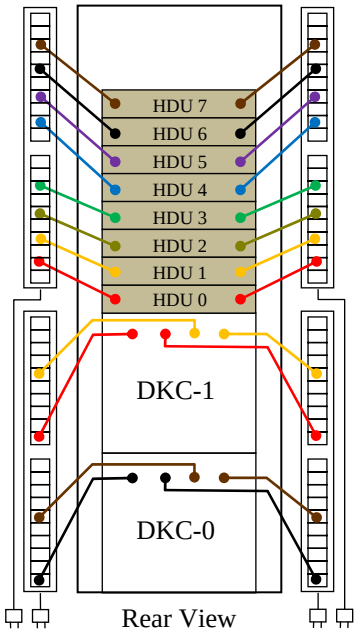


Pattern ③-C1-3



[Two DKC in a Rack]

Pattern ③-C2-1



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

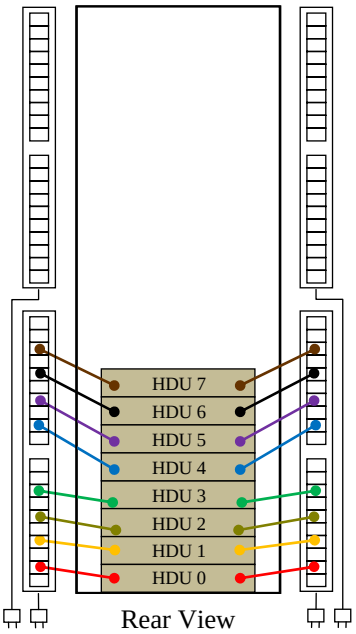
Fig. 3.6.2-9 Power Cable Connection Diagram (Pattern ③ 1/2)

Copyright © 2014, Hitachi, Ltd.

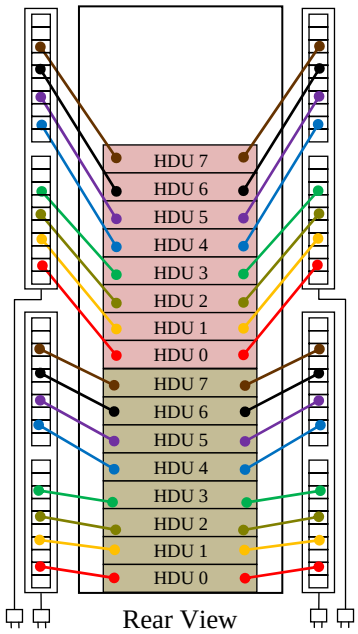
Pattern ③:HP Model H5M58A/H5M68A (1 Phase)

[Only DKU in a Rack]

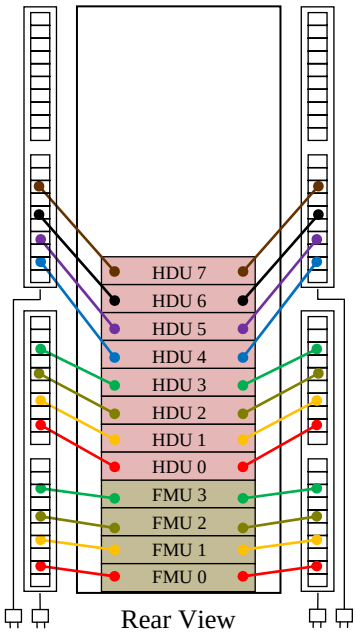
Pattern ③-U-1



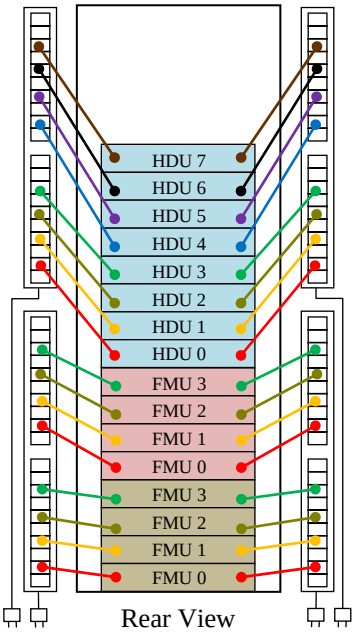
Pattern ③-U-2



Pattern ③-U-3



Pattern ③-U-4



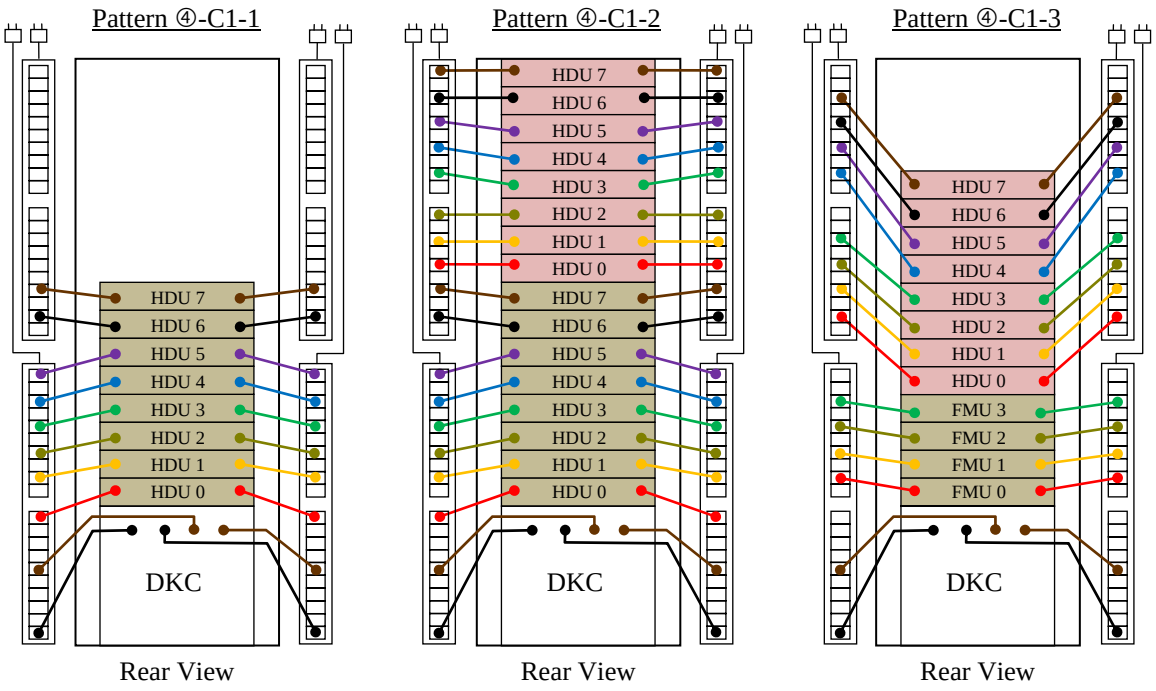
NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.2-10 Power Cable Connection Diagram (Pattern ③ 2/2)

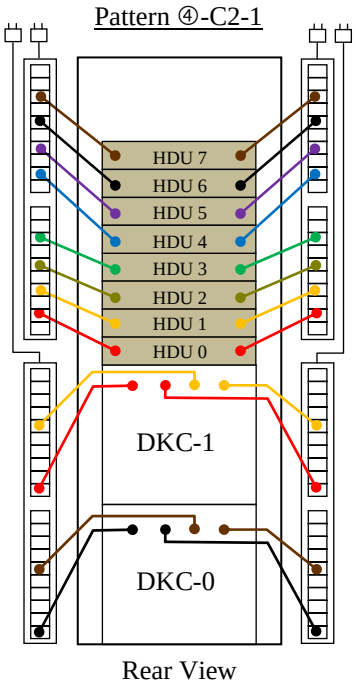
Copyright © 2014, Hitachi, Ltd.

Pattern ④:HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]



[Two DKC in a Rack]



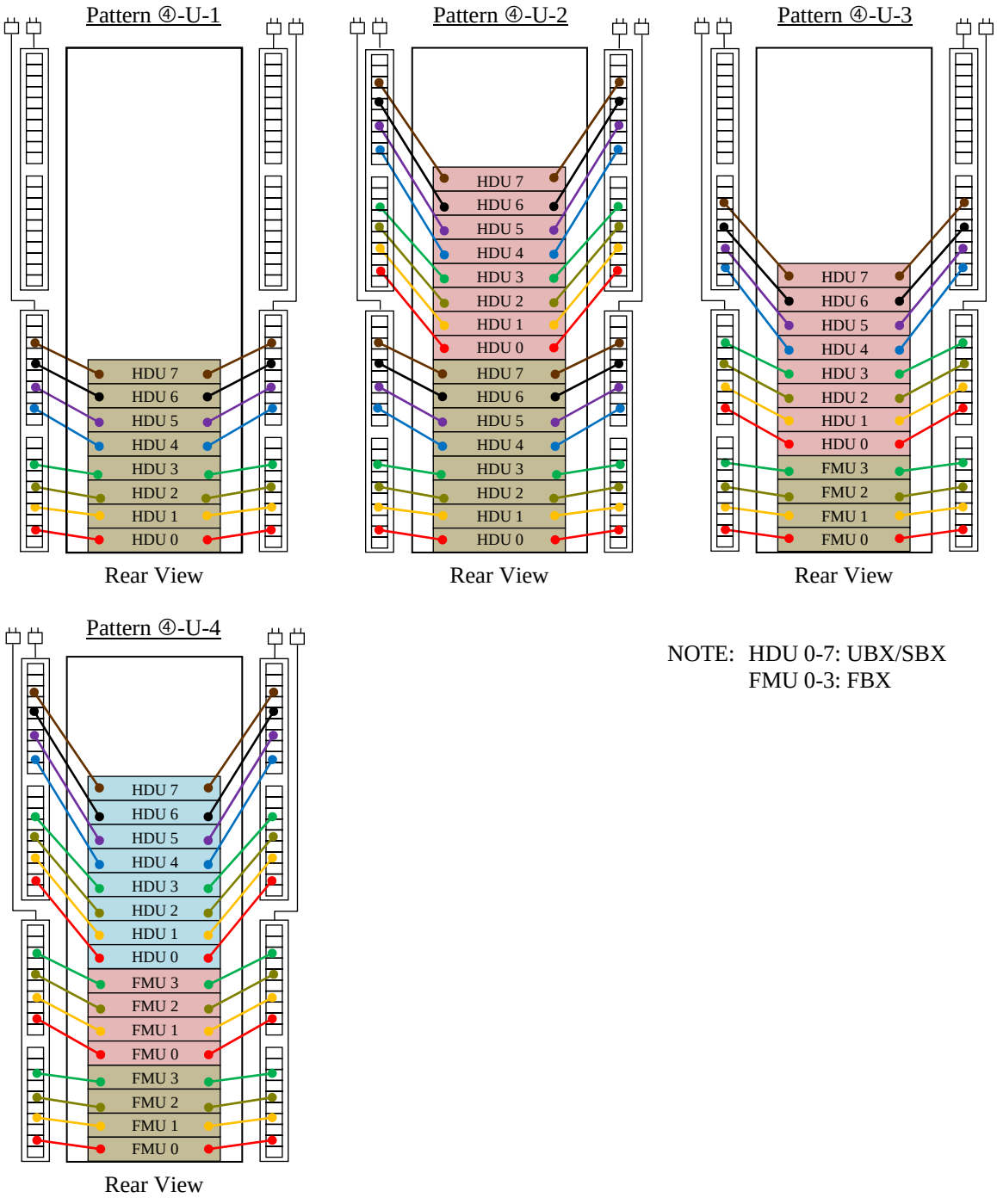
NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.2-11 Power Cable Connection Diagram (Pattern ④ 1/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ④:HP Model H5M58A/H5M68A (1 Phase)

[Only DKU in a Rack]



NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.2-12 Power Cable Connection Diagram (Pattern ④ 2/2)

Copyright © 2014, Hitachi, Ltd.

b. Connect the 16 PS cable ASSYs to the PDUs that were confirmed in Procedure a. Cable connection examples are shown in Fig. 3.6.2-13 to Fig. 3.6.2-16.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

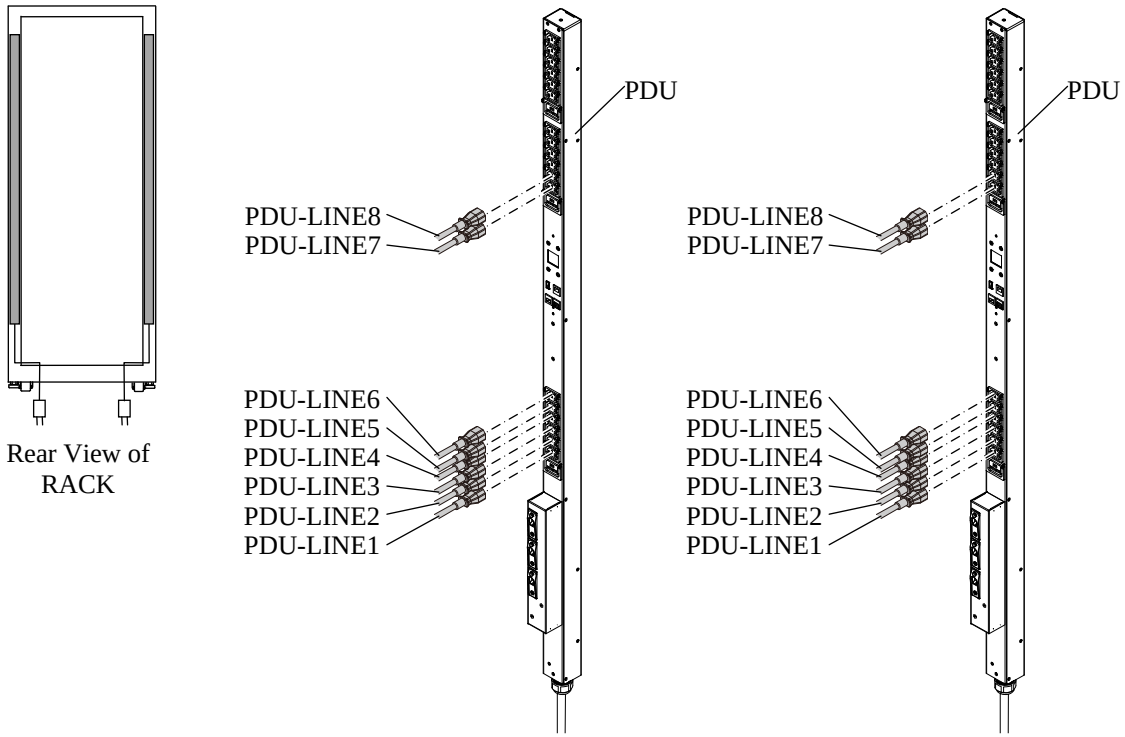


Fig. 3.6.2-13 Example of Connecting Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

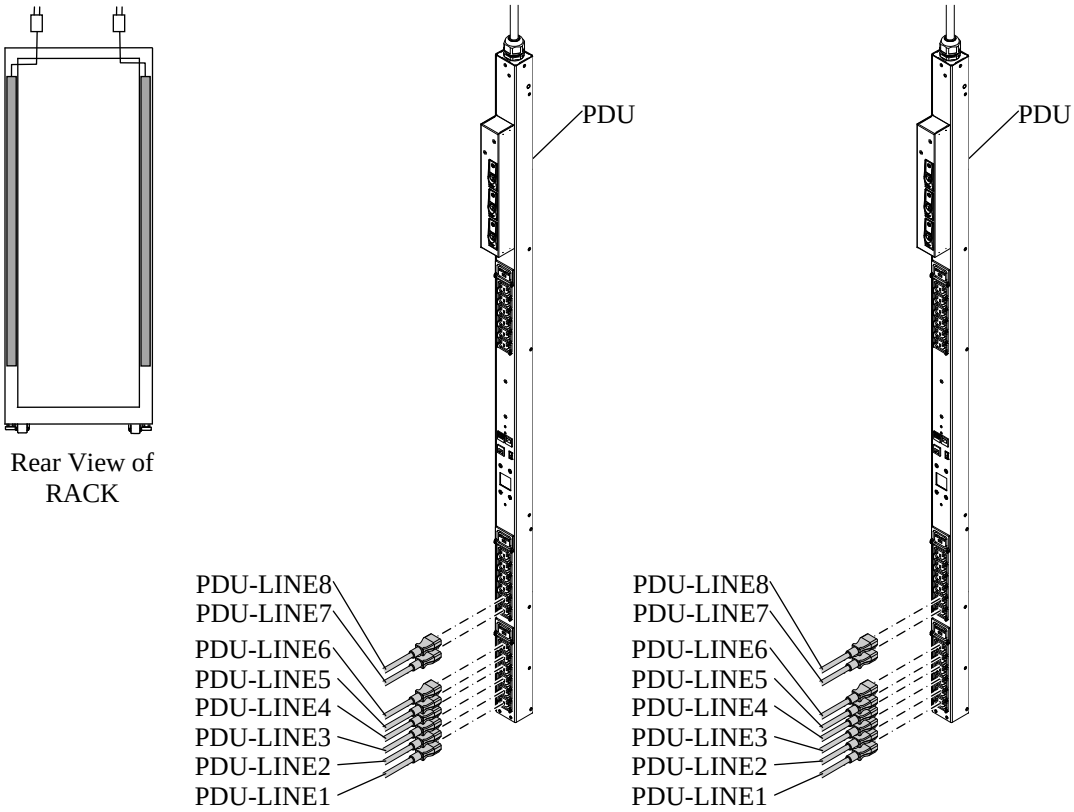


Fig. 3.6.2-14 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

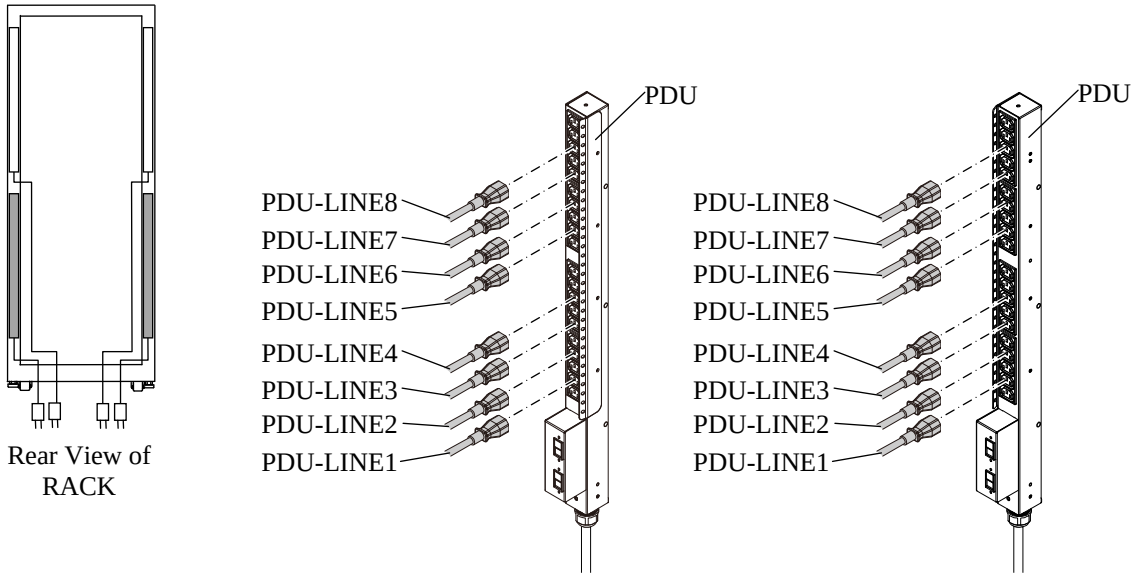


Fig. 3.6.2-15 Example of Connecting Cables (with PDU Cables Downside)

[Example]

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

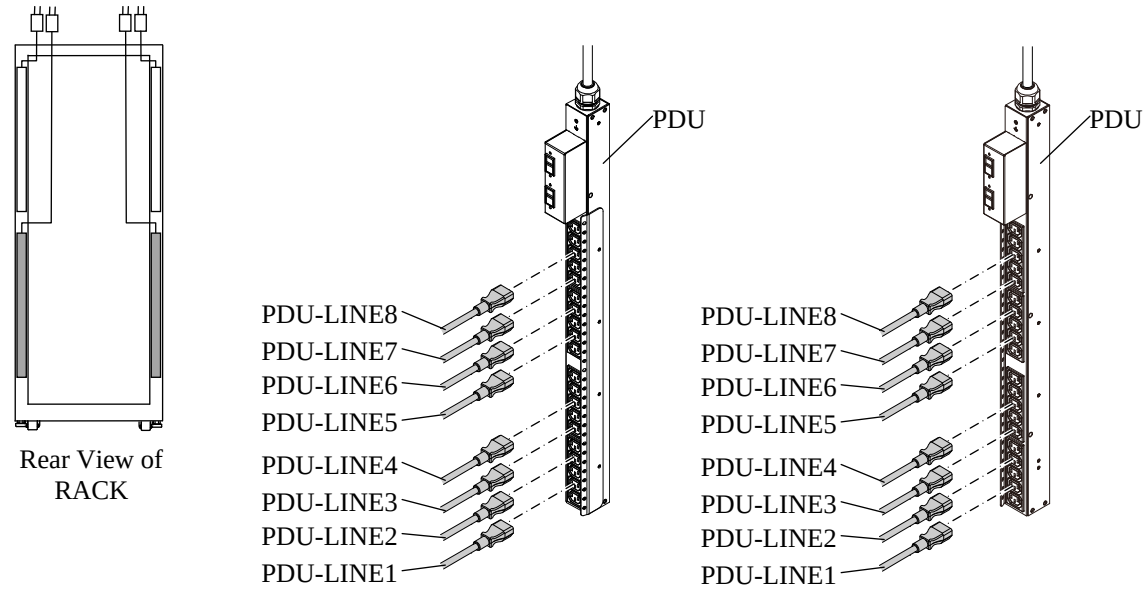


Fig. 3.6.2-16 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

c. Route the 16 PS cable ASSYs and fix them with the binders. Then put the extra length of the cables in the covers.
Cable routing examples are shown in Fig. 3.6.2-17 to Fig. 3.6.2-20.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

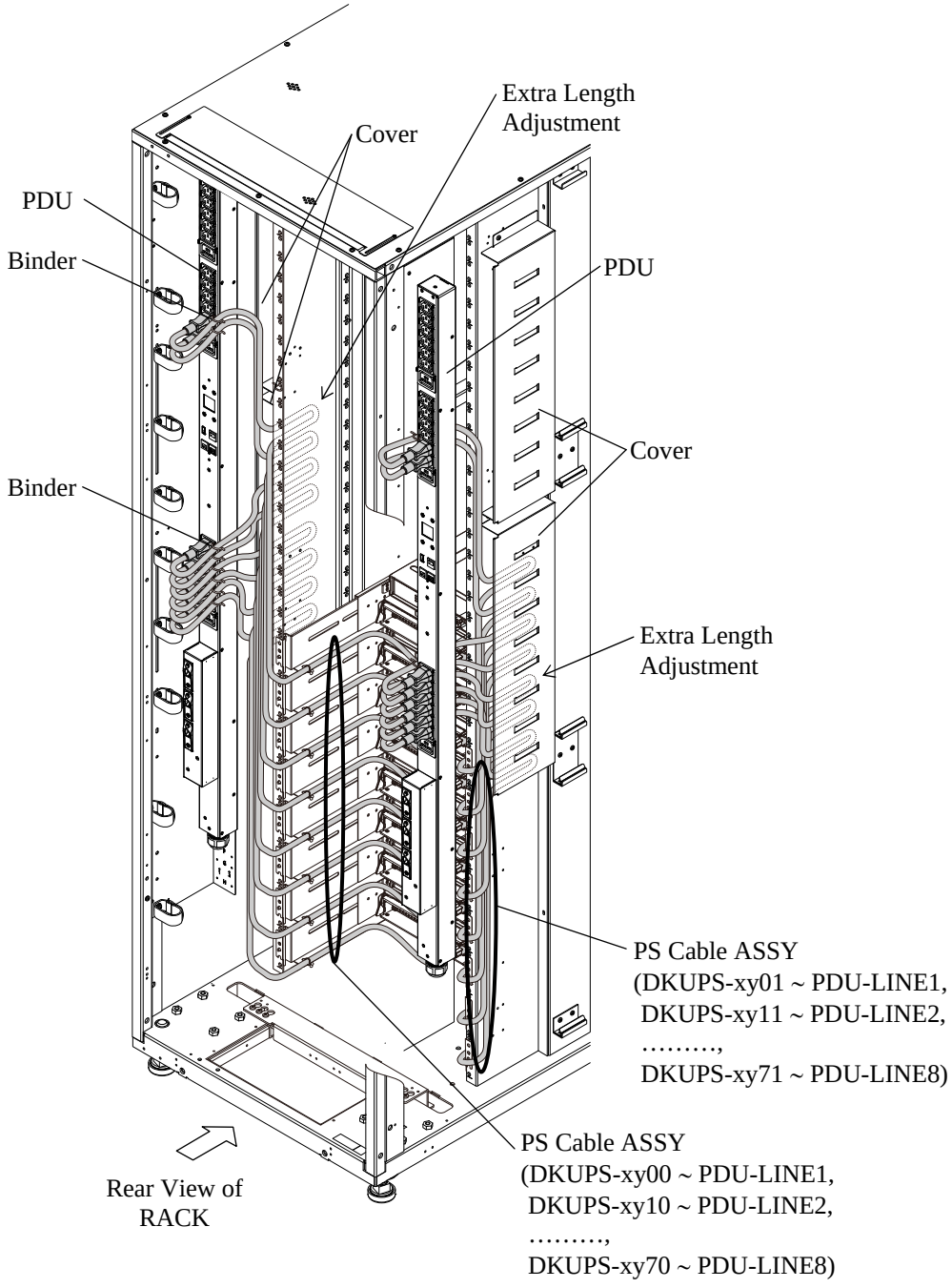


Fig. 3.6.2-17 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

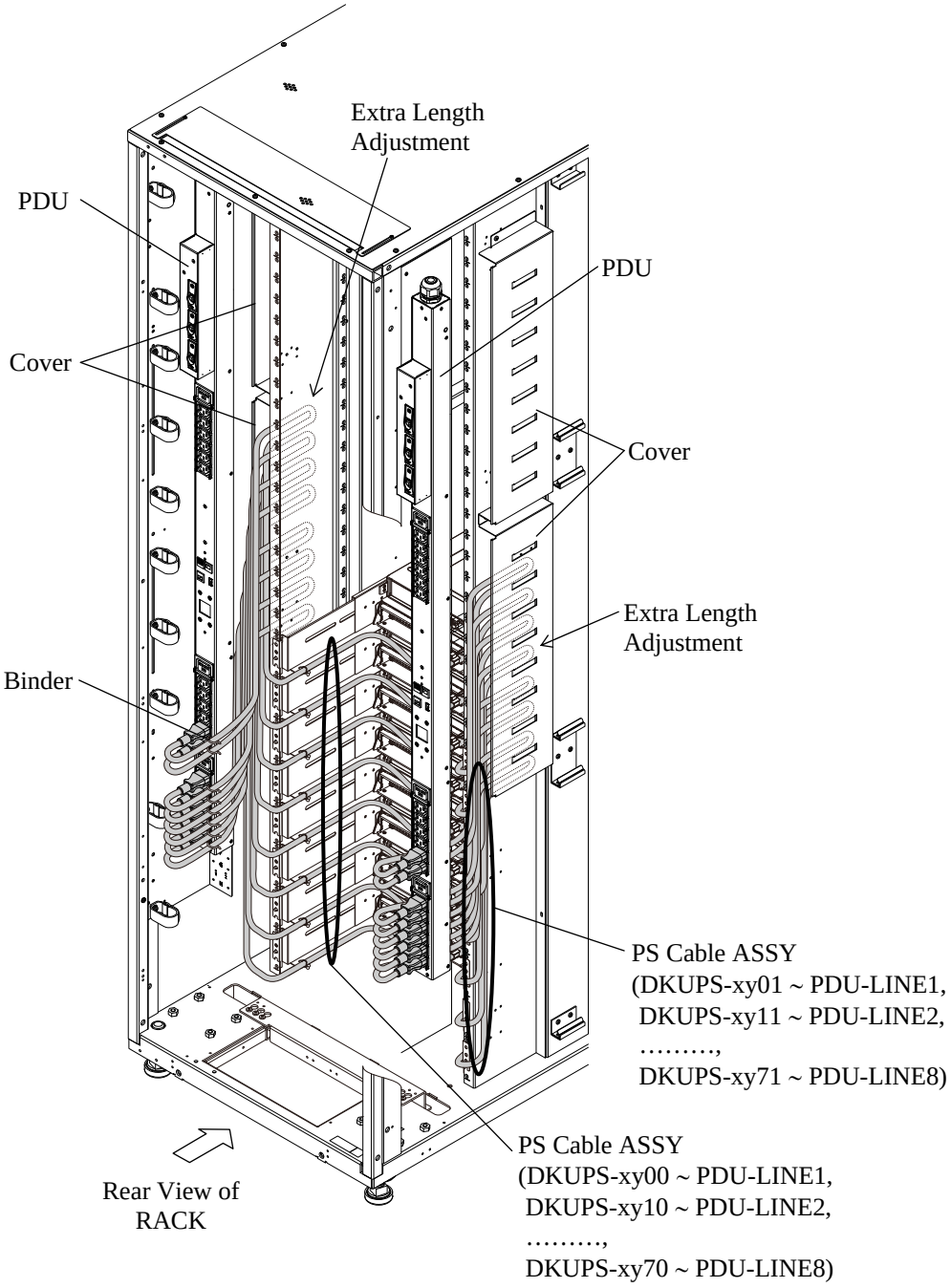


Fig. 3.6.2-18 Example of Fixing Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

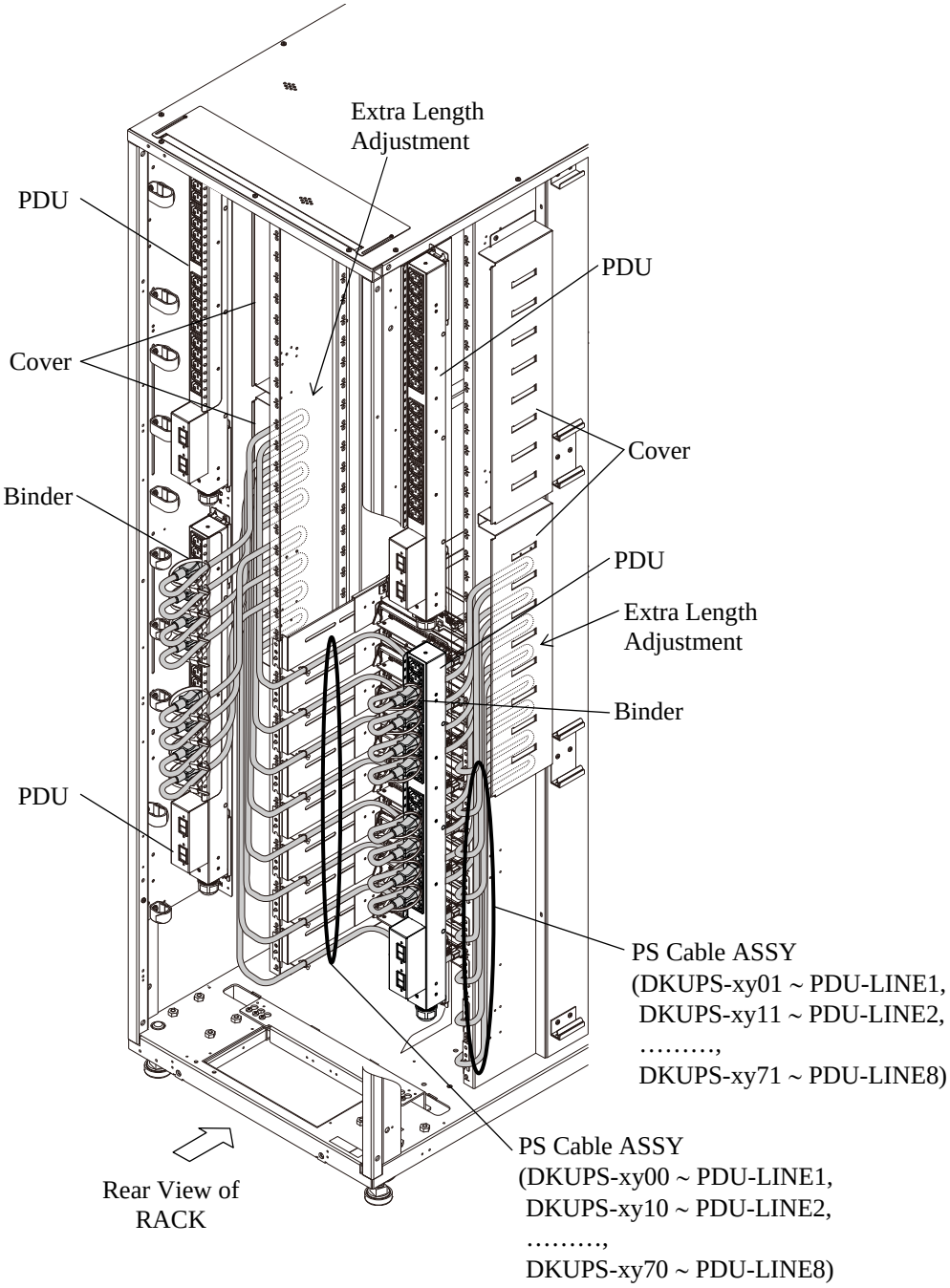


Fig. 3.6.2-19 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

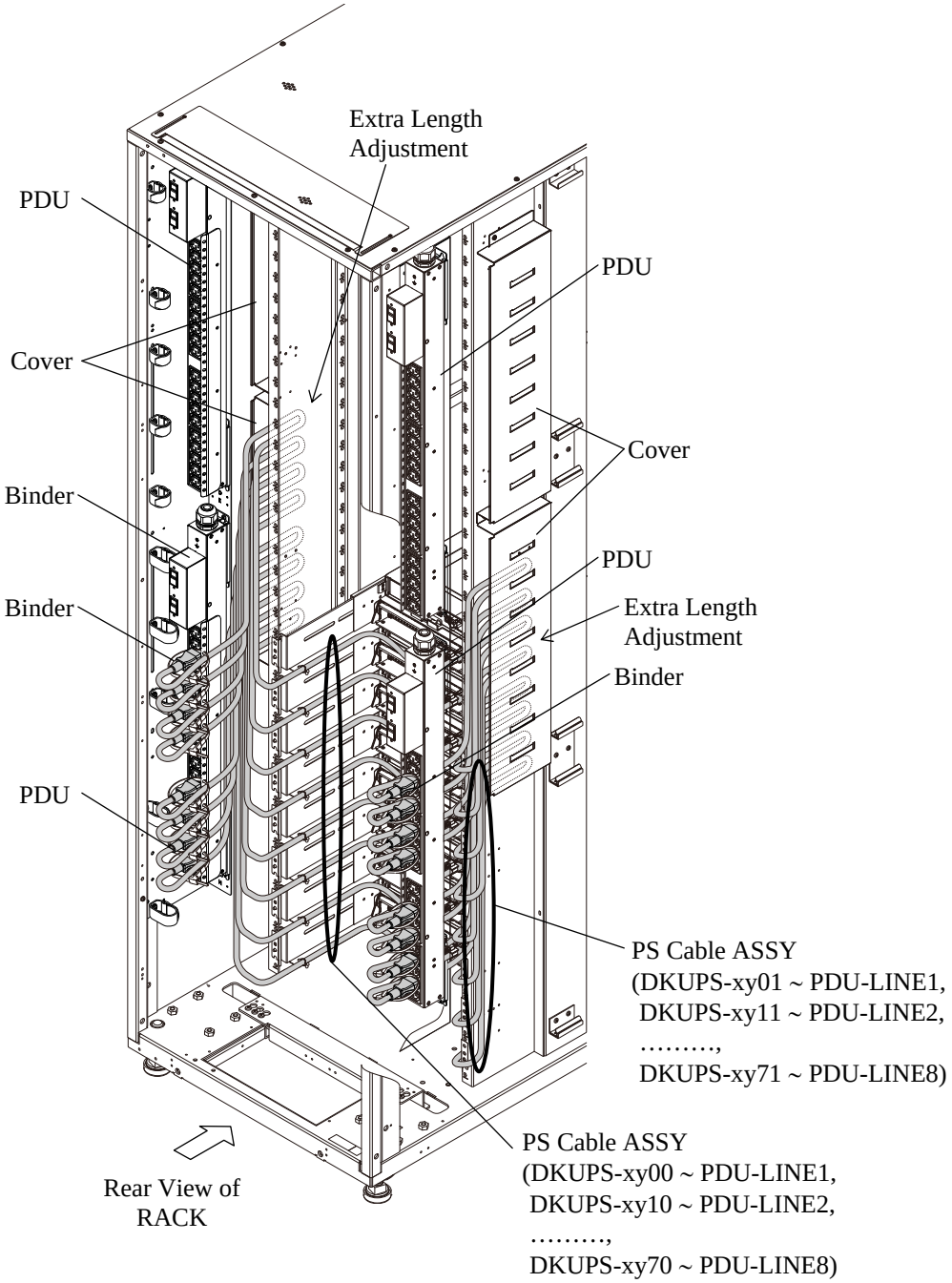


Fig. 3.6.2-20 Example of Fixing Cables (with PDU Cables Upside)

4. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.6.3 Installation of DKU (FBX) Power Cord Kit (DKC-F810I-PFUC/PFEC/PFCC)

Table 3.6.3-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-PFUC	PS Cable ASSY	3287125-A	1	1,500mm, White Label DKUPS-xy00 – PDU-LINE1
		PS Cable ASSY	3287125-B	1	1,500mm, Yellow Label DKUPS-xy01 – PDU-LINE1
		PS Cable ASSY	3287125-C	1	1,500mm, White Label DKUPS-xy10 – PDU-LINE2
		PS Cable ASSY	3287125-D	1	1,500mm, Yellow Label DKUPS-xy11 – PDU-LINE2
		PS Cable ASSY	3287125-E	1	1,500mm, White Label DKUPS-xy20 – PDU-LINE3
		PS Cable ASSY	3287125-F	1	1,500mm, Yellow Label DKUPS-xy21 – PDU-LINE3
		PS Cable ASSY	3287125-G	1	1,500mm, White Label DKUPS-xy30 – PDU-LINE4
		PS Cable ASSY	3287125-H	1	1,500mm, Yellow Label DKUPS-xy31 – PDU-LINE4
		Repeat Binder	5409042-3	4	
2	DKC-F810I-PFEC	PS Cable ASSY	3287127-A	1	1,500mm, White Label DKUPS-xy00 – PDU-LINE1
		PS Cable ASSY	3287127-B	1	1,500mm, Yellow Label DKUPS-xy01 – PDU-LINE1
		PS Cable ASSY	3287127-C	1	1,500mm, White Label DKUPS-xy10 – PDU-LINE2
		PS Cable ASSY	3287127-D	1	1,500mm, Yellow Label DKUPS-xy11 – PDU-LINE2
		PS Cable ASSY	3287127-E	1	1,500mm, White Label DKUPS-xy20 – PDU-LINE3
		PS Cable ASSY	3287127-F	1	1,500mm, Yellow Label DKUPS-xy21 – PDU-LINE3
		PS Cable ASSY	3287127-G	1	1,500mm, White Label DKUPS-xy30 – PDU-LINE4
		PS Cable ASSY	3287127-H	1	1,500mm, Yellow Label DKUPS-xy31 – PDU-LINE4
		Repeat Binder	5409042-3	4	

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
3	DKC-F810I-PFCC	PS Cable ASSY	3287129-A	1	1,500mm, White Label DKUPS-xy00 – PDU-LINE1
		PS Cable ASSY	3287129-B	1	1,500mm, Yellow Label DKUPS-xy01 – PDU-LINE1
		PS Cable ASSY	3287129-C	1	1,500mm, White Label DKUPS-xy10 – PDU-LINE2
		PS Cable ASSY	3287129-D	1	1,500mm, Yellow Label DKUPS-xy11 – PDU-LINE2
		PS Cable ASSY	3287129-E	1	1,500mm, White Label DKUPS-xy20 – PDU-LINE3
		PS Cable ASSY	3287129-F	1	1,500mm, Yellow Label DKUPS-xy21 – PDU-LINE3
		PS Cable ASSY	3287129-G	1	1,500mm, White Label DKUPS-xy30 – PDU-LINE4
		PS Cable ASSY	3287129-H	1	1,500mm, Yellow Label DKUPS-xy31 – PDU-LINE4
		Repeat Binder	5409042-3	4	

Copyright © 2014, Hitachi, Ltd.

1. Confirmation of Installation Position
   a. Refer to following figure to confirm the connection location of DKU Power cord on DKU. However, installing positions of DKU Power cord may differ according to the construction within the rack frame.

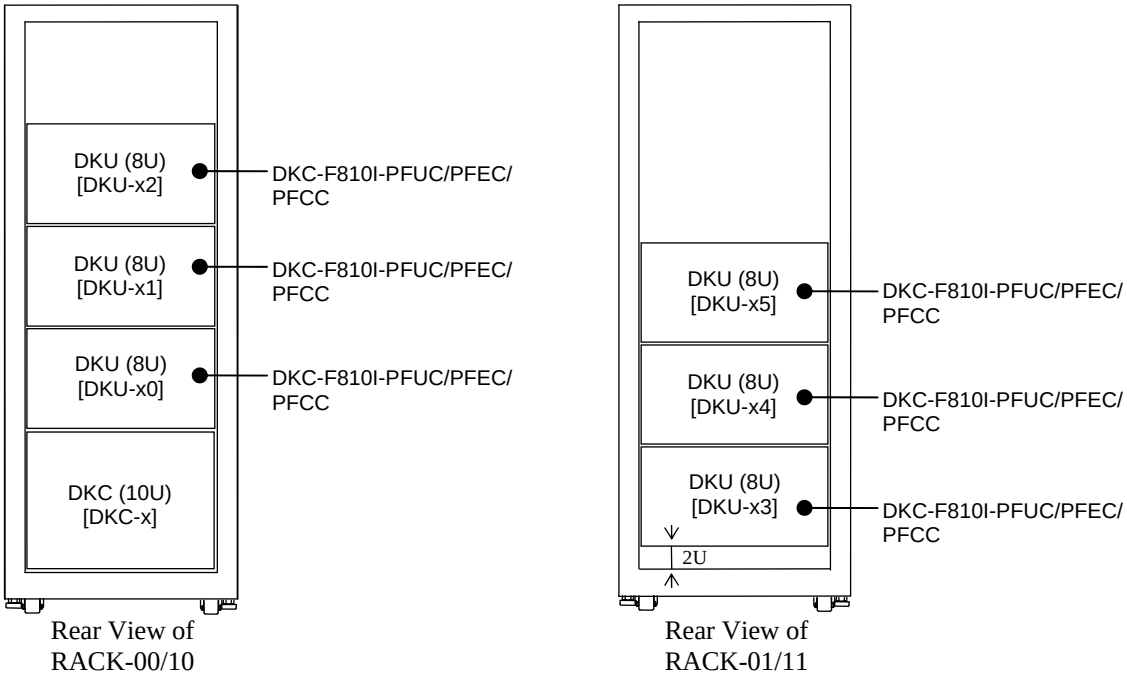


Fig. 3.6.3-1 Mounting Location of DKU Power Cord

   b. Confirm the PDU patterns that are installed in the RACK.

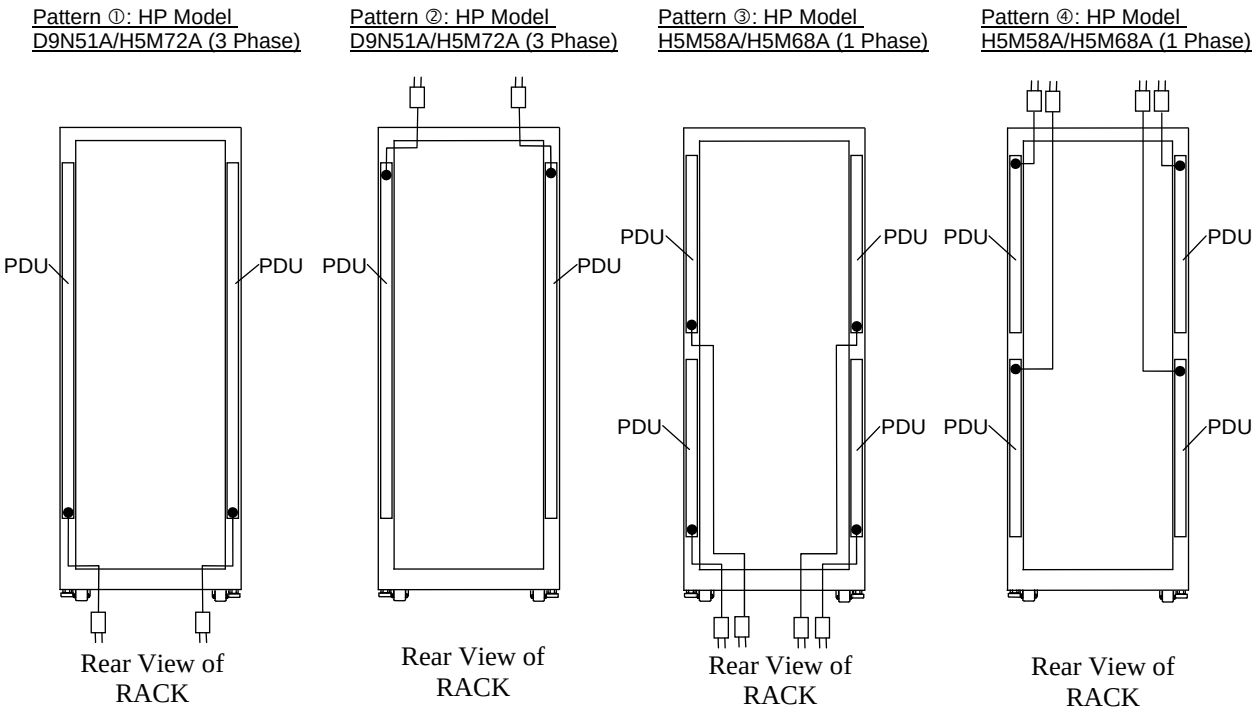


Fig. 3.6.3-2 PDU Pattern

Copyright © 2014, Hitachi, Ltd.

2. Connection of Cables (DKU Side)
   a. Put eight PS Cable ASSYs through cable holders and connect them to DKUPSs.
   b. Close the cable holder, and then push it toward the DKUPS till it stops, holding the end of the binder.

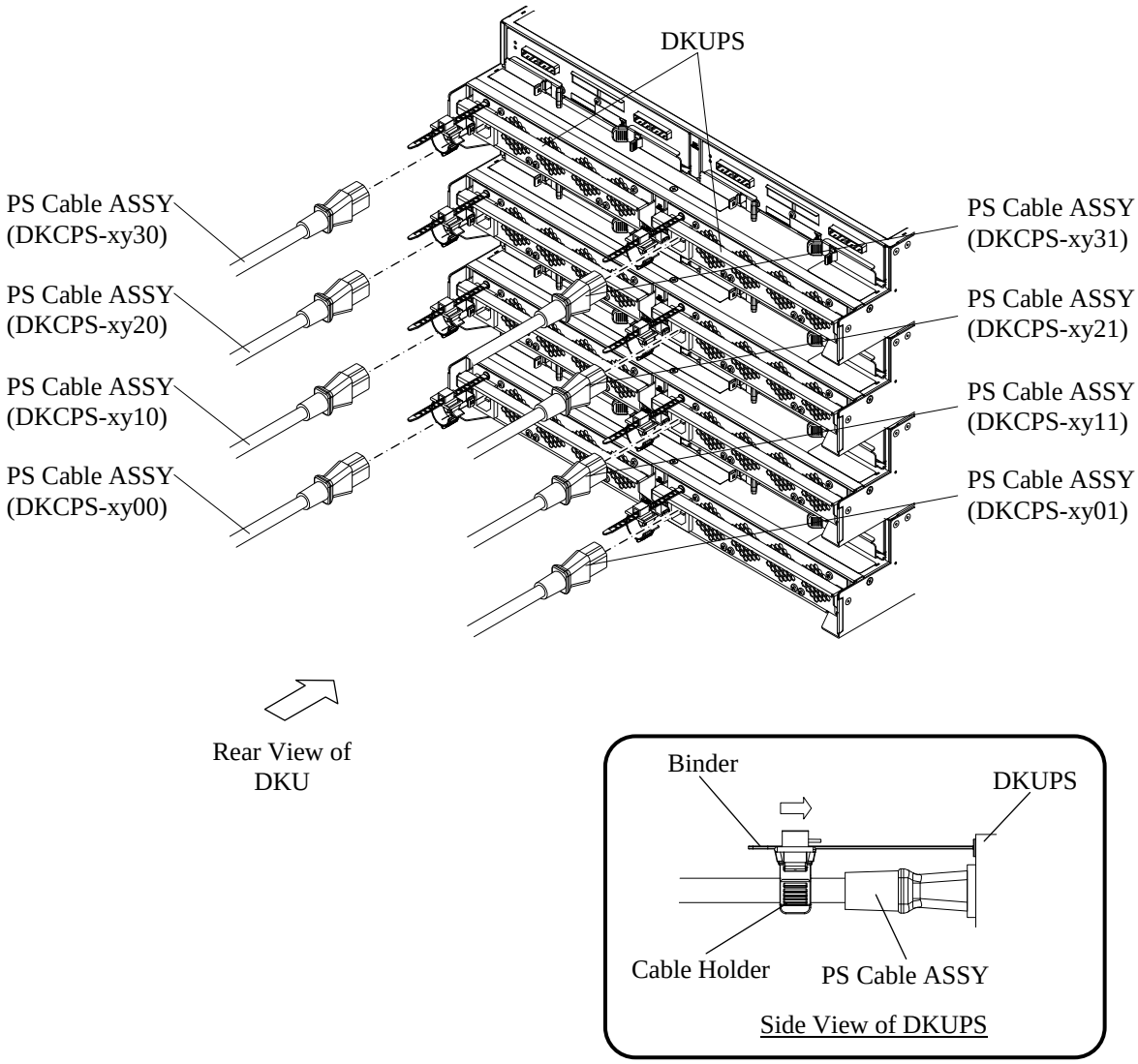


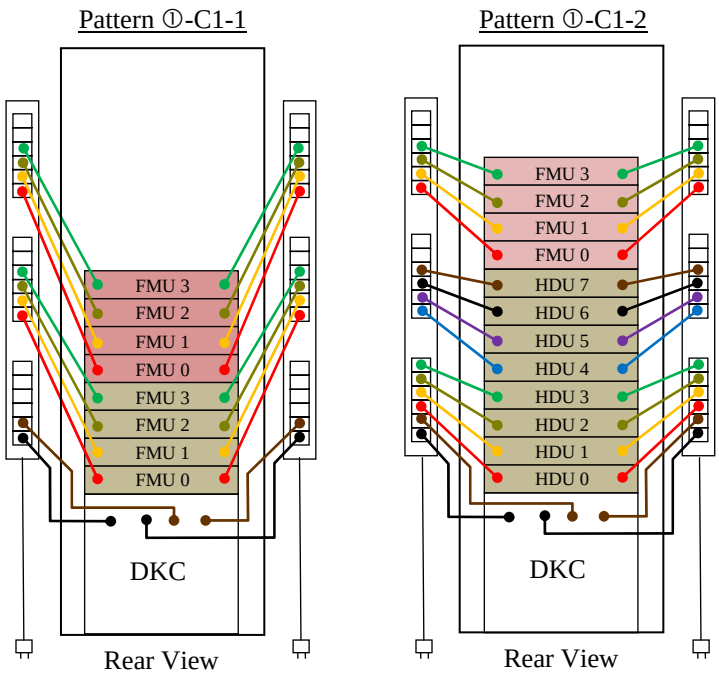
Fig. 3.6.3-3 Connection of PS Cable ASSY

Copyright © 2014, Hitachi, Ltd.

3. Connection of Cables (PDU Side)
   a. Choose a rack configuration from the Power Cable Connection Diagram in Fig. 3.6.3-4 to Fig. 3.6.3-11 and confirm the location of the power cable connection for the installed DKU.

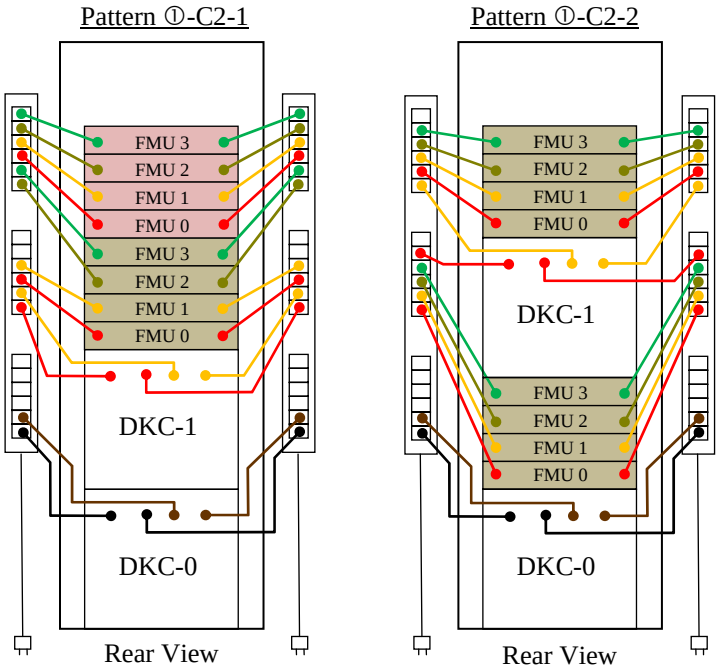
Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

[One DKC in a Rack]



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

[Two DKC in a Rack]



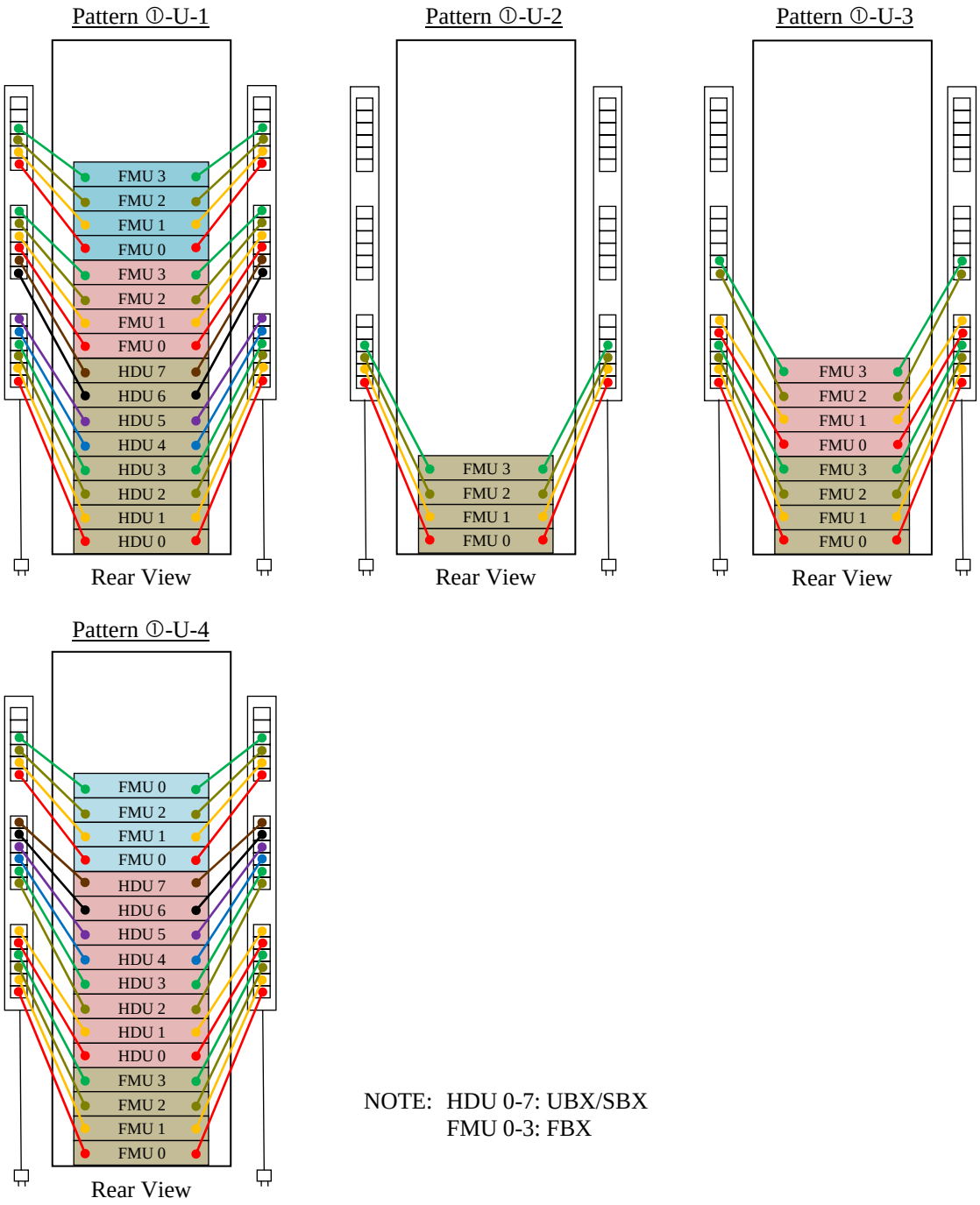
NOTE: DKC: CBXA/CBXB
FMU 0-3: FBX

Fig. 3.6.3-4 Power Cable Connection Diagram (Pattern ① 1/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

[Only DKU in a Rack]



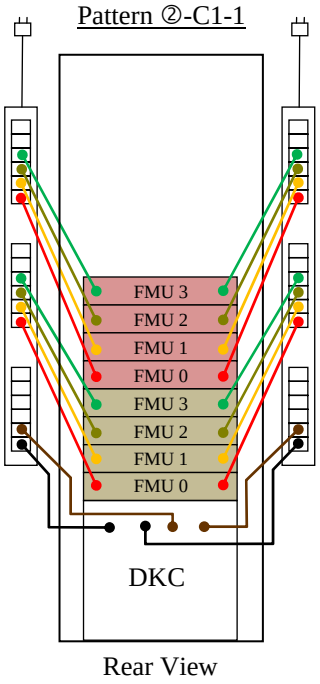
NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

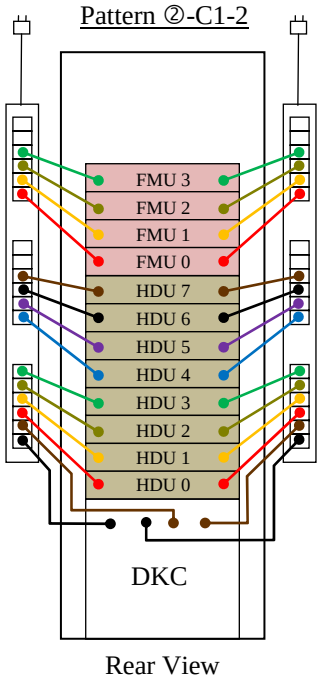
Fig. 3.6.3-5 Power Cable Connection Diagram (Pattern ① 2/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

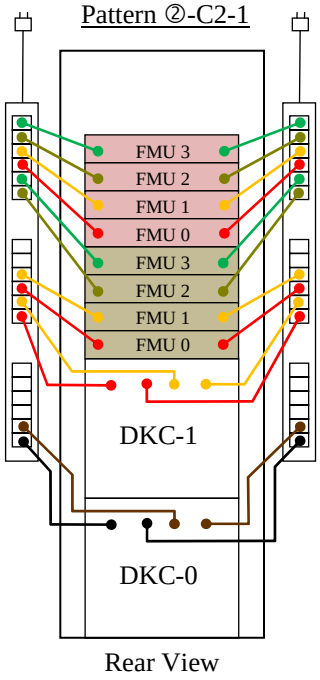
[One DKC in a Rack]

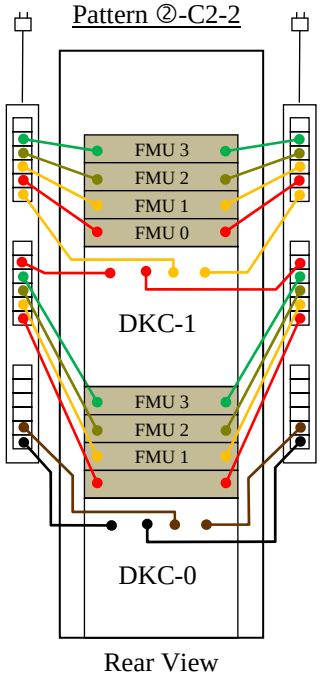




NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

[Two DKC in a Rack]





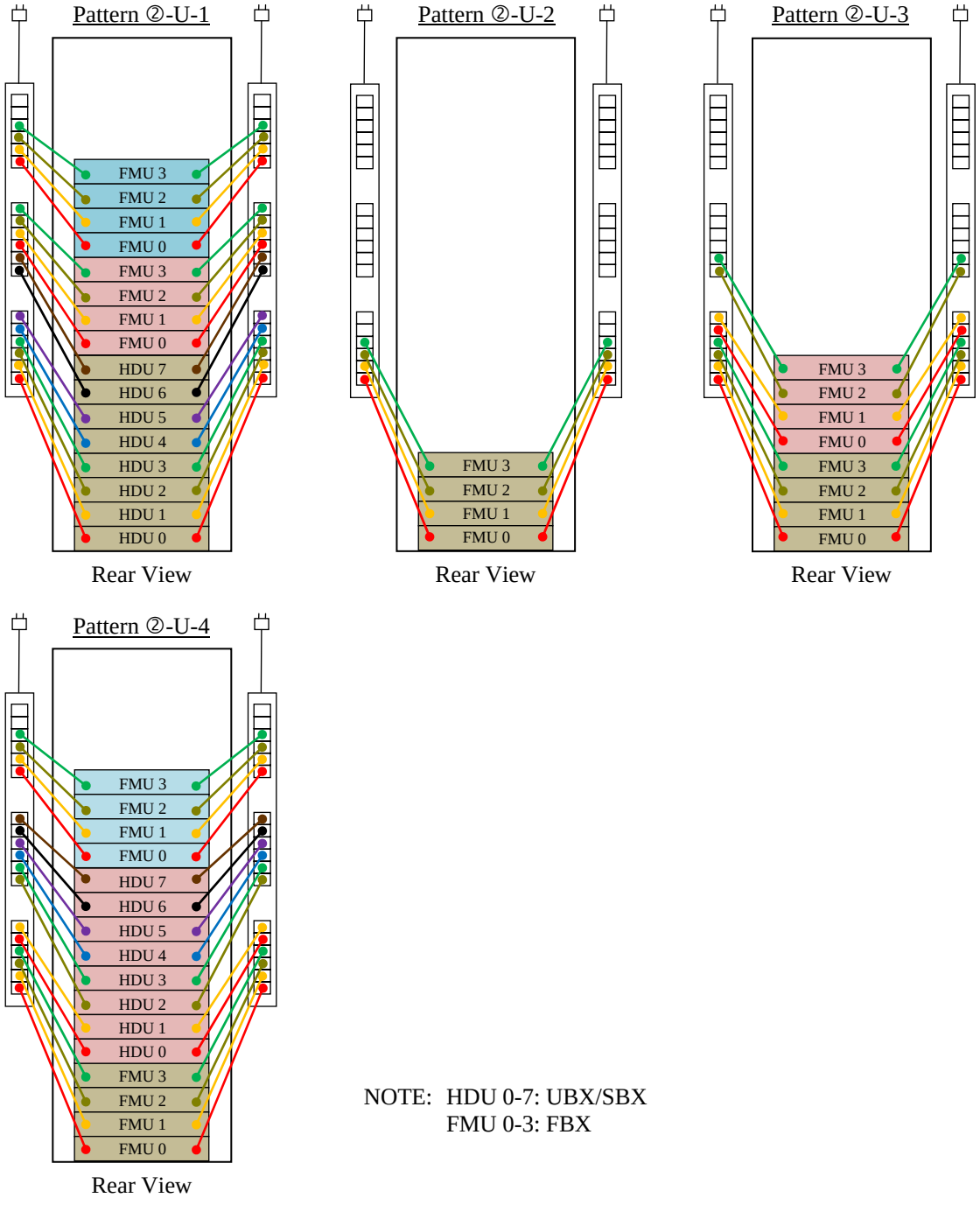
NOTE: DKC: CBXA/CBXB
FMU 0-3: FBX

Fig. 3.6.3-6 Power Cable Connection Diagram (Pattern ② 1/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

[Only DKU in a Rack]



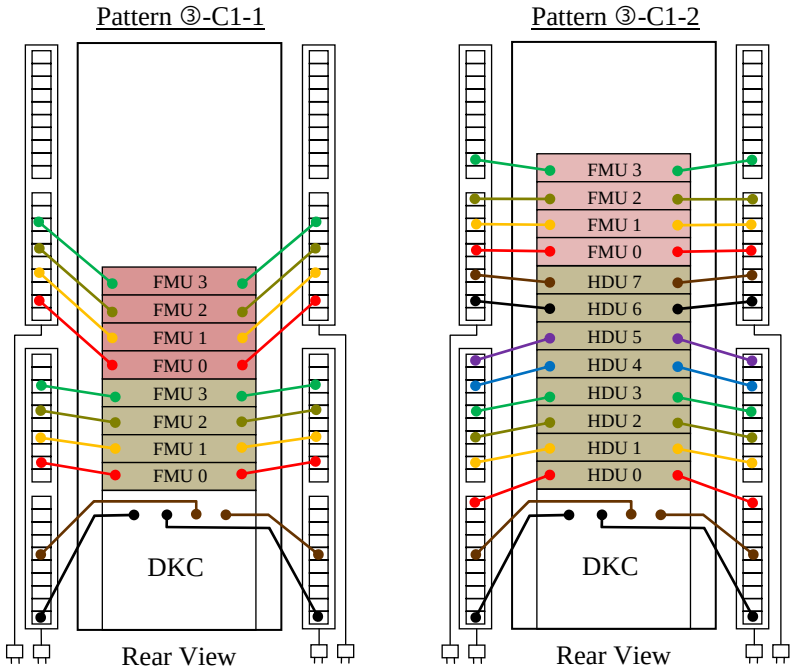
NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.3-7 Power Cable Connection Diagram (Pattern ② 2/2)

Copyright © 2014, Hitachi, Ltd.

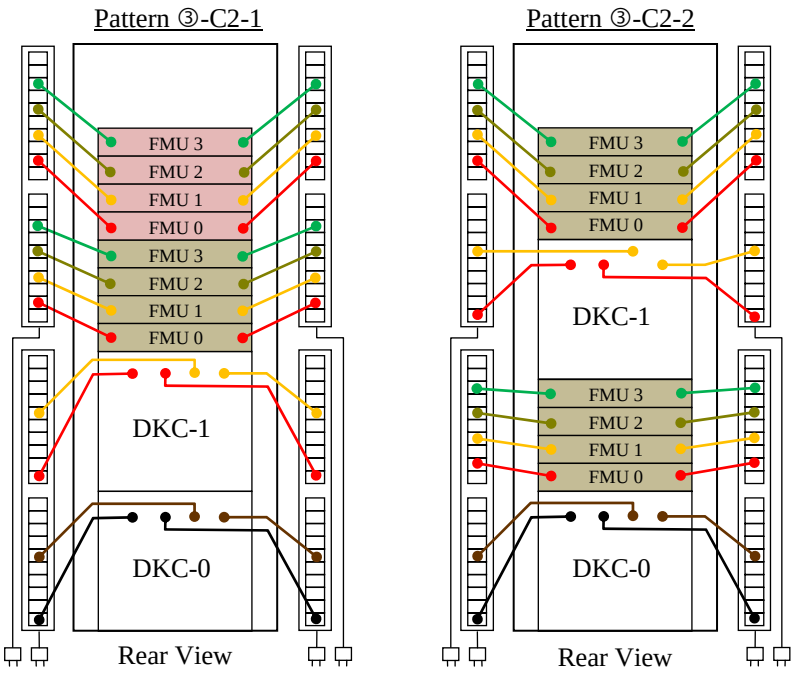
Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

[Two DKC in a Rack]



NOTE: DKC: CBXA/CBXB
FMU 0-3: FBX

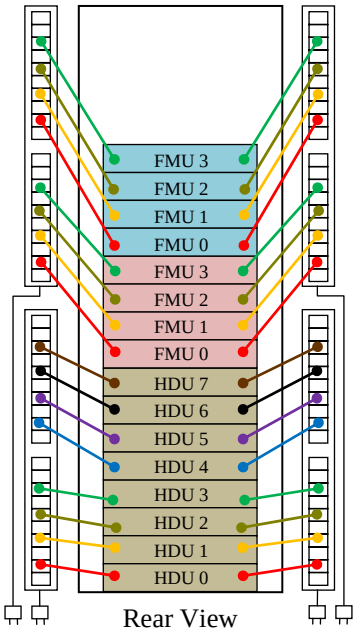
Fig. 3.6.3-8 Power Cable Connection Diagram (Pattern ③ 1/2)

Copyright © 2014, Hitachi, Ltd.

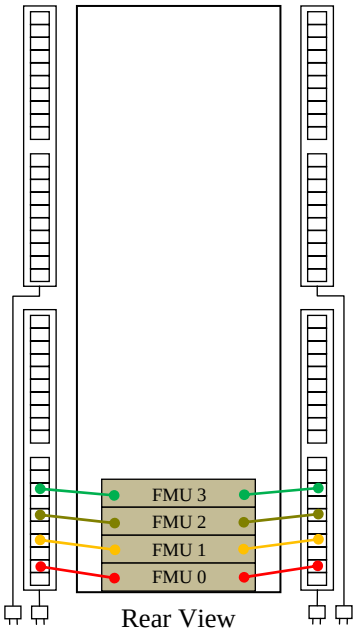
Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

[Only DKU in a Rack]

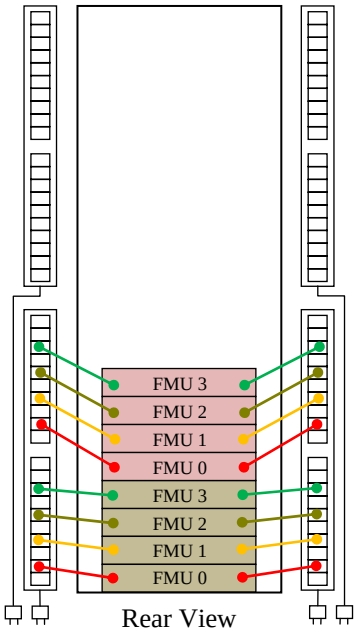
Pattern ③-U-1



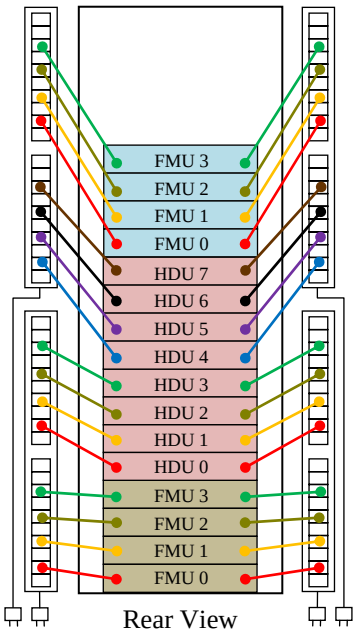
Pattern ③-U-2



Pattern ③-U-3



Pattern ③-U-4



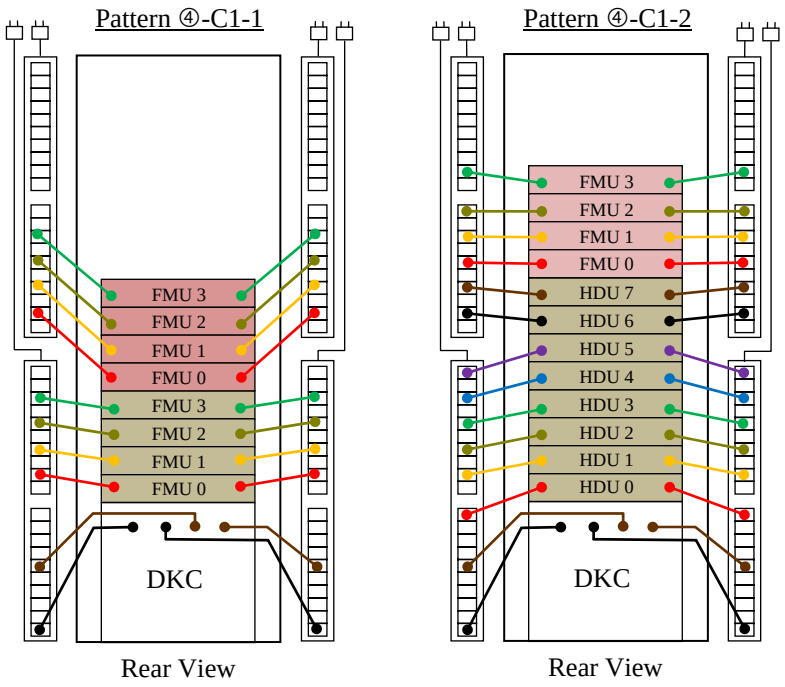
NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.3-9 Power Cable Connection Diagram (Pattern ③ 2/2)

Copyright © 2014, Hitachi, Ltd.

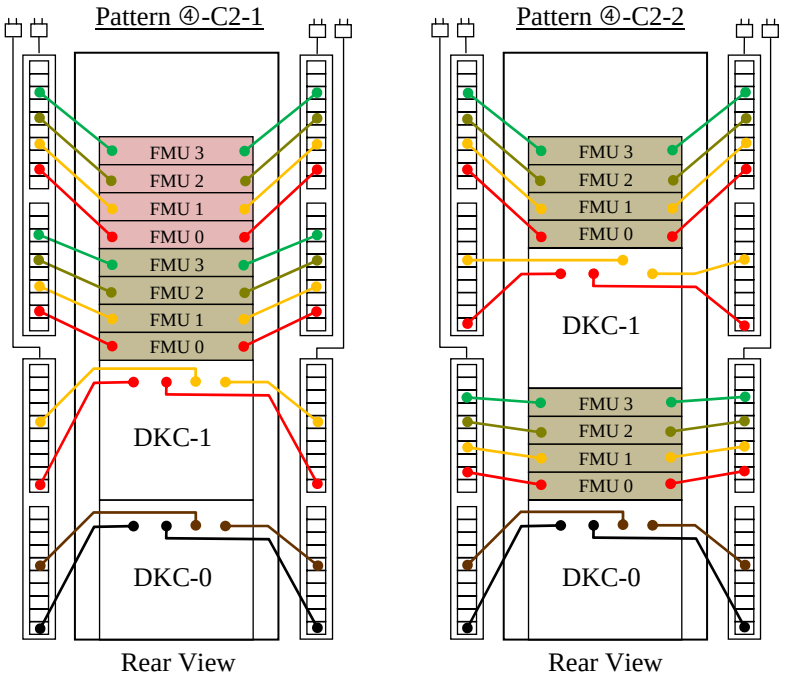
Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

[One DKC in a Rack]



NOTE: DKC: CBXA/CBXB
HDU 0-7: UBX/SBX
FMU 0-3: FBX

[Two DKC in a Rack]



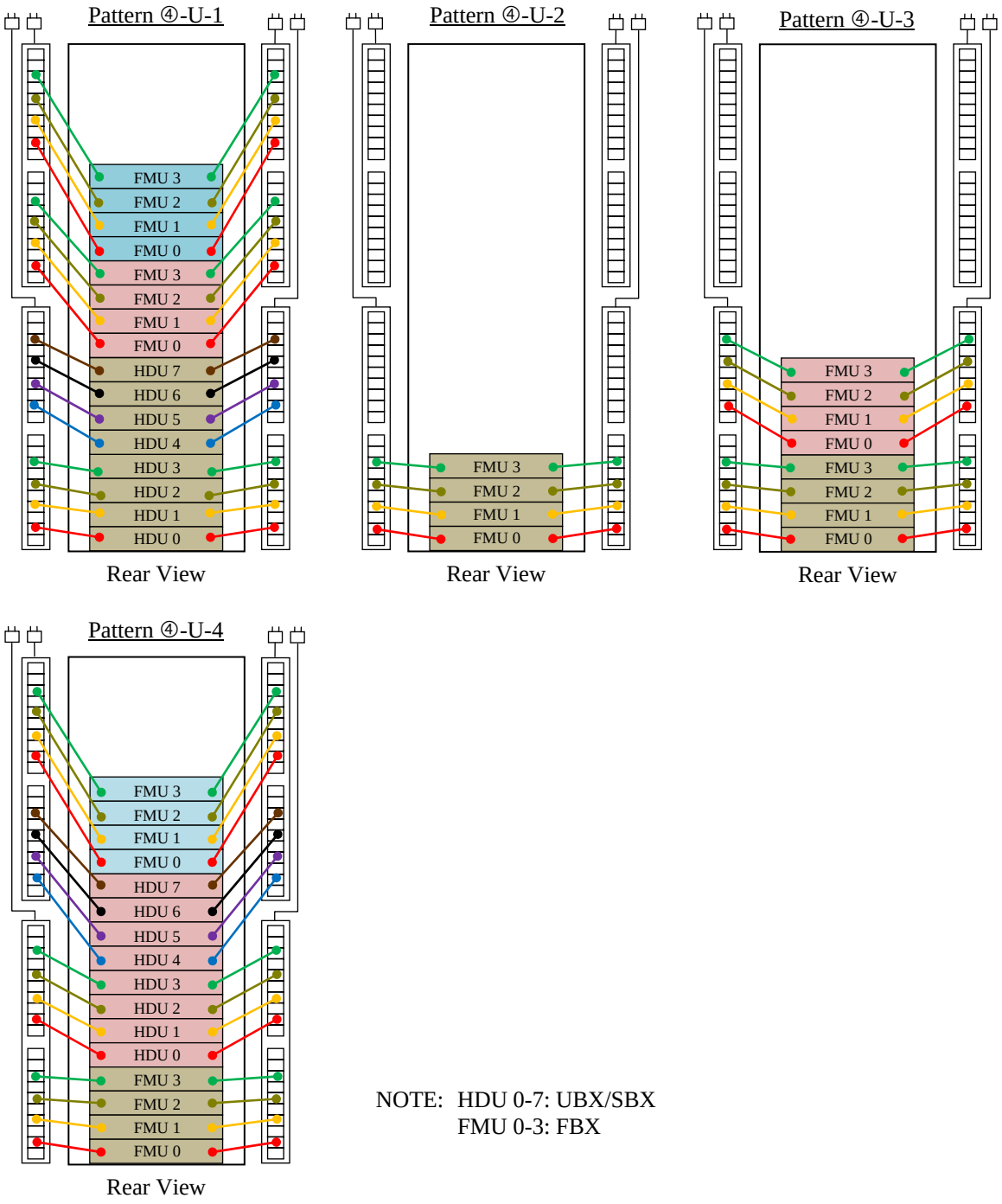
NOTE: DKC: CBXA/CBXB
FMU 0-3: FBX

Fig. 3.6.3-10 Power Cable Connection Diagram (Pattern ④ 1/2)

Copyright © 2014, Hitachi, Ltd.

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

[Only DKU in a Rack]



NOTE: HDU 0-7: UBX/SBX
FMU 0-3: FBX

Fig. 3.6.3-11 Power Cable Connection Diagram (Pattern ④ 2/2)

Copyright © 2014, Hitachi, Ltd.

b. Connect the 8 PS cable ASSYs to the PDUs that were confirmed in Procedure a. Cable connection examples are shown in Fig. 3.6.3-12 to Fig. 3.6.3-15.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

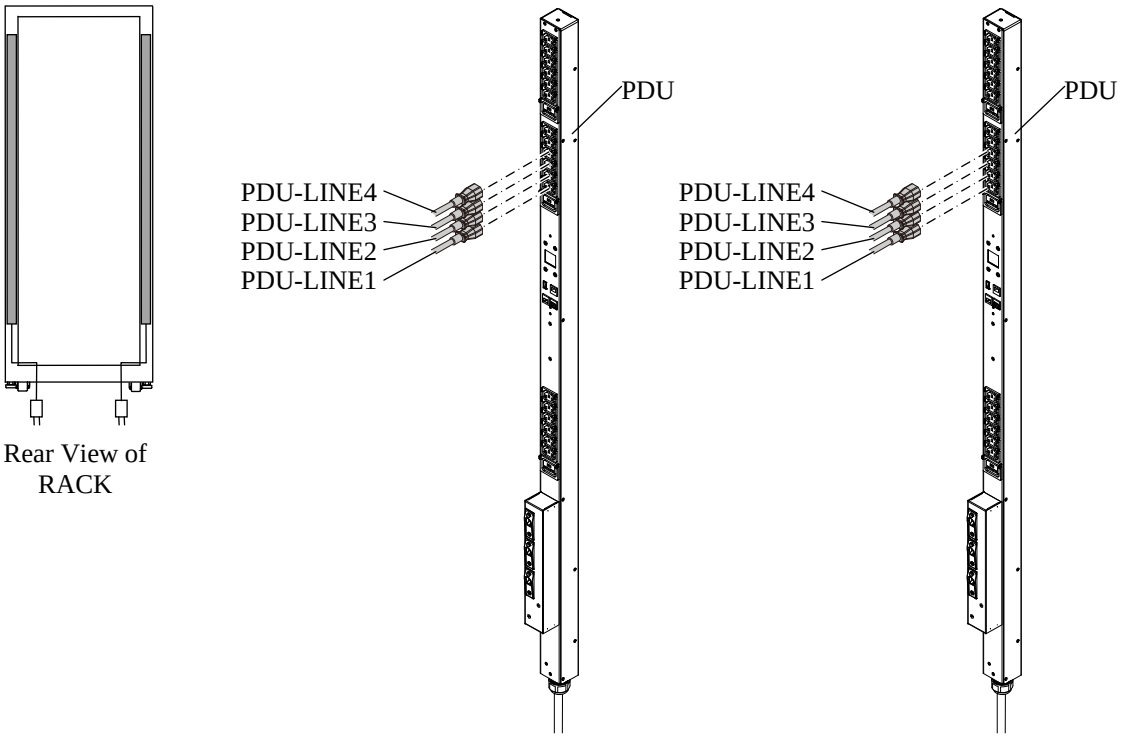


Fig. 3.6.3-12 Example of Connecting Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

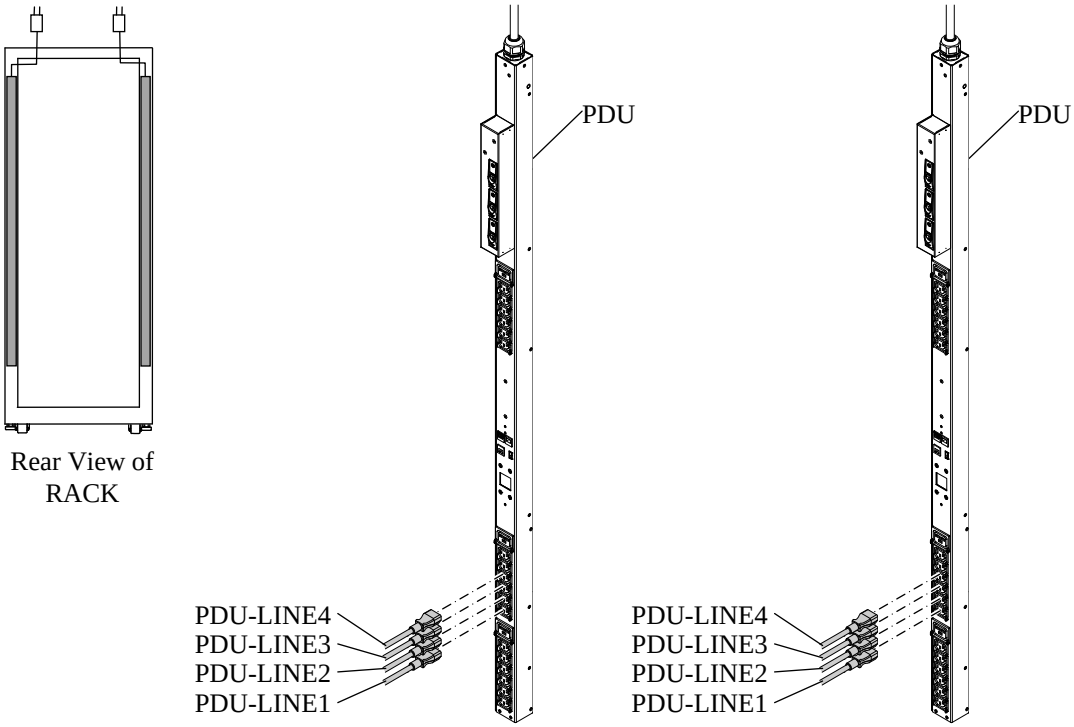


Fig. 3.6.3-13 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

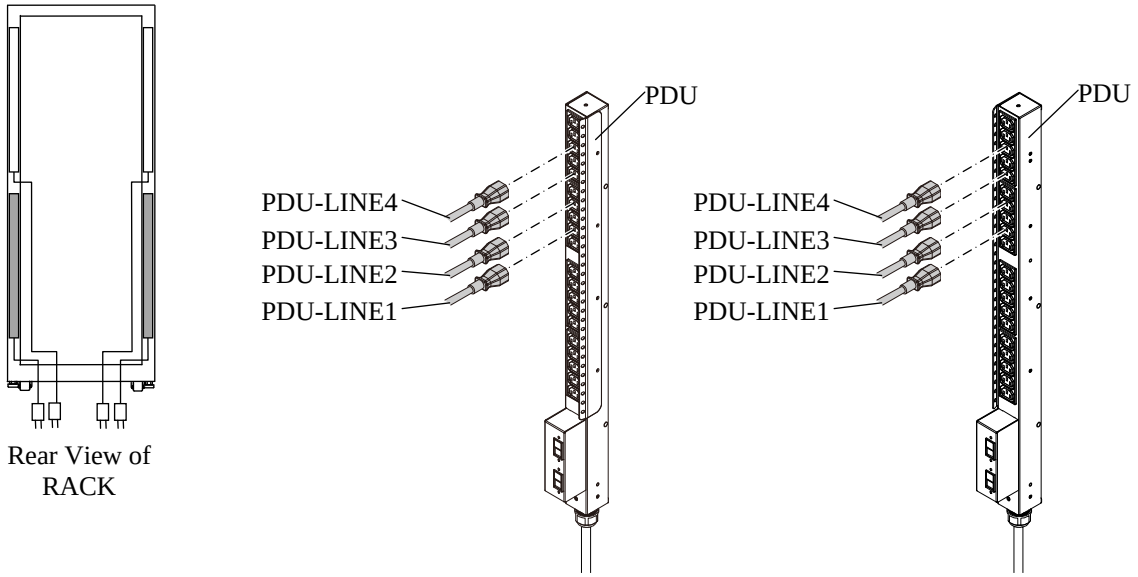


Fig. 3.6.3-14 Example of Connecting Cables (with PDU Cables Downside)

[Example]

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

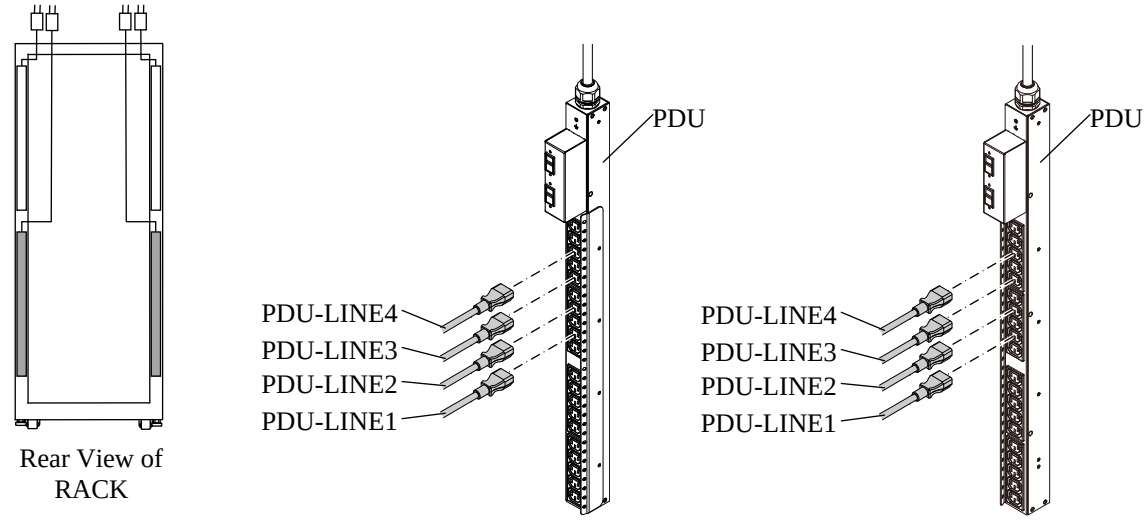


Fig. 3.6.3-15 Example of Connecting Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

c. Route the 8 PS cable ASSYs and fix them with the binders. Then put the extra length of the cables in the covers.
Cable routing examples are shown in Fig. 3.6.3-16 to Fig. 3.6.3-19.

[Example]

Pattern ①: HP Model D9N51A/H5M72A (3 Phase)

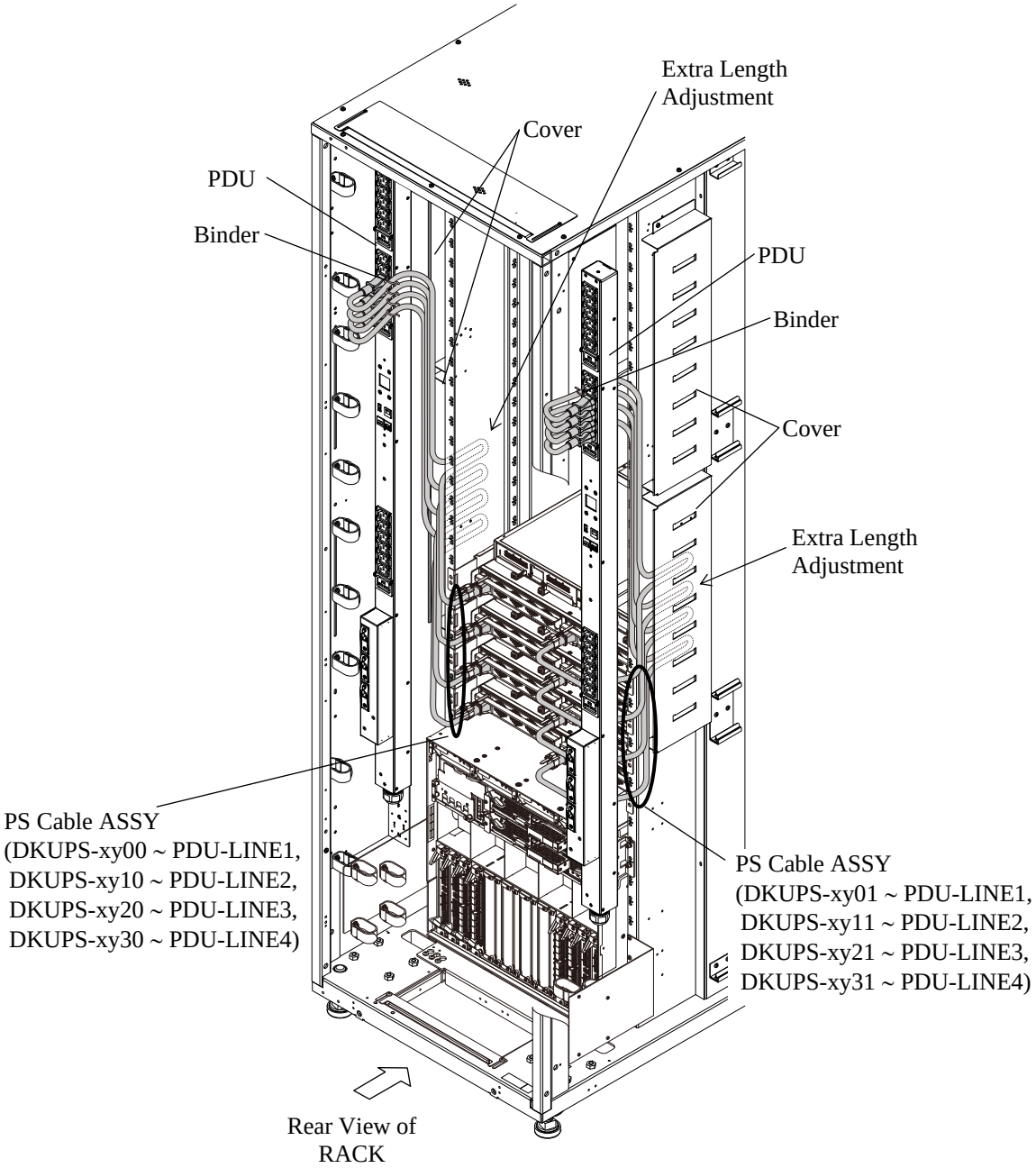


Fig. 3.6.3-16 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ②: HP Model D9N51A/H5M72A (3 Phase)

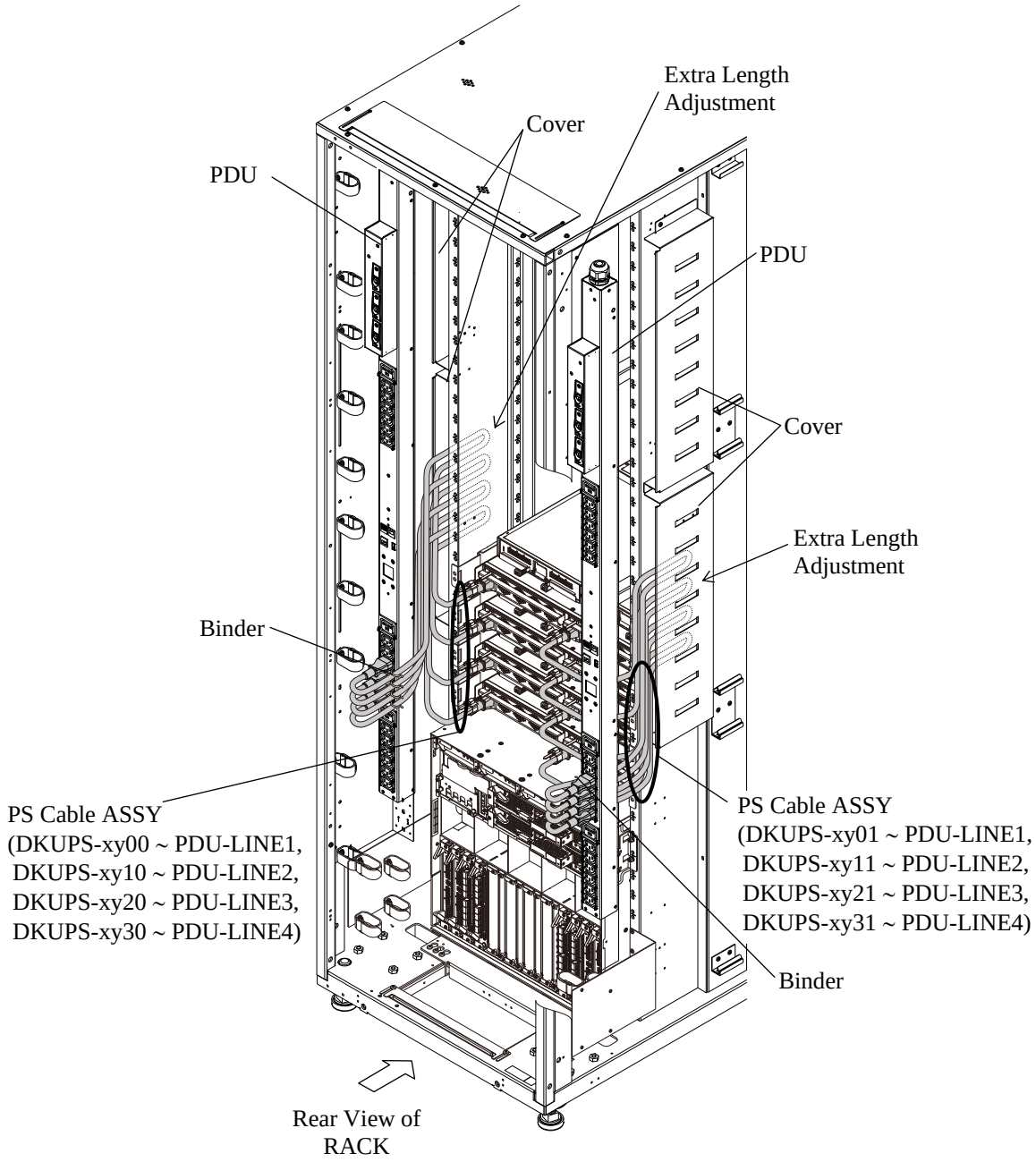


Fig. 3.6.3-17 Example of Fixing Cables (with PDU Cables Upside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ③: HP Model H5M58A/H5M68A (1 Phase)

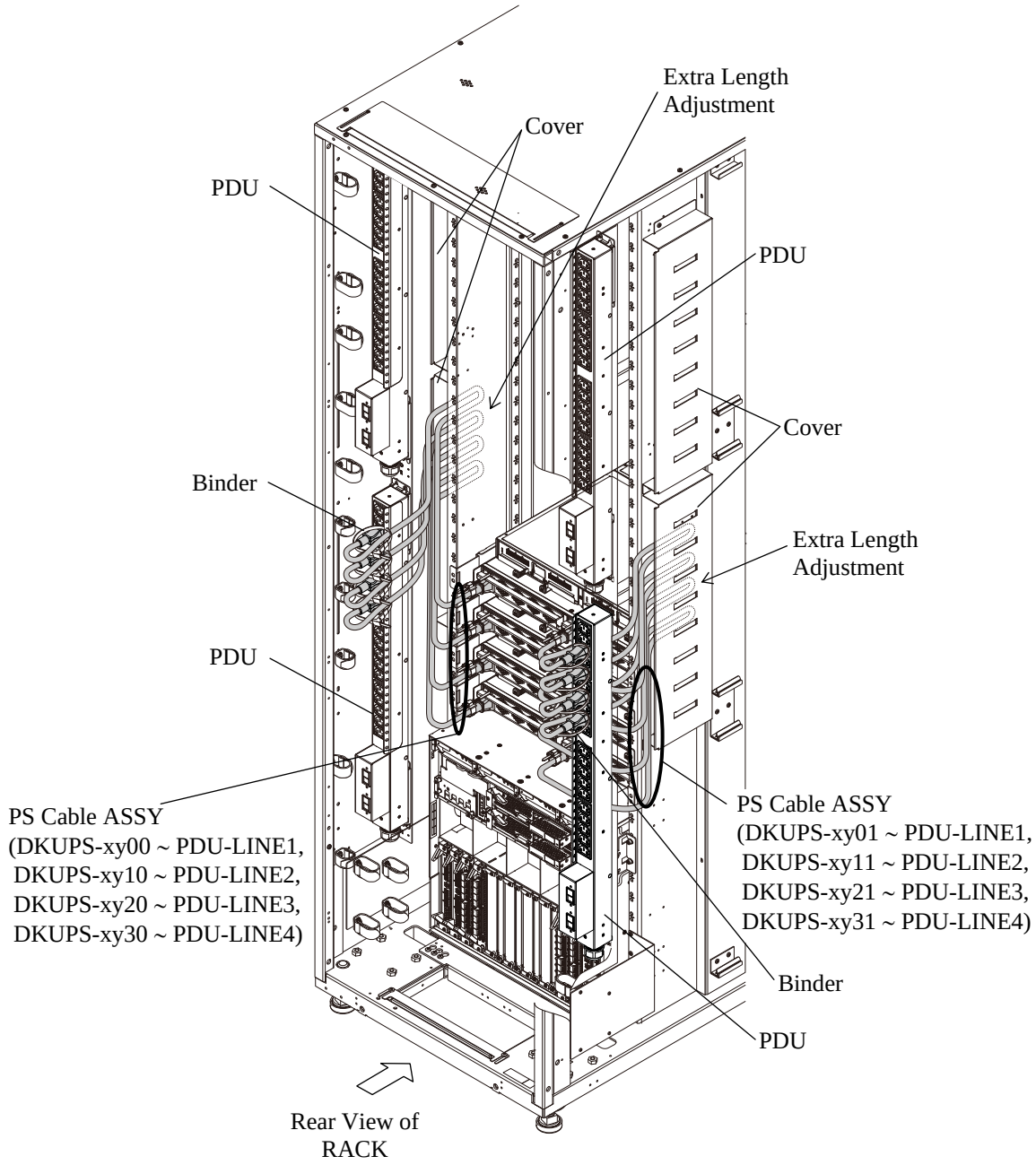


Fig. 3.6.3-18 Example of Fixing Cables (with PDU Cables Downside)

Copyright © 2014, Hitachi, Ltd.

[Example]

Pattern ④: HP Model H5M58A/H5M68A (1 Phase)

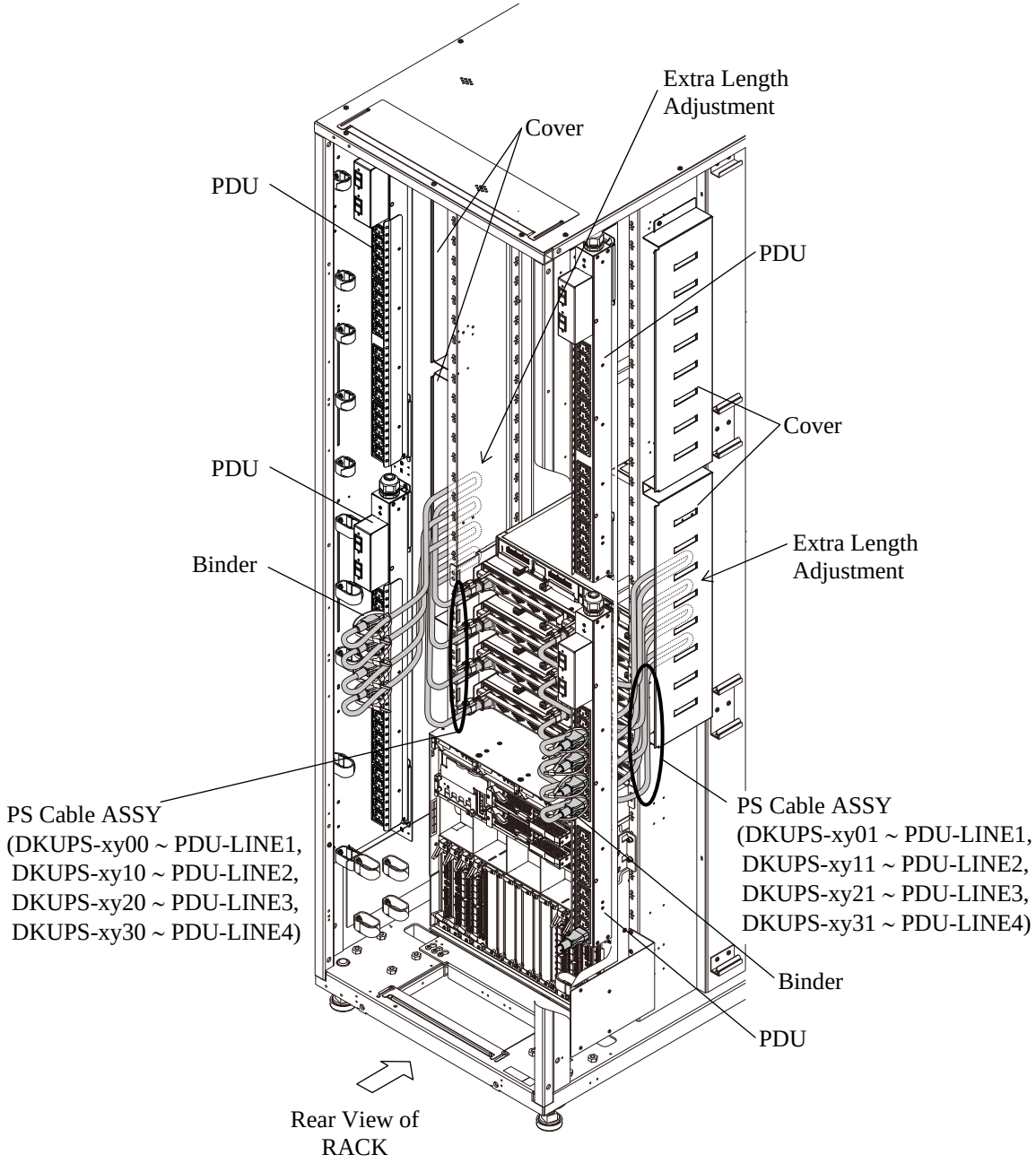


Fig. 3.6.3-19 Example of Fixing Cables (with PDU Cables Upside)

4. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.7 Installation of Processor Blade, HUB, Cache Memory, Cache Backup Module kit and Cache Flash Memory, Inter-Controller Connecting Kit and Inter-Controller Connecting Cable (DKC-F810I-MP/HUB/CM16G/CM32G/CPEX/BKMS/BKML/BMM128/BMM256/MOD5/MOD30/MOD1J/MFC5/MFC30/MFC1J)

Notes when installing the DKC-F810I-CBXB:

Please note that an installation for the additional CHA, DKA, HDD and so on at the same time as CBXB must be executed in steps as follows.

Notes when installing Processor Blade:

Installing a Processor Blade may affect I/O when there is much write pending data in cache. We recommend to install a Processor Blade when all the cache write pending rate per CLPR in a Processor Blade is less than 40%.

[Installation Sample]

Step1: Installation of Controller Chassis (DKC-F810I-CBXB) INST03-04-10
Step2: Installation of Processor Blade, HUB, Cache Memory, Cache Backup Module kit and Cache Flash Memory, Inter-Controller Connecting Kit and Inter-Controller Connecting Cable (DKC-F810I-MP/HUB/CM16G/CM32G/CPEX/BKMS/BKML/BMM128/BMM256/MOD5/MOD30/MOD1J/MFC5/MFC30/MFC1J) INST03-07-10
Step3: Installation of Channel Adapter (DKC-F810I-8FC16/16FC8/16MS8/16ML8) INST03-08A-10
Step4: Installation of Drive Chassis (DKC-F810I-UBX/SBX/FBX) INST03-05-10
Step5: Installation of Disk Adapter, Drive and DEV Interface Cable INST03-11-10

Operate the step 1 to 2 when installing only the additional CBXB.
For the installation of the additional CHA/DKA/HDD at the same time as the CBXB, operate sequentially the step 3 to 5 after finishing the step 1 to 2.
Installing the additional parts for the step 3 to 5 at the same time as the step 1 to 2 is not possible.
Red LEDs for each part light when the parts mentioned above are installed at the same time.
In this case, remove the part at its related operation step and follow the correct procedures to reinstall it.

Copyright © 2014, Hitachi, Ltd.

Table 3.7-1 Parts List (Only MPB)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-MP	WP850-A	5552761-A	2	
		WP850-B			
2	DKC-F810I-HUB	HUBBOX	5552760-A	1	

Table 3.7-2 Parts List (Module Installation)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-MOD5	MODCON	5552749-A	2	
		H-PCF Cable	5555027-A	2	MODCON Cable
		LAN Cable	5555029-A	1	
		MFC Cable	5552752-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)
2	DKC-F810I-MOD30	MODCON	5552749-A	2	
		H-PCF Cable	5555153-A	2	MODCON Cable
		LAN Cable	5555154-A	1	
		MFC Cable	5555155-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)
3	DKC-F810I-MOD1J	MODCON	5552749-A	2	
		H-PCF Cable	5555028-A	2	MODCON Cable
		LAN Cable	5555030-A	1	
		MFC Cable	3287340-B	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
4	DKC-F810I-MFC5	MFC Cable	5552752-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)
5	DKC-F810I-MFC30	MFC Cable	5555155-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)
6	DKC-F810I-MFC1J	MFC Cable	3287340-B	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*1)
		Cleat	5409055-2	1	(*1)
		Clamp Tape	5544251-3	1	(*1)
7	DKC-F810I-CM16G	16GB DIMM	5552764-A	1	CM Module
8	DKC-F810I-CM32G	32GB DIMM	5552765-A	1	CM Module
9	DKC-F810I-CPEX	WP840-A	5552763-A	2	CM PCB
		HU Jumper	5521578-1	2	Maintenance Jumper
10	DKC-F810I-BKMS	BKM	2855832-A	2	
11	DKC-F810I-BKML	BKM	2856455-A	2	
12	DKC-F810I-BMM128	SSD (128GB)	5552768-A	1	CFM
		Screw	SB305N	2	
13	DKC-F810I-BMM256	SSD (256GB)	5552769-A	1	CFM
		Screw	SB305N	2	

*1: These parts are included in Packing Work (PARTS).

Copyright © 2014, Hitachi, Ltd.

Total rough time of installation will be the sum of rough time installation of each item.

Table 3.7-3 Working time

		Number of change (set)	Total (minutes)
MPB	Installation	1	20
		2	25
		3	30
		4	35
		5	40
		6	45
		7	50
		Total (minutes)	
CACHE	Cache memory, CFM equipment process	Cache memory module: 6min × target CM PCB num. CFM: 7.5min × target CM PCB num.	
	Target CM PCB diagnosis time	Target CM PCB diagnosis time 10min × target CM PCB num.	
	Target CM PCB recovering time	Target CM PCB recovering time 5 ~ 20min × target CM PCB num. (*1)	

*1: Standard processing time is indicated. The processing time depends on the use situation, especially, the influence of the amount of write pending is received. When the amount of write pending is large, time more than the indication value might be required.

NOTE: For CACHE installation, additional time for wiring cables is necessary to newly route cable(s) between modules. (It is not applied to 1 module configuration).

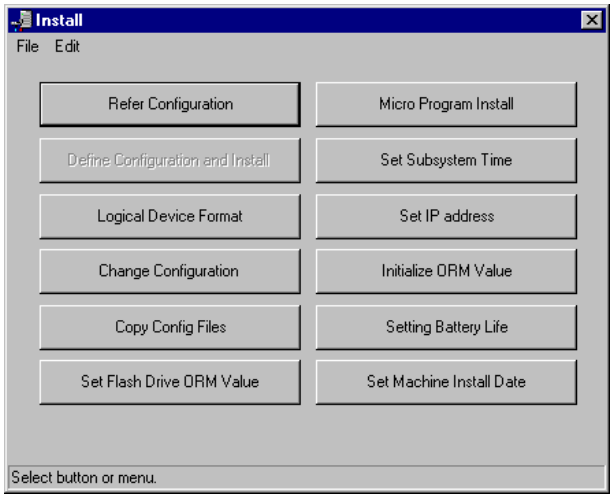
Copyright © 2014, Hitachi, Ltd.

3.7.1 Installation of Module (DKC-F810I-MP/HUB/CM16G/CM32G/CPEX/BKMS/BKML/ BMM128/BMM256/MOD5/MOD30/MOD1J/MFC5/MFC30/MFC1J)

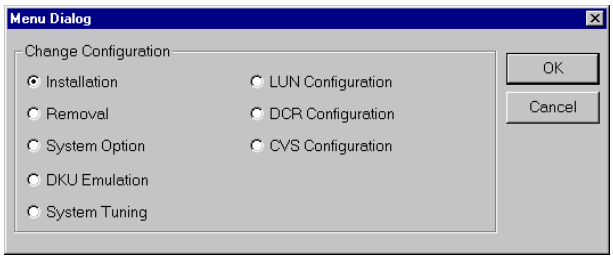
1. Setting up the New Device Structure Information

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

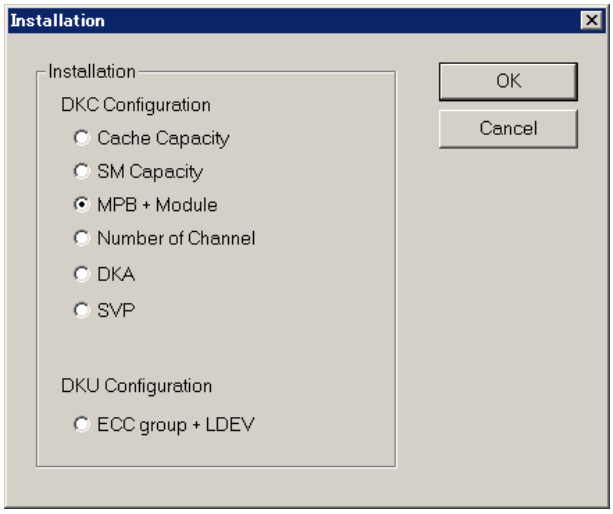
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



(4) <Select a part to be changed>
Select (CL) [MPB + Module], and select (CL) [OK].

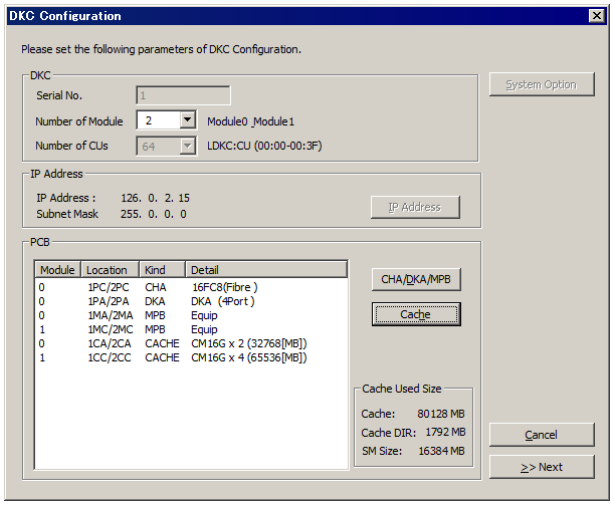


Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen:
With [Number of Module], select the number of modules from a pull down menu.
Select (CL) [Cache].
Go to Step (6).

When installation of the MPB is required:
Select (CL) [CHA/DKA/MPB].
Go to Step (7).

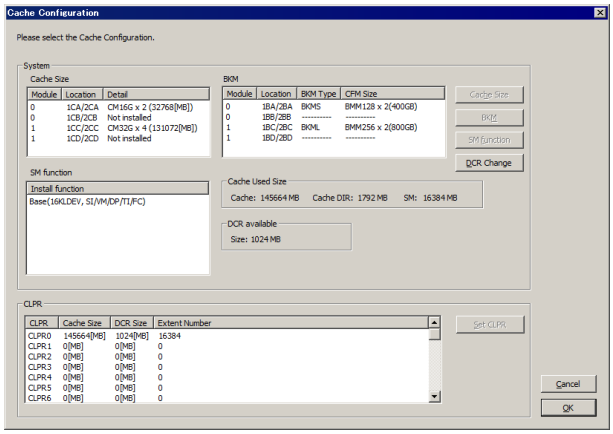
After the setting is completed, select (CL) [>>Next].
Go to Step (9).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



(6) <Cache Configuration screen>
In the 'Cache Configuration' screen, define each item.

When the change of Cache setting or installation of the PCB is required, select (CL) the target Cache PCB and then select (CL) [Cache Size].
Go to Step (6)-1.

When the change of BKM setting is required, select (CL) [BKM].
Go to Step (6)-2.



When the change of DCR setting is required, select (CL) [DCR Change].
Go to Step (6)-3.

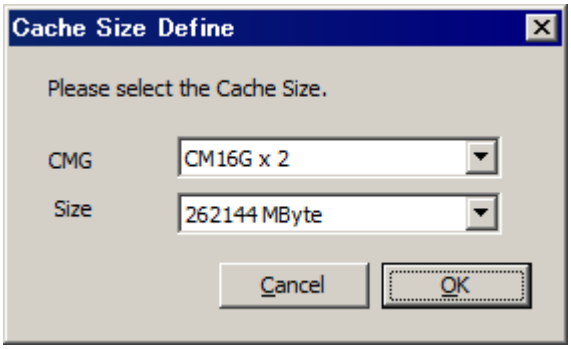
When the change of CLPR setting is required, select (CL) the target CLPR. and then select (CL) [Set CLPR].
Go to Step (6)-4.

After setting all items, select (CL) [OK].
Go back to Step (5).

Copyright © 2014, Hitachi, Ltd.

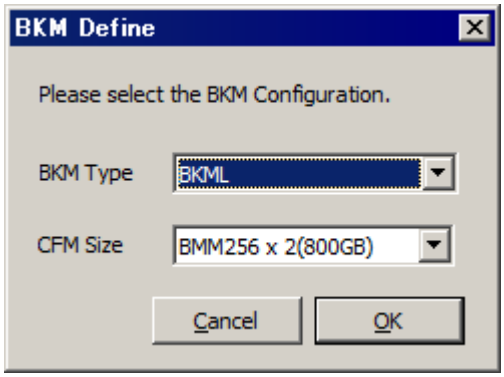
(6)-1 <Cache Size Define screen>

Set the CMG/Cache Size in the 'Cache Size Define' screen, and then select (CL) [OK].
Go back to Step (6).



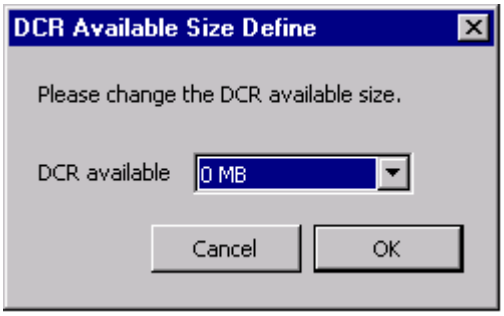
(6)-2 <BKM screen>

Set the BKM in the 'BKM Define' screen, select (CL) [OK].
Go back to Step (6).



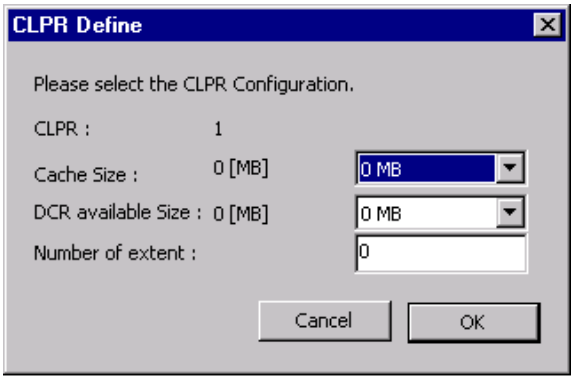
(6)-3 <DCR Available Size Define screen>

Set the DCR available size in the 'DCR Available Size Define' screen, select (CL) [OK].
Go back to Step (6).



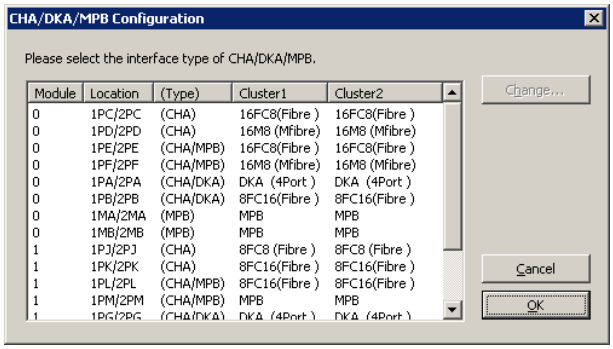
(6)-4 <CLPR Define screen>

Set the Cache Size/DCR available Size/Number of extent in the 'CLPR Define' screen, select (CL) [OK].
Go back to Step (6).

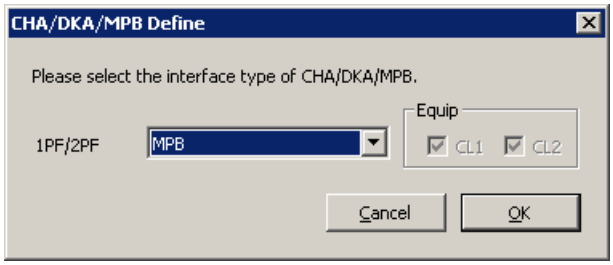


Copyright © 2014, Hitachi, Ltd.

(7) <CHA/DKA/MPB Configuration screen>
In the 'CHA/DKA/MPB Configuration' screen, select the location(s) to which the addition is to be made, and select (CL) [Change...].
Go to Step (8).
Make sure that the entry that has been made is correct and select (CL) [OK].
Go back to Step (5).

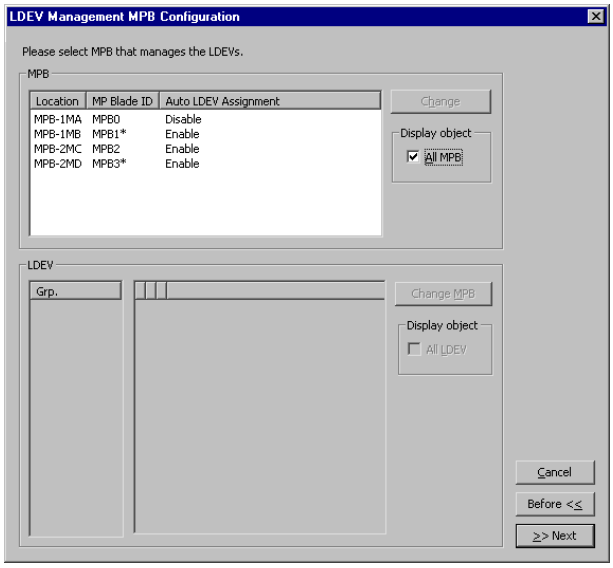


(8) <CHA/DKA/MPB Define screen>
In the 'CHA/DKA/MPB Define' screen, select (CL) [MPB].
After the setting is completed, select (CL) [OK].
Go back to Step (7).



(9) <LDEV Management MPB Configuration screen>
In the 'LDEV Management MPB Configuration' screen, select installed MPB and select (CL) [Change].
Go to Step (10).

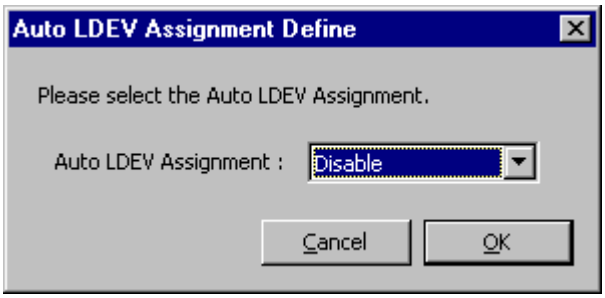
After the setting is completed, select (CL) [>>Next].
Go to Step (11).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



Copyright © 2014, Hitachi, Ltd.

(10) <Auto LDEV Assignment Define screen>

In the 'Auto LDEV Assignment Define' screen, select (CL) [Auto LDEV Assignment].
After the setting is completed, select (CL) [OK].
Go back to Step (9).

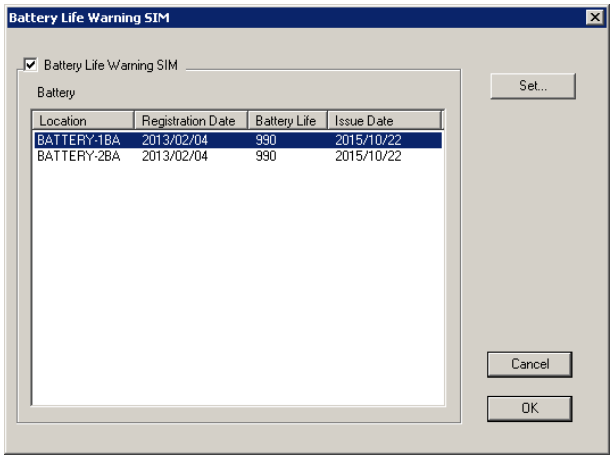


---

(11) <Battery Life Warning SIM screen>

Select (CL) the target CM Battery in the 'Battery Life Warning SIM' screen, and then select (CL) [Set...].
Go to Step (12).

Make sure that the all input items are correct and select (CL) [OK].
Go to Step 2.



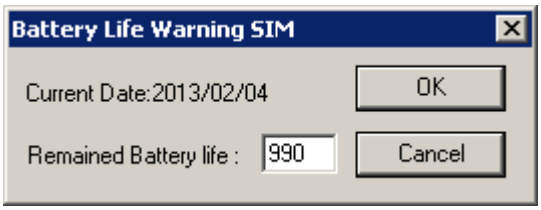
NOTE: If the date is displayed as "****/**/**", follow Step (12) to set the date.

NOTE: If the check box in [Battery Life Warning SIM] is not checked, 'Battery Life Warning SIM' window is disabled and not displayed. (Go to Step 2.)

---

(12) <Battery Life Warning SIM screen>

Select (CL) [OK] after inputting the remainder days until Warning SIM is reported.
Return to Step (11).



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

NOTE: Default value is 33 month (990 days), which is 3 month earlier than the lifetime of a battery (3 years).
Determine the number of days remained based on your maintenance plan.

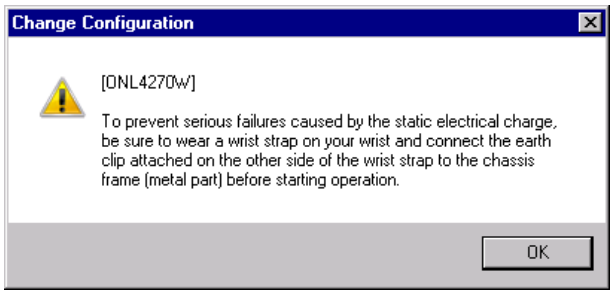
NOTE: The input ranges of "Remained Battery life" are from 1 to 3650.

Copyright © 2014, Hitachi, Ltd.

2. SVP pre procedure (HUBBOX Installation)

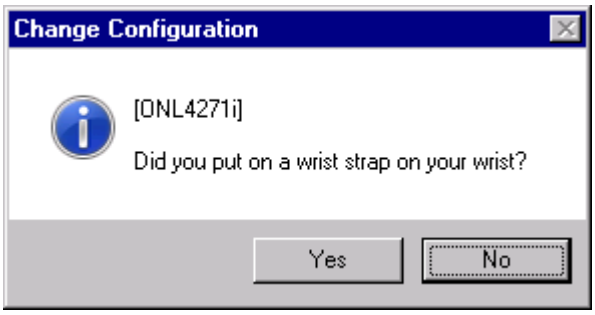
(1) <Wear a wrist strap>

Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



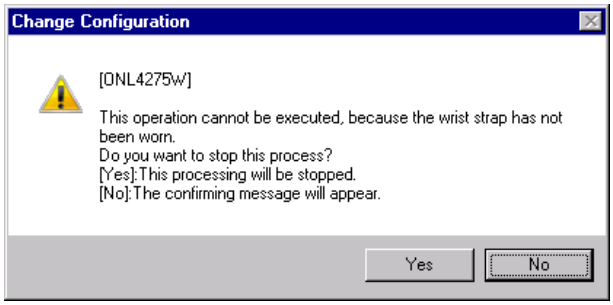
(1)-1 <Confirm wearing wrist strap>

In response to a message, "Did you put on a wrist strap on your wrist?".
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (1)-2.



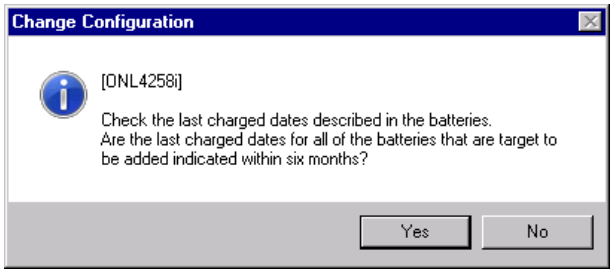
(1)-2

In response to a message, "This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear."
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-07-50.
When [No] is selected (CL), returned to Step (1).



Copyright © 2014, Hitachi, Ltd.

(2) <Confirmation on the final charge day>

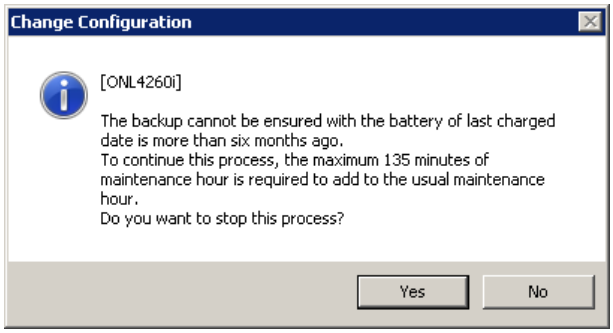


- When you do increase Cache PCB:
  Select (CL) [Yes] in response to "Check the last charged dates described in the batteries. Are the last charged dates for all of the batteries that are target to be added indicated within six months?"
  Go to Step (5).
  When [No] is selected (CL), go to Step (3).

- When you do not increase Cache PCB:
  Go to Step (5).

---

(3)

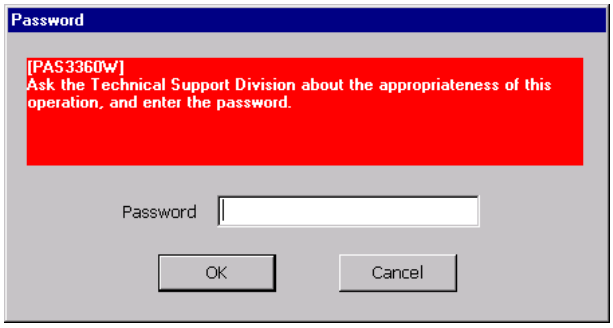


"The backup cannot be ensured with the battery of last charged date is more than six months ago. To continue this process, the maximum 135 minutes of maintenance hour is required to add to the usual maintenance hour. Do you want to stop this process?"

When [Yes] is selected (CL), returns to INST03-07-50 Step (2).
When [No] is selected (CL), go to Step (4).

---

(4) <Input password>
Enter the password and select (CL) [OK].

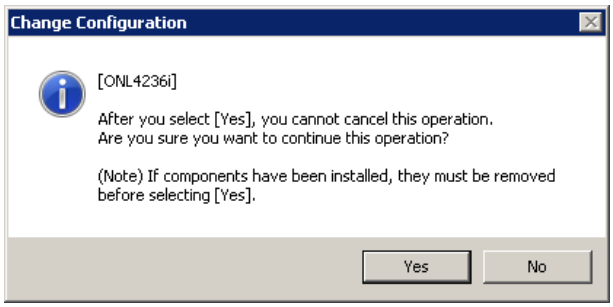


⚠ CAUTION

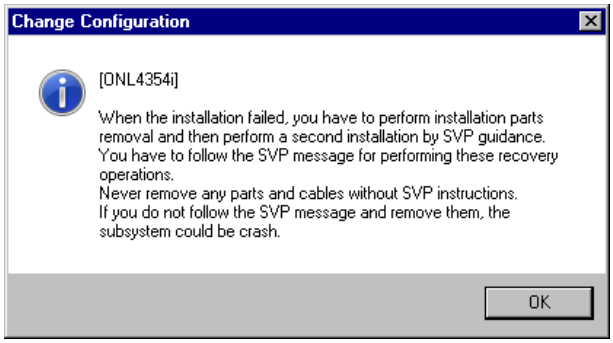
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting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

Copyright © 2014, Hitachi, Ltd.

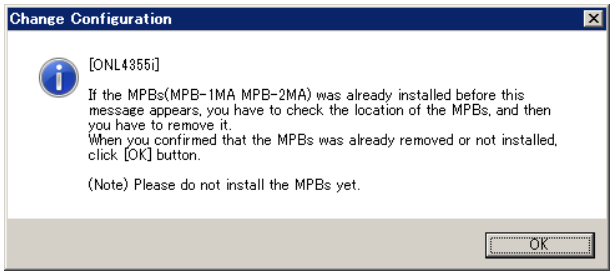
(5) <Starting the addition>
In response to a message, "After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation?
(Note) If components have been installed, they must be removed before selecting [Yes]."
When [No] is selected (CL), the routine is returned to Step (2) on page INST03-07-50.



(6) <Confirm>
Select (CL) [OK] in response to "When the installation failed, you have to perform installation parts removal and then perform a second installation by SVP guidance. You have to follow the SVP message for performing these recovery operations. Never remove any parts and cables without SVP instructions. If you do not follow the SVP message and remove them, the subsystem could be crash."

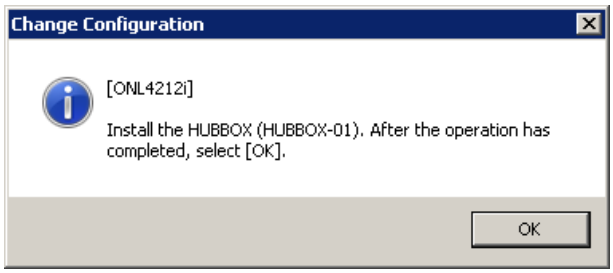


(7) <Confirm removing MPB>
Select (CL) [OK] in response to "If the MPBs(MPB-nnn MPB-nnn) was already installed before this message appears, you have to check the location of the MPBs, and then you have to remove it. When you confirmed that the MPBs was already removed or not installed, click [OK] button.
(Note) Please do not install the MPBs yet."



Copyright © 2014, Hitachi, Ltd.

(8) <HUBBOX Installation Operation>
When installation of the HUBBOX is required, a message, “Install the HUBBOX (HUBBOX-nn). After the operation has completed, select [OK].” is displayed.



- When the message is displayed, install the hardware component following the procedure for installing the HUB Kit. When HUBBOX-10 is displayed, check that the HUBBOX-10 is installed. The HUBBOX-10 is standard installed in the DKC-1, so installation procedure of it is not necessary.
- When the message is not displayed, go to “4-2 Add Backup Module”.

NOTE: Do not select (CL) [OK] by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

3. Installation Procedure of HUB

Installation Condition

The HUB (DKC-F810I-HUB) is an indispensable option that is to be installed when the storage system configuration is one of the following.

In case of DKC-0

① Addition of the first set (HUBBOX-01)
- The HUBBOX-01 is required to be installed when the MPB is installed in the Option 2 (1PF/2PF) or Option 3 (1PE/2PE) MPB slots.
  However, it is not necessary to be installed when two sets of the DKC-F810I-SVP are installed.

In case of DKC-1

① HUBBOX-10
- The HUBBOX-10 is standard installed in the DKC-1. (An included option of the CBXB)

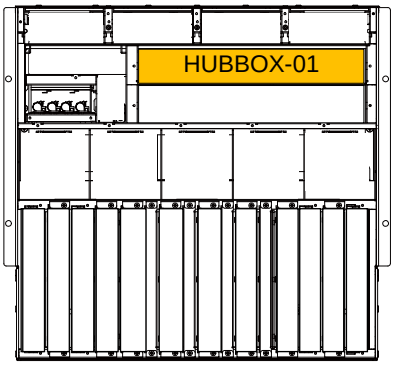
② Addition of the second set (HUBBOX-11)
- The HUBBOX-11 is required to be installed when the MPB is installed in the Option 6 (1PM/2PM) or Option 7 (1PL/2PL) MPB slots.

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

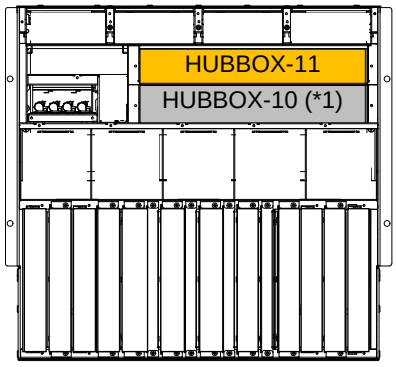
Copyright © 2014, Hitachi, Ltd.

3-1 Installation of HUBBOX

a. Loosen the two screws of the HUBBOX slot and remove the dummy plate.



Rear View of DKC-0



Rear View of DKC-1

*1: Standard equipment
(Included option of CBXB)

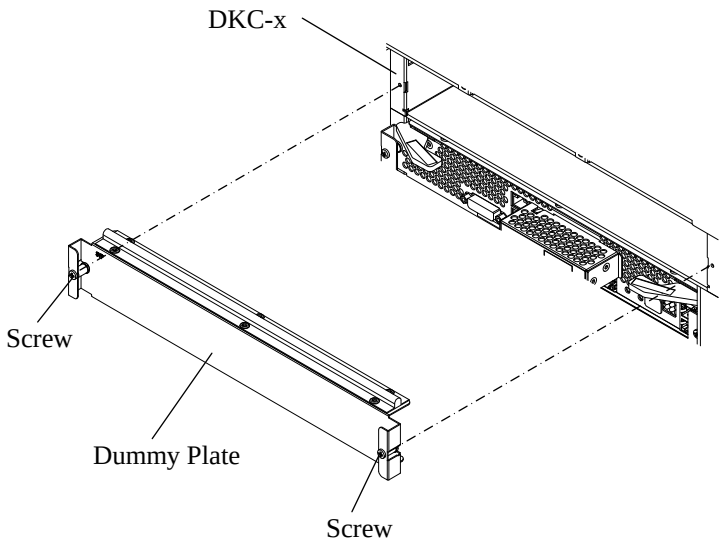


Fig. 3.7.1-1 Removal of Dummy Plate

Copyright © 2014, Hitachi, Ltd.

b. Install the HUBBOX and tighten the two screws.

NOTICE: Confirm the vertical direction of the HUBBOX. If the direction is wrong, the HUBBOX will not be ON.

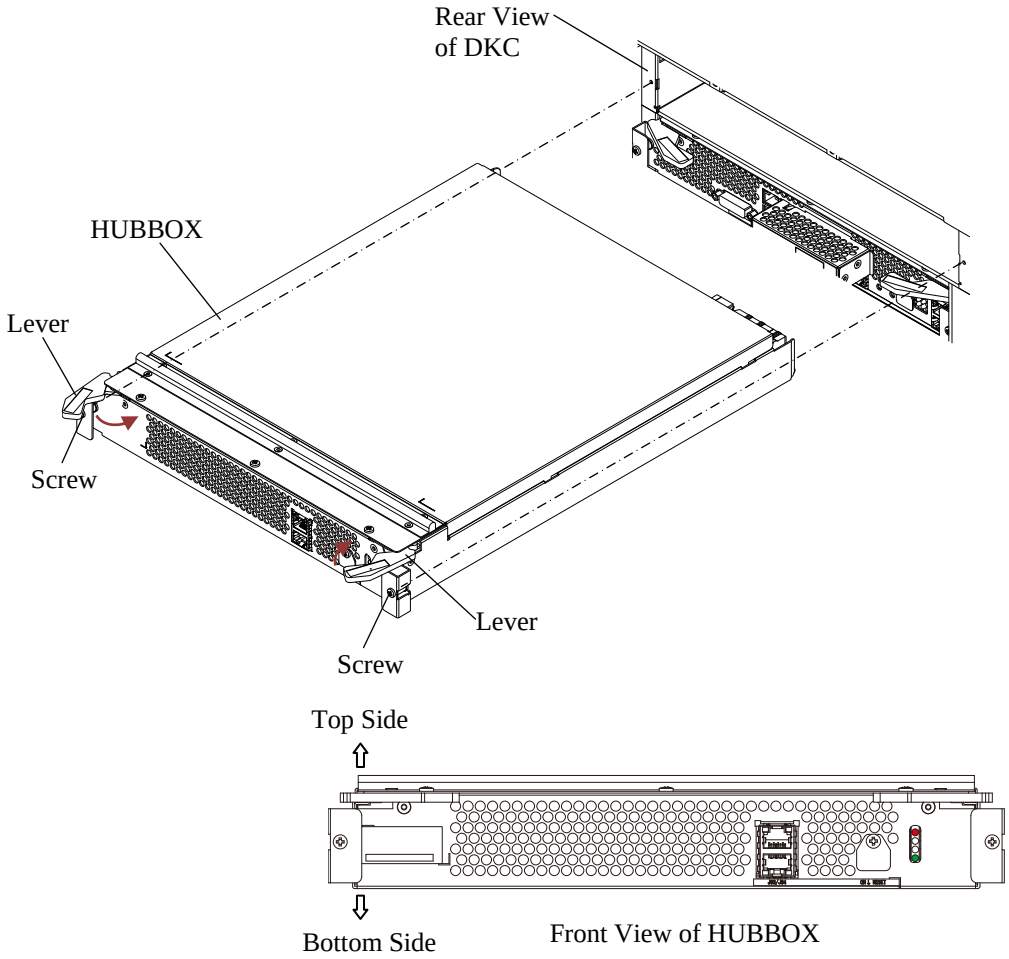
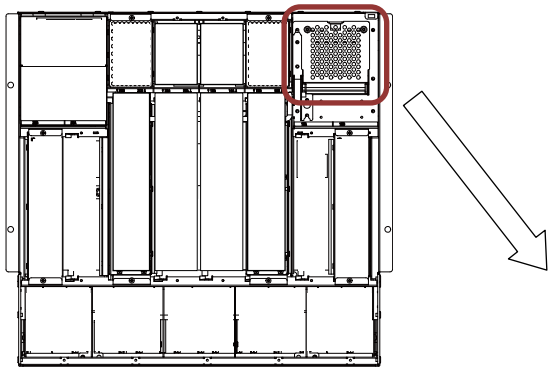


Fig. 3.7.1-2 Installation of HUBBOX

Copyright © 2014, Hitachi, Ltd.

3-2 Storage of Dummy Plate

a. Loosen the three screws ① on the front side of the DKC and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.
c. Put the removed dummy plate in the accessory box.
d. Put the accessory box in place and fix it with the screw ②.
e. Put the cable cover in place and fix it with the three screws ①.



Front View of DKC

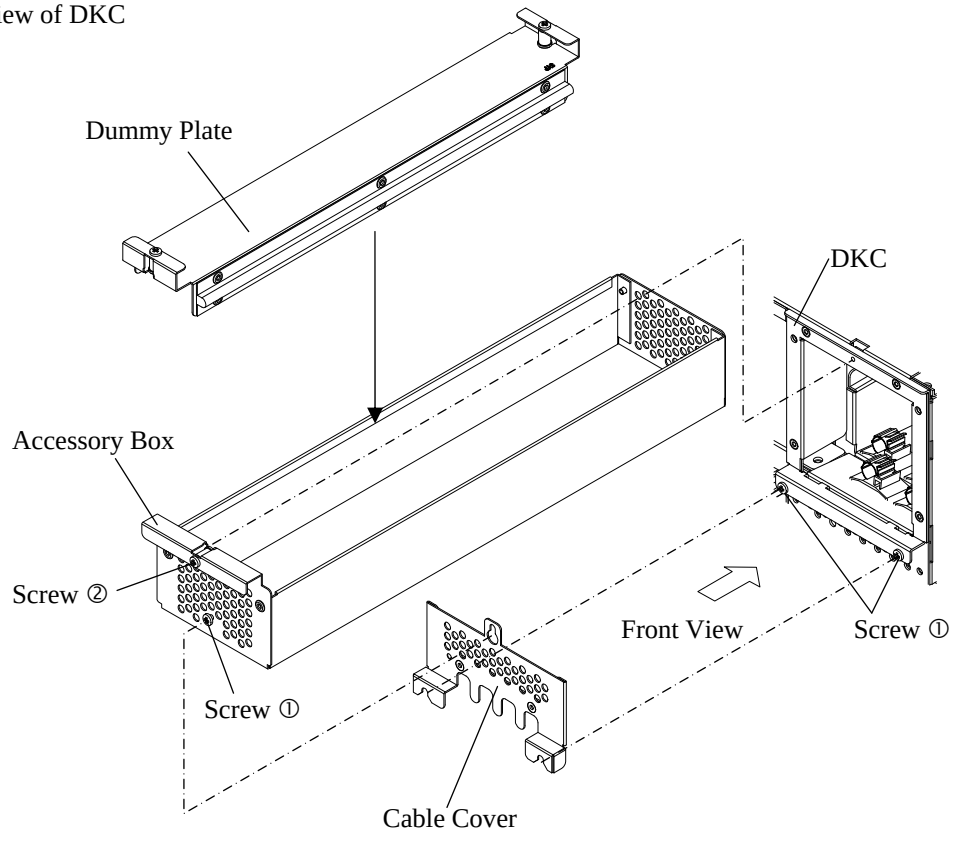


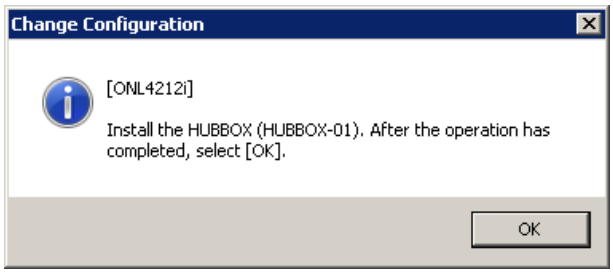
Fig. 3.7.1-3 Storage of Dummy Plate

Copyright © 2014, Hitachi, Ltd.

4. Backup Module

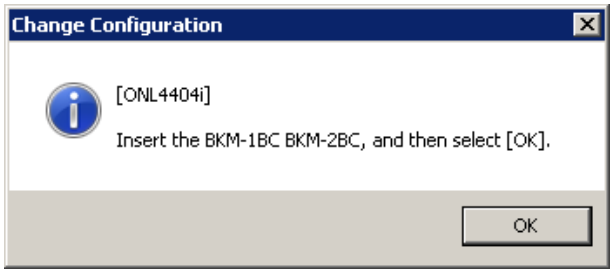
4-1

When a message,“Install the HUBBOX (HUBBOX-nn). After the operation has completed, select [OK].” is displayed, select (CL) the [OK] button.



4-2 Add Backup Module

(1) Confirmation of Backup Module addition
When a message, “Insert the BKM-nnn BKM-nnn and then select [OK].” is displayed.



(Eg. BKM-1BC, BKM-2BC)

Copyright © 2014, Hitachi, Ltd.

(2) Install the BKM on the Cluster 1.

(2)-1 Remove the screw of the option BKM and remove the cover.

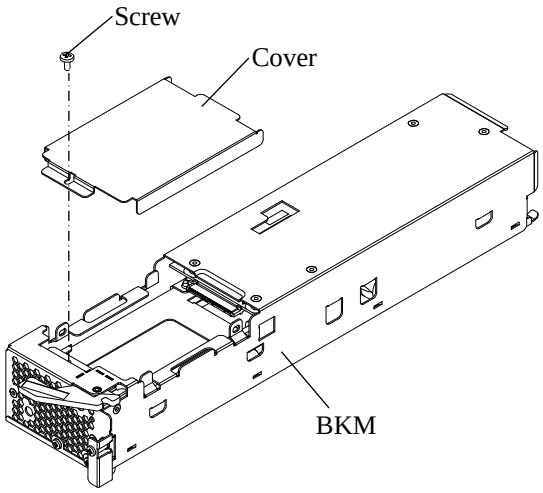


Fig. 3.7.1-4 Removal of Cover

(2)-2 Install the option CFM to the BKM and tighten it with the two screws.

(2)-3 Attach the cover to the BKM and tighten it with the screw.

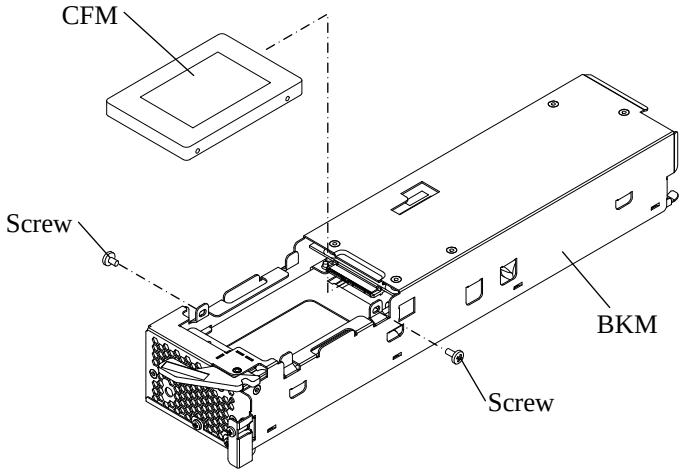


Fig. 3.7.1-5 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-4 If the cables are attached to the BKMs, check that the screws to secure the BKMs are tightened.
If the cables are not attached to the BKMs, go to Step (2)-6.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(2)-5 Open the four locking clamps and move all the cables to where they cannot obstruct insertion of the BKM.

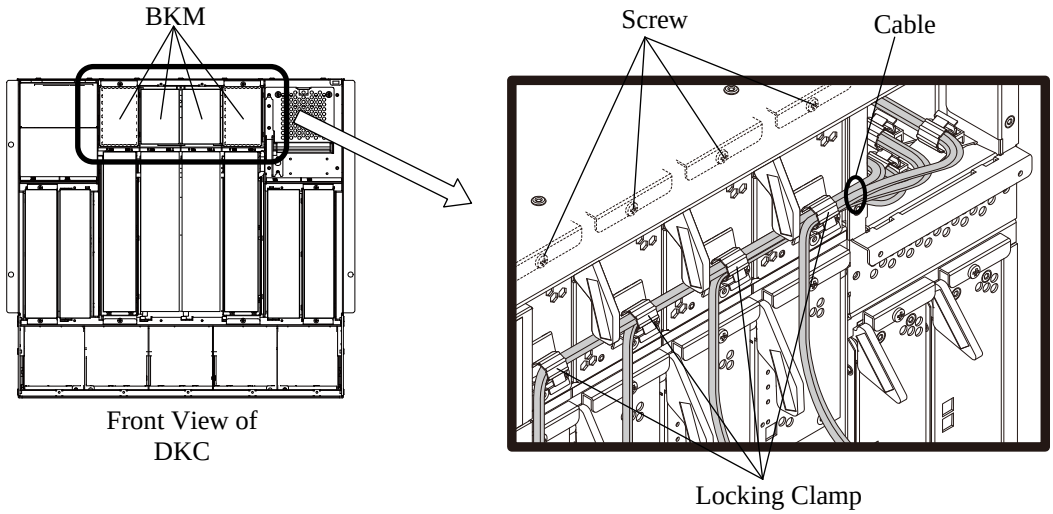
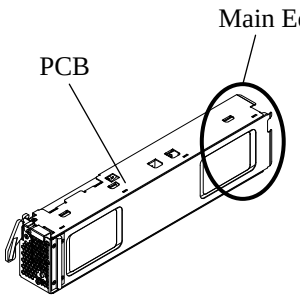


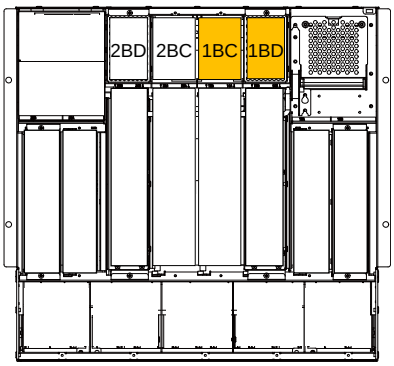
Fig. 3.7.1-6 Moving Cables

Copyright © 2014, Hitachi, Ltd.

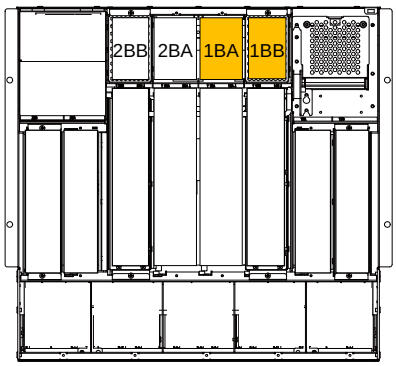
(2)-6 Loosen the screw and remove the dummy plate.
(2)-7 Install the BKM to the DKC and tighten the screw.
(2)-8 If the cables were moved aside in Step (2)-5, put them back in place.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



Front View of DKC-1



Front View of DKC-0

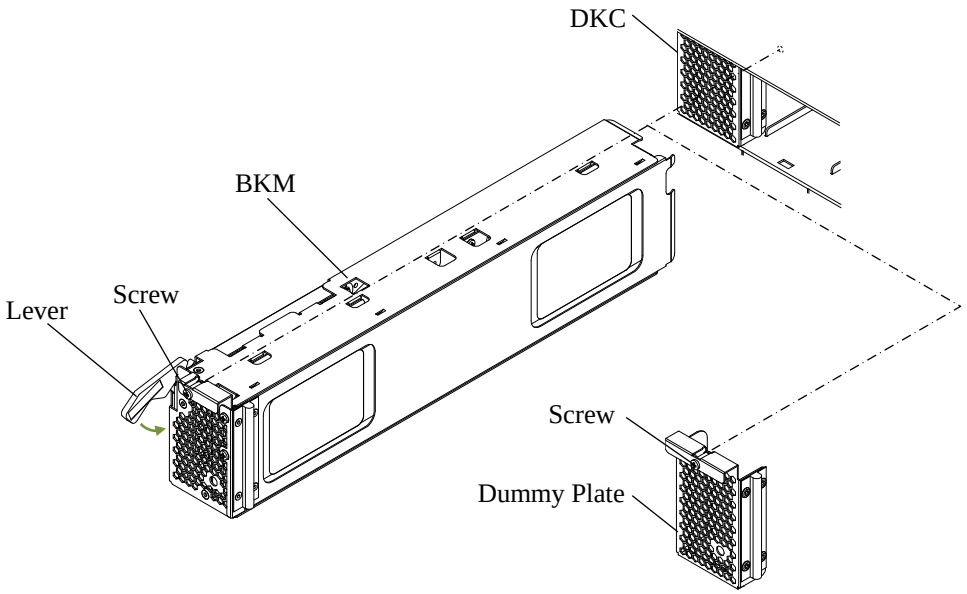


Fig. 3.7.1-7 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(3) Install the BKM on the Cluster 2.

(3)-1 Remove the screw of the option BKM and remove the cover.

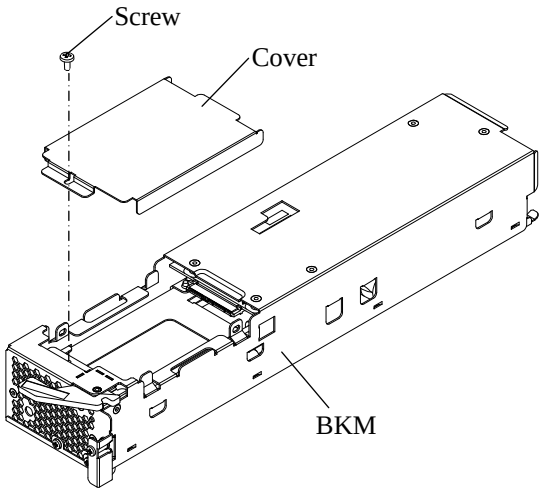


Fig. 3.7.1-8 Removal of Cover

(3)-2 Install the option CFM to the BKM and tighten it with the two screws.

(3)-3 Attach the cover to the BKM and tighten it with the screw.

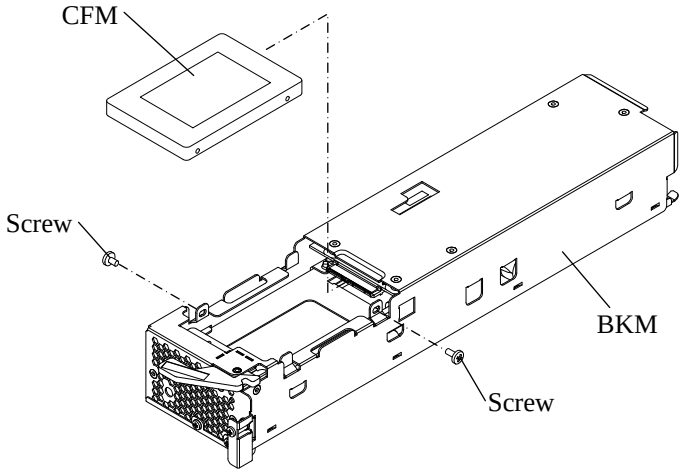


Fig. 3.7.1-9 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(3)-4 If the cables are attached to the BKMs, check that the screws to secure the BKMs are tightened.
If the cables are not attached to the BKMs, go to Step (3)-6.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(3)-5 Open the four locking clamps and move all the cables to where they cannot obstruct insertion of the BKM.

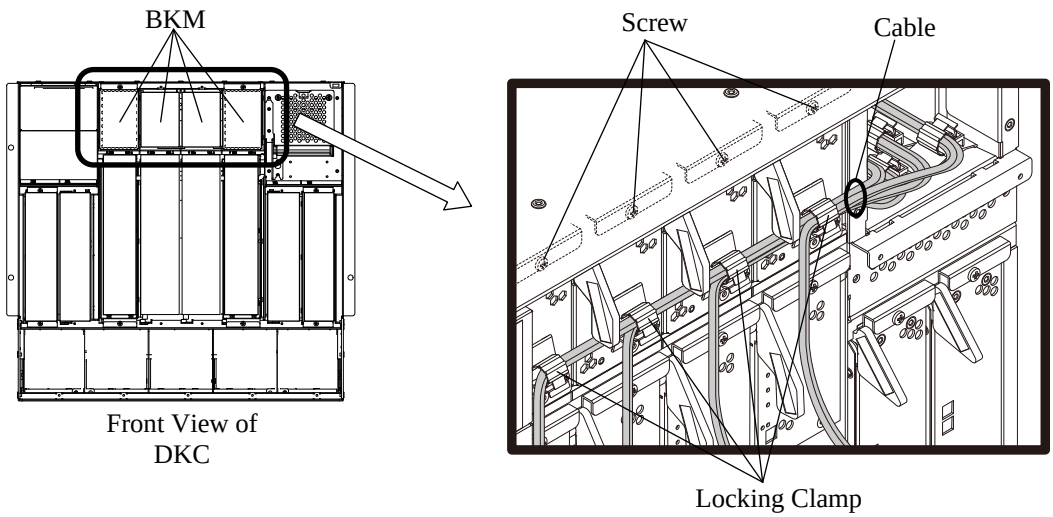
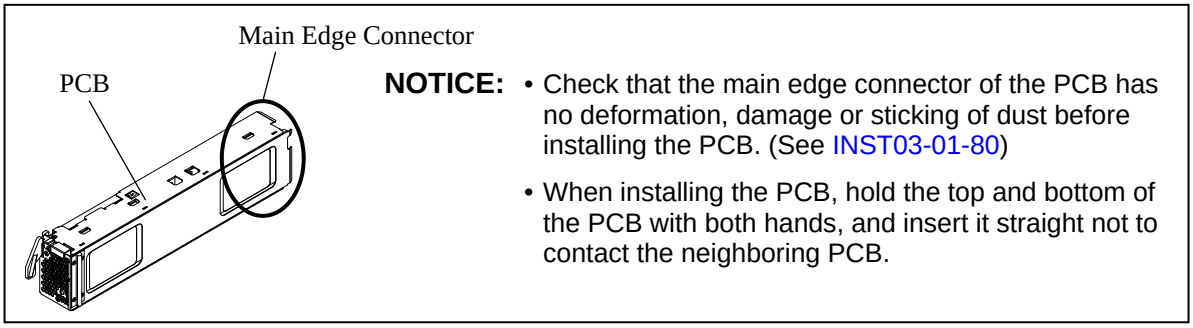
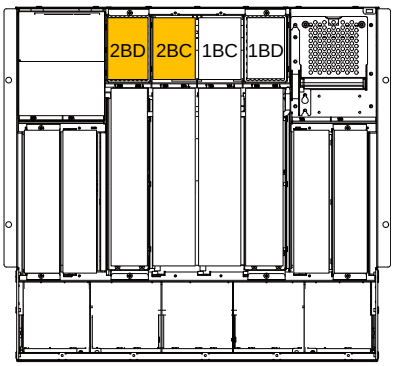


Fig. 3.7.1-10 Moving Cables

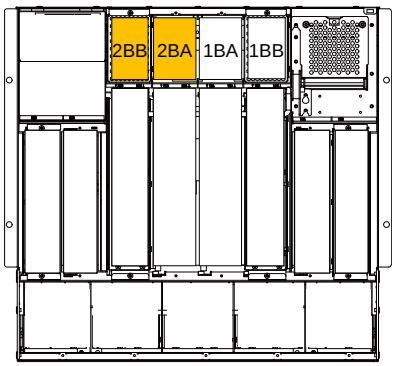
Copyright © 2014, Hitachi, Ltd.

(3)-6 Loosen the screw and remove the dummy plate.
(3)-7 Install the BKM to the DKC and tighten the screw.
(3)-8 If the cables were moved aside in Step (3)-5, put them back in place.





Front View of DKC-1



Front View of DKC-0

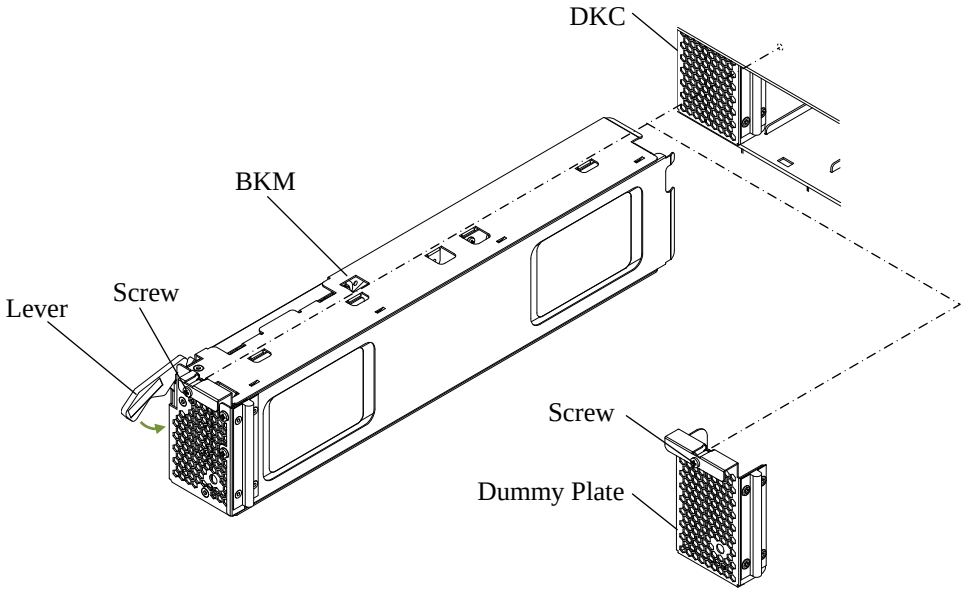


Fig. 3.7.1-11 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(3)-9 Store the Dummy Plates.

a. Loosen the three screws ① on the front side of the DKC and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.
c. Put the dummy plates that were removed in the accessory box.
d. Put the accessory box in place and fix it with the screw ②.
e. Put the cable cover in place and fix it with the three screws ①.

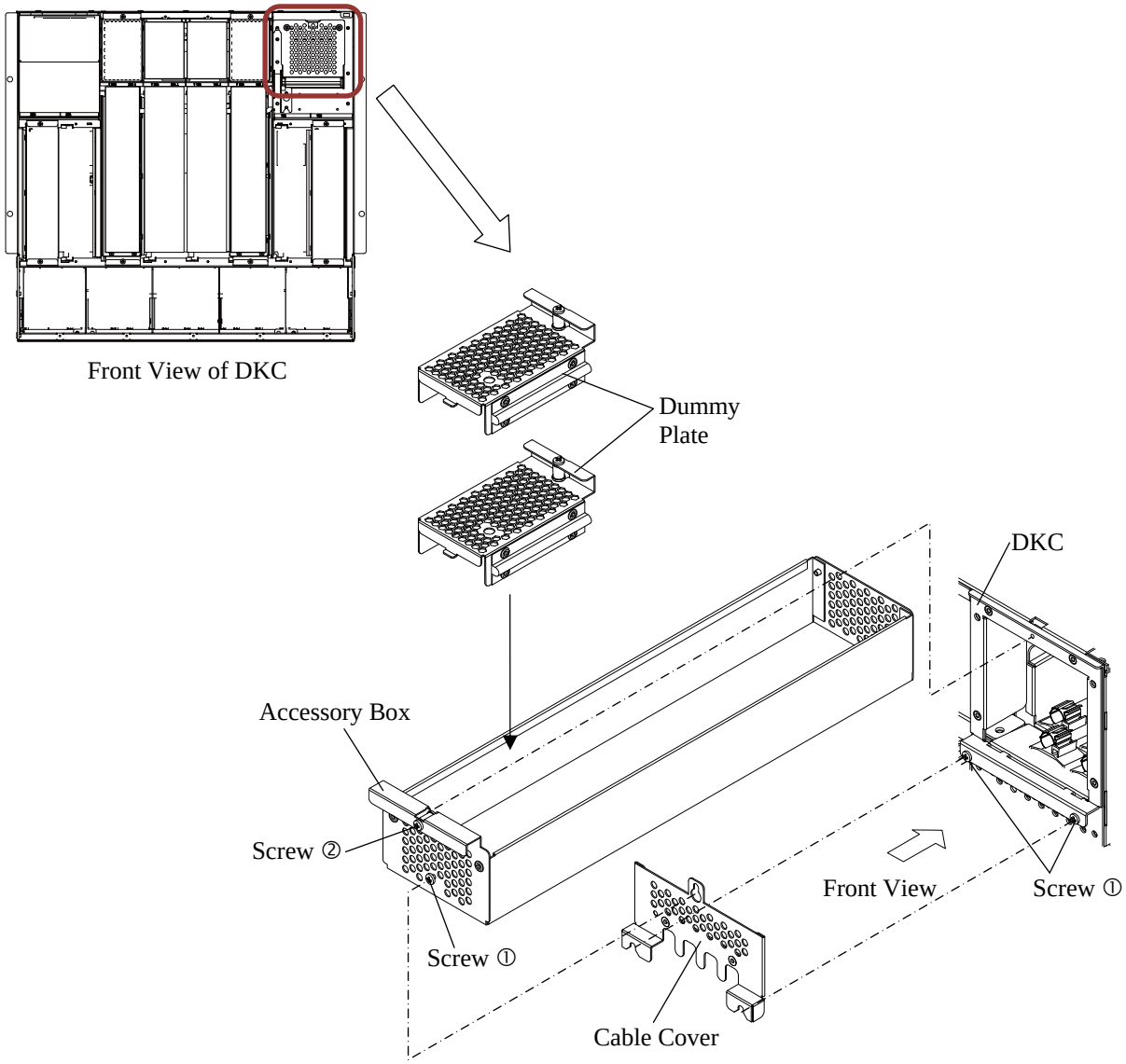
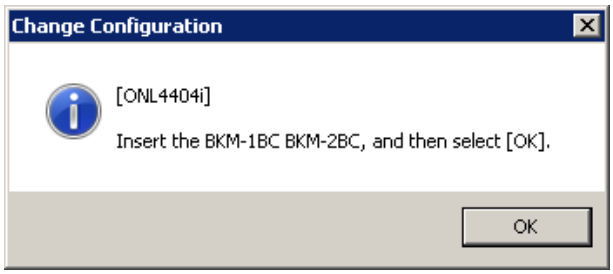


Fig. 3.7.1-12 Storage of Dummy Plates

Copyright © 2014, Hitachi, Ltd.

(4) Confirmation of Backup Module addition
When a message, “Insert the BKM-nnn BKM-nnn and then select [OK].” is displayed, select (CL) the [OK] button.



(Eg. BKM-1BC, BKM-2BC)

Copyright © 2014, Hitachi, Ltd.

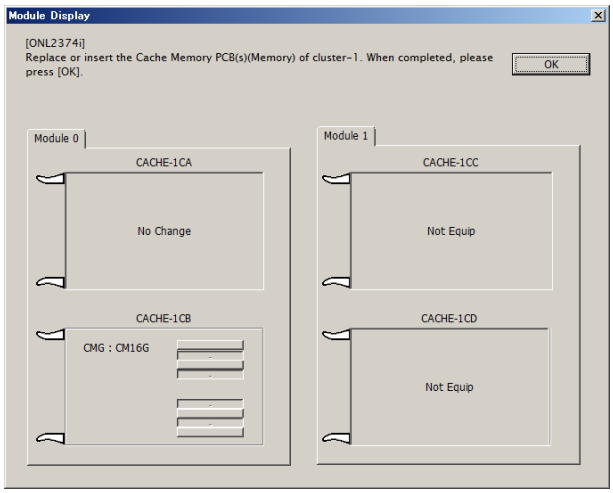
5. SVP pre procedure (Cache Memory) (Cluster 1)

(1)

"The Cache Memory PCB is being blocked..."
"Lighting LED of the PCB..." is displayed.

---

(2) <Perform cache hardware installation>
At this point refrain from pressing the [OK] button.
When "Replace or insert the Cache Memory PCB(s)(Memory) of cluster-1. When completed, please press OK." is displayed, install hardware components according to the cache hardware installation procedure.



Make sure of the installation location and size of the module to be added and insert the correct module in the correct location. (The Shared Memory capacity may be changed at the same time, depending on the set Cache Memory capacity.)

Copyright © 2014, Hitachi, Ltd.

6. Install the Cache Memory on the cluster 1

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

6-1 Insert the CM Modules.

a. Loosen the screw and remove the cover.

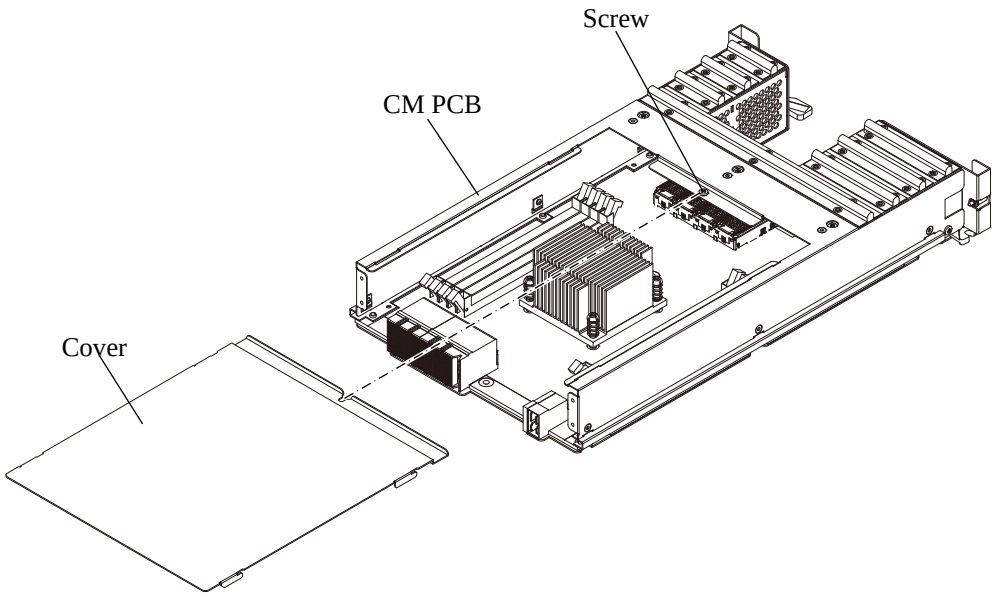
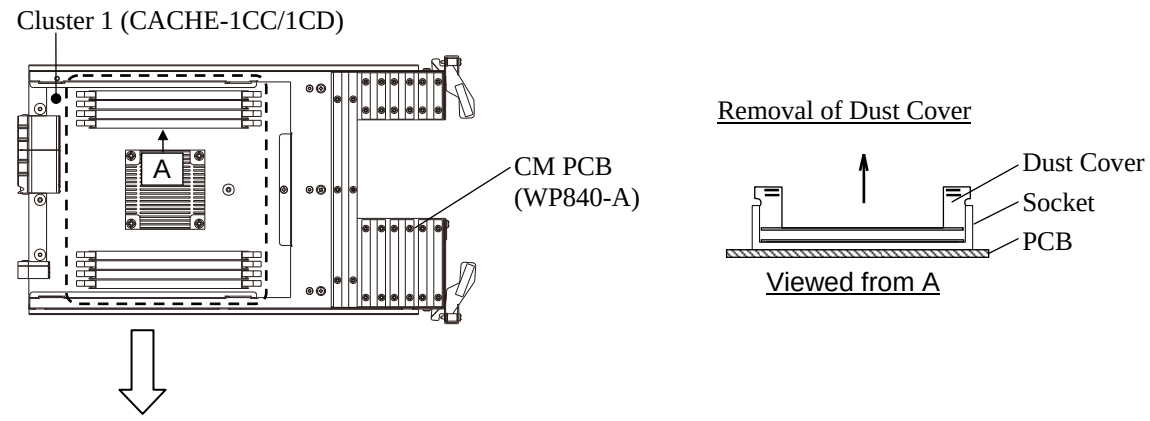


Fig. 3.7.1-13 Removal of Cover

Copyright © 2014, Hitachi, Ltd.

b. Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.7.1-14, Fig. 3.7.1-15, Table 3.7.1-1 through Table 3.7.1-4.
c. Insert the CM Modules that match the required Cache Memory capacity.
d. Attach the cover and tighten the screw. (Refer to Fig. 3.7.1-13.)

CM Module Location of DKC-1



CACHE-1CC (Option 2)

CM1P:	*18
CM5P:	*22
CM3P:	*20
CM7P:	*24

CM6P:	*23
CM2P:	*19
CM4P:	*21
CM0P:	*17

CACHE-1CD (Option 3)

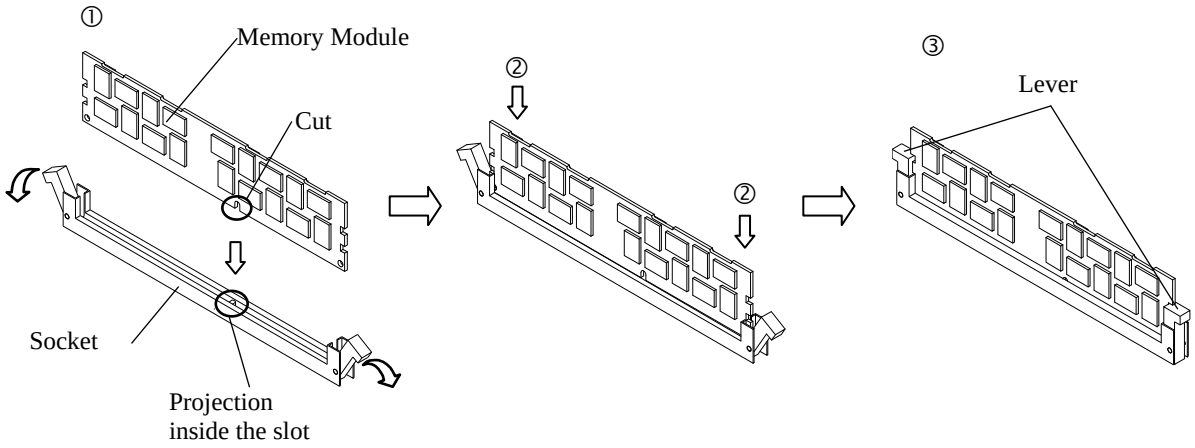
CM1P:	*26
CM5P:	*30
CM3P:	*28
CM7P:	*32

CM6P:	*31
CM2P:	*27
CM4P:	*29
CM0P:	*25

NOTE: The cache memory module location *17 through *32 correspond to the CM Location listed in Table 3.7.1-1 through Table 3.7.1-4.

Fig. 3.7.1-14 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.



Installation

① Position the cut of the memory module with the projection inside the slot, and place the memory module on the socket.
② Hold both ends of the memory module by the fingers, and fit it into the socket.
③ Make sure that the lever is firmly fitted in the memory module.

NOTICE: Do not put intense pressure on the CM Module to the extent that the PCB greatly bends after the CM Module is secured with the levers in installation procedure of the CM Module. The PCB may be damaged when intense pressure is applied.

Memory Module Appearance

There are two types of memory modules. One has a heat spreader and the other has no heat spreaders. Both memory modules can be used because they are compatible with each other.

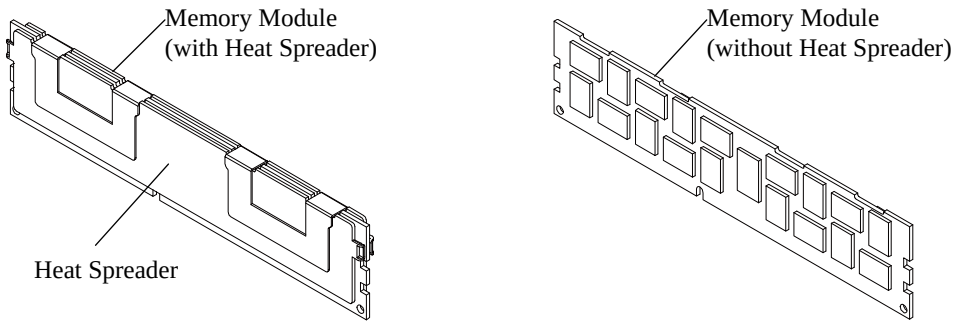


Fig. 3.7.1-15 Insertion of Memory Module

Copyright © 2014, Hitachi, Ltd.

Table 3.7.1-1 Cache memory capacity and number of necessary options ①

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options			
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-			
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM16G	CPEX	BKMS/ BKML	BMM128/ BMM256
1	32GB	*1	—	—	—	2	0	1	2
2	64GB	*1,*2	—	—	—	4	0	1	2
3	96GB	*1-*3	—	—	—	6	0	1	2
4	128GB	*1-*4	—	—	—	8	0	1	2
5	160GB	*1-*5	—	—	—	10	0	1	2
6	192GB	*1-*7	—	—	—	12	0	1	2
7	224GB	*1-*8	—	—	—	14	0	1	2
8	256GB	*1-*8	—	—	—	16	0	1	2
9	288GB	*1-*8	*9	—	—	18	1	2	4
10	320GB	*1-*8	*9,*10	—	—	20	1	2	4
11	356GB	*1-*8	*9-*11	—	—	22	1	2	4
12	384GB	*1-*8	*9-*12	—	—	24	1	2	4
13	416GB	*1-*8	*9-*13	—	—	26	1	2	4
14	448GB	*1-*8	*9-*14	—	—	28	1	2	4
15	480GB	*1-*8	*9-*15	—	—	30	1	2	4
16	512GB	*1-*8	*9-*16	—	—	32	1	2	4
17	576GB	*1-*8	*9-*16	*17	*25	36	2	4	8
18	608GB	*1-*8	*9-*16	*17,*18	*25	38	2	4	8
19	640GB	*1-*8	*9-*16	*17,*18	*25,*26	40	2	4	8
20	672GB	*1-*8	*9-*16	*17-*19	*25,*26	42	2	4	8
21	704GB	*1-*8	*9-*16	*17-*19	*25-*27	44	2	4	8
22	736GB	*1-*8	*9-*16	*17-*20	*25-*27	46	2	4	8
23	768GB	*1-*8	*9-*16	*17-*20	*25-*28	48	2	4	8
24	800GB	*1-*8	*9-*16	*17-*21	*25-*28	50	2	4	8
25	832GB	*1-*8	*9-*16	*17-*21	*25-*29	52	2	4	8
26	864GB	*1-*8	*9-*16	*17-*22	*25-*29	54	2	4	8
27	896GB	*1-*8	*9-*16	*17-*22	*25-*30	56	2	4	8
28	928GB	*1-*8	*9-*16	*17-*23	*25-*30	58	2	4	8
29	960GB	*1-*8	*9-*16	*17-*23	*25-*31	60	2	4	8
30	992GB	*1-*8	*9-*16	*17-*24	*25-*31	62	2	4	8
31	1024GB	*1-*8	*9-*16	*17-*24	*25-*32	64	2	4	8

NOTE 1: The above numbers (*17 through *32) represent the CM Module locations shown in Fig. 3.7.1-14 or Fig. 3.7.1-18.

Copyright © 2014, Hitachi, Ltd.

Table 3.7.1-2 Cache memory capacity and number of necessary options ②

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options					
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-					
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM32G	CPEX	BKMS	BKML	BMM 128	BMM 256
1	64GB	*1	—	—	—	2	0	1	0	2	0
2	128GB	*1,*2	—	—	—	4	0	1	0	2	0
3	192GB	*1-*3	—	—	—	6	0	1	0	2	0
4	256GB	*1-*4	—	—	—	8	0	1	0	2	0
5	320GB	*1-*5	—	—	—	10	0	0	1	0	2
6	384GB	*1-*7	—	—	—	12	0	0	1	0	2
7	448GB	*1-*8	—	—	—	14	0	0	1	0	2
8	512GB	*1-*8	—	—	—	16	0	0	1	0	2
9	576GB	*1-*8	*9	—	—	18	1	1	1	2	2
10	640GB	*1-*8	*9,*10	—	—	20	1	1	1	2	2
11	704GB	*1-*8	*9-*11	—	—	22	1	1	1	2	2
12	768GB	*1-*8	*9-*12	—	—	24	1	1	1	2	2
13	832GB	*1-*8	*9-*13	—	—	26	1	0	2	0	4
14	896GB	*1-*8	*9-*14	—	—	28	1	0	2	0	4
15	960GB	*1-*8	*9-*15	—	—	30	1	0	2	0	4
16	1024GB	*1-*8	*9-*16	—	—	32	1	0	2	0	4
17	1152GB	*1-*8	*9-*16	*17	*25	36	2	2	2	4	4
18	1216GB	*1-*8	*9-*16	*17,*18	*25	38	2	2	2	4	4
19	1280GB	*1-*8	*9-*16	*17,*18	*25,*26	40	2	2	2	4	4
20	1344GB	*1-*8	*9-*16	*17-*19	*25,*26	42	2	2	2	4	4
21	1408GB	*1-*8	*9-*16	*17-*19	*25-*27	44	2	2	2	4	4
22	1472GB	*1-*8	*9-*16	*17-*20	*25-*27	46	2	2	2	4	4
23	1536GB	*1-*8	*9-*16	*17-*20	*25-*28	48	2	2	2	4	4
24	1600GB	*1-*8	*9-*16	*17-*21	*25-*28	50	2	1	3	2	6
25	1664GB	*1-*8	*9-*16	*17-*21	*25-*29	52	2	0	4	0	8
26	1728GB	*1-*8	*9-*16	*17-*22	*25-*29	54	2	0	4	0	8
27	1792GB	*1-*8	*9-*16	*17-*22	*25-*30	56	2	0	4	0	8
28	1856GB	*1-*8	*9-*16	*17-*23	*25-*30	58	2	0	4	0	8
29	1920GB	*1-*8	*9-*16	*17-*23	*25-*31	60	2	0	4	0	8
30	1984GB	*1-*8	*9-*16	*17-*24	*25-*31	62	2	0	4	0	8
31	2048GB	*1-*8	*9-*16	*17-*24	*25-*32	64	2	0	4	0	8

NOTE 1: The above numbers (*17 through *32) represent the CM Module locations shown in Fig. 3.7.1-14 or Fig. 3.7.1-18.

Copyright © 2014, Hitachi, Ltd.

Table 3.7.1-3 Cache memory capacity and number of necessary options ③

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
1	64	*1	—	*17	—	4	0	1	0	2	—	4	—
2	96	*1,*2	—	*17	—	6	0	1	0	2	—	4	—
3	128	*1	*9	*17	*25	8	2	1	1	4	—	8	—
4	128	*1,*2	—	*17,*18	—	8	0	1	0	2	—	4	—
5	128	*1-*3	—	*17	—	8	0	1	0	2	—	4	—
6	160	*1,*2	*9	*17	*25	10	2	1	1	4	—	8	—
7	160	*1-*3	—	*17,*18	—	10	0	1	0	2	—	4	—
8	160	*1-*4	—	*17	—	10	0	1	0	2	—	4	—
9	192	*1,*2	*9	*17,*18	*25	12	2	1	1	4	—	8	—
10	192	*1,*2	*9,*10	*17	*25	12	2	1	1	4	—	8	—
11	192	*1-*3	—	*17-*19	—	12	0	1	0	2	—	4	—
12	192	*1-*3	*9	*17	*25	12	2	1	1	4	—	8	—
13	192	*1-*4	—	*17,*18	—	12	0	1	0	2	—	4	—
14	192	*1-*5	—	*17	—	12	0	1	0	2	—	4	—
15	224	*1,*2	*9,*10	*17,*18	*25	14	2	1	1	4	—	8	—
16	224	*1-*3	*9,*10	*17	*25	14	2	1	1	4	—	8	—
17	224	*1-*4	*9	*17	*25	14	2	1	1	4	—	8	—
18	224	*1-*5	—	*17,*18	—	14	0	1	0	2	—	4	—
19	224	*1-*6	—	*17	—	14	0	1	0	2	—	4	—
20	256	*1,*2	*9,*10	*17,*18	*25,*26	16	2	1	1	4	—	8	—
21	256	*1-*3	*9	*17-*19	*25	16	2	1	1	4	—	8	—
22	256	*1-*3	*9,*10	*17,*18	*25	16	2	1	1	4	—	8	—
23	256	*1-*3	*9-*11	*17	*25	16	2	1	1	4	—	8	—
24	256	*1-*4	—	*17-*20	—	16	0	1	0	2	—	4	—
25	256	*1-*4	*9,*10	*17	*25	16	2	1	1	4	—	8	—
26	256	*1-*5	—	*17-*19	—	16	0	1	0	2	—	4	—
27	256	*1-*5	*9	*17	*25	16	2	1	1	4	—	8	—
28	256	*1-*6	—	*17,*18	—	16	0	1	0	2	—	4	—
29	256	*1-*7	—	*17	—	16	0	1	0	2	—	4	—
30	288	*1-*3	*9,*10	*17,*18	*25,*26	18	2	1	1	4	—	8	—
31	288	*1-*3	*9,*10	*17-*19	*25	18	2	1	1	4	—	8	—
32	288	*1-*3	*9-*11	*17,*18	*25	18	2	1	1	4	—	8	—
33	288	*1-*4	*9,*10	*17,*18	*25	18	2	1	1	4	—	8	—
34	288	*1-*4	*9-*11	*17	*25	18	2	1	1	4	—	8	—
35	288	*1-*5	—	*17-*20	—	18	0	1	0	2	—	4	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
36	288	*1-*5	*9,*10	*17	*25	18	2	1	1	4	—	8	—
37	288	*1-*6	—	*17-*19	—	18	0	1	0	2	—	4	—
38	288	*1-*6	*9	*17	*25	18	2	1	1	4	—	8	—
39	288	*1-*7	—	*17,*18	—	18	0	1	0	2	—	4	—
40	288	*1-*8	—	*17	—	18	0	1	0	2	—	4	—
41	320	*1-*3	*9,*10	*17-*19	*25,*26	20	2	1	1	4	—	8	—
42	320	*1-*3	*9-*11	*17,*18	*25,*26	20	2	1	1	4	—	8	—
43	320	*1-*3	*9-*11	*17-*19	*25	20	2	1	1	4	—	8	—
44	320	*1-*4	*9	*17-*20	*25	20	2	1	1	4	—	8	—
45	320	*1-*4	*9,*10	*17,*18	*25,*26	20	2	1	1	4	—	8	—
46	320	*1-*4	*9-*11	*17,*18	*25	20	2	1	1	4	—	8	—
47	320	*1-*4	*9-*12	*17	*25	20	2	1	1	4	—	8	—
48	320	*1-*5	—	*17-*21	—	20	0	1	0	2	—	4	—
49	320	*1-*5	*9,*10	*17,*18	*25	20	2	1	1	4	—	8	—
50	320	*1-*5	*9-*11	*17	*25	20	2	1	1	4	—	8	—
51	320	*1-*6	—	*17-*20	—	20	0	1	0	2	—	4	—
52	320	*1-*6	*9,*10	*17	*25	20	2	1	1	4	—	8	—
53	320	*1-*7	—	*17-*19	—	20	0	1	0	2	—	4	—
54	320	*1-*7	*9	*17	*25	20	2	1	1	4	—	8	—
55	320	*1-*8	—	*17,*18	—	20	0	1	0	2	—	4	—
56	352	*1-*3	*9-*11	*17-*19	*25,*26	22	2	1	1	4	—	8	—
57	352	*1-*4	*9,*10	*17-*20	*25	22	2	1	1	4	—	8	—
58	352	*1-*4	*9-*11	*17,*18	*25,*26	22	2	1	1	4	—	8	—
59	352	*1-*4	*9-*11	*17-*19	*25	22	2	1	1	4	—	8	—
60	352	*1-*4	*9-*12	*17,*18	*25	22	2	1	1	4	—	8	—
61	352	*1-*5	*9,*10	*17,*18	*25,*26	22	2	1	1	4	—	8	—
62	352	*1-*5	*9-*11	*17,*18	*25	22	2	1	1	4	—	8	—
63	352	*1-*5	*9-*12	*17	*25	22	2	1	1	4	—	8	—
64	352	*1-*6	—	*17-*21	—	22	0	1	0	2	—	4	—
65	352	*1-*6	*9,*10	*17,*18	*25	22	2	1	1	4	—	8	—
66	352	*1-*6	*9-*11	*17	*25	22	2	1	1	4	—	8	—
67	352	*1-*7	—	*17-*20	—	22	0	1	0	2	—	4	—
68	352	*1-*7	*9,*10	*17	*25	22	2	1	1	4	—	8	—
69	352	*1-*8	—	*17-*19	—	22	0	1	0	2	—	4	—
70	352	*1-*8	*9	*17	*25	22	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
71	384	*1-*3	*9-*11	*17-*19	*25-*27	24	2	1	1	4	—	8	—
72	384	*1-*4	*9,*10	*17-*20	*25,*26	24	2	1	1	4	—	8	—
73	384	*1-*4	*9-*11	*17-*19	*25,*26	24	2	1	1	4	—	8	—
74	384	*1-*4	*9-*11	*17-*20	*25	24	2	1	1	4	—	8	—
75	384	*1-*4	*9-*12	*17,*18	*25,*26	24	2	1	1	4	—	8	—
76	384	*1-*4	*9-*12	*17-*19	*25	24	2	1	1	4	—	8	—
77	384	*1-*5	32	*17-*21	*25	24	2	1	1	4	—	8	—
78	384	*1-*5	*9-*11	*17,*18	*25,*26	24	2	1	1	4	—	8	—
79	384	*1-*5	*9-*11	*17-*19	*25	24	2	1	1	4	—	8	—
80	384	*1-*5	*9-*12	*17,*18	*25	24	2	1	1	4	—	8	—
81	384	*1-*5	*9-*13	*17	*25	24	2	1	1	4	—	8	—
82	384	*1-*6	—	*17-*22	—	24	0	1	0	2	—	4	—
83	384	*1-*6	*9,*10	*17,*18	*25,*26	24	2	1	1	4	—	8	—
84	384	*1-*6	*9-*11	*17,*18	*25	24	2	1	1	4	—	8	—
85	384	*1-*6	*9-*12	*17	*25	24	2	1	1	4	—	8	—
86	384	*1-*7	—	*17-*21	—	24	0	1	0	2	—	4	—
87	384	*1-*7	*9,*10	*17,*18	*25	24	2	1	1	4	—	8	—
88	384	*1-*7	*9-*11	*17	*25	24	2	1	1	4	—	8	—
89	384	*1-*8	—	*17-*20	—	24	0	1	0	2	—	4	—
90	384	*1-*8	*9,*10	*17	*25	24	2	1	1	4	—	8	—
91	416	*1-*4	*9-*11	*17-*19	*25-*27	26	2	1	1	4	—	8	—
92	416	*1-*4	*9-*11	*17-*20	*25,*26	26	2	1	1	4	—	8	—
93	416	*1-*4	*9-*12	*17-*19	*25,*26	26	2	1	1	4	—	8	—
94	416	*1-*4	*9-*12	*17-*20	*25	26	2	1	1	4	—	8	—
95	416	*1-*5	*9,*10	*17-*21	*25	26	2	1	1	4	—	8	—
96	416	*1-*5	*9-*11	*17-*19	*25,*26	26	2	1	1	4	—	8	—
97	416	*1-*5	*9-*12	*17,*18	*25,*26	26	2	1	1	4	—	8	—
98	416	*1-*5	*9-*12	*17-*19	*25	26	2	1	1	4	—	8	—
99	416	*1-*5	*9-*13	*17,*18	*25	26	2	1	1	4	—	8	—
100	416	*1-*6	*9-*11	*17,*18	*25,*26	26	2	1	1	4	—	8	—
101	416	*1-*6	*9-*11	*17-*19	*25	26	2	1	1	4	—	8	—
102	416	*1-*6	*9-*12	*17,*18	*25	26	2	1	1	4	—	8	—
103	416	*1-*6	*9-*13	*17	*25	26	2	1	1	4	—	8	—
104	416	*1-*7	—	*17-*22	—	26	0	1	0	2	—	4	—
105	416	*1-*7	*9,*10	*17,*18	*25,*26	26	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
106	416	*1-*7	*9-*11	*17,*18	*25	26	2	1	1	4	—	8	—
107	416	*1-*7	*9-*12	*17	*25	26	2	1	1	4	—	8	—
108	416	*1-*8	—	*17-*21	—	26	0	1	0	2	—	4	—
109	416	*1-*8	*9-*11	*17	*25	26	2	1	1	4	—	8	—
110	448	*1-*4	*9-*11	*17-*20	*25-*27	28	2	1	1	4	—	8	—
111	448	*1-*4	*9-*12	*17-*19	*25-*27	28	2	1	1	4	—	8	—
112	448	*1-*4	*9-*12	*17-*20	*25,*26	28	2	1	1	4	—	8	—
113	448	*1-*5	*9,*10	*17-*21	*25,*26	28	2	1	1	4	—	8	—
114	448	*1-*5	*9-*11	*17-*19	*25-*27	28	2	1	1	4	—	8	—
115	448	*1-*5	*9-*11	*17-*21	*25	28	2	1	1	4	—	8	—
116	448	*1-*5	*9-*12	*17-*19	*25,*26	28	2	1	1	4	—	8	—
117	448	*1-*5	*9-*12	*17-*20	*25	28	2	1	1	4	—	8	—
118	448	*1-*5	*9-*13	*17,*18	*25,*26	28	2	1	1	4	—	8	—
119	448	*1-*5	*9-*13	*17-*19	*25	28	2	1	1	4	—	8	—
120	448	*1-*6	*9	*17-*22	*25	28	2	1	1	4	—	8	—
121	448	*1-*6	*9-*11	*17-*19	*25,*26	28	2	1	1	4	—	8	—
122	448	*1-*6	*9-*12	*17,*18	*25,*26	28	2	1	1	4	—	8	—
123	448	*1-*6	*9-*12	*17-*19	*25	28	2	1	1	4	—	8	—
124	448	*1-*6	*9-*13	*17,*18	*25	28	2	1	1	4	—	8	—
125	448	*1-*6	*9-*14	*17	*25	28	2	1	1	4	—	8	—
126	448	*1-*7	—	224	—	28	0	1	0	2	—	4	—
127	448	*1-*7	*9-*11	*17,*18	*25,*26	28	2	1	1	4	—	8	—
128	448	*1-*7	*9-*11	*17-*19	*25	28	2	1	1	4	—	8	—
129	448	*1-*7	*9-*12	*17,*18	*25	28	2	1	1	4	—	8	—
130	448	*1-*7	*9-*13	*17	*25	28	2	1	1	4	—	8	—
131	448	*1-*8	—	*17-*22	—	28	0	1	0	2	—	4	—
132	448	*1-*8	*9-*12	*17	*25	28	2	1	1	4	—	8	—
133	480	*1-*4	*9-*12	*17-*20	*25-*27	30	2	1	1	4	—	8	—
134	480	*1-*5	*9-*11	*17-*21	*25,*26	30	2	1	1	4	—	8	—
135	480	*1-*5	*9-*12	*17-*19	*25-*27	30	2	1	1	4	—	8	—
136	480	*1-*5	*9-*12	*17-*20	*25,*26	30	2	1	1	4	—	8	—
137	480	*1-*5	*9-*12	*17-*21	*25	30	2	1	1	4	—	8	—
138	480	*1-*5	*9-*13	*17-*19	*25,*26	30	2	1	1	4	—	8	—
139	480	*1-*5	*9-*13	*17-*20	*25	30	2	1	1	4	—	8	—
140	480	*1-*6	*9,*10	*17-*22	*25	30	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
141	480	*1-*6	*9-*11	*17-*19	*25-*27	30	2	1	1	4	—	8	—
142	480	*1-*6	*9-*12	*17-*19	*25,*26	30	2	1	1	4	—	8	—
143	480	*1-*6	*9-*12	*17-*20	*25	30	2	1	1	4	—	8	—
144	480	*1-*6	*9-*13	*17,*18	*25,*26	30	2	1	1	4	—	8	—
145	480	*1-*6	*9-*13	*17-*19	*25	30	2	1	1	4	—	8	—
146	480	*1-*6	*9-*14	*17,*18	*25	30	2	1	1	4	—	8	—
147	480	*1-*7	*9-*11	*17-*19	*25,*26	30	2	1	1	4	—	8	—
148	480	*1-*7	*9-*12	*17,*18	*25,*26	30	2	1	1	4	—	8	—
149	480	*1-*7	*9-*12	*17-*19	*25	30	2	1	1	4	—	8	—
150	480	*1-*7	*9-*13	*17,*18	*25	30	2	1	1	4	—	8	—
151	480	*1-*8	—	*17-*23	—	30	0	1	0	2	—	4	—
152	480	*1-*8	*9-*13	*17	*25	30	2	1	1	4	—	8	—
153	512	*1-*4	*9-*12	*17-*20	128	32	2	1	1	4	—	8	—
154	512	*1-*5	*9-*11	*17-*21	*25-*27	32	2	1	1	4	—	8	—
155	512	*1-*5	*9-*12	*17-*20	*25-*27	32	2	1	1	4	—	8	—
156	512	*1-*5	*9-*12	*17-*21	*25,*26	32	2	1	1	4	—	8	—
157	512	*1-*5	*9-*13	*17-*19	*25-*27	32	2	1	1	4	—	8	—
158	512	*1-*5	*9-*13	*17-*20	*25,*26	32	2	1	1	4	—	8	—
159	512	*1-*5	*9-*13	*17-*21	*25	32	2	1	1	4	—	8	—
160	512	*1-*6	*9,*10	*17-*22	*25,*26	32	2	1	1	4	—	8	—
161	512	*1-*6	*9-*11	*17-*22	*25	32	2	1	1	4	—	8	—
162	512	*1-*6	*9-*12	*17-*19	*25-*27	32	2	1	1	4	—	8	—
163	512	*1-*6	*9-*12	*17-*20	*25,*26	32	2	1	1	4	—	8	—
164	512	*1-*6	*9-*13	*17-*19	*25,*26	32	2	1	1	4	—	8	—
165	512	*1-*6	*9-*13	*17-*20	*25	32	2	1	1	4	—	8	—
166	512	*1-*6	*9-*14	*17,*18	*25,*26	32	2	1	1	4	—	8	—
167	512	*1-*6	*9-*14	*17-*19	*25	32	2	1	1	4	—	8	—
168	512	*1-*7	*9	*17-*23	*25	32	2	1	1	4	—	8	—
169	512	*1-*7	*9-*11	*17-*19	*25-*27	32	2	1	1	4	—	8	—
170	512	*1-*7	*9-*12	*17-*19	*25,*26	32	2	1	1	4	—	8	—
171	512	*1-*7	*9-*12	*17-*20	*25	32	2	1	1	4	—	8	—
172	512	*1-*7	*9-*13	*17,*18	*25,*26	32	2	1	1	4	—	8	—
173	512	*1-*7	*9-*13	*17-*19	*25	32	2	1	1	4	—	8	—
174	512	*1-*7	*9-*15	*17	*25	32	2	1	1	4	—	8	—
175	512	*1-*8	—	*17-*24	—	32	0	1	0	2	—	4	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
176	512	*1-*8	*9-*14	*17	*25	32	2	1	1	4	—	8	—
177	544	*1-*5	*9-*12	*17-*20	*25-*28	34	2	1	1	4	—	8	—
178	544	*1-*5	*9-*12	*17-*21	*25-*27	34	2	1	1	4	—	8	—
179	544	*1-*5	*9-*13	*17-*20	*25-*27	34	2	1	1	4	—	8	—
180	544	*1-*5	*9-*13	*17-*21	*25,*26	34	2	1	1	4	—	8	—
181	544	*1-*6	*9-*11	*17-*22	*25,*26	34	2	1	1	4	—	8	—
182	544	*1-*6	*9-*12	*17-*20	*25-*27	34	2	1	1	4	—	8	—
183	544	*1-*6	*9-*12	*17-*22	*25	34	2	1	1	4	—	8	—
184	544	*1-*6	*9-*13	*17-*19	*25-*27	34	2	1	1	4	—	8	—
185	544	*1-*6	*9-*13	*17-*20	*25,*26	34	2	1	1	4	—	8	—
186	544	*1-*6	*9-*13	*17-*21	*25	34	2	1	1	4	—	8	—
187	544	*1-*6	*9-*14	*17-*19	*25,*26	34	2	1	1	4	—	8	—
188	544	*1-*6	*9-*14	*17-*20	*25	34	2	1	1	4	—	8	—
189	544	*1-*7	*9,*10	*17-*23	*25	34	2	1	1	4	—	8	—
190	544	*1-*7	*9-*12	*17-*19	*25-*27	34	2	1	1	4	—	8	—
191	544	*1-*7	*9-*12	*17-*20	*25,*26	34	2	1	1	4	—	8	—
192	544	*1-*7	*9-*13	*17-*19	*25,*26	34	2	1	1	4	—	8	—
193	544	*1-*7	*9-*13	*17-*20	*25	34	2	1	1	4	—	8	—
194	544	*1-*7	*9-*15	*17,*18	*25	34	2	1	1	4	—	8	—
195	544	*1-*8	*9-*15	*17	*25	34	2	1	1	4	—	8	—
196	576	*1-*5	*9-*12	*17-*21	*25-*28	36	2	1	1	4	—	8	—
197	576	*1-*5	*9-*13	*17-*20	*25-*28	36	2	1	1	4	—	8	—
198	576	*1-*5	*9-*13	*17-*21	*25-*27	36	2	1	1	4	—	8	—
199	576	*1-*6	*9-*11	*17-*22	*25-*27	36	2	1	1	4	—	8	—
200	576	*1-*6	*9-*12	*17-*20	*25-*28	36	2	1	1	4	—	8	—
201	576	*1-*6	*9-*12	*17-*22	*25,*26	36	2	1	1	4	—	8	—
202	576	*1-*6	*9-*13	*17-*20	*25-*27	36	2	1	1	4	—	8	—
203	576	*1-*6	*9-*13	*17-*21	*25,*26	36	2	1	1	4	—	8	—
204	576	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	4	—	8	—
205	576	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	4	—	8	—
206	576	*1-*6	*9-*14	*17-*19	*25-*27	36	2	1	1	4	—	8	—
207	576	*1-*6	*9-*14	*17-*20	*25,*26	36	2	1	1	4	—	8	—
208	576	*1-*6	*9-*14	*17-*21	*25	36	2	1	1	4	—	8	—
209	576	*1-*7	*9,*10	*17-*23	*25,*26	36	2	1	1	4	—	8	—
210	576	*1-*7	*9-*11	*17-*23	*25	36	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
211	576	*1-*7	*9-*12	*17-*20	*25-*27	36	2	1	1	4	—	8	—
212	576	*1-*7	*9-*13	*17-*19	*25-*27	36	2	1	1	4	—	8	—
213	576	*1-*7	*9-*13	*17-*20	*25,*26	36	2	1	1	4	—	8	—
214	576	*1-*7	*9-*13	*17-*21	*25	36	2	1	1	4	—	8	—
215	576	*1-*7	*9-*15	*17-*19	*25	36	2	1	1	4	—	8	—
216	576	*1-*8	*9	*17-*24	*25	36	2	1	1	4	—	8	—
217	576	*1-*8	*9-*16	*17	*25	36	2	1	1	4	—	8	—
218	608	*1-*5	*9-*13	*17-*21	*25-*28	38	2	1	1	4	—	8	—
219	608	*1-*6	*9-*12	*17-*22	*25-*27	38	2	1	1	4	—	8	—
220	608	*1-*6	*9-*13	*17-*20	*25-*28	38	2	1	1	4	—	8	—
221	608	*1-*6	*9-*13	*17-*21	*25-*27	38	2	1	1	4	—	8	—
222	608	*1-*6	*9-*13	*17-*22	*25,*26	38	2	1	1	4	—	8	—
223	608	*1-*6	*9-*14	*17-*20	*25-*27	38	2	1	1	4	—	8	—
224	608	*1-*6	*9-*14	*17-*21	*25,*26	38	2	1	1	4	—	8	—
225	608	*1-*6	*9-*14	*17-*22	*25	38	2	1	1	4	—	8	—
226	608	*1-*7	*9-*11	*17-*23	*25,*26	38	2	1	1	4	—	8	—
227	608	*1-*7	*9-*12	*17-*20	*25-*28	38	2	1	1	4	—	8	—
228	608	*1-*7	*9-*12	*17-*23	*25	38	2	1	1	4	—	8	—
229	608	*1-*7	*9-*13	*17-*20	*25-*27	38	2	1	1	4	—	8	—
230	608	*1-*7	*9-*13	*17-*21	*25,*26	38	2	1	1	4	—	8	—
231	608	*1-*7	*9-*15	*17-*19	*25,*26	38	2	1	1	4	—	8	—
232	608	*1-*7	*9-*15	*17-*20	*25	38	2	1	1	4	—	8	—
233	608	*1-*8	*9,*10	*17-*24	*25	38	2	1	1	4	—	8	—
234	608	*1-*8	*9-*16	*17,*18	*25	38	2	1	1	4	—	8	—
235	640	*1-*5	*9-*13	*17-*21	*25-*29	40	2	1	1	4	—	8	—
236	640	*1-*6	*9-*12	*17-*22	*25-*28	40	2	1	1	4	—	8	—
237	640	*1-*6	*9-*13	*17-*21	*25-*28	40	2	1	1	4	—	8	—
238	640	*1-*6	*9-*13	*17-*22	*25-*27	40	2	1	1	4	—	8	—
239	640	*1-*6	*9-*14	*17-*20	*25-*28	40	2	1	1	4	—	8	—
240	640	*1-*6	*9-*14	*17-*21	*25-*27	40	2	1	1	4	—	8	—
241	640	*1-*6	*9-*14	*17-*22	*25,*26	40	2	1	1	4	—	8	—
242	640	*1-*7	*9-*11	*17-*23	*25-*27	40	2	1	1	4	—	8	—
243	640	*1-*7	*9-*12	*17-*23	*25,*26	40	2	1	1	4	—	8	—
244	640	*1-*7	*9-*13	*17-*20	*25-*28	40	2	1	1	4	—	8	—
245	640	*1-*7	*9-*13	*17-*21	*25-*27	40	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
246	640	*1-*7	*9-*13	*17-*23	*25	40	2	1	1	4	—	8	—
247	640	*1-*7	*9-*14	*17-*22	*25	40	2	1	1	4	—	8	—
248	640	*1-*7	*9-*15	*17-*19	*25-*27	40	2	1	1	4	—	8	—
249	640	*1-*7	*9-*15	*17-*20	*25,*26	40	2	1	1	4	—	8	—
250	640	*1-*7	*9-*15	*17-*21	*25	40	2	1	1	4	—	8	—
251	640	*1-*8	*9,*10	*17-*24	*25,*26	40	2	1	1	4	—	8	—
252	640	*1-*8	*9-*11	*17-*24	*25	40	2	1	1	4	—	8	—
253	640	*1-*8	*9-*16	*17-*19	*25	40	2	1	1	4	—	8	—
254	672	*1-*6	*9-*13	*17-*21	*25-*29	42	2	1	1	4	—	8	—
255	672	*1-*6	*9-*13	*17-*22	*25-*28	42	2	1	1	4	—	8	—
256	672	*1-*6	*9-*14	*17-*21	*25-*28	42	2	1	1	4	—	8	—
257	672	*1-*6	*9-*14	*17-*22	*25-*27	42	2	1	1	4	—	8	—
258	672	*1-*7	*9-*12	*17-*23	*25-*27	42	2	1	1	4	—	8	—
259	672	*1-*7	*9-*13	*17-*21	*25-*28	42	2	1	1	4	—	8	—
260	672	*1-*7	*9-*13	*17-*23	*25,*26	42	2	1	1	4	—	8	—
261	672	*1-*7	*9-*14	*17-*22	*25,*26	42	2	1	1	4	—	8	—
262	672	*1-*7	*9-*14	*17-*23	*25	42	2	1	1	4	—	8	—
263	672	*1-*7	*9-*15	*17-*20	*25-*27	42	2	1	1	4	—	8	—
264	672	*1-*7	*9-*15	*17-*21	*25,*26	42	2	1	1	4	—	8	—
265	672	*1-*7	*9-*15	*17-*22	*25	42	2	1	1	4	—	8	—
266	672	*1-*8	*9-*11	*17-*24	*25,*26	42	2	1	1	4	—	8	—
267	672	*1-*8	*9-*12	*17-*24	*25	42	2	1	1	4	—	8	—
268	672	*1-*8	*9-*16	*17-*20	*25	42	2	1	1	4	—	8	—
269	704	*1-*6	*9-*13	*17-*22	*25-*29	44	2	1	1	4	—	8	—
270	704	*1-*6	*9-*14	*17-*21	*25-*29	44	2	1	1	4	—	8	—
271	704	*1-*6	*9-*14	*17-*22	*25-*28	44	2	1	1	4	—	8	—
272	704	*1-*7	*9-*12	*17-*23	*25-*28	44	2	1	1	4	—	8	—
273	704	*1-*7	*9-*13	*17-*21	*25-*29	44	2	1	1	4	—	8	—
274	704	*1-*7	*9-*13	*17-*23	*25-*27	44	2	1	1	4	—	8	—
275	704	*1-*7	*9-*14	*17-*22	*25-*27	44	2	1	1	4	—	8	—
276	704	*1-*7	*9-*14	*17-*23	*25,*26	44	2	1	1	4	—	8	—
277	704	*1-*7	*9-*15	*17-*20	*25-*28	44	2	1	1	4	—	8	—
278	704	*1-*7	*9-*15	*17-*21	*25-*27	44	2	1	1	4	—	8	—
279	704	*1-*7	*9-*15	*17-*22	*25,*26	44	2	1	1	4	—	8	—
280	704	*1-*7	*9-*15	*17-*23	*25	44	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
281	704	*1-*8	*9-*11	*17-*24	*25-*27	44	2	1	1	4	—	8	—
282	704	*1-*8	*9-*12	*17-*24	*25,*26	44	2	1	1	4	—	8	—
283	704	*1-*8	*9-*13	*17-*24	*25	44	2	1	1	4	—	8	—
284	704	*1-*8	*9-*16	*17-*21	*25	44	2	1	1	4	—	8	—
285	736	*1-*6	*9-*14	*17-*22	*25-*29	46	2	1	1	4	—	8	—
286	736	*1-*7	*9-*13	*17-*23	*25-*28	46	2	1	1	4	—	8	—
287	736	*1-*7	*9-*14	*17-*22	*25-*28	46	2	1	1	4	—	8	—
288	736	*1-*7	*9-*14	*17-*23	*25-*27	46	2	1	1	4	—	8	—
289	736	*1-*7	*9-*15	*17-*21	*25-*28	46	2	1	1	4	—	8	—
290	736	*1-*7	*9-*15	*17-*22	*25-*27	46	2	1	1	4	—	8	—
291	736	*1-*7	*9-*15	*17-*23	*25,*26	46	2	1	1	4	—	8	—
292	736	*1-*8	*9-*12	*17-*24	*25-*27	46	2	1	1	4	—	8	—
293	736	*1-*8	*9-*13	*17-*24	*25,*26	46	2	1	1	4	—	8	—
294	736	*1-*8	*9-*14	*17-*24	*25	46	2	1	1	4	—	8	—
295	736	*1-*8	*9-*16	*17-*22	*25	46	2	1	1	4	—	8	—
296	768	*1-*6	*9-*14	*17-*22	*25-*30	48	2	1	1	4	—	8	—
297	768	*1-*7	*9-*13	*17-*23	*25-*29	48	2	1	1	4	—	8	—
298	768	*1-*7	*9-*14	*17-*22	*25-*29	48	2	1	1	4	—	8	—
299	768	*1-*7	*9-*14	*17-*23	*25-*28	48	2	1	1	4	—	8	—
300	768	*1-*7	*9-*15	*17-*21	*25-*29	48	2	1	1	4	—	8	—
301	768	*1-*7	*9-*15	*17-*22	*25-*28	48	2	1	1	4	—	8	—
302	768	*1-*7	*9-*15	*17-*23	*25-*27	48	2	1	1	4	—	8	—
303	768	*1-*8	*9-*12	*17-*24	*25-*28	48	2	1	1	4	—	8	—
304	768	*1-*8	*9-*13	*17-*24	*25-*27	48	2	1	1	4	—	8	—
305	768	*1-*8	*9-*14	*17-*24	*25,*26	48	2	1	1	4	—	8	—
306	768	*1-*8	*9-*15	*17-*24	*25	48	2	1	1	4	—	8	—
307	768	*1-*8	*9-*16	*17-*23	*25	48	2	1	1	4	—	8	—
308	800	*1-*7	*9-*14	*17-*22	*25-*30	50	2	1	1	4	—	8	—
309	800	*1-*7	*9-*14	*17-*23	*25-*29	50	2	1	1	4	—	8	—
310	800	*1-*7	*9-*15	*17-*22	*25-*29	50	2	1	1	4	—	8	—
311	800	*1-*7	*9-*15	*17-*23	*25-*28	50	2	1	1	4	—	8	—
312	800	*1-*8	*9-*13	*17-*24	*25-*28	50	2	1	1	4	—	8	—
313	800	*1-*8	*9-*14	*17-*24	*25-*27	50	2	1	1	4	—	8	—
314	800	*1-*8	*9-*15	*17-*24	*25,*26	50	2	1	1	4	—	8	—
315	800	*1-*8	*9-*16	*17-*24	*25	50	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
316	832	*1-*7	*9-*14	*17-*23	*25-*30	52	2	1	1	4	—	8	—
317	832	*1-*7	*9-*15	*17-*22	*25-*30	52	2	1	1	4	—	8	—
318	832	*1-*7	*9-*15	*17-*23	*25-*29	52	2	1	1	4	—	8	—
319	832	*1-*8	*9-*13	*17-*24	*25-*29	52	2	1	1	4	—	8	—
320	832	*1-*8	*9-*14	*17-*24	*25-*28	52	2	1	1	4	—	8	—
321	832	*1-*8	*9-*15	*17-*24	*25-*27	52	2	1	1	4	—	8	—
322	832	*1-*8	*9-*16	*17-*24	*25,*26	52	2	1	1	4	—	8	—
323	864	*1-*7	*9-*15	*17-*23	*25-*30	54	2	1	1	4	—	8	—
324	864	*1-*8	*9-*14	*17-*24	*25-*29	54	2	1	1	4	—	8	—
325	864	*1-*8	*9-*15	*17-*24	*25-*28	54	2	1	1	4	—	8	—
326	864	*1-*8	*9-*16	*17-*24	*25-*27	54	2	1	1	4	—	8	—
327	896	*1-*7	*9-*15	*17-*23	*25-*31	56	2	1	1	4	—	8	—
328	896	*1-*8	*9-*14	*17-*24	*25-*30	56	2	1	1	4	—	8	—
329	896	*1-*8	*9-*15	*17-*24	*25-*29	56	2	1	1	4	—	8	—
330	896	*1-*8	*9-*16	*17-*24	*25-*28	56	2	1	1	4	—	8	—
331	928	*1-*8	*9-*15	*17-*24	*25-*30	58	2	1	1	4	—	8	—
332	928	*1-*8	*9-*16	*17-*24	*25-*29	58	2	1	1	4	—	8	—
333	960	*1-*8	*9-*15	*17-*24	*25-*31	60	2	1	1	4	—	8	—
334	960	*1-*8	*9-*16	*17-*24	*25-*30	60	2	1	1	4	—	8	—
335	992	*1-*8	*9-*16	*17-*24	*25-*31	62	2	1	1	4	—	8	—
336	1024	*1-*8	*9-*16	*17-*24	*25-*32	64	2	1	1	4	—	8	—

NOTE 1: The above numbers (*17 through *32) represent the CM Module locations shown in Fig. 3.7.1-14 or Fig. 3.7.1-18.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

Table 3.7.1-4 Cache memory capacity and number of necessary options ④

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
1	128	*1	—	*17	—	4	0	1	0	2	0	4	0
2	192	*1,*2	—	*17	—	6	0	1	0	2	0	4	0
3	256	*1	*9	*17	*25	8	2	1	1	4	0	8	0
4	256	*1,*2	—	*17,*18	—	8	0	1	0	2	0	4	0
5	256	*1-*3	—	*17	—	8	0	1	0	2	0	4	0
6	320	*1,*2	*9	*17	*25	10	2	1	1	4	0	8	0
7	320	*1-*3	—	*17,*18	—	10	0	1	0	2	0	4	0
8	320	*1-*4	—	*17	—	10	0	1	0	2	0	4	0
9	384	*1,*2	*9	*17,*18	*25	12	2	1	1	4	0	8	0
10	384	*1,*2	*9,*10	*17	*25	12	2	1	1	4	0	8	0
11	384	*1-*3	—	*17-*19	—	12	0	1	0	2	0	4	0
12	384	*1-*3	*9	*17	*25	12	2	1	1	4	0	8	0
13	384	*1-*4	—	*17,*18	—	12	0	1	0	2	0	4	0
14	384	*1-*5	—	*17	—	12	0	1	0	1	1	2	2
15	448	*1,*2	*9,*10	*17,*18	*25	14	2	1	1	4	0	8	0
16	448	*1-*3	*9,*10	*17	*25	14	2	1	1	4	0	8	0
17	448	*1-*4	*9	*17	*25	14	2	1	1	4	0	8	0
18	448	*1-*5	—	*17,*18	—	14	0	1	0	1	1	2	2
19	448	*1-*6	—	*17	—	14	0	1	0	1	1	2	2
20	512	*1,*2	*9,*10	*17,*18	*25,*26	16	2	1	1	4	0	8	0
21	512	*1-*3	*9	*17-*19	*25	16	2	1	1	4	0	8	0
22	512	*1-*3	*9,*10	*17,*18	*25	16	2	1	1	4	0	8	0
23	512	*1-*3	*9-*11	*17	*25	16	2	1	1	4	0	8	0
24	512	*1-*4	—	*17-*20	—	16	0	1	0	2	0	4	0
25	512	*1-*4	*9,*10	*17	*25	16	2	1	1	4	0	8	0
26	512	*1-*5	—	*17-*19	—	16	0	1	0	1	1	2	2
27	512	*1-*5	*9	*17	*25	16	2	1	1	3	1	6	2
28	512	*1-*6	—	*17,*18	—	16	0	1	0	1	1	2	2
29	512	*1-*7	—	*17	—	16	0	1	0	1	1	2	2
30	576	*1-*3	*9,*10	*17,*18	*25,*26	18	2	1	1	4	0	8	0
31	576	*1-*3	*9,*10	*17-*19	*25	18	2	1	1	4	0	8	0
32	576	*1-*3	*9-*11	*17,*18	*25	18	2	1	1	4	0	8	0
33	576	*1-*4	*9,*10	*17,*18	*25	18	2	1	1	4	0	8	0
34	576	*1-*4	*9-*11	*17	*25	18	2	1	1	4	0	8	0
35	576	*1-*5	—	*17-*20	—	18	0	1	0	1	1	2	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
36	576	*1-*5	*9,*10	*17	*25	18	2	1	1	3	1	6	2
37	576	*1-*6	—	*17-*19	—	18	0	1	0	1	1	2	2
38	576	*1-*6	*9	*17	*25	18	2	1	1	3	1	6	2
39	576	*1-*7	—	*17,*18	—	18	0	1	0	1	1	2	2
40	576	*1-*8	—	*17	—	18	0	1	0	1	1	2	2
41	640	*1-*3	*9,*10	*17-*19	*25,*26	20	2	1	1	4	0	8	0
42	640	*1-*3	*9-*11	*17,*18	*25,*26	20	2	1	1	4	0	8	0
43	640	*1-*3	*9-*11	*17-*19	*25	20	2	1	1	4	0	8	0
44	640	*1-*4	*9	*17-*20	*25	20	2	1	1	4	0	8	0
45	640	*1-*4	*9,*10	*17,*18	*25,*26	20	2	1	1	4	0	8	0
46	640	*1-*4	*9-*11	*17,*18	*25	20	2	1	1	4	0	8	0
47	640	*1-*4	*9-*12	*17	*25	20	2	1	1	4	0	8	0
48	640	*1-*5	—	*17-*21	—	20	0	1	0	0	2	0	4
49	640	*1-*5	*9,*10	*17,*18	*25	20	2	1	1	3	1	6	2
50	640	*1-*5	*9-*11	*17	*25	20	2	1	1	3	1	6	2
51	640	*1-*6	—	*17-*20	—	20	0	1	0	1	1	2	2
52	640	*1-*6	*9,*10	*17	*25	20	2	1	1	3	1	6	2
53	640	*1-*7	—	*17-*19	—	20	0	1	0	1	1	2	2
54	640	*1-*7	*9	*17	*25	20	2	1	1	3	1	6	2
55	640	*1-*8	—	*17,*18	—	20	0	1	0	1	1	2	2
56	704	*1-*3	*9-*11	*17-*19	*25,*26	22	2	1	1	4	0	8	0
57	704	*1-*4	*9,*10	*17-*20	*25	22	2	1	1	4	0	8	0
58	704	*1-*4	*9-*11	*17,*18	*25,*26	22	2	1	1	4	0	8	0
59	704	*1-*4	*9-*11	*17-*19	*25	22	2	1	1	4	0	8	0
60	704	*1-*4	*9-*12	*17,*18	*25	22	2	1	1	4	0	8	0
61	704	*1-*5	*9,*10	*17,*18	*25,*26	22	2	1	1	3	1	6	2
62	704	*1-*5	*9-*11	*17,*18	*25	22	2	1	1	3	1	6	2
63	704	*1-*5	*9-*12	*17	*25	22	2	1	1	3	1	6	2
64	704	*1-*6	—	*17-*21	—	22	0	1	0	0	2	0	4
65	704	*1-*6	*9,*10	*17,*18	*25	22	2	1	1	3	1	6	2
66	704	*1-*6	*9-*11	*17	*25	22	2	1	1	3	1	6	2
67	704	*1-*7	—	*17-*20	—	22	0	1	0	1	1	2	2
68	704	*1-*7	*9,*10	*17	*25	22	2	1	1	3	1	6	2
69	704	*1-*8	—	*17-*19	—	22	0	1	0	1	1	2	2
70	704	*1-*8	*9	*17	*25	22	2	1	1	3	1	6	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
71	768	*1-*3	*9-*11	*17-*19	*25-*27	24	2	1	1	4	0	8	0
72	768	*1-*4	*9,*10	*17-*20	*25,*26	24	2	1	1	4	0	8	0
73	768	*1-*4	*9-*11	*17-*19	*25,*26	24	2	1	1	4	0	8	0
74	768	*1-*4	*9-*11	*17-*20	*25	24	2	1	1	4	0	8	0
75	768	*1-*4	*9-*12	*17,*18	*25,*26	24	2	1	1	4	0	8	0
76	768	*1-*4	*9-*12	*17-*19	*25	24	2	1	1	4	0	8	0
77	768	*1-*5	*9	*17-*21	*25	24	2	1	1	2	2	4	4
78	768	*1-*5	*9-*11	*17,*18	*25,*26	24	2	1	1	3	1	6	2
79	768	*1-*5	*9-*11	*17-*19	*25	24	2	1	1	3	1	6	2
80	768	*1-*5	*9-*12	*17,*18	*25	24	2	1	1	3	1	6	2
81	768	*1-*5	*9-*13	*17	*25	24	2	1	1	2	2	4	4
82	768	*1-*6	—	*17-*22	—	24	0	1	0	0	2	0	4
83	768	*1-*6	*9,*10	*17,*18	*25,*26	24	2	1	1	3	1	6	2
84	768	*1-*6	*9-*11	*17,*18	*25	24	2	1	1	3	1	6	2
85	768	*1-*6	*9-*12	*17	*25	24	2	1	1	3	1	6	2
86	768	*1-*7	—	*17-*21	—	24	0	1	0	0	2	0	4
87	768	*1-*7	*9,*10	*17,*18	*25	24	2	1	1	3	1	6	2
88	768	*1-*7	*9-*11	*17	*25	24	2	1	1	3	1	6	2
89	768	*1-*8	—	*17-*20	—	24	0	1	0	1	1	2	2
90	768	*1-*8	*9,*10	*17	*25	24	2	1	1	3	1	6	2
91	832	*1-*4	*9-*11	*17-*19	*25-*27	26	2	1	1	4	0	8	0
92	832	*1-*4	*9-*11	*17-*20	*25,*26	26	2	1	1	4	0	8	0
93	832	*1-*4	*9-*12	*17-*19	*25,*26	26	2	1	1	4	0	8	0
94	832	*1-*4	*9-*12	*17-*20	*25	26	2	1	1	4	0	8	0
95	832	*1-*5	*9,*10	*17-*21	*25	26	2	1	1	2	2	4	4
96	832	*1-*5	*9-*11	*17-*19	*25,*26	26	2	1	1	3	1	6	2
97	832	*1-*5	*9-*12	*17,*18	*25,*26	26	2	1	1	3	1	6	2
98	832	*1-*5	*9-*12	*17-*19	*25	26	2	1	1	3	1	6	2
99	832	*1-*5	*9-*13	*17,*18	*25	26	2	1	1	2	2	4	4
100	832	*1-*6	*9-*11	*17,*18	*25,*26	26	2	1	1	3	1	6	2
101	832	*1-*6	*9-*11	*17-*19	*25	26	2	1	1	3	1	6	2
102	832	*1-*6	*9-*12	*17,*18	*25	26	2	1	1	3	1	6	2
103	832	*1-*6	*9-*13	*17	*25	26	2	1	1	2	2	4	4
104	832	*1-*7	—	*17-*22	—	26	0	1	0	0	2	0	4
105	832	*1-*7	*9,*10	*17,*18	*25,*26	26	2	1	1	3	1	6	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
106	832	*1-*7	*9-*11	*17,*18	*25	26	2	1	1	3	1	6	2
107	832	*1-*7	*9-*12	*17	*25	26	2	1	1	3	1	6	2
108	832	*1-*8	—	*17-*21	—	26	0	1	0	0	2	0	4
109	832	*1-*8	*9-*11	*17	*25	26	2	1	1	3	1	6	2
110	896	*1-*4	*9-*11	*17-*20	*25-*27	28	2	1	1	4	0	8	0
111	896	*1-*4	*9-*12	*17-*19	*25-*27	28	2	1	1	4	0	8	0
112	896	*1-*4	*9-*12	*17-*20	*25,*26	28	2	1	1	4	0	8	0
113	896	*1-*5	*9,*10	*17-*21	*25,*26	28	2	1	1	2	2	4	4
114	896	*1-*5	*9-*11	*17-*19	*25-*27	28	2	1	1	3	1	6	2
115	896	*1-*5	*9-*11	*17-*21	*25	28	2	1	1	2	2	4	4
116	896	*1-*5	*9-*12	*17-*19	*25,*26	28	2	1	1	3	1	6	2
117	896	*1-*5	*9-*12	*17-*20	*25	28	2	1	1	3	1	6	2
118	896	*1-*5	*9-*13	*17,*18	*25,*26	28	2	1	1	2	2	4	4
119	896	*1-*5	*9-*13	*17-*19	*25	28	2	1	1	2	2	4	4
120	896	*1-*6	*9	*17-*22	*25	28	2	1	1	2	2	4	4
121	896	*1-*6	*9-*11	*17-*19	*25,*26	28	2	1	1	3	1	6	2
122	896	*1-*6	*9-*12	*17,*18	*25,*26	28	2	1	1	3	1	6	2
123	896	*1-*6	*9-*12	*17-*19	*25	28	2	1	1	3	1	6	2
124	896	*1-*6	*9-*13	*17,*18	*25	28	2	1	1	2	2	4	4
125	896	*1-*6	*9-*14	*17	*25	28	2	1	1	2	2	4	4
126	896	*1-*7	—	*17-*23	—	28	0	1	0	0	2	0	4
127	896	*1-*7	*9-*11	*17,*18	*25,*26	28	2	1	1	3	1	6	2
128	896	*1-*7	*9-*11	*17-*19	*25	28	2	1	1	3	1	6	2
129	896	*1-*7	*9-*12	*17,*18	*25	28	2	1	1	3	1	6	2
130	896	*1-*7	*9-*13	*17	*25	28	2	1	1	2	2	4	4
131	896	*1-*8	—	*17-*22	—	28	0	1	0	0	2	0	4
132	896	*1-*8	*9-*12	*17	*25	28	2	1	1	3	1	6	2
133	960	*1-*4	*9-*12	*17-*20	*25-*27	30	2	1	1	4	0	8	0
134	960	*1-*5	*9-*11	*17-*21	*25,*26	30	2	1	1	2	2	4	4
135	960	*1-*5	*9-*12	*17-*19	*25-*27	30	2	1	1	3	1	6	2
136	960	*1-*5	*9-*12	*17-*20	*25,*26	30	2	1	1	3	1	6	2
137	960	*1-*5	*9-*12	*17-*21	*25	30	2	1	1	2	2	4	4
138	960	*1-*5	*9-*13	*17-*19	*25,*26	30	2	1	1	2	2	4	4
139	960	*1-*5	*9-*13	*17-*20	*25	30	2	1	1	2	2	4	4
140	960	*1-*6	*9,*10	*17-*22	*25	30	2	1	1	2	2	4	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
141	960	*1-*6	*9-*11	*17-*19	*25-*27	30	2	1	1	3	1	6	2
142	960	*1-*6	*9-*12	*17-*19	*25,*26	30	2	1	1	3	1	6	2
143	960	*1-*6	*9-*12	*17-*20	*25	30	2	1	1	3	1	6	2
144	960	*1-*6	*9-*13	*17,*18	*25,*26	30	2	1	1	2	2	4	4
145	960	*1-*6	*9-*13	*17-*19	*25	30	2	1	1	2	2	4	4
146	960	*1-*6	*9-*14	*17,*18	*25	30	2	1	1	2	2	4	4
147	960	*1-*7	*9-*11	*17-*19	*25,*26	30	2	1	1	3	1	6	2
148	960	*1-*7	*9-*12	*17,*18	*25,*26	30	2	1	1	3	1	6	2
149	960	*1-*7	*9-*12	*17-*19	*25	30	2	1	1	3	1	6	2
150	960	*1-*7	*9-*13	*17,*18	*25	30	2	1	1	2	2	4	4
151	960	*1-*8	—	*17-*23	—	30	0	1	0	0	2	0	4
152	960	*1-*8	*9-*13	*17	*25	30	2	1	1	2	2	4	4
153	1024	*1-*4	*9-*12	*17-*20	*25-*28	32	2	1	1	4	0	8	0
154	1024	*1-*5	*9-*11	*17-*21	*25-*27	32	2	1	1	2	2	4	4
155	1024	*1-*5	*9-*12	*17-*20	*25-*27	32	2	1	1	3	1	6	2
156	1024	*1-*5	*9-*12	*17-*21	*25,*26	32	2	1	1	2	2	4	4
157	1024	*1-*5	*9-*13	*17-*19	*25-*27	32	2	1	1	2	2	4	4
158	1024	*1-*5	*9-*13	*17-*20	*25,*26	32	2	1	1	2	2	4	4
159	1024	*1-*5	*9-*13	*17-*21	*25	32	2	1	1	1	3	2	6
160	1024	*1-*6	*9,*10	*17-*22	*25,*26	32	2	1	1	2	2	4	4
161	1024	*1-*6	*9-*11	*17-*22	*25	32	2	1	1	2	2	4	4
162	1024	*1-*6	*9-*12	*17-*19	*25-*27	32	2	1	1	3	1	6	2
163	1024	*1-*6	*9-*12	*17-*20	*25,*26	32	2	1	1	3	1	6	2
164	1024	*1-*6	*9-*13	*17-*19	*25,*26	32	2	1	1	2	2	4	4
165	1024	*1-*6	*9-*13	*17-*20	*25	32	2	1	1	2	2	4	4
166	1024	*1-*6	*9-*14	*17,*18	*25,*26	32	2	1	1	2	2	4	4
167	1024	*1-*6	*9-*14	*17-*19	*25	32	2	1	1	2	2	4	4
168	1024	*1-*7	*9	*17-*23	*25	32	2	1	1	2	2	4	4
169	1024	*1-*7	*9-*11	*17-*19	*25-*27	32	2	1	1	3	1	6	2
170	1024	*1-*7	*9-*12	*17-*19	*25,*26	32	2	1	1	3	1	6	2
171	1024	*1-*7	*9-*12	*17-*20	*25	32	2	1	1	3	1	6	2
172	1024	*1-*7	*9-*13	*17,*18	*25,*26	32	2	1	1	2	2	4	4
173	1024	*1-*7	*9-*13	*17-*19	*25	32	2	1	1	2	2	4	4
174	1024	*1-*7	*9-*15	*17	*25	32	2	1	1	2	2	4	4
175	1024	*1-*8	—	*17-*24	—	32	0	1	0	0	2	0	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
176	1024	*1-*8	*9-*14	*17	*25	32	2	1	1	2	2	4	4
177	1088	*1-*5	*9-*12	*17-*20	*25-*28	34	2	1	1	3	1	6	2
178	1088	*1-*5	*9-*12	*17-*21	*25-*27	34	2	1	1	2	2	4	4
179	1088	*1-*5	*9-*13	*17-*20	*25-*27	34	2	1	1	2	2	4	4
180	1088	*1-*5	*9-*13	*17-*21	*25,*26	34	2	1	1	1	3	2	6
181	1088	*1-*6	*9-*11	*17-*22	*25,*26	34	2	1	1	2	2	4	4
182	1088	*1-*6	*9-*12	*17-*20	*25-*27	34	2	1	1	3	1	6	2
183	1088	*1-*6	*9-*12	*17-*22	*25	34	2	1	1	2	2	4	4
184	1088	*1-*6	*9-*13	*17-*19	*25-*27	34	2	1	1	2	2	4	4
185	1088	*1-*6	*9-*13	*17-*20	*25,*26	34	2	1	1	2	2	4	4
186	1088	*1-*6	*9-*13	*17-*21	*25	34	2	1	1	1	3	2	6
187	1088	*1-*6	*9-*14	*17-*19	*25,*26	34	2	1	1	2	2	4	4
188	1088	*1-*6	*9-*14	*17-*20	*25	34	2	1	1	2	2	4	4
189	1088	*1-*7	*9,*10	*17-*23	*25	34	2	1	1	2	2	4	4
190	1088	*1-*7	*9-*12	*17-*19	*25-*27	34	2	1	1	3	1	6	2
191	1088	*1-*7	*9-*12	*17-*20	*25,*26	34	2	1	1	3	1	6	2
192	1088	*1-*7	*9-*13	*17-*19	*25,*26	34	2	1	1	2	2	4	4
193	1088	*1-*7	*9-*13	*17-*20	*25	34	2	1	1	2	2	4	4
194	1088	*1-*7	*9-*15	*17,*18	*25	34	2	1	1	2	2	4	4
195	1088	*1-*8	*9-*15	*17	*25	34	2	1	1	2	2	4	4
196	1152	*1-*5	*9-*12	*17-*21	*25-*28	36	2	1	1	2	2	4	4
197	1152	*1-*5	*9-*13	*17-*20	*25-*28	36	2	1	1	2	2	4	4
198	1152	*1-*5	*9-*13	*17-*21	*25-*27	36	2	1	1	1	3	2	6
199	1152	*1-*6	*9-*11	*17-*22	*25-*27	36	2	1	1	2	2	4	4
200	1152	*1-*6	*9-*12	*17-*20	*25-*28	36	2	1	1	3	1	6	2
201	1152	*1-*6	*9-*12	*17-*22	*25,*26	36	2	1	1	2	2	4	4
202	1152	*1-*6	*9-*13	*17-*20	*25-*27	36	2	1	1	2	2	4	4
203	1152	*1-*6	*9-*13	*17-*21	*25,*26	36	2	1	1	1	3	2	6
204	1152	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	1	3	2	6
205	1152	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	1	3	2	6
206	1152	*1-*6	*9-*14	*17-*19	*25-*27	36	2	1	1	2	2	4	4
207	1152	*1-*6	*9-*14	*17-*20	*25,*26	36	2	1	1	2	2	4	4
208	1152	*1-*6	*9-*14	*17-*21	*25	36	2	1	1	1	3	2	6
209	1152	*1-*7	*9,*10	*17-*23	*25,*26	36	2	1	1	2	2	4	4
210	1152	*1-*7	*9-*11	*17-*23	*25	36	2	1	1	2	2	4	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
211	1152	*1-*7	*9-*12	*17-*20	*25-*27	36	2	1	1	3	1	6	2
212	1152	*1-*7	*9-*13	*17-*19	*25-*27	36	2	1	1	2	2	4	4
213	1152	*1-*7	*9-*13	*17-*20	*25,*26	36	2	1	1	2	2	4	4
214	1152	*1-*7	*9-*13	*17-*21	*25	36	2	1	1	1	3	2	6
215	1152	*1-*7	*9-*15	*17-*19	*25	36	2	1	1	2	2	4	4
216	1152	*1-*8	*9	*17-*24	*25	36	2	1	1	2	2	4	4
217	1152	*1-*8	*9-*16	*17	*25	36	2	1	1	2	2	4	4
218	1216	*1-*5	*9-*13	*17-*21	*25-*28	38	2	1	1	1	3	2	6
219	1216	*1-*6	*9-*12	*17-*22	*25-*27	38	2	1	1	2	2	4	4
220	1216	*1-*6	*9-*13	*17-*20	*25-*28	38	2	1	1	2	2	4	4
221	1216	*1-*6	*9-*13	*17-*21	*25-*27	38	2	1	1	1	3	2	6
222	1216	*1-*6	*9-*13	*17-*22	*25,*26	38	2	1	1	1	3	2	6
223	1216	*1-*6	*9-*14	*17-*20	*25-*27	38	2	1	1	2	2	4	4
224	1216	*1-*6	*9-*14	*17-*21	*25,*26	38	2	1	1	1	3	2	6
225	1216	*1-*6	*9-*14	*17-*22	*25	38	2	1	1	1	3	2	6
226	1216	*1-*7	*9-*11	*17-*23	*25,*26	38	2	1	1	2	2	4	4
227	1216	*1-*7	*9-*12	*17-*20	*25-*28	38	2	1	1	3	1	6	2
228	1216	*1-*7	*9-*12	*17-*23	*25	38	2	1	1	2	2	4	4
229	1216	*1-*7	*9-*13	*17-*20	*25-*27	38	2	1	1	2	2	4	4
230	1216	*1-*7	*9-*13	*17-*21	*25,*26	38	2	1	1	1	3	2	6
231	1216	*1-*7	*9-*15	*17-*19	*25,*26	38	2	1	1	2	2	4	4
232	1216	*1-*7	*9-*15	*17-*20	*25	38	2	1	1	2	2	4	4
233	1216	*1-*8	*9,*10	*17-*24	*25	38	2	1	1	2	2	4	4
234	1216	*1-*8	*9-*16	*17,*18	*25	38	2	1	1	2	2	4	4
235	1280	*1-*5	*9-*13	*17-*21	*25-*29	40	2	1	1	0	4	0	8
236	1280	*1-*6	*9-*12	*17-*22	*25-*28	40	2	1	1	2	2	4	4
237	1280	*1-*6	*9-*13	*17-*21	*25-*28	40	2	1	1	1	3	2	6
238	1280	*1-*6	*9-*13	*17-*22	*25-*27	40	2	1	1	1	3	2	6
239	1280	*1-*6	*9-*14	*17-*20	*25-*28	40	2	1	1	2	2	4	4
240	1280	*1-*6	*9-*14	*17-*21	*25-*27	40	2	1	1	1	3	2	6
241	1280	*1-*6	*9-*14	*17-*22	*25,*26	40	2	1	1	1	3	2	6
242	1280	*1-*7	*9-*11	*17-*23	*25-*27	40	2	1	1	2	2	4	4
243	1280	*1-*7	*9-*12	*17-*23	*25,*26	40	2	1	1	2	2	4	4
244	1280	*1-*7	*9-*13	*17-*20	*25-*28	40	2	1	1	2	2	4	4
245	1280	*1-*7	*9-*13	*17-*21	*25-*27	40	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
246	1280	*1-*7	*9-*13	*17-*23	*25	40	2	1	1	1	3	2	6
247	1280	*1-*7	*9-*14	*17-*22	*25	40	2	1	1	1	3	2	6
248	1280	*1-*7	*9-*15	*17-*19	*25-*27	40	2	1	1	2	2	4	4
249	1280	*1-*7	*9-*15	*17-*20	*25,*26	40	2	1	1	2	2	4	4
250	1280	*1-*7	*9-*15	*17-*21	*25	40	2	1	1	1	3	2	6
251	1280	*1-*8	*9,*10	*17-*24	*25,*26	40	2	1	1	2	2	4	4
252	1280	*1-*8	*9-*11	*17-*24	*25	40	2	1	1	2	2	4	4
253	1280	*1-*8	*9-*16	*17-*19	*25	40	2	1	1	2	2	4	4
254	1344	*1-*6	*9-*13	*17-*21	*25-*29	42	2	1	1	0	4	0	8
255	1344	*1-*6	*9-*13	*17-*22	*25-*28	42	2	1	1	1	3	2	6
256	1344	*1-*6	*9-*14	*17-*21	*25-*28	42	2	1	1	1	3	2	6
257	1344	*1-*6	*9-*14	*17-*22	*25-*27	42	2	1	1	1	3	2	6
258	1344	*1-*7	*9-*12	*17-*23	*25-*27	42	2	1	1	2	2	4	4
259	1344	*1-*7	*9-*13	*17-*21	*25-*28	42	2	1	1	1	3	2	6
260	1344	*1-*7	*9-*13	*17-*23	*25,*26	42	2	1	1	1	3	2	6
261	1344	*1-*7	*9-*14	*17-*22	*25,*26	42	2	1	1	1	3	2	6
262	1344	*1-*7	*9-*14	*17-*23	*25	42	2	1	1	1	3	2	6
263	1344	*1-*7	*9-*15	*17-*20	*25-*27	42	2	1	1	2	2	4	4
264	1344	*1-*7	*9-*15	*17-*21	*25,*26	42	2	1	1	1	3	2	6
265	1344	*1-*7	*9-*15	*17-*22	*25	42	2	1	1	1	3	2	6
266	1344	*1-*8	*9-*11	*17-*24	*25,*26	42	2	1	1	2	2	4	4
267	1344	*1-*8	*9-*12	*17-*24	*25	42	2	1	1	2	2	4	4
268	1344	*1-*8	*9-*16	*17-*20	*25	42	2	1	1	2	2	4	4
269	1408	*1-*6	*9-*13	*17-*22	*25-*29	44	2	1	1	0	4	0	8
270	1408	*1-*6	*9-*14	*17-*21	*25-*29	44	2	1	1	0	4	0	8
271	1408	*1-*6	*9-*14	*17-*22	*25-*28	44	2	1	1	1	3	2	6
272	1408	*1-*7	*9-*12	*17-*23	*25-*28	44	2	1	1	2	2	4	4
273	1408	*1-*7	*9-*13	*17-*21	*25-*29	44	2	1	1	0	4	0	8
274	1408	*1-*7	*9-*13	*17-*23	*25-*27	44	2	1	1	1	3	2	6
275	1408	*1-*7	*9-*14	*17-*22	*25-*27	44	2	1	1	1	3	2	6
276	1408	*1-*7	*9-*14	*17-*23	*25,*26	44	2	1	1	1	3	2	6
277	1408	*1-*7	*9-*15	*17-*20	*25-*28	44	2	1	1	2	2	4	4
278	1408	*1-*7	*9-*15	*17-*21	*25-*27	44	2	1	1	1	3	2	6
279	1408	*1-*7	*9-*15	*17-*22	*25,*26	44	2	1	1	1	3	2	6
280	1408	*1-*7	*9-*15	*17-*23	*25	44	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
281	1408	*1-*8	*9-*11	*17-*24	*25-*27	44	2	1	1	2	2	4	4
282	1408	*1-*8	*9-*12	*17-*24	*25,*26	44	2	1	1	2	2	4	4
283	1408	*1-*8	*9-*13	*17-*24	*25	44	2	1	1	1	3	2	6
284	1408	*1-*8	*9-*16	*17-*21	*25	44	2	1	1	1	3	2	6
285	1472	*1-*6	*9-*14	*17-*22	*25-*29	46	2	1	1	0	4	0	8
286	1472	*1-*7	*9-*13	*17-*23	*25-*28	46	2	1	1	1	3	2	6
287	1472	*1-*7	*9-*14	*17-*22	*25-*28	46	2	1	1	1	3	2	6
288	1472	*1-*7	*9-*14	*17-*23	*25-*27	46	2	1	1	1	3	2	6
289	1472	*1-*7	*9-*15	*17-*21	*25-*28	46	2	1	1	1	3	2	6
290	1472	*1-*7	*9-*15	*17-*22	*25-*27	46	2	1	1	1	3	2	6
291	1472	*1-*7	*9-*15	*17-*23	*25,*26	46	2	1	1	1	3	2	6
292	1472	*1-*8	*9-*12	*17-*24	*25-*27	46	2	1	1	2	2	4	4
293	1472	*1-*8	*9-*13	*17-*24	*25,*26	46	2	1	1	1	3	2	6
294	1472	*1-*8	*9-*14	*17-*24	*25	46	2	1	1	1	3	2	6
295	1472	*1-*8	*9-*16	*17-*22	*25	46	2	1	1	1	3	2	6
296	1536	*1-*6	*9-*14	*17-*22	*25-*30	48	2	1	1	0	4	0	8
297	1536	*1-*7	*9-*13	*17-*23	*25-*29	48	2	1	1	0	4	0	8
298	1536	*1-*7	*9-*14	*17-*22	*25-*29	48	2	1	1	0	4	0	8
299	1536	*1-*7	*9-*14	*17-*23	*25-*28	48	2	1	1	1	3	2	6
300	1536	*1-*7	*9-*15	*17-*21	*25-*29	48	2	1	1	0	4	0	8
301	1536	*1-*7	*9-*15	*17-*22	*25-*28	48	2	1	1	1	3	2	6
302	1536	*1-*7	*9-*15	*17-*23	*25-*27	48	2	1	1	1	3	2	6
303	1536	*1-*8	*9-*12	*17-*24	*25-*28	48	2	1	1	2	2	4	4
304	1536	*1-*8	*9-*13	*17-*24	*25-*27	48	2	1	1	1	3	2	6
305	1536	*1-*8	*9-*14	*17-*24	*25,*26	48	2	1	1	1	3	2	6
306	1536	*1-*8	*9-*15	*17-*24	*25	48	2	1	1	1	3	2	6
307	1536	*1-*8	*9-*16	*17-*23	*25	48	2	1	1	1	3	2	6
308	1600	*1-*7	*9-*14	*17-*22	*25-*30	50	2	1	1	0	4	0	8
309	1600	*1-*7	*9-*14	*17-*23	*25-*29	50	2	1	1	0	4	0	8
310	1600	*1-*7	*9-*15	*17-*22	*25-*29	50	2	1	1	0	4	0	8
311	1600	*1-*7	*9-*15	*17-*23	*25-*28	50	2	1	1	1	3	2	6
312	1600	*1-*8	*9-*13	*17-*24	*25-*28	50	2	1	1	1	3	2	6
313	1600	*1-*8	*9-*14	*17-*24	*25-*27	50	2	1	1	1	3	2	6
314	1600	*1-*8	*9-*15	*17-*24	*25,*26	50	2	1	1	1	3	2	6
315	1600	*1-*8	*9-*16	*17-*24	*25	50	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
316	1664	*1-*7	*9-*14	*17-*23	*25-*30	52	2	1	1	0	4	0	8
317	1664	*1-*7	*9-*15	*17-*22	*25-*30	52	2	1	1	0	4	0	8
318	1664	*1-*7	*9-*15	*17-*23	*25-*29	52	2	1	1	0	4	0	8
319	1664	*1-*8	*9-*13	*17-*24	*25-*29	52	2	1	1	0	4	0	8
320	1664	*1-*8	*9-*14	*17-*24	*25-*28	52	2	1	1	1	3	2	6
321	1664	*1-*8	*9-*15	*17-*24	*25-*27	52	2	1	1	1	3	2	6
322	1664	*1-*8	*9-*16	*17-*24	*25,*26	52	2	1	1	1	3	2	6
323	1728	*1-*7	*9-*15	*17-*23	*25-*30	54	2	1	1	0	4	0	8
324	1728	*1-*8	*9-*14	*17-*24	*25-*29	54	2	1	1	0	4	0	8
325	1728	*1-*8	*9-*15	*17-*24	*25-*28	54	2	1	1	1	3	2	6
326	1728	*1-*8	*9-*16	*17-*24	*25-*27	54	2	1	1	1	3	2	6
327	1792	*1-*7	*9-*15	*17-*23	*25-*31	56	2	1	1	0	4	0	8
328	1792	*1-*8	*9-*14	*17-*24	*25-*30	56	2	1	1	0	4	0	8
329	1792	*1-*8	*9-*15	*17-*24	*25-*29	56	2	1	1	0	4	0	8
330	1792	*1-*8	*9-*16	*17-*24	*25-*28	56	2	1	1	1	3	2	6
331	1856	*1-*8	*9-*15	*17-*24	*25-*30	58	2	1	1	0	4	0	8
332	1856	*1-*8	*9-*16	*17-*24	*25-*29	58	2	1	1	0	4	0	8
333	1920	*1-*8	*9-*15	*17-*24	*25-*31	60	2	1	1	0	4	0	8
334	1920	*1-*8	*9-*16	*17-*24	*25-*30	60	2	1	1	0	4	0	8
335	1984	*1-*8	*9-*16	*17-*24	*25-*31	62	2	1	1	0	4	0	8
336	2048	*1-*8	*9-*16	*17-*24	*25-*32	64	2	1	1	0	4	0	8

NOTE 1: The above numbers (*17 through *32) represent the CM Module locations shown in Fig. 3.7.1-14 or Fig. 3.7.1-18.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

6-2 Insert the PCB.

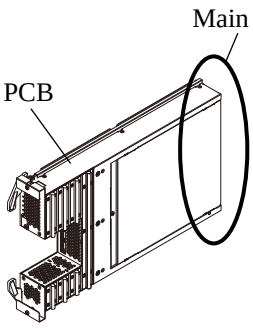
a. Remove the two screws and remove the dummy plate.

NOTE: Store the removed dummy plate as it is required when the Additional Cache Path Control Adapter is removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Install the CM PCB and tighten the two screws.

NOTE: When inserting the CM PCB, be careful not to get cables caught on anything.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.7.1-5 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
1	DKC-1	1CC	CACHE-1CC	
		1CD	CACHE-1CD	

Copyright © 2014, Hitachi, Ltd.

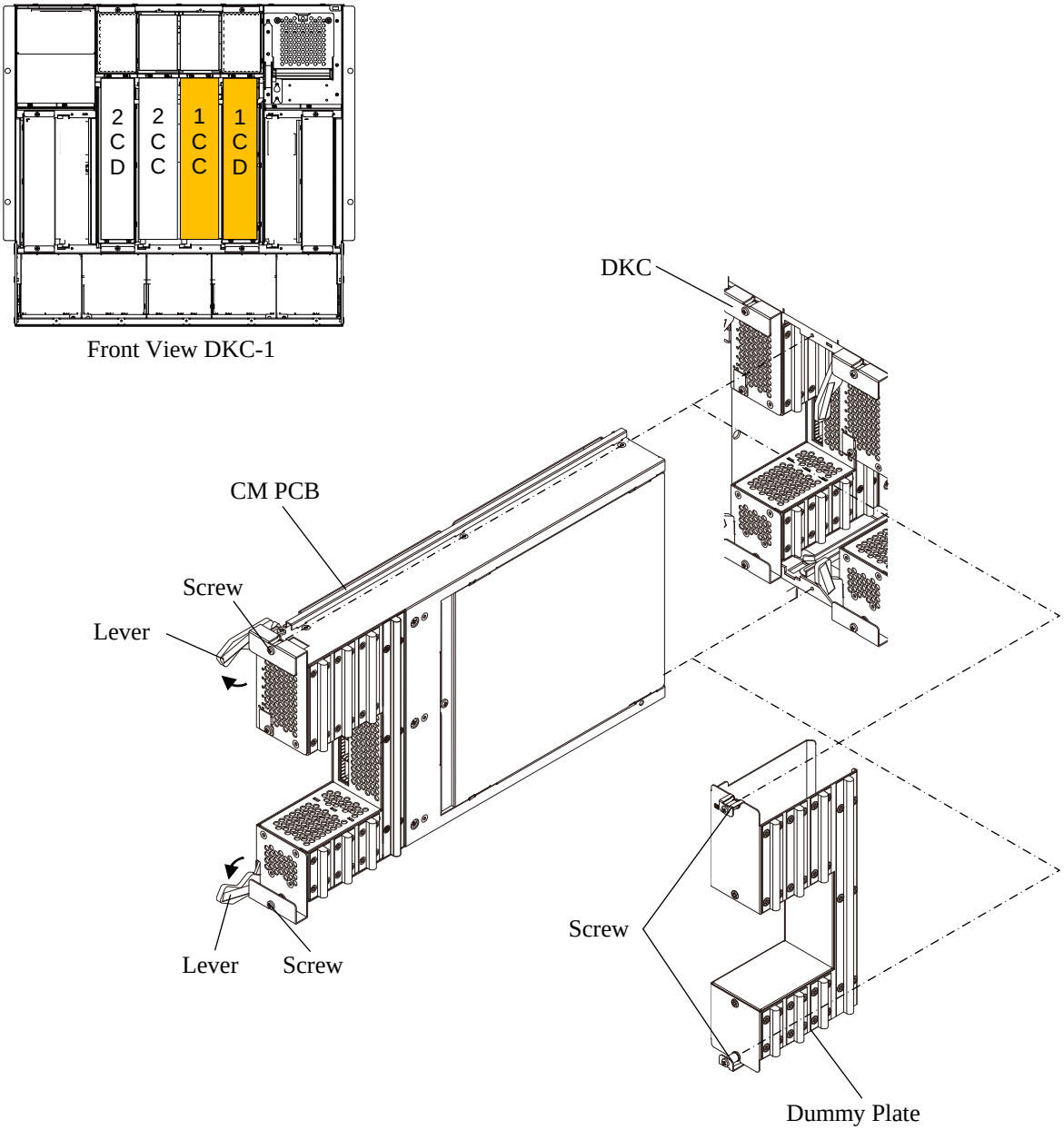


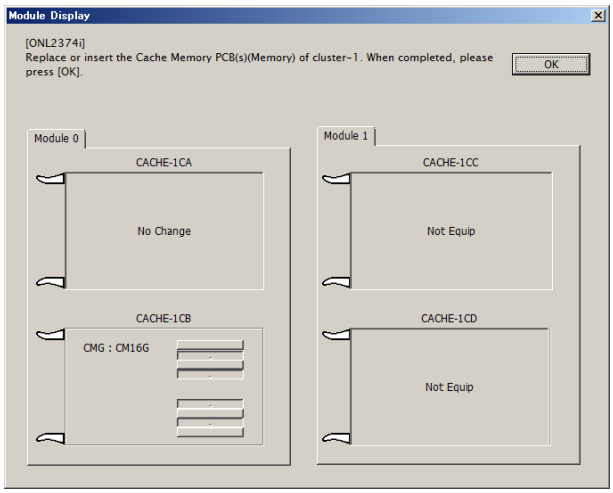
Fig. 3.7.1-16 Installation of PCB

Copyright © 2014, Hitachi, Ltd.

7. SVP Post-Procedure

(1)

After completing the additional installation of the cache memory, select (CL) [OK] in response to “Replace or insert the Cache Memory PCB(s)(Memory) of cluster-1. When completed, please press OK.”.



(2) <Cache CUDG executes>
“INLINE CUDG is now running...” is displayed.

(3)

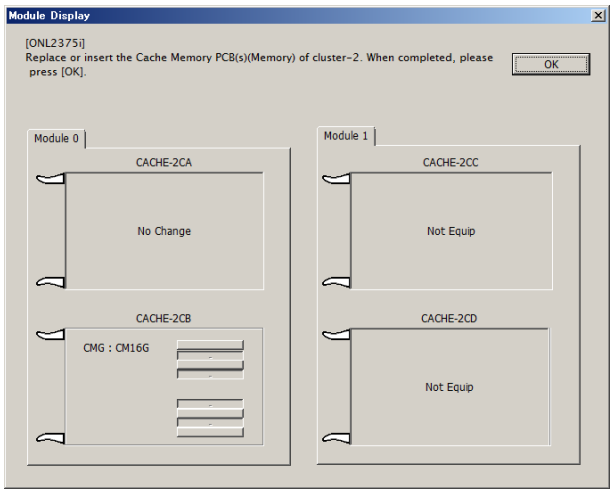
“Changing the configuration date, for equipment of shared/cache memory...”
“Restoring the Cache Memory PCB...” is displayed.

NOTICE: Recover according to the procedure shown in “TROUBLE SHOOTING SECTION” (Refer to TRBL02-480) when the mistake of the memory module setting occurs.

Copyright © 2014, Hitachi, Ltd.

8. SVP pre procedure (Cache Memory) (Cluster 2)

(1) <Perform cache hardware installation>
At this point refrain from pressing the [OK] button.
When “Replace or insert the Cache Memory PCB(s)(Memory) of cluster-2. When completed, please press [OK].” is displayed, install hardware components according to the cache hardware installation procedure.



Make sure of the installation location and size of the module to be added and insert the correct module in the correct location. (The Shared Memory capacity may be changed at the same time, depending on the set Cache Memory capacity.)

Copyright © 2014, Hitachi, Ltd.

9. Install the Cache Memory on the cluster 2

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

9-1 Insert the CM Modules.

a. Loosen the screw and remove the cover.

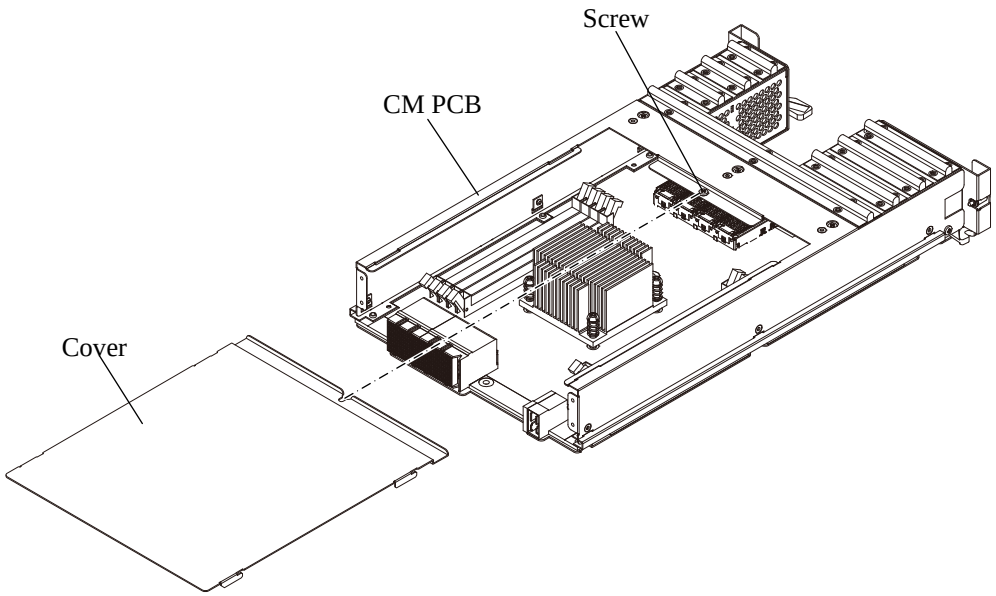
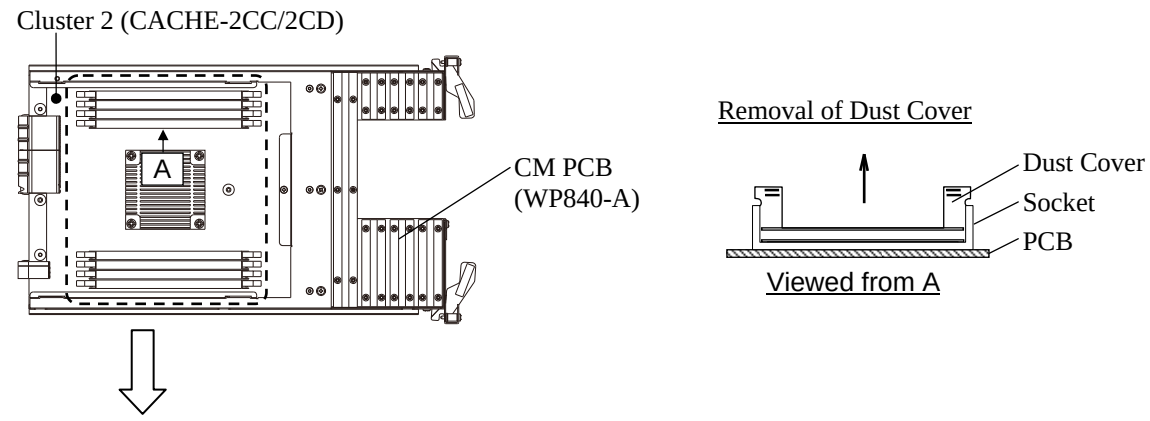


Fig. 3.7.1-17 Removal of Cover

Copyright © 2014, Hitachi, Ltd.

b. Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.7.1-18, Fig. 3.7.1-19, Table 3.7.1-1 through Table 3.7.1-4.
c. Insert the CM Modules that match the required Cache Memory capacity.
d. Attach the cover and tighten the screw. (Refer to Fig. 3.7.1-17.)

CM Module Location of DKC-1



CACHE-2CC (Option 2)

CM1P:	*18
CM5P:	*22
CM3P:	*20
CM7P:	*24

CM6P:	*23
CM2P:	*19
CM4P:	*21
CM0P:	*17

CACHE-2CD (Option 3)

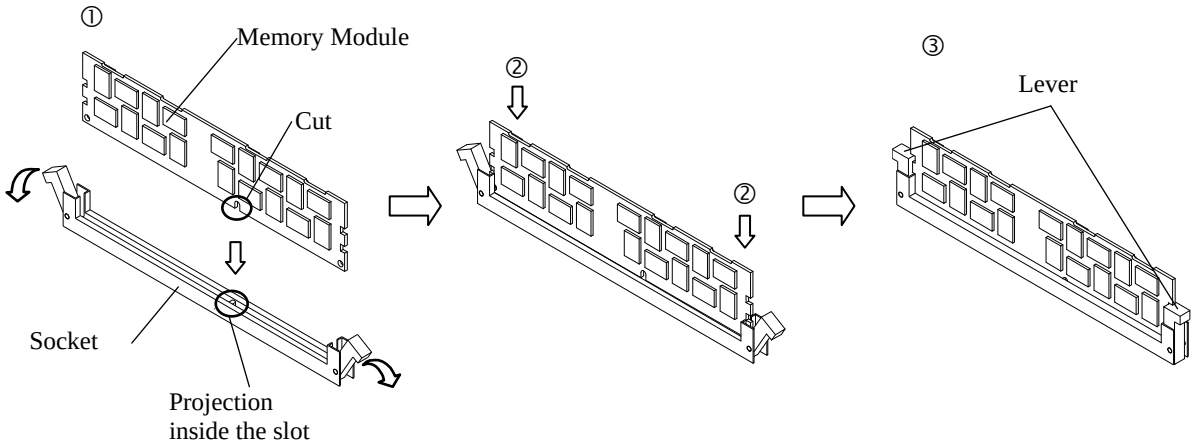
CM1P:	*26
CM5P:	*30
CM3P:	*28
CM7P:	*32

CM6P:	*31
CM2P:	*27
CM4P:	*29
CM0P:	*25

NOTE: The cache memory module location *17 through *32 correspond to the CM Location listed in Table 3.7.1-1 through Table 3.7.1-4.

Fig. 3.7.1-18 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.



Installation

① Position the cut of the memory module with the projection inside the slot, and place the memory module on the socket.
② Hold both ends of the memory module by the fingers, and fit it into the socket.
③ Make sure that the lever is firmly fitted in the memory module.

NOTICE: Do not put intense pressure on the CM Module to the extent that the PCB greatly bends after the CM Module is secured with the levers in installation procedure of the CM Module. The PCB may be damaged when intense pressure is applied.

Memory Module Appearance

There are two types of memory modules. One has a heat spreader and the other has no heat spreaders. Both memory modules can be used because they are compatible with each other.

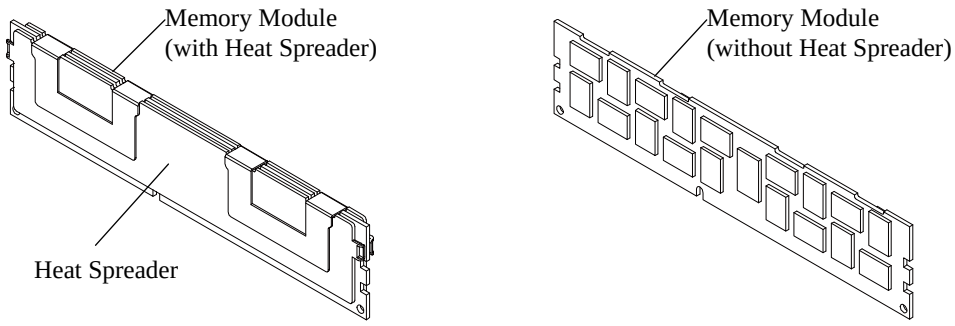


Fig. 3.7.1-19 Insertion of Memory Module

Copyright © 2014, Hitachi, Ltd.

9-2 Insert the PCB.

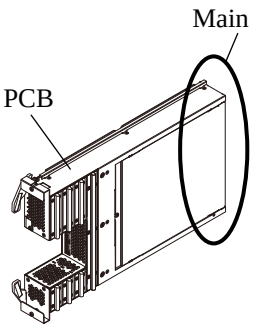
a. Remove the two screws and remove the dummy plate.

NOTE: Store the removed dummy plate as it is required when the Additional Cache Path Control Adapter is removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Install the CM PCB and tighten the two screws.

NOTE: When inserting the CM PCB, be careful not to get cables caught on anything.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.7.1-6 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
2	DKC-1	2CC	CACHE-2CC	
		2CD	CACHE-2CD	

Copyright © 2014, Hitachi, Ltd.

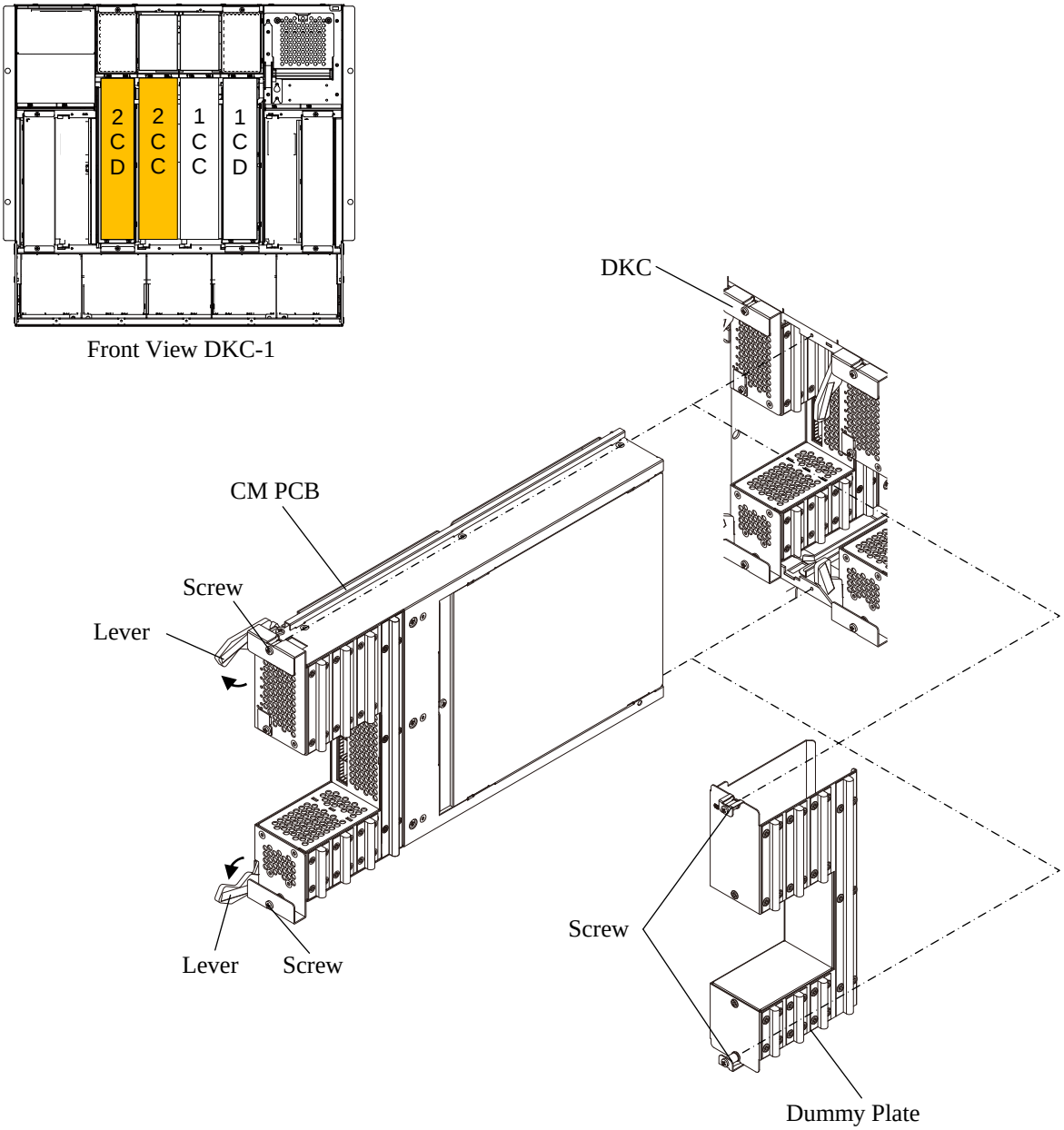


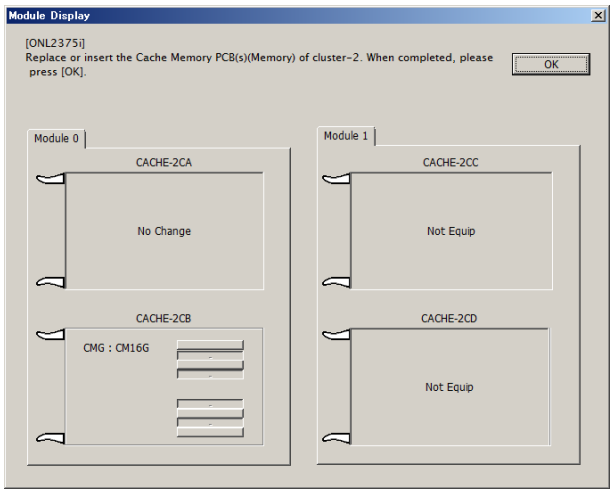
Fig. 3.7.1-20 Installation of PCB

Copyright © 2014, Hitachi, Ltd.

10. SVP Post-Procedure

(1)

After completing the additional installation of the cache memory, select (CL) [OK] in response to “Replace or insert the Cache Memory PCB(s)(Memory) of cluster-2. When completed, please press [OK].”.



(2) <Cache CUDG executes>
“INLINE CUDG is now running...” is displayed.

(3)

“Changing the configuration date, for equipment of shared/cache memory...”
“Restoring the Cache Memory PCB...” is displayed.

NOTICE: Recover according to the procedure shown in “TROUBLE SHOOTING SECTION” (Refer to TRBL02-480) when the mistake of the memory module setting occurs.

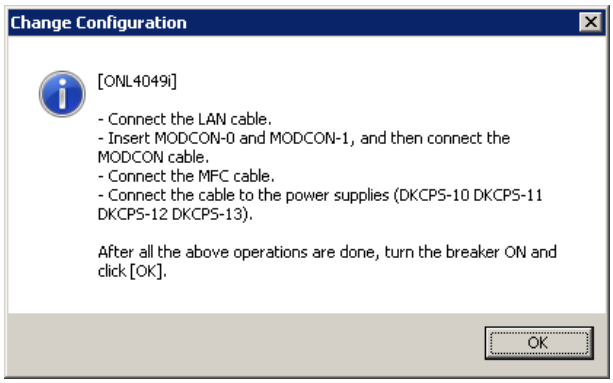
Copyright © 2014, Hitachi, Ltd.

11. SVP pre procedure (Check Power ON)

(1) <Downloading the microprogram>
The microprogram is downloaded to the SM.
The progress of the downloading is displayed.

---

(2) <Power ON>
"- Connect the LAN cable.
- Insert MODCON-0 and MODCON-1, and then connect the MODCON cable.
- Connect the MFC cable.
- Connect the cable to the power supplies (DKCPS-10 DKCPS-11 DKCPS-12 DKCPS-13).
After all the above operations are done, turn the breaker ON and click [OK]." is displayed.



NOTE: Do not select (CL) [OK] by mistake before installing the part(s) to be added in the storage system.

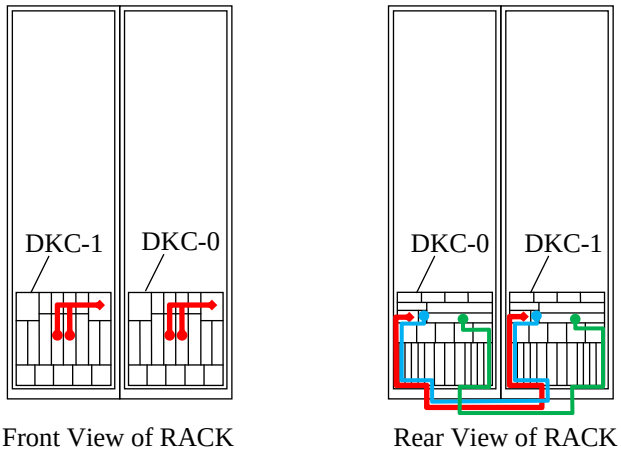
Copyright © 2014, Hitachi, Ltd.

12. Installation Procedure of Inter-Controller Connecting Kit (DKC-F810I-MOD5/MOD30/MOD1J)

12-1 Cable Wiring Patterns

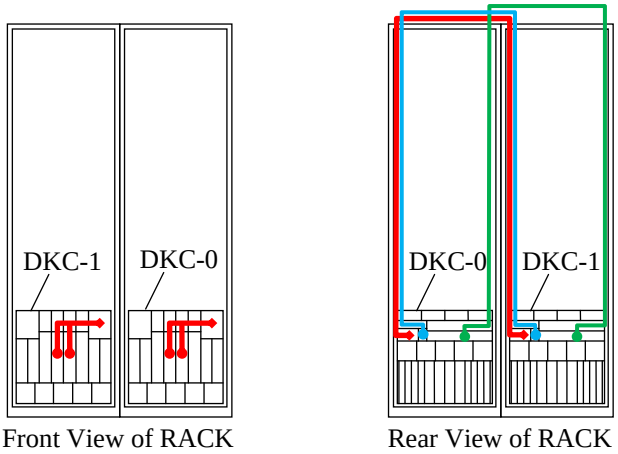
a. Cable wiring patterns are shown below. Select one of the patterns below according to installation locations of DKCs and cable wiring routes.

Pattern① (Cable wiring through the bottom of the rack) [MOD5/MOD30/MOD1J]



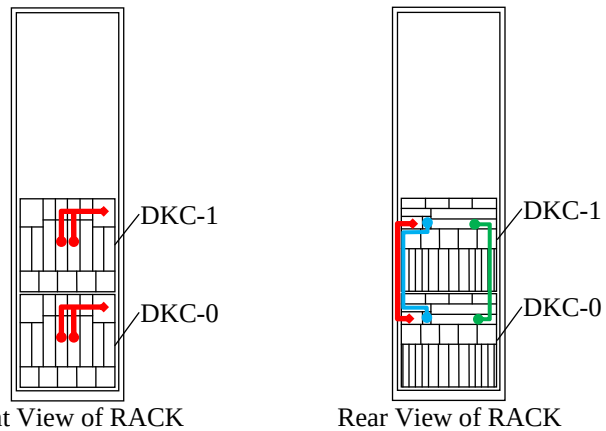
Front View of RACK Rear View of RACK

Pattern② (Cable wiring through the top of the rack) [MOD30/MOD1J]



Front View of RACK Rear View of RACK

Pattern③ (Cable wiring within a same rack) [MOD5]



Front View of RACK Rear View of RACK

Fig. 3.7.1-21 Cable Wiring Patterns

Copyright © 2014, Hitachi, Ltd.

12-2Installation of LAN Cable

Cable wiring through the bottom of the rack

a. Loosen the four screws on the rear bottom or the rack and slide the two S/R ASSYs to the back.
b. Route the LAN cable on the rear side of the rack.
   If the cables have extra length, roll up and put the extra length between the bottom of the rack and the floor.
c. Connect the LAN cable (P83) to the connector (J83) on the HUBBOX-10 on the rear side of the DKC-1.
d. Connect the LAN cable (P84) to the connector (J84) on the SVP-BASIC on the rear side of the DKC-0.

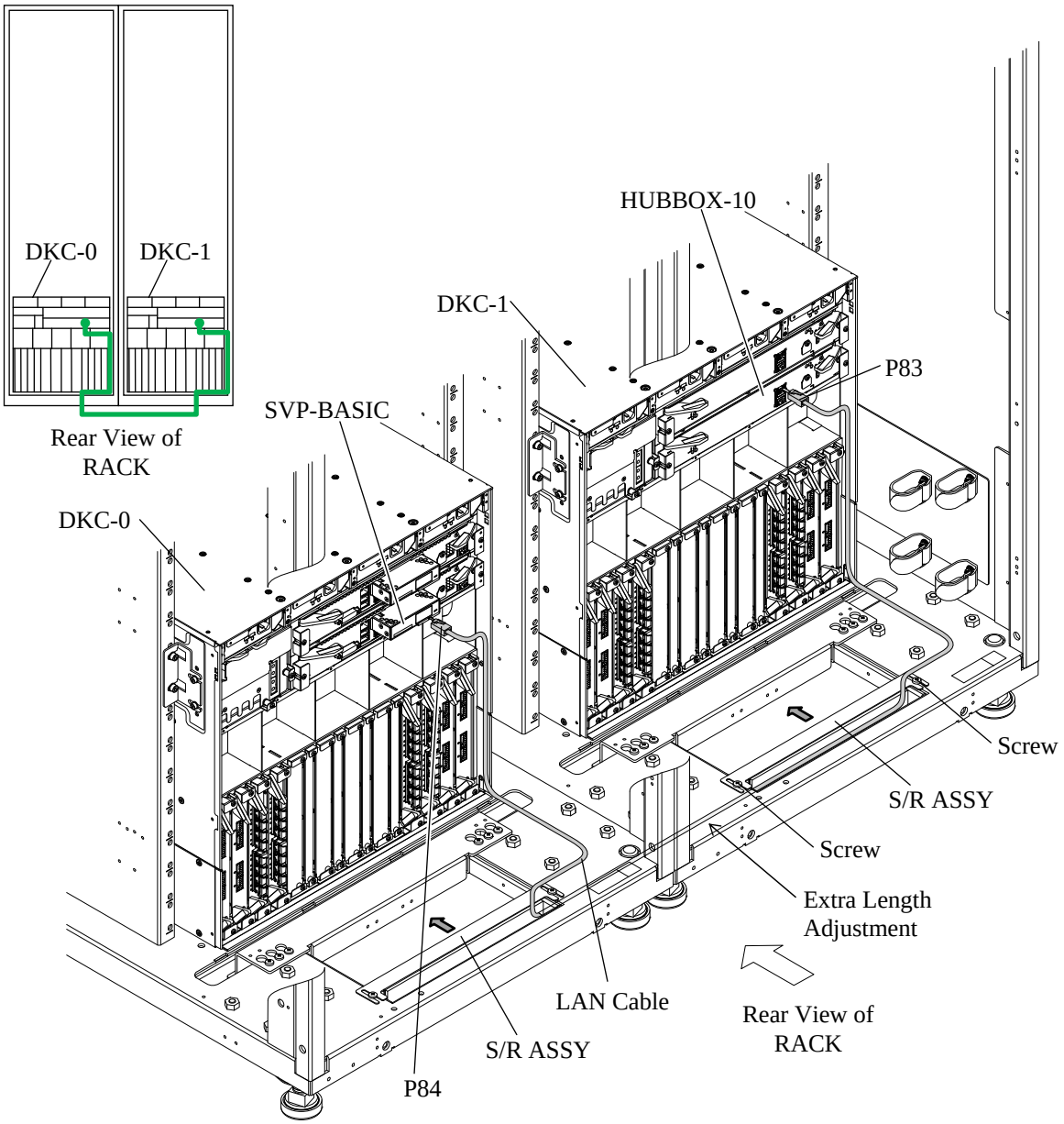


Fig. 3.7.1-22 Installation of LAN Cable

Copyright © 2014, Hitachi, Ltd.

Cable wiring through the top of the rack

a. Loosen the four screws on the top of the rack and slide the two Windows of the openings.
b. Route the LAN cable on the rear side of the rack.
   If the cable has extra length, roll up and put the extra length on the top of the rack.
c. Connect the LAN cable (P83) to the connector (J83) on the HUBBOX-10 on the rear side of the DKC-1.
d. Connect the LAN cable (P84) to the connector (J84) on the SVP-BASIC on the rear side of the DKC-0.

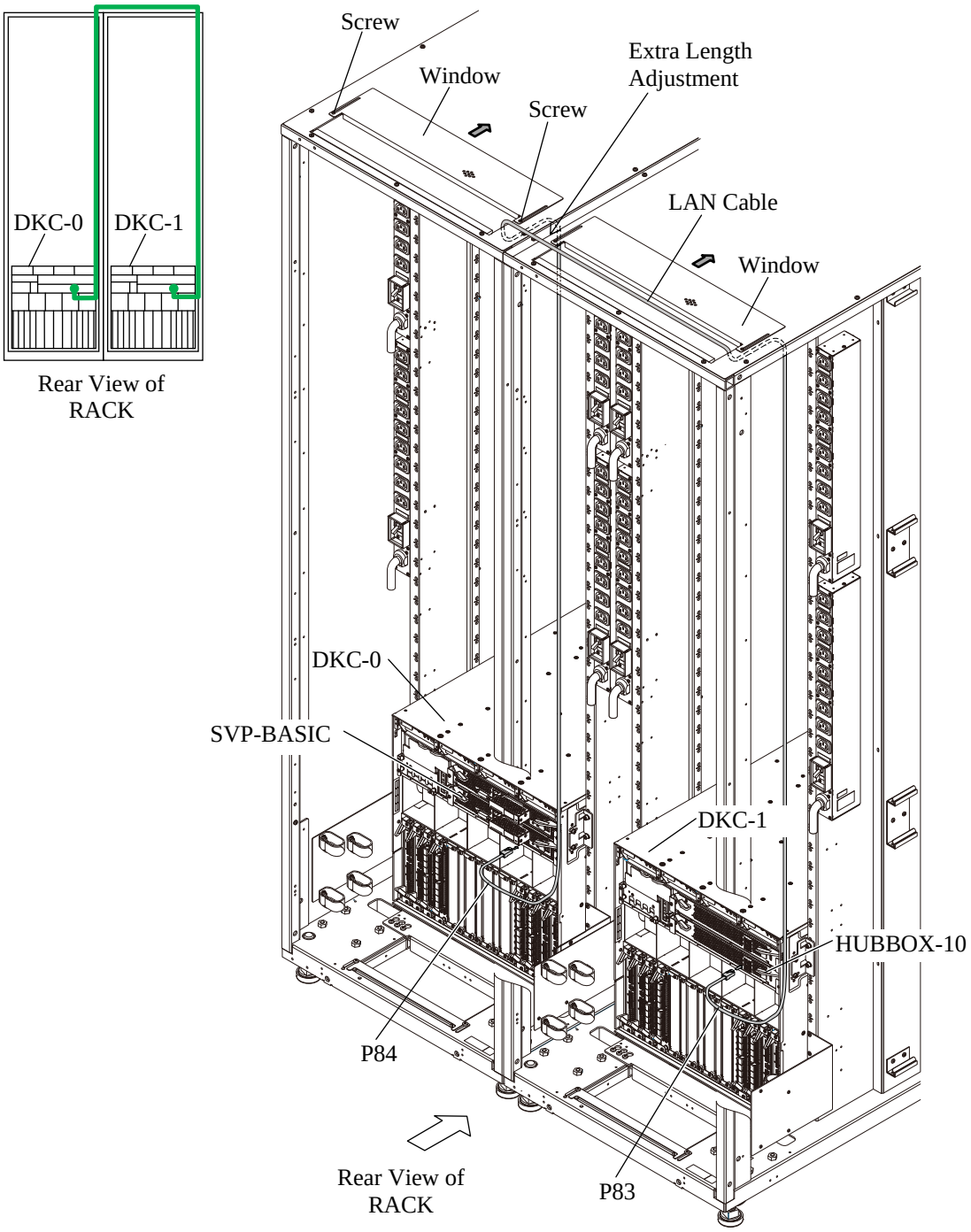


Fig. 3.7.1-23 Installation of LAN Cable

Copyright © 2014, Hitachi, Ltd.

Cable wiring within a same rack

a. Route the LAN cable on the rear side of the rack.
b. Connect the LAN cable (P83) to the connector (J83) on the HUBBOX-10 on the rear side of the DKC-1.
c. Connect the LAN cable (P84) to the connector (J84) on the SVP-BASIC on the rear side of the DKC-0.

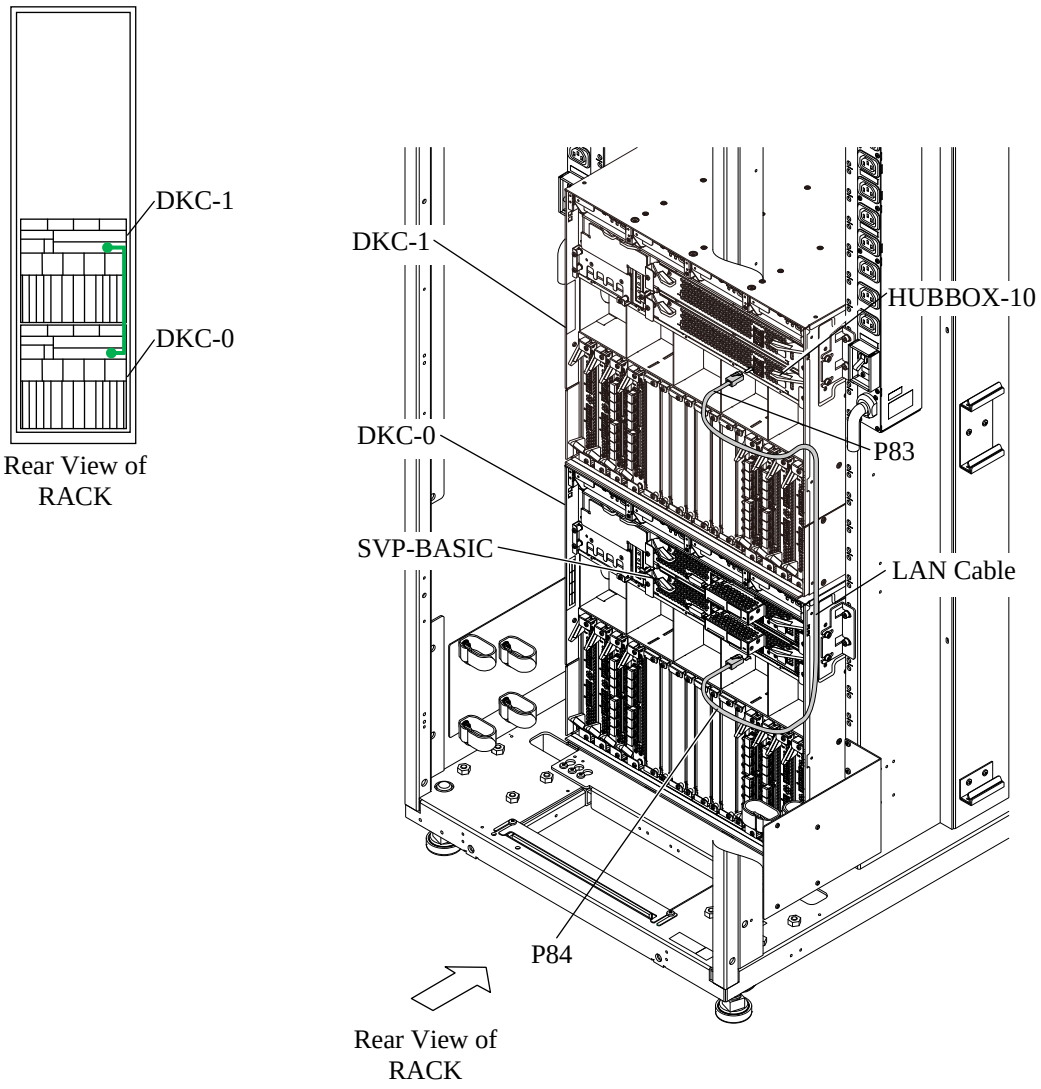
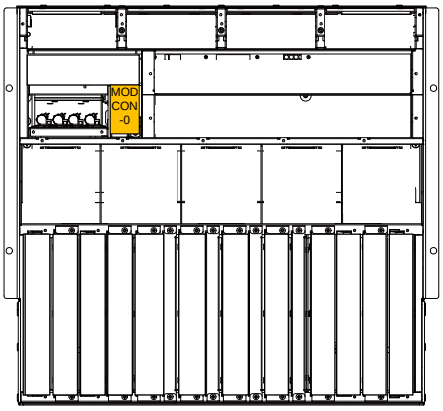


Fig. 3.7.1-24 Installation of LAN Cable

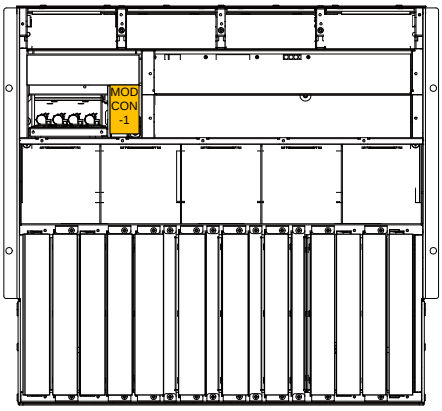
Copyright © 2014, Hitachi, Ltd.

12-3Installation of MODCON

a. Insert the MODCON to the rear of the DKC-0 and fix it with the screw.
b. Insert the MODCON to the rear of the DKC-1 and fix it with the screw.



Rear View of DKC-0



Rear View of DKC-1

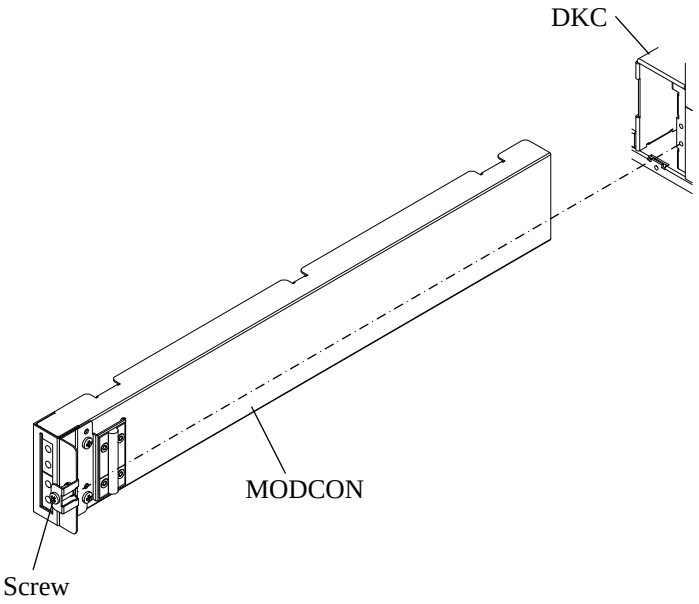


Fig. 3.7.1-25 Installation of MODCON

Copyright © 2014, Hitachi, Ltd.

12-4 Installation of MODCON Cable

a. Attach the four included Location Labels to the MODCON Cable (two cables).

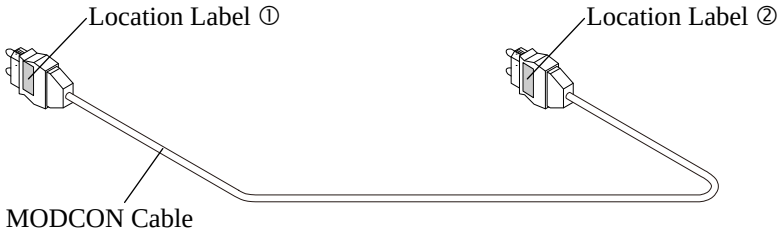


Fig. 3.7.1-26 Attachment of Location Labels

Table 3.7.1-7 Location Label List

No.	Connection Source (DKC-0)		Connection Destination (DKC-1)		Remarks
	Part Name	Location Label ①	Part Name	Location Label ②	
1	MODCON-0	MOD-01	MODCON-1	MOD-11	
2	MODCON-0	MOD-02	MODCON-1	MOD-12	

Copyright © 2014, Hitachi, Ltd.

Cable wiring through the bottom of the rack

b. Route the MODCON cables on the rear side of the rack.
   If the cables have extra length, roll up and put the extra length between the bottom of the rack and the floor.
c. Remove the caps from the MODCON cables and connect the MODCON cables to the MODCON-0 and the MODCON-1.

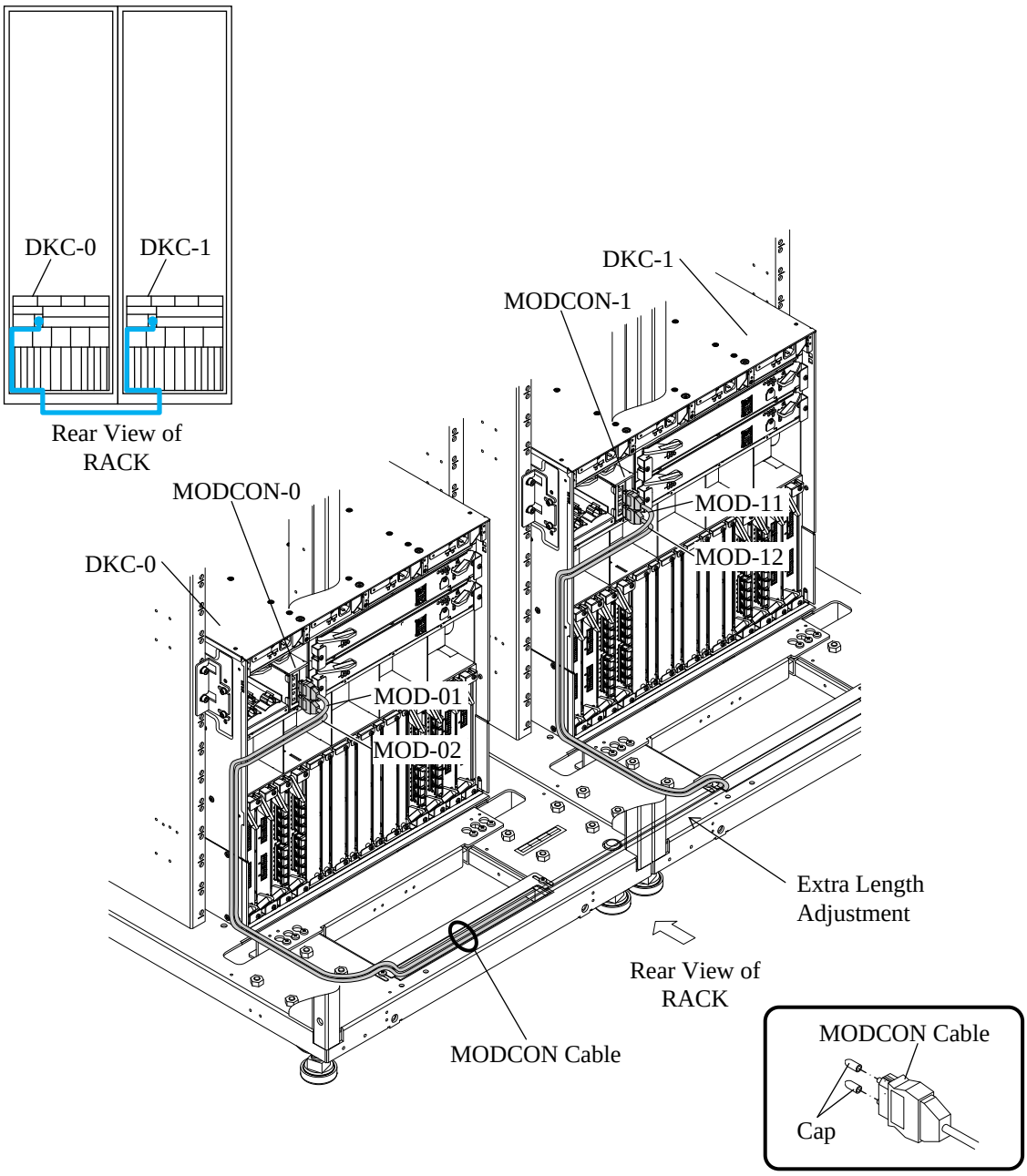


Fig. 3.7.1-27 Installation of MODCON Cable

Copyright © 2014, Hitachi, Ltd.

Cable wiring through the top of the rack

b. Route the MODCON cables on the rear side of the rack.
   If the cables have extra length, roll up and put the extra length on the top of the rack.
c. Remove the caps from the MODCON cables and connect the MODCON cables to the MODCON-0 and the MODCON-1.

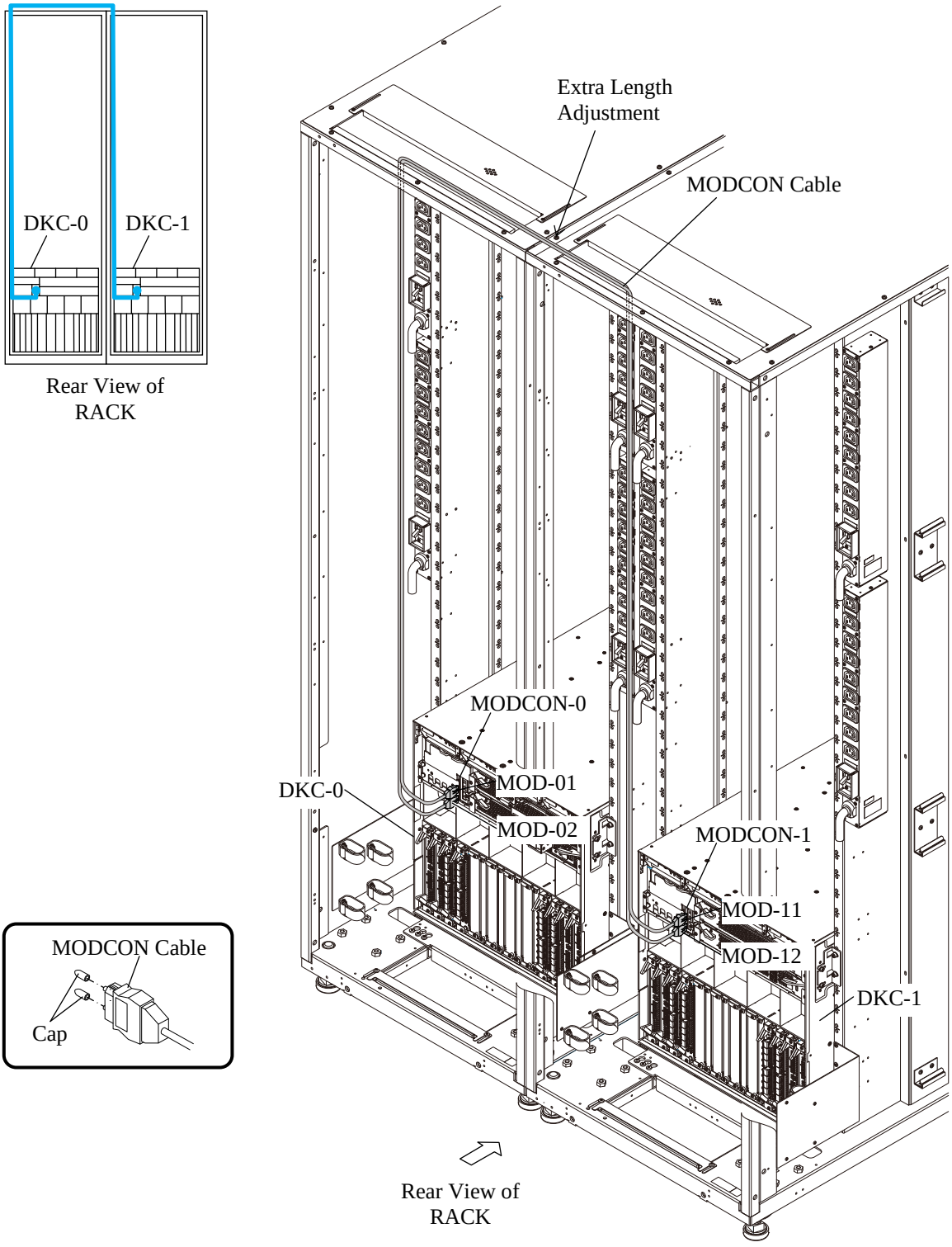


Fig. 3.7.1-28 Installation of MODCON Cable

Copyright © 2014, Hitachi, Ltd.

Cable wiring within a same rack

b. Route the MODCON cables on the rear side of the rack.
c. Remove the caps from the MODCON cables and connect the MODCON cables to the MODCON-0 and the MODCON-1.

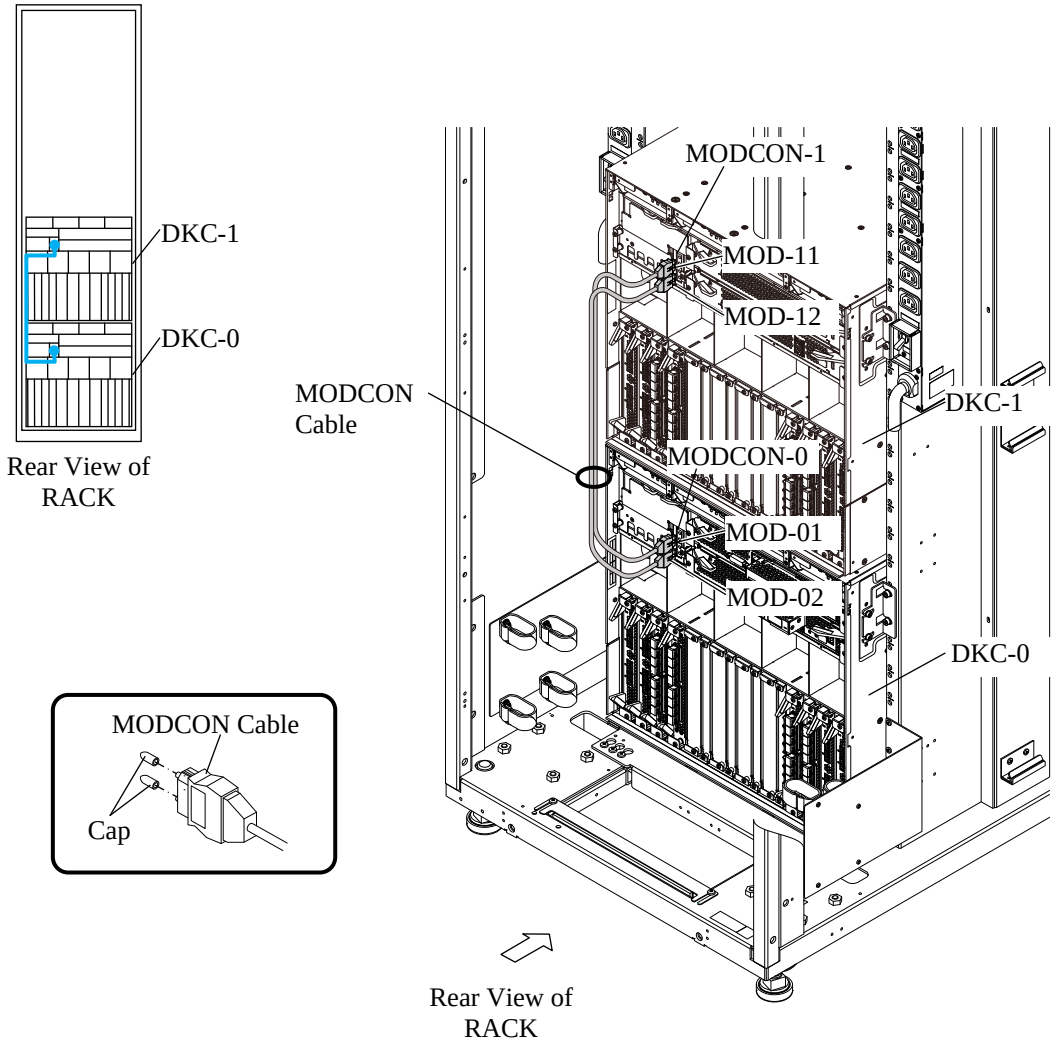


Fig. 3.7.1-29 Installation of MODCON Cable

Copyright © 2014, Hitachi, Ltd.

12-5 Removal of Cable Covers and Accessory Box (If they are already removed, this procedure is not necessary)

a. Loosen the three screws ① on the front side of the DKC-0 and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.

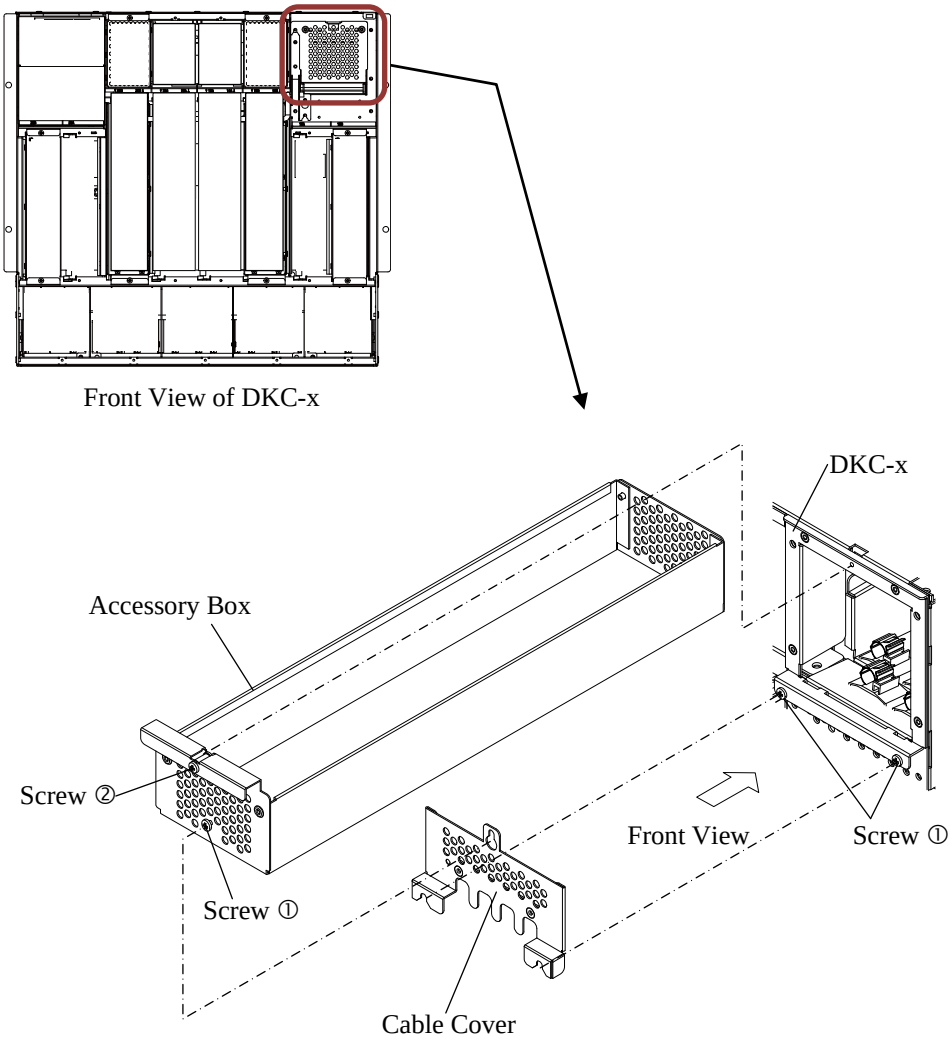


Fig. 3.7.1-30 Removal of Cable Cover and Accessory Box

Copyright © 2014, Hitachi, Ltd.

c. Loosen the three screws on the rear side of the DKC-0 and remove the cable cover.
d. In the same manner, remove the two cable covers and the accessory box from the DKC-1.

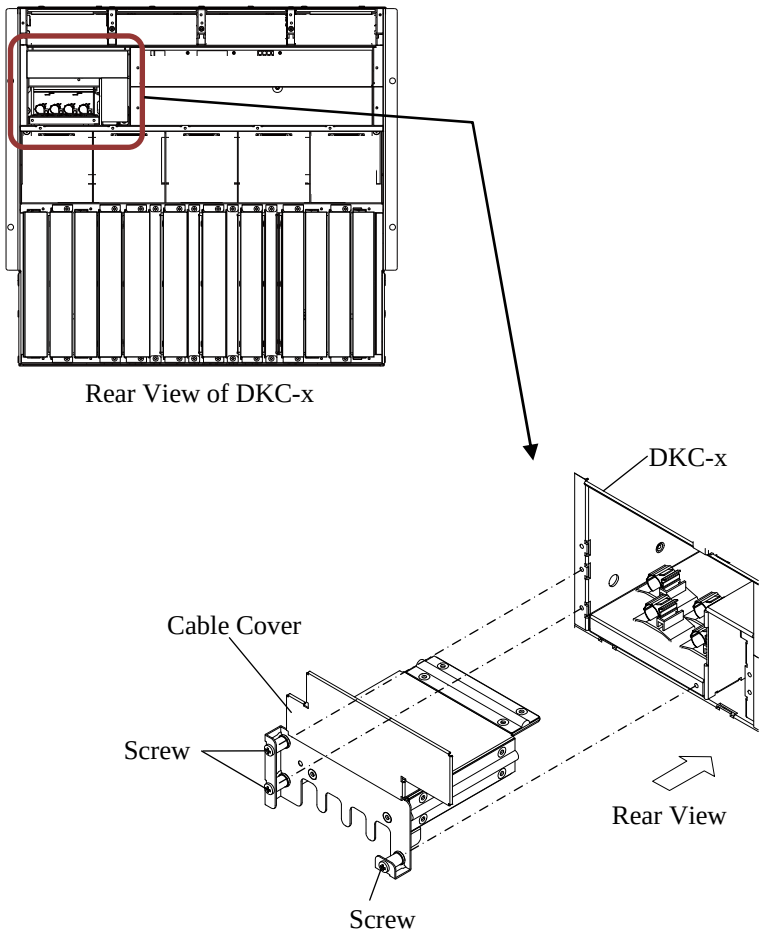
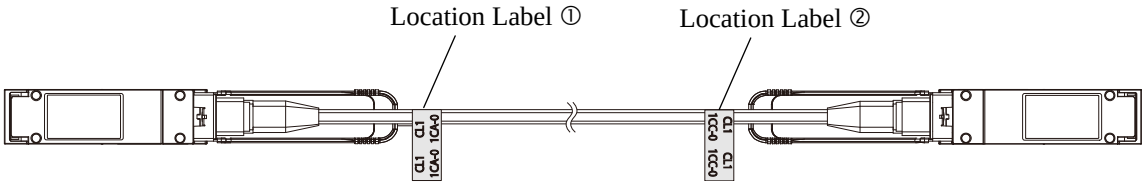


Fig. 3.7.1-31 Removal of Cable Cover

Copyright © 2014, Hitachi, Ltd.

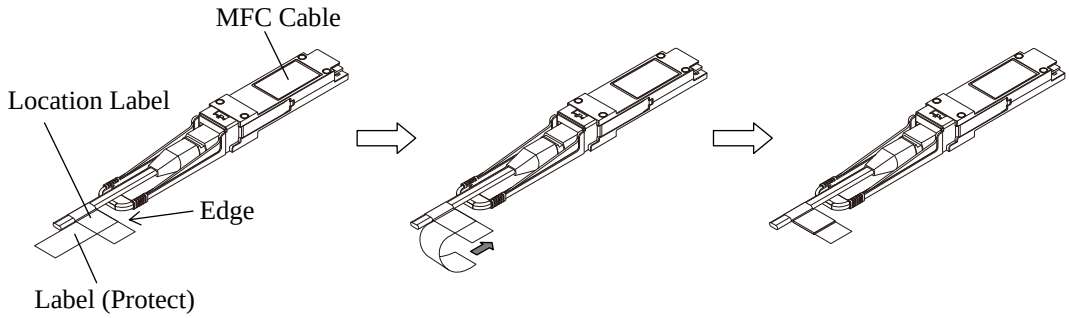
12-6Installation of MFC Cable

a. Attach 16 location labels to 8 MFC cables. Choose location labels from Labels (Address) 3.
b. Stick the Label (Protect) around the attached location labels.



MFC Cable

[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.7.1-32 Attachment of Location Labels

Table 3.7.1-8 Location Label List

No.	Connection Source (DKC-0)			Connection Destination (DKC-1)		
	Part Name	Location Label ①	Label Color	Part Name	Location Label ②	Label Color
1	CACHE-1CA	CL1 1CA-0	White/Black	CACHE-1CC	CL1 1CC-0	White/Black
2	CACHE-1CA	CL1 1CA-1	White/Brown	CACHE-1CC	CL1 1CC-1	White/Brown
3	CACHE-1CA	CL1 1CA-2	White/Red	CACHE-1CC	CL1 1CC-2	White/Red
4	CACHE-1CA	CL1 1CA-3	White/Orange	CACHE-1CC	CL1 1CC-3	White/Orange
5	CACHE-2CA	CL2 2CA-0	Yellow/Black	CACHE-2CC	CL2 2CC-0	Yellow/Black
6	CACHE-2CA	CL2 2CA-1	Yellow/Brown	CACHE-2CC	CL2 2CC-1	Yellow/Brown
7	CACHE-2CA	CL2 2CA-2	Yellow/Red	CACHE-2CC	CL2 2CC-2	Yellow/Red
8	CACHE-2CA	CL2 2CA-3	Yellow/Orange	CACHE-2CC	CL2 2CC-3	Yellow/Orange

Copyright © 2014, Hitachi, Ltd.

12-7Installation of MFC Cable

Cable wiring through the bottom of the rack

a. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
   If the cables have extra length, roll up and put the extra length between the bottom of the rack and the floor.
b. Fix the MFC Cable with the four Locking Clamps.
c. Slide the two S/R ASSYs toward you and tighten the four screws.

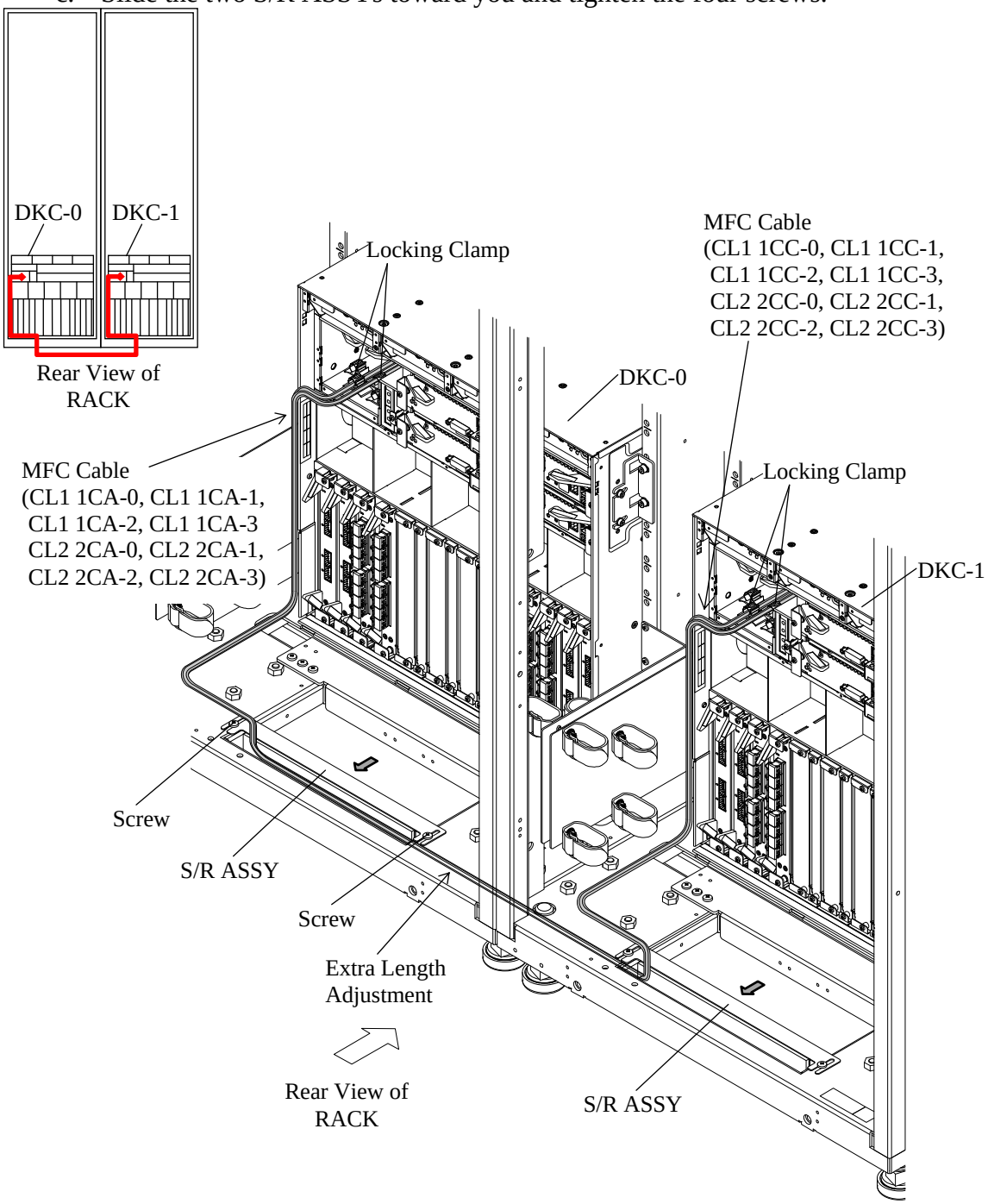


Fig. 3.7.1-33 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

Cable wiring through the top of the rack

a. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
   If the cables have extra length, roll up and put the extra length on the top of the rack.
b. Fix the MFC Cable with the four Locking Clamps.
c. Slide the two Windows to close the openings. Then tighten the four screws.

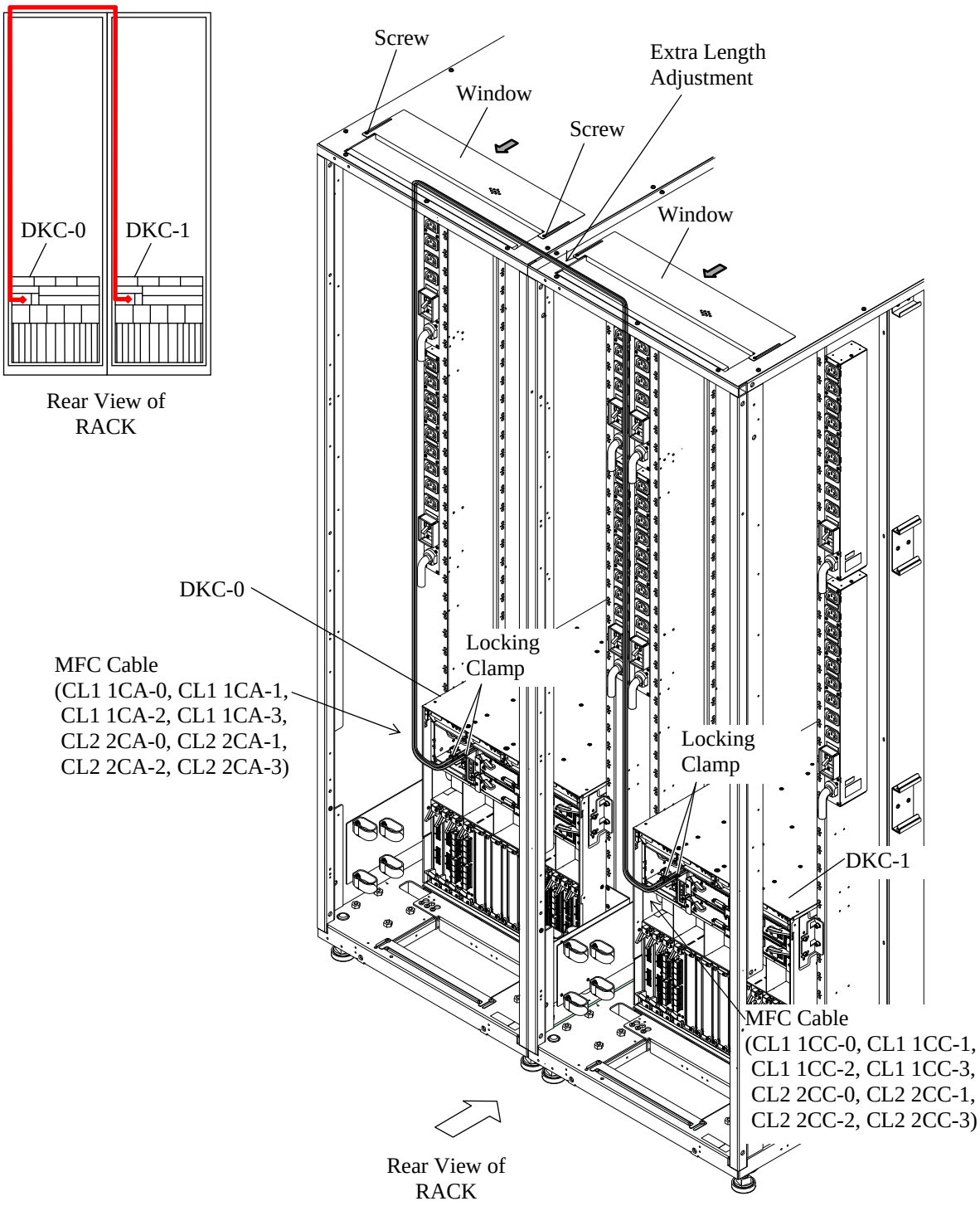


Fig. 3.7.1-34 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

Cable wiring within a same rack

a. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
b. Fix the MFC Cable with the four Locking Clamps.

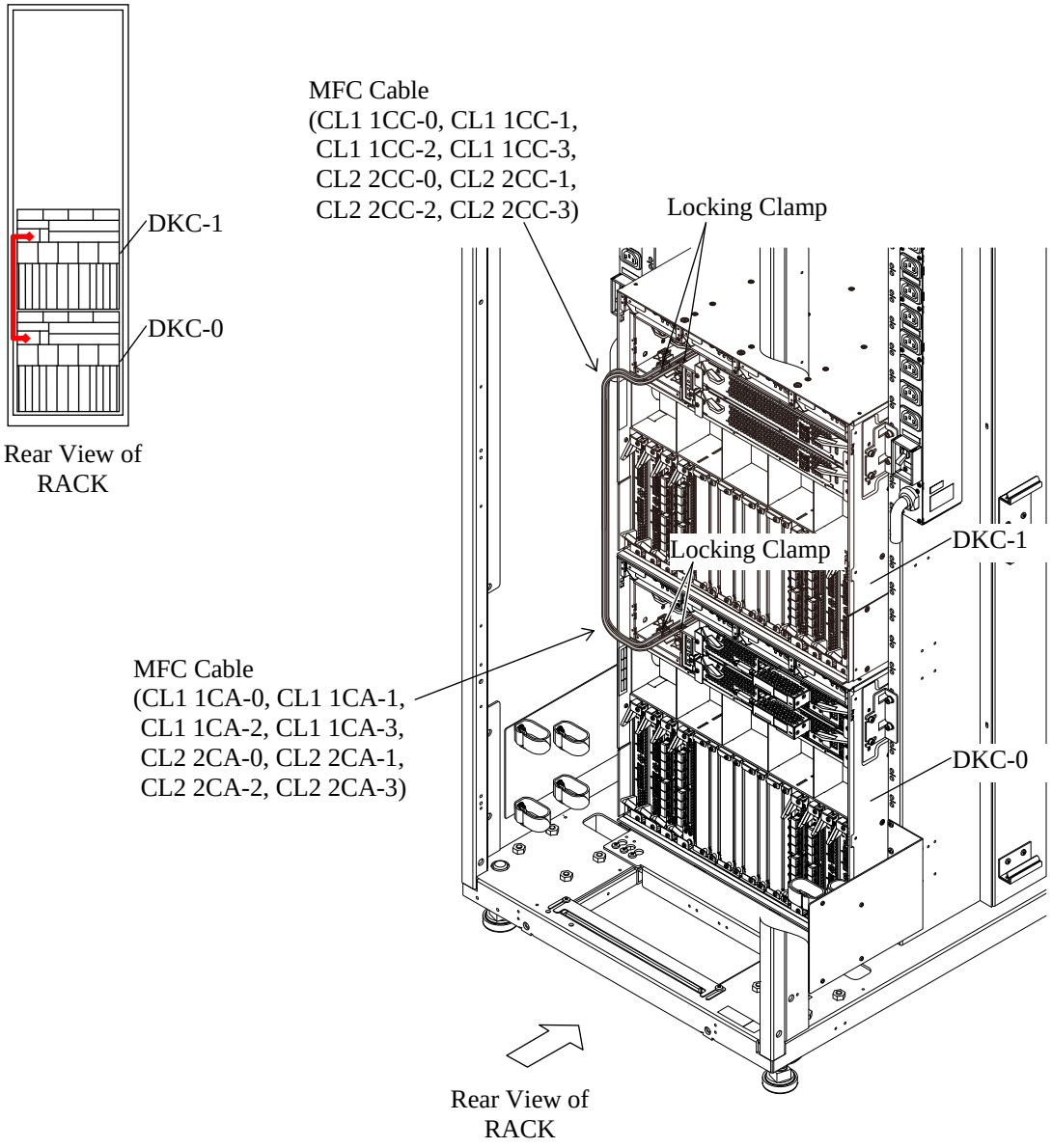
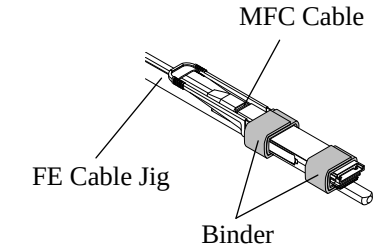
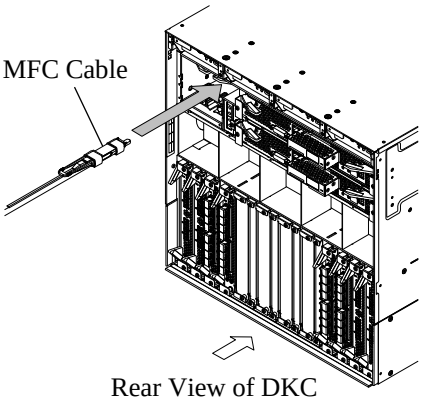


Fig. 3.7.1-35 Installation of Cables

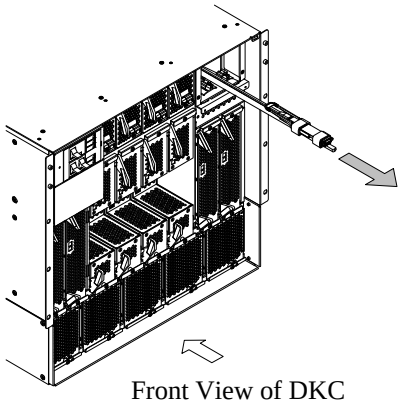
Copyright © 2014, Hitachi, Ltd.



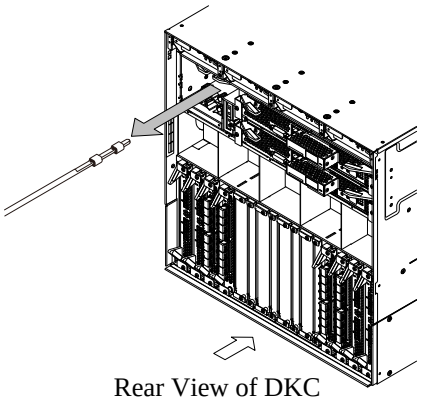
① Fix one MFC Cable to the FE Cable Jig with the binders attached to the edge of the jig.



② Insert the FE Cable Jig into the rear side of the DKC.



③ Pull out the FE Cable Jig from the front side of the DKC.
④ Remove the MFC Cable from the FE Cable Jig.



⑤ Pull out the FE Cable Jig from the rear side of the DKC.
⑥ Do the same procedure (①~⑤) for the other MFC Cables.

Fig. 3.7.1-36 Using FE Cable Jig

Copyright © 2014, Hitachi, Ltd.

12-8 Connection of MFC Cable

a. Route the MFC Cable (eight cables) on the front side of the rack and fix them with the locking clamps. (See Fig. 3.7.1-37 or Fig. 3.7.1-38.)

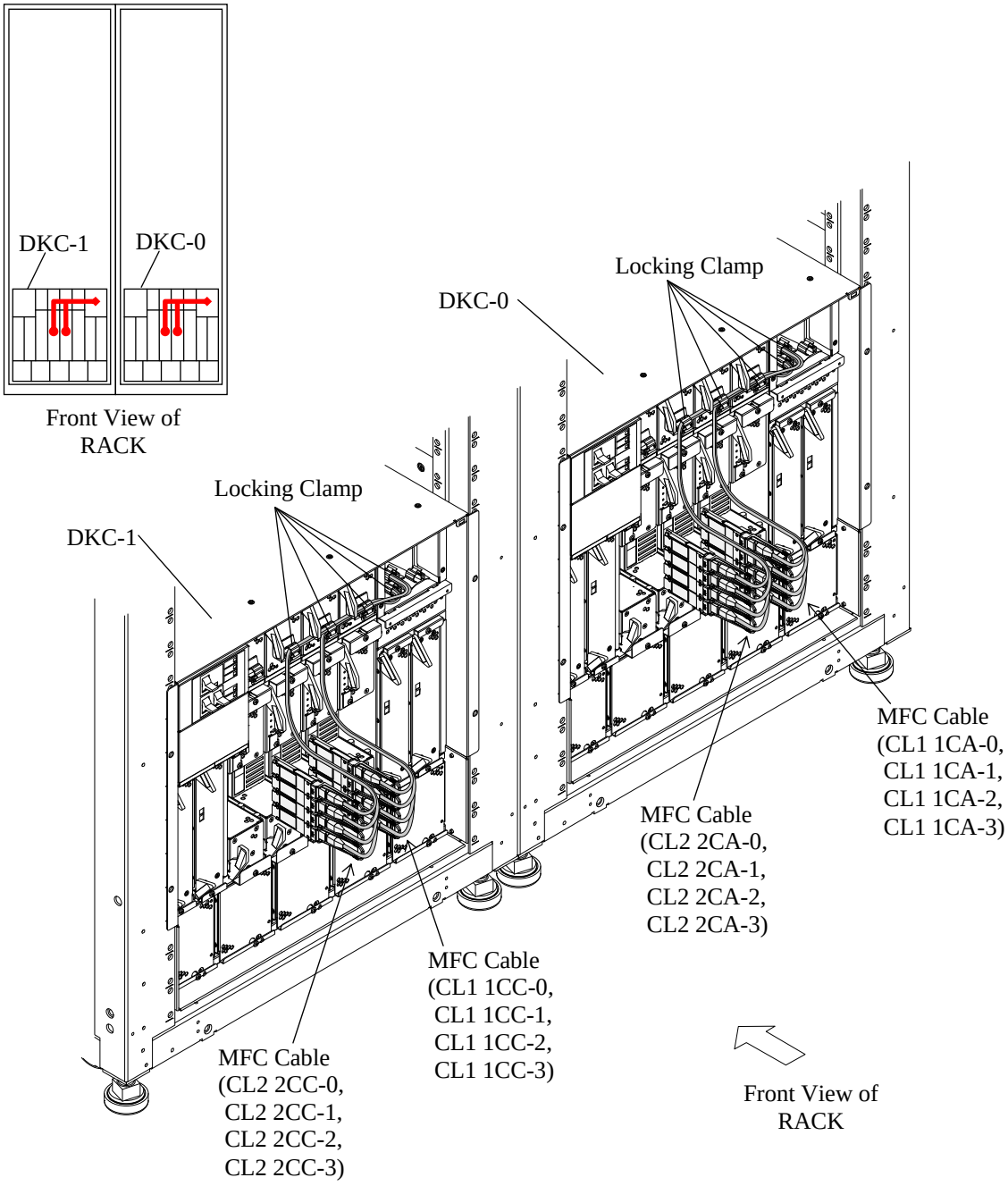


Fig. 3.7.1-37 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

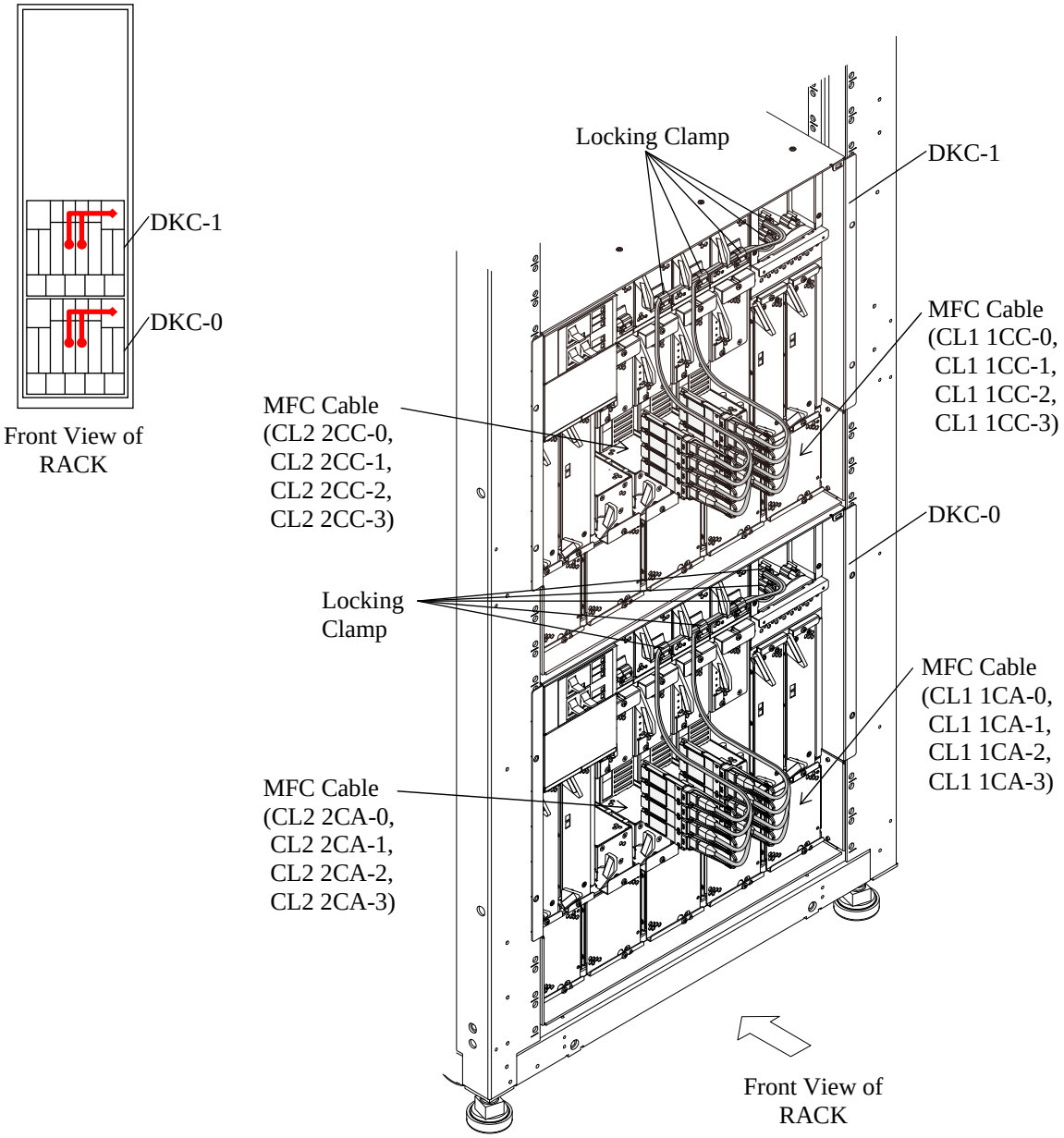


Fig. 3.7.1-38 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

b. If the covers are attached to the CM PCBs, remove the covers. And then dispose of the removed covers.
   If the covers are not attached to the CM PCBs, go to Procedure c.
c. Remove the caps from the cables to be connected.
d. Connect the cables to CM PCBs (CACHE-1CA/1CC/2CA/2CC) on the front side of the DKC-0 and the DKC-1 after checking "3.1.7 Notes when connecting and disconnecting MFC cable" (INST03-01-190).

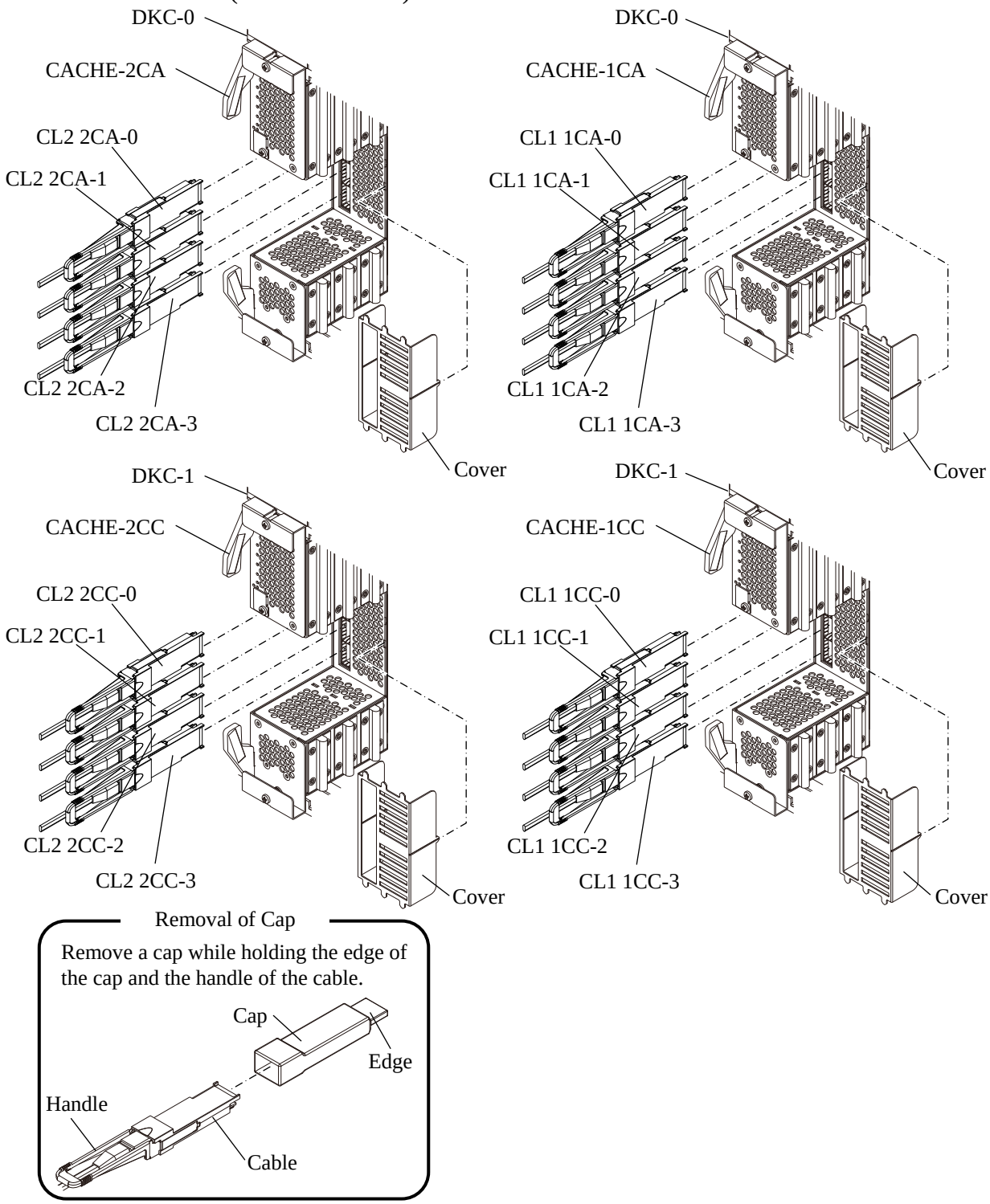


Fig. 3.7.1-39 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

12-9 Installation of Cable Covers and Accessory Box (If the Inter-Controller Connecting Cable (DKC-F810I-MFC5/MFC30/MFC1J) is installed, this procedure is not necessary.)

a. Install the accessory box into the front of the DKC-0 and fix it with the screw.
b. Install the cable cover into the front of the DKC-0 and fix it with the three screws.
c. Install the cable cover into the rear of the DKC-0 and fix it with the three screws.
d. In the same manner, install the two cable covers and the accessory box in the DKC-1.

12-10 Storing FE Cable Jig

a. Attach the clamp tape to the cleat.
b. Fix the cleat with the screw on the rear side of the rack.
c. Store the FE cable jig on the side of the rack and fasten it with the clamp tape.
   If installing the DKC-DKC-F810I-MFC5/MFC30/MFC1J, do not store the FE cable jig at this moment as the FE cable jig is to be used in later procedures.

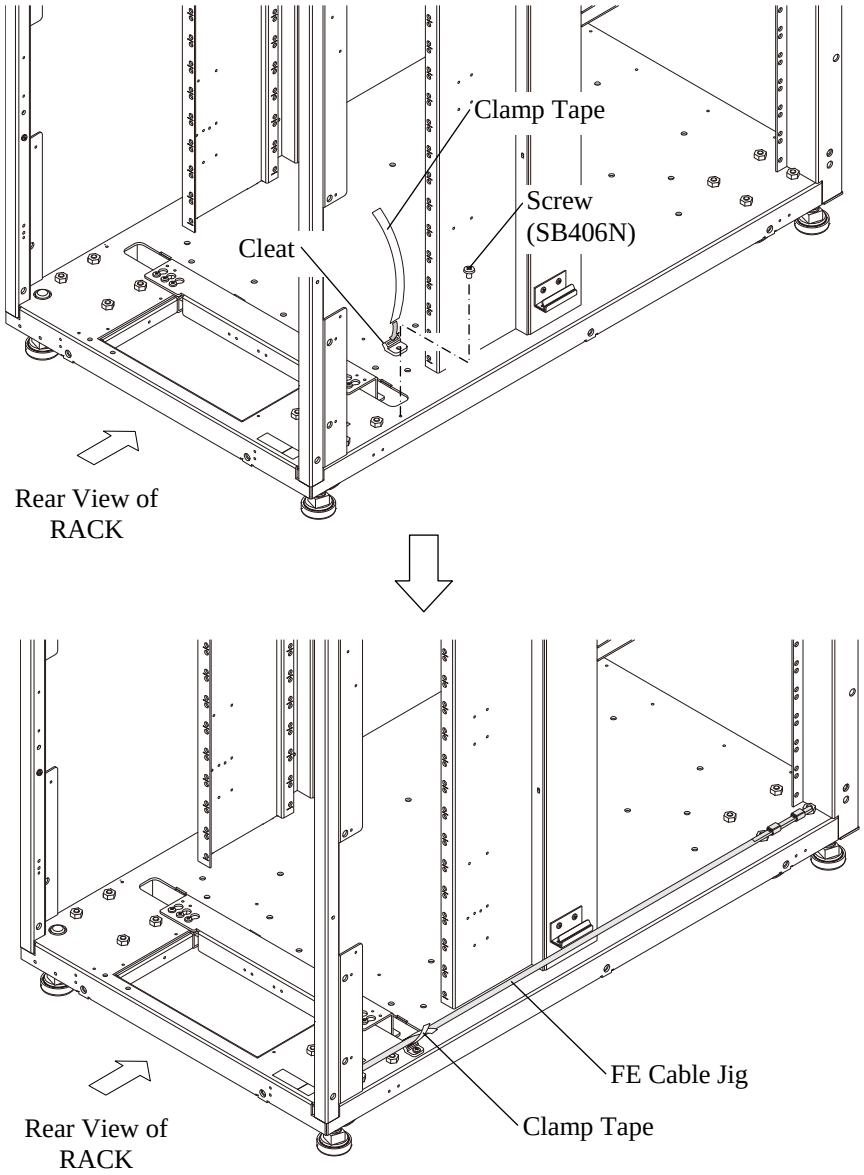


Fig. 3.7.1-40 Storing FE Cable Jig

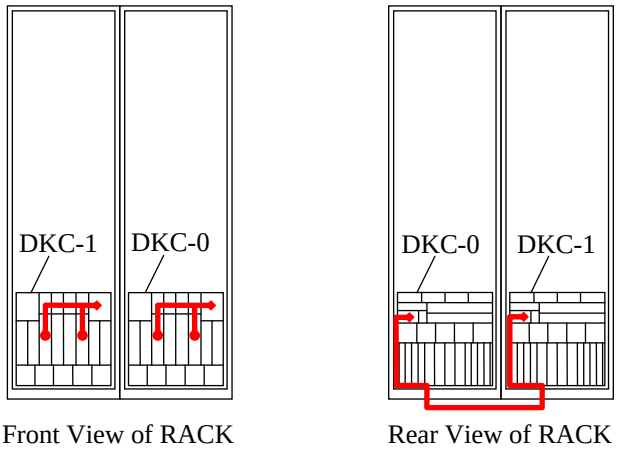
Copyright © 2014, Hitachi, Ltd.

13. Installation Procedure of Inter-Controller Connecting Cable (DKC-F810I-MFC5/MFC30/MFC1J)

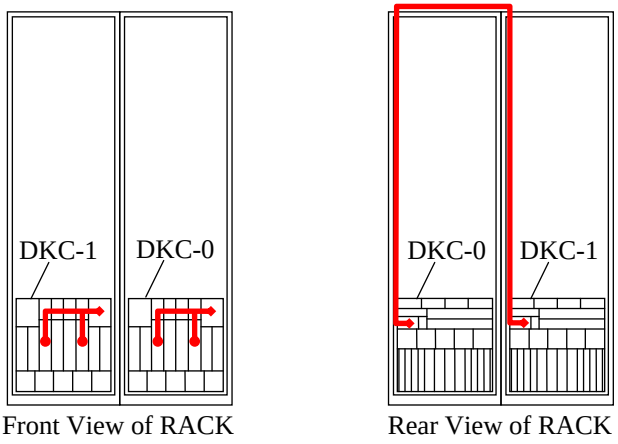
13-1Cable Wiring Patterns

a. Cable wiring patterns are shown below. Select one of the patterns below according to installation locations of DKCs and cable wiring routes.

Pattern① (Cable wiring through the bottom of the rack) [MFC5/MFC30/MFC1J]



Pattern② (Cable wiring through the top of the rack) [MFC30/MFC1J]



Pattern③ (Cable wiring within a same rack) [MFC5]

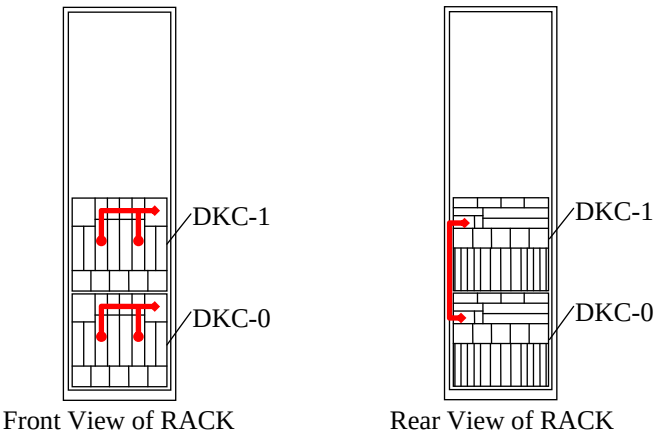


Fig. 3.7.1-41 Cable Wiring Patterns

Copyright © 2014, Hitachi, Ltd.

13-2 Removal of Cable Covers and Accessory Box (If they are already removed, this procedure is not necessary.)

a. Loosen the three screws ① on the rear side of the DKC-0 and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.

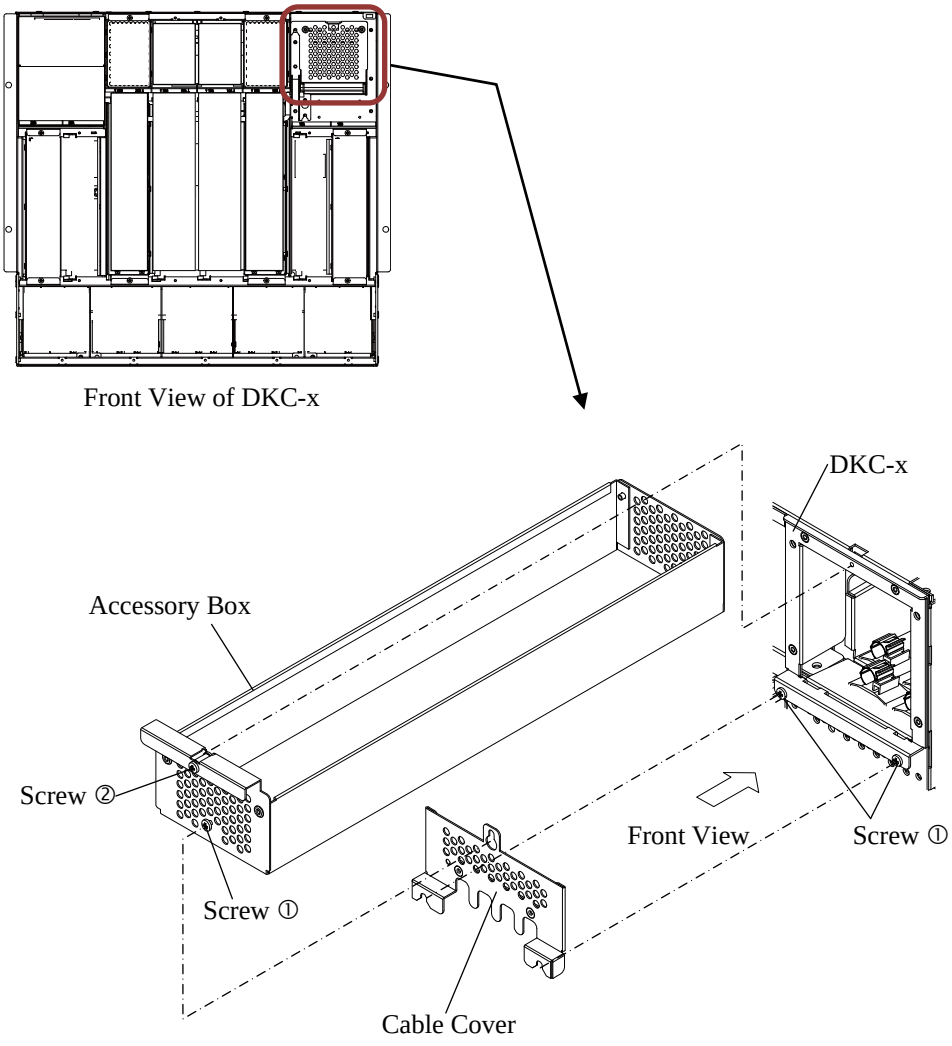


Fig. 3.7.1-42 Removal of Cable Cover and Accessory Box

Copyright © 2014, Hitachi, Ltd.

c. Loosen the three screws on the rear side of the DKC-0 and remove the cable cover.
d. In the same manner, remove the two cable covers and the accessory box from the DKC-1.

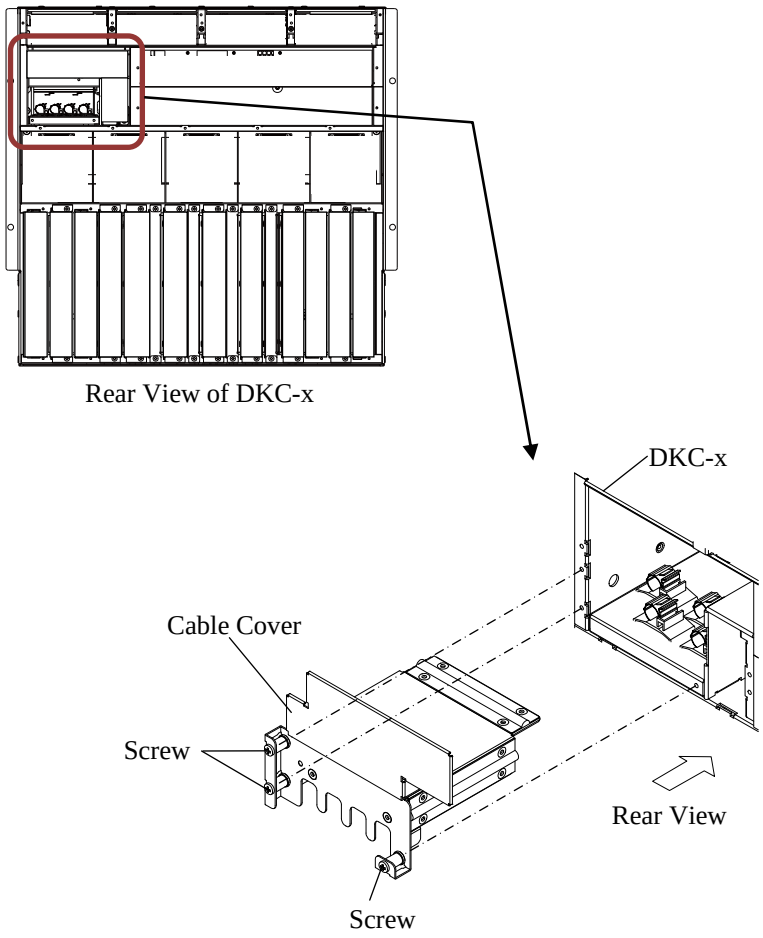
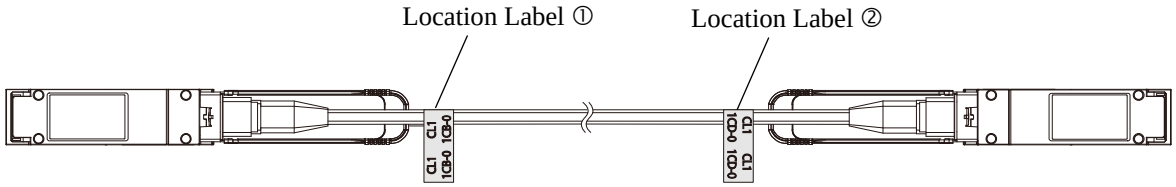


Fig. 3.7.1-43 Removal of Cable Cover

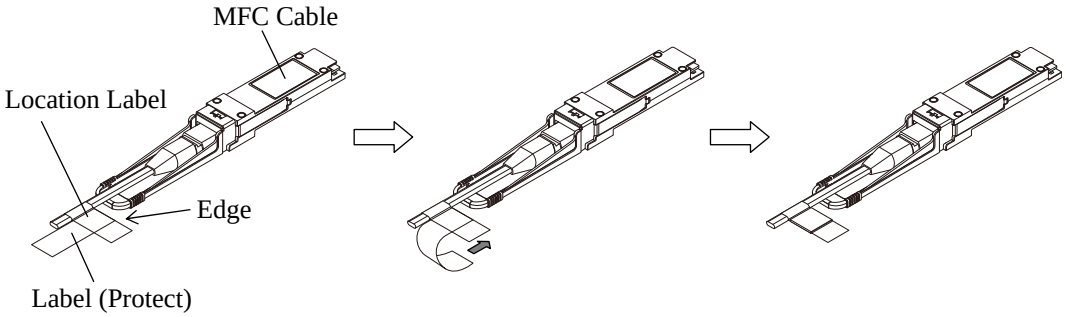
Copyright © 2014, Hitachi, Ltd.

13-3 Attachment of Location Labels

a. Attach 16 location labels to 8 MFC cables. Choose location labels from Labels (Address) 3.
b. Stick the Label (Protect) around the attached location labels.



[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.7.1-44 Attachment of Location Labels

Table 3.7.1-9 Location Label List

No.	Connection Source (DKC-0)			Connection Destination (DKC-1)		
	Part Name	Location Label ①	Label Color	Part Name	Location Label ②	Label Color
1	CACHE-1CB	CL1 1CB-0	White/Black	CACHE-1CD	CL1 1CD-0	White/Black
2	CACHE-1CB	CL1 1CB-1	White/Brown	CACHE-1CD	CL1 1CD-1	White/Brown
3	CACHE-1CB	CL1 1CB-2	White/Red	CACHE-1CD	CL1 1CD-2	White/Red
4	CACHE-1CB	CL1 1CB-3	White/Orange	CACHE-1CD	CL1 1CD-3	White/Orange
5	CACHE-2CB	CL2 2CB-0	Yellow/Black	CACHE-2CD	CL2 2CD-0	Yellow/Black
6	CACHE-2CB	CL2 2CB-1	Yellow/Brown	CACHE-2CD	CL2 2CD-1	Yellow/Brown
7	CACHE-2CB	CL2 2CB-2	Yellow/Red	CACHE-2CD	CL2 2CD-2	Yellow/Red
8	CACHE-2CB	CL2 2CB-3	Yellow/Orange	CACHE-2CD	CL2 2CD-3	Yellow/Orange

Copyright © 2014, Hitachi, Ltd.

13-4Installation of Cables

Cable wiring through the bottom of the rack

a. If you do not have the FE cable jig at hand, take it from the space of storage. (See Fig. 3.7.1-40.)
   If you have the FE cable jig at hand, go to Procedure b.
b. Loosen the four screws on the rear bottom of the rack and slide the two S/R ASSYs to the back.
c. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
   If the cables have extra length, roll up and put the extra length between the bottom of the rack and the floor.
d. Fix the MFC Cable with the four Locking Clamps.
e. Slide the two S/R ASSYs toward you and tighten the four screws.

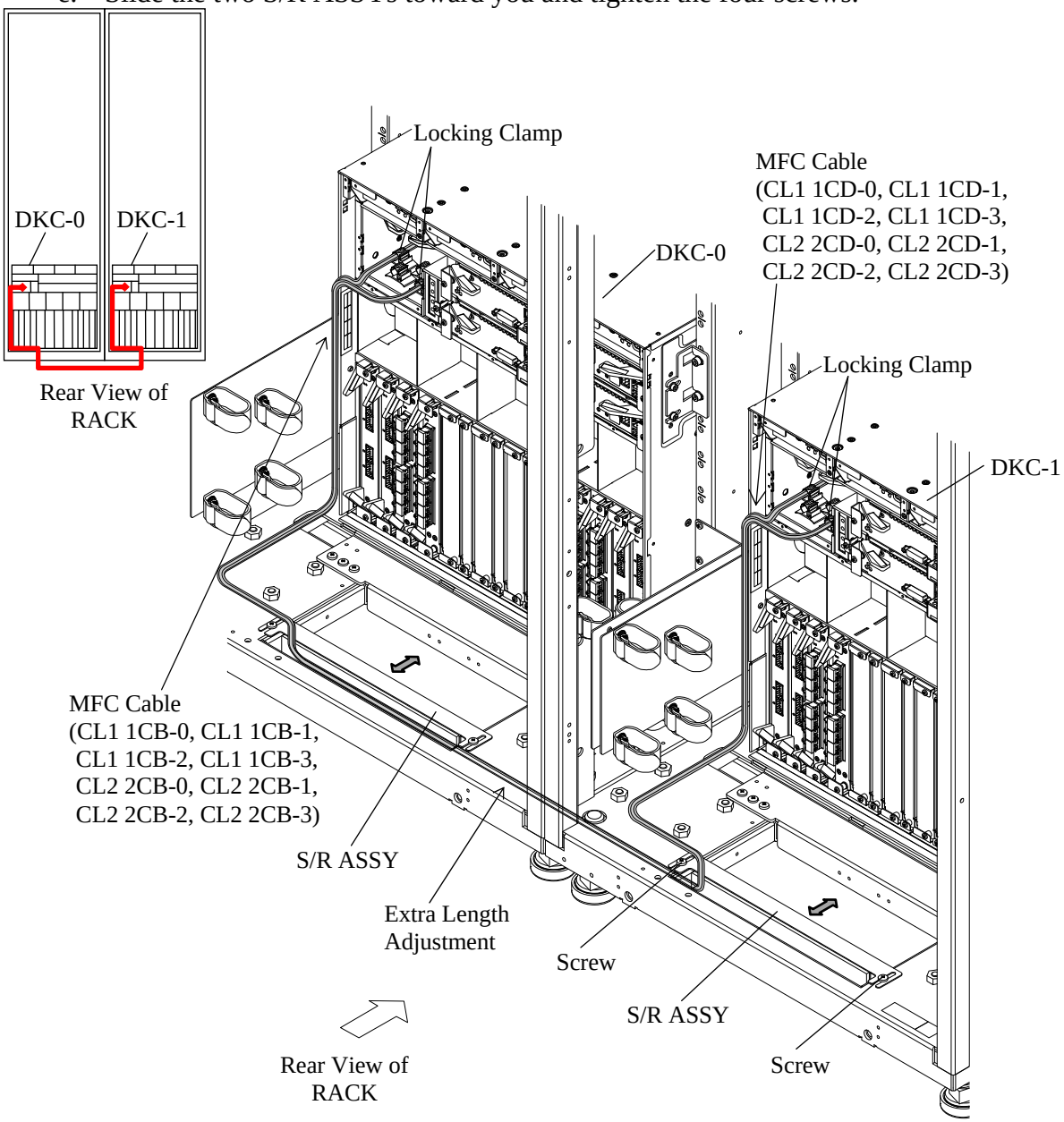


Fig. 3.7.1-45 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

Cable wiring through the top of the rack

a. If you do not have the FE cable jig at hand, take it from the space of storage. (See Fig. 3.7.1-40.)
   If you have the FE cable jig at hand, go to Procedure b.
b. Loosen the four screws on the top of the rack and slide the two Windows of the openings.
c. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
   If the cables have extra length, roll up and put the extra length on the top of the rack.
d. Fix the MFC Cable with the four Locking Clamps.
e. Slide the two Windows to close the openings. Then tighten the four screws.

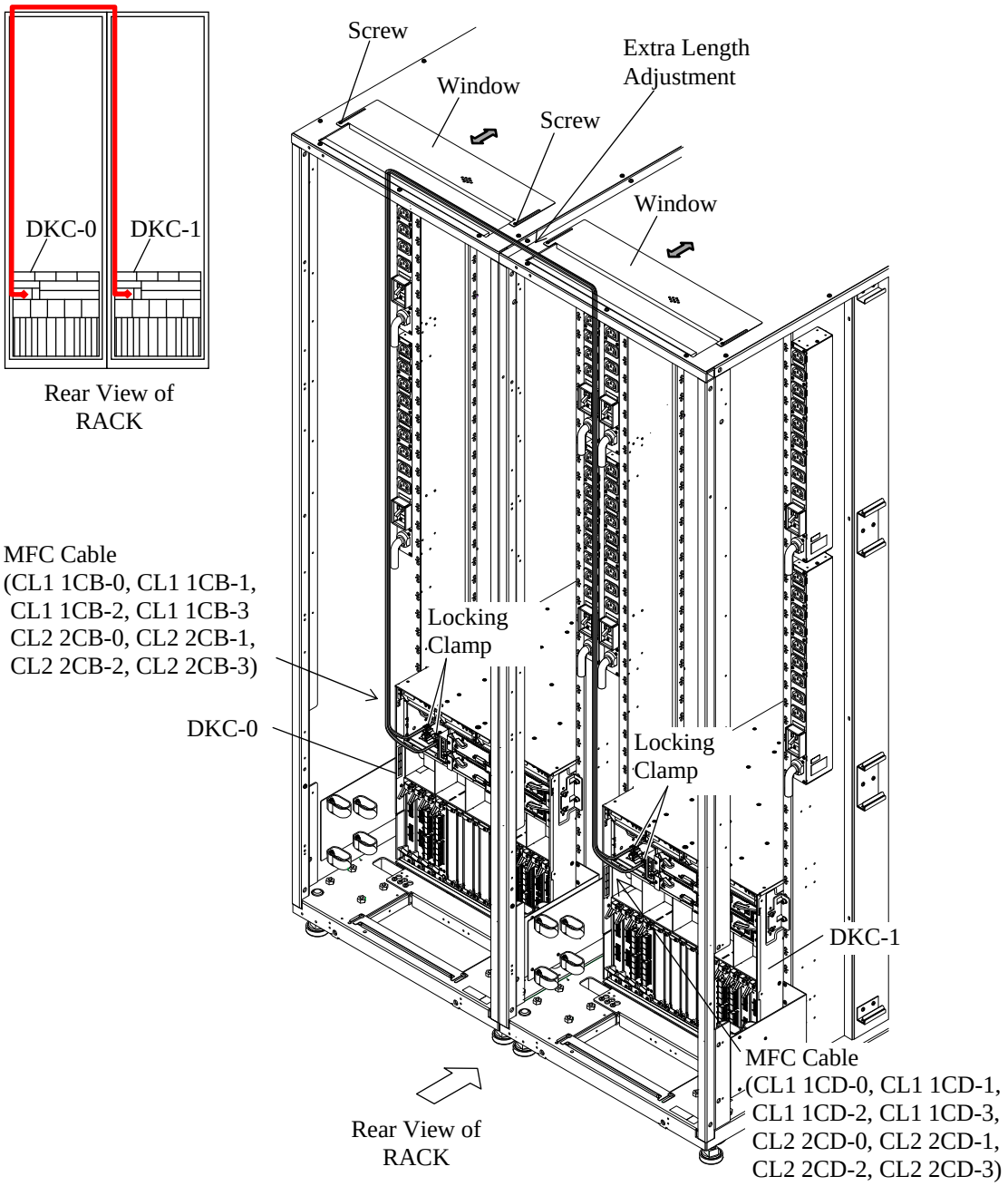


Fig. 3.7.1-46 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

Cable wiring within a same rack

a. If you do not have the FE cable jig at hand, take it from the space of storage. (See Fig. 3.7.1-40.)
   If you have the FE cable jig at hand, go to Procedure b.
b. Route the MFC Cable (eight cables) on the rear side of the rack, and then pass the MFC Cable from the rear side to the front side using the jig. (See Fig. 3.7.1-36.)
c. Fix the MFC Cable with the four Locking Clamps.

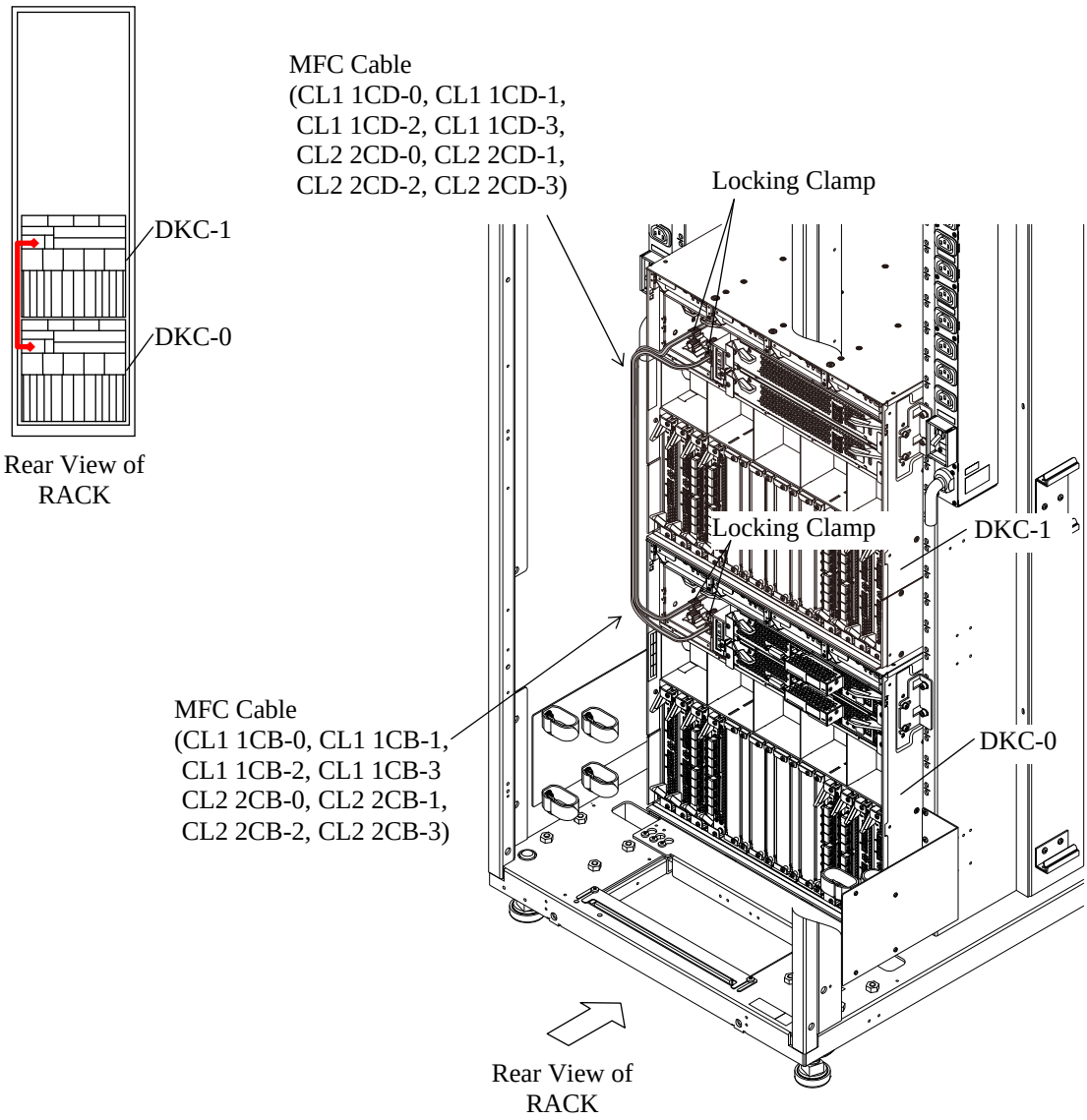


Fig. 3.7.1-47 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

13-5 Connection of Cable

a. Route the MFC Cable (eight cables) on the front side of the rack and fix them with the locking clamps. (See Fig. 3.7.1-48 or Fig. 3.7.1-49.)

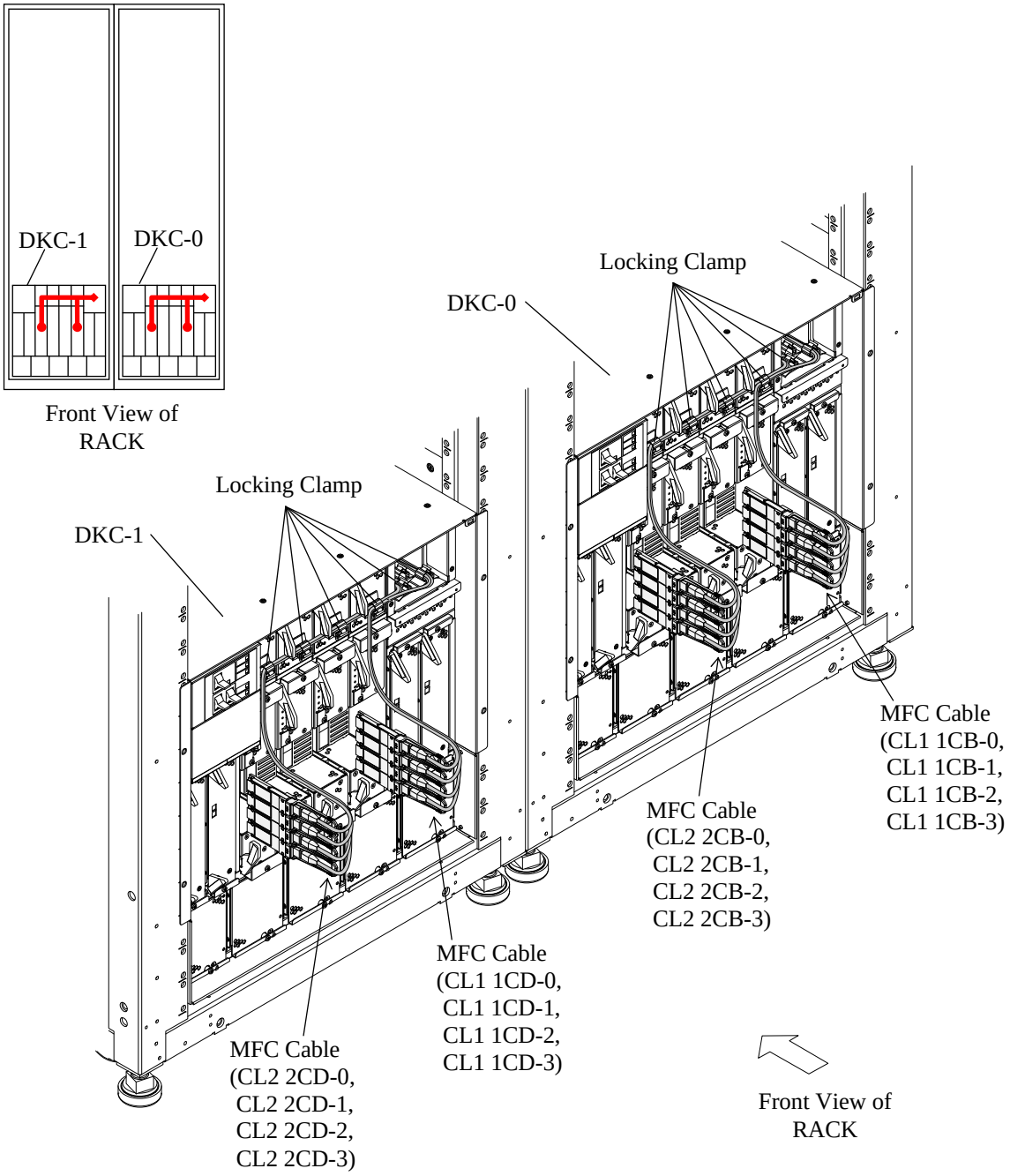


Fig. 3.7.1-48 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

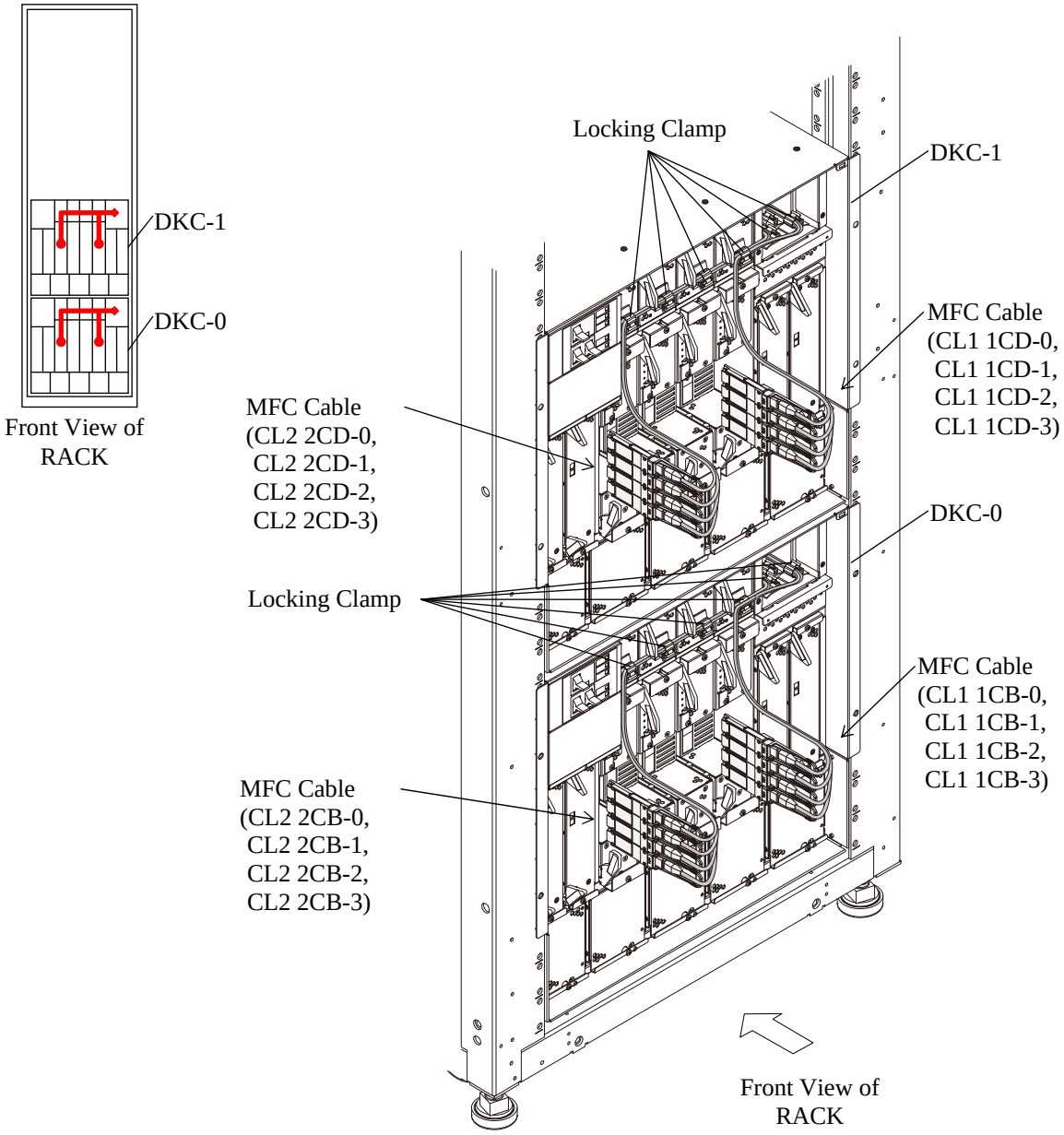


Fig. 3.7.1-49 Installation of Cables

Copyright © 2014, Hitachi, Ltd.

b. If the covers are attached to the CM PCBs, remove the covers. And then dispose of the removed covers.
   If the covers are not attached to the CM PCBs, go to Procedure c.
c. Remove the caps from the cables to be connected.
d. Connect the cables to CM PCBs (CACHE-1CB/1CD/2CB/2CD) on the front side of the DKC-0 and the DKC-1 after checking "3.1.7 Notes when connecting and disconnecting MFC cable" (INST03-01-190).

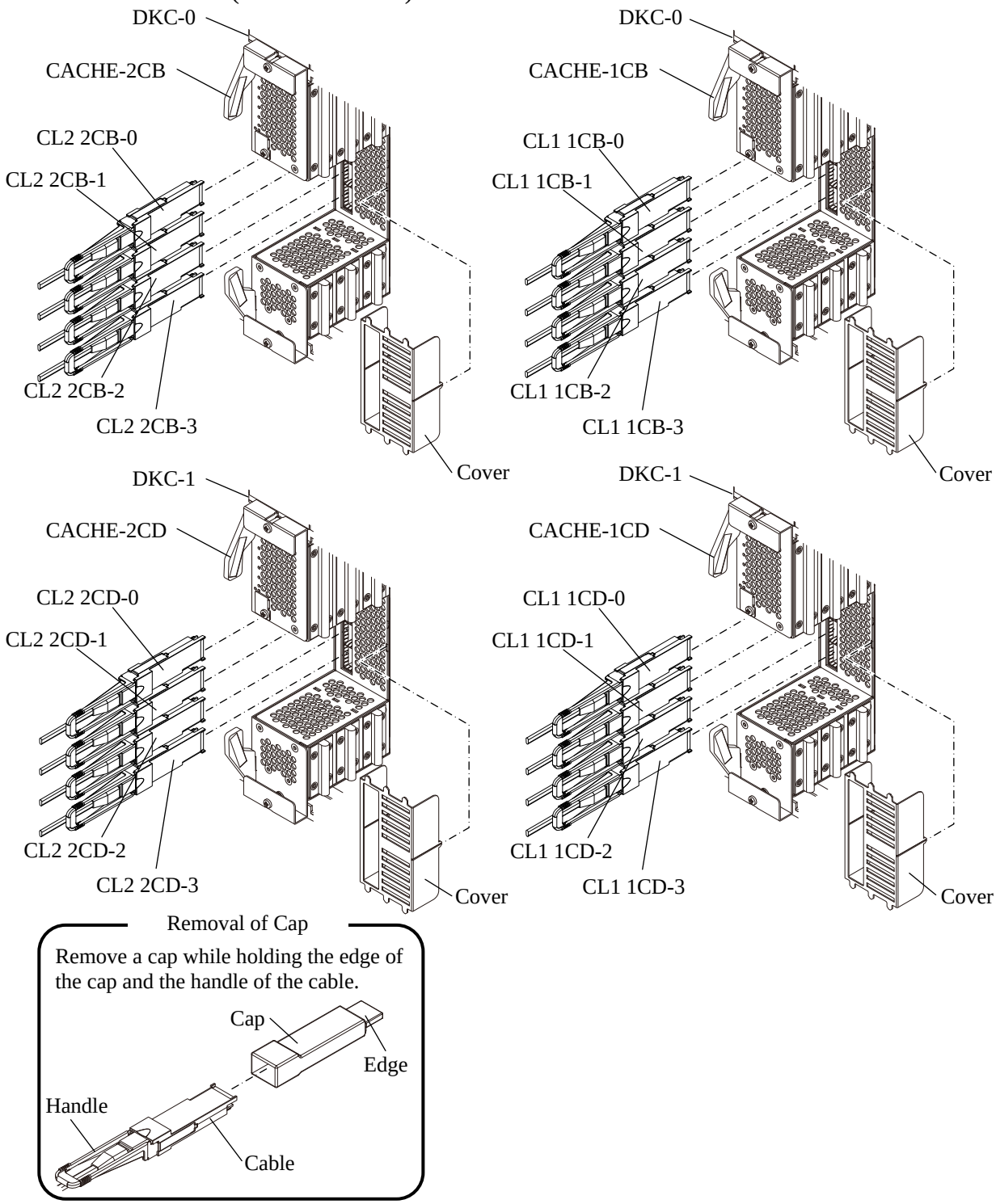


Fig. 3.7.1-50 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

13-6 Installation of Cable Covers and Accessory Box

a. Install the accessory box into the front of the DKC-0 and fix it with the screw.
b. Install the cable cover into the front of the DKC-0 and fix it with the three screws.
c. Install the cable cover into the rear of the DKC-0 and fix it with the three screws.
d. In the same manner, install the two cable covers and the accessory box in the DKC-1.

13-7 Storing FE Cable Jig

a. Store the FE cable jig on the side of the rack and fasten it with the clamp tape. (See Fig. 3.7.1-40.)

Copyright © 2014, Hitachi, Ltd.

14. When you need to install DKC-F810I-MOD5/MOD30/MOD1J, connect the power cables to the DKCPSs.
    When you do not need to install DKC-F810I-MOD5/MOD30/MOD1J, go to Step 15.

    a. Connect the four cables to DKCPSs on the rear side of the DKC-1 and secure them with the cable holders.
    b. Push the cable holder in the direction to the DKCPS until it stops.

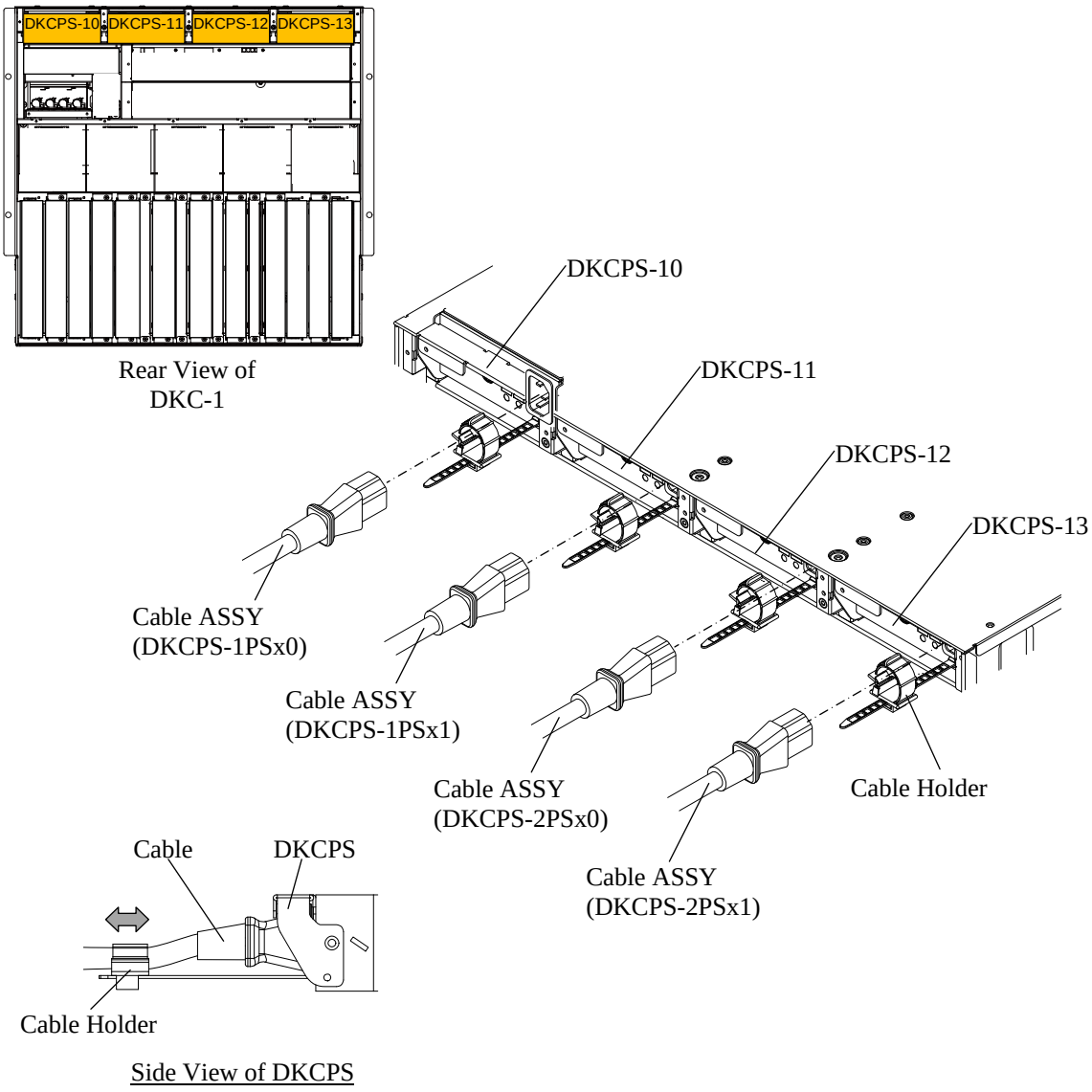


Fig. 3.7.1-51 Connection of Power Cables

Copyright © 2014, Hitachi, Ltd.

c. Turn on the PDU breaker in the RACK-10 in which the DKC-1 is installed.

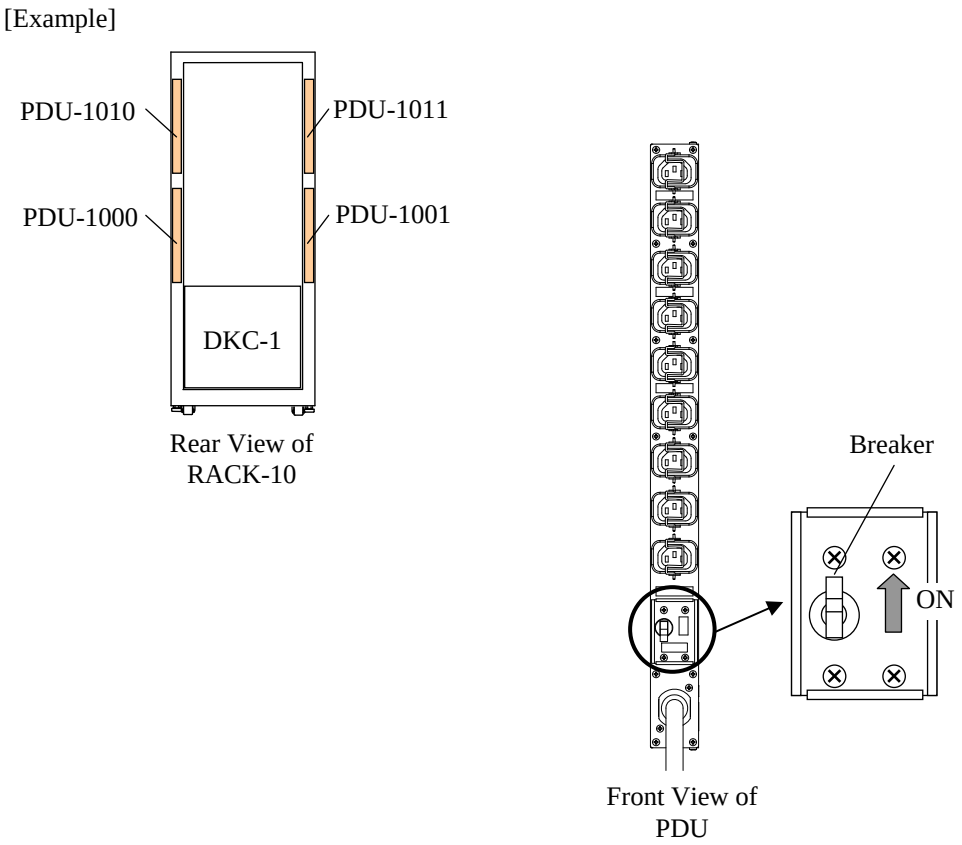
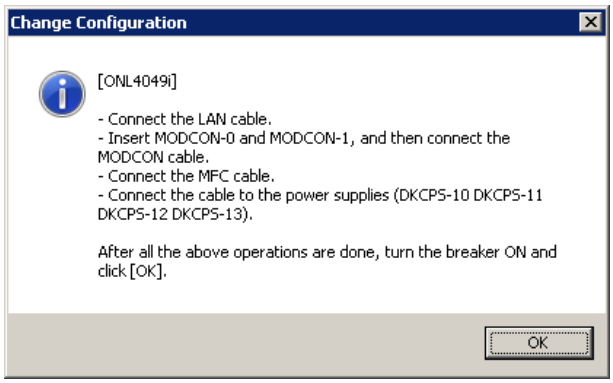


Fig. 3.7.1-52 Turning on the Breaker

Copyright © 2014, Hitachi, Ltd.

15. SVP Pre Procedure (MPB Installation)

(1) <Check that hardware components are installed>



Select (CL) [OK] after making sure that all hardware components are installed correctly in response to
"- Connect the LAN cable.
- Insert MODCON-0 and MODCON-1, and then connect the MODCON cable.
- Connect the MFC cable.
- Connect the cable to the power supplies (DKCPS-10 DKCPS-11 DKCPS-12 DKCPS-13).
After all the above operations are done, turn the breaker ON and click [OK].".

NOTE: Confirm that all the PS ENABLE LEDs on the DKC-1 light.
When the breaker of PDU is OFF, please turn it on.

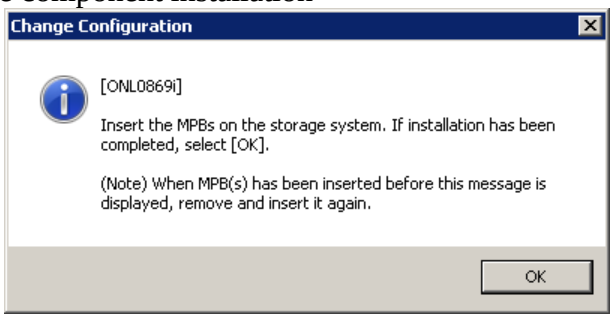
---

(2)

"Upgrading of the MPB..." is displayed.

---

(3) <Making sure of completion of the hardware component installation>



A message, "Insert the MPBs on the storage system. If installation has been completed, select [OK].
(Note) When MPB(s) has been inserted before this message is displayed, remove and insert it again." is displayed.

NOTE: Do not select (CL) [OK] by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

16. Installation Procedure of Additional Processor Blade (DKC-F810I-MP)

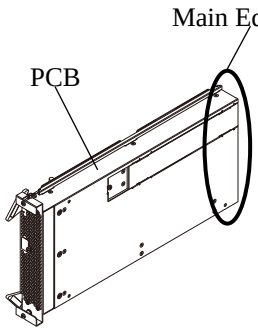
NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

16-1 Insertion of MPBs

a. Loosen the screws and remove the two or four dummy plates. (See Table 3.7.1-10, Fig. 3.7.1-53 and Fig. 3.7.1-54.)

NOTE: Store the removed dummy plates as they are required when the MPBs are removed.

b. Install the MPBs in the DKC and fix them with the screws.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.7.1-10 MPB installation Location

DKC	Additional No.	Slot No.		Location No.		Remarks
		Cluster 1	Cluster 2	Cluster 1	Cluster 2	
DKC-0	Basic	1MA	2MA	MPB-1MA	MPB-2MA	Standard Equipment
	Option 1	1MB	2MB	MPB-1MB	MPB-2MB	
	Option 2	1PF	2PF	MPB-1PF	MPB-2PF	
	Option 3	1PE	2PE	MPB-1PE	MPB-2PE	
DKC-1	Option 4	1MC	2MC	MPB-1MC	MPB-2MC	Standard Equipment
	Option 5	1MD	2MD	MPB-1MD	MPB-2MD	
	Option 6	1PM	2PM	MPB-1PM	MPB-2PM	
	Option 7	1PL	2PL	MPB-1PL	MPB-2PL	

Copyright © 2014, Hitachi, Ltd.

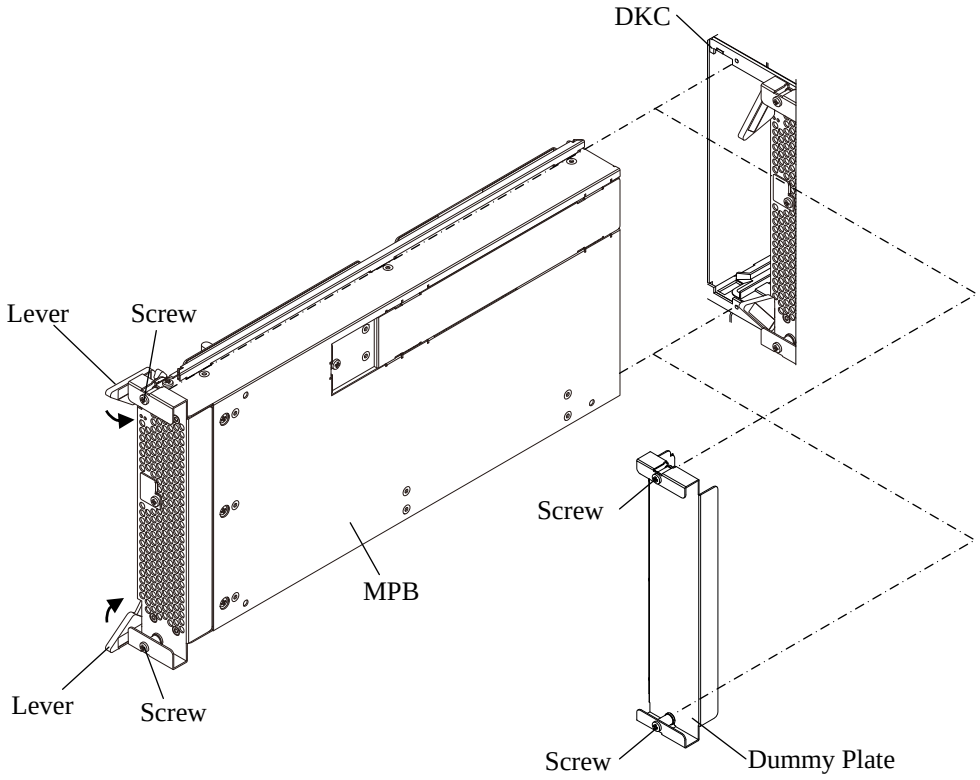


Fig. 3.7.1-53 MPB Installation (In the Case of MPB-#MB/#MD)

Copyright © 2014, Hitachi, Ltd.

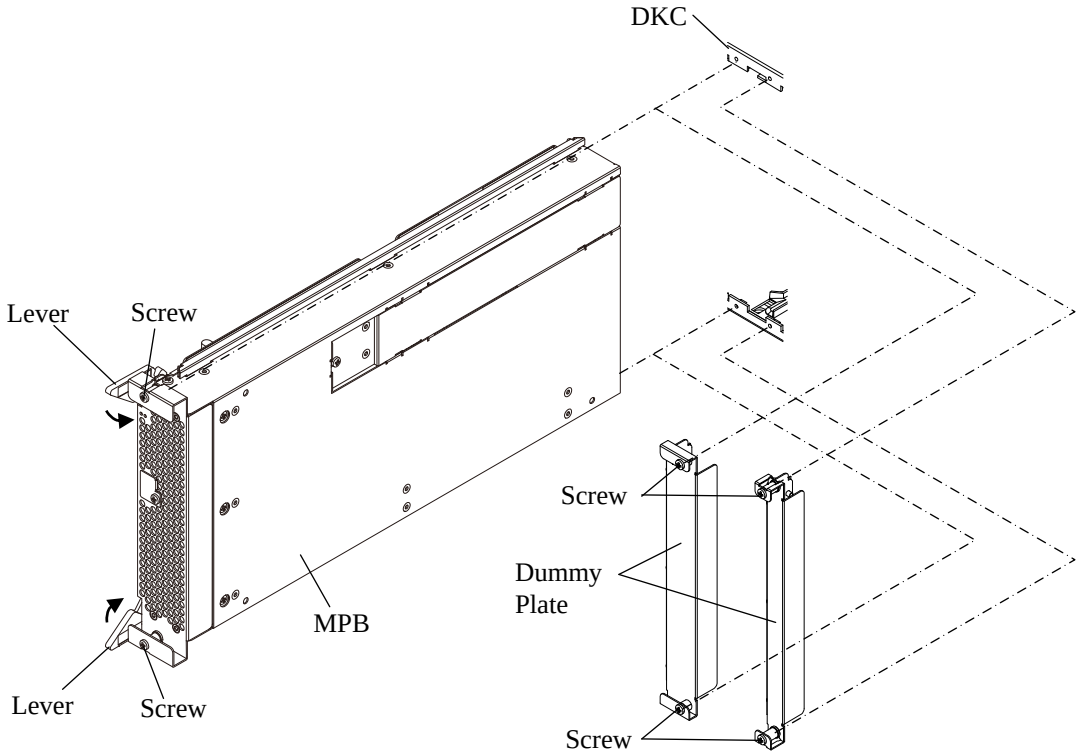
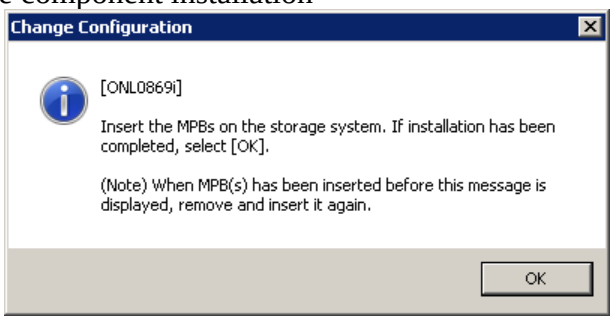


Fig. 3.7.1-54 MPB installation (In the Case of MPB-#PF/#PE/#PM/#PL)

Copyright © 2014, Hitachi, Ltd.

17. SVP post procedure

(1) <Making sure of completion of the hardware component installation>
After the MPB addition is completed, select (CL) [OK] in response to a message, “Insert the MPBs on the storage system. If installation has been completed, select [OK].
(Note) When MPB(s) has been inserted before this message is displayed, remove and insert it again.”



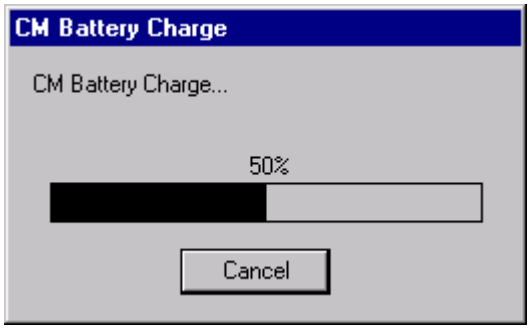
---

(2)
“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

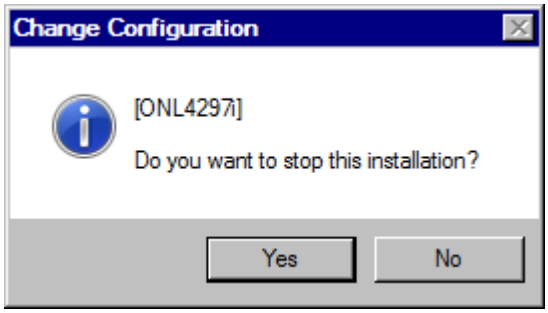
If [ONL3437E] or [ONL3438E] is displayed, please refer “2.10.1 Replacement procedure when PCB could not be restoring”. (INST02-420)

---

(3) <CM Battery charging>
When you select [No] in “2. SVP pre procedure (Confirmation on the final charge day)” (INST03-07-110) Step (2), the progress of the charge is displayed.
When the amount of charge becomes 50% or more, go to Step (4).
When you select [Cancel] (CL), go to Step (3)-1.

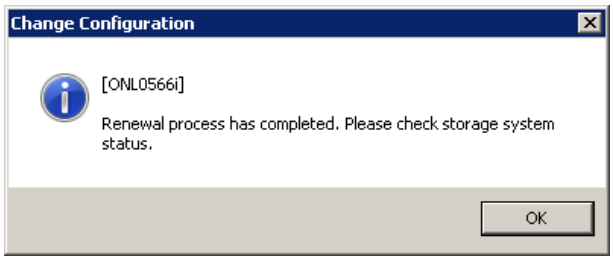


(3)-1
“Do you want to stop this installation?”
When [Yes] is selected (CL), return to INST03-07-50 Step (2)
When [No] is selected (CL), return to Step (3).



Copyright © 2014, Hitachi, Ltd.

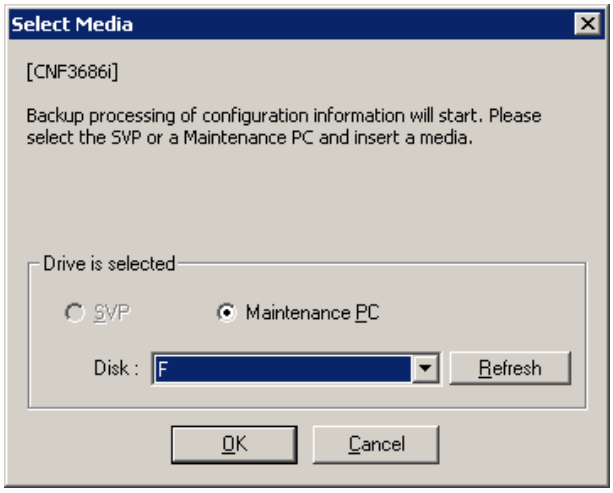
(4) <End of system update processing>
"Renewal process has completed. Please check storage system status." is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



(5)

Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

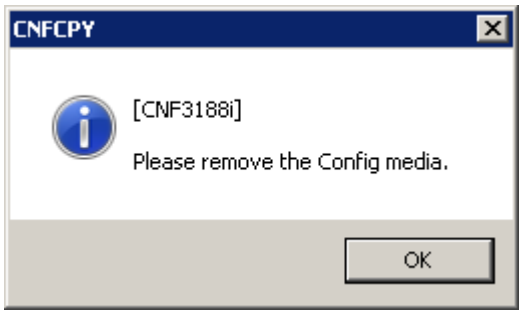
NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



Copyright © 2014, Hitachi, Ltd.

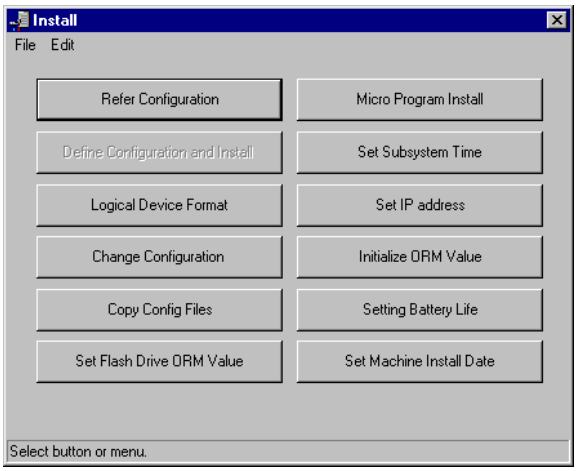
(6)

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



(7)

After the procedure is completed, return to ‘Install’.
Select (CL) [File]-[Exit].



(8) <Mode Change>
Change the mode to View Mode.

Return to the working table and do the rest of the work.
New Installation: INST02-10,
Non-Disruptive Installation: INST02-50

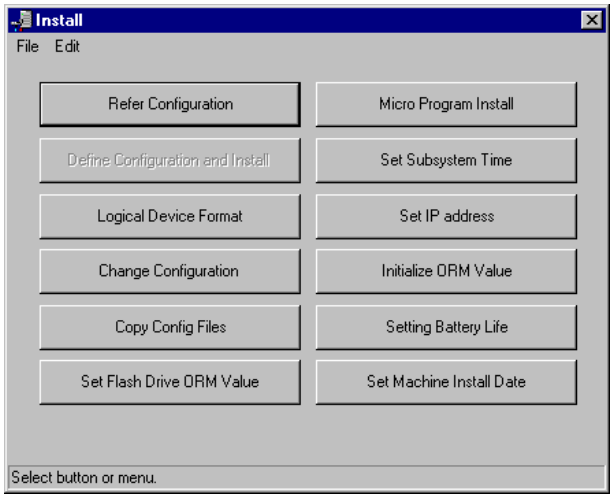
Copyright © 2014, Hitachi, Ltd.

3.7.2 Installation of Processor Blade, HUB (DKC-F810I-MP/HUB)

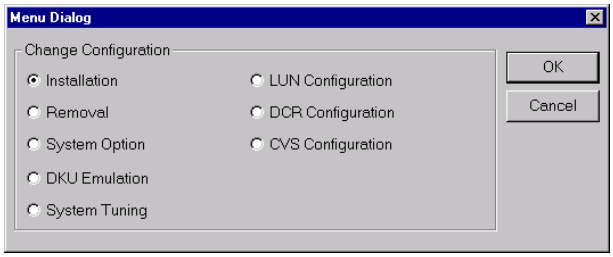
1. Setting up the New Device Structure Information

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

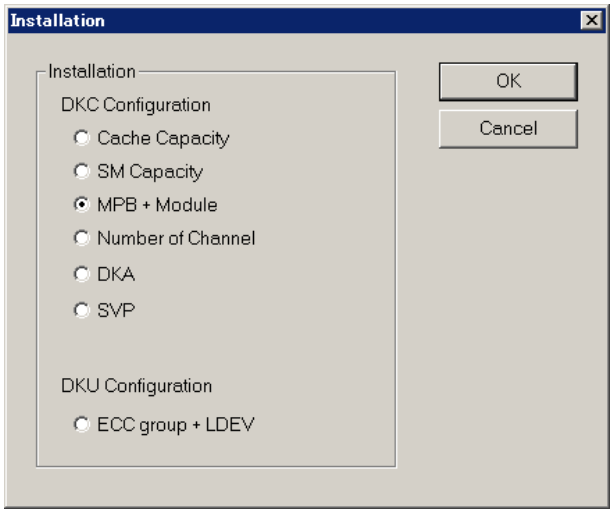
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



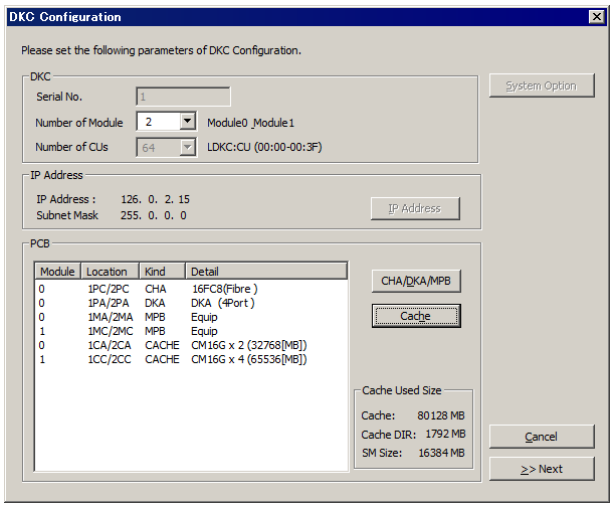
(4) <Select a part to be changed>
Select (CL) [MPB + Module], and select (CL) [OK].



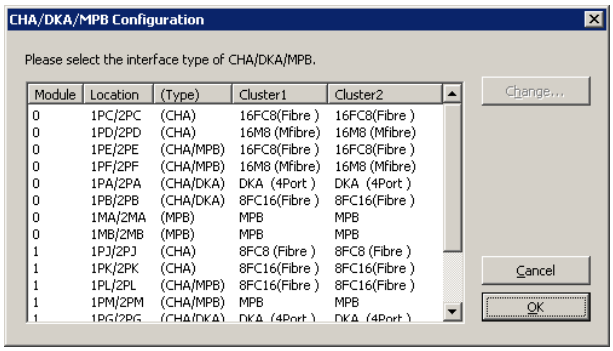
Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, when installation of the MPB is required:
Select (CL) [CHA/DKA/MPB].
Go to Step (6).

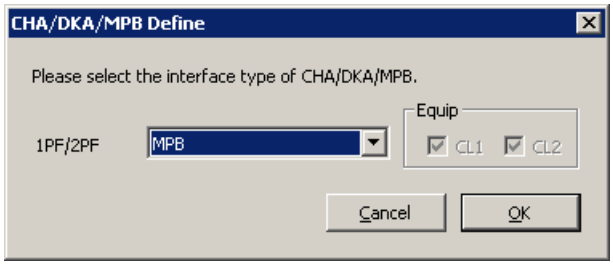
After the setting is completed, select (CL) [>>Next].
Go to Step (8).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



(6) <CHA/DKA/MPB Configuration screen>
In the 'CHA/DKA/MPB Configuration' screen, select the location(s) to which the addition is to be made, and select (CL) [Change...].
Go to Step (7).
Make sure that the entry that has been made is correct and select (CL) [OK].
Go back to Step (5).



(7) <CHA/DKA/MPB Define screen>
In the 'CHA/DKA/MPB Define' screen, select (CL) [MPB].
After the setting is completed, select (CL) [OK].
Go back to Step (6).

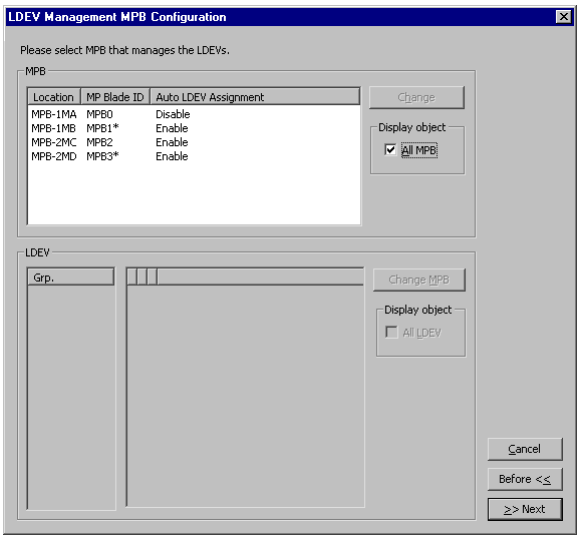


Copyright © 2014, Hitachi, Ltd.

(8) <LDEV Management MPB Configuration screen>

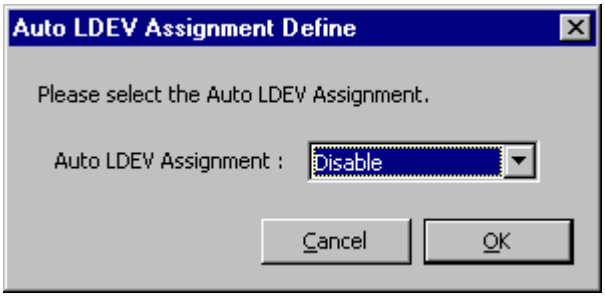
In the 'LDEV Management MPB Configuration' screen, select installed MPB and select (CL) [Change].
Go to Step (9).

After the setting is completed, select (CL) [>>Next].
(Go to Step 2)
In the case of selecting (CL) [Cancel], this operation procedure terminates.



(9) <Auto LDEV Assignment Define screen>

In the 'Auto LDEV Assignment Define' screen, select (CL) [Auto LDEV Assignment].
After the setting is completed, select (CL) [OK].
Go back to Step (8).

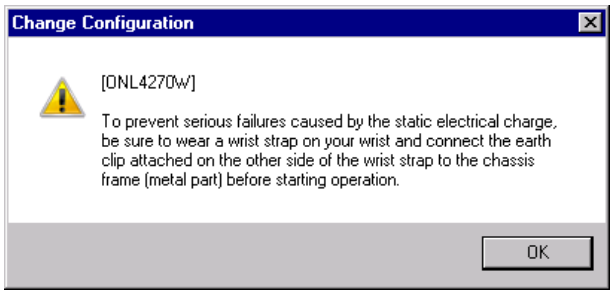


Copyright © 2014, Hitachi, Ltd.

2. SVP pre procedure (HUBBOX Installation)

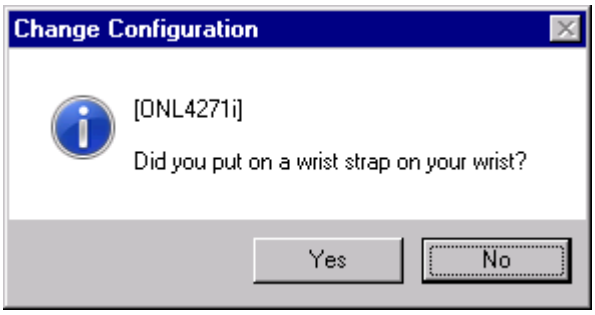
(1) <Wear a wrist strap>

Select (CL) [OK] in response to “To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.”.



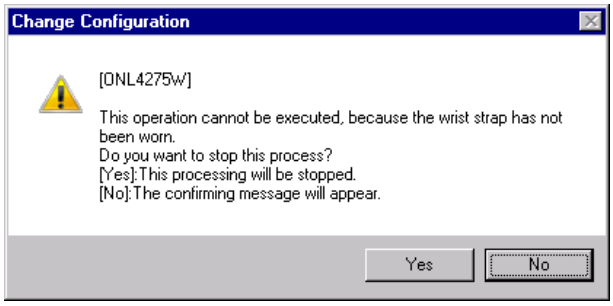
(1)-1 <Confirm wearing wrist strap>

In response to a message, “Did you put on a wrist strap on your wrist?”.
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (1)-2.



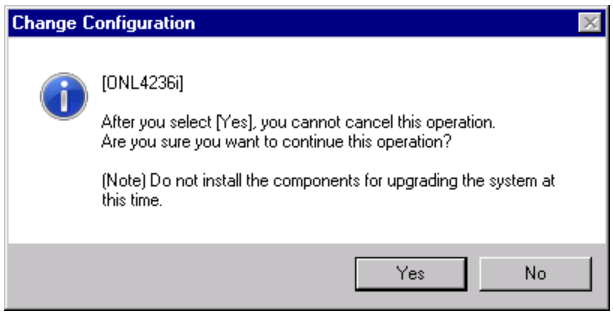
(1)-2

In response to a message, “This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear.”
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-07A-10.
When [No] is selected (CL), returned to Step (1).

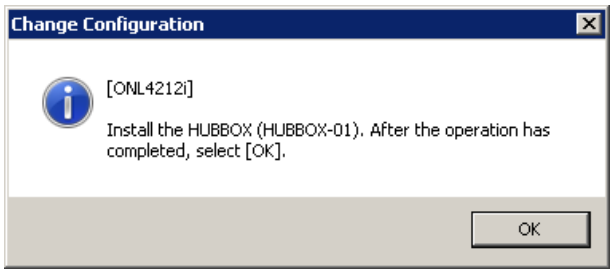


Copyright © 2014, Hitachi, Ltd.

(2) <Starting the addition>
In response to a message, “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation?
(Note) Do not install the components for upgrading the system at this time.”, select (CL) [Yes].
When [No] is selected (CL), the routine is returned to Step (2) on page INST03-07A-10.



(3) <HUBBOX Installation Operation>
When installation of the HUBBOX is required, a message, “Install the HUBBOX (HUBBOX-nn). After the operation has completed, select [OK].” is displayed.



- When the message is displayed, install the hardware component following the procedure for installing the HUB Kit.
- When the message is not displayed, go to Step (2) in “4. SVP Pre Procedure (MPB Installation)”.

NOTE: Do not select (CL) [OK] by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

3. Installation Procedure of HUB

Installation Condition

The HUB (DKC-F810I-HUB) is an indispensable option that is to be installed when the storage system configuration is one of the following.

In case of DKC-0

① Addition of the first set (HUBBOX-01)

- The HUBBOX-01 is required to be installed when the MPB is installed in the Option 2 (1PF/2PF) or Option 3 (1PE/2PE) MPB slots.
  However, it is not necessary to be installed when two sets of the DKC-F810I-SVP are installed.

In case of DKC-1

① Addition of the second set (HUBBOX-11)

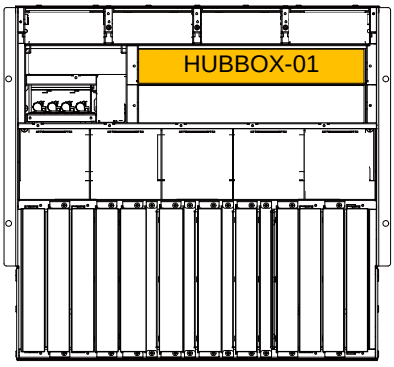
- The HUBBOX-11 is required to be installed when the MPB is installed in the Option 6 (1PM/2PM) or Option 7 (1PL/2PL) MPB slots.

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

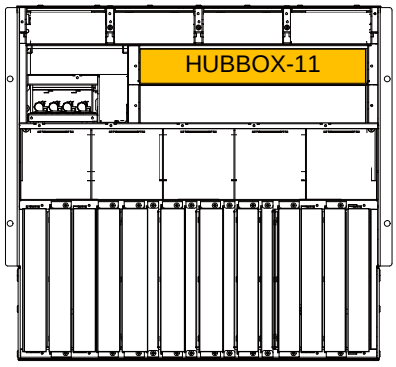
Copyright © 2014, Hitachi, Ltd.

3-1 Installation of HUBBOX

a. Loosen the two screws of the HUBBOX slot and remove the dummy plate.



Rear View of DKC-0



Rear View of DKC-1

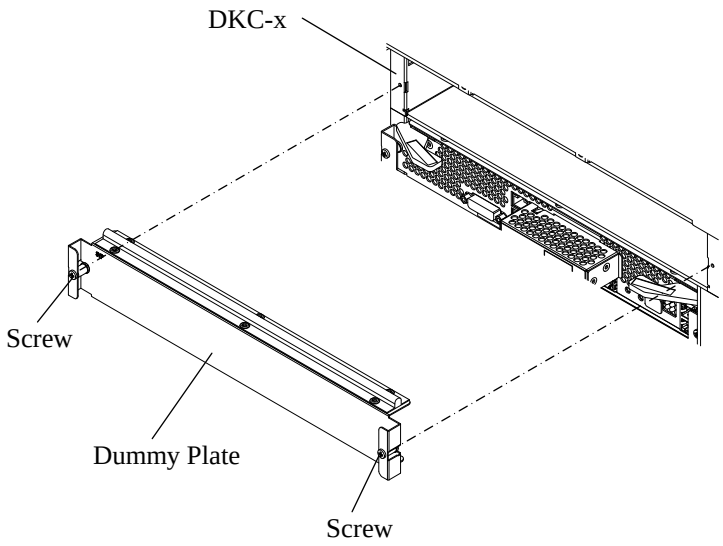


Fig. 3.7.2-1 Removal of Dummy Plate

Copyright © 2014, Hitachi, Ltd.

b. Install the HUBBOX and tighten the two screws.

NOTICE: Confirm the vertical direction of the HUBBOX. If the direction is wrong, the HUBBOX will not be ON.

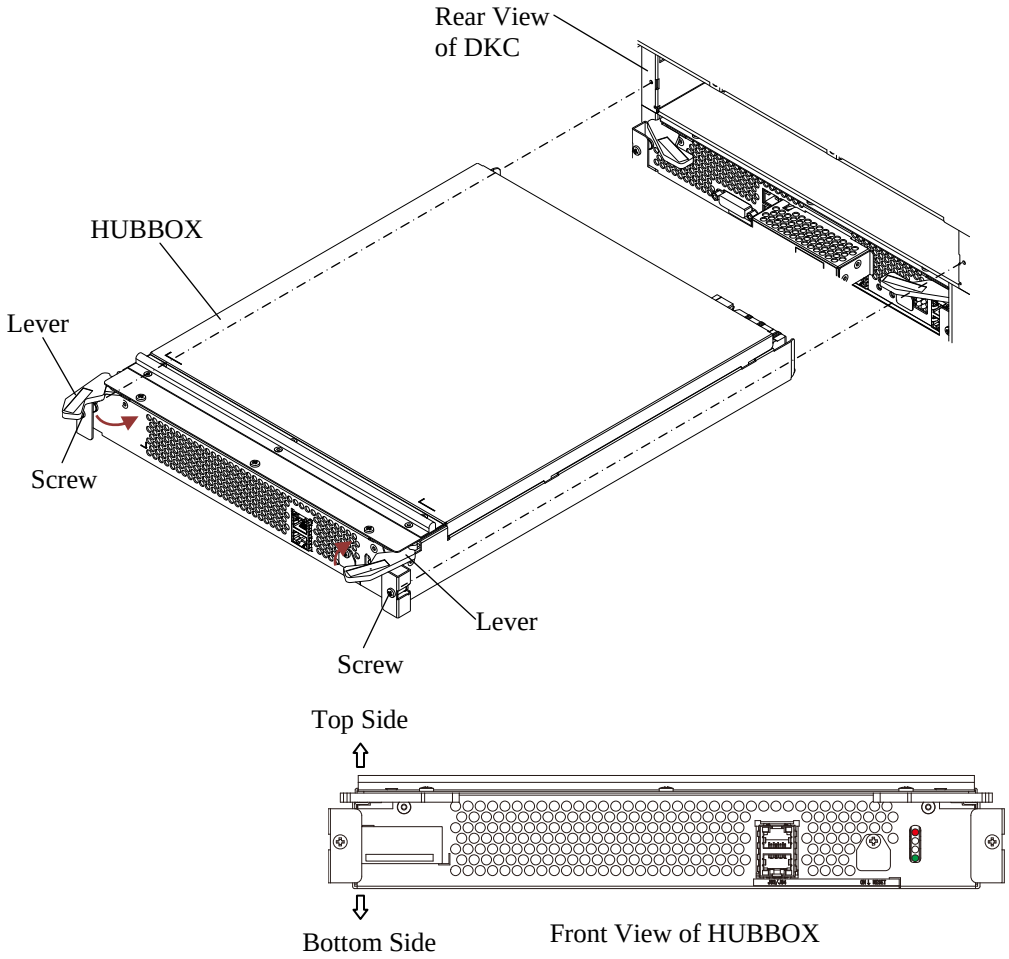
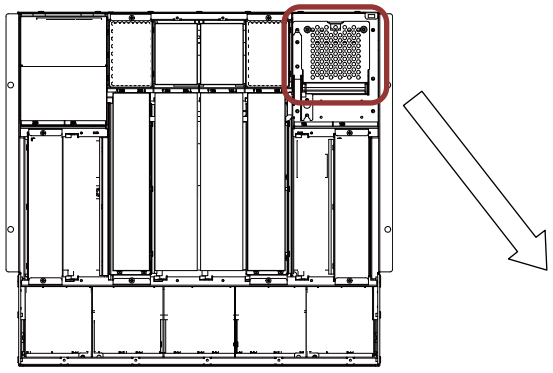


Fig. 3.7.2-2 Installation of HUBBOX

Copyright © 2014, Hitachi, Ltd.

3-2 Storage of Dummy Plate

a. Loosen the three screws ① on the front side of the DKC and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.
c. Put the removed dummy plate in the accessory box.
d. Put the accessory box in place and fix it with the screw ②.
e. Put the cable cover in place and fix it with the three screws ①.



Front View of DKC

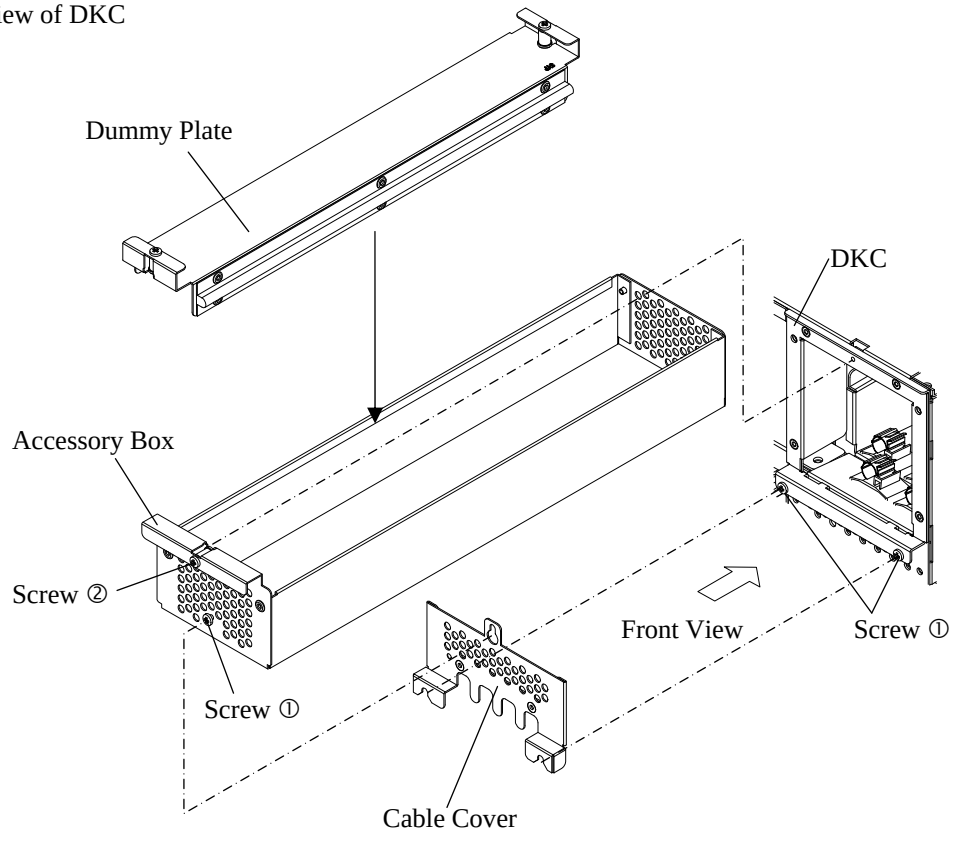


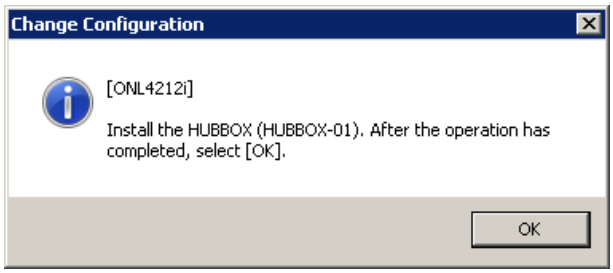
Fig. 3.7.2-3 Storage of Dummy Plate

Copyright © 2014, Hitachi, Ltd.

4. SVP Pre Procedure (MPB Installation)

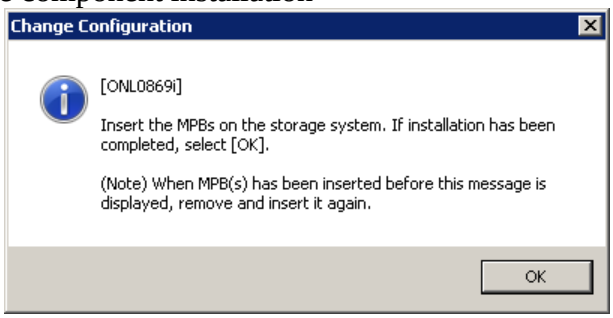
(1)

When a message, “Install the HUBBOX (HUBBOX-nn). After the operation has completed, select [OK].” is displayed, select (CL) the [OK] button.



(2) <Making sure of completion of the hardware component installation>

A message, “Insert the MPBs on the storage system. If installation has been completed, select [OK].
(Note) When MPB(s) has been inserted before this message is displayed, remove and insert it again.” is displayed.



NOTE: Do not select (CL) [OK] by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

5. Installation Procedure of Additional Processor Blade (DKC-F810I-MP)

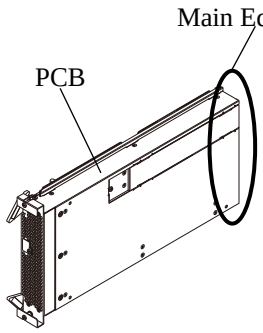
NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

5-1 Insertion of MPBs

a. Loosen the screws and remove the two or four dummy plates. (See Table 3.7.2-1, Fig. 3.7.2-4 and Fig. 3.7.2-5.)

NOTE: Store the removed dummy plates as they are required when the MPBs are removed.

b. Install the MPBs in the DKC and fix them with the screws.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.7.2-1 MPB installation Location

DKC	Additional No.	Slot No.		Location No.		Remarks
		Cluster 1	Cluster 2	Cluster 1	Cluster 2	
DKC-0	Basic	1MA	2MA	MPB-1MA	MPB-2MA	Standard Equipment
	Option 1	1MB	2MB	MPB-1MB	MPB-2MB	
	Option 2	1PF	2PF	MPB-1PF	MPB-2PF	
	Option 3	1PE	2PE	MPB-1PE	MPB-2PE	
DKC-1	Option 4	1MC	2MC	MPB-1MC	MPB-2MC	Standard Equipment
	Option 5	1MD	2MD	MPB-1MD	MPB-2MD	
	Option 6	1PM	2PM	MPB-1PM	MPB-2PM	
	Option 7	1PL	2PL	MPB-1PL	MPB-2PL	

Copyright © 2014, Hitachi, Ltd.

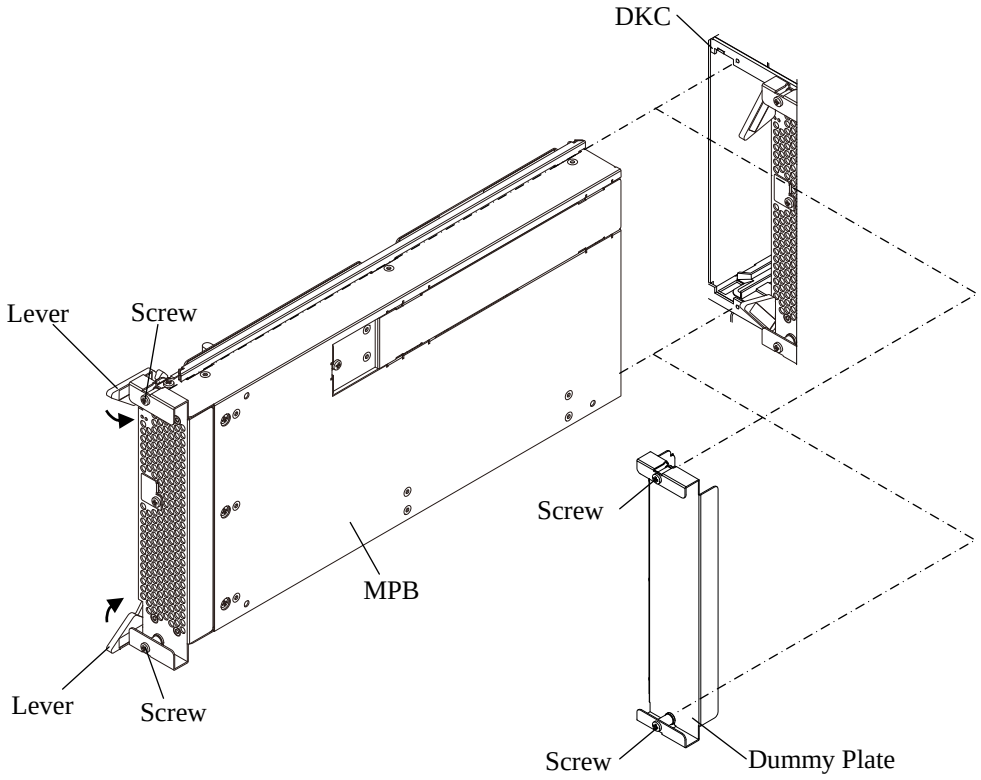


Fig. 3.7.2-4 MPB Installation (In the Case of MPB-#MB/#MD)

Copyright © 2014, Hitachi, Ltd.

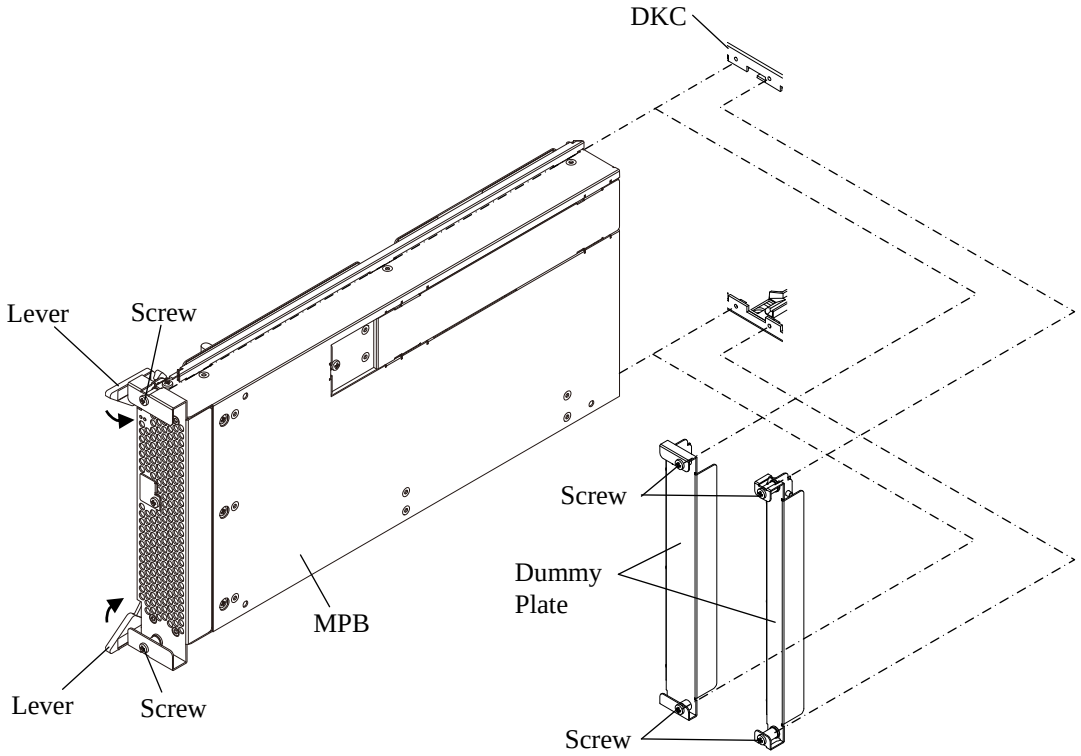
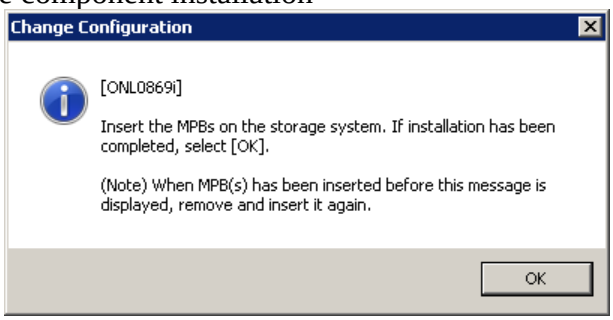


Fig. 3.7.2-5 MPB installation (In the Case of MPB-#PF/#PE/#PM/#PL)

Copyright © 2014, Hitachi, Ltd.

6. SVP post procedure

(1) <Making sure of completion of the hardware component installation>
After the MPB addition is completed, select (CL) [OK] in response to a message, “Insert the MPBs on the storage system. If installation has been completed, select [OK].
(Note) When MPB(s) has been inserted before this message is displayed, remove and insert it again.”



---

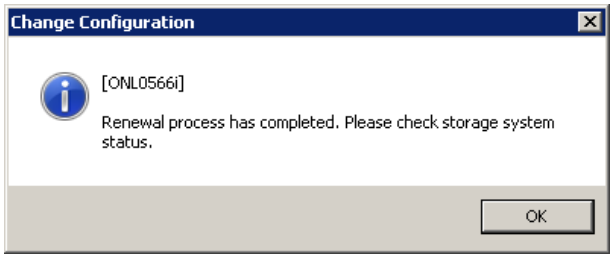
(2)

“Waiting for Power Event... Usually, several minutes (maximum 15 minutes)” is displayed.

If [ONL3437E] or [ONL3438E] is displayed, please refer “2.10.1 Replacement procedure when PCB could not be restoring”. (INST02-420)

---

(4) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

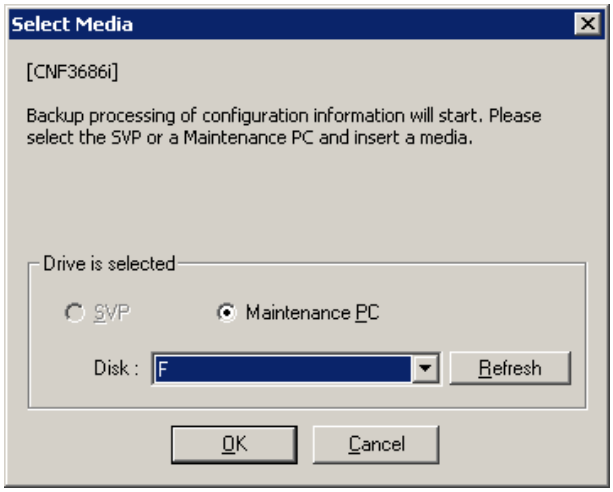


---

(5)

Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

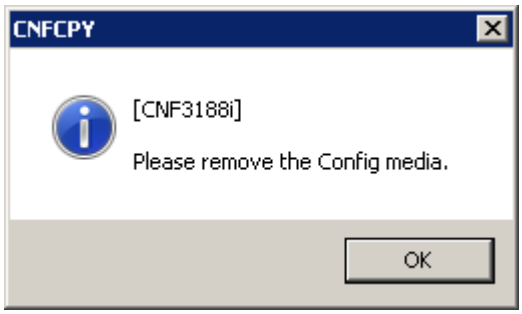
NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



Copyright © 2014, Hitachi, Ltd.

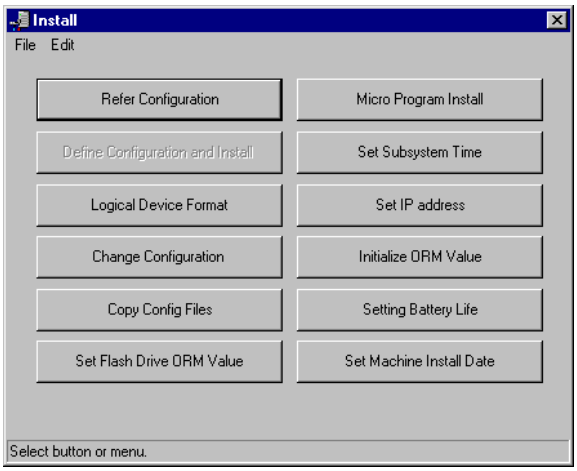
(6)

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



(7)

After the procedure is completed, return to ‘Install’.
Select (CL) [File]-[Exit].



(8) <Mode Change>
Change the mode to View Mode.

Return to the working table and do the rest of the work.
New Installation: INST02-10,
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.8 Installation of Channel Adapter

3.8.1 Installation of Fibre 8/16-port 8/16G Host Adapter (DKC-F810I-16FC8/8FC16)

Table 3.8.1-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-16FC8	WP810-A	5552772-A	2	CHA PCB
2	DKC-F810I-8FC16	WP812-A	5552773-A	2	CHA PCB

Copyright © 2014, Hitachi, Ltd.

Table 3.8.1-2 Working time

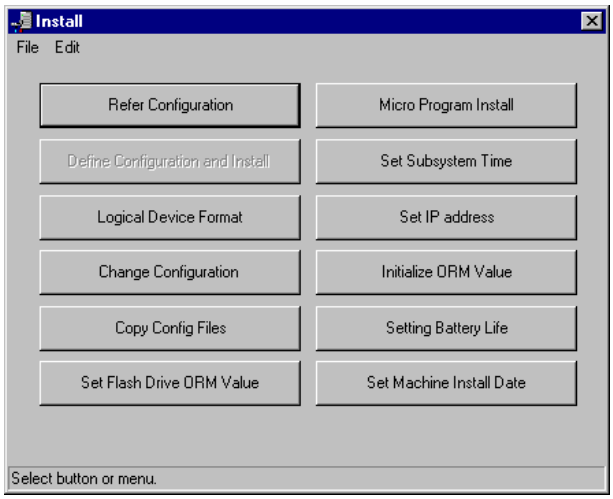
		Number of change (set)	Total (minutes)
CHA	Installation	1	15
		2	20
		3	25
		4	30
		5	35
		6	40
		7	45
		8	50
		9	55
		10	60
		11	65
		12	70
		13	75
		14	80
		15	85

Copyright © 2014, Hitachi, Ltd.

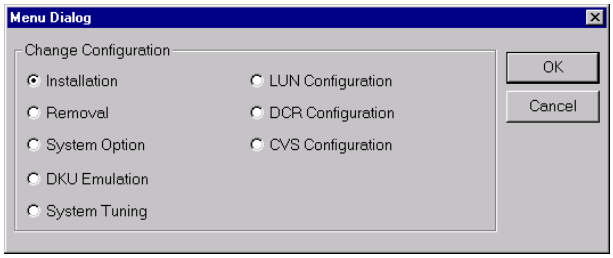
1. Setting up the New Device Structure Information

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

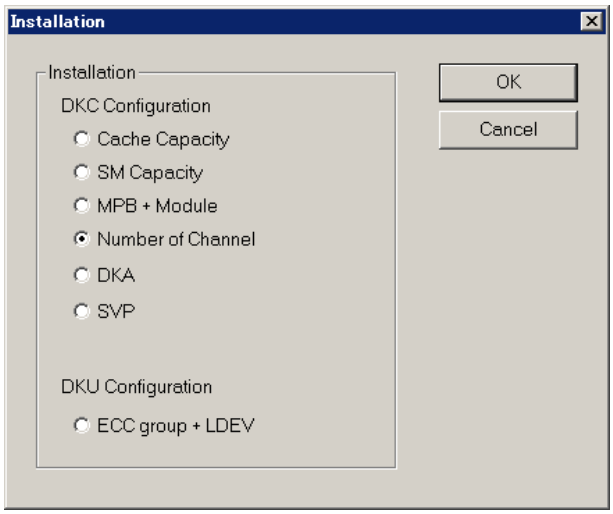
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



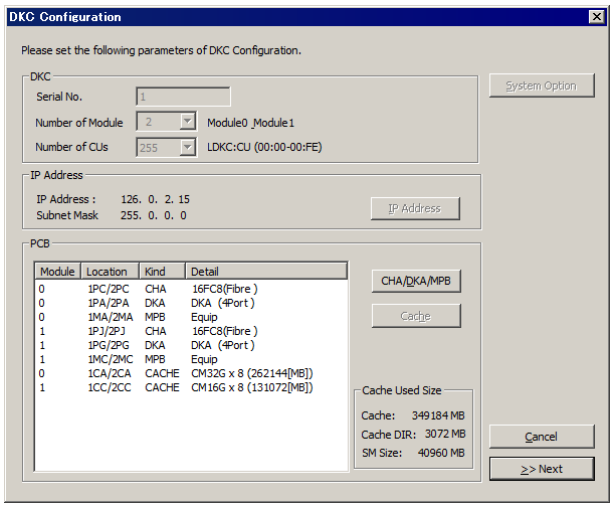
(4) <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



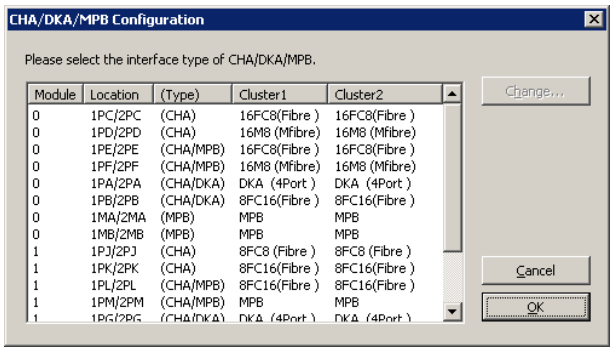
Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [CHA/DKA/MPB].
Go to Step (6).

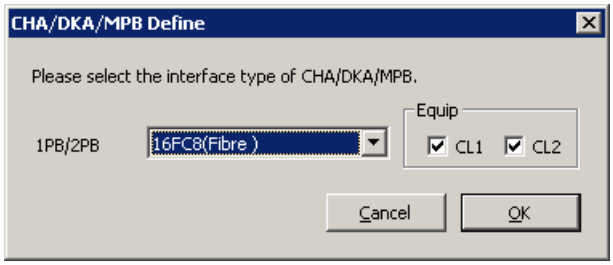
After the setting is completed, select (CL) [>>Next].
Go to Step (8).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



(6) <Setting the CHA type>
In the 'CHA/DKA/MPB Configuration' screen, select the location(s) to which the addition is to be made, and select (CL) [Change...].
Go to Step (7).
Make sure that the entry that has been made is correct and select (CL) [OK].
Go back to Step (5).



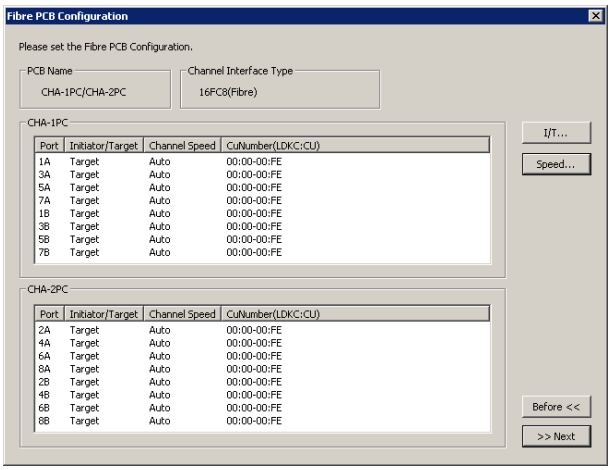
(7) <Select the CHA type>
In the 'CHA/DKA/MPB Define' screen, select Fibre PCB.
Check the 'Equip (CL1/CL2)' setting.
After the setting is completed, select (CL) [OK]. The routine is returned to Step (5).



Copyright © 2014, Hitachi, Ltd.

(8) <Setting details of the CHA>

Enter the necessary items in the 'Fibre PCB Configuration' screen. Repeat this operation as many times as the CHAs installed.



[I/T...]: Change the Target / RCU Target / Initiator / External for the port selected.
Go to Step (9).

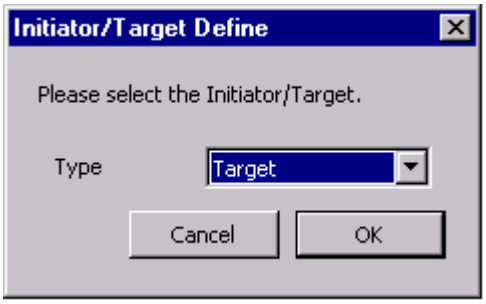
[Speed...]: Change the channel speed for the selected port .
Go to Step (10).

Make sure that the items that have been entered are correct and select (CL) [>>Next].

---

(9) <Setting the Initiator/Target>

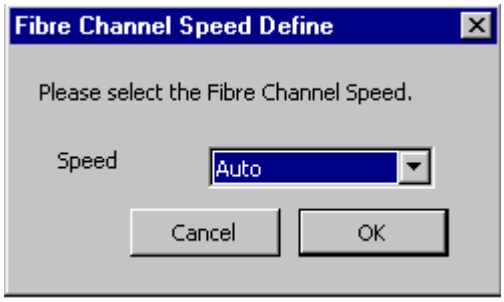
Set the type from the Target / RCU Target / Initiator / External.
After the setting is completed, select (CL) [OK].
Go back to Step (8).



---

(10) <Setting the channel speed>

Set the channel speed for the channel connected to the specified port.
After the setting is completed, select (CL) [OK].
Go back to Step (8).

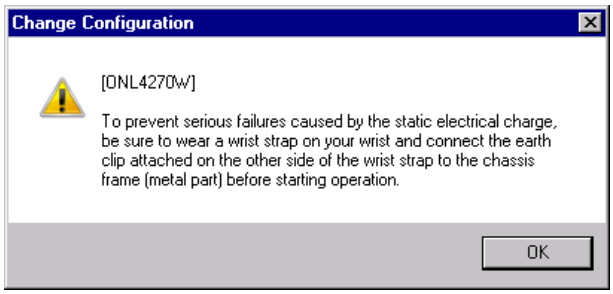


Copyright © 2014, Hitachi, Ltd.

2. SVP pre procedure (Channel Adapter Addition)

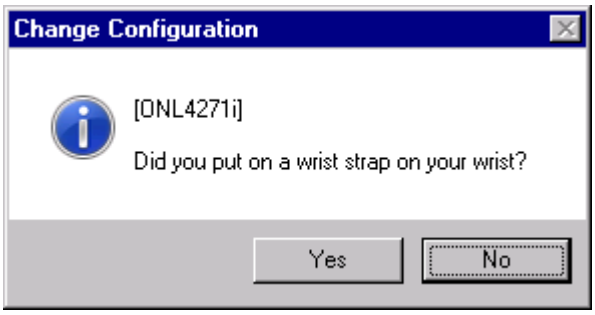
(1) <Wear a wrist strap>

Select (CL) [OK] in response to “To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.”.



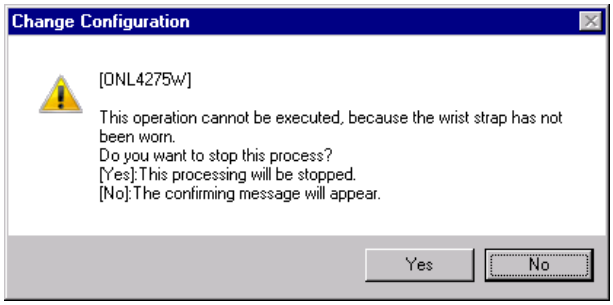
(1)-1<Confirm wearing wrist strap>

In response to a message, “Did you put on a wrist strap on your wrist?”.
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (1)-2.



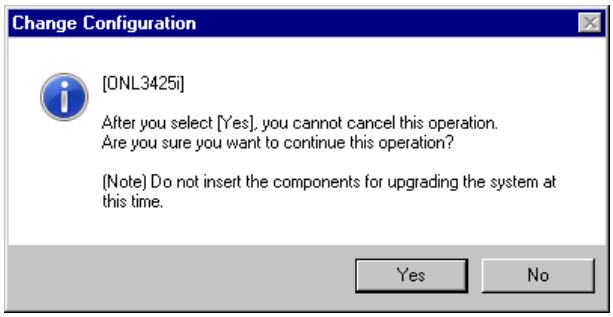
(1)-2

In response to a message, “This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear.”
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-08A-30.
When [No] is selected (CL), returned to Step (1).



Copyright © 2014, Hitachi, Ltd.

(2) <Starting the addition>
In response to a message, “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation? (Note) Do not insert the components for upgrading the system at this time.”, select (CL) [Yes]. When [No] is selected (CL), the routine is returned to Step (2) on page INST03-08A-30.



Copyright © 2014, Hitachi, Ltd.

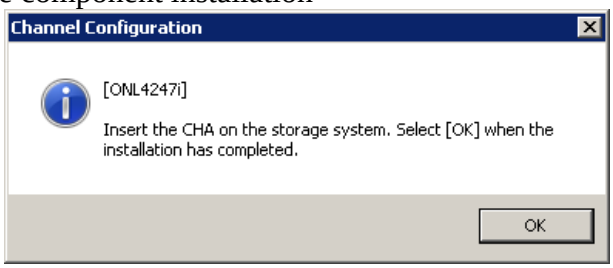
(3) <Downloading the microprogram>
The microprogram is downloaded to the SM.
The progress of the downloading is displayed.

---

(4)
"Changing the storage system configuration data ..." is displayed.

---

(5) <Making sure of completion of the hardware component installation>
A message, "Insert the CHA on the storage system. Select [OK] when the installation has completed." is displayed.



NOTE: Do not press the [OK] button by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

3. Installation Procedure of Fibre 8/16-port 8/16G Host Adapter

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

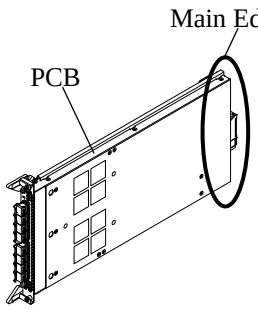
3-1 Insertion of the PCBs

a. Loosen the screws and remove the dummy plates. (This procedure is not required if the PCB should be installed in the Basic slots.)

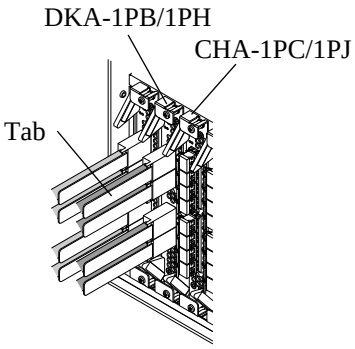
NOTE: Store the removed dummy plates as they are required when the CHAs are removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Insert the PCBs to the correct locations in the DKC and tighten the screws.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

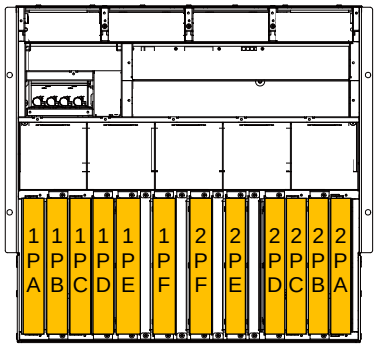


NOTICE: When inserting or removing the CHA PCB (CHA-1PC/1PJ), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-1PB/1PH) is not caught in it.

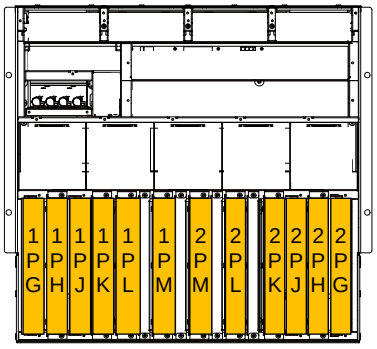
Copyright © 2014, Hitachi, Ltd.

Table 3.8.1-3 Inserting Location

DKC	Addition No.	Slot No.		Location No.		Remarks
		Cluster 1	Cluster 2	Cluster 1	Cluster 2	
DKC-0	Basic	1PC	2PC	CHA-1PC	CHA-2PC	
	Option 1	1PD	2PD	CHA-1PD	CHA-2PD	
	Option 2	1PE	2PE	CHA-1PE	CHA-2PE	
	Option 3	1PF	2PF	CHA-1PF	CHA-2PF	
	Option 4	1PB	2PB	CHA-1PB	CHA-2PB	All CHA
	Option 5	1PA	2PA	CHA-1PA	CHA-2PA	All CHA
DKC-1	Option 6	1PJ	2PJ	CHA-1PJ	CHA-2PJ	
	Option 7	1PK	2PK	CHA-1PK	CHA-2PK	
	Option 8	1PL	2PL	CHA-1PL	CHA-2PL	
	Option 9	1PM	2PM	CHA-1PM	CHA-2PM	
	Option 10	1PH	2PH	CHA-1PH	CHA-2PH	All CHA
	Option 11	1PG	2PG	CHA-1PG	CHA-2PG	All CHA



Rear View of DKC-0



Rear View of DKC-1

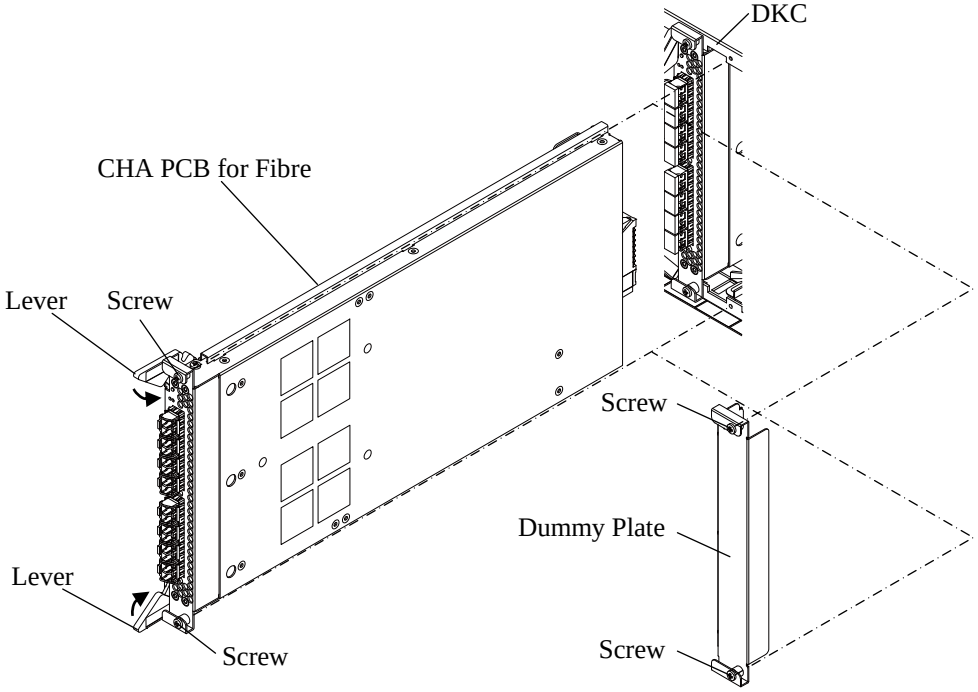


Fig. 3.8.1-1 Insertion of PCB

Copyright © 2014, Hitachi, Ltd.

3-2 Cleaning the fibre cable connectors

For the tools needed for the cleaning, refer to the tool list on page PARTS05-10.

a. Blow compressed gas against the connector using an air sprayer (for about five seconds).
b. Wipe the connector lightly with a piece of cut gauze wet with ethyl alcohol.
c. Blow compressed air again and check the result of the cleaning (None of dust, sticking of foreign matter, and dirt must be observed).

Copyright © 2014, Hitachi, Ltd.

3-3 Connection of the optical fibre cables

When wiring for optical fibre cables from the floor

a. Loosen the two screws at the rear bottom of the frame and slide the S/R ASSY forward.
b. Draw the optical fibre cables from the rear lower opening of the frame.

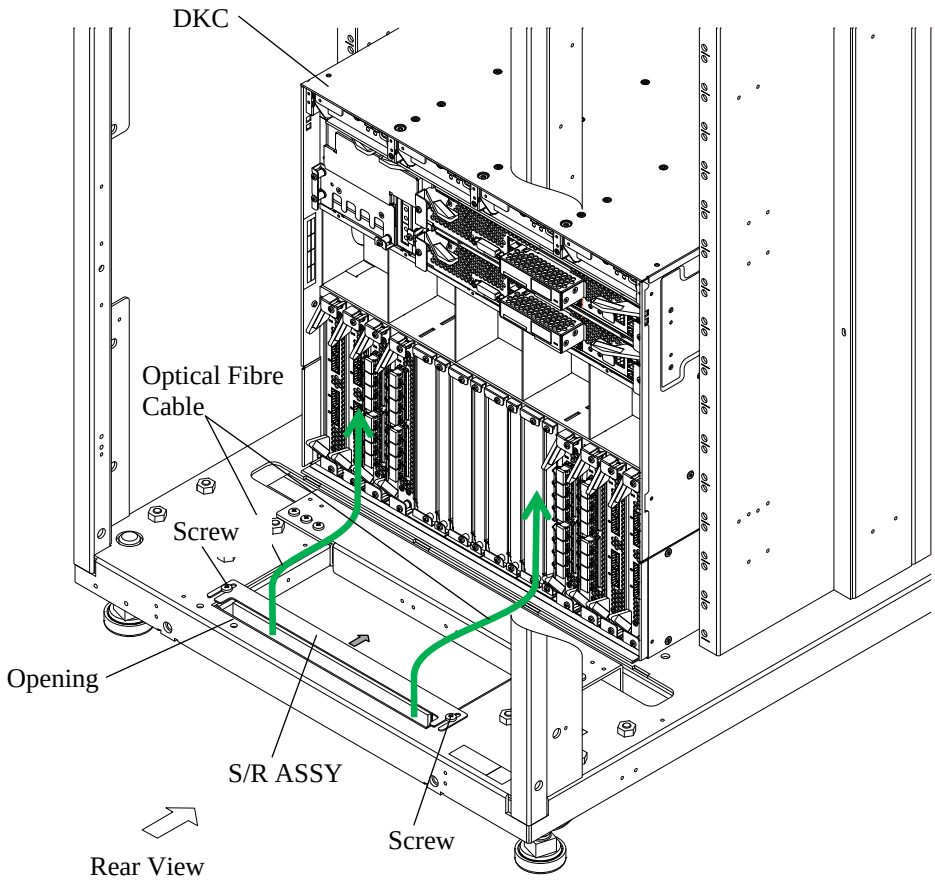


Fig. 3.8.1-2 Drawing Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

c. Connect the optical fibre cables to the PCB.

In case of DKC-0

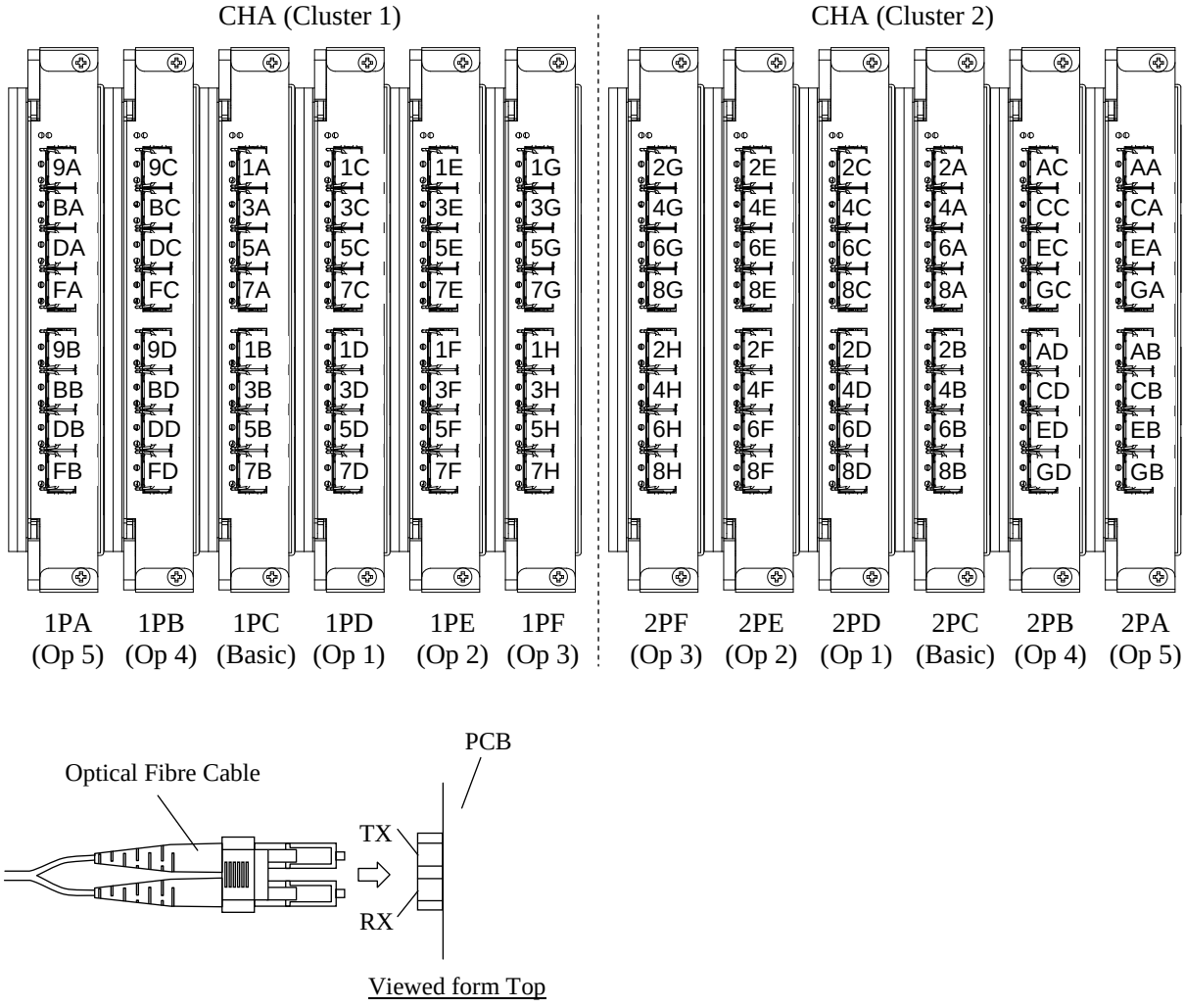


Fig. 3.8.1-3 Connection of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

In case of DKC-1

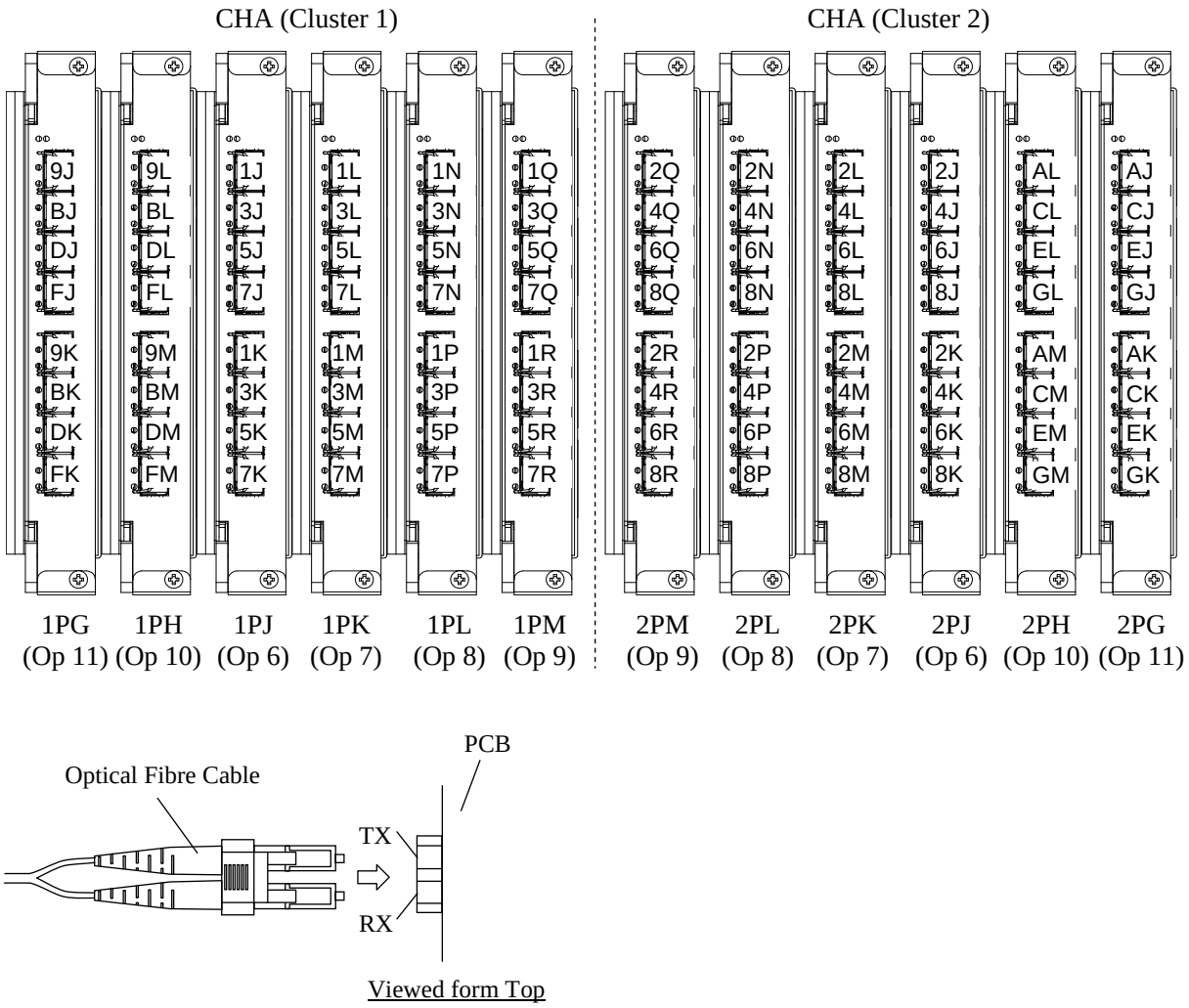


Fig. 3.8.1-4 Fixation of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

d. Wire the optical fibre cables to the frame.
e. Slide the S/R ASSY toward you and tighten the two screws.

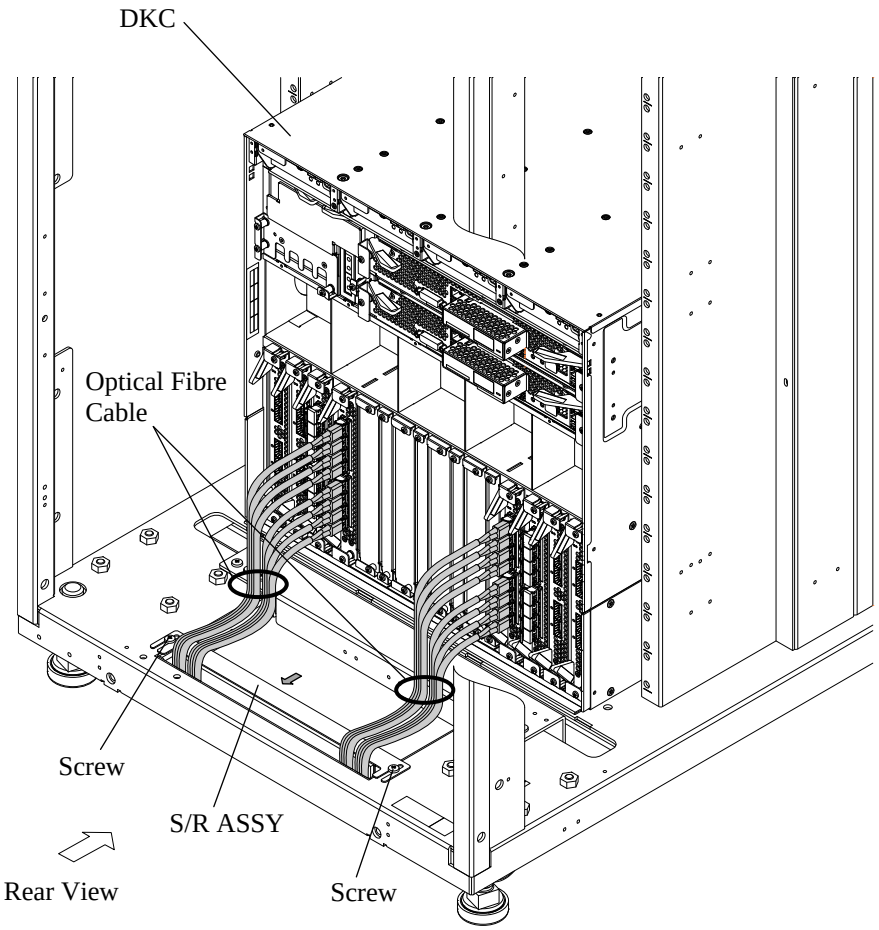


Fig. 3.8.1-5 Cable Wiring

Copyright © 2014, Hitachi, Ltd.

When wiring for the optical fibre cables from the window opening of the top cover

a. Loosen the two screws of the top cover, and slide the window opening toward the front side.
b. Draw the optical fibre cables from the opening of the top cover, and wire the cables in the frame.
c. Connect the optical fibre cables to the PCB in the DKC. (Refer to Fig. 3.8.1-3 or Fig. 3.8.1-4.)
d. Slide the window to close the opening, and retighten it with the two screws.

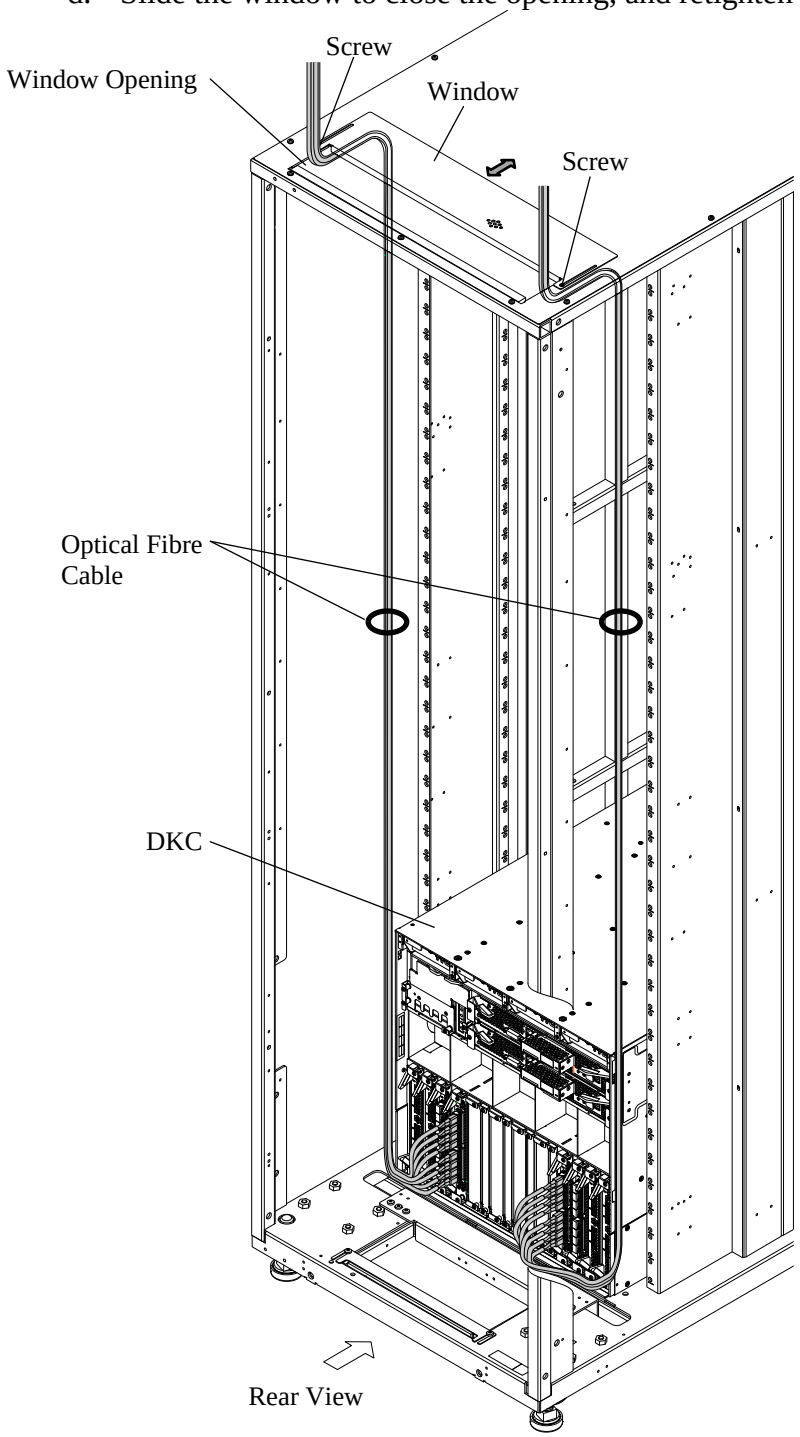


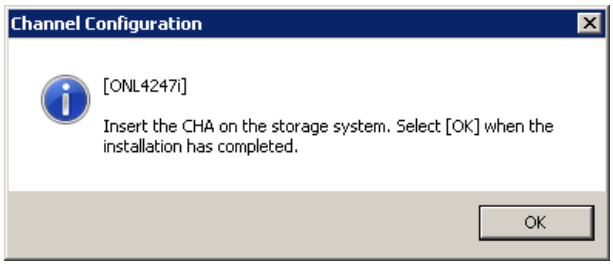
Fig. 3.8.1-6 Attachment of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

6. SVP Post-Procedure

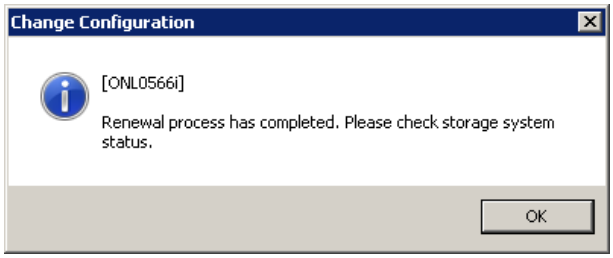
(1) <Check that hardware components are installed>
Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the CHA on the storage system. Select [OK] when the installation has completed”.

When [Cancel] is selected (CL), returns to INST03-08A-30 step (3).



(2) <Restore CHA>
“Restoring the CHA...” is displayed.

(3) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

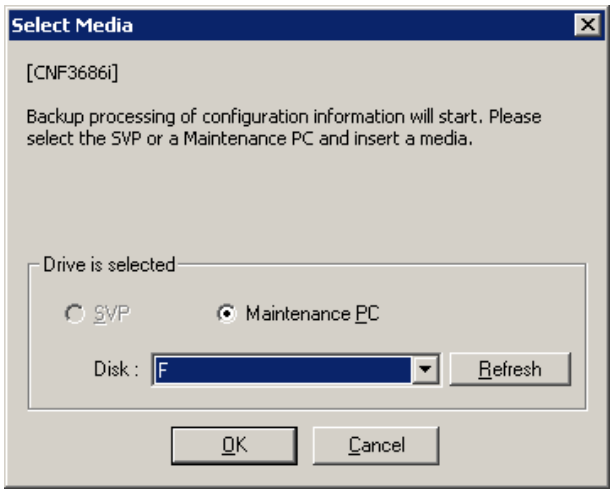


Copyright © 2014, Hitachi, Ltd.

(4)

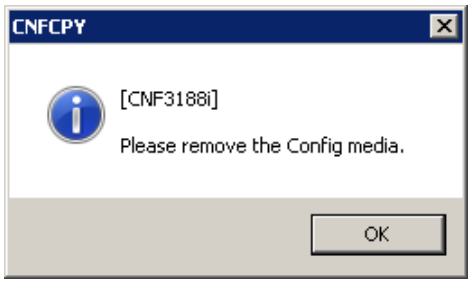
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



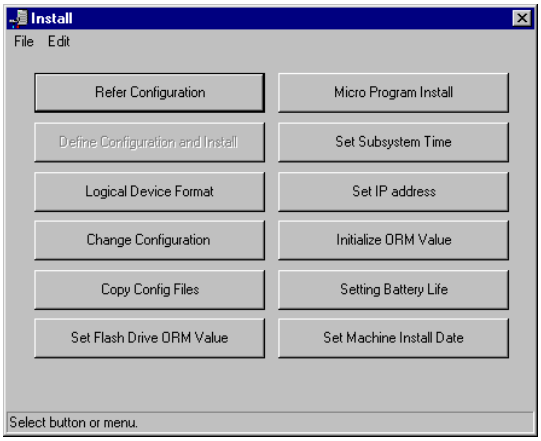
(5)

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



(6)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(7) <Mode Change>
Change the mode to View Mode.

Return to the working table and do the rest of the work.
New Installation: INST02-20,
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.8.2 Installation of Mainframe Fibre 16-port 8G Host Adapter (DKC-F810I-16MS8/16ML8)

Table 3.8.2-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-16MS8	WP811-A	5552775-A	2	CHA PCB
2	DKC-F810I-16ML8	WP811-B	5552776-A	2	CHA PCB

Copyright © 2014, Hitachi, Ltd.

Table 3.8.2-2 Working time

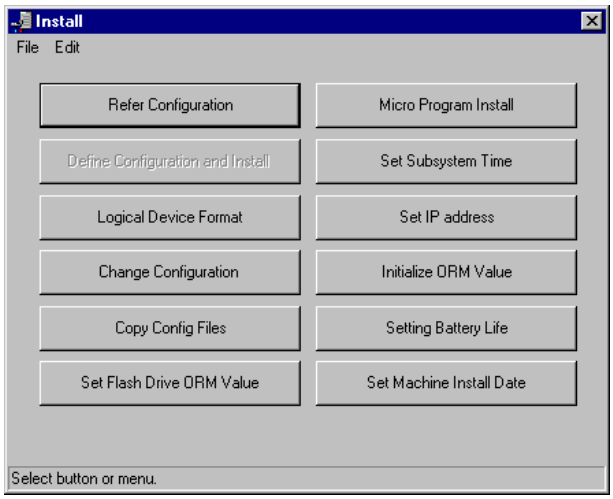
		Number of change (set)	Total (minutes)
CHA	Installation	1	15
		2	20
		3	25
		4	30
		5	35
		6	40
		7	45
		8	50
		9	55
		10	60
		11	65
		12	70
		13	75
		14	80
		15	85

Copyright © 2014, Hitachi, Ltd.

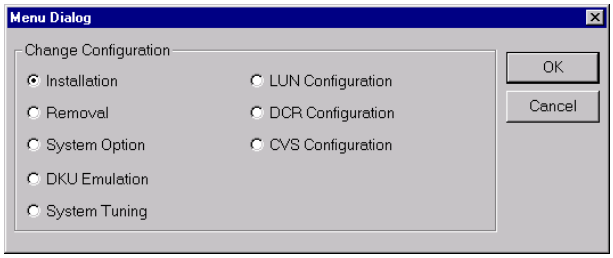
1. Setting up the New Device Structure Information

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

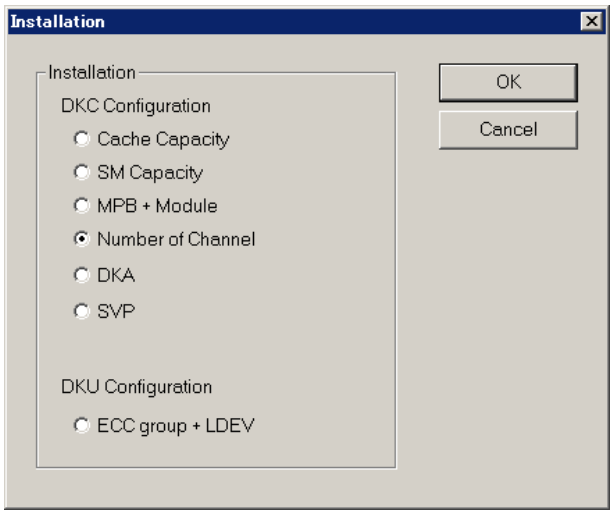
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



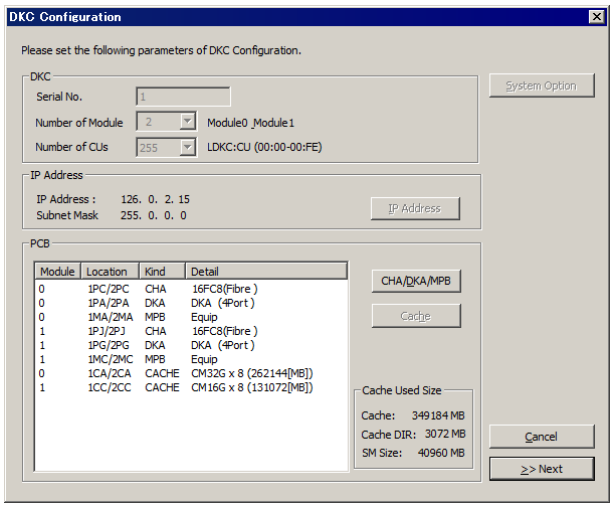
(4) <Select a part to be changed>
Select (CL) [Number of Channel], and select (CL) [OK].



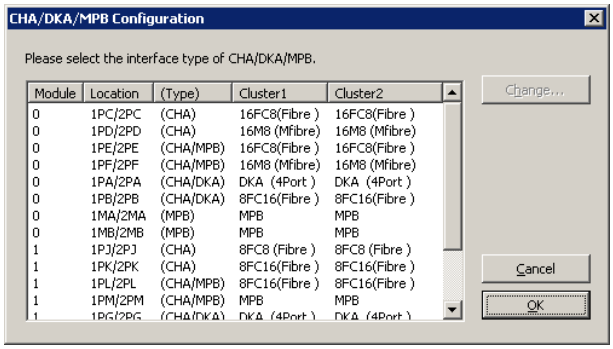
Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [CHA/DKA/MPB].
Go to Step (6).

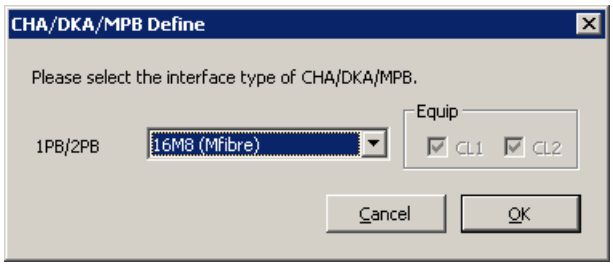
After the setting is completed, select (CL) [>>Next].
Go to Step (8).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



(6) <Setting the CHA type>
In the 'CHA/DKA/MPB Configuration' screen, select the location(s) to which the addition is to be made, and select (CL) [Change...].
Go to Step (7).
Make sure that the entry that has been made is correct and select (CL) [OK].
Go back to Step (5).

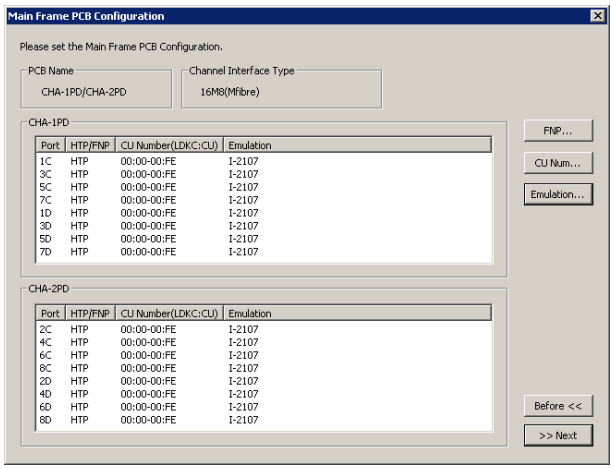


(7) <Select the CHA type>
In the 'CHA/DKA/MPB Define' screen, select Mfibre PCB.
After the setting is completed, select (CL) the [OK].
Go back to Step (6).



Copyright © 2014, Hitachi, Ltd.

(8) <Mainframe PCB Configuration screen>
Enter the necessary items in the 'Mainframe PCB Configuration' screen.
Repeat this operation as many times as the CHAs installed.



[FNP...]: Set the HTP/FNP for the selected port.
Go to Step (9).

[CU Num...]: Set the number of the CU connected to the selected port.
Go to Step (10).

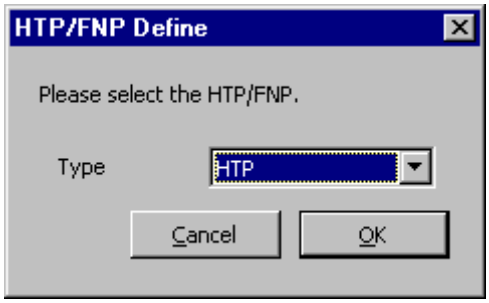
[Emulation...]: Set the DKC Emulation for the selected port.
Go to Step (11).

Make sure that the items that have been entered are correct and select (CL) [>>Next].
Go to Step (12).

NOTE: The setting of "CU Number" cannot be done for the definition that crosses 16KLDEV boundary (00:00-00:3F/00:40-00:7F/00:80-00:BF/00:C0-00:FE) for per two ports. When the definition that crosses 16KLDEV boundary is done, it is defined for per two ports.

---

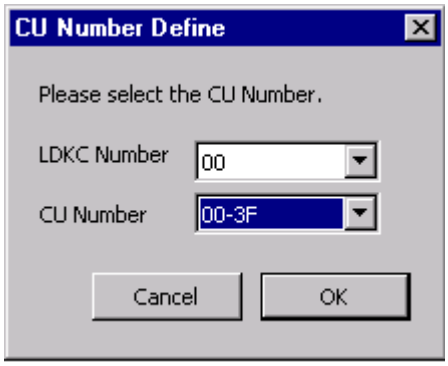
(9) <Setting the HTP/FNP>
Set the HTP/FNP.
After the setting is completed, select (CL) the [OK].
Go back to Step (8).



Copyright © 2014, Hitachi, Ltd.

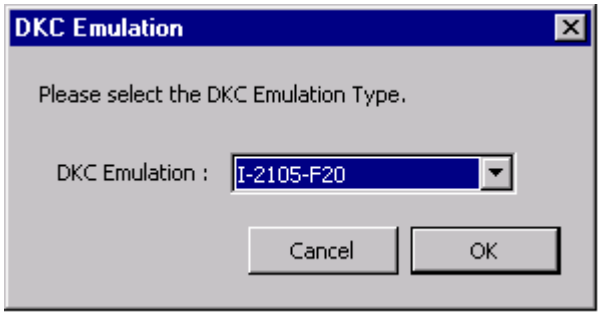
(10) <Setting the CU number>

Set the number of the LDKC/CU connected to the specified port.
After the setting is completed, select (CL) the [OK].
Go back to Step (8).



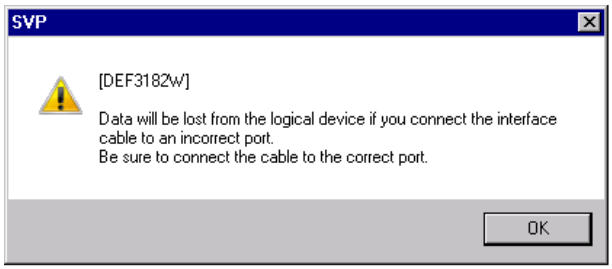
(11) <Setting the DKC Emulation>

Set the DKC Emulation.
After the setting is completed, select (CL) the [OK].
Go back to Step (8).



(12) <Display of the SVP message>

In response to the message, “Data will be lost from the logical device if you connect the interface cable to an incorrect port. Be sure to connect the cable to the correct port.”, select (CL) [OK].

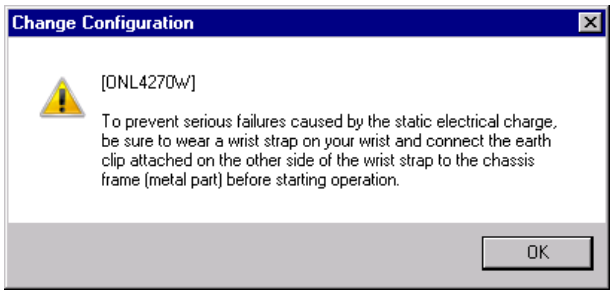


Copyright © 2014, Hitachi, Ltd.

2. SVP pre procedure (Channel Adapter Addition)

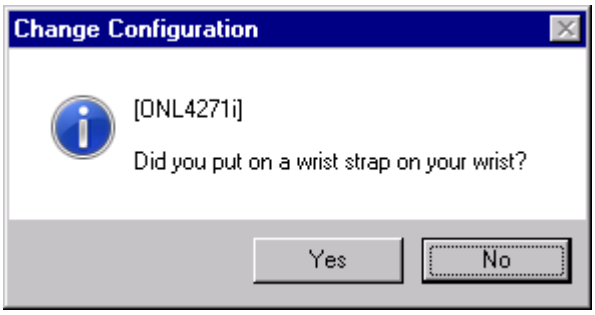
(1) <Wear a wrist strap>

Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



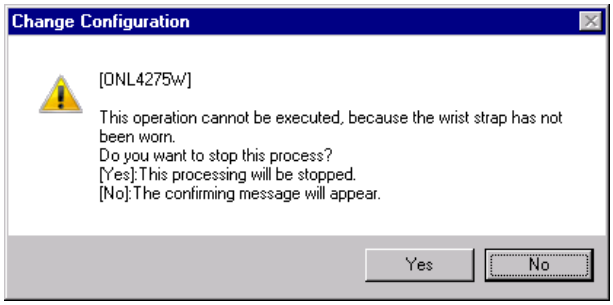
(1)-1 <Confirm wearing wrist strap>

In response to a message, "Did you put on a wrist strap on your wrist?".
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (1)-2.



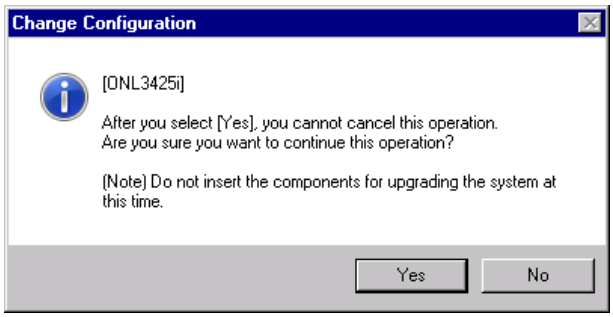
(1)-2

In response to a message, "This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear."
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-08B-30.
When [No] is selected (CL), returned to Step (1).



Copyright © 2014, Hitachi, Ltd.

(2) <Starting the addition>
In response to a message, “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation? (Note) Do not insert the components for upgrading the system at this time.”, select (CL) [Yes]. When [No] is selected (CL), the routine is returned to Step (2) on page INST03-08B-30.



Copyright © 2014, Hitachi, Ltd.

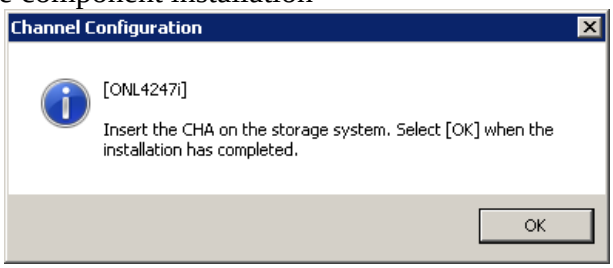
(3) <Downloading the microprogram>
The microprogram is downloaded to the SM.
The progress of the downloading is displayed.

---

(4)
"Changing the storage system configuration data ..." is displayed.

---

(5) <Making sure of completion of the hardware component installation>
A message, "Insert the CHA on the storage system. Select [OK] when the installation has completed." is displayed.



NOTE: Do not press the [OK] button by mistake before installing the part(s) to be added in the storage system.

Copyright © 2014, Hitachi, Ltd.

3. Installation Procedure of Mainframe Fibre 16-port 8G Host Adapter

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

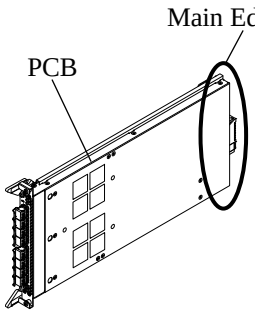
3-1 Insertion of the PCBs

a. Loosen the screws and remove the dummy plates. (This procedure is not required if the PCB should be installed in the Basic slots.)

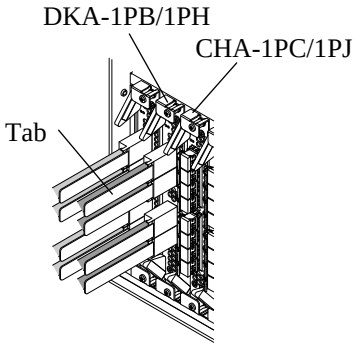
NOTE: Store the removed dummy plates as they are required when the CHAs are removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Insert the PCBs to the correct locations in the DKC and tighten the screws.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

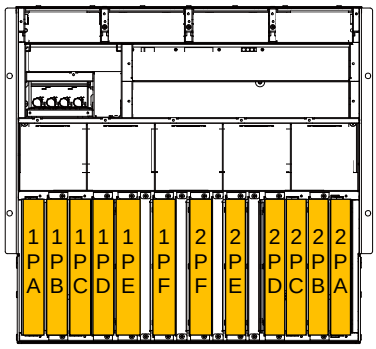


NOTICE: When inserting or removing the CHA PCB (CHA-1PC/1PJ), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-1PB/1PH) is not caught in it.

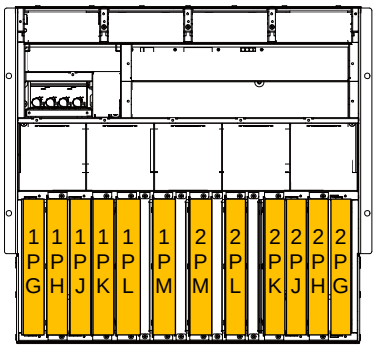
Copyright © 2014, Hitachi, Ltd.

Table 3.8.2-3 Inserting Location

DKC	Addition No.	Slot No.		Location No.		Remarks
		Cluster 1	Cluster 2	Cluster 1	Cluster 2	
DKC-0	Basic	1PC	2PC	CHA-1PC	CHA-2PC	
	Option 1	1PD	2PD	CHA-1PD	CHA-2PD	
	Option 2	1PE	2PE	CHA-1PE	CHA-2PE	
	Option 3	1PF	2PF	CHA-1PF	CHA-2PF	
	Option 4	1PB	2PB	CHA-1PB	CHA-2PB	All CHA
	Option 5	1PA	2PA	CHA-1PA	CHA-2PA	All CHA
DKC-1	Option 6	1PJ	2PJ	CHA-1PJ	CHA-2PJ	
	Option 7	1PK	2PK	CHA-1PK	CHA-2PK	
	Option 8	1PL	2PL	CHA-1PL	CHA-2PL	
	Option 9	1PM	2PM	CHA-1PM	CHA-2PM	
	Option 10	1PH	2PH	CHA-1PH	CHA-2PH	All CHA
	Option 11	1PG	2PG	CHA-1PG	CHA-2PG	All CHA



Rear View of DKC-0



Rear View of DKC-1

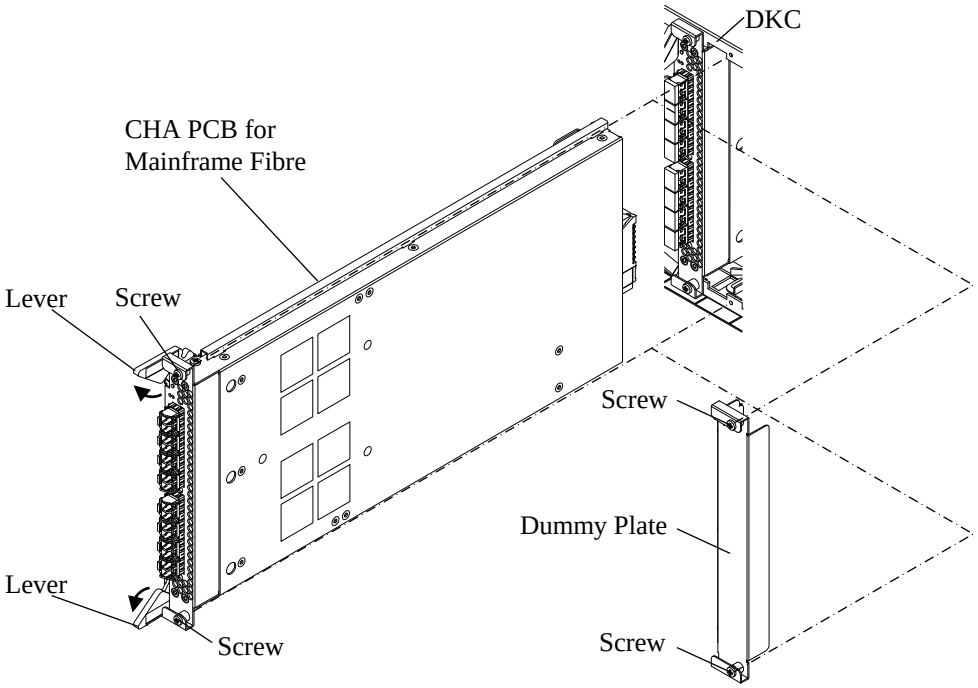


Fig. 3.8.2-1 Insertion of PCB

Copyright © 2014, Hitachi, Ltd.

3-2 Cleaning the fibre cable connectors

For the tools needed for the cleaning, refer to the tool list on page PARTS05-10.

a. Blow compressed gas against the connector using an air sprayer (for about five seconds).
b. Wipe the connector lightly with a piece of cut gauze wet with ethyl alcohol.
c. Blow compressed air again and check the result of the cleaning (None of dust, sticking of foreign matter, and dirt must be observed).

Copyright © 2014, Hitachi, Ltd.

3-3 Connection of the optical fibre cables

When wiring for optical fibre cables from the floor

a. Loosen the two screws at the rear bottom of the frame and slide the S/R ASSY forward.
b. Draw the optical fibre cables from the rear lower opening of the frame.

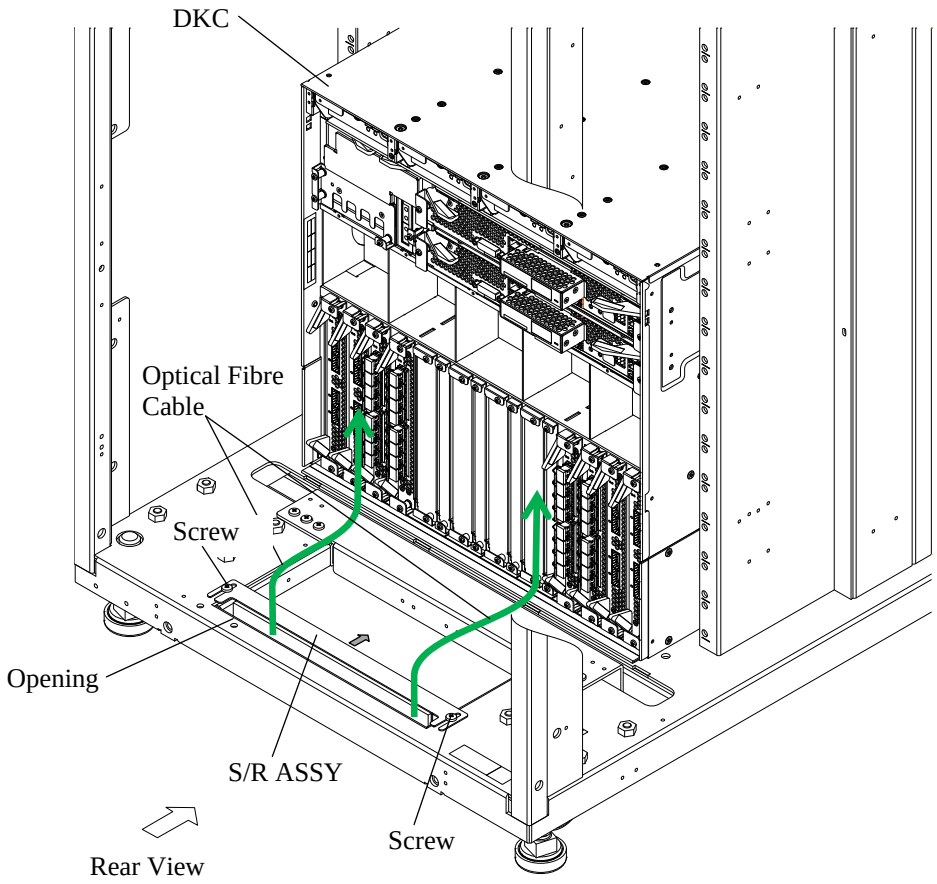


Fig. 3.8.2-2 Drawing Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

c. Connect the optical fibre cables to the PCB.

In case of DKC-0

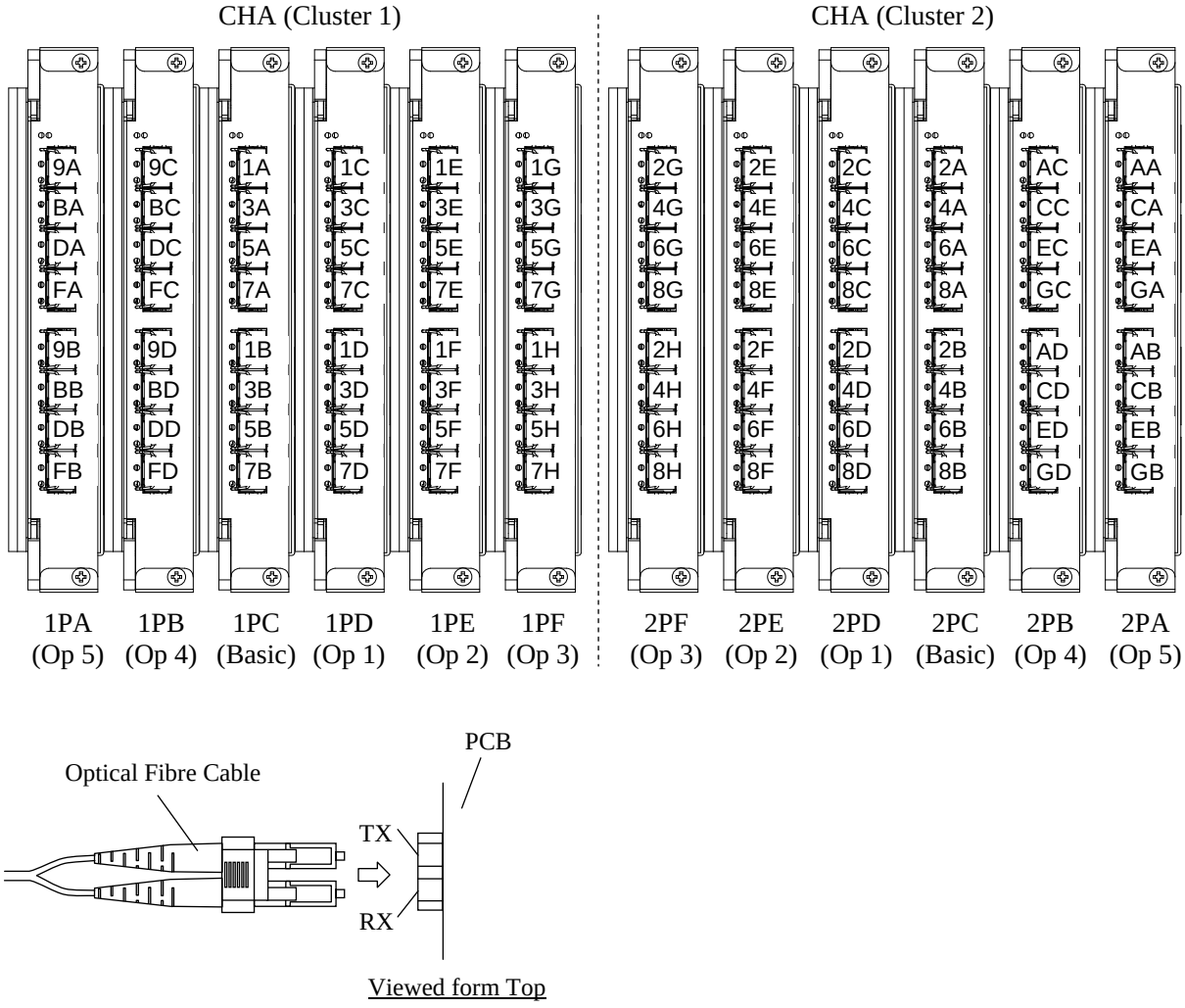
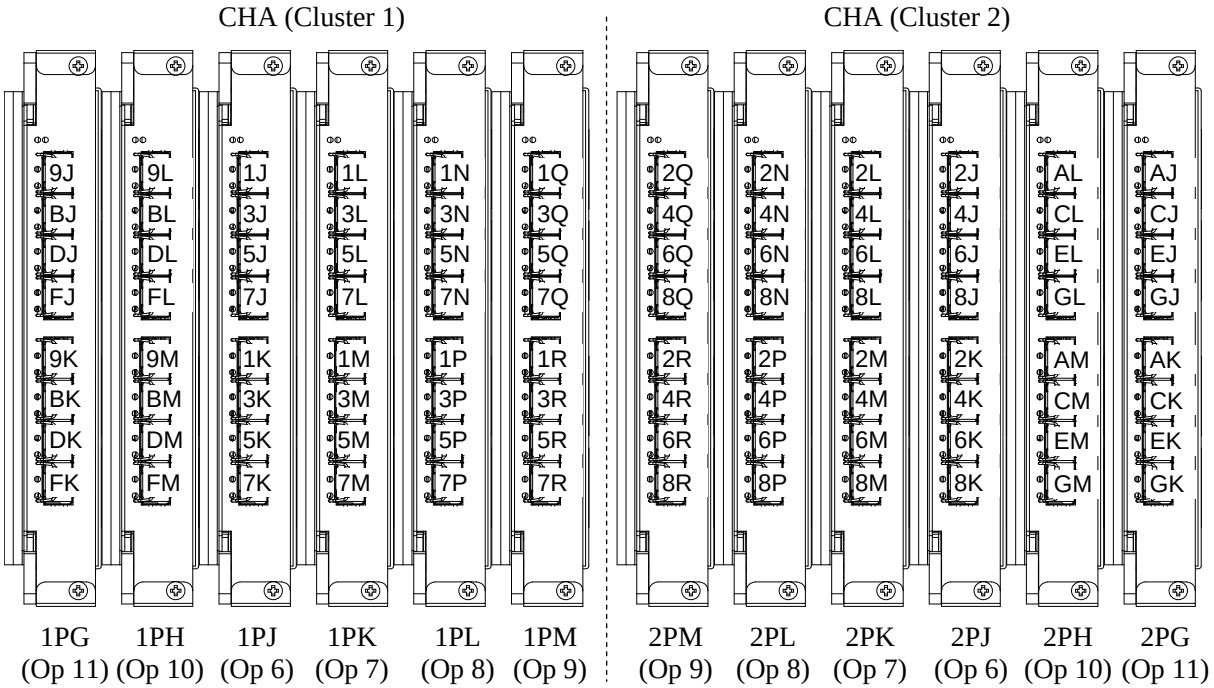


Fig. 3.8.2-3 Connection of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

In case of DKC-1



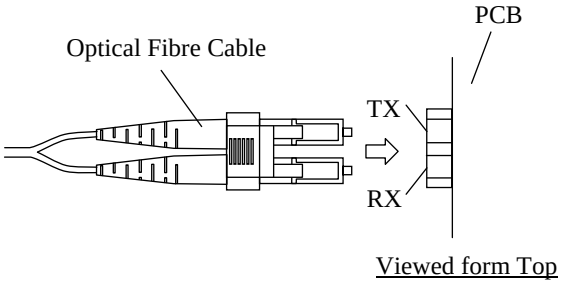


Fig. 3.8.2-4 Fixation of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

d. Wire the optical fibre cables to the frame.
e. Slide the S/R ASSY toward you and tighten the two screws.

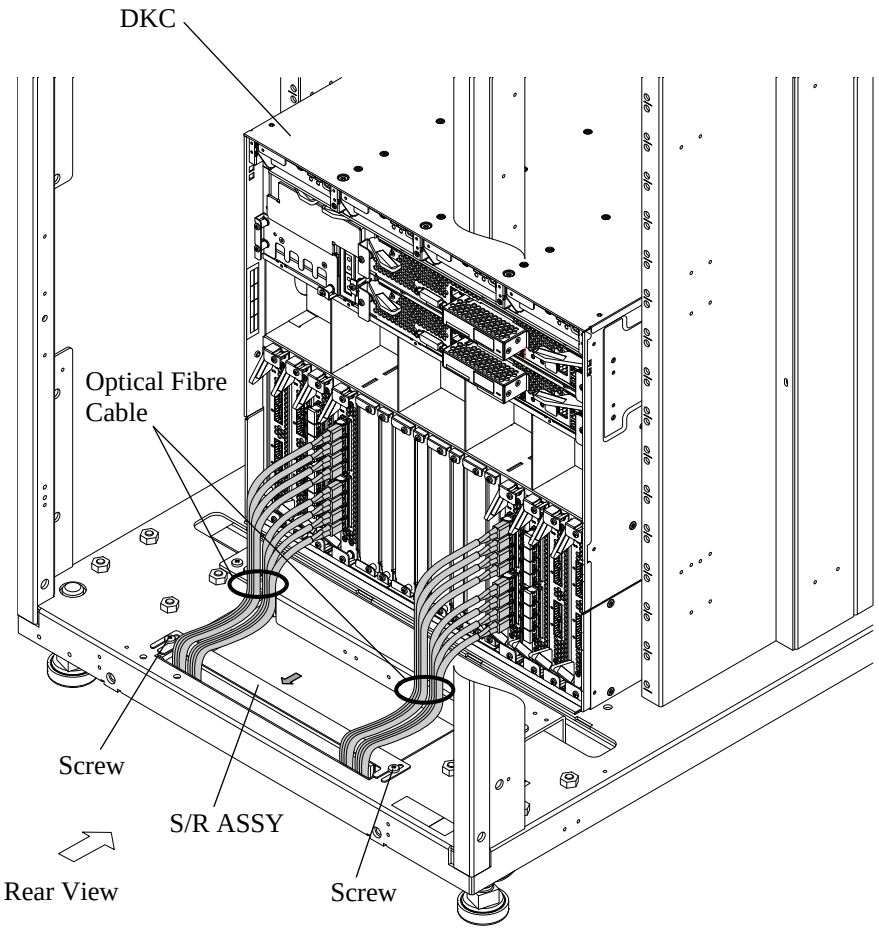


Fig. 3.8.2-5 Cable Wiring

Copyright © 2014, Hitachi, Ltd.

When wiring for the optical fibre cables from the window opening of the top cover

a. Loosen the two screws of the top cover, and slide the window opening toward the front side.
b. Draw the optical fibre cables from the opening of the top cover, and wire the cables in the frame.
c. Connect the optical fibre cables to the PCB in the DKC. (Refer to Fig. 3.8.2-3 or Fig. 3.8.2-4.)
d. Slide the window to close the opening, and retighten it with the two screws.

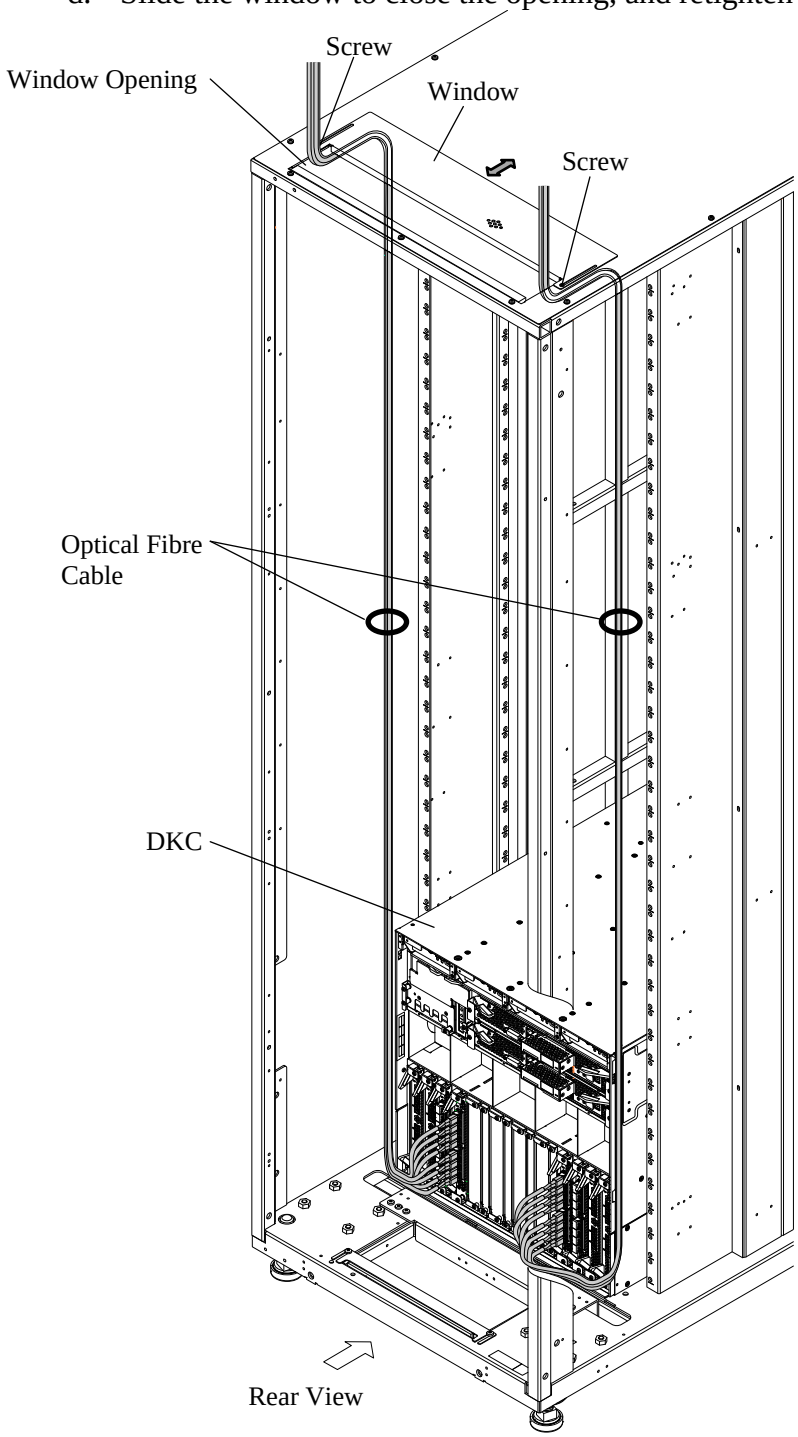


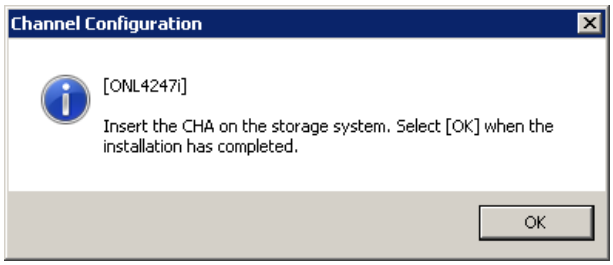
Fig. 3.8.2-6 Attachment of Optical Fibre Cables

Copyright © 2014, Hitachi, Ltd.

4. SVP Post-Procedure

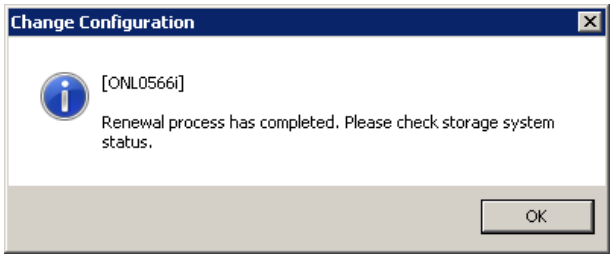
(1) <Check that hardware components are installed>
Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the CHA on the storage system. Select [OK] when the installation has completed.”.

When [Cancel] is selected (CL), returns to INST03-08B-30 step (3).



(2) <Restore CHA>
“Restoring the CHA...” is displayed.

(3) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

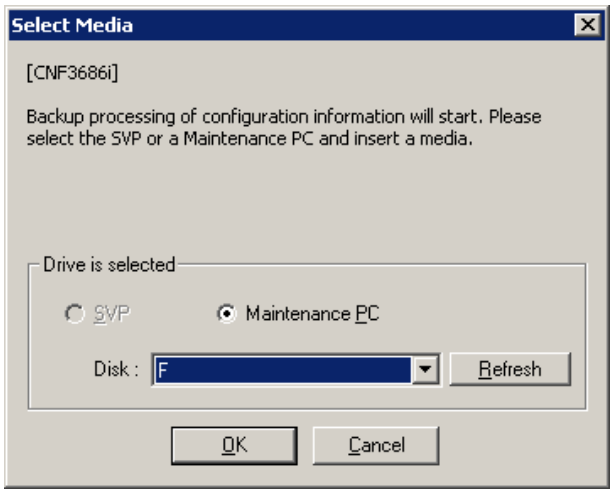


Copyright © 2014, Hitachi, Ltd.

(4)

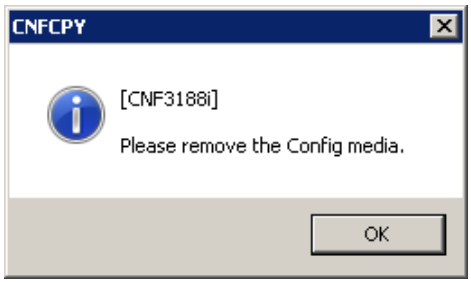
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



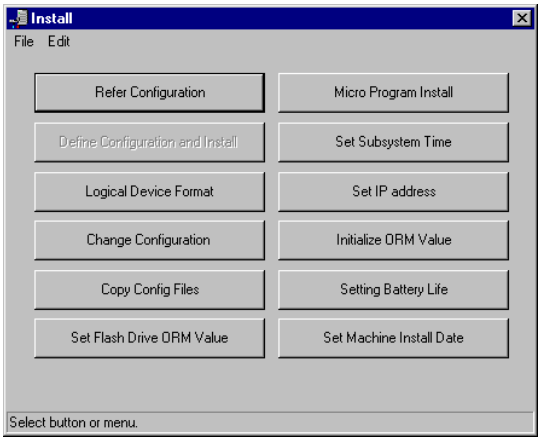
(5)

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



(6)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(7) <Mode Change>
Change the mode to View Mode.

Return to the working table and do the rest of the work.
New Installation: INST02-20,
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.9 Changing of SFP (DKC-F810I-1PL8/1PS8/1PL16/1PS16)

NOTICE:
1. The SFP (DKC-F810I-1PL8/1PS8) is an option to change the transceiver installed in the CHA package of the 8Gbps Fibre (DKC-F810I-16FC8) to a port corresponding to Longwave or Shortwave. It cannot be installed in the other CHA (DKC-F810I-8FC16/16MS8/16ML8).
2. The SFP (DKC-F810I-1PL16/1PS16) is an option to change the transceiver installed in the CHA package of the 16Gbps Fibre (DKC-F810I-8FC16) to a port corresponding to Longwave or Shortwave. It cannot be installed in the other CHA (DKC-F810I-16FC8/16MS8/16ML8).
3. Note that you cannot just change between Longwave and Shortwave SFP transceivers in an existing configuration without considering the cables. Longwave requires 9 micrometer diameter, single mode cable, and Shortwave requires 50/62.5 micrometer diameter, multimode cable. The Customer will encounter many CRC and Loss of Sync errors should they replace only transceivers and try to reuse the pre-existing cables that do not match the transceivers.

Table 3.9-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-1PL8	SFP (LONG)	5556750-A	1	
2	DKC-F810I-1PS8	SFP (SHORT)	5557409-A	1	
			5541873-B		
3	DKC-F810I-1PL16	SFP (LONG)	5552782-A	1	
4	DKC-F810I-1PS16	SFP (SHORT)	5552781-A	1	

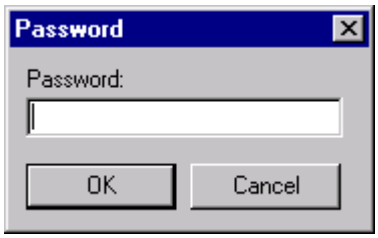
Copyright © 2014, Hitachi, Ltd.

NOTICE: Before the replacement, make sure that a host device has been disconnected.

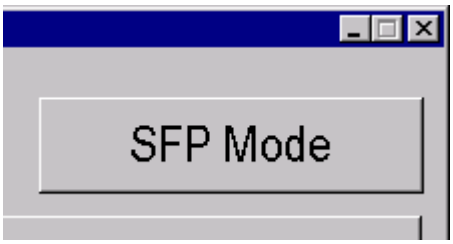
1. SFP type change

(1) <Preparation>
Close the all SVP menu.

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



(3) <Check the mode>
The ‘SFP Mode’ is Displayed.



Copyright © 2014, Hitachi, Ltd.

2. Changing Procedure of SFP

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

2-1 Replacement of SFP

a. Make sure of the CHA and Port Locations of the SFP to be replaced. (Refer to pages LOC04-10 through LOC04-30.)

⚠ CAUTION

If the SFP of a wrong port is removed, a system down may be caused. Make sure that the location of the SFP to be replaced is correct.

b. Disconnect the optical fibre cable or protector from the SFP to be replaced.

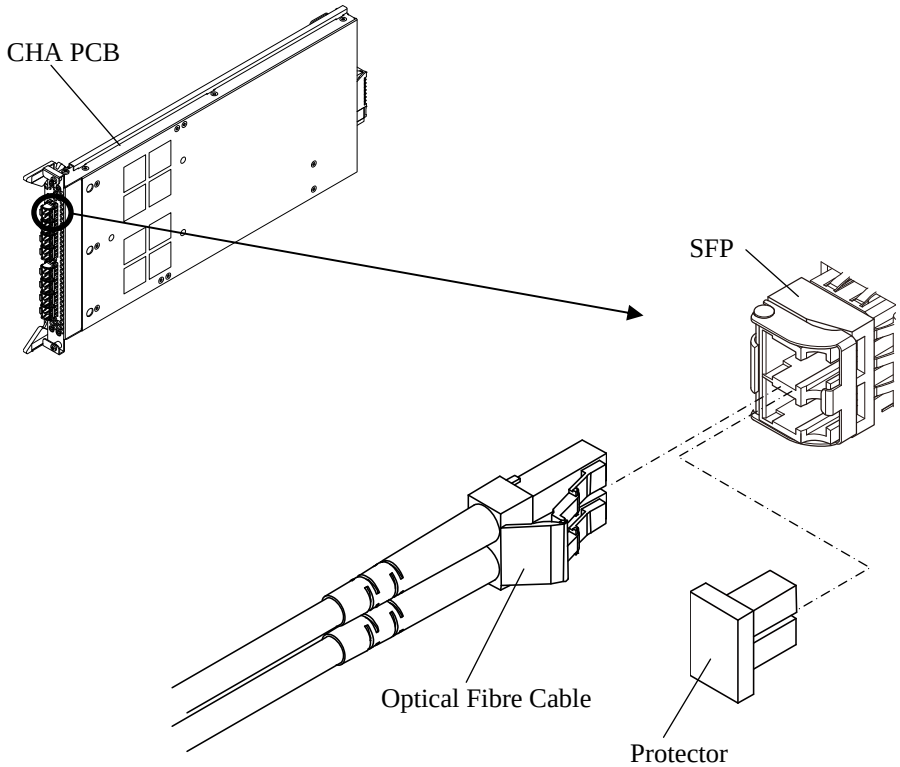


Fig. 3.9-1 Disconnection of Cable or Protector

Copyright © 2014, Hitachi, Ltd.

c. Open the lever on the SFP toward you with your finger.
d. Pull the opened lever and remove the SFP.

NOTE: Be careful so that the claw of the SFP lever does not hurt your finger.

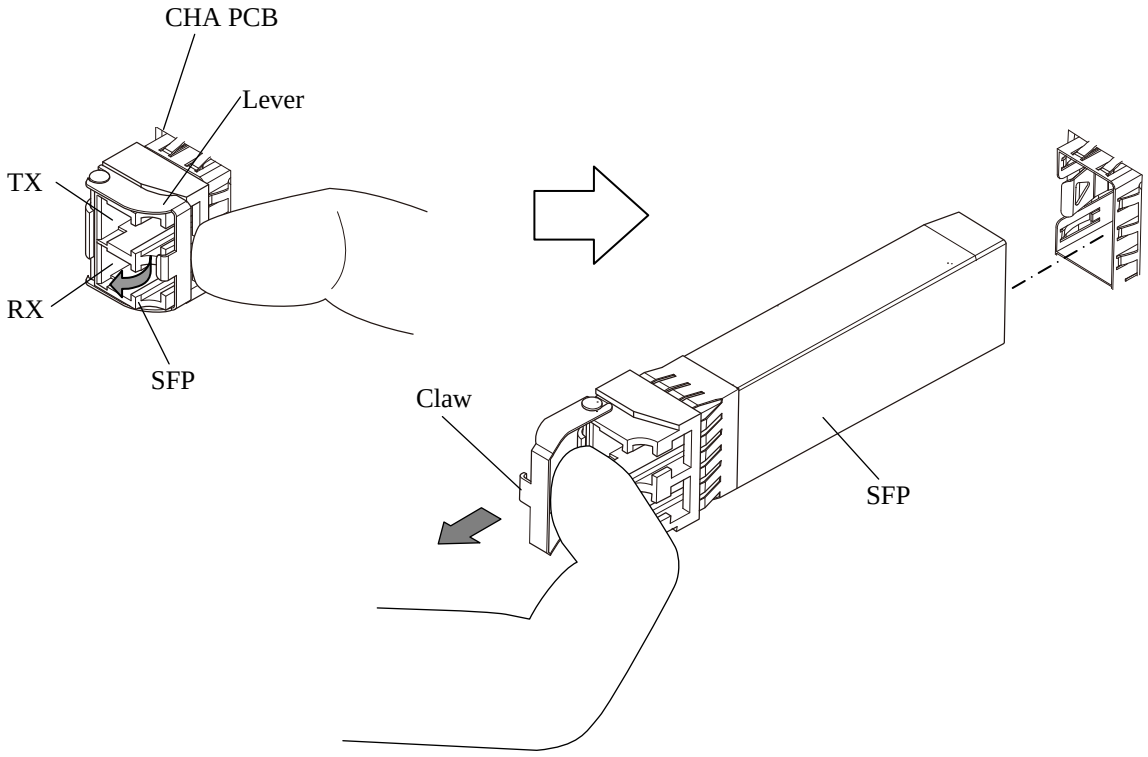


Fig. 3.9-2 Removal of SFP

Copyright © 2014, Hitachi, Ltd.

e. Insert the optional SFP to the CHA PCB.

NOTICE: Because the SFP that has been removed is a user's property, return it to and ask the user to keep it in custody.

How to distinguish between SFP (SHORT) and SFP (LONG)

The whole or a part of the lever is a black for the SFP (SHORT).
The whole or a part of the lever is a blue for the SFP (LONG).

[Example]

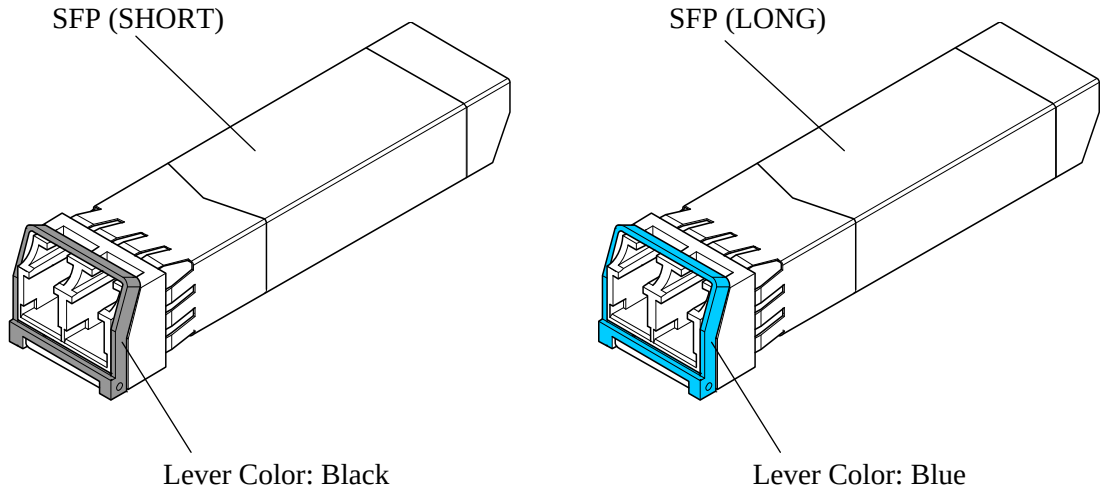
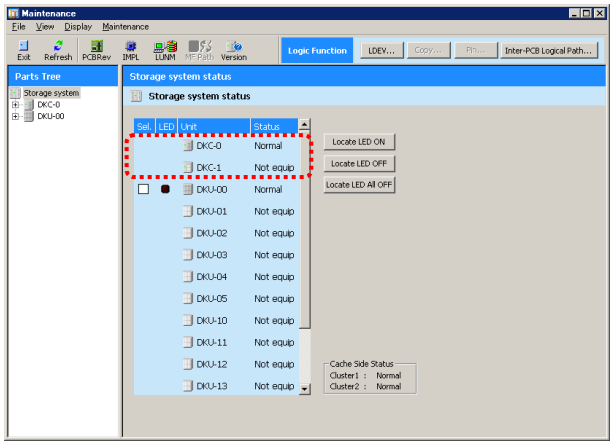


Fig. 3.9-3 How to distinguish SFP

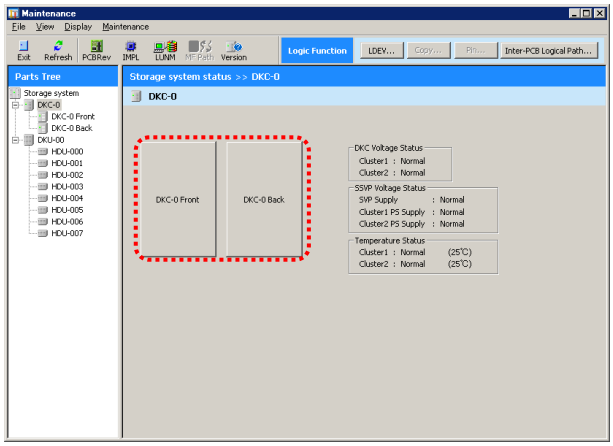
Copyright © 2014, Hitachi, Ltd.

3. Check SFP Kind information

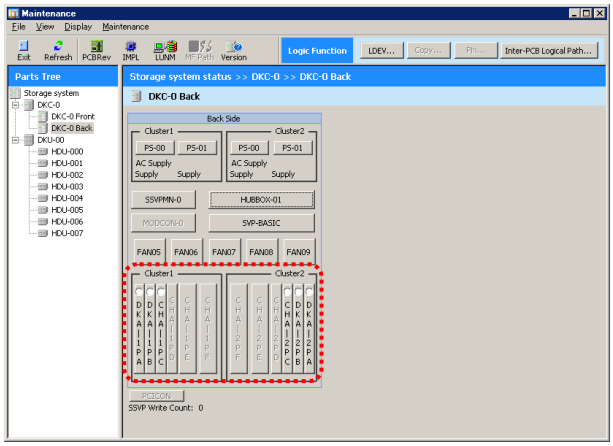
(1) <Instruction of DKC Information>
Select (CL) [DKC-n].



(2) <Display of DKC-n Back Information>
Select (CL) [DKC-n Back].

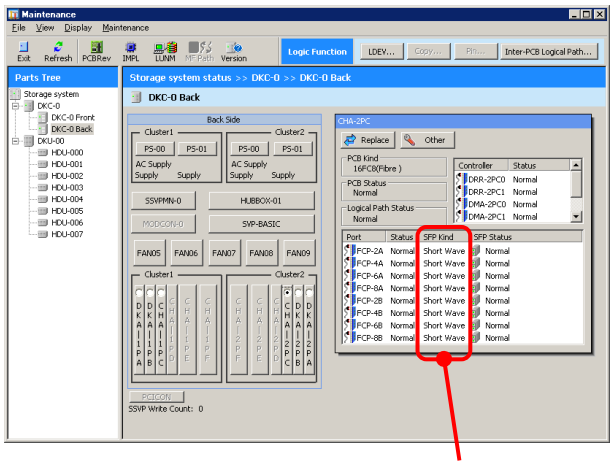


(3) <Display of CHA Information>
Select (CL) [CHA-nXX] which installs SFP of the maintenance target.



Copyright © 2014, Hitachi, Ltd.

(4) <Check SFP Kind information>
Make sure that information on the SFP Kind is displayed at the CHA location where the setting was changed and that the SFP Kind information on the port where the replacement was made is consistent with the specified setting.
When the SFP Kind information is not displayed, check if the SFP is installed correctly. If the SFP is installed correctly, replace it with a part for maintenance.



SFP Kind information

4. Return to the working table and do the rest of the work.
New Installation: INST02-20
Non-Disruptive Installation: INST02-50
Non-Disruptive De-Installation: INST02-80

Copyright © 2014, Hitachi, Ltd.

3.10 Installation of Cache Memory, Cache Backup Module kit, Cache Flash Memory and Inter-Controller Connecting Cable (DKC-F810I-CM16G/CM32G/CPEX/BKMS/BKML/ BMM128/BMM256/MFC5/MFC30/MFC1J)

Table 3.10-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-CM16G	16GB DIMM	5552764-A	1	CM Module
2	DKC-F810I-CM32G	32GB DIMM	5552765-A	1	CM Module
3	DKC-F810I-CPEX	WP840-A	5552763-A	2	CM PCB (*1)
		HU Jumper	5521578-1	2	Maintenance Jumper
4	DKC-F810I-BKMS	BKM	2855832-A	2	
5	DKC-F810I-BKML	BKM	2856455-A	2	
6	DKC-F810I-BMM128	SSD (128GB)	5552768-A	1	CFM
		Screw	SB305N	2	
7	DKC-F810I-BMM256	SSD (256GB)	5552769-A	1	CFM
		Screw	SB305N	2	
8	DKC-F810I-MFC5	MFC Cable	5552752-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*2)
		Cleat	5409055-2	1	(*2)
		Clamp Tape	5544251-3	1	(*2)
9	DKC-F810I-MFC30	MFC Cable	5555155-A	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*2)
		Cleat	5409055-2	1	(*2)
		Clamp Tape	5544251-3	1	(*2)

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
10	DKC-F810I-MFC1J	MFC Cable	3287340-B	8	
		Label (Address) 3	3287145-1	3	
		Label (Protect)	3287450-1	3	
		FE Cable Jig	5555008-A	1	
		Packing Work (PARTS)	3287318-C	1	
		Screw	SB406N	1	(*2)
		Cleat	5409055-2	1	(*2)
		Clamp Tape	5544251-3	1	(*2)

*1: CM PCB is a name of the cache board (WP840-A) that is included in the DKC-F810I-CPEX. The name is used in the following procedures.

*2: These parts are included in Packing Work (PARTS).

Rough time of Cache memory and/or cache flash memory installation becomes addition of the following A, B, C and D.

Table 3.10-2 Rough time of installation

	Process	Time
A	Target CM PCB blocking time	5 ~ 60min × 2 (*1)
B	Cache memory, CFM equipment process	Cache memory module: 6min × target CM PCB num. CFM: 7.5min × target CM PCB num.
C	Target CM PCB diagnosis time	Target CM PCB diagnosis time 10min × target CM PCB num.
D	Target CM PCB recovering time	Target CM PCB recovering time 5 ~ 20min × target CM PCB num. (*1)

*1: Standard processing time is indicated. The processing time depends on the use situation, especially, the influence of the amount of write pending is received. When the amount of write pending is large, time more than the indication value might be required.

Copyright © 2014, Hitachi, Ltd.

(Reference) Outline of the recommended procedure for installation

(1) When adding PCBs from two (CM16G×12) to four (CM16G×16) (DIMM and PCB installation)

(a) Installation with priority on minimizing impact on host (without cache side blockade)

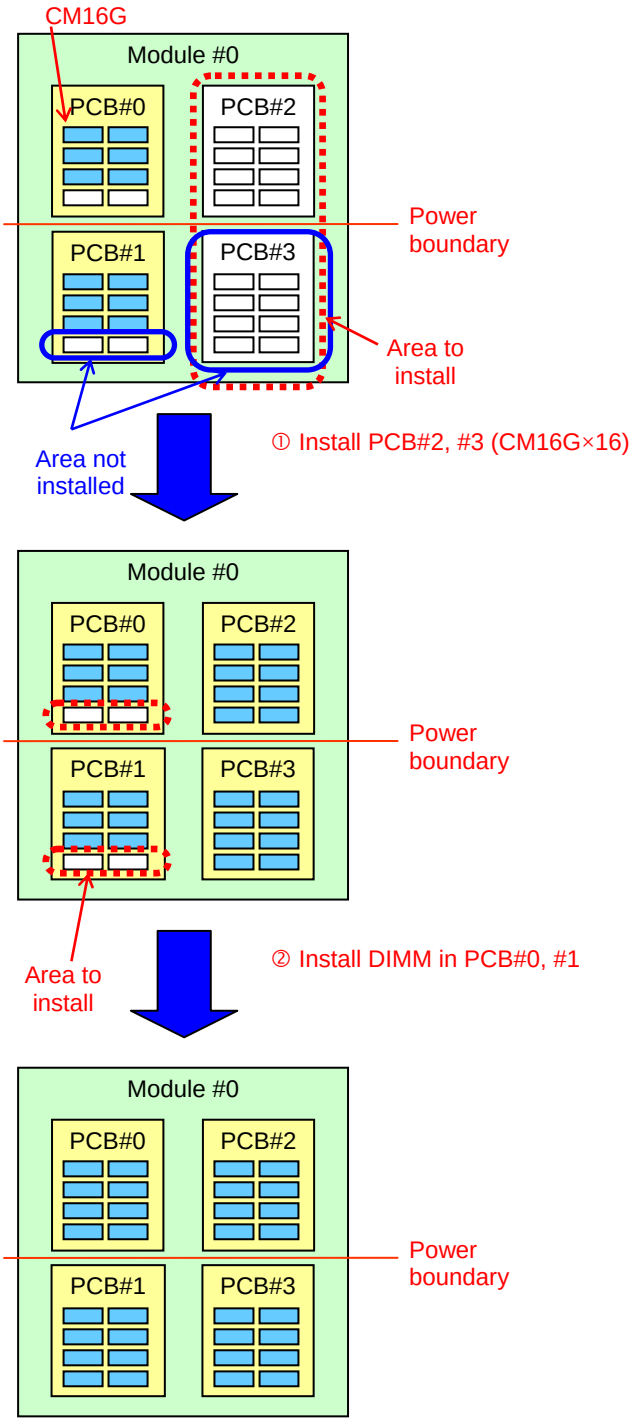


Fig. 3.10-1 Installation with priority on minimizing impact on host 1

Copyright © 2014, Hitachi, Ltd.

(b) Installation with priority on reducing maintenance time (with cache side blockade)

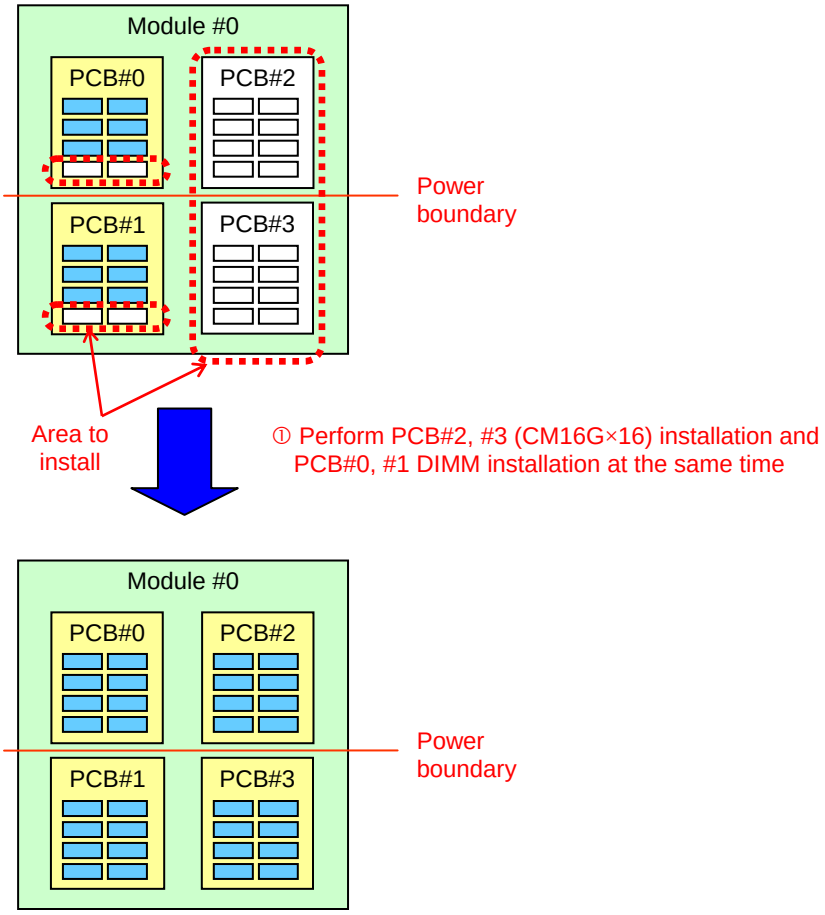


Fig. 3.10-2 Installation with priority on reducing maintenance time 1

Copyright © 2014, Hitachi, Ltd.

(2) When adding PCBs from two (CM16G×16 [SM area is 8G, DIR+CM area is 24G) to four (two sets of CM16G×16 [SM area is 16G, DIR+CM area is 16G] and two sets of CM16G×16 [DIR+CM area is 32G]) (PCB and SM area Installation)

(a) Installation with priority on minimizing impact on host (without cache side blockade)

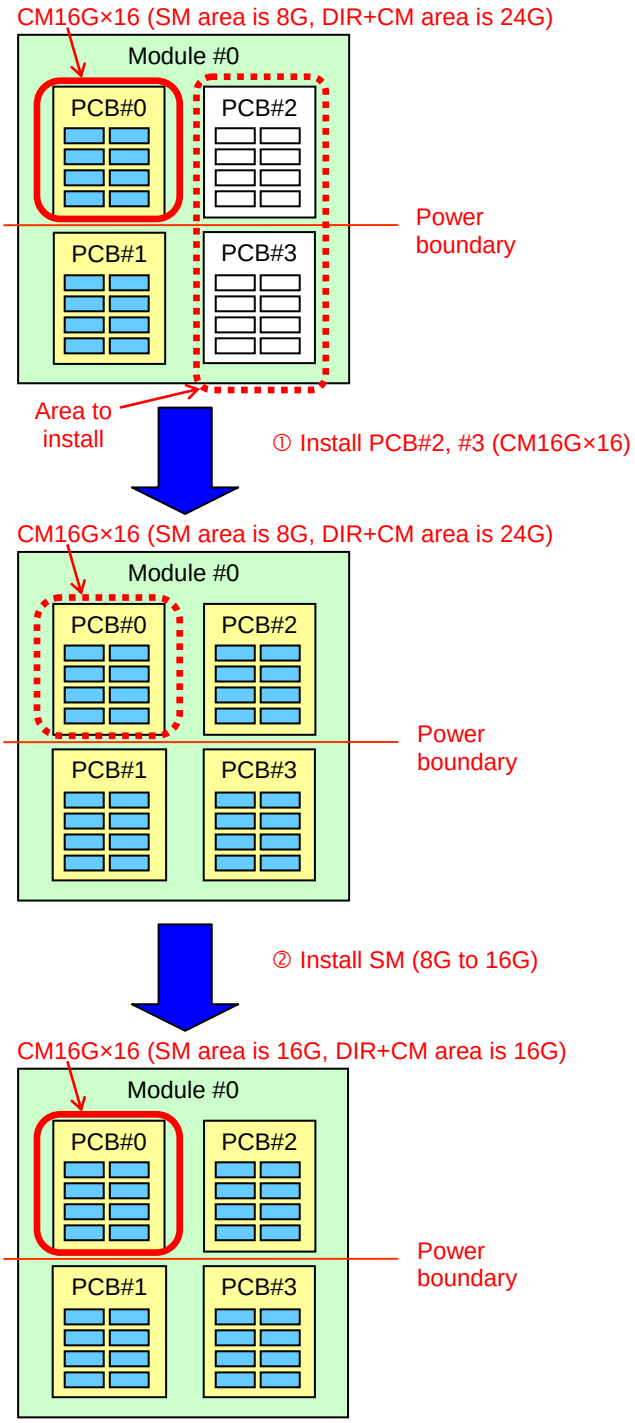


Fig. 3.10-3 Installation with priority on minimizing impact on host 2

Copyright © 2014, Hitachi, Ltd.

(b) Installation with priority on reducing maintenance time (with cache side blockade)

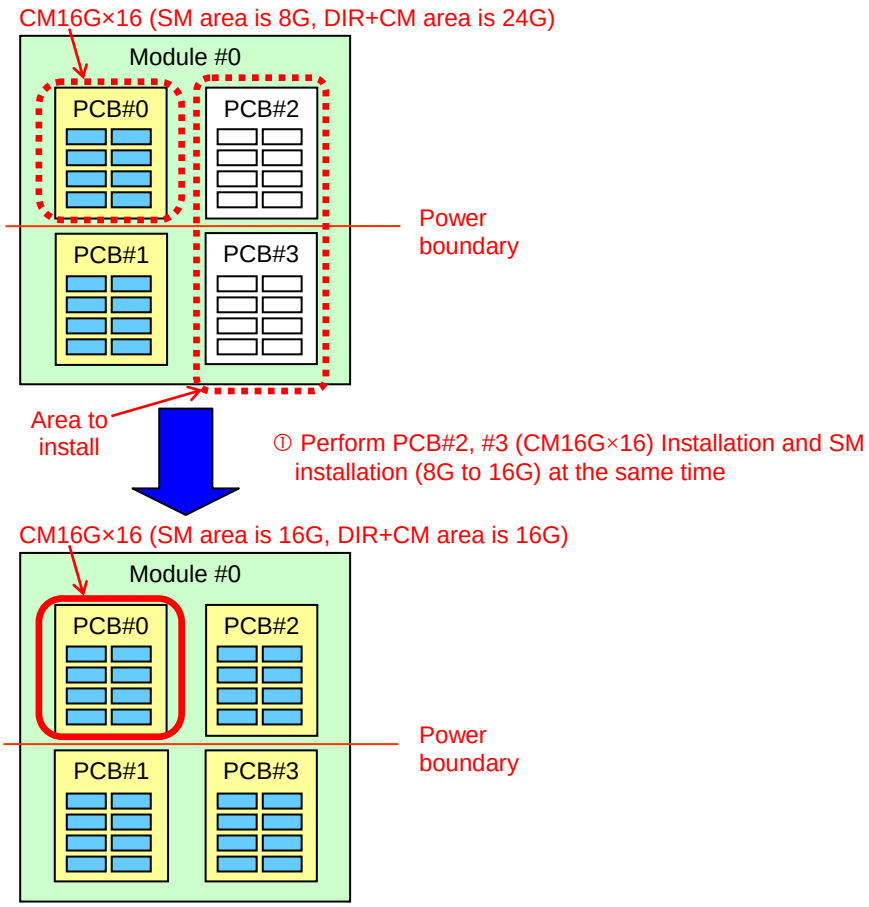


Fig. 3.10-4 Installation with priority on reducing maintenance time 2

Copyright © 2014, Hitachi, Ltd.

(3) When adding PCBs from 8 (CM16G×12) to 8 (CM16G×16) (DIMM installation)

(a) Installation with priority on minimizing impact on host (without cache side blockade)

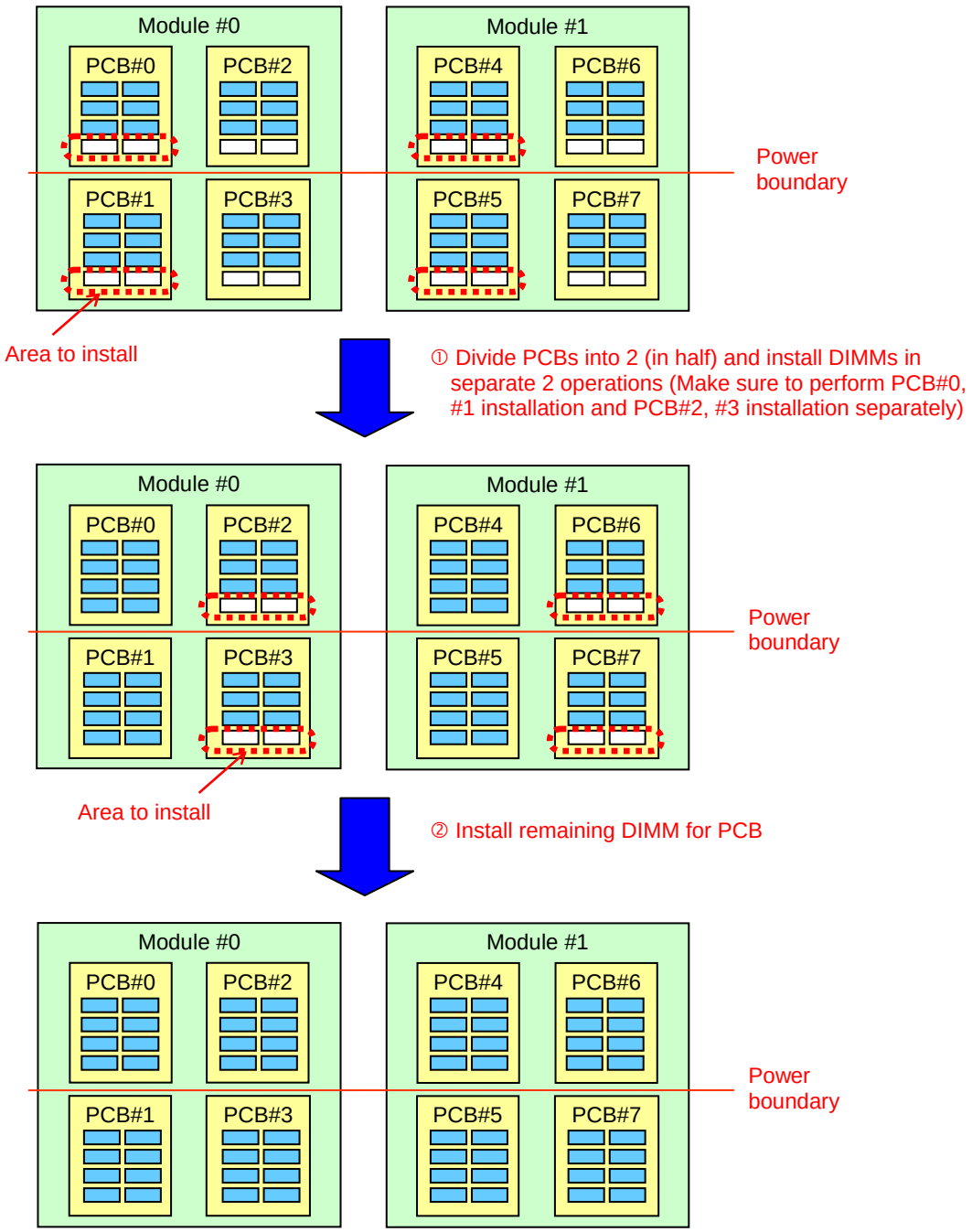


Fig. 3.10-5 Installation with priority on minimizing impact on host 3

Copyright © 2014, Hitachi, Ltd.

(b) Installation with priority on reducing maintenance time (with cache side blockade)

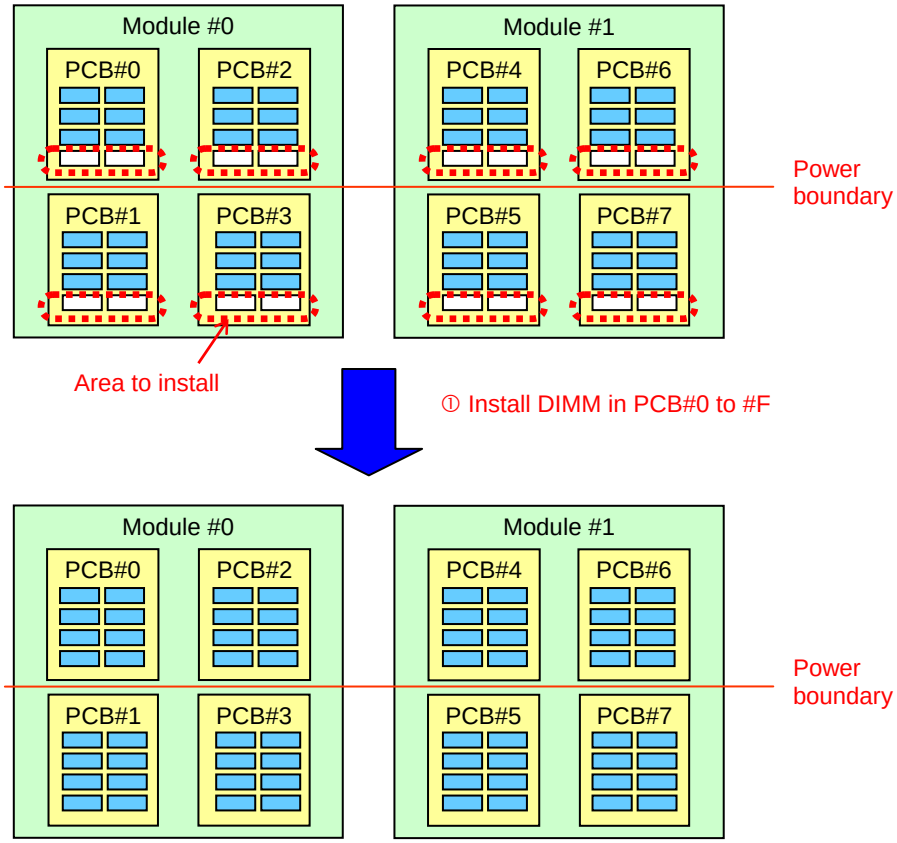


Fig. 3.10-6 Installation with priority on reducing maintenance time 3

Copyright © 2014, Hitachi, Ltd.

(4) When adding PCBs from 8 (CM16G×16) to 8 (CM32G×8) (DIMM type change and DIMM installation)

(a) Change the DIMM type from CM16G×16 to CM32G×8 of 8 PCBs as shown in Fig. 3.10-7 below.
(See the SVP SECTION, "2.27 Change CM Module group size" (SVP02-27-10))

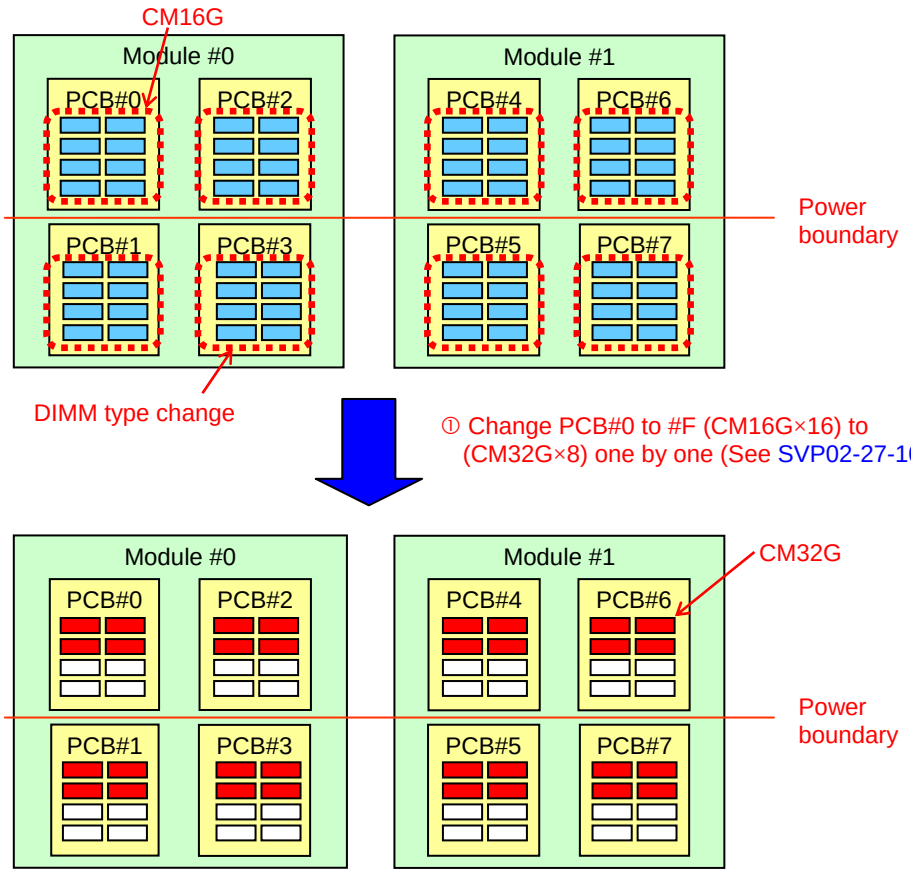


Fig. 3.10-7 Changing of DIMM type

(b) Perform one of the following installations depending on which to prioritize, minimizing impact on host or maintenance time reduction.

① Installation with priority on minimizing impact on host (without cache side blockade)
After changing the DIMM type, perform installation in accordance with the procedure in INST03-10-70 (3) (a).

② Installation with priority on reducing maintenance time (with cache side blockade)
After changing the DIMM type, perform installation in accordance with the procedure in INST03-10-80 (3) (b).

Copyright © 2014, Hitachi, Ltd.

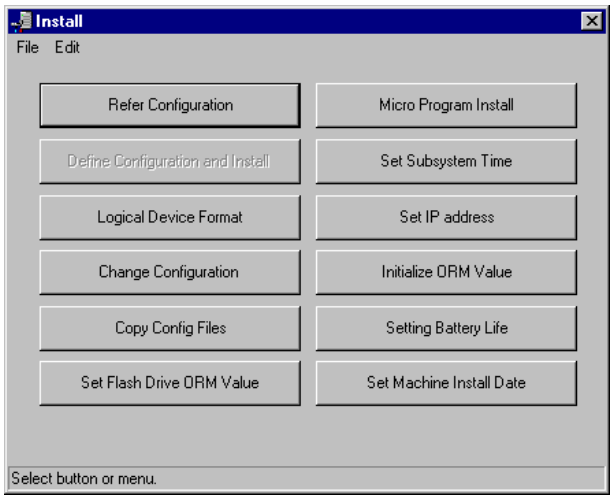
1. Installation Procedure of Inter-Controller Connecting Cable (DKC-F810I-MFC5/MFC30/MFC1J)
   (1) When you need to install Inter-Controller Connecting Cable (DKC-F810I-MFC5/MFC30/MFC1J), install the eight cables to the rack. See “3.7.1 Installation of Module procedure 13 (INST03-07-840 through 940)”.
   When you do not need to install Inter-Controller Connecting Cable (DKC-F810I-MFC5/MFC30/MFC1J), go to procedure 2.

Copyright © 2014, Hitachi, Ltd.

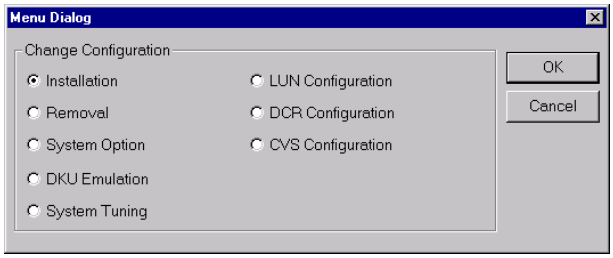
2. Setting up the New Device Structure Information.

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

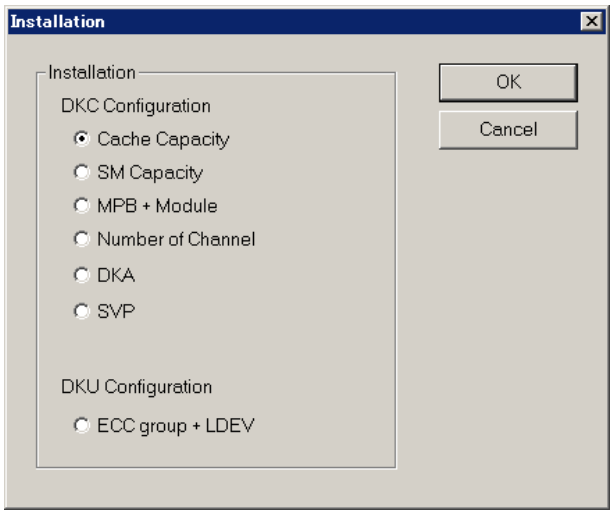
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



(4) <Select a part to be changed>
Select (CL) [Cache Capacity], and select (CL) [OK].



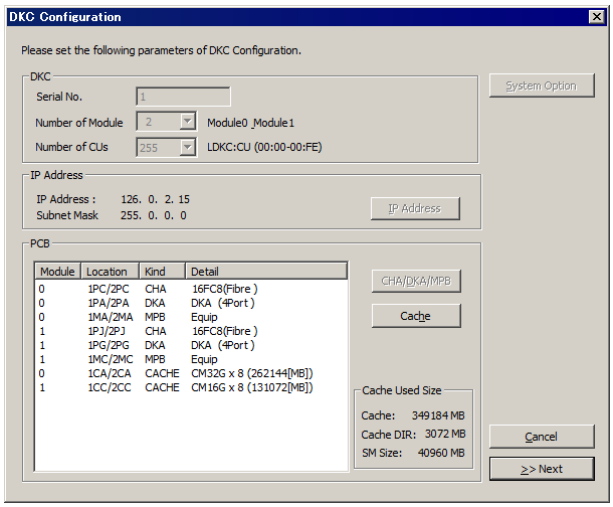
Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [Cache].
Go to Step (6).

NOTE: It is impossible to install multiple types of parts at the same time.

Make sure that the all input items are correct and select (CL) [>>Next].
Go to Step (7).

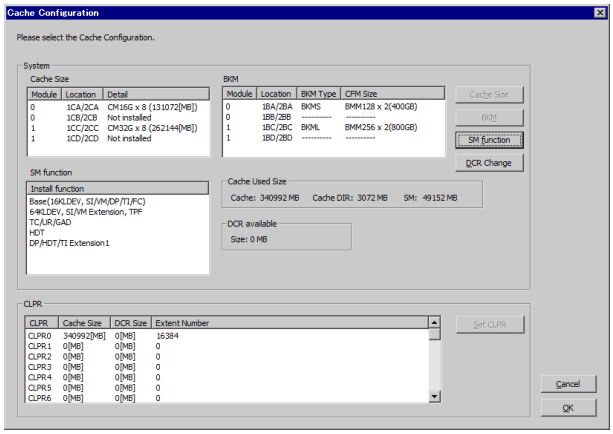
If the PCB install is not done, go to Step (8).



(6) <Cache Configuration screen>
In the 'Cache Configuration' screen, define each item.

When the change of Cache setting or installation of the PCB is required, select (CL) the target Cache PCB and then select (CL) [Cache Size].
Go to Step (6)-1.

When the change of BKM setting is required, select (CL) [BKM].
Go to Step (6)-2.



When the change of SM setting is required, select (CL) [SM function].
Go to Step (6)-3.

When the change of DCR setting is required, select (CL) [DCR Change].
Go to Step (6)-4.

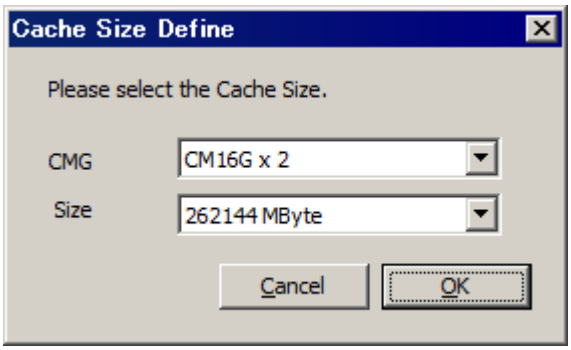
When the change of CLPR setting is required, select (CL) the target CLPR. and then select (CL) [Set CLPR].
Go to Step (6)-5.

After setting all items, select (CL) [OK].
Go back to Step (5).

Copyright © 2014, Hitachi, Ltd.

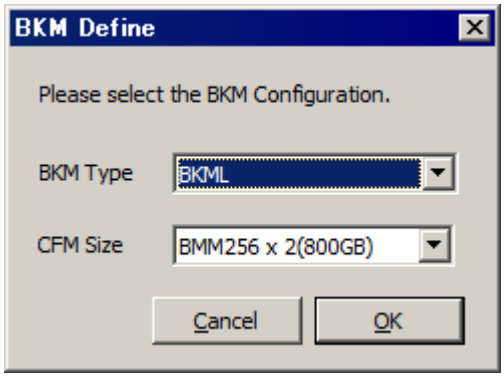
(6)-1 <Cache Size Define screen>

Set the CMG/Cache Size in the 'Cache Size Define' screen, and then select (CL) [OK].
Go back to Step (6).



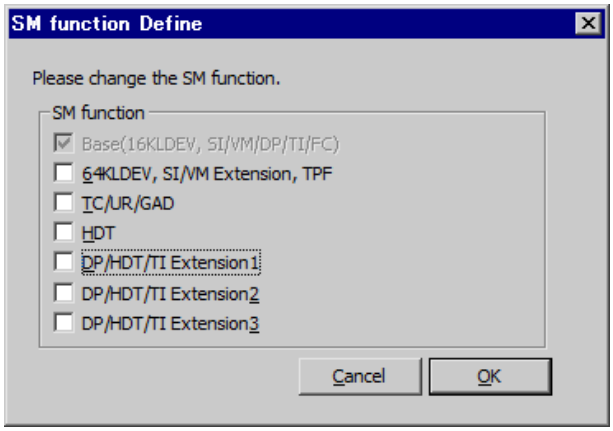
(6)-2 <BKM screen>

Set the BKM in the 'BKM Define' screen, select (CL) [OK].
Go back to Step (6).



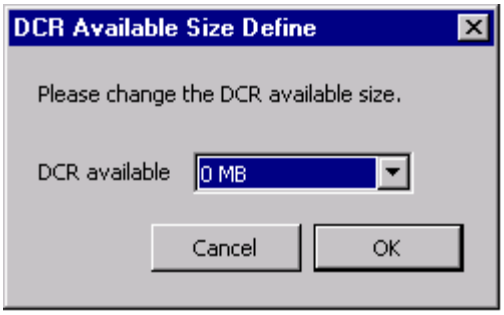
(6)-3 <SM function Define screen>

Set the SM function in the 'SM function Define' screen, select (CL) [OK].
Go back to Step (6).



(6)-4 <DCR Available Size Define screen>

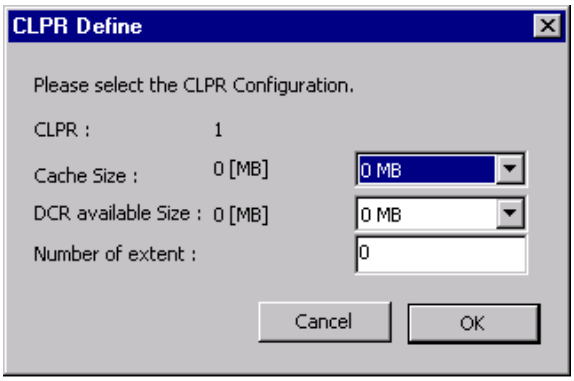
Set the DCR available size in the 'DCR Available Size Define' screen, select (CL) [OK].
Go back to Step (6).



Copyright © 2014, Hitachi, Ltd.

(6)-5 <CLPR Define screen>

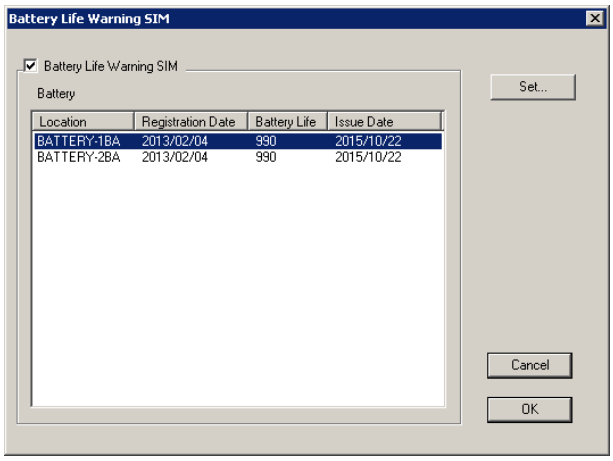
Set the Cache Size/DCR available Size/Number of extent in the 'CLPR Define' screen, select (CL) [OK].
Go back to Step (6).



(7) <Battery Life Warning SIM screen>

Select (CL) the target CM Battery in the 'Battery Life Warning SIM' screen, and then select (CL) [Set...].
Go to Step (7)-1.

Make sure that the all input items are correct and select (CL) [OK].
Go to Step (8).

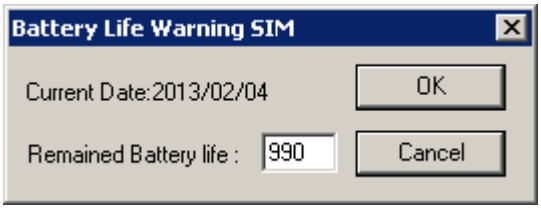


NOTE: If the date is displayed as "****/**/**", follow Step (7)-1 to set the date.

NOTE: When the check box of Battery Life Warning SIM is unchecked, the 'Battery Life Warning SIM' screen is not displayed for non-notice setting.
Go to Step (8).

(7)-1 <Battery Life Warning SIM screen>

Select (CL) [OK] after inputting the remainder days until Warning SIM is reported.
Return to Step (7).



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

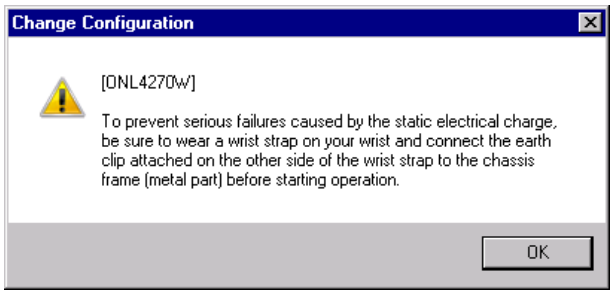
NOTE: Default value is 33 month (990 days), which is 3 month earlier than the lifetime of a battery (3 years).
Determine the number of days remained based on your maintenance plan.

NOTE: The input ranges of "Remained Battery life" are from 1 to 3650.

Copyright © 2014, Hitachi, Ltd.

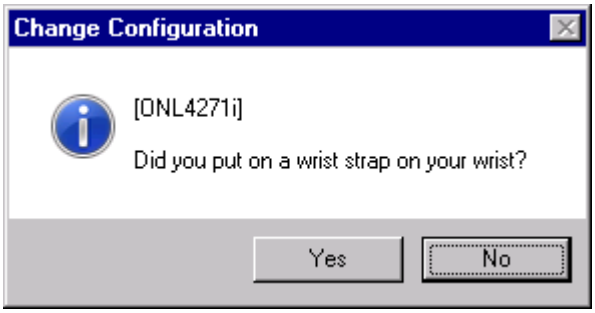
(8) <Wear a wrist strap>

Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



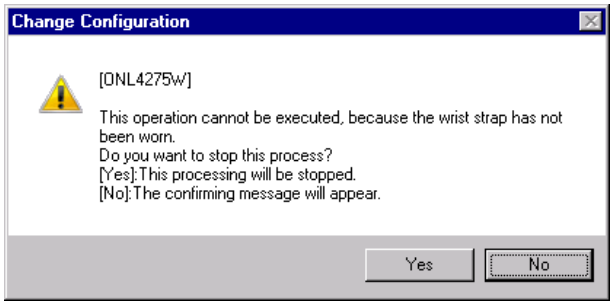
(8)-1 <Confirm wearing wrist strap>

In response to a message, "Did you put on a wrist strap on your wrist?".
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (8)-2.



(8)-2

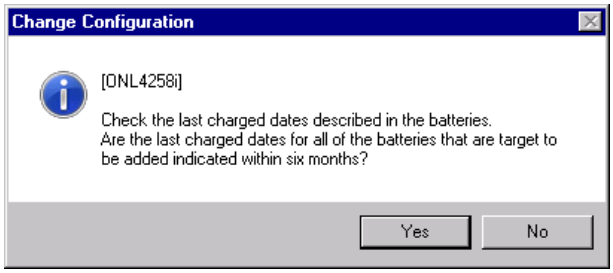
In response to a message, "This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear."
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-10-110.
When [No] is selected (CL), returned to Step (8).



Copyright © 2014, Hitachi, Ltd.

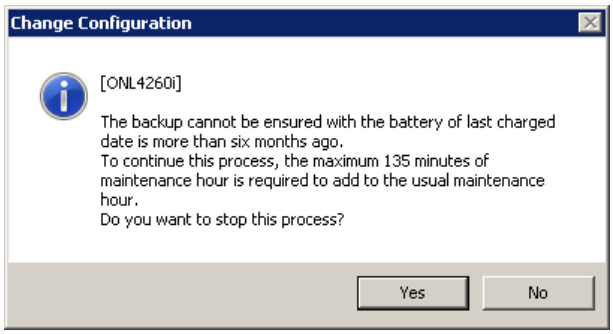
3. SVP pre procedure (Battery)

(1) <Confirmation on the final charge day>
Select (CL) [Yes] in response to "Check the last charged dates described in the batteries. Are the last charged dates for all of the batteries that are target to be added indicated within six months?"
Go to Step 4.
When [No] is selected (CL), go to Step (2).

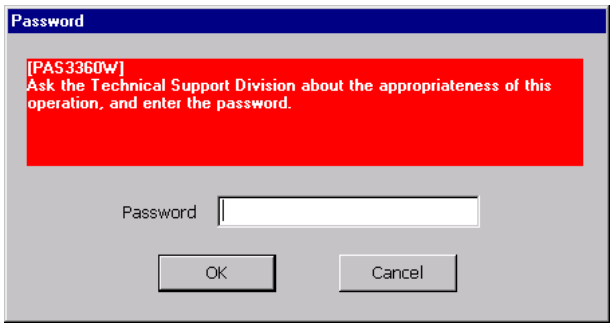


(2)
"The backup cannot be ensured with the battery of last charged date is more than six months ago. To continue this process, the maximum 135 minutes of maintenance hour is required to add to the usual maintenance hour. Do you want to stop this process?"

When [Yes] is selected (CL), returns to INST03-10-110 Step (2).
When [No] is selected (CL), go to Step (3).



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



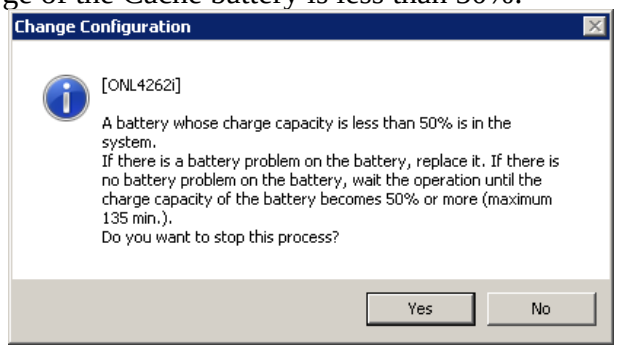
⚠ CAUTION

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

Copyright © 2014, Hitachi, Ltd.

(4) < Confirmation of amount of cache battery charge >

- When there is PCB whose amount of charge of the Cache battery is less than 50%:
  "A battery whose charge capacity is less than 50% is in the system. If there is a battery problem on the battery, replace it. If there is no battery problem on the battery, wait the operation until the charge capacity of the battery becomes 50% or more (maximum 135 min.). Do you want to stop this process?"

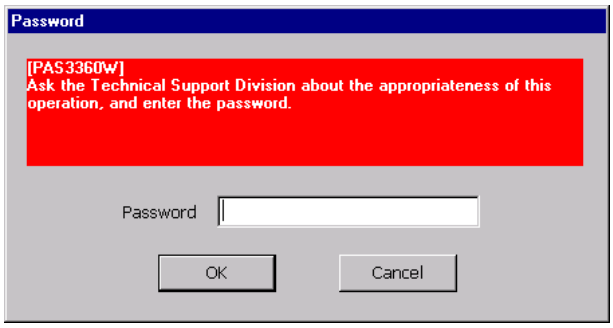


  When [Yes] is selected (CL), returned to INST03-10-110 Step (2).
  When [No] is selected (CL), go to Step (2)

- When there is no PCB whose amount of charge of the Cache battery is less than 50%:
  Go to Step 4.

---

(5) <Input password>
Enter the password and select (CL) [OK].



⚠ CAUTION

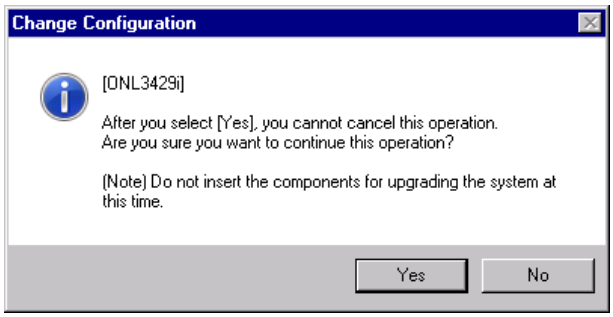
This is a special (exceptional) operation that can cause a serious failure such as a system down or a data loss if a wrong part to be removed is selected, and requires an input of a password. Ask the technical support division about the appropriateness of the operation, and input the password after getting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

Copyright © 2014, Hitachi, Ltd.

4. Backup Module on the Cluster 1.

4-1 Start installation

Select (CL) [Yes] in response to “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation? (Note) Do not insert the components for upgrading the system at this time.”.

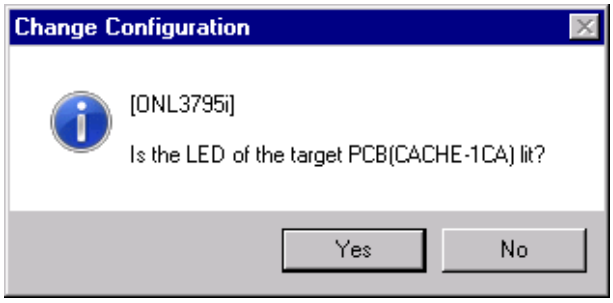


When [No] is selected (CL), returns to INST03-10-110 Step (2).

4-2 Check shut down LED

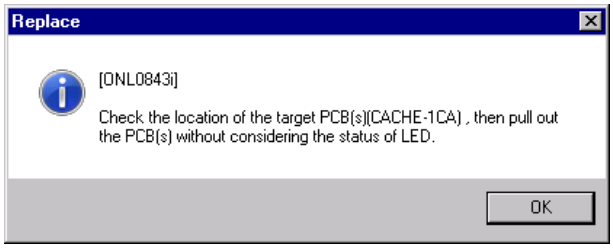
(1)

Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to “Is the LED of the target PCB(CACHE-nnn) lit?”.



(Eg. CACHE-1CA)

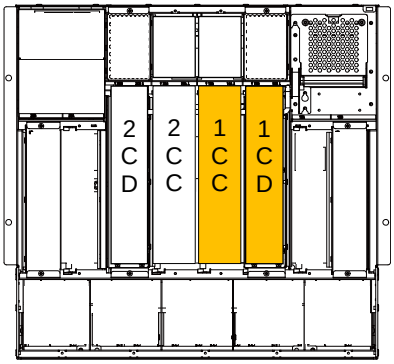
If [No] is selected:
Select (CL) [OK] after response to “Check the location of the target PCB(s)(CACHE-nnn), then pull out the PCB(s) without considering the status of LED.”.
Go to Step (2).



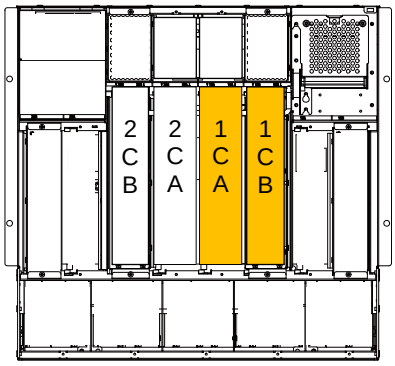
(Eg. CACHE-1CA)

Copyright © 2014, Hitachi, Ltd.

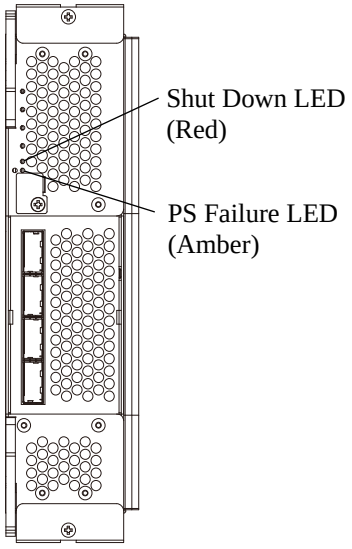
(2) Check that the Shut Down LED on the CM PCB is lit.



Front View DKC-1



Front View of DKC-0



CM PCB

Fig. 3.10-8 Location of the Shut Down LED

Table 3.10-3 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
1	DKC-0	1CA	CACHE-1CA	
		1CB	CACHE-1CB	
	DKC-1	1CC	CACHE-1CC	
		1CD	CACHE-1CD	

Copyright © 2014, Hitachi, Ltd.

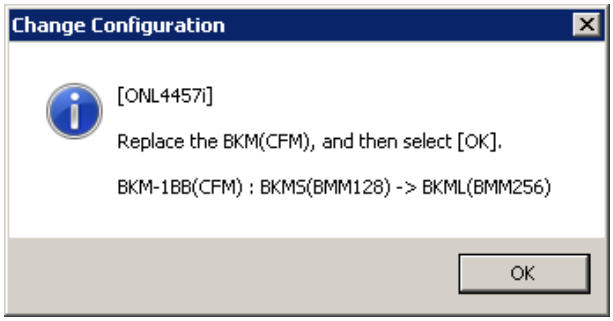
4-3 Backup Module procedure

Perform an appropriate Backup Module process depending on cache capacity.
When replacement is required, go to Step 4-4.
When addition is required, go to Step 4-5.
When addition/replacement are required, go to Step 5.

4-4 Replace Backup Module (Cluster 1)

(1) <Confirmation of Backup Module replacement>

A message, “Replace the BKM(CFM), and then select [OK]. BKM-nnn(CFM) : BKMS(BMM128) -> BKML(BMM256)” is displayed.



(Eg. BKM-1BB)

Copyright © 2014, Hitachi, Ltd.

(2) Replace the BKM on the cluster 1.

(2)-1 Check that the Shut Down LED on the BKM is lit.

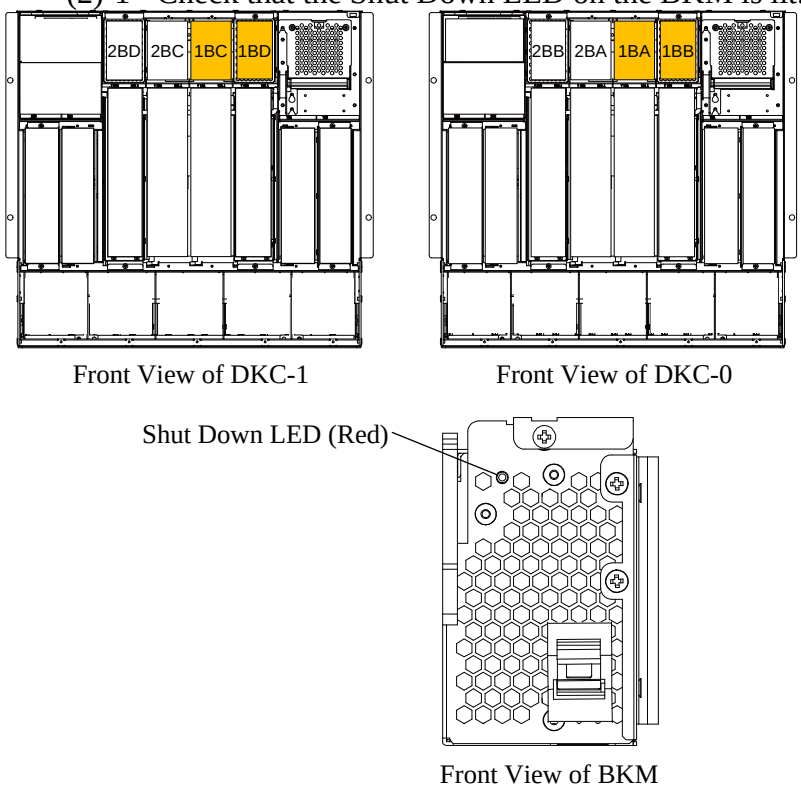


Fig. 3.10-9 Location of Shut Down LED

(2)-2 If the cables are attached to the BKMs, check that the screws to secure the BKMs are tightened.
If the cables are not attached to the BKMs, go to Step (2)-4.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(2)-3 Open the four locking clamps and move all the cables to where they cannot obstruct insertion of the BKM.

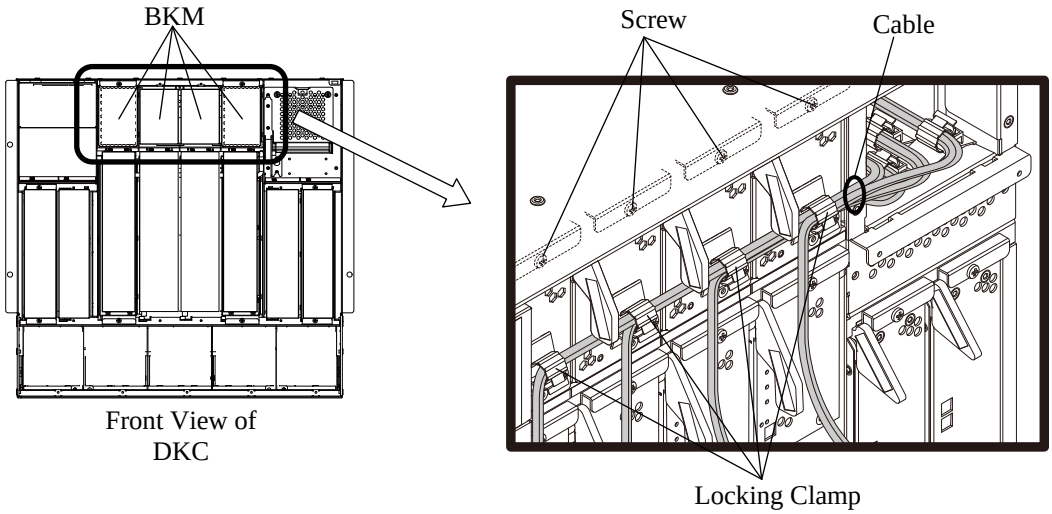
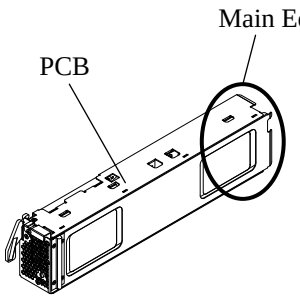


Fig. 3.10-10 Moving Cables

Copyright © 2014, Hitachi, Ltd.

(2)-4 Loosen the screw and remove the BKM from the DKC.



NOTICE: When removing the PCB, hold the top and bottom of the PCB with both hands, and pull it out straight not to contact the neighboring PCB.

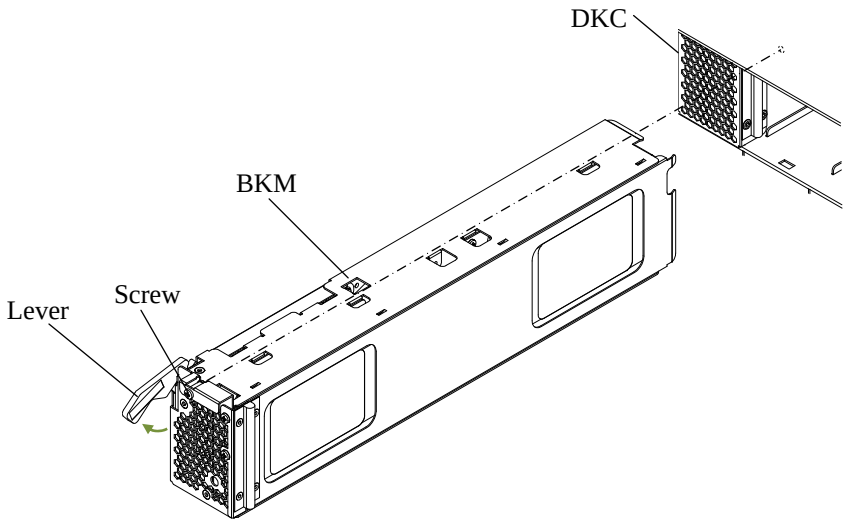


Fig. 3.10-11 Removal of BKM

Copyright © 2014, Hitachi, Ltd.

(2)-5 Replace the parts.

(2)-5-1 When you need to install Cache Backup Module Kit (DKC-F810I-BKML) and Cache Flash Memory (DKC-F810I-BMM256) at the same time, replace the BKM and CFM. When you do not need to install DKC-F810I-BKML and DKC-F810I-BMM256 at the same time, go to the Step (2)-5-2.

a. Remove the screw of the option BKM and remove the cover.

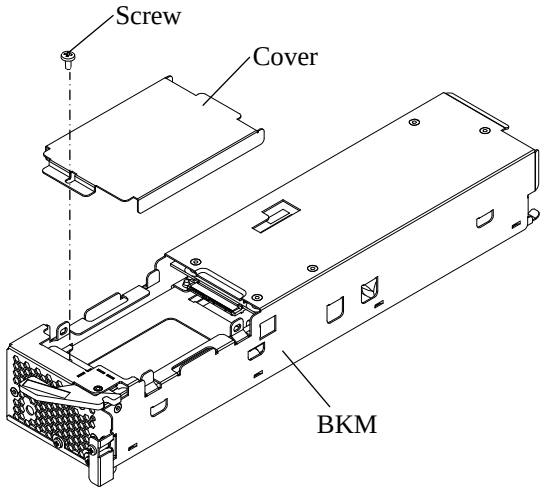


Fig. 3.10-12 Removal of Cover

b. Install the option CFM to the BKM and tighten it with the two screws.
c. Attach the cover to the BKM and tighten it with the screw.

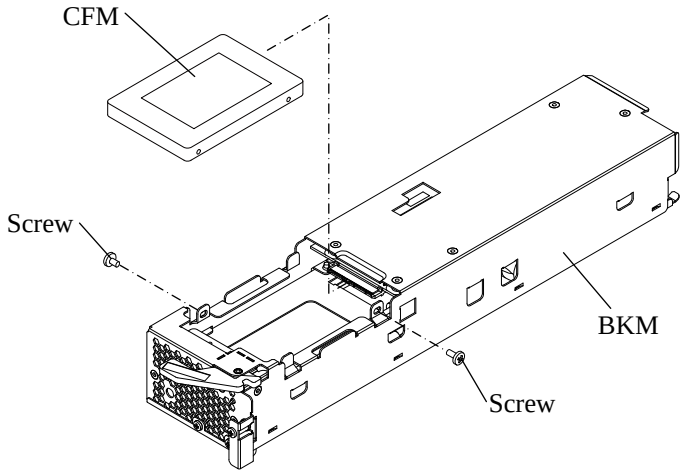


Fig. 3.10-13 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-5-2 When you need to install only Cache Backup Module Kit (DKC-F810I-BKML), replace the BKM.
When you do not need to install only DKC-F810I-BKML, go to the Step (2)-5-3.

a. Remove the screw of the removed BKM and remove the cover.

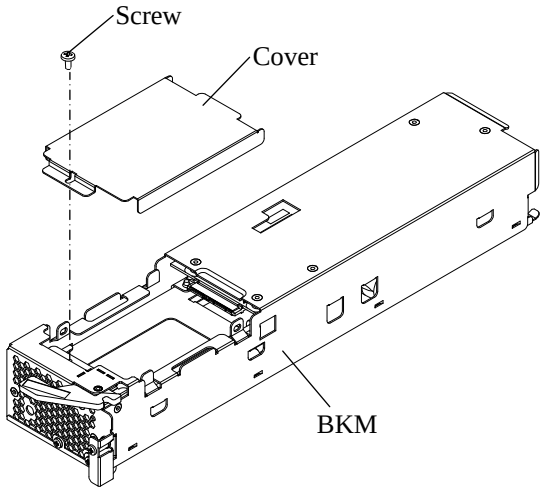


Fig. 3.10-14 Removal of Cover

b. Remove the two screws and detach the CFM.
c. Remove the screw of the option BKM and remove the cover.
d. Install the CFM to the option BKM and tighten it with the two screws.
e. Attach the cover to the BKM and tighten it with the screw.

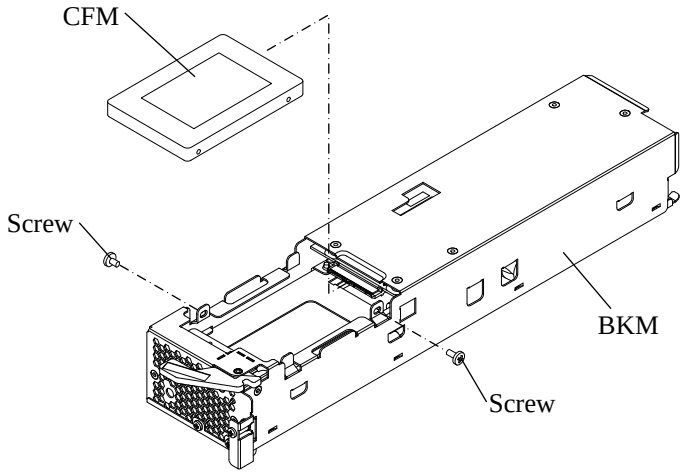


Fig. 3.10-15 Movement of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-5-3 When you need to install only Cache Flash Memory (DKC-F810I-BMM256), replace the CFM.
When you do not need to install only DKC-F810I-BMM256, go to the Step (2)-6.

a. Remove the screw of the removed BKM and remove the cover.

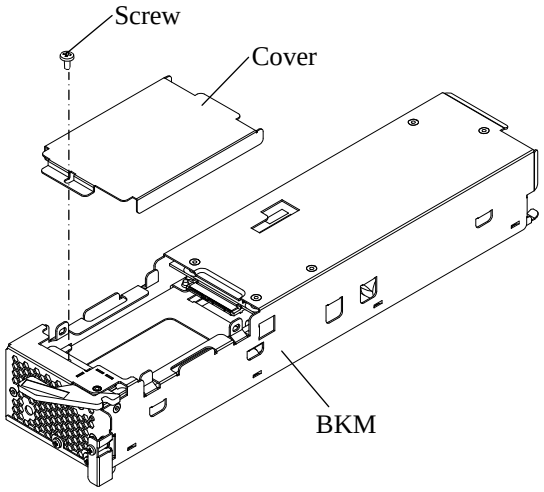


Fig. 3.10-16 Removal of Cover

b. Remove the two screws and detach the CFM.
c. Install the option CFM to the BKM and tighten it with the two screws.
d. Attach the cover to the BKM and tighten it with the screw.

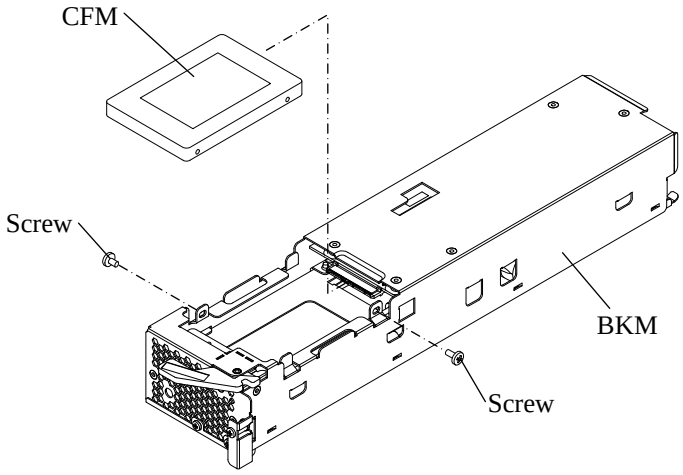
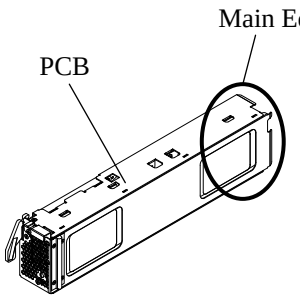


Fig. 3.10-17 Replacement of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-6 Install the BKM to the DKC and tighten it with the screw.
(2)-7 If the cables were moved aside in Step (2)-3, put them back in place.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

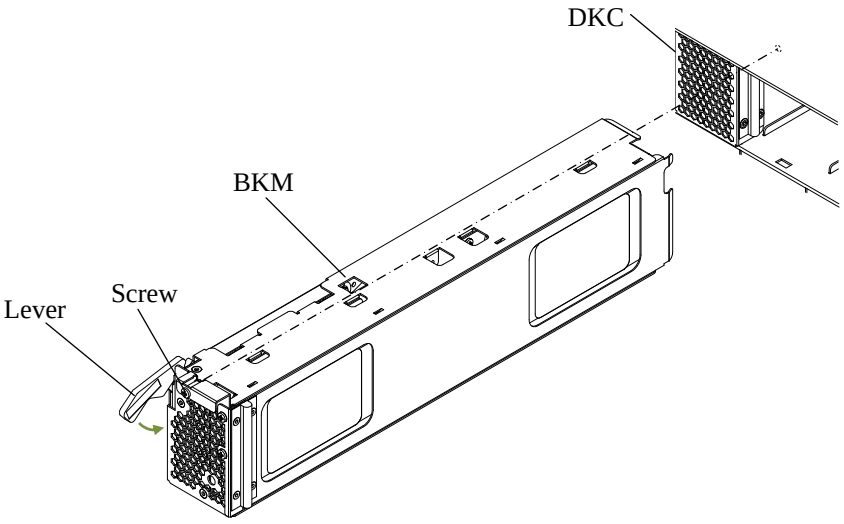
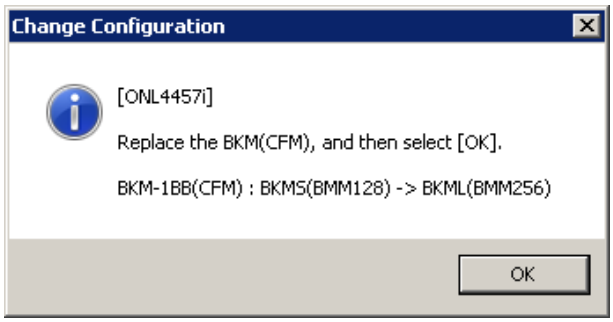


Fig. 3.10-18 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(3)

When a message, “Replace the BKM(CFM), and then select [OK]. BKM-nnn(CFM) : BKMS(BMM128) -> BKML(BMM256)” is displayed, select (CL) the [OK] button.

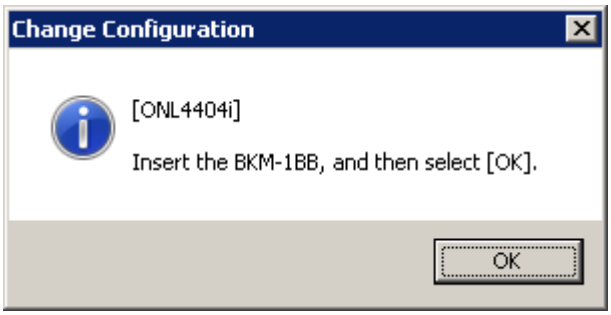


(Eg. BKM-1BB)

4-5 Add Backup Module (Cluster 1)

(1) <Confirmation of Backup Module addition>

A message, “Insert the BKM-nnn, and then select [OK].” is displayed.



(Eg. BKM-1BB)

Copyright © 2014, Hitachi, Ltd.

(2) Install the BKM on the cluster 1.

(2)-1 Remove the screw of the option BKM and remove the cover.

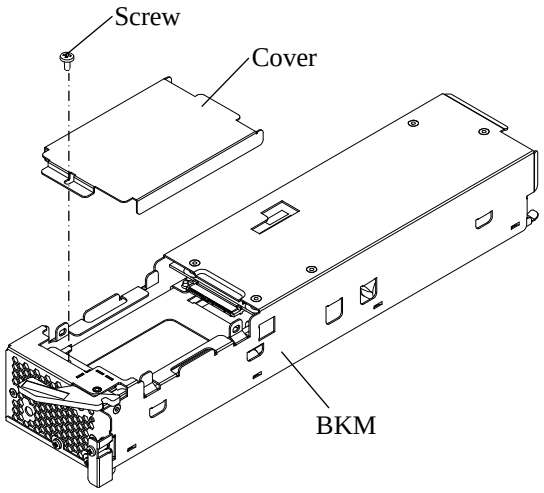


Fig. 3.10-19 Removal of Cover

(2)-2 Install the option CFM to the BKM and tighten it with the two screws.

(2)-3 Attach the cover to the BKM and tighten it with the screw.

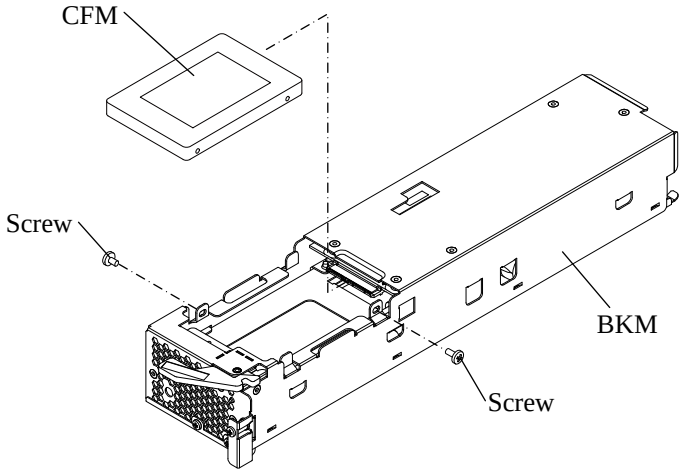


Fig. 3.10-20 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-4 If the cables are attached to the BKMs, check that the screws to secure the BKMs are tightened.
If the cables are not attached to the BKMs, go to Step (2)-6.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(2)-5 Open the four locking clamps and move all the cables to where they cannot obstruct insertion of the BKM.

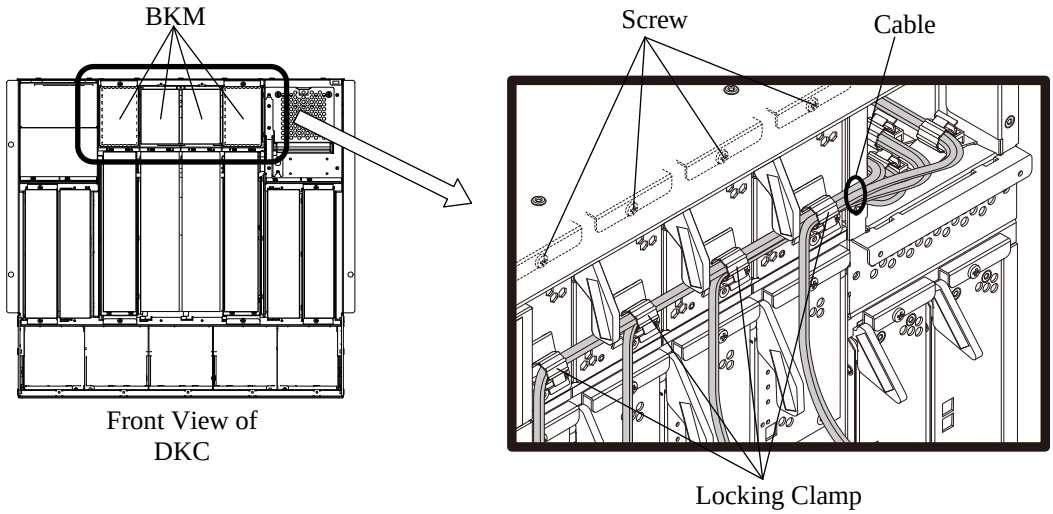
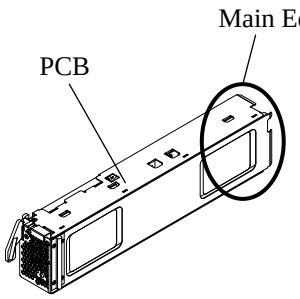


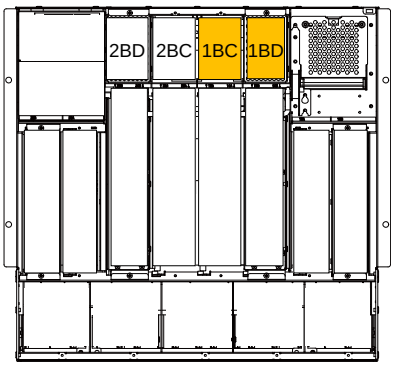
Fig. 3.10-21 Moving Cables

Copyright © 2014, Hitachi, Ltd.

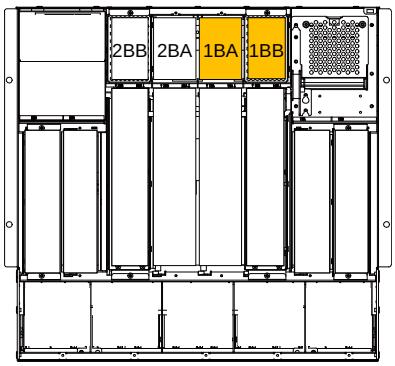
(2)-6 Loosen the screw and remove the dummy plate.
(2)-7 Install the BKM to the DKC and tighten the screw.
(2)-8 If the cables were moved aside in Step (2)-5, put them back in place.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



Front View of DKC-1



Front View of DKC-0

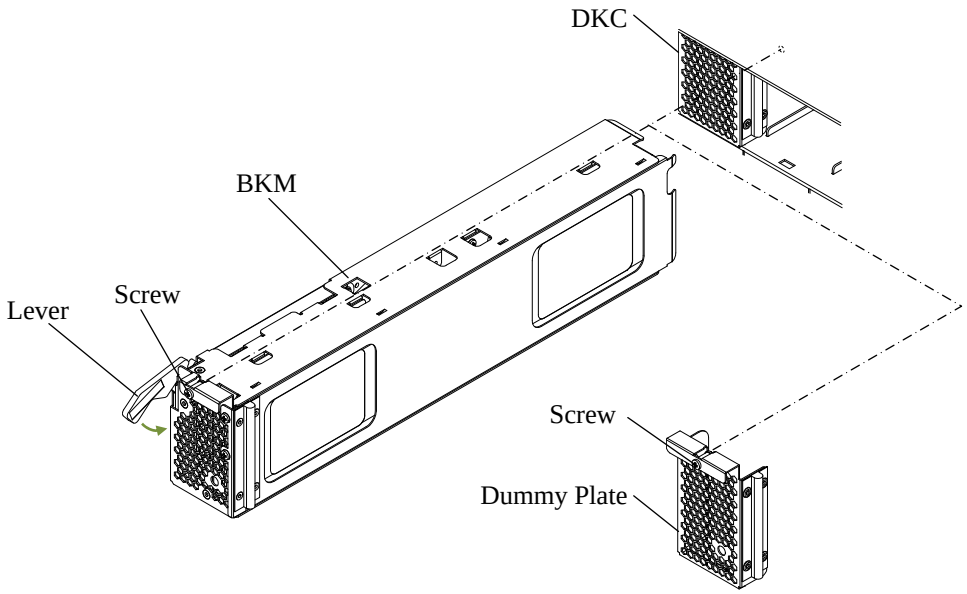
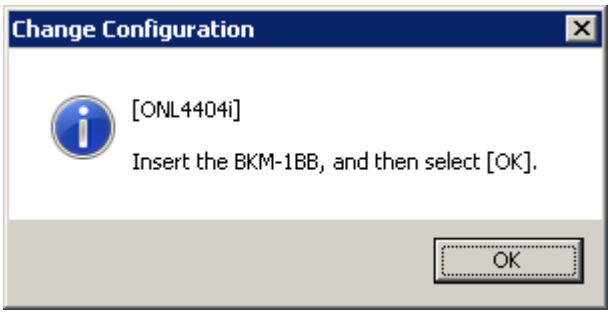


Fig. 3.10-22 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(3)

When a message, “Insert the BKM-nnn, and then select [OK].” is displayed, select (CL) the [OK] button.



(Eg. BKM-1BB)

Copyright © 2014, Hitachi, Ltd.

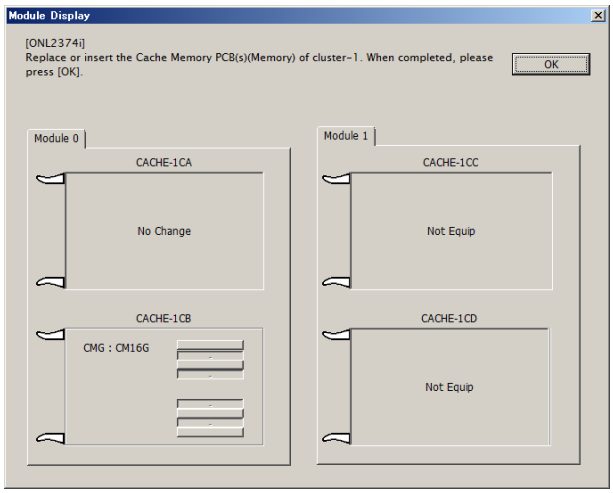
5. SVP pre procedure (Cluster 1).

(1)

"The Cache Memory PCB is being blocked..."
"Lighting LED of the PCB..." is displayed.

---

(2) <Perform cache hardware installation>
At this point refrain from pressing the [OK] button.
When "Replace or insert the Cache Memory PCB(s)(Memory) of cluster-1. When completed, please press OK." is displayed, install hardware components according to the cache hardware installation procedure.



Make sure of the installation location and size of the module to be added and insert the correct module in the correct location. (The Shared Memory capacity may be changed at the same time, depending on the set Cache Memory capacity.)

Copyright © 2014, Hitachi, Ltd.

6. Install the Cache Memory on the cluster 1.

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

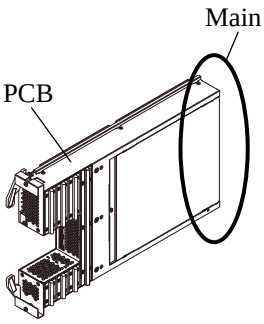
6-1 Remove the PCB.

a. If the cables are connected to the CM PCB, disconnect the cables after checking “3.1.7 Notes when connecting and disconnecting MFC cable” (INST03-01-190).
If the cables are not connected to the CM PCB, go to Step b.

Copyright © 2014, Hitachi, Ltd.

b. Remove the two screws and remove the CM PCB.

NOTE: When removing the CM PCB, be careful not to pull cables.



NOTICE: When removing the PCB, hold the top and bottom of the PCB with both hands, and pull it out straight not to contact the neighboring PCB.

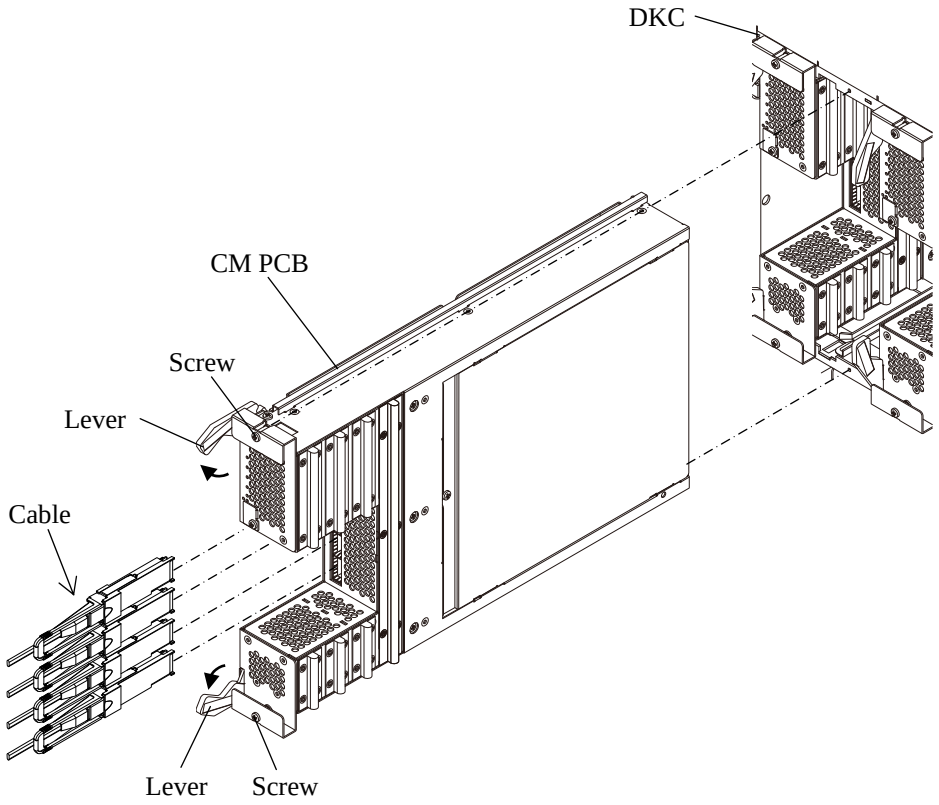


Fig. 3.10-23 Removal of PCB

Copyright © 2014, Hitachi, Ltd.

6-2 Insert the CM Modules.

a. Loosen the screw and remove the cover.

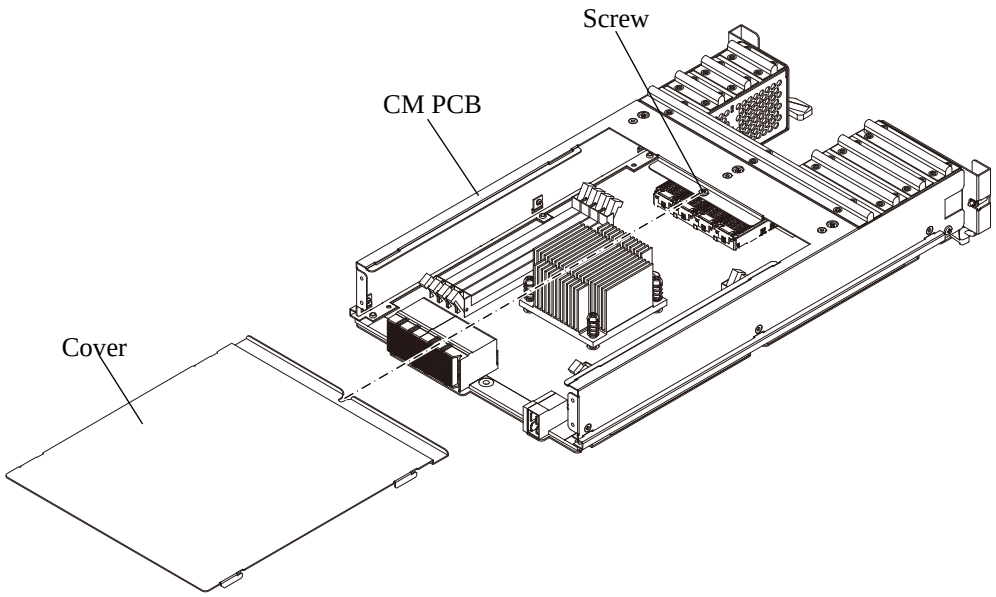
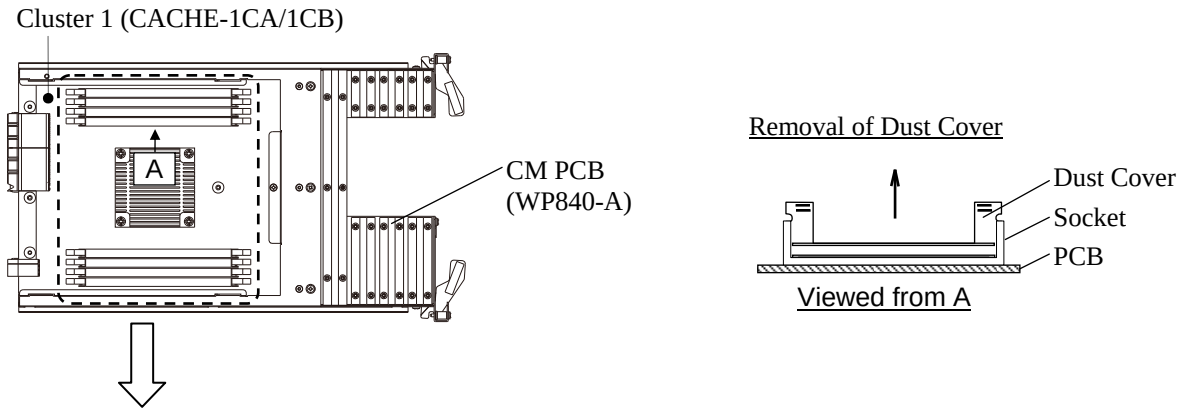


Fig. 3.10-24 Removal of Cover

Copyright © 2014, Hitachi, Ltd.

b. Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-27, Table 3.10-4 through Table 3.10-9.
c. Insert the CM Modules that match the required Cache Memory capacity.
d. Attach the cover and fasten the screw. (Refer to Fig. 3.10-24.)

CM Module Location of DKC-0



CACHE-1CA (Basic)

CM1P:	*2
CM5P:	*6
CM3P:	*4
CM7P:	*8

CM6P:	*7
CM2P:	*3
CM4P:	*5
CM0P:	*1

CACHE-1CB (Option 1)

CM1P:	*10
CM5P:	*14
CM3P:	*12
CM7P:	*16

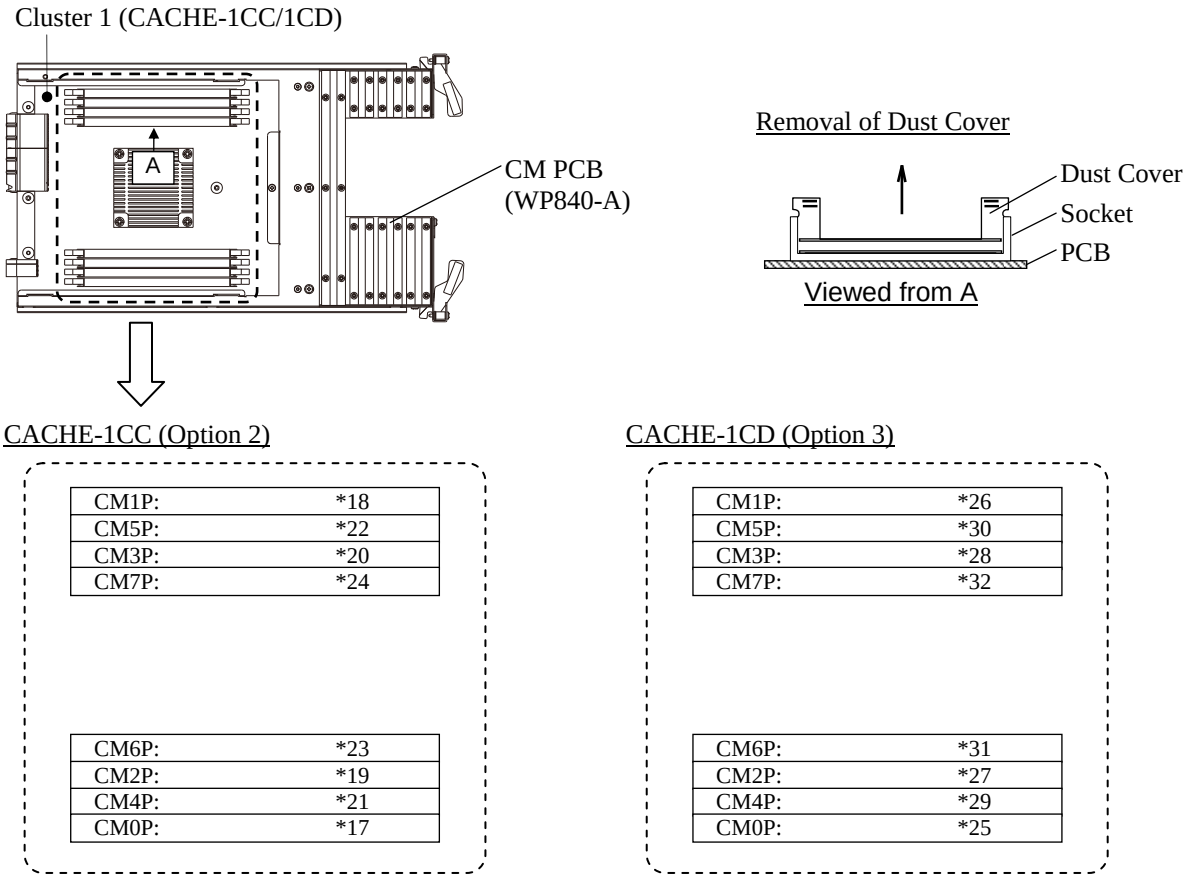
CM6P:	*15
CM2P:	*11
CM4P:	*13
CM0P:	*9

NOTE1: The cache memory module location *1 through *16 correspond to the CM Location listed in Table 3.10-4 through Table 3.10-9.

Fig. 3.10-25 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.

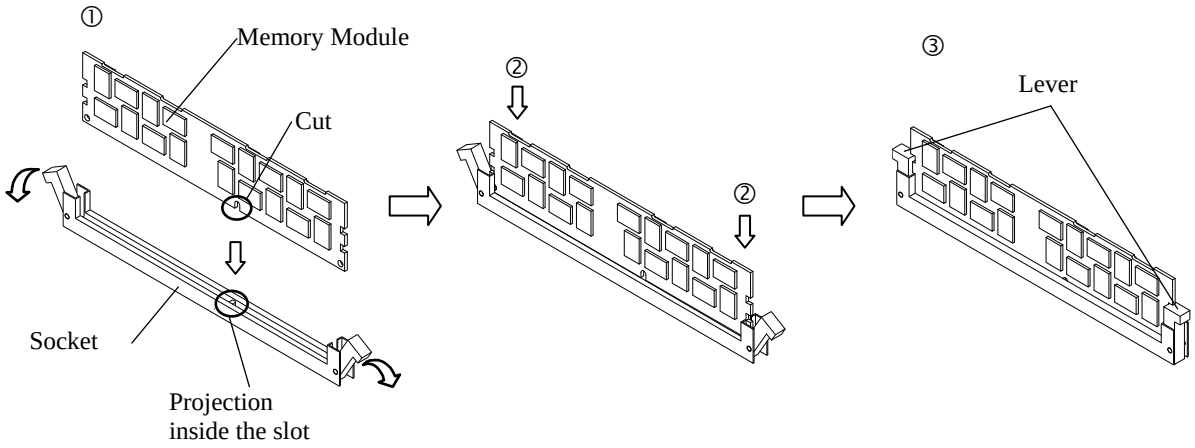
CM Module Location of DKC-1



NOTE1: The cache memory module location *17 through *32 correspond to the CM Location listed in Table 3.10-4 through Table 3.10-9.

Fig. 3.10-26 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.



Installation

① Position the cut of the memory module with the projection inside the slot, and place the memory module on the socket.
② Hold both ends of the memory module by the fingers, and fit it into the socket.
③ Make sure that the lever is firmly fitted in the memory module.

NOTICE: Do not put intense pressure on the CM Module to the extent that the PCB greatly bends after the CM Module is secured with the levers in installation procedure of the CM Module. The PCB may be damaged when intense pressure is applied.

Memory Module Appearance

There are two types of memory modules. One has a heat spreader and the other has no heat spreaders. Both memory modules can be used because they are compatible with each other.

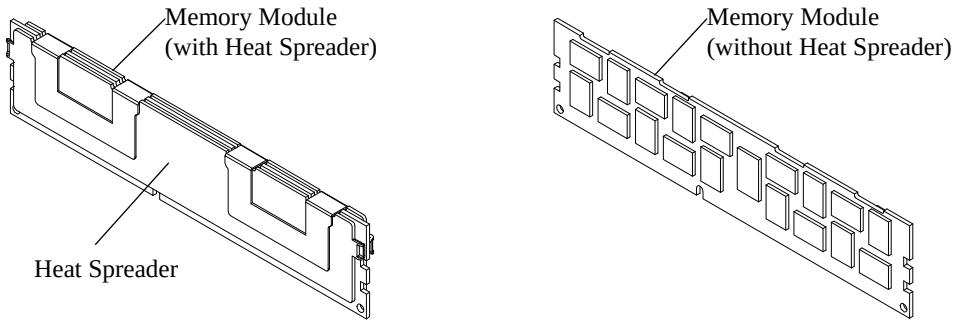


Fig. 3.10-27 Insertion of Memory Module

Copyright © 2014, Hitachi, Ltd.

Table 3.10-4 Cache memory capacity and number of necessary options ①

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options			
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-			
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM16G	CPEX	BKMS/ BKML	BMM128/ BMM256
1	32GB	*1	—	—	—	2	0	1	2
2	64GB	*1,*2	—	—	—	4	0	1	2
3	96GB	*1-*3	—	—	—	6	0	1	2
4	128GB	*1-*4	—	—	—	8	0	1	2
5	160GB	*1-*5	—	—	—	10	0	1	2
6	192GB	*1-*7	—	—	—	12	0	1	2
7	224GB	*1-*8	—	—	—	14	0	1	2
8	256GB	*1-*8	—	—	—	16	0	1	2
9	288GB	*1-*8	*9	—	—	18	1	2	4
10	320GB	*1-*8	*9,*10	—	—	20	1	2	4
11	356GB	*1-*8	*9-*11	—	—	22	1	2	4
12	384GB	*1-*8	*9-*12	—	—	24	1	2	4
13	416GB	*1-*8	*9-*13	—	—	26	1	2	4
14	448GB	*1-*8	*9-*14	—	—	28	1	2	4
15	480GB	*1-*8	*9-*15	—	—	30	1	2	4
16	512GB	*1-*8	*9-*16	—	—	32	1	2	4
17	576GB	*1-*8	*9-*16	*17	*25	36	2	4	8
18	608GB	*1-*8	*9-*16	*17,*18	*25	38	2	4	8
19	640GB	*1-*8	*9-*16	*17,*18	*25,*26	40	2	4	8
20	672GB	*1-*8	*9-*16	*17-*19	*25,*26	42	2	4	8
21	704GB	*1-*8	*9-*16	*17-*19	*25-*27	44	2	4	8
22	736GB	*1-*8	*9-*16	*17-*20	*25-*27	46	2	4	8
23	768GB	*1-*8	*9-*16	*17-*20	*25-*28	48	2	4	8
24	800GB	*1-*8	*9-*16	*17-*21	*25-*28	50	2	4	8
25	832GB	*1-*8	*9-*16	*17-*21	*25-*29	52	2	4	8
26	864GB	*1-*8	*9-*16	*17-*22	*25-*29	54	2	4	8
27	896GB	*1-*8	*9-*16	*17-*22	*25-*30	56	2	4	8
28	928GB	*1-*8	*9-*16	*17-*23	*25-*30	58	2	4	8
29	960GB	*1-*8	*9-*16	*17-*23	*25-*31	60	2	4	8
30	992GB	*1-*8	*9-*16	*17-*24	*25-*31	62	2	4	8
31	1024GB	*1-*8	*9-*16	*17-*24	*25-*32	64	2	4	8

NOTE 1: The above numbers (*1 through *32) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

Copyright © 2014, Hitachi, Ltd.

Table 3.10-5 Cache memory capacity and number of necessary options ②

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options					
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-					
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM32G	CPEX	BKMS	BKML	BMM 128	BMM 256
1	64GB	*1	—	—	—	2	0	1	0	2	0
2	128GB	*1,*2	—	—	—	4	0	1	0	2	0
3	192GB	*1-*3	—	—	—	6	0	1	0	2	0
4	256GB	*1-*4	—	—	—	8	0	1	0	2	0
5	320GB	*1-*5	—	—	—	10	0	0	1	0	2
6	384GB	*1-*7	—	—	—	12	0	0	1	0	2
7	448GB	*1-*8	—	—	—	14	0	0	1	0	2
8	512GB	*1-*8	—	—	—	16	0	0	1	0	2
9	576GB	*1-*8	*9	—	—	18	1	1	1	2	2
10	640GB	*1-*8	*9,*10	—	—	20	1	1	1	2	2
11	704GB	*1-*8	*9-*11	—	—	22	1	1	1	2	2
12	768GB	*1-*8	*9-*12	—	—	24	1	1	1	2	2
13	832GB	*1-*8	*9-*13	—	—	26	1	0	2	0	4
14	896GB	*1-*8	*9-*14	—	—	28	1	0	2	0	4
15	960GB	*1-*8	*9-*15	—	—	30	1	0	2	0	4
16	1024GB	*1-*8	*9-*16	—	—	32	1	0	2	0	4
17	1152GB	*1-*8	*9-*16	*17	*25	36	2	2	2	4	4
18	1216GB	*1-*8	*9-*16	*17,*18	*25	38	2	2	2	4	4
19	1280GB	*1-*8	*9-*16	*17,*18	*25,*26	40	2	2	2	4	4
20	1344GB	*1-*8	*9-*16	*17-*19	*25,*26	42	2	2	2	4	4
21	1408GB	*1-*8	*9-*16	*17-*19	*25-*27	44	2	2	2	4	4
22	1472GB	*1-*8	*9-*16	*17-*20	*25-*27	46	2	2	2	4	4
23	1536GB	*1-*8	*9-*16	*17-*20	*25-*28	48	2	2	2	4	4
24	1600GB	*1-*8	*9-*16	*17-*21	*25-*28	50	2	1	3	2	6
25	1664GB	*1-*8	*9-*16	*17-*21	*25-*29	52	2	0	4	0	8
26	1728GB	*1-*8	*9-*16	*17-*22	*25-*29	54	2	0	4	0	8
27	1792GB	*1-*8	*9-*16	*17-*22	*25-*30	56	2	0	4	0	8
28	1856GB	*1-*8	*9-*16	*17-*23	*25-*30	58	2	0	4	0	8
29	1920GB	*1-*8	*9-*16	*17-*23	*25-*31	60	2	0	4	0	8
30	1984GB	*1-*8	*9-*16	*17-*24	*25-*31	62	2	0	4	0	8
31	2048GB	*1-*8	*9-*16	*17-*24	*25-*32	64	2	0	4	0	8

NOTE 1: The above numbers (*1 through *32) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

Copyright © 2014, Hitachi, Ltd.

Table 3.10-6 Cache memory capacity and number of necessary options ③

No.	Cache Memory Capacity	CM Location (NOTE 1)		Number of options					
		DKC810I-CBXA		DKC-F810I-					
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CM16G	CPEX	BKMS	BKML	BMM 128	BMM 256
1	64GB	*1	*9	4	1	2	0	4	0
2	96GB	*1,*2	*9	6	1	2	0	4	0
3	128GB	*1,*2	*9,*10	8	1	2	0	4	0
4	128GB	*1-*3	*9	8	1	2	0	4	0
5	160GB	*1-*3	*9,*10	10	1	2	0	4	0
6	160GB	*1-*4	*9	10	1	2	0	4	0
7	192GB	*1-*3	*9-*11	12	1	2	0	4	0
8	192GB	*1-*4	*9,*10	12	1	2	0	4	0
9	192GB	*1-*5	*9	12	1	2	0	4	0
10	224GB	*1-*4	*9-*11	14	1	2	0	4	0
11	224GB	*1-*5	*9,*10	14	1	2	0	4	0
12	224GB	*1-*6	*9	14	1	2	0	4	0
13	256GB	*1-*4	*9-*12	16	1	2	0	4	0
14	256GB	*1-*5	*9-*11	16	1	2	0	4	0
15	256GB	*1-*6	*9,*10	16	1	2	0	4	0
16	256GB	*1-*7	*9	16	1	2	0	4	0
17	288GB	*1-*5	*9-*12	18	1	2	0	4	0
18	288GB	*1-*6	*9-*11	18	1	2	0	4	0
19	288GB	*1-*7	*9,*10	18	1	2	0	4	0
20	288GB	*1-*8	*9	18	1	2	0	4	0
21	320GB	*1-*5	*9-*13	20	1	2	0	4	0
22	320GB	*1-*6	*9-*12	20	1	2	0	4	0
23	320GB	*1-*7	*9-*11	20	1	2	0	4	0
24	320GB	*1-*8	*9,*10	20	1	2	0	4	0
25	352GB	*1-*6	*9-*13	22	1	2	0	4	0
26	352GB	*1-*7	*9-*12	22	1	2	0	4	0
27	352GB	*1-*8	*9-*11	22	1	2	0	4	0
28	384GB	*1-*6	*9-*14	24	1	2	0	4	0
29	384GB	*1-*7	*9-*13	24	1	2	0	4	0
30	384GB	*1-*8	*9-*12	24	1	2	0	4	0
31	416GB	*1-*7	*9-*14	26	1	2	0	4	0
32	416GB	*1-*8	*9-*13	26	1	2	0	4	0
33	448GB	*1-*7	*9-*15	28	1	2	0	4	0
34	448GB	*1-*8	*9-*14	28	1	2	0	4	0
35	480GB	*1-*8	*9-*15	30	1	2	0	4	0
36	512GB	*1-*8	*9-*16	32	1	2	0	4	0

NOTE 1: The above numbers (*1 through *16) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

Table 3.10-7 Cache memory capacity and number of necessary options ④

No.	Cache Memory Capacity	CM Location (NOTE 1)		Number of options					
		DKC810I-CBXA		DKC-F810I-					
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CM32G	CPEX	BKMS	BKML	BMM 128	BMM 256
1	128GB	*1	*9	4	1	2	0	4	0
2	192GB	*1,*2	*9	6	1	2	0	4	0
3	256GB	*1,*2	*9,*10	8	1	2	0	4	0
4	256GB	*1-*3	*9	8	1	2	0	4	0
5	320GB	*1-*3	*9,*10	10	1	2	0	4	0
6	320GB	*1-*4	*9	10	1	2	0	4	0
7	384GB	*1-*3	*9-*11	12	1	2	0	4	0
8	384GB	*1-*4	*9,*10	12	1	2	0	4	0
9	384GB	*1-*5	*9	12	1	1	1	2	2
10	448GB	*1-*4	*9-*11	14	1	2	0	4	0
11	448GB	*1-*5	*9,*10	14	1	1	1	2	2
12	448GB	*1-*6	*9	14	1	1	1	2	2
13	512GB	*1-*4	*9-*12	16	1	2	0	4	0
14	512GB	*1-*5	*9-*11	16	1	1	1	2	2
15	512GB	*1-*6	*9,*10	16	1	1	1	2	2
16	512GB	*1-*7	*9	16	1	1	1	2	2
17	576GB	*1-*5	*9-*12	18	1	1	1	2	2
18	576GB	*1-*6	*9-*11	18	1	1	1	2	2
19	576GB	*1-*7	*9,*10	18	1	1	1	2	2
20	576GB	*1-*8	*9	18	1	1	1	2	2
21	640GB	*1-*5	*9-*13	20	1	0	2	0	4
22	640GB	*1-*6	*9-*12	20	1	1	1	2	2
23	640GB	*1-*7	*9-*11	20	1	1	1	2	2
24	640GB	*1-*8	*9,*10	20	1	1	1	2	2
25	704GB	*1-*6	*9-*13	22	1	0	2	0	4
26	704GB	*1-*7	*9-*12	22	1	1	1	2	2
27	704GB	*1-*8	*9-*11	22	1	1	1	2	2
28	768GB	*1-*6	*9-*14	24	1	0	2	0	4
29	768GB	*1-*7	*9-*13	24	1	0	2	0	4
30	768GB	*1-*8	*9-*12	24	1	1	1	2	2
31	832GB	*1-*7	*9-*14	26	1	0	2	0	4
32	832GB	*1-*8	*9-*13	26	1	0	2	0	4
33	896GB	*1-*7	*9-*15	28	1	0	2	0	4
34	896GB	*1-*8	*9-*14	28	1	0	2	0	4
35	960GB	*1-*8	*9-*15	30	1	0	2	0	4
36	1024GB	*1-*8	*9-*16	32	1	0	2	0	4

NOTE 1: The above numbers (*1 through *16) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

Table 3.10-8 Cache memory capacity and number of necessary options ⑤

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
1	64	*1	—	*17	—	4	0	1	0	2	—	4	—
2	96	*1,*2	—	*17	—	6	0	1	0	2	—	4	—
3	128	*1	*9	*17	*25	8	2	1	1	4	—	8	—
4	128	*1,*2	—	*17,*18	—	8	0	1	0	2	—	4	—
5	128	*1-*3	—	*17	—	8	0	1	0	2	—	4	—
6	160	*1,*2	*9	*17	*25	10	2	1	1	4	—	8	—
7	160	*1-*3	—	*17,*18	—	10	0	1	0	2	—	4	—
8	160	*1-*4	—	*17	—	10	0	1	0	2	—	4	—
9	192	*1,*2	*9	*17,*18	*25	12	2	1	1	4	—	8	—
10	192	*1,*2	*9,*10	*17	*25	12	2	1	1	4	—	8	—
11	192	*1-*3	—	*17-*19	—	12	0	1	0	2	—	4	—
12	192	*1-*3	*9	*17	*25	12	2	1	1	4	—	8	—
13	192	*1-*4	—	*17,*18	—	12	0	1	0	2	—	4	—
14	192	*1-*5	—	*17	—	12	0	1	0	2	—	4	—
15	224	*1,*2	*9,*10	*17,*18	*25	14	2	1	1	4	—	8	—
16	224	*1-*3	*9,*10	*17	*25	14	2	1	1	4	—	8	—
17	224	*1-*4	*9	*17	*25	14	2	1	1	4	—	8	—
18	224	*1-*5	—	*17,*18	—	14	0	1	0	2	—	4	—
19	224	*1-*6	—	*17	—	14	0	1	0	2	—	4	—
20	256	*1,*2	*9,*10	*17,*18	*25,*26	16	2	1	1	4	—	8	—
21	256	*1-*3	*9	*17-*19	*25	16	2	1	1	4	—	8	—
22	256	*1-*3	*9,*10	*17,*18	*25	16	2	1	1	4	—	8	—
23	256	*1-*3	*9-*11	*17	*25	16	2	1	1	4	—	8	—
24	256	*1-*4	—	*17-*20	—	16	0	1	0	2	—	4	—
25	256	*1-*4	*9,*10	*17	*25	16	2	1	1	4	—	8	—
26	256	*1-*5	—	*17-*19	—	16	0	1	0	2	—	4	—
27	256	*1-*5	*9	*17	*25	16	2	1	1	4	—	8	—
28	256	*1-*6	—	*17,*18	—	16	0	1	0	2	—	4	—
29	256	*1-*7	—	*17	—	16	0	1	0	2	—	4	—
30	288	*1-*3	*9,*10	*17,*18	*25,*26	18	2	1	1	4	—	8	—
31	288	*1-*3	*9,*10	*17-*19	*25	18	2	1	1	4	—	8	—
32	288	*1-*3	*9-*11	*17,*18	*25	18	2	1	1	4	—	8	—
33	288	*1-*4	*9,*10	*17,*18	*25	18	2	1	1	4	—	8	—
34	288	*1-*4	*9-*11	*17	*25	18	2	1	1	4	—	8	—
35	288	*1-*5	—	*17-*20	—	18	0	1	0	2	—	4	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
36	288	*1-*5	*9,*10	*17	*25	18	2	1	1	4	—	8	—
37	288	*1-*6	—	*17-*19	—	18	0	1	0	2	—	4	—
38	288	*1-*6	*9	*17	*25	18	2	1	1	4	—	8	—
39	288	*1-*7	—	*17,*18	—	18	0	1	0	2	—	4	—
40	288	*1-*8	—	*17	—	18	0	1	0	2	—	4	—
41	320	*1-*3	*9,*10	*17-*19	*25,*26	20	2	1	1	4	—	8	—
42	320	*1-*3	*9-*11	*17,*18	*25,*26	20	2	1	1	4	—	8	—
43	320	*1-*3	*9-*11	*17-*19	*25	20	2	1	1	4	—	8	—
44	320	*1-*4	*9	*17-*20	*25	20	2	1	1	4	—	8	—
45	320	*1-*4	*9,*10	*17,*18	*25,*26	20	2	1	1	4	—	8	—
46	320	*1-*4	*9-*11	*17,*18	*25	20	2	1	1	4	—	8	—
47	320	*1-*4	*9-*12	*17	*25	20	2	1	1	4	—	8	—
48	320	*1-*5	—	*17-*21	—	20	0	1	0	2	—	4	—
49	320	*1-*5	*9,*10	*17,*18	*25	20	2	1	1	4	—	8	—
50	320	*1-*5	*9-*11	*17	*25	20	2	1	1	4	—	8	—
51	320	*1-*6	—	*17-*20	—	20	0	1	0	2	—	4	—
52	320	*1-*6	*9,*10	*17	*25	20	2	1	1	4	—	8	—
53	320	*1-*7	—	*17-*19	—	20	0	1	0	2	—	4	—
54	320	*1-*7	*9	*17	*25	20	2	1	1	4	—	8	—
55	320	*1-*8	—	*17,*18	—	20	0	1	0	2	—	4	—
56	352	*1-*3	*9-*11	*17-*19	*25,*26	22	2	1	1	4	—	8	—
57	352	*1-*4	*9,*10	*17-*20	*25	22	2	1	1	4	—	8	—
58	352	*1-*4	*9-*11	*17,*18	*25,*26	22	2	1	1	4	—	8	—
59	352	*1-*4	*9-*11	*17-*19	*25	22	2	1	1	4	—	8	—
60	352	*1-*4	*9-*12	*17,*18	*25	22	2	1	1	4	—	8	—
61	352	*1-*5	*9,*10	*17,*18	*25,*26	22	2	1	1	4	—	8	—
62	352	*1-*5	*9-*11	*17,*18	*25	22	2	1	1	4	—	8	—
63	352	*1-*5	*9-*12	*17	*25	22	2	1	1	4	—	8	—
64	352	*1-*6	—	*17-*21	—	22	0	1	0	2	—	4	—
65	352	*1-*6	*9,*10	*17,*18	*25	22	2	1	1	4	—	8	—
66	352	*1-*6	*9-*11	*17	*25	22	2	1	1	4	—	8	—
67	352	*1-*7	—	*17-*20	—	22	0	1	0	2	—	4	—
68	352	*1-*7	*9,*10	*17	*25	22	2	1	1	4	—	8	—
69	352	*1-*8	—	*17-*19	—	22	0	1	0	2	—	4	—
70	352	*1-*8	*9	*17	*25	22	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
71	384	*1-*3	*9-*11	*17-*19	*25-*27	24	2	1	1	4	—	8	—
72	384	*1-*4	*9,*10	*17-*20	*25,*26	24	2	1	1	4	—	8	—
73	384	*1-*4	*9-*11	*17-*19	*25,*26	24	2	1	1	4	—	8	—
74	384	*1-*4	*9-*11	*17-*20	*25	24	2	1	1	4	—	8	—
75	384	*1-*4	*9-*12	*17,*18	*25,*26	24	2	1	1	4	—	8	—
76	384	*1-*4	*9-*12	*17-*19	*25	24	2	1	1	4	—	8	—
77	384	*1-*5	32	*17-*21	*25	24	2	1	1	4	—	8	—
78	384	*1-*5	*9-*11	*17,*18	*25,*26	24	2	1	1	4	—	8	—
79	384	*1-*5	*9-*11	*17-*19	*25	24	2	1	1	4	—	8	—
80	384	*1-*5	*9-*12	*17,*18	*25	24	2	1	1	4	—	8	—
81	384	*1-*5	*9-*13	*17	*25	24	2	1	1	4	—	8	—
82	384	*1-*6	—	*17-*22	—	24	0	1	0	2	—	4	—
83	384	*1-*6	*9,*10	*17,*18	*25,*26	24	2	1	1	4	—	8	—
84	384	*1-*6	*9-*11	*17,*18	*25	24	2	1	1	4	—	8	—
85	384	*1-*6	*9-*12	*17	*25	24	2	1	1	4	—	8	—
86	384	*1-*7	—	*17-*21	—	24	0	1	0	2	—	4	—
87	384	*1-*7	*9,*10	*17,*18	*25	24	2	1	1	4	—	8	—
88	384	*1-*7	*9-*11	*17	*25	24	2	1	1	4	—	8	—
89	384	*1-*8	—	*17-*20	—	24	0	1	0	2	—	4	—
90	384	*1-*8	*9,*10	*17	*25	24	2	1	1	4	—	8	—
91	416	*1-*4	*9-*11	*17-*19	*25-*27	26	2	1	1	4	—	8	—
92	416	*1-*4	*9-*11	*17-*20	*25,*26	26	2	1	1	4	—	8	—
93	416	*1-*4	*9-*12	*17-*19	*25,*26	26	2	1	1	4	—	8	—
94	416	*1-*4	*9-*12	*17-*20	*25	26	2	1	1	4	—	8	—
95	416	*1-*5	*9,*10	*17-*21	*25	26	2	1	1	4	—	8	—
96	416	*1-*5	*9-*11	*17-*19	*25,*26	26	2	1	1	4	—	8	—
97	416	*1-*5	*9-*12	*17,*18	*25,*26	26	2	1	1	4	—	8	—
98	416	*1-*5	*9-*12	*17-*19	*25	26	2	1	1	4	—	8	—
99	416	*1-*5	*9-*13	*17,*18	*25	26	2	1	1	4	—	8	—
100	416	*1-*6	*9-*11	*17,*18	*25,*26	26	2	1	1	4	—	8	—
101	416	*1-*6	*9-*11	*17-*19	*25	26	2	1	1	4	—	8	—
102	416	*1-*6	*9-*12	*17,*18	*25	26	2	1	1	4	—	8	—
103	416	*1-*6	*9-*13	*17	*25	26	2	1	1	4	—	8	—
104	416	*1-*7	—	*17-*22	—	26	0	1	0	2	—	4	—
105	416	*1-*7	*9,*10	*17,*18	*25,*26	26	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
106	416	*1-*7	*9-*11	*17,*18	*25	26	2	1	1	4	—	8	—
107	416	*1-*7	*9-*12	*17	*25	26	2	1	1	4	—	8	—
108	416	*1-*8	—	*17-*21	—	26	0	1	0	2	—	4	—
109	416	*1-*8	*9-*11	*17	*25	26	2	1	1	4	—	8	—
110	448	*1-*4	*9-*11	*17-*20	*25-*27	28	2	1	1	4	—	8	—
111	448	*1-*4	*9-*12	*17-*19	*25-*27	28	2	1	1	4	—	8	—
112	448	*1-*4	*9-*12	*17-*20	*25,*26	28	2	1	1	4	—	8	—
113	448	*1-*5	*9,*10	*17-*21	*25,*26	28	2	1	1	4	—	8	—
114	448	*1-*5	*9-*11	*17-*19	*25-*27	28	2	1	1	4	—	8	—
115	448	*1-*5	*9-*11	*17-*21	*25	28	2	1	1	4	—	8	—
116	448	*1-*5	*9-*12	*17-*19	*25,*26	28	2	1	1	4	—	8	—
117	448	*1-*5	*9-*12	*17-*20	*25	28	2	1	1	4	—	8	—
118	448	*1-*5	*9-*13	*17,*18	*25,*26	28	2	1	1	4	—	8	—
119	448	*1-*5	*9-*13	*17-*19	*25	28	2	1	1	4	—	8	—
120	448	*1-*6	*9	*17-*22	*25	28	2	1	1	4	—	8	—
121	448	*1-*6	*9-*11	*17-*19	*25,*26	28	2	1	1	4	—	8	—
122	448	*1-*6	*9-*12	*17,*18	*25,*26	28	2	1	1	4	—	8	—
123	448	*1-*6	*9-*12	*17-*19	*25	28	2	1	1	4	—	8	—
124	448	*1-*6	*9-*13	*17,*18	*25	28	2	1	1	4	—	8	—
125	448	*1-*6	*9-*14	*17	*25	28	2	1	1	4	—	8	—
126	448	*1-*7	—	224	—	28	0	1	0	2	—	4	—
127	448	*1-*7	*9-*11	*17,*18	*25,*26	28	2	1	1	4	—	8	—
128	448	*1-*7	*9-*11	*17-*19	*25	28	2	1	1	4	—	8	—
129	448	*1-*7	*9-*12	*17,*18	*25	28	2	1	1	4	—	8	—
130	448	*1-*7	*9-*13	*17	*25	28	2	1	1	4	—	8	—
131	448	*1-*8	—	*17-*22	—	28	0	1	0	2	—	4	—
132	448	*1-*8	*9-*12	*17	*25	28	2	1	1	4	—	8	—
133	480	*1-*4	*9-*12	*17-*20	*25-*27	30	2	1	1	4	—	8	—
134	480	*1-*5	*9-*11	*17-*21	*25,*26	30	2	1	1	4	—	8	—
135	480	*1-*5	*9-*12	*17-*19	*25-*27	30	2	1	1	4	—	8	—
136	480	*1-*5	*9-*12	*17-*20	*25,*26	30	2	1	1	4	—	8	—
137	480	*1-*5	*9-*12	*17-*21	*25	30	2	1	1	4	—	8	—
138	480	*1-*5	*9-*13	*17-*19	*25,*26	30	2	1	1	4	—	8	—
139	480	*1-*5	*9-*13	*17-*20	*25	30	2	1	1	4	—	8	—
140	480	*1-*6	*9,*10	*17-*22	*25	30	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
141	480	*1-*6	*9-*11	*17-*19	*25-*27	30	2	1	1	4	—	8	—
142	480	*1-*6	*9-*12	*17-*19	*25,*26	30	2	1	1	4	—	8	—
143	480	*1-*6	*9-*12	*17-*20	*25	30	2	1	1	4	—	8	—
144	480	*1-*6	*9-*13	*17,*18	*25,*26	30	2	1	1	4	—	8	—
145	480	*1-*6	*9-*13	*17-*19	*25	30	2	1	1	4	—	8	—
146	480	*1-*6	*9-*14	*17,*18	*25	30	2	1	1	4	—	8	—
147	480	*1-*7	*9-*11	*17-*19	*25,*26	30	2	1	1	4	—	8	—
148	480	*1-*7	*9-*12	*17,*18	*25,*26	30	2	1	1	4	—	8	—
149	480	*1-*7	*9-*12	*17-*19	*25	30	2	1	1	4	—	8	—
150	480	*1-*7	*9-*13	*17,*18	*25	30	2	1	1	4	—	8	—
151	480	*1-*8	—	*17-*23	—	30	0	1	0	2	—	4	—
152	480	*1-*8	*9-*13	*17	*25	30	2	1	1	4	—	8	—
153	512	*1-*4	*9-*12	*17-*20	128	32	2	1	1	4	—	8	—
154	512	*1-*5	*9-*11	*17-*21	*25-*27	32	2	1	1	4	—	8	—
155	512	*1-*5	*9-*12	*17-*20	*25-*27	32	2	1	1	4	—	8	—
156	512	*1-*5	*9-*12	*17-*21	*25,*26	32	2	1	1	4	—	8	—
157	512	*1-*5	*9-*13	*17-*19	*25-*27	32	2	1	1	4	—	8	—
158	512	*1-*5	*9-*13	*17-*20	*25,*26	32	2	1	1	4	—	8	—
159	512	*1-*5	*9-*13	*17-*21	*25	32	2	1	1	4	—	8	—
160	512	*1-*6	*9,*10	*17-*22	*25,*26	32	2	1	1	4	—	8	—
161	512	*1-*6	*9-*11	*17-*22	*25	32	2	1	1	4	—	8	—
162	512	*1-*6	*9-*12	*17-*19	*25-*27	32	2	1	1	4	—	8	—
163	512	*1-*6	*9-*12	*17-*20	*25,*26	32	2	1	1	4	—	8	—
164	512	*1-*6	*9-*13	*17-*19	*25,*26	32	2	1	1	4	—	8	—
165	512	*1-*6	*9-*13	*17-*20	*25	32	2	1	1	4	—	8	—
166	512	*1-*6	*9-*14	*17,*18	*25,*26	32	2	1	1	4	—	8	—
167	512	*1-*6	*9-*14	*17-*19	*25	32	2	1	1	4	—	8	—
168	512	*1-*7	*9	*17-*23	*25	32	2	1	1	4	—	8	—
169	512	*1-*7	*9-*11	*17-*19	*25-*27	32	2	1	1	4	—	8	—
170	512	*1-*7	*9-*12	*17-*19	*25,*26	32	2	1	1	4	—	8	—
171	512	*1-*7	*9-*12	*17-*20	*25	32	2	1	1	4	—	8	—
172	512	*1-*7	*9-*13	*17,*18	*25,*26	32	2	1	1	4	—	8	—
173	512	*1-*7	*9-*13	*17-*19	*25	32	2	1	1	4	—	8	—
174	512	*1-*7	*9-*15	*17	*25	32	2	1	1	4	—	8	—
175	512	*1-*8	—	*17-*24	—	32	0	1	0	2	—	4	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
176	512	*1-*8	*9-*14	*17	*25	32	2	1	1	4	—	8	—
177	544	*1-*5	*9-*12	*17-*20	*25-*28	34	2	1	1	4	—	8	—
178	544	*1-*5	*9-*12	*17-*21	*25-*27	34	2	1	1	4	—	8	—
179	544	*1-*5	*9-*13	*17-*20	*25-*27	34	2	1	1	4	—	8	—
180	544	*1-*5	*9-*13	*17-*21	*25,*26	34	2	1	1	4	—	8	—
181	544	*1-*6	*9-*11	*17-*22	*25,*26	34	2	1	1	4	—	8	—
182	544	*1-*6	*9-*12	*17-*20	*25-*27	34	2	1	1	4	—	8	—
183	544	*1-*6	*9-*12	*17-*22	*25	34	2	1	1	4	—	8	—
184	544	*1-*6	*9-*13	*17-*19	*25-*27	34	2	1	1	4	—	8	—
185	544	*1-*6	*9-*13	*17-*20	*25,*26	34	2	1	1	4	—	8	—
186	544	*1-*6	*9-*13	*17-*21	*25	34	2	1	1	4	—	8	—
187	544	*1-*6	*9-*14	*17-*19	*25,*26	34	2	1	1	4	—	8	—
188	544	*1-*6	*9-*14	*17-*20	*25	34	2	1	1	4	—	8	—
189	544	*1-*7	*9,*10	*17-*23	*25	34	2	1	1	4	—	8	—
190	544	*1-*7	*9-*12	*17-*19	*25-*27	34	2	1	1	4	—	8	—
191	544	*1-*7	*9-*12	*17-*20	*25,*26	34	2	1	1	4	—	8	—
192	544	*1-*7	*9-*13	*17-*19	*25,*26	34	2	1	1	4	—	8	—
193	544	*1-*7	*9-*13	*17-*20	*25	34	2	1	1	4	—	8	—
194	544	*1-*7	*9-*15	*17,*18	*25	34	2	1	1	4	—	8	—
195	544	*1-*8	*9-*15	*17	*25	34	2	1	1	4	—	8	—
196	576	*1-*5	*9-*12	*17-*21	*25-*28	36	2	1	1	4	—	8	—
197	576	*1-*5	*9-*13	*17-*20	*25-*28	36	2	1	1	4	—	8	—
198	576	*1-*5	*9-*13	*17-*21	*25-*27	36	2	1	1	4	—	8	—
199	576	*1-*6	*9-*11	*17-*22	*25-*27	36	2	1	1	4	—	8	—
200	576	*1-*6	*9-*12	*17-*20	*25-*28	36	2	1	1	4	—	8	—
201	576	*1-*6	*9-*12	*17-*22	*25,*26	36	2	1	1	4	—	8	—
202	576	*1-*6	*9-*13	*17-*20	*25-*27	36	2	1	1	4	—	8	—
203	576	*1-*6	*9-*13	*17-*21	*25,*26	36	2	1	1	4	—	8	—
204	576	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	4	—	8	—
205	576	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	4	—	8	—
206	576	*1-*6	*9-*14	*17-*19	*25-*27	36	2	1	1	4	—	8	—
207	576	*1-*6	*9-*14	*17-*20	*25,*26	36	2	1	1	4	—	8	—
208	576	*1-*6	*9-*14	*17-*21	*25	36	2	1	1	4	—	8	—
209	576	*1-*7	*9,*10	*17-*23	*25,*26	36	2	1	1	4	—	8	—
210	576	*1-*7	*9-*11	*17-*23	*25	36	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
211	576	*1-*7	*9-*12	*17-*20	*25-*27	36	2	1	1	4	—	8	—
212	576	*1-*7	*9-*13	*17-*19	*25-*27	36	2	1	1	4	—	8	—
213	576	*1-*7	*9-*13	*17-*20	*25,*26	36	2	1	1	4	—	8	—
214	576	*1-*7	*9-*13	*17-*21	*25	36	2	1	1	4	—	8	—
215	576	*1-*7	*9-*15	*17-*19	*25	36	2	1	1	4	—	8	—
216	576	*1-*8	*9	*17-*24	*25	36	2	1	1	4	—	8	—
217	576	*1-*8	*9-*16	*17	*25	36	2	1	1	4	—	8	—
218	608	*1-*5	*9-*13	*17-*21	*25-*28	38	2	1	1	4	—	8	—
219	608	*1-*6	*9-*12	*17-*22	*25-*27	38	2	1	1	4	—	8	—
220	608	*1-*6	*9-*13	*17-*20	*25-*28	38	2	1	1	4	—	8	—
221	608	*1-*6	*9-*13	*17-*21	*25-*27	38	2	1	1	4	—	8	—
222	608	*1-*6	*9-*13	*17-*22	*25,*26	38	2	1	1	4	—	8	—
223	608	*1-*6	*9-*14	*17-*20	*25-*27	38	2	1	1	4	—	8	—
224	608	*1-*6	*9-*14	*17-*21	*25,*26	38	2	1	1	4	—	8	—
225	608	*1-*6	*9-*14	*17-*22	*25	38	2	1	1	4	—	8	—
226	608	*1-*7	*9-*11	*17-*23	*25,*26	38	2	1	1	4	—	8	—
227	608	*1-*7	*9-*12	*17-*20	*25-*28	38	2	1	1	4	—	8	—
228	608	*1-*7	*9-*12	*17-*23	*25	38	2	1	1	4	—	8	—
229	608	*1-*7	*9-*13	*17-*20	*25-*27	38	2	1	1	4	—	8	—
230	608	*1-*7	*9-*13	*17-*21	*25,*26	38	2	1	1	4	—	8	—
231	608	*1-*7	*9-*15	*17-*19	*25,*26	38	2	1	1	4	—	8	—
232	608	*1-*7	*9-*15	*17-*20	*25	38	2	1	1	4	—	8	—
233	608	*1-*8	*9,*10	*17-*24	*25	38	2	1	1	4	—	8	—
234	608	*1-*8	*9-*16	*17,*18	*25	38	2	1	1	4	—	8	—
235	640	*1-*5	*9-*13	*17-*21	*25-*29	40	2	1	1	4	—	8	—
236	640	*1-*6	*9-*12	*17-*22	*25-*28	40	2	1	1	4	—	8	—
237	640	*1-*6	*9-*13	*17-*21	*25-*28	40	2	1	1	4	—	8	—
238	640	*1-*6	*9-*13	*17-*22	*25-*27	40	2	1	1	4	—	8	—
239	640	*1-*6	*9-*14	*17-*20	*25-*28	40	2	1	1	4	—	8	—
240	640	*1-*6	*9-*14	*17-*21	*25-*27	40	2	1	1	4	—	8	—
241	640	*1-*6	*9-*14	*17-*22	*25,*26	40	2	1	1	4	—	8	—
242	640	*1-*7	*9-*11	*17-*23	*25-*27	40	2	1	1	4	—	8	—
243	640	*1-*7	*9-*12	*17-*23	*25,*26	40	2	1	1	4	—	8	—
244	640	*1-*7	*9-*13	*17-*20	*25-*28	40	2	1	1	4	—	8	—
245	640	*1-*7	*9-*13	*17-*21	*25-*27	40	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
246	640	*1-*7	*9-*13	*17-*23	*25	40	2	1	1	4	—	8	—
247	640	*1-*7	*9-*14	*17-*22	*25	40	2	1	1	4	—	8	—
248	640	*1-*7	*9-*15	*17-*19	*25-*27	40	2	1	1	4	—	8	—
249	640	*1-*7	*9-*15	*17-*20	*25,*26	40	2	1	1	4	—	8	—
250	640	*1-*7	*9-*15	*17-*21	*25	40	2	1	1	4	—	8	—
251	640	*1-*8	*9,*10	*17-*24	*25,*26	40	2	1	1	4	—	8	—
252	640	*1-*8	*9-*11	*17-*24	*25	40	2	1	1	4	—	8	—
253	640	*1-*8	*9-*16	*17-*19	*25	40	2	1	1	4	—	8	—
254	672	*1-*6	*9-*13	*17-*21	*25-*29	42	2	1	1	4	—	8	—
255	672	*1-*6	*9-*13	*17-*22	*25-*28	42	2	1	1	4	—	8	—
256	672	*1-*6	*9-*14	*17-*21	*25-*28	42	2	1	1	4	—	8	—
257	672	*1-*6	*9-*14	*17-*22	*25-*27	42	2	1	1	4	—	8	—
258	672	*1-*7	*9-*12	*17-*23	*25-*27	42	2	1	1	4	—	8	—
259	672	*1-*7	*9-*13	*17-*21	*25-*28	42	2	1	1	4	—	8	—
260	672	*1-*7	*9-*13	*17-*23	*25,*26	42	2	1	1	4	—	8	—
261	672	*1-*7	*9-*14	*17-*22	*25,*26	42	2	1	1	4	—	8	—
262	672	*1-*7	*9-*14	*17-*23	*25	42	2	1	1	4	—	8	—
263	672	*1-*7	*9-*15	*17-*20	*25-*27	42	2	1	1	4	—	8	—
264	672	*1-*7	*9-*15	*17-*21	*25,*26	42	2	1	1	4	—	8	—
265	672	*1-*7	*9-*15	*17-*22	*25	42	2	1	1	4	—	8	—
266	672	*1-*8	*9-*11	*17-*24	*25,*26	42	2	1	1	4	—	8	—
267	672	*1-*8	*9-*12	*17-*24	*25	42	2	1	1	4	—	8	—
268	672	*1-*8	*9-*16	*17-*20	*25	42	2	1	1	4	—	8	—
269	704	*1-*6	*9-*13	*17-*22	*25-*29	44	2	1	1	4	—	8	—
270	704	*1-*6	*9-*14	*17-*21	*25-*29	44	2	1	1	4	—	8	—
271	704	*1-*6	*9-*14	*17-*22	*25-*28	44	2	1	1	4	—	8	—
272	704	*1-*7	*9-*12	*17-*23	*25-*28	44	2	1	1	4	—	8	—
273	704	*1-*7	*9-*13	*17-*21	*25-*29	44	2	1	1	4	—	8	—
274	704	*1-*7	*9-*13	*17-*23	*25-*27	44	2	1	1	4	—	8	—
275	704	*1-*7	*9-*14	*17-*22	*25-*27	44	2	1	1	4	—	8	—
276	704	*1-*7	*9-*14	*17-*23	*25,*26	44	2	1	1	4	—	8	—
277	704	*1-*7	*9-*15	*17-*20	*25-*28	44	2	1	1	4	—	8	—
278	704	*1-*7	*9-*15	*17-*21	*25-*27	44	2	1	1	4	—	8	—
279	704	*1-*7	*9-*15	*17-*22	*25,*26	44	2	1	1	4	—	8	—
280	704	*1-*7	*9-*15	*17-*23	*25	44	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
281	704	*1-*8	*9-*11	*17-*24	*25-*27	44	2	1	1	4	—	8	—
282	704	*1-*8	*9-*12	*17-*24	*25,*26	44	2	1	1	4	—	8	—
283	704	*1-*8	*9-*13	*17-*24	*25	44	2	1	1	4	—	8	—
284	704	*1-*8	*9-*16	*17-*21	*25	44	2	1	1	4	—	8	—
285	736	*1-*6	*9-*14	*17-*22	*25-*29	46	2	1	1	4	—	8	—
286	736	*1-*7	*9-*13	*17-*23	*25-*28	46	2	1	1	4	—	8	—
287	736	*1-*7	*9-*14	*17-*22	*25-*28	46	2	1	1	4	—	8	—
288	736	*1-*7	*9-*14	*17-*23	*25-*27	46	2	1	1	4	—	8	—
289	736	*1-*7	*9-*15	*17-*21	*25-*28	46	2	1	1	4	—	8	—
290	736	*1-*7	*9-*15	*17-*22	*25-*27	46	2	1	1	4	—	8	—
291	736	*1-*7	*9-*15	*17-*23	*25,*26	46	2	1	1	4	—	8	—
292	736	*1-*8	*9-*12	*17-*24	*25-*27	46	2	1	1	4	—	8	—
293	736	*1-*8	*9-*13	*17-*24	*25,*26	46	2	1	1	4	—	8	—
294	736	*1-*8	*9-*14	*17-*24	*25	46	2	1	1	4	—	8	—
295	736	*1-*8	*9-*16	*17-*22	*25	46	2	1	1	4	—	8	—
296	768	*1-*6	*9-*14	*17-*22	*25-*30	48	2	1	1	4	—	8	—
297	768	*1-*7	*9-*13	*17-*23	*25-*29	48	2	1	1	4	—	8	—
298	768	*1-*7	*9-*14	*17-*22	*25-*29	48	2	1	1	4	—	8	—
299	768	*1-*7	*9-*14	*17-*23	*25-*28	48	2	1	1	4	—	8	—
300	768	*1-*7	*9-*15	*17-*21	*25-*29	48	2	1	1	4	—	8	—
301	768	*1-*7	*9-*15	*17-*22	*25-*28	48	2	1	1	4	—	8	—
302	768	*1-*7	*9-*15	*17-*23	*25-*27	48	2	1	1	4	—	8	—
303	768	*1-*8	*9-*12	*17-*24	*25-*28	48	2	1	1	4	—	8	—
304	768	*1-*8	*9-*13	*17-*24	*25-*27	48	2	1	1	4	—	8	—
305	768	*1-*8	*9-*14	*17-*24	*25,*26	48	2	1	1	4	—	8	—
306	768	*1-*8	*9-*15	*17-*24	*25	48	2	1	1	4	—	8	—
307	768	*1-*8	*9-*16	*17-*23	*25	48	2	1	1	4	—	8	—
308	800	*1-*7	*9-*14	*17-*22	*25-*30	50	2	1	1	4	—	8	—
309	800	*1-*7	*9-*14	*17-*23	*25-*29	50	2	1	1	4	—	8	—
310	800	*1-*7	*9-*15	*17-*22	*25-*29	50	2	1	1	4	—	8	—
311	800	*1-*7	*9-*15	*17-*23	*25-*28	50	2	1	1	4	—	8	—
312	800	*1-*8	*9-*13	*17-*24	*25-*28	50	2	1	1	4	—	8	—
313	800	*1-*8	*9-*14	*17-*24	*25-*27	50	2	1	1	4	—	8	—
314	800	*1-*8	*9-*15	*17-*24	*25,*26	50	2	1	1	4	—	8	—
315	800	*1-*8	*9-*16	*17-*24	*25	50	2	1	1	4	—	8	—

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 16G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
316	832	*1-*7	*9-*14	*17-*23	*25-*30	52	2	1	1	4	—	8	—
317	832	*1-*7	*9-*15	*17-*22	*25-*30	52	2	1	1	4	—	8	—
318	832	*1-*7	*9-*15	*17-*23	*25-*29	52	2	1	1	4	—	8	—
319	832	*1-*8	*9-*13	*17-*24	*25-*29	52	2	1	1	4	—	8	—
320	832	*1-*8	*9-*14	*17-*24	*25-*28	52	2	1	1	4	—	8	—
321	832	*1-*8	*9-*15	*17-*24	*25-*27	52	2	1	1	4	—	8	—
322	832	*1-*8	*9-*16	*17-*24	*25,*26	52	2	1	1	4	—	8	—
323	864	*1-*7	*9-*15	*17-*23	*25-*30	54	2	1	1	4	—	8	—
324	864	*1-*8	*9-*14	*17-*24	*25-*29	54	2	1	1	4	—	8	—
325	864	*1-*8	*9-*15	*17-*24	*25-*28	54	2	1	1	4	—	8	—
326	864	*1-*8	*9-*16	*17-*24	*25-*27	54	2	1	1	4	—	8	—
327	896	*1-*7	*9-*15	*17-*23	*25-*31	56	2	1	1	4	—	8	—
328	896	*1-*8	*9-*14	*17-*24	*25-*30	56	2	1	1	4	—	8	—
329	896	*1-*8	*9-*15	*17-*24	*25-*29	56	2	1	1	4	—	8	—
330	896	*1-*8	*9-*16	*17-*24	*25-*28	56	2	1	1	4	—	8	—
331	928	*1-*8	*9-*15	*17-*24	*25-*30	58	2	1	1	4	—	8	—
332	928	*1-*8	*9-*16	*17-*24	*25-*29	58	2	1	1	4	—	8	—
333	960	*1-*8	*9-*15	*17-*24	*25-*31	60	2	1	1	4	—	8	—
334	960	*1-*8	*9-*16	*17-*24	*25-*30	60	2	1	1	4	—	8	—
335	992	*1-*8	*9-*16	*17-*24	*25-*31	62	2	1	1	4	—	8	—
336	1024	*1-*8	*9-*16	*17-*24	*25-*32	64	2	1	1	4	—	8	—

NOTE 1: The above numbers (*1 through *32) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

Table 3.10-9 Cache memory capacity and number of necessary options ⑥

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
1	128	*1	—	*17	—	4	0	1	0	2	0	4	0
2	192	*1,*2	—	*17	—	6	0	1	0	2	0	4	0
3	256	*1	*9	*17	*25	8	2	1	1	4	0	8	0
4	256	*1,*2	—	*17,*18	—	8	0	1	0	2	0	4	0
5	256	*1-*3	—	*17	—	8	0	1	0	2	0	4	0
6	320	*1,*2	*9	*17	*25	10	2	1	1	4	0	8	0
7	320	*1-*3	—	*17,*18	—	10	0	1	0	2	0	4	0
8	320	*1-*4	—	*17	—	10	0	1	0	2	0	4	0
9	384	*1,*2	*9	*17,*18	*25	12	2	1	1	4	0	8	0
10	384	*1,*2	*9,*10	*17	*25	12	2	1	1	4	0	8	0
11	384	*1-*3	—	*17-*19	—	12	0	1	0	2	0	4	0
12	384	*1-*3	*9	*17	*25	12	2	1	1	4	0	8	0
13	384	*1-*4	—	*17,*18	—	12	0	1	0	2	0	4	0
14	384	*1-*5	—	*17	—	12	0	1	0	1	1	2	2
15	448	*1,*2	*9,*10	*17,*18	*25	14	2	1	1	4	0	8	0
16	448	*1-*3	*9,*10	*17	*25	14	2	1	1	4	0	8	0
17	448	*1-*4	*9	*17	*25	14	2	1	1	4	0	8	0
18	448	*1-*5	—	*17,*18	—	14	0	1	0	1	1	2	2
19	448	*1-*6	—	*17	—	14	0	1	0	1	1	2	2
20	512	*1,*2	*9,*10	*17,*18	*25,*26	16	2	1	1	4	0	8	0
21	512	*1-*3	*9	*17-*19	*25	16	2	1	1	4	0	8	0
22	512	*1-*3	*9,*10	*17,*18	*25	16	2	1	1	4	0	8	0
23	512	*1-*3	*9-*11	*17	*25	16	2	1	1	4	0	8	0
24	512	*1-*4	—	*17-*20	—	16	0	1	0	2	0	4	0
25	512	*1-*4	*9,*10	*17	*25	16	2	1	1	4	0	8	0
26	512	*1-*5	—	*17-*19	—	16	0	1	0	1	1	2	2
27	512	*1-*5	*9	*17	*25	16	2	1	1	3	1	6	2
28	512	*1-*6	—	*17,*18	—	16	0	1	0	1	1	2	2
29	512	*1-*7	—	*17	—	16	0	1	0	1	1	2	2
30	576	*1-*3	*9,*10	*17,*18	*25,*26	18	2	1	1	4	0	8	0
31	576	*1-*3	*9,*10	*17-*19	*25	18	2	1	1	4	0	8	0
32	576	*1-*3	*9-*11	*17,*18	*25	18	2	1	1	4	0	8	0
33	576	*1-*4	*9,*10	*17,*18	*25	18	2	1	1	4	0	8	0
34	576	*1-*4	*9-*11	*17	*25	18	2	1	1	4	0	8	0
35	576	*1-*5	—	*17-*20	—	18	0	1	0	1	1	2	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
36	576	*1-*5	*9,*10	*17	*25	18	2	1	1	3	1	6	2
37	576	*1-*6	—	*17-*19	—	18	0	1	0	1	1	2	2
38	576	*1-*6	*9	*17	*25	18	2	1	1	3	1	6	2
39	576	*1-*7	—	*17,*18	—	18	0	1	0	1	1	2	2
40	576	*1-*8	—	*17	—	18	0	1	0	1	1	2	2
41	640	*1-*3	*9,*10	*17-*19	*25,*26	20	2	1	1	4	0	8	0
42	640	*1-*3	*9-*11	*17,*18	*25,*26	20	2	1	1	4	0	8	0
43	640	*1-*3	*9-*11	*17-*19	*25	20	2	1	1	4	0	8	0
44	640	*1-*4	*9	*17-*20	*25	20	2	1	1	4	0	8	0
45	640	*1-*4	*9,*10	*17,*18	*25,*26	20	2	1	1	4	0	8	0
46	640	*1-*4	*9-*11	*17,*18	*25	20	2	1	1	4	0	8	0
47	640	*1-*4	*9-*12	*17	*25	20	2	1	1	4	0	8	0
48	640	*1-*5	—	*17-*21	—	20	0	1	0	0	2	0	4
49	640	*1-*5	*9,*10	*17,*18	*25	20	2	1	1	3	1	6	2
50	640	*1-*5	*9-*11	*17	*25	20	2	1	1	3	1	6	2
51	640	*1-*6	—	*17-*20	—	20	0	1	0	1	1	2	2
52	640	*1-*6	*9,*10	*17	*25	20	2	1	1	3	1	6	2
53	640	*1-*7	—	*17-*19	—	20	0	1	0	1	1	2	2
54	640	*1-*7	*9	*17	*25	20	2	1	1	3	1	6	2
55	640	*1-*8	—	*17,*18	—	20	0	1	0	1	1	2	2
56	704	*1-*3	*9-*11	*17-*19	*25,*26	22	2	1	1	4	0	8	0
57	704	*1-*4	*9,*10	*17-*20	*25	22	2	1	1	4	0	8	0
58	704	*1-*4	*9-*11	*17,*18	*25,*26	22	2	1	1	4	0	8	0
59	704	*1-*4	*9-*11	*17-*19	*25	22	2	1	1	4	0	8	0
60	704	*1-*4	*9-*12	*17,*18	*25	22	2	1	1	4	0	8	0
61	704	*1-*5	*9,*10	*17,*18	*25,*26	22	2	1	1	3	1	6	2
62	704	*1-*5	*9-*11	*17,*18	*25	22	2	1	1	3	1	6	2
63	704	*1-*5	*9-*12	*17	*25	22	2	1	1	3	1	6	2
64	704	*1-*6	—	*17-*21	—	22	0	1	0	0	2	0	4
65	704	*1-*6	*9,*10	*17,*18	*25	22	2	1	1	3	1	6	2
66	704	*1-*6	*9-*11	*17	*25	22	2	1	1	3	1	6	2
67	704	*1-*7	—	*17-*20	—	22	0	1	0	1	1	2	2
68	704	*1-*7	*9,*10	*17	*25	22	2	1	1	3	1	6	2
69	704	*1-*8	—	*17-*19	—	22	0	1	0	1	1	2	2
70	704	*1-*8	*9	*17	*25	22	2	1	1	3	1	6	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
71	768	*1-*3	*9-*11	*17-*19	*25-*27	24	2	1	1	4	0	8	0
72	768	*1-*4	*9,*10	*17-*20	*25,*26	24	2	1	1	4	0	8	0
73	768	*1-*4	*9-*11	*17-*19	*25,*26	24	2	1	1	4	0	8	0
74	768	*1-*4	*9-*11	*17-*20	*25	24	2	1	1	4	0	8	0
75	768	*1-*4	*9-*12	*17,*18	*25,*26	24	2	1	1	4	0	8	0
76	768	*1-*4	*9-*12	*17-*19	*25	24	2	1	1	4	0	8	0
77	768	*1-*5	*9	*17-*21	*25	24	2	1	1	2	2	4	4
78	768	*1-*5	*9-*11	*17,*18	*25,*26	24	2	1	1	3	1	6	2
79	768	*1-*5	*9-*11	*17-*19	*25	24	2	1	1	3	1	6	2
80	768	*1-*5	*9-*12	*17,*18	*25	24	2	1	1	3	1	6	2
81	768	*1-*5	*9-*13	*17	*25	24	2	1	1	2	2	4	4
82	768	*1-*6	—	*17-*22	—	24	0	1	0	0	2	0	4
83	768	*1-*6	*9,*10	*17,*18	*25,*26	24	2	1	1	3	1	6	2
84	768	*1-*6	*9-*11	*17,*18	*25	24	2	1	1	3	1	6	2
85	768	*1-*6	*9-*12	*17	*25	24	2	1	1	3	1	6	2
86	768	*1-*7	—	*17-*21	—	24	0	1	0	0	2	0	4
87	768	*1-*7	*9,*10	*17,*18	*25	24	2	1	1	3	1	6	2
88	768	*1-*7	*9-*11	*17	*25	24	2	1	1	3	1	6	2
89	768	*1-*8	—	*17-*20	—	24	0	1	0	1	1	2	2
90	768	*1-*8	*9,*10	*17	*25	24	2	1	1	3	1	6	2
91	832	*1-*4	*9-*11	*17-*19	*25-*27	26	2	1	1	4	0	8	0
92	832	*1-*4	*9-*11	*17-*20	*25,*26	26	2	1	1	4	0	8	0
93	832	*1-*4	*9-*12	*17-*19	*25,*26	26	2	1	1	4	0	8	0
94	832	*1-*4	*9-*12	*17-*20	*25	26	2	1	1	4	0	8	0
95	832	*1-*5	*9,*10	*17-*21	*25	26	2	1	1	2	2	4	4
96	832	*1-*5	*9-*11	*17-*19	*25,*26	26	2	1	1	3	1	6	2
97	832	*1-*5	*9-*12	*17,*18	*25,*26	26	2	1	1	3	1	6	2
98	832	*1-*5	*9-*12	*17-*19	*25	26	2	1	1	3	1	6	2
99	832	*1-*5	*9-*13	*17,*18	*25	26	2	1	1	2	2	4	4
100	832	*1-*6	*9-*11	*17,*18	*25,*26	26	2	1	1	3	1	6	2
101	832	*1-*6	*9-*11	*17-*19	*25	26	2	1	1	3	1	6	2
102	832	*1-*6	*9-*12	*17,*18	*25	26	2	1	1	3	1	6	2
103	832	*1-*6	*9-*13	*17	*25	26	2	1	1	2	2	4	4
104	832	*1-*7	—	*17-*22	—	26	0	1	0	0	2	0	4
105	832	*1-*7	*9,*10	*17,*18	*25,*26	26	2	1	1	3	1	6	2

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
106	832	*1-*7	*9-*11	*17,*18	*25	26	2	1	1	3	1	6	2
107	832	*1-*7	*9-*12	*17	*25	26	2	1	1	3	1	6	2
108	832	*1-*8	—	*17-*21	—	26	0	1	0	0	2	0	4
109	832	*1-*8	*9-*11	*17	*25	26	2	1	1	3	1	6	2
110	896	*1-*4	*9-*11	*17-*20	*25-*27	28	2	1	1	4	0	8	0
111	896	*1-*4	*9-*12	*17-*19	*25-*27	28	2	1	1	4	0	8	0
112	896	*1-*4	*9-*12	*17-*20	*25,*26	28	2	1	1	4	0	8	0
113	896	*1-*5	*9,*10	*17-*21	*25,*26	28	2	1	1	2	2	4	4
114	896	*1-*5	*9-*11	*17-*19	*25-*27	28	2	1	1	3	1	6	2
115	896	*1-*5	*9-*11	*17-*21	*25	28	2	1	1	2	2	4	4
116	896	*1-*5	*9-*12	*17-*19	*25,*26	28	2	1	1	3	1	6	2
117	896	*1-*5	*9-*12	*17-*20	*25	28	2	1	1	3	1	6	2
118	896	*1-*5	*9-*13	*17,*18	*25,*26	28	2	1	1	2	2	4	4
119	896	*1-*5	*9-*13	*17-*19	*25	28	2	1	1	2	2	4	4
120	896	*1-*6	*9	*17-*22	*25	28	2	1	1	2	2	4	4
121	896	*1-*6	*9-*11	*17-*19	*25,*26	28	2	1	1	3	1	6	2
122	896	*1-*6	*9-*12	*17,*18	*25,*26	28	2	1	1	3	1	6	2
123	896	*1-*6	*9-*12	*17-*19	*25	28	2	1	1	3	1	6	2
124	896	*1-*6	*9-*13	*17,*18	*25	28	2	1	1	2	2	4	4
125	896	*1-*6	*9-*14	*17	*25	28	2	1	1	2	2	4	4
126	896	*1-*7	—	*17-*23	—	28	0	1	0	0	2	0	4
127	896	*1-*7	*9-*11	*17,*18	*25,*26	28	2	1	1	3	1	6	2
128	896	*1-*7	*9-*11	*17-*19	*25	28	2	1	1	3	1	6	2
129	896	*1-*7	*9-*12	*17,*18	*25	28	2	1	1	3	1	6	2
130	896	*1-*7	*9-*13	*17	*25	28	2	1	1	2	2	4	4
131	896	*1-*8	—	*17-*22	—	28	0	1	0	0	2	0	4
132	896	*1-*8	*9-*12	*17	*25	28	2	1	1	3	1	6	2
133	960	*1-*4	*9-*12	*17-*20	*25-*27	30	2	1	1	4	0	8	0
134	960	*1-*5	*9-*11	*17-*21	*25,*26	30	2	1	1	2	2	4	4
135	960	*1-*5	*9-*12	*17-*19	*25-*27	30	2	1	1	3	1	6	2
136	960	*1-*5	*9-*12	*17-*20	*25,*26	30	2	1	1	3	1	6	2
137	960	*1-*5	*9-*12	*17-*21	*25	30	2	1	1	2	2	4	4
138	960	*1-*5	*9-*13	*17-*19	*25,*26	30	2	1	1	2	2	4	4
139	960	*1-*5	*9-*13	*17-*20	*25	30	2	1	1	2	2	4	4
140	960	*1-*6	*9,*10	*17-*22	*25	30	2	1	1	2	2	4	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
141	960	*1-*6	*9-*11	*17-*19	*25-*27	30	2	1	1	3	1	6	2
142	960	*1-*6	*9-*12	*17-*19	*25,*26	30	2	1	1	3	1	6	2
143	960	*1-*6	*9-*12	*17-*20	*25	30	2	1	1	3	1	6	2
144	960	*1-*6	*9-*13	*17,*18	*25,*26	30	2	1	1	2	2	4	4
145	960	*1-*6	*9-*13	*17-*19	*25	30	2	1	1	2	2	4	4
146	960	*1-*6	*9-*14	*17,*18	*25	30	2	1	1	2	2	4	4
147	960	*1-*7	*9-*11	*17-*19	*25,*26	30	2	1	1	3	1	6	2
148	960	*1-*7	*9-*12	*17,*18	*25,*26	30	2	1	1	3	1	6	2
149	960	*1-*7	*9-*12	*17-*19	*25	30	2	1	1	3	1	6	2
150	960	*1-*7	*9-*13	*17,*18	*25	30	2	1	1	2	2	4	4
151	960	*1-*8	—	*17-*23	—	30	0	1	0	0	2	0	4
152	960	*1-*8	*9-*13	*17	*25	30	2	1	1	2	2	4	4
153	1024	*1-*4	*9-*12	*17-*20	*25-*28	32	2	1	1	4	0	8	0
154	1024	*1-*5	*9-*11	*17-*21	*25-*27	32	2	1	1	2	2	4	4
155	1024	*1-*5	*9-*12	*17-*20	*25-*27	32	2	1	1	3	1	6	2
156	1024	*1-*5	*9-*12	*17-*21	*25,*26	32	2	1	1	2	2	4	4
157	1024	*1-*5	*9-*13	*17-*19	*25-*27	32	2	1	1	2	2	4	4
158	1024	*1-*5	*9-*13	*17-*20	*25,*26	32	2	1	1	2	2	4	4
159	1024	*1-*5	*9-*13	*17-*21	*25	32	2	1	1	1	3	2	6
160	1024	*1-*6	*9,*10	*17-*22	*25,*26	32	2	1	1	2	2	4	4
161	1024	*1-*6	*9-*11	*17-*22	*25	32	2	1	1	2	2	4	4
162	1024	*1-*6	*9-*12	*17-*19	*25-*27	32	2	1	1	3	1	6	2
163	1024	*1-*6	*9-*12	*17-*20	*25,*26	32	2	1	1	3	1	6	2
164	1024	*1-*6	*9-*13	*17-*19	*25,*26	32	2	1	1	2	2	4	4
165	1024	*1-*6	*9-*13	*17-*20	*25	32	2	1	1	2	2	4	4
166	1024	*1-*6	*9-*14	*17,*18	*25,*26	32	2	1	1	2	2	4	4
167	1024	*1-*6	*9-*14	*17-*19	*25	32	2	1	1	2	2	4	4
168	1024	*1-*7	*9	*17-*23	*25	32	2	1	1	2	2	4	4
169	1024	*1-*7	*9-*11	*17-*19	*25-*27	32	2	1	1	3	1	6	2
170	1024	*1-*7	*9-*12	*17-*19	*25,*26	32	2	1	1	3	1	6	2
171	1024	*1-*7	*9-*12	*17-*20	*25	32	2	1	1	3	1	6	2
172	1024	*1-*7	*9-*13	*17,*18	*25,*26	32	2	1	1	2	2	4	4
173	1024	*1-*7	*9-*13	*17-*19	*25	32	2	1	1	2	2	4	4
174	1024	*1-*7	*9-*15	*17	*25	32	2	1	1	2	2	4	4
175	1024	*1-*8	—	*17-*24	—	32	0	1	0	0	2	0	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
176	1024	*1-*8	*9-*14	*17	*25	32	2	1	1	2	2	4	4
177	1088	*1-*5	*9-*12	*17-*20	*25-*28	34	2	1	1	3	1	6	2
178	1088	*1-*5	*9-*12	*17-*21	*25-*27	34	2	1	1	2	2	4	4
179	1088	*1-*5	*9-*13	*17-*20	*25-*27	34	2	1	1	2	2	4	4
180	1088	*1-*5	*9-*13	*17-*21	*25,*26	34	2	1	1	1	3	2	6
181	1088	*1-*6	*9-*11	*17-*22	*25,*26	34	2	1	1	2	2	4	4
182	1088	*1-*6	*9-*12	*17-*20	*25-*27	34	2	1	1	3	1	6	2
183	1088	*1-*6	*9-*12	*17-*22	*25	34	2	1	1	2	2	4	4
184	1088	*1-*6	*9-*13	*17-*19	*25-*27	34	2	1	1	2	2	4	4
185	1088	*1-*6	*9-*13	*17-*20	*25,*26	34	2	1	1	2	2	4	4
186	1088	*1-*6	*9-*13	*17-*21	*25	34	2	1	1	1	3	2	6
187	1088	*1-*6	*9-*14	*17-*19	*25,*26	34	2	1	1	2	2	4	4
188	1088	*1-*6	*9-*14	*17-*20	*25	34	2	1	1	2	2	4	4
189	1088	*1-*7	*9,*10	*17-*23	*25	34	2	1	1	2	2	4	4
190	1088	*1-*7	*9-*12	*17-*19	*25-*27	34	2	1	1	3	1	6	2
191	1088	*1-*7	*9-*12	*17-*20	*25,*26	34	2	1	1	3	1	6	2
192	1088	*1-*7	*9-*13	*17-*19	*25,*26	34	2	1	1	2	2	4	4
193	1088	*1-*7	*9-*13	*17-*20	*25	34	2	1	1	2	2	4	4
194	1088	*1-*7	*9-*15	*17,*18	*25	34	2	1	1	2	2	4	4
195	1088	*1-*8	*9-*15	*17	*25	34	2	1	1	2	2	4	4
196	1152	*1-*5	*9-*12	*17-*21	*25-*28	36	2	1	1	2	2	4	4
197	1152	*1-*5	*9-*13	*17-*20	*25-*28	36	2	1	1	2	2	4	4
198	1152	*1-*5	*9-*13	*17-*21	*25-*27	36	2	1	1	1	3	2	6
199	1152	*1-*6	*9-*11	*17-*22	*25-*27	36	2	1	1	2	2	4	4
200	1152	*1-*6	*9-*12	*17-*20	*25-*28	36	2	1	1	3	1	6	2
201	1152	*1-*6	*9-*12	*17-*22	*25,*26	36	2	1	1	2	2	4	4
202	1152	*1-*6	*9-*13	*17-*20	*25-*27	36	2	1	1	2	2	4	4
203	1152	*1-*6	*9-*13	*17-*21	*25,*26	36	2	1	1	1	3	2	6
204	1152	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	1	3	2	6
205	1152	*1-*6	*9-*13	*17-*22	*25	36	2	1	1	1	3	2	6
206	1152	*1-*6	*9-*14	*17-*19	*25-*27	36	2	1	1	2	2	4	4
207	1152	*1-*6	*9-*14	*17-*20	*25,*26	36	2	1	1	2	2	4	4
208	1152	*1-*6	*9-*14	*17-*21	*25	36	2	1	1	1	3	2	6
209	1152	*1-*7	*9,*10	*17-*23	*25,*26	36	2	1	1	2	2	4	4
210	1152	*1-*7	*9-*11	*17-*23	*25	36	2	1	1	2	2	4	4

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
211	1152	*1-*7	*9-*12	*17-*20	*25-*27	36	2	1	1	3	1	6	2
212	1152	*1-*7	*9-*13	*17-*19	*25-*27	36	2	1	1	2	2	4	4
213	1152	*1-*7	*9-*13	*17-*20	*25,*26	36	2	1	1	2	2	4	4
214	1152	*1-*7	*9-*13	*17-*21	*25	36	2	1	1	1	3	2	6
215	1152	*1-*7	*9-*15	*17-*19	*25	36	2	1	1	2	2	4	4
216	1152	*1-*8	*9	*17-*24	*25	36	2	1	1	2	2	4	4
217	1152	*1-*8	*9-*16	*17	*25	36	2	1	1	2	2	4	4
218	1216	*1-*5	*9-*13	*17-*21	*25-*28	38	2	1	1	1	3	2	6
219	1216	*1-*6	*9-*12	*17-*22	*25-*27	38	2	1	1	2	2	4	4
220	1216	*1-*6	*9-*13	*17-*20	*25-*28	38	2	1	1	2	2	4	4
221	1216	*1-*6	*9-*13	*17-*21	*25-*27	38	2	1	1	1	3	2	6
222	1216	*1-*6	*9-*13	*17-*22	*25,*26	38	2	1	1	1	3	2	6
223	1216	*1-*6	*9-*14	*17-*20	*25-*27	38	2	1	1	2	2	4	4
224	1216	*1-*6	*9-*14	*17-*21	*25,*26	38	2	1	1	1	3	2	6
225	1216	*1-*6	*9-*14	*17-*22	*25	38	2	1	1	1	3	2	6
226	1216	*1-*7	*9-*11	*17-*23	*25,*26	38	2	1	1	2	2	4	4
227	1216	*1-*7	*9-*12	*17-*20	*25-*28	38	2	1	1	3	1	6	2
228	1216	*1-*7	*9-*12	*17-*23	*25	38	2	1	1	2	2	4	4
229	1216	*1-*7	*9-*13	*17-*20	*25-*27	38	2	1	1	2	2	4	4
230	1216	*1-*7	*9-*13	*17-*21	*25,*26	38	2	1	1	1	3	2	6
231	1216	*1-*7	*9-*15	*17-*19	*25,*26	38	2	1	1	2	2	4	4
232	1216	*1-*7	*9-*15	*17-*20	*25	38	2	1	1	2	2	4	4
233	1216	*1-*8	*9,*10	*17-*24	*25	38	2	1	1	2	2	4	4
234	1216	*1-*8	*9-*16	*17,*18	*25	38	2	1	1	2	2	4	4
235	1280	*1-*5	*9-*13	*17-*21	*25-*29	40	2	1	1	0	4	0	8
236	1280	*1-*6	*9-*12	*17-*22	*25-*28	40	2	1	1	2	2	4	4
237	1280	*1-*6	*9-*13	*17-*21	*25-*28	40	2	1	1	1	3	2	6
238	1280	*1-*6	*9-*13	*17-*22	*25-*27	40	2	1	1	1	3	2	6
239	1280	*1-*6	*9-*14	*17-*20	*25-*28	40	2	1	1	2	2	4	4
240	1280	*1-*6	*9-*14	*17-*21	*25-*27	40	2	1	1	1	3	2	6
241	1280	*1-*6	*9-*14	*17-*22	*25,*26	40	2	1	1	1	3	2	6
242	1280	*1-*7	*9-*11	*17-*23	*25-*27	40	2	1	1	2	2	4	4
243	1280	*1-*7	*9-*12	*17-*23	*25,*26	40	2	1	1	2	2	4	4
244	1280	*1-*7	*9-*13	*17-*20	*25-*28	40	2	1	1	2	2	4	4
245	1280	*1-*7	*9-*13	*17-*21	*25-*27	40	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
246	1280	*1-*7	*9-*13	*17-*23	*25	40	2	1	1	1	3	2	6
247	1280	*1-*7	*9-*14	*17-*22	*25	40	2	1	1	1	3	2	6
248	1280	*1-*7	*9-*15	*17-*19	*25-*27	40	2	1	1	2	2	4	4
249	1280	*1-*7	*9-*15	*17-*20	*25,*26	40	2	1	1	2	2	4	4
250	1280	*1-*7	*9-*15	*17-*21	*25	40	2	1	1	1	3	2	6
251	1280	*1-*8	*9,*10	*17-*24	*25,*26	40	2	1	1	2	2	4	4
252	1280	*1-*8	*9-*11	*17-*24	*25	40	2	1	1	2	2	4	4
253	1280	*1-*8	*9-*16	*17-*19	*25	40	2	1	1	2	2	4	4
254	1344	*1-*6	*9-*13	*17-*21	*25-*29	42	2	1	1	0	4	0	8
255	1344	*1-*6	*9-*13	*17-*22	*25-*28	42	2	1	1	1	3	2	6
256	1344	*1-*6	*9-*14	*17-*21	*25-*28	42	2	1	1	1	3	2	6
257	1344	*1-*6	*9-*14	*17-*22	*25-*27	42	2	1	1	1	3	2	6
258	1344	*1-*7	*9-*12	*17-*23	*25-*27	42	2	1	1	2	2	4	4
259	1344	*1-*7	*9-*13	*17-*21	*25-*28	42	2	1	1	1	3	2	6
260	1344	*1-*7	*9-*13	*17-*23	*25,*26	42	2	1	1	1	3	2	6
261	1344	*1-*7	*9-*14	*17-*22	*25,*26	42	2	1	1	1	3	2	6
262	1344	*1-*7	*9-*14	*17-*23	*25	42	2	1	1	1	3	2	6
263	1344	*1-*7	*9-*15	*17-*20	*25-*27	42	2	1	1	2	2	4	4
264	1344	*1-*7	*9-*15	*17-*21	*25,*26	42	2	1	1	1	3	2	6
265	1344	*1-*7	*9-*15	*17-*22	*25	42	2	1	1	1	3	2	6
266	1344	*1-*8	*9-*11	*17-*24	*25,*26	42	2	1	1	2	2	4	4
267	1344	*1-*8	*9-*12	*17-*24	*25	42	2	1	1	2	2	4	4
268	1344	*1-*8	*9-*16	*17-*20	*25	42	2	1	1	2	2	4	4
269	1408	*1-*6	*9-*13	*17-*22	*25-*29	44	2	1	1	0	4	0	8
270	1408	*1-*6	*9-*14	*17-*21	*25-*29	44	2	1	1	0	4	0	8
271	1408	*1-*6	*9-*14	*17-*22	*25-*28	44	2	1	1	1	3	2	6
272	1408	*1-*7	*9-*12	*17-*23	*25-*28	44	2	1	1	2	2	4	4
273	1408	*1-*7	*9-*13	*17-*21	*25-*29	44	2	1	1	0	4	0	8
274	1408	*1-*7	*9-*13	*17-*23	*25-*27	44	2	1	1	1	3	2	6
275	1408	*1-*7	*9-*14	*17-*22	*25-*27	44	2	1	1	1	3	2	6
276	1408	*1-*7	*9-*14	*17-*23	*25,*26	44	2	1	1	1	3	2	6
277	1408	*1-*7	*9-*15	*17-*20	*25-*28	44	2	1	1	2	2	4	4
278	1408	*1-*7	*9-*15	*17-*21	*25-*27	44	2	1	1	1	3	2	6
279	1408	*1-*7	*9-*15	*17-*22	*25,*26	44	2	1	1	1	3	2	6
280	1408	*1-*7	*9-*15	*17-*23	*25	44	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
281	1408	*1-*8	*9-*11	*17-*24	*25-*27	44	2	1	1	2	2	4	4
282	1408	*1-*8	*9-*12	*17-*24	*25,*26	44	2	1	1	2	2	4	4
283	1408	*1-*8	*9-*13	*17-*24	*25	44	2	1	1	1	3	2	6
284	1408	*1-*8	*9-*16	*17-*21	*25	44	2	1	1	1	3	2	6
285	1472	*1-*6	*9-*14	*17-*22	*25-*29	46	2	1	1	0	4	0	8
286	1472	*1-*7	*9-*13	*17-*23	*25-*28	46	2	1	1	1	3	2	6
287	1472	*1-*7	*9-*14	*17-*22	*25-*28	46	2	1	1	1	3	2	6
288	1472	*1-*7	*9-*14	*17-*23	*25-*27	46	2	1	1	1	3	2	6
289	1472	*1-*7	*9-*15	*17-*21	*25-*28	46	2	1	1	1	3	2	6
290	1472	*1-*7	*9-*15	*17-*22	*25-*27	46	2	1	1	1	3	2	6
291	1472	*1-*7	*9-*15	*17-*23	*25,*26	46	2	1	1	1	3	2	6
292	1472	*1-*8	*9-*12	*17-*24	*25-*27	46	2	1	1	2	2	4	4
293	1472	*1-*8	*9-*13	*17-*24	*25,*26	46	2	1	1	1	3	2	6
294	1472	*1-*8	*9-*14	*17-*24	*25	46	2	1	1	1	3	2	6
295	1472	*1-*8	*9-*16	*17-*22	*25	46	2	1	1	1	3	2	6
296	1536	*1-*6	*9-*14	*17-*22	*25-*30	48	2	1	1	0	4	0	8
297	1536	*1-*7	*9-*13	*17-*23	*25-*29	48	2	1	1	0	4	0	8
298	1536	*1-*7	*9-*14	*17-*22	*25-*29	48	2	1	1	0	4	0	8
299	1536	*1-*7	*9-*14	*17-*23	*25-*28	48	2	1	1	1	3	2	6
300	1536	*1-*7	*9-*15	*17-*21	*25-*29	48	2	1	1	0	4	0	8
301	1536	*1-*7	*9-*15	*17-*22	*25-*28	48	2	1	1	1	3	2	6
302	1536	*1-*7	*9-*15	*17-*23	*25-*27	48	2	1	1	1	3	2	6
303	1536	*1-*8	*9-*12	*17-*24	*25-*28	48	2	1	1	2	2	4	4
304	1536	*1-*8	*9-*13	*17-*24	*25-*27	48	2	1	1	1	3	2	6
305	1536	*1-*8	*9-*14	*17-*24	*25,*26	48	2	1	1	1	3	2	6
306	1536	*1-*8	*9-*15	*17-*24	*25	48	2	1	1	1	3	2	6
307	1536	*1-*8	*9-*16	*17-*23	*25	48	2	1	1	1	3	2	6
308	1600	*1-*7	*9-*14	*17-*22	*25-*30	50	2	1	1	0	4	0	8
309	1600	*1-*7	*9-*14	*17-*23	*25-*29	50	2	1	1	0	4	0	8
310	1600	*1-*7	*9-*15	*17-*22	*25-*29	50	2	1	1	0	4	0	8
311	1600	*1-*7	*9-*15	*17-*23	*25-*28	50	2	1	1	1	3	2	6
312	1600	*1-*8	*9-*13	*17-*24	*25-*28	50	2	1	1	1	3	2	6
313	1600	*1-*8	*9-*14	*17-*24	*25-*27	50	2	1	1	1	3	2	6
314	1600	*1-*8	*9-*15	*17-*24	*25,*26	50	2	1	1	1	3	2	6
315	1600	*1-*8	*9-*16	*17-*24	*25	50	2	1	1	1	3	2	6

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Cache Memory Capacity	CM Location (NOTE 1)				Number of options							
		DKC810I-CBXA		DKC-F810I-CBXB		DKC-F810I-							
		CPEX-0 1CA/2CA	CPEX-1 1CB/2CB	CPEX-2 1CC/2CC	CPEX-3 1CD/2CD	CM 32G	CPEX	MOD5	MFC5	BKMS	BKML	BMM 128	BMM 256
316	1664	*1-*7	*9-*14	*17-*23	*25-*30	52	2	1	1	0	4	0	8
317	1664	*1-*7	*9-*15	*17-*22	*25-*30	52	2	1	1	0	4	0	8
318	1664	*1-*7	*9-*15	*17-*23	*25-*29	52	2	1	1	0	4	0	8
319	1664	*1-*8	*9-*13	*17-*24	*25-*29	52	2	1	1	0	4	0	8
320	1664	*1-*8	*9-*14	*17-*24	*25-*28	52	2	1	1	1	3	2	6
321	1664	*1-*8	*9-*15	*17-*24	*25-*27	52	2	1	1	1	3	2	6
322	1664	*1-*8	*9-*16	*17-*24	*25,*26	52	2	1	1	1	3	2	6
323	1728	*1-*7	*9-*15	*17-*23	*25-*30	54	2	1	1	0	4	0	8
324	1728	*1-*8	*9-*14	*17-*24	*25-*29	54	2	1	1	0	4	0	8
325	1728	*1-*8	*9-*15	*17-*24	*25-*28	54	2	1	1	1	3	2	6
326	1728	*1-*8	*9-*16	*17-*24	*25-*27	54	2	1	1	1	3	2	6
327	1792	*1-*7	*9-*15	*17-*23	*25-*31	56	2	1	1	0	4	0	8
328	1792	*1-*8	*9-*14	*17-*24	*25-*30	56	2	1	1	0	4	0	8
329	1792	*1-*8	*9-*15	*17-*24	*25-*29	56	2	1	1	0	4	0	8
330	1792	*1-*8	*9-*16	*17-*24	*25-*28	56	2	1	1	1	3	2	6
331	1856	*1-*8	*9-*15	*17-*24	*25-*30	58	2	1	1	0	4	0	8
332	1856	*1-*8	*9-*16	*17-*24	*25-*29	58	2	1	1	0	4	0	8
333	1920	*1-*8	*9-*15	*17-*24	*25-*31	60	2	1	1	0	4	0	8
334	1920	*1-*8	*9-*16	*17-*24	*25-*30	60	2	1	1	0	4	0	8
335	1984	*1-*8	*9-*16	*17-*24	*25-*31	62	2	1	1	0	4	0	8
336	2048	*1-*8	*9-*16	*17-*24	*25-*32	64	2	1	1	0	4	0	8

NOTE 1: The above numbers (*1 through *32) represent the CM Module locations shown in Fig. 3.10-25, Fig. 3.10-26, Fig. 3.10-47 or Fig. 3.10-48.

NOTE 2: The required SM capacity shown in Table 6.1-1 (INST06-10) must be installed in CPEX-0.

Copyright © 2014, Hitachi, Ltd.

6-3 Insert the PCB.

a. When you need to install Additional Cache Path Control Adapter (DKC-F810I-CPEX), remove the two screws and remove the dummy plate.
When you do not need to install Additional Cache Path Control Adapter (DKC-F810I-CPEX), go to Step b.

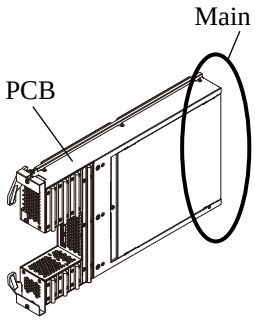
NOTE: Store the removed dummy plate as it is required when the Additional Cache Path Control Adapter is removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Install the CM PCB and tighten the two screws.

NOTE: When inserting the CM PCB, be careful not to get cables caught on anything.

c. If the cables were disconnected in Step 6-1 b, connect the cables to the CM PCB after checking "3.1.7 Notes when connecting and disconnecting MFC cable" (INST03-01-190).



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.10-10 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
1	DKC-0	1CA	CACHE-1CA	
		1CB	CACHE-1CB	
	DKC-1	1CC	CACHE-1CC	
		1CD	CACHE-1CD	

Copyright © 2014, Hitachi, Ltd.

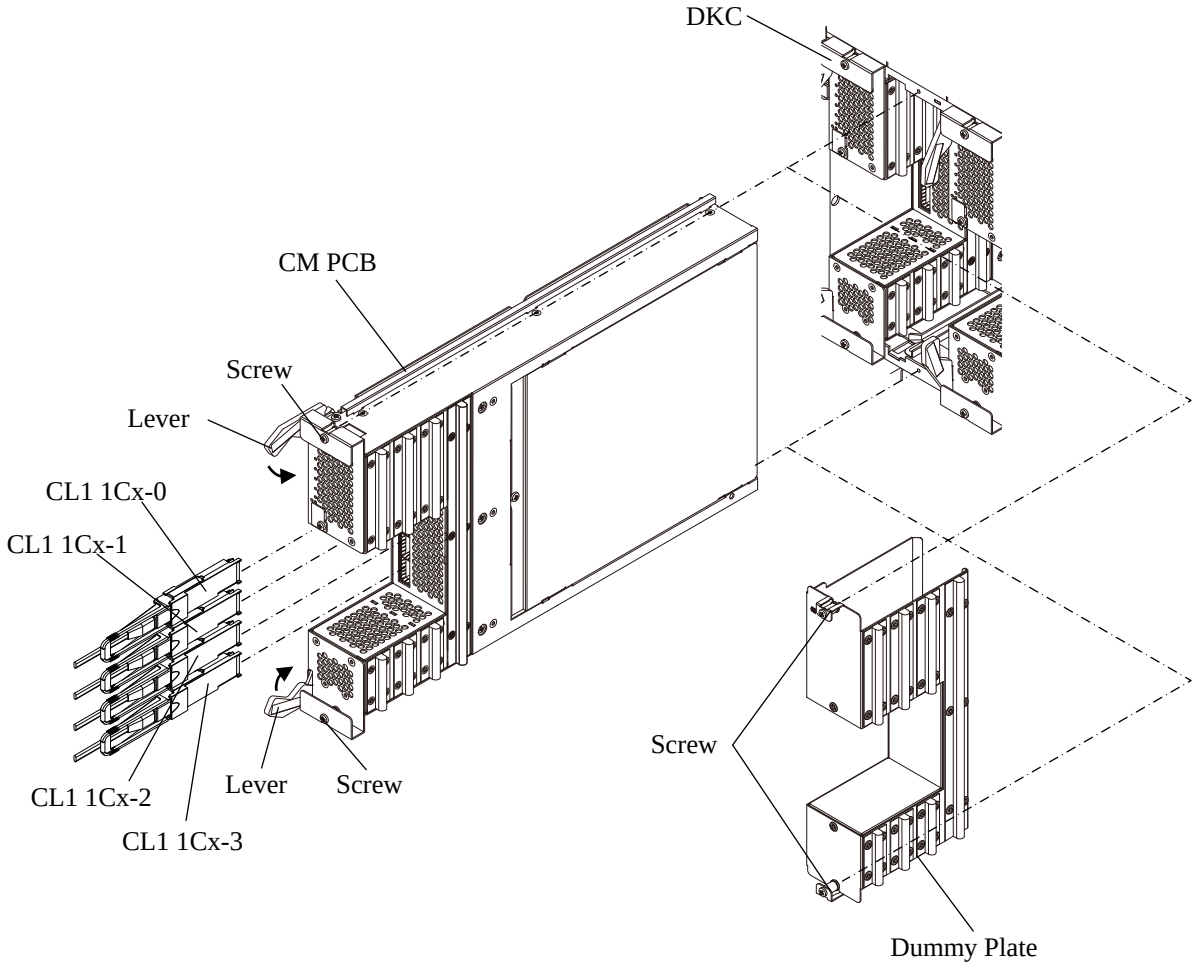


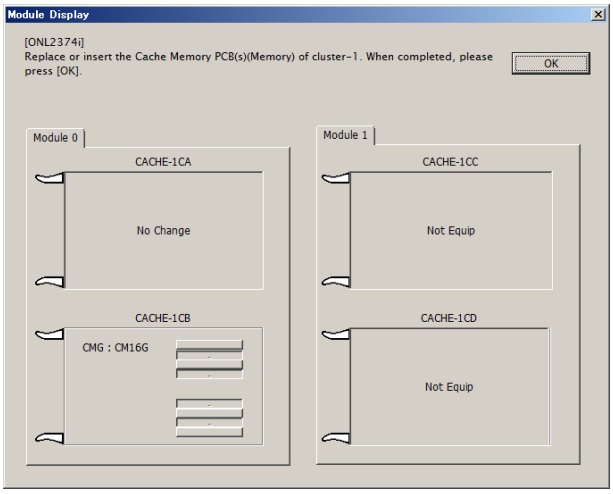
Fig. 3.10-28 Installation of PCB

Copyright © 2014, Hitachi, Ltd.

7. SVP post procedure on the Cluster 1.

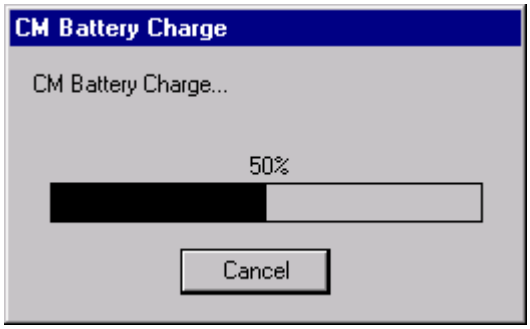
(1)

After completing the additional installation of the cache memory on the cluster 1, select (CL) [OK] in response to "Replace or insert the Cache Memory PCB(s)(Memory) of cluster-1. When completed, please press OK.".



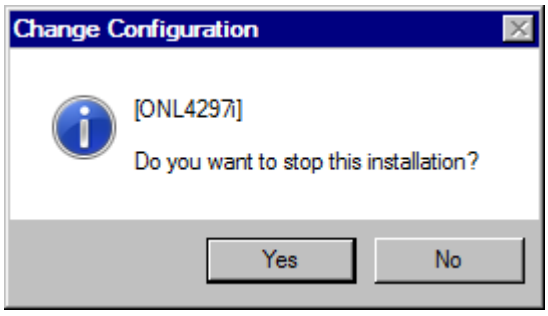
(2) <CM Battery charging>

When you select [No] in "3. SVP pre procedure (Battery)" (INST03-10-160) Step (1), the progress of the charge is displayed.
When the amount of charge becomes 50% or more, go to Step (3).
When you select [Cancel] (CL), go to Step (2)-1.



(2)-1

"Do you want to stop this installation?"
When [Yes] is selected (CL), return to INST03-10-110 Step (2)
When [No] is selected (CL), return to Step (2).



Copyright © 2014, Hitachi, Ltd.

(3) <Cache CUDG executes>
"INLINE CUDG is now running..." is displayed.

---

(4)
"Changing the configuration date, for equipment of shared/cache memory..."
"Restoring the Cache Memory PCB..." is displayed.

NOTICE:	Recover according to the procedure shown in "TROUBLE SHOOTING SECTION" (Refer to TRBL02-480) when the mistake of the memory module setting occurs.

Copyright © 2014, Hitachi, Ltd.

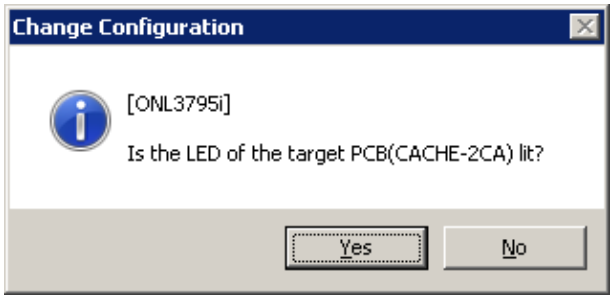
8. Backup Module on the Cluster 2.

8-1 Recover one side of cache
When recovery processing is completed,
“The Cache Memory PCB is being blocked...”
“Lighting LED of the PCB...” message appears.
Processing proceeds to blocking of the other side of Cache Memory.

8-2 Check shut down LED

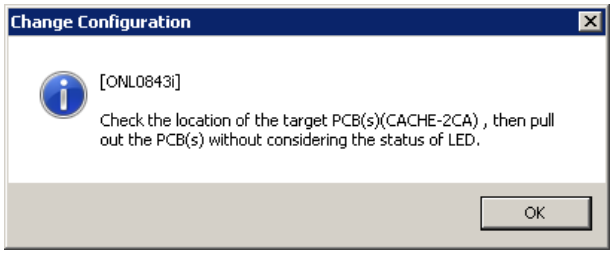
(1)

Select (CL)
* [Yes] if LED is on
* [No] if LED is off
in response to “Is the LED of the target PCB(CACHE-nnn) lit?”.



(Eg. CACHE-2CA)

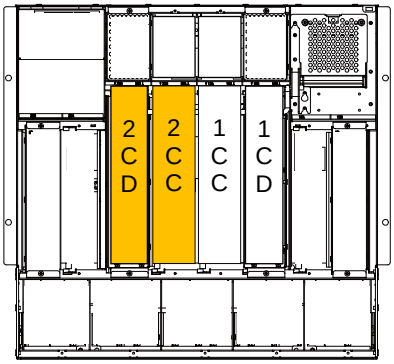
If [No] is selected:
Select (CL) [OK] after response to “Check the location of the target PCB(s)(CACHE-nnn), then pull out the PCB(s) without considering the status of LED.”.
Go to Step (2).



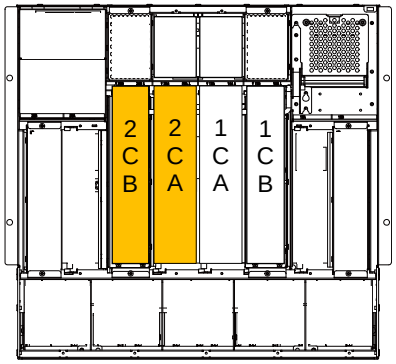
(Eg. CACHE-2CA)

Copyright © 2014, Hitachi, Ltd.

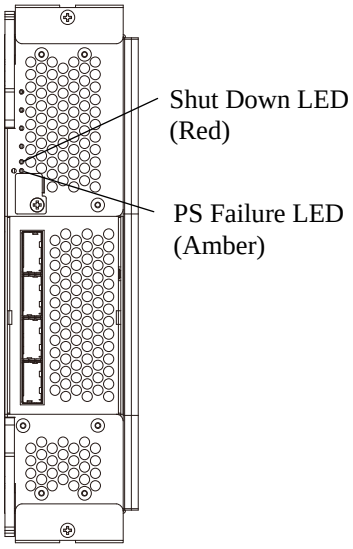
(2) Check that the Shut Down LED on the CM PCB is lit.



Front View of DKC-1



Front View of DKC-0



CM PCB

Fig. 3.10-29 Location of the Shut Down LED

Table 3.10-11 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
2	DKC-0	2CA	CACHE-2CA	
		2CB	CACHE-2CB	
	DKC-1	2CC	CACHE-2CC	
		2CD	CACHE-2CD	

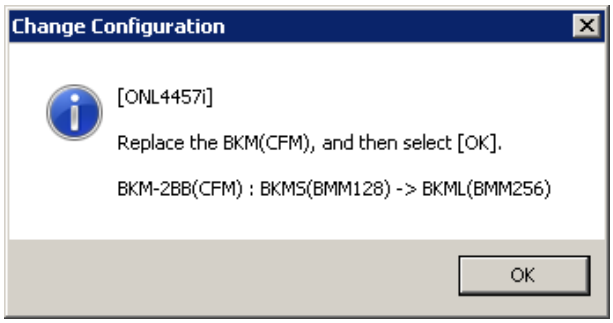
Copyright © 2014, Hitachi, Ltd.

8-3 Backup Module procedure

Perform an appropriate Backup Module process depending on cache capacity.
When replacement is required, go to Step 8-4.
When addition is required, go to Step 8-5.
When addition/replacement are required, go to Step 9.

8-4 Replace Backup Module (Cluster 2)

(1) <Confirmation of Backup Module replacement>
A message, “Replace the BKM(CFM), and then select [OK]. BKM-nnn(CFM) : BKMS(BMM128) -> BKML(BMM256)” is displayed.



(Eg. BKM-2BB)

Copyright © 2014, Hitachi, Ltd.

(2) Replace the BKM on the cluster 2.

(2)-1 Check that the Shut Down LED on the BKM is lit.

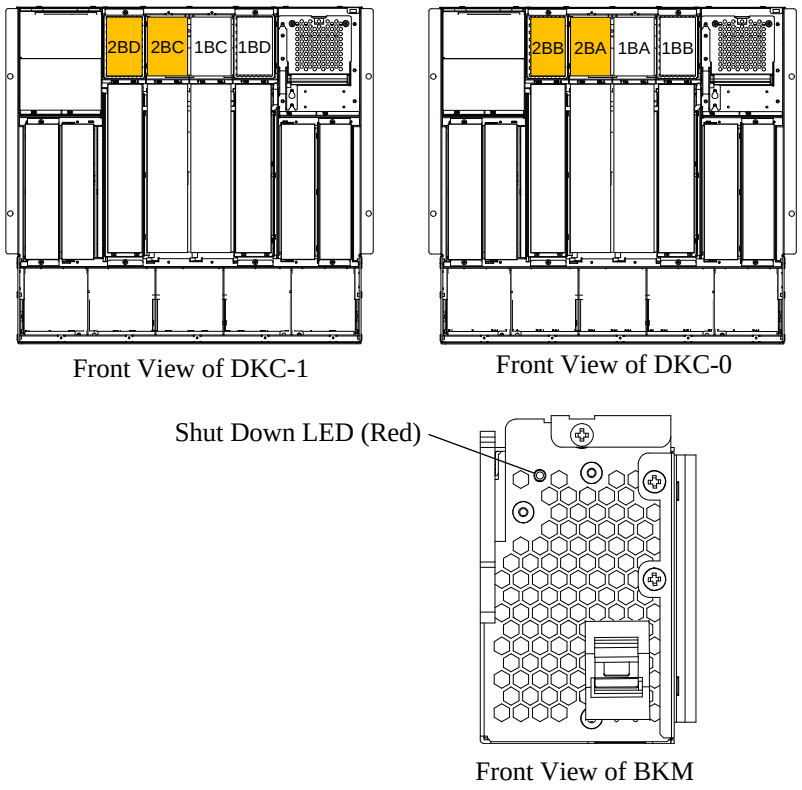


Fig. 3.10-30 Location of Shut Down LED

(2)-2 Check that the screws to secure the BKMs are tightened.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(2)-3 Open the four locking clamps and move all the cables to where they cannot obstruct removal of the BKM.

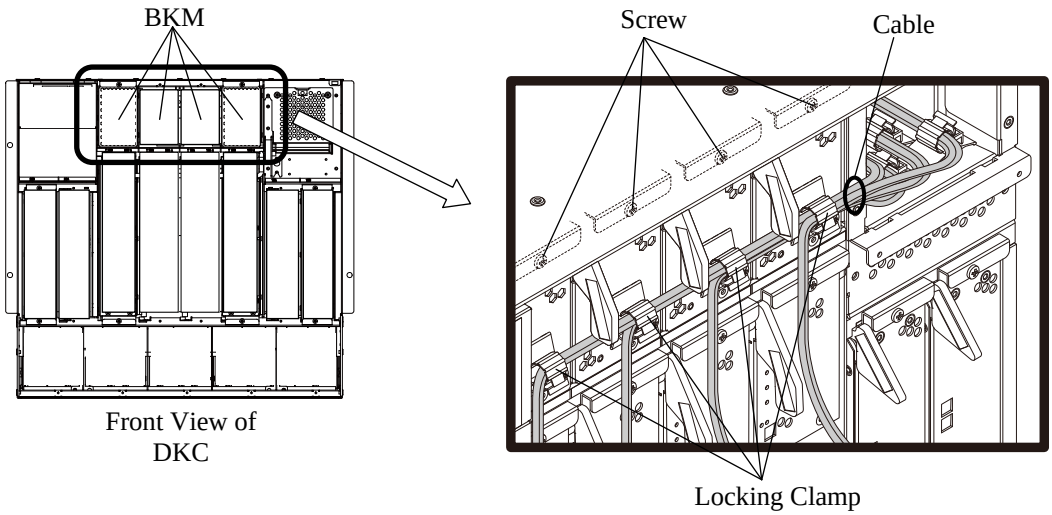
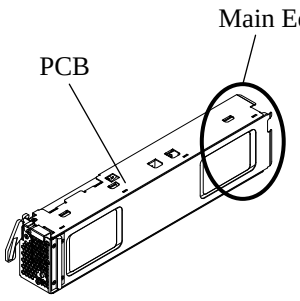


Fig. 3.10-31 Moving Cables

Copyright © 2014, Hitachi, Ltd.

(2)-4 Loosen the screw and remove the BKM from the DKC.



NOTICE: When removing the PCB, hold the top and bottom of the PCB with both hands, and pull it out straight not to contact the neighboring PCB.

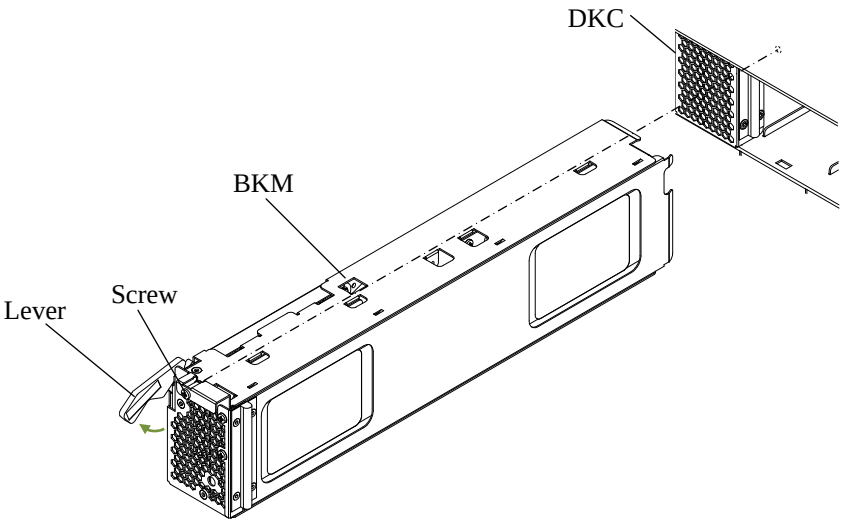


Fig. 3.10-32 Removal of BKM

Copyright © 2014, Hitachi, Ltd.

(2)-5 Replace the parts.

(2)-5-1 When you need to install Cache Backup Module Kit (DKC-F810I-BKML) and Cache Flash Memory (DKC-F810I-BMM256) at the same time, replace the BKM and CFM. When you do not need to install DKC-F810I-BKML and DKC-F810I-BMM256 at the same time, go to the Step (2)-5-2.

a. Remove the screw of the option BKM and remove the cover.

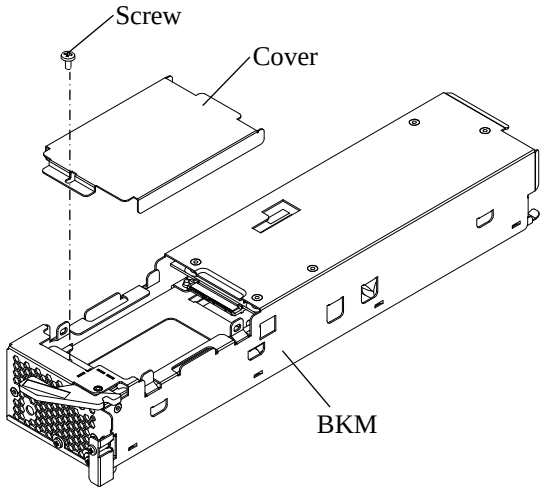


Fig. 3.10-33 Removal of Cover

b. Install the option CFM to the BKM and tighten it with the two screws.
c. Attach the cover to the BKM and tighten it with the screw.

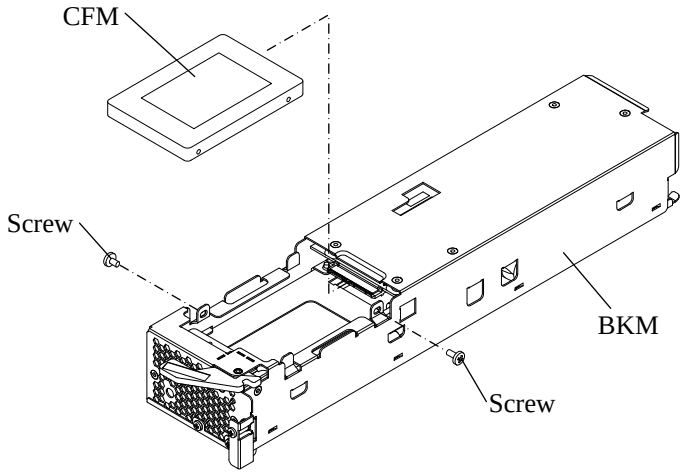


Fig. 3.10-34 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-5-2 When you need to install only Cache Backup Module Kit (DKC-F810I-BKML), replace the BKM.
When you do not need to install only DKC-F810I-BKML, go to the Step (2)-5-3.

a. Remove the screw of the removed BKM and remove the cover.

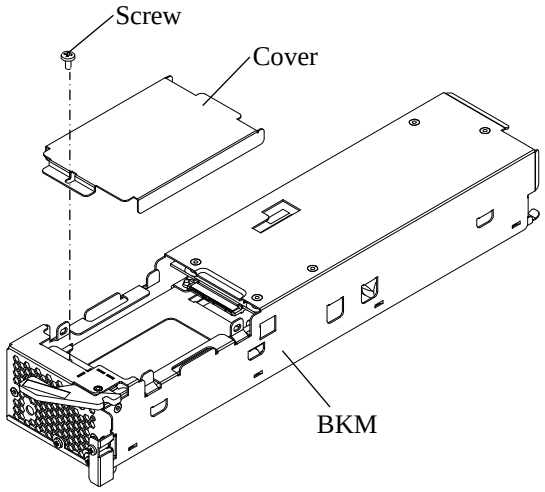


Fig. 3.10-35 Removal of Cover

b. Remove the two screws and detach the CFM.
c. Remove the screw of the option BKM and remove the cover.
d. Install the CFM to the option BKM and tighten it with the two screws.
e. Attach the cover to the BKM and tighten it with the screw.

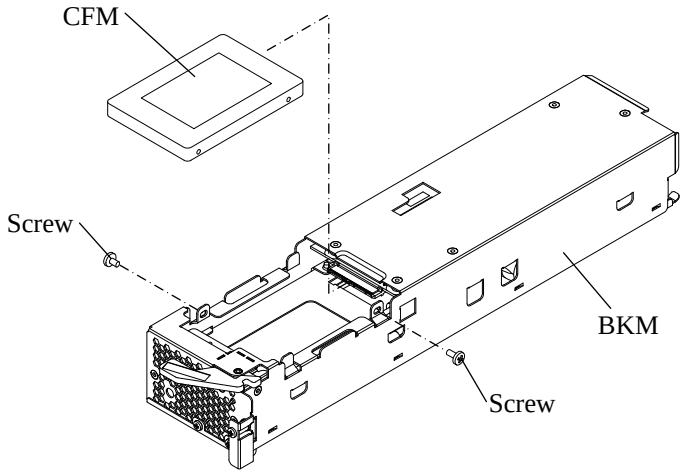


Fig. 3.10-36 Movement of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-5-3 When you need to install only Cache Flash Memory (DKC-F810I-BMM256), replace the CFM.
When you do not need to install only DKC-F810I-BMM256, go to the Step (2)-6.

a. Remove the screw of the removed BKM and remove the cover.

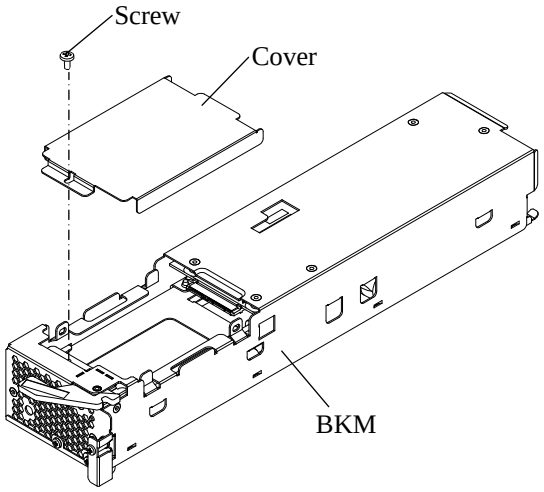


Fig. 3.10-37 Removal of Cover

b. Remove the two screws and detach the CFM.
c. Install the option CFM to the BKM and tighten it with the two screws.
d. Attach the cover to the BKM and tighten it with the screw.

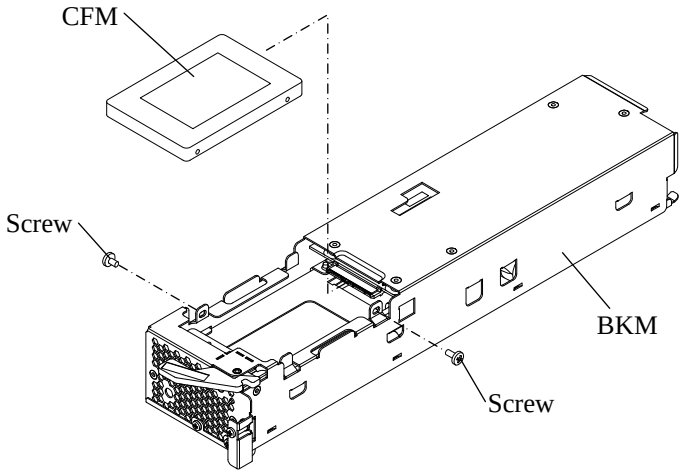
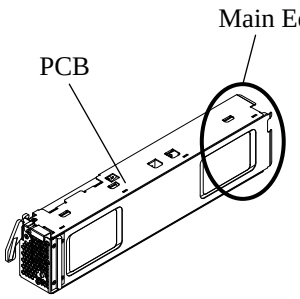


Fig. 3.10-38 Replacement of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-6 Install the BKM to the DKC and tighten it with the screw.
(2)-7 If the cables were moved aside in Procedure (2)-3, put them back in place.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

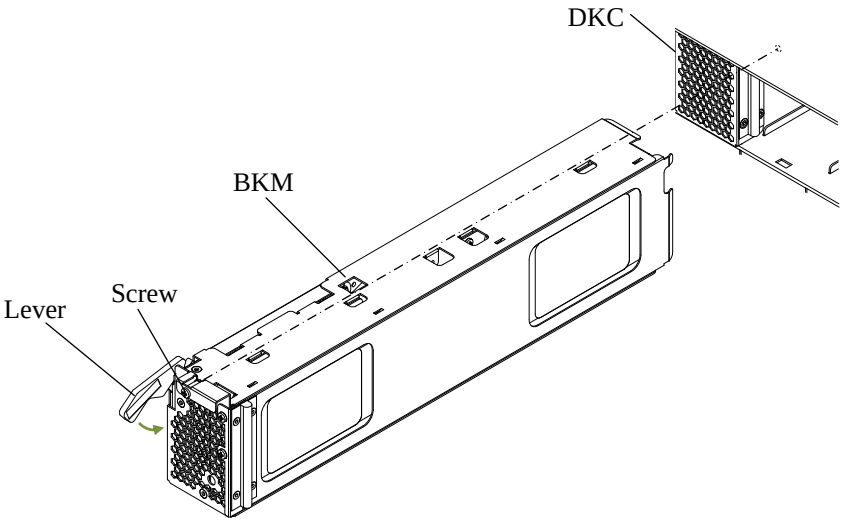
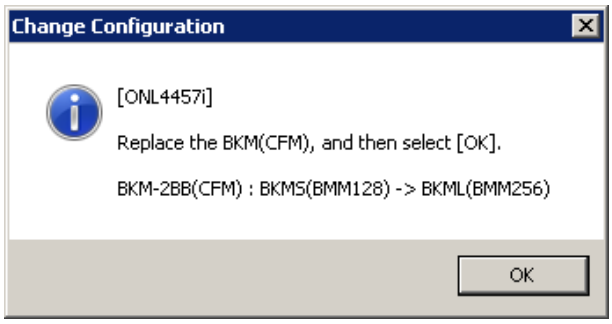


Fig. 3.10-39 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(3)

When a message, “Replace the BKM(CFM), and then select [OK]. BKM-nnn(CFM) : BKMS(BMM128) -> BKML(BMM256)” is displayed, select (CL) the [OK] button.

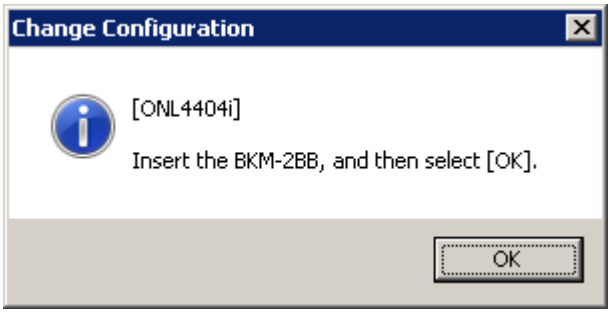


(Eg. BKM-2BB)

8-3 Add Backup Module (Cluster 2)

(1) <Confirmation of Backup Module addition>

A message, “Insert the BKM-nnn, and then select [OK].” is displayed.



(Eg. BKM-2BB)

Copyright © 2014, Hitachi, Ltd.

(2) Install the BKM on the cluster 2.

(2)-1 Remove the screw of the option BKM and remove the cover.

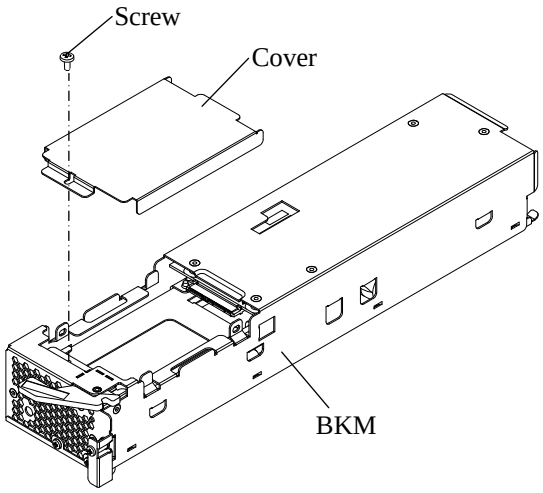


Fig. 3.10-40 Removal of Cover

(2)-2 Install the option CFM to the BKM and tighten it with the two screws.

(2)-3 Attach the cover to the BKM and tighten it with the screw.

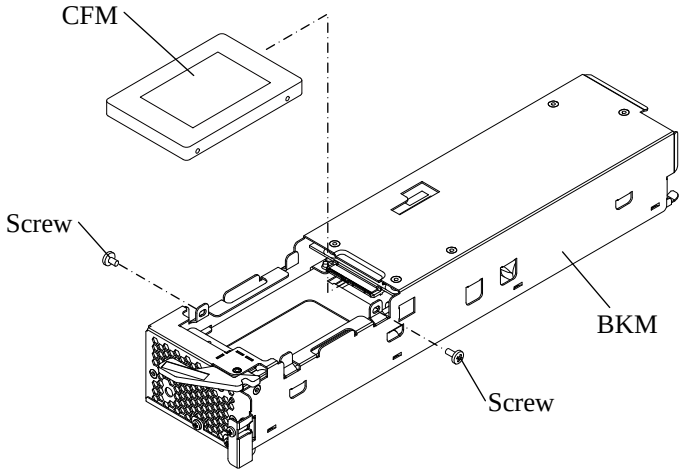


Fig. 3.10-41 Attachment of CFM

Copyright © 2014, Hitachi, Ltd.

(2)-4 If the cables are attached to the BKMs, check that the screws to secure the BKMs are tightened.
If the cables are not attached to the BKMs, go to Step (2)-6.

NOTE: If the screw is loose, the BKM may be extracted when the cables or the locking clamp is moved.

(2)-5 Open the four locking clamps and move all the cables to where they cannot obstruct insertion of the BKM.

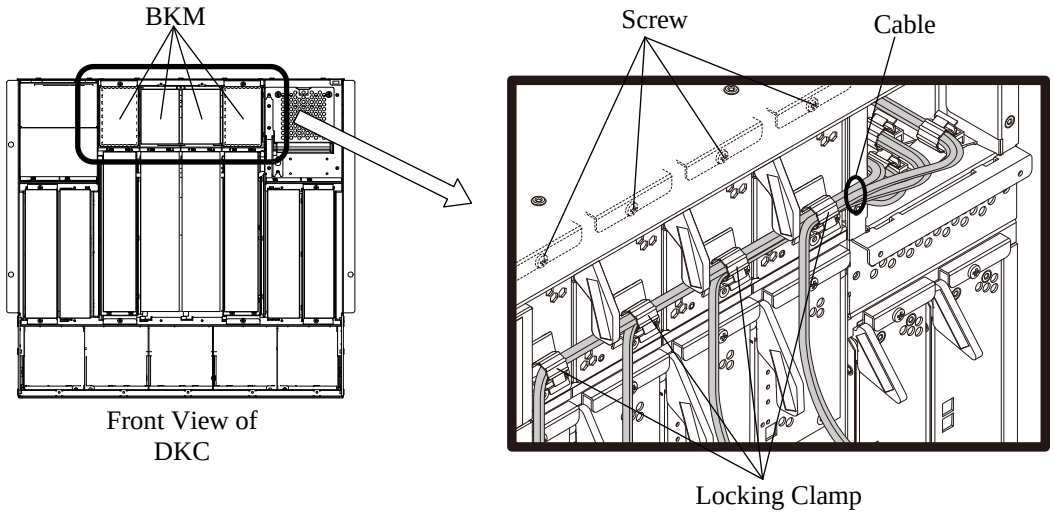
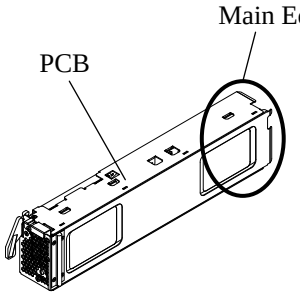


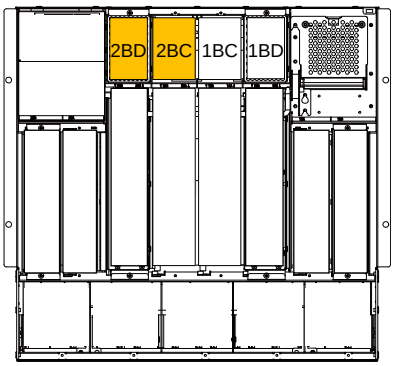
Fig. 3.10-42 Moving Cables

Copyright © 2014, Hitachi, Ltd.

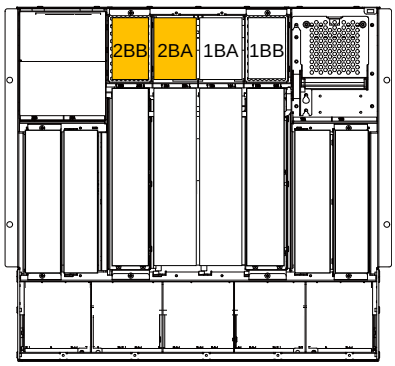
(2)-6 Loosen the screw and remove the dummy plate.
(2)-7 Install the BKM to the DKC and tighten the screw.
(2)-8 If the cables were moved aside in Step (2)-5, put them back in place.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



Front View of DKC-1



Front View of DKC-0

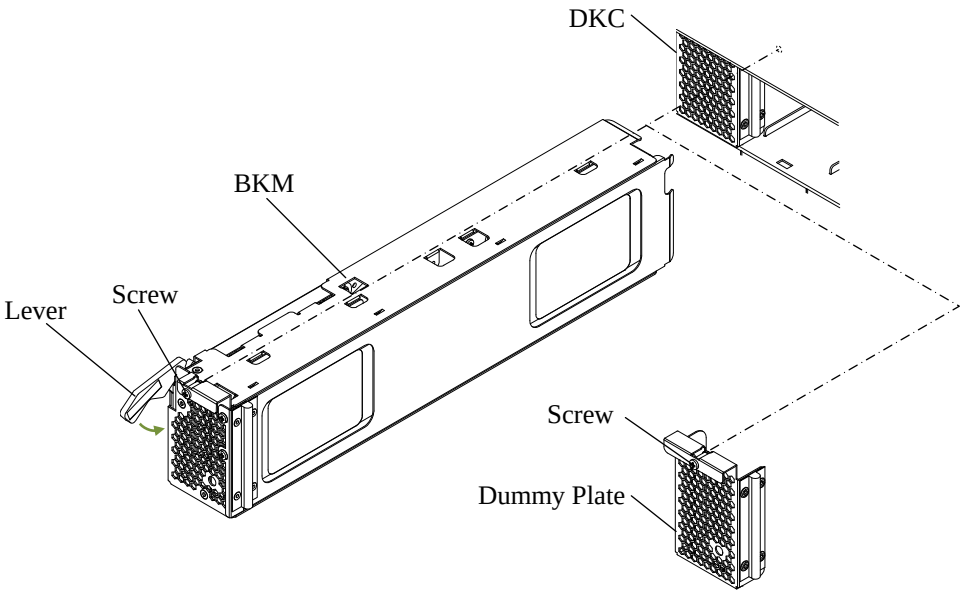


Fig. 3.10-43 Installation of BKM

Copyright © 2014, Hitachi, Ltd.

(2)-9 Store the Dummy Plates.

a. Loosen the three screws ① on the front side of the DKC and remove the cable cover.
b. Loosen the screw ② and remove the accessory box.
c. Put the dummy plates that were removed in the accessory box.
d. Put the accessory box in place and fix it with the screw ②.
e. Put the cable cover in place and fix it with the three screws ①.

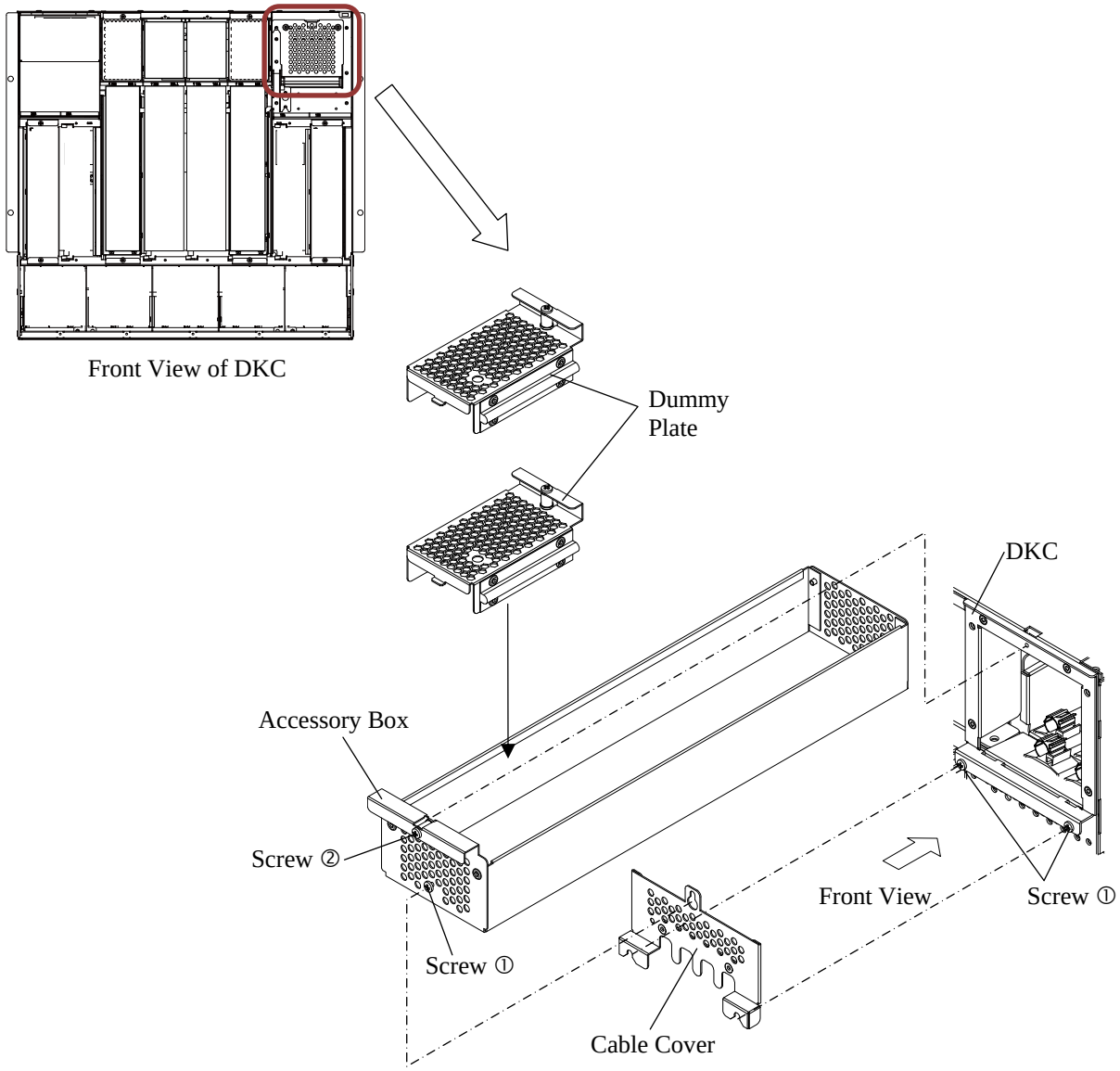
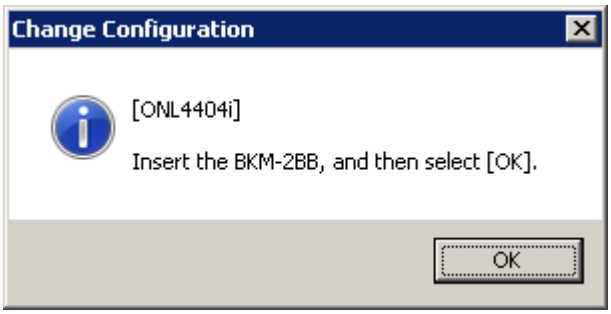


Fig. 3.10-44 Storage of Dummy Plates

Copyright © 2014, Hitachi, Ltd.

(3)

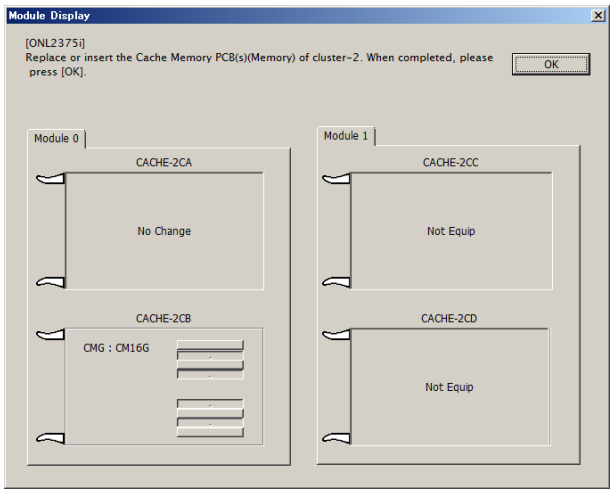
When a message, “Insert the BKM-nnn, and then select [OK].” is displayed, select (CL) the [OK] button.



(Eg. BKM-2BB)

Copyright © 2014, Hitachi, Ltd.

9. SVP pre procedure (Cluster 2).
   (1) <Perform cache hardware installation>
   At this point refrain from pressing the [OK] button.
   When “Replace or insert the Cache Memory PCB(s)(Memory) of cluster-2. When completed, please press OK.” is displayed, install hardware components according to the cache hardware installation procedure.



   Make sure of the installation location and size of the module to be added and insert the correct module in the correct location. (The Shared Memory capacity may be changed at the same time, depending on the set Cache Memory capacity.)

Copyright © 2014, Hitachi, Ltd.

10. Install the Cache Memory on the cluster 2.

NOTICE:	Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

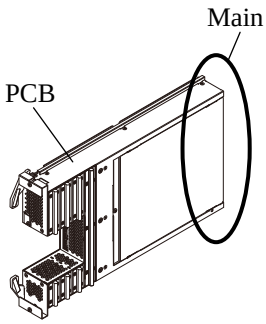
10-1 Remove the PCB.

a. If the cables are connected to the CM PCB, disconnect the cables after checking “3.1.7 Notes when connecting and disconnecting MFC cable” (INST03-01-190).
If the cables are not connected to the CM PCB, go to Step b.

Copyright © 2014, Hitachi, Ltd.

b. Remove the two screws and remove the CM PCB.

NOTE: When removing the CM PCB, be careful not to pull cables.



NOTICE: When removing the PCB, hold the top and bottom of the PCB with both hands, and pull it out straight not to contact the neighboring PCB.

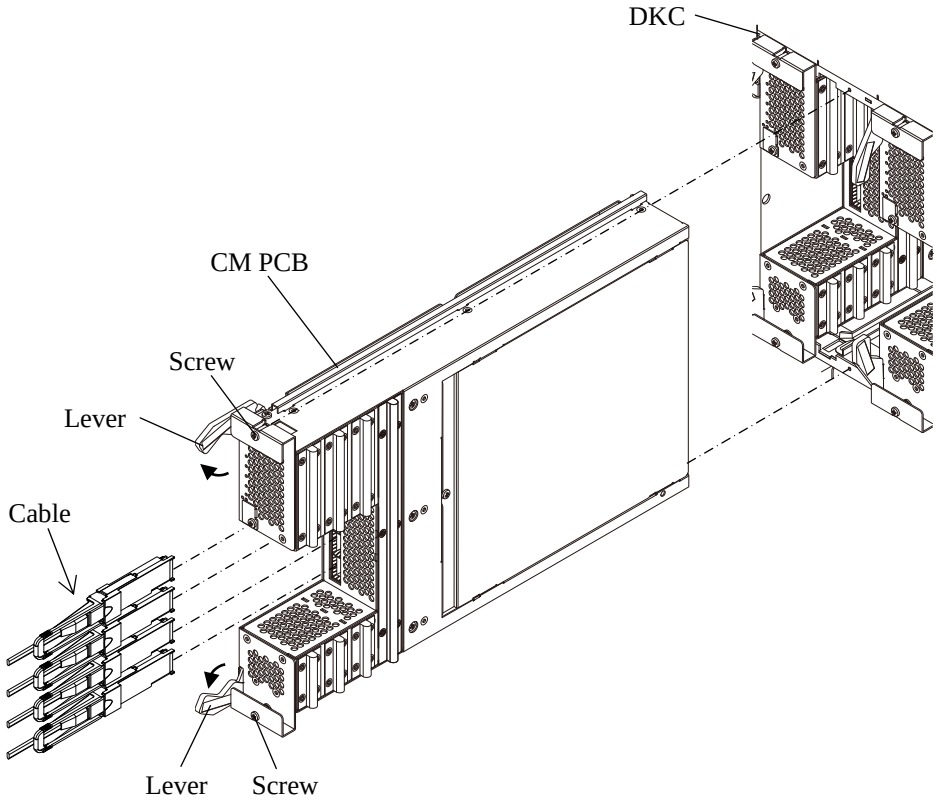


Fig. 3.10-45 Removal of PCB

Copyright © 2014, Hitachi, Ltd.

10-2 Insert the CM Modules.

a. Loosen the screw and remove the cover.

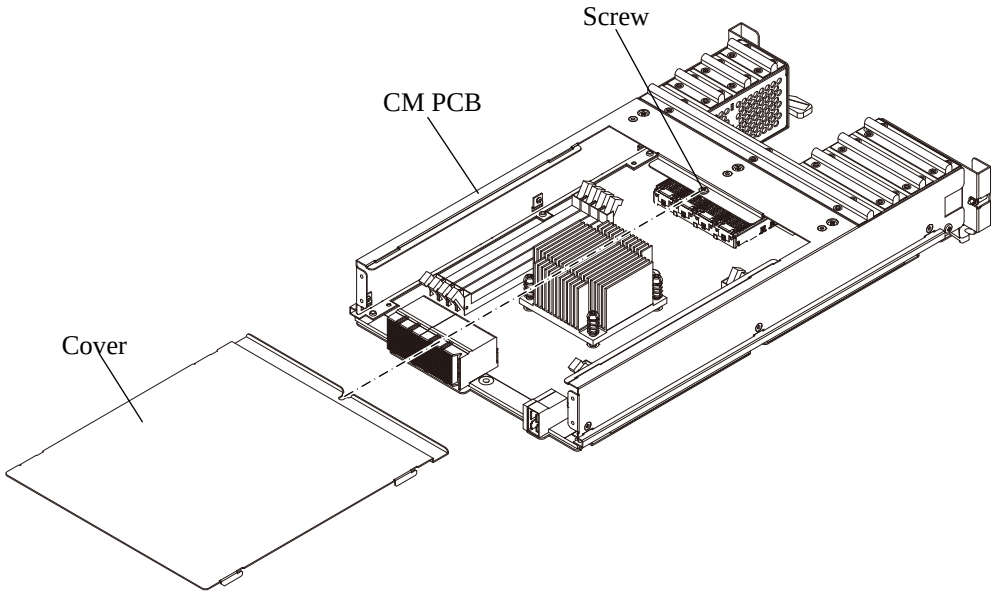
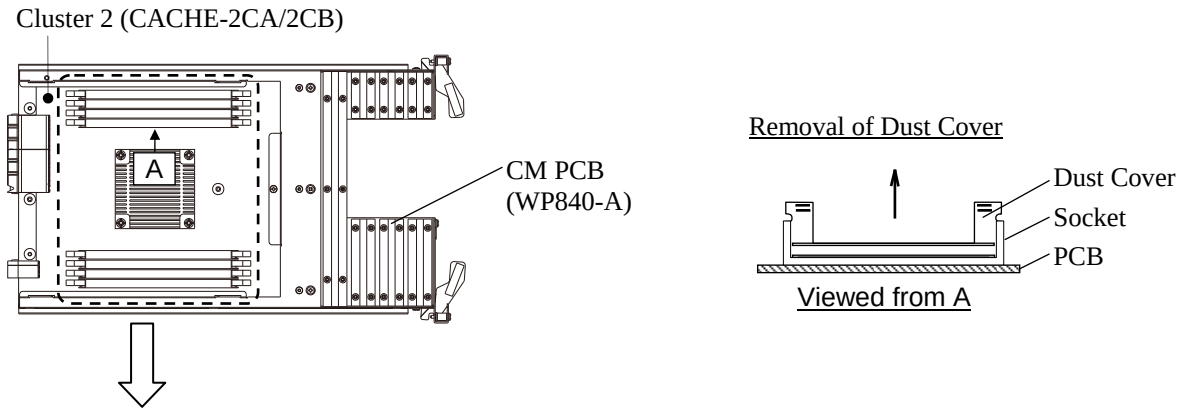


Fig. 3.10-46 Removal of Cover

Copyright © 2014, Hitachi, Ltd.

b. Remove the dust covers that match the required Cache Memory capacity referring to Fig. 3.10-47, Fig. 3.10-48, Fig. 3.10-49, Table 3.10-4 through Table 3.10-9.
c. Insert the CM Modules that match the required Cache Memory capacity.
d. Attach the cover and fasten the screws. (Refer to Fig. 3.10-46.)

CM Module Location of DKC-0



CACHE-2CA (Basic)

CM1P:	*2
CM5P:	*6
CM3P:	*4
CM7P:	*8
CM6P:	*7
CM2P:	*3
CM4P:	*5
CM0P:	*1

CACHE-2CB (Option 1)

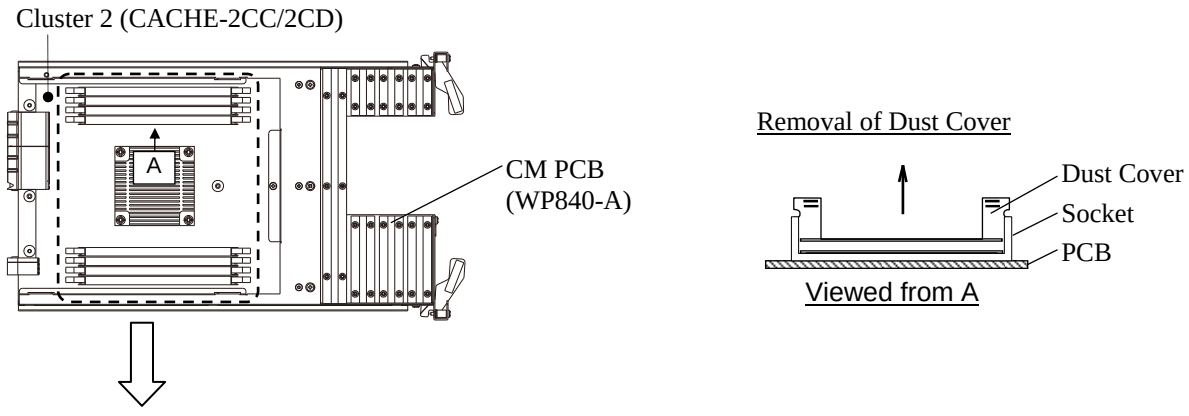
CM1P:	*10
CM5P:	*14
CM3P:	*12
CM7P:	*16
CM6P:	*15
CM2P:	*11
CM4P:	*13
CM0P:	*9

NOTE1: The cache memory module location *1 through *16 correspond to the CM Location listed in Table 3.10-4 through Table 3.10-9.

Fig. 3.10-47 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.

CM Module Location of DKC-1



CACHE-2CC (Option 2)

CM1P:	*18
CM5P:	*22
CM3P:	*20
CM7P:	*24

CM6P:	*23
CM2P:	*19
CM4P:	*21
CM0P:	*17

CACHE-2CD (Option 3)

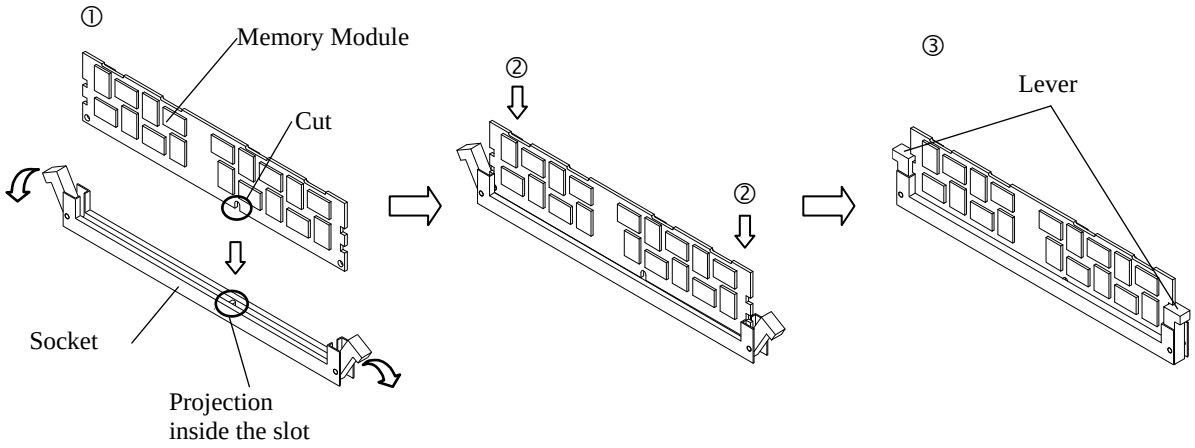
CM1P:	*26
CM5P:	*30
CM3P:	*28
CM7P:	*32

CM6P:	*31
CM2P:	*27
CM4P:	*29
CM0P:	*25

NOTE1: The cache memory module location *17 through *32 correspond to the CM Location listed in Table 3.10-4 through Table 3.10-9.

Fig. 3.10-48 Inserting Location of the CM Module

Copyright © 2014, Hitachi, Ltd.



Installation

① Position the cut of the memory module with the projection inside the slot, and place the memory module on the socket.
② Hold both ends of the memory module by the fingers, and fit it into the socket.
③ Make sure that the lever is firmly fitted in the memory module.

NOTICE: Do not put intense pressure on the CM Module to the extent that the PCB greatly bends after the CM Module is secured with the levers in installation procedure of the CM Module. The PCB may be damaged when intense pressure is applied.

Memory Module Appearance

There are two types of memory modules. One has a heat spreader and the other has no heat spreaders. Both memory modules can be used because they are compatible with each other.

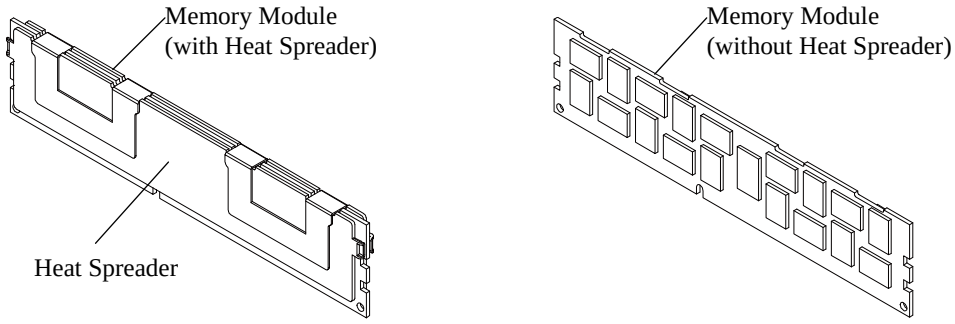


Fig. 3.10-49 Insertion of Memory Module

Copyright © 2014, Hitachi, Ltd.

10-3 Insert the PCB.

a. When you need to install Additional Cache Path Control Adapter (DKC-F810I-CPEX), attach the dummy plate and fasten the screws.
When you do not need to install Additional Cache Path Control Adapter (DKC-F810I-CPEX), go to Step b.

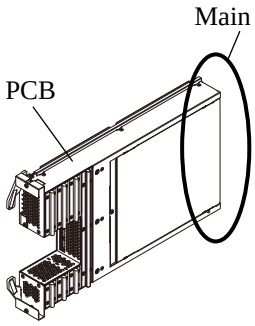
NOTE: Store the removed dummy plate as it is required when the Additional Cache Path Control Adapter is removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

b. Install the CM PCB and tighten the two screws.

NOTE: When inserting the CM PCB, be careful not to get cables caught on anything.

c. If the cables were disconnected in procedure 10-1 b, connect the cables to the CM PCB after checking "3.1.7 Notes when connecting and disconnecting MFC cable" (INST03-01-190).



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the top and bottom of the PCB with both hands, and insert it straight not to contact the neighboring PCB.

Table 3.10-12 Location of the CM PCB

Cluster	Box	Slot No.	Location No.	Remarks
2	DKC-0	2CA	CACHE-2CA	
		2CB	CACHE-2CB	
	DKC-1	2CC	CACHE-2CC	
		2CD	CACHE-2CD	

Copyright © 2014, Hitachi, Ltd.

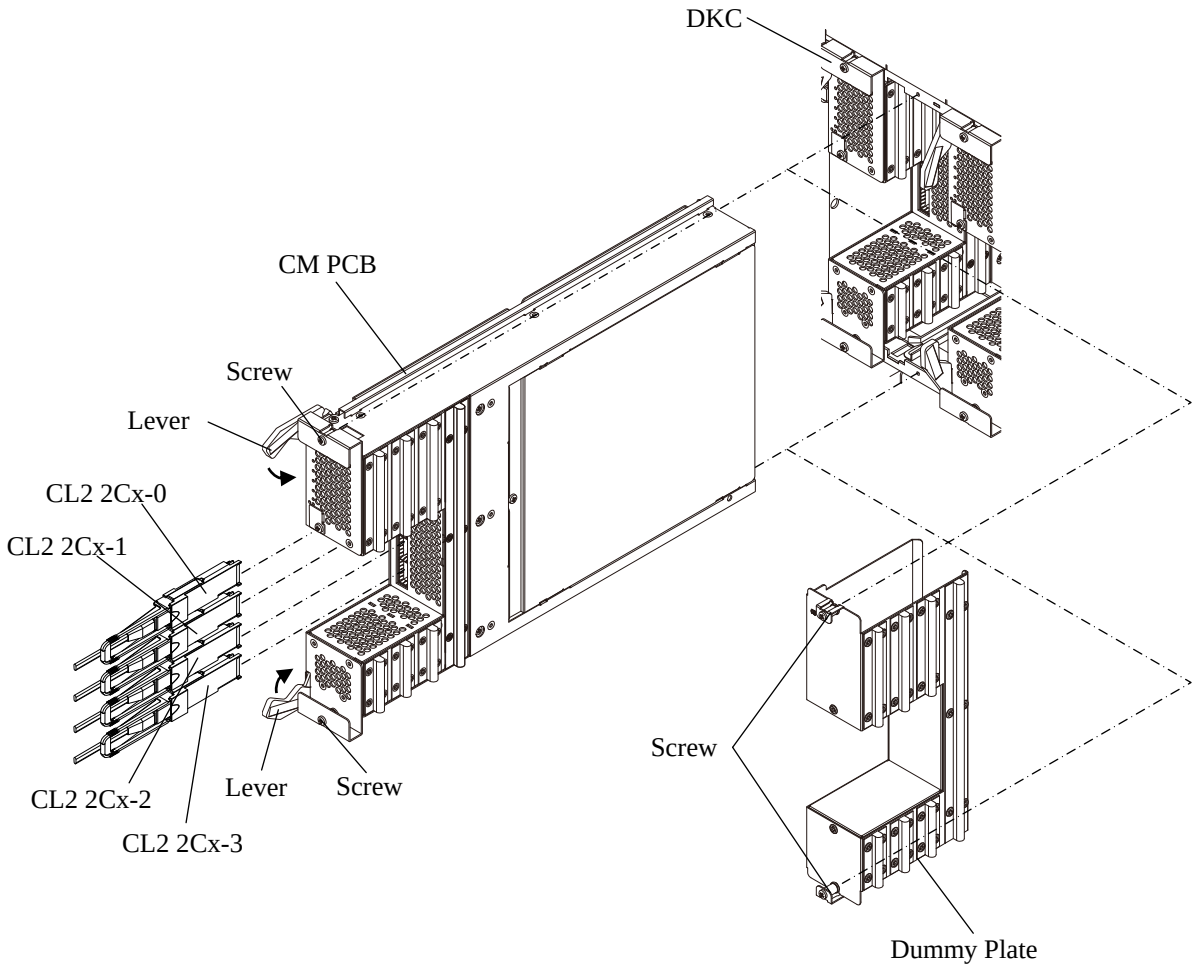


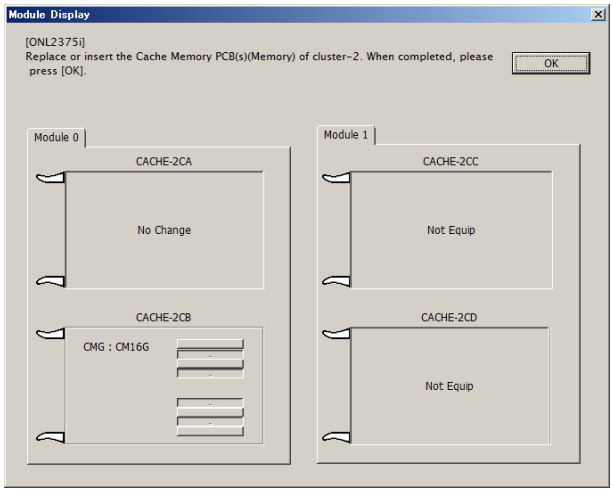
Fig. 3.10-50 Installation of PCB

Copyright © 2014, Hitachi, Ltd.

11. SVP post procedure on the Cluster 2.

(1)

After completing the additional installation of the cache memory on the cluster 2, select (CL) [OK] in response to "Replace or insert the Cache Memory PCB(s)(Memory) of cluster-2. When completed, please press OK.".

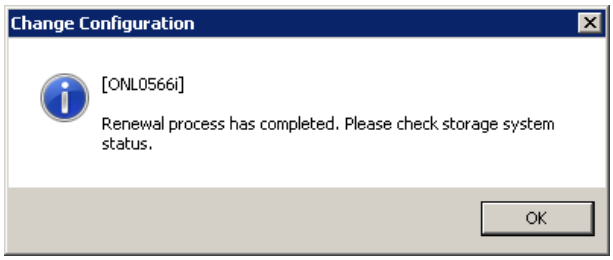


(2) <Cache CUDG executes>
"INLINE CUDG is now running..." is displayed.

(3)

"Changing the configuration date, for equipment of shared/cache memory..."
"Restoring the Cache Memory PCB..."
"Restoring the Shared Memory PCB..." is displayed.

(4) <End of system update processing>
"Renewal process has completed. Please check storage system status." is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

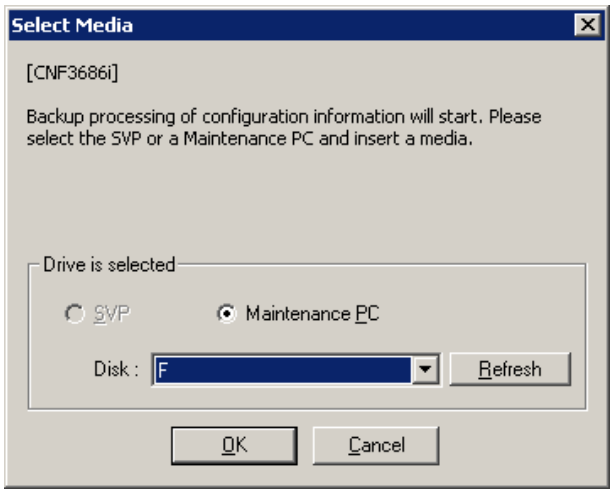


Copyright © 2014, Hitachi, Ltd.

(5)

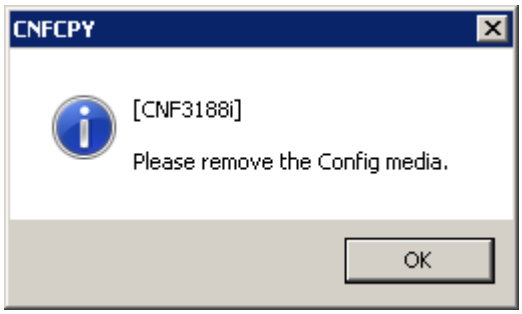
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



(6)

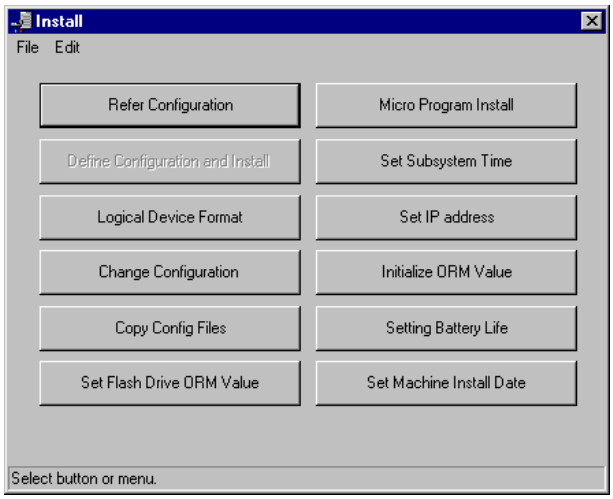
When this procedure is completed, the message "Please remove the Config media." is displayed. Remove the configuration information media, select (CL) [OK].



Copyright © 2014, Hitachi, Ltd.

(7)

After the procedure is completed, return to ‘Install’.
Select (CL) [File]-[Exit].



(8) <Mode Change>
Change the mode to View Mode.

Return to the working table and do the rest of the work.
Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.11 Installation of Disk Adapter, Drive and DEV Interface Cable (DKC-F810I-SCA/ESCA/CC1/CC2/CC4/300KCM/600JCM/600J5M/900JCM/1R2JCM/3R0H3M/4R0H3M/400MCM/400M5M/800MCM/1R6FM/3R2FM)

Table 3.11-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-SCA	WP820-A	5552770-A	2	DKA
2	DKC-F810I-ESCA	WP820-B	5552771-A	2	DKA

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
3	DKC-F810I-CC1	DEV I/F Cable	5552754-A	8	
		Label (Address)	3287113-1	3	
		Label (Address) 2	3287144-1	3	
		Label (Protect)	3287450-1	6	
4	DKC-F810I-CC2	DEV I/F Cable	5552755-A	8	
		Label (Address)	3287113-1	3	
		Label (Address) 2	3287144-1	3	
		Label (Protect)	3287450-1	6	
5	DKC-F810I-CC4	DEV I/F Cable	5552756-A	8	
		Label (Address)	3287113-1	3	
		Label (Address) 2	3287144-1	3	
		Label (Protect)	3287450-1	6	
		Loop Cable Tie	5552567-1	8	

(To be continued)

Copyright © 2014, Hitachi, Ltd.

(Continued from the preceding page)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
6	DKC-F810I-300KCM	HDU800-300KCMSS	5552785-A	1	
7	DKC-F810I-600JCM	HDU800-600JCMSS	5552786-A	1	
8	DKC-F810I-600J5M	HDU800-600J5MSS	5559095-A	1	
9	DKC-F810I-900JCM	HDU800-900JCMSS	5552787-A	1	
10	DKC-F810I-1R2JCM	HDU800-1R2JCMSS	5552789-A	1	
11	DKC-F810I-3R0H3M	HDU800-3R0H3MSS	5552783-A	1	
12	DKC-F810I-4R0H3M	HDU800-4R0H3MSS	5552784-A	1	
13	DKC-F810I-400MCM	HDU800-400MCMSS	5552790-A	1	
14	DKC-F810I-400M5M	HDU800-400M5MSS	5559078-A	1	
15	DKC-F810I-800MCM	HDU800-800MCMSS	5552791-A	1	
16	DKC-F810I-1R6FM	HDU800-1R6FMSS	3286600-A	1	
17	DKC-F810I-3R2FM	HDU800-3R2FMSS	3286601-A	1	

Copyright © 2014, Hitachi, Ltd.

Table 3.11-2 Working time

		Number of change (set)	Total (minutes)
DKA	Installation	1	10
		2	15
		3	20
		4	25

NOTE: For DKA installation, additional 3600 seconds (60 minutes) is necessary to newly route cable(s) between drives.

Copyright © 2014, Hitachi, Ltd.

3.11.1 Flowchart

There are three cases (① to ③) of these addition works as shown in the following table. Perform the work referring to the flowchart of each work.

Case	Option Installation Procedure	Page
①	When performing addition of the data/spare Drive (DKC-F810I-300KCM/600JCM/600J5M/900JCM/1R2JCM/ 3R0H3M/4R0H3M/400MCM/400M5M/800MCM/1R6FM/3R2FM)	INST03-11-60
②	When performing addition of the DKA and Device Interface Cable (DKC-F810I-SCA/ESCA/CC1/CC2)	INST03-11-60
③	When performing addition of the data/spare Drive and DEV interface cable that accompanies the addition of the DKU (DKC-F810I-CC1/CC2/CC4/300KCM/600JCM/600J5M/900JCM/ 1R2JCM/3R0H3M/4R0H3M/400MCM/400M5M/800MCM/1R6FM/ 3R2FM)	INST03-11-70

Copyright © 2014, Hitachi, Ltd.

① When performing addition of the data/spare Drive

----------[INST03-11A-10 through 770]

1. Setting up the New Device Structure Information
↓
2. SVP pre procedure
↓
3. Installation Procedure of Drive
↓
4. SVP post procedure

② When performing addition of the DKA and Device Interface Cable

----------[INST03-11B-10 through 670]

1. Attachment of Location Labels
↓
2. Setting up the New Device Structure Information
↓
3. SVP pre procedure (cluster 1)
↓
4. Installation Procedure of Disk Adapter for cluster 1
↓
5. Attachment Procedure of Device Interface Cable for Cluster 1 (DKC-F810I-CC1/CC2)
↓
6. SVP post procedure (cluster 1)
↓
7. SVP pre procedure (cluster 2)
↓
8. Installation Procedure of Disk Adapter for cluster 2
↓
9. Attachment Procedure of Device Interface Cable for Cluster 2 (DKC-F810I-CC1/CC2)
↓
10. SVP post procedure (cluster 2)

Copyright © 2014, Hitachi, Ltd.

③ When performing addition of the data/spare Drive and Device Interface Cable that accompanies the addition of the DKU

---------- [INST03-11C-10 through 1850]

1. Storage system Configurations and Required I/F Cable Options --- INST03-11C-20

↓

2. Attachment of Location Labels for Device Interface Cable (DKC-F810I-CC1/CC2/CC4) --- INST03-11C-120

↓

3. Setting up the New Device Structure Information --- INST03-11C-180

↓

4. Installation Procedure of drive --- INST03-11C-370

↓

5. Installation Procedure of Device Interface Cable CC1 (DKC-F810I-CC1) --- INST03-11C-940

↓

6. Installation Procedure of Device Interface Cable CC2 (DKC-F810I-CC2) --- INST03-11C-990

↓

7. Installation Procedure of Device Interface Cable CC4 (DKC-F810I-CC4) --- INST03-11C-1170

↓

8. Installation Procedure of Device Interface Cable CC1/CC2 in the Standard Model that Accompanies the Addition of the DKU-00/10 (DKC-F810I-CC1/CC2) --- INST03-11C-1470

↓

9. Installation Procedure of Device Interface Cable CC2 in the High-Performance Model that Accompanies the Addition of the DKU-00/10 (DKC-F810I-CC2) --- INST03-11C-1630

↓

10. SVP post procedure --- INST03-11C-1840

Copyright © 2014, Hitachi, Ltd.

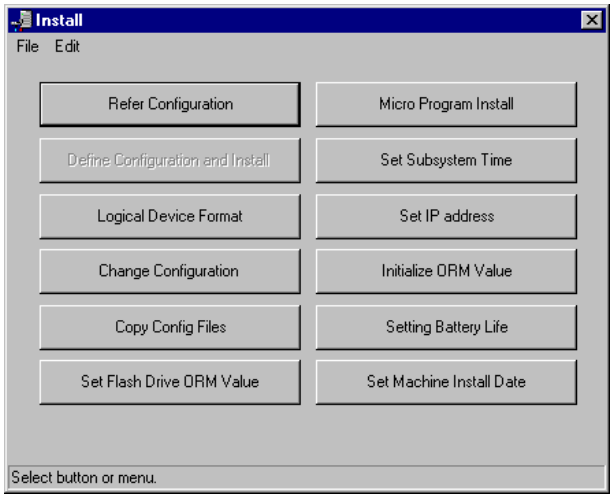
3.11.2 When performing addition of the data/spare Drive (DKC-F810I-300KCM/600JCM/600J5M/900JCM/1R2JCM/3R0H3M/4R0H3M/400MCM/400M5M/800MCM/1R6FM/3R2FM)

NOTICE: If No Charging of FMD (SIM = 50EXYY) occurs in installation of a FMD, the FMD ACTIVE LED will change to low-speed blinking. In this case, it takes 90 minutes at most for the FMD ACTIVE LED to go out and for the battery in the FMD to be fully charged.

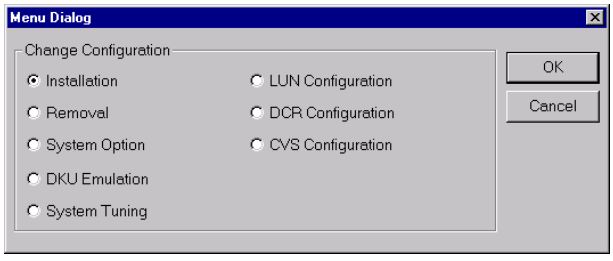
1. Setting up the New Device Structure Information

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

(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].

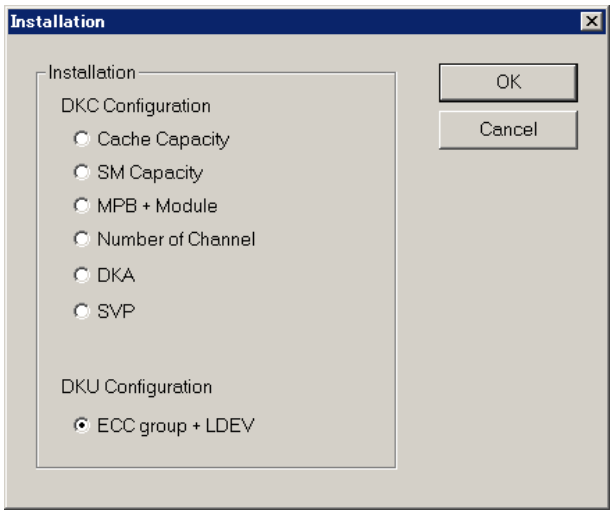


(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



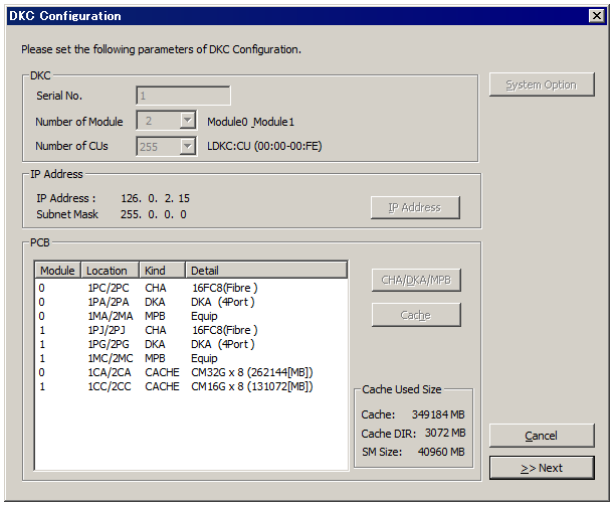
Copyright © 2014, Hitachi, Ltd.

(4) <Select a changed part>
Select (CL) [ECC group + LDEV], and select (CL) [OK].

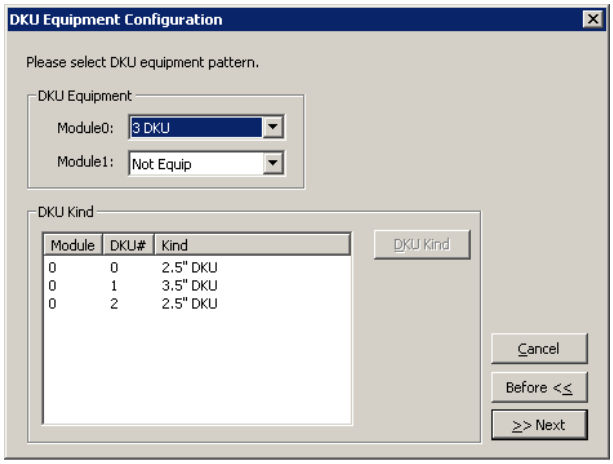


(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [>>Next].
Go to Step (6).

NOTE: There may be a case where an addition of the SM is required to add the CU.



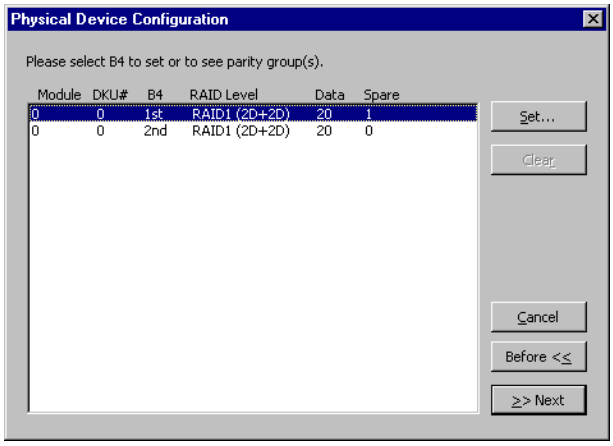
(6) <DKU Equipment Configuration screen>
Select (CL) [>>Next] in the 'DKU Equipment Configuration' screen.
Go to Step (7).



Copyright © 2014, Hitachi, Ltd.

(7) <Physical Device Configuration screen>
Define the drive configuration according to the 'Physical Device Configuration' screen.
Detailed procedure is shown below.
[Set...]: Defines the parity group or spare disk.
Go to Step (8).
[Clear...]: Cancels the setting of the B4.
After setting up all items, select (CL) [>>Next].
Go to Step (9).

Selecting (CL) [Before<<] returns to Step (6).



• Relation between B4 and HDU Location (Refer to LOC02-40 ~ 80 for Location.)

B4	Location	
	DKU	HDU
1st	DKU-00	HDU-000, 001, 002, 003
2nd	DKU-00	HDU-004, 005, 006, 007
3rd	DKU-10	HDU-100, 101, 102, 103
4th	DKU-10	HDU-104, 105, 106, 107
5th	DKU-01	HDU-010, 011, 012, 013
6th	DKU-01	HDU-014, 015, 016, 017
7th	DKU-11	HDU-110, 111, 112, 113
8th	DKU-11	HDU-114, 115, 116, 117
9th	DKU-02	HDU-020, 021, 022, 023
10th	DKU-02	HDU-024, 025, 026, 027
11th	DKU-12	HDU-120, 121, 122, 123
12th	DKU-12	HDU-124, 125, 126, 127

B4	Location	
	DKU	HDU
13th	DKU-03	HDU-030, 031, 032, 033
14th	DKU-03	HDU-034, 035, 036, 037
15th	DKU-13	HDU-130, 131, 132, 133
16th	DKU-13	HDU-134, 135, 136, 137
17th	DKU-04	HDU-040, 041, 042, 043
18th	DKU-04	HDU-044, 045, 046, 047
19th	DKU-14	HDU-140, 141, 142, 143
20th	DKU-14	HDU-144, 145, 146, 147
21st	DKU-05	HDU-050, 051, 052, 053
22nd	DKU-05	HDU-054, 055, 056, 057
23rd	DKU-15	HDU-150, 151, 152, 153
24th	DKU-15	HDU-154, 155, 156, 157

Copyright © 2014, Hitachi, Ltd.

(8) <Define Parity Group>

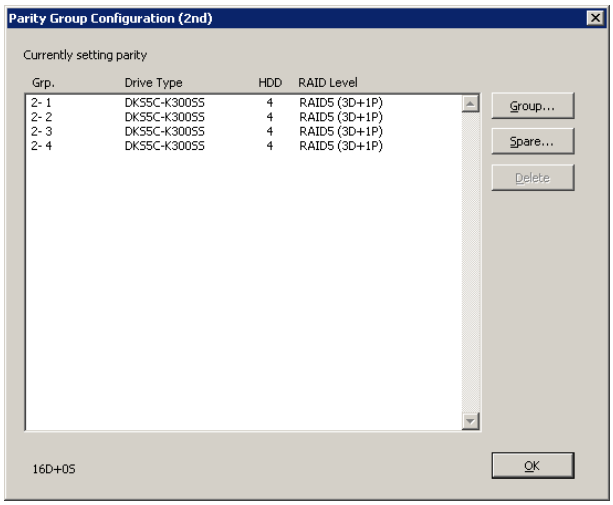
'Parity Group Configuration' dialog box is displayed.

[Group...]: Defines the parity group. See Step (8)-1.

[Spare...]: Defines the spare drive. See Step (8)-2.

[Delete]: Deletes the added parity group or spare drive.

Grp*: A parity group where RAID Concatenation is installed.



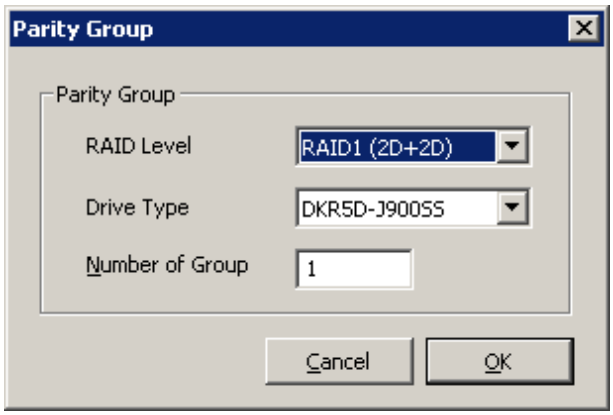
NOTE: If you want to set any Spare Drives in B4, please define the Spare Drive first.

After setting up all items, select (CL) [OK]. Go back to Step (7).

Copyright © 2014, Hitachi, Ltd.

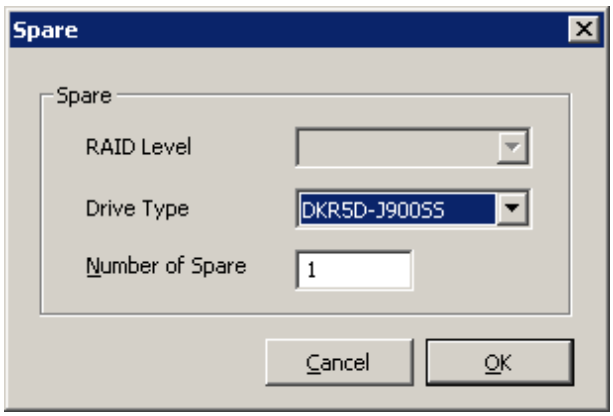
(8)-1

Define the RAID Level, the Drive Type (*1) (*2), and the Number of Group in the 'Parity Group' dialog box.
Then select (CL) [OK]. Go back to Step (8).



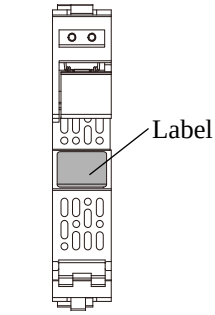
(8)-2

Define the Drive Type (*1) (*2) and the Number of Spare Drives in the 'Spare' dialog box.
Then select (CL) [OK].
Go back to Step (8).

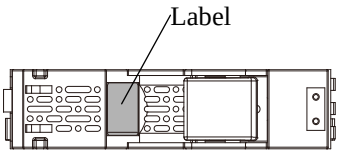


Copyright © 2014, Hitachi, Ltd.

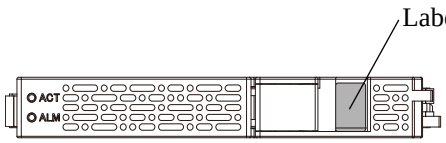
*1: For the Drive Type, see the label on the drive.



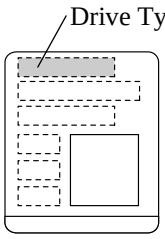
Front View of Drive for SBX



Front View of Drive for UBX



Front View of Drive for FBX



Label

*2: Even if a HDD whose Drive Type is different from the selected one is installed, the HDD can be used when the capacity, rotation speed and interface of the Drive Type are the same. For the recommended setting type name in SVP operation, refer to THEORY03-25-30 and THEORY03-25-40.

Copyright © 2014, Hitachi, Ltd.

(9) <Define Device Emulation>

After setting up all items corresponding (9)-1 to (9)-3 for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

In the case of only spare drive installation, select (CL) [>>Next]. Go to Step (10).

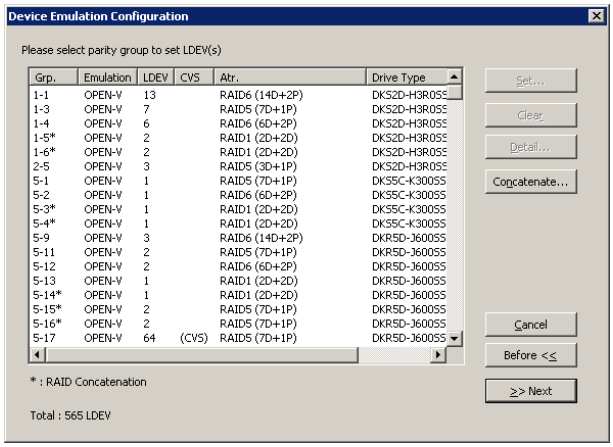
- If defining Device Emulation, go to Step (9)-1.
- If setting RAID concatenation, go to Step (9)-2.
- If defining of Customized Volume Size (CVS), go to Step (9)-3.

(9)-1 <Define Device Emulation>

Select (CL) parity group and select (CL) [Set...]. Go to Step (9)-1-1.

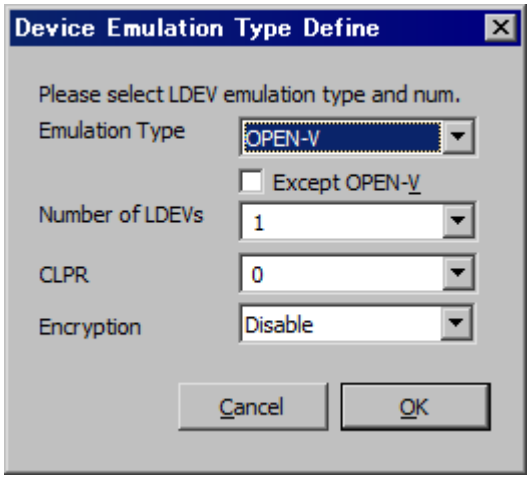
(CVS): A parity group where CVS is installed.

Grp*: A parity group where RAID Concatenation is installed.



(9)-1-1

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK]. Go back to Step (9).



Selecting (CL) [Cancel] returns you to Step (9)-1 without reflecting the setting items.

NOTE: OPEN-V is a recommended OPEN volume. To set other than OPEN-V, please select "Except OPEN-V".

NOTE: "0" can be set to the value of Number of LDEVs for all the emulation types.
If you don't know the LDEV size you will use, set "0". You can save time by setting "0" because LDEV format will not run.
When you set "0", please make LDEVs later using the CVS function.

NOTE: If 3390-A is selected, a 3390-A volume whose capacity is as large as that of standard capacity of the specified emulation type can be created by specifying (3390-3 size), (3390-9 size), (3390-L size), or (3390-M size) in the "Number of LDEVs". If a parity group consists of drives with 1TB or larger is specified, only (3390-M size) can be selected in the "Number of LDEVs".

Copyright © 2014, Hitachi, Ltd.

(9)-2 <Setting RAID concatenation>

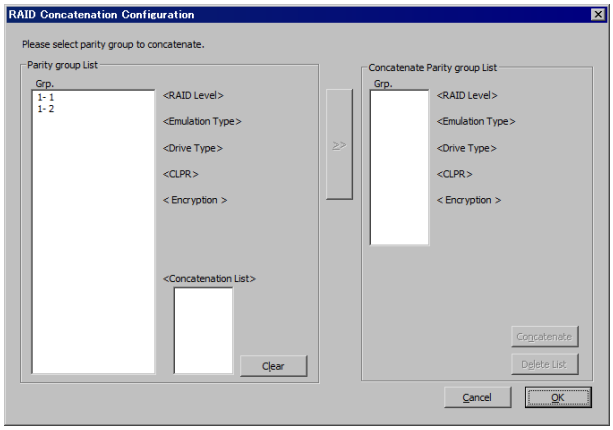
Select (CL) [Concatenate...].

When you do not perform RAID concatenation, go back to Step (9).

(9)-2-1

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

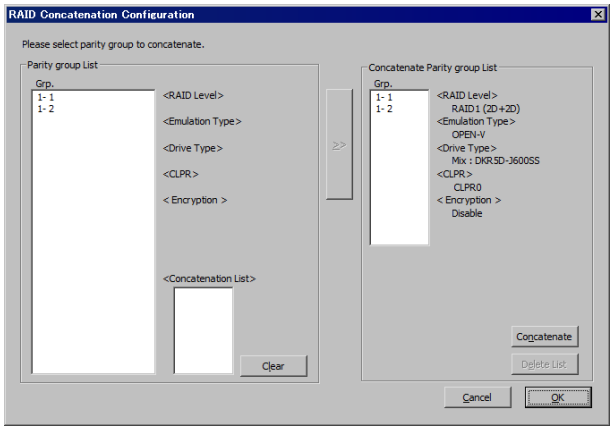
Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button. Go to Step (9)-2-1.



NOTE: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.

(9)-2-2

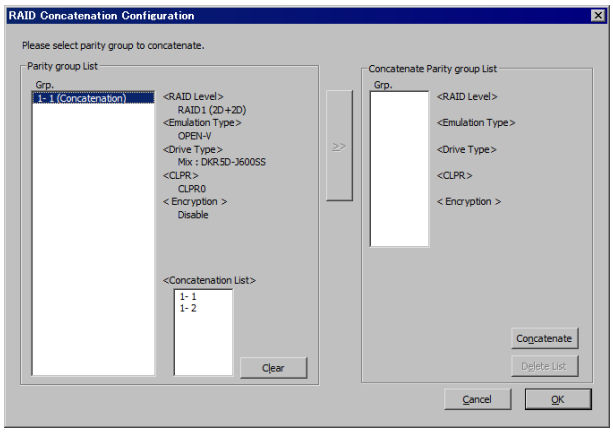
The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button. Go to Step (9)-2-3.



NOTE: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

Copyright © 2014, Hitachi, Ltd.

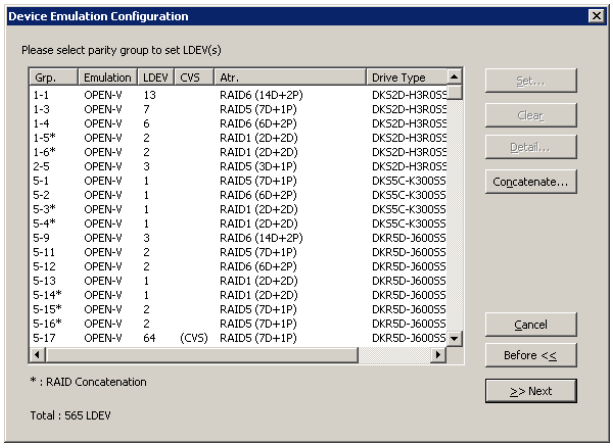
(9)-2-3



When the RAID concatenation is completed, "(Concatenation)" is displayed in the Parity group List. Selecting the "(Concatenation)" displays the concatenated parity groups in the Concatenation List.
Selecting (CL) [Clear] cancels the RAID concatenation.

When all the settings of the RAID concatenation are completed, select (CL) [OK].
Go back to Step (9).
Selecting (CL) [Cancel] returns the routine to Step (9).

(9)-3 <Defining of Customized Volume Size (CVS)>



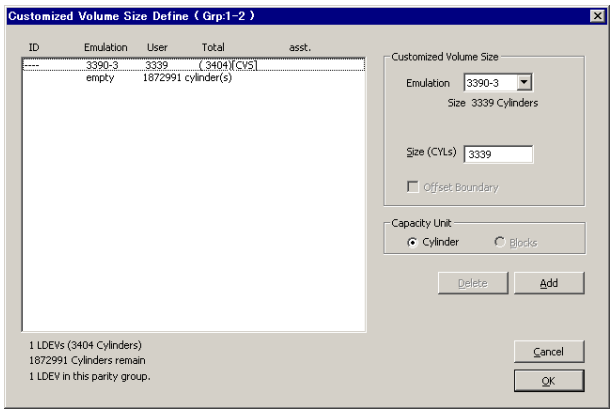
Select (CL) a parity group for which the LDEV emulation type and the number of LDEVs have been set on the 'Device Emulation Configuration' screen and select (CL) [Detail...].
When defining other than OPEN-V, go to Step (9)-3-1.
When defining OPEN-V, go to Step (9)-3-2.

When you do not perform the CVS, go back to Step (9).

Copyright © 2014, Hitachi, Ltd.

(9)-3-1 <Definition other than OPEN-V>

A volume other than OPEN-V can be defined in the 'Customized Volume Size Define' screen.



- Set of a CVS volume
  Perform ① Delete of the Volume and ② Add of the Volume.

① Delete of the Volume

A volume can be deleted by selecting (CL) the volume from the LDEV list box and selecting (CL) [Delete].

② Add of the Volume

A volume can be added by entering the LDEV emulation type and the user size (Mbyte/Blocks or Cylinder) of the customized volume (CV) and selecting [Add].
(It can be added in the optional space "empty" by selecting (CL) "empty" from the LDEV list box.)
The two or more CVs can be registered when the operation above is performed repeatedly.

The boundary correction existence is specifiable with "Offset Boundary".
(When a volume for mainframe host is selected, it is not possible to select it.)

Adding or deleting operation can be done for any number of times. The last setting is reflected by selecting (CL) [OK].

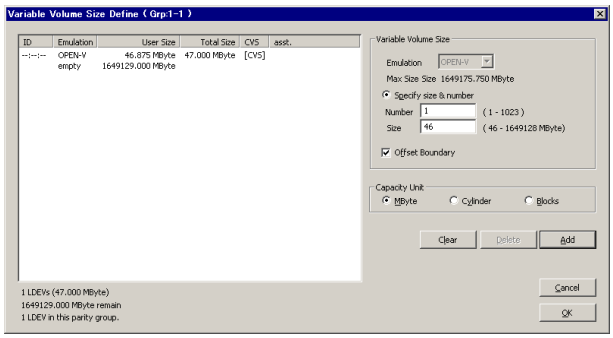
NOTE: The two or more volumes can be selected and deleted.

The routine returns to the preceding window by selecting (CL) [Cancel].
The routine returns to the preceding window and the change is reflected by selecting (CL) [OK].

Copyright © 2014, Hitachi, Ltd.

(9)-3-2 <Definition of OPEN-V>

OPEN-V can be defined in the 'Variable Volume Size Define' screen.



- Set of a CVS volume
  Perform ① Delete of the Volume and ② Add of the Volume.

① <u>Delete of the Volume</u>
The volume can be deleted by selecting (CL) [Delete] in the state (CL) of selecting (CL) the volume in the LDEV list box.
All the volumes in the LDEV list box can be deleted by selecting (CL) [Clear].

② <u>Add of the Volume</u>
It can be added by selecting (CL) Variable Volume Size from the status "select (CL) 'empty'" or "no selection" in the LDEV list box and selecting (CL) [Add].

Adding or deleting operation can be done for any number of times. The last setting is reflected by selecting (CL) [OK].

NOTE: The two or more volumes can be selected and deleted.

- Variable Volume Size
  "Specify size & number" : Defines the specified number of the specified user size.
- Offset Boundary : The boundary correction existence is specified.
- Capacity Unit
  "MByte" : Makes data displayed or entered by [MByte].
  "Cylinder" : Makes data displayed or entered by the [Cylinder].
  "Blocks" : Makes data displayed or entered by the [Blocks].
- asst. : When Path/pool-VOL is defined, "+" is displayed.

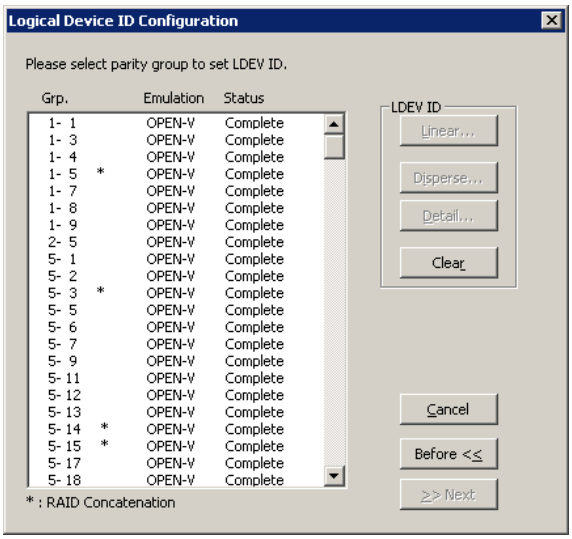
  NOTE: Even if the journal volume is defined, "+" is not displayed.

[Clear] : Deletes all the volumes.
[Delete] : Deletes all the selected volumes.
[Add] : Adds volumes.
[Cancel] : Invalidates the setting, and returns to the preceding window.
[OK] : Confirms the setting, and returns to the preceding window.

Copyright © 2014, Hitachi, Ltd.

(10) <Define LDEV ID>

(10)-1 <Definition Screen for LDEV ID>



Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See Step (10)-3.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See Step (10)-3.

[Detail...]: A screen to define LDEV in detail is displayed. See Step (10)-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

Grp*: The top parity group where RAID Concatenation is installed.

Status: Status of LDEV ID.

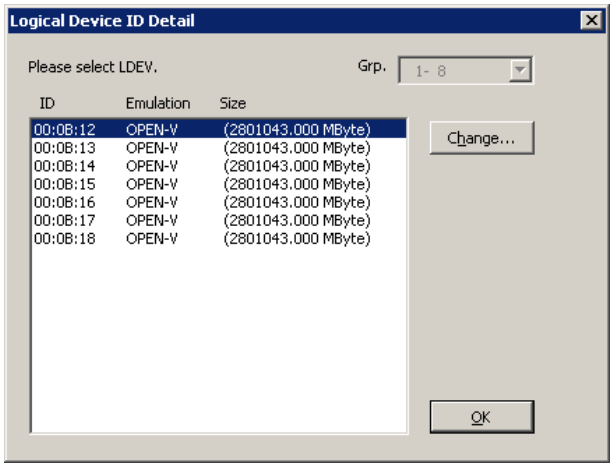
① "Complete" : LDEV ID is assigned.

② "-------" : LDEV ID is not assigned.

③ "Error" : Invalid LDEV ID is assigned.

After setting up all items, select [Detail...] to confirm the items that have been setup, and select (CL) [>>Next]. Go to Step (11).

(10)-2 <Detailed Definition Screen for LDEV ID>



LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

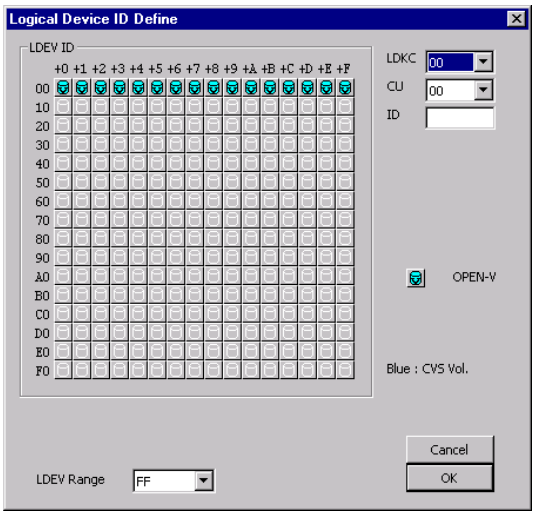
After setting, select (CL) [OK]. Return to Step (10)-1.

• "-----" is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.

NOTE: In the case of a RAID Concatenation Group, LDEV of the parity group selected by the "Grp List" is displayed.

Copyright © 2014, Hitachi, Ltd.

(10)-3 <Input LDEV ID>

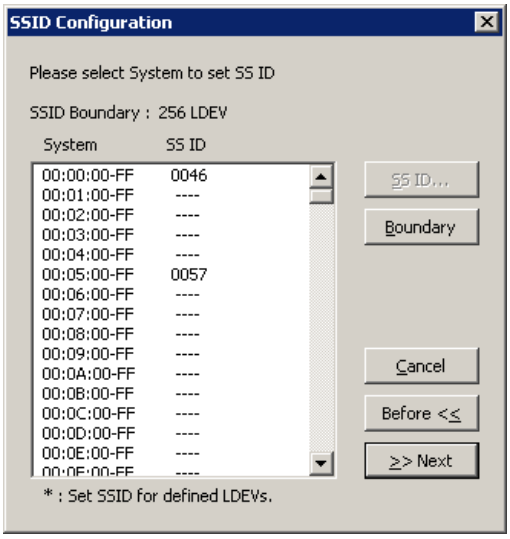


Select LDKC in the LDKC pull down menu.
Select CU in the CU pull down menu.
The status of usage of ID in the CU is displayed in the LDEV ID panel.
White disk of panel: not used
Patterned disk of panel: using
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.
After setting, select (CL) [OK].
Go back to Step (10)-1.

NOTE: The definition range (terminal) is decided with LDEV Range.
For example, if LEDV Range is defined as 7F, LDEV ID is assigned only within the range of 00 to 7F.

---

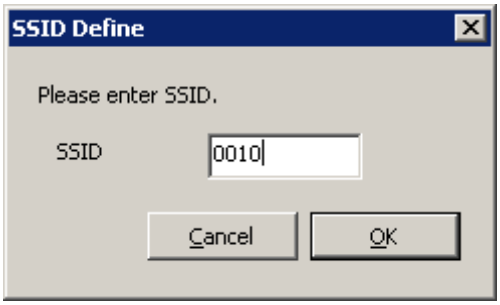
(11) <Define SSID>



To define SSID, select (CL) the item from the list box and select (CL) [SS ID...].
See Step (11)-1.

After setting, select (CL) [>>Next].
Go to Step (12).

(11)-1 Define SSID and select (CL) [OK].



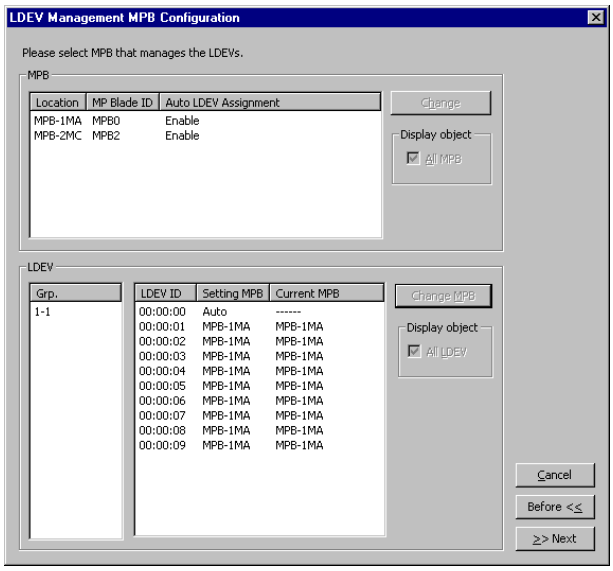
Go back to Step (11).

Copyright © 2014, Hitachi, Ltd.

(12) <Define LDEV Management MPB>

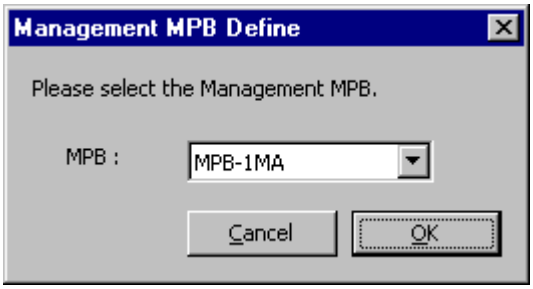
In the 'LDEV Management MPB Configuration' screen, select (CL) [Change MPB].
Go to Step (12)-1.

After the setting is completed, select (CL) [>>Next].
Go to Step (13).



(12)-1 <Define Management MPB>

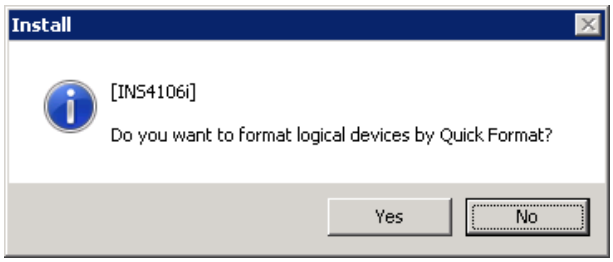
Define Management MPB and select (CL) [OK].
Go back to Step (12).



Copyright © 2014, Hitachi, Ltd.

(13) <Selection of format>

Select (CL) [Yes] in response to "Do you want to format logical devices by Quick Format?" when you execute Quick Format.
When [No] is selected (CL), usual LDEV Format is executed.



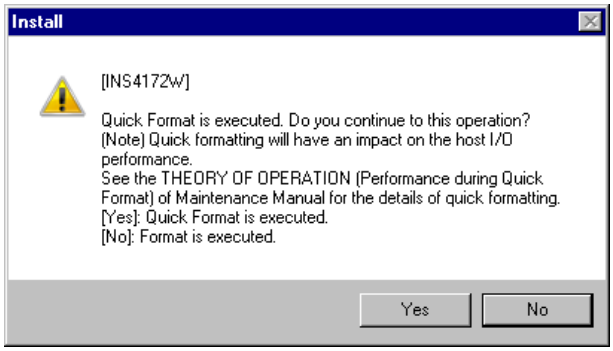
NOTE: Next, Quick Format cannot be executed in the shown volume.

- external volume
- Volumes whose access attribute is not Read/Write
- Pool volumes (pool-VOLs)
- Journal volumes

When [Yes] is selected Go to Step (13)-1.
When [No] is selected Go to Step (14).

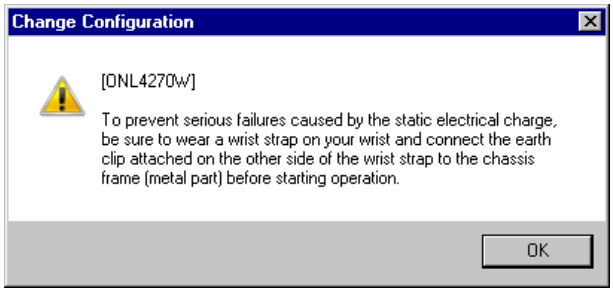
(13)-1 <Execution of Quick Format>

For the message "Quick Format is executed. Do you continue to this operation?
(Note) Quick formatting will have an impact on the host I/O performance.
See the THEORY OF OPERATION (Performance during Quick Format) of Maintenance Manual for the details of quick formatting.
[Yes]: Quick Format is executed.
[No]: Format is executed.", select (CL) [Yes] when Quick Format is to be executed. Select (CL) [No] when normal LDEV format is to be executed.



(14) <Wear a wrist strap>

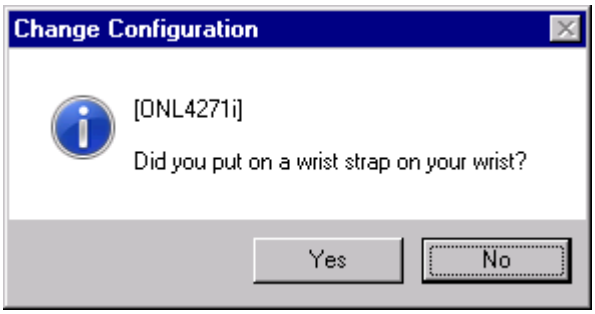
Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



Copyright © 2014, Hitachi, Ltd.

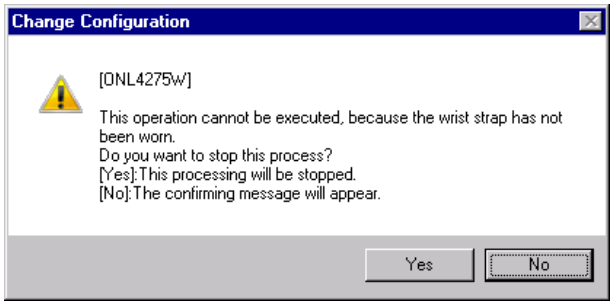
(14)-1 <Confirm wearing wrist strap>

In response to a message, “Did you put on a wrist strap on your wrist?”.
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (14)-2.



(14)-2

In response to a message, “This operation cannot be excuted, because the wrist strap has not been worn.
Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear.”
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-11A-10.
When [No] is selected (CL), returned to Step (14).

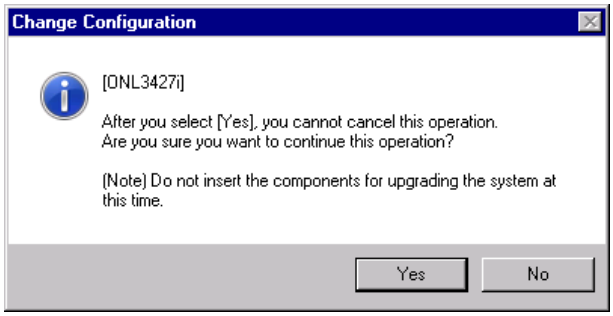


---

(15) <Start installation>

Select (CL) [Yes] in response to “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation?
(Note) Do not insert the components for upgrading the system at this time.”.

When [No] is selected (CL), returns to INST03-11A-10 Step (2).



---

(16) <Download microprogram>

Microprograms are automatically downloaded for each processor.

---

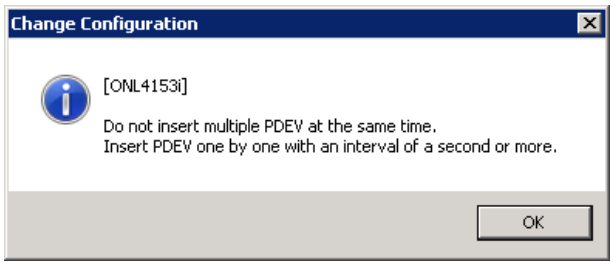
(17) <Install DKA>

“Upgrading of the DKA...”

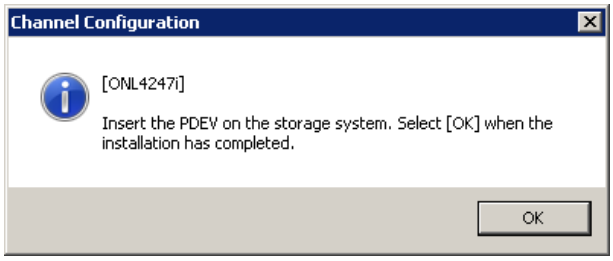
Copyright © 2014, Hitachi, Ltd.

2. SVP pre procedure

(1) <Notes when insert of PDEV>
"Do not insert multiple PDEV at the same time. Insert PDEV one by one with an interval of a second or more." is displayed.
Select (CL) [OK].



(2) <Check that hardware components are installed>
At this point refrain from pressing the [OK] button.
"Insert the PDEV on the storage system. Select [OK] when the installation has completed." is displayed.



Copyright © 2014, Hitachi, Ltd.

3. Installation Procedure of drive

3-1 Confirmation of position to install drive

(i) RAID5 (3D+1P) / RAID1 (2D+2D), UBX (DKU for 3.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-1.

Table 3.11.2-1 Relation between drives installation order and RAID group number (3D+1P/2D+2D, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	5-1	049	9-1	073	13-1	097	17-1	121	21-1
002	2-1	026	6-1	050	10-1	074	14-1	098	18-1	122	22-1
003	1-2	027	5-2	051	9-2	075	13-2	099	17-2	123	21-2
004	2-2	028	6-2	052	10-2	076	14-2	100	18-2	124	22-2
005	1-3	029	5-3	053	9-3	077	13-3	101	17-3	125	21-3
006	2-3	030	6-3	054	10-3	078	14-3	102	18-3	126	22-3
007	1-4	031	5-4	055	9-4	079	13-4	103	17-4	127	21-4
008	2-4	032	6-4	056	10-4	080	14-4	104	18-4	128	22-4
009	1-5	033	5-5	057	9-5	081	13-5	105	17-5	129	21-5
010	2-5	034	6-5	058	10-5	082	14-5	106	18-5	130	22-5
011	1-6	035	5-6	059	9-6	083	13-6	107	17-6	131	21-6
012	2-6	036	6-6	060	10-6	084	14-6	108	18-6	132	22-6
013	1-7	037	5-7	061	9-7	085	13-7	109	17-7	133	21-7
014	2-7	038	6-7	062	10-7	086	14-7	110	18-7	134	22-7
015	1-8	039	5-8	063	9-8	087	13-8	111	17-8	135	21-8
016	2-8	040	6-8	064	10-8	088	14-8	112	18-8	136	22-8
017	1-9	041	5-9	065	9-9	089	13-9	113	17-9	137	21-9
018	2-9	042	6-9	066	10-9	090	14-9	114	18-9	138	22-9
019	1-10	043	5-10	067	9-10	091	13-10	115	17-10	139	21-10
020	2-10	044	6-10	068	10-10	092	14-10	116	18-10	140	22-10
021	1-11	045	5-11	069	9-11	093	13-11	117	17-11	141	21-11
022	2-11	046	6-11	070	10-11	094	14-11	118	18-11	142	22-11
023	1-12 Spare*1	047	5-12 Spare*1	071	9-12 Spare*1	095	13-12 Spare*1	119	17-12 Spare*1	143	21-12 Spare*1
024	2-12 Spare*1	048	6-12 Spare*1	072	10-12 Spare*1	096	14-12 Spare*1	120	18-12 Spare*1	144	22-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-1 Relation between drives installation order and RAID group number (3D+1P/2D+2D, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	3-1	169	7-1	193	11-1	217	15-1	241	19-1	265	23-1
146	4-1	170	8-1	194	12-1	218	16-1	242	20-1	266	24-1
147	3-2	171	7-2	195	11-2	219	15-2	243	19-2	267	23-2
148	4-2	172	8-2	196	12-2	220	16-2	244	20-2	268	24-2
149	3-3	173	7-3	197	11-3	221	15-3	245	19-3	269	23-3
150	4-3	174	8-3	198	12-3	222	16-3	246	20-3	270	24-3
151	3-4	175	7-4	199	11-4	223	15-4	247	19-4	271	23-4
152	4-4	176	8-4	200	12-4	224	16-4	248	20-4	272	24-4
153	3-5	177	7-5	201	11-5	225	15-5	249	19-5	273	23-5
154	4-5	178	8-5	202	12-5	226	16-5	250	20-5	274	24-5
155	3-6	179	7-6	203	11-6	227	15-6	251	19-6	275	23-6
156	4-6	180	8-6	204	12-6	228	16-6	252	20-6	276	24-6
157	3-7	181	7-7	205	11-7	229	15-7	253	19-7	277	23-7
158	4-7	182	8-7	206	12-7	230	16-7	254	20-7	278	24-7
159	3-8	183	7-8	207	11-8	231	15-8	255	19-8	279	23-8
160	4-8	184	8-8	208	12-8	232	16-8	256	20-8	280	24-8
161	3-9	185	7-9	209	11-9	233	15-9	257	19-9	281	23-9
162	4-9	186	8-9	210	12-9	234	16-9	258	20-9	282	24-9
163	3-10	187	7-10	211	11-10	235	15-10	259	19-10	283	23-10
164	4-10	188	8-10	212	12-10	236	16-10	260	20-10	284	24-10
165	3-11	189	7-11	213	11-11	237	15-11	261	19-11	285	23-11
166	4-11	190	8-11	214	12-11	238	16-11	262	20-11	286	24-11
167	3-12 Spare*1	191	7-12 Spare*1	215	11-12 Spare*1	239	15-12 Spare*1	263	19-12 Spare*1	287	23-12 Spare*1
168	4-12 Spare*1	192	8-12 Spare*1	216	12-12 Spare*1	240	16-12 Spare*1	264	20-12 Spare*1	288	24-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 4	LFF Disk Drive	
2	DKC-F810I-400M5M × 4	LFF SSD Drive	

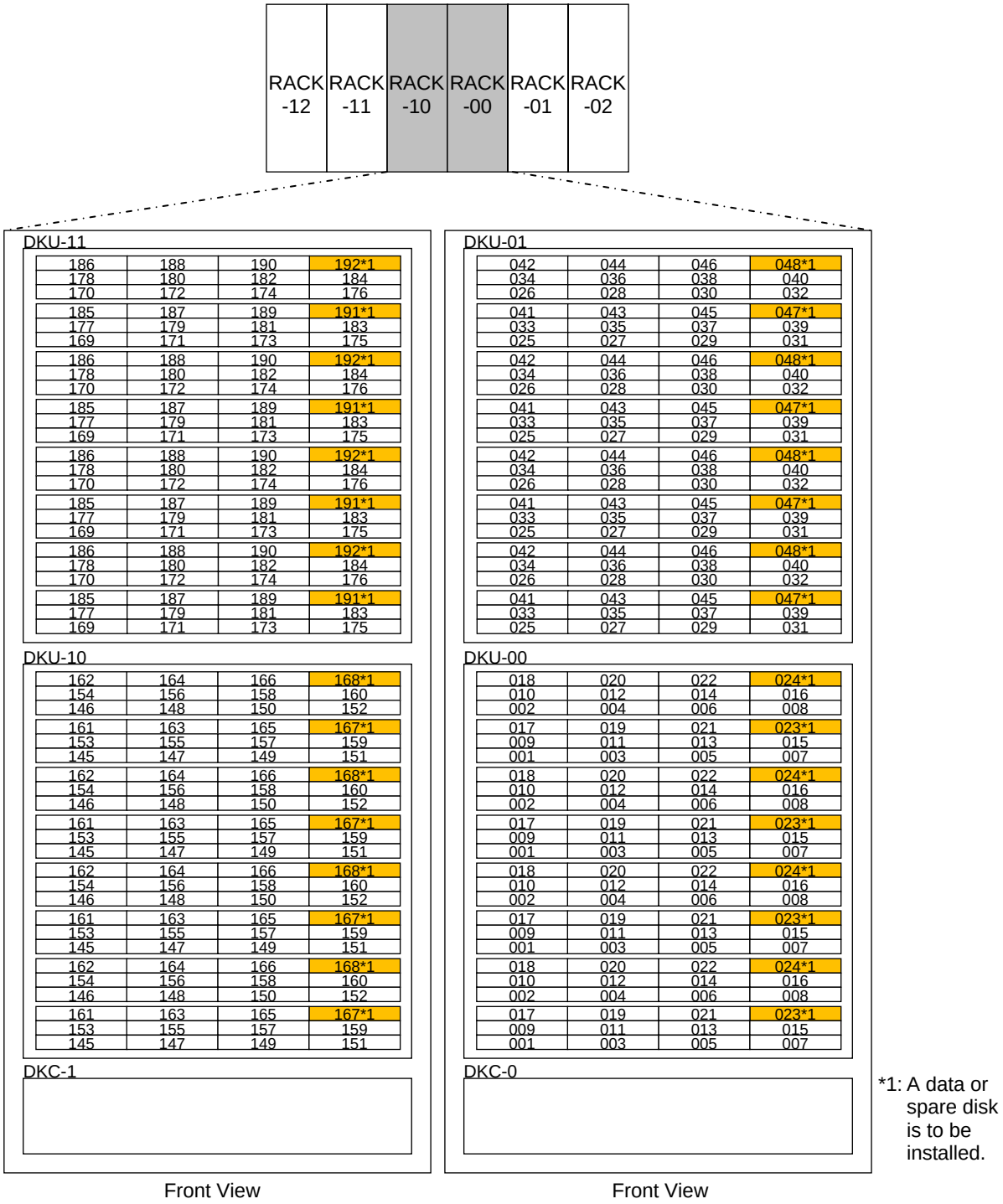


Fig. 3.11.2-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-1.

Copyright © 2014, Hitachi, Ltd.

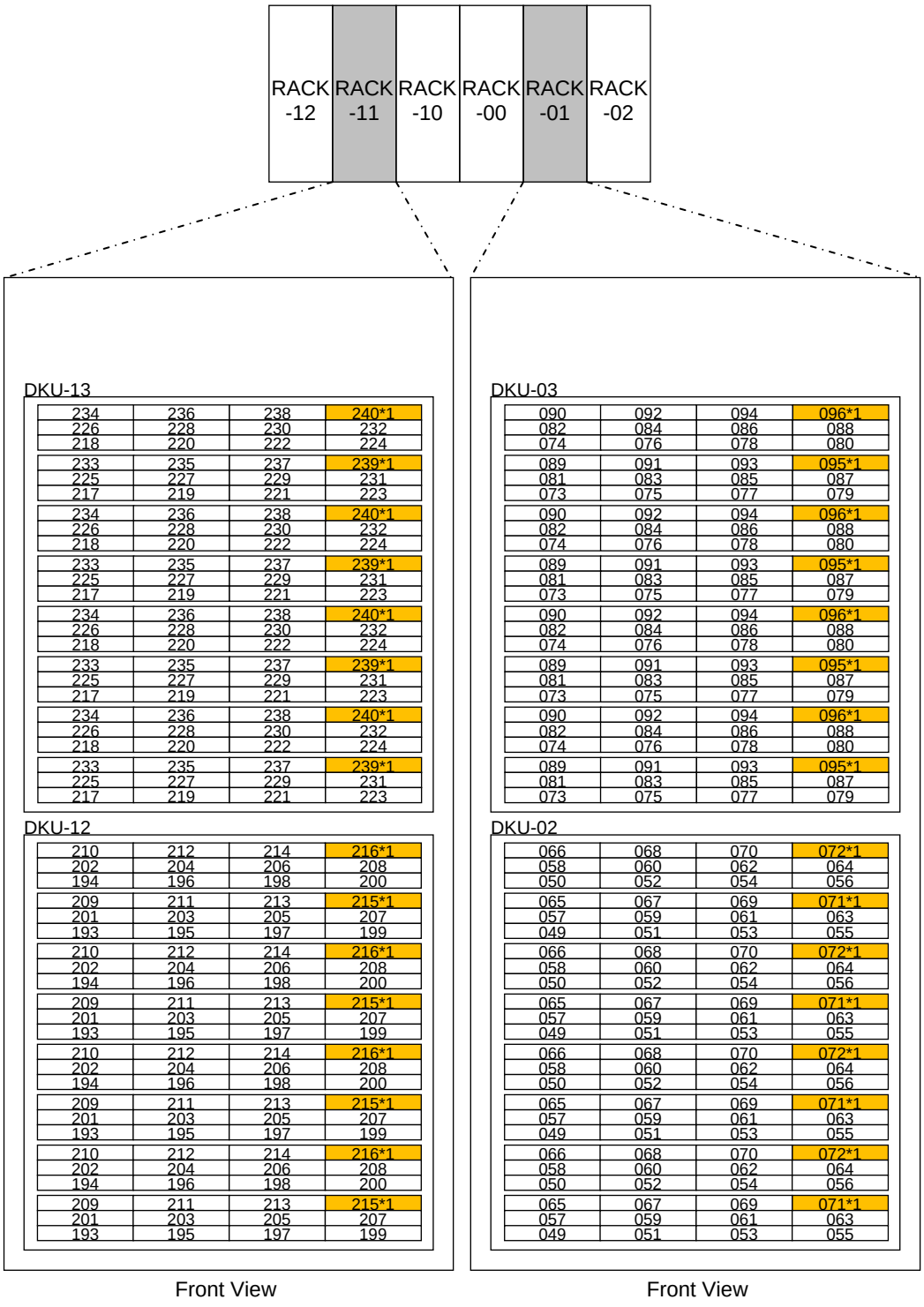


Fig. 3.11.2-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-1.

Copyright © 2014, Hitachi, Ltd.

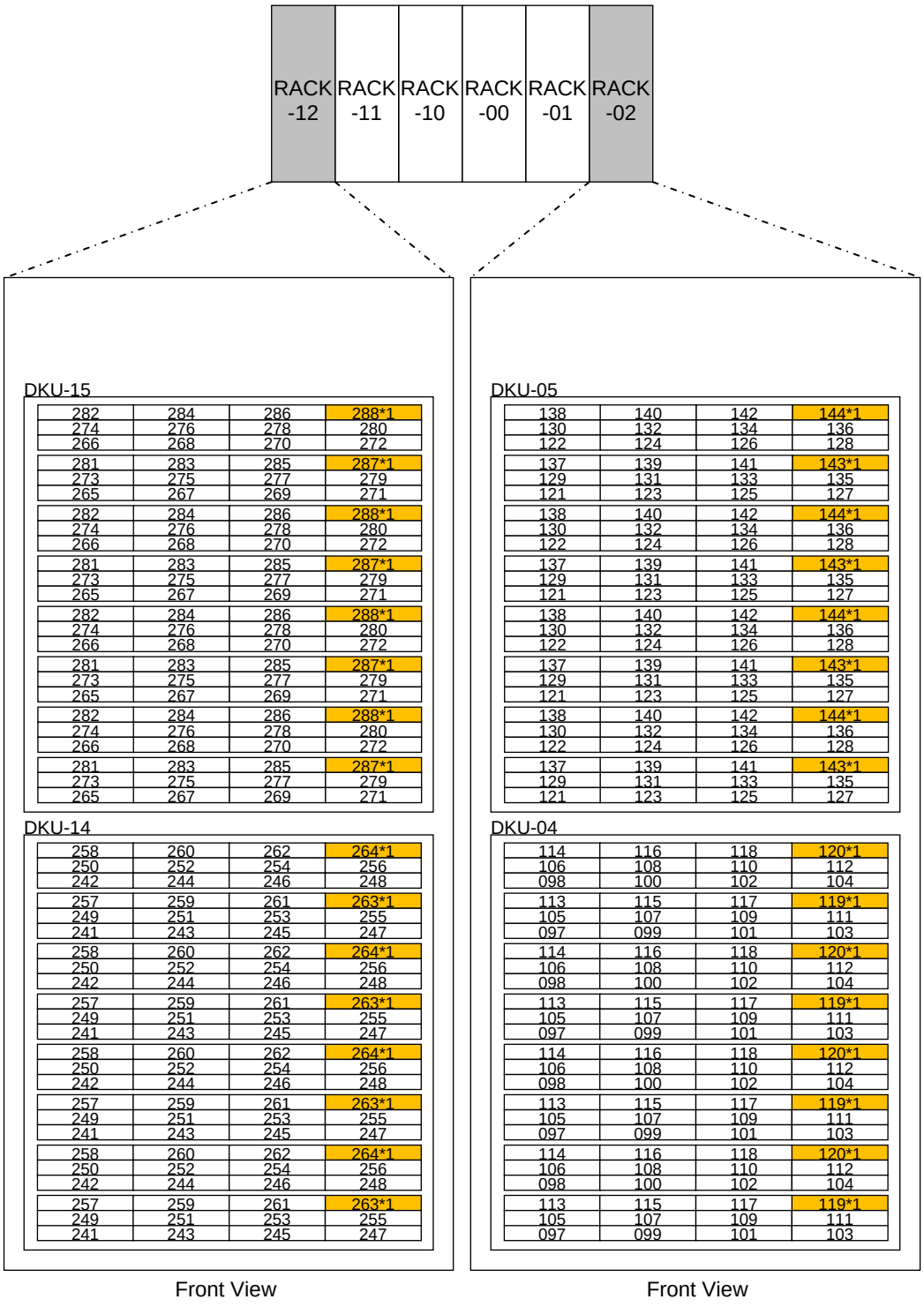


Fig. 3.11.2-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-1.

Copyright © 2014, Hitachi, Ltd.

(ii) RAID5 (3D+1P) / RAID1 (2D+2D), SBX (DKU for 2.5 inch Drive)
Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-2.

Table 3.11.2-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (1/4)

DKU-00				DKU-01				DKU-02			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	1-13	049	5-1	073	5-13	097	9-1	121	9-13
002	2-1	026	2-13	050	6-1	074	6-13	098	10-1	122	10-13
003	1-2	027	1-14	051	5-2	075	5-14	099	9-2	123	9-14
004	2-2	028	2-14	052	6-2	076	6-14	100	10-2	124	10-14
005	1-3	029	1-15	053	5-3	077	5-15	101	9-3	125	9-15
006	2-3	030	2-15	054	6-3	078	6-15	102	10-3	126	10-15
007	1-4	031	1-16	055	5-4	079	5-16	103	9-4	127	9-16
008	2-4	032	2-16	056	6-4	080	6-16	104	10-4	128	10-16
009	1-5	033	1-17	057	5-5	081	5-17	105	9-5	129	9-17
010	2-5	034	2-17	058	6-5	082	6-17	106	10-5	130	10-17
011	1-6	035	1-18	059	5-6	083	5-18	107	9-6	131	9-18
012	2-6	036	2-18	060	6-6	084	6-18	108	10-6	132	10-18
013	1-7	037	1-19	061	5-7	085	5-19	109	9-7	133	9-19
014	2-7	038	2-19	062	6-7	086	6-19	110	10-7	134	10-19
015	1-8	039	1-20	063	5-8	087	5-20	111	9-8	135	9-20
016	2-8	040	2-20	064	6-8	088	6-20	112	10-8	136	10-20
017	1-9	041	1-21	065	5-9	089	5-21	113	9-9	137	9-21
018	2-9	042	2-21	066	6-9	090	6-21	114	10-9	138	10-21
019	1-10	043	1-22	067	5-10	091	5-22	115	9-10	139	9-22
020	2-10	044	2-22	068	6-10	092	6-22	116	10-10	140	10-22
021	1-11	045	1-23	069	5-11	093	5-23	117	9-11	141	9-23
022	2-11	046	2-23	070	6-11	094	6-23	118	10-11	142	10-23
023	1-12	047	1-24 Spare*1	071	5-12	095	5-24 Spare*1	119	9-12	143	9-24 Spare*1
024	2-12	048	2-24 Spare*1	072	6-12	096	6-24 Spare*1	120	10-12	144	10-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (2/4)

DKU-03				DKU-04				DKU-05			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	13-1	169	13-13	193	17-1	217	17-13	241	21-1	265	21-13
146	14-1	170	14-13	194	18-1	218	18-13	242	22-1	266	22-13
147	13-2	171	13-14	195	17-2	219	17-14	243	21-2	267	21-14
148	14-2	172	14-14	196	18-2	220	18-14	244	22-2	268	22-14
149	13-3	173	13-15	197	17-3	221	17-15	245	21-3	269	21-15
150	14-3	174	14-15	198	18-3	222	18-15	246	22-3	270	22-15
151	13-4	175	13-16	199	17-4	223	17-16	247	21-4	271	21-16
152	14-4	176	14-16	200	18-4	224	18-16	248	22-4	272	22-16
153	13-5	177	13-17	201	17-5	225	17-17	249	21-5	273	21-17
154	14-5	178	14-17	202	18-5	226	18-17	250	22-5	274	22-17
155	13-6	179	13-18	203	17-6	227	17-18	251	21-6	275	21-18
156	14-6	180	14-18	204	18-6	228	18-18	252	22-6	276	22-18
157	13-7	181	13-19	205	17-7	229	17-19	253	21-7	277	21-19
158	14-7	182	14-19	206	18-7	230	18-19	254	22-7	278	22-19
159	13-8	183	13-20	207	17-8	231	17-20	255	21-8	279	21-20
160	14-8	184	14-20	208	18-8	232	18-20	256	22-8	280	22-20
161	13-9	185	13-21	209	17-9	233	17-21	257	21-9	281	21-21
162	14-9	186	14-21	210	18-9	234	18-21	258	22-9	282	22-21
163	13-10	187	13-22	211	17-10	235	17-22	259	21-10	283	21-22
164	14-10	188	14-22	212	18-10	236	18-22	260	22-10	284	22-22
165	13-11	189	13-23	213	17-11	237	17-23	261	21-11	285	21-23
166	14-11	190	14-23	214	18-11	238	18-23	262	22-11	286	22-23
167	13-12	191	13-24 Spare*1	215	17-12	239	17-24 Spare*1	263	21-12	287	21-24 Spare*1
168	14-12	192	14-24 Spare*1	216	18-12	240	18-24 Spare*1	264	22-12	288	22-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (3/4)

DKU-10				DKU-11				DKU-12			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
289	3-1	313	3-13	337	7-1	361	7-13	385	11-1	409	11-13
290	4-1	314	4-13	338	8-1	362	8-13	386	12-1	410	12-13
291	3-2	315	3-14	339	7-2	363	7-14	387	11-2	411	11-14
292	4-2	316	4-14	340	8-2	364	8-14	388	12-2	412	12-14
293	3-3	317	3-15	341	7-3	365	7-15	389	11-3	413	11-15
294	4-3	318	4-15	342	8-3	366	8-15	390	12-3	414	12-15
295	3-4	319	3-16	343	7-4	367	7-16	391	11-4	415	11-16
296	4-4	320	4-16	344	8-4	368	8-16	392	12-4	416	12-16
297	3-5	321	3-17	345	7-5	369	7-17	393	11-5	417	11-17
298	4-5	322	4-17	346	8-5	370	8-17	394	12-5	418	12-17
299	3-6	323	3-18	347	7-6	371	7-18	395	11-6	419	11-18
300	4-6	324	4-18	348	8-6	372	8-18	396	12-6	420	12-18
301	3-7	325	3-19	349	7-7	373	7-19	397	11-7	421	11-19
302	4-7	326	4-19	350	8-7	374	8-19	398	12-7	422	12-19
303	3-8	327	3-20	351	7-8	375	7-20	399	11-8	423	11-20
304	4-8	328	4-20	352	8-8	376	8-20	400	12-8	424	12-20
305	3-9	329	3-21	353	7-9	377	7-21	401	11-9	425	11-21
306	4-9	330	4-21	354	8-9	378	8-21	402	12-9	426	12-21
307	3-10	331	3-22	355	7-10	379	7-22	403	11-10	427	11-22
308	4-10	332	4-22	356	8-10	380	8-22	404	12-10	428	12-22
309	3-11	333	3-23	357	7-11	381	7-23	405	11-11	429	11-23
310	4-11	334	4-23	358	8-11	382	8-23	406	12-11	430	12-23
311	3-12	335	3-24 Spare*1	359	7-12	383	7-24 Spare*1	407	11-12	431	11-24 Spare*1
312	4-12	336	4-24 Spare*1	360	8-12	384	8-24 Spare*1	408	12-12	432	12-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (4/4)

DKU-13				DKU-14				DKU-15			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
433	15-1	457	15-13	481	19-1	505	19-13	529	23-1	553	23-13
434	16-1	458	16-13	482	20-1	506	20-13	530	24-1	554	24-13
435	15-2	459	15-14	483	19-2	507	19-14	531	23-2	555	23-14
436	16-2	460	16-14	484	20-2	508	20-14	532	24-2	556	24-14
437	15-3	461	15-15	485	19-3	509	19-15	533	23-3	557	23-15
438	16-3	462	16-15	486	20-3	510	20-15	534	24-3	558	24-15
439	15-4	463	15-16	487	19-4	511	19-16	535	23-4	559	23-16
440	16-4	464	16-16	488	20-4	512	20-16	536	24-4	560	24-16
441	15-5	465	15-17	489	19-5	513	19-17	537	23-5	561	23-17
442	16-5	466	16-17	490	20-5	514	20-17	538	24-5	562	24-17
443	15-6	467	15-18	491	19-6	515	19-18	539	23-6	563	23-18
444	16-6	468	16-18	492	20-6	516	20-18	540	24-6	564	24-18
445	15-7	469	15-19	493	19-7	517	19-19	541	23-7	565	23-19
446	16-7	470	16-19	494	20-7	518	20-19	542	24-7	566	24-19
447	15-8	471	15-20	495	19-8	519	19-20	543	23-8	567	23-20
448	16-8	472	16-20	496	20-8	520	20-20	544	24-8	568	24-20
449	15-9	473	15-21	497	19-9	521	19-21	545	23-9	569	23-21
450	16-9	474	16-21	498	20-9	522	20-21	546	24-9	570	24-21
451	15-10	475	15-22	499	19-10	523	19-22	547	23-10	571	23-22
452	16-10	476	16-22	500	20-10	524	20-22	548	24-10	572	24-22
453	15-11	477	15-23	501	19-11	525	19-23	549	23-11	573	23-23
454	16-11	478	16-23	502	20-11	526	20-23	550	24-11	574	24-23
455	15-12	479	15-24 Spare*1	503	19-12	527	19-24 Spare*1	551	23-12	575	23-24 Spare*1
456	16-12	480	16-24 Spare*1	504	20-12	528	20-24 Spare*1	552	24-12	576	24-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 4	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 4	SFF SSD Drive	

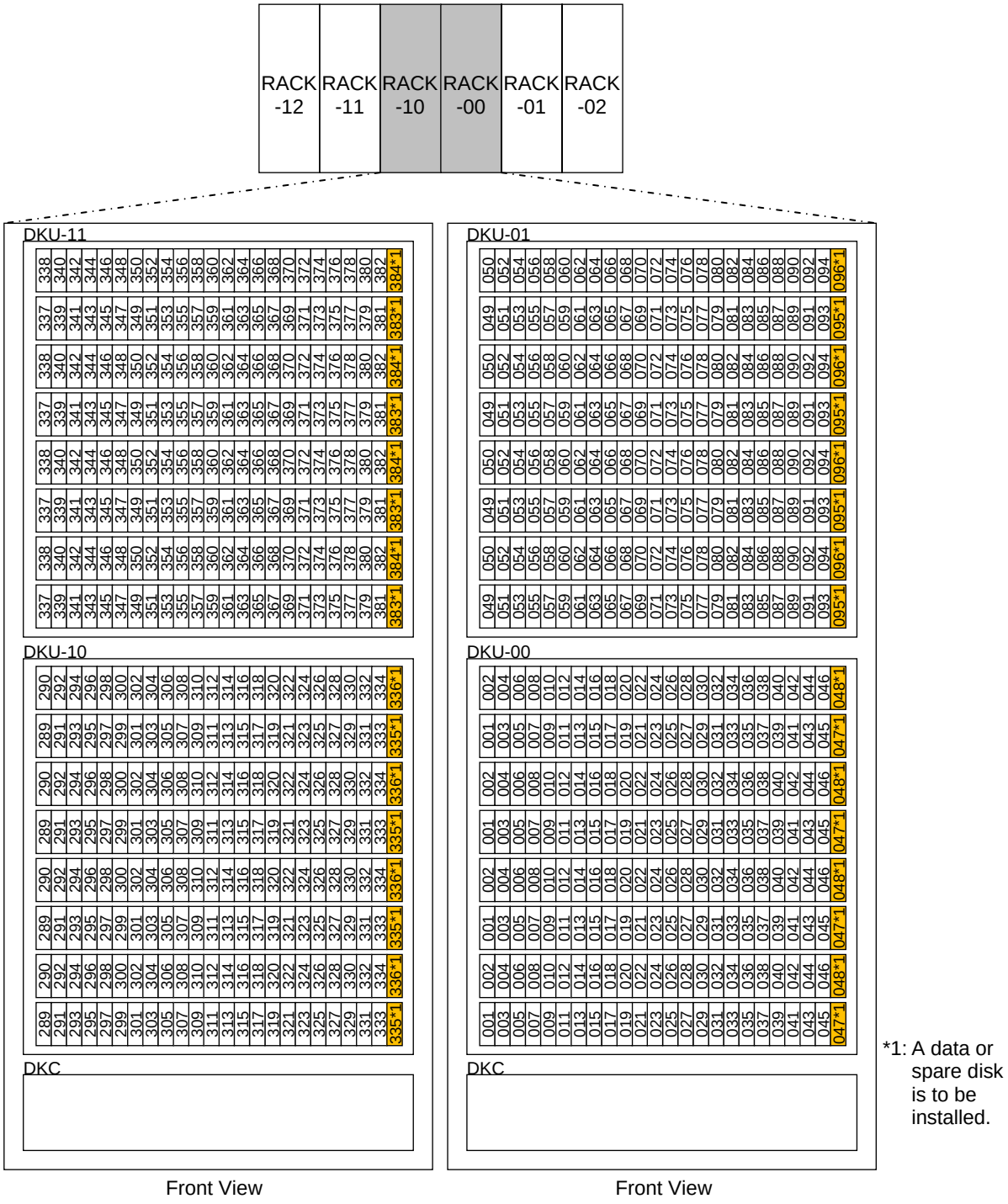


Fig. 3.11.2-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-2.

Copyright © 2014, Hitachi, Ltd.

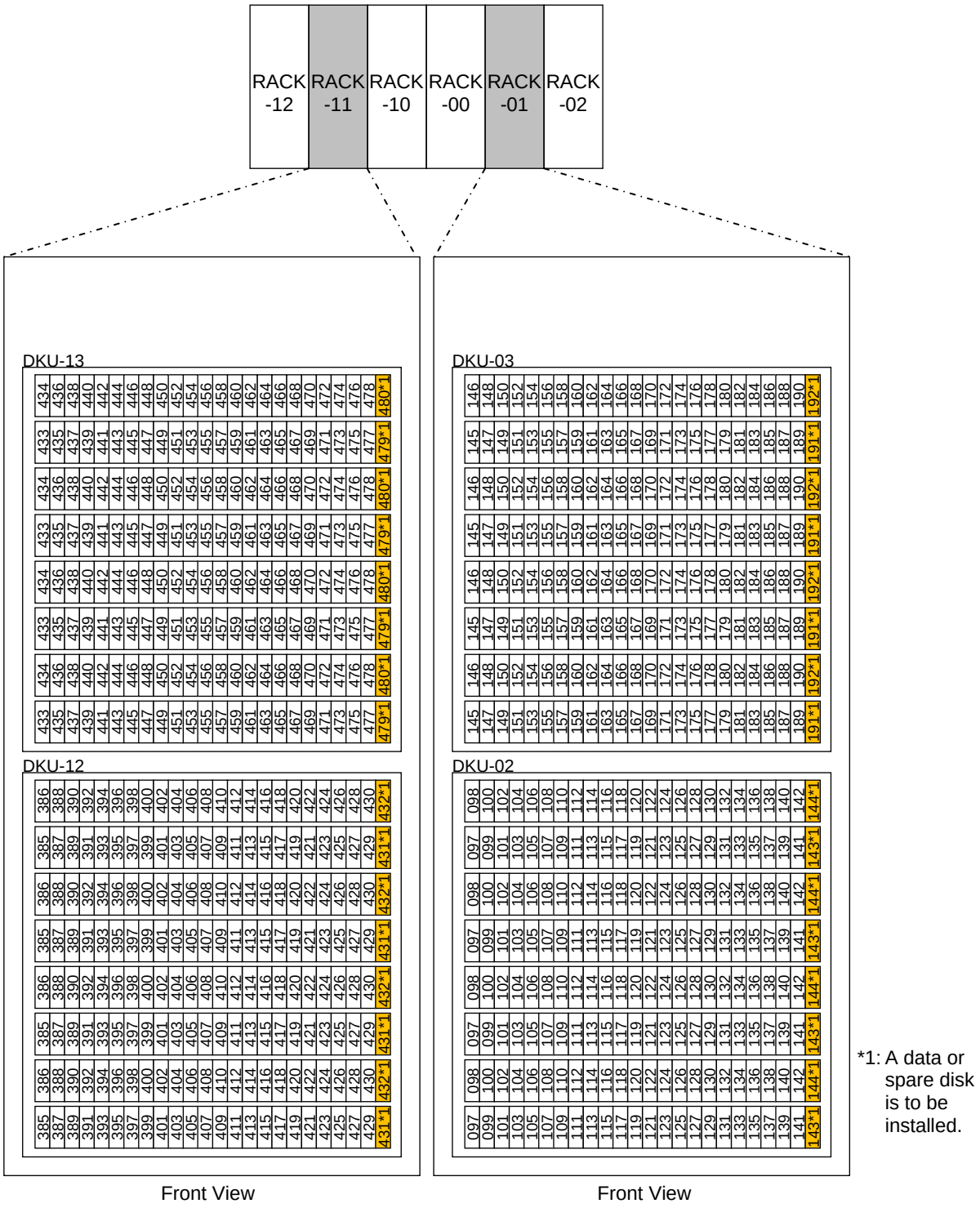


Fig. 3.11.2-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-2.

Copyright © 2014, Hitachi, Ltd.

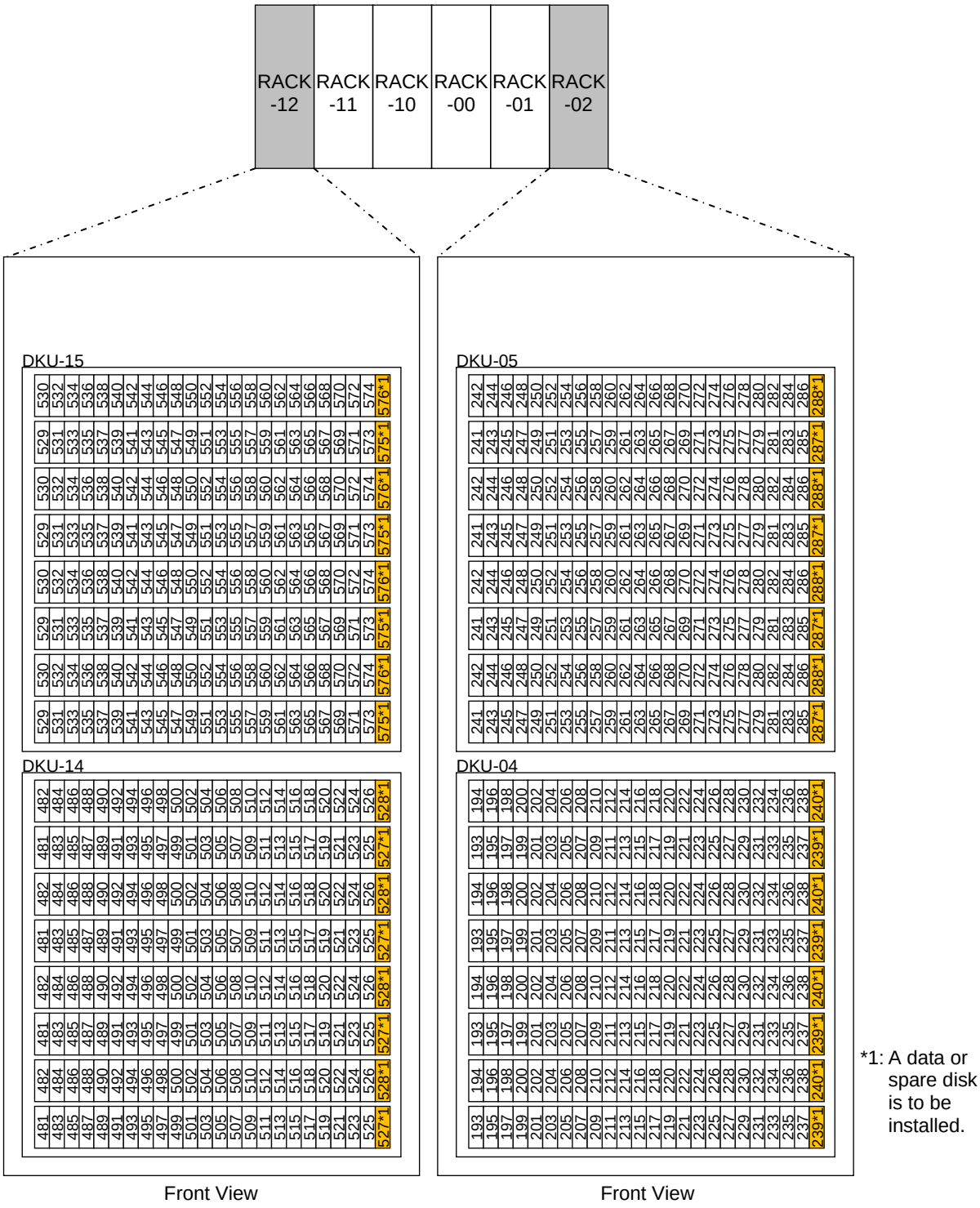


Fig. 3.11.2-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-2.

Copyright © 2014, Hitachi, Ltd.

(iii) RAID5 (3D+1P) / RAID1 (2D+2D), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-3.

Table 3.11.2-3 Relation between drives installation order and RAID group number (3D+1P/2D+2D, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	2-1	014	6-1	026	10-1	038	14-1	050	18-1	062	22-1
003	1-2	015	5-2	027	9-2	039	13-2	051	17-2	063	21-2
004	2-2	016	6-2	028	10-2	040	14-2	052	18-2	064	22-2
005	1-3	017	5-3	029	9-3	041	13-3	053	17-3	065	21-3
006	2-3	018	6-3	030	10-3	042	14-3	054	18-3	066	22-3
007	1-4	019	5-4	031	9-4	043	13-4	055	17-4	067	21-4
008	2-4	020	6-4	032	10-4	044	14-4	056	18-4	068	22-4
009	1-5	021	5-5	033	9-5	045	13-5	057	17-5	069	21-5
010	2-5	022	6-5	034	10-5	046	14-5	058	18-5	070	22-5
011	1-6 Spare*1	023	5-6 Spare*1	035	9-6 Spare*1	047	13-6 Spare*1	059	17-6 Spare*1	071	21-6 Spare*1
012	2-6 Spare*1	024	6-6 Spare*1	036	10-6 Spare*1	048	14-6 Spare*1	060	18-6 Spare*1	072	22-6 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-3 Relation between drives installation order and RAID group number (3D+1P/2D+2D, FBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	4-1	086	8-1	098	12-1	110	16-1	122	20-1	134	24-1
075	3-2	087	7-2	099	11-2	111	15-2	123	19-2	135	23-2
076	4-2	088	8-2	100	12-2	112	16-2	124	20-2	136	24-2
077	3-3	089	7-3	101	11-3	113	15-3	125	19-3	137	23-3
078	4-3	090	8-3	102	12-3	114	16-3	126	20-3	138	24-3
079	3-4	091	7-4	103	11-4	115	15-4	127	19-4	139	23-4
080	4-4	092	8-4	104	12-4	116	16-4	128	20-4	140	24-4
081	3-5	093	7-5	105	11-5	117	15-5	129	19-5	141	23-5
082	4-5	094	8-5	106	12-5	118	16-5	130	20-5	142	24-5
083	3-6 Spare*1	095	7-6 Spare*1	107	11-6 Spare*1	119	15-6 Spare*1	131	19-6 Spare*1	143	23-6 Spare*1
084	4-6 Spare*1	096	8-6 Spare*1	108	12-6 Spare*1	120	16-6 Spare*1	132	20-6 Spare*1	144	24-6 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 4	Flash Module Drive	FMD

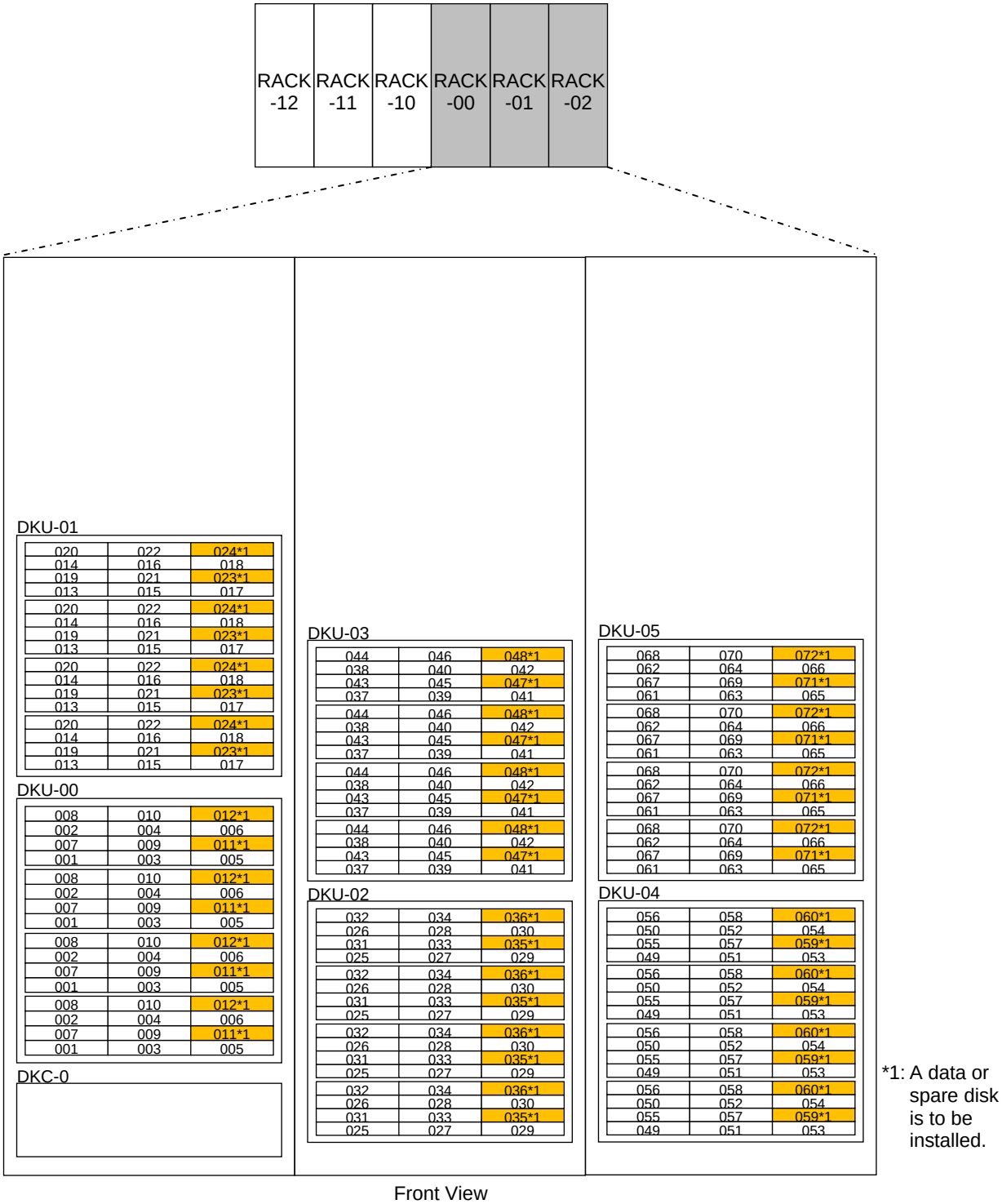


Fig. 3.11.2-3 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-3.

Copyright © 2014, Hitachi, Ltd.

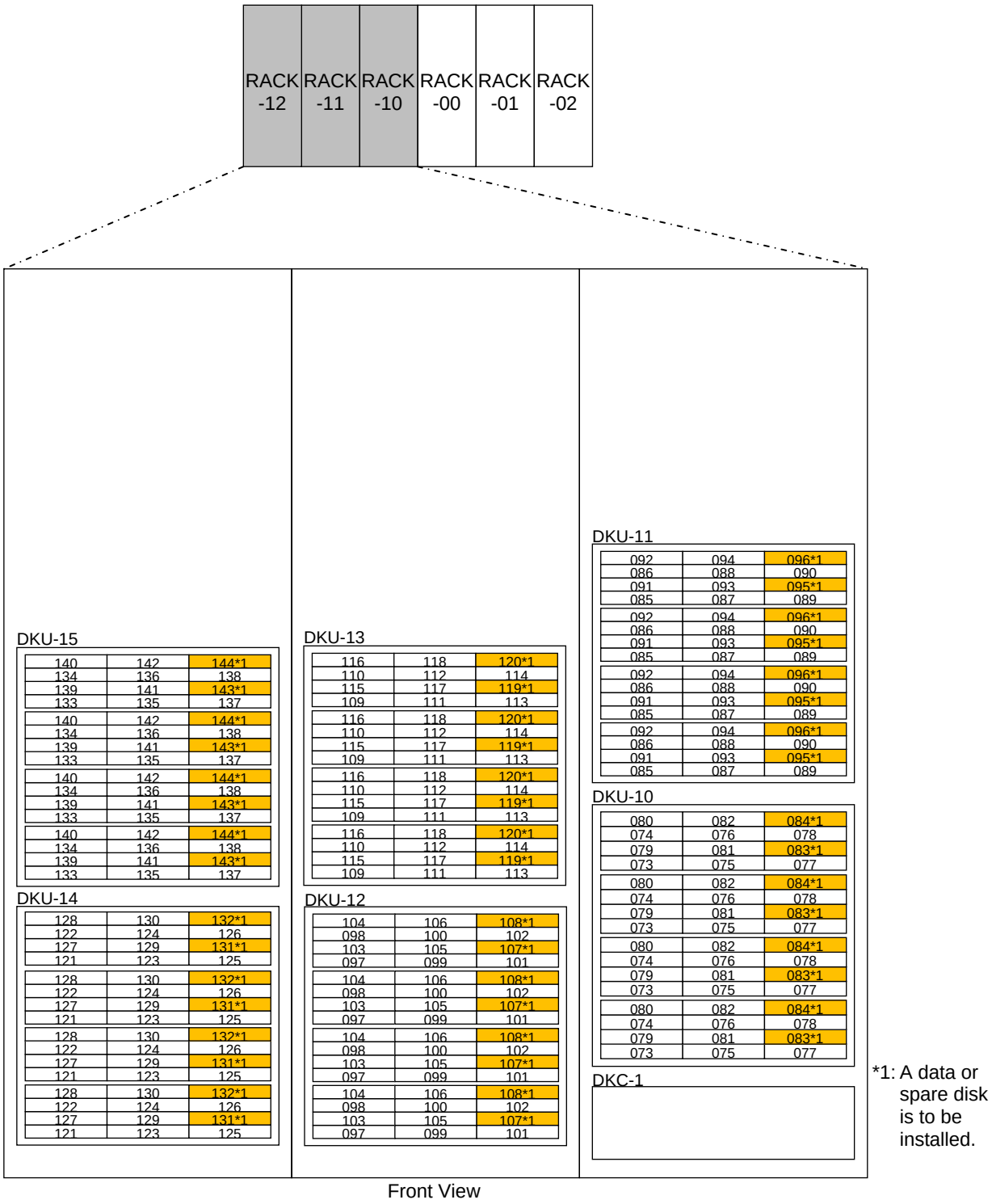


Fig. 3.11.2-3 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-3.

Copyright © 2014, Hitachi, Ltd.

(iv) RAID5 (7D+1P) / RAID6 (6D+2P), UBX (DKU for 3.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-4.

Table 3.11.2-4 Relation between drives installation order and RAID group number (7D+1P/6D+2P, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	1-2	014	5-2	026	9-2	038	13-2	050	17-2	062	21-2
003	1-3	015	5-3	027	9-3	039	13-3	051	17-3	063	21-3
004	1-4	016	5-4	028	9-4	040	13-4	052	17-4	064	21-4
005	1-5	017	5-5	029	9-5	041	13-5	053	17-5	065	21-5
006	1-6	018	5-6	030	9-6	042	13-6	054	17-6	066	21-6
007	1-7	019	5-7	031	9-7	043	13-7	055	17-7	067	21-7
008	1-8	020	5-8	032	9-8	044	13-8	056	17-8	068	21-8
009	1-9	021	5-9	033	9-9	045	13-9	057	17-9	069	21-9
010	1-10	022	5-10	034	9-10	046	13-10	058	17-10	070	21-10
011	1-11	023	5-11	035	9-11	047	13-11	059	17-11	071	21-11
012	1-12 Spare*1	024	5-12 Spare*1	036	9-12 Spare*1	048	13-12 Spare*1	060	17-12 Spare*1	072	21-12 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-4 Relation between drives installation order and RAID group number (7D+1P/6D+2P, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	3-2	086	7-2	098	11-2	110	15-2	122	19-2	134	23-2
075	3-3	087	7-3	099	11-3	111	15-3	123	19-3	135	23-3
076	3-4	088	7-4	100	11-4	112	15-4	124	19-4	136	23-4
077	3-5	089	7-5	101	11-5	113	15-5	125	19-5	137	23-5
078	3-6	090	7-6	102	11-6	114	15-6	126	19-6	138	23-6
079	3-7	091	7-7	103	11-7	115	15-7	127	19-7	139	23-7
080	3-8	092	7-8	104	11-8	116	15-8	128	19-8	140	23-8
081	3-9	093	7-9	105	11-9	117	15-9	129	19-9	141	23-9
082	3-10	094	7-10	106	11-10	118	15-10	130	19-10	142	23-10
083	3-11	095	7-11	107	11-11	119	15-11	131	19-11	143	23-11
084	3-12 Spare*1	096	7-12 Spare*1	108	11-12 Spare*1	120	15-12 Spare*1	132	19-12 Spare*1	144	23-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 8	LFF Disk Drive	
2	DKC-F810I-400M5M × 8	LFF SSD Drive	

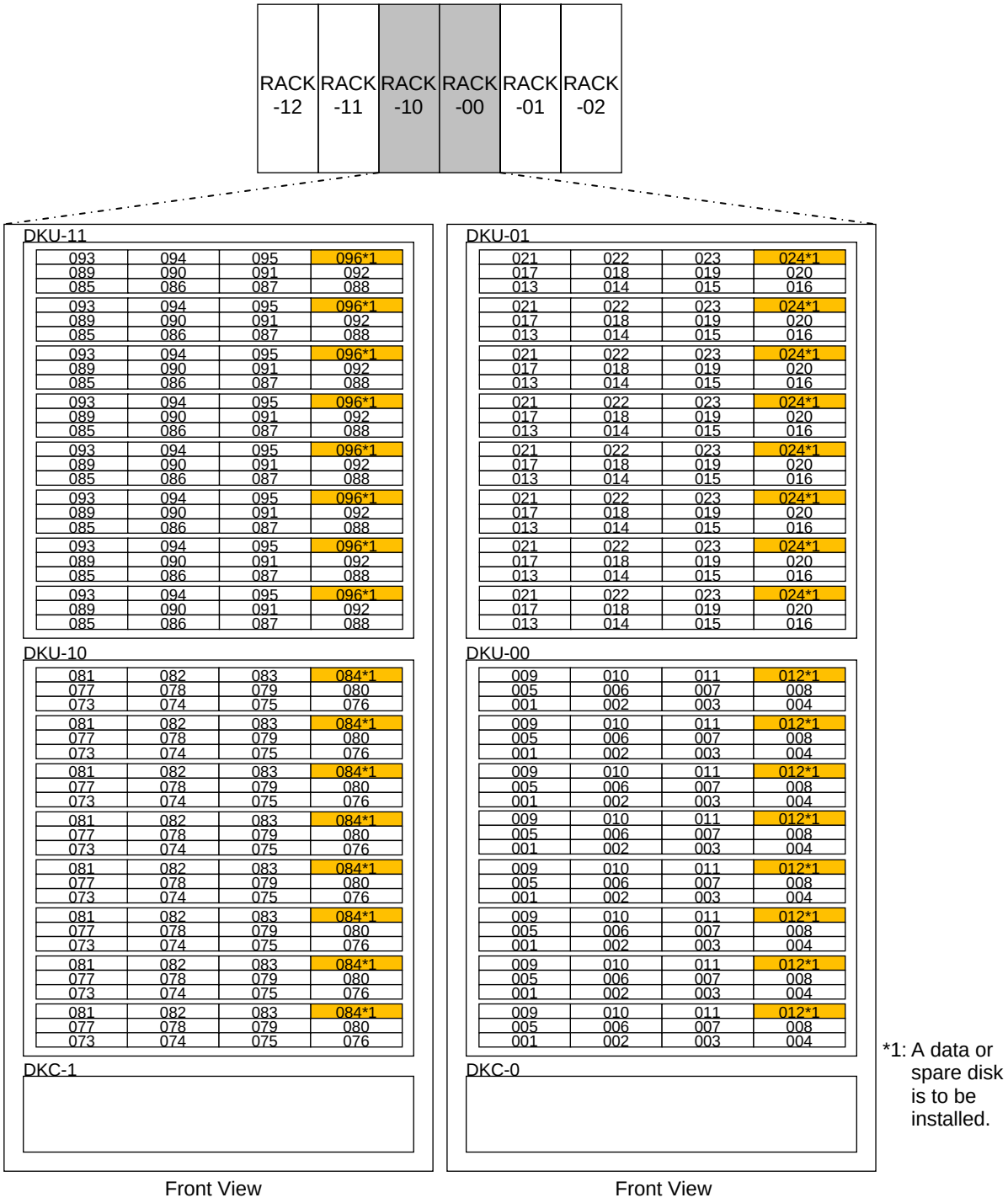


Fig. 3.11.2-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-4.

Copyright © 2014, Hitachi, Ltd.

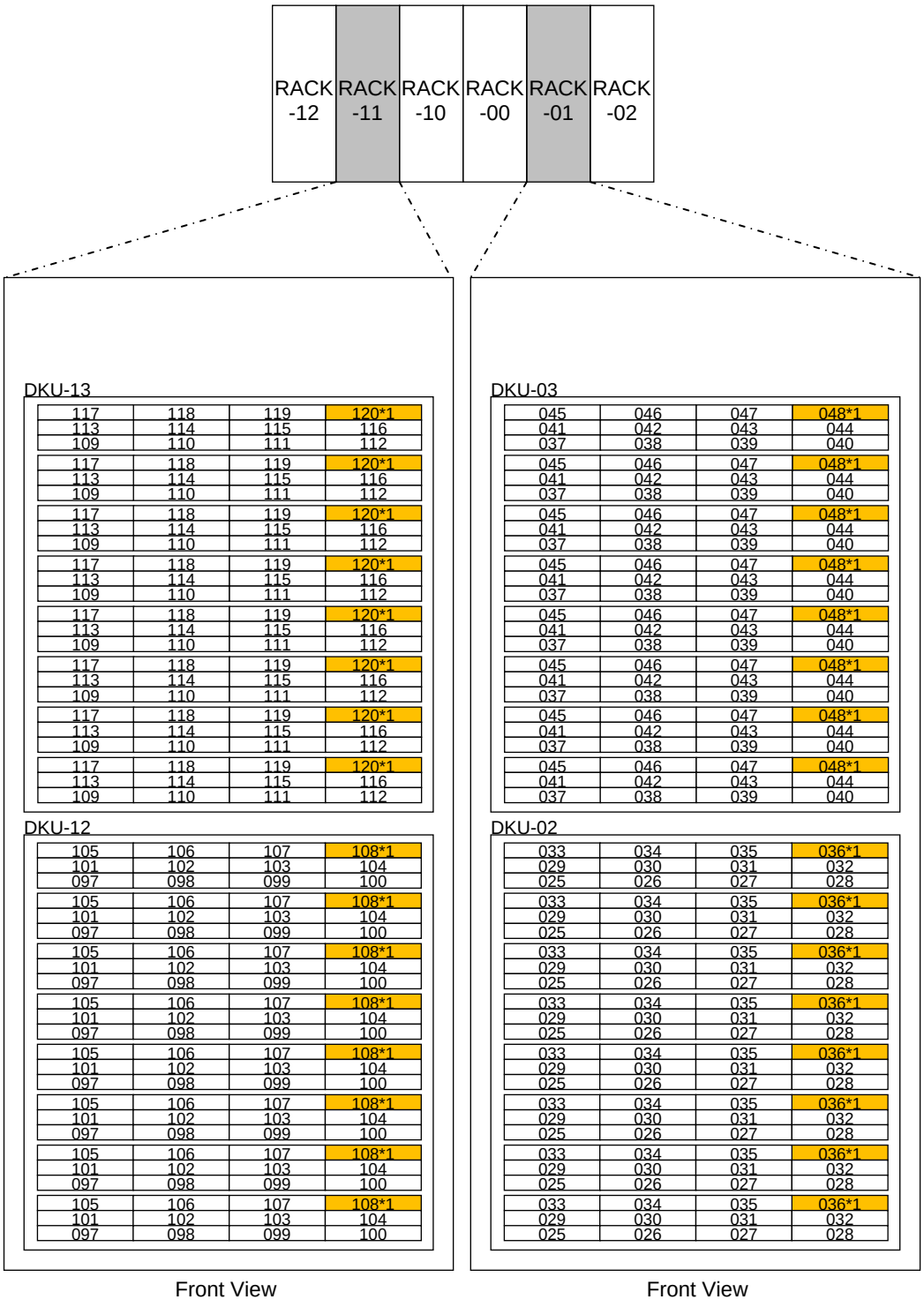


Fig. 3.11.2-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-4.

Copyright © 2014, Hitachi, Ltd.

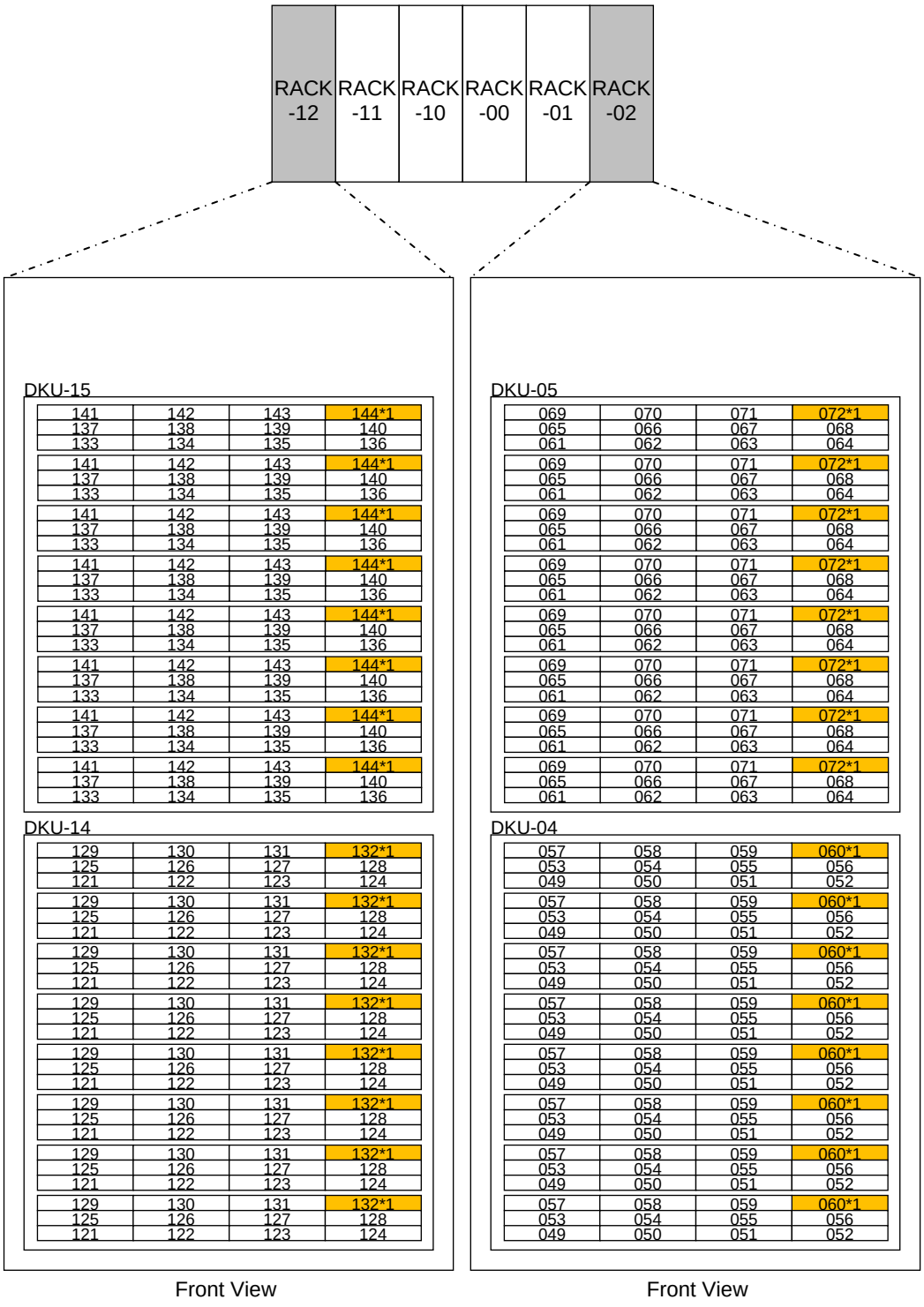


Fig. 3.11.2-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-4.

Copyright © 2014, Hitachi, Ltd.

(v) RAID5 (7D+1P) / RAID6 (6D+2P), SBX (DKU for 2.5 inch Drive)
Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-5.

Table 3.11.2-5 Relation between drives installation order and RAID group number (7D+1P/6D+2P, SBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	5-1	049	9-1	073	13-1	097	17-1	121	21-1
002	1-2	026	5-2	050	9-2	074	13-2	098	17-2	122	21-2
003	1-3	027	5-3	051	9-3	075	13-3	099	17-3	123	21-3
004	1-4	028	5-4	052	9-4	076	13-4	100	17-4	124	21-4
005	1-5	029	5-5	053	9-5	077	13-5	101	17-5	125	21-5
006	1-6	030	5-6	054	9-6	078	13-6	102	17-6	126	21-6
007	1-7	031	5-7	055	9-7	079	13-7	103	17-7	127	21-7
008	1-8	032	5-8	056	9-8	080	13-8	104	17-8	128	21-8
009	1-9	033	5-9	057	9-9	081	13-9	105	17-9	129	21-9
010	1-10	034	5-10	058	9-10	082	13-10	106	17-10	130	21-10
011	1-11	035	5-11	059	9-11	083	13-11	107	17-11	131	21-11
012	1-12	036	5-12	060	9-12	084	13-12	108	17-12	132	21-12
013	1-13	037	5-13	061	9-13	085	13-13	109	17-13	133	21-13
014	1-14	038	5-14	062	9-14	086	13-14	110	17-14	134	21-14
015	1-15	039	5-15	063	9-15	087	13-15	111	17-15	135	21-15
016	1-16	040	5-16	064	9-16	088	13-16	112	17-16	136	21-16
017	1-17	041	5-17	065	9-17	089	13-17	113	17-17	137	21-17
018	1-18	042	5-18	066	9-18	090	13-18	114	17-18	138	21-18
019	1-19	043	5-19	067	9-19	091	13-19	115	17-19	139	21-19
020	1-20	044	5-20	068	9-20	092	13-20	116	17-20	140	21-20
021	1-21	045	5-21	069	9-21	093	13-21	117	17-21	141	21-21
022	1-22	046	5-22	070	9-22	094	13-22	118	17-22	142	21-22
023	1-23	047	5-23	071	9-23	095	13-23	119	17-23	143	21-23
024	1-24 Spare*1	048	5-24 Spare*1	072	9-24 Spare*1	096	13-24 Spare*1	120	17-24 Spare*1	144	21-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-5 Relation between drives installation order and RAID group number (7D+1P/6D+2P, SBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	3-1	169	7-1	193	11-1	217	15-1	241	19-1	265	23-1
146	3-2	170	7-2	194	11-2	218	15-2	242	19-2	266	23-2
147	3-3	171	7-3	195	11-3	219	15-3	243	19-3	267	23-3
148	3-4	172	7-4	196	11-4	220	15-4	244	19-4	268	23-4
149	3-5	173	7-5	197	11-5	221	15-5	245	19-5	269	23-5
150	3-6	174	7-6	198	11-6	222	15-6	246	19-6	270	23-6
151	3-7	175	7-7	199	11-7	223	15-7	247	19-7	271	23-7
152	3-8	176	7-8	200	11-8	224	15-8	248	19-8	272	23-8
153	3-9	177	7-9	201	11-9	225	15-9	249	19-9	273	23-9
154	3-10	178	7-10	202	11-10	226	15-10	250	19-10	274	23-10
155	3-11	179	7-11	203	11-11	227	15-11	251	19-11	275	23-11
156	3-12	180	7-12	204	11-12	228	15-12	252	19-12	276	23-12
157	3-13	181	7-13	205	11-13	229	15-13	253	19-13	277	23-13
158	3-14	182	7-14	206	11-14	230	15-14	254	19-14	278	23-14
159	3-15	183	7-15	207	11-15	231	15-15	255	19-15	279	23-15
160	3-16	184	7-16	208	11-16	232	15-16	256	19-16	280	23-16
161	3-17	185	7-17	209	11-17	233	15-17	257	19-17	281	23-17
162	3-18	186	7-18	210	11-18	234	15-18	258	19-18	282	23-18
163	3-19	187	7-19	211	11-19	235	15-19	259	19-19	283	23-19
164	3-20	188	7-20	212	11-20	236	15-20	260	19-20	284	23-20
165	3-21	189	7-21	213	11-21	237	15-21	261	19-21	285	23-21
166	3-22	190	7-22	214	11-22	238	15-22	262	19-22	286	23-22
167	3-23	191	7-23	215	11-23	239	15-23	263	19-23	287	23-23
168	3-24 Spare*1	192	7-24 Spare*1	216	11-24 Spare*1	240	15-24 Spare*1	264	19-24 Spare*1	288	23-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 8	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 8	SFF SSD Drive	

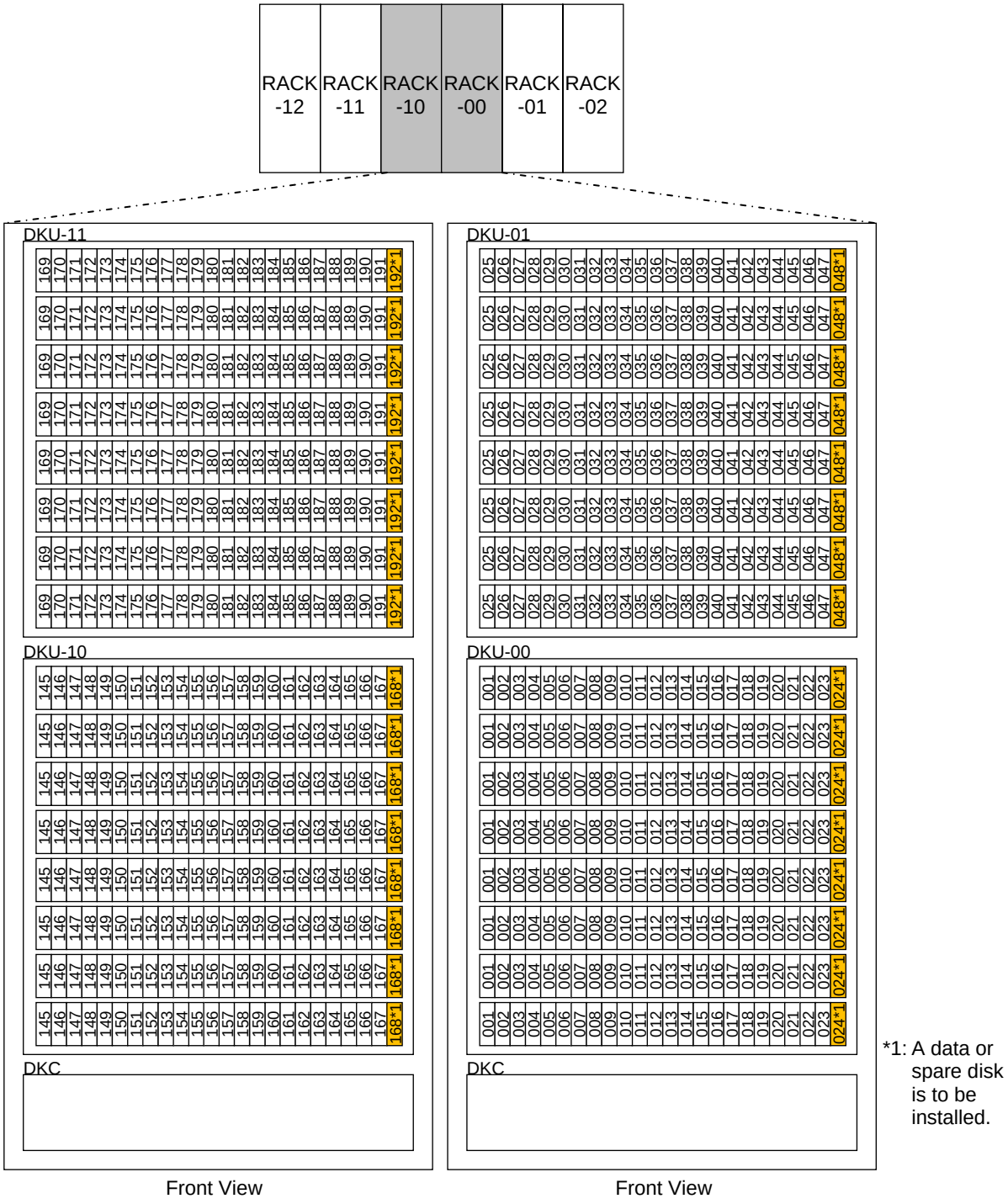


Fig. 3.11.2-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-5.

Copyright © 2014, Hitachi, Ltd.

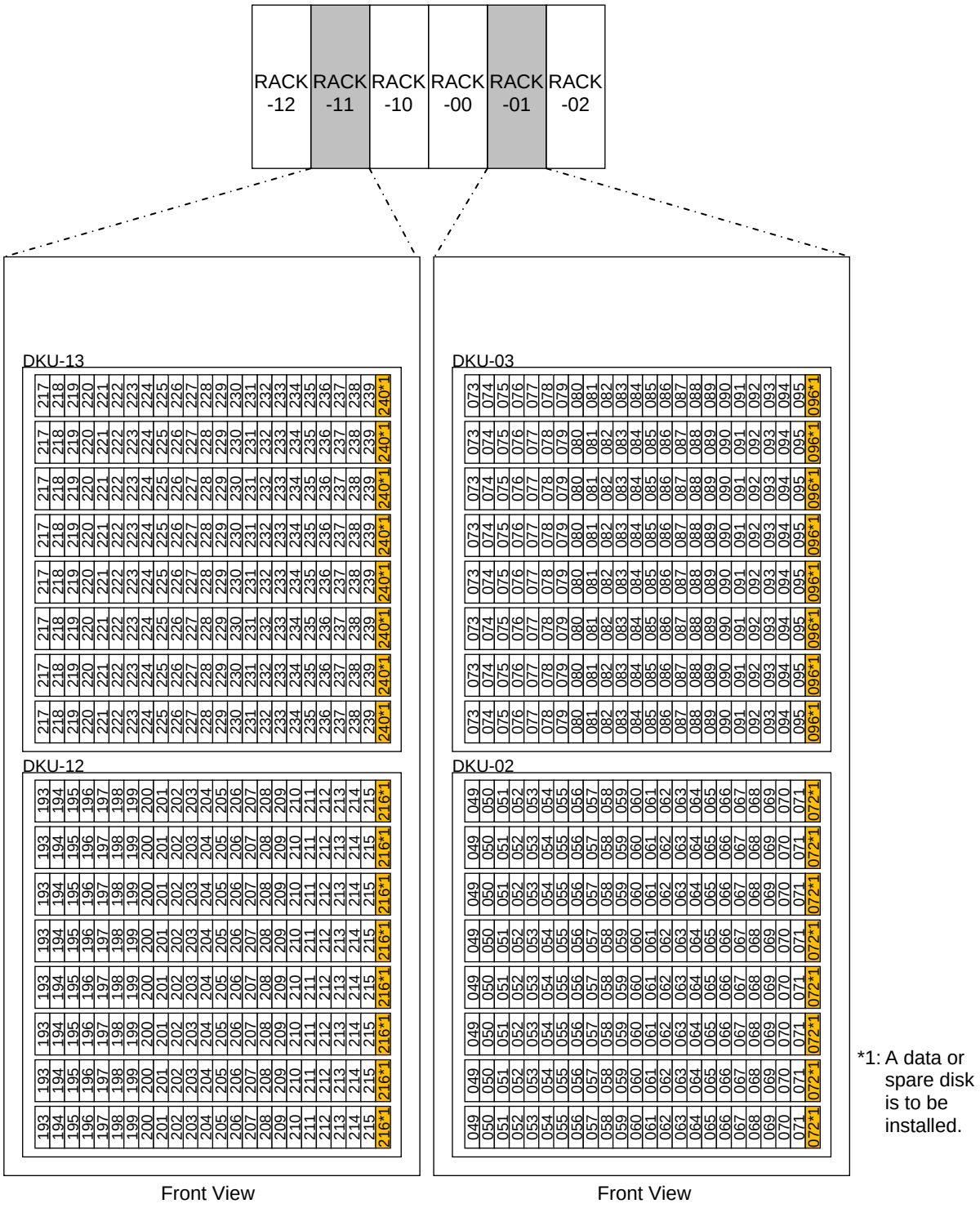


Fig. 3.11.2-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-5.

Copyright © 2014, Hitachi, Ltd.

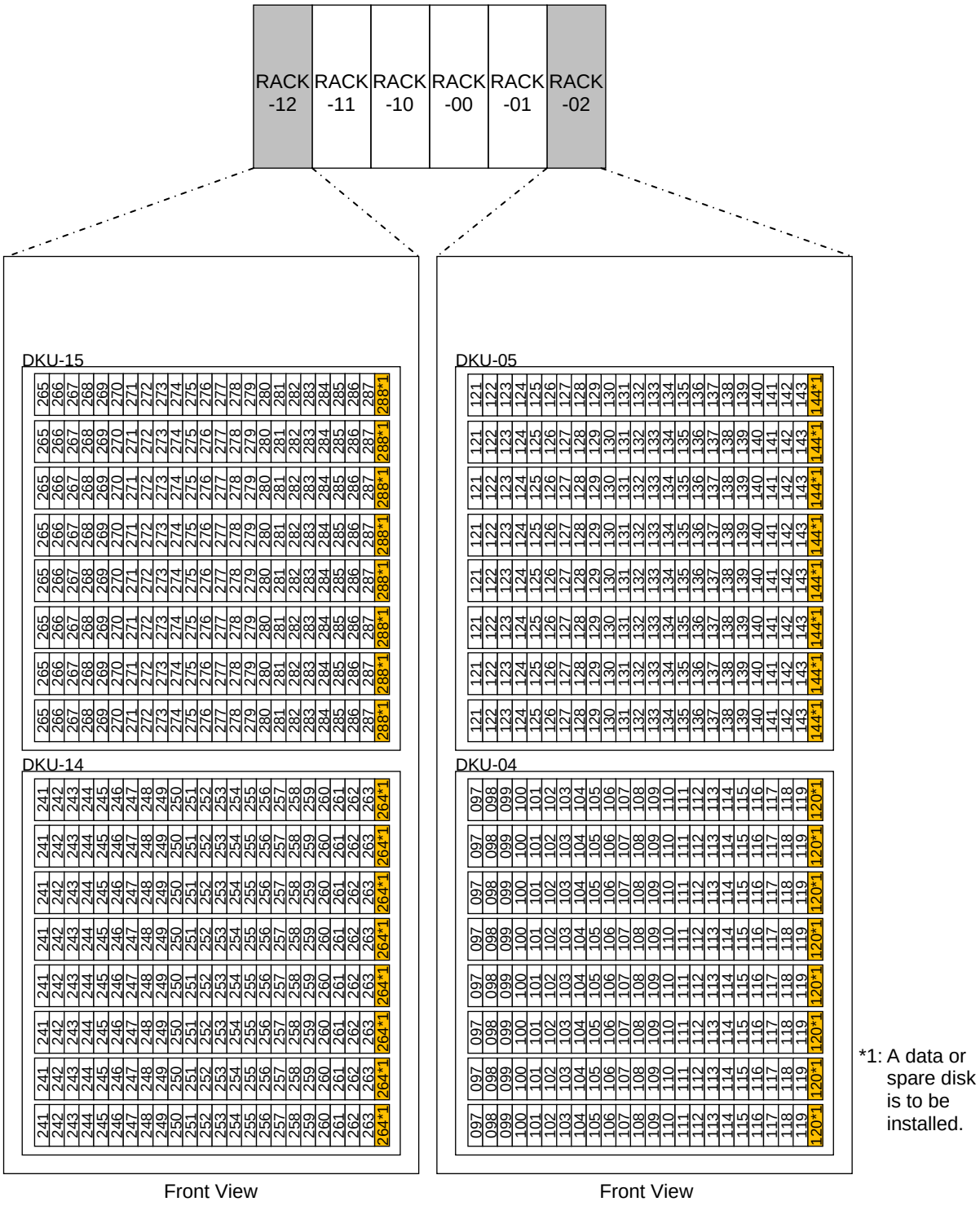


Fig. 3.11.2-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-5.

Copyright © 2014, Hitachi, Ltd.

(vi) RAID5 (7D+1P) / RAID6 (6D+2P), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-6.

Table 3.11.2-6 Relation between drives installation order and RAID group number (7D+1P/6D+2P, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	007	5-1	013	9-1	019	13-1	025	17-1	031	21-1
002	1-2	008	5-2	014	9-2	020	13-2	026	17-2	032	21-2
003	1-3	009	5-3	015	9-3	021	13-3	027	17-3	033	21-3
004	1-4	010	5-4	016	9-4	022	13-4	028	17-4	034	21-4
005	1-5	011	5-5	017	9-5	023	13-5	029	17-5	035	21-5
006	1-6 Spare*1	012	5-6 Spare*1	018	9-6 Spare*1	024	13-6 Spare*1	030	17-6 Spare*1	036	21-6 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-6 Relation between drives installation order and RAID group number (7D+1P/6D+2P, FBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
037	3-1	043	7-1	049	11-1	055	15-1	061	19-1	067	23-1
038	3-2	044	7-2	050	11-2	056	15-2	062	19-2	068	23-2
039	3-3	045	7-3	051	11-3	057	15-3	063	19-3	069	23-3
040	3-4	046	7-4	052	11-4	058	15-4	064	19-4	070	23-4
041	3-5	047	7-5	053	11-5	059	15-5	065	19-5	071	23-5
042	3-6 Spare*1	048	7-6 Spare*1	054	11-6 Spare*1	060	15-6 Spare*1	066	19-6 Spare*1	072	23-6 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 8	Flash Module Drive	FMD

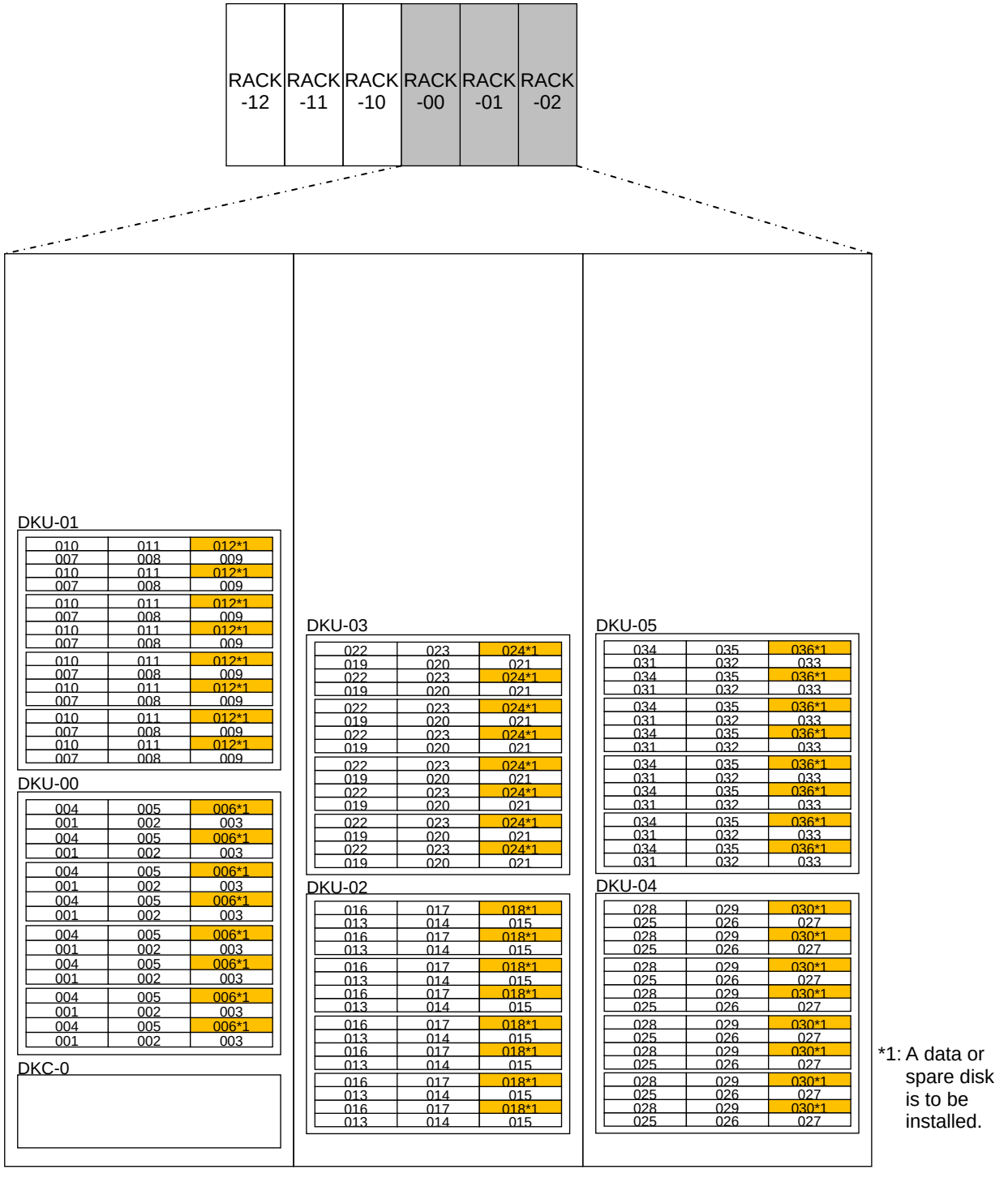


Fig. 3.11.2-6 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-6.

Copyright © 2014, Hitachi, Ltd.

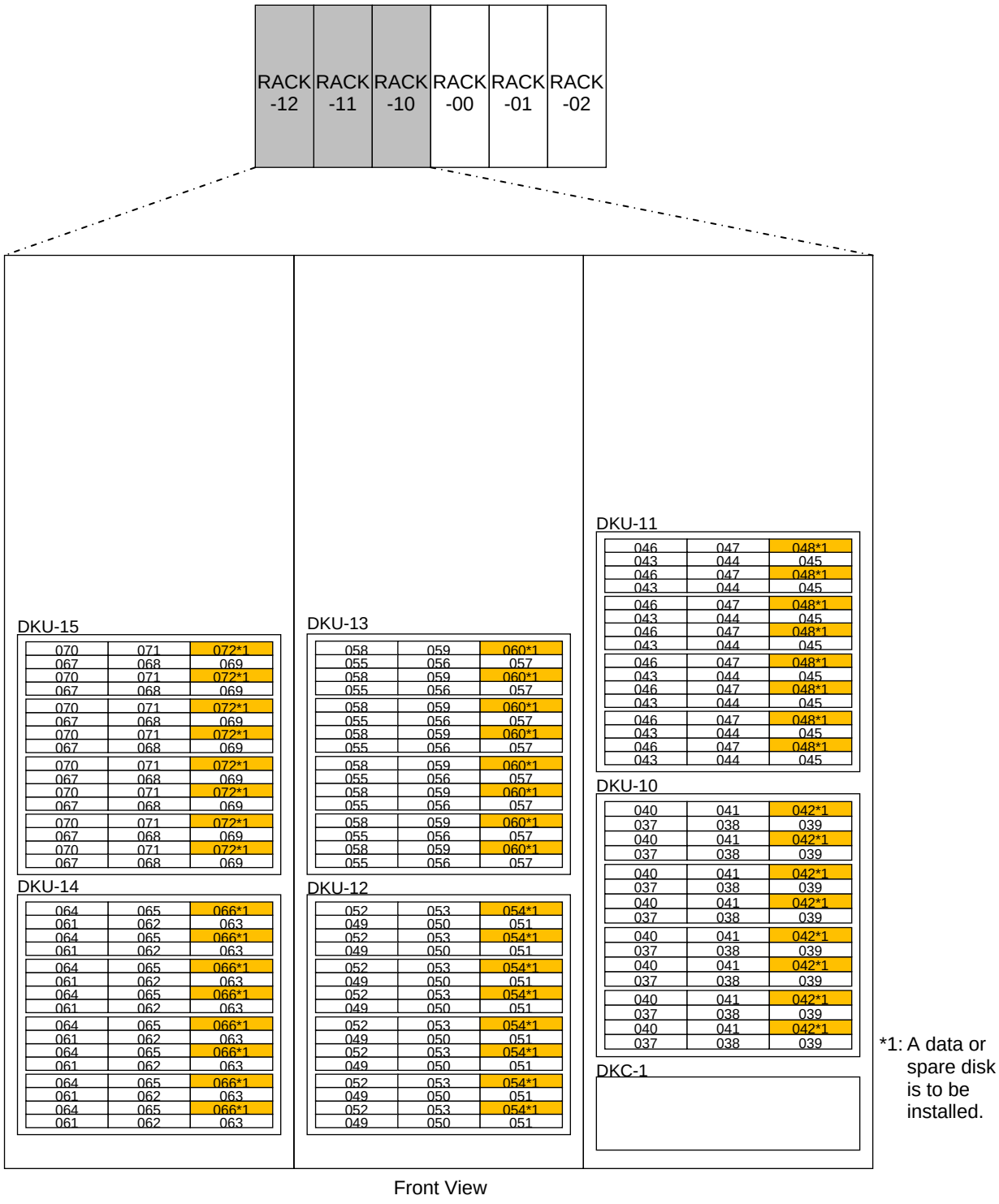


Fig. 3.11.2-6 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-6.

Copyright © 2014, Hitachi, Ltd.

(vii) RAID6 (14D+2P), UBX (DKU for 3.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-7.

Table 3.11.2-7 Relation between drives installation order and RAID group number (14D+2P, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	007	5-1	013	9-1	019	13-1	025	17-1	031	21-1
002	1-3	008	5-3	014	9-3	020	13-3	026	17-3	032	21-3
003	1-5	009	5-5	015	9-5	021	13-5	027	17-5	033	21-5
004	1-7	010	5-7	016	9-7	022	13-7	028	17-7	034	21-7
005	1-9	011	5-9	017	9-9	023	13-9	029	17-9	035	21-9
006	1-11 Spare*1	012	5-11 Spare*1	018	9-11 Spare*1	024	13-1 Spare*1	030	17-11 Spare*1	036	21-11 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-7 Relation between drives installation order and RAID group number (14D+2P, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
037	3-1	043	7-1	049	11-1	055	15-1	061	19-1	067	23-1
038	3-3	044	7-3	050	11-3	056	15-3	062	19-3	068	23-3
039	3-5	045	7-5	051	11-5	057	15-5	063	19-5	069	23-5
040	3-7	046	7-7	052	11-7	058	15-7	064	19-7	070	23-7
041	3-9	047	7-9	053	11-9	059	15-9	065	19-9	071	23-9 Spare*1
042	3-11 Spare*1	048	7-11 Spare*1	054	11-11 Spare*1	060	15-11 Spare*1	066	1-19 Spare*1	072	23-11 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 16	LFF Disk Drive	
2	DKC-F810I-400M5M × 16	LFF SSD Drive	

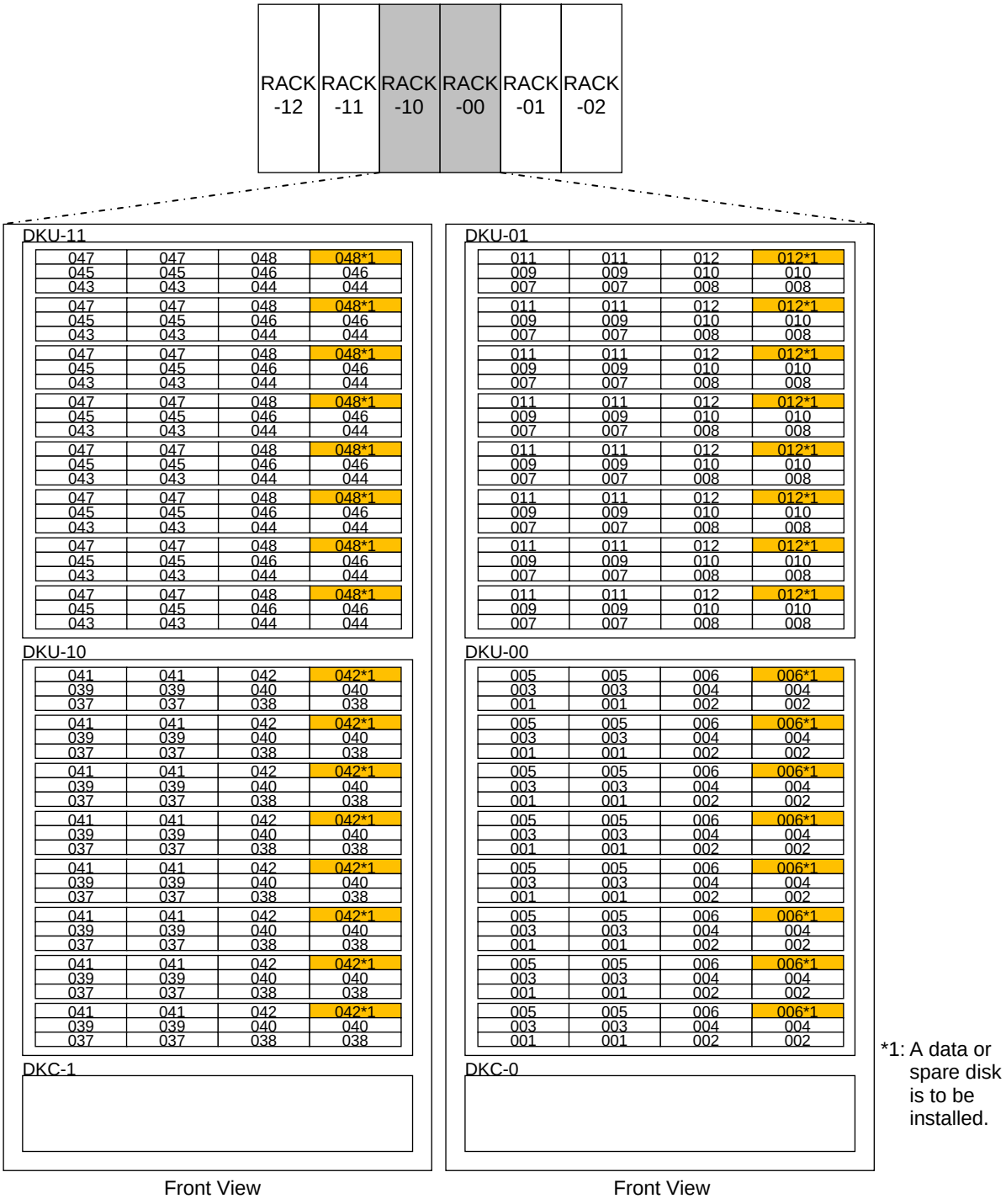


Fig. 3.11.2-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-7.

Copyright © 2014, Hitachi, Ltd.

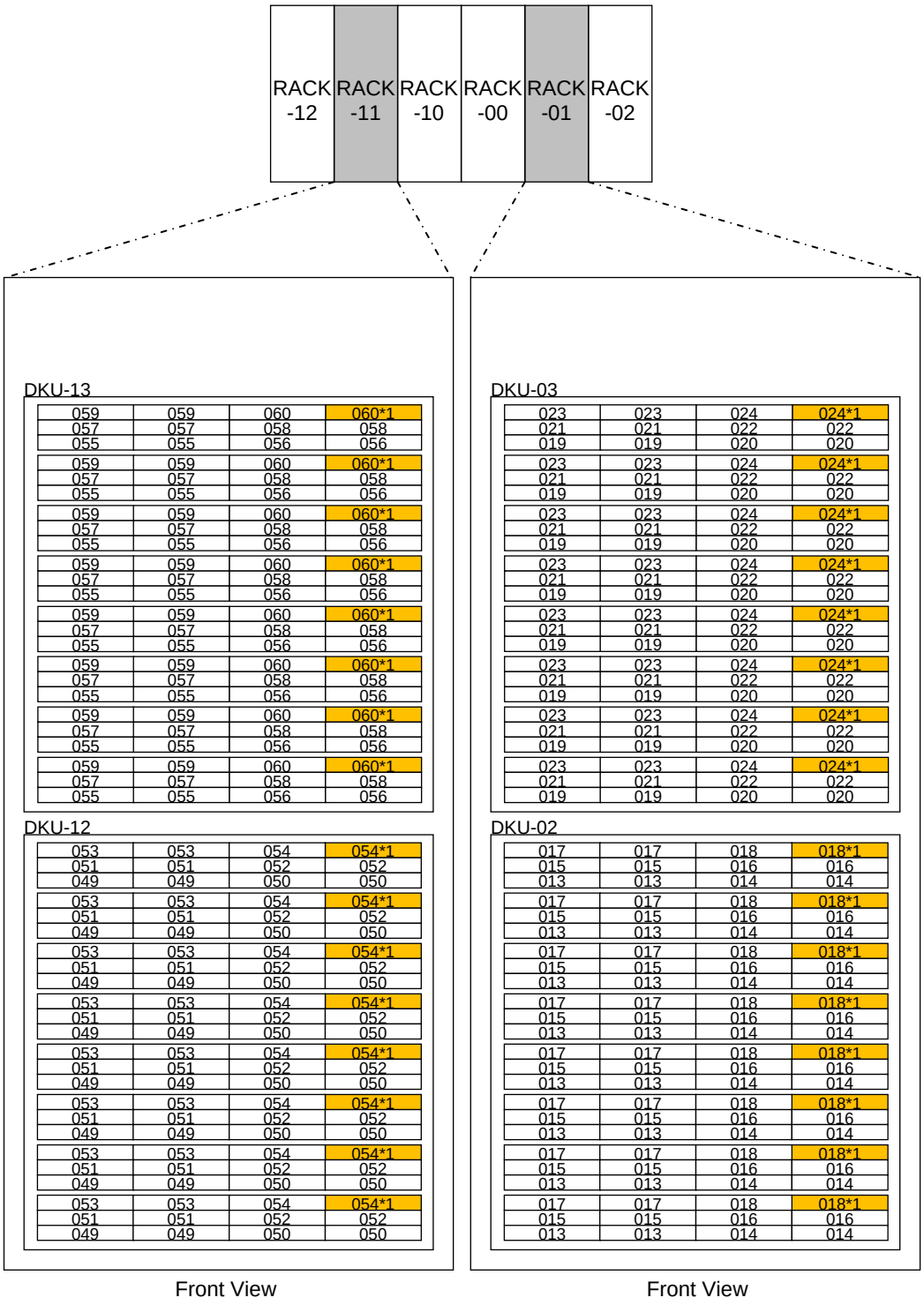


Fig. 3.11.2-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-7.

Copyright © 2014, Hitachi, Ltd.

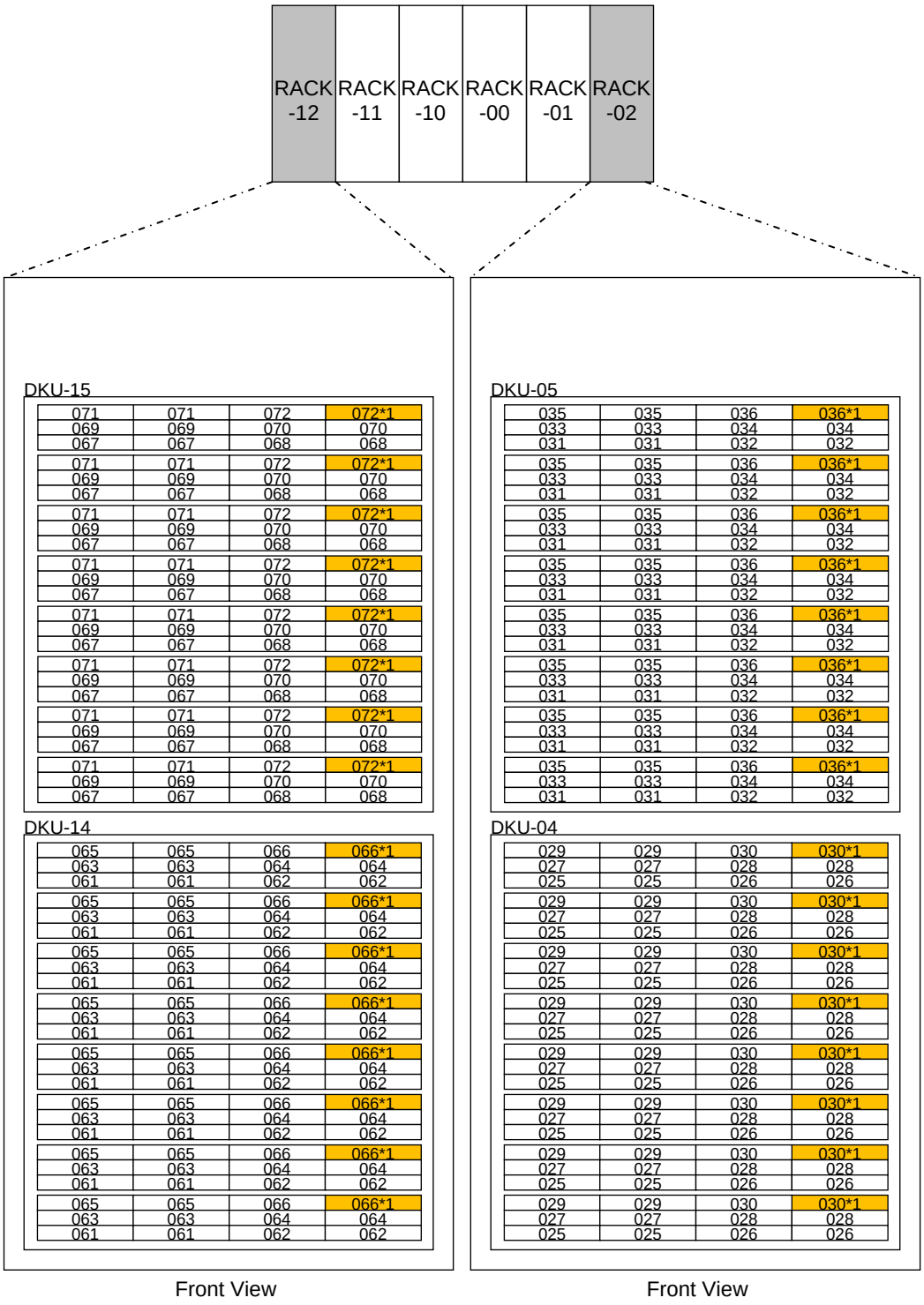


Fig. 3.11.2-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-7.

Copyright © 2014, Hitachi, Ltd.

(viii) RAID6 (14D+2P), SBX (DKU for 2.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-8.

Table 3.11.2-8 Relation between drives installation order and RAID group number (14D+2P, SBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	1-3	014	5-3	026	9-3	038	13-3	050	17-3	062	21-3
003	1-5	015	5-5	027	9-5	039	13-5	051	17-5	063	21-5
004	1-7	016	5-7	028	9-7	040	13-7	052	17-7	064	21-7
005	1-9	017	5-9	029	9-9	041	13-9	053	17-9	065	21-9
006	1-11	018	5-11	030	9-11	042	13-11	054	17-11	066	21-11
007	1-13	019	5-13	031	9-13	043	13-13	055	17-13	067	21-13
008	1-15	020	5-15	032	9-15	044	13-15	056	17-15	068	21-15
009	1-17	021	5-17	033	9-17	045	13-17	057	17-17	069	21-17
010	1-19	022	5-19	034	9-19	046	13-19	058	17-19	070	21-19
011	1-21	023	5-21	035	9-21	047	13-21	059	17-21	071	21-21
012	1-23 Spare*1	024	5-23 Spare*1	036	9-23 Spare*1	048	13-23 Spare*1	060	17-23 Spare*1	072	21-23 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-8 Relation between drives installation order and RAID group number (14D+2P, SBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	3-3	086	7-3	098	11-3	110	15-3	122	19-3	134	23-3
075	3-5	087	7-5	099	11-5	111	15-5	123	19-5	135	23-5
076	3-7	088	7-7	100	11-7	112	15-7	124	19-7	136	23-7
077	3-9	089	7-9	101	11-9	113	15-9	125	19-9	137	23-9
078	3-11	090	7-11	102	11-11	114	15-11	126	19-11	138	23-11
079	3-13	091	7-13	103	11-13	115	15-13	127	19-13	139	23-13
080	3-15	092	7-15	104	11-15	116	15-15	128	19-15	140	23-15
081	3-17	093	7-17	105	11-17	117	15-17	129	19-17	141	23-17
082	3-19	094	7-19	106	11-19	118	15-19	130	19-19	142	23-19
083	3-21	095	7-21	107	11-21	119	15-21	131	19-21	143	23-21
084	3-23 Spare*1	096	7-23 Spare*1	108	11-23 Spare*1	120	15-23 Spare*1	132	19-23 Spare*1	144	23-23 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 16	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 16	SFF SSD Drive	

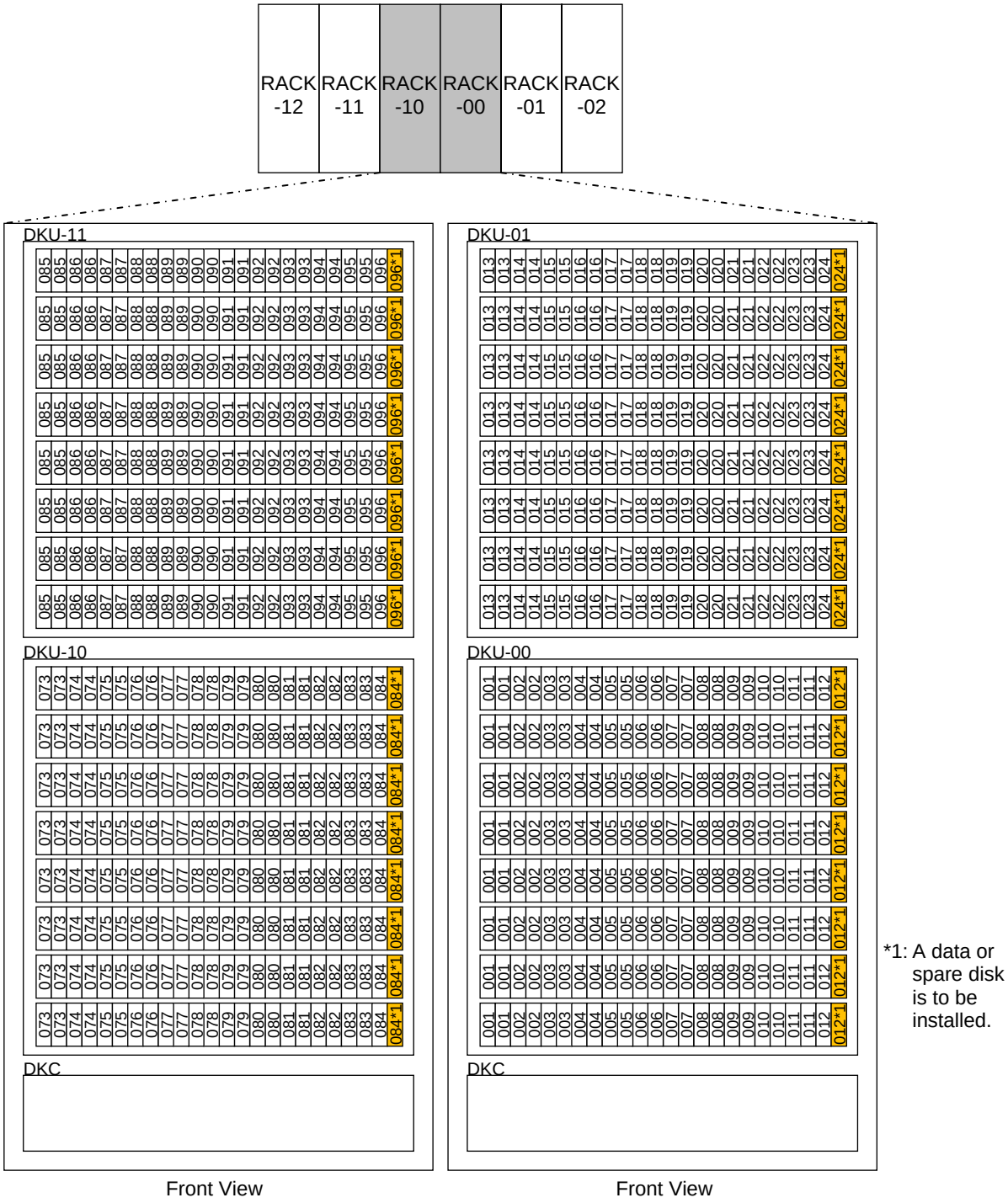


Fig. 3.11.2-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-8.

Copyright © 2014, Hitachi, Ltd.

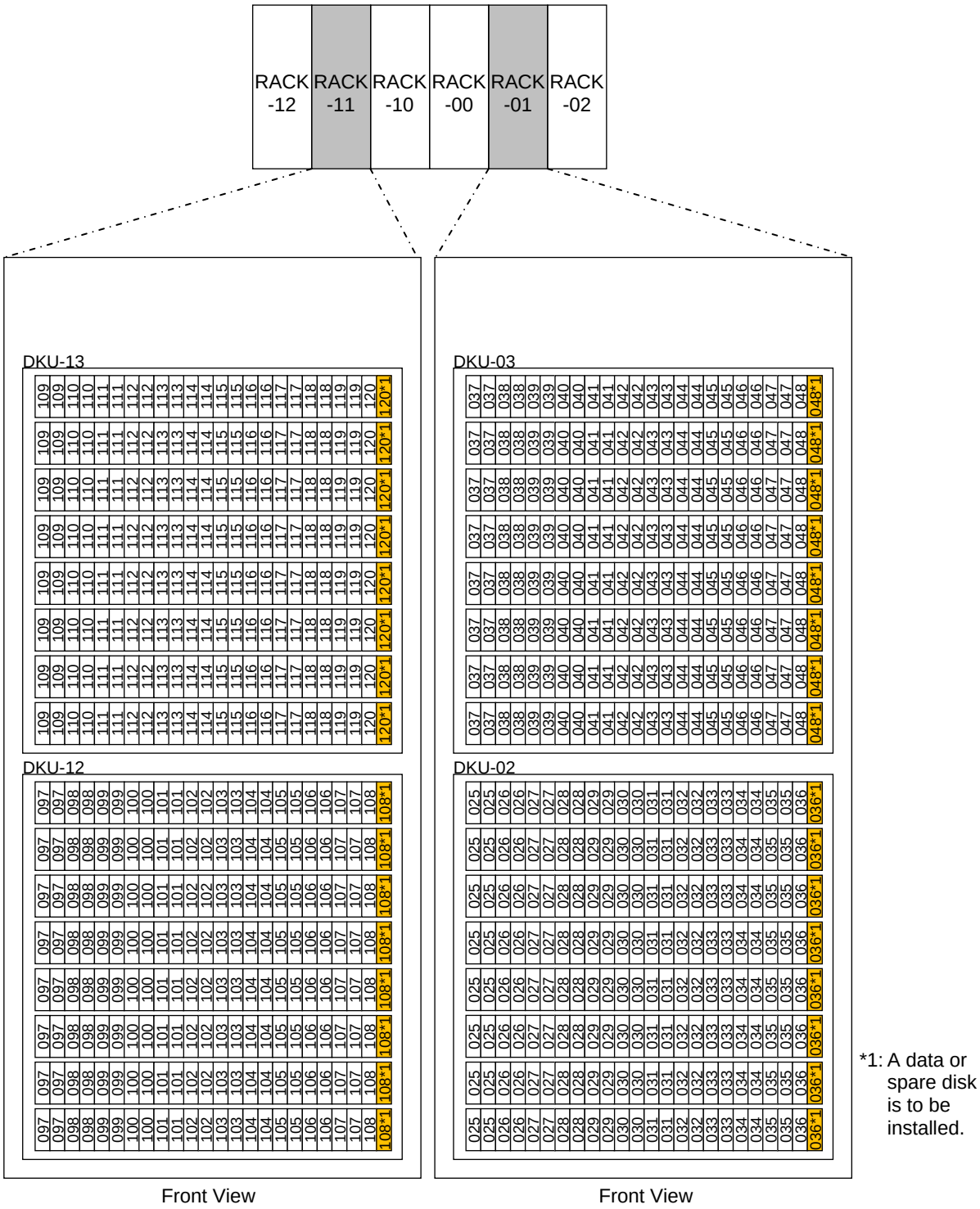


Fig. 3.11.2-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-8.

Copyright © 2014, Hitachi, Ltd.

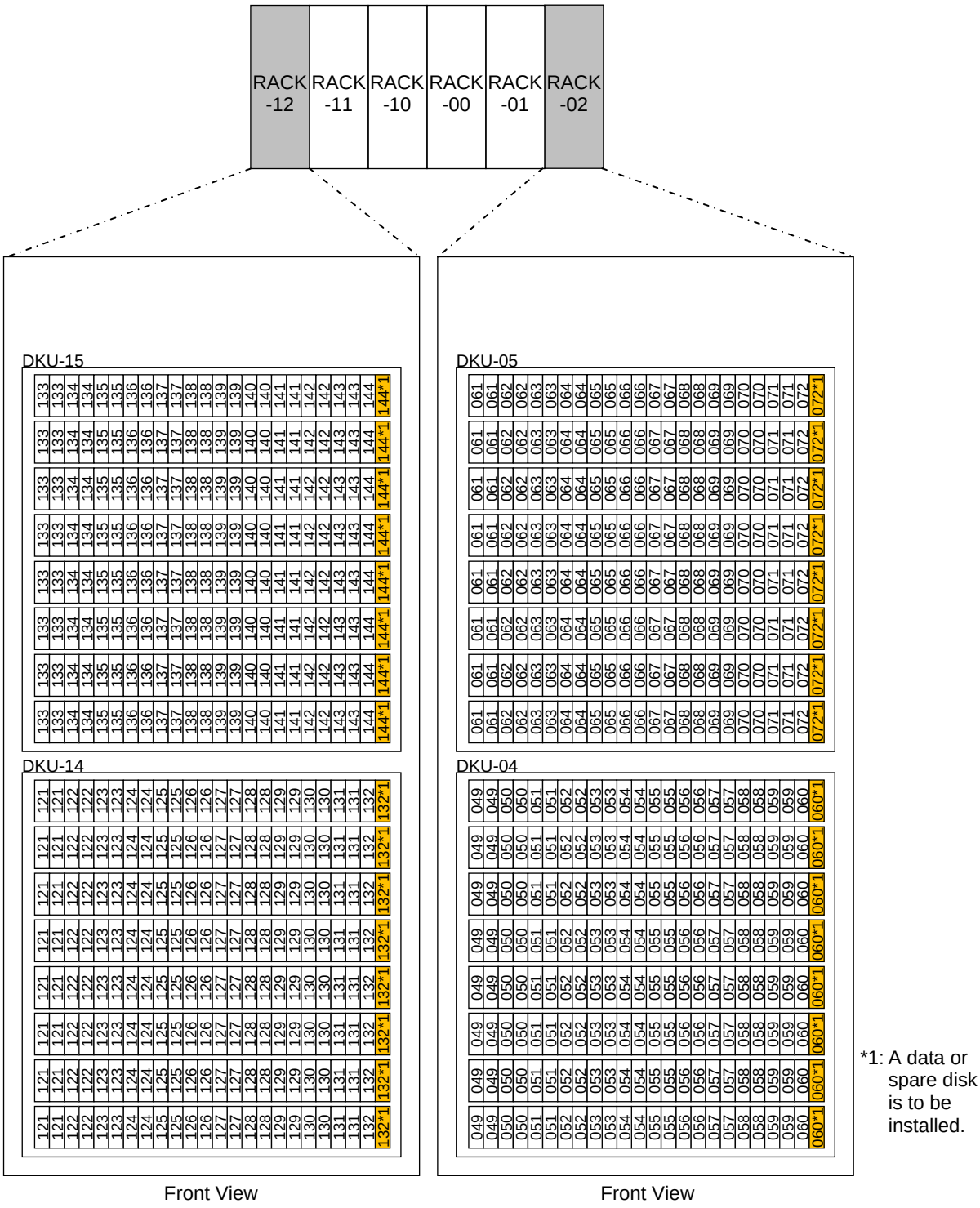


Fig. 3.11.2-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-8.

Copyright © 2014, Hitachi, Ltd.

(ix) RAID6 (14D+2P), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.2-9.

Table 3.11.2-9 Relation between drives installation order and RAID group number (14D+2P, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	004	5-1	007	9-1	010	13-1	013	17-1	016	21-1
002	1-3	005	5-3	008	9-3	011	13-3	014	17-3	017	21-3
003	1-5 Spare*1	006	5-5 Spare*1	009	9-5 Spare*1	012	13-5 Spare*1	015	17-5 Spare*1	018	21-5 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.2-9 Relation between drives installation order and RAID group number (14D+2P, FBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
019	3-1	022	7-1	025	11-1	028	15-1	031	19-1	034	23-1
020	3-3	023	7-3	026	11-3	029	15-3	032	19-3	035	23-3
021	3-5 Spare*1	024	7-5 Spare*1	027	11-5 Spare*1	030	15-5 Spare*1	033	19-5 Spare*1	036	23-5 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 16	Flash Module Drive	FMD

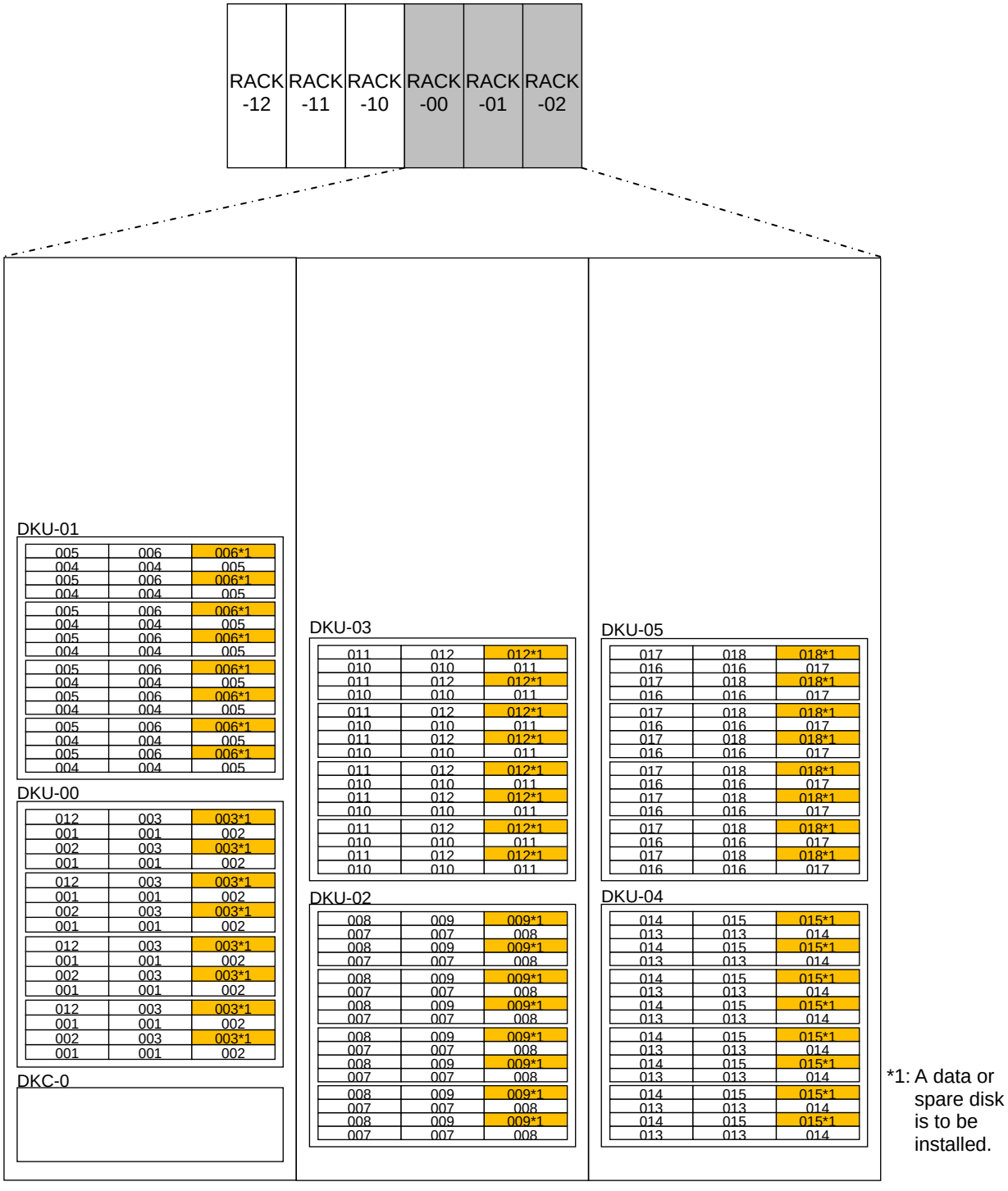


Fig. 3.11.2-9 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-9.

Copyright © 2014, Hitachi, Ltd.

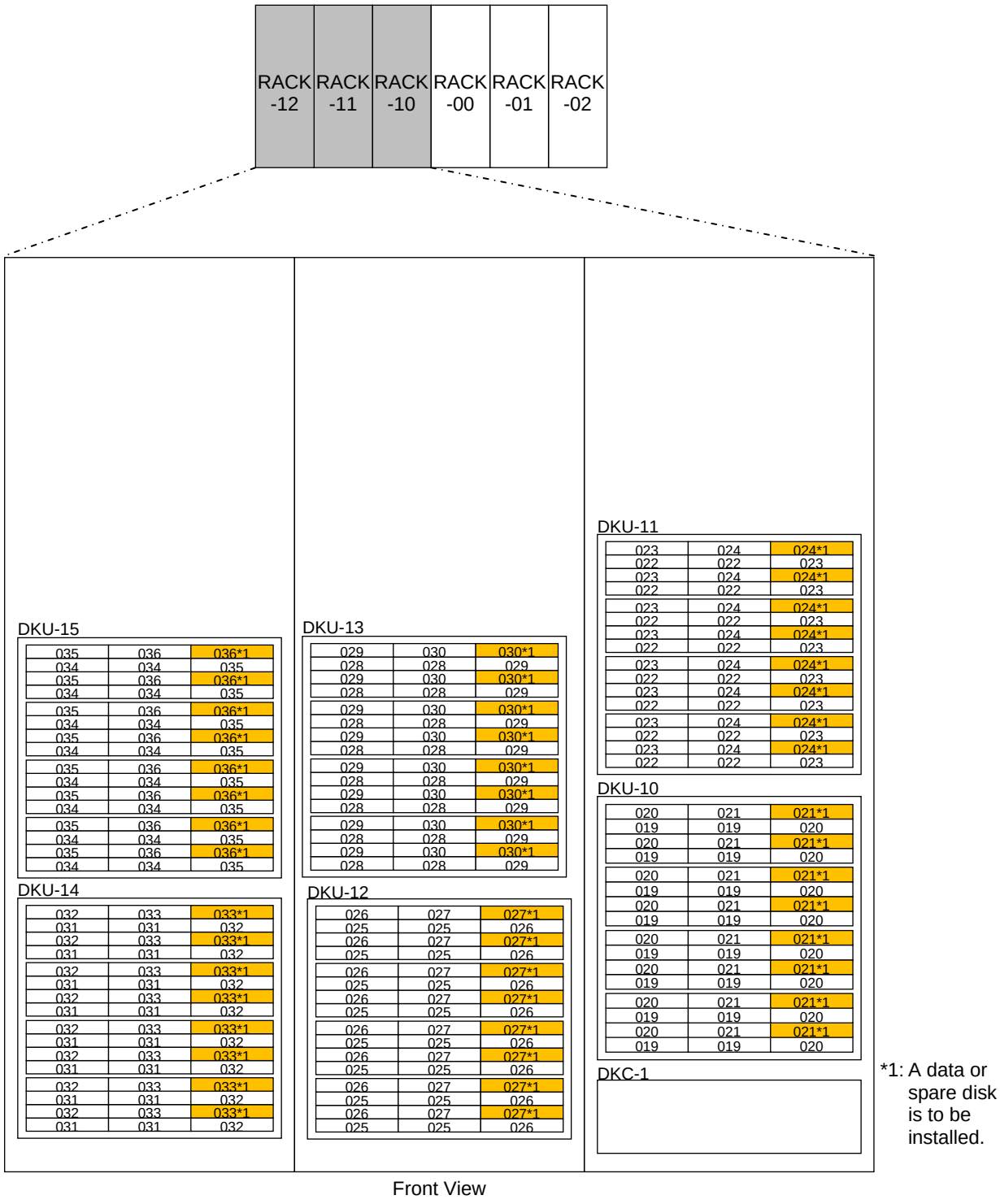


Fig. 3.11.2-9 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.2-9.

Copyright © 2014, Hitachi, Ltd.

(x) Spare Drive, UBX (DKU for 3.5 inch Drive)

Table 3.11.2-10 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.2-10 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-10 Relation between Drive installation order and Spare Drive number (3/4)

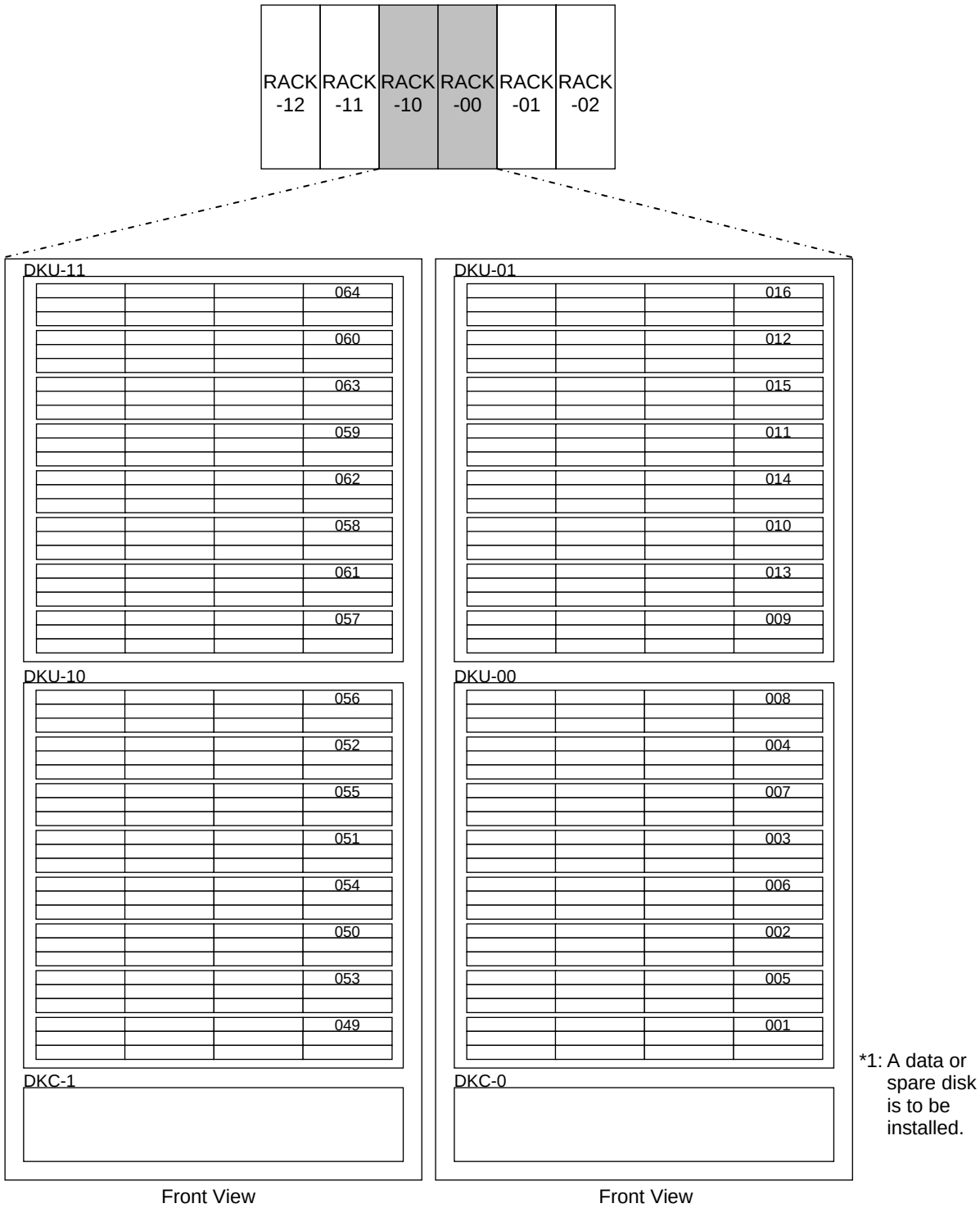
DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.2-10 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

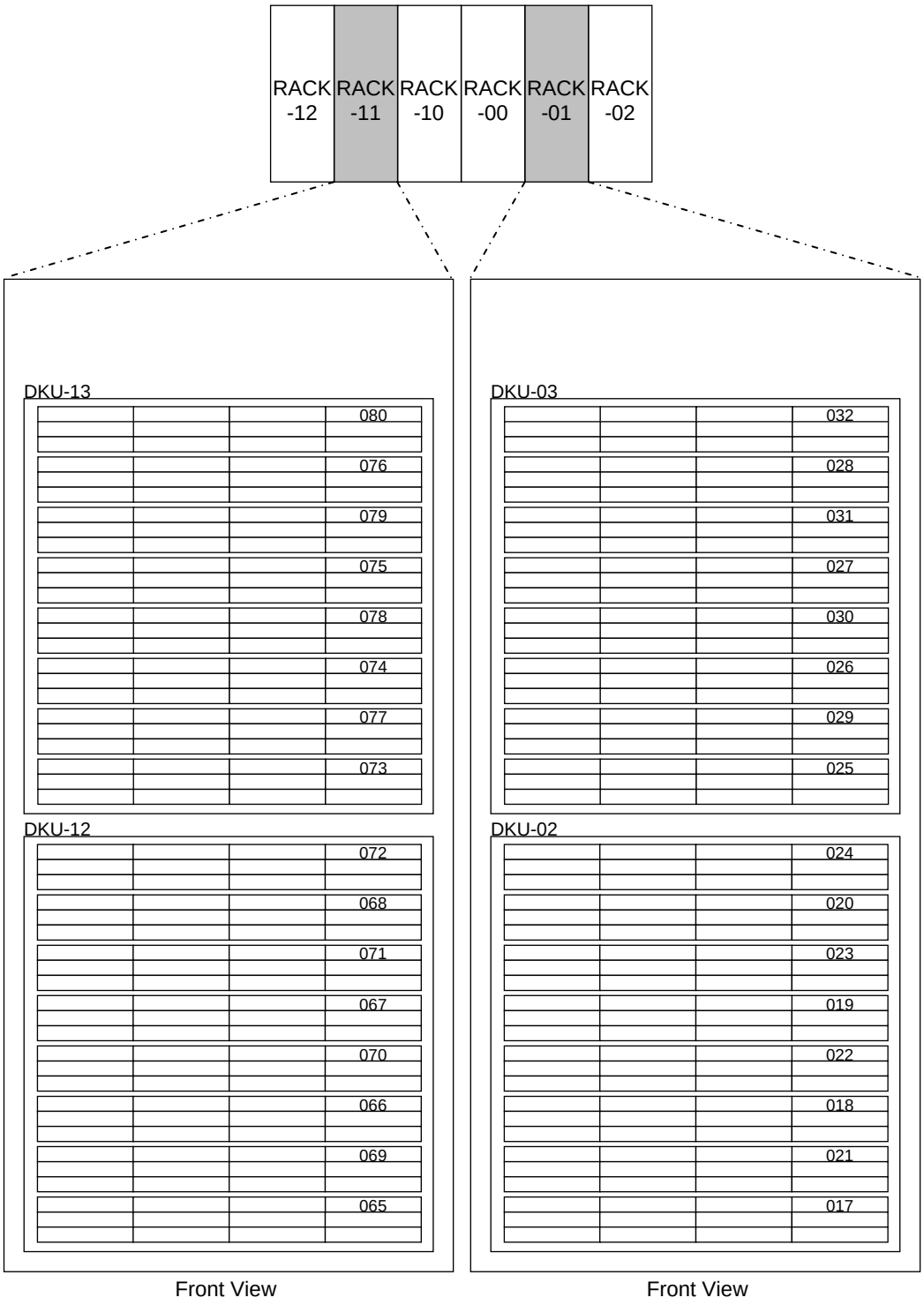
No.	Model Number	Model Name	Data and Parity
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 1	LFF Disk Drive	Spare drive
2	DKC-F810I-400M5M × 1	LFF SSD Drive	Spare drive



*1: A data or spare disk is to be installed.

Fig. 3.11.2-10 Spare Drive Expansion Sequence (1/3)

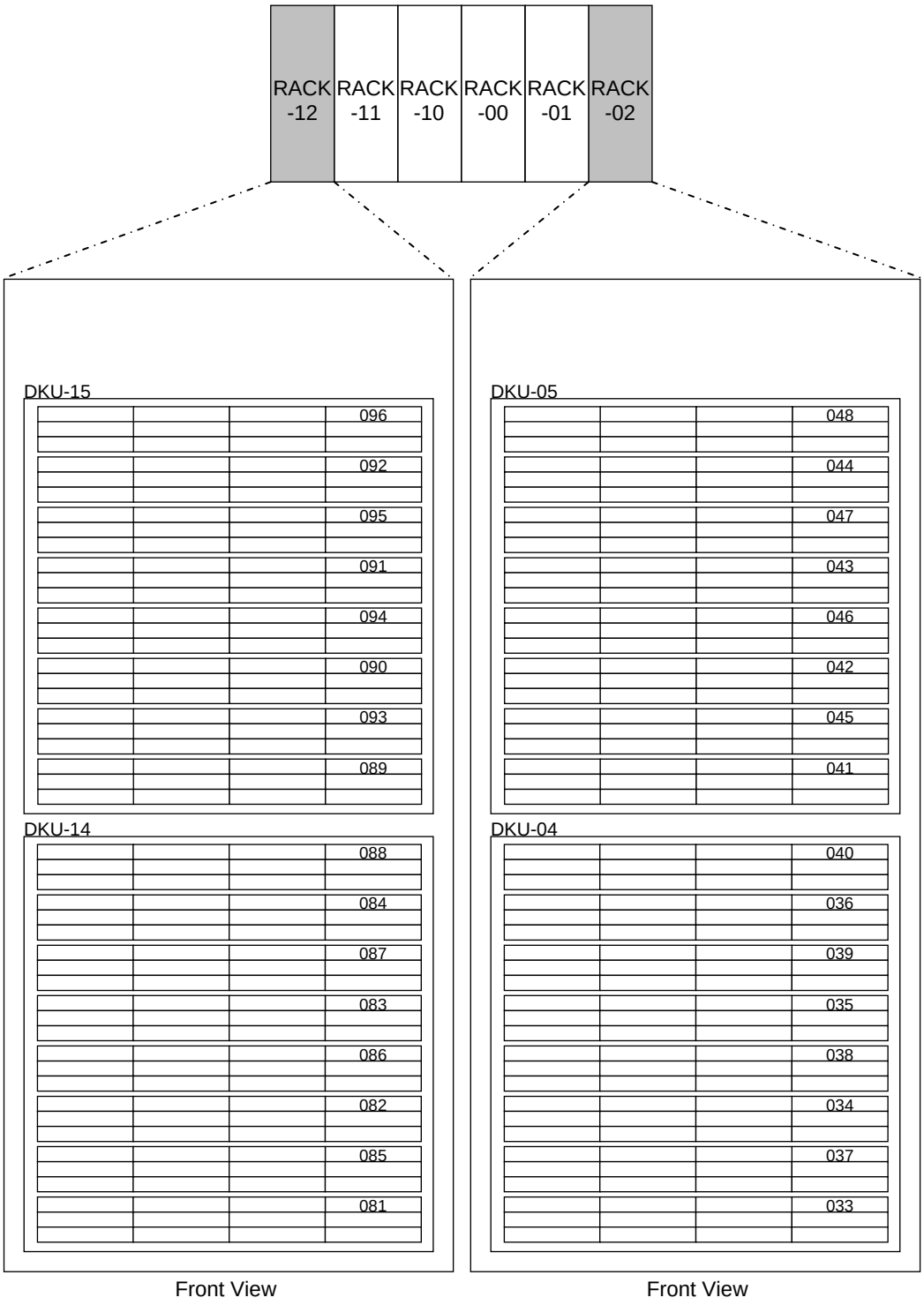
Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.2-10 Spare Drive Expansion Sequence (2/3)

Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.2-10 Spare Drive Expansion Sequence (3/3)

Copyright © 2014, Hitachi, Ltd.

(xi) Spare Drive, SBX (DKU for 2.5 inch Drive)

Table 3.11.2-11 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.2-11 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-11 Relation between Drive installation order and Spare Drive number (3/4)

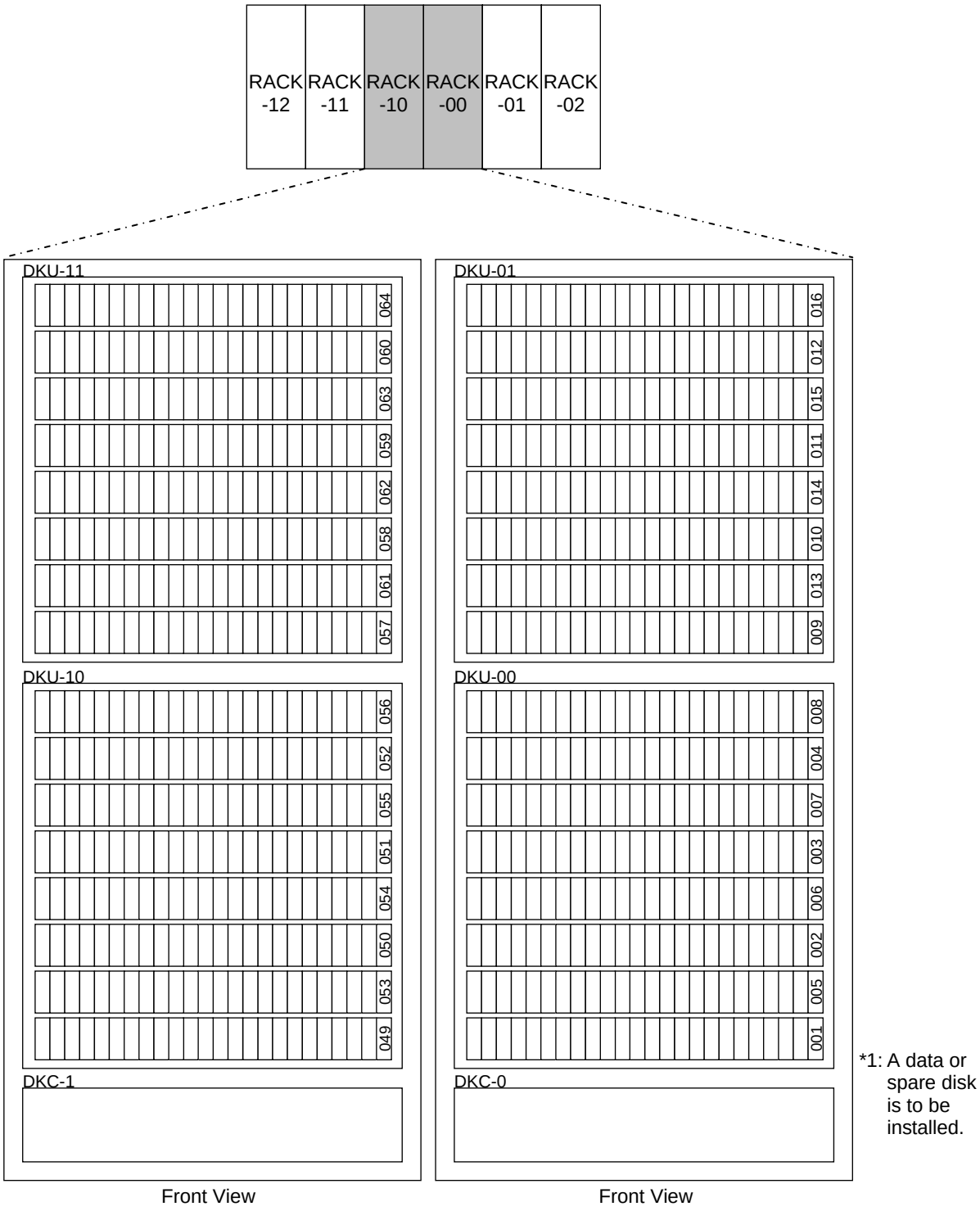
DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.2-11 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

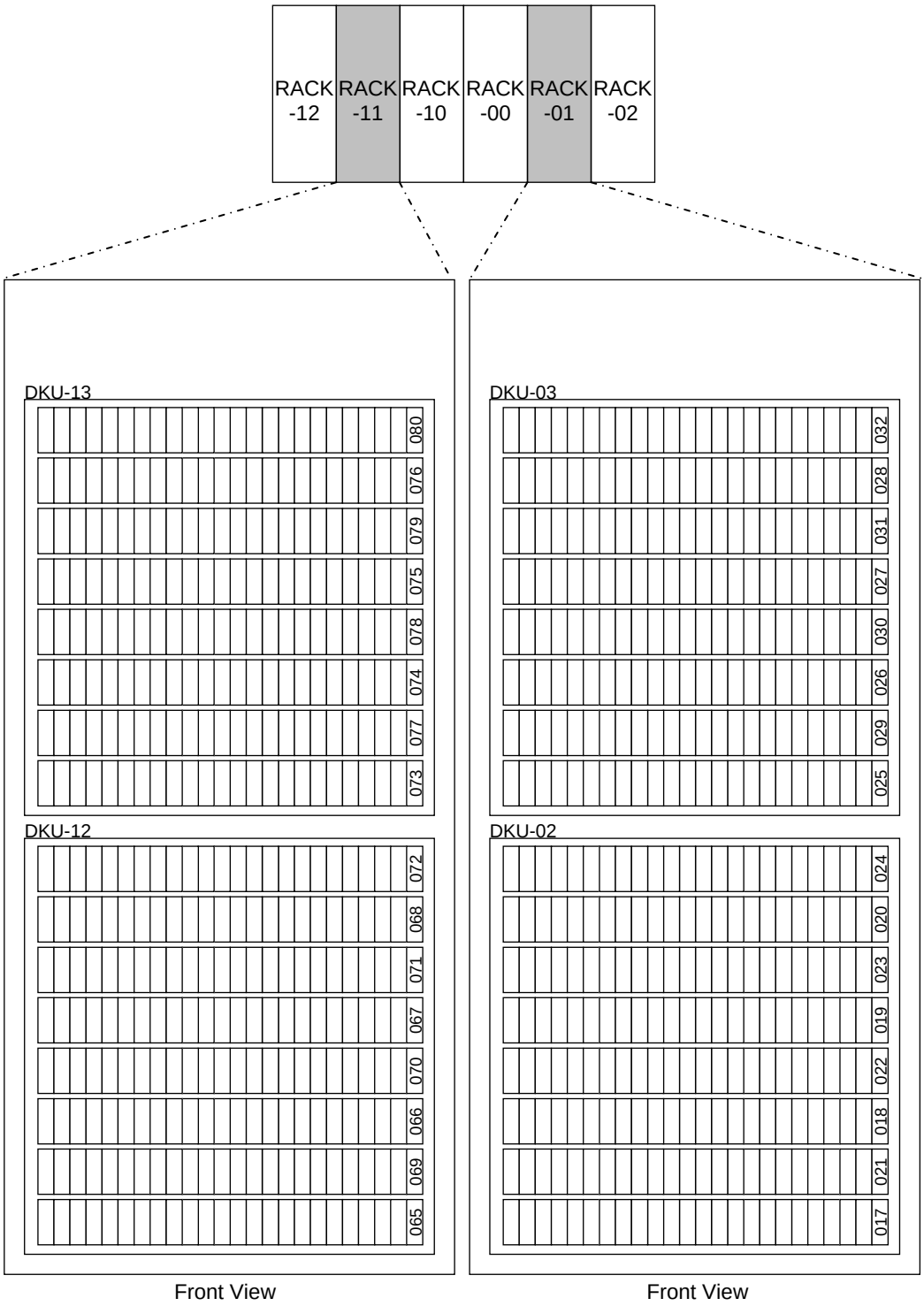
No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 1	SFF Disk Drive	Spare Drive
2	DKC-F810I-400MCM/800MCM × 1	SFF SSD Drive	Spare Drive



*1: A data or spare disk is to be installed.

Fig. 3.11.2-11 Spare Drive Expansion Sequence (1/3)

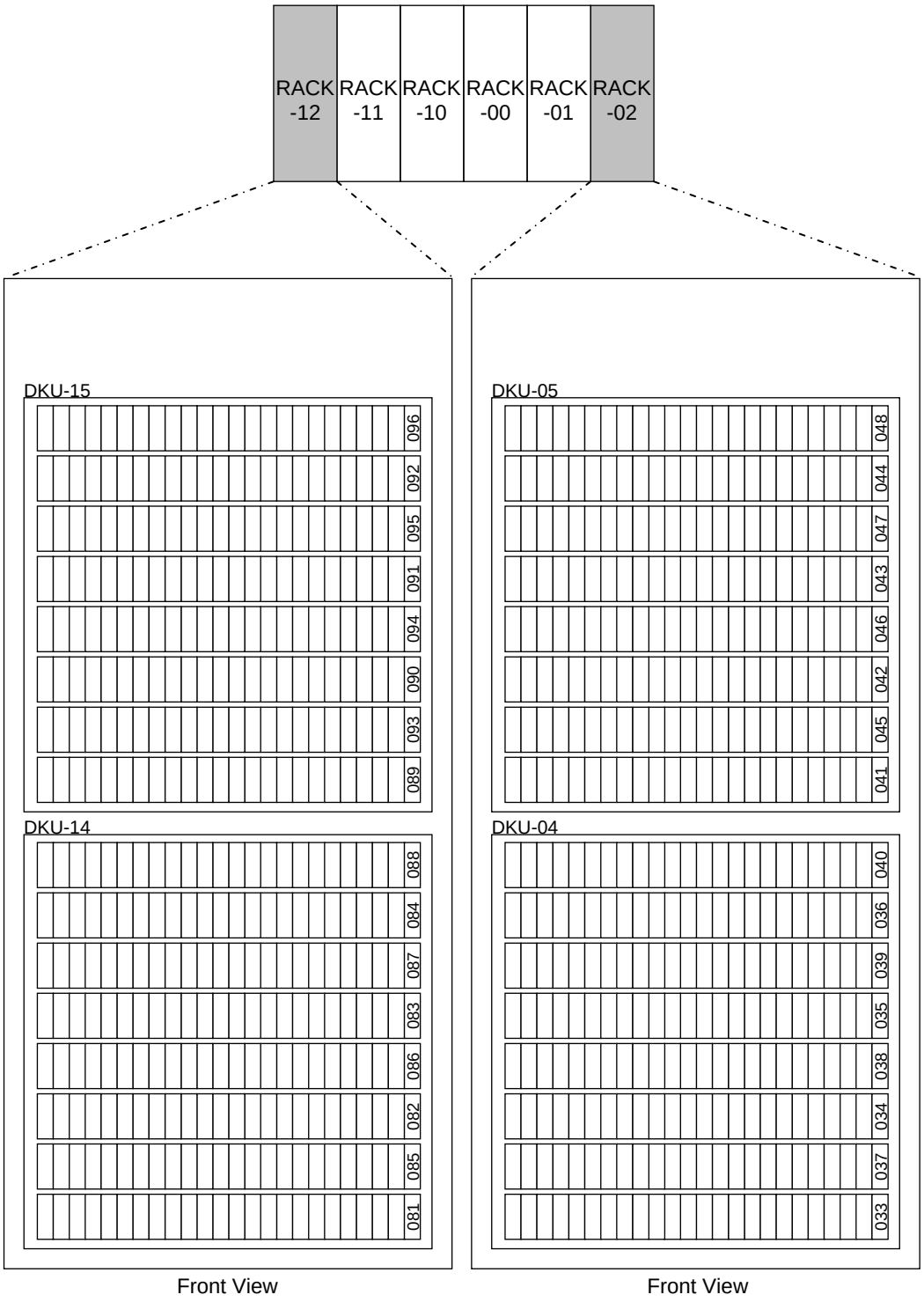
Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.2-11 Spare Drive Expansion Sequence (2/3)

Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.2-11 Spare Drive Expansion Sequence (3/3)

Copyright © 2014, Hitachi, Ltd.

(xii) Spare Drive, FBX (DKU for FMD)

Table 3.11.2-12 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.2-12 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.2-12 Relation between Drive installation order and Spare Drive number (3/4)

DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.2-12 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

No.	Model Number	Model Name	Data and Parity
1	DKC-F810I-1R6FM/3R2FM × 1	Flash Module Drive	Spare Drive

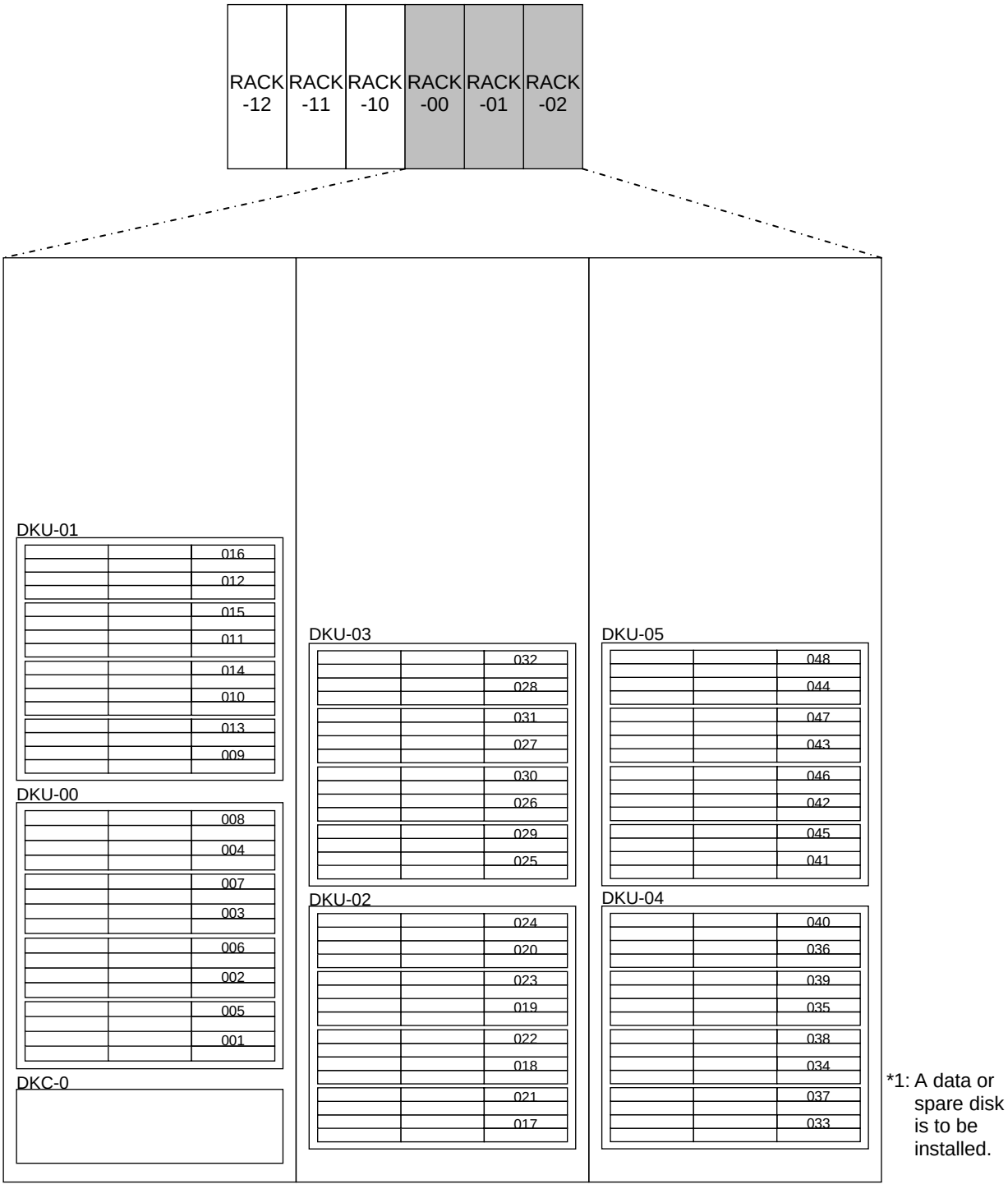
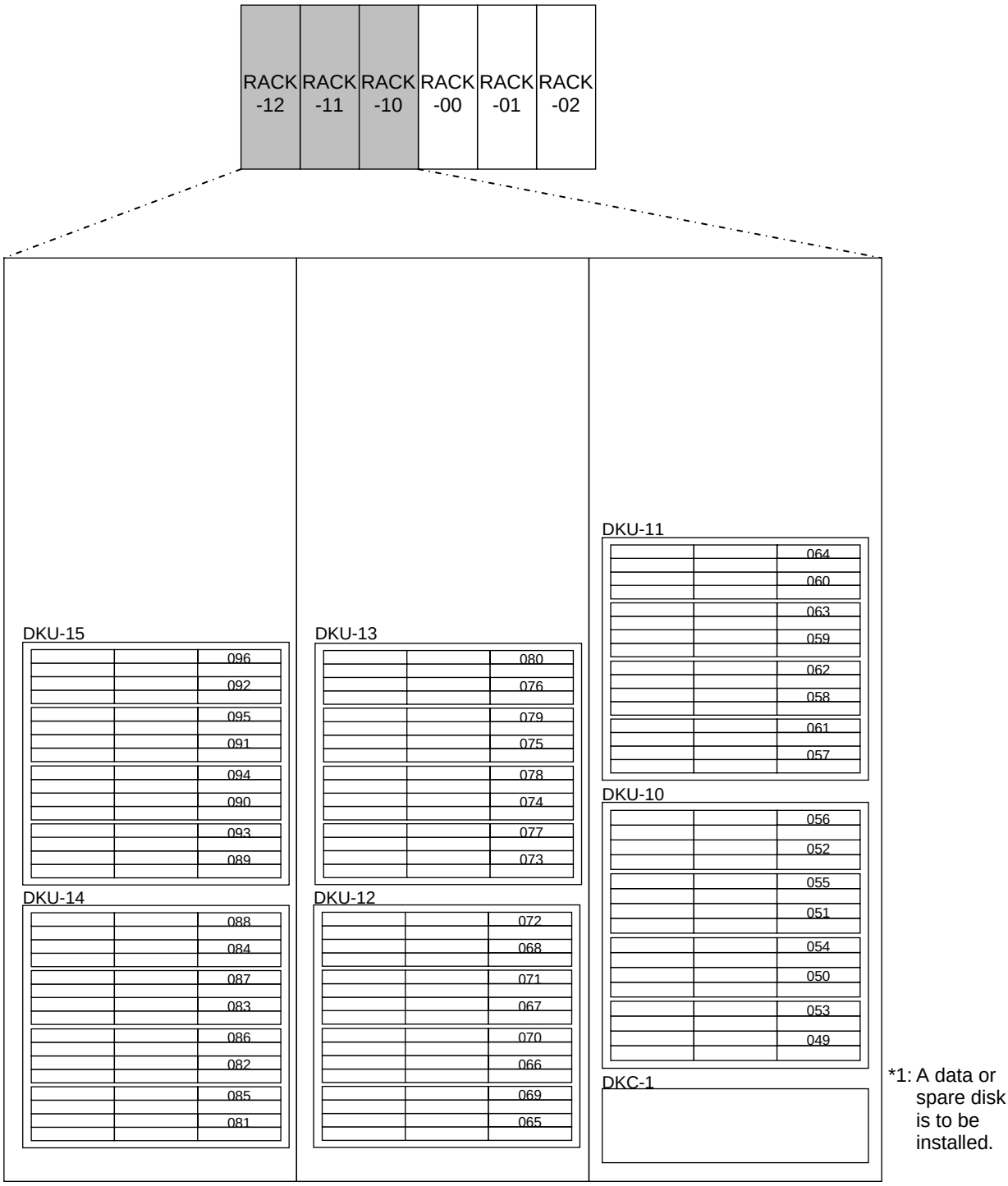


Fig. 3.11.2-12 Spare Drive Expansion Sequence (1/2)

Copyright © 2014, Hitachi, Ltd.



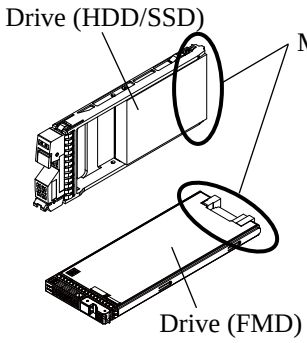
Front View

Fig. 3.11.2-12 Spare Drive Expansion Sequence (2/2)

Copyright © 2014, Hitachi, Ltd.

3-2 Checking the condition of the drive

a. Check the condition of the drive before installing it.



NOTICE: Check that the main edge connector of the drive (HDD/SSD/FMD) has no deformation, damage or sticking of dust before installing the drive.

Copyright © 2014, Hitachi, Ltd.

3-3 Installing the drives

NOTICE: When two or more drives are inserted at the same time, the already operating drives might be blocked.
Insert the drives one by one at a second (*1) interval.
Don’t insert the drive that is not defined in the configuration.
*1: Interval of time necessary for stabilizing the voltage of the back board after a drive insertion.

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

Copyright © 2014, Hitachi, Ltd.

In case of UBX

NOTICE: Since the Drive is a precision component, handle it very carefully not to apply a vibration or shock to it.

a. Remove the dummy (drive) from the position installing the drive.
b. Open the handle fully and fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.

NOTE: When handling the drive, hold the rail side because the shield spring is subject to breakage.

c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole on a frame.
d. Pull the stopper lightly and close the handle, and then press the stopper to have the lock on. If the handle is closed in the state where the hook of the handle cannot enter into the square hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

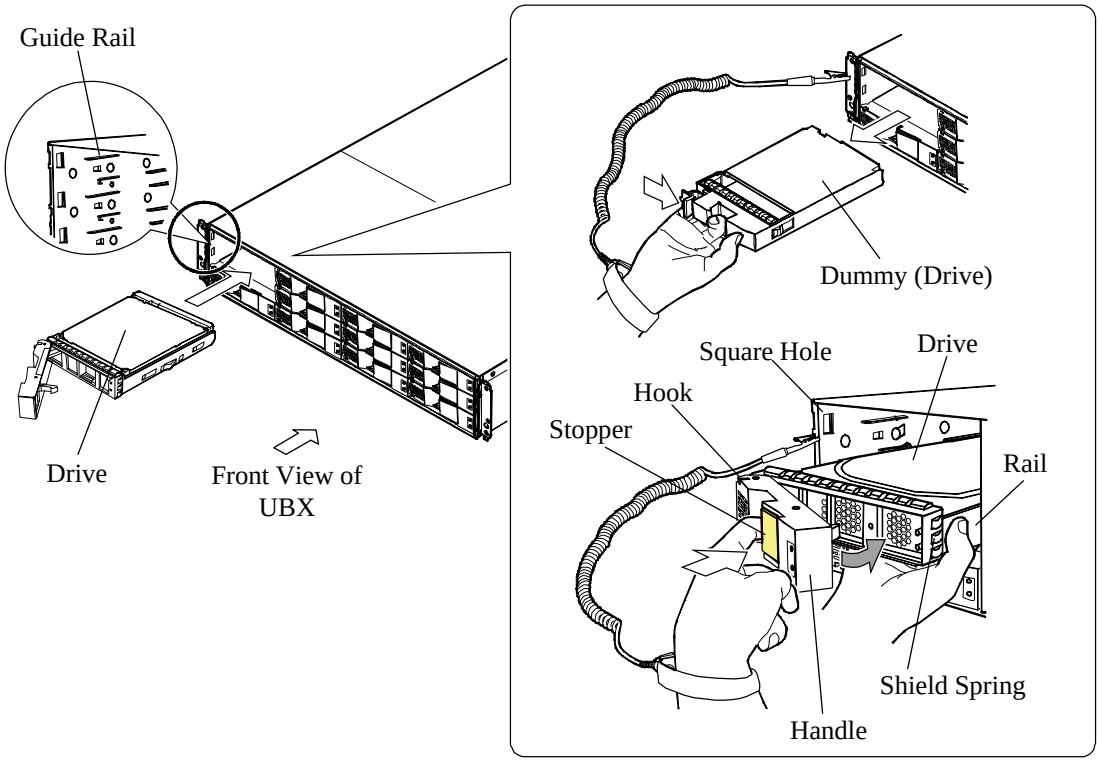


Fig. 3.11.2-13 Installation of Drives (In case of UBX)

Copyright © 2014, Hitachi, Ltd.

In case of SBX

NOTICE: Since the Drive is a precision component, handle it very carefully not to apply a vibration or shock to it.

a. Remove the dummy (drive) from the position installing the drive.
b. Fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.
c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole at the lower part of a frame on the front side of the drive box.
d. Raise the stopper, which has been tilted toward you, and then press the stopper to have the lock on.
   If the handle is raised in the state where the hook of the handle cannot enter into each hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

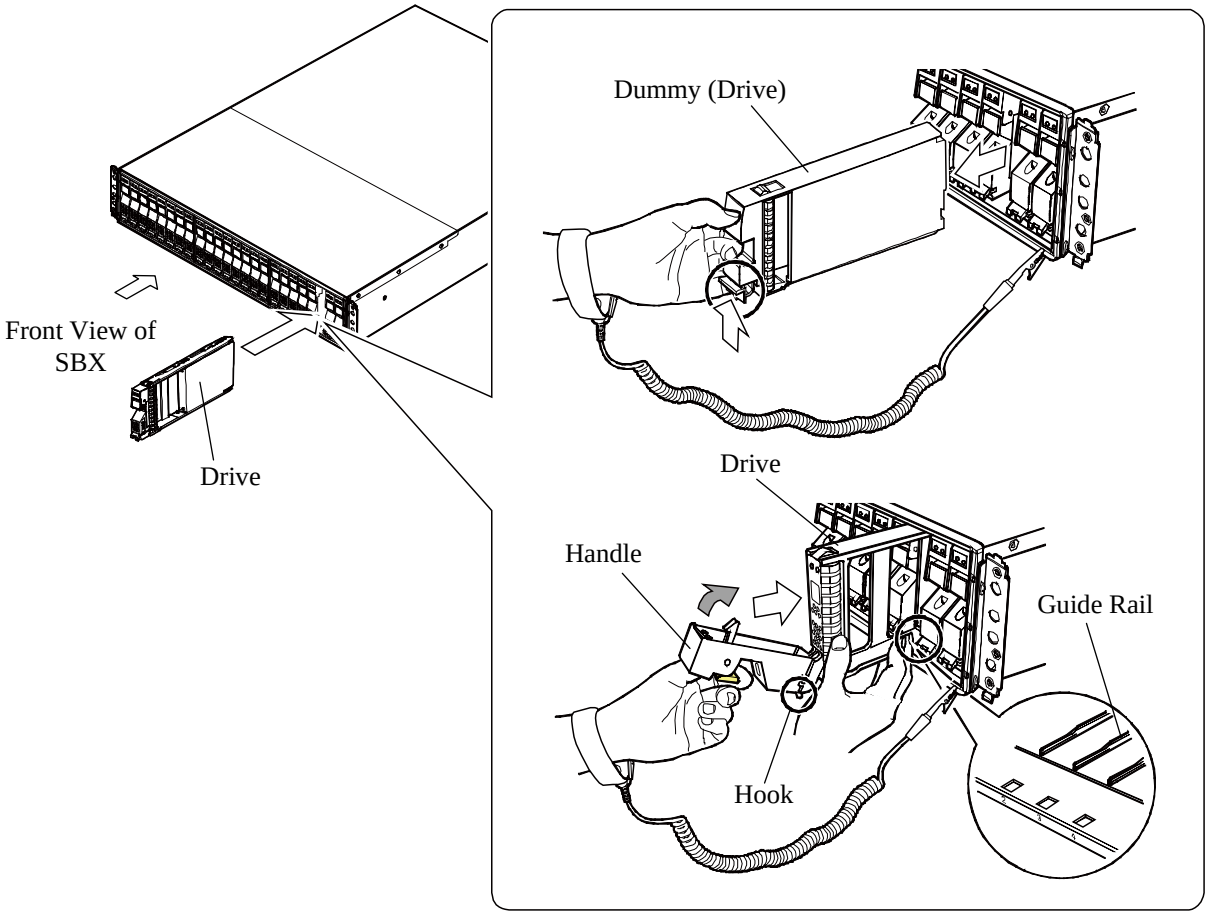
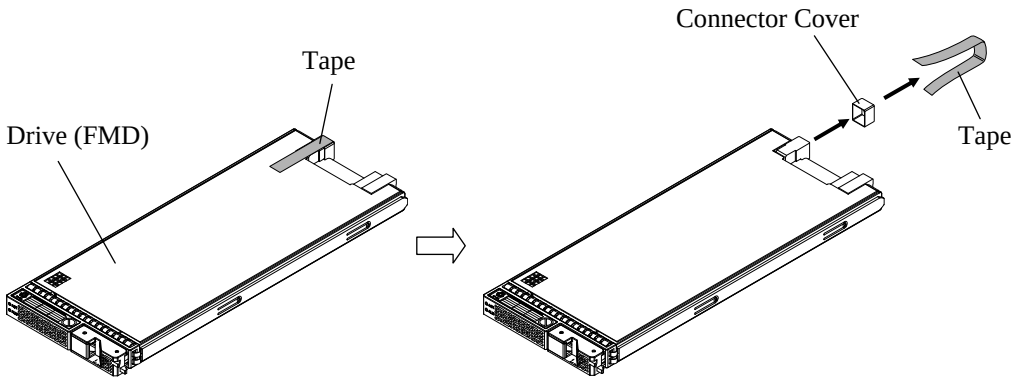


Fig. 3.11.2-14 Installation of Drives (In case of SBX)

Copyright © 2014, Hitachi, Ltd.

In case of FBX

NOTICE: Be sure to detach the tape and remove the connector cover when installing the FMD. Installing the FMD with the connector cover attached may cause equipment damage or failure.



Copyright © 2014, Hitachi, Ltd.

a. Remove the Dummy FMD from the installing position of a drive.
   Release the hook while pressing the lock to the left to pull the Dummy FMD toward you.
b. Open the handle fully and fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.

   NOTE: When handling the drive, hold the rail side because the shield spring is subject to breakage.
c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole on a frame.
d. Pull the stopper lightly and close the handle, and then press the stopper to have the lock on.
   If the handle is closed in the state where the hook of the handle cannot enter into the square hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

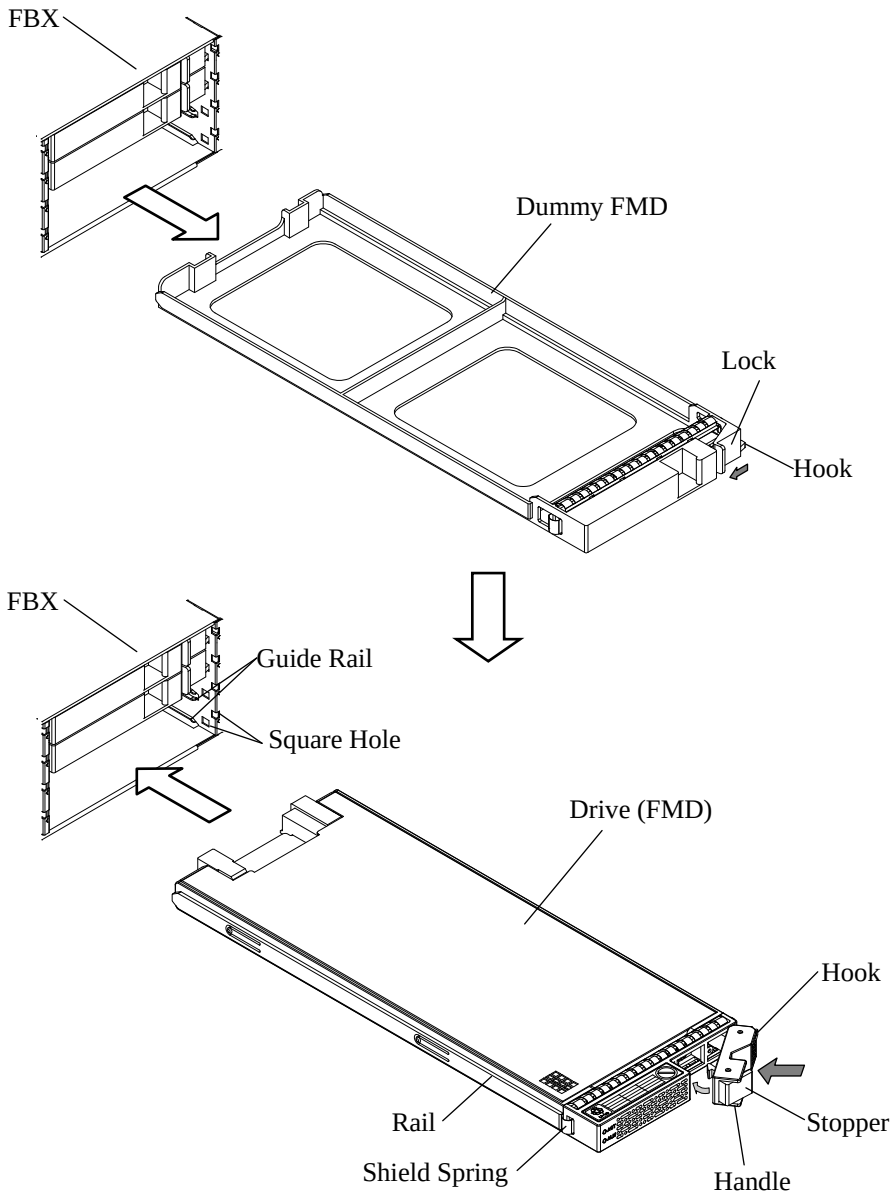
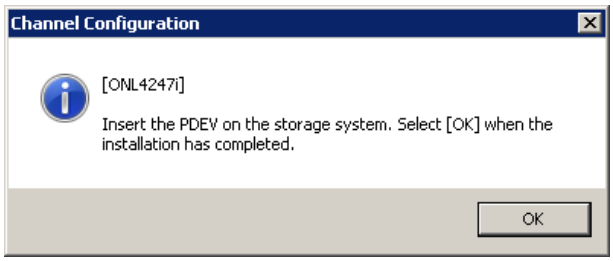


Fig. 3.11.2-15 Installation of Drive (In case of FBX)

Copyright © 2014, Hitachi, Ltd.

4. SVP post procedure

(1) <Check that hardware components are installed>
Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the PDEV on the storage system. Select [OK] when the installation has completed.”.



NOTE: On page INST03-11A-140 (13), it advances to (3)-1 when a Quick Format is selected (CL).

---

(2) <DKU PATH INLINE>
When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

---

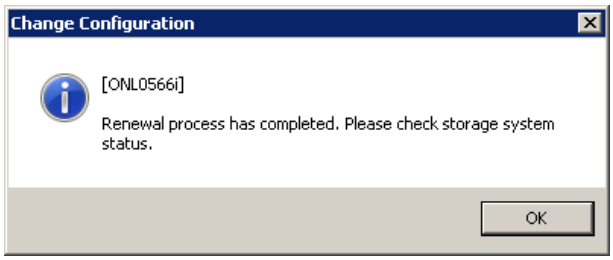
(3) <LDEV FORMAT>
“Formatting logical devices...” is displayed when Parity Group is defined.

---

(3)-1 <QUICK FORMAT>
“Preparing Quick Format logical devices...” is displayed when Parity Group is defined.

Copyright © 2014, Hitachi, Ltd.

(4) <End of system update processing>
"Renewal process has completed. Please check storage system status." is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



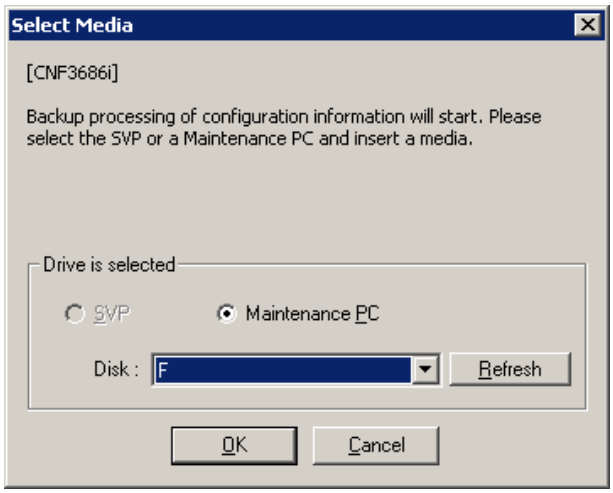
(4)-1 <QUICK FORMAT>
Refer to the logical device window in the "Maintenance" window to check that the Quick Format is in progress. (SVP03-06-10 through 100)

Copyright © 2014, Hitachi, Ltd.

(5)

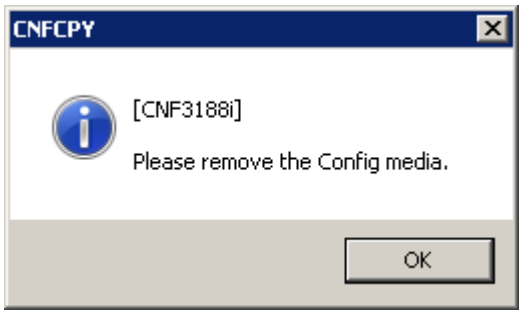
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



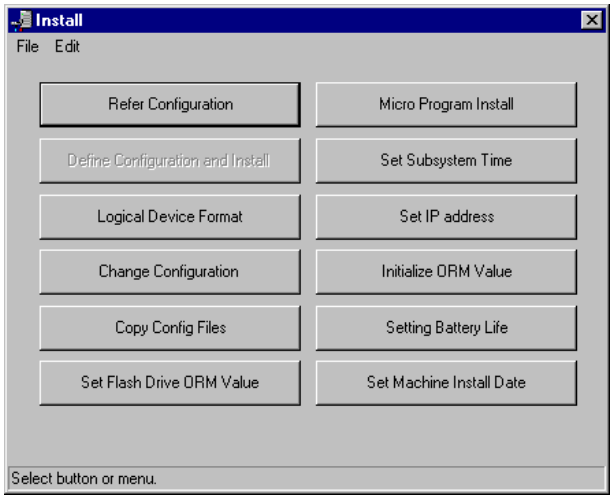
(6)

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



(7)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



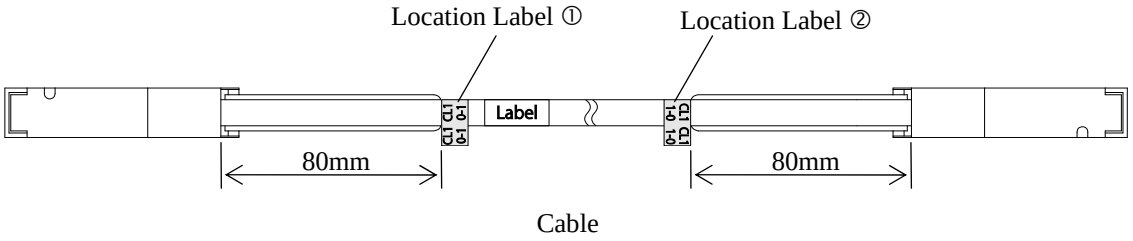
(8) <Mode Change>
Change the mode to View Mode.

Return to the work table (INST02-50) and perform rest of the works.

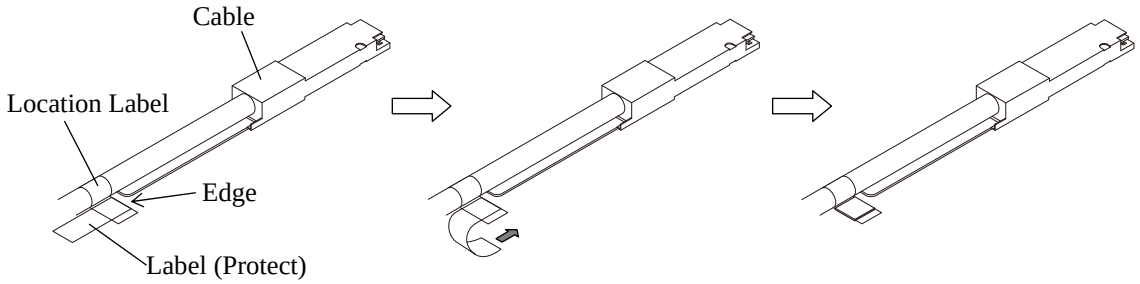
Copyright © 2014, Hitachi, Ltd.

3.11.3 When performing addition of the DKA and Device Interface Cable (DKC-F810I-SCA/ESCA/CC1/CC2)

1. When you need to install DKC-F810I-CC2, attach the location labels to the cables.
   When you do not need to install DKC-F810I-CC2, go to Procedure 2.
   a. Attach 16 location labels to 8 cables. Choose location labels from Labels (Address) and Labels (Address) 2. See Fig. 3.11.3-1, Table 3.11.3-1, Table 3.11.3-2, Table 3.11.3-3 and Table 3.11.3-4.
   b. Stick the Label (Protect) around the attached location labels.



[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.11.3-1 Attachment of Location Labels

Table 3.11.3-1 Location Label List (DKC-0(DKA-1PA/2PA) – DKU-00)

No.	Connection Source (DKC-0)			Connection Destination (DKU-00)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PA	CL1 1PA-0	White/Black	SSW000-1	SSW000-1	CL1 0-0	White/Black
2	DKA-1PA	CL1 1PA-1	White/Brown	SSW002-1	SSW001-1	CL1 2-0	White/Red
3	DKA-1PA	CL1 1PA-2	White/Red	SSW004-1	SSW002-1	CL1 4-0	White/Yellow
4	DKA-1PA	CL1 1PA-3	White/Orange	SSW006-1	SSW003-1	CL1 6-0	White/Blue
5	DKA-2PA	CL2 2PA-0	Yellow/Black	SSW001-2	SSW000-2	CL2 1-0	Yellow/Brown
6	DKA-2PA	CL2 2PA-1	Yellow/Brown	SSW003-2	SSW001-2	CL2 3-0	Yellow/Orange
7	DKA-2PA	CL2 2PA-2	Yellow/Red	SSW005-2	SSW002-2	CL2 5-0	Yellow/Green
8	DKA-2PA	CL2 2PA-3	Yellow/Orange	SSW007-2	SSW003-2	CL2 7-0	Yellow/Purple

Copyright © 2014, Hitachi, Ltd.

Table 3.11.3-2 Location Label List (DKC-0(DKA-1PB/2PB) – DKU-00)

No.	Connection Source (DKC-0)			Connection Destination (DKU-00)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PB	CL1 1PB-0	White/Black	SSW001-1	SSW000-1	CL1 1-0	White/Brown
2	DKA-1PB	CL1 1PB-1	White/Brown	SSW003-1	SSW001-1	CL1 3-0	White/Orange
3	DKA-1PB	CL1 1PB-2	White/Red	SSW005-1	SSW002-1	CL1 5-0	White/Green
4	DKA-1PB	CL1 1PB-3	White/Orange	SSW007-1	SSW003-1	CL1 7-0	White/Purple
5	DKA-2PB	CL2 2PB-0	Yellow/Black	SSW000-2	SSW000-2	CL2 0-0	Yellow/Black
6	DKA-2PB	CL2 2PB-1	Yellow/Brown	SSW002-2	SSW001-2	CL2 2-0	Yellow/Red
7	DKA-2PB	CL2 2PB-2	Yellow/Red	SSW004-2	SSW002-2	CL2 4-0	Yellow/Yellow
8	DKA-2PB	CL2 2PB-3	Yellow/Orange	SSW006-2	SSW003-2	CL2 6-0	Yellow/Blue

Table 3.11.3-3 Location Label List (DKC-1(DKA-1PG/2PG) – DKU-10)

No.	Connection Source (DKC-1)			Connection Destination (DKU-10)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PG	CL1 1PG-0	White/Black	SSW100-1	SSW100-1	CL1 0-0	White/Black
2	DKA-1PG	CL1 1PG-1	White/Brown	SSW102-1	SSW101-1	CL1 2-0	White/Red
3	DKA-1PG	CL1 1PG-2	White/Red	SSW104-1	SSW102-1	CL1 4-0	White/Yellow
4	DKA-1PG	CL1 1PG-3	White/Orange	SSW106-1	SSW103-1	CL1 6-0	White/Blue
5	DKA-2PG	CL2 2PG-0	Yellow/Black	SSW101-2	SSW100-2	CL2 1-0	Yellow/Brown
6	DKA-2PG	CL2 2PG-1	Yellow/Brown	SSW103-2	SSW101-2	CL2 3-0	Yellow/Orange
7	DKA-2PG	CL2 2PG-2	Yellow/Red	SSW105-2	SSW102-2	CL2 5-0	Yellow/Green
8	DKA-2PG	CL2 2PG-3	Yellow/Orange	SSW107-2	SSW103-2	CL2 7-0	Yellow/Purple

Table 3.11.3-4 Location Label List (DKC-1(DKA-1PH/2PH) – DKU-10)

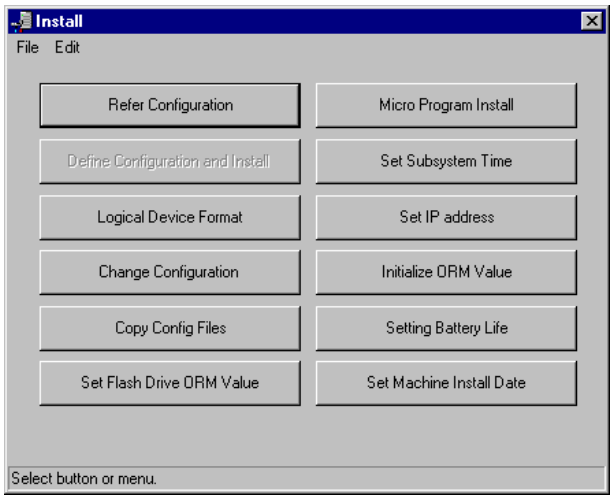
No.	Connection Source (DKC-1)			Connection Destination (DKU-10)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PH	CL1 1PH-0	White/Black	SSW101-1	SSW100-1	CL1 1-0	White/Brown
2	DKA-1PH	CL1 1PH-1	White/Brown	SSW103-1	SSW101-1	CL1 3-0	White/Orange
3	DKA-1PH	CL1 1PH-2	White/Red	SSW105-1	SSW102-1	CL1 5-0	White/Green
4	DKA-1PH	CL1 1PH-3	White/Orange	SSW107-1	SSW103-1	CL1 7-0	White/Purple
5	DKA-2PH	CL2 2PH-0	Yellow/Black	SSW100-2	SSW100-2	CL2 0-0	Yellow/Black
6	DKA-2PH	CL2 2PH-1	Yellow/Brown	SSW102-2	SSW101-2	CL2 2-0	Yellow/Red
7	DKA-2PH	CL2 2PH-2	Yellow/Red	SSW104-2	SSW102-2	CL2 4-0	Yellow/Yellow
8	DKA-2PH	CL2 2PH-3	Yellow/Orange	SSW106-2	SSW103-2	CL2 6-0	Yellow/Blue

Copyright © 2014, Hitachi, Ltd.

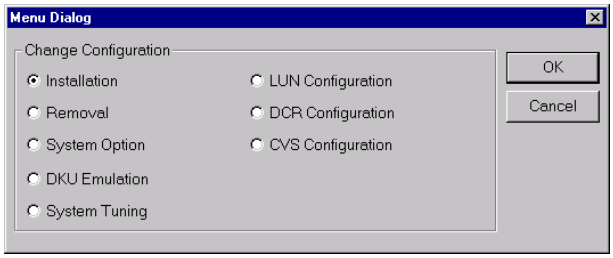
2. Setting up the New Device Structure Information

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

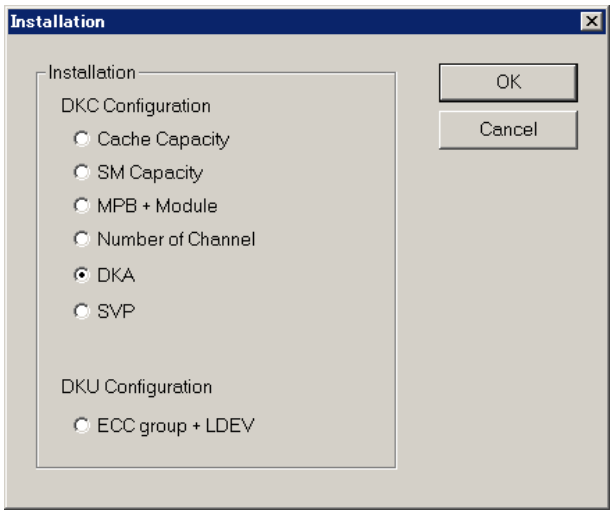
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the "Menu Dialog" dialog box and select (CL) [OK].



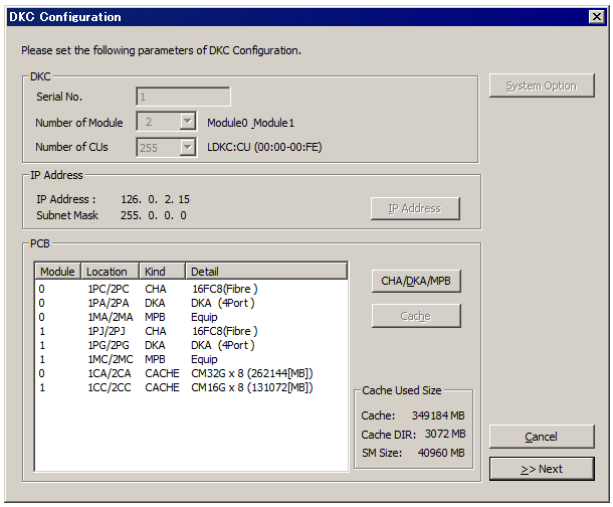
(4) <Select a changed part>
Select (CL) [DKA], and select (CL) [OK].



Copyright © 2014, Hitachi, Ltd.

(5) <Update Configuration Information>
Select (CL) [CHA/DKA/MPB] in the 'DKC Configuration' screen.
Go to Step (6).

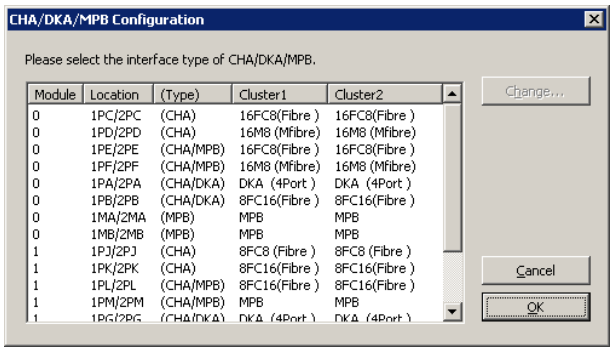
After confirming input items, select (CL) the [>>Next] button.
Go to Step (7).
In the case of selecting (CL) [Cancel], this operation procedure terminates.



Copyright © 2014, Hitachi, Ltd.

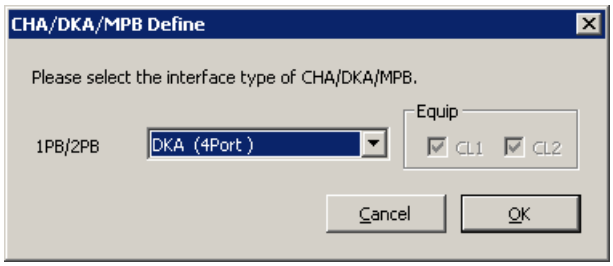
(6) <Setting DKA>

Define the DKA in the 'CHA/DKA/MPB Configuration' screen. Select (CL) the location to be added, and then select (CL) the [Change...].
Go to Step (6)-1.
After confirming input items, select (CL) the [OK] button.
Go back to Step (5).



(6)-1 <Select DKA>

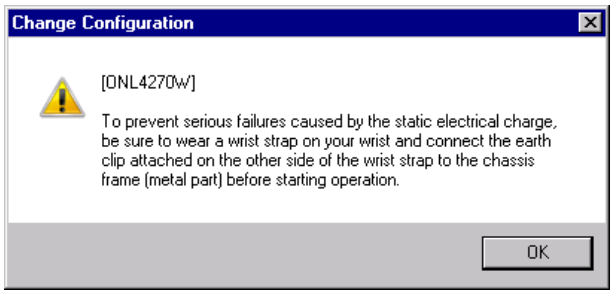
Define the DKA in the 'CHA/DKA/MPB Define' screen. After setting, select (CL) [OK].
Go back to Step (6).



Copyright © 2014, Hitachi, Ltd.

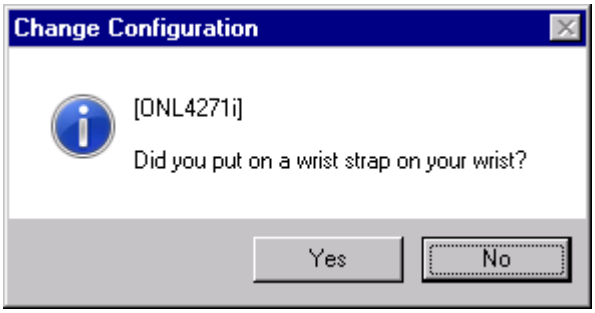
(7) <Wear a wrist strap>

Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



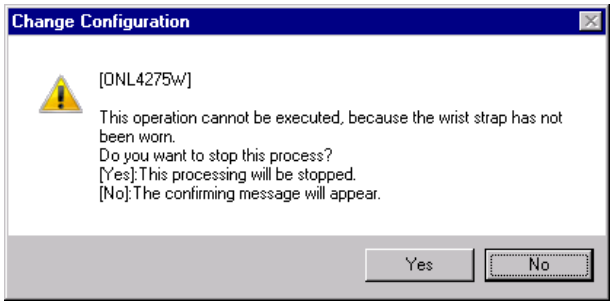
(7)-1 <Confirm wearing wrist strap>

In response to a message, "Did you put on a wrist strap on your wrist?".
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (7)-2.



(7)-2

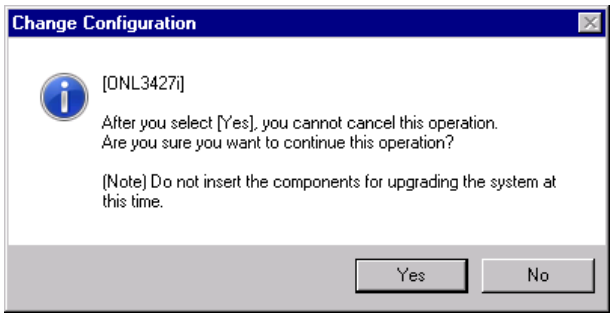
In response to a message, "This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear."
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-11B-30.
When [No] is selected (CL), returned to Step (7).



Copyright © 2014, Hitachi, Ltd.

(8) <Start installation>
Select (CL) [Yes] in response to “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation? (Note) Do not insert the components for upgrading the system at this time.”.

When [No] is selected (CL), returns to INST03-11B-30 Step (2).



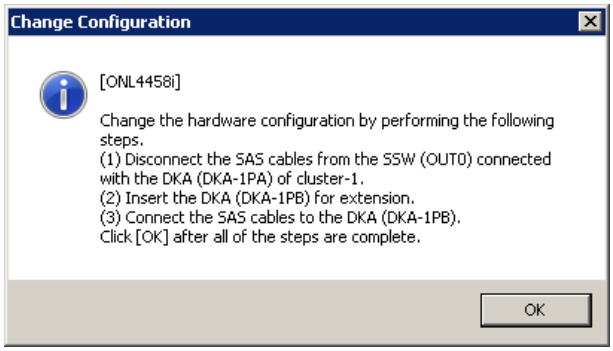
Copyright © 2014, Hitachi, Ltd.

3. SVP Pre-Procedure (Cluster 1)

(1) <Change the hardware configuration>
When changing from the Standard Model to the High Performance Model : Go to Step (1)-1.
When installing from the less DKA or less DKU configuration : Go to Step (1)-2.

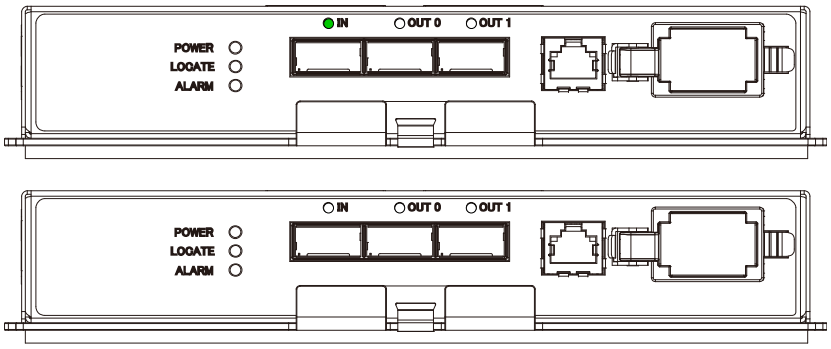
(1)-1

"Change the hardware configuration by performing the following steps. (1) Disconnect the SAS cables from the SSW (OUT0) connected with DKA (DKA-nnn) of cluster-1. (2) Insert the DKA (DKA-nnn) for extension. (3) Connect the SAS cables to the DKA (DKA-nnn). Click [OK] after all of the steps are complete." is displayed.

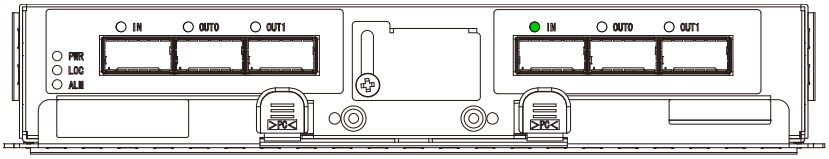


NOTE: Connect the cables of Blinking LED.

SSW (UBX / SBX)



SSW (FBX)

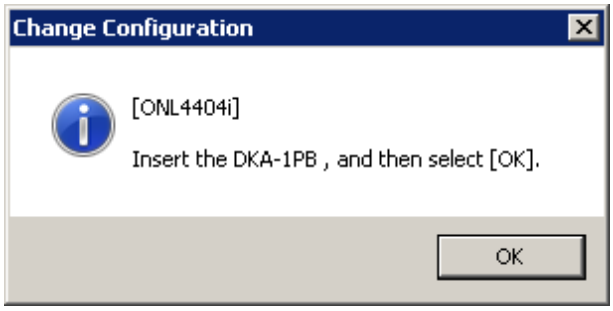


Go to Step 4.

(1)-2

At this point refrain from pressing the [OK] button.
"Insert the DKA-nnn, and then select [OK]." is displayed.

Go to Step 5.



Copyright © 2014, Hitachi, Ltd.

4. Installation of SAS cable and Disk Adapter for cluster 1

4-1 Installation Procedure of Device Interface Cable CC1 (DKC-F810I-CC1) for cluster 1

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-00(UBX/SBX)

(1) Disconnect the cables from the SSWs in the DKU-00. (Refer to Fig. 3.11.3-2 and Fig. 3.11.3-3.)

(2) Attach the caps to the disconnected cables.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

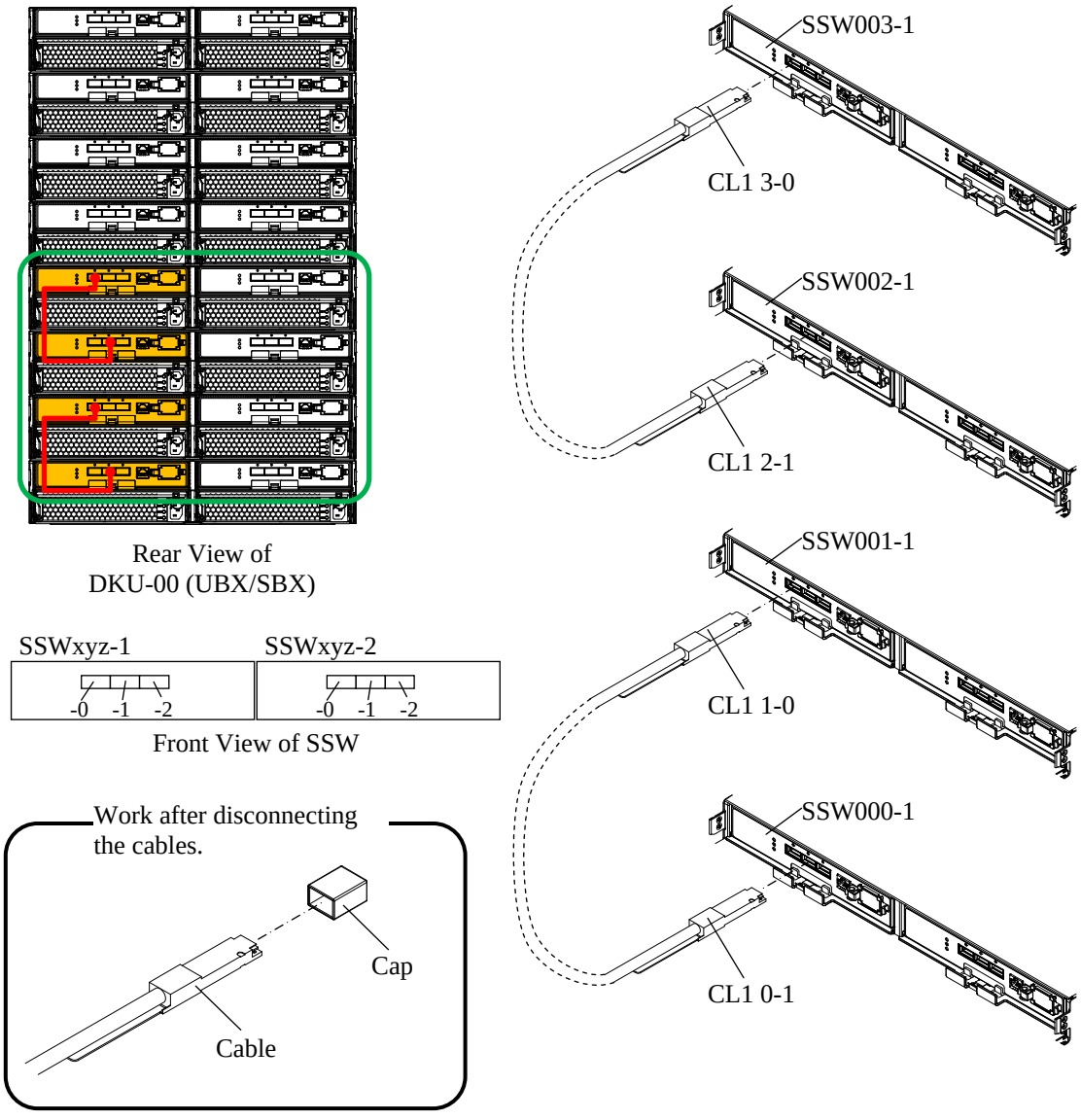


Fig. 3.11.3-2 Disconnection of Cables (UBX/SBX_CC1_CL1_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

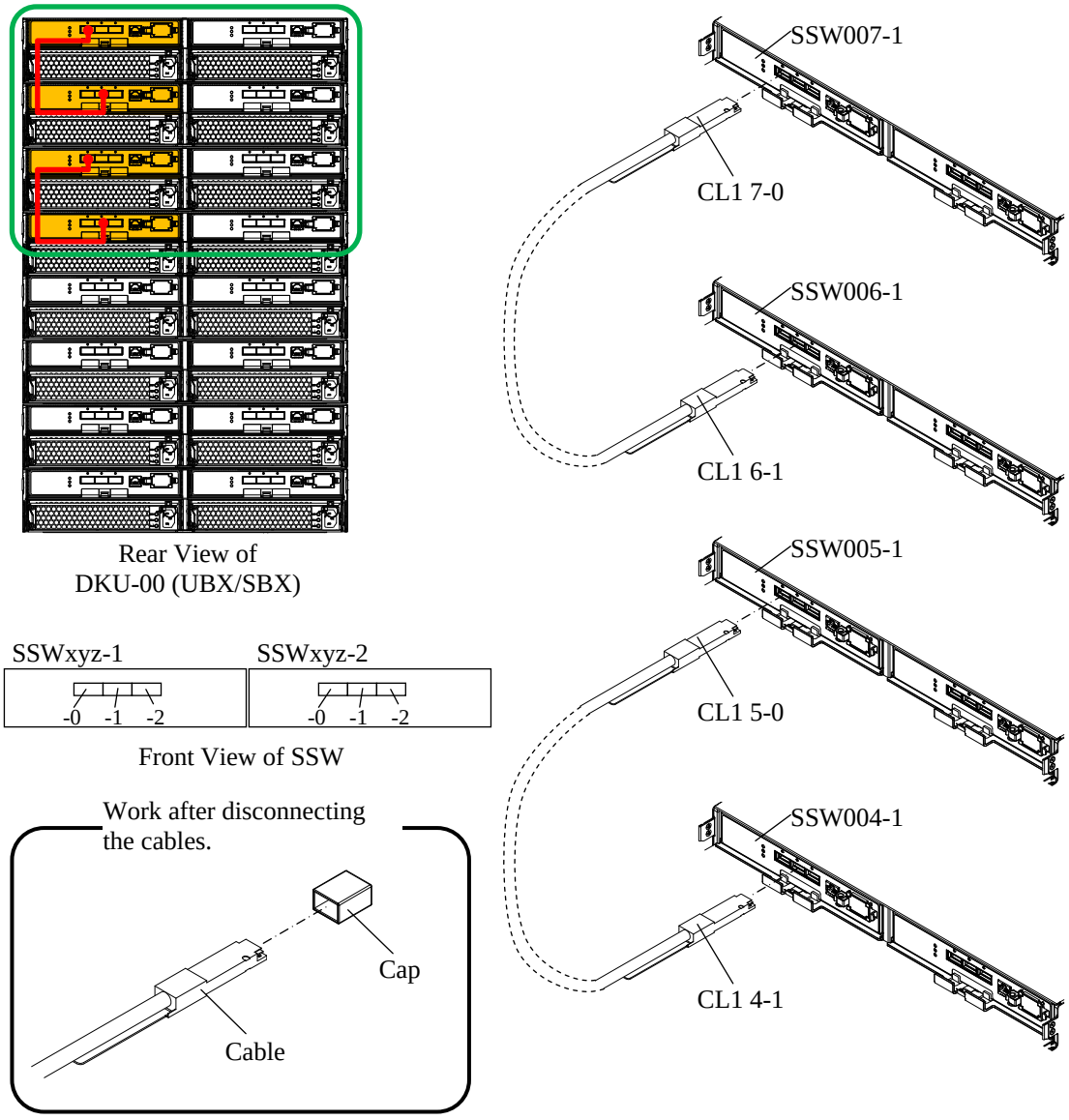


Fig. 3.11.3-3 Disconnection of Cables (UBX/SBX_CC1_CL1_U)

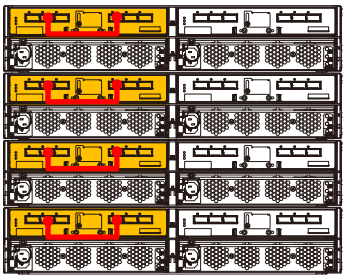
Copyright © 2014, Hitachi, Ltd.

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-00(FBX)

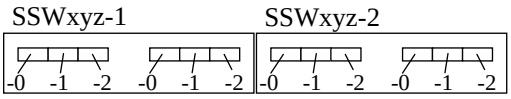
(1) Disconnect the cables from the SSWs in the DKU-00.
(2) Attach the caps to the disconnected cables.

⚠ CAUTION

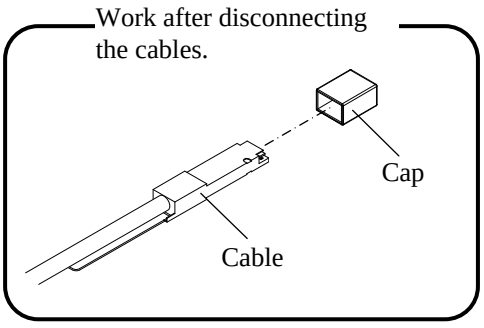
A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of DKU-00 (FBX)



Front View of SSW



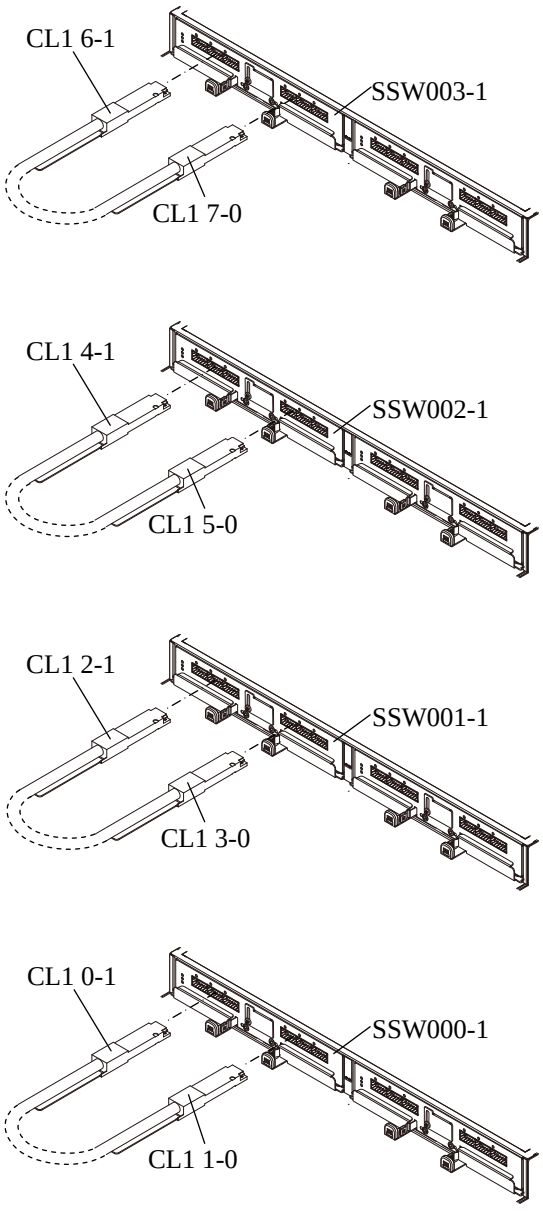


Fig. 3.11.3-4 Disconnection of Cables (FBX_CC1_CL1)

Copyright © 2014, Hitachi, Ltd.

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-10(UBX/SBX)

(1) Disconnect the cables from the SSWs in the DKU-10. (Refer to Fig. 3.11.3-5 and Fig. 3.11.3-6.)
(2) Attach the caps to the disconnected cables.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

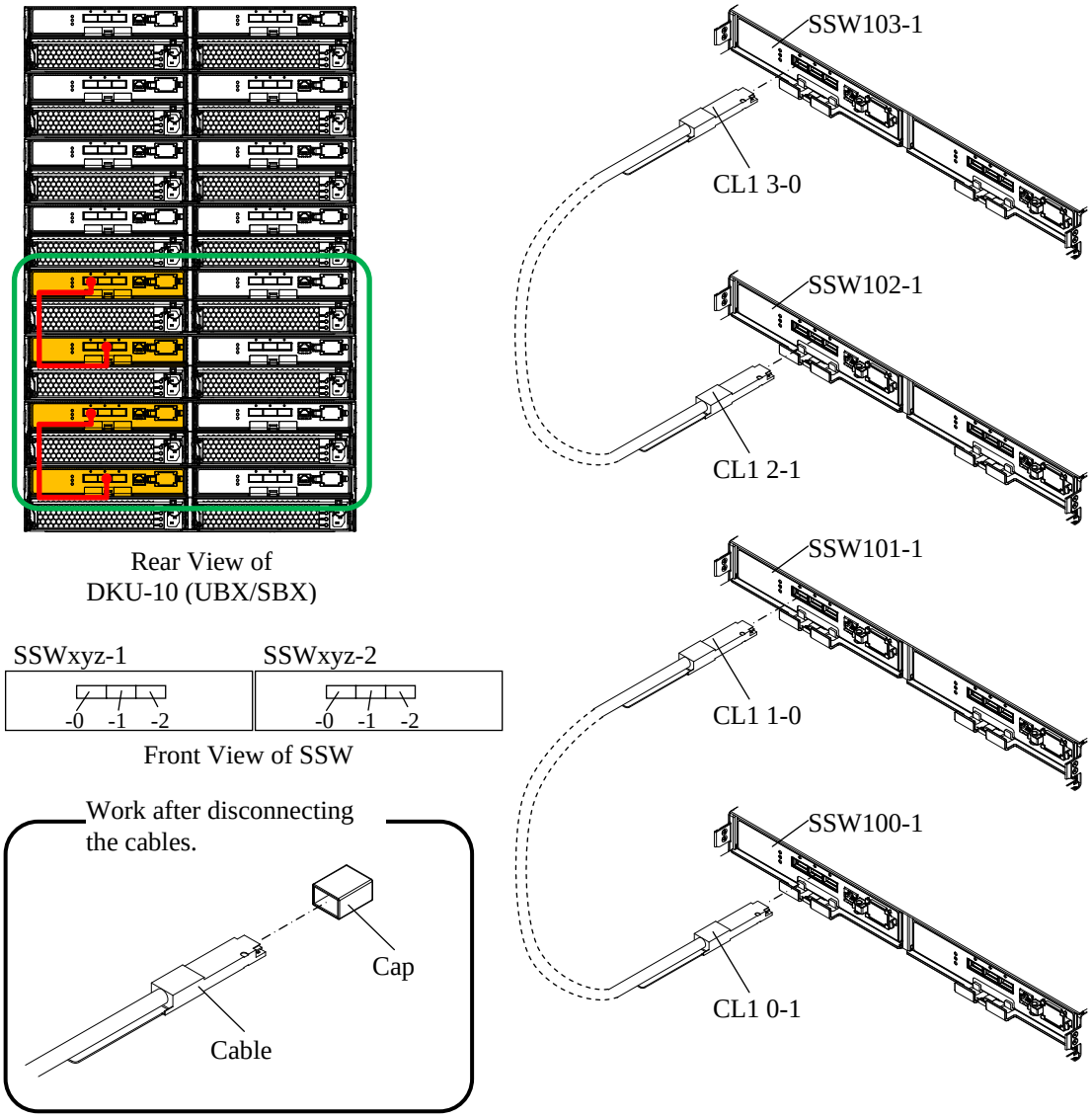


Fig. 3.11.3-5 Disconnection of Cables (UBX/SBX_CC1_CL1_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

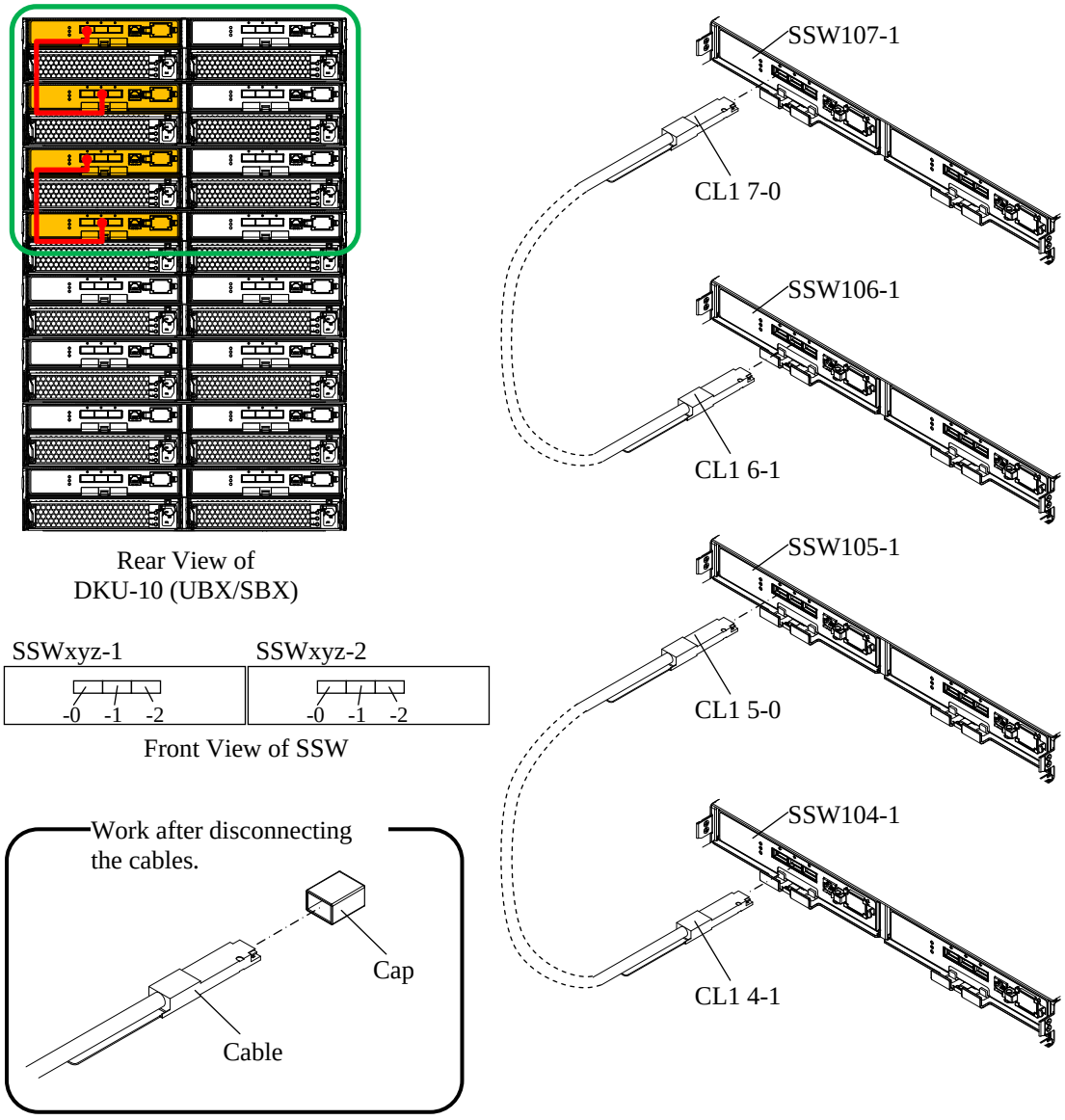
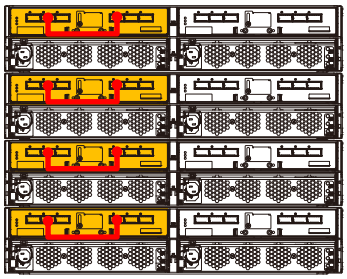


Fig. 3.11.3-6 Disconnection of Cables (UBX/SBX_CC1_CL1_U)

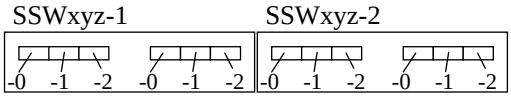
When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-10(FBX)

(1) Disconnect the cables from the SSWs in the DKU-10.
(2) Attach the caps to the disconnected cables.

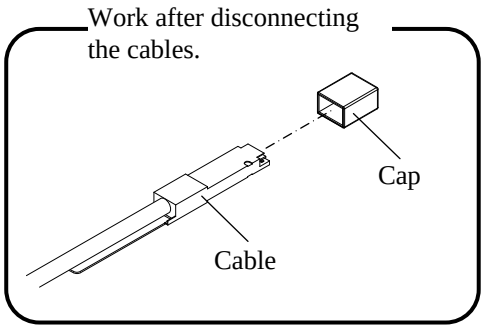
> **⚠ CAUTION**
> A serious failure occurs if a wrong cable or connector is removed.
> Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of DKU-10 (FBX)



Front View of SSW



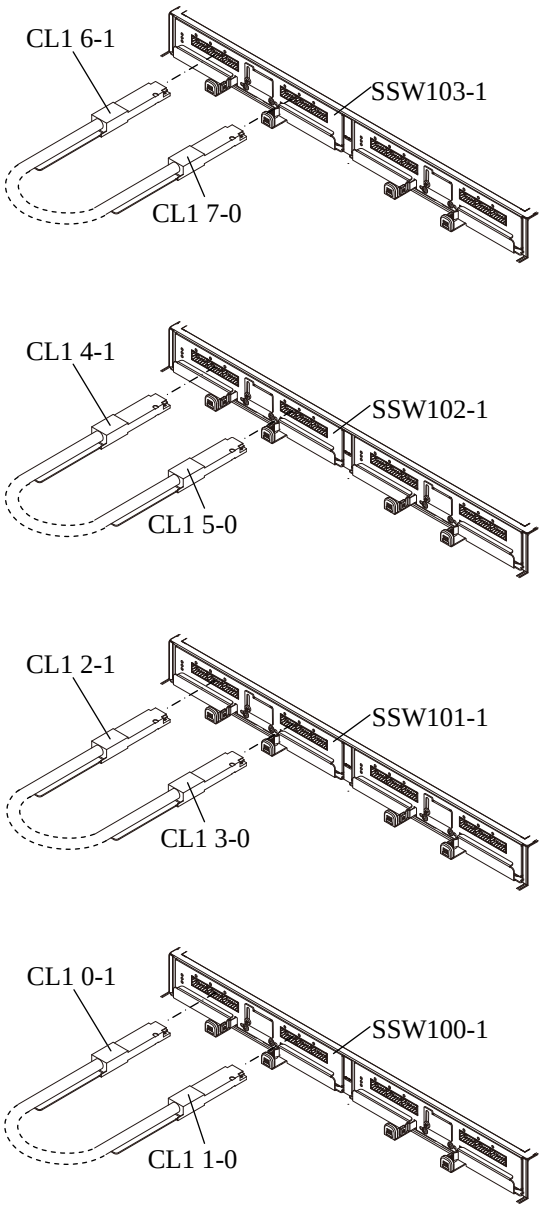


Fig. 3.11.3-7 Disconnection of Cables (FBX_CC1_CL1)

Copyright © 2014, Hitachi, Ltd.

(3) Open the loop cable ties and remove the DKC-F810I-CC1 (four cables). (Refer to Fig. 3.11.3-8 or Fig. 3.11.3-9.)

When the DKU-x0 is the UBX/SBX.

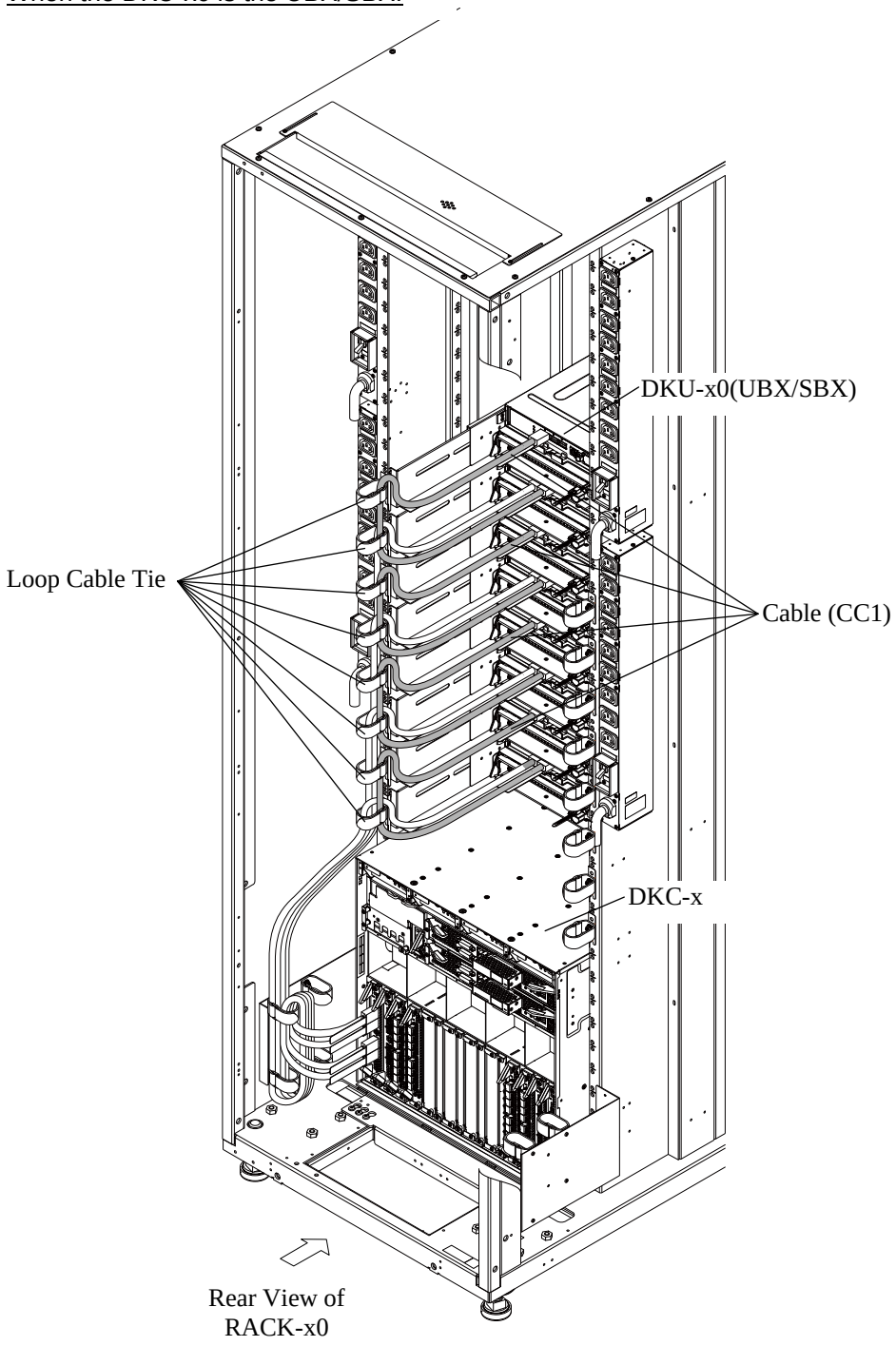


Fig. 3.11.3-8 Removal of Cables (UBX/SBX_CC1_CL1)

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

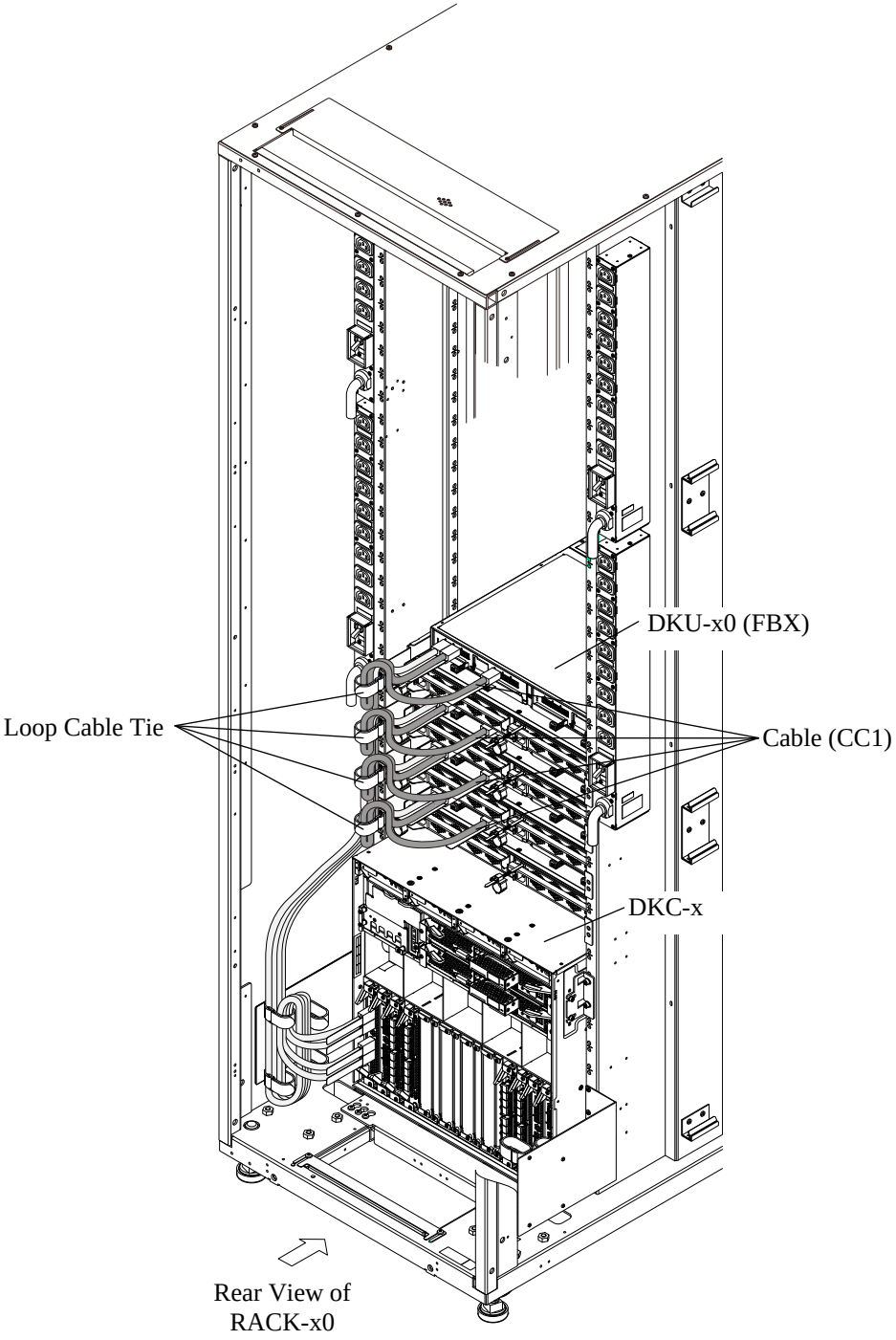


Fig. 3.11.3-9 Removal of Cables (FBX_CC1_CL1)

Copyright © 2014, Hitachi, Ltd.

4-2 Installation Procedure of Disk Adapter for cluster 1

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

4-2-1 Insertion of PCBs

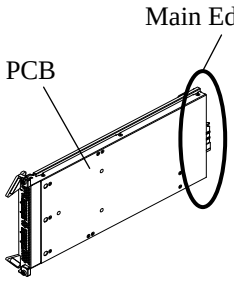
a. If the dummy plates are installed in the installation location, loosen the screws and remove the dummy plates. Refer to the Table 3.11.3-5 and Fig. 3.11.3-10.
If not, go to Step b.

NOTE: Store the removed dummy plates as they are required when the DKAs are removed.

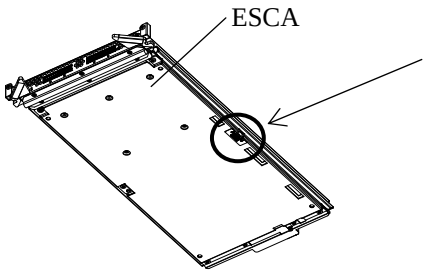
NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

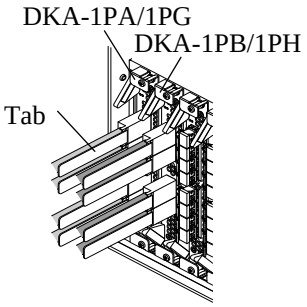
Copyright © 2014, Hitachi, Ltd.

b. Insert the PCBs to the correct locations in the DKC and fasten the screw.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the right and left of the PCB with both hands, and insert it straight not to contact the neighboring PCB.





NOTICE: When inserting or removing the DKA PCB (DKA-1PB/1PH), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-1PA/1PG) is not caught in it.

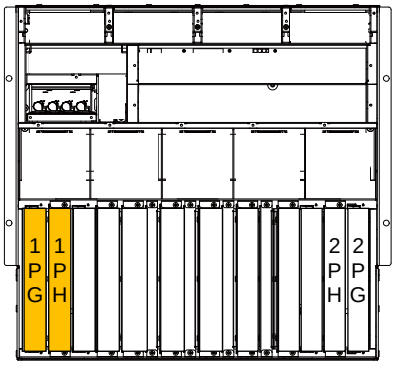
Copyright © 2014, Hitachi, Ltd.

Table 3.11.3-5 Inserting Location

DKC	Addition No.	Location No.	Number of DKAs set through the SVP		Remarks
		Cluster 1			
DKC-0	Basic	DKA-1PA	2	4	
	Option 1	DKA-1PB	—		
DKC-1	Option 2	DKA-1PG	2	4	
	Option 3	DKA-1PH	—		



Rear View of DKC-0



Rear View of DKC-1

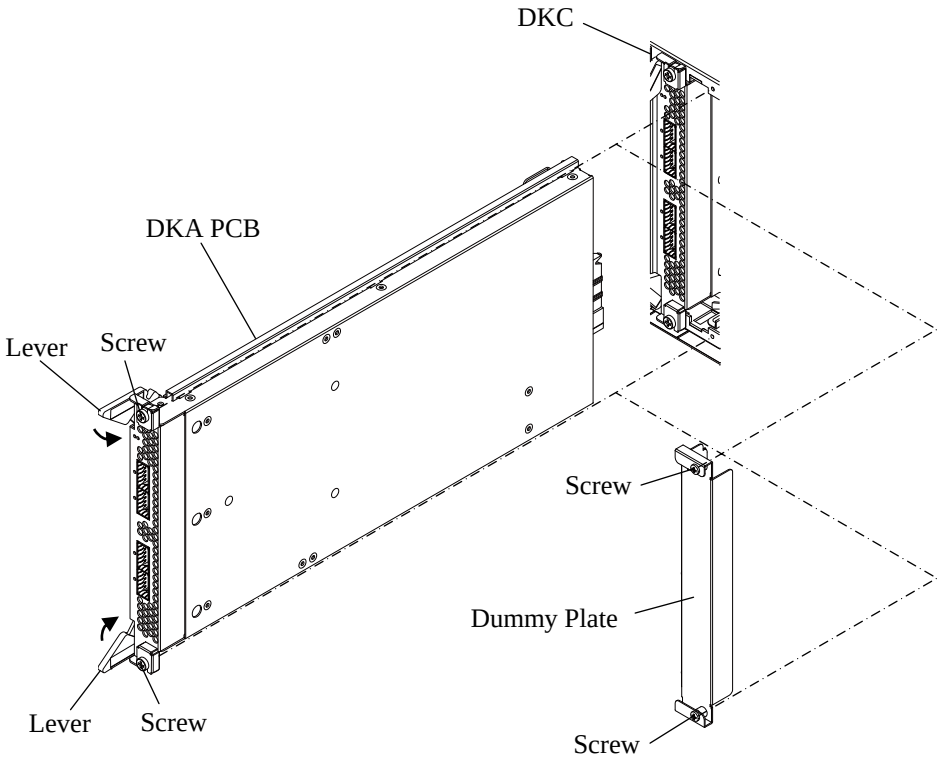


Fig. 3.11.3-10 Insertion of PCB

Copyright © 2014, Hitachi, Ltd.

4-3 Attachment Procedure of Device Interface Cable for Cluster 1 (DKC-F810I-CC2)

4-3-1 Connection of Cables

In the case of cable installation between DKA-1PA and DKU-00

> **⚠ CAUTION**
> A serious failure occurs if any of cables/connectors is wrongly connected.
> Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

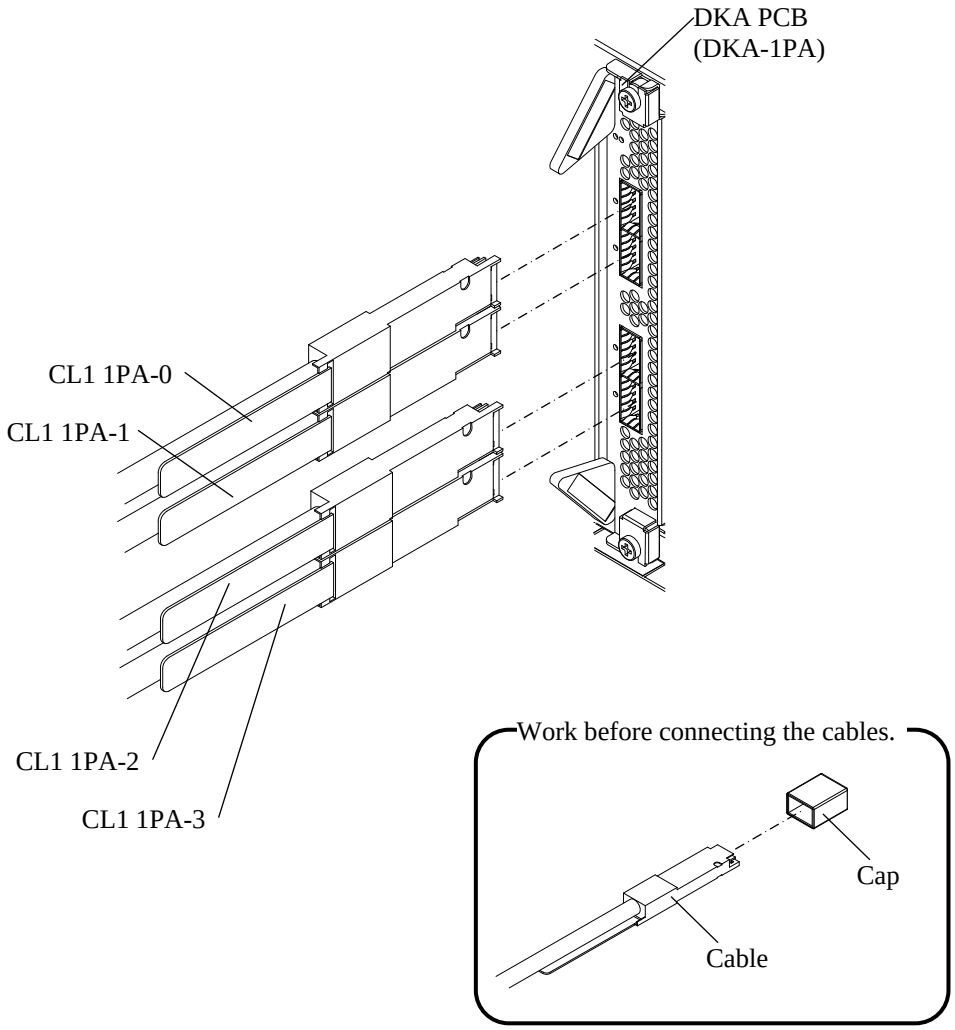


Fig. 3.11.3-11 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-12 or Fig. 3.11.3-13.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

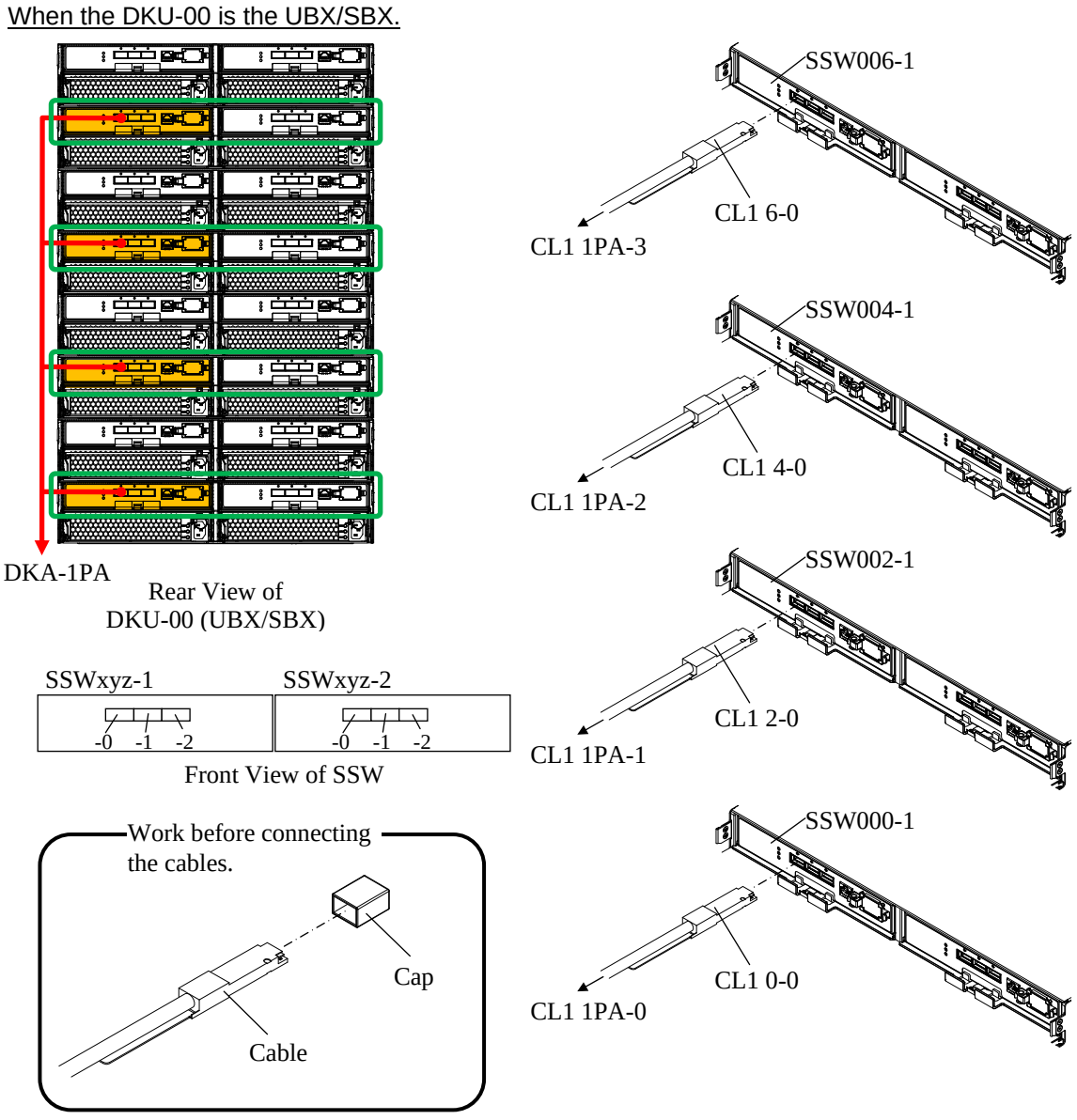


Fig. 3.11.3-12 Connection of Cables (CC2_DKU-00(UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the FBX.

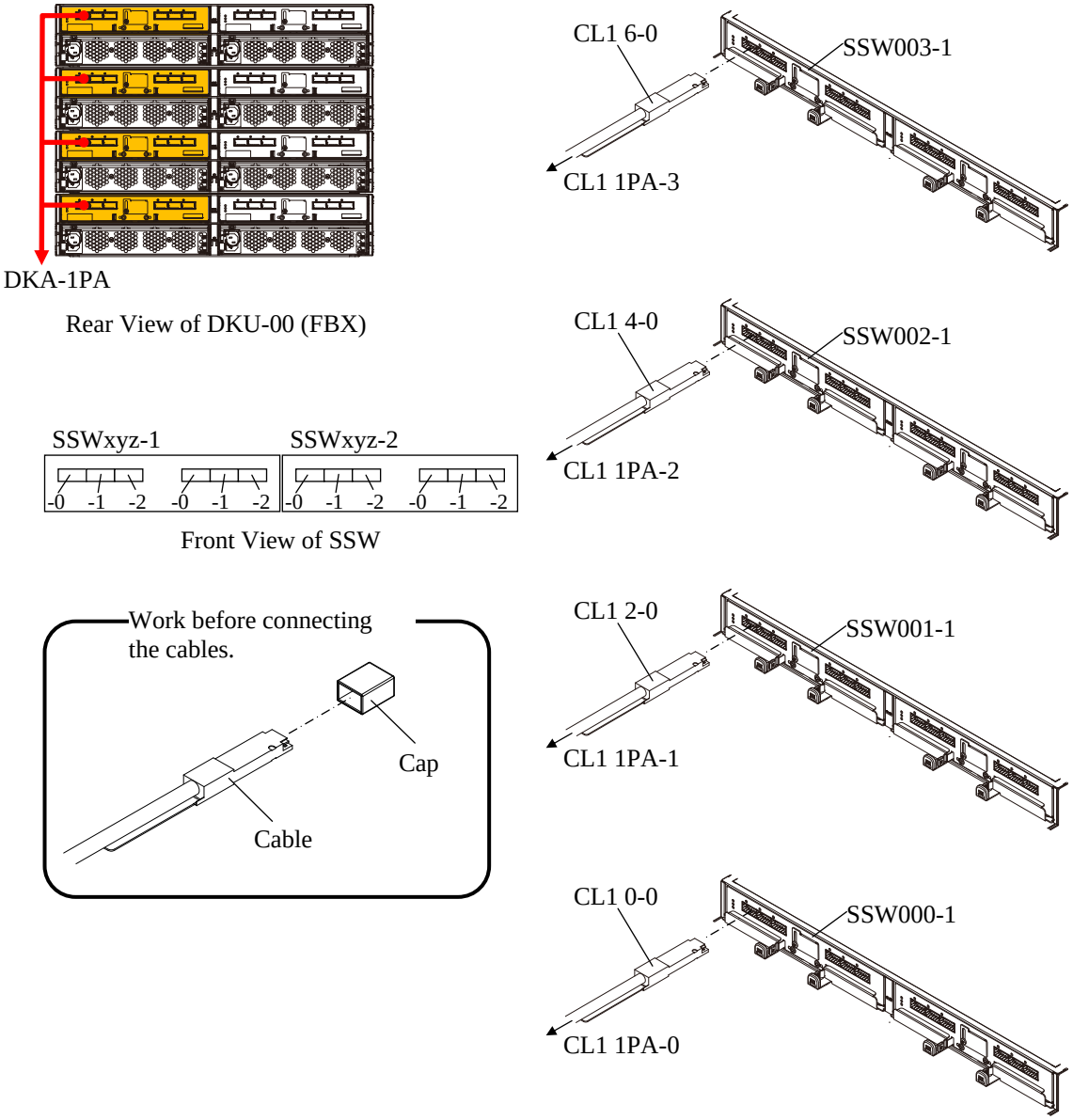


Fig. 3.11.3-13 Connection of Cables (CC2_DKU-00(FBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PB and DKU-00

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

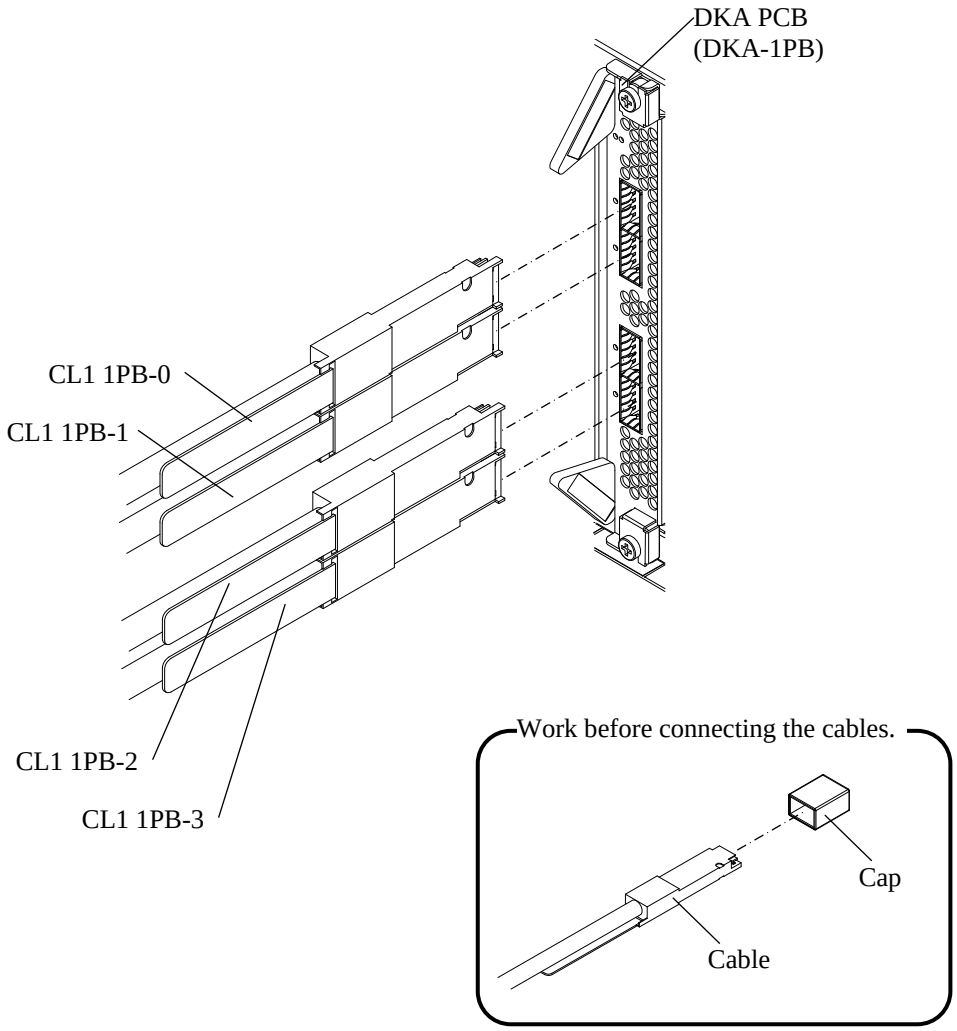


Fig. 3.11.3-14 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-15 or Fig. 3.11.3-16.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

<u>When the DKU-00 is the UBX/SBX.</u>

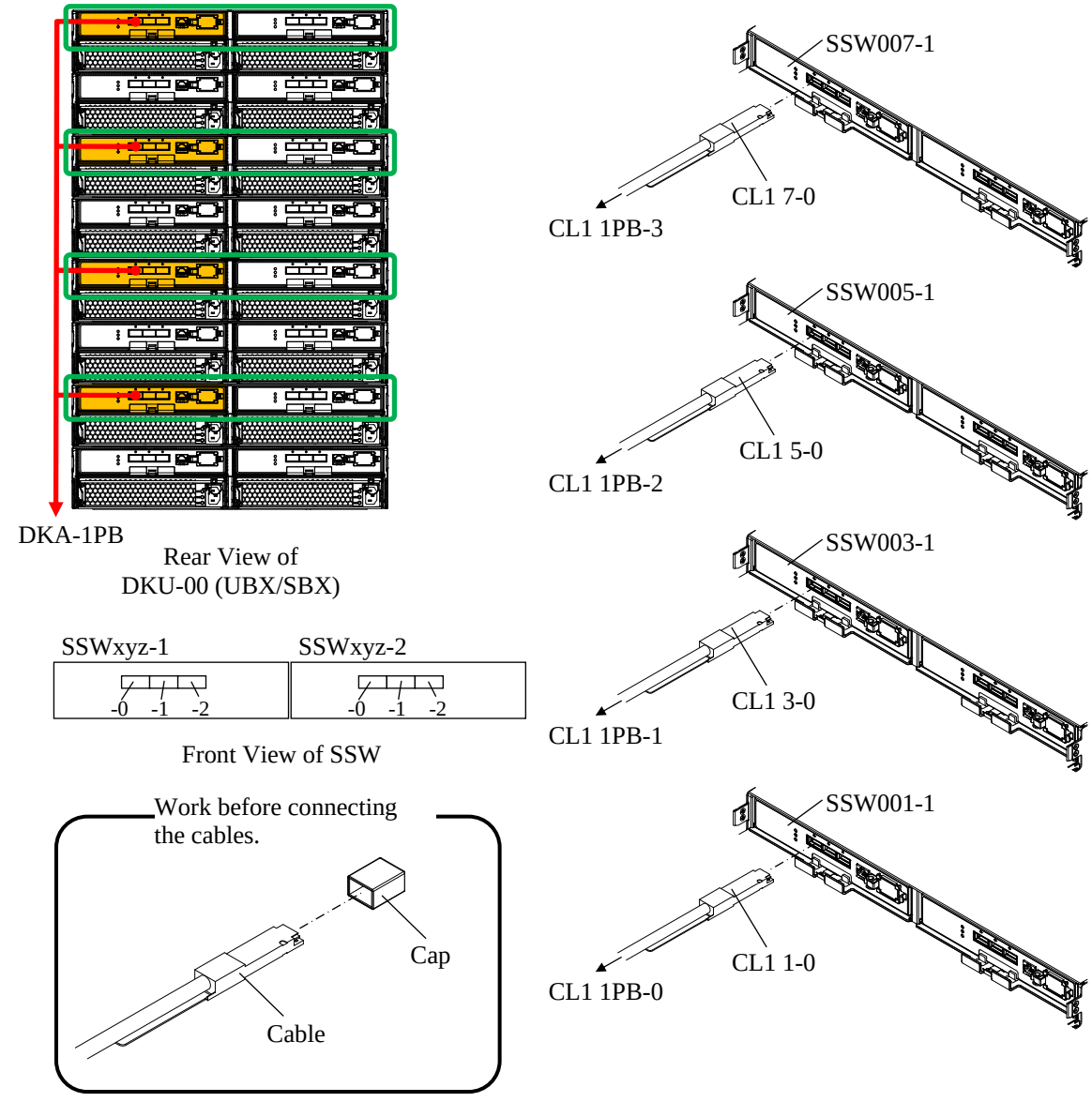


Fig. 3.11.3-15 Connection of Cables (CC2_DKU-00(UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the FBX.

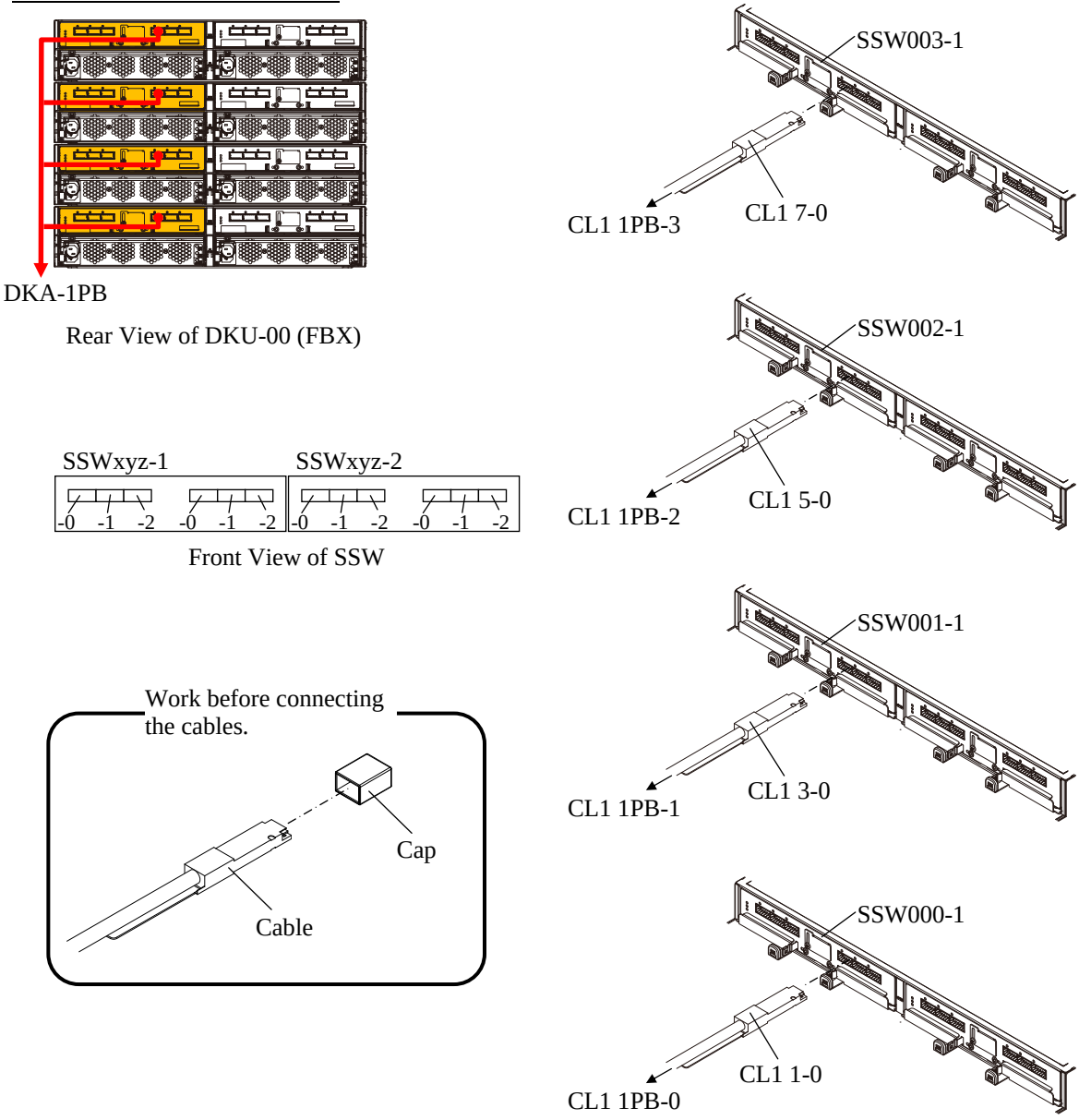


Fig. 3.11.3-16 Connection of Cables (CC2_DKU-00(FBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PG and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

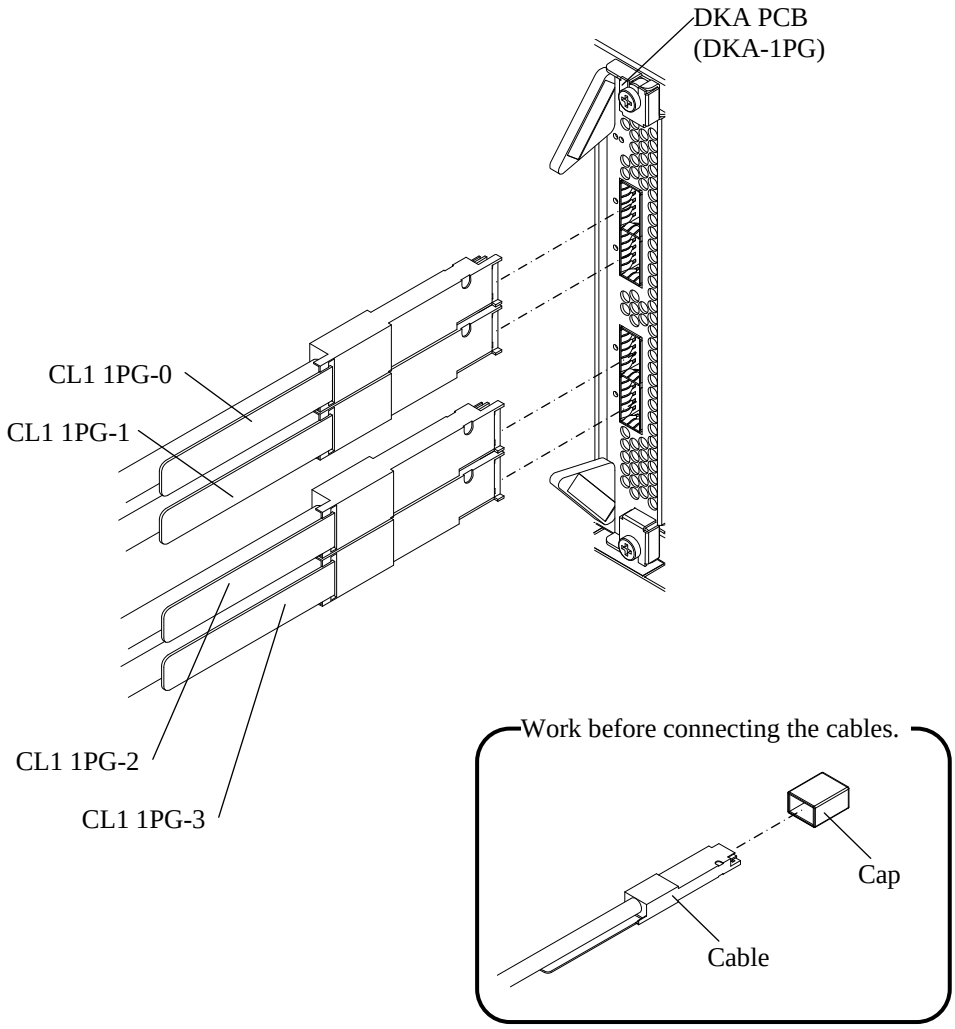


Fig. 3.11.3-17 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-18 or Fig. 3.11.3-19.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

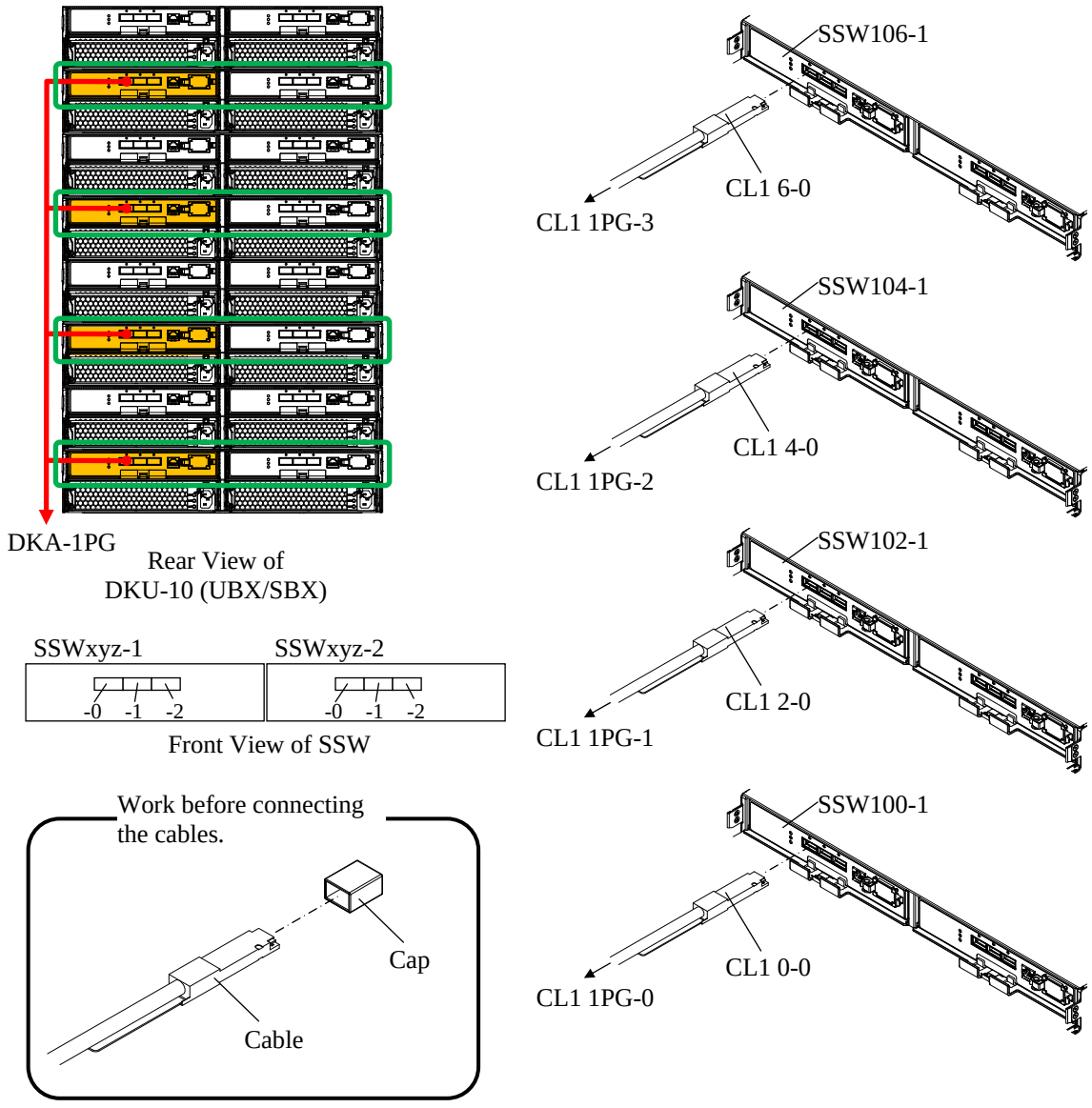


Fig. 3.11.3-18 Connection of Cables (CC2_DKU-10(UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the FBX.

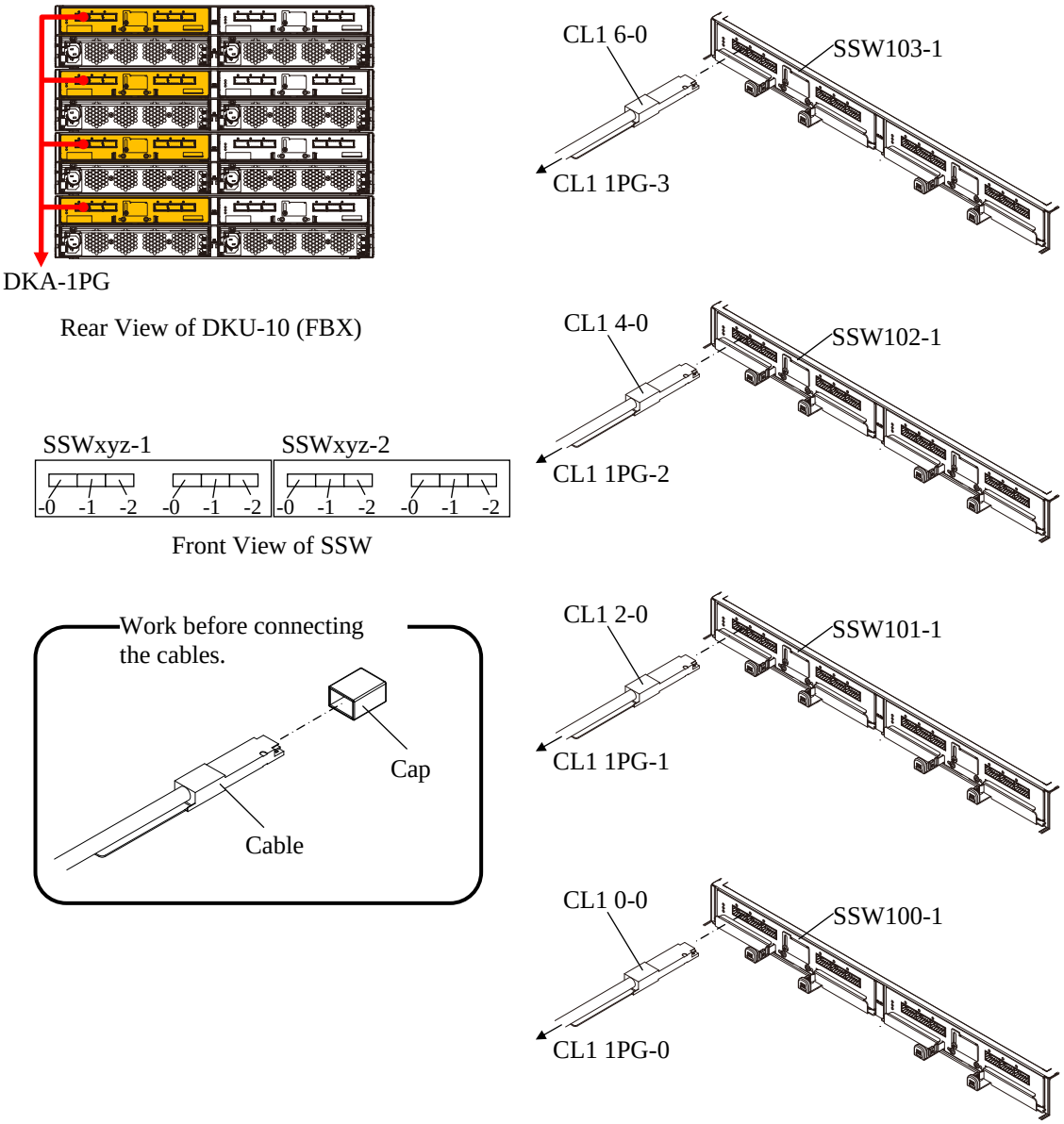


Fig. 3.11.3-19 Connection of Cables (CC2_DKU-10(FBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PH and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

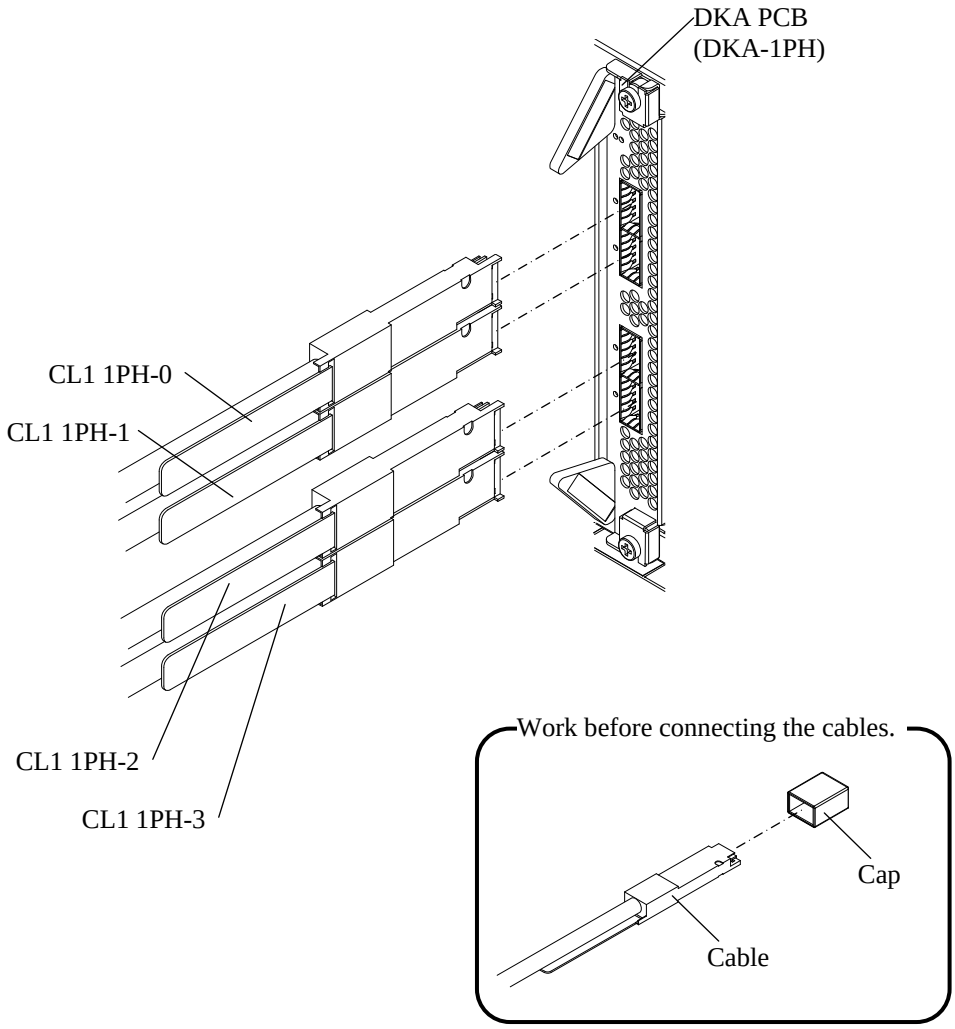


Fig. 3.11.3-20 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-21 or Fig. 3.11.3-22.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

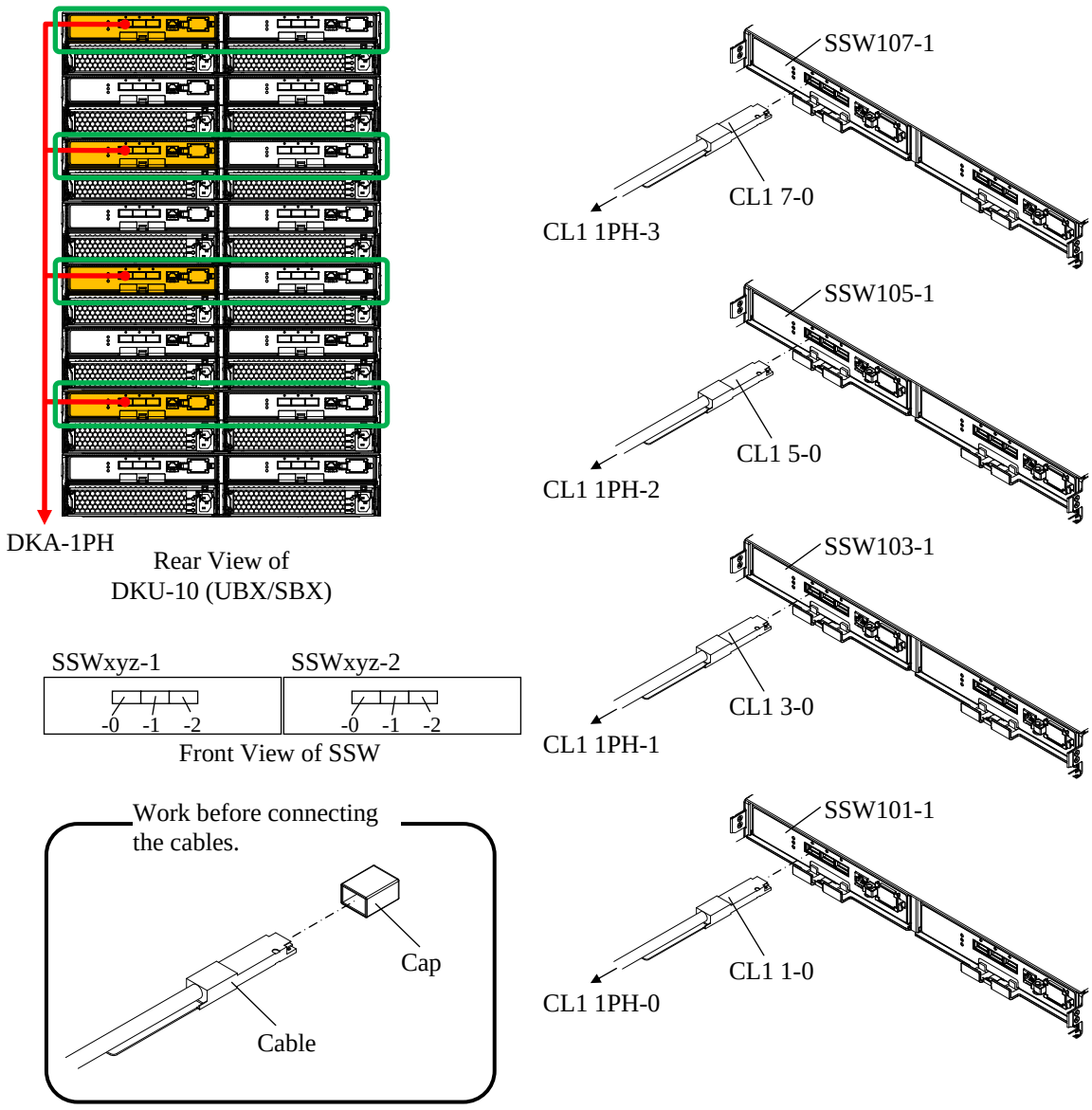


Fig. 3.11.3-21 Connection of Cables (CC2_DKU-10(UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the FBX.

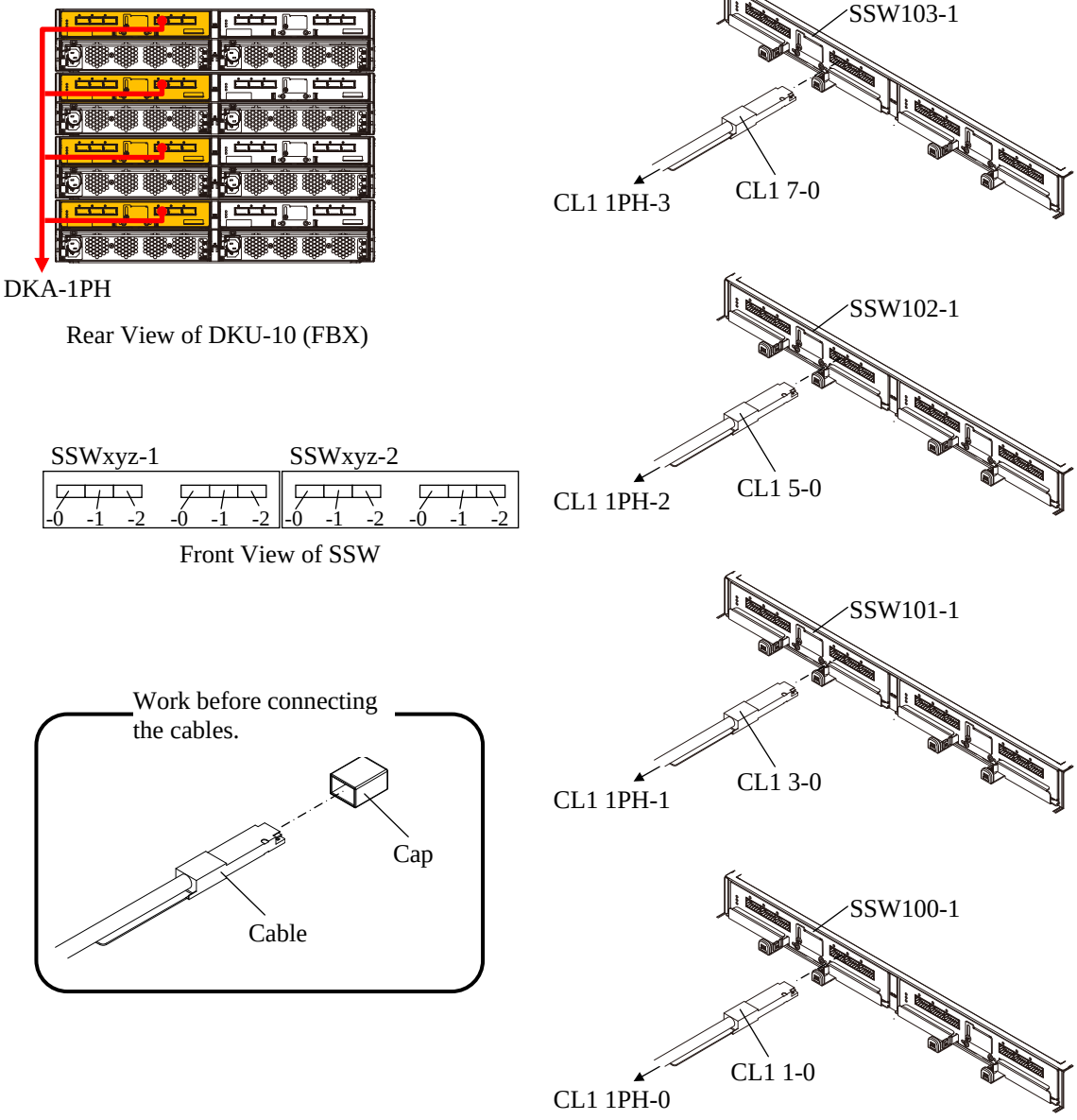


Fig. 3.11.3-22 Connection of Cables (CC2_DKU-10(FBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

4-3-2 Attachment of Cables

In the case of cable installation between DKA-1PA and DKU-00 or between DKA-1PG and DKU-10

a. Route the four cables in the cluster 1 and fix them with the loop cable ties. (Refer to Fig. 3.11.3-23 or Fig. 3.11.3-24.)

When the DKU-x0 is the UBX/SBX.

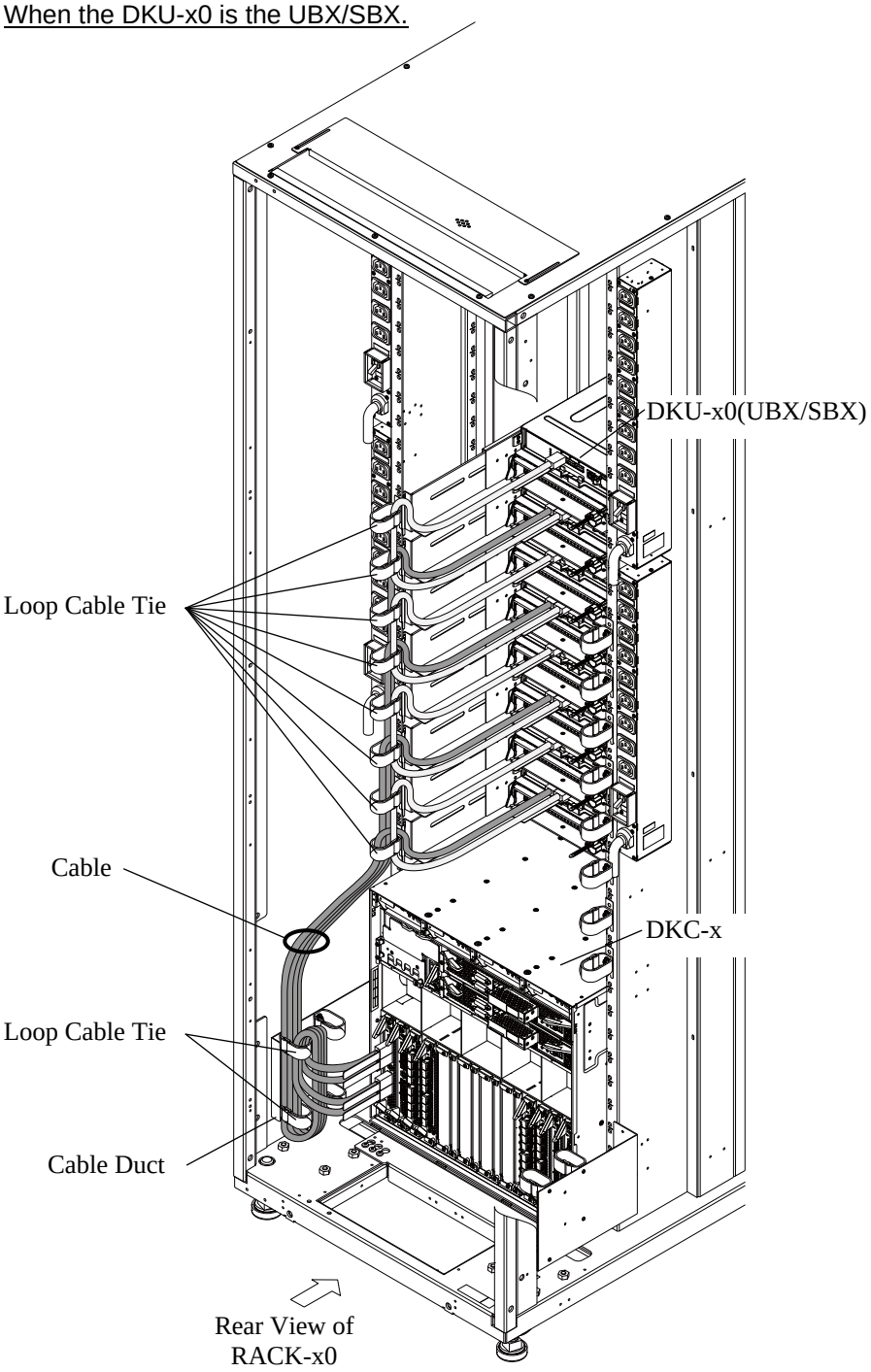


Fig. 3.11.3-23 Fixation of Cables (DKA-1PA – DKU-00(UBX/SBX) or DKA-1PG – DKU-10(UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

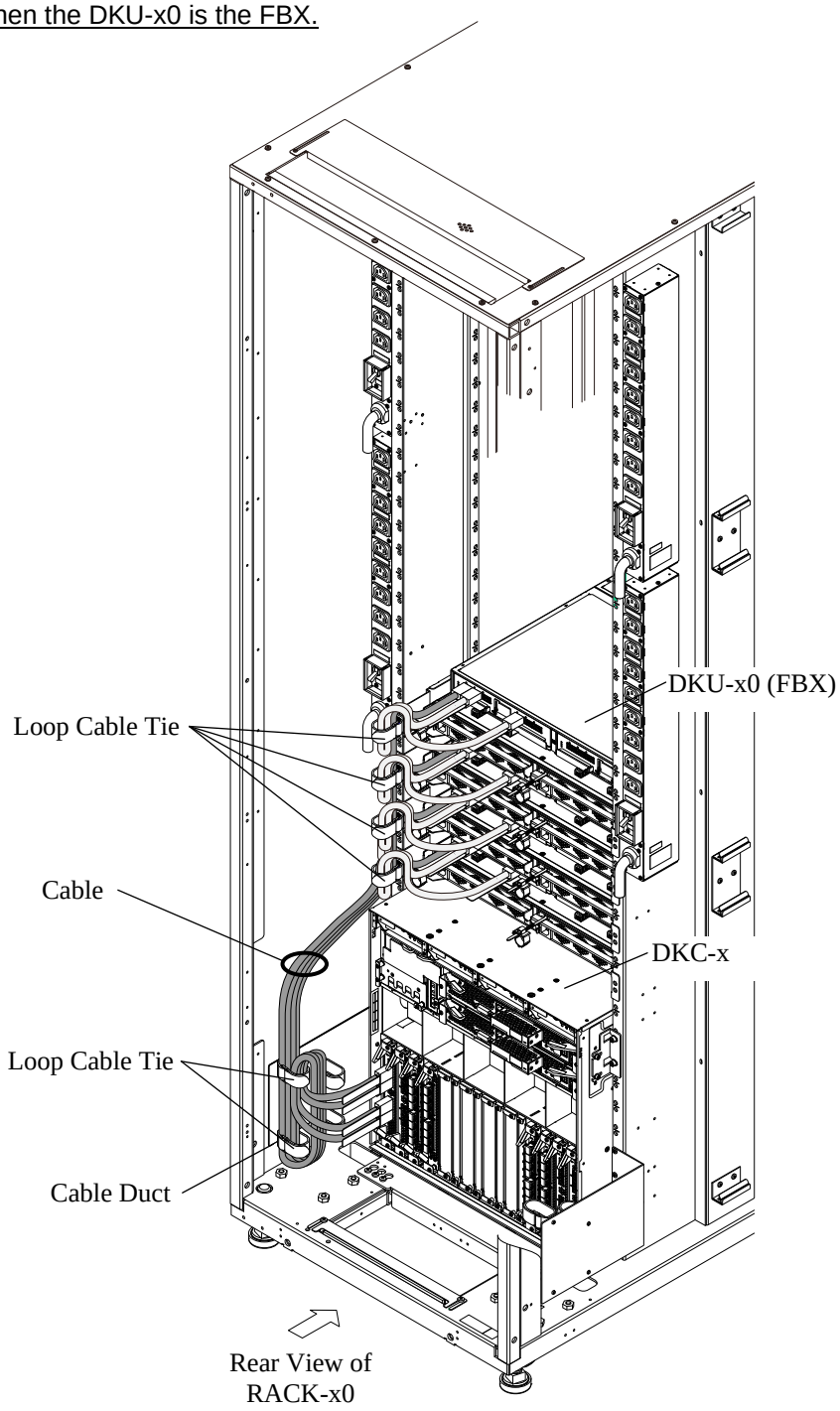


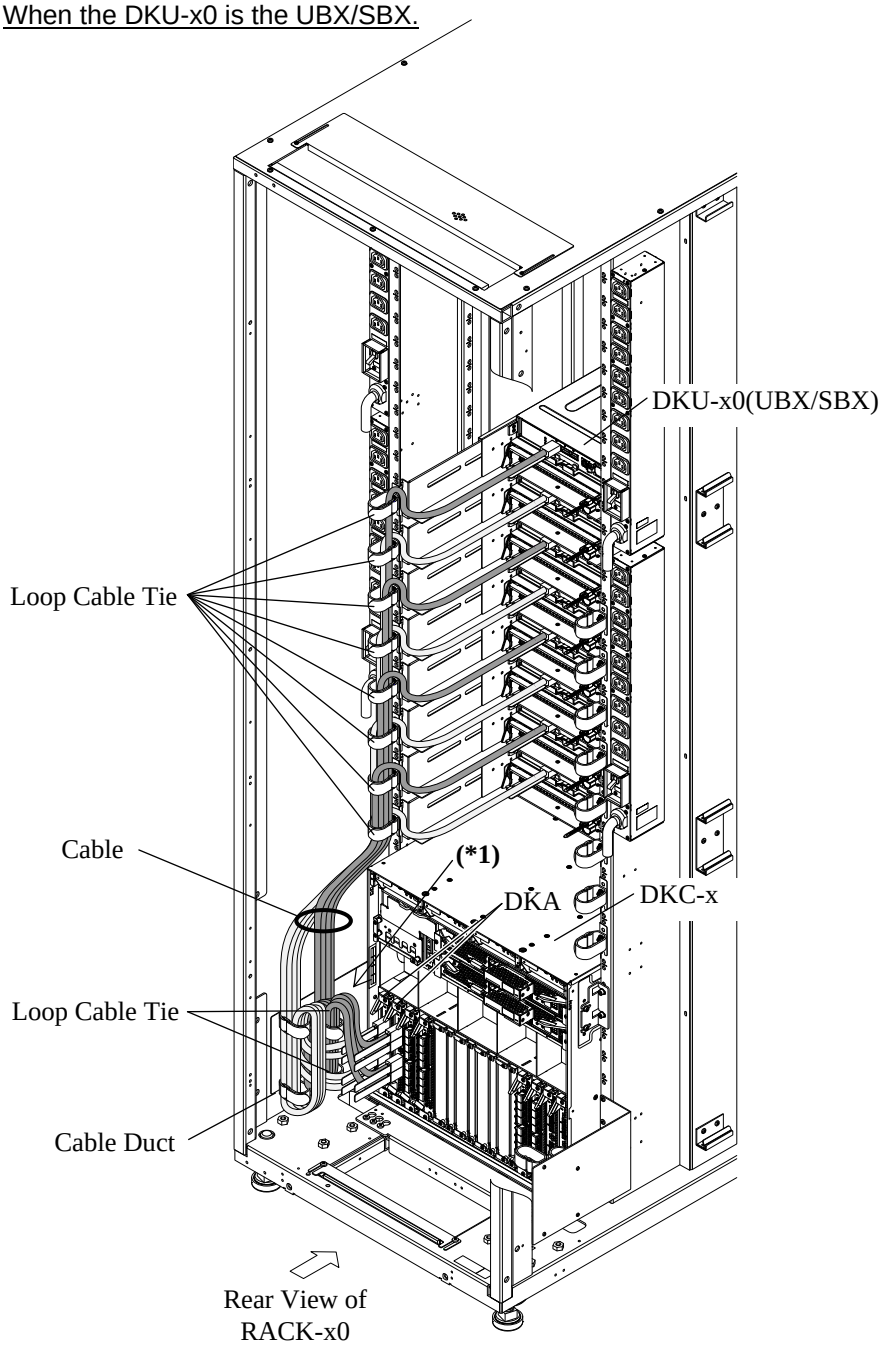
Fig. 3.11.3-24 Fixation of Cables (DKA-1PA – DKU-00(FBX) or DKA-1PG – DKU-10(FBX))

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PB and DKU-00 or between DKA-1PH and DKU-10

a. Route the four cables in the cluster 1 and fix them with the loop cable ties. (Refer to Fig. 3.11.3-25 or Fig. 3.11.3-26.)
b. Go to Procedure 5 (INST03-11B-351).

When the DKU-x0 is the UBX/SBX.

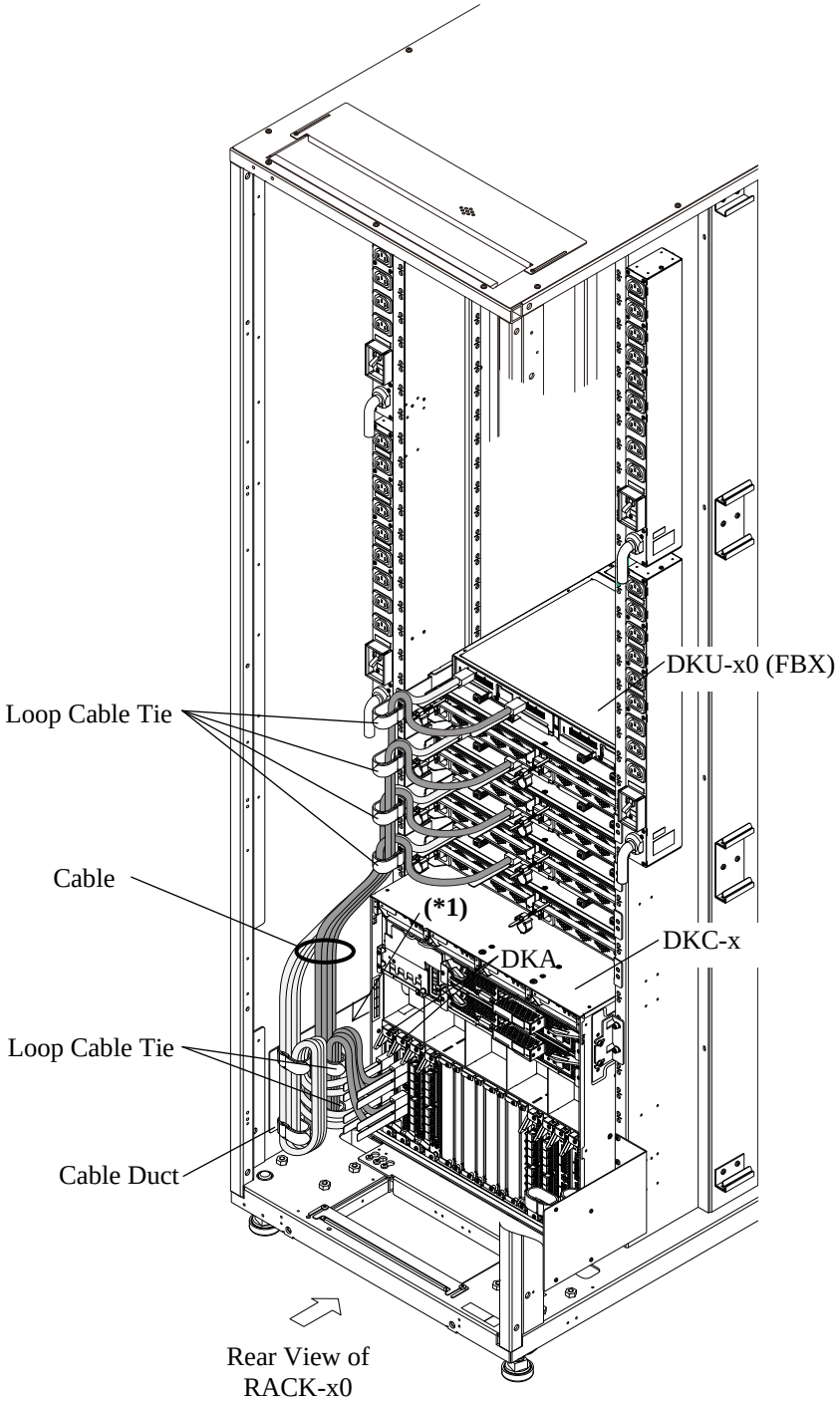


*1: Pass the cables connected to the DKA-1PB or DKA-1PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted

Fig. 3.11.3-25 Fixation of Cables (DKA-1PB – DKU-00(UBX/SBX) or DKA-1PH – DKU-10(UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.



*1: Pass the cables connected to the DKA-1PB or DKA-1PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted

Fig. 3.11.3-26 Fixation of Cables (DKA-1PB – DKU-00(FBX) or DKA-1PH – DKU-10(FBX))

Copyright © 2014, Hitachi, Ltd.

5. Installation Procedure of Disk Adapter for cluster 1

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

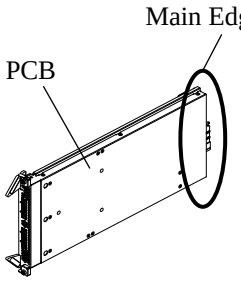
5-1 Insertion of PCBs

a. If the dummy plates are installed in the installation location, loosen the screws and remove the dummy plates. Refer to the Table 3.11.3-5A and Fig. 3.11.3-26A.
If not, go to Step b.

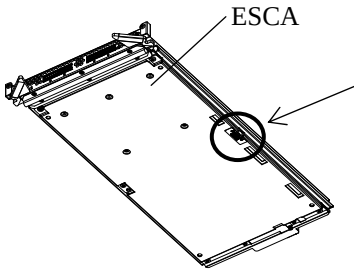
NOTE: Store the removed dummy plates as they are required when the DKAs are removed.

NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

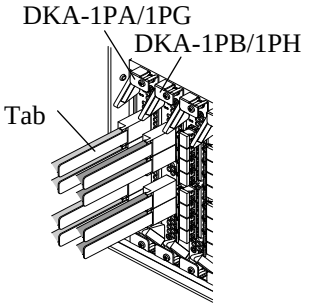
b. Insert the PCBs to the correct locations in the DKC and fasten the screw.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the right and left of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



Notes for Tamper Tape
- Do not touch.
- Confirm it is not peeled.
- Confirm it is not damaged.

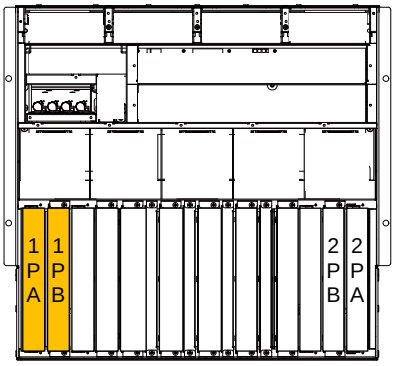


NOTICE: When inserting or removing the DKA PCB (DKA-1PB/1PH), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-1PA/1PG) is not caught in it.

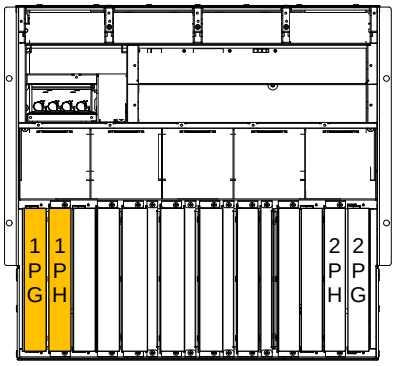
Copyright © 2014, Hitachi, Ltd.

Table 3.11.3-5A Inserting Location

DKC	Addition No.	Location No.	Number of DKAs set through the SVP		Remarks
		Cluster 1			
DKC-0	Basic	DKA-1PA	2	4	
	Option 1	DKA-1PB	—		
DKC-1	Option 2	DKA-1PG	2	4	
	Option 3	DKA-1PH	—		



Rear View of DKC-0



Rear View of DKC-1

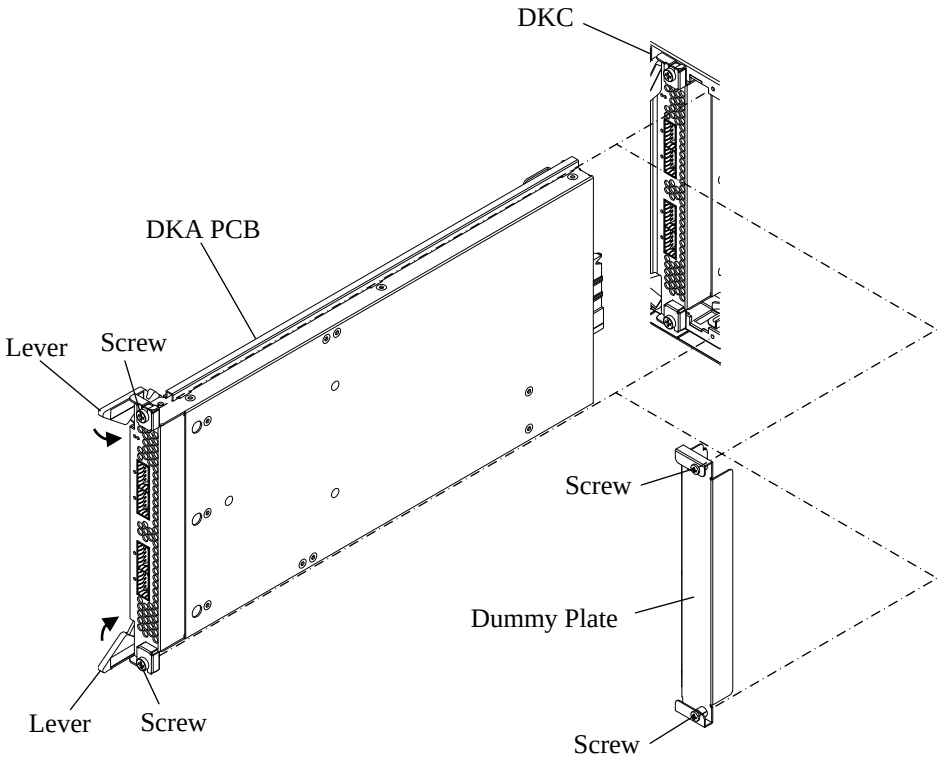


Fig. 3.11.3-26A Insertion of PCB

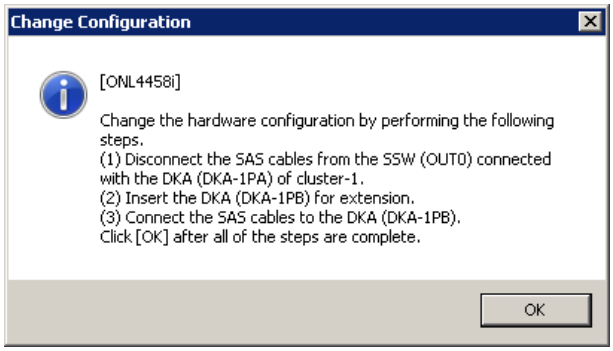
Copyright © 2014, Hitachi, Ltd.

6. SVP Post-Procedure (Cluster 1)

(1) <Check that hardware components are installed>
When changing from the Standard Model to the High Performance Model : Go to Step (1)-1.
When installing from the less DKA or less DKU configuration : Go to Step (1)-2.

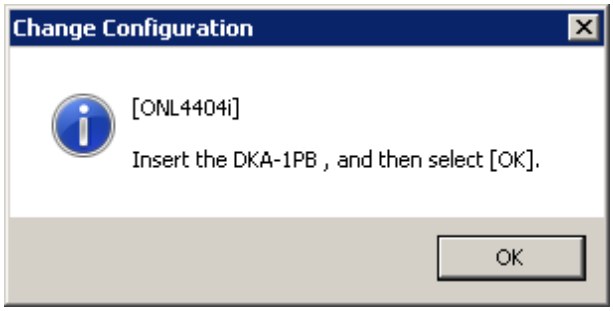
(1)-1

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Change the hardware configuration by performing the following steps. (1) Disconnect the SAS cables from the SSW (OUT0) connected with the DKA (DKA-nnn) of cluster-1. (2) Insert the DKA (DKA-nnn) for extension. (3) Connect the SAS cables to the DKA (DKA-nnn). Click [OK] after all of the steps are complete.”.



(1)-2

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the DKA-nnn, and then select [OK].”.



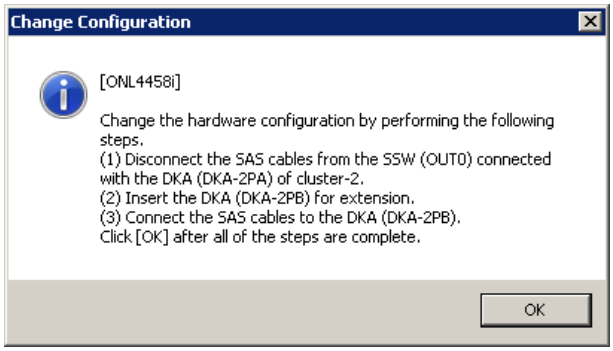
Copyright © 2014, Hitachi, Ltd.

7. SVP Pre-Procedure (Cluster 2)

(1) <Change the hardware configuration>
When changing from the Standard Model to the High Performance Model : Go to Step (1)-1.
When installing from the less DKA or less DKU : Go to Step (1)-2.

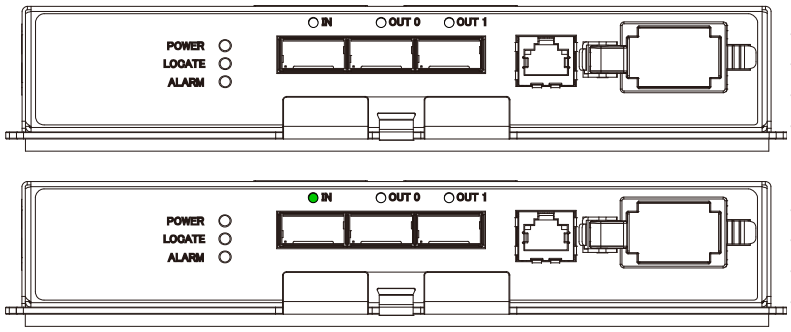
(1)-1

"Change the hardware configuration by performing the following steps. (1) Disconnect the SAS cables from the SSW (OUT0) connected with DKA (DKA-nnn) of cluster-2. (2) Insert the DKA (DKA-nnn) for extension. (3) Connect the SAS cables to the DKA (DKA-nnn). Click [OK] after all of the steps are complete." is displayed.



NOTE: Connect the cables of Blinking LED.

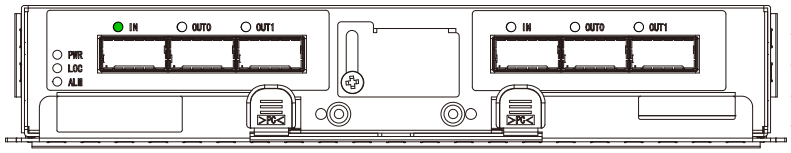
SSW (UBX / SBX)



SSWx07-2
SSWx05-2
SSWx03-2
SSWx01-2

SSWx06-2
SSWx04-2
SSWx02-2
SSWx00-2

SSW (FBX)



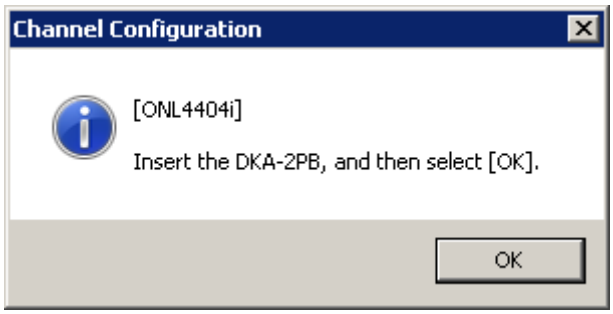
SSWx03-2
SSWx02-2
SSWx01-2
SSWx00-2

Go to Step 8.

(1)-2

At this point refrain from pressing the [OK] button.
"Insert the DKA-nnn, and then select [OK]." is displayed.

Go to Step 9.



Copyright © 2014, Hitachi, Ltd.

8. Installation of SAS cable and Disk Adapter for cluster 2

8-1 De-Installation Procedure of Device Interface Cable CC1 (DKC-F810I-CC1) for cluster 2

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-00(UBX/SBX)

(1) Disconnect the cables from the SSWs in the DKU-00. (Refer to Fig. 3.11.3-27 and Fig. 3.11.3-28.)

(2) Attach the caps to the disconnected cables.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

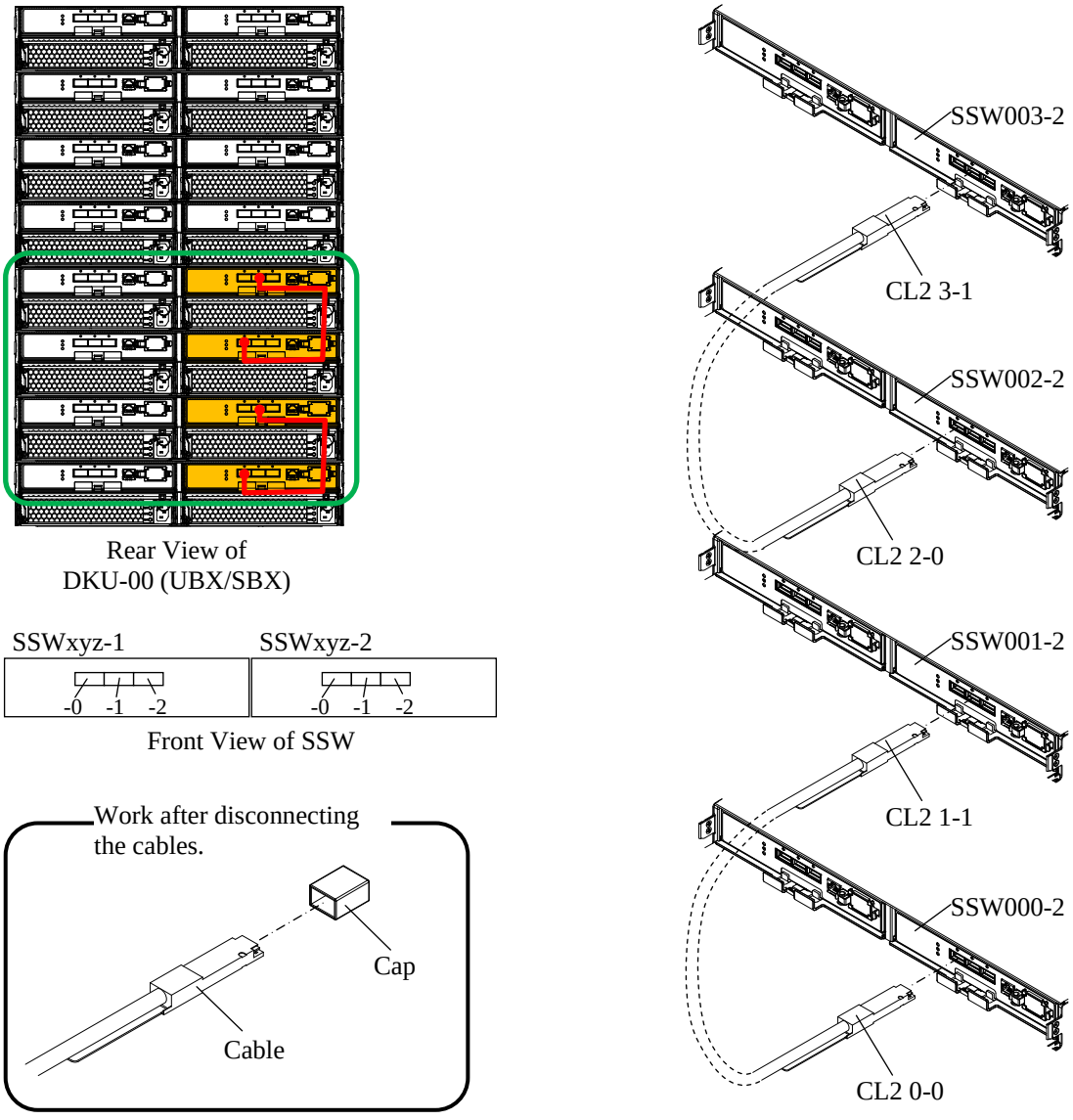
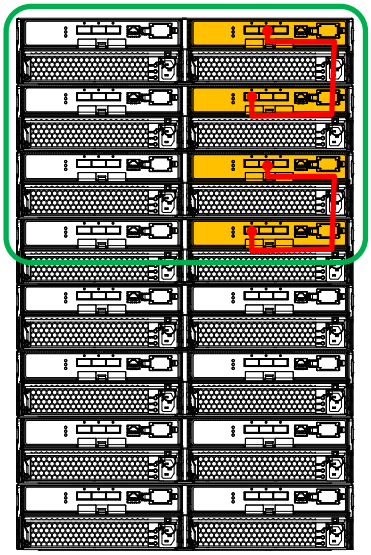


Fig. 3.11.3-27 Disconnection of Cables (UBX/SBX_CC1_CL2_L)

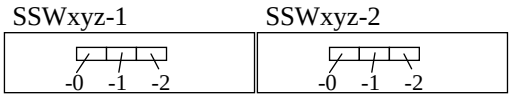
Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

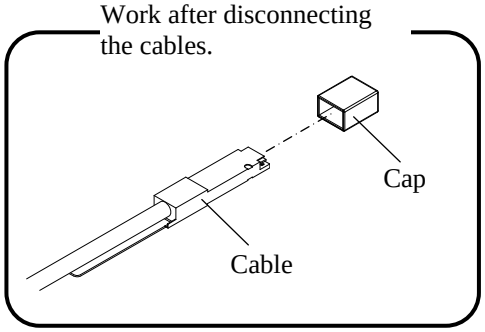
A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of
DKU-00 (UBX/SBX)



Front View of SSW



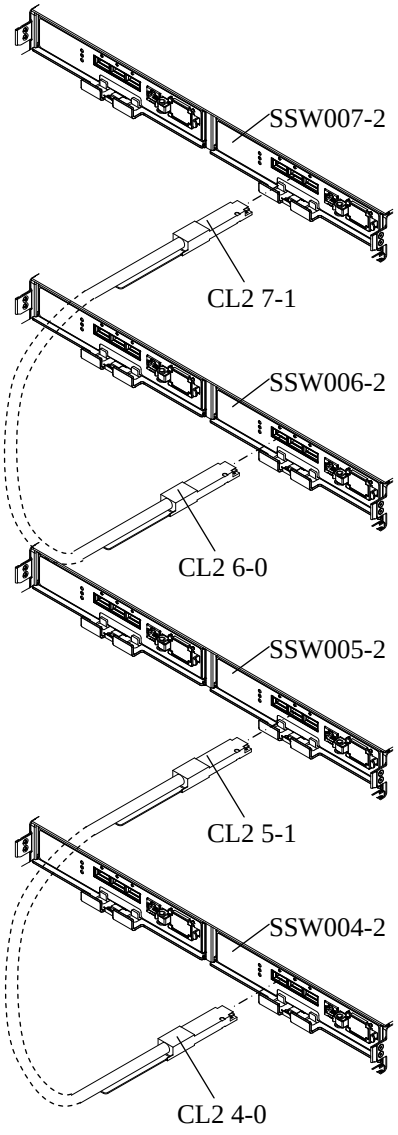


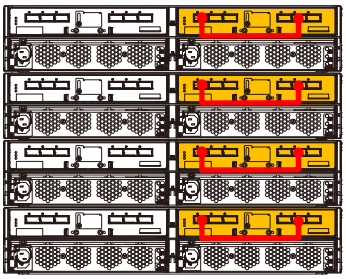
Fig. 3.11.3-28 Disconnection of Cables (UBX/SBX_CC1_CL2_U)

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-00(FBX)

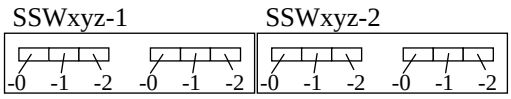
(1) Disconnect the cables from the SSWs in the DKU-00.
(2) Attach the caps to the disconnected cables.

⚠ CAUTION

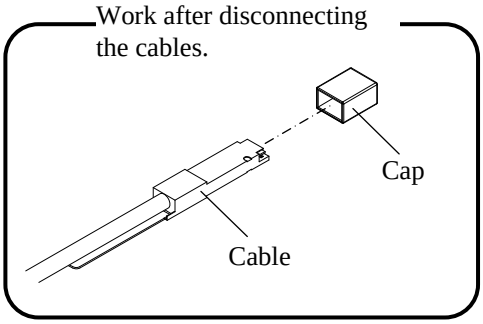
A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of DKU-00 (FBX)



Front View of SSW



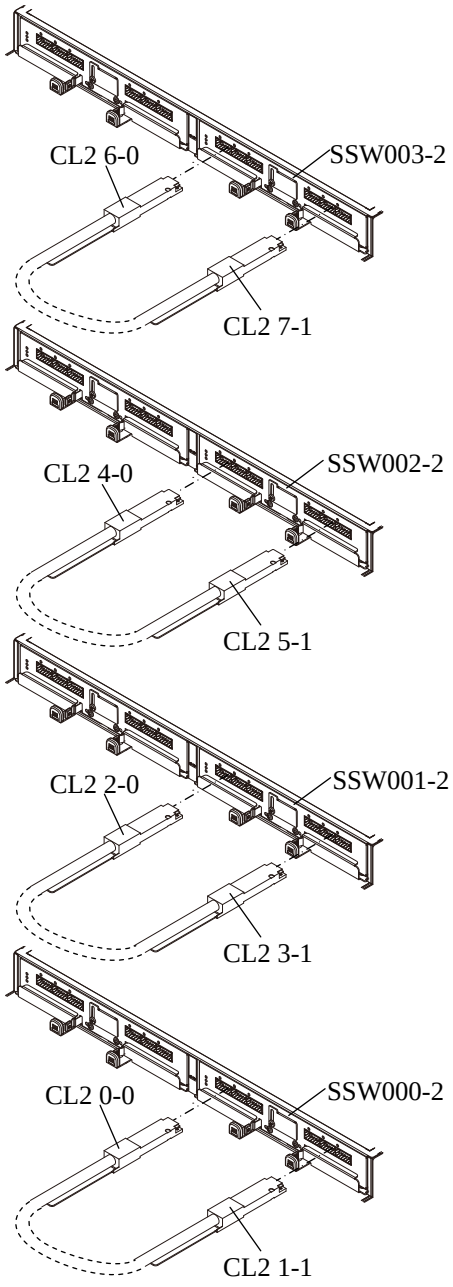


Fig. 3.11.3-29 Disconnection of Cables (FBX_CC1_CL2)

Copyright © 2014, Hitachi, Ltd.

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-10(UBX/SBX)

(1) Disconnect the cables from the SSWs in the DKU-10. (Refer to Fig. 3.11.3-30 and Fig. 3.11.3-31.)
(2) Attach the caps to the disconnected cables.

⚠ CAUTION

A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.

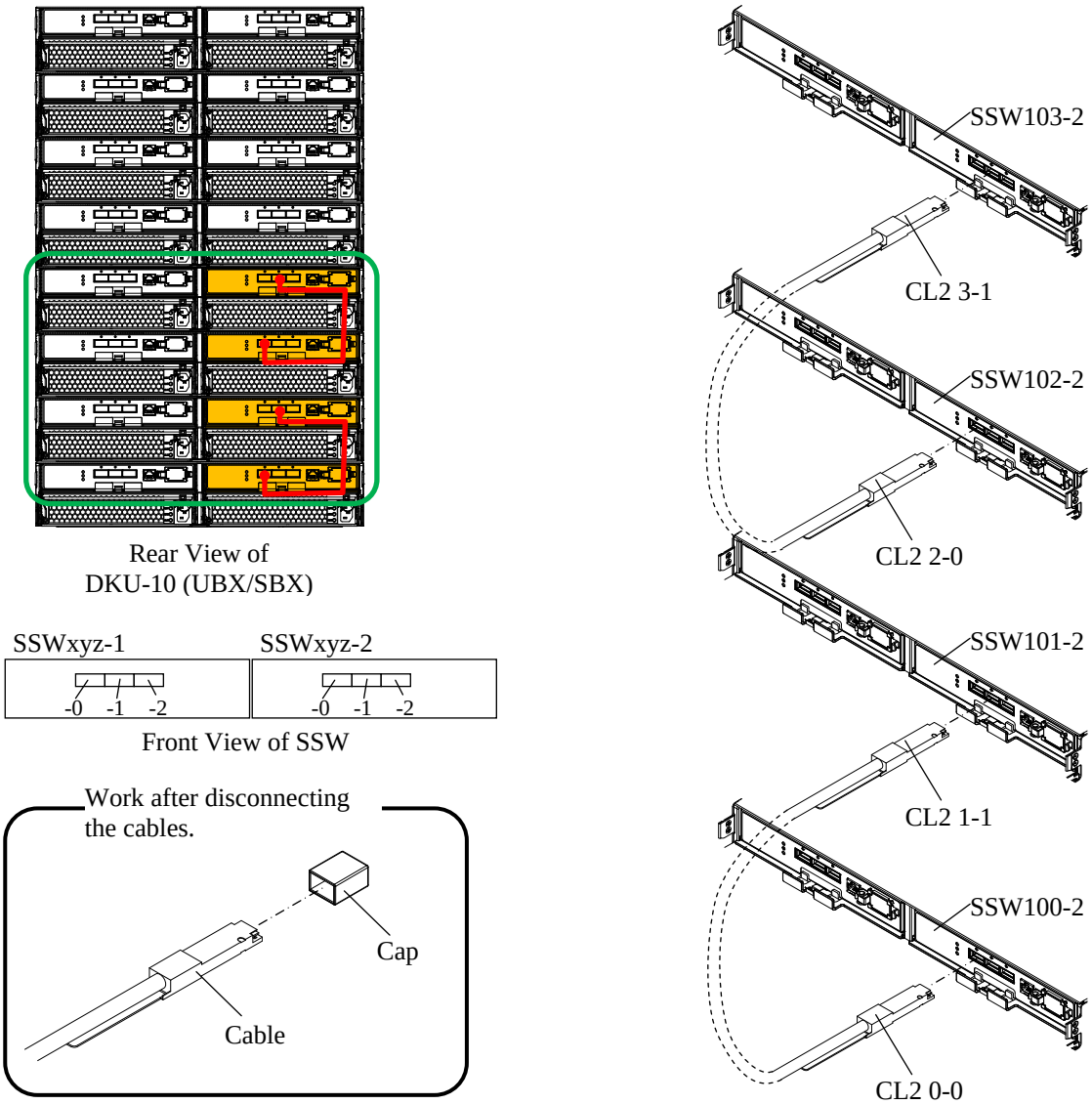
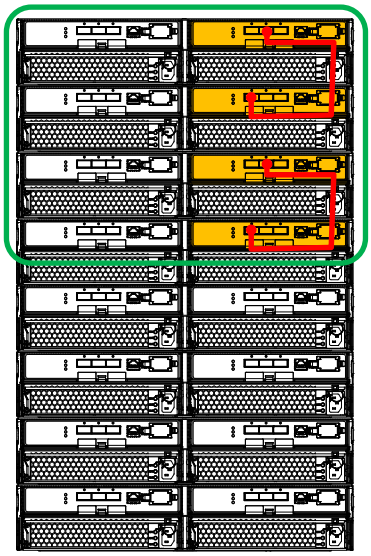


Fig. 3.11.3-30 Disconnection of Cables (UBX/SBX_CC1_CL2_L)

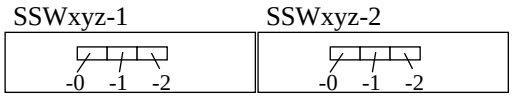
Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

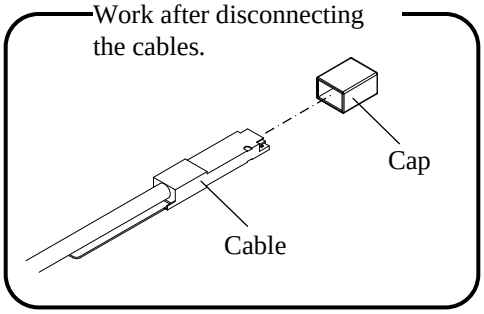
A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of
DKU-10 (UBX/SBX)



Front View of SSW



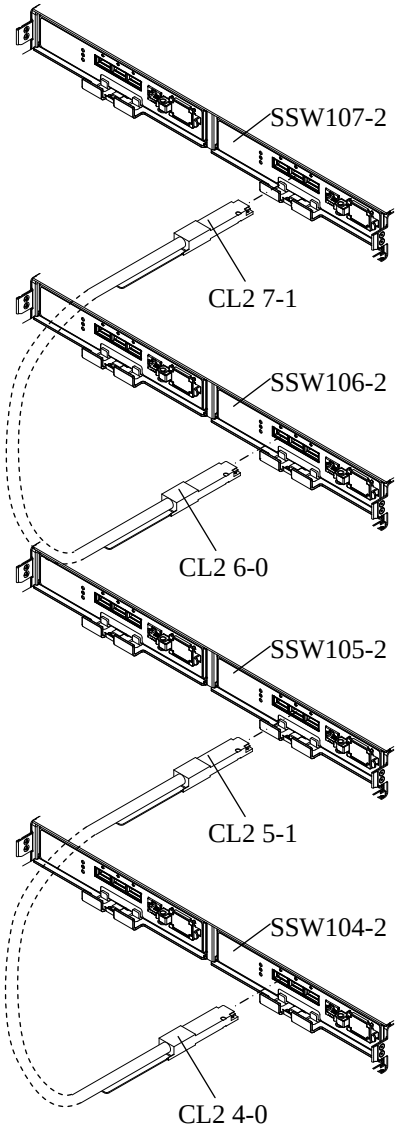


Fig. 3.11.3-31 Disconnection of Cables (UBX/SBX_CC1_CL2_U)

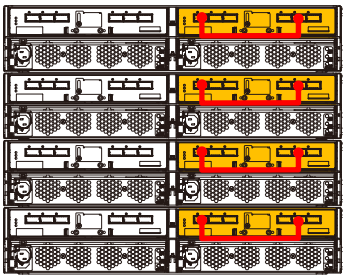
Copyright © 2014, Hitachi, Ltd.

When you need to remove Device Interface Cable CC1 (DKC-F810I-CC1) from DKU-10(FBX)

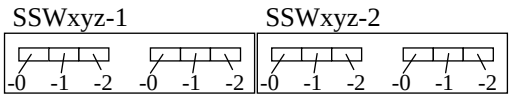
(1) Disconnect the cables from the SSWs in the DKU-10.
(2) Attach the caps to the disconnected cables.

⚠ CAUTION

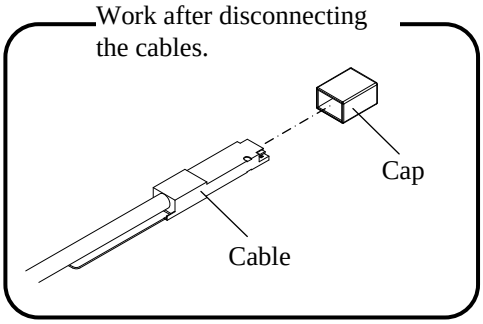
A serious failure occurs if a wrong cable or connector is removed.
Since a label bearing a connection destination is affixed on each cable or connector to be removed, work very carefully referring to it and the wiring diagram.



Rear View of DKU-10 (FBX)



Front View of SSW



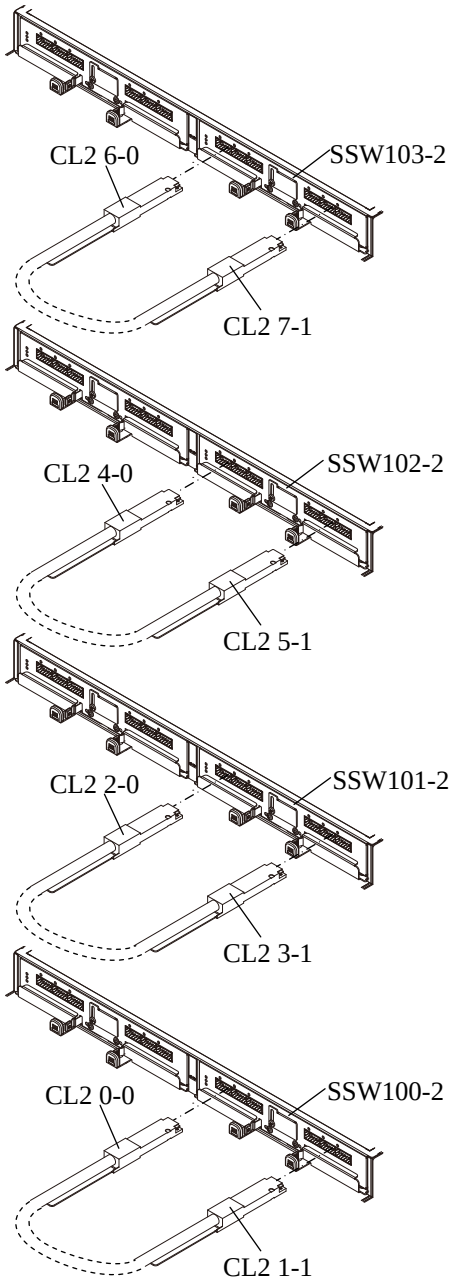


Fig. 3.11.3-32 Disconnection of Cables (FBX_CC1_CL2)

Copyright © 2014, Hitachi, Ltd.

(3) Open the loop cable ties and remove the DKC-F810I-CC1 (four cables). (Refer to Fig. 3.11.3-33 or Fig. 3.11.3-34.)

When the DKU-x0 is the UBX/SBX.

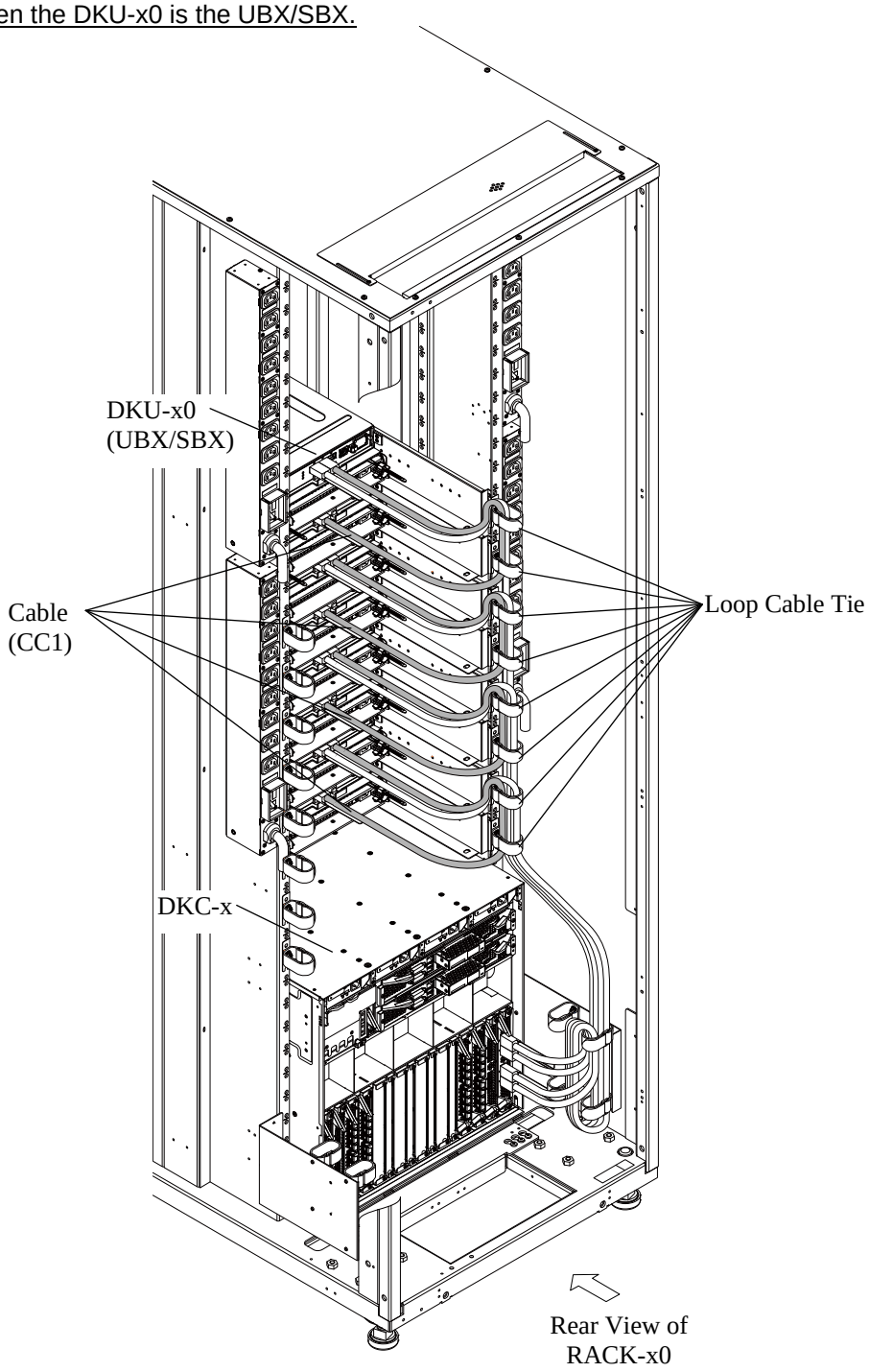


Fig. 3.11.3-33 Removal of Cables (UBX/SBX_CC1_CL2)

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

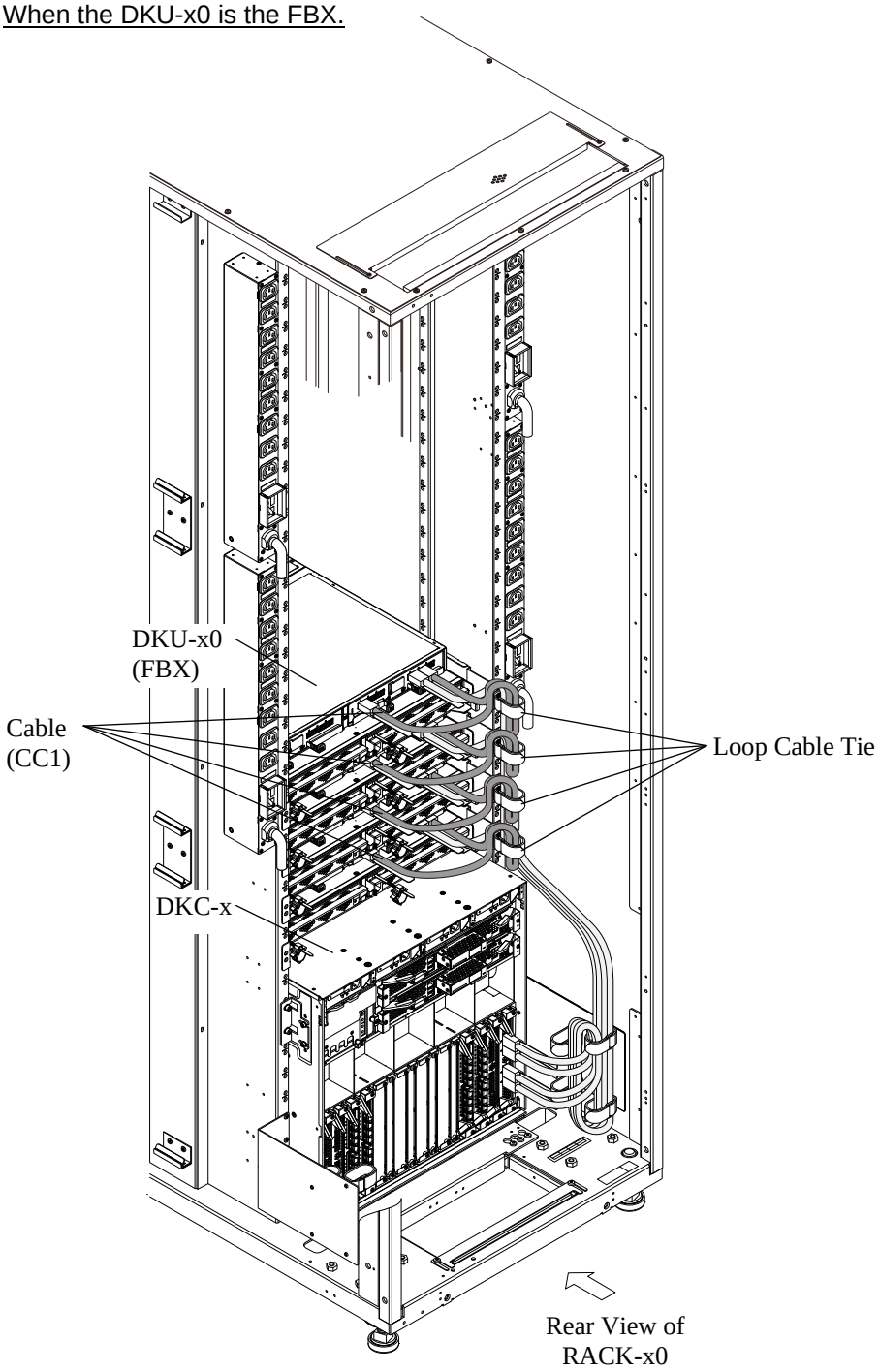


Fig. 3.11.3-34 Removal of Cables (FBX_CC1_CL2)

Copyright © 2014, Hitachi, Ltd.

8-2 Installation Procedure of Disk Adapter for cluster 2

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

Copyright © 2014, Hitachi, Ltd.

8-2-1 Insertion of PCBs

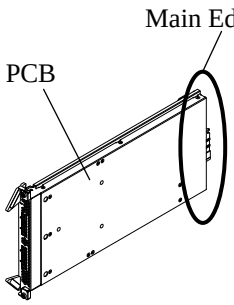
a. If the dummy plates are installed in the installation location, loosen the screws and remove the dummy plates. Refer to the Table 3.11.3-6 and Fig. 3.11.3-35.
If not, go to Step b.

NOTE: Store the removed dummy plates as they are required when the DKAs are removed.

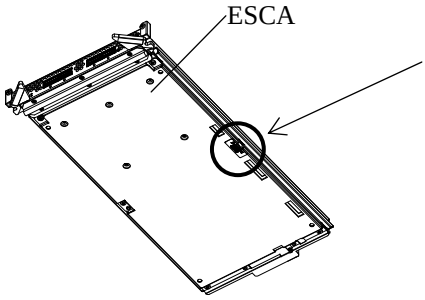
NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

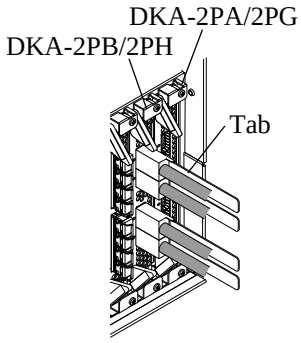
Copyright © 2014, Hitachi, Ltd.

b. Insert the PCBs to the correct locations in the DKC and fasten the screw.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the right and left of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



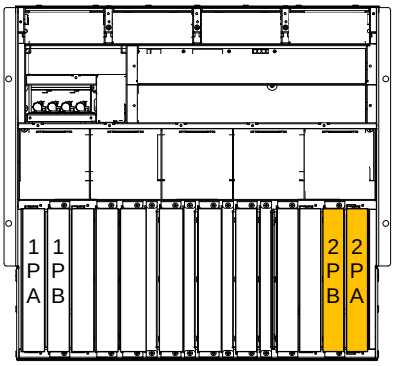


NOTICE: When inserting or removing the DKA PCB (DKA-2PA/2PG), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-2PB/2PH) is not caught in it.

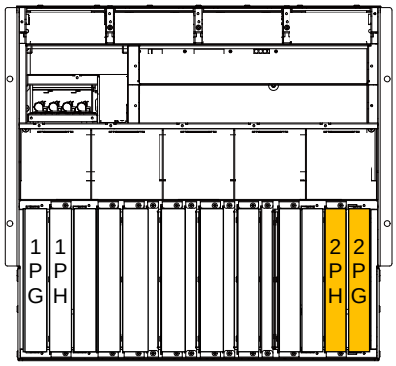
Table 3.11.3-6 Inserting Location

DKC	Addition No.	Location No.	Number of DKAs set through the SVP		Remarks
		Cluster 2			
DKC-0	Basic	DKA-2PA	2	4	
	Option 1	DKA-2PB	—		
DKC-1	Option 2	DKA-2PG	2	4	
	Option 3	DKA-2PH	—		

Copyright © 2014, Hitachi, Ltd.



Rear View of DKC-0



Rear View of DKC-1

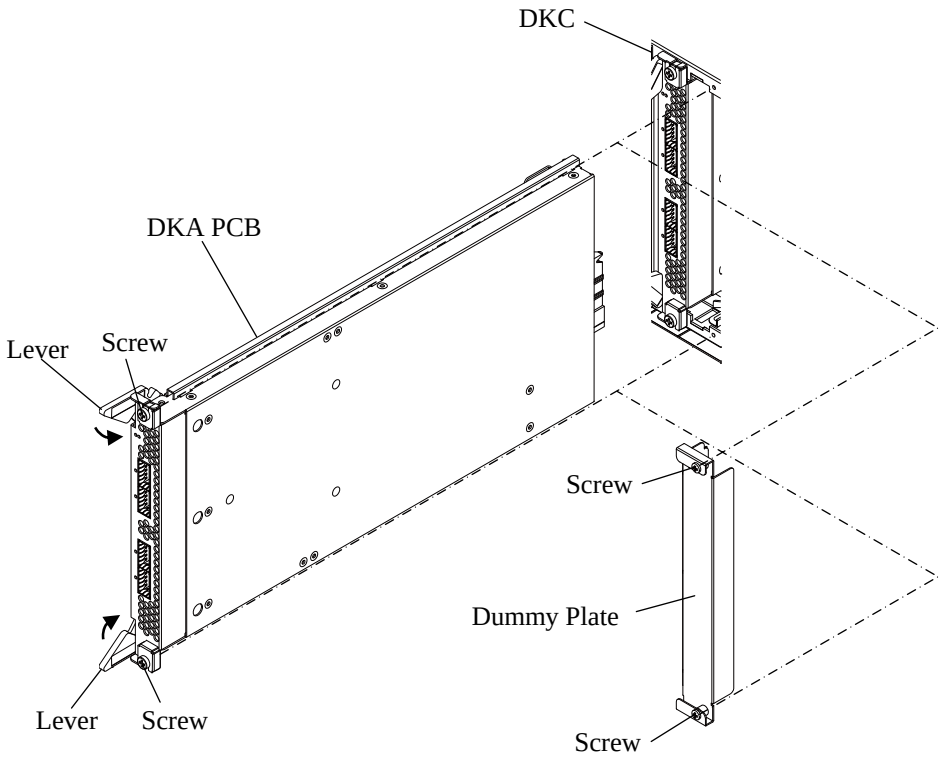


Fig. 3.11.3-35 Insertion of PCB

Copyright © 2014, Hitachi, Ltd.

8-3 Attachment Procedure of Device Interface Cable for Cluster 2 (DKC-F810I-CC2)

8-3-1 Connection of cables

In the case of cable installation between DKA-2PA and DKU-00

> **⚠ CAUTION**
> A serious failure occurs if any of cables/connectors is wrongly connected.
> Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking “3.1.6 Notes when connecting the DEV interface cable” (INST03-01-180).

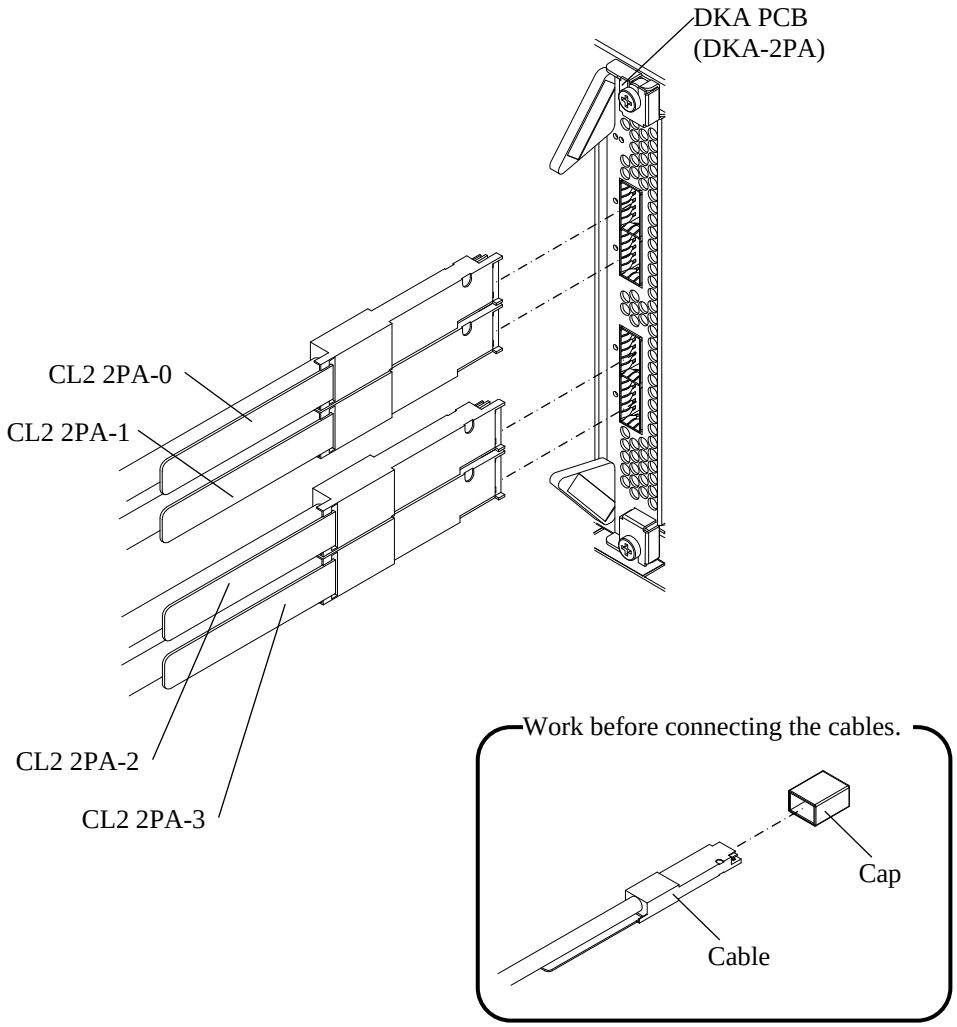


Fig. 3.11.3-36 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-37 or Fig. 3.11.3-38.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

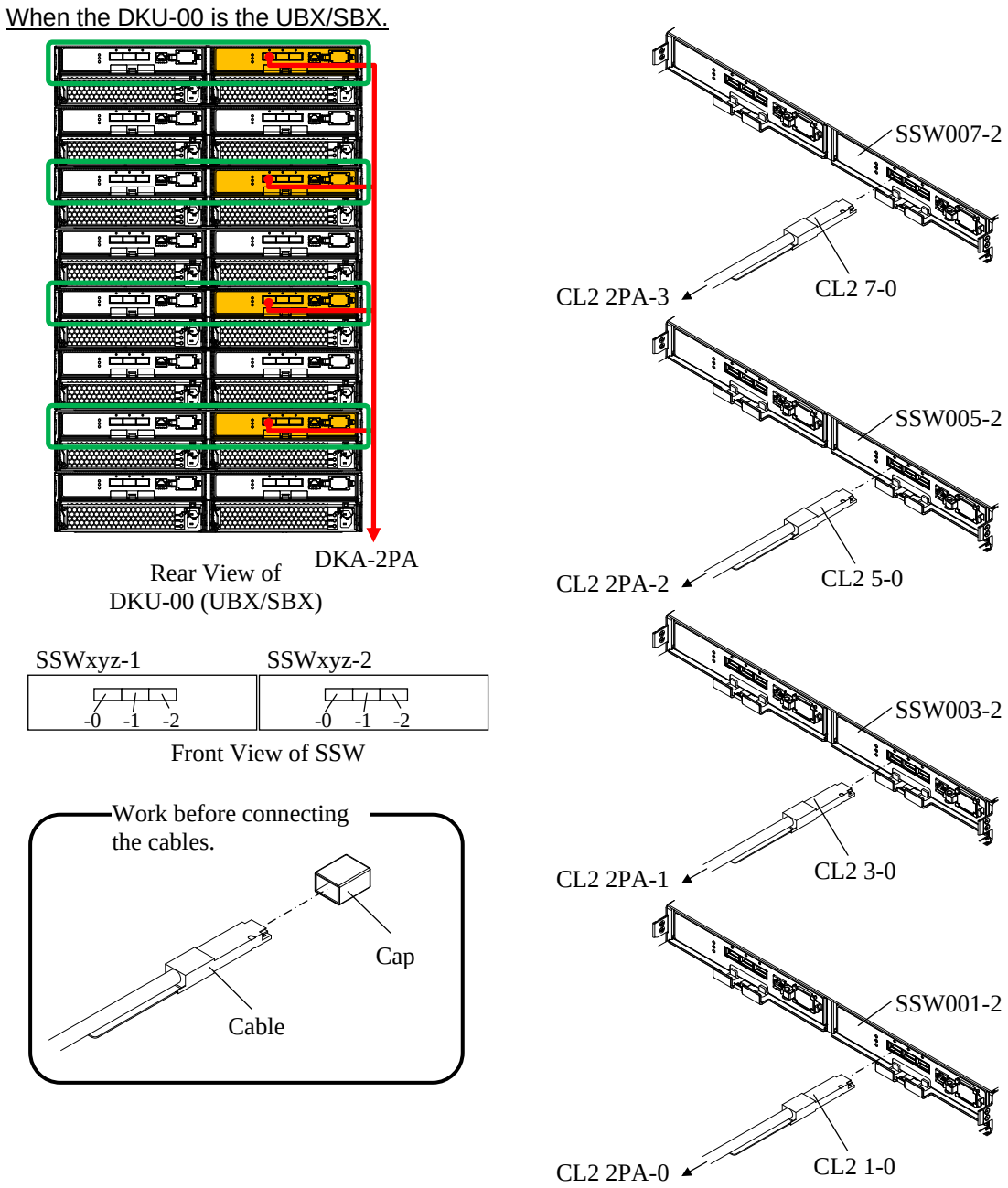


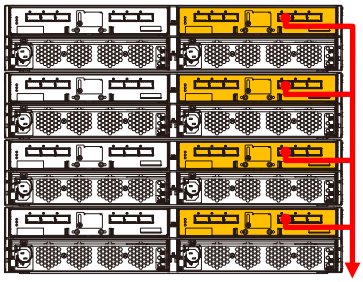
Fig. 3.11.3-37 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

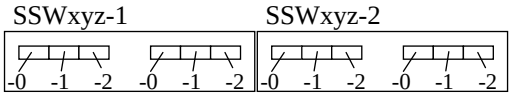
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

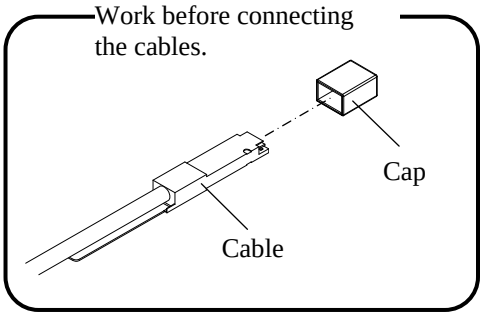
When the DKU-00 is the FBX.



Rear View of DKU-00 (FBX)



Front View of SSW



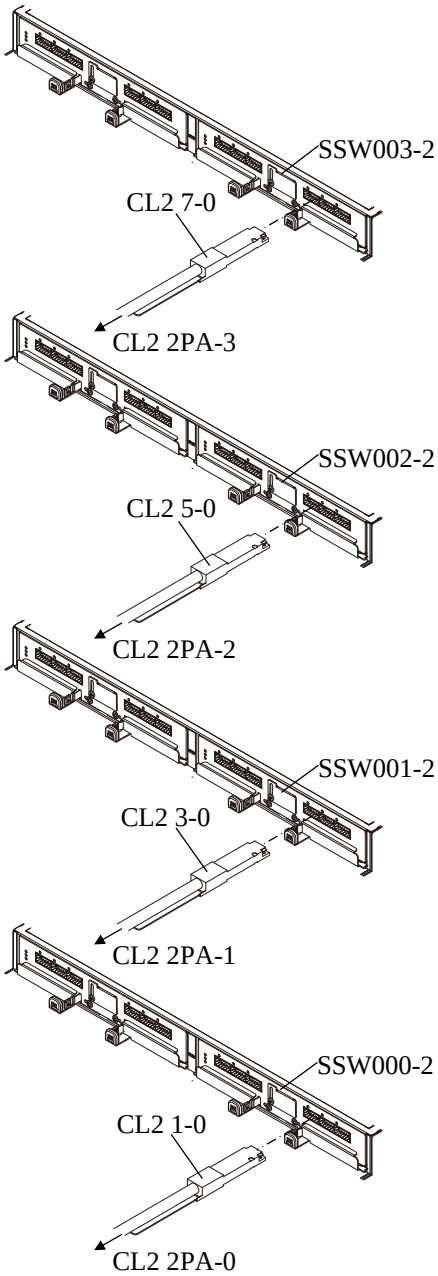


Fig. 3.11.3-38 Connection of Cables (CC2_DKU-00 (FBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-2PB and DKU-00

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

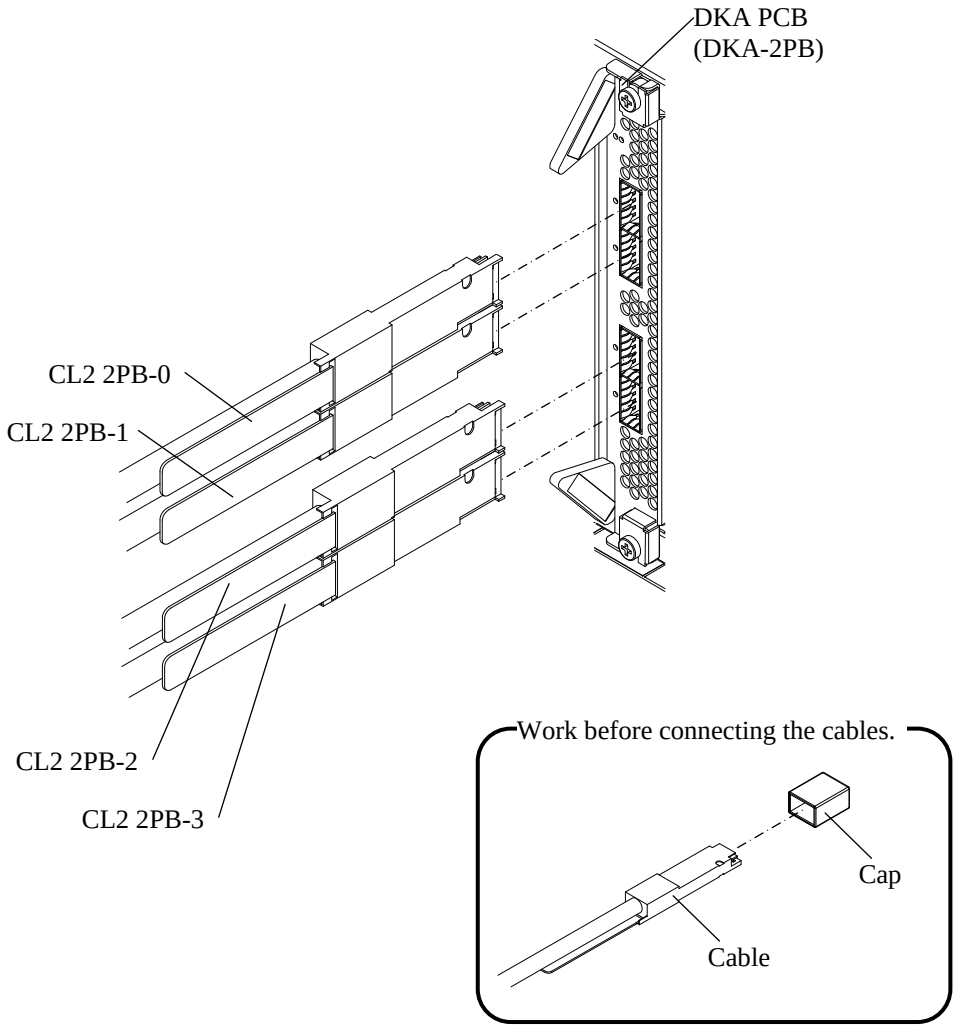


Fig. 3.11.3-39 Connection of Cables

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-40 or Fig. 3.11.3-41.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

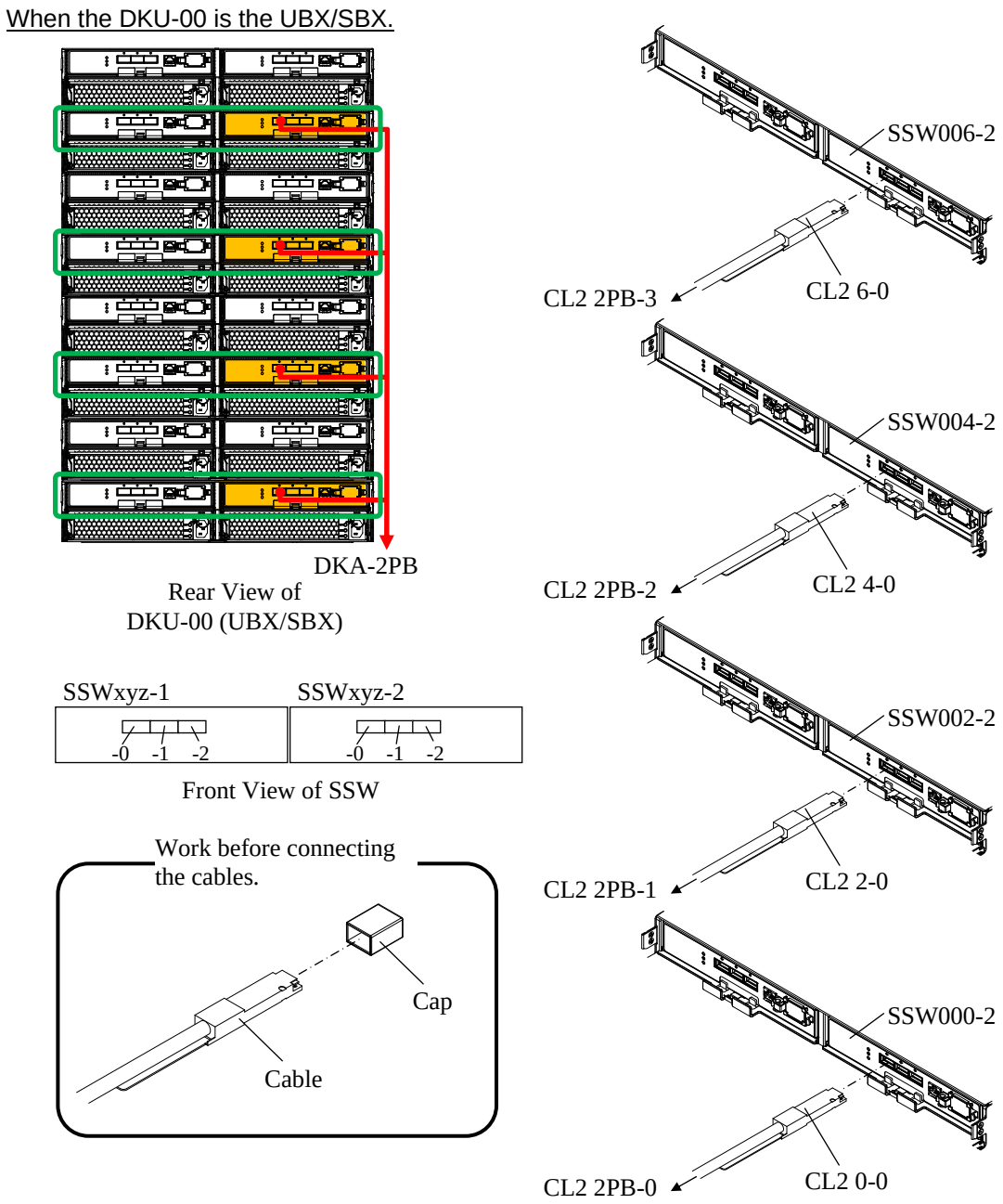


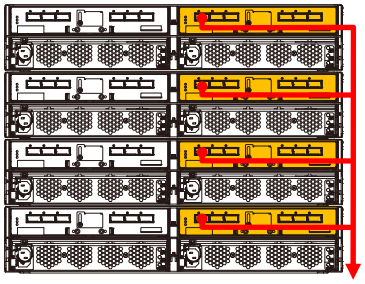
Fig. 3.11.3-40 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

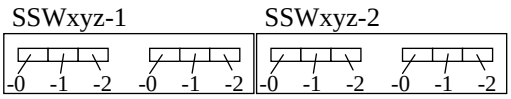
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

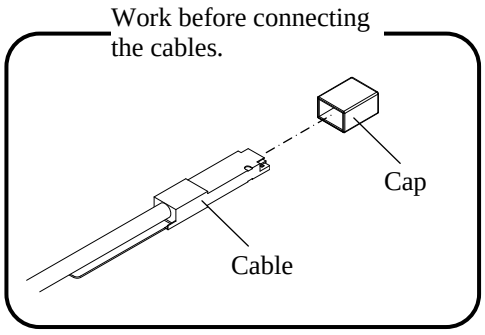
When the DKU-00 is the FBX.



Rear View of DKU-00 (FBX)



Front View of SSW



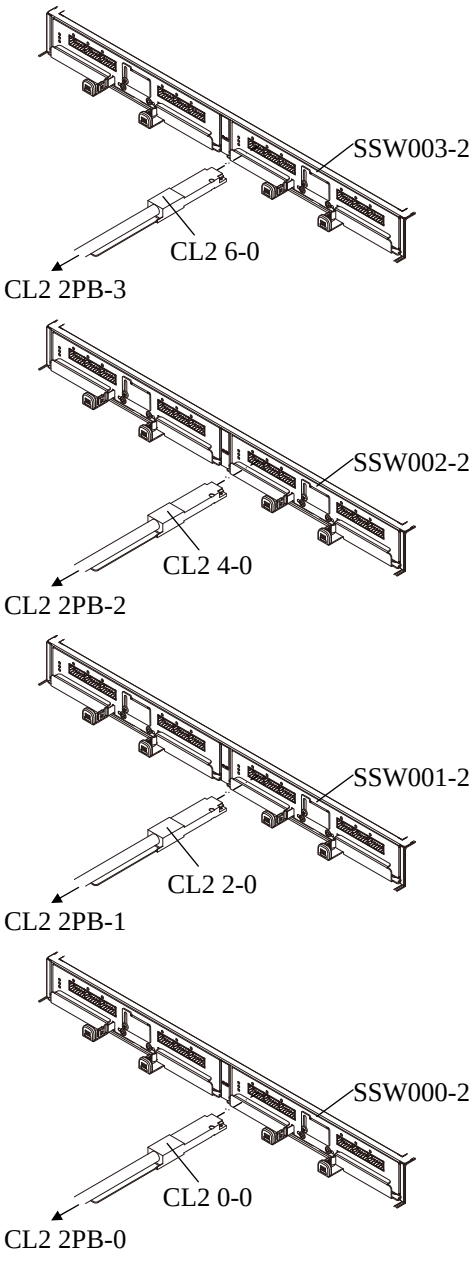


Fig. 3.11.3-41 Connection of Cables (CC2_DKU-00 (FBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-2PG and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

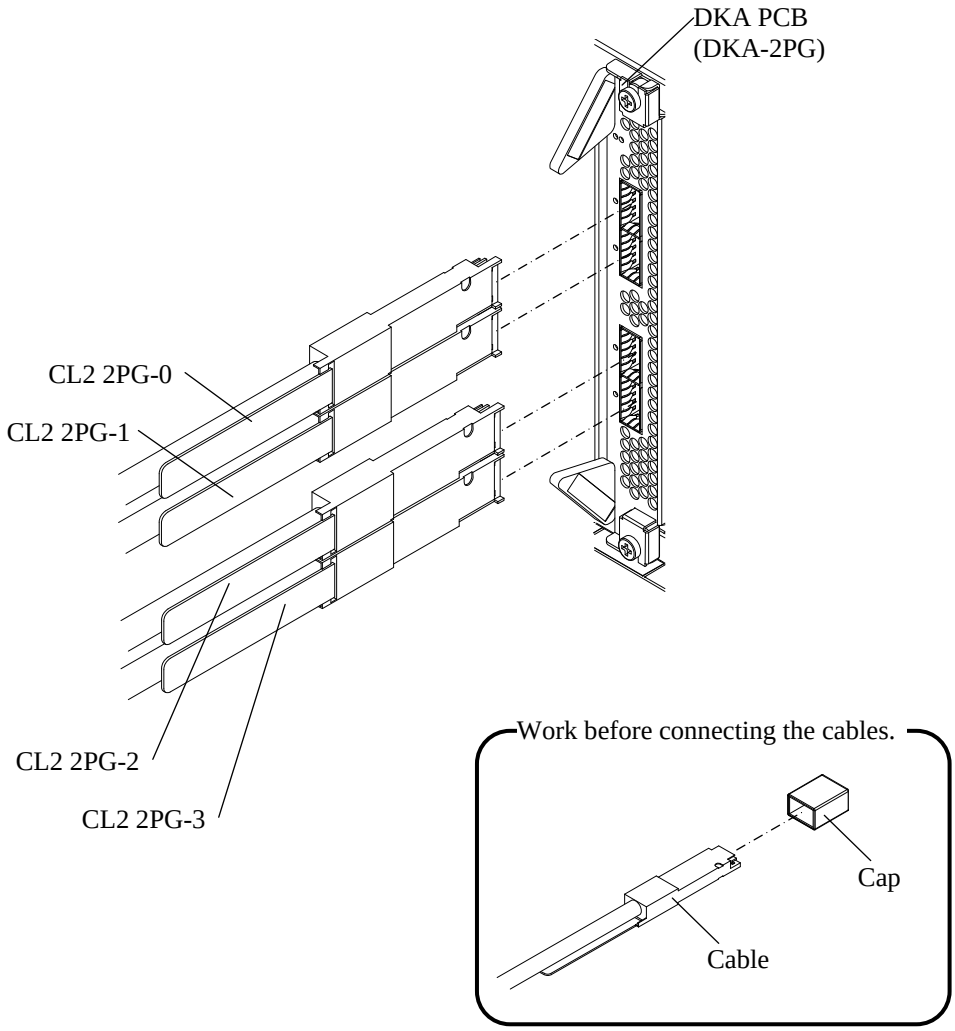


Fig. 3.11.3-42 Connection of Cables

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-43 or Fig. 3.11.3-44.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

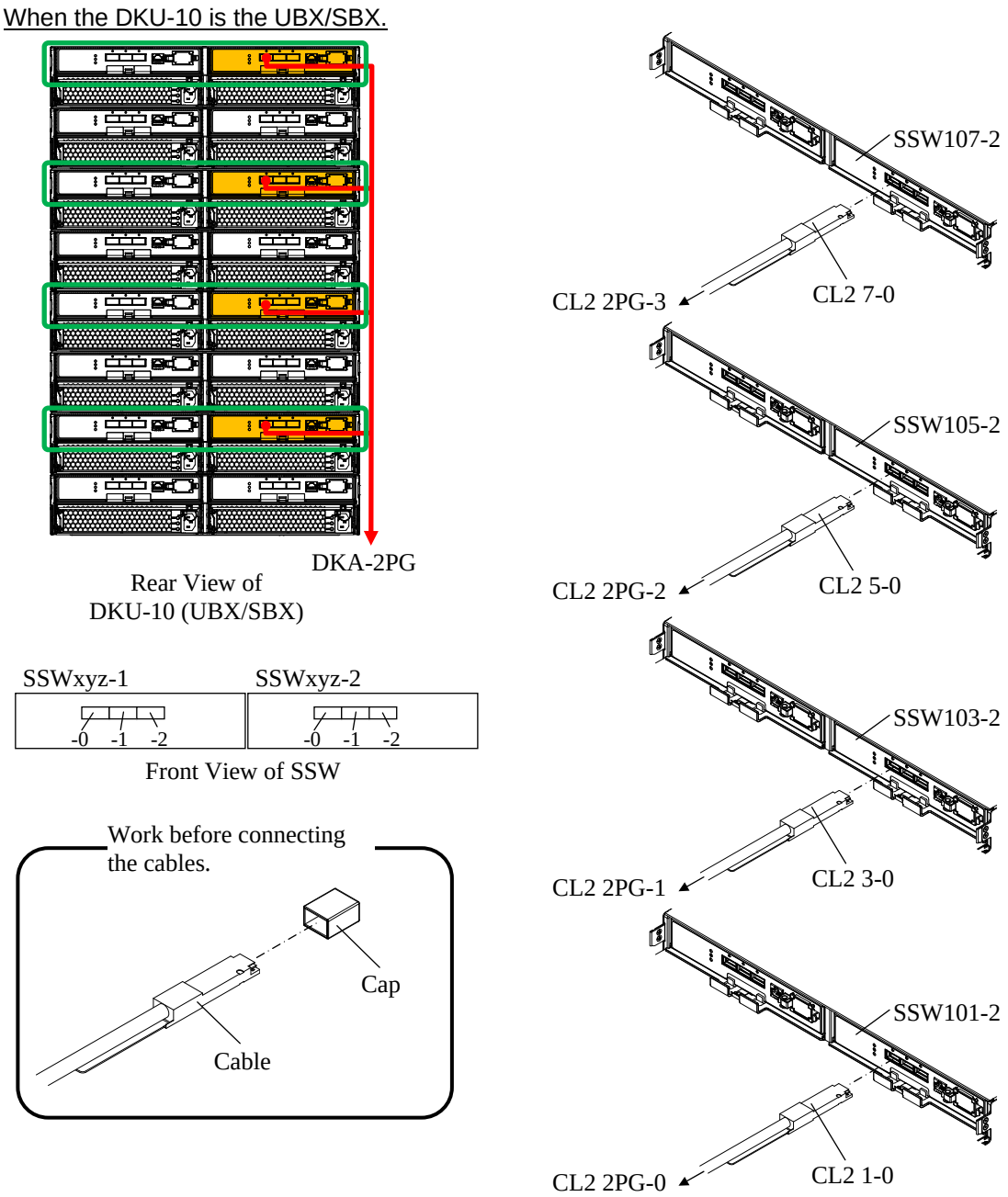
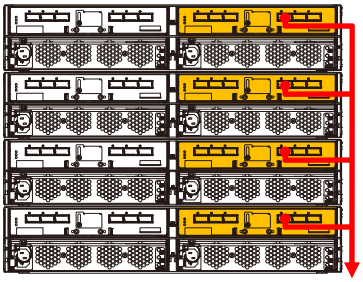


Fig. 3.11.3-43 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL2)

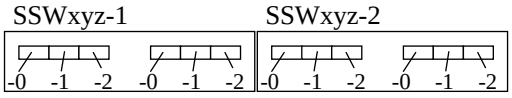
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

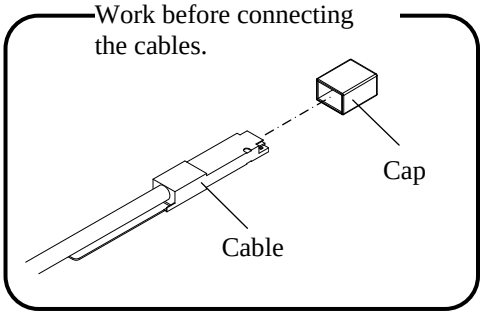
When the DKU-10 is FBX.



Rear View of DKU-10 (FBX)



Front View of SSW



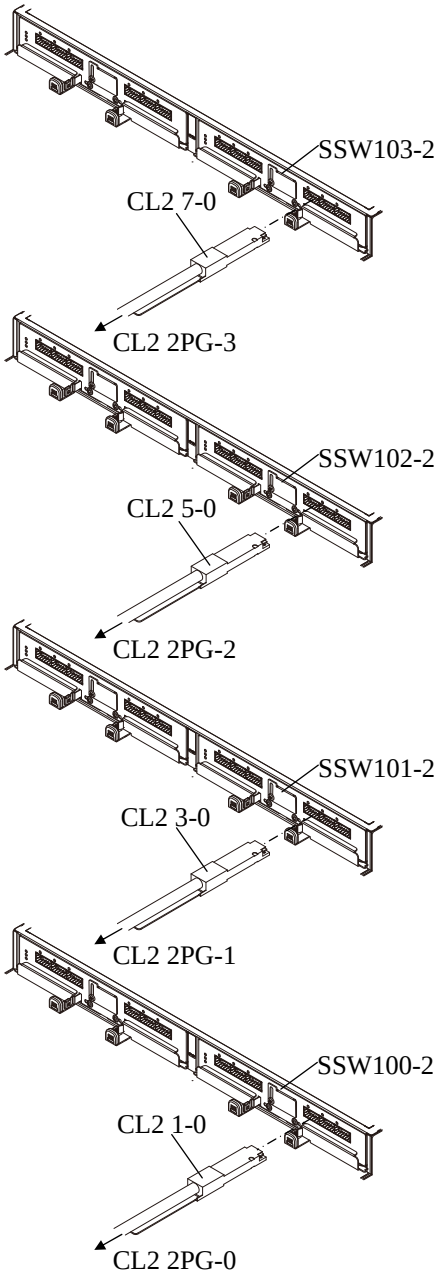


Fig. 3.11.3-44 Connection of Cables (CC2_DKU-10 (FBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-2PH and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the DEV interface cables.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

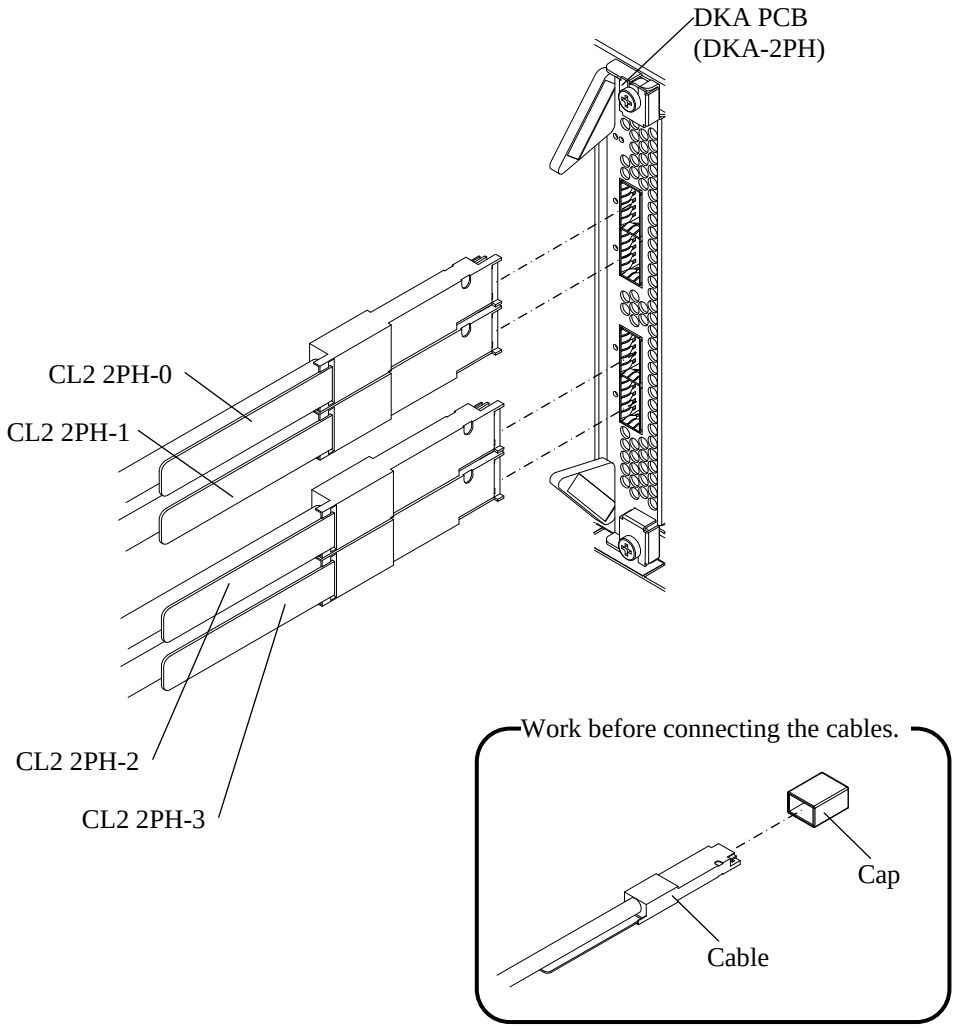


Fig. 3.11.3-45 Connection of Cables

c. Remove the caps from the cables to be connected.
d. Connect the four cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.3-46 or Fig. 3.11.3-47.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

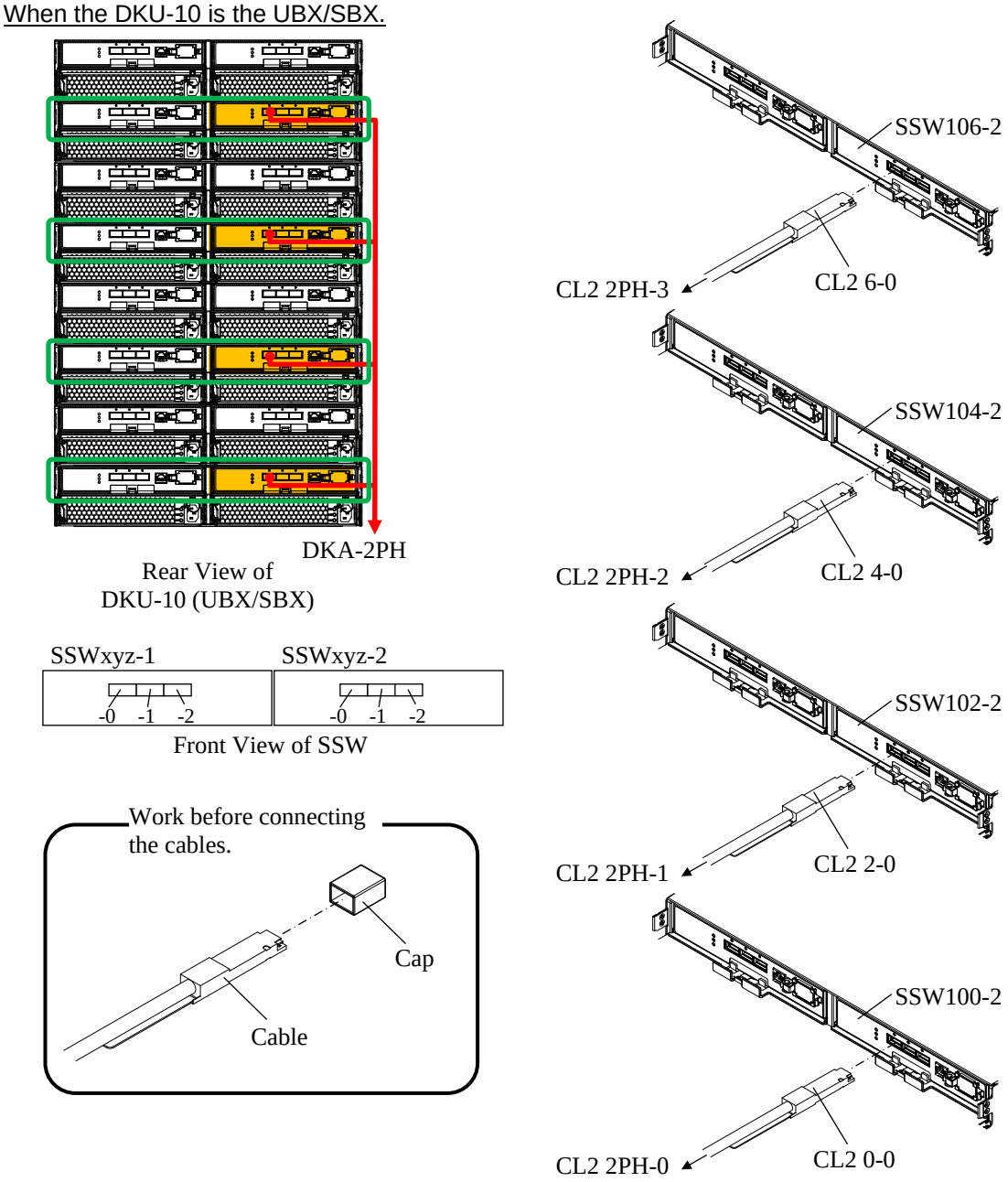


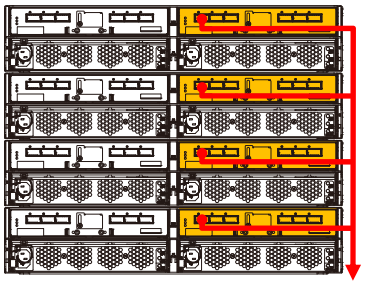
Fig. 3.11.3-46 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

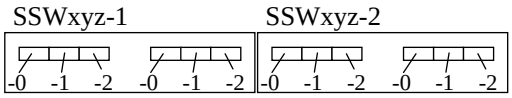
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

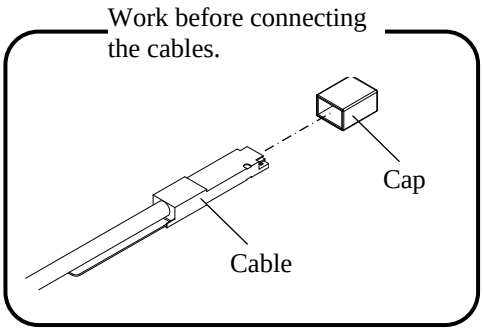
When the DKU-10 is the FBX.



Rear View of DKU-10 (FBX)



Front View of SSW



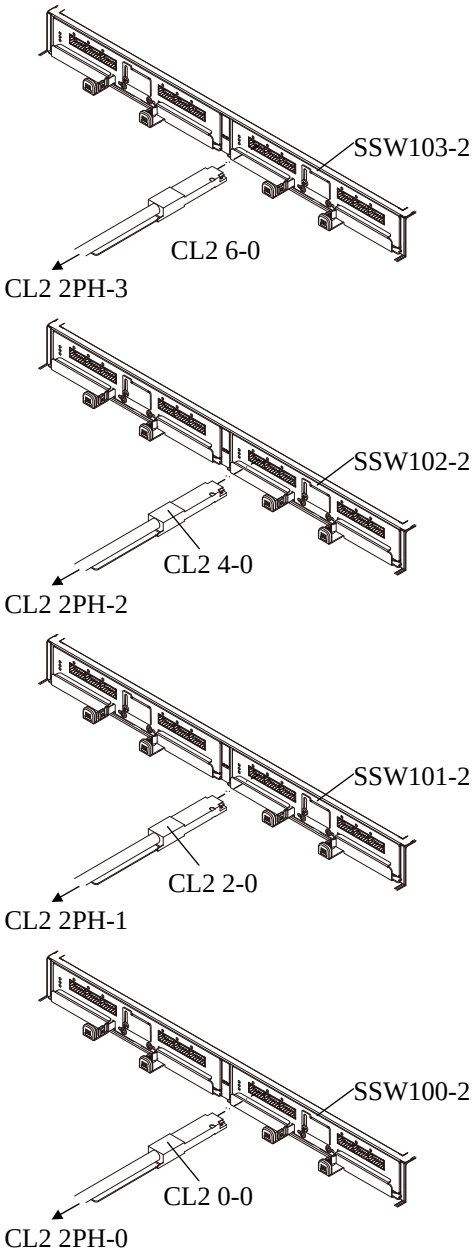


Fig. 3.11.3-47 Connection of Cables (CC2_DKU-10 (FBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

8-3-2 Attachment of Cables

In the case of cable installation between DKA-2PA and DKU-00 or between DKA-2PG and DKU-10

a. Route the four cables in the cluster 2 and fix them with the loop cable ties. (Refer to Fig. 3.11.3-48 or Fig. 3.11.3-49.)

When the DKU-x0 is the UBX/SBX.

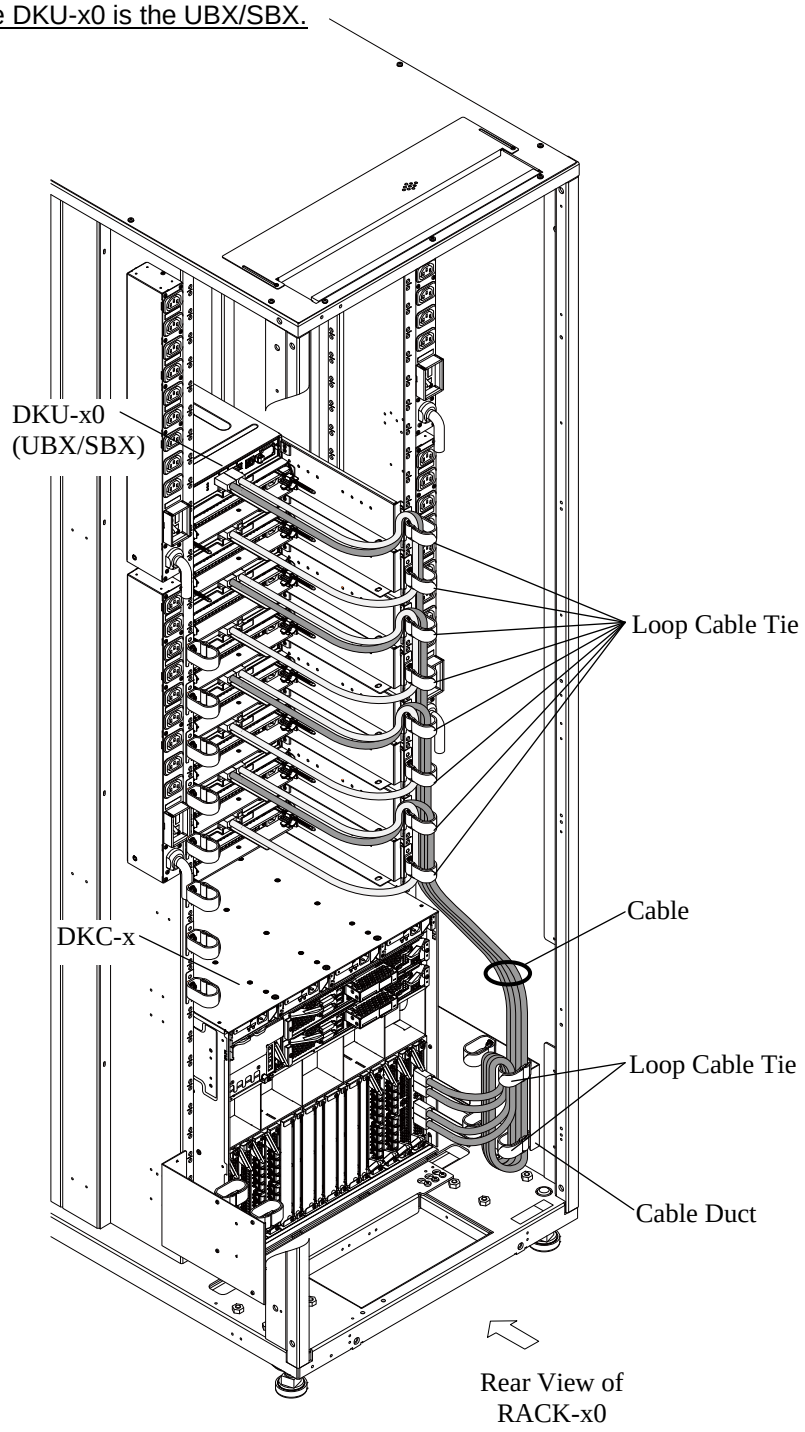


Fig. 3.11.3-48 Fixation of Cables (DKA-2PA – DKU-00 (UBX/SBX) or DKA-2PG – DKU-10 (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

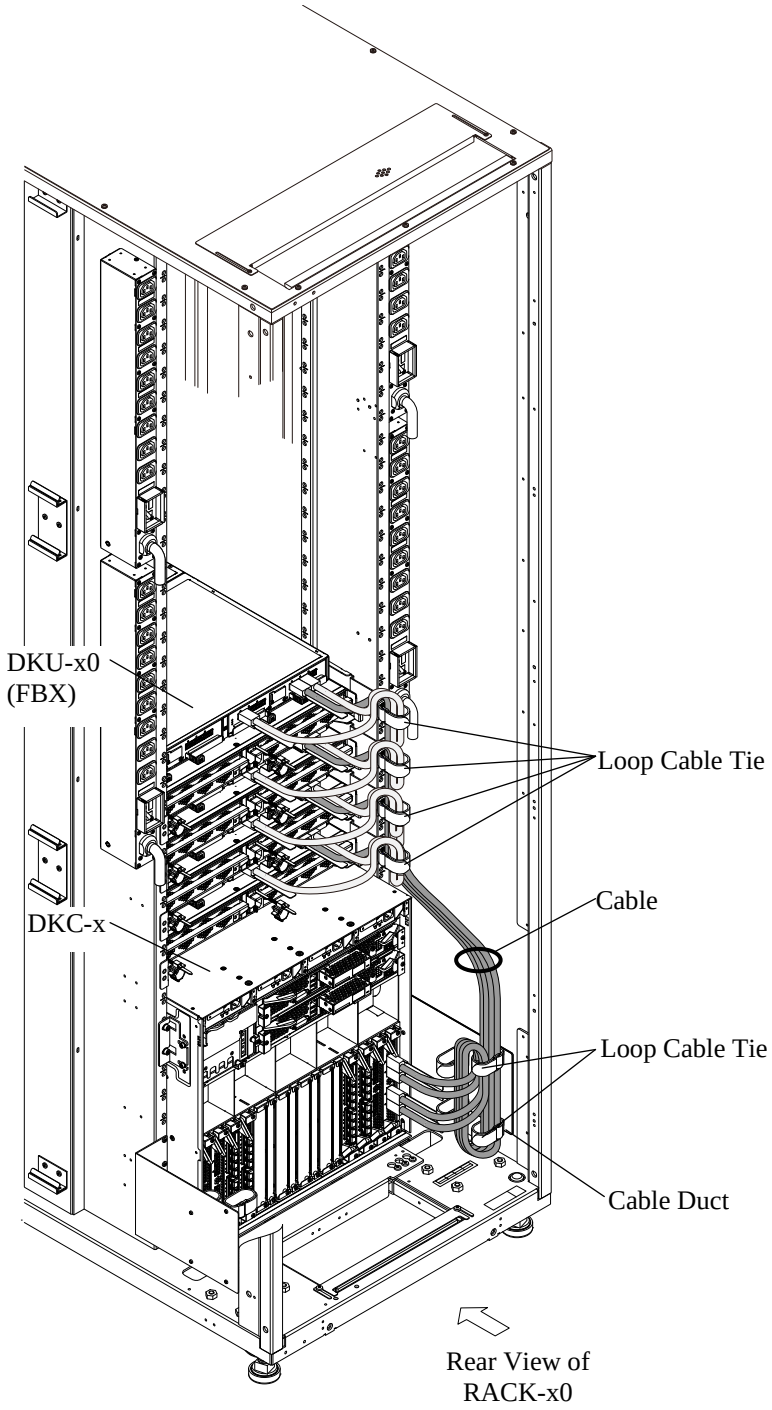


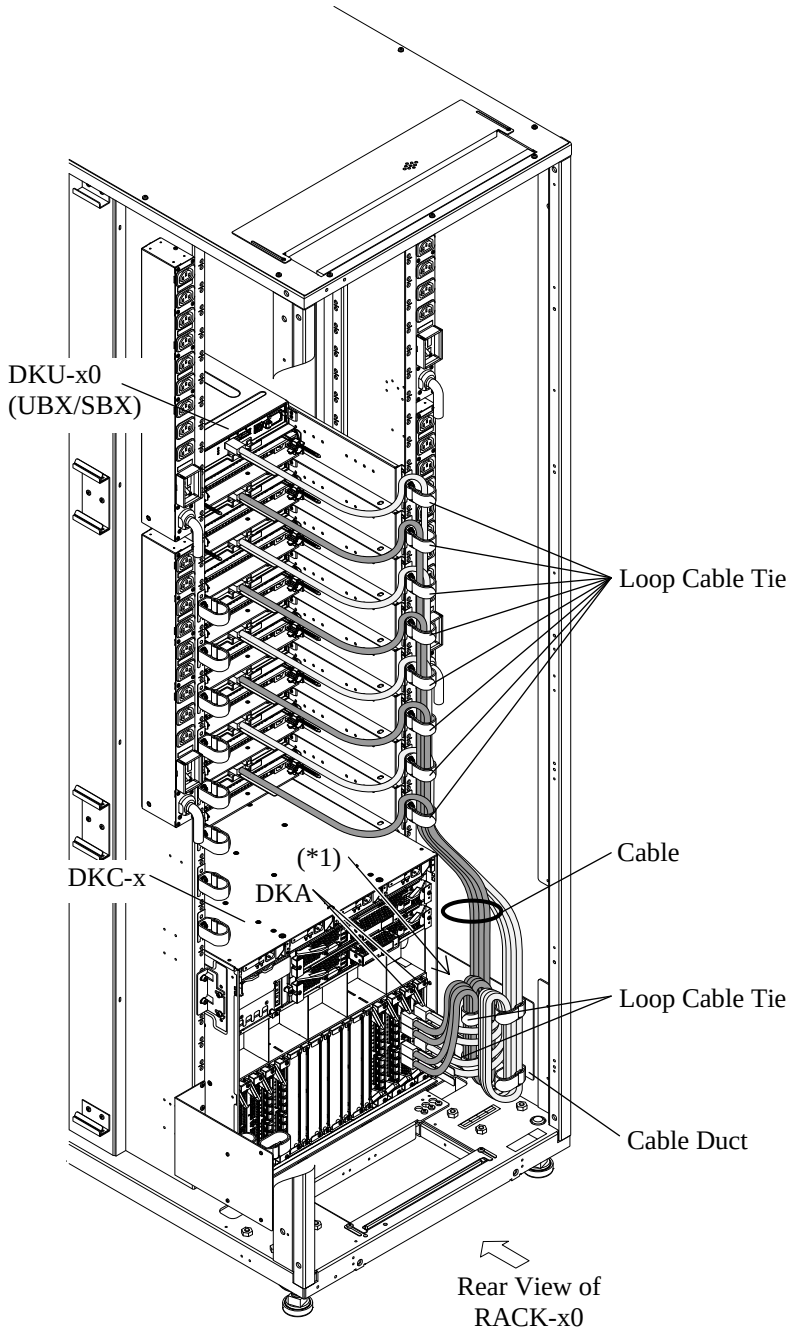
Fig. 3.11.3-49 Fixation of Cables
(DKA-2PA – DKU-00 (FBX) or DKA-2PG – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-2PB and DKU-00 or between DKA-2PH and DKU-10

a. Route the four cables in the cluster 2 and fix them with the loop cable ties. (Refer to Fig. 3.11.3-50 or Fig. 3.11.3-51.)
b. Go to Procedure 9 (INST03-11B-651).

When the DKU-x0 is the UBX/SBX

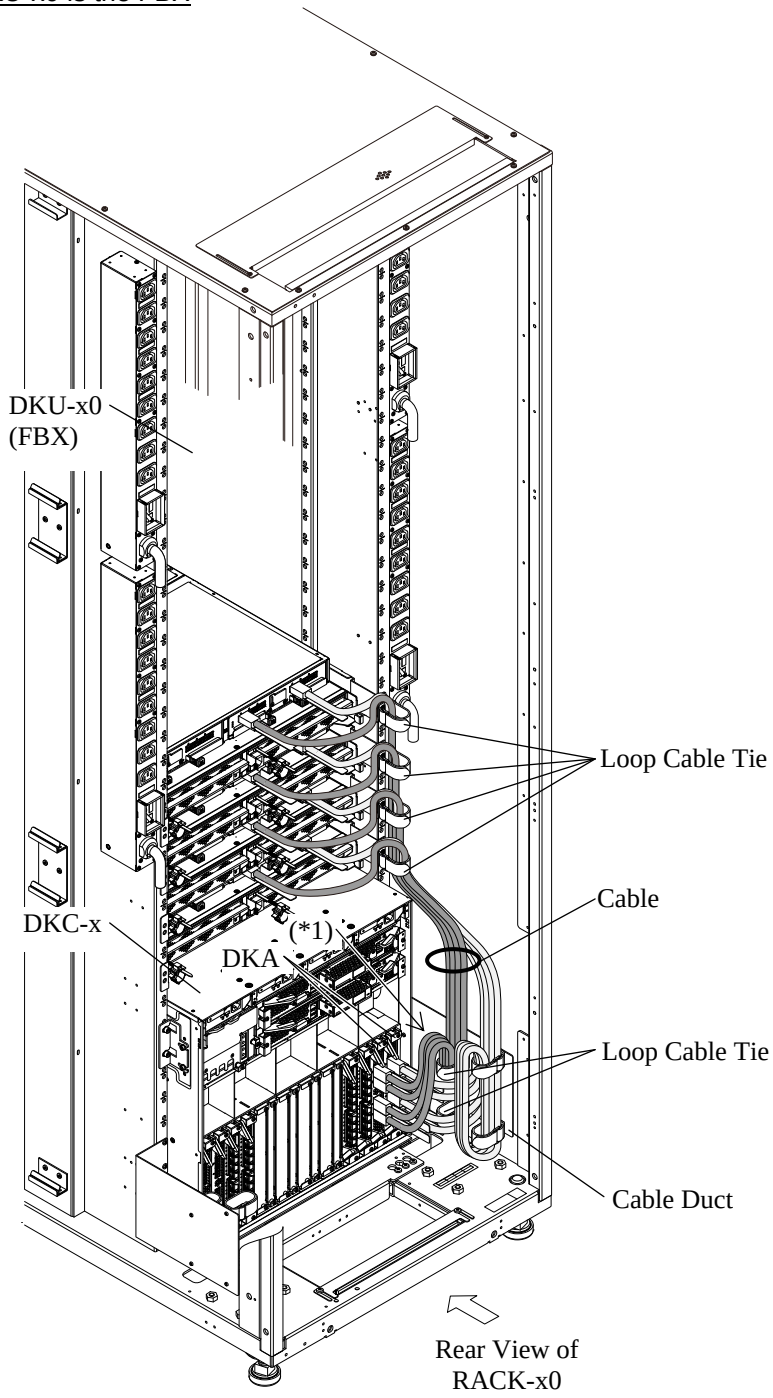


*1: Pass the cables connected to the DKA-2PB or DKA-2PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted.

Fig. 3.11.3-50 Fixation of Cables
(DKA-2PB – DKU-00 (UBX/SBX) or DKA-2PH – DKU-10 (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX



*1: Pass the cables connected to the DKA-2PB or DKA-2PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted.

Fig. 3.11.3-51 Fixation of Cables
(DKA-2PB – DKU-00 (FBX) or DKA-2PH – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

9. Installation Procedure of Disk Adapter for cluster 2

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

9-1 Insertion of PCBs

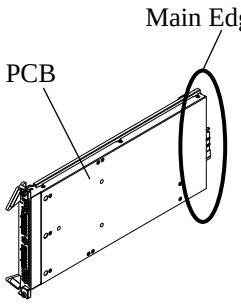
a. If the dummy plates are installed in the installation location, loosen the screws and remove the dummy plates. Refer to the Table 3.11.3-7 and Fig. 3.11.3-52.
If not, go to Step b.

NOTE: Store the removed dummy plates as they are required when the DKAs are removed.

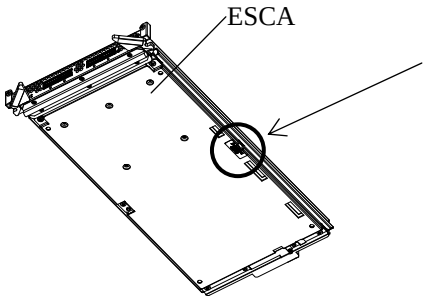
NOTICE: Remove the dummy plate just before installing the PCB.
If the dummy plate is kept removed for 30 minutes or more, the wind doesn't flow among installed PCBs, causing the PCBs' temperature rise which may result in temperature warning or temperature alarm.

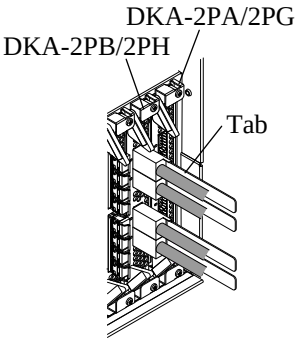
Copyright © 2014, Hitachi, Ltd.

b. Insert the PCBs to the correct locations in the DKC and fasten the screw.



NOTICE:
- Check that the main edge connector of the PCB has no deformation, damage or sticking of dust before installing the PCB. (See INST03-01-80)
- When installing the PCB, hold the right and left of the PCB with both hands, and insert it straight not to contact the neighboring PCB.



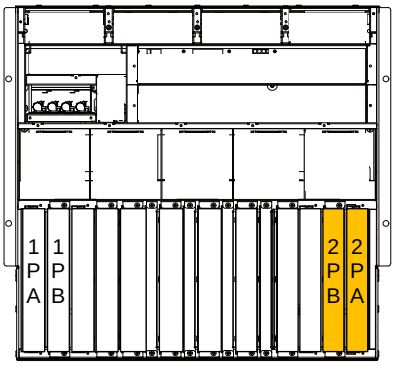


NOTICE: When inserting or removing the DKA PCB (DKA-2PA/2PG), be careful so that the tab of the DEV interface cable that connects to the adjacent DKA PCB (DKA-2PB/2PH) is not caught in it.

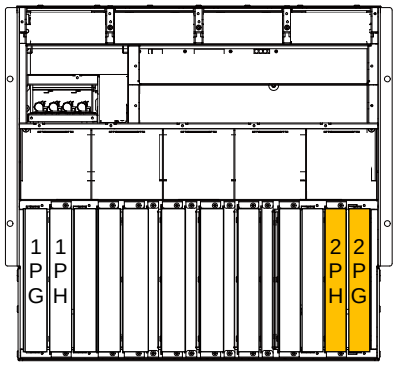
Table 3.11.3-7 Inserting Location

DKC	Addition No.	Location No.	Number of DKAs set through the SVP		Remarks
		Cluster 2			
DKC-0	Basic	DKA-2PA	2	4	
	Option 1	DKA-2PB	—		
DKC-1	Option 2	DKA-2PG	2	4	
	Option 3	DKA-2PH	—		

Copyright © 2014, Hitachi, Ltd.



Rear View of DKC-0



Rear View of DKC-1

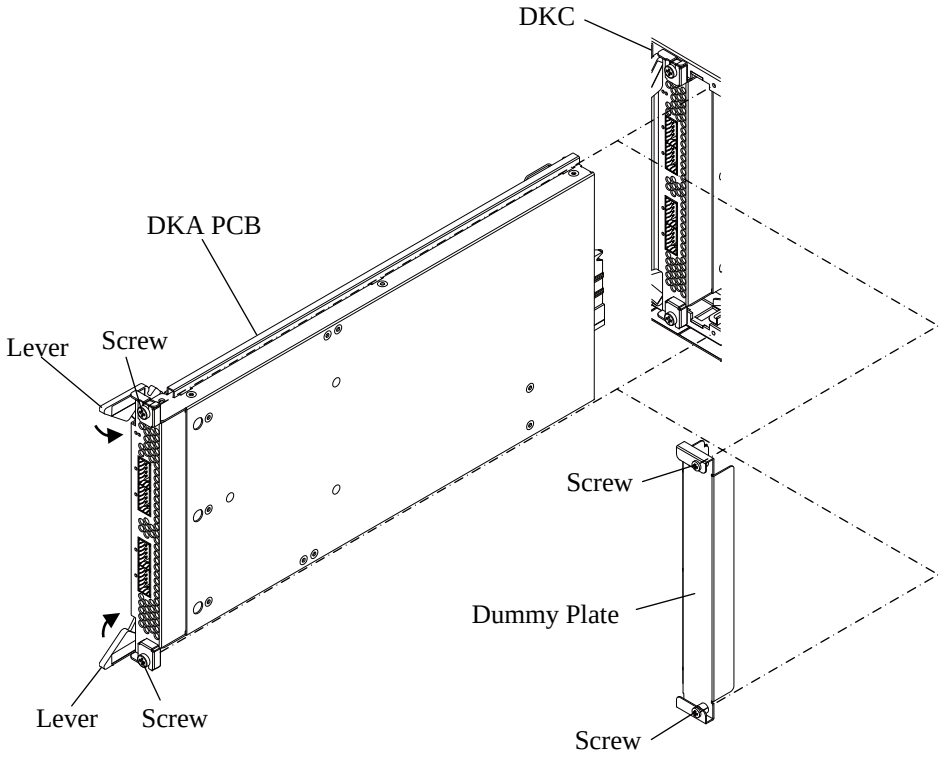


Fig. 3.11.3-52 Insertion of PCB

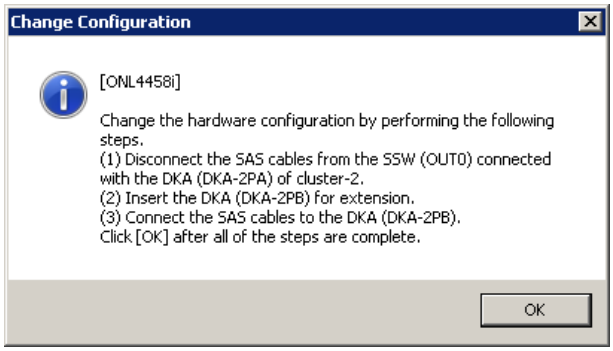
Copyright © 2014, Hitachi, Ltd.

10. SVP Post-Procedure (Cluster 2)

(1) <Check that hardware components are installed>
When changing from the Standard Model to the High Performance Model : Go to Step (1)-1.
When installing from the less DKA or less DKU : Go to Step (1)-2.

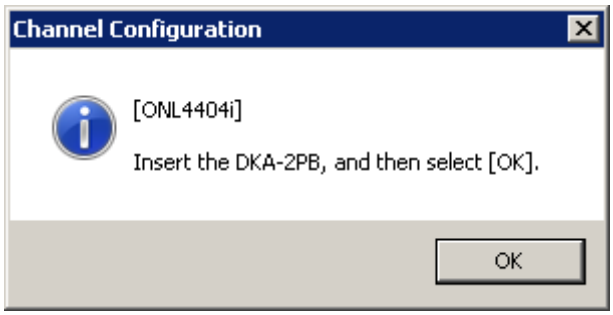
(1)-1

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Change the hardware configuration by performing the following steps. (1) Disconnect the SAS cables from the SSW (OUT0) connected with the DKA (DKA-nnn) of cluster-2. (2) Insert the DKA (DKA-nnn) for extension. (3) Connect the SAS cables to the DKA (DKA-nnn). Click [OK] after all of the steps are complete.”.

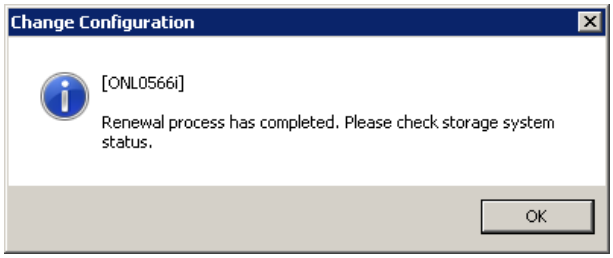


(1)-2

Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the DKA-nnn, and then select [OK].”.



(2) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

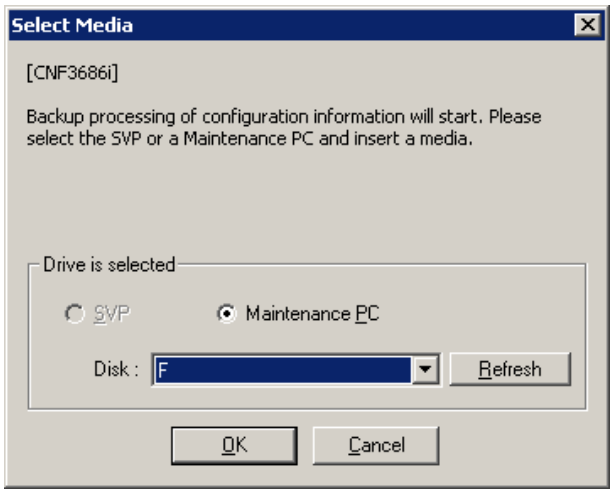


Copyright © 2014, Hitachi, Ltd.

(3)

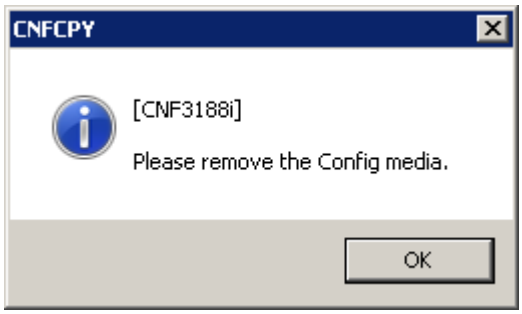
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



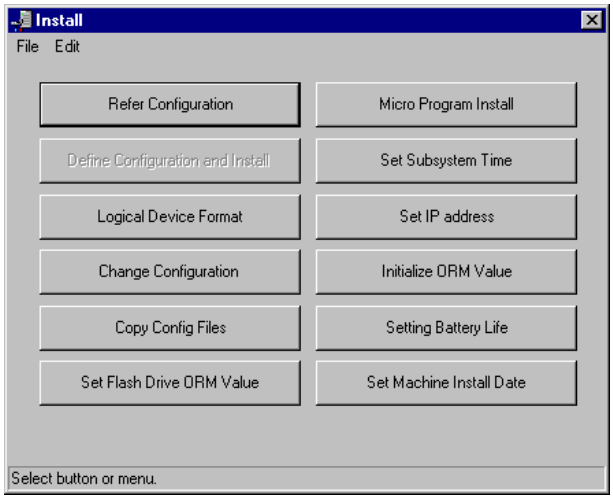
(4)

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



(5)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(6) <Mode Change>
Change the mode to View Mode.

Return to the work table (INST02-50) and perform rest of the works.

Copyright © 2014, Hitachi, Ltd.

3.11.4 When performing addition of the data/spare Drive and Device Interface Cable that accompanies the addition of the DKU (DKC-F810I-CC1/CC2/CC4/300KCM/600JCM/600J5M/900JCM/1R2JCM/3R0H3M/4R0H3M/400MCM/400M5M/800MCM/1R6FM/3R2FM)

NOTE:
- When the second DKC-F810I-SCA/ESCA is installed, the Device Interface Cables between DKA and DKU, and between DKU and DKU are required to be connected.
- For the Non-Disruptive Installation, execute the operation after turning on the power supply of the RACK as shown in the Step No.7 of 2.2 Non-Disruptive Installation Procedure Table (INST02-50).

Copyright © 2014, Hitachi, Ltd.

3.11.4.1 Storage system Configurations and Required I/F Cable Options

1. In the case of Standard Model
   The storage system configuration and number of required options for the Standard Model are shown below.

Table 3.11.4.1-1 Requisite Options for Standard Model (Single and Twin DKC model)

No.	Required Number of Options													
	DKC810I -CBXA	DKC-F810I-										2.5-inch HDD (*1)	3.5-inch HDD (*1)	FMD (*1)
		CBXB	RK42	SBX	UBX	FBX	SCA/ ESCA	CC1	CC2	CC4	MOD5			
1	1	—	1	1	—	—	1	1	1	—	—	192	—	—
2	1	—	1	2	—	—	1	1	3	—	—	384	—	—
3	1	—	2	3	—	—	1	1	3	2	—	576	—	—
4	1	—	2	4	—	—	1	1	5	2	—	768	—	—
5	1	—	3	5	—	—	1	1	5	4	—	960	—	—
6	1	—	3	6	—	—	1	1	7	4	—	1152	—	—
7	1	1	4	7	—	—	2	2	8	4	1	1344	—	—
8	1	1	4	8	—	—	2	2	10	4	1	1536	—	—
9	1	1	5	9	—	—	2	2	10	6	1	1728	—	—
10	1	1	5	10	—	—	2	2	12	6	1	1920	—	—
11	1	1	6	11	—	—	2	2	12	8	1	2112	—	—
12	1	1	6	12	—	—	2	2	14	8	1	2304	—	—
13	1	—	1	—	1	—	1	1	1	—	—	—	96	—
14	1	—	1	—	2	—	1	1	3	—	—	—	192	—
15	1	—	2	—	3	—	1	1	3	2	—	—	288	—
16	1	—	2	—	4	—	1	1	5	2	—	—	384	—
17	1	—	3	—	5	—	1	1	5	4	—	—	480	—
18	1	—	3	—	6	—	1	1	7	4	—	—	576	—
19	1	1	4	—	7	—	2	2	8	4	1	—	672	—
20	1	1	4	—	8	—	2	2	10	4	1	—	768	—
21	1	1	5	—	9	—	2	2	10	6	1	—	864	—
22	1	1	5	—	10	—	2	2	12	6	1	—	960	—
23	1	1	6	—	11	—	2	2	12	8	1	—	1056	—
24	1	1	6	—	12	—	2	2	14	8	1	—	1152	—
25	1	—	1	—	—	1	1	1	1	—	—	—	—	48
26	1	—	1	—	—	2	1	3	1	—	—	—	—	96
27	1	1	2	—	—	3	2	4	2	—	1	—	—	144
28	1	1	2	—	—	4	2	6	2	—	1	—	—	192

*1: The maximum number of installable HDDs/FMDs includes the spare disk(s).

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.1-2 Requisite Options for Standard Model (Dual DKC model)

No.	Required Number of Options											Remarks
	DKC810I	DKC-F810I-									FMD	
	-CBXA	CBXB	RK42	FBX	SCA/ ESCA	CC1	CC2	CC4	FC5	MOD5	(*1)	
1	1	1	1	2	2	2	2	—	—	1	96	Dual DKC Layout-1
2	1	1	2	3	2	2	2	—	2	1	144	Dual DKC Layout-1
3	1	1	3	4	2	2	2	2	2	1	192	Dual DKC Layout-1
4	1	1	1	2	2	2	—	—	2	1	96	Dual DKC Layout-2
5	1	1	2	3	2	2	—	—	4	1	144	Dual DKC Layout-2
6	1	1	3	4	2	2	—	2	4	1	192	Dual DKC Layout-2
7	1	1	2	2	2	2	—	—	2	1	96	Dual DKC Layout-3
8	1	1	2	3	2	4	—	—	2	1	144	Dual DKC Layout-3
9	1	1	2	4	2	6	—	—	2	1	192	Dual DKC Layout-3

*1: The maximum number of installable FMDs includes the spare drive(s).

Copyright © 2014, Hitachi, Ltd.

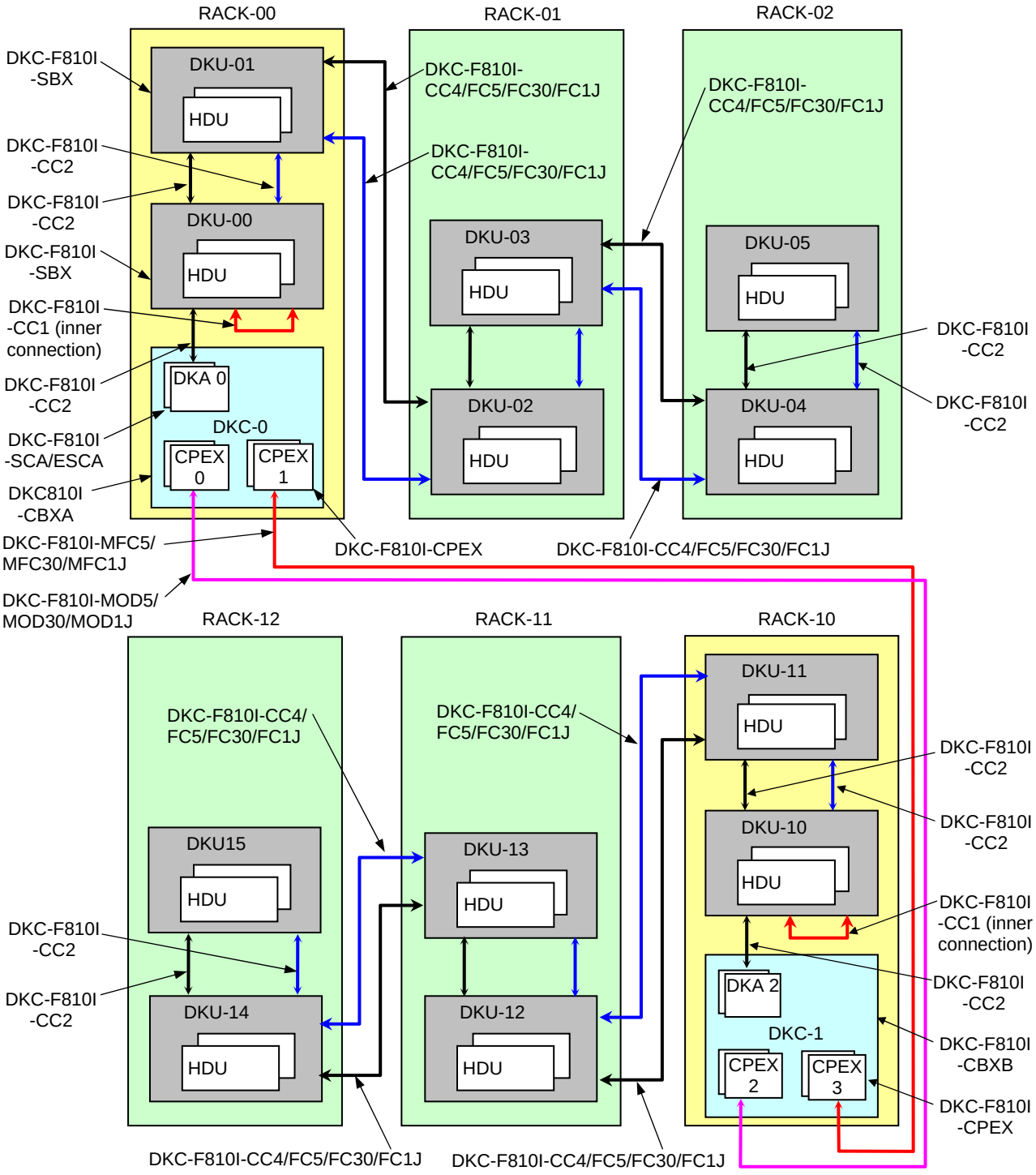


Fig. 3.11.4.1-1 Twin DKC Configurations and Required I/F Cable Options (Standard Model)

Copyright © 2014, Hitachi, Ltd.

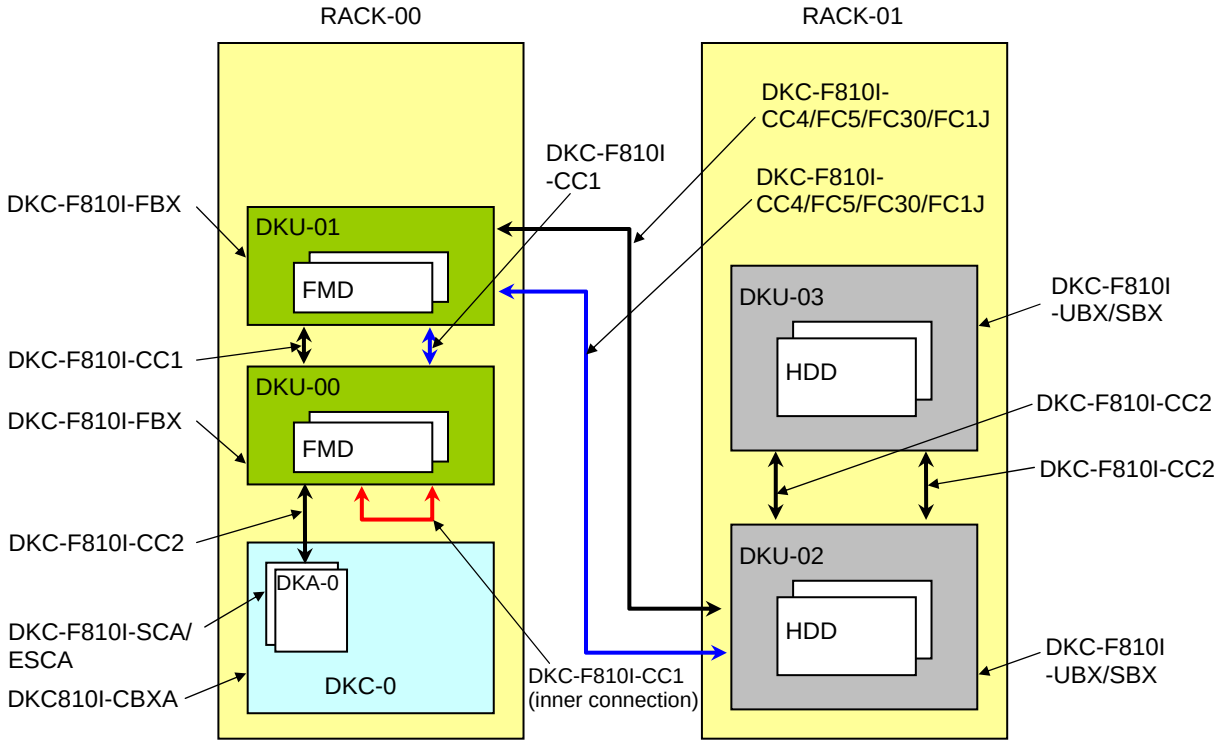


Fig. 3.11.4.1-2 Single DKC Configurations and Required I/F Cable Options (FMD Standard Model)

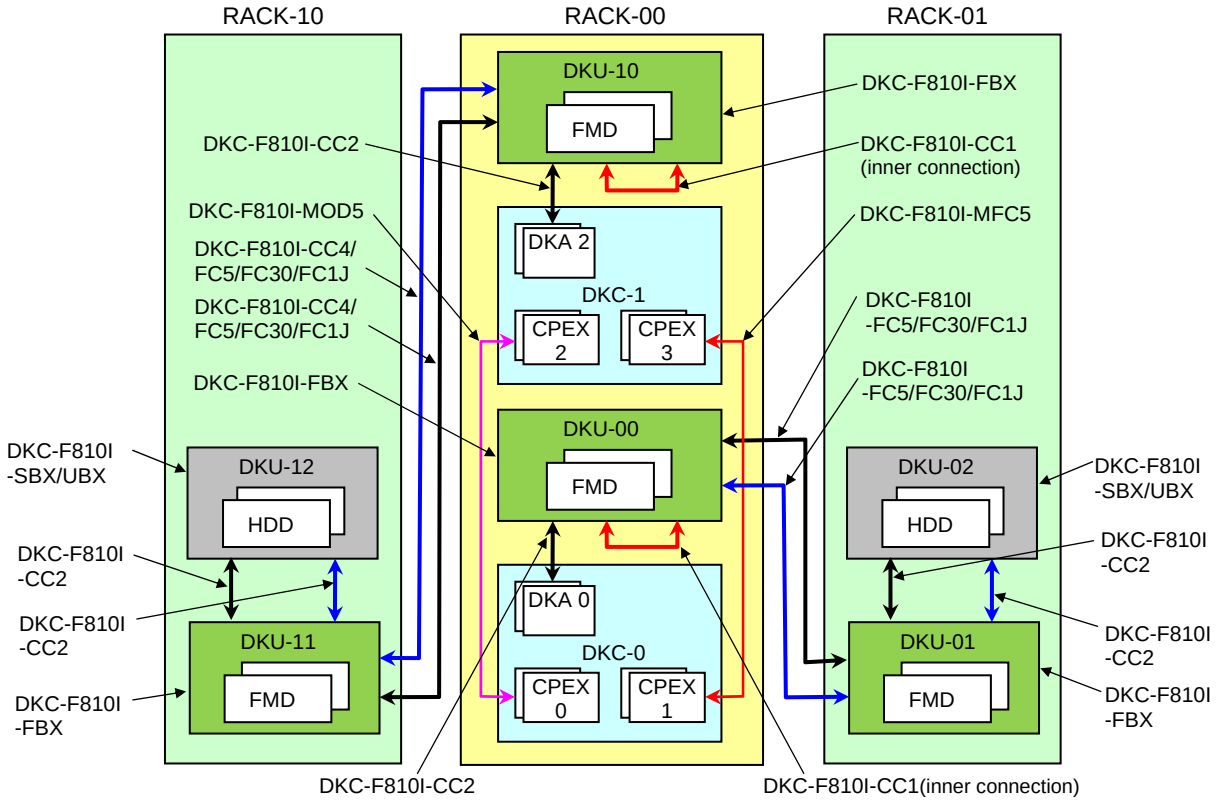


Fig. 3.11.4.1-3 Dual DKC Configuration and Required I/F Cable Options (Dual DKC Layout-1, Standard Model)

Copyright © 2014, Hitachi, Ltd.

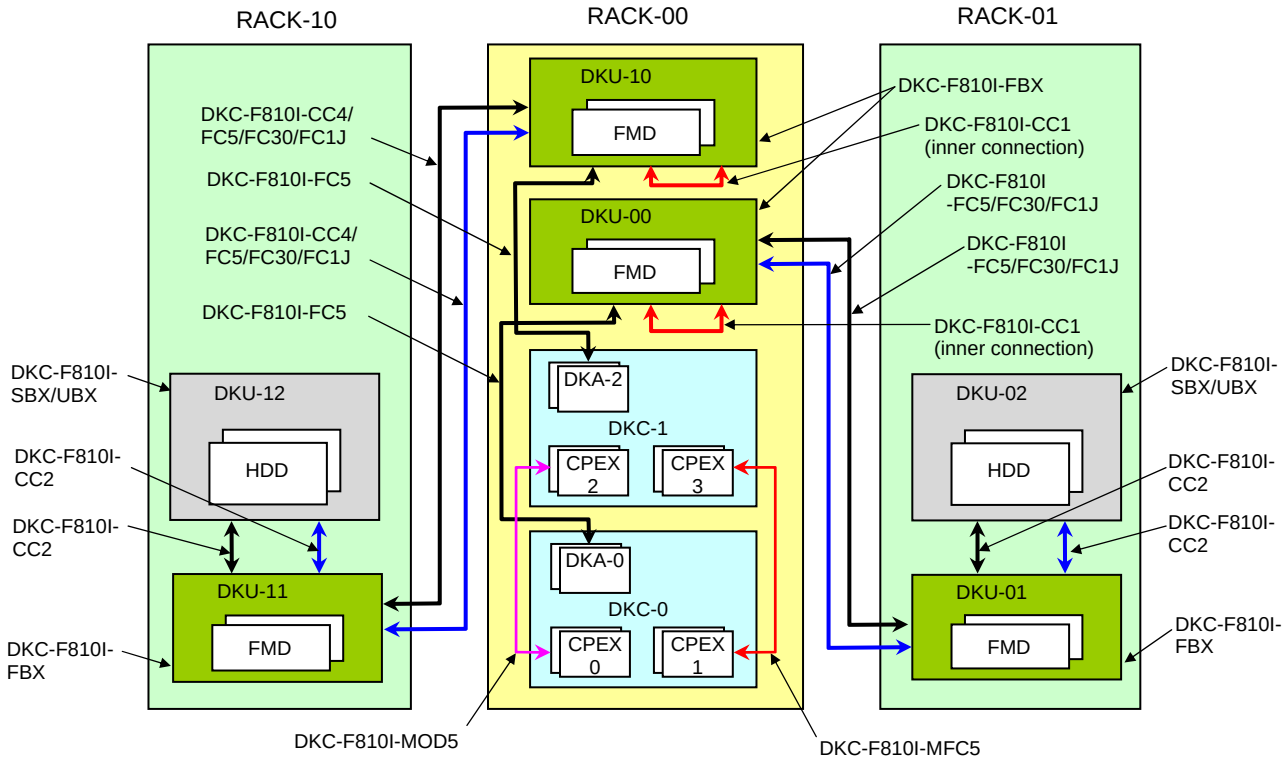


Fig. 3.11.4.1-4 Dual DKC Configuration and Required I/F Cable Options
(Dual DKC Layout-2, Standard Model)

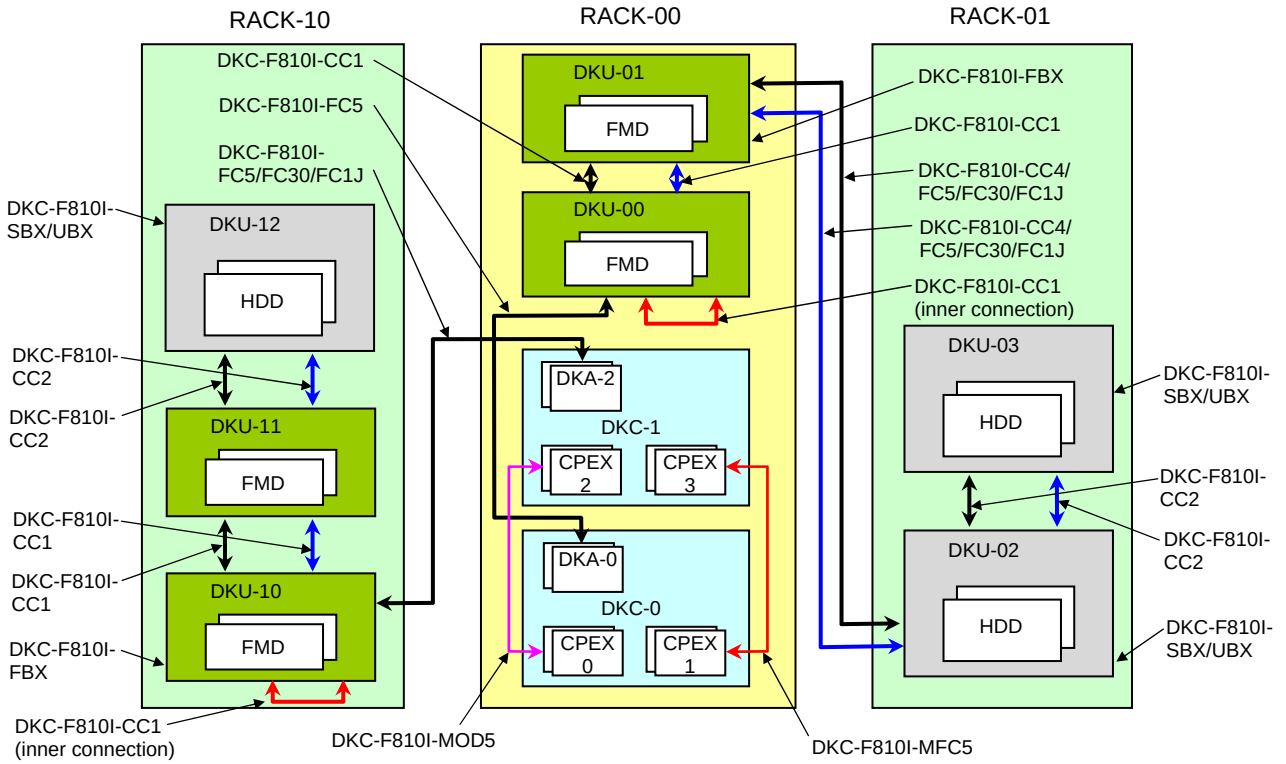


Fig. 3.11.4.1-5 Dual DKC Configuration and Required I/F Cable Options
(Dual DKC Layout-3, Standard Model)

Copyright © 2014, Hitachi, Ltd.

2. In the case of High Performance Model
   The storage system configuration and number of required options for the High Performance model are shown below.

Table 3.11.4.1-3 Requisite Options for High Performance Model (Single and Twin DKC model)

No.	Required Number of Options													
	DKC810I-CBXA	DKC-F810I-										2.5-inch HDD (*1)	3.5-inch HDD (*1)	FMD (*1)
		CBXB	RK42	SBX	UBX	FBX	SCA/ ESCA	CC1	CC2	CC4	MOD5			
1	1	—	1	1	—	—	2	—	2	—	—	192	—	—
2	1	—	1	2	—	—	2	—	4	—	—	384	—	—
3	1	—	2	3	—	—	2	—	4	2	—	576	—	—
4	1	—	2	4	—	—	2	—	6	2	—	768	—	—
5	1	—	3	5	—	—	2	—	6	4	—	960	—	—
6	1	—	3	6	—	—	2	—	8	4	—	1152	—	—
7	1	1	4	7	—	—	4	—	10	4	1	1344	—	—
8	1	1	4	8	—	—	4	—	12	4	1	1536	—	—
9	1	1	5	9	—	—	4	—	12	6	1	1728	—	—
10	1	1	5	10	—	—	4	—	14	6	1	1920	—	—
11	1	1	6	11	—	—	4	—	14	8	1	2112	—	—
12	1	1	6	12	—	—	4	—	16	8	1	2304	—	—
13	1	—	1	—	1	—	2	—	2	—	—	—	96	—
14	1	—	1	—	2	—	2	—	4	—	—	—	192	—
15	1	—	2	—	3	—	2	—	4	2	—	—	288	—
16	1	—	2	—	4	—	2	—	6	2	—	—	384	—
17	1	—	3	—	5	—	2	—	6	4	—	—	480	—
18	1	—	3	—	6	—	2	—	8	4	—	—	576	—
19	1	1	4	—	7	—	4	—	10	4	1	—	672	—
20	1	1	4	—	8	—	4	—	12	4	1	—	768	—
21	1	1	5	—	9	—	4	—	12	6	1	—	864	—
22	1	1	5	—	10	—	4	—	14	6	1	—	960	—
23	1	1	6	—	11	—	4	—	14	8	1	—	1056	—
24	1	1	6	—	12	—	4	—	16	8	1	—	1152	—
25	1	—	1	—	—	1	2	—	2	—	—	—	—	48
26	1	—	1	—	—	2	2	2	2	—	—	—	—	96
27	1	1	2	—	—	3	4	2	4	—	1	—	—	144
28	1	1	2	—	—	4	4	4	4	—	1	—	—	192
29	1	1	1	—	—	2	4	—	4	—	1	—	—	96

*1: The maximum number of installable HDDs/FMDs includes the spare disk(s).

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.1-4 Requisite Options for High Performance Model (Dual DKC model)

No.	Required Number of Options											Remarks
	DKC810I	DKC-F810I-									FMD	
	-CBXA	CBXB	RK42	FBX	SCA/ ESCA	CC1	CC2	CC4	FC5	MOD5	(*1)	
1	1	1	1	2	4	—	4	—	—	1	96	Dual DKC Layout-1
2	1	1	2	3	4	—	4	—	2	1	144	Dual DKC Layout-1
3	1	1	3	4	4	—	4	2	2	1	192	Dual DKC Layout-1
4	1	1	1	2	4	—	—	—	4	1	96	Dual DKC Layout-2
5	1	1	2	3	4	—	—	—	6	1	144	Dual DKC Layout-2
6	1	1	3	4	4	—	—	2	6	1	192	Dual DKC Layout-2
7	1	1	2	2	4	—	—	—	4	1	96	Dual DKC Layout-3
8	1	1	2	3	4	2	—	—	4	1	144	Dual DKC Layout-3
9	1	1	2	4	4	4	—	—	4	1	192	Dual DKC Layout-3

*1: The maximum number of installable FMDs includes the spare drive(s).

Copyright © 2014, Hitachi, Ltd.

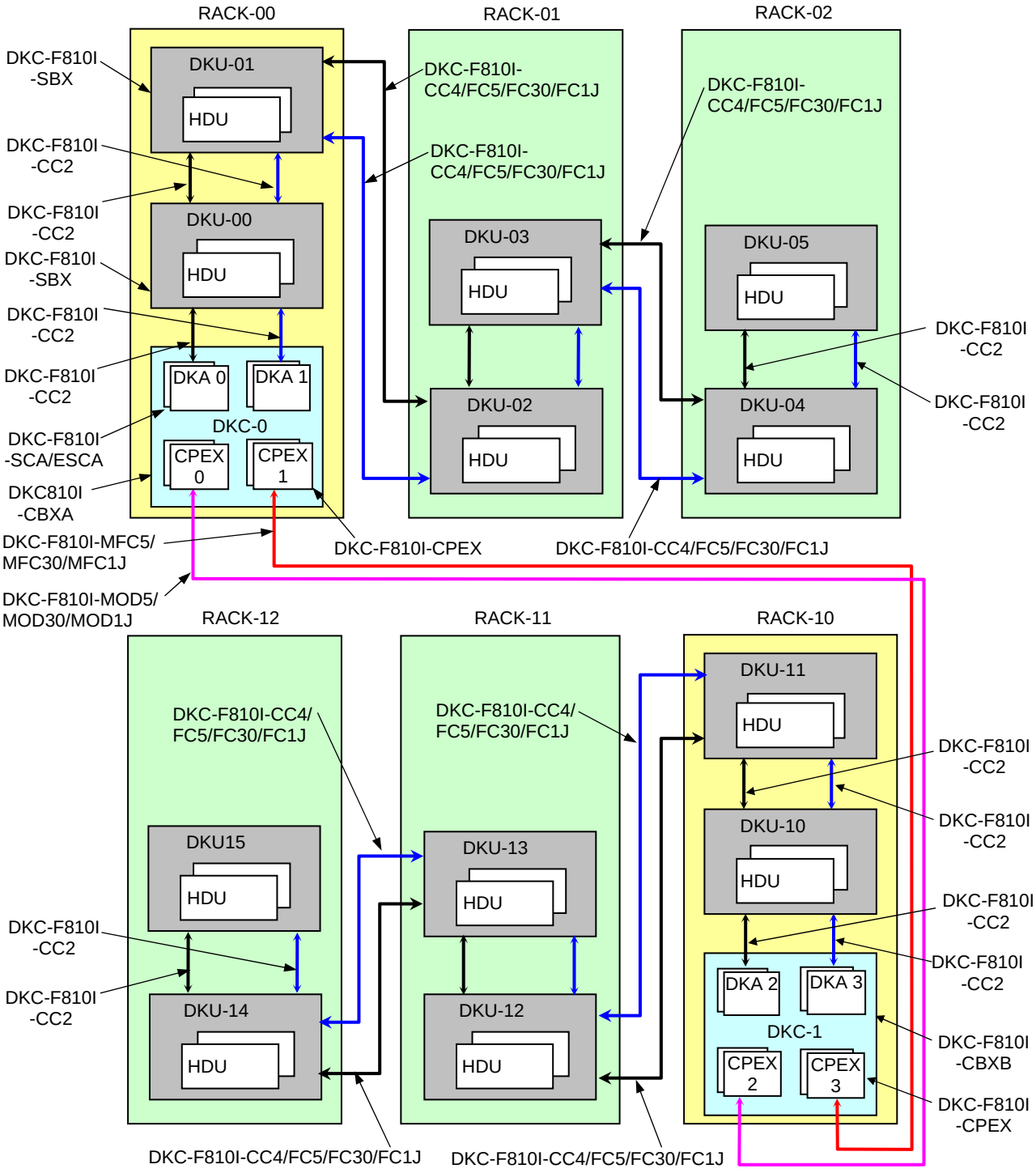


Fig. 3.11.4.1-6 Twin DKC Configurations and Required I/F Cable Options (High Performance Model)

Copyright © 2014, Hitachi, Ltd.

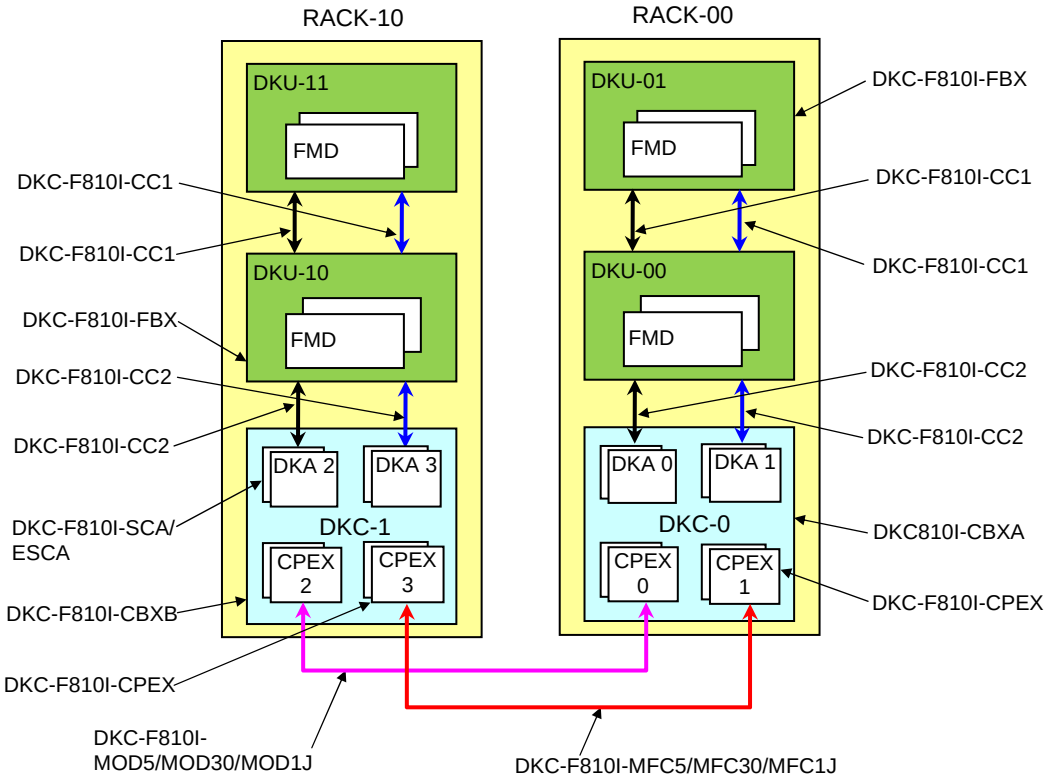


Fig. 3.11.4.1-7 Twin DKC Configuration and Required I/F Cable Options
(FMD High Performance Model)

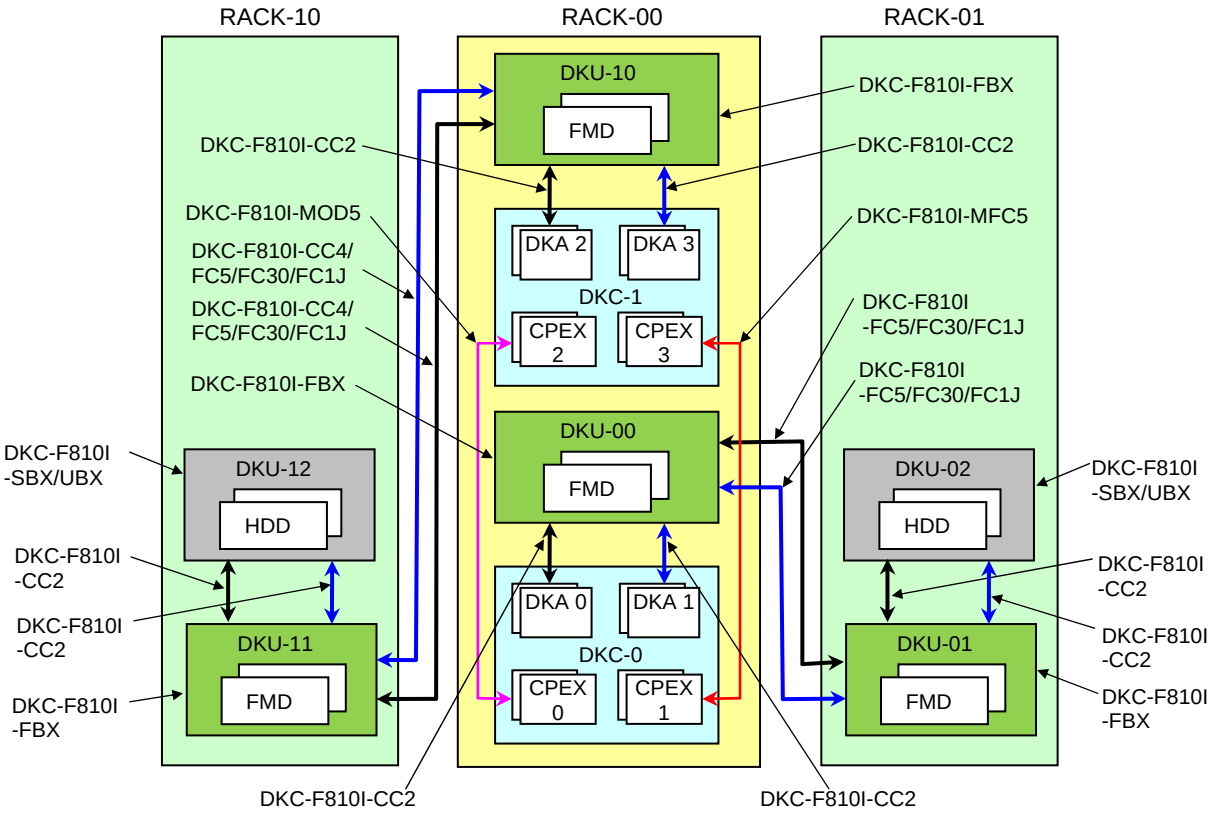


Fig. 3.11.4.1-8 Dual DKC Configuration and Required I/F Cable Options
(Dual DKC Layout-1, High Performance Model)

Copyright © 2014, Hitachi, Ltd.

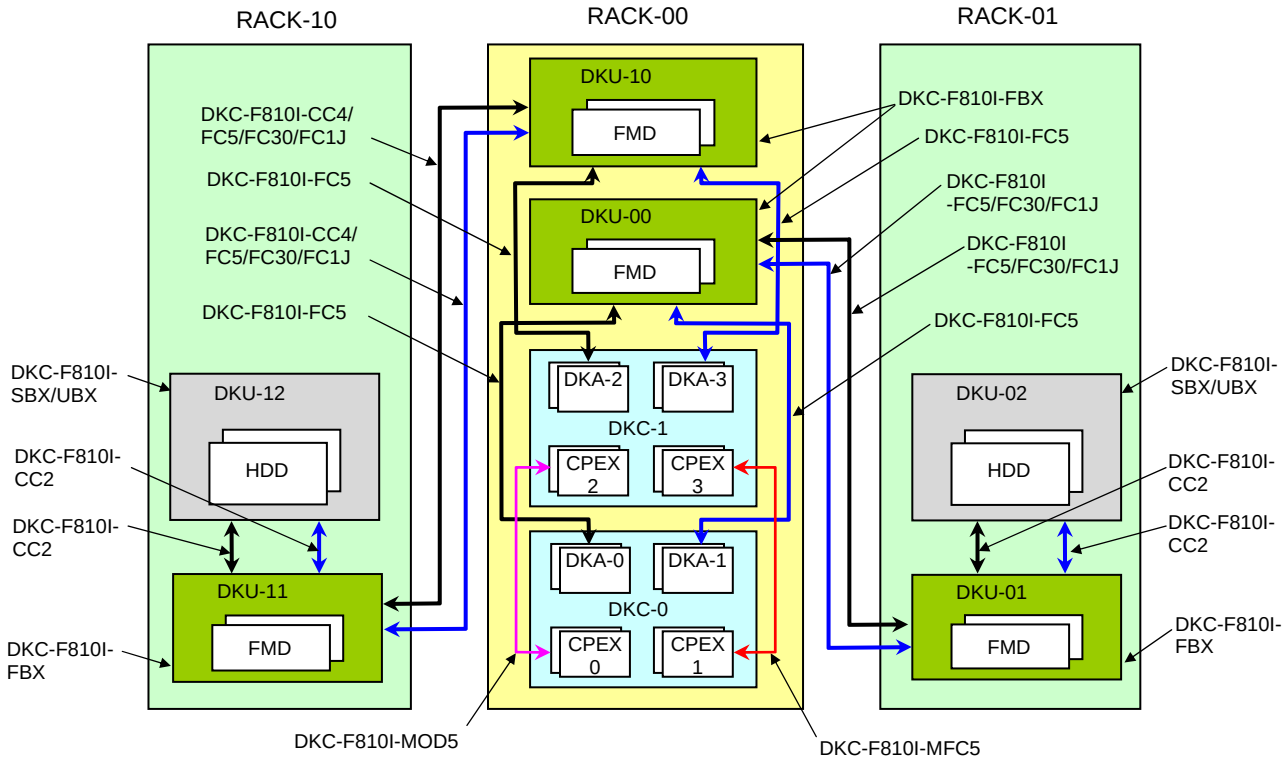


Fig. 3.11.4.1-9 Dual DKC Configuration and Required I/F Cable Options
(Dual DKC Layout-2, High Performance Model)

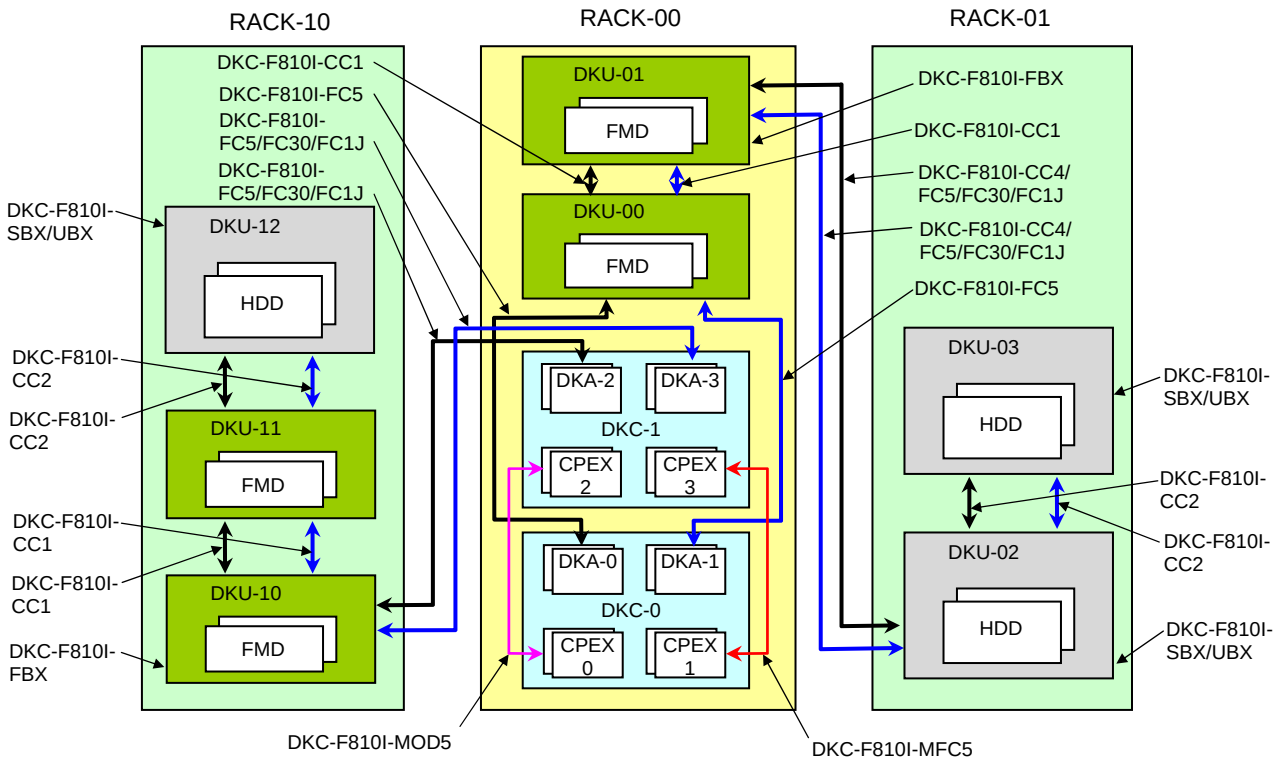


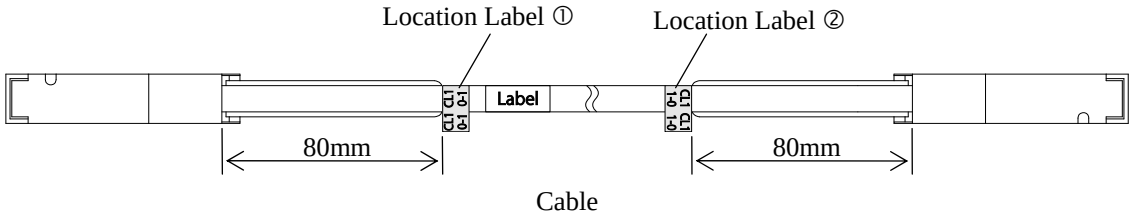
Fig. 3.11.4.1-10 Dual DKC Configuration and Required I/F Cable Options
(Dual DKC Layout-3, High Performance Model)

Copyright © 2014, Hitachi, Ltd.

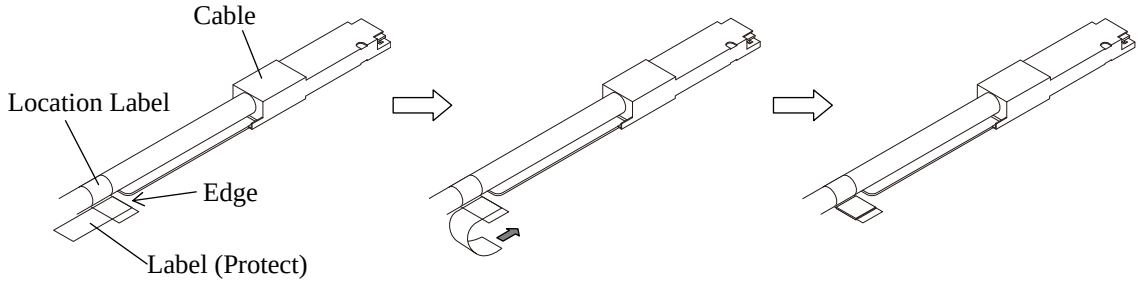
3.11.4.2 Attachment of Location Labels for Device Interface Cable (DKC-F810I-CC1/CC2/CC4)

1. When you need to install DKC-F810I-CC1, attach the location labels to the cables.
   When you do not need to install DKC-F810I-CC1, go to Procedure 2.

   a. Attach 16 location labels to 8 cables. Choose location labels from Labels (Address) and Labels (Address) 2. See Fig. 3.11.4.2-1 and Table 3.11.4.2-1.
   b. Stick the Label (Protect) around the attached location labels.



[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.11.4.2-1 Attachment of Location Labels

Table 3.11.4.2-1 Location Label List (DKU-xy – DKU-x(y+1), CC1 × 2)

No.	Connection Source (DKU-xy)			Connection Destination (DKU-x(y+1))		
	Part Name	Location Label ①	Label Color	Part Name	Location Label②	Label Color
1	SSWxy0-1	CL1 0-2	White/Black	SSWx(y+1)0-1	CL1 0-0	White/Black
2	SSWxy0-1	CL1 1-2	White/Brown	SSWx(y+1)0-1	CL1 1-0	White/Brown
3	SSWxy1-1	CL1 2-2	White/Red	SSWx(y+1)1-1	CL1 2-0	White/Red
4	SSWxy1-1	CL1 3-2	White/Orange	SSWx(y+1)1-1	CL1 3-0	White/Orange
5	SSWxy2-1	CL1 4-2	White/Yellow	SSWx(y+1)2-1	CL1 4-0	White/Yellow
6	SSWxy2-1	CL1 5-2	White/Green	SSWx(y+1)2-1	CL1 5-0	White/Green
7	SSWxy3-1	CL1 6-2	White/Blue	SSWx(y+1)3-1	CL1 6-0	White/Blue
8	SSWxy3-1	CL1 7-2	White/Purple	SSWx(y+1)3-1	CL1 7-0	White/Purple
9	SSWxy0-2	CL2 0-2	Yellow/Black	SSWx(y+1)0-2	CL2 0-0	Yellow/Black
10	SSWxy0-2	CL2 1-2	Yellow/Brown	SSWx(y+1)0-2	CL2 1-0	Yellow/Brown
11	SSWxy1-2	CL2 2-2	Yellow/Red	SSWx(y+1)1-2	CL2 2-0	Yellow/Red
12	SSWxy1-2	CL2 3-2	Yellow/Orange	SSWx(y+1)1-2	CL2 3-0	Yellow/Orange
13	SSWxy2-2	CL2 4-2	Yellow/Yellow	SSWx(y+1)2-2	CL2 4-0	Yellow/Yellow
14	SSWxy2-2	CL2 5-2	Yellow/Green	SSWx(y+1)2-2	CL2 5-0	Yellow/Green
15	SSWxy3-2	CL2 6-2	Yellow/Blue	SSWx(y+1)3-2	CL2 6-0	Yellow/Blue
16	SSWxy3-2	CL2 7-2	Yellow/Purple	SSWx(y+1)3-2	CL2 7-0	Yellow/Purple

Copyright © 2014, Hitachi, Ltd.

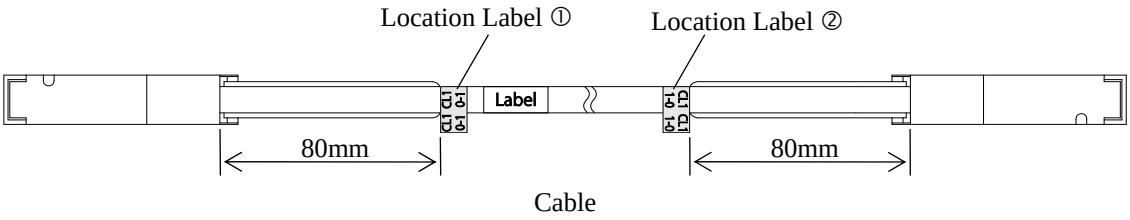
Table 3.11.4.2-2 Location Label List (DKU-00/10, CC1 × 1)

No.	Connection Source (DKU-x0)				Connection Destination (DKU-x0)			
	Part Name		Location Label ①	Label Color	Part Name		Location Label②	Label Color
	UBX/SBX	FBX			UBX/SBX	FBX		
1	SSWx00-1	SSWx00-1	CL1 0-1	White/Black	SSWx01-1	SSWx00-1	CL1 1-0	White/Brown
2	SSWx02-1	SSWx01-1	CL1 2-1	White/Red	SSWx03-1	SSWx01-1	CL1 3-0	White/Orange
3	SSWx04-1	SSWx02-1	CL1 4-1	White/Yellow	SSWx05-1	SSWx02-1	CL1 5-0	White/Green
4	SSWx06-1	SSWx03-1	CL1 6-1	White/Blue	SSWx07-1	SSWx03-1	CL1 7-0	White/Purple
5	SSWx01-2	SSWx00-2	CL2 1-1	Yellow/Brown	SSWx00-2	SSWx00-2	CL2 0-0	Yellow/Black
6	SSWx03-2	SSWx01-2	CL2 3-1	Yellow/Orange	SSWx02-2	SSWx01-2	CL2 2-0	Yellow/Red
7	SSWx05-2	SSWx02-2	CL2 5-1	Yellow/Green	SSWx04-2	SSWx02-2	CL2 4-0	Yellow/Yellow
8	SSWx07-2	SSWx03-2	CL2 7-1	Yellow/Purple	SSWx06-2	SSWx03-2	CL2 6-0	Yellow/Blue

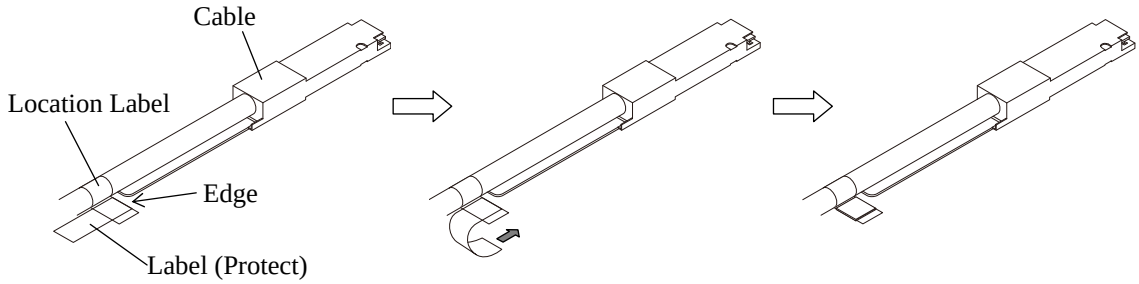
Copyright © 2014, Hitachi, Ltd.

2. When you need to install DKC-F810I-CC2, attach the location labels to the cables.
   When you do not need to install DKC-F810I-CC2, go to Procedure 3.

   a. Attach 16 location labels to 8 cables. Choose location labels from Labels (Address) and Labels (Address) 2. See Fig. 3.11.4.2-2 and Table 3.11.4.2-2.
   b. Stick the Label (Protect) around the attached location labels.



[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.11.4.2-2 Attachment of Location Labels

Table 3.11.4.2-3 Location Label List (DKU-xy – DKU-x(y+1), CC2 × 2)

No.	Connection Source (DKU-xy)				Connection Destination (DKU-x(y+1))			
	Part Name		Location Label ①	Label Color	Part Name		Location Label②	Label Color
	UBX/SBX	FBX			UBX/SBX	FBX		
1	SSWxy0-1	SSWxy0-1	CL1 0-2	White/Black	SSWx(y+1)0-1	SSWx(y+1)0-1	CL1 0-0	White/Black
2	SSWxy1-1	SSWxy0-1	CL1 1-2	White/Brown	SSWx(y+1)1-1	SSWx(y+1)0-1	CL1 1-0	White/Brown
3	SSWxy2-1	SSWxy1-1	CL1 2-2	White/Red	SSWx(y+1)2-1	SSWx(y+1)1-1	CL1 2-0	White/Red
4	SSWxy3-1	SSWxy1-1	CL1 3-2	White/Orange	SSWx(y+1)3-1	SSWx(y+1)1-1	CL1 3-0	White/Orange
5	SSWxy4-1	SSWxy2-1	CL1 4-2	White/Yellow	SSWx(y+1)4-1	SSWx(y+1)2-1	CL1 4-0	White/Yellow
6	SSWxy5-1	SSWxy2-1	CL1 5-2	White/Green	SSWx(y+1)5-1	SSWx(y+1)2-1	CL1 5-0	White/Green
7	SSWxy6-1	SSWxy3-1	CL1 6-2	White/Blue	SSWx(y+1)6-1	SSWx(y+1)3-1	CL1 6-0	White/Blue
8	SSWxy7-1	SSWxy3-1	CL1 7-2	White/Purple	SSWx(y+1)7-1	SSWx(y+1)3-1	CL1 7-0	White/Purple
9	SSWxy0-2	SSWxy0-2	CL2 0-2	Yellow/Black	SSWx(y+1)0-2	SSWx(y+1)0-2	CL2 0-0	Yellow/Black
10	SSWxy1-2	SSWxy0-2	CL2 1-2	Yellow/Brown	SSWx(y+1)1-2	SSWx(y+1)0-2	CL2 1-0	Yellow/Brown
11	SSWxy2-2	SSWxy1-2	CL2 2-2	Yellow/Red	SSWx(y+1)2-2	SSWx(y+1)1-2	CL2 2-0	Yellow/Red
12	SSWxy3-2	SSWxy1-2	CL2 3-2	Yellow/Orange	SSWx(y+1)3-2	SSWx(y+1)1-2	CL2 3-0	Yellow/Orange
13	SSWxy4-2	SSWxy2-2	CL2 4-2	Yellow/Yellow	SSWx(y+1)4-2	SSWx(y+1)2-2	CL2 4-0	Yellow/Yellow
14	SSWxy5-2	SSWxy2-2	CL2 5-2	Yellow/Green	SSWx(y+1)5-2	SSWx(y+1)2-2	CL2 5-0	Yellow/Green
15	SSWxy6-2	SSWxy3-2	CL2 6-2	Yellow/Blue	SSWx(y+1)6-2	SSWx(y+1)3-2	CL2 6-0	Yellow/Blue
16	SSWxy7-2	SSWxy3-2	CL2 7-2	Yellow/Purple	SSWx(y+1)7-2	SSWx(y+1)3-2	CL2 7-0	Yellow/Purple

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.2-4 Location Label List (DKC-0 (DKA-1PA/2PA) – DKU-00, CC2 × 1)

No.	Connection Source (DKC-0)			Connection Destination (DKU-00)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PA	CL1 1PA-0	White/Black	SSW000-1	SSW000-1	CL1 0-0	White/Black
2	DKA-1PA	CL1 1PA-1	White/Brown	SSW002-1	SSW001-1	CL1 2-0	White/Red
3	DKA-1PA	CL1 1PA-2	White/Red	SSW004-1	SSW002-1	CL1 4-0	White/Yellow
4	DKA-1PA	CL1 1PA-3	White/Orange	SSW006-1	SSW003-1	CL1 6-0	White/Blue
5	DKA-2PA	CL2 2PA-0	Yellow/Black	SSW001-2	SSW000-2	CL2 1-0	Yellow/Brown
6	DKA-2PA	CL2 2PA-1	Yellow/Brown	SSW003-2	SSW001-2	CL2 3-0	Yellow/Orange
7	DKA-2PA	CL2 2PA-2	Yellow/Red	SSW005-2	SSW002-2	CL2 5-0	Yellow/Green
8	DKA-2PA	CL2 2PA-3	Yellow/Orange	SSW007-2	SSW003-2	CL2 7-0	Yellow/Purple

Table 3.11.4.2-5 Location Label List (DKC-0 (DKA-1PB/2PB) – DKU-00, CC2 × 1)

No.	Connection Source (DKC-0)			Connection Destination (DKU-00)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PB	CL1 1PB-0	White/Black	SSW001-1	SSW000-1	CL1 1-0	White/Brown
2	DKA-1PB	CL1 1PB-1	White/Brown	SSW003-1	SSW001-1	CL1 3-0	White/Orange
3	DKA-1PB	CL1 1PB-2	White/Red	SSW005-1	SSW002-1	CL1 5-0	White/Green
4	DKA-1PB	CL1 1PB-3	White/Orange	SSW007-1	SSW003-1	CL1 7-0	White/Purple
5	DKA-2PB	CL2 2PB-0	Yellow/Black	SSW000-2	SSW000-2	CL2 0-0	Yellow/Black
6	DKA-2PB	CL2 2PB-1	Yellow/Brown	SSW002-2	SSW001-2	CL2 2-0	Yellow/Red
7	DKA-2PB	CL2 2PB-2	Yellow/Red	SSW004-2	SSW002-2	CL2 4-0	Yellow/Yellow
8	DKA-2PB	CL2 2PB-3	Yellow/Orange	SSW006-2	SSW003-2	CL2 6-0	Yellow/Blue

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.2-6 Location Label List (DKC-1(DKA-1PG/2PG) – DKU-10, CC2 × 1)

No.	Connection Source (DKC-1)			Connection Destination (DKU-10)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PG	CL1 1PG-0	White/Black	SSW100-1	SSW100-1	CL1 0-0	White/Black
2	DKA-1PG	CL1 1PG-1	White/Brown	SSW102-1	SSW101-1	CL1 2-0	White/Red
3	DKA-1PG	CL1 1PG-2	White/Red	SSW104-1	SSW102-1	CL1 4-0	White/Yellow
4	DKA-1PG	CL1 1PG-3	White/Orange	SSW106-1	SSW103-1	CL1 6-0	White/Blue
5	DKA-2PG	CL2 2PG-0	Yellow/Black	SSW101-2	SSW100-2	CL2 1-0	Yellow/Brown
6	DKA-2PG	CL2 2PG-1	Yellow/Brown	SSW103-2	SSW101-2	CL2 3-0	Yellow/Orange
7	DKA-2PG	CL2 2PG-2	Yellow/Red	SSW105-2	SSW102-2	CL2 5-0	Yellow/Green
8	DKA-2PG	CL2 2PG-3	Yellow/Orange	SSW107-2	SSW103-2	CL2 7-0	Yellow/Purple

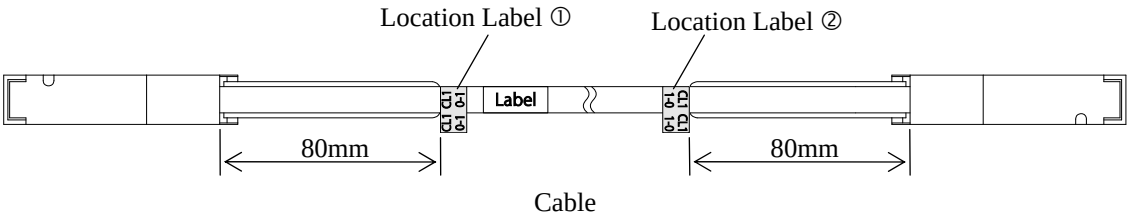
Table 3.11.4.2-7 Location Label List (DKC-1(DKA-1PH/2PH) – DKU-10, CC2 × 1)

No.	Connection Source (DKC-1)			Connection Destination (DKU-10)			
	Part Name	Location Label ①	Label Color	Part Name		Location Label②	Label Color
				UBX/SBX	FBX		
1	DKA-1PH	CL1 1PH-0	White/Black	SSW101-1	SSW100-1	CL1 1-0	White/Brown
2	DKA-1PH	CL1 1PH-1	White/Brown	SSW103-1	SSW101-1	CL1 3-0	White/Orange
3	DKA-1PH	CL1 1PH-2	White/Red	SSW105-1	SSW102-1	CL1 5-0	White/Green
4	DKA-1PH	CL1 1PH-3	White/Orange	SSW107-1	SSW103-1	CL1 7-0	White/Purple
5	DKA-2PH	CL2 2PH-0	Yellow/Black	SSW100-2	SSW100-2	CL2 0-0	Yellow/Black
6	DKA-2PH	CL2 2PH-1	Yellow/Brown	SSW102-2	SSW101-2	CL2 2-0	Yellow/Red
7	DKA-2PH	CL2 2PH-2	Yellow/Red	SSW104-2	SSW102-2	CL2 4-0	Yellow/Yellow
8	DKA-2PH	CL2 2PH-3	Yellow/Orange	SSW106-2	SSW103-2	CL2 6-0	Yellow/Blue

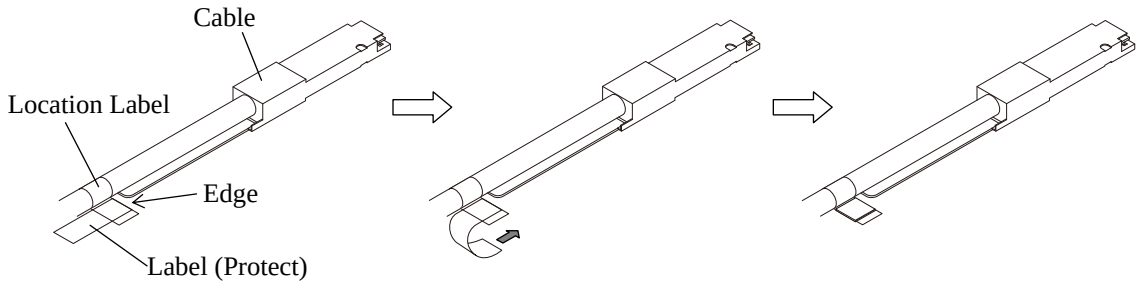
Copyright © 2014, Hitachi, Ltd.

3. When you need to install DKC-F810I-CC4, attach the location labels to the cables.
   When you do not need to install DKC-F810I-CC4, go to Procedure 3.11.4.3.

   a. Attach 32 location labels to 16 cables. Choose location labels from Labels (Address) and Labels (Address) 2.
   b. Stick the Label (Protect) around the attached location labels.



[Label Attachment Example]



① Attach the location label to the MFC cable.
② Attach the Label (Protect) to the location label with its edge aligned with the location label.
③ Stick the Label (Protect) around the location label so that the location label is not torn off.

Fig. 3.11.4.2-3 Attachment of Location Labels

Table 3.11.4.2-8 Location Label List (DKU-xy – DKU-x(y+1), CC4 × 2)

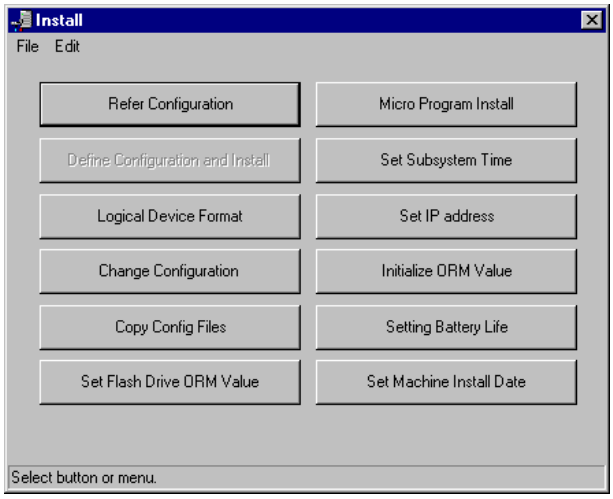
No.	Connection Source (DKU-xy)				Connection Destination (DKU-x(y+1))			
	Part Name		Location	Label Color	Part Name		Location	Label Color
	UBX/SBX	FBX	Label ①		UBX/SBX	FBX	Label②	
1	SSWxy0-1	SSWxy0-1	CL1 0-2	White/Black	SSWx(y+1)0-1	SSWx(y+1)0-1	CL1 0-0	White/Black
2	SSWxy1-1	SSWxy0-1	CL1 1-2	White/Brown	SSWx(y+1)1-1	SSWx(y+1)0-1	CL1 1-0	White/Brown
3	SSWxy2-1	SSWxy1-1	CL1 2-2	White/Red	SSWx(y+1)2-1	SSWx(y+1)1-1	CL1 2-0	White/Red
4	SSWxy3-1	SSWxy1-1	CL1 3-2	White/Orange	SSWx(y+1)3-1	SSWx(y+1)1-1	CL1 3-0	White/Orange
5	SSWxy4-1	SSWxy2-1	CL1 4-2	White/Yellow	SSWx(y+1)4-1	SSWx(y+1)2-1	CL1 4-0	White/Yellow
6	SSWxy5-1	SSWxy2-1	CL1 5-2	White/Green	SSWx(y+1)5-1	SSWx(y+1)2-1	CL1 5-0	White/Green
7	SSWxy6-1	SSWxy3-1	CL1 6-2	White/Blue	SSWx(y+1)6-1	SSWx(y+1)3-1	CL1 6-0	White/Blue
8	SSWxy7-1	SSWxy3-1	CL1 7-2	White/Purple	SSWx(y+1)7-1	SSWx(y+1)3-1	CL1 7-0	White/Purple
9	SSWxy0-2	SSWxy0-2	CL2 0-2	Yellow/Black	SSWx(y+1)0-2	SSWx(y+1)0-2	CL2 0-0	Yellow/Black
10	SSWxy1-2	SSWxy0-2	CL2 1-2	Yellow/Brown	SSWx(y+1)1-2	SSWx(y+1)0-2	CL2 1-0	Yellow/Brown
11	SSWxy2-2	SSWxy1-2	CL2 2-2	Yellow/Red	SSWx(y+1)2-2	SSWx(y+1)1-2	CL2 2-0	Yellow/Red
12	SSWxy3-2	SSWxy1-2	CL2 3-2	Yellow/Orange	SSWx(y+1)3-2	SSWx(y+1)1-2	CL2 3-0	Yellow/Orange
13	SSWxy4-2	SSWxy2-2	CL2 4-2	Yellow/Yellow	SSWx(y+1)4-2	SSWx(y+1)2-2	CL2 4-0	Yellow/Yellow
14	SSWxy5-2	SSWxy2-2	CL2 5-2	Yellow/Green	SSWx(y+1)5-2	SSWx(y+1)2-2	CL2 5-0	Yellow/Green
15	SSWxy6-2	SSWxy3-2	CL2 6-2	Yellow/Blue	SSWx(y+1)6-2	SSWx(y+1)3-2	CL2 6-0	Yellow/Blue
16	SSWxy7-2	SSWxy3-2	CL2 7-2	Yellow/Purple	SSWx(y+1)7-2	SSWx(y+1)3-2	CL2 7-0	Yellow/Purple

Copyright © 2014, Hitachi, Ltd.

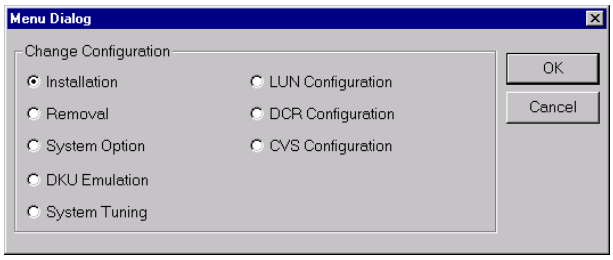
3.11.4.3 Setting up the New Device Structure Information

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

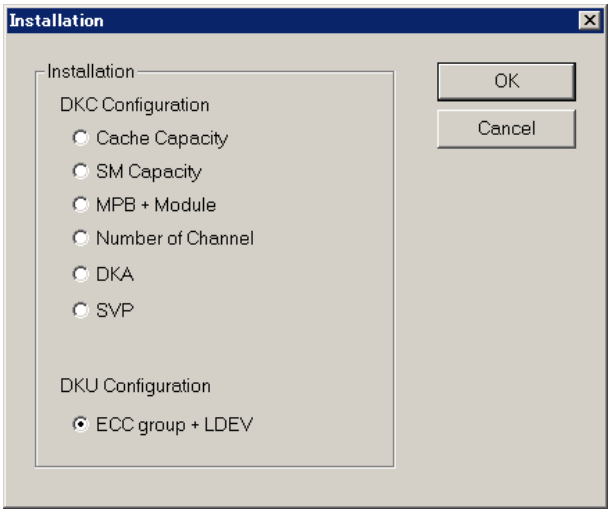
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the "Menu Dialog" dialog box and select (CL) [OK].



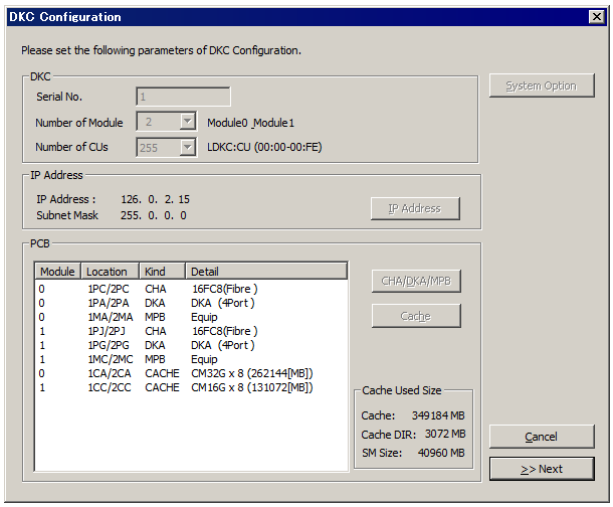
(4) <Select a changed part>
Select (CL) [ECC group + LDEV], and select (CL) [OK].



Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [>>Next].
Go to Step (6).
In the case of selecting (CL) [Cancel], this operation procedure terminates.

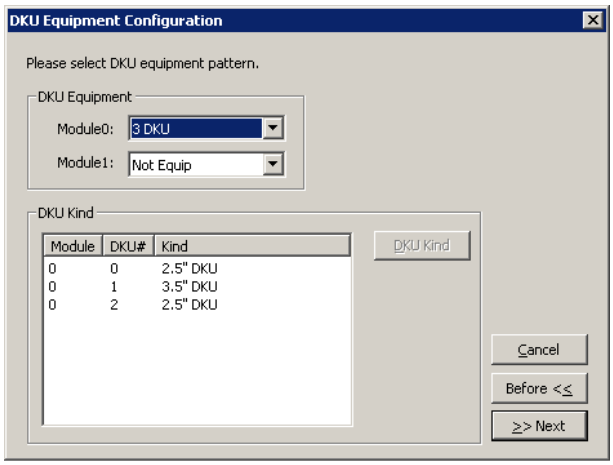
NOTE: There may be a case where an addition of the SM is required to add the CU.



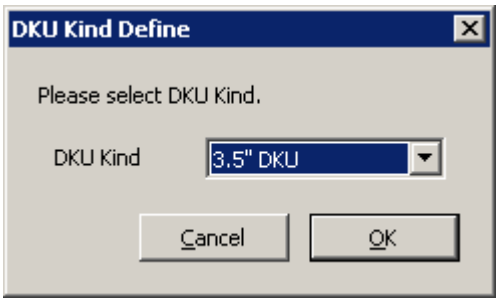
Copyright © 2014, Hitachi, Ltd.

(6) <DKU Equipment Configuration screen>
Define the pattern of DKU Equipment in the 'DKU Equipment Configuration' screen.

When you want to set the DKU type, select (CL) the installed target DKU, and then select (CL) [DKU Kind].
Go to Step (6)-1.
After setting, select (CL) [>>Next].
Go to Step (7).

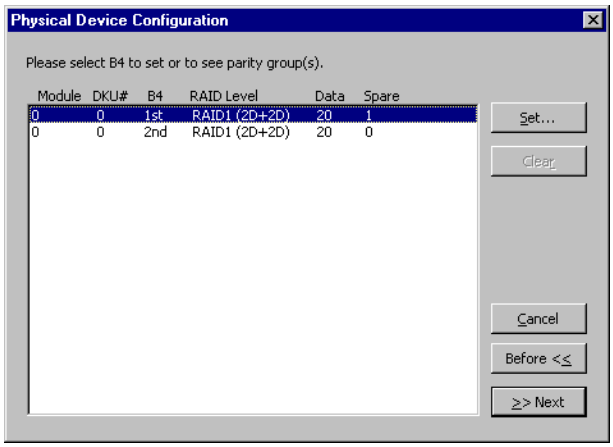


(6)-1 <DKU Kind Define screen>
Set DKU Kind select (CL) [OK].
Go back to Step (6).



Copyright © 2014, Hitachi, Ltd.

(7) <Change Drive Configuration Information>
Define the drive configuration according to the 'Physical Device Configuration' screen. Detailed procedure is shown below.
[Set...]: Defines the parity group or spare disk.
Go to Step (8).
[Clear]: Cancels the setting of the B4.
After setting up all items, select (CL) [>>Next].
Go to Step (9).



Selecting (CL) [Before<<] returns to Step (6).

• Relation between B4 and HDU Location (Refer to LOC02-40 ~ 80 for Location.)

B4	Location	
	DKU	HDU
1st	DKU-00	HDU-000, 001, 002, 003
2nd	DKU-00	HDU-004, 005, 006, 007
3rd	DKU-10	HDU-100, 101, 102, 103
4th	DKU-10	HDU-104, 105, 106, 107
5th	DKU-01	HDU-010, 011, 012, 013
6th	DKU-01	HDU-014, 015, 016, 017
7th	DKU-11	HDU-110, 111, 112, 113
8th	DKU-11	HDU-114, 115, 116, 117
9th	DKU-02	HDU-020, 021, 022, 023
10th	DKU-02	HDU-024, 025, 026, 027
11th	DKU-12	HDU-120, 121, 122, 123
12th	DKU-12	HDU-124, 125, 126, 127

B4	Location	
	DKU	HDU
13th	DKU-03	HDU-030, 031, 032, 033
14th	DKU-03	HDU-034, 035, 036, 037
15th	DKU-13	HDU-130, 131, 132, 133
16th	DKU-13	HDU-134, 135, 136, 137
17th	DKU-04	HDU-040, 041, 042, 043
18th	DKU-04	HDU-044, 045, 046, 047
19th	DKU-14	HDU-140, 141, 142, 143
20th	DKU-14	HDU-144, 145, 146, 147
21st	DKU-05	HDU-050, 051, 052, 053
22nd	DKU-05	HDU-054, 055, 056, 057
23rd	DKU-15	HDU-150, 151, 152, 153
24th	DKU-15	HDU-154, 155, 156, 157

Copyright © 2014, Hitachi, Ltd.

(8) <Define Parity Group>

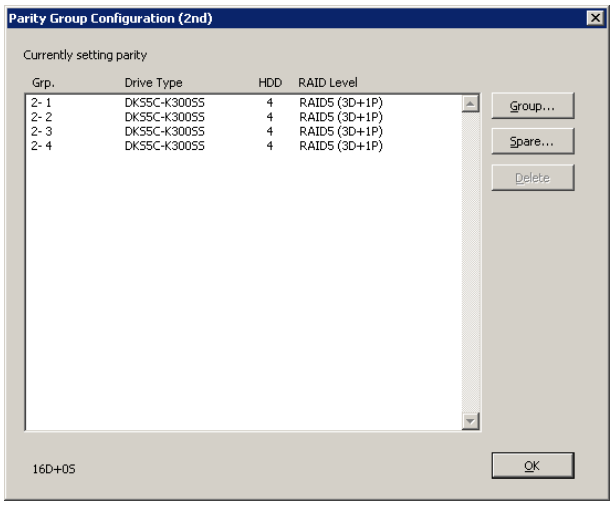
The 'Parity Group Configuration' dialog box is displayed.

[Group...]: Defines the parity group. See Step (8)-1.

[Spare...]: Defines the spare drive. See Step (8)-2.

[Delete]: Deletes the added parity group or spare drive.

Grp*: A parity group where RAID Concatenation is installed.



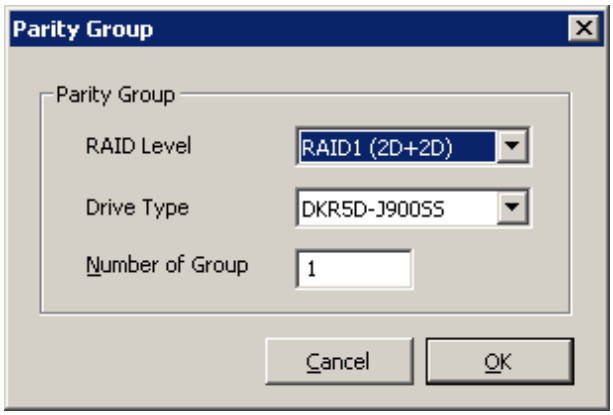
NOTE: If you want to set any Spare Drives in B4, please define the Spare Drives first.

After setting up all items, select (CL) [OK].
Go back to Step (7).

Copyright © 2014, Hitachi, Ltd.

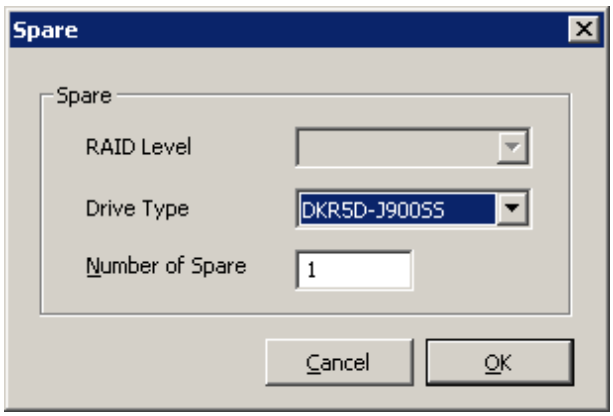
(8)-1

Define the RAID Level, the Drive Type (*1) (*2), and the Number of Group in the ‘Parity Group’ dialog box.
Then select (CL) [OK].
Go back to Step (8).



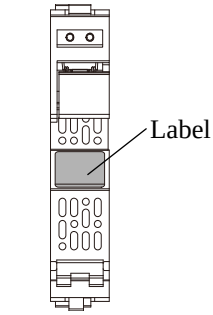
(8)-2

Define the Drive Type (*1) (*2) and the Number of Spare Drives in the ‘Spare’ dialog box.
Then select (CL) [OK].
Go back to Step (8).

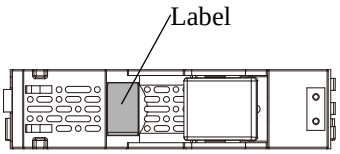


Copyright © 2014, Hitachi, Ltd.

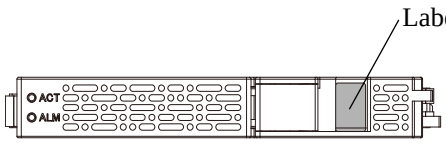
*1: For the Drive Type, see the label on the drive.



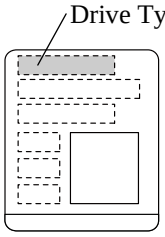
Front View of Drive for SBX



Front View of Drive for UBX



Front View of Drive for FBX



Label

*2: Even if a HDD whose Drive Type is different from the selected one is installed, the HDD can be used when the capacity, rotation speed and interface of the Drive Type are the same. For the recommended setting type name in SVP operation, refer to THEORY03-25-30 and THEORY03-25-40.

Copyright © 2014, Hitachi, Ltd.

(9) <Define Device Emulation>

After setting up all items corresponding (9)-1 to (9)-3 for definition of Device Emulation, select (CL) [>>Next].

Selecting (CL) [Before<<] returns you to the previous screen.

In the case of only spare drive installation, select (CL) [>>Next]. Go to Step (10).

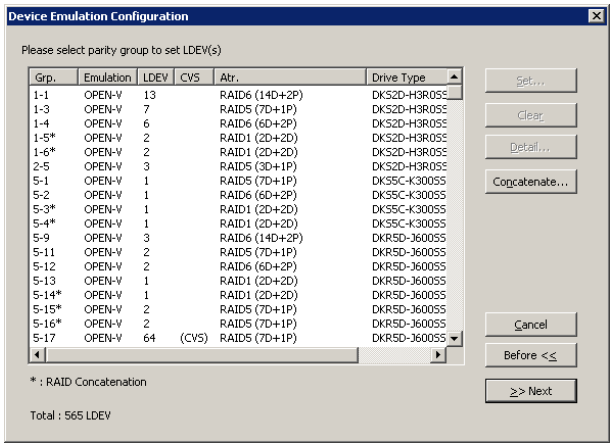
- If defining Device Emulation, go to Step (9)-1.
- If setting RAID concatenation, go to Step (9)-2.
- If defining of Customized Volume Size (CVS), go to Step (9)-3.

(9)-1 <Define Device Emulation>

Select (CL) parity group and select (CL) [Set...]. Go to Step (9)-1-1.

(CVS): A parity group where CVS is installed.

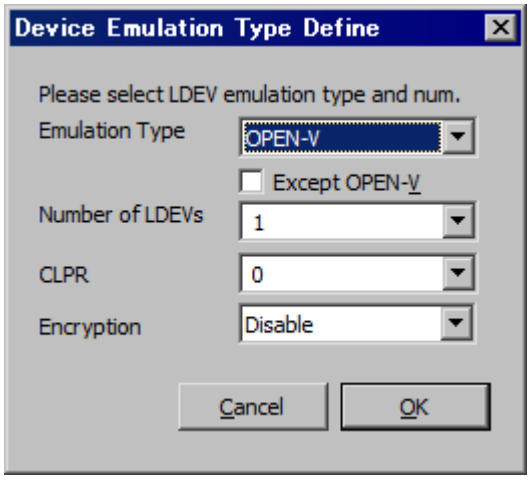
Grp*: A parity group where RAID Concatenation is installed.



(9)-1-1

After setting up all items in the 'Device Emulation Type Define' dialog box, select (CL) [OK]. Go back to Step (9).

Selecting (CL) [Cancel] returns to Step (9)-1 without reflecting the setting items.



NOTE: OPEN-V is a recommended OPEN volume. To set other than OPEN-V, please select "Except OPEN-V".

NOTE: "0" can be set to the value of Number of LDEVs for all the emulation types.
If you don't know the LDEV size you will use, set "0". You can save time by setting "0" because LDEV format will not run.
When you set "0", please make LDEVs later using the CVS function.

NOTE: If 3390-A is selected, a 3390-A volume whose capacity is as large as that of standard capacity of the specified emulation type can be created by specifying (3390-3 size), (3390-9 size), (3390-L size), or (3390-M size) in the "Number of LDEVs". If a parity group consists of drives with 1TB or larger is specified, only (3390-M size) can be selected in the "Number of LDEVs".

Copyright © 2014, Hitachi, Ltd.

(9)-2 <Setting RAID concatenation>

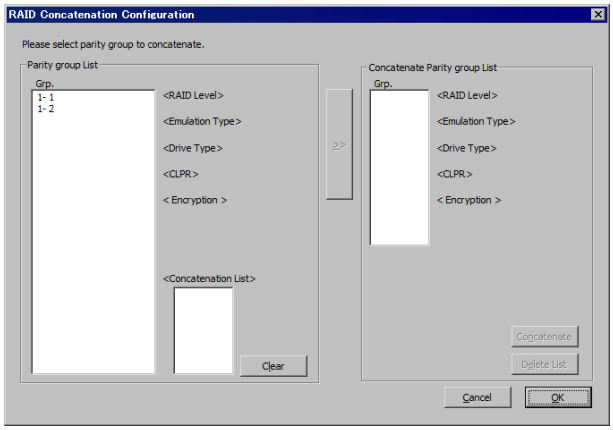
Select (CL) [Concatenate...].

When setting RAID concatenation is not executed, go back to Step (9).

(9)-2-1

Parity groups to which the RAID concatenation can be applied are displayed in the Parity group List.

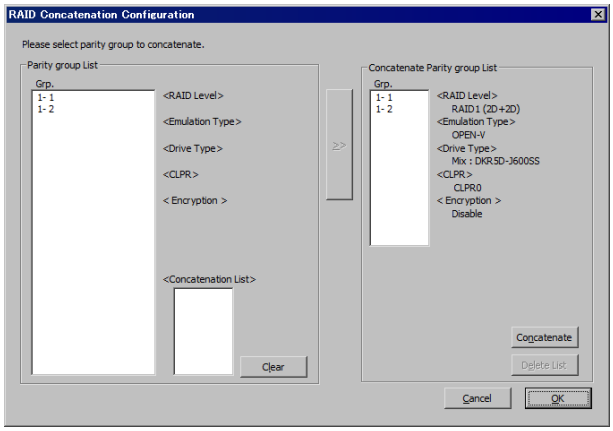
Select (CL) parity groups to which you want to apply the RAID concatenation and press (CL) the [>>] button. Go to Step (9)-2-2.



NOTE: Only the parity groups, which have been added and to which the RAID concatenation can be applied are displayed in the Parity group List.

(9)-2-2

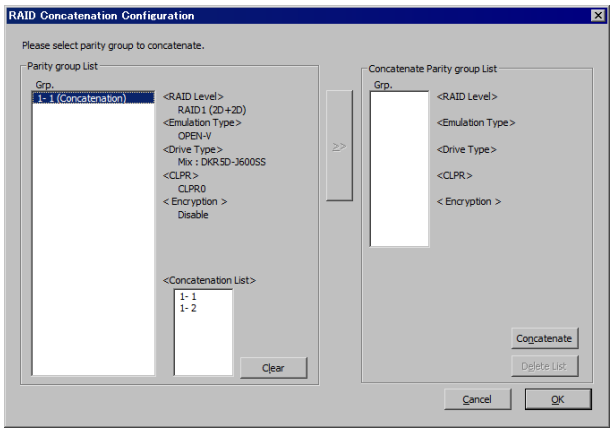
The selected parity groups are registered in the Concatenate Parity group List. Then press (CL) the [Concatenate] button. Go to Step (9)-2-3.



NOTE: The [Concatenate] button cannot be pressed if the concatenation does not meet a condition of the RAID concatenation. Adjust the number of the parity groups in the Concatenate Parity group List.

Copyright © 2014, Hitachi, Ltd.

(9)-2-3



When the RAID concatenation is completed, “(Concatenation)” is displayed in the Parity group List. Selecting the “(Concatenation)” displays the concatenated parity groups in the Concatenation List.
Pressing the [Clear] button cancels the RAID concatenation.

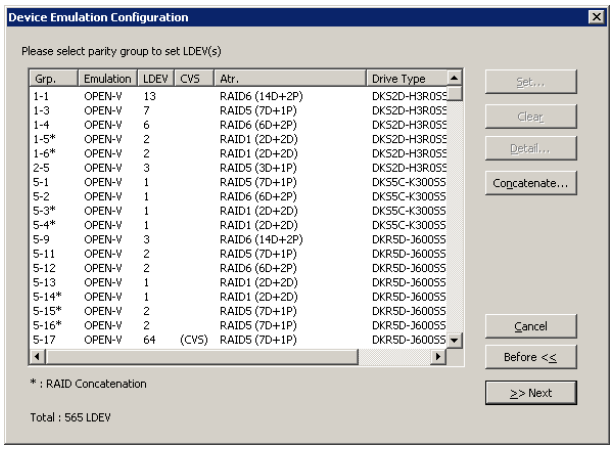
When all the settings of the RAID concatenation are completed, press (CL) the [OK] button. Go back to Step (9).
Pressing (CL) the [Cancel] button returns the routine to Step (9).

Copyright © 2014, Hitachi, Ltd.

(9)-3 <Defining of Customized Volume Size (CVS)>

Select (CL) a parity group for which the LDEV emulation type and the number of LDEVs have been set on the 'Device Emulation Configuration' screen and select (CL) [Detail…].

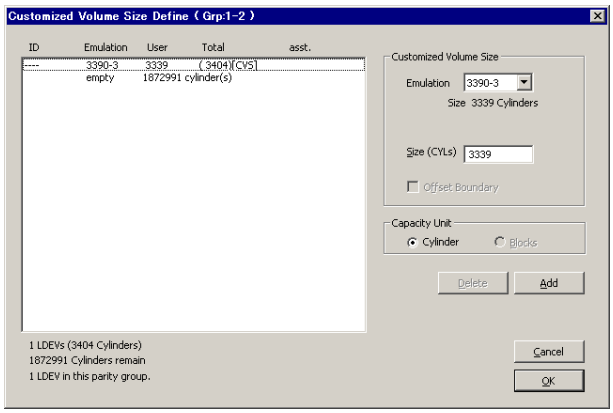
When you do not perform the CVS, go back to Step (9).



Copyright © 2014, Hitachi, Ltd.

(9)-3-1

A volume other than OPEN-V can be defined in the 'Customized Volume Size Define' screen.



- Set of a CVS volume
  Perform ① Delete of the Volume and ② Add of the Volume.

① Delete of the Volume
A volume can be deleted by selecting (CL) the volume from the LDEV list box and selecting (CL) [Delete].

② Add of the Volume
A volume can be added by entering the LDEV emulation type and the user size (Mbyte/Blocks or Cylinder) of the customized volume (CV) and selecting [Add].
(It can be added in the optional space "empty" by selecting (CL) "empty" from the LDEV list box.)
The two or more CVs can be registered when the operation above is performed repeatedly.

The boundary correction existence is specifiable with "Offset Boundary".
(When a volume for mainframe host is selected, it is not possible to select it.)

Adding or deleting operation can be done for any number of times. The last setting is reflected by selecting (CL) [OK].

NOTE: The two or more volumes can be selected and deleted.

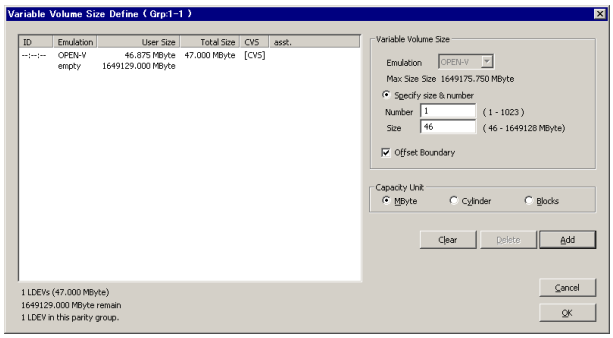
The routine returns to the preceding window by selecting (CL) [Cancel].
The routine returns to the preceding window and the change is reflected by selecting (CL) [OK].

Copyright © 2014, Hitachi, Ltd.

(9)-3-2 <Definition of OPEN-V>

OPEN-V can be defined in the 'Variable Volume Size Define' window.

- Set of a CVS volume
  Perform ① Delete of the Volume and ② Add of the Volume.



① <u>Delete of the Volume</u>

The volume can be deleted by selecting (CL) [Delete] in the state (CL) of selecting (CL) the volume in the LDEV list box. All the volumes in the LDEV list box can be deleted by selecting (CL) [Clear].

② <u>Add of the Volume</u>

It can be added by selecting (CL) Variable Volume Size from the status "select (CL) 'empty'" or "no selection" in the LDEV list box and selecting (CL) [Add].

Adding or deleting operation can be done for any number of times. The last setting is reflected by selecting (CL) [OK].

NOTE: The two or more volumes can be selected and deleted.

- Variable Volume Size
  "Specify size & number": Defines the specified number of the specified user size.
- Offset Boundary : The boundary correction existence is specified.
- Capacity Unit
  "MByte" : Makes data displayed or entered by [MByte].
  "Cylinder" : Makes data displayed or entered by the [Cylinder].
  "Blocks" : Makes data displayed or entered by the [Blocks].
- asst. : When Path/pool-VOL is defined, "+" is displayed.

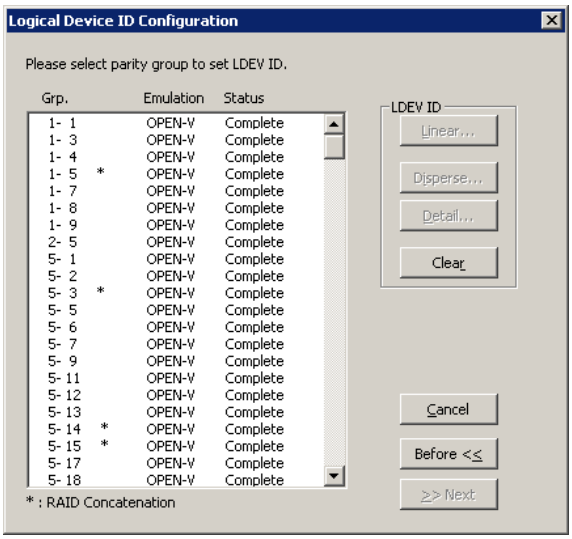
  NOTE: Even if the journal volume is defined, "+" is not displayed.

[Clear] : Deletes all the volumes.
[Delete] : Deletes all the selected volumes.
[Add] : Adds volumes.
[Cancel] : Invalidates the setting, and returns to the preceding window.
[OK] : Confirms the setting, and returns to the preceding window.

Copyright © 2014, Hitachi, Ltd.

(10) <Define LDEV ID>

(10)-1



Definition Screen for LDEV ID.

Select (CL) the parity group to be defined and select (CL) a function from the [LDEV ID] list box.

[Linear...]: LDEV ID is assigned to LDEV in the order of parity groups. See Step (10)-3.

[Disperse...]: LDEV is assigned discretely in the order of parity groups. See Step (10)-3.

[Detail...]: A screen to define LDEV in detail is displayed. See Step (10)-2. (When plural groups are selected (CL), it is invalid.)

[Clear]: Select (CL) [Clear] to delete.

Grp*: The top parity group where RAID Concatenation is installed.

Status: Status of LDEV ID.

① “Complete” : LDEV ID is assigned.

② “-------” : LDEV ID is not assigned.

③ “Error” : Invalid LDEV ID is assigned.

After setting up all items, select (CL) [Detail...] to confirm the items that have been setup, and select (CL) [>>Next]. Go to Step (11).

Copyright © 2014, Hitachi, Ltd.

(10)-2 <Detailed Definition Screen for LDEV ID>

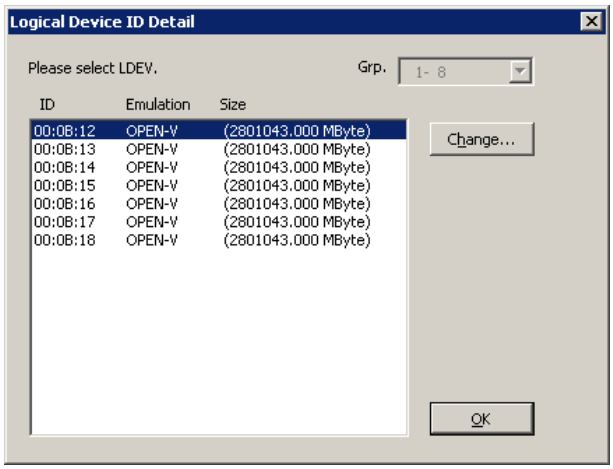
LDEV ID is defined in detail for each LDEV in the parity group.

Select (CL) LDEV from the list box and select (CL) [Change...].

The screen for LDEV ID input is displayed.

After setting, select (CL) [OK]. Go back to Step (10)-1.

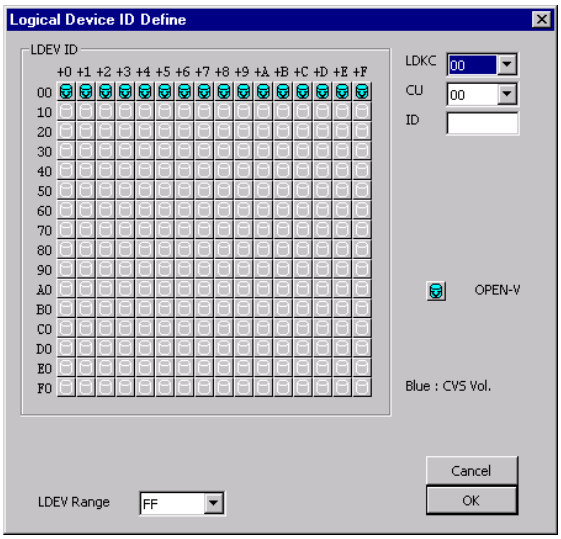
• '-----' is displayed in the CU area and the ID area for the LDEV to which LDEV ID is not assigned.



NOTE: In the case of a RAID Concatenation Group, LDEV of the parity group selected by the "Grp List" is displayed.

Copyright © 2014, Hitachi, Ltd.

(10)-3 <Input LDEV ID>

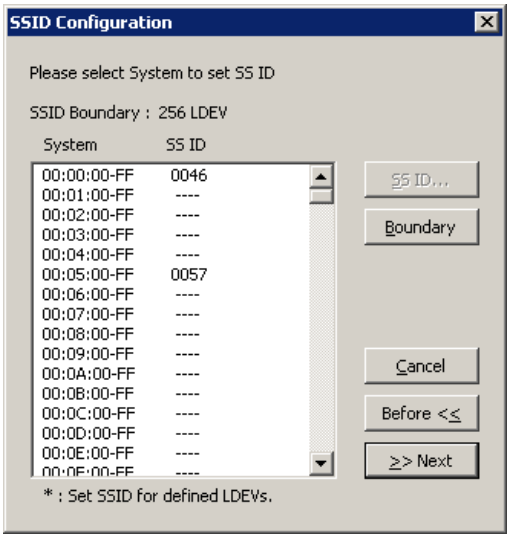


Select LDKC in the LDKC pull down menu.
Select CU in the CU pull down menu.
The status of usage of ID in the CU is displayed in the LDEV ID panel.
White disk of panel: not used
Patterned disk of panel: using
Input LDEV ID you want to set or the head LDEV ID in the ID Edit box.
After setting, select (CL) [OK].
Go back to Step (10)-1.

NOTE: The definition range (terminal) is decided with LDEV Range.
For example, if LEDV Range is defined as 7F, LDEV ID is assigned only within the range of 00 to 7F.

---

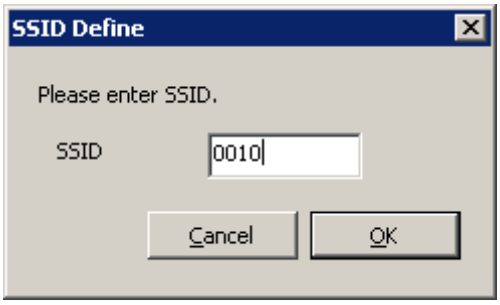
(11) <Define SSID>



To define SSID, select (CL) the item from the list box and select (CL) [SS ID...].
Go to Step (11)-1.

After setting, select (CL) [>>Next].
Go to Step (12).

(11)-1



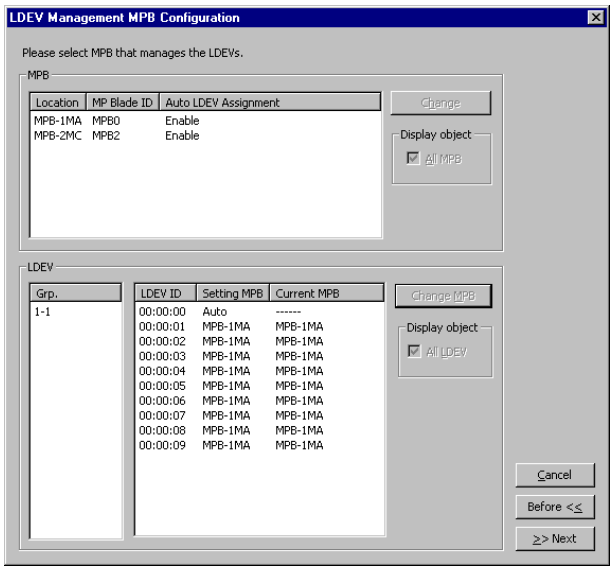
Define SSID and select (CL) [OK].
Go back to Step (11).

Copyright © 2014, Hitachi, Ltd.

(12) <Define LDEV Management MPB>

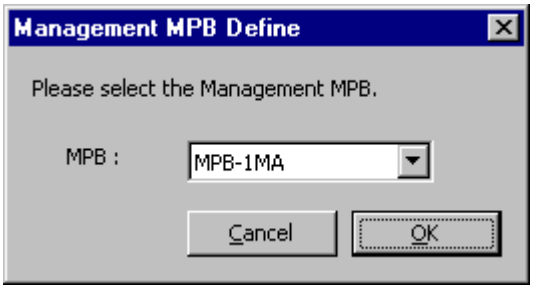
In the 'LDEV Management MPB Configuration' screen, select (CL) [Change MPB].
Go to Step (12)-1.

After the setting is completed, select (CL) [>>Next].
Go to Step (13).



(12)-1

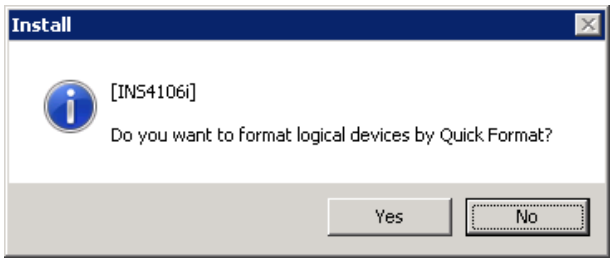
Define Management MPB and select (CL) [OK].
Go back to Step (12).



Copyright © 2014, Hitachi, Ltd.

(13) <Selection of format>

Select (CL) [Yes] in response to "Do you want to format logical devices by Quick Format?" when you execute Quick Format. When [No] is selected (CL), usual LDEV Format is executed.



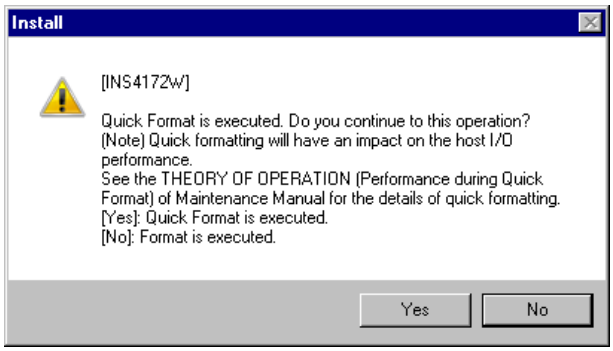
NOTE: Next, Quick Format cannot be executed in the shown volume.

- external volume
- Volumes whose access attribute is not Read/Write
- Pool volumes (pool-VOLs)
- Journal volumes

When [Yes] is selected: Go to Step (13)-1.
When [No] is selected: Go to Step (14).

(13)-1 <Execution of Quick Format>

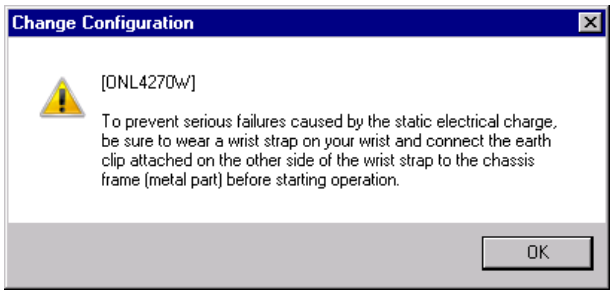
For the message "Quick Format is executed. Do you continue to this operation?
(Note) Quick formatting will have an impact on the host I/O performance.
See the THEORY OF OPERATION (Performance during Quick Format) of Maintenance Manual for the details of quick formatting.
[Yes]: Quick Format is executed.
[No]: Format is executed.", select (CL) [Yes] when Quick Format is to be executed. Select (CL) [No] when normal LDEV format is to be executed.



Copyright © 2014, Hitachi, Ltd.

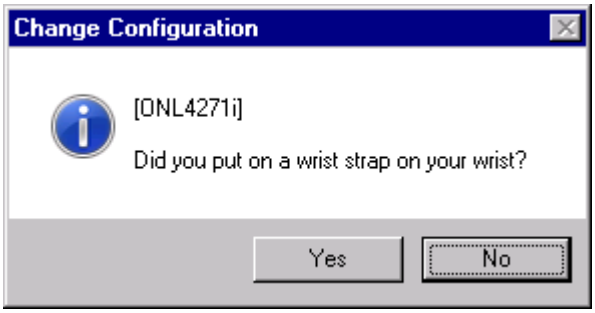
(14) <Wear a wrist strap>

Select (CL) [OK] in response to “To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.”.



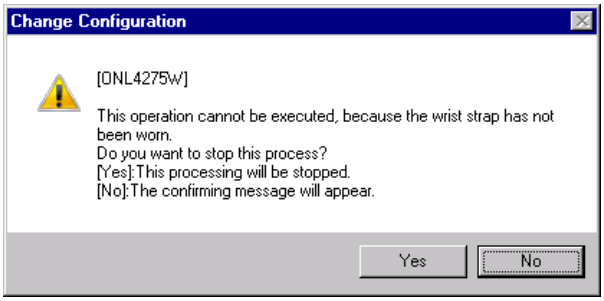
(14)-1<Confirm wearing wrist strap>

In response to a message, “Did you put on a wrist strap on your wrist?”.
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (14)-2.



(14)-2

In response to a message, “This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear.”
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-11C-180.
When [No] is selected (CL), returned to Step (14).

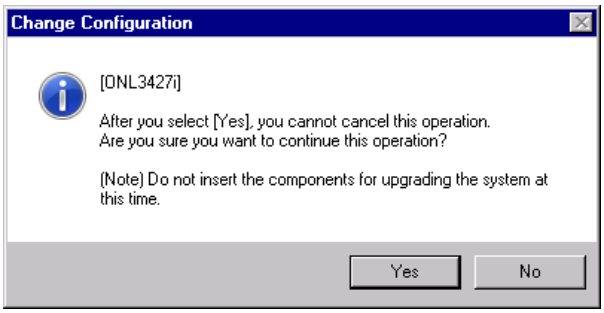


Copyright © 2014, Hitachi, Ltd.

(15) <Start installation>

Select (CL) [Yes] in response to “After you select [Yes], you cannot cancel this operation. Are you sure you want to continue this operation? (Note) Do not insert the components for upgrading the system at this time.”.

When [No] is selected (CL), the routine is returned to Step (2) on page INST03-11C-180.



---

(16) <Download microprogram>

Microprograms are automatically downloaded for each processor.

---

(17) <Install DKA>

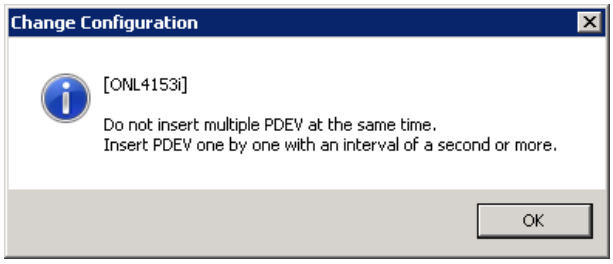
“Upgrading of the DKA...”

---

(18) <Notes when insert of PDEV>

“Do not insert multiple PDEV at the same time. Insert PDEV one by one with an interval of a second or more.” is displayed.

Select (CL) [OK].



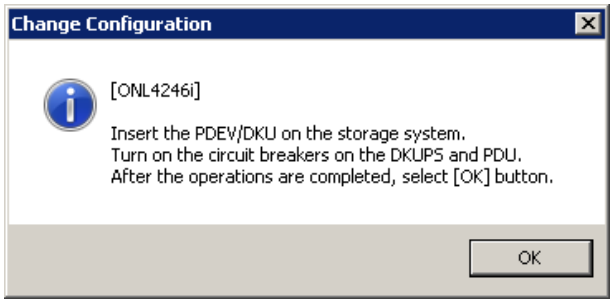
---

(19) <Check that hardware components are installed>

At this point refrain from pressing the [OK] button.

“Insert the PDEV/DKU on the storage system. Turn on the circuit breakers on the DKUPS and PDU. After the operations are completed, select [OK] button.” is displayed.

NOTE: When the breaker of PDU is OFF, please turn it on.



Copyright © 2014, Hitachi, Ltd.

3.11.4.4 Installation Procedure of drive

> **NOTICE:** If No Charging of FMD (SIM = 50EXYY) occurs in installation of a FMD, the FMD ACTIVE LED will change to low-speed blinking. In this case, it takes 90 minutes at most for the FMD ACTIVE LED to go out and for the battery in the FMD to be fully charged.

1. Confirmation of position to install drive
   (i) RAID5 (3D+1P) / RAID1 (2D+2D), UBX (DKU for 3.5 inch Drive)
   Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-1.

Table 3.11.4.4-1 Relation between drives installation order and RAID group number (3D+1P/2D+2D, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	5-1	049	9-1	073	13-1	097	17-1	121	21-1
002	2-1	026	6-1	050	10-1	074	14-1	098	18-1	122	22-1
003	1-2	027	5-2	051	9-2	075	13-2	099	17-2	123	21-2
004	2-2	028	6-2	052	10-2	076	14-2	100	18-2	124	22-2
005	1-3	029	5-3	053	9-3	077	13-3	101	17-3	125	21-3
006	2-3	030	6-3	054	10-3	078	14-3	102	18-3	126	22-3
007	1-4	031	5-4	055	9-4	079	13-4	103	17-4	127	21-4
008	2-4	032	6-4	056	10-4	080	14-4	104	18-4	128	22-4
009	1-5	033	5-5	057	9-5	081	13-5	105	17-5	129	21-5
010	2-5	034	6-5	058	10-5	082	14-5	106	18-5	130	22-5
011	1-6	035	5-6	059	9-6	083	13-6	107	17-6	131	21-6
012	2-6	036	6-6	060	10-6	084	14-6	108	18-6	132	22-6
013	1-7	037	5-7	061	9-7	085	13-7	109	17-7	133	21-7
014	2-7	038	6-7	062	10-7	086	14-7	110	18-7	134	22-7
015	1-8	039	5-8	063	9-8	087	13-8	111	17-8	135	21-8
016	2-8	040	6-8	064	10-8	088	14-8	112	18-8	136	22-8
017	1-9	041	5-9	065	9-9	089	13-9	113	17-9	137	21-9
018	2-9	042	6-9	066	10-9	090	14-9	114	18-9	138	22-9
019	1-10	043	5-10	067	9-10	091	13-10	115	17-10	139	21-10
020	2-10	044	6-10	068	10-10	092	14-10	116	18-10	140	22-10
021	1-11	045	5-11	069	9-11	093	13-11	117	17-11	141	21-11
022	2-11	046	6-11	070	10-11	094	14-11	118	18-11	142	22-11
023	1-12 Spare*1	047	5-12 Spare*1	071	9-12 Spare*1	095	13-12 Spare*1	119	17-12 Spare*1	143	21-12 Spare*1
024	2-12 Spare*1	048	6-12 Spare*1	072	10-12 Spare*1	096	14-12 Spare*1	120	18-12 Spare*1	144	22-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-1 Relation between drives installation order and RAID group number (3D+1P/2D+2D, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	3-1	169	7-1	193	11-1	217	15-1	241	19-1	265	23-1
146	4-1	170	8-1	194	12-1	218	16-1	242	20-1	266	24-1
147	3-2	171	7-2	195	11-2	219	15-2	243	19-2	267	23-2
148	4-2	172	8-2	196	12-2	220	16-2	244	20-2	268	24-2
149	3-3	173	7-3	197	11-3	221	15-3	245	19-3	269	23-3
150	4-3	174	8-3	198	12-3	222	16-3	246	20-3	270	24-3
151	3-4	175	7-4	199	11-4	223	15-4	247	19-4	271	23-4
152	4-4	176	8-4	200	12-4	224	16-4	248	20-4	272	24-4
153	3-5	177	7-5	201	11-5	225	15-5	249	19-5	273	23-5
154	4-5	178	8-5	202	12-5	226	16-5	250	20-5	274	24-5
155	3-6	179	7-6	203	11-6	227	15-6	251	19-6	275	23-6
156	4-6	180	8-6	204	12-6	228	16-6	252	20-6	276	24-6
157	3-7	181	7-7	205	11-7	229	15-7	253	19-7	277	23-7
158	4-7	182	8-7	206	12-7	230	16-7	254	20-7	278	24-7
159	3-8	183	7-8	207	11-8	231	15-8	255	19-8	279	23-8
160	4-8	184	8-8	208	12-8	232	16-8	256	20-8	280	24-8
161	3-9	185	7-9	209	11-9	233	15-9	257	19-9	281	23-9
162	4-9	186	8-9	210	12-9	234	16-9	258	20-9	282	24-9
163	3-10	187	7-10	211	11-10	235	15-10	259	19-10	283	23-10
164	4-10	188	8-10	212	12-10	236	16-10	260	20-10	284	24-10
165	3-11	189	7-11	213	11-11	237	15-11	261	19-11	285	23-11
166	4-11	190	8-11	214	12-11	238	16-11	262	20-11	286	24-11
167	3-12 Spare*1	191	7-12 Spare*1	215	11-12 Spare*1	239	15-12 Spare*1	263	19-12 Spare*1	287	23-12 Spare*1
168	4-12 Spare*1	192	8-12 Spare*1	216	12-12 Spare*1	240	16-12 Spare*1	264	20-12 Spare*1	288	24-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 4	LFF Disk Drive	
2	DKC-F810I-400M5M × 4	LFF SSD Drive	

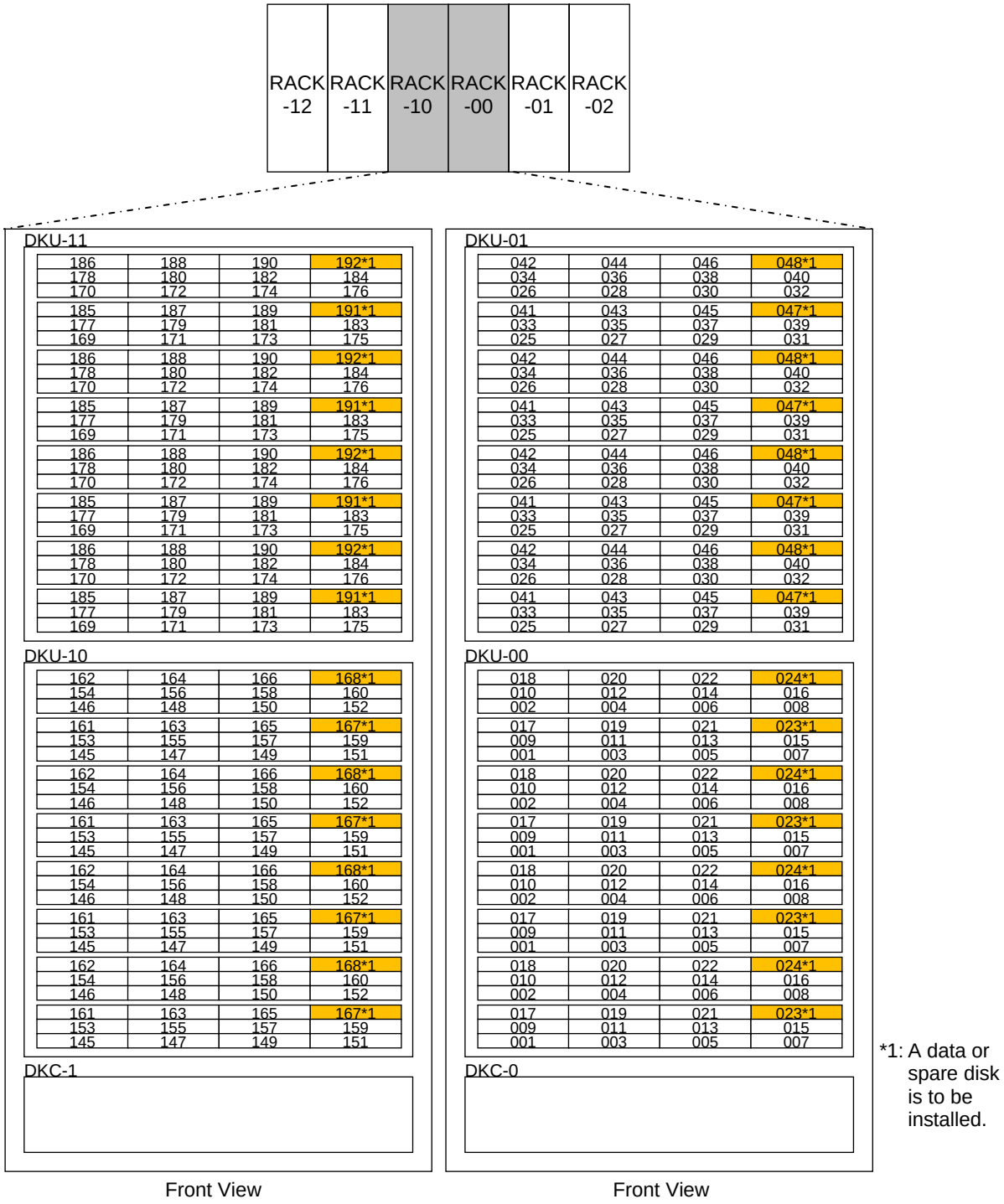


Fig. 3.11.4.4-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-1.

Copyright © 2014, Hitachi, Ltd.

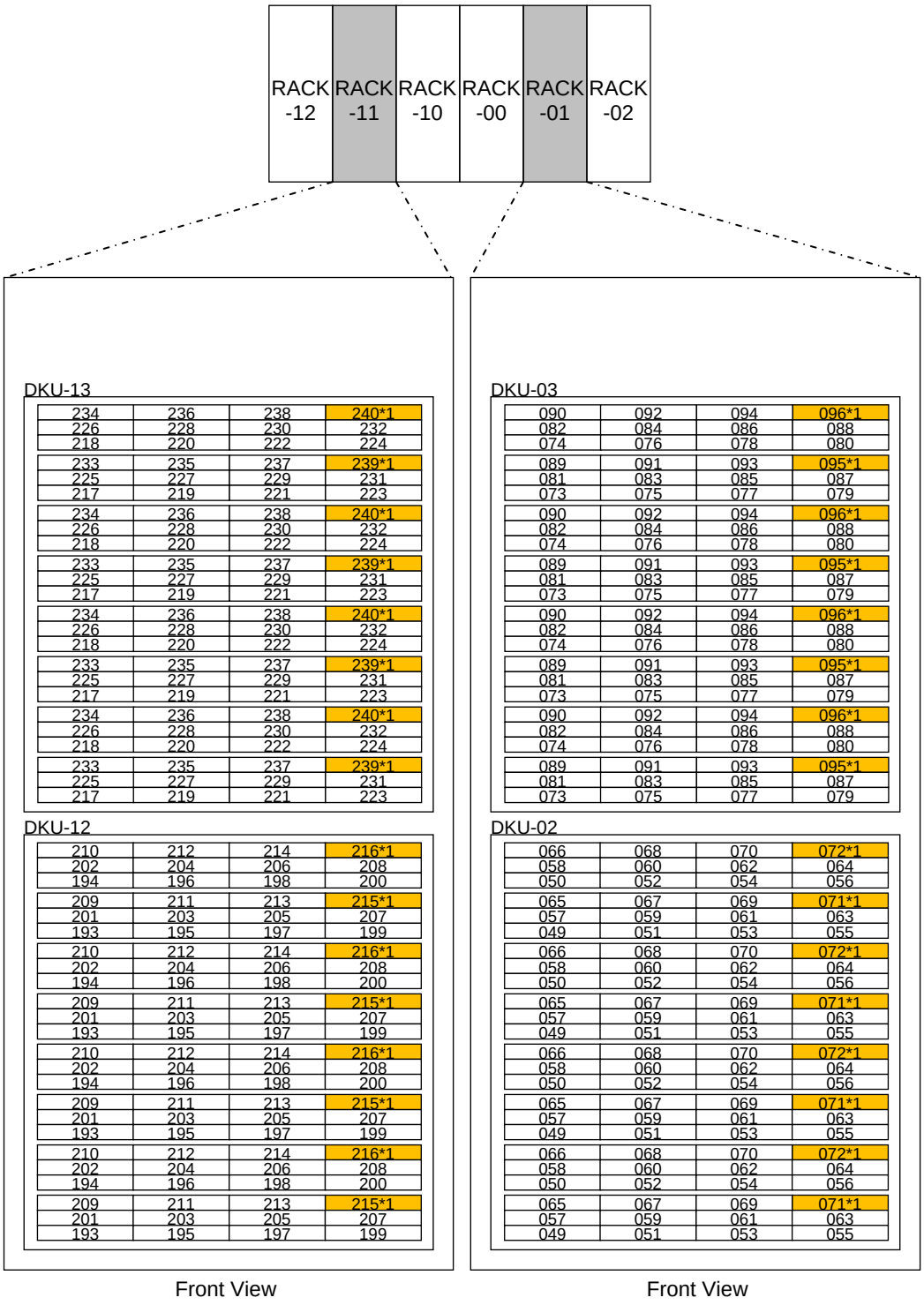


Fig. 3.11.4.4-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-1.

Copyright © 2014, Hitachi, Ltd.

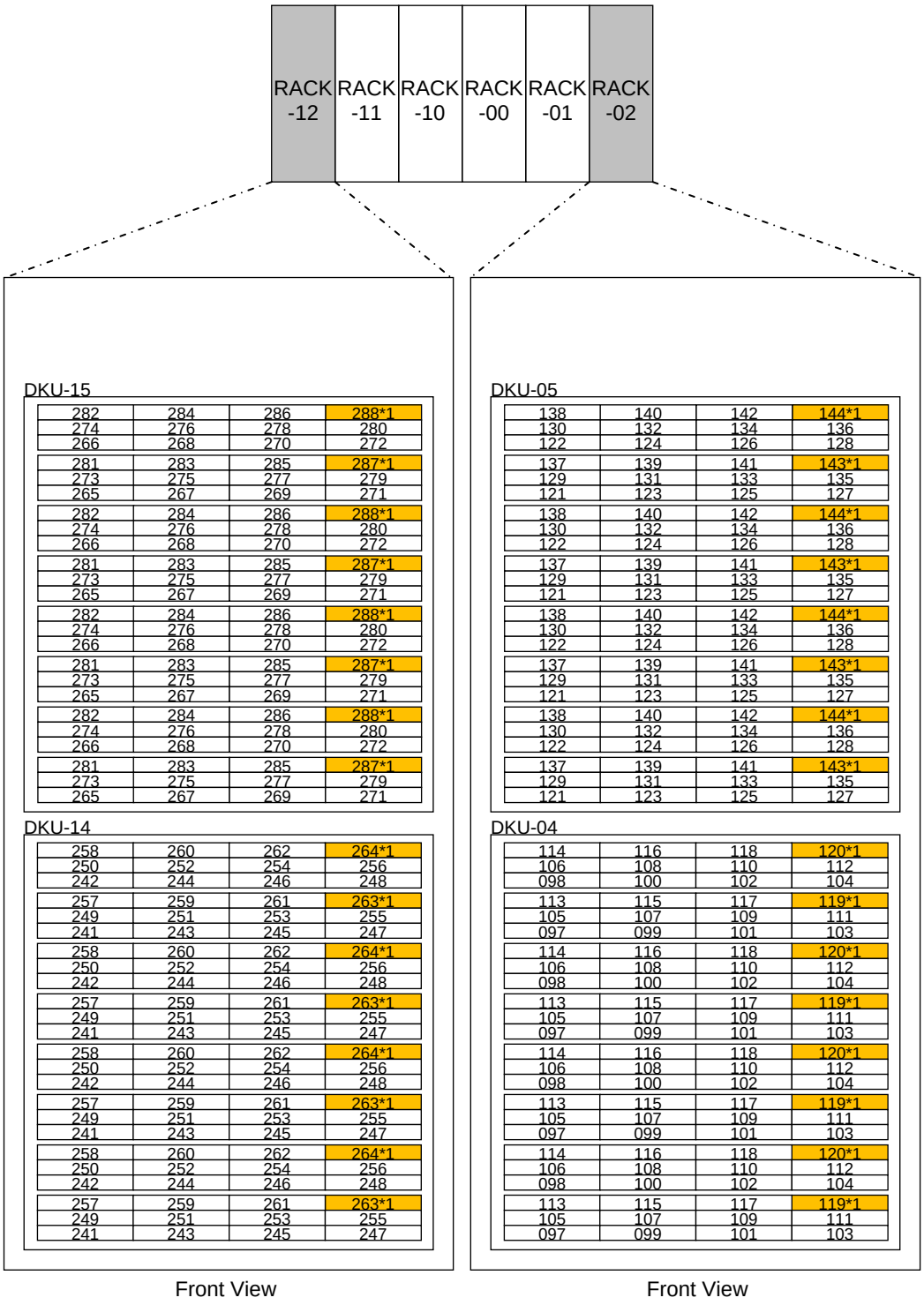


Fig. 3.11.4.4-1 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-1.

Copyright © 2014, Hitachi, Ltd.

(ii) RAID5 (3D+1P) / RAID1 (2D+2D), SBX (DKU for 2.5 inch Drive)
Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-2.

Table 3.11.4.4-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (1/4)

DKU-00				DKU-01				DKU-02			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	1-13	049	5-1	073	5-13	097	9-1	121	9-13
002	2-1	026	2-13	050	6-1	074	6-13	098	10-1	122	10-13
003	1-2	027	1-14	051	5-2	075	5-14	099	9-2	123	9-14
004	2-2	028	2-14	052	6-2	076	6-14	100	10-2	124	10-14
005	1-3	029	1-15	053	5-3	077	5-15	101	9-3	125	9-15
006	2-3	030	2-15	054	6-3	078	6-15	102	10-3	126	10-15
007	1-4	031	1-16	055	5-4	079	5-16	103	9-4	127	9-16
008	2-4	032	2-16	056	6-4	080	6-16	104	10-4	128	10-16
009	1-5	033	1-17	057	5-5	081	5-17	105	9-5	129	9-17
010	2-5	034	2-17	058	6-5	082	6-17	106	10-5	130	10-17
011	1-6	035	1-18	059	5-6	083	5-18	107	9-6	131	9-18
012	2-6	036	2-18	060	6-6	084	6-18	108	10-6	132	10-18
013	1-7	037	1-19	061	5-7	085	5-19	109	9-7	133	9-19
014	2-7	038	2-19	062	6-7	086	6-19	110	10-7	134	10-19
015	1-8	039	1-20	063	5-8	087	5-20	111	9-8	135	9-20
016	2-8	040	2-20	064	6-8	088	6-20	112	10-8	136	10-20
017	1-9	041	1-21	065	5-9	089	5-21	113	9-9	137	9-21
018	2-9	042	2-21	066	6-9	090	6-21	114	10-9	138	10-21
019	1-10	043	1-22	067	5-10	091	5-22	115	9-10	139	9-22
020	2-10	044	2-22	068	6-10	092	6-22	116	10-10	140	10-22
021	1-11	045	1-23	069	5-11	093	5-23	117	9-11	141	9-23
022	2-11	046	2-23	070	6-11	094	6-23	118	10-11	142	10-23
023	1-12	047	1-24 Spare*1	071	5-12	095	5-24 Spare*1	119	9-12	143	9-24 Spare*1
024	2-12	048	2-24 Spare*1	072	6-12	096	6-24 Spare*1	120	10-12	144	10-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (2/4)

DKU-03				DKU-04				DKU-05			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	13-1	169	13-13	193	17-1	217	17-13	241	21-1	265	21-13
146	14-1	170	14-13	194	18-1	218	18-13	242	22-1	266	22-13
147	13-2	171	13-14	195	17-2	219	17-14	243	21-2	267	21-14
148	14-2	172	14-14	196	18-2	220	18-14	244	22-2	268	22-14
149	13-3	173	13-15	197	17-3	221	17-15	245	21-3	269	21-15
150	14-3	174	14-15	198	18-3	222	18-15	246	22-3	270	22-15
151	13-4	175	13-16	199	17-4	223	17-16	247	21-4	271	21-16
152	14-4	176	14-16	200	18-4	224	18-16	248	22-4	272	22-16
153	13-5	177	13-17	201	17-5	225	17-17	249	21-5	273	21-17
154	14-5	178	14-17	202	18-5	226	18-17	250	22-5	274	22-17
155	13-6	179	13-18	203	17-6	227	17-18	251	21-6	275	21-18
156	14-6	180	14-18	204	18-6	228	18-18	252	22-6	276	22-18
157	13-7	181	13-19	205	17-7	229	17-19	253	21-7	277	21-19
158	14-7	182	14-19	206	18-7	230	18-19	254	22-7	278	22-19
159	13-8	183	13-20	207	17-8	231	17-20	255	21-8	279	21-20
160	14-8	184	14-20	208	18-8	232	18-20	256	22-8	280	22-20
161	13-9	185	13-21	209	17-9	233	17-21	257	21-9	281	21-21
162	14-9	186	14-21	210	18-9	234	18-21	258	22-9	282	22-21
163	13-10	187	13-22	211	17-10	235	17-22	259	21-10	283	21-22
164	14-10	188	14-22	212	18-10	236	18-22	260	22-10	284	22-22
165	13-11	189	13-23	213	17-11	237	17-23	261	21-11	285	21-23
166	14-11	190	14-23	214	18-11	238	18-23	262	22-11	286	22-23
167	13-12	191	13-24 Spare*1	215	17-12	239	17-24 Spare*1	263	21-12	287	21-24 Spare*1
168	14-12	192	14-24 Spare*1	216	18-12	240	18-24 Spare*1	264	22-12	288	22-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (3/4)

DKU-10				DKU-11				DKU-12			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
289	3-1	313	3-13	337	7-1	361	7-13	385	11-1	409	11-13
290	4-1	314	4-13	338	8-1	362	8-13	386	12-1	410	12-13
291	3-2	315	3-14	339	7-2	363	7-14	387	11-2	411	11-14
292	4-2	316	4-14	340	8-2	364	8-14	388	12-2	412	12-14
293	3-3	317	3-15	341	7-3	365	7-15	389	11-3	413	11-15
294	4-3	318	4-15	342	8-3	366	8-15	390	12-3	414	12-15
295	3-4	319	3-16	343	7-4	367	7-16	391	11-4	415	11-16
296	4-4	320	4-16	344	8-4	368	8-16	392	12-4	416	12-16
297	3-5	321	3-17	345	7-5	369	7-17	393	11-5	417	11-17
298	4-5	322	4-17	346	8-5	370	8-17	394	12-5	418	12-17
299	3-6	323	3-18	347	7-6	371	7-18	395	11-6	419	11-18
300	4-6	324	4-18	348	8-6	372	8-18	396	12-6	420	12-18
301	3-7	325	3-19	349	7-7	373	7-19	397	11-7	421	11-19
302	4-7	326	4-19	350	8-7	374	8-19	398	12-7	422	12-19
303	3-8	327	3-20	351	7-8	375	7-20	399	11-8	423	11-20
304	4-8	328	4-20	352	8-8	376	8-20	400	12-8	424	12-20
305	3-9	329	3-21	353	7-9	377	7-21	401	11-9	425	11-21
306	4-9	330	4-21	354	8-9	378	8-21	402	12-9	426	12-21
307	3-10	331	3-22	355	7-10	379	7-22	403	11-10	427	11-22
308	4-10	332	4-22	356	8-10	380	8-22	404	12-10	428	12-22
309	3-11	333	3-23	357	7-11	381	7-23	405	11-11	429	11-23
310	4-11	334	4-23	358	8-11	382	8-23	406	12-11	430	12-23
311	3-12	335	3-24 Spare*1	359	7-12	383	7-24 Spare*1	407	11-12	431	11-24 Spare*1
312	4-12	336	4-24 Spare*1	360	8-12	384	8-24 Spare*1	408	12-12	432	12-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-2 Relation between drives installation order and RAID group number (3D+1P/2D+2D, SBX) (4/4)

DKU-13				DKU-14				DKU-15			
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
433	15-1	457	15-13	481	19-1	505	19-13	529	23-1	553	23-13
434	16-1	458	16-13	482	20-1	506	20-13	530	24-1	554	24-13
435	15-2	459	15-14	483	19-2	507	19-14	531	23-2	555	23-14
436	16-2	460	16-14	484	20-2	508	20-14	532	24-2	556	24-14
437	15-3	461	15-15	485	19-3	509	19-15	533	23-3	557	23-15
438	16-3	462	16-15	486	20-3	510	20-15	534	24-3	558	24-15
439	15-4	463	15-16	487	19-4	511	19-16	535	23-4	559	23-16
440	16-4	464	16-16	488	20-4	512	20-16	536	24-4	560	24-16
441	15-5	465	15-17	489	19-5	513	19-17	537	23-5	561	23-17
442	16-5	466	16-17	490	20-5	514	20-17	538	24-5	562	24-17
443	15-6	467	15-18	491	19-6	515	19-18	539	23-6	563	23-18
444	16-6	468	16-18	492	20-6	516	20-18	540	24-6	564	24-18
445	15-7	469	15-19	493	19-7	517	19-19	541	23-7	565	23-19
446	16-7	470	16-19	494	20-7	518	20-19	542	24-7	566	24-19
447	15-8	471	15-20	495	19-8	519	19-20	543	23-8	567	23-20
448	16-8	472	16-20	496	20-8	520	20-20	544	24-8	568	24-20
449	15-9	473	15-21	497	19-9	521	19-21	545	23-9	569	23-21
450	16-9	474	16-21	498	20-9	522	20-21	546	24-9	570	24-21
451	15-10	475	15-22	499	19-10	523	19-22	547	23-10	571	23-22
452	16-10	476	16-22	500	20-10	524	20-22	548	24-10	572	24-22
453	15-11	477	15-23	501	19-11	525	19-23	549	23-11	573	23-23
454	16-11	478	16-23	502	20-11	526	20-23	550	24-11	574	24-23
455	15-12	479	15-24 Spare*1	503	19-12	527	19-24 Spare*1	551	23-12	575	23-24 Spare*1
456	16-12	480	16-24 Spare*1	504	20-12	528	20-24 Spare*1	552	24-12	576	24-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 4	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 4	SFF SSD Drive	

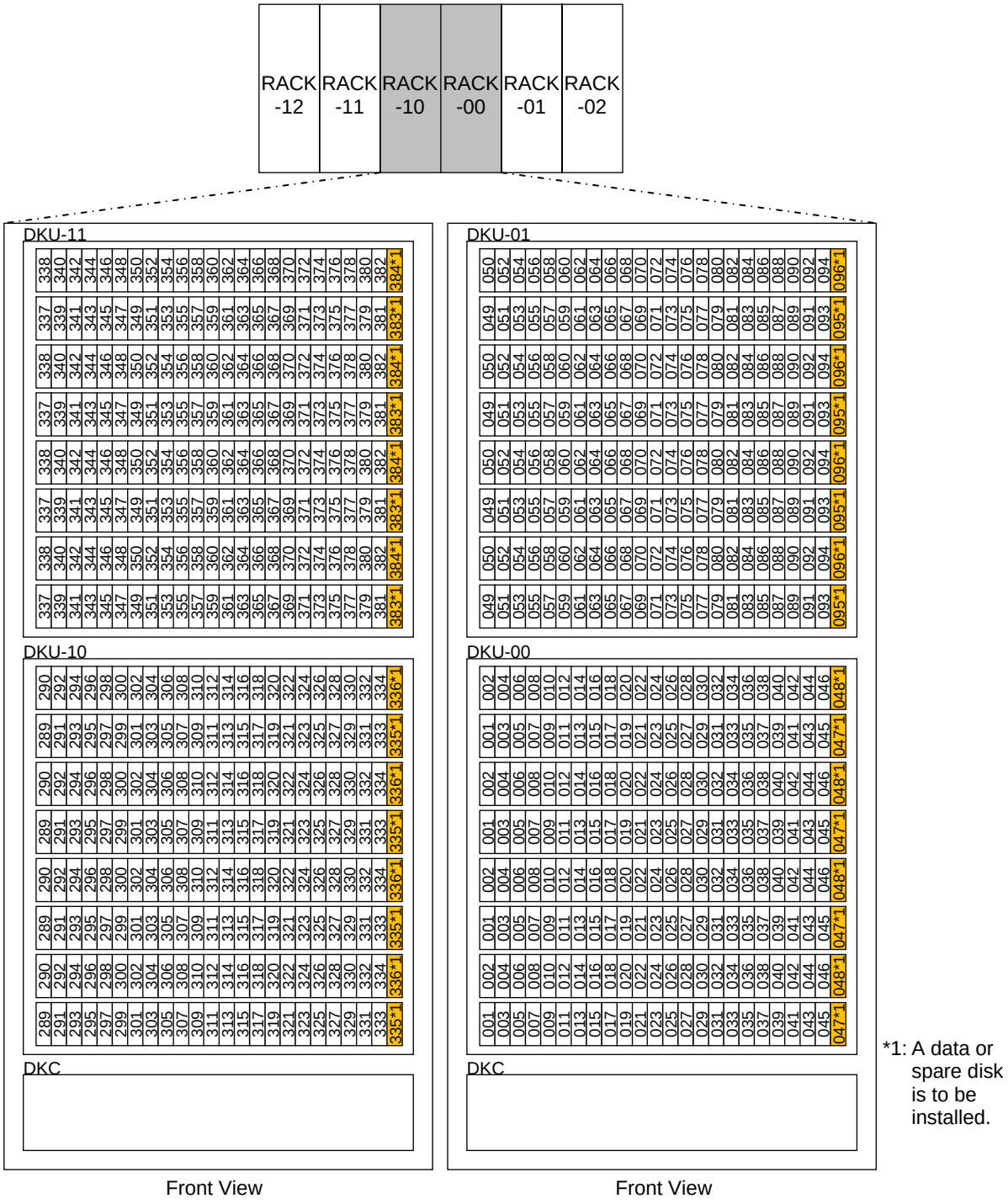


Fig. 3.11.4.4-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-2.

Copyright © 2014, Hitachi, Ltd.

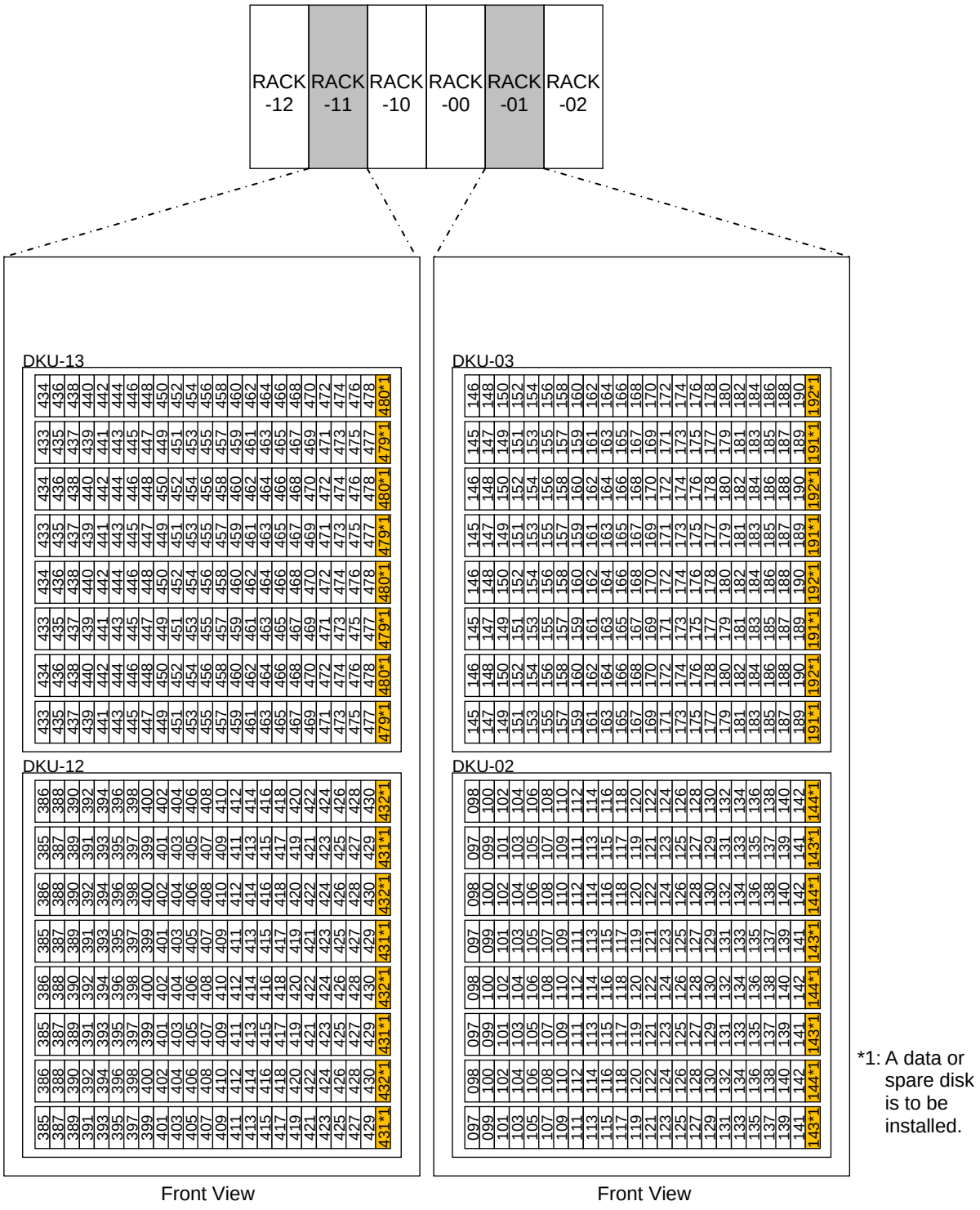


Fig. 3.11.4.4-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-2.

Copyright © 2014, Hitachi, Ltd.

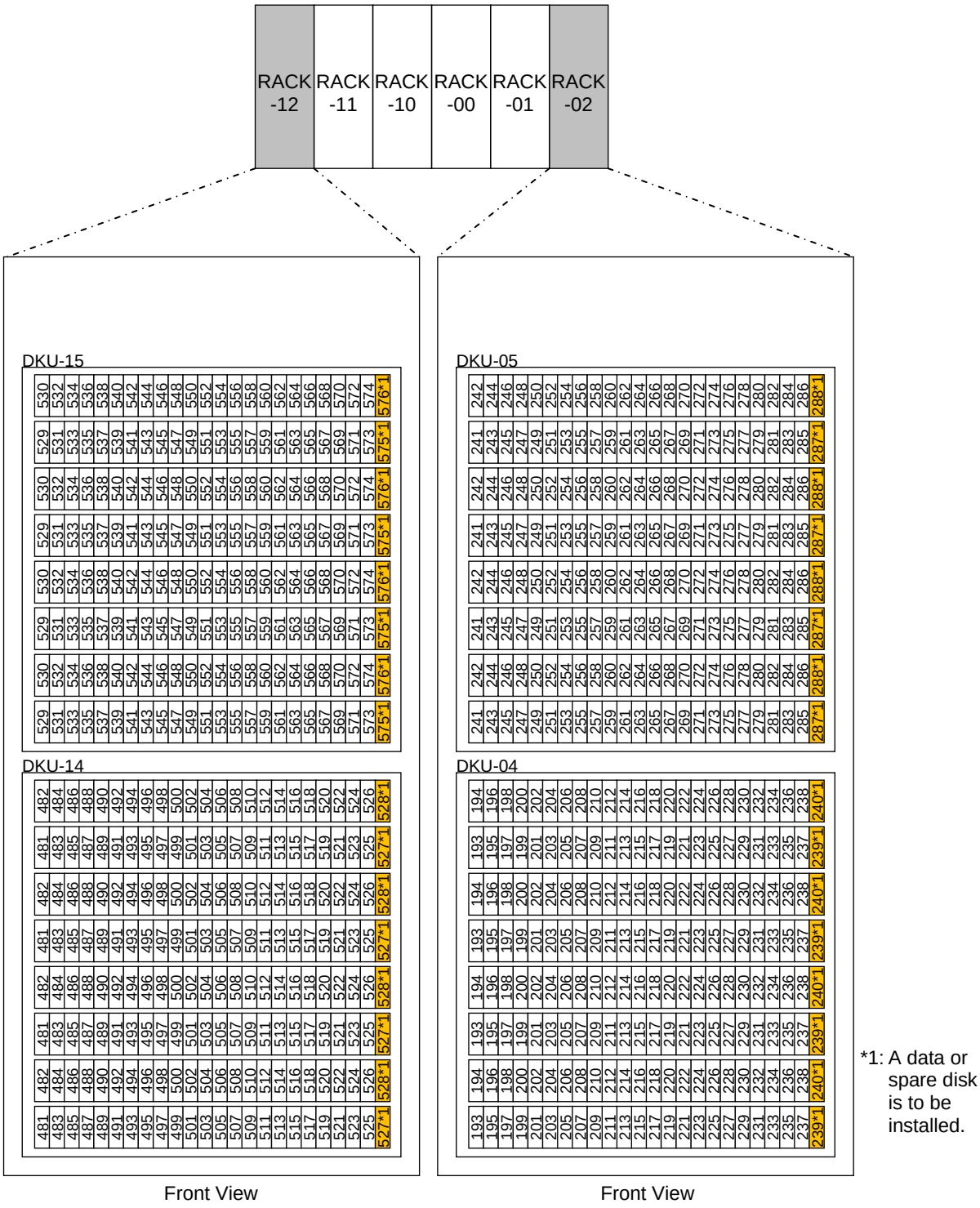


Fig. 3.11.4.4-2 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-2.

Copyright © 2014, Hitachi, Ltd.

(iii) RAID5 (3D+1P) / RAID1 (2D+2D), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-3.

Table 3.11.4.4-3 Relation between drives installation order and RAID group number (3D+1P/2D+2D, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	2-1	014	6-1	026	10-1	038	14-1	050	18-1	062	22-1
003	1-2	015	5-2	027	9-2	039	13-2	051	17-2	063	21-2
004	2-2	016	6-2	028	10-2	040	14-2	052	18-2	064	22-2
005	1-3	017	5-3	029	9-3	041	13-3	053	17-3	065	21-3
006	2-3	018	6-3	030	10-3	042	14-3	054	18-3	066	22-3
007	1-4	019	5-4	031	9-4	043	13-4	055	17-4	067	21-4
008	2-4	020	6-4	032	10-4	044	14-4	056	18-4	068	22-4
009	1-5	021	5-5	033	9-5	045	13-5	057	17-5	069	21-5
010	2-5	022	6-5	034	10-5	046	14-5	058	18-5	070	22-5
011	1-6 Spare*1	023	5-6 Spare*1	035	9-6 Spare*1	047	13-6 Spare*1	059	17-6 Spare*1	071	21-6 Spare*1
012	2-6 Spare*1	024	6-6 Spare*1	036	10-6 Spare*1	048	14-6 Spare*1	060	18-6 Spare*1	072	22-6 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-3 Relation between drives installation order and RAID group number (3D+1P/2D+2D, FBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	4-1	086	8-1	098	12-1	110	16-1	122	20-1	134	24-1
075	3-2	087	7-2	099	11-2	111	15-2	123	19-2	135	23-2
076	4-2	088	8-2	100	12-2	112	16-2	124	20-2	136	24-2
077	3-3	089	7-3	101	11-3	113	15-3	125	19-3	137	23-3
078	4-3	090	8-3	102	12-3	114	16-3	126	20-3	138	24-3
079	3-4	091	7-4	103	11-4	115	15-4	127	19-4	139	23-4
080	4-4	092	8-4	104	12-4	116	16-4	128	20-4	140	24-4
081	3-5	093	7-5	105	11-5	117	15-5	129	19-5	141	23-5
082	4-5	094	8-5	106	12-5	118	16-5	130	20-5	142	24-5
083	3-6 Spare*1	095	7-6 Spare*1	107	11-6 Spare*1	119	15-6 Spare*1	131	19-6 Spare*1	143	23-6 Spare*1
084	4-6 Spare*1	096	8-6 Spare*1	108	12-6 Spare*1	120	16-6 Spare*1	132	20-6 Spare*1	144	24-6 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 4	Flash Module Drive	FMD

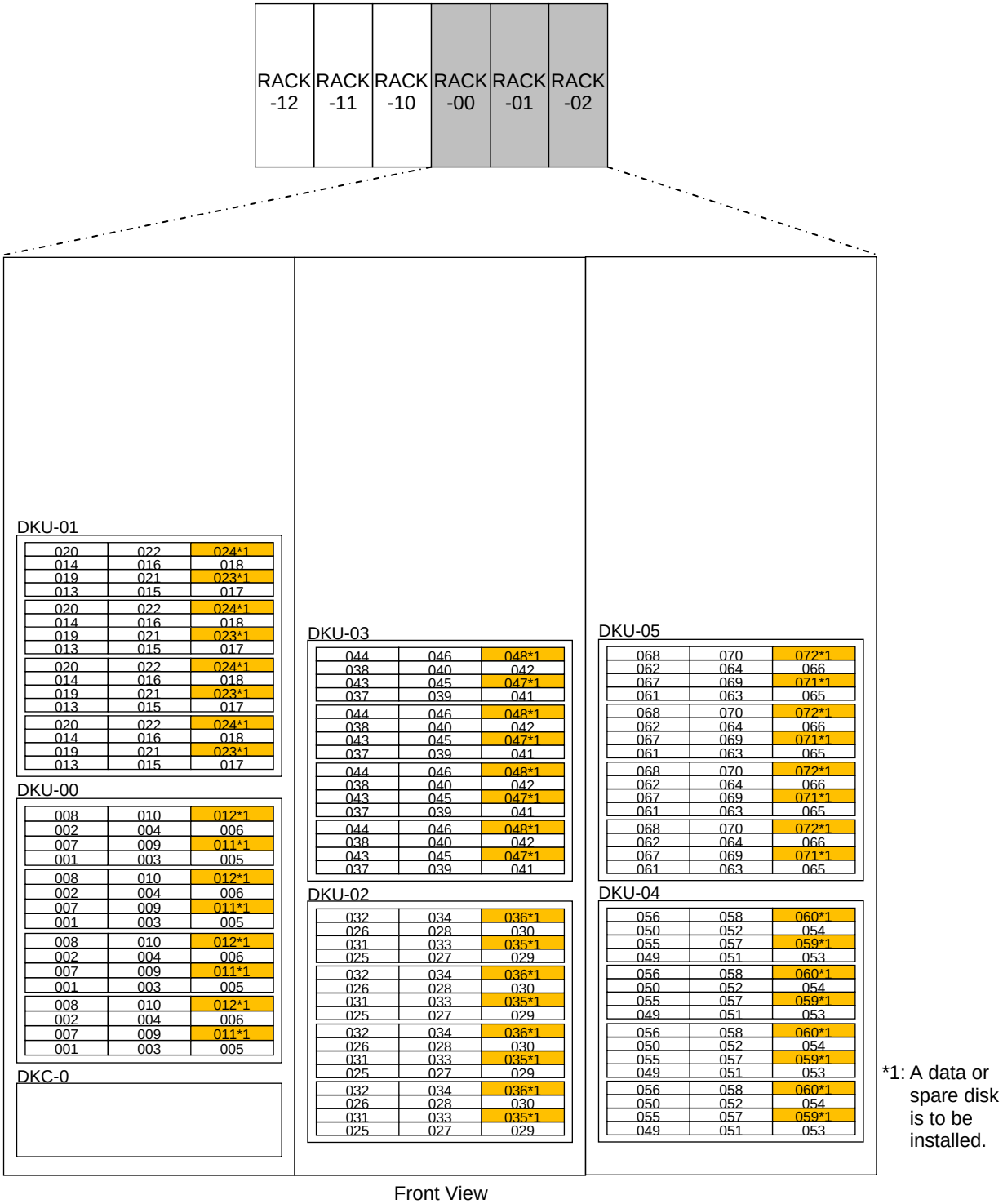


Fig. 3.11.4.4-3 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-3.

Copyright © 2014, Hitachi, Ltd.

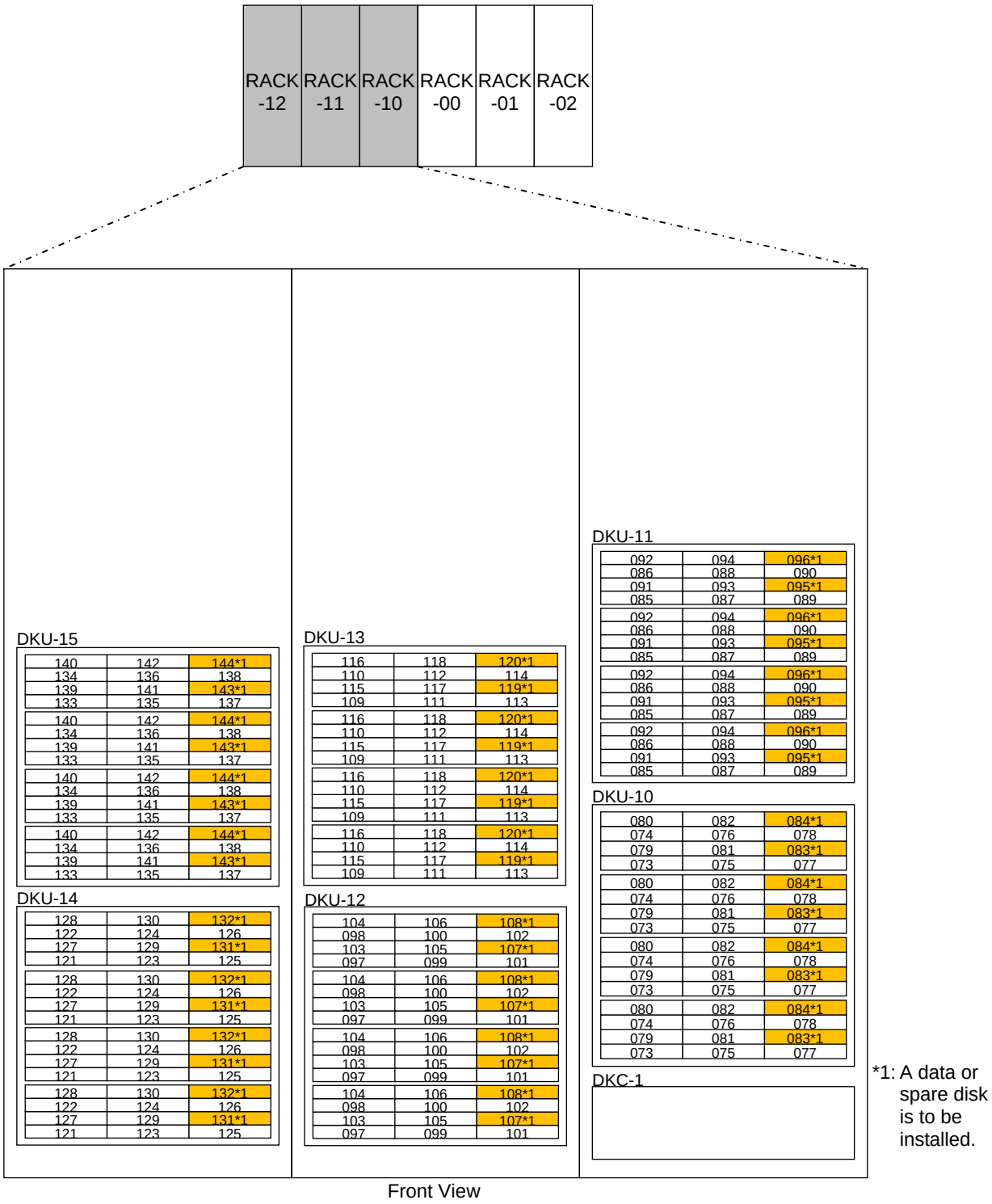


Fig. 3.11.4.4-3 (3D+1P/2D+2D) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-3.

Copyright © 2014, Hitachi, Ltd.

(iv) RAID5 (7D+1P) / RAID6 (6D+2P), UBX (DKU for 3.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-4.

Table 3.11.4.4-4 Relation between drives installation order and RAID group number (7D+1P/6D+2P, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	1-2	014	5-2	026	9-2	038	13-2	050	17-2	062	21-2
003	1-3	015	5-3	027	9-3	039	13-3	051	17-3	063	21-3
004	1-4	016	5-4	028	9-4	040	13-4	052	17-4	064	21-4
005	1-5	017	5-5	029	9-5	041	13-5	053	17-5	065	21-5
006	1-6	018	5-6	030	9-6	042	13-6	054	17-6	066	21-6
007	1-7	019	5-7	031	9-7	043	13-7	055	17-7	067	21-7
008	1-8	020	5-8	032	9-8	044	13-8	056	17-8	068	21-8
009	1-9	021	5-9	033	9-9	045	13-9	057	17-9	069	21-9
010	1-10	022	5-10	034	9-10	046	13-10	058	17-10	070	21-10
011	1-11	023	5-11	035	9-11	047	13-11	059	17-11	071	21-11
012	1-12 Spare*1	024	5-12 Spare*1	036	9-12 Spare*1	048	13-12 Spare*1	060	17-12 Spare*1	072	21-12 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-4 Relation between drives installation order and RAID group number (7D+1P/6D+2P, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	3-2	086	7-2	098	11-2	110	15-2	122	19-2	134	23-2
075	3-3	087	7-3	099	11-3	111	15-3	123	19-3	135	23-3
076	3-4	088	7-4	100	11-4	112	15-4	124	19-4	136	23-4
077	3-5	089	7-5	101	11-5	113	15-5	125	19-5	137	23-5
078	3-6	090	7-6	102	11-6	114	15-6	126	19-6	138	23-6
079	3-7	091	7-7	103	11-7	115	15-7	127	19-7	139	23-7
080	3-8	092	7-8	104	11-8	116	15-8	128	19-8	140	23-8
081	3-9	093	7-9	105	11-9	117	15-9	129	19-9	141	23-9
082	3-10	094	7-10	106	11-10	118	15-10	130	19-10	142	23-10
083	3-11	095	7-11	107	11-11	119	15-11	131	19-11	143	23-11
084	3-12 Spare*1	096	7-12 Spare*1	108	11-12 Spare*1	120	15-12 Spare*1	132	19-12 Spare*1	144	23-12 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 8	LFF Disk Drive	
2	DKC-F810I-400M5M × 8	LFF SSD Drive	

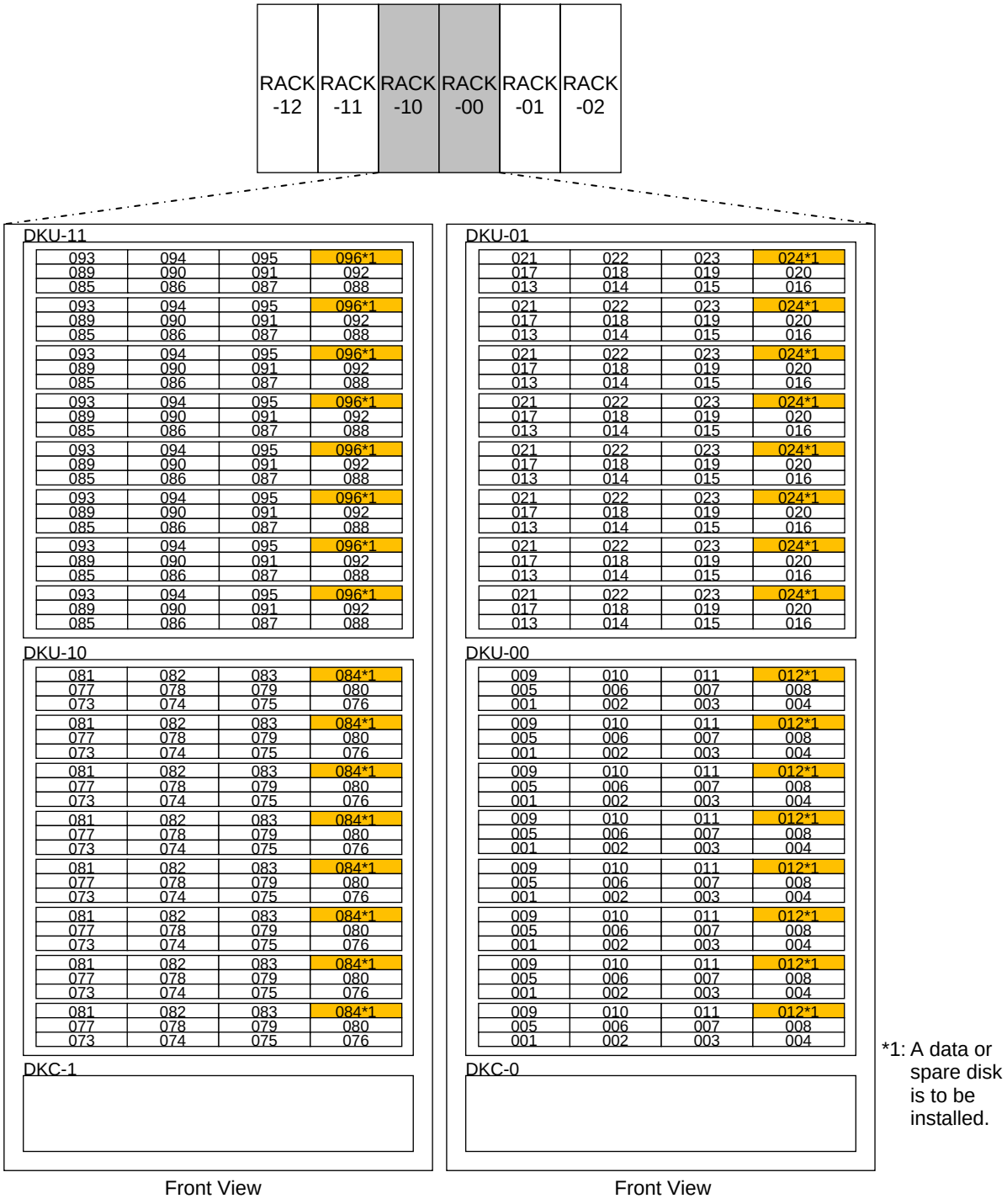


Fig. 3.11.4.4-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-4.

Copyright © 2014, Hitachi, Ltd.

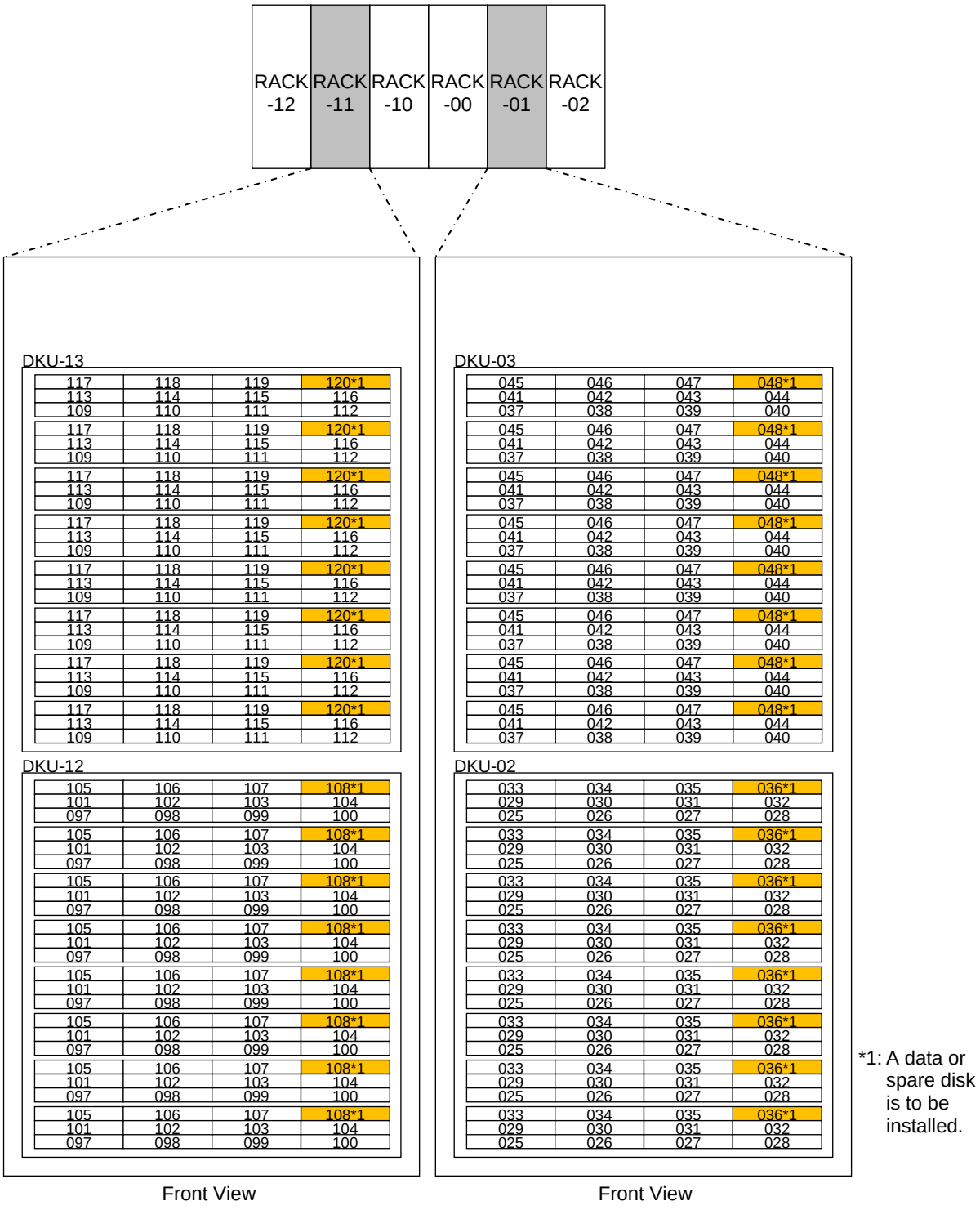


Fig. 3.11.4.4-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-4.

Copyright © 2014, Hitachi, Ltd.

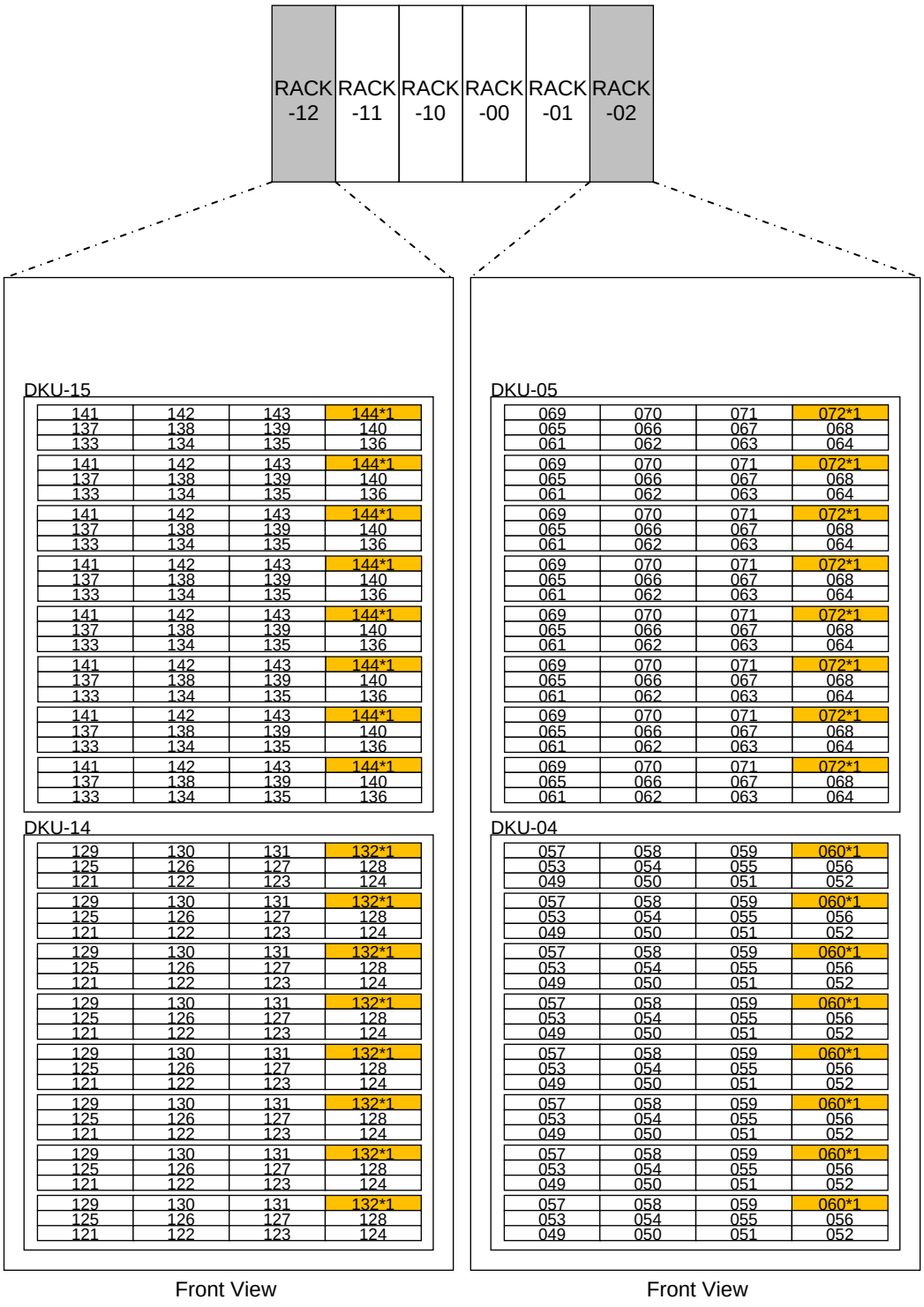


Fig. 3.11.4.4-4 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-4.

Copyright © 2014, Hitachi, Ltd.

(v) RAID5 (7D+1P) / RAID6 (6D+2P), SBX (DKU for 2.5 inch Drive)
Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-5.

Table 3.11.4.4-5 Relation between drives installation order and RAID group number (7D+1P/6D+2P, SBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	025	5-1	049	9-1	073	13-1	097	17-1	121	19-1
002	1-2	026	5-2	050	9-2	074	13-2	098	17-2	122	19-2
003	1-3	027	5-3	051	9-3	075	13-3	099	17-3	123	19-3
004	1-4	028	5-4	052	9-4	076	13-4	100	17-4	124	19-4
005	1-5	029	5-5	053	9-5	077	13-5	101	17-5	125	19-5
006	1-6	030	5-6	054	9-6	078	13-6	102	17-6	126	19-6
007	1-7	031	5-7	055	9-7	079	13-7	103	17-7	127	19-7
008	1-8	032	5-8	056	9-8	080	13-8	104	17-8	128	19-8
009	1-9	033	5-9	057	9-9	081	13-9	105	17-9	129	19-9
010	1-10	034	5-10	058	9-10	082	13-10	106	17-10	130	19-10
011	1-11	035	5-11	059	9-11	083	13-11	107	17-11	131	19-11
012	1-12	036	5-12	060	9-12	084	13-12	108	17-12	132	19-12
013	1-13	037	5-13	061	9-13	085	13-13	109	17-13	133	19-13
014	1-14	038	5-14	062	9-14	086	13-14	110	17-14	134	19-14
015	1-15	039	5-15	063	9-15	087	13-15	111	17-15	135	19-15
016	1-16	040	5-16	064	9-16	088	13-16	112	17-16	136	19-16
017	1-17	041	5-17	065	9-17	089	13-17	113	17-17	137	19-17
018	1-18	042	5-18	066	9-18	090	13-18	114	17-18	138	19-18
019	1-19	043	5-19	067	9-19	091	13-19	115	17-19	139	19-19
020	1-20	044	5-20	068	9-20	092	13-20	116	17-20	140	19-20
021	1-21	045	5-21	069	9-21	093	13-21	117	17-21	141	19-21
022	1-22	046	5-22	070	9-22	094	13-22	118	17-22	142	19-22
023	1-23	047	5-23	071	9-23	095	13-23	119	17-23	143	19-23
024	1-24 Spare*1	048	5-24 Spare*1	072	9-24 Spare*1	096	13-24 Spare*1	120	17-24 Spare*1	144	19-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-5 Relation between drives installation order and RAID group number (7D+1P/6D+2P, SBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
145	3-1	169	7-1	193	11-1	217	15-1	241	19-1	265	23-1
146	3-2	170	7-2	194	11-2	218	15-2	242	19-2	266	23-2
147	3-3	171	7-3	195	11-3	219	15-3	243	19-3	267	23-3
148	3-4	172	7-4	196	11-4	220	15-4	244	19-4	268	23-4
149	3-5	173	7-5	197	11-5	221	15-5	245	19-5	269	23-5
150	3-6	174	7-6	198	11-6	222	15-6	246	19-6	270	23-6
151	3-7	175	7-7	199	11-7	223	15-7	247	19-7	271	23-7
152	3-8	176	7-8	200	11-8	224	15-8	248	19-8	272	23-8
153	3-9	177	7-9	201	11-9	225	15-9	249	19-9	273	23-9
154	3-10	178	7-10	202	11-10	226	15-10	250	19-10	274	23-10
155	3-11	179	7-11	203	11-11	227	15-11	251	19-11	275	23-11
156	3-12	180	7-12	204	11-12	228	15-12	252	19-12	276	23-12
157	3-13	181	7-13	205	11-13	229	15-13	253	19-13	277	23-13
158	3-14	182	7-14	206	11-14	230	15-14	254	19-14	278	23-14
159	3-15	183	7-15	207	11-15	231	15-15	255	19-15	279	23-15
160	3-16	184	7-16	208	11-16	232	15-16	256	19-16	280	23-16
161	3-17	185	7-17	209	11-17	233	15-17	257	19-17	281	23-17
162	3-18	186	7-18	210	11-18	234	15-18	258	19-18	282	23-18
163	3-19	187	7-19	211	11-19	235	15-19	259	19-19	283	23-19
164	3-20	188	7-20	212	11-20	236	15-20	260	19-20	284	23-20
165	3-21	189	7-21	213	11-21	237	15-21	261	19-21	285	23-21
166	3-22	190	7-22	214	11-22	238	15-22	262	19-22	286	23-22
167	3-23	191	7-23	215	11-23	239	15-23	263	19-23	287	23-23
168	3-24 Spare*1	192	7-24 Spare*1	216	11-24 Spare*1	240	15-24 Spare*1	264	19-24 Spare*1	288	23-24 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 8	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 8	SFF SSD Drive	

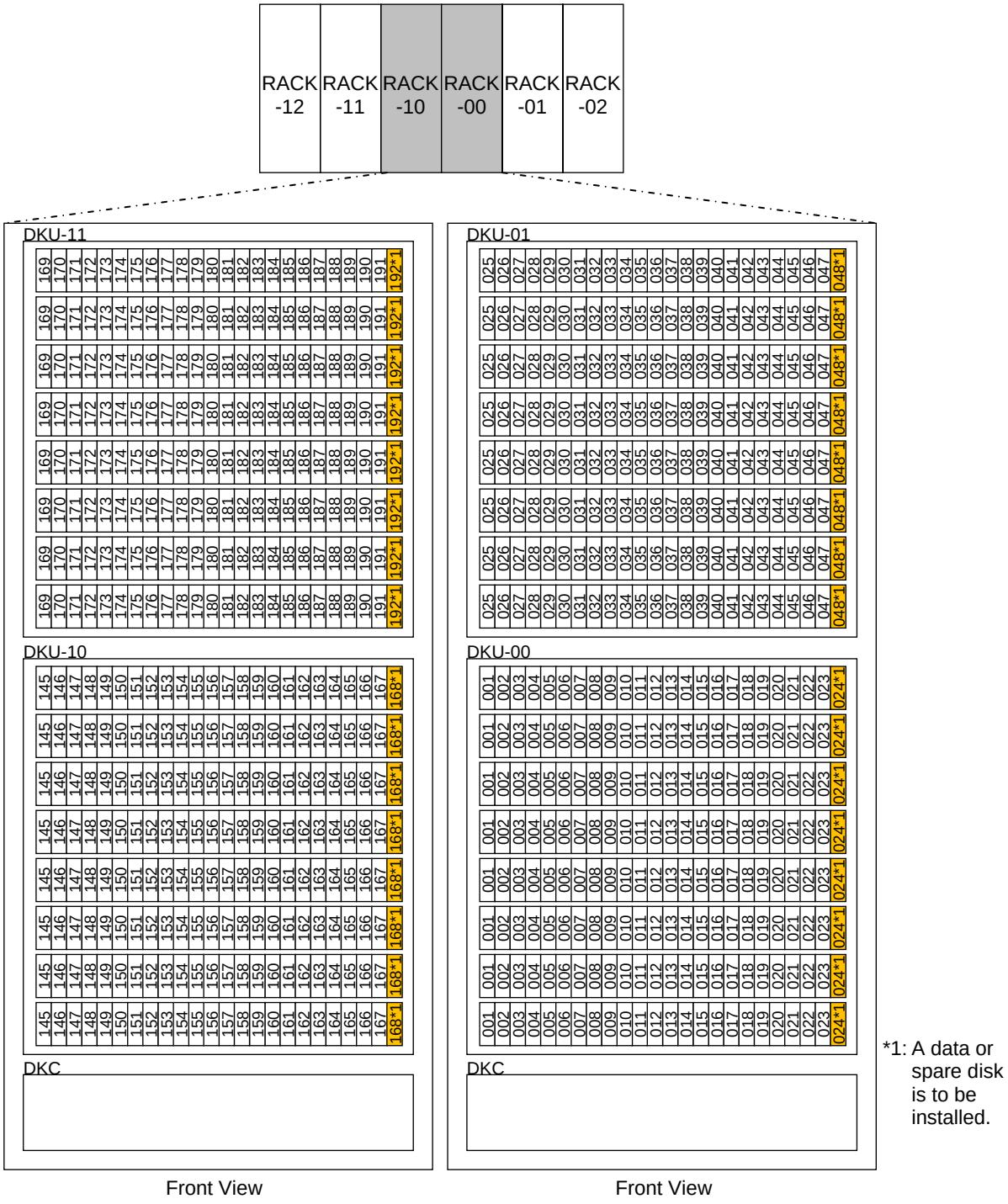


Fig. 3.11.4.4-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-5.

Copyright © 2014, Hitachi, Ltd.

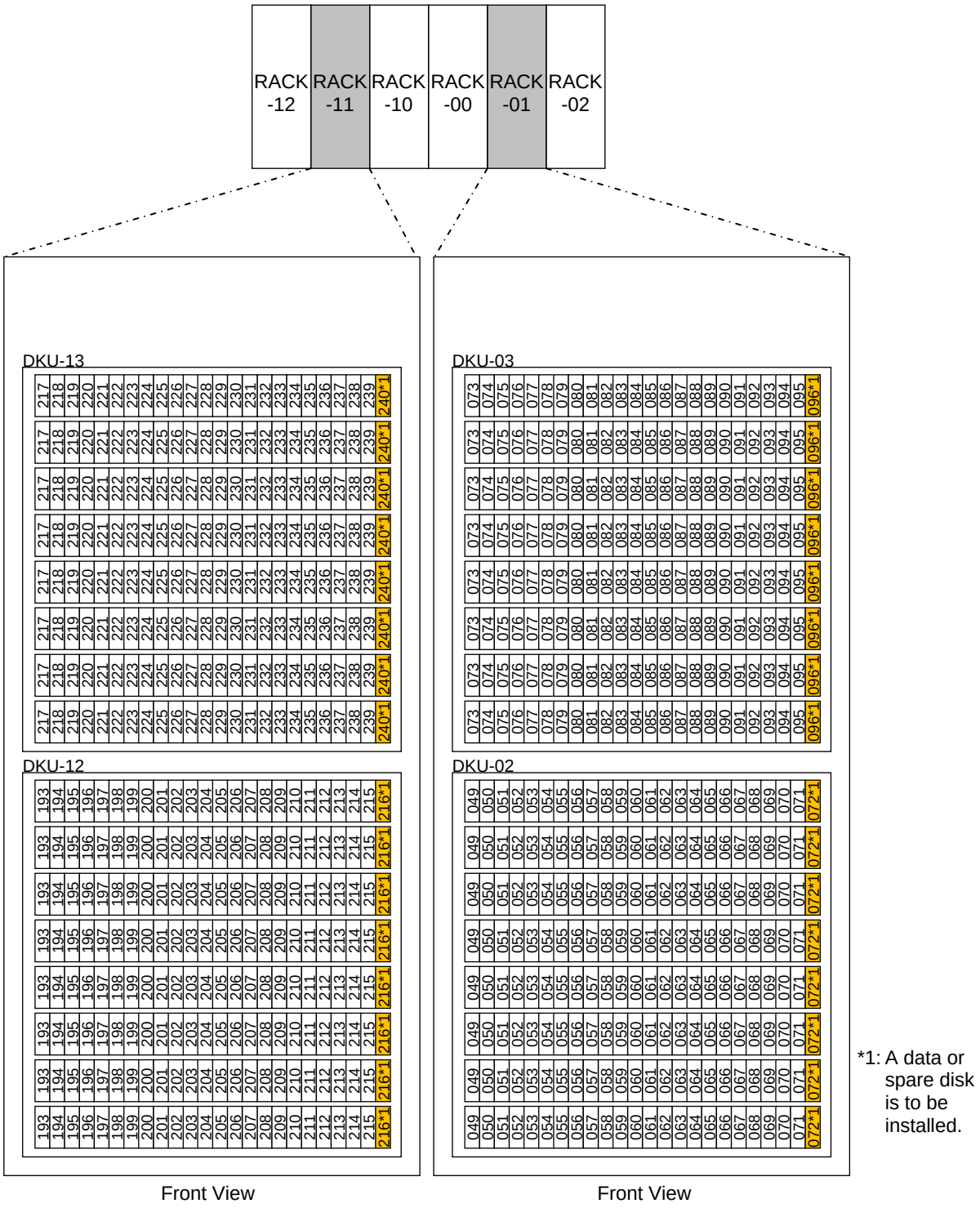


Fig. 3.11.4.4-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-5.

Copyright © 2014, Hitachi, Ltd.

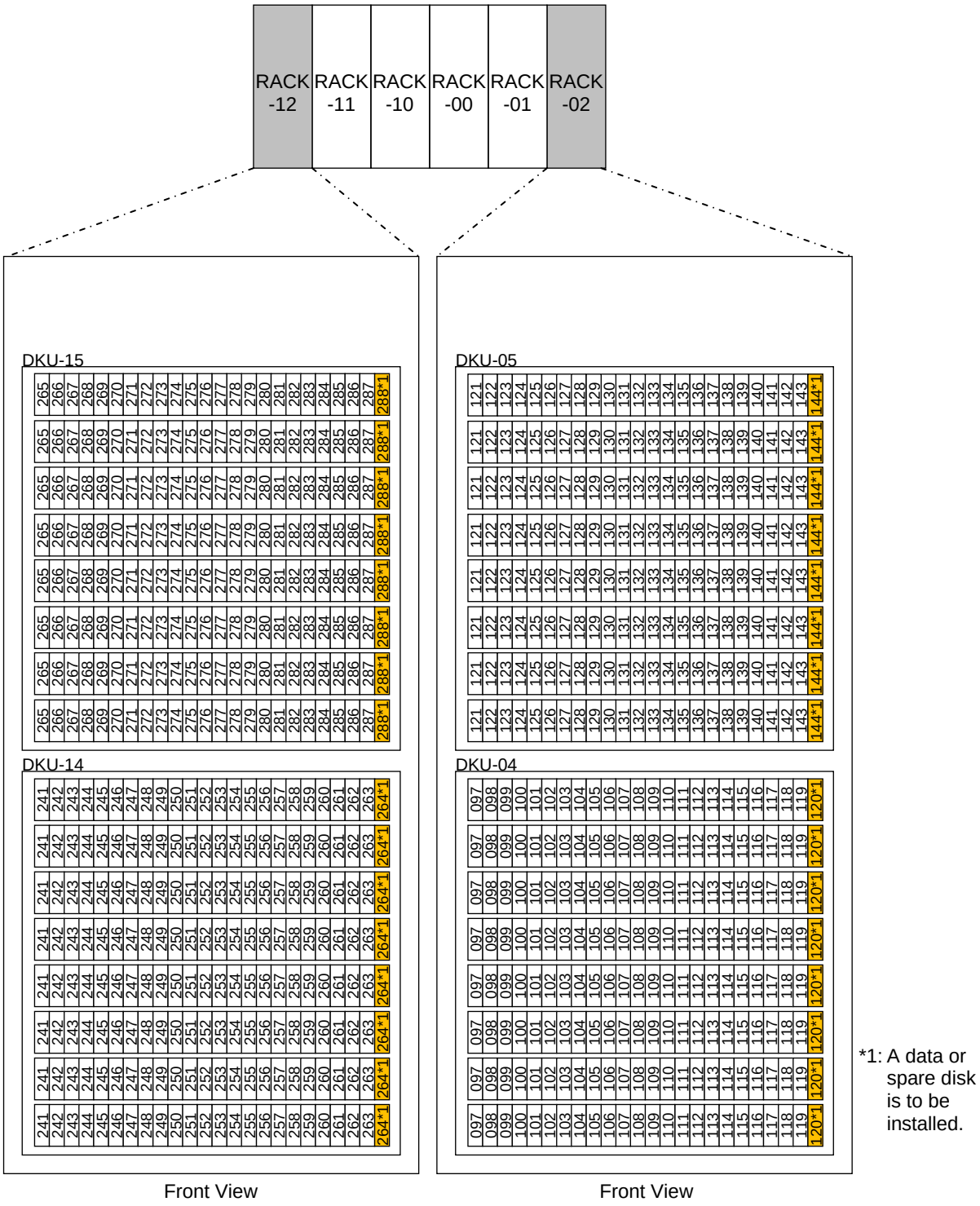


Fig. 3.11.4.4-5 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-5.

Copyright © 2014, Hitachi, Ltd.

(vi) RAID5 (7D+1P) / RAID6 (6D+2P), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-6.

Table 3.11.4.4-6 Relation between drives installation order and RAID group number (7D+1P/6D+2P, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	007	5-1	013	9-1	019	13-1	025	17-1	031	21-1
002	1-2	008	5-2	014	9-2	020	13-2	026	17-2	032	21-2
003	1-3	009	5-3	015	9-3	021	13-3	027	17-3	033	21-3
004	1-4	010	5-4	016	9-4	022	13-4	028	17-4	034	21-4
005	1-5	011	5-5	017	9-5	023	13-5	029	17-5	035	21-5
006	1-6 Spare*1	012	5-6 Spare*1	018	9-6 Spare*1	024	13-6 Spare*1	030	17-6 Spare*1	036	21-6 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-6 Relation between drives installation order and RAID group number (7D+1P/6D+2P, FBX) (2/2)

DKU-06		DKU-07		DKU-10		DKU-11		DKU-12		DKU-13	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
037	3-1	043	7-1	049	11-1	055	15-1	061	19-1	067	23-1
038	3-2	044	7-2	050	11-2	056	15-2	062	19-2	068	23-2
039	3-3	045	7-3	051	11-3	057	15-3	063	19-3	069	23-3
040	3-4	046	7-4	052	11-4	058	15-4	064	19-4	070	23-4
041	3-5	047	7-5	053	11-5	059	15-5	065	19-5	071	23-5
042	3-6 Spare*1	048	7-6 Spare*1	054	11-6 Spare*1	060	15-6 Spare*1	066	19-6 Spare*1	072	23-6 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 8	Flash Module Drive	FMD

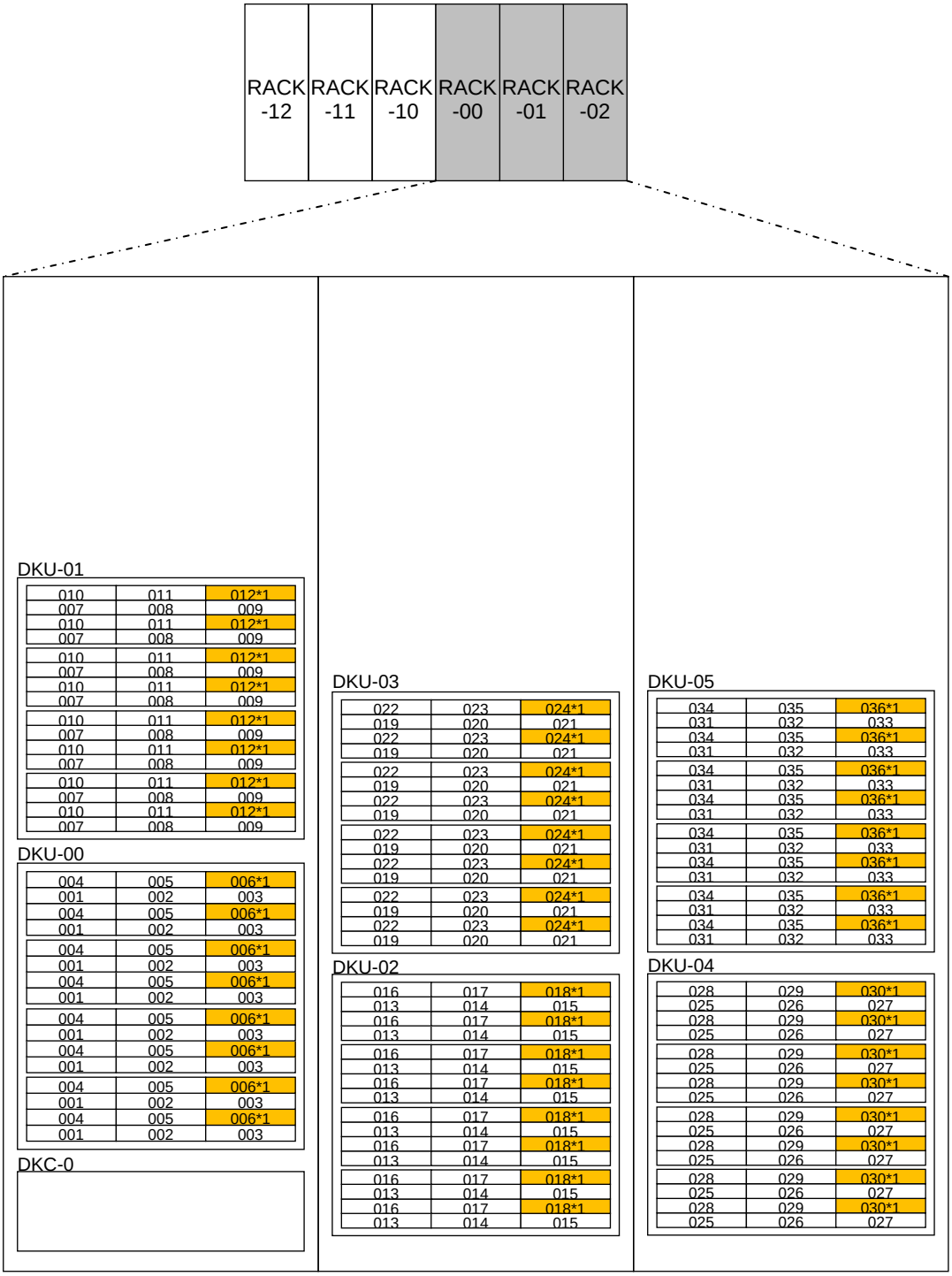


Fig. 3.11.4.4-6 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-6.

Copyright © 2014, Hitachi, Ltd.

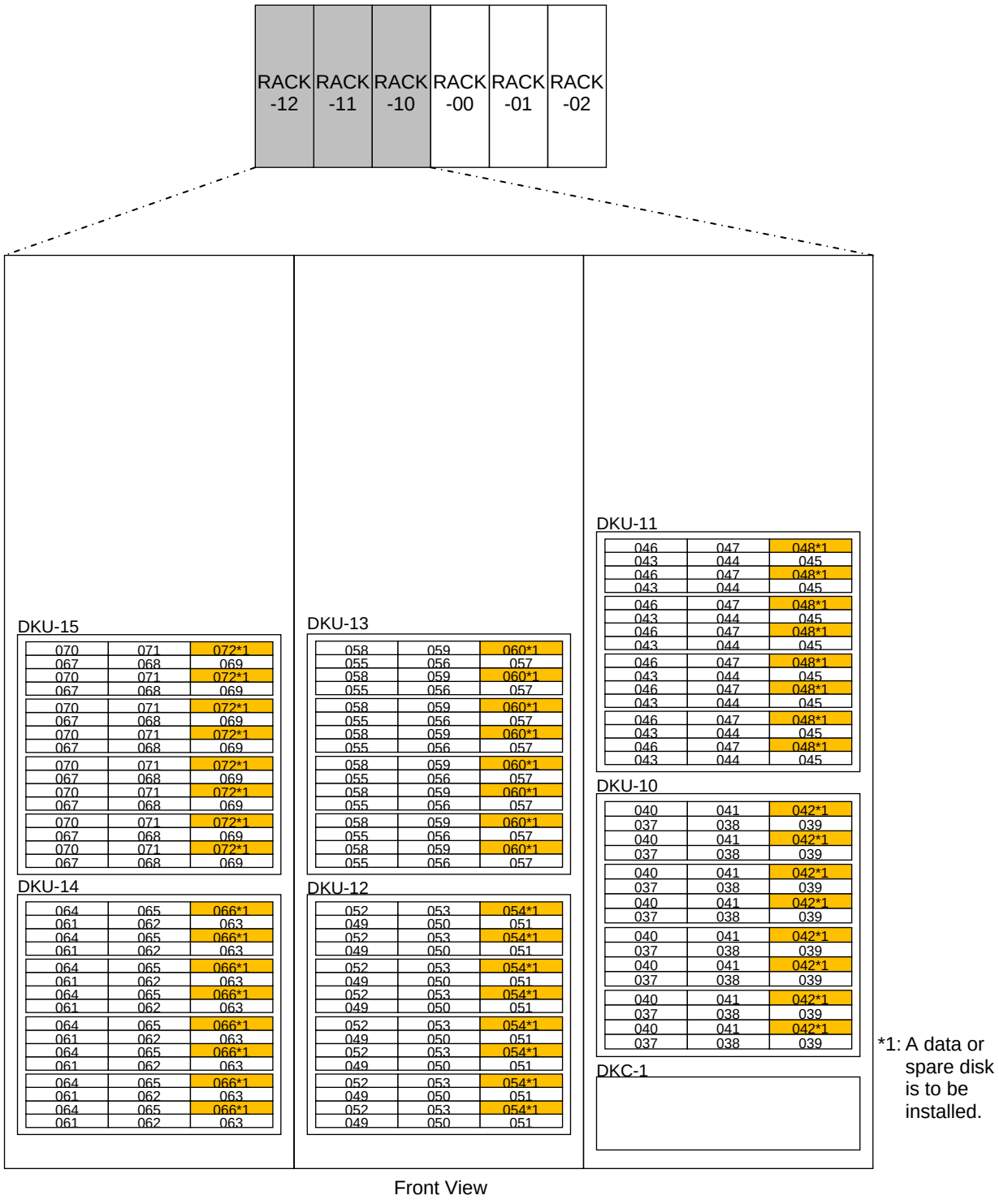


Fig. 3.11.4.4-6 (7D+1P/6D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-6.

Copyright © 2014, Hitachi, Ltd.

(vii) RAID6 (14D+2P), UBX (DKU for 3.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-7.

Table 3.11.4.4-7 Relation between drives installation order and RAID group number (14D+2P, UBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	007	5-1	013	9-1	019	13-1	025	17-1	031	21-1
002	1-3	008	5-3	014	9-3	020	13-3	026	17-3	032	21-3
003	1-5	009	5-5	015	9-5	021	13-5	027	17-5	033	21-5
004	1-7	010	5-7	016	9-7	022	13-7	028	17-7	034	21-7
005	1-9	011	5-9	017	9-9	023	13-9	029	17-9	035	21-9
06	1-11 Spare*1	012	5-11 Spare*1	018	9-11 Spare*1	024	13-1 Spare*1	030	17-11 Spare*1	036	21-11 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-7 Relation between drives installation order and RAID group number (14D+2P, UBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
037	3-1	043	7-1	049	11-1	055	15-1	061	19-1	067	23-1
038	3-3	044	7-3	050	11-3	056	15-3	062	19-3	068	23-3
039	3-5	045	7-5	051	11-5	057	15-5	063	19-5	069	23-5
040	3-7	046	7-7	052	11-7	058	15-7	064	19-7	070	23-7
041	3-9	047	7-9	053	11-9	059	15-9	065	19-9	071	23-9 Spare*1
042	3-11 Spare*1	048	7-11 Spare*1	054	11-11 Spare*1	060	15-11 Spare*1	066	1-11 Spare*1	072	23-11 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 16	LFF Disk Drive	
2	DKC-F810I-400M5M × 16	LFF SSD Drive	

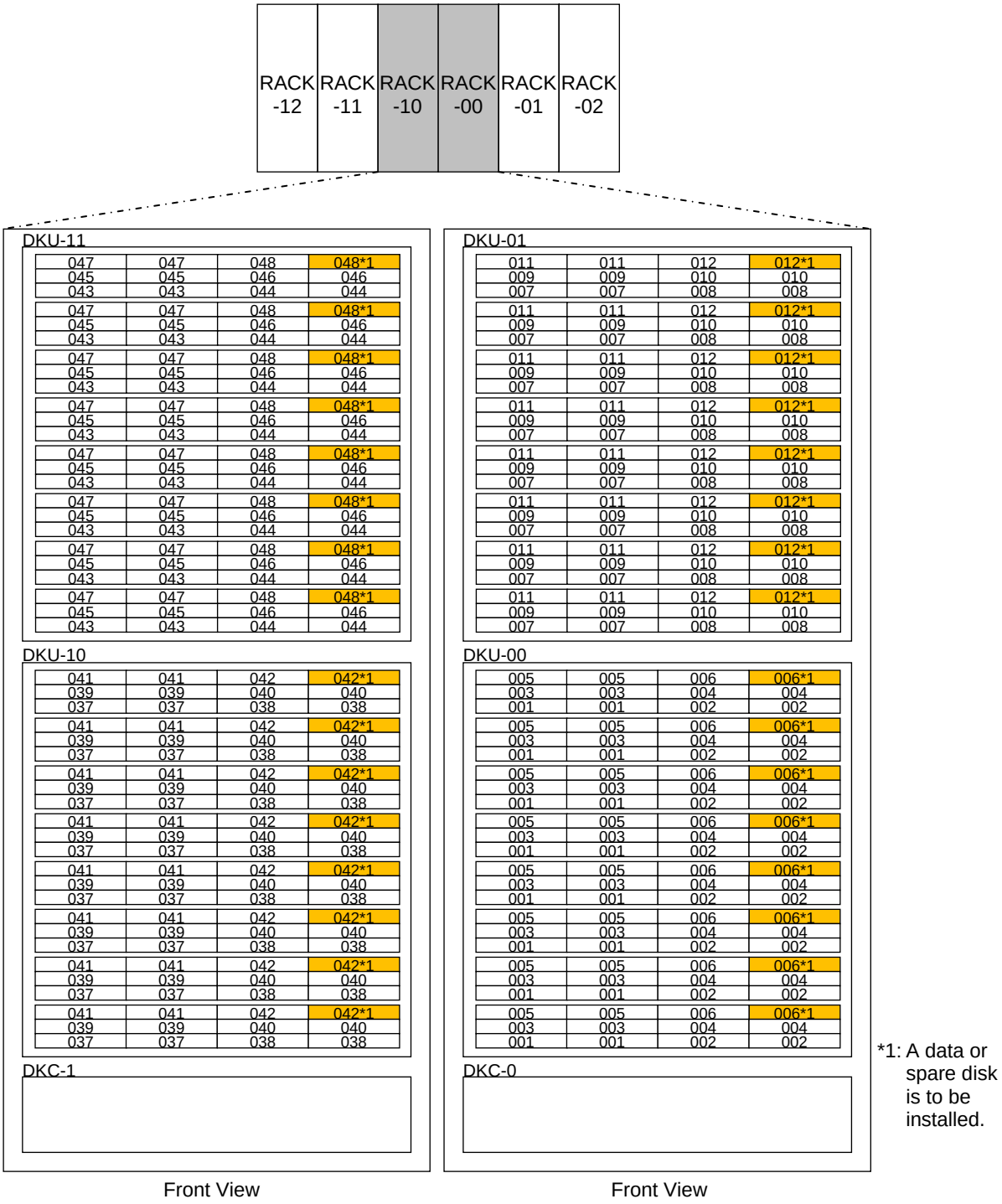


Fig. 3.11.4.4-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-7.

Copyright © 2014, Hitachi, Ltd.

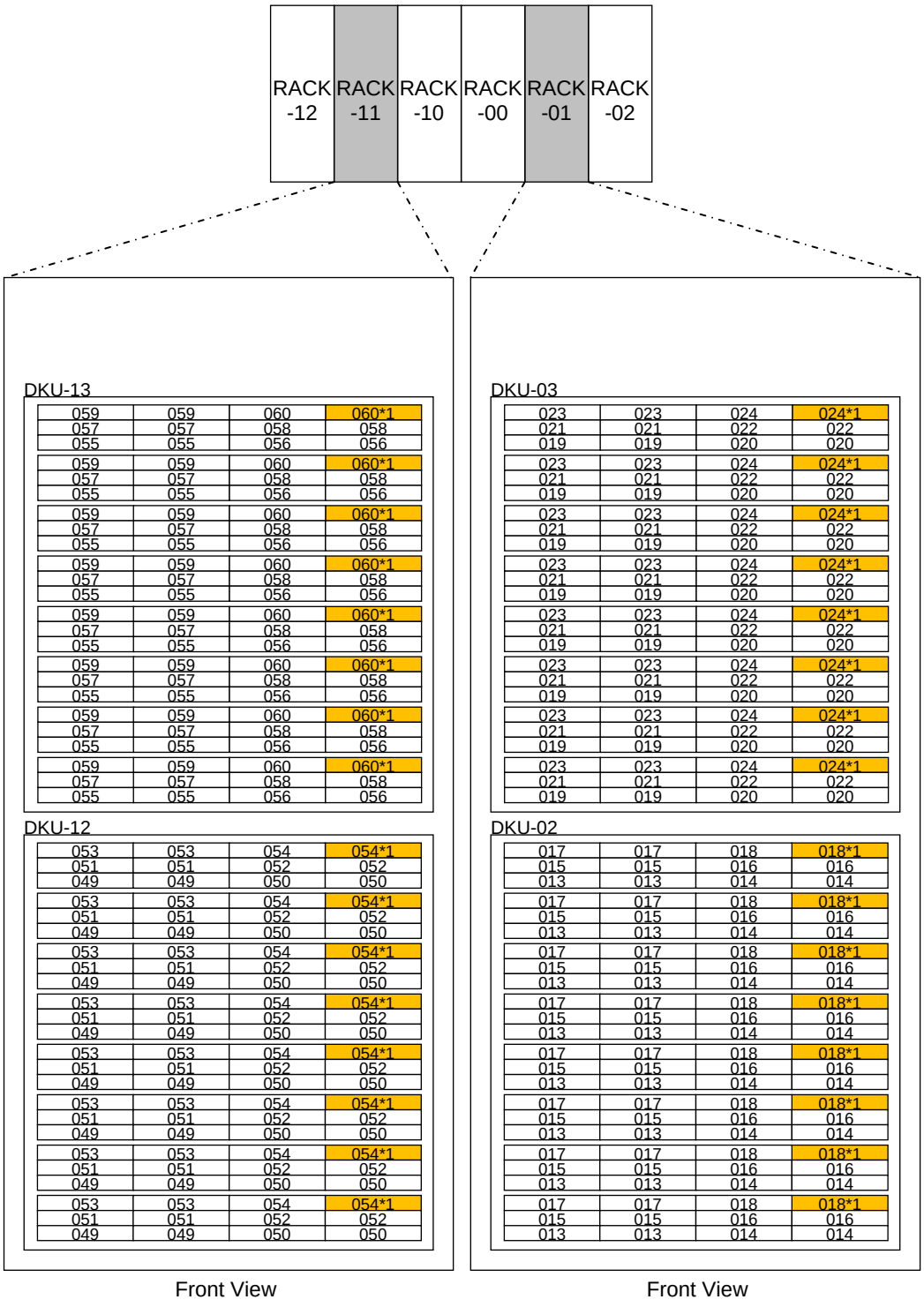


Fig. 3.11.4.4-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-7.

Copyright © 2014, Hitachi, Ltd.

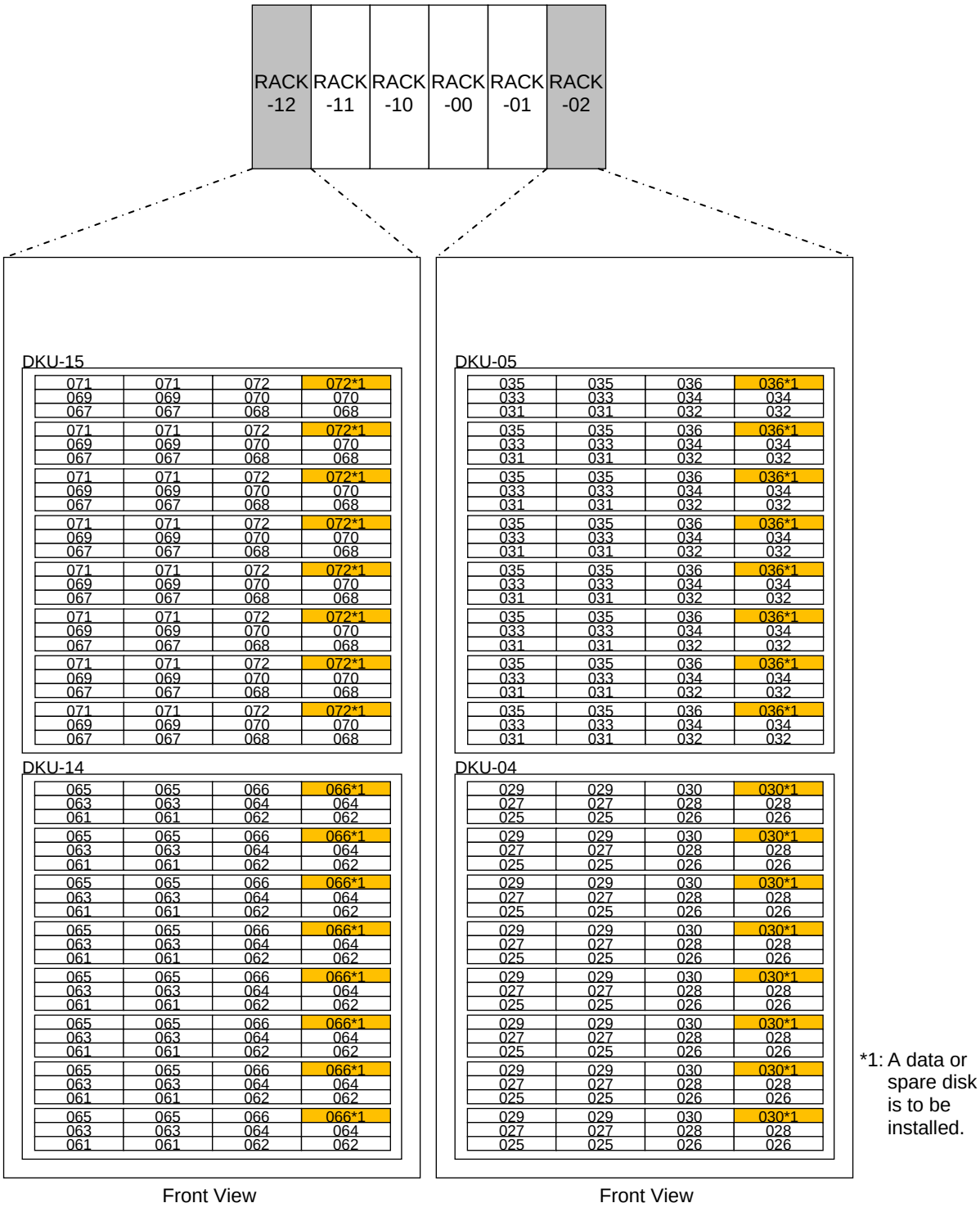


Fig. 3.11.4.4-7 (14D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-7.

Copyright © 2014, Hitachi, Ltd.

(viii) RAID6 (14D+2P), SBX (DKU for 2.5 inch Drive)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-8.

Table 3.11.4.4-8 Relation between drives installation order and RAID group number (14D+2P, SBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	013	5-1	025	9-1	037	13-1	049	17-1	061	21-1
002	1-3	014	5-3	026	9-3	038	13-3	050	17-3	062	21-3
003	1-5	015	5-5	027	9-5	039	13-5	051	17-5	063	21-5
004	1-7	016	5-7	028	9-7	040	13-7	052	17-7	064	21-7
005	1-9	017	5-9	029	9-9	041	13-9	053	17-9	065	21-9
006	1-11	018	5-11	030	9-11	042	13-11	054	17-11	066	21-11
007	1-13	019	5-13	031	9-13	043	13-13	055	17-13	067	21-13
008	1-15	020	5-15	032	9-15	044	13-15	056	17-15	068	21-15
009	1-17	021	5-17	033	9-17	045	13-17	057	17-17	069	21-17
010	1-19	022	5-19	034	9-19	046	13-19	058	17-19	070	21-19
011	1-21	023	5-21	035	9-21	047	13-21	059	17-21	071	21-21
012	1-23 Spare*1	024	5-23 Spare*1	036	9-23 Spare*1	048	13-23 Spare*1	060	17-23 Spare*1	072	21-23 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-8 Relation between drives installation order and RAID group number (14D+2P, SBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
073	3-1	085	7-1	097	11-1	109	15-1	121	19-1	133	23-1
074	3-3	086	7-3	098	11-3	110	15-3	122	19-3	134	23-3
075	3-5	087	7-5	099	11-5	111	15-5	123	19-5	135	23-5
076	3-7	088	7-7	100	11-7	112	15-7	124	19-7	136	23-7
077	3-9	089	7-9	101	11-9	113	15-9	125	19-9	137	23-9
078	3-11	090	7-11	102	11-11	114	15-11	126	19-11	138	23-11
079	3-13	091	7-13	103	11-13	115	15-13	127	19-13	139	23-13
080	3-15	092	7-15	104	11-15	116	15-15	128	19-15	140	23-15
081	3-17	093	7-17	105	11-17	117	15-17	129	19-17	141	23-17
082	3-19	094	7-19	106	11-19	118	15-19	130	19-19	142	23-19
083	3-21	095	7-21	107	11-21	119	15-21	131	19-21	143	23-21
084	3-23 Spare*1	096	7-23 Spare*1	108	11-23 Spare*1	120	15-23 Spare*1	132	19-23 Spare*1	144	23-23 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 16	SFF Disk Drive	
2	DKC-F810I-400MCM/800MCM × 16	SFF SSD Drive	

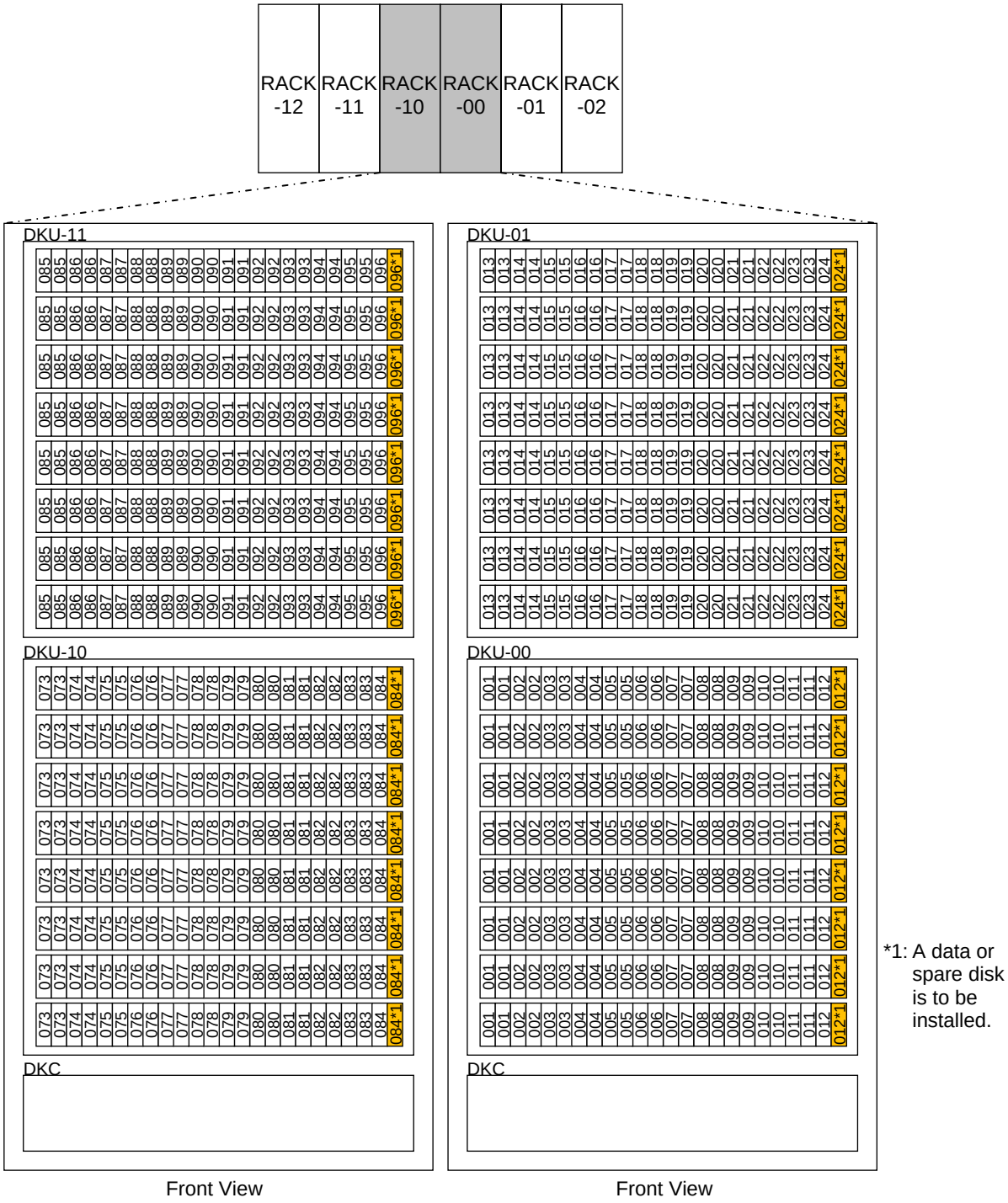


Fig. 3.11.4.4-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-8.

Copyright © 2014, Hitachi, Ltd.

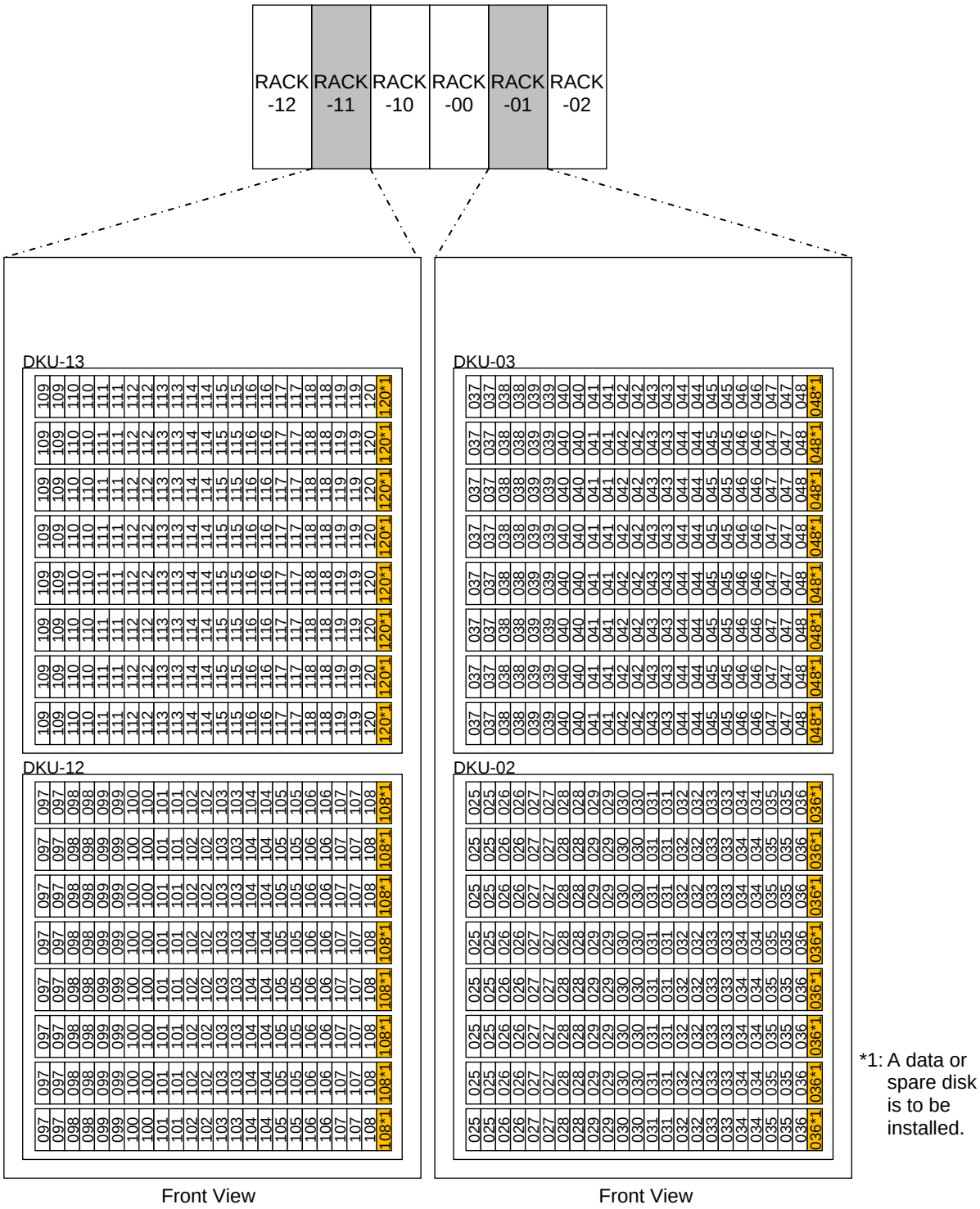


Fig. 3.11.4.4-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-8.

Copyright © 2014, Hitachi, Ltd.

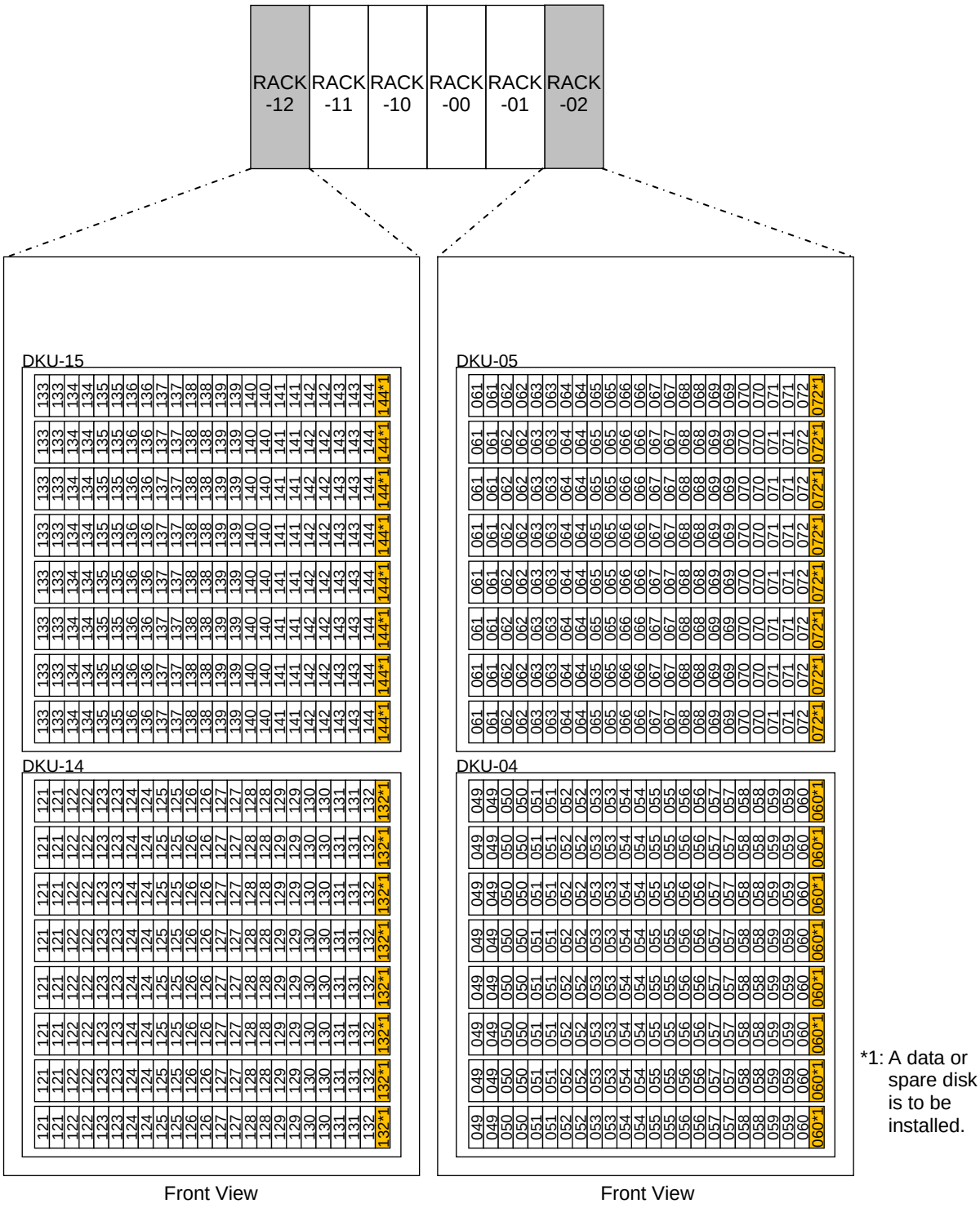


Fig. 3.11.4.4-8 (14D+2P) Data Drive/Parity Drive Expansion Sequence (3/3)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-8.

Copyright © 2014, Hitachi, Ltd.

(ix) RAID6 (14D+2P), FBX (DKU for FMD)

Relations between the installation locations of the RAID groups and the RAID group numbers set through the SVP are shown in Table 3.11.4.4-9.

Table 3.11.4.4-9 Relation between drives installation order and RAID group number (14D+2P, FBX) (1/2)

DKU-00		DKU-01		DKU-02		DKU-03		DKU-04		DKU-05	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
001	1-1	004	5-1	007	9-1	010	13-1	013	17-1	016	21-1
002	1-3	005	5-3	008	9-3	011	13-3	014	17-3	017	21-3
003	1-5 Spare*1	006	5-5 Spare*1	009	9-5 Spare*1	012	13-5 Spare*1	015	17-5 Spare*1	018	21-5 Spare*1

*1: A data or spare drive is to be installed.

Table 3.11.4.4-9 Relation between drives installation order and RAID group number (14D+2P, FBX) (2/2)

DKU-10		DKU-11		DKU-12		DKU-13		DKU-14		DKU-15	
Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.	Installation Order	RAID Group No.
019	3-1	022	7-1	025	11-1	028	15-1	031	19-1	034	23-1
020	3-3	023	7-3	026	11-3	029	15-3	032	19-3	035	23-3
021	3-5 Spare*1	024	7-5 Spare*1	027	11-5 Spare*1	030	15-5 Spare*1	033	19-5 Spare*1	036	23-5 Spare*1

*1: A data or spare drive is to be installed.

Copyright © 2014, Hitachi, Ltd.

(1) Make sure of the location where the RAID group is installed and that where the drive is to be added.

No.	Model Number	Model Name	Remarks
1	DKC-F810I-1R6FM/3R2FM × 16	Flash Module Drive	FMD

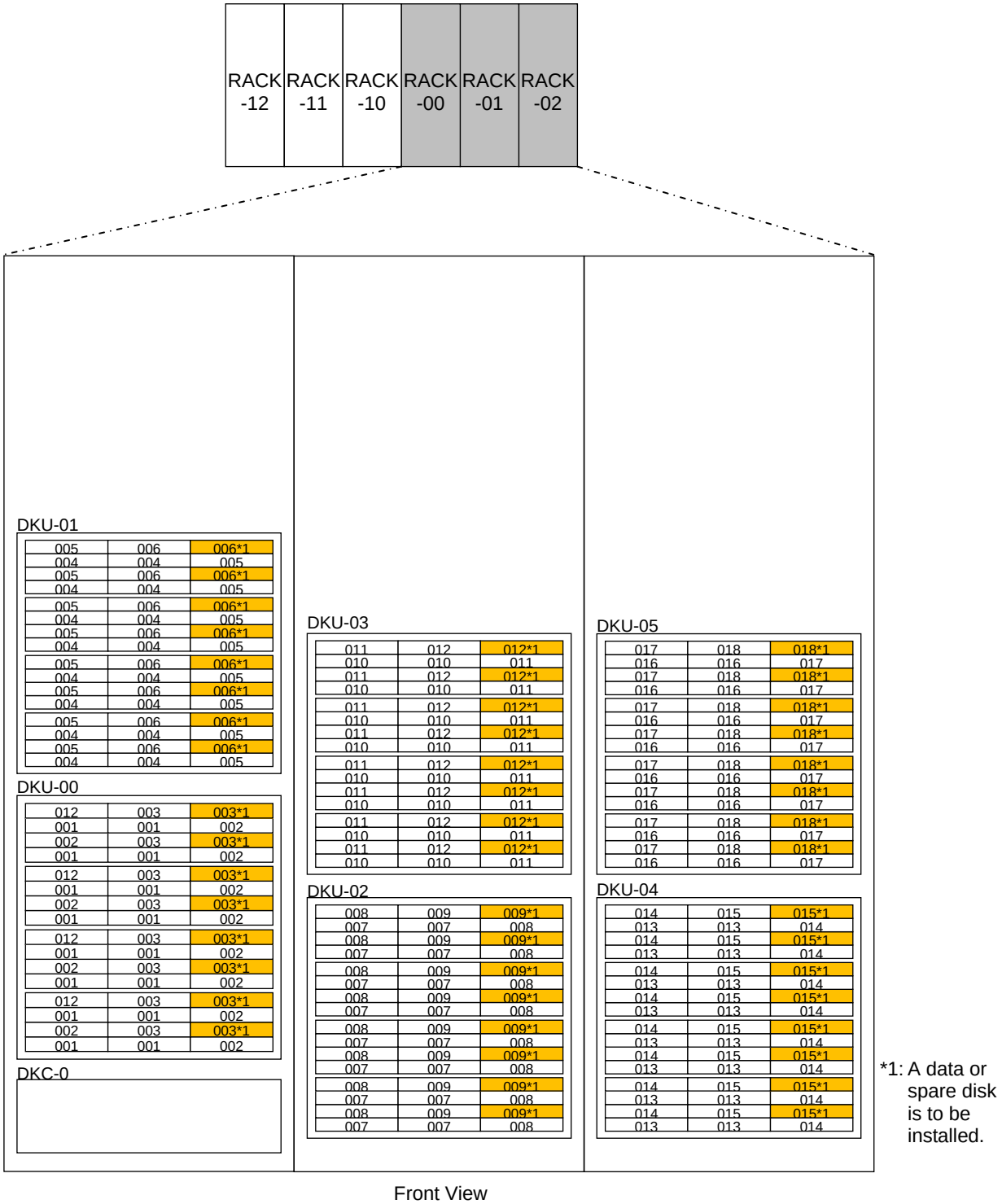


Fig. 3.11.4.4-9 (14D+2P) Data Drive/Parity Drive Expansion Sequence (1/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-9.

Copyright © 2014, Hitachi, Ltd.

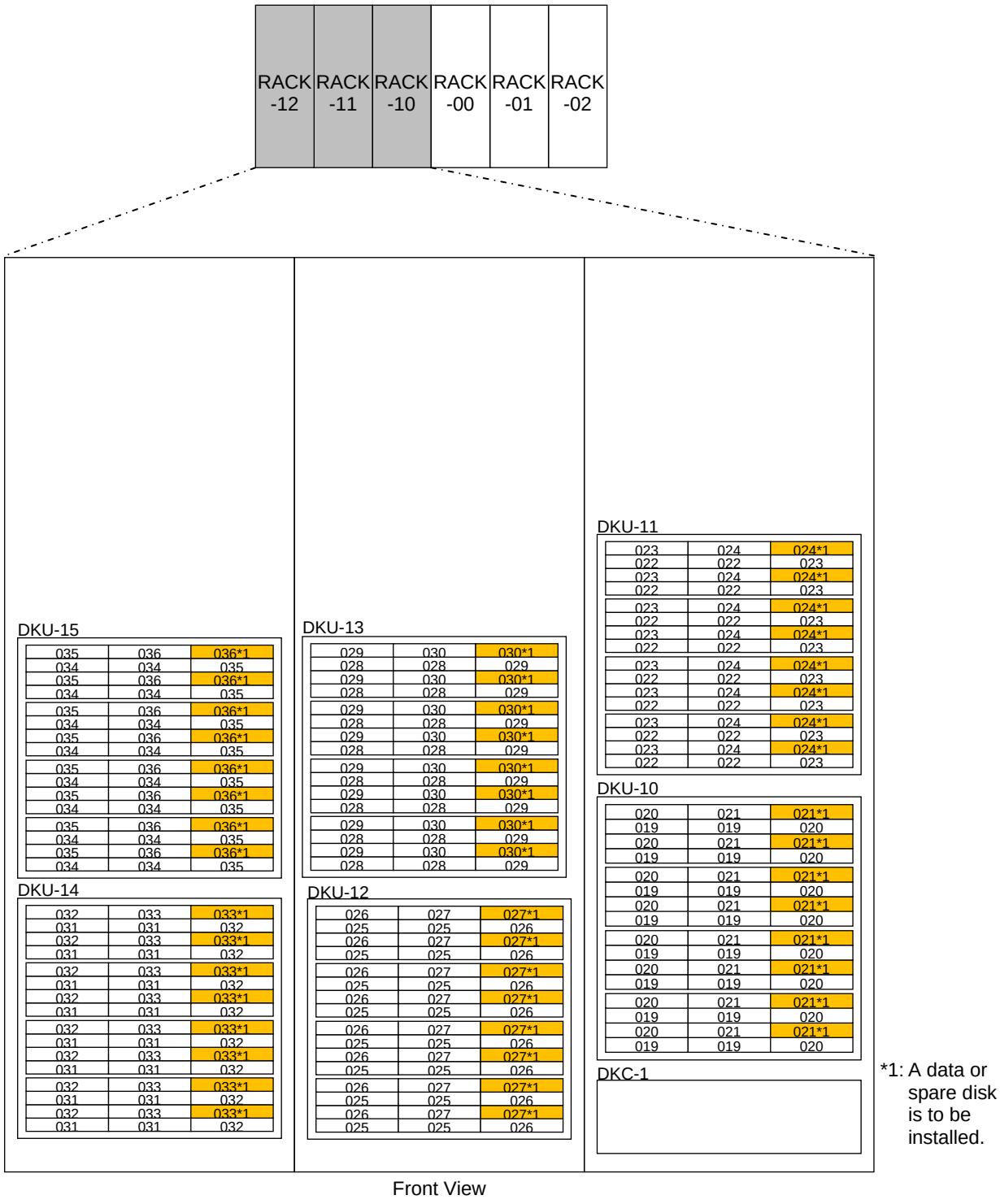


Fig. 3.11.4.4-9 (14D+2P) Data Drive/Parity Drive Expansion Sequence (2/2)

The relationship between drives installation order and RAID group number is shown in the Table 3.11.4.4-9.

Copyright © 2014, Hitachi, Ltd.

(x) Spare Drive, UBX (DKU for 3.5 inch Drive)

Table 3.11.4.4-10 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.4.4-10 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-10 Relation between Drive installation order and Spare Drive number (3/4)

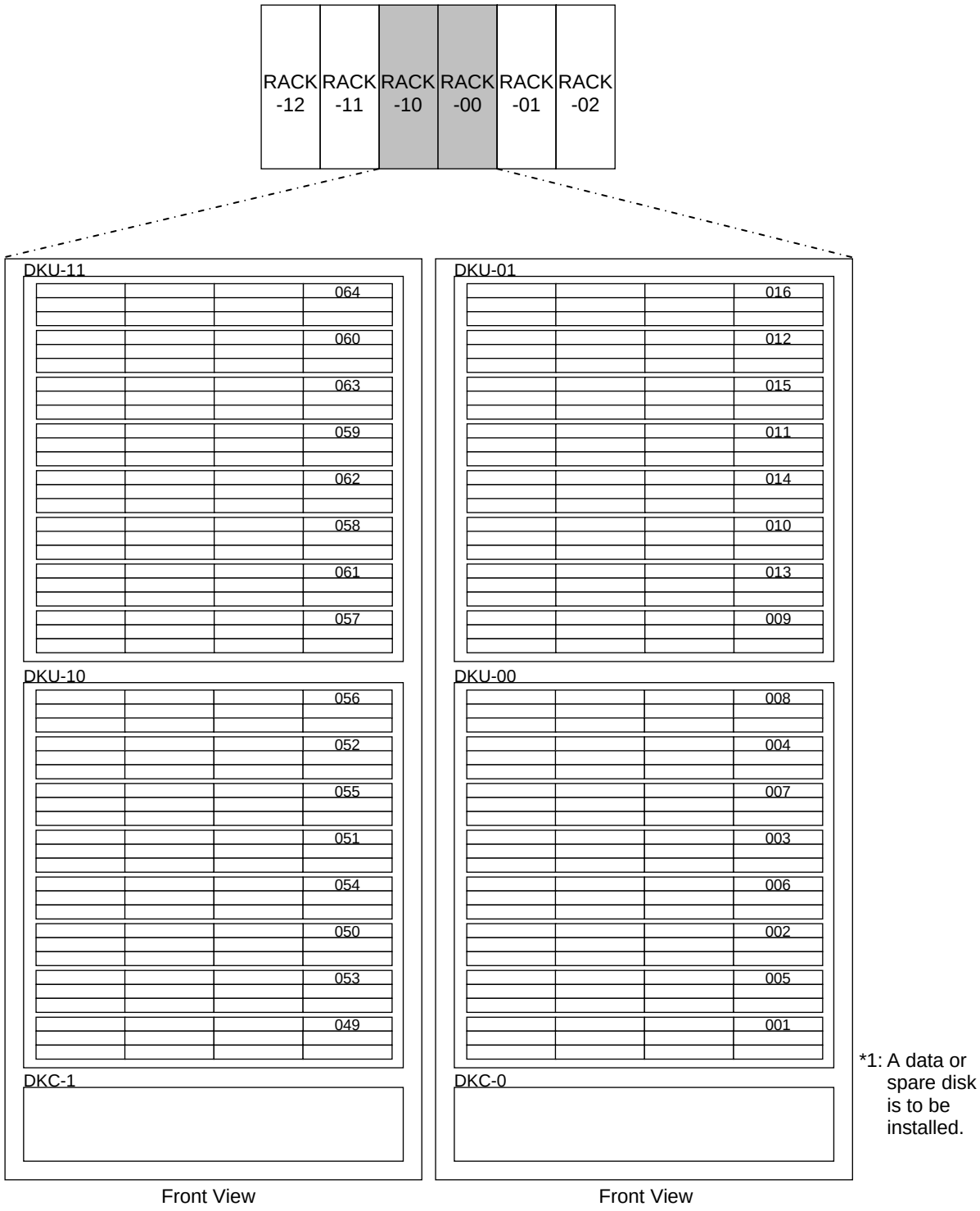
DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.4.4-10 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

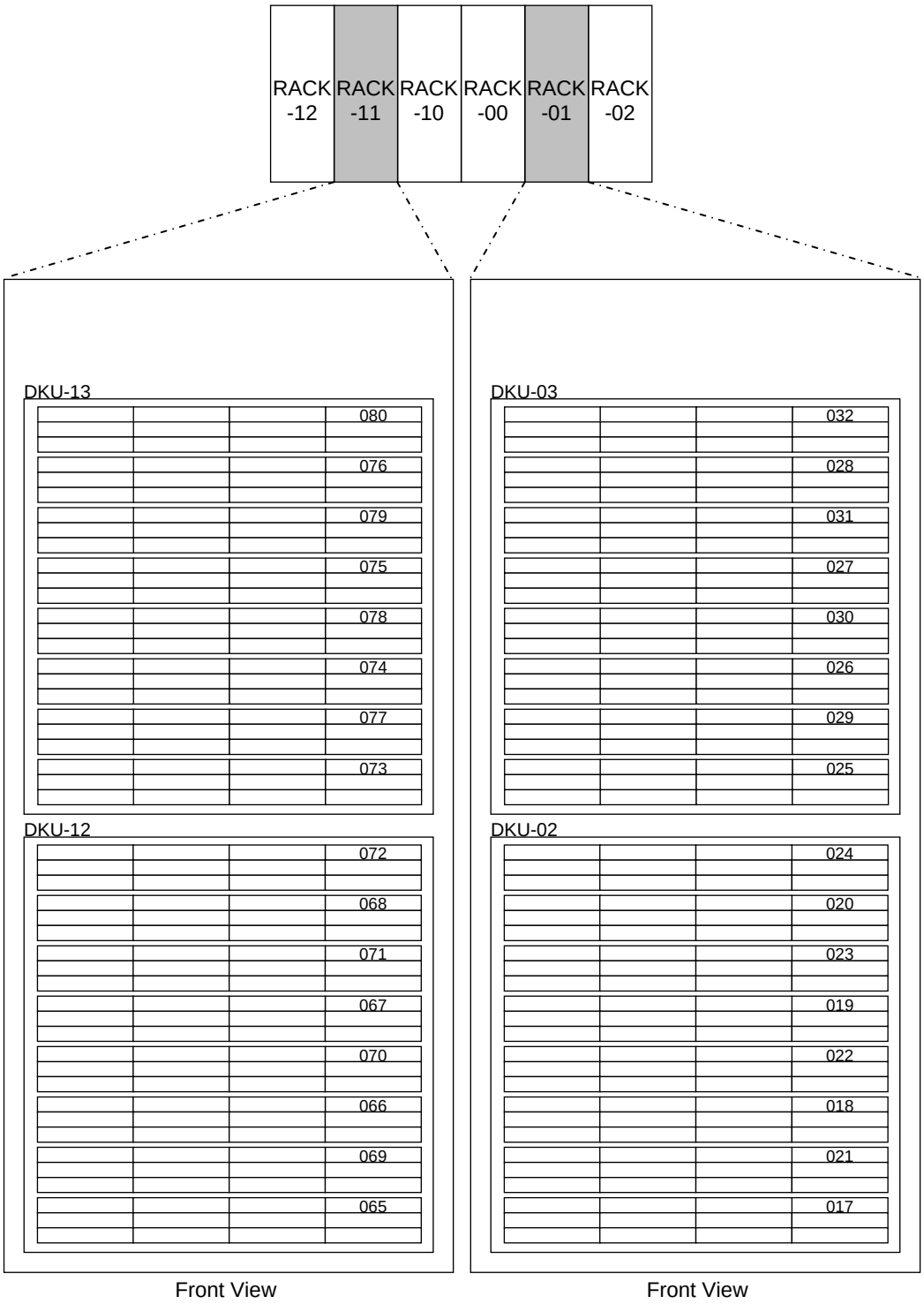
No.	Model Number	Model Name	Data and Parity
1	DKC-F810I-600J5M/3R0H3M/4R0H3M × 1	LFF Disk Drive	Spare drive
2	DKC-F810I-400M5M × 1	LFF SSD Drive	Spare drive



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-10 Spare Drive Expansion Sequence (1/3)

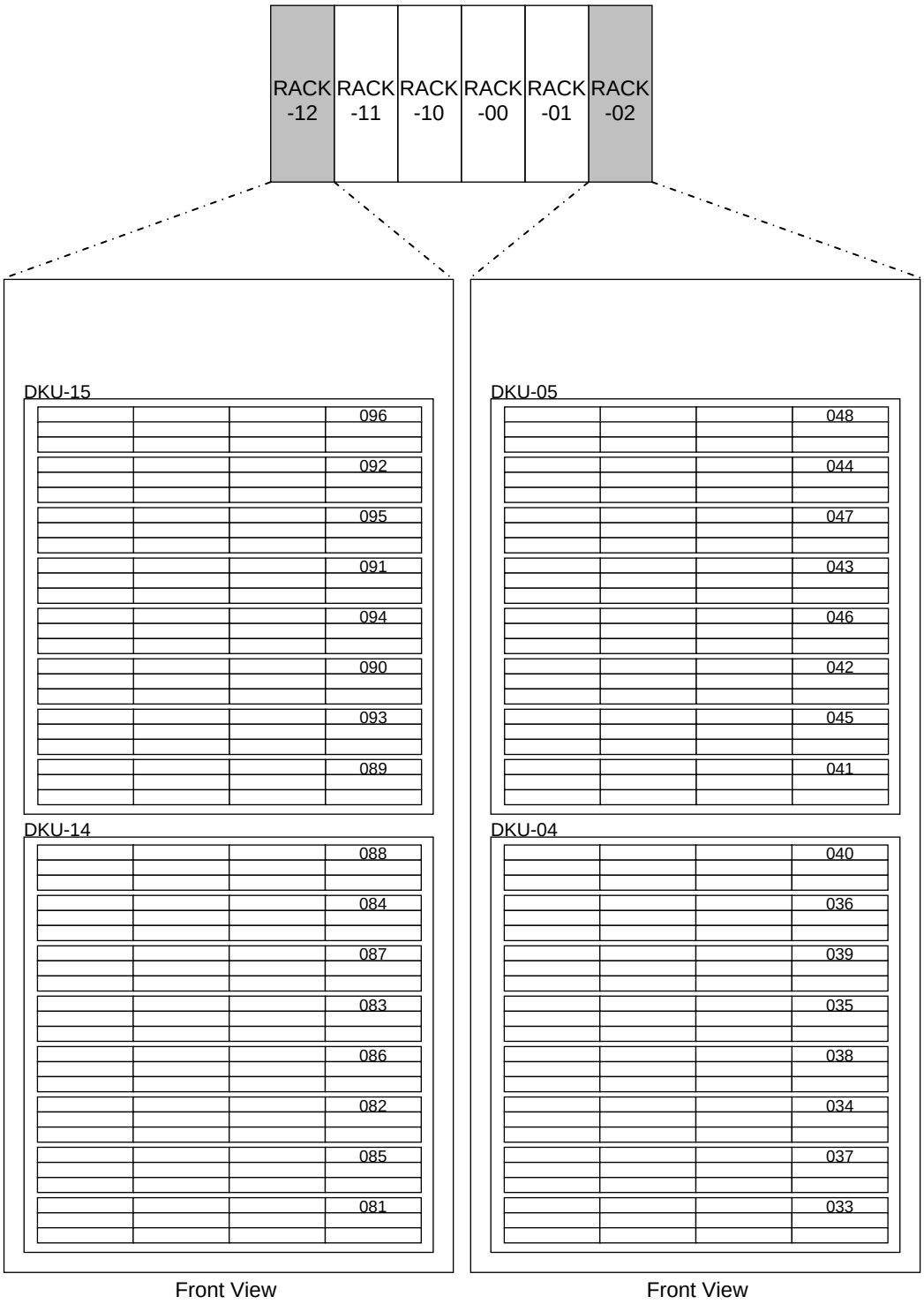
Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-10 Spare Drive Expansion Sequence (2/3)

Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-10 Spare Drive Expansion Sequence (3/3)

Copyright © 2014, Hitachi, Ltd.

(xi) Spare Drive, SBX (DKU for 2.5 inch Drive)

Table 3.11.4.4-11 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.4.4-11 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-11 Relation between Drive installation order and Spare Drive number (3/4)

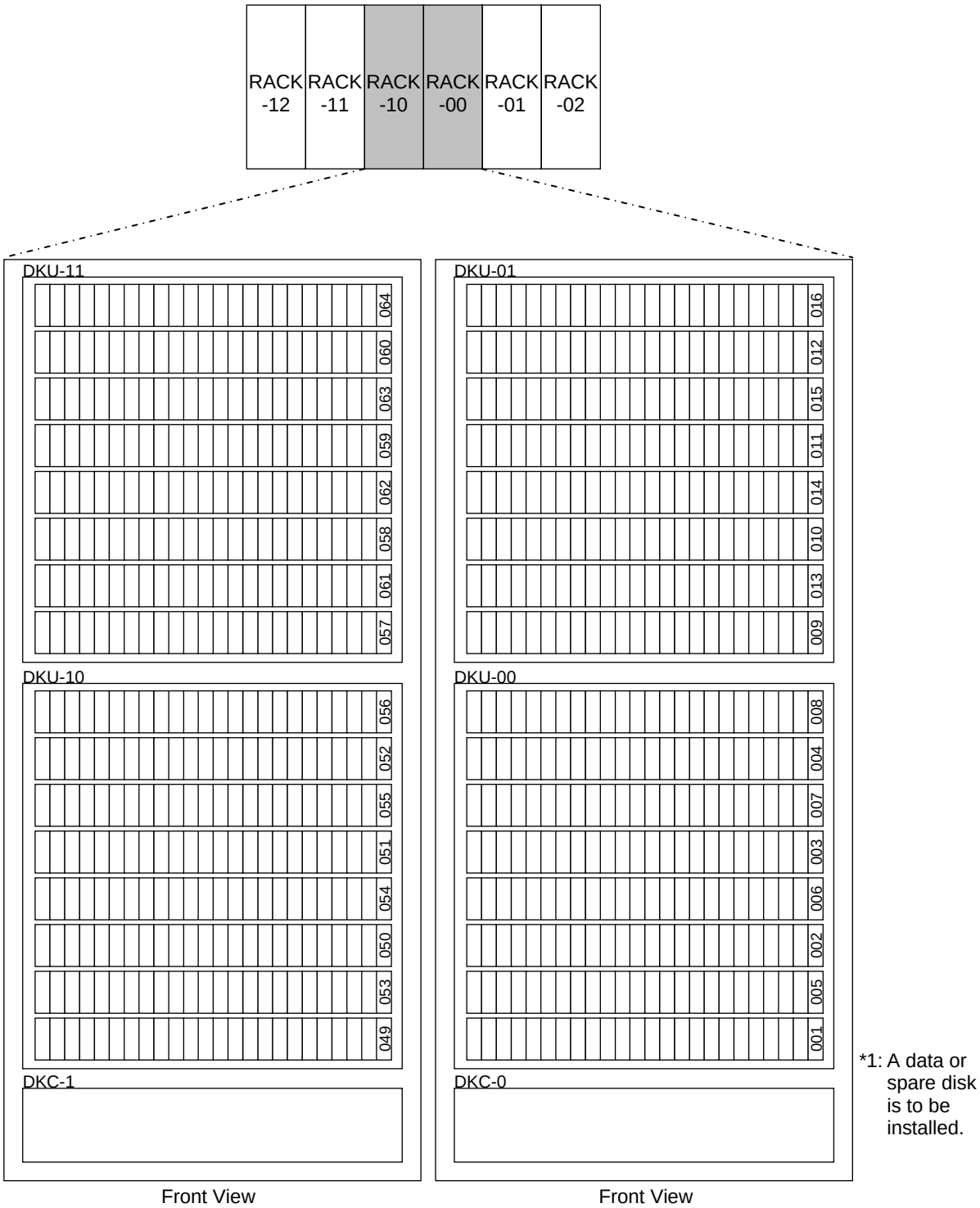
DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.4.4-11 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

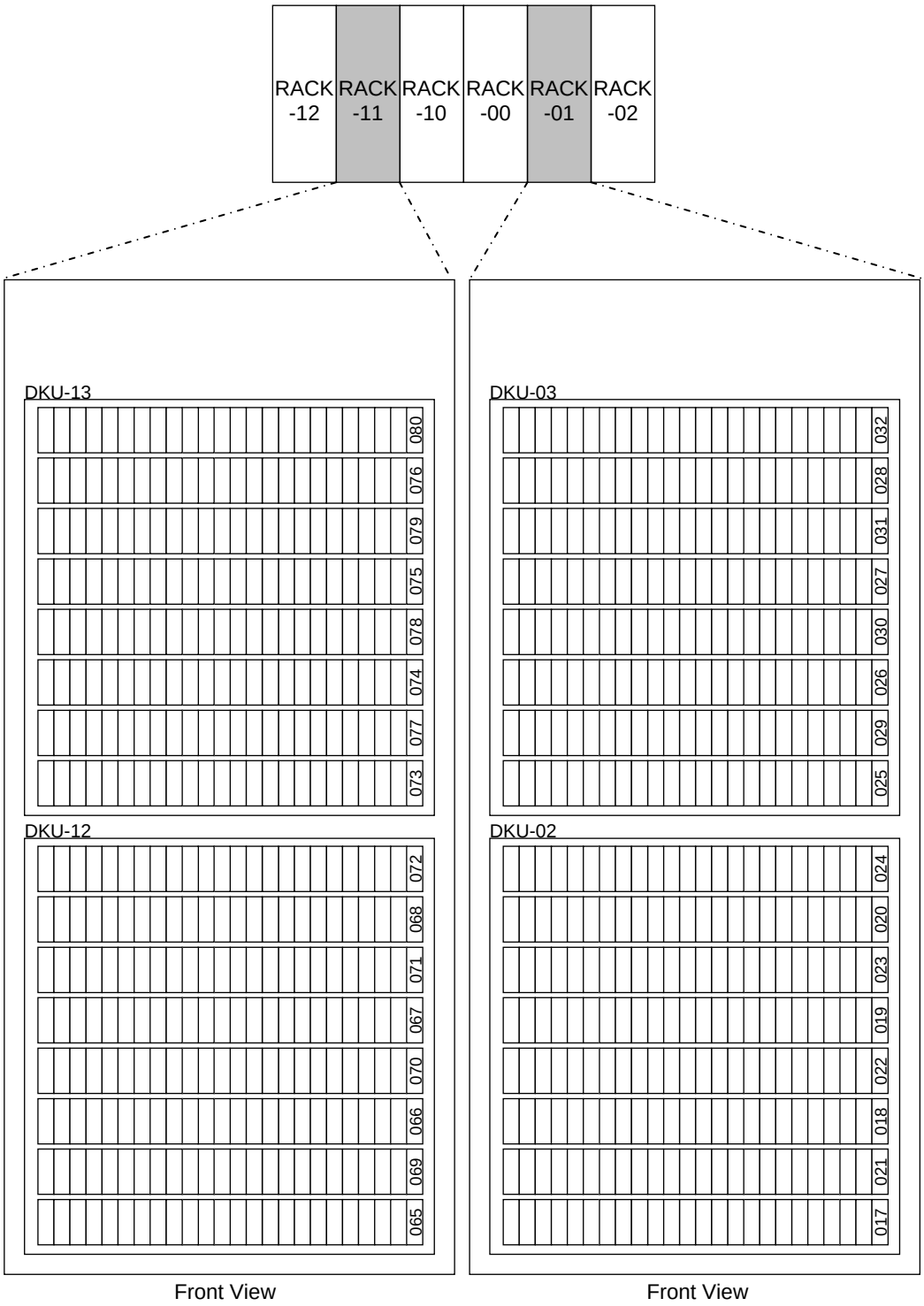
No.	Model Number	Model Name	Remarks
1	DKC-F810I-300KCM/600JCM/900JCM/1R2JCM × 1	SFF Disk Drive	Spare Drive
2	DKC-F810I-400MCM/800MCM × 1	SFF SSD Drive	Spare Drive



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-11 Spare Drive Expansion Sequence (1/3)

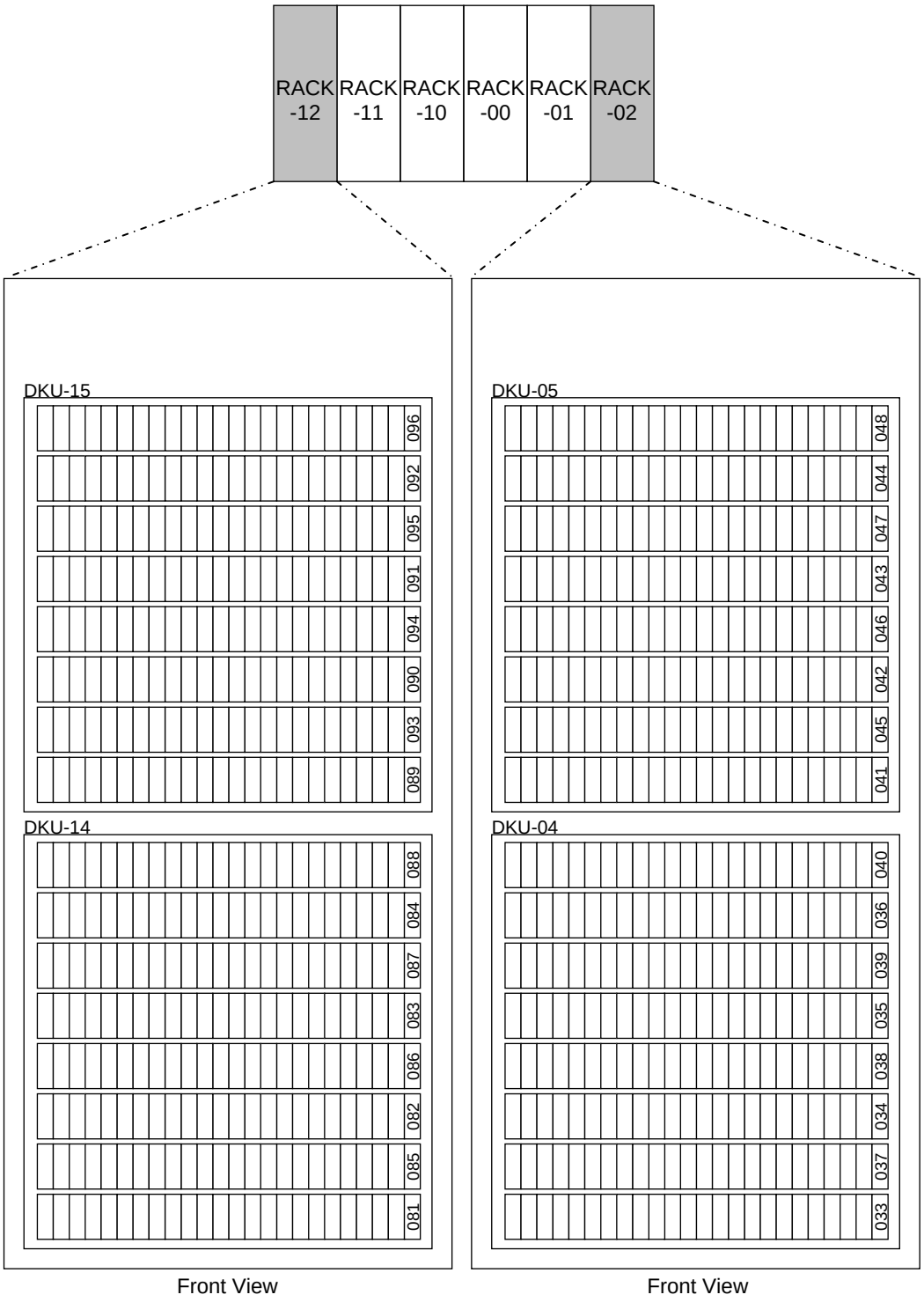
Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-11 Spare Drive Expansion Sequence (2/3)

Copyright © 2014, Hitachi, Ltd.



*1: A data or spare disk is to be installed.

Fig. 3.11.4.4-11 Spare Drive Expansion Sequence (3/3)

Copyright © 2014, Hitachi, Ltd.

(xii) Spare Drive, FBX (DKU for FMD)

Table 3.11.4.4-12 Relation between Drive installation order and Spare Drive number (1/4)

DKU-00			DKU-01			DKU-02			DKU-03		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
001	1st	Spare1	009	5th	Spare1	017	9th	Spare1	025	13th	Spare1
002	1st	Spare2	010	5th	Spare2	018	9th	Spare2	026	13th	Spare2
003	1st	Spare3	011	5th	Spare3	019	9th	Spare3	027	13th	Spare3
004	1st	Spare4	012	5th	Spare4	020	9th	Spare4	028	13th	Spare4
005	2nd	Spare1	013	6th	Spare1	021	10th	Spare1	029	14th	Spare1
006	2nd	Spare2	014	6th	Spare2	022	10th	Spare2	030	14th	Spare2
007	2nd	Spare3	015	6th	Spare3	023	10th	Spare3	031	14th	Spare3
008	2nd	Spare4	016	6th	Spare4	024	10th	Spare4	032	14th	Spare4

Table 3.11.4.4-12 Relation between Drive installation order and Spare Drive number (2/4)

DKU-04			DKU-05		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
033	17th	Spare1	041	21th	Spare1
034	17th	Spare2	042	21th	Spare2
035	17th	Spare3	043	21th	Spare3
036	17th	Spare4	044	21th	Spare4
037	18th	Spare1	045	22th	Spare1
038	18th	Spare2	046	22th	Spare2
039	18th	Spare3	047	22th	Spare3
040	18th	Spare4	048	22th	Spare4

Copyright © 2014, Hitachi, Ltd.

Table 3.11.4.4-12 Relation between Drive installation order and Spare Drive number (3/4)

DKU-10			DKU-11			DKU-12			DKU-13		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
049	3rd	Spare1	057	7th	Spare1	065	11th	Spare1	073	15th	Spare1
050	3rd	Spare2	058	7th	Spare2	066	11th	Spare2	074	15th	Spare2
051	3rd	Spare3	059	7th	Spare3	067	11th	Spare3	075	15th	Spare3
052	3rd	Spare4	060	7th	Spare4	068	11th	Spare4	076	15th	Spare4
053	4th	Spare1	061	8th	Spare1	069	12th	Spare1	077	16th	Spare1
054	4th	Spare2	062	8th	Spare2	070	12th	Spare2	078	16th	Spare2
055	4th	Spare3	063	8th	Spare3	071	12th	Spare3	079	16th	Spare3
056	4th	Spare4	064	8th	Spare4	072	12th	Spare4	080	16th	Spare4

Table 3.11.4.4-12 Relation between Drive installation order and Spare Drive number (4/4)

DKU-14			DKU-15		
Installation Order	B4 No.	Spare drive No.	Installation Order	B4 No.	Spare drive No.
081	19th	Spare1	089	23th	Spare1
082	19th	Spare2	090	23th	Spare2
083	19th	Spare3	091	23th	Spare3
084	19th	Spare4	092	23th	Spare4
085	20th	Spare1	093	24th	Spare1
086	20th	Spare2	094	24th	Spare2
087	20th	Spare3	095	24th	Spare3
088	20th	Spare4	096	24th	Spare4

Copyright © 2014, Hitachi, Ltd.

No.	Model Number	Model Name	Data and Parity
1	DKC-F810I-1R6FM/3R2FM × 1	Flash Module Drive	Spare Drive

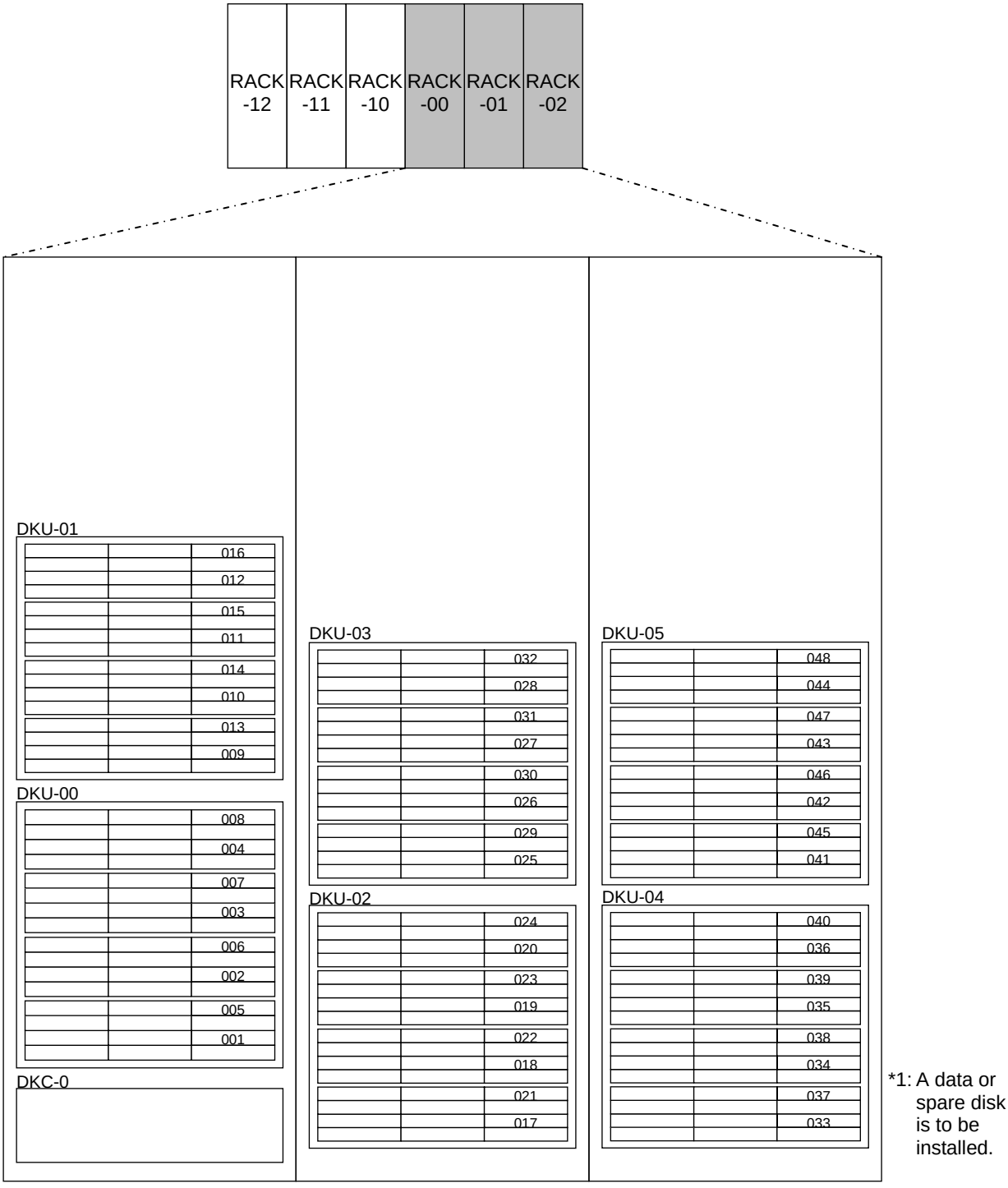


Fig. 3.11.4.4-12 Spare Drive Expansion Sequence (1/2)

Copyright © 2014, Hitachi, Ltd.

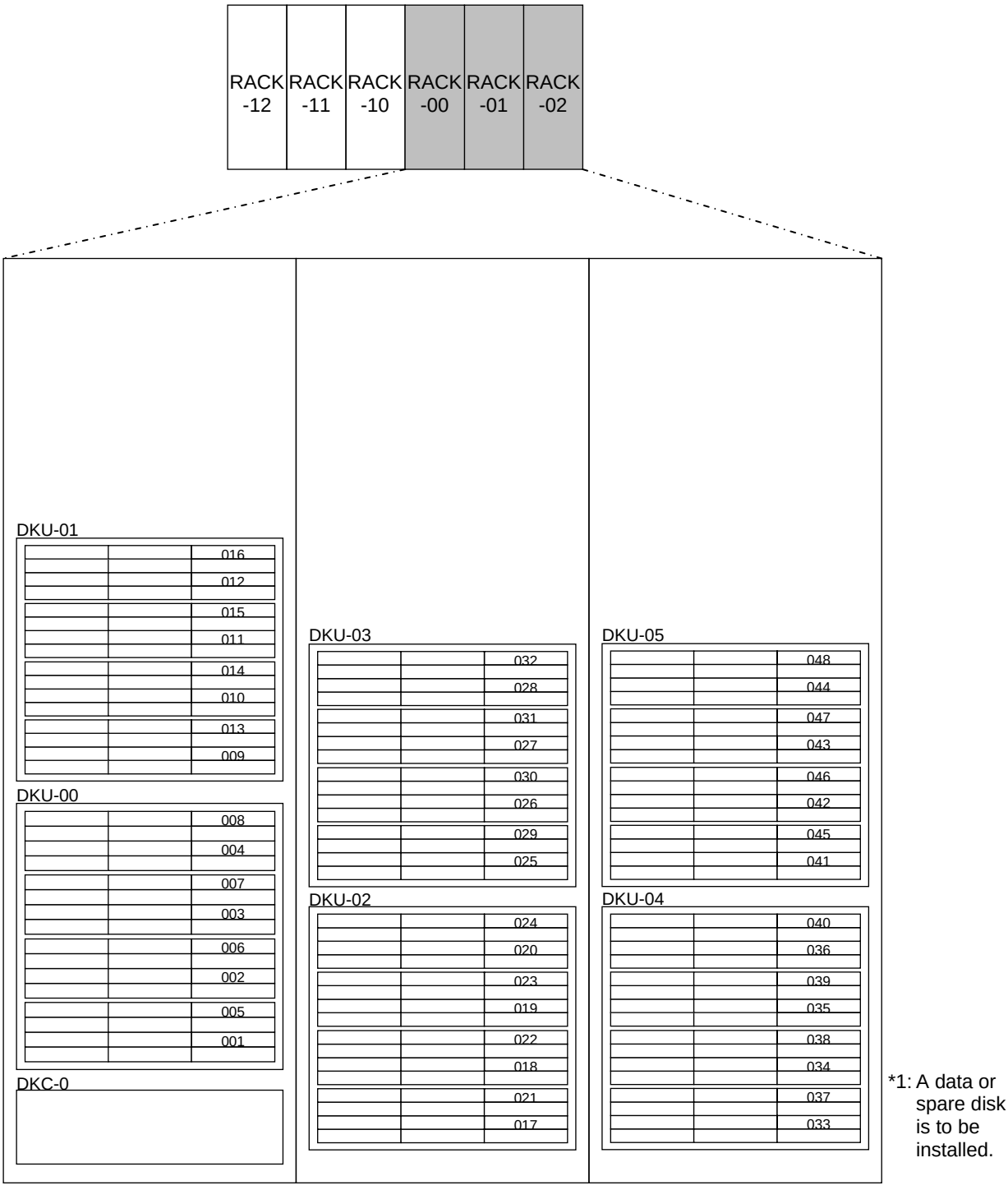
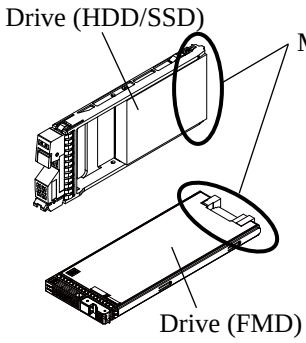


Fig. 3.11.4.4-12 Spare Drive Expansion Sequence (2/2)

Copyright © 2014, Hitachi, Ltd.

2. Checking the condition of the drive
   a. Check the condition of the drive before installing it.



NOTICE: Check that the main edge connector of the drive (HDD/SSD/FMD) has no deformation, damage or sticking of dust before installing the drive.

2-1 Installing the drives

NOTICE: When two or more drives are inserted at the same time, the already operating drives might be blocked.
Insert the drives one by one at a second (*1) interval.
Don't insert the drive that is not defined in the configuration.
*1: Interval of time necessary for stabilizing the voltage of the back board after a drive insertion.

NOTICE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

Copyright © 2014, Hitachi, Ltd.

In case of UBX

NOTICE: Since the Drive is a precision component, handle it very carefully not to apply a vibration or shock to it.

a. Remove the dummy (drive) from the position installing the drive.
b. Open the handle fully and fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.

NOTE: When handling the drive, hold the rail side because the shield spring is subject to breakage.

c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole on a frame.
d. Pull the stopper lightly and close the handle, and then press the stopper to have the lock on. If the handle is closed in the state where the hook of the handle cannot enter into the square hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

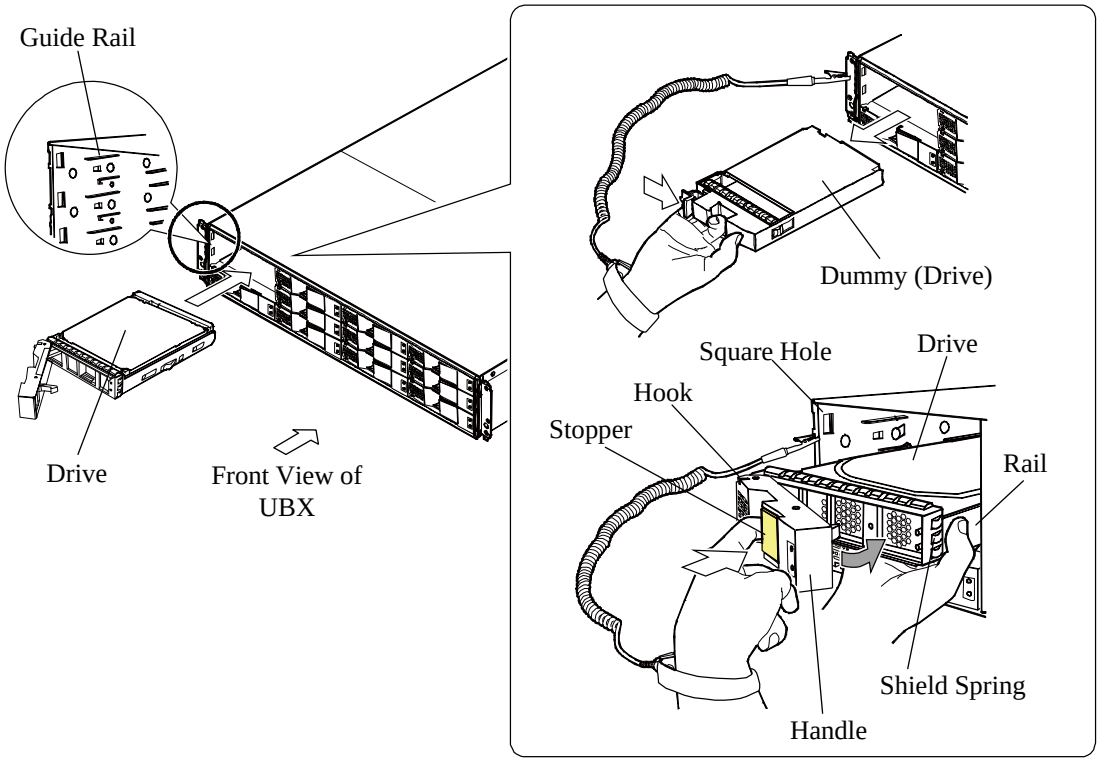


Fig. 3.11.4.4-13 Installation of Drives (In case of UBX)

Copyright © 2014, Hitachi, Ltd.

In case of SBX

NOTICE: Since the Drive is a precision component, handle it very carefully not to apply a vibration or shock to it.

a. Remove the dummy (drive) from the position installing the drive.
b. Fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.
c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole at the lower part of a frame on the front side of the drive box.
d. Raise the stopper, which has been tilted toward you, and then press the stopper to have the lock on.
   If the handle is raised in the state where the hook of the handle cannot enter into each hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

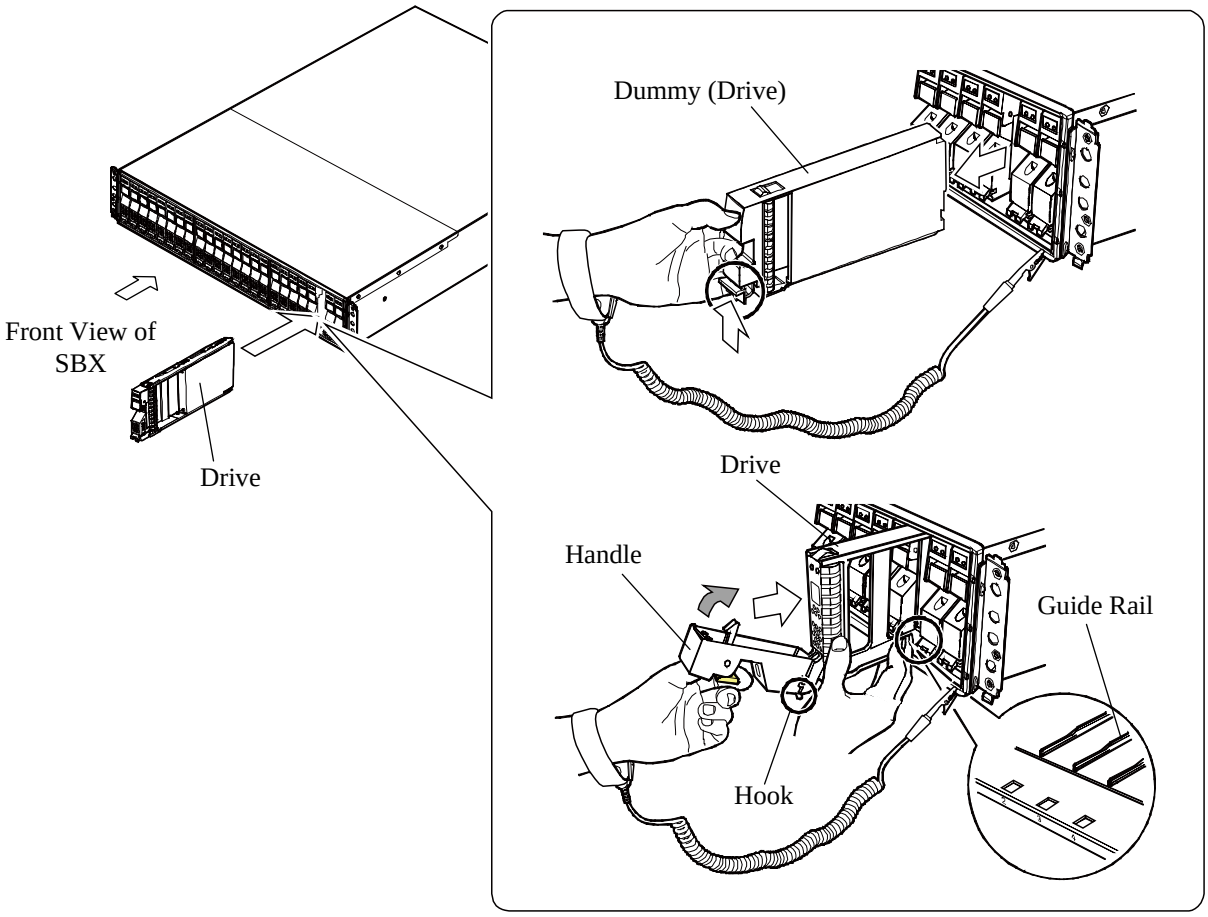
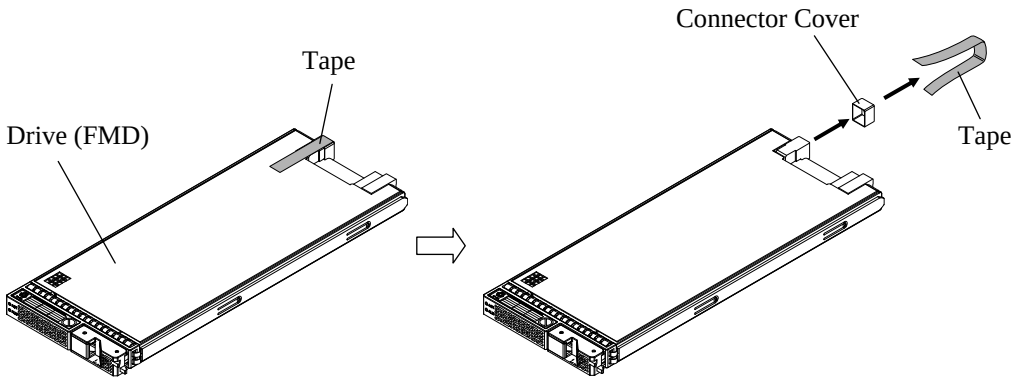


Fig. 3.11.4.4-14 Installation of Drives (In case of SBX)

Copyright © 2014, Hitachi, Ltd.

In case of FBX

NOTICE: Be sure to detach the tape and remove the connector cover when installing the FMD. Installing the FMD with the connector cover attached may cause equipment damage or failure.



Copyright © 2014, Hitachi, Ltd.

a. Remove the Dummy FMD from the installing position of a drive.
   Release the hook while pressing the lock to the left to pull the Dummy FMD toward you.
b. Open the handle fully and fit the drive in the guide rail and slide it in the direction shown by the arrow not to give a shock.

   NOTE: When handling the drive, hold the rail side because the shield spring is subject to breakage.
c. Push the drive in until it reaches the position where a hook of the handle can be entered into the square hole on a frame.
d. Pull the stopper lightly and close the handle, and then press the stopper to have the lock on.
   If the handle is closed in the state where the hook of the handle cannot enter into the square hole, the drive cannot be installed correctly because it runs into the frame of the drive chassis.

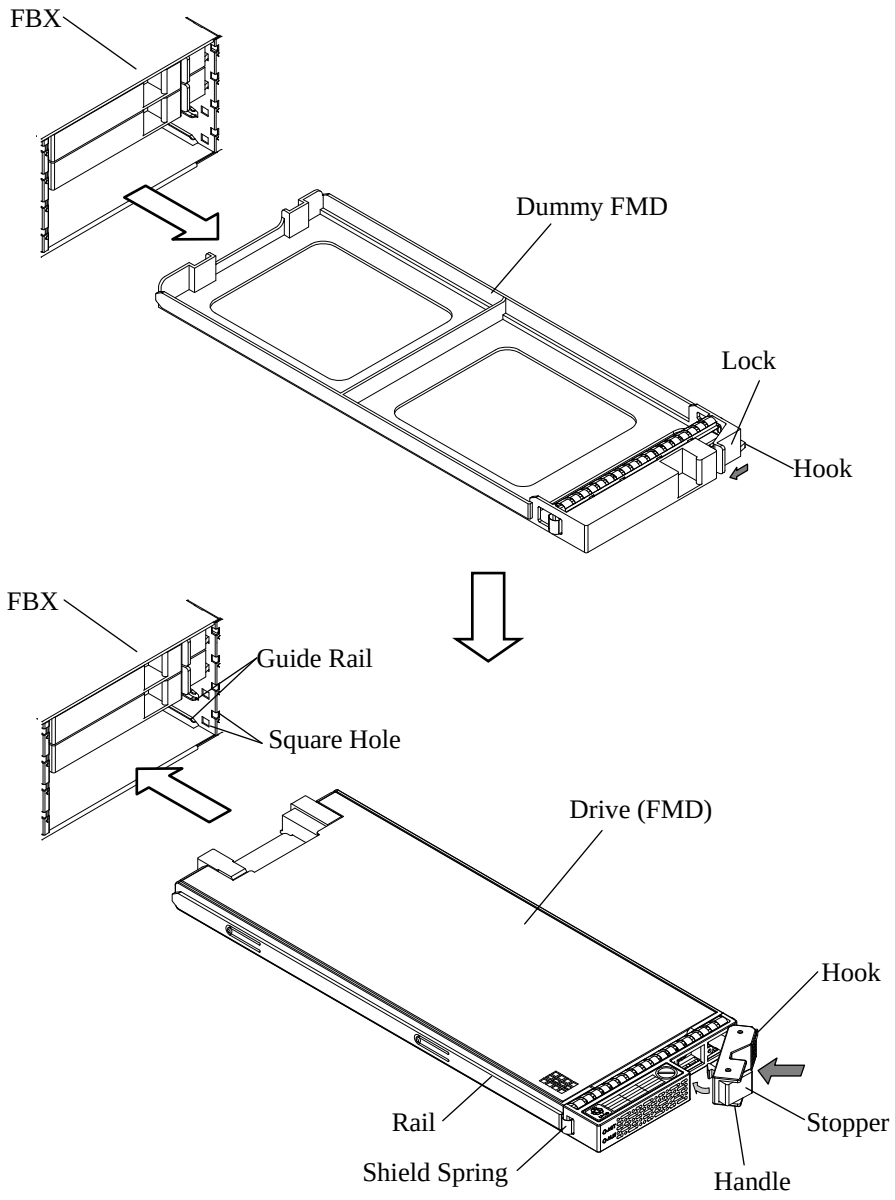


Fig. 3.11.4.4-15 Installation of Drive (In case of FBX)

Copyright © 2014, Hitachi, Ltd.

3.11.4.5 Installation Procedure of Device Interface Cable CC1 (DKC-F810I-CC1)

NOTE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

Installation Condition

DKC-F810I-CC1 is a cable option to connect between FBX and FBX in one rack.
Refer to below Table 3.11.4.5-1 for the condition of DKC-F810I-CC1 installation, and go to the appropriate page.

Table 3.11.4.5-1 Work Procedure Table

No.	Condition of Work Procedure	Page
1	When Device Interface Cable CC1 (DKC-F810I-CC1) is required to install.	INST03-11C-950
2	When Device Interface Cable CC1 (DKC-F810I-CC1) is not required to install.	INST03-11C-990

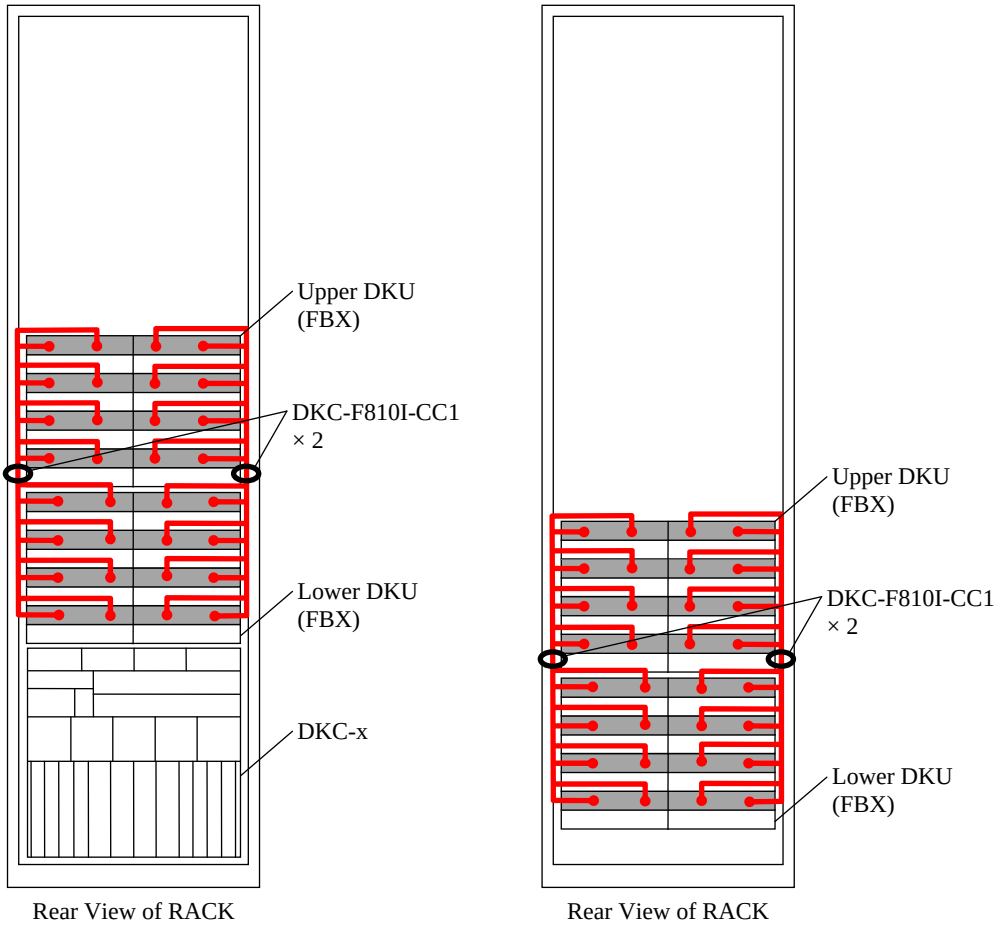
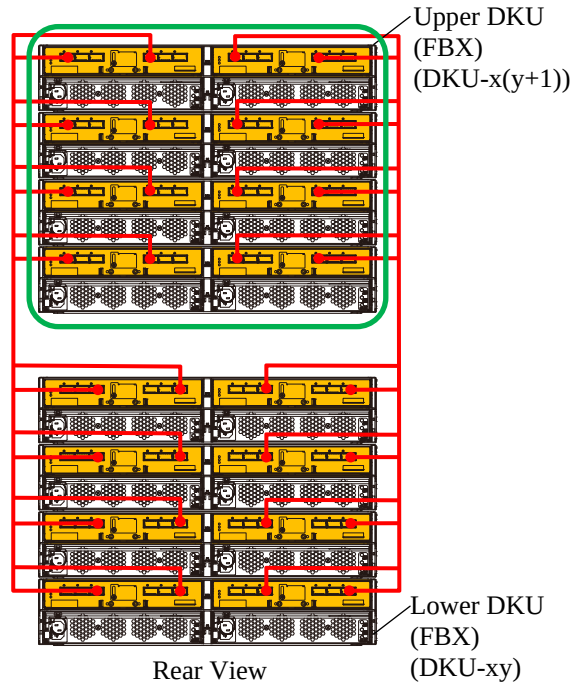


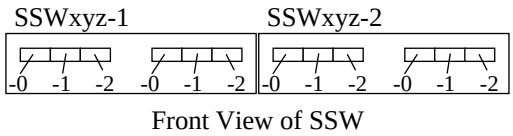
Fig. 3.11.4.5-1 Mounting Position of Device Interface Cable

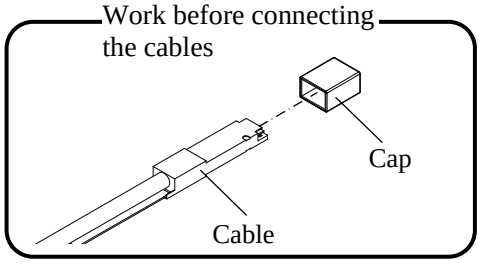
Copyright © 2014, Hitachi, Ltd.

1. Connection of cables
   a. Remove the caps from the cables to be connected.
   b. Connect the sixteen cables to the SSWs in the upper DKU after checking “3.1.6 Notes when connecting the DEV interface cable” (INST03-01-180).

> **⚠ CAUTION**
> A serious failure occurs if any of cables/connectors is wrongly connected.
> Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.







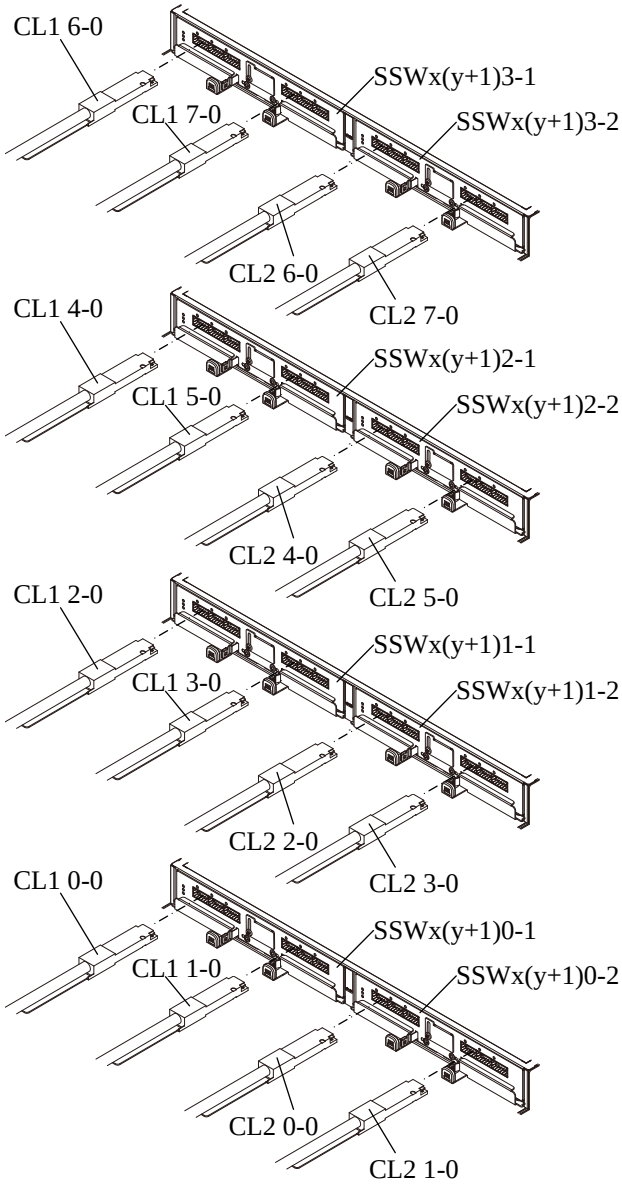


Fig. 3.11.4.5-2 Connection of Cables (CC1_DKU-x(y+1))

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the lower DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

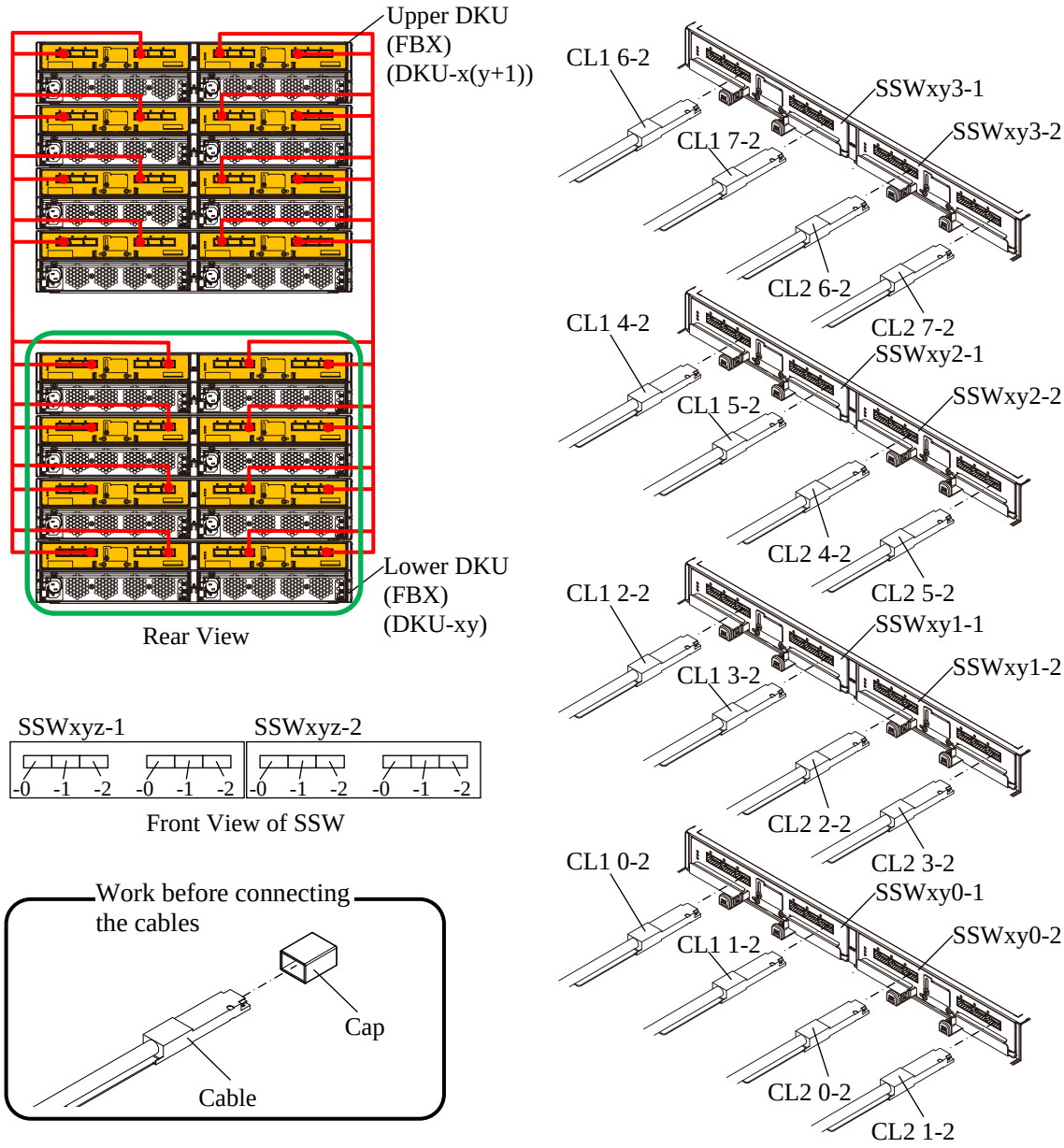


Fig. 3.11.4.5-3 Connection of Cables (CC1_DKU-xy)

Copyright © 2014, Hitachi, Ltd.

2. Attachment of cables
   a. Route the eight cables in the cluster 1 and fix them with the loop cable ties.

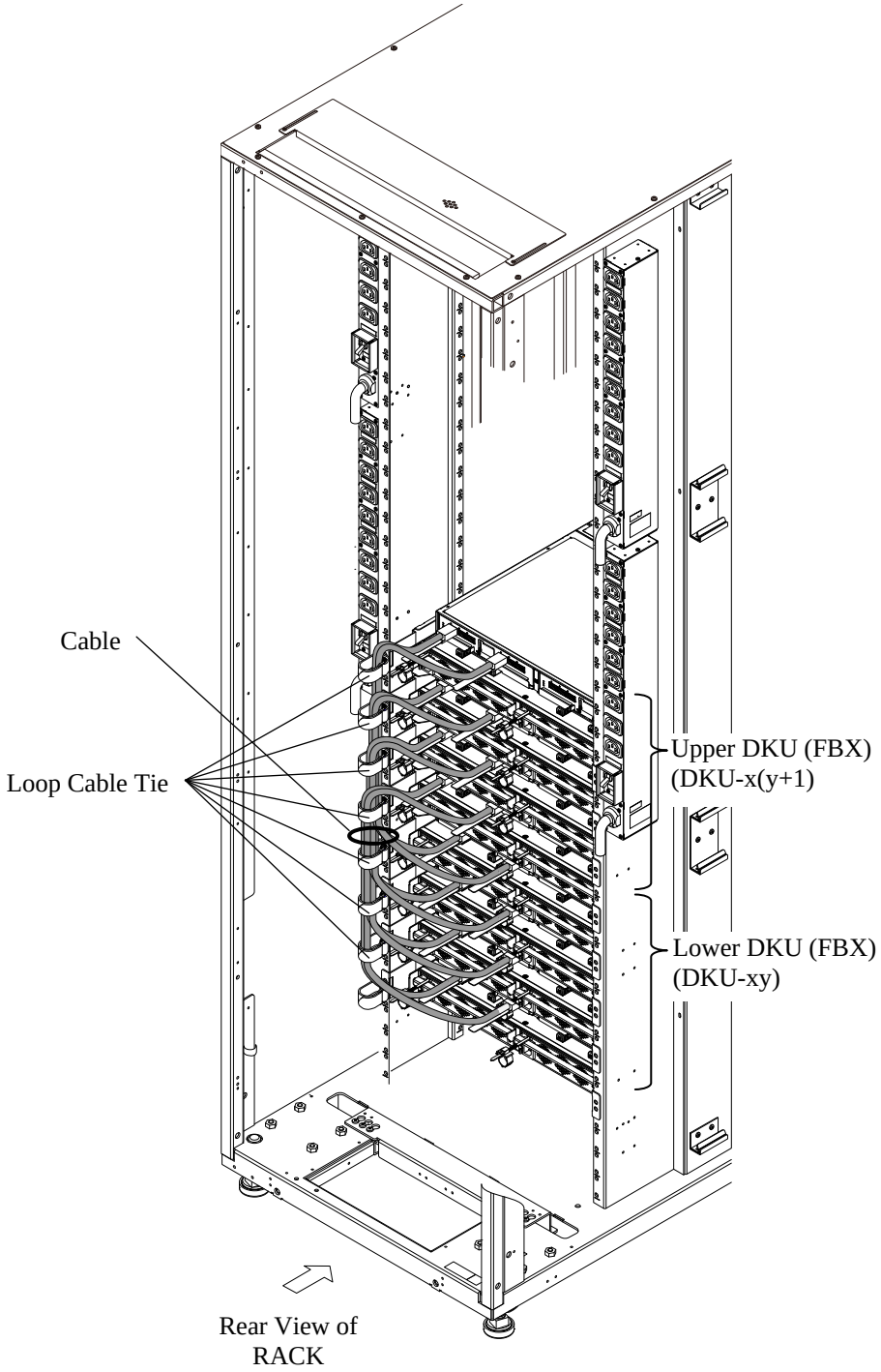


Fig. 3.11.4.5-4 Fixation of Cables (DKU-xy (FBX) – DKU-x(y+1) (FBX))

Copyright © 2014, Hitachi, Ltd.

b. Route the eight cables in the cluster 2 and fix them with the loop cable ties.

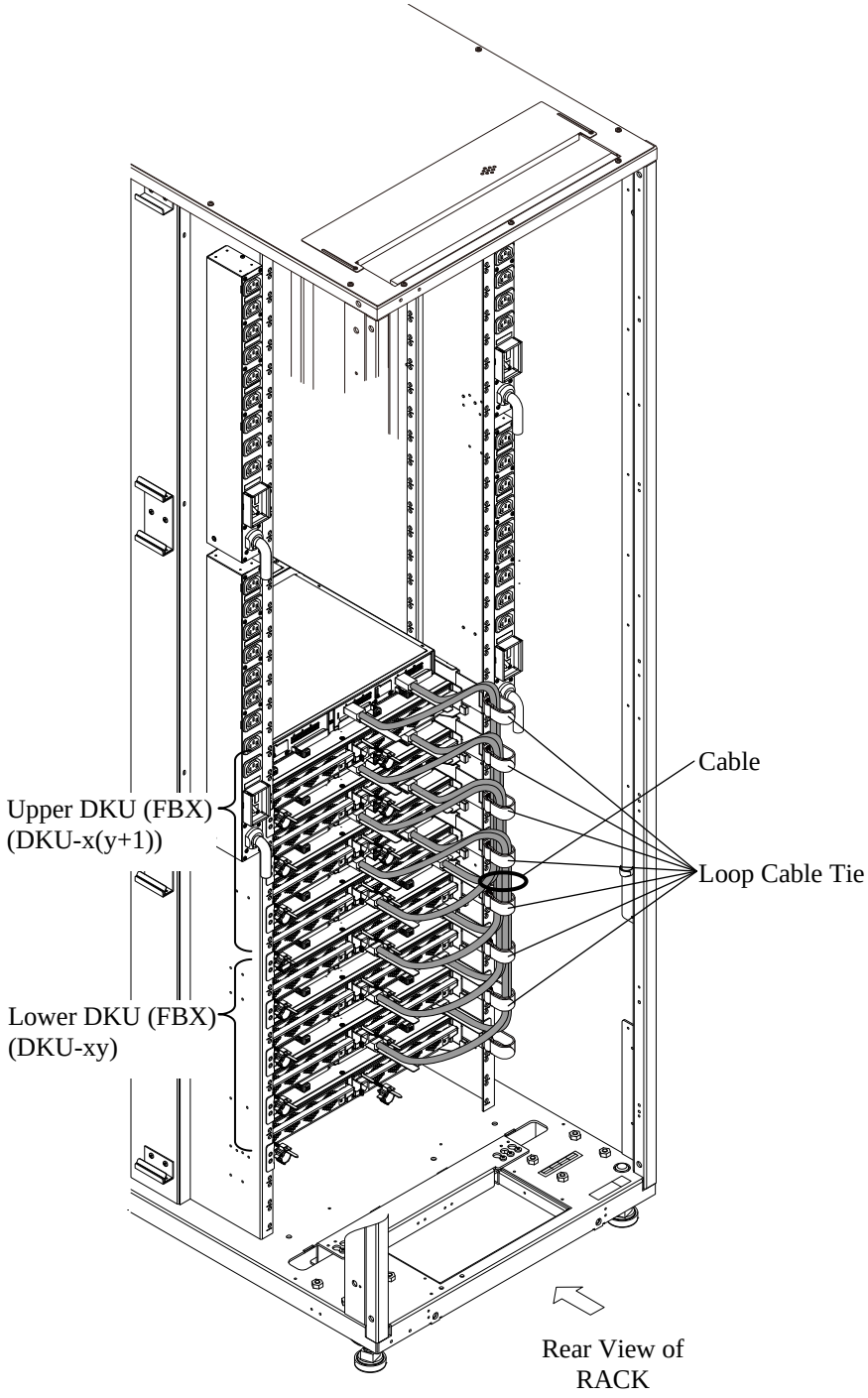


Fig. 3.11.4.5-5 Fixation of Cables (DKU-xy(FBX) – DKU-x(y+1) (FBX))

Copyright © 2014, Hitachi, Ltd.

3.11.4.6 Installation Procedure of Device Interface Cable CC2 (DKC-F810I-CC2)

NOTE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

Installation Condition

DKC-F810I-CC2 is a cable option to connect UBX/SBX and UBX/SBX/FBX in one rack. (See Fig. 3.11.4.6-1 and Fig. 3.11.4.6-2.)
Refer to below Table 3.11.4.6-1 for the condition of DKC-F810I-CC2 installation, and go to the appropriate page.

Table 3.11.4.6-1 Work Procedure Table

No.	Condition of Work Procedure	Page
1	When Device Interface Cable CC2 (DKC-F810I-CC2) is required to install.	INST03-11C-1010
2	When Device Interface Cable CC2 (DKC-F810I-CC2) is not required to install.	INST03-11C-1170

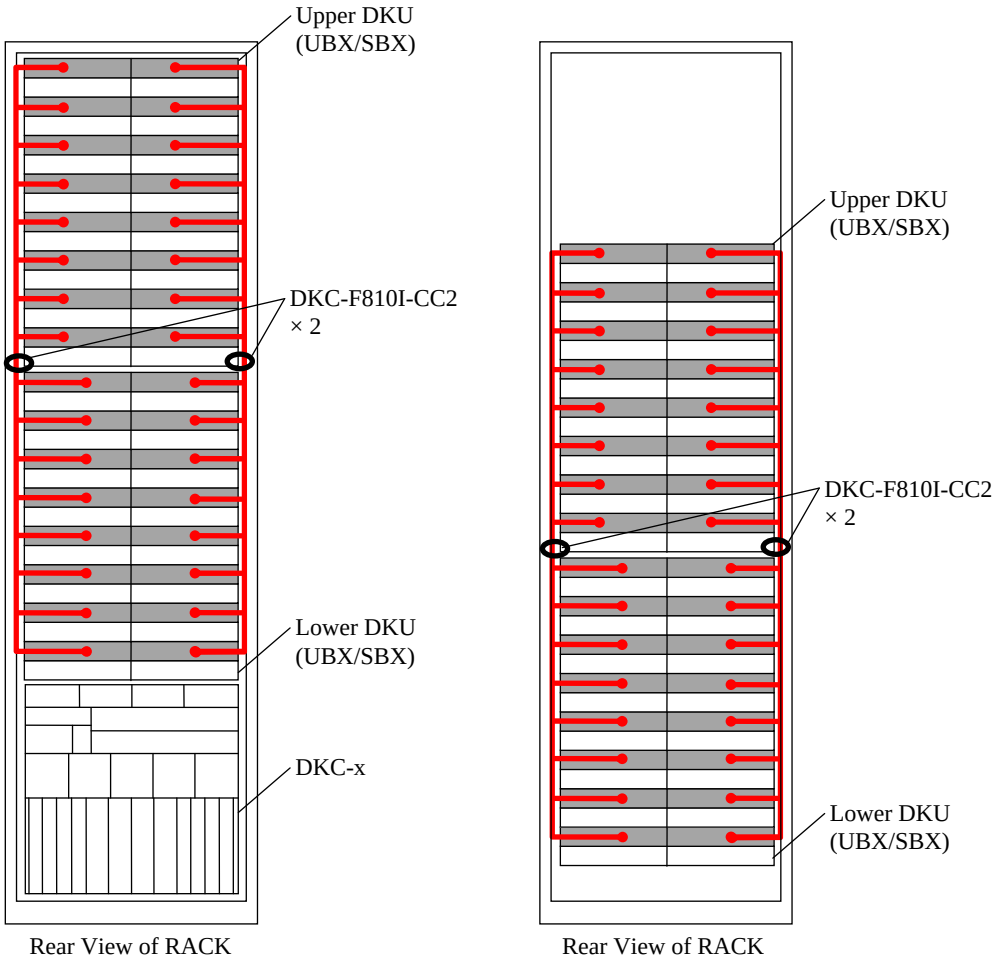


Fig. 3.11.4.6-1 Mounting Position of Device Interface Cable

Copyright © 2014, Hitachi, Ltd.

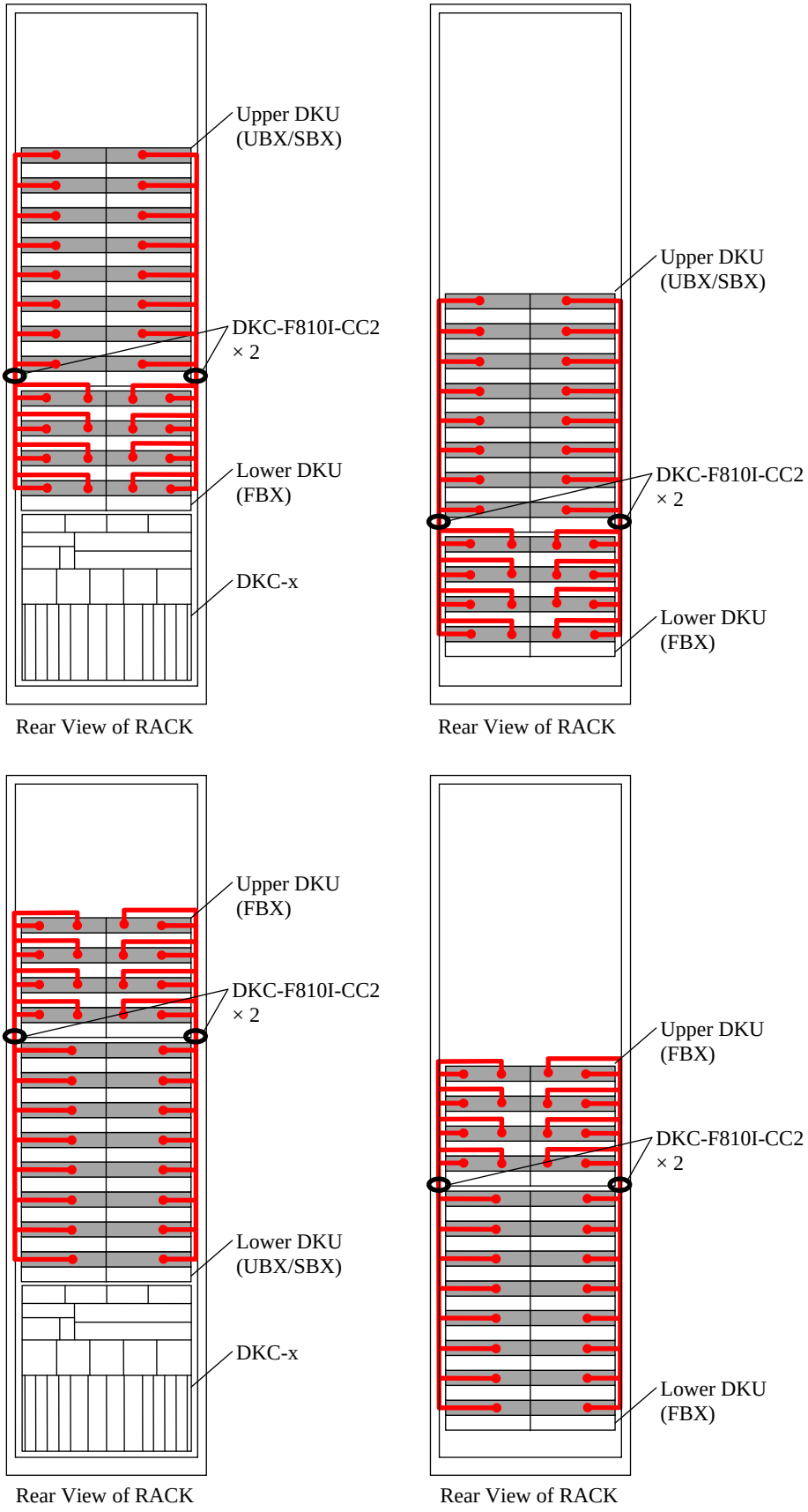


Fig. 3.11.4.6-2 Mounting Position of Device Interface Cable

Copyright © 2014, Hitachi, Ltd.

1. Connection of cables

When connecting upper DKU (UBX/SBX) with lower DKU (UBX/SBX)

a. Remove the caps from the cables to be connected.

b. Connect the sixteen cables to the SSWs in the upper DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.6-3 and Fig. 3.11.4.6-4.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

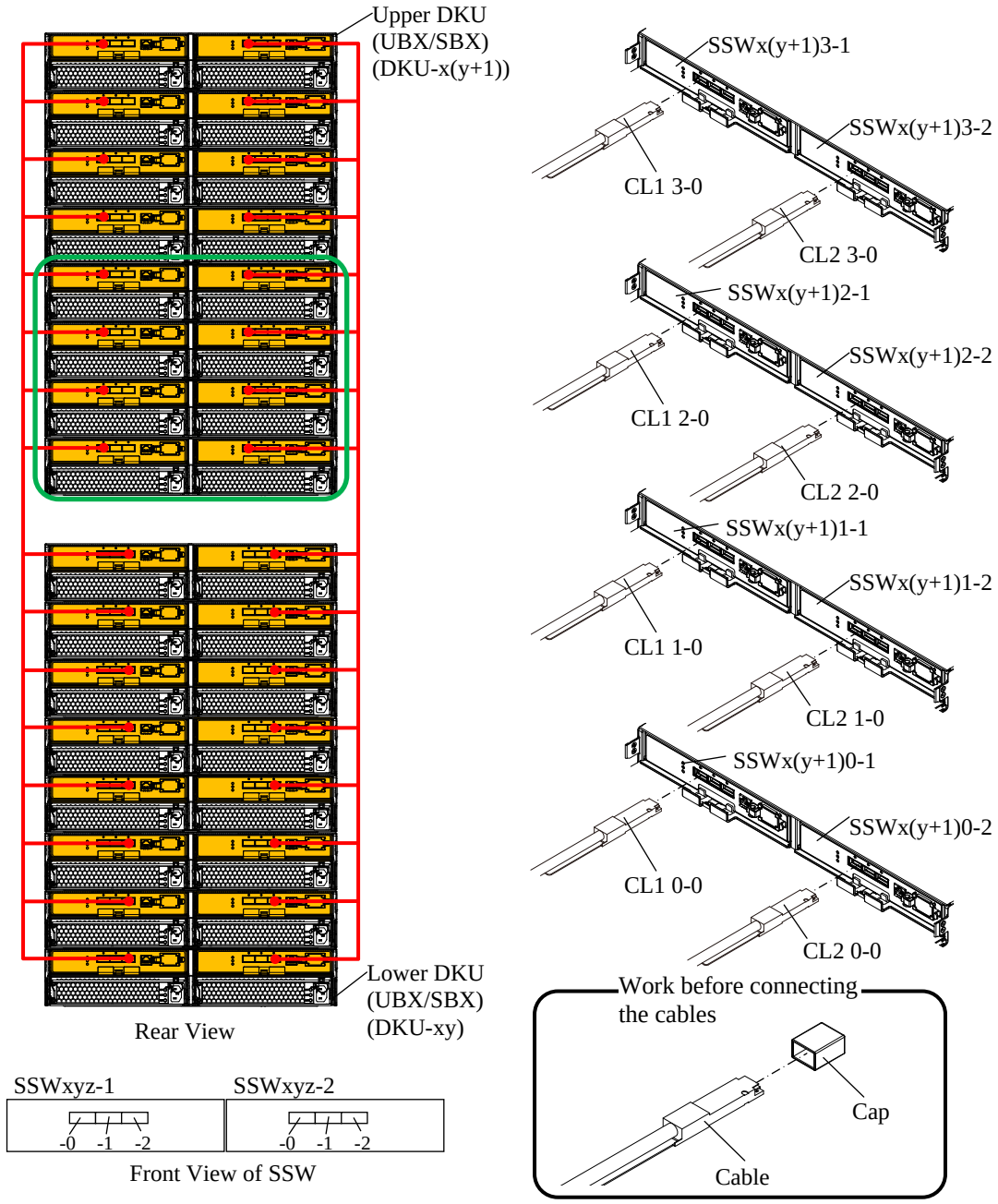


Fig. 3.11.4.6-3 Connection of Cables (CC2_DKU-x(y+1)_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

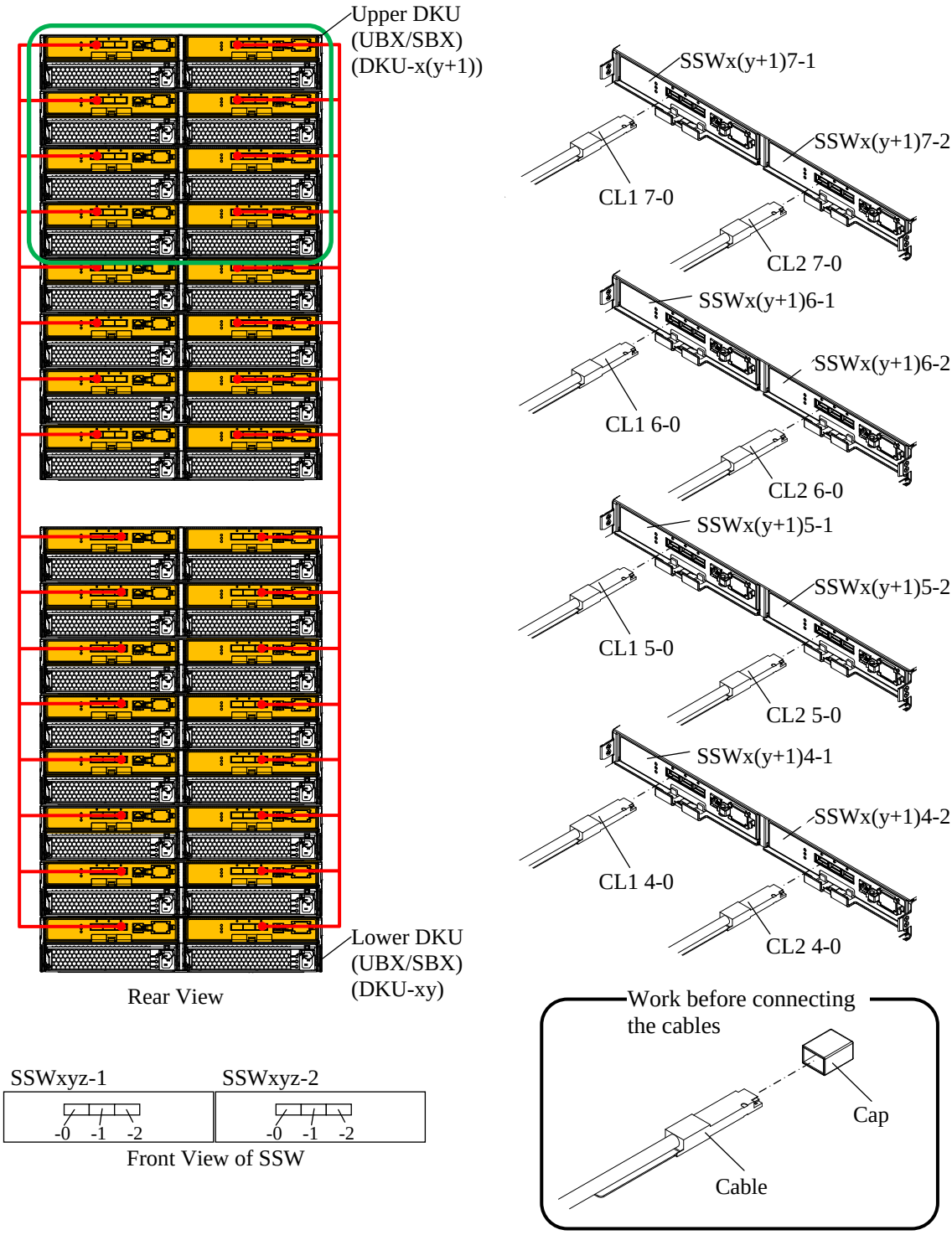


Fig. 3.11.4.6-4 Connection of Cables (CC2_DKU-x(y+1)_U)

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the lower DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.6-5 and Fig. 3.11.4.6-6.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

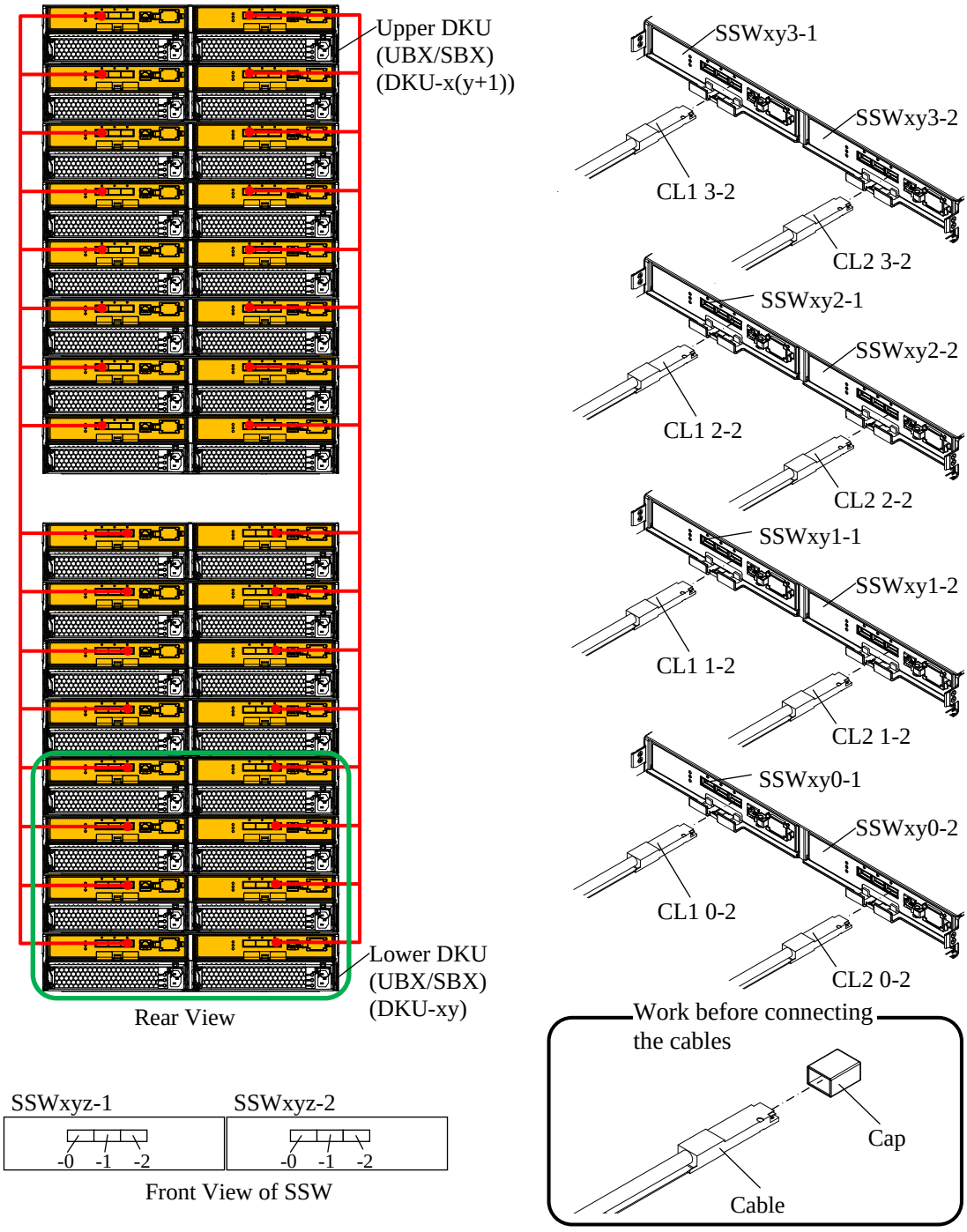


Fig. 3.11.4.6-5 Connection of Cables (CC2_DKU-xy_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

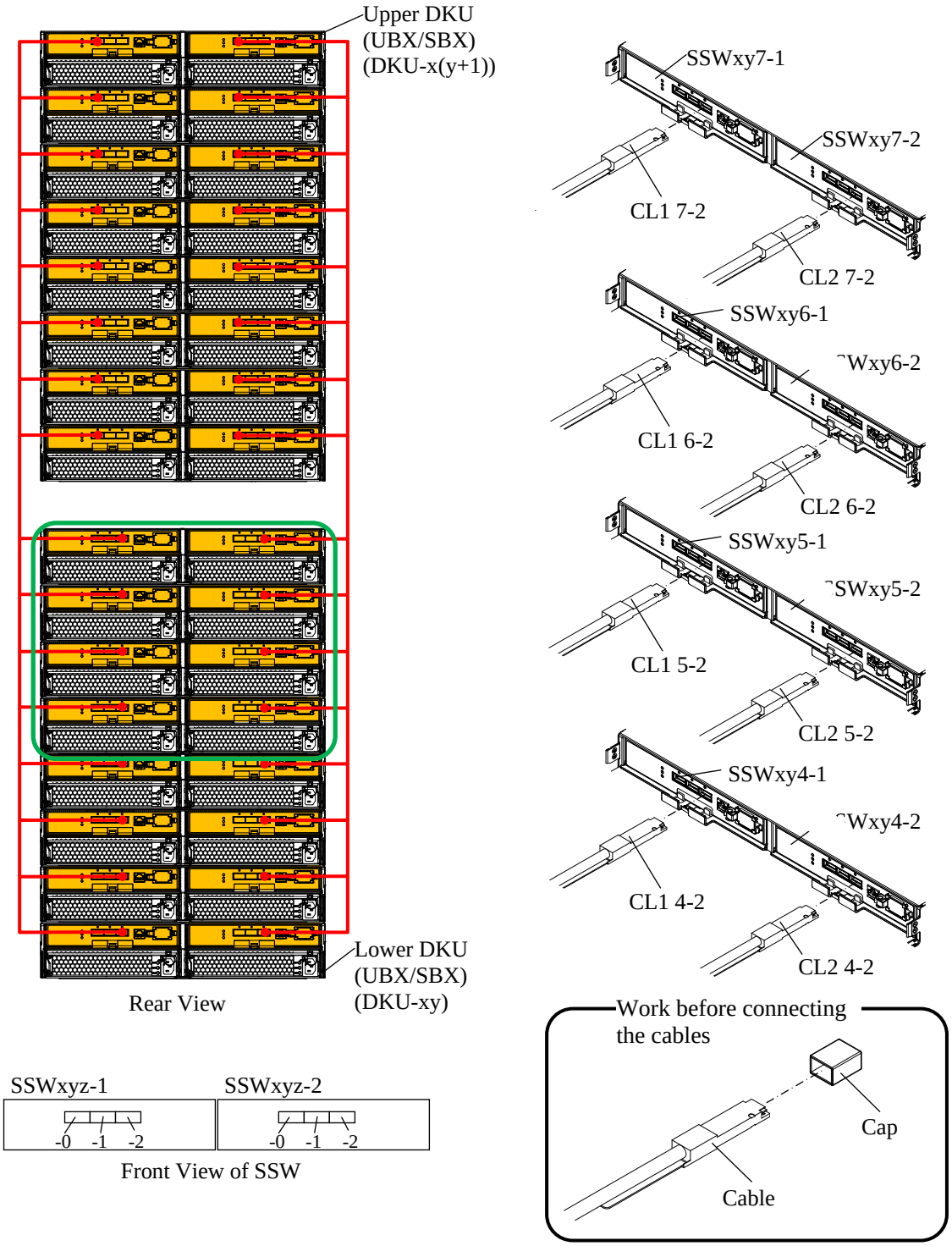


Fig. 3.11.4.6-6 Connection of Cables (CC2_DKU-xy_U)

Copyright © 2014, Hitachi, Ltd.

When connecting upper DKU (UBX/SBX) with lower DKU (FBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the upper DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.6-7 and Fig. 3.11.4.6-8.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

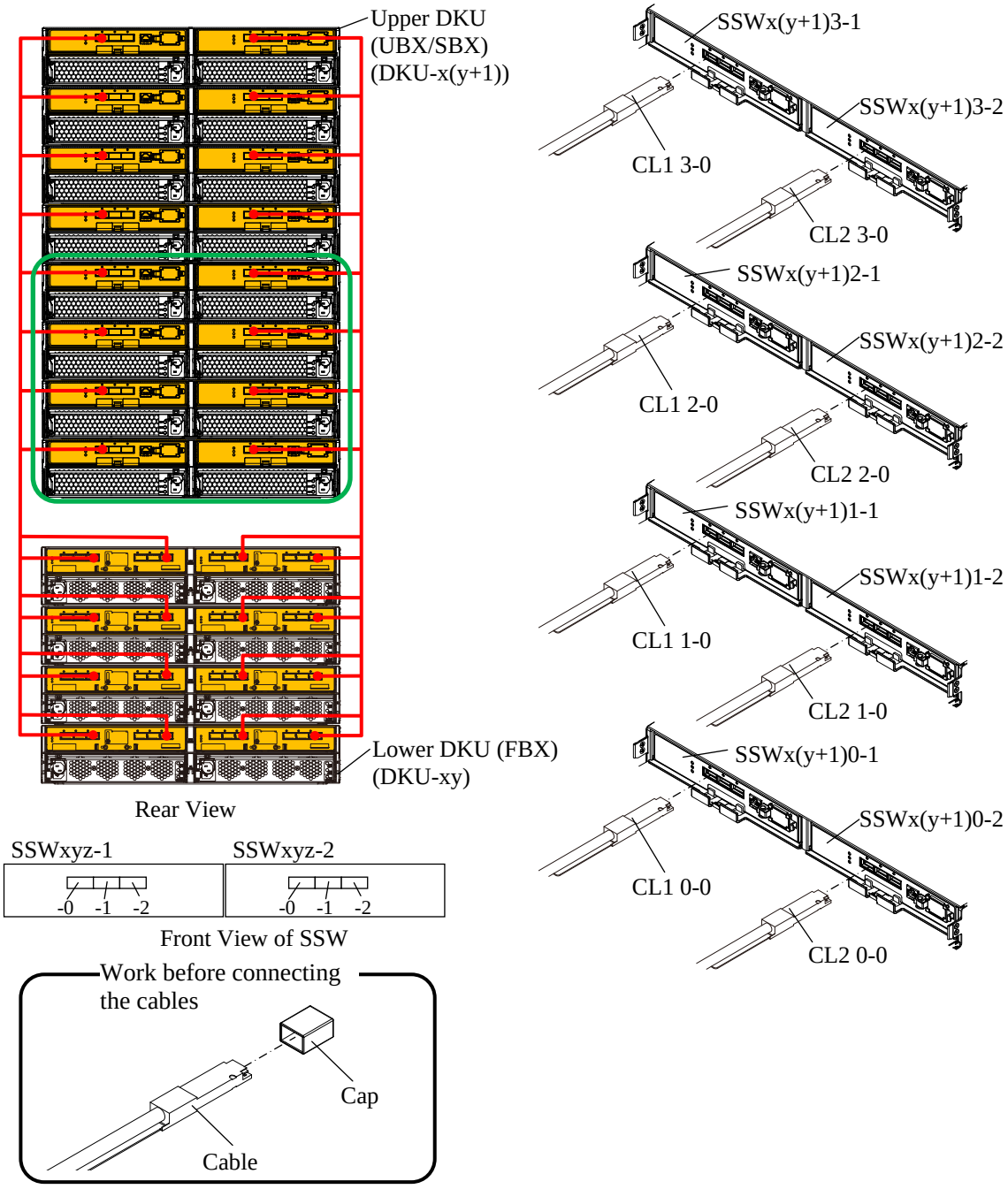


Fig. 3.11.4.6-7 Connection of Cables (CC2_DKU-x(y+1)_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

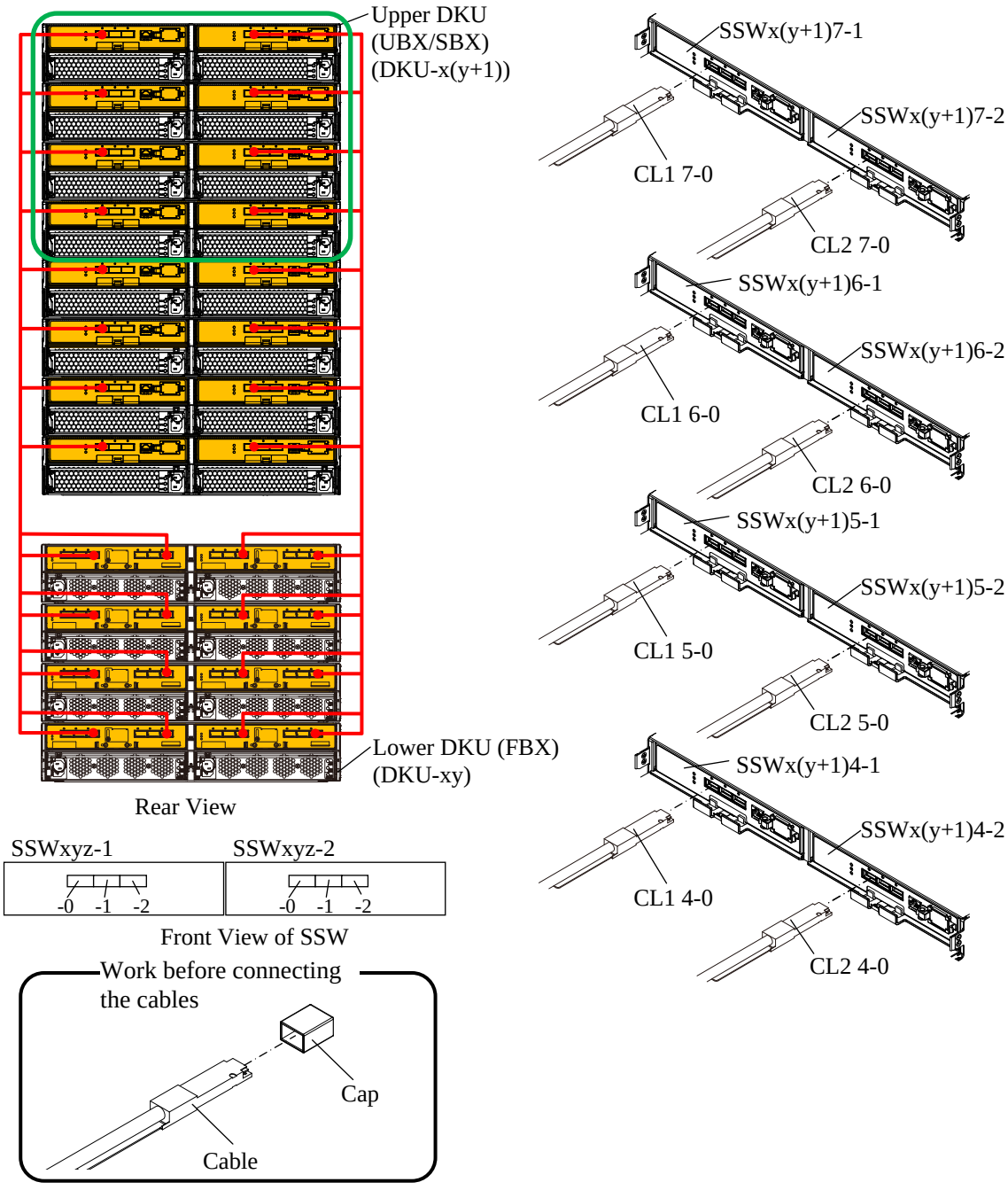


Fig. 3.11.4.6-8 Connection of Cables (CC2_DKU-x(y+1)_U)

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the lower DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

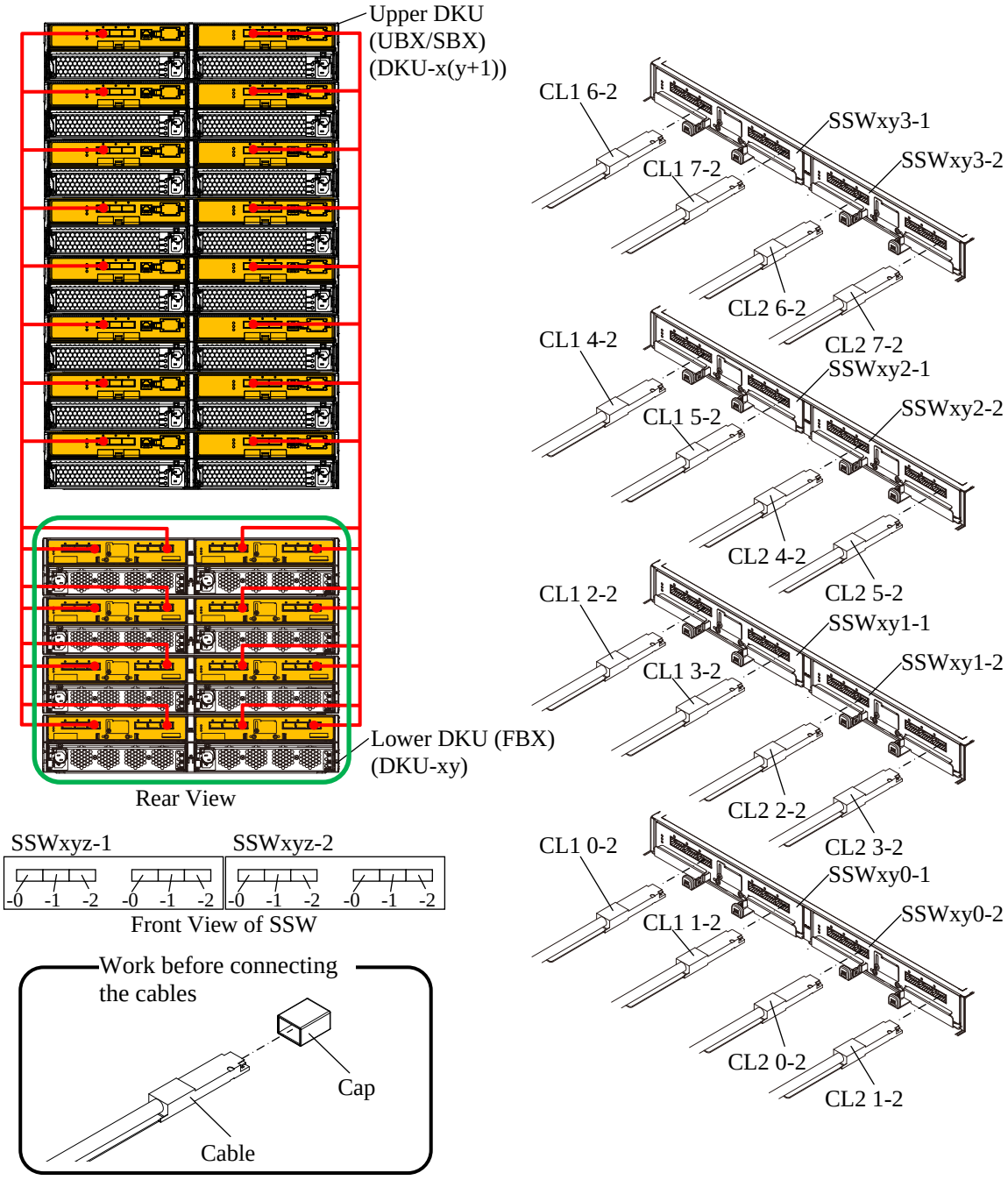


Fig. 3.11.4.6-9 Connection of Cables (CC2_DKU-xy)

Copyright © 2014, Hitachi, Ltd.

When connecting upper DKU (FBX) with lower DKU (UBX/SBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the upper DKU after checking “3.1.6 Notes when connecting the DEV interface cable” (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

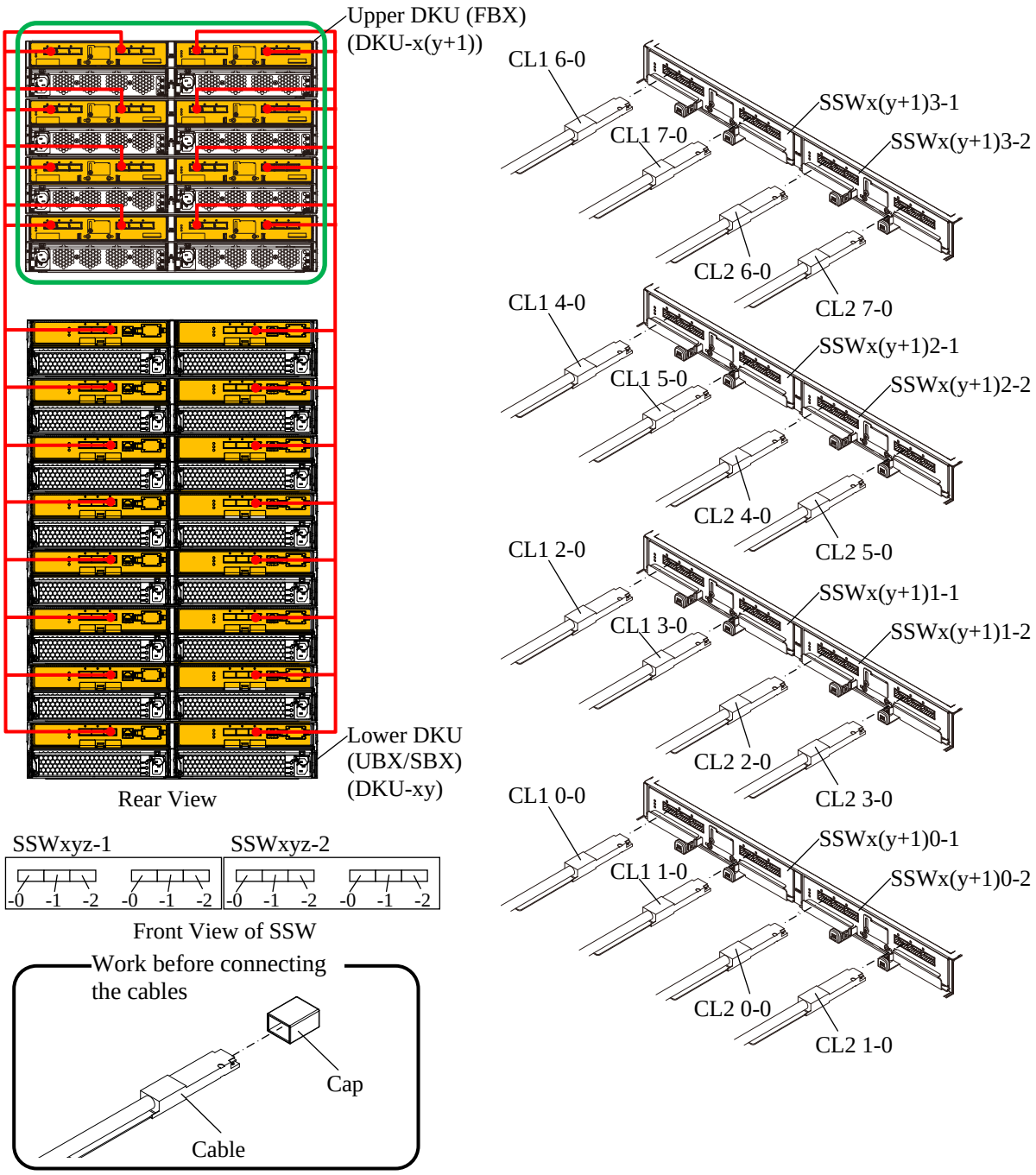


Fig. 3.11.4.6-10 Connection of Cables (CC2_DKU-x(y+1))

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the lower DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.6-11 and Fig. 3.11.4.6-12.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

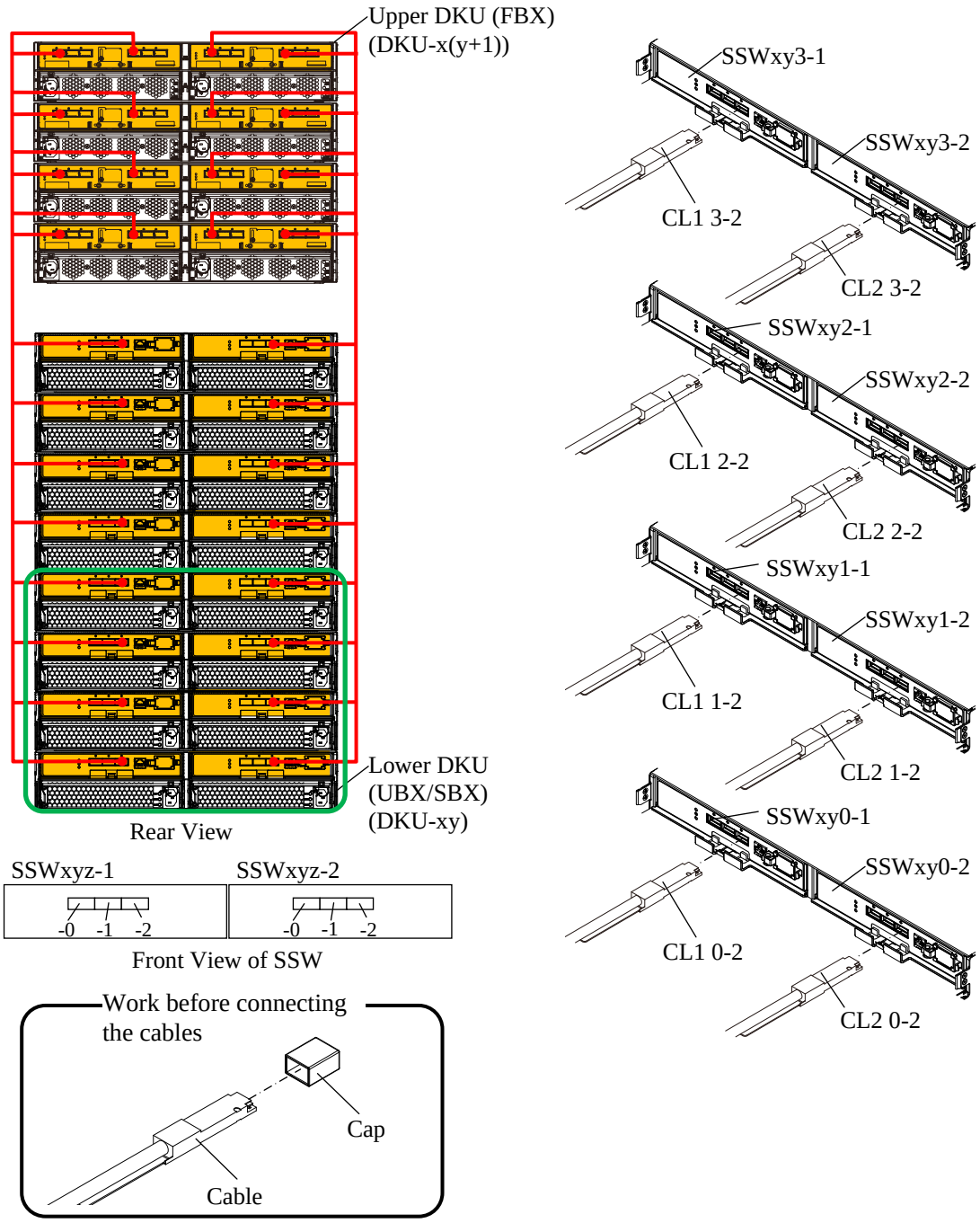


Fig. 3.11.4.6-11 Connection of Cables (CC2_DKU-xy_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

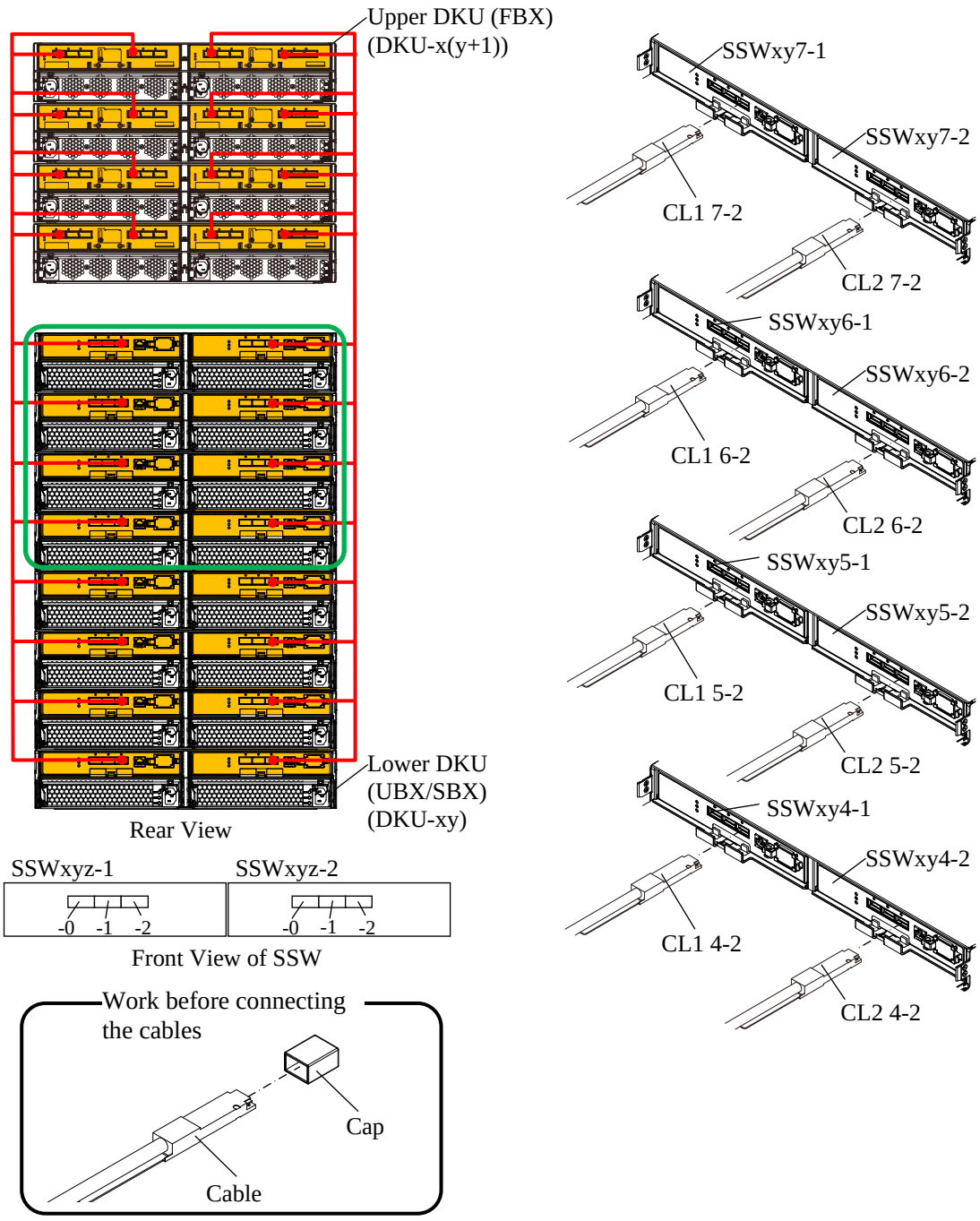


Fig. 3.11.4.6-12 Connection of Cables (CC2_DKU-xy_U)

Copyright © 2014, Hitachi, Ltd.

2. Attachment of cables
   a. Route the eight cables in the cluster 1 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.6-13, Fig. 3.11.4.6-14 or Fig. 3.11.4.6-15.)

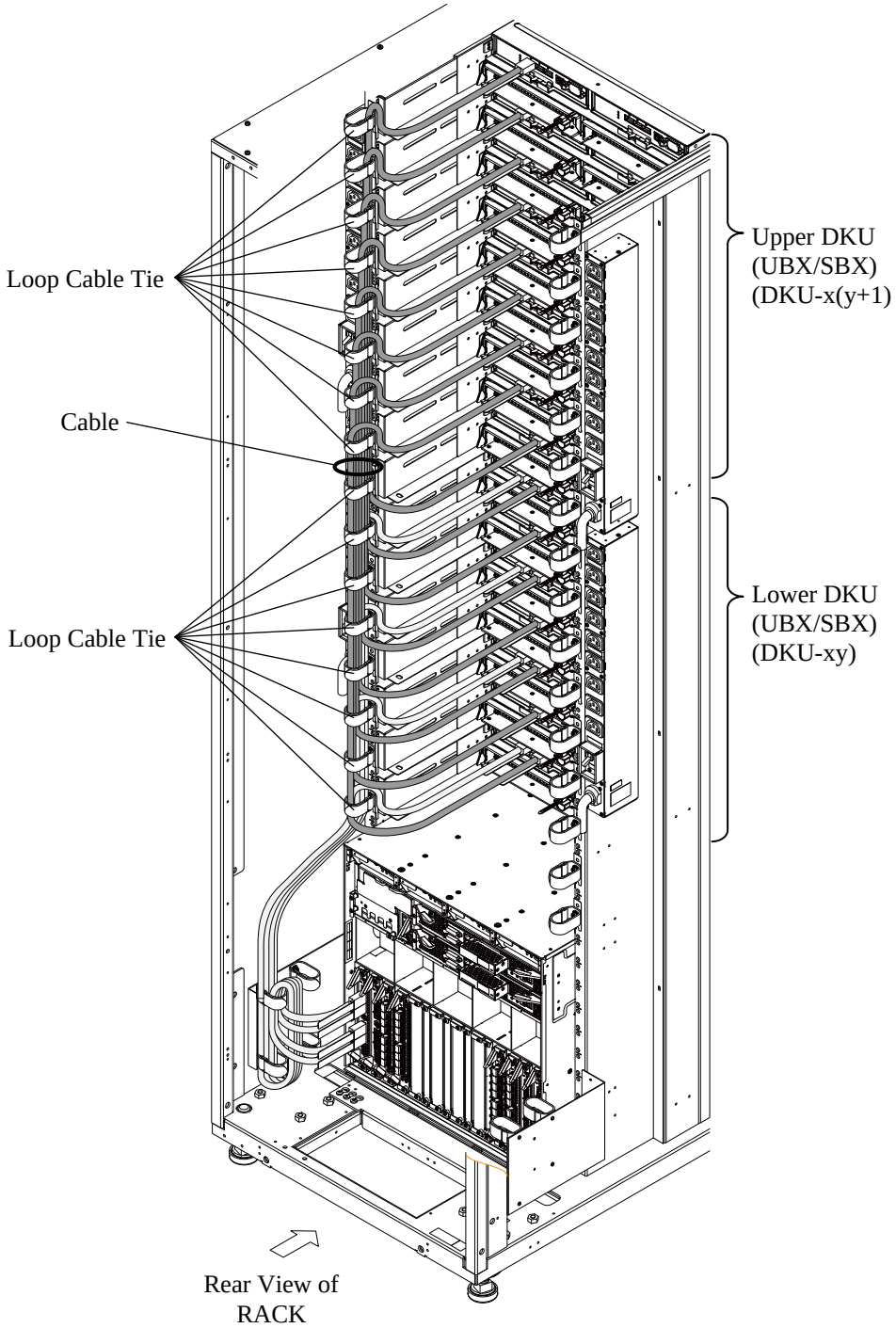


Fig. 3.11.4.6-13 Fixation of Cables (DKU-xy (UBX/SBX) – DKU-x(y+1) (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

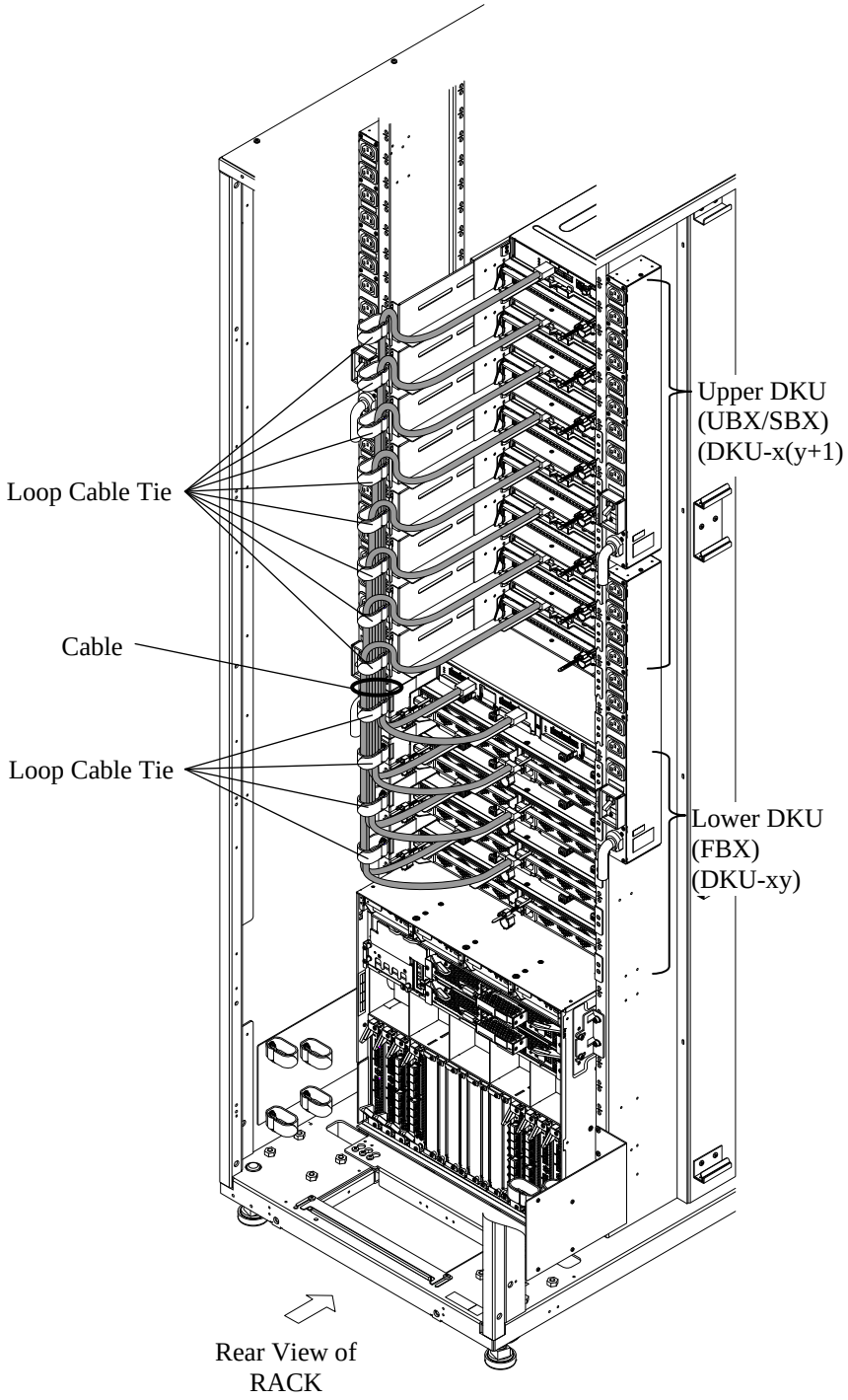


Fig. 3.11.4.6-14 Fixation of Cables (DKU-xy(FBX) – DKU-x(y+1) (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

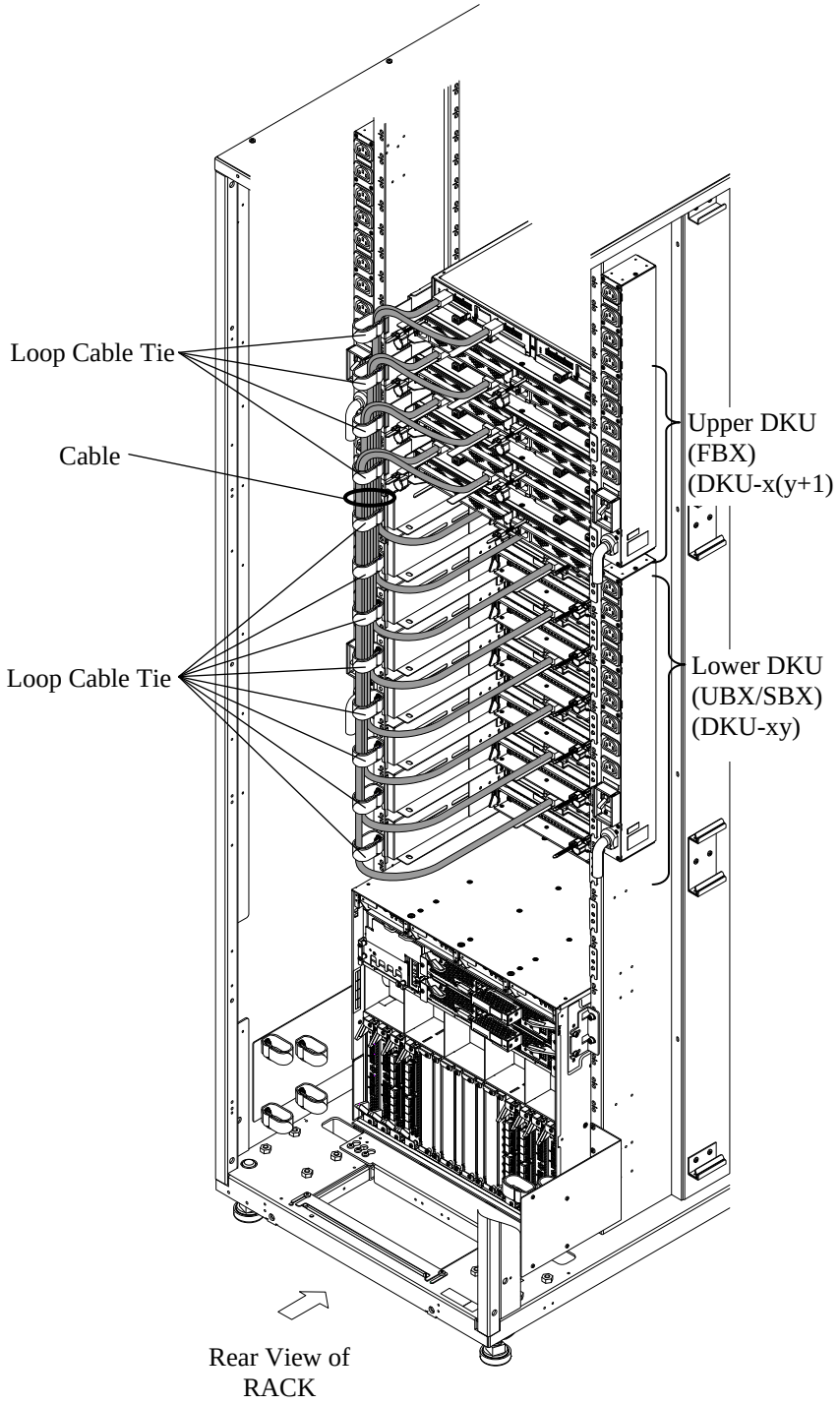


Fig. 3.11.4.6-15 Fixation of Cables (DKU-xy (UBX/SBX) – DKU-x(y+1) (FBX))

Copyright © 2014, Hitachi, Ltd.

b. Route the eight cables in the cluster 2 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.6-16, Fig. 3.11.4.6-17 or Fig. 3.11.4.6-18.)

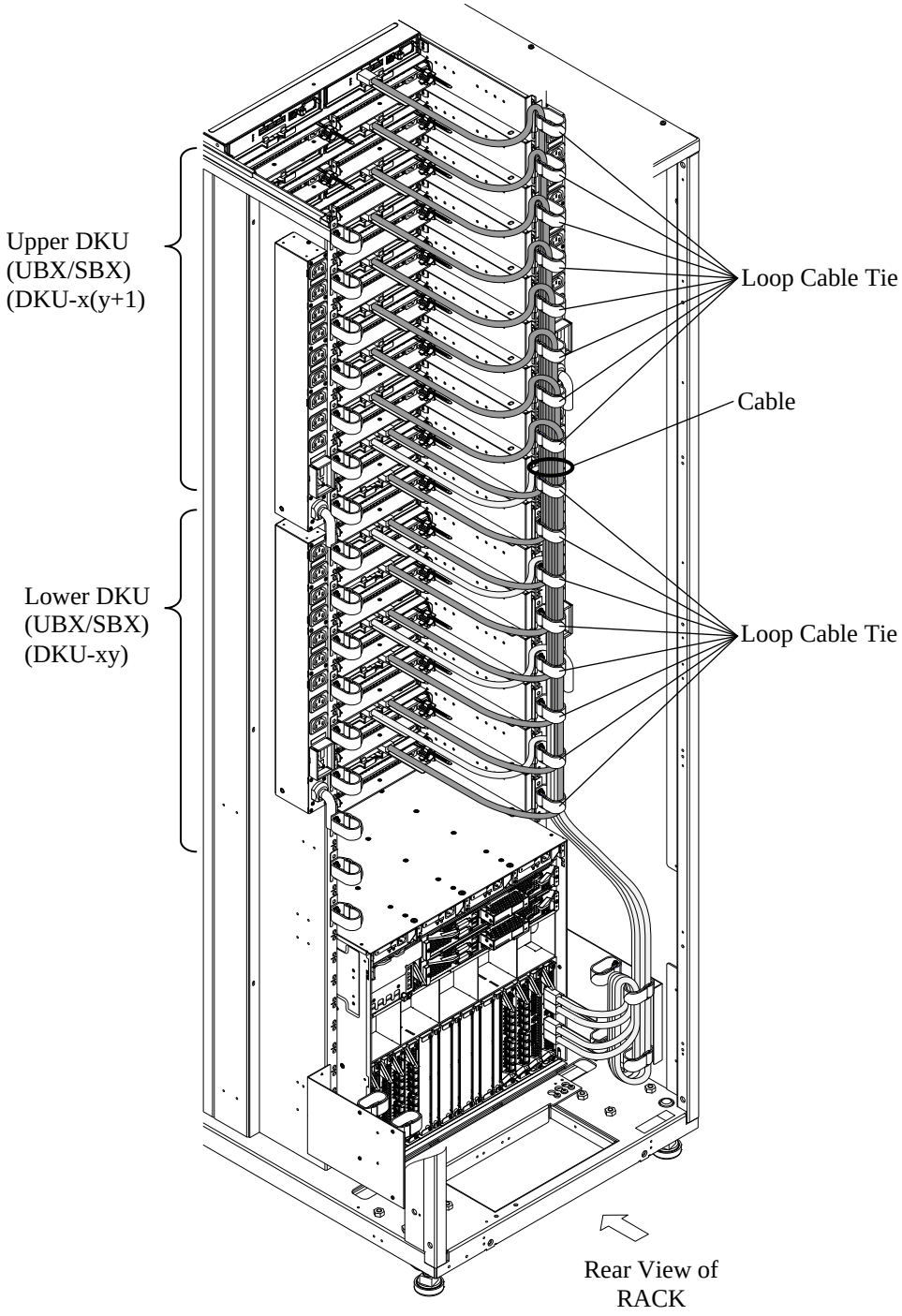


Fig. 3.11.4.6-16 Fixation of Cables (DKU-xy (UBX/SBX) – DKU-x(y+1) (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

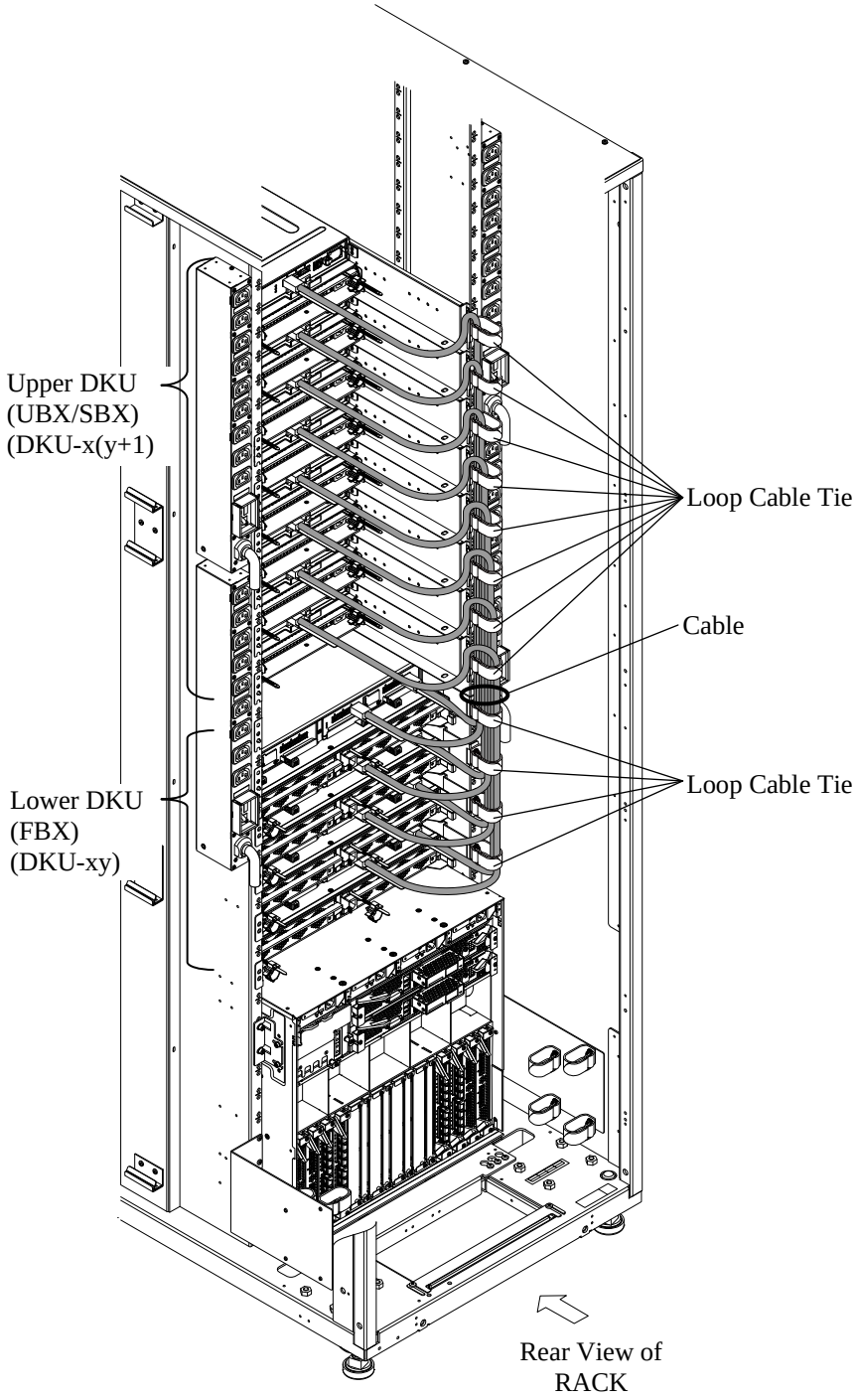


Fig. 3.11.4.6-17 Fixation of Cables (DKU-xy (FBX) – DKU-x(y+1) (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

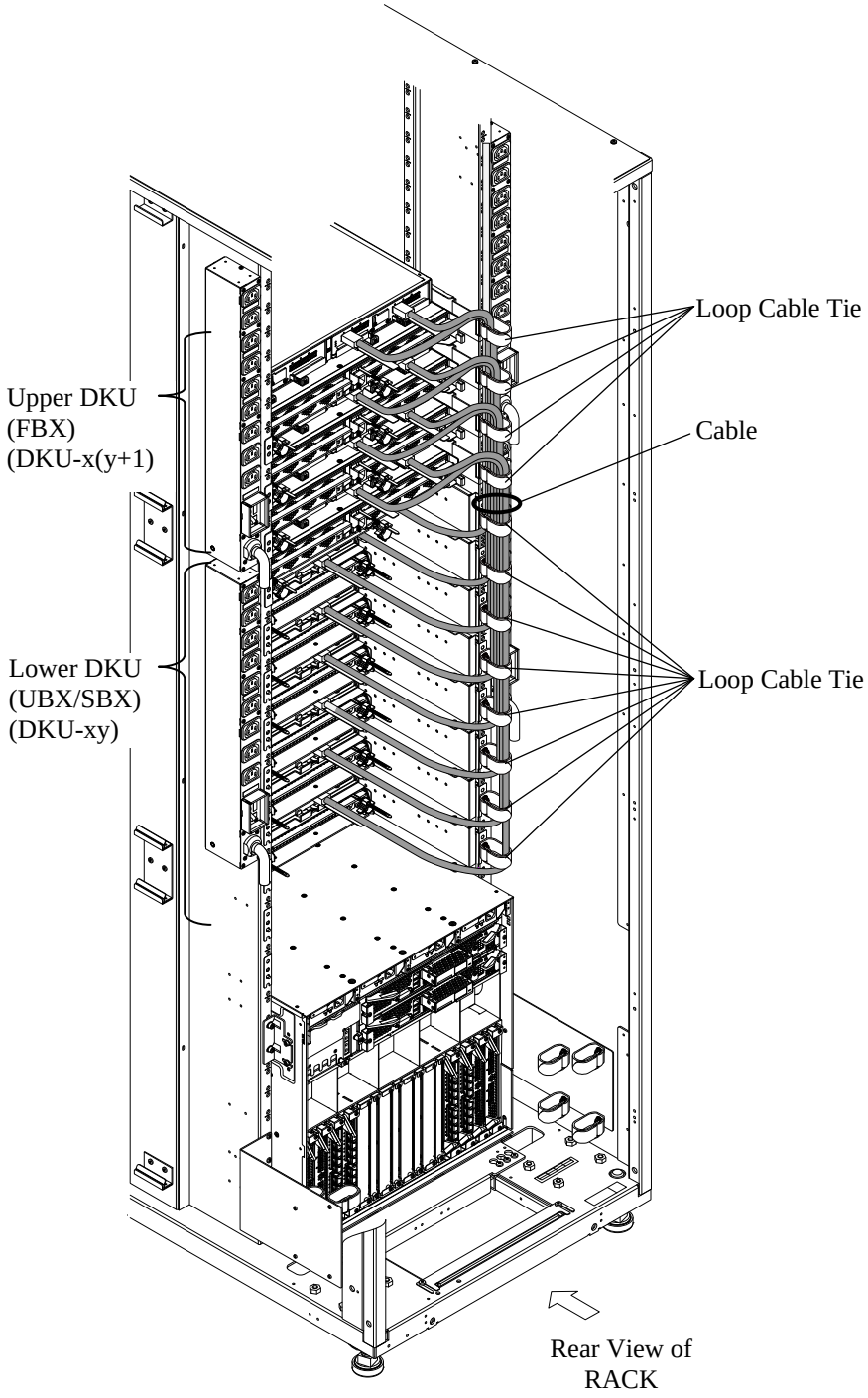


Fig. 3.11.4.6-18 Fixation of Cables (DKU-xy (UBX/SBX) – DKU-x(y+1) (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

3.11.4.7 Installation Procedure of Device Interface Cable CC4 (DKC-F810I-CC4)

NOTE: Be sure to wear your wrist strap and attach to ground prior to performing the following work. This will ensure that the IC and LSI on the PCB are protected from static electricity.

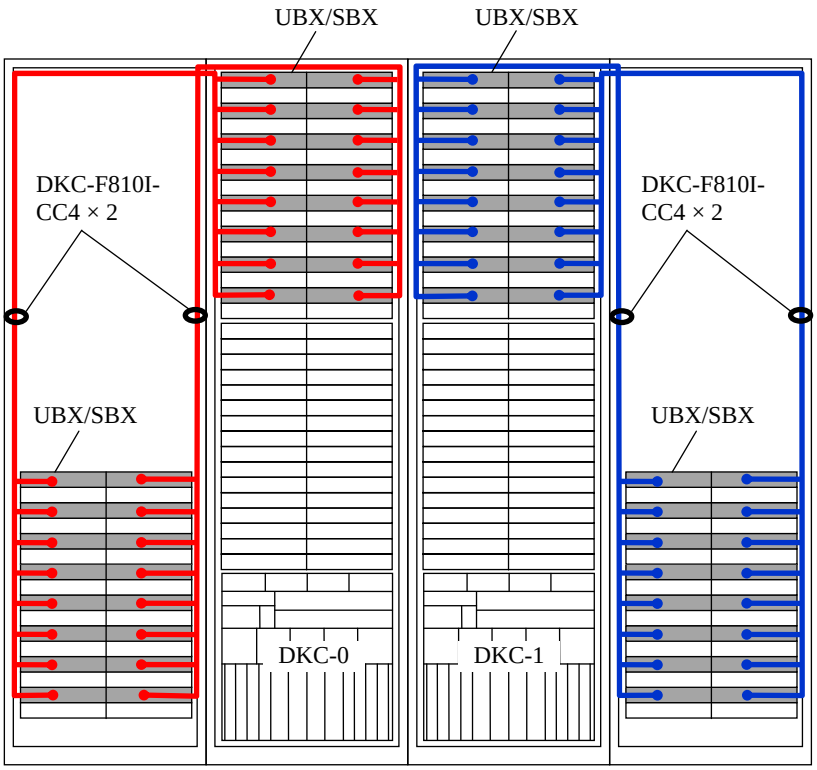
Installation Condition

DKC-F810I-CC4 is a cable option to connect between DKU (UBX/SBX/FBX) and DKU (UBX/SBX/FBX) in two racks. (See Fig. 3.11.4.7-1 through Fig. 3.11.4.7-4.)
Refer to below Table 3.11.4.7-1 for the condition of DKC-F810I-CC4 installation, and go to the appropriate page.

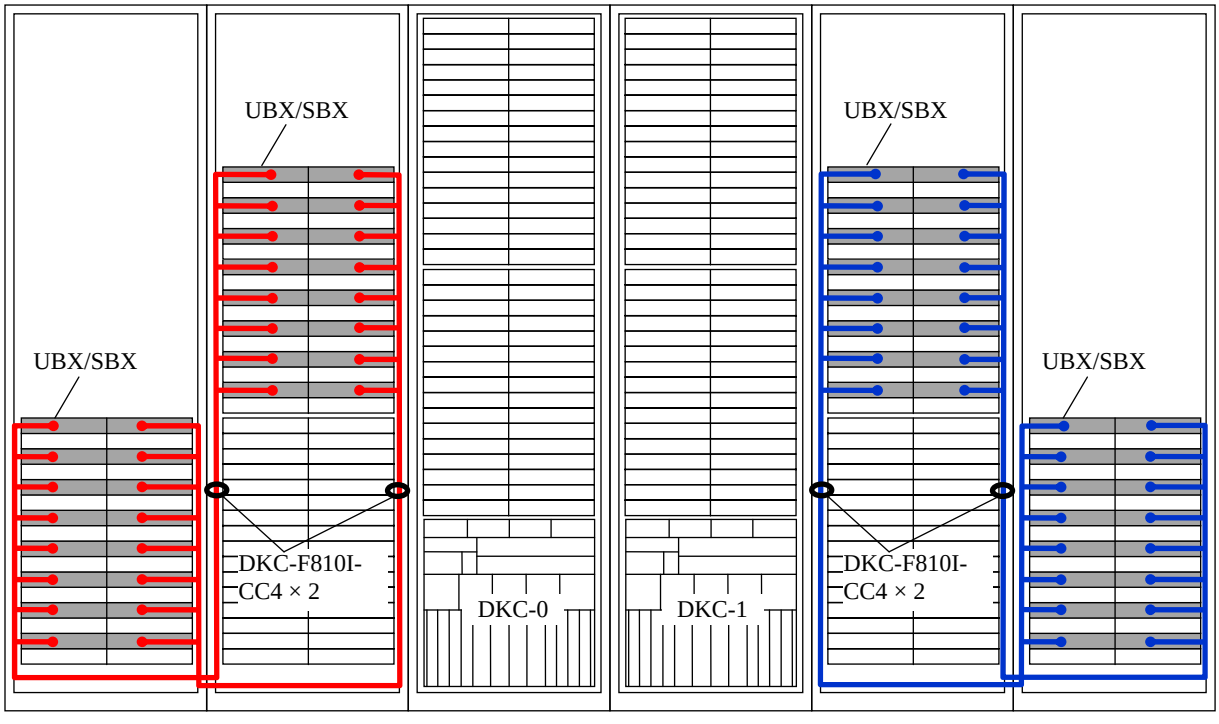
Table 3.11.4.7-1 Work Procedure Table

No.	Condition of Work Procedure	Page
1	When Device Interface Cable CC4 (DKC-F810I-CC4) is required to install.	INST03-11C-1220
2	When Device Interface Cable CC4 (DKC-F810I-CC4) is not required to install.	INST03-11C-1470

Copyright © 2014, Hitachi, Ltd.



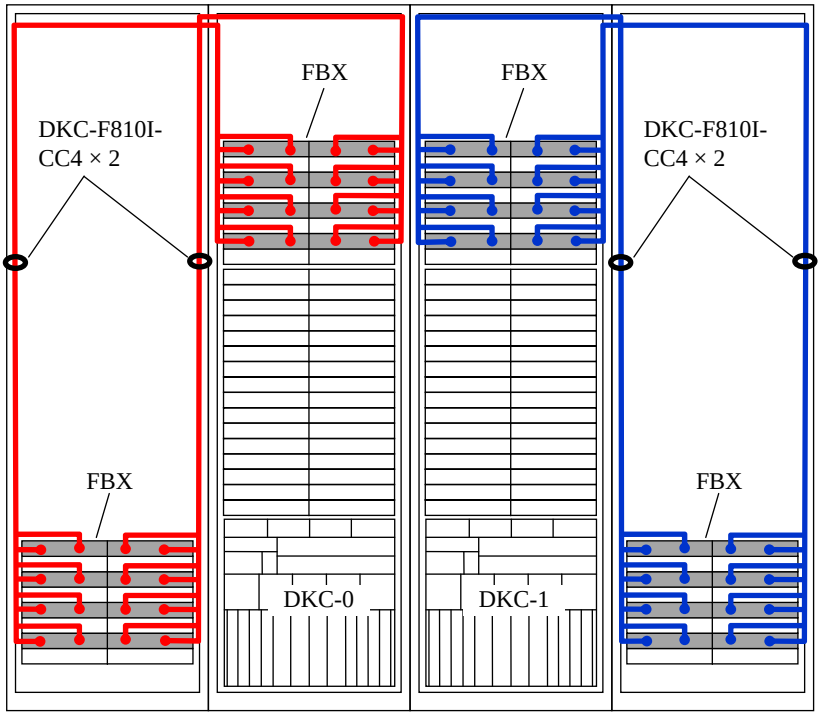
Rear View of RACK



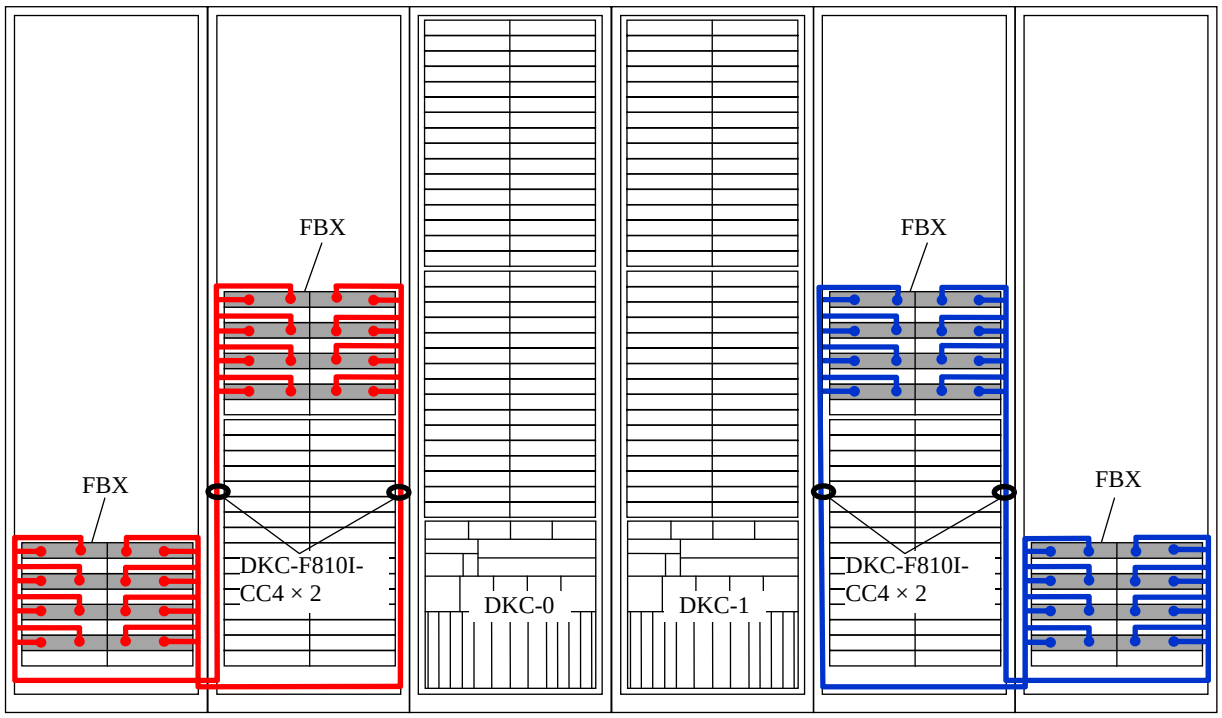
Rear View of RACK

Fig. 3.11.4.7-1 Mounting Position of Device Interface Cable (UBX/SBX – UBX/SBX)

Copyright © 2014, Hitachi, Ltd.



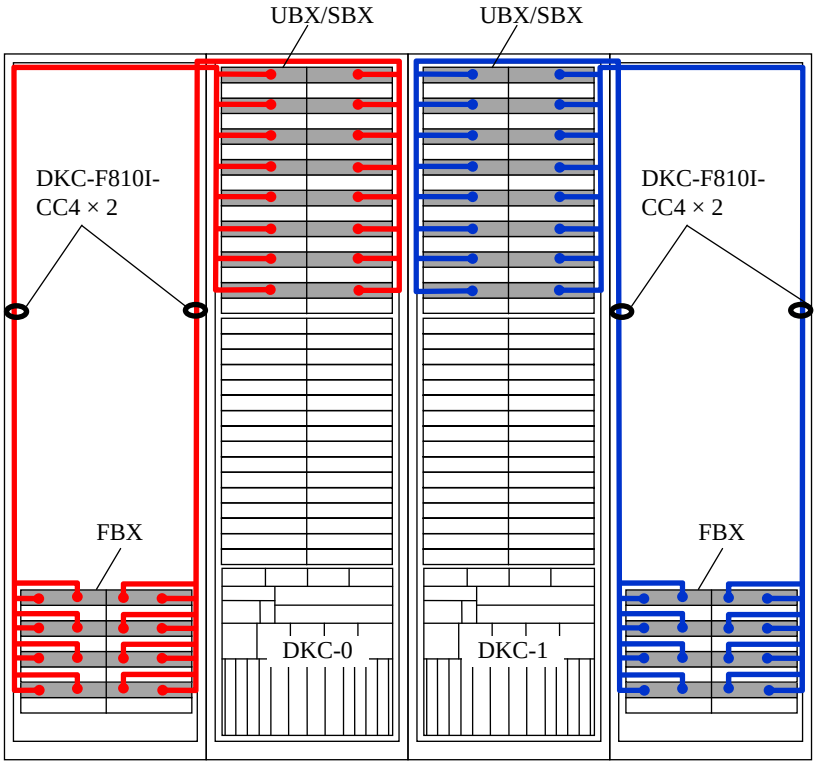
Rear View of RACK



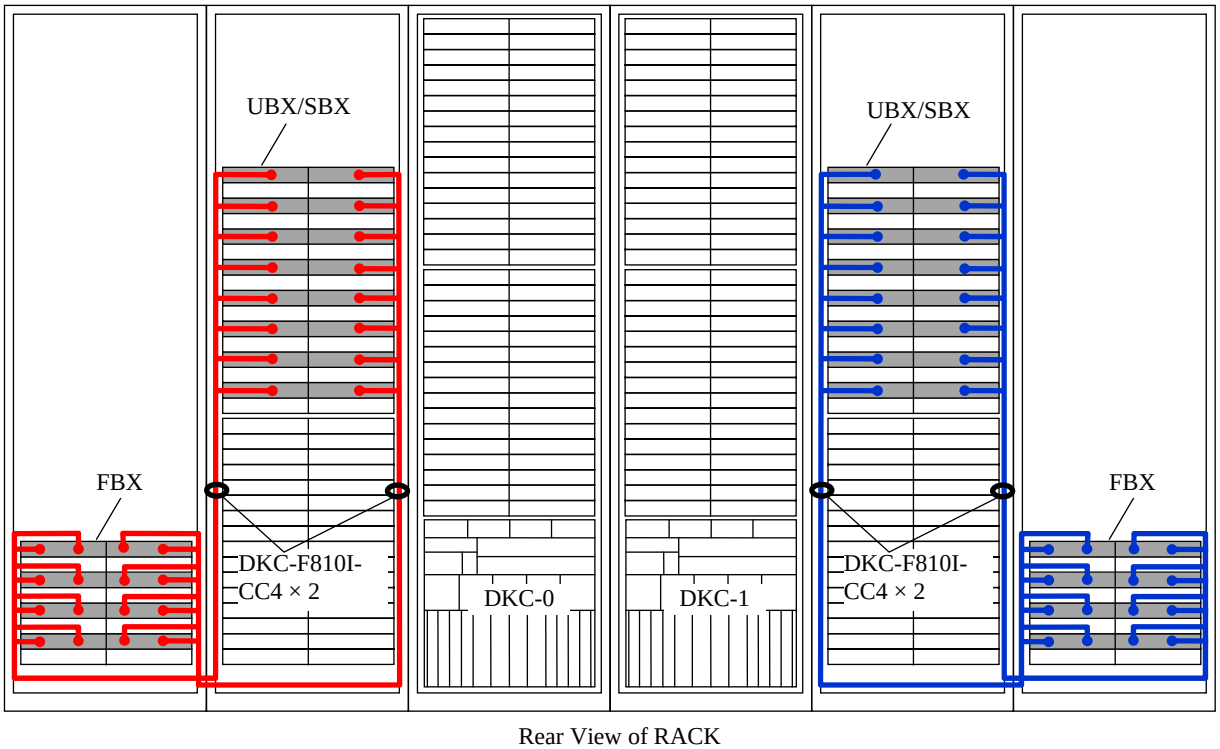
Rear View of RACK

Fig. 3.11.4.7-2 Mounting Position of Device Interface Cable (FBX – FBX)

Copyright © 2014, Hitachi, Ltd.



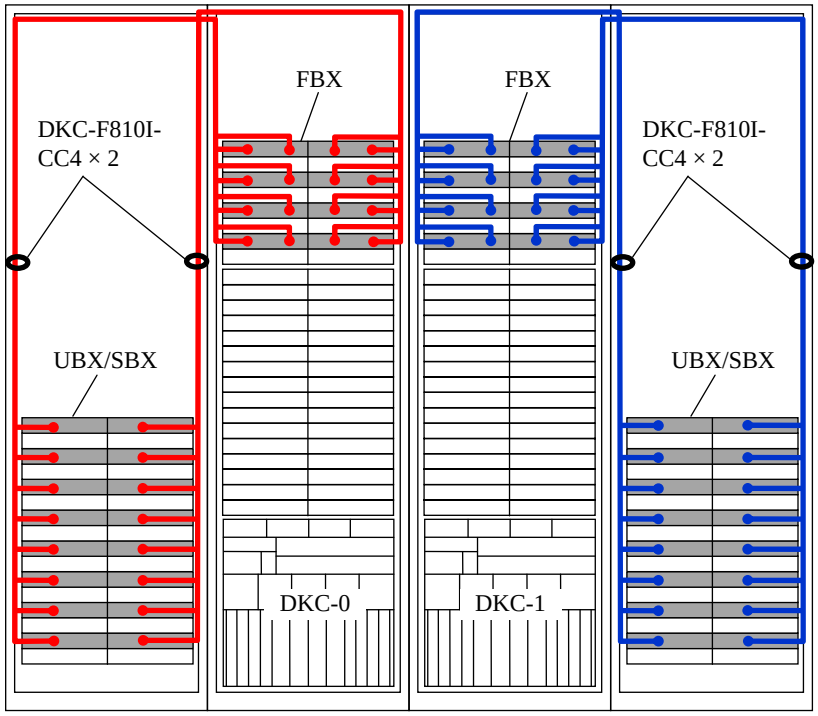
Rear View of RACK



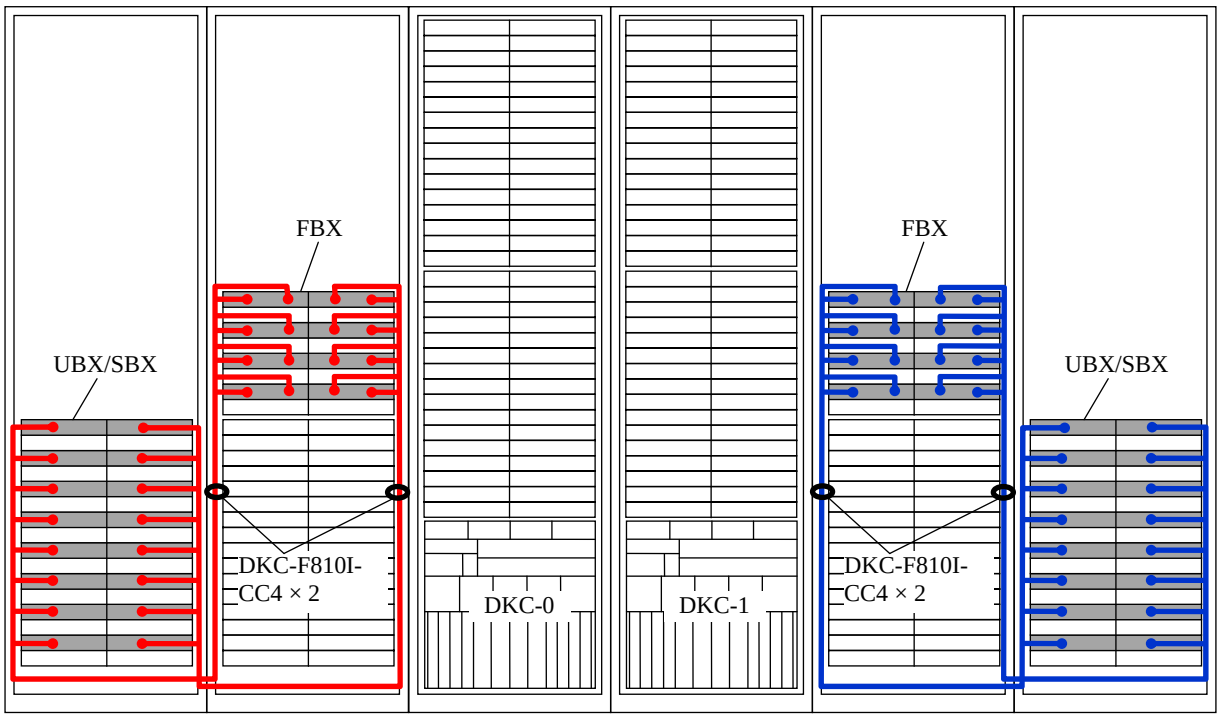
Rear View of RACK

Fig. 3.11.4.7-3 Mounting Position of Device Interface Cable (UBX/SBX – FBX)

Copyright © 2014, Hitachi, Ltd.



Rear View of RACK



Rear View of RACK

Fig. 3.11.4.7-4 Mounting Position of Device Interface Cable (FBX – UBX/SBX)

Copyright © 2014, Hitachi, Ltd.

1. Pattern of Cable Installation

Before starting the following procedure, remember the names and locations shown below.
In the following procedure, the rack from which the cable is connected is named as a connection source rack, and the DKU from which the cable is connected is named as a connection source DKU. The rack to which the cable is connected is named as a connection destination rack, and the DKU to which the cable is connected is named as a connection destination DKU.
There are a total of four patterns of cable installation between racks regardless of the type of DKU.
If a DKC is installed in a connection source rack, the cables must be routed from the top of the rack. If no DKC is installed in a connection source rack, the cables must be routed from the bottom of the rack.

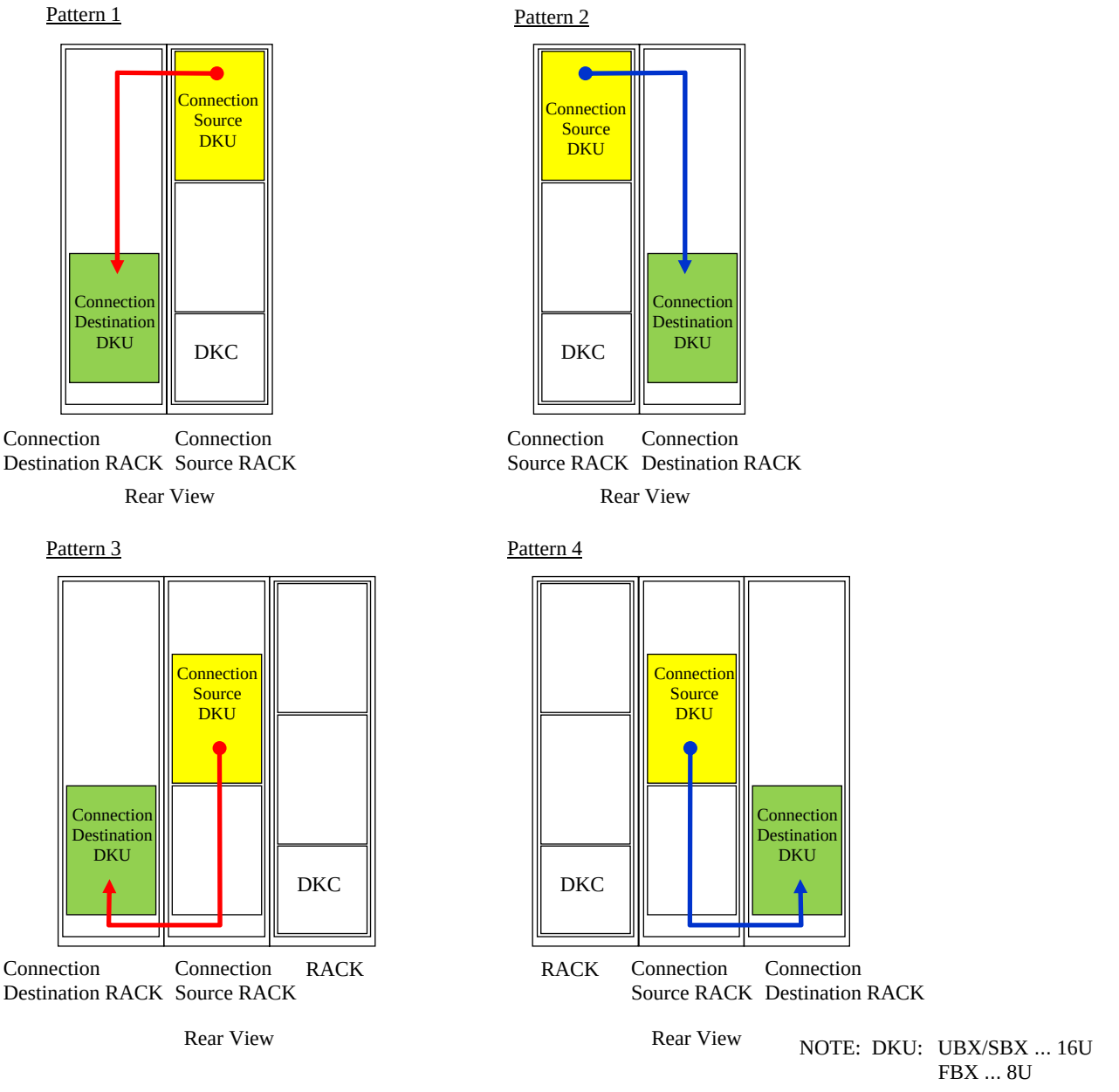


Fig. 3.11.4.7-5 Pattern of Cable Installation

Copyright © 2014, Hitachi, Ltd.

2. Connection of cables

When connecting Connection Destination DKU (UBX/SBX) with Connection Source DKU (UBX/SBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the connection destination DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.7-6 and Fig. 3.11.4.7-7.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

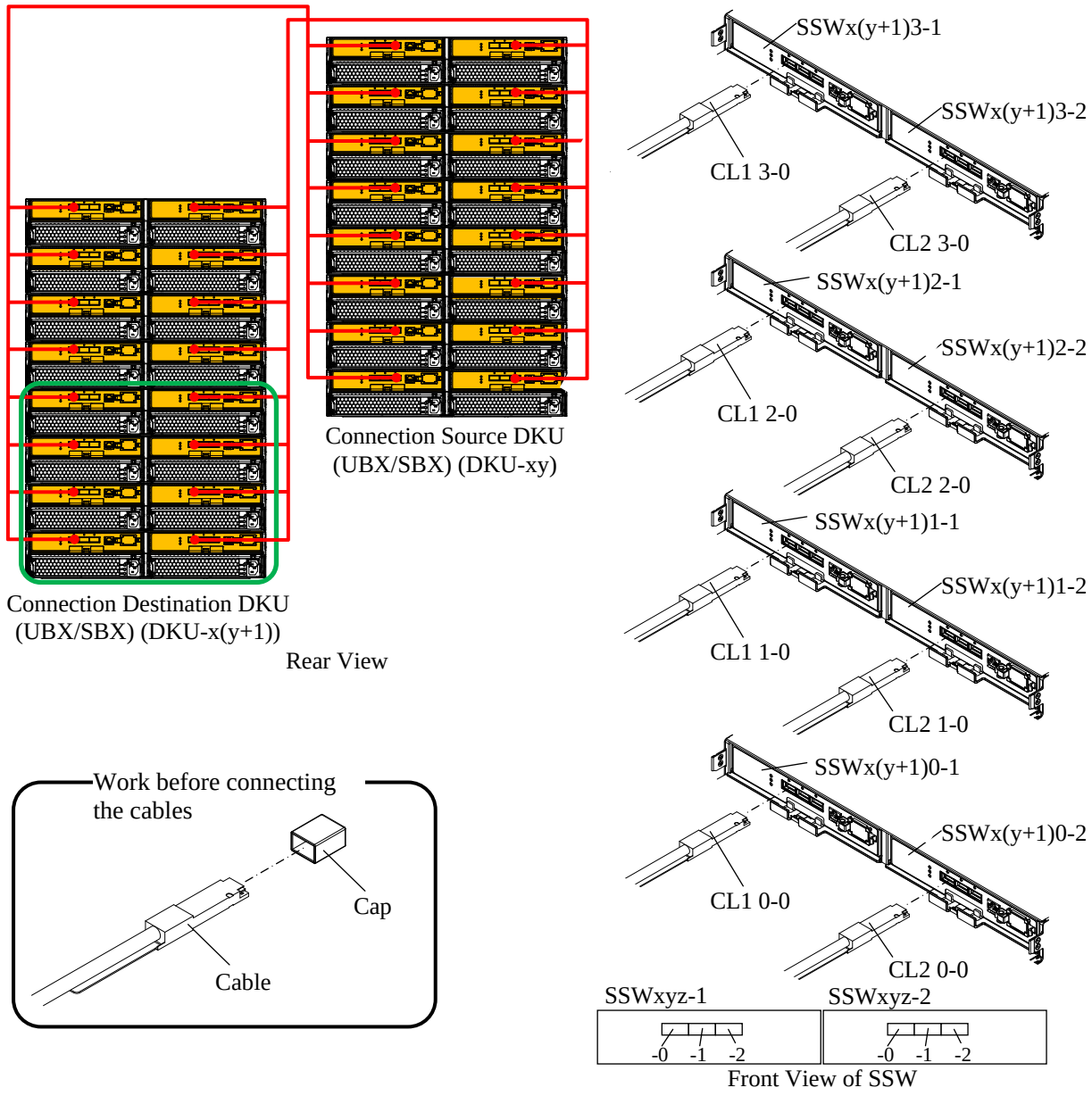


Fig. 3.11.4.7-6 Connection of Cables (CC4_DKU-x(y+1)_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

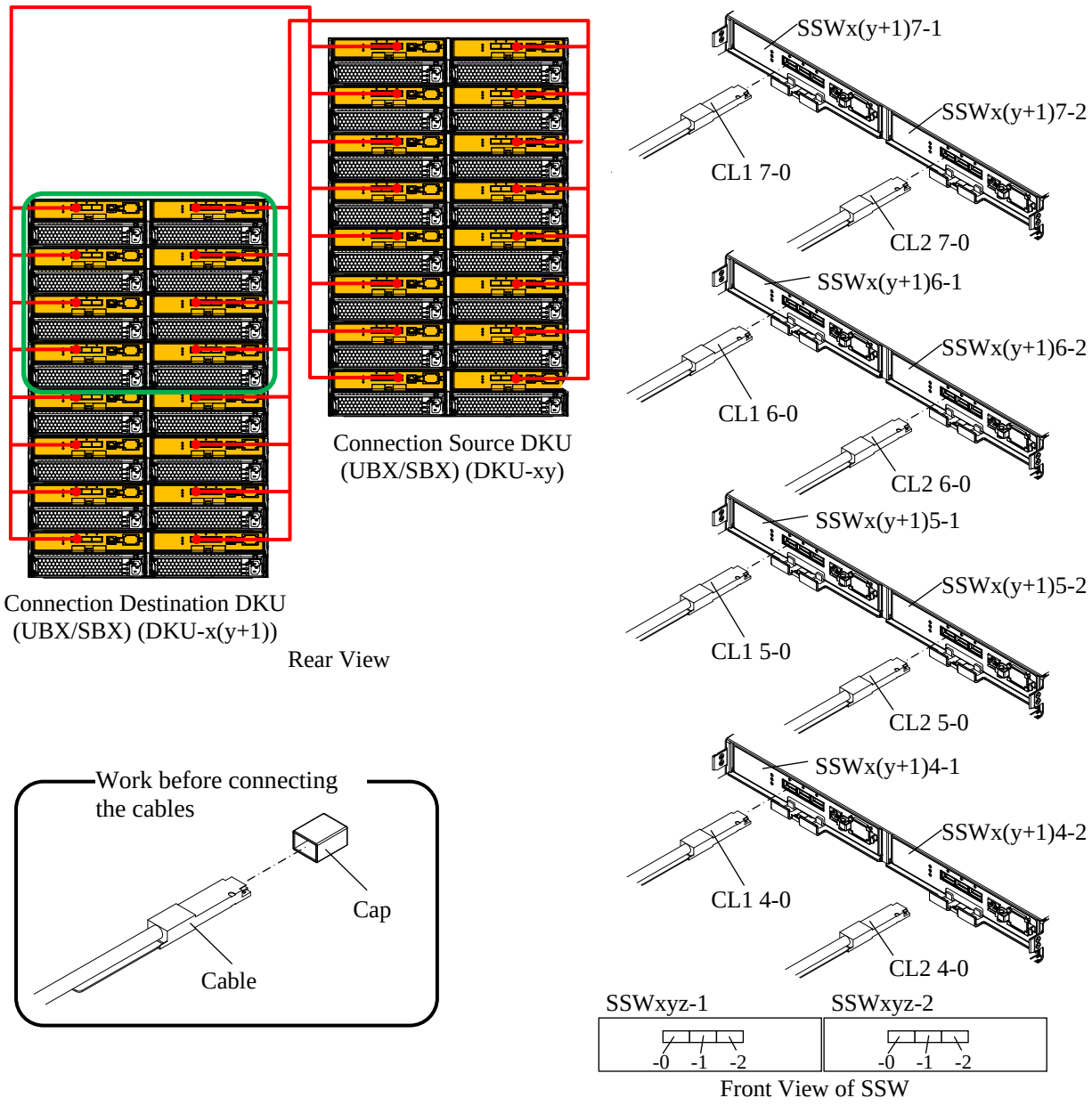


Fig. 3.11.4.7-7 Connection of Cables (CC4_DKU-x(y+1)_U)

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the connection source DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.7-8 and Fig. 3.11.4.7-9.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

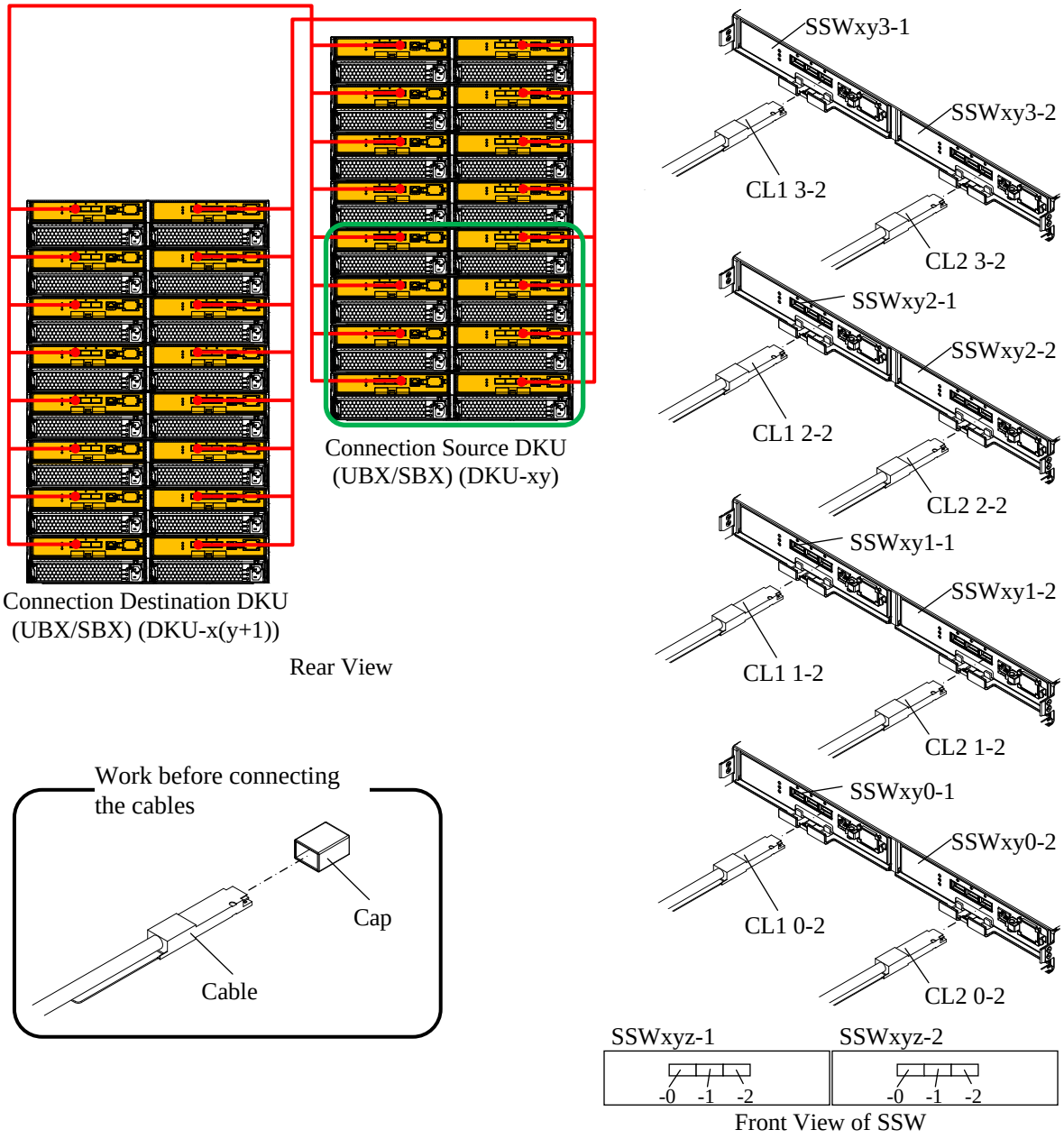


Fig. 3.11.4.7-8 Connection of Cables (CC4_DKU-xy_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

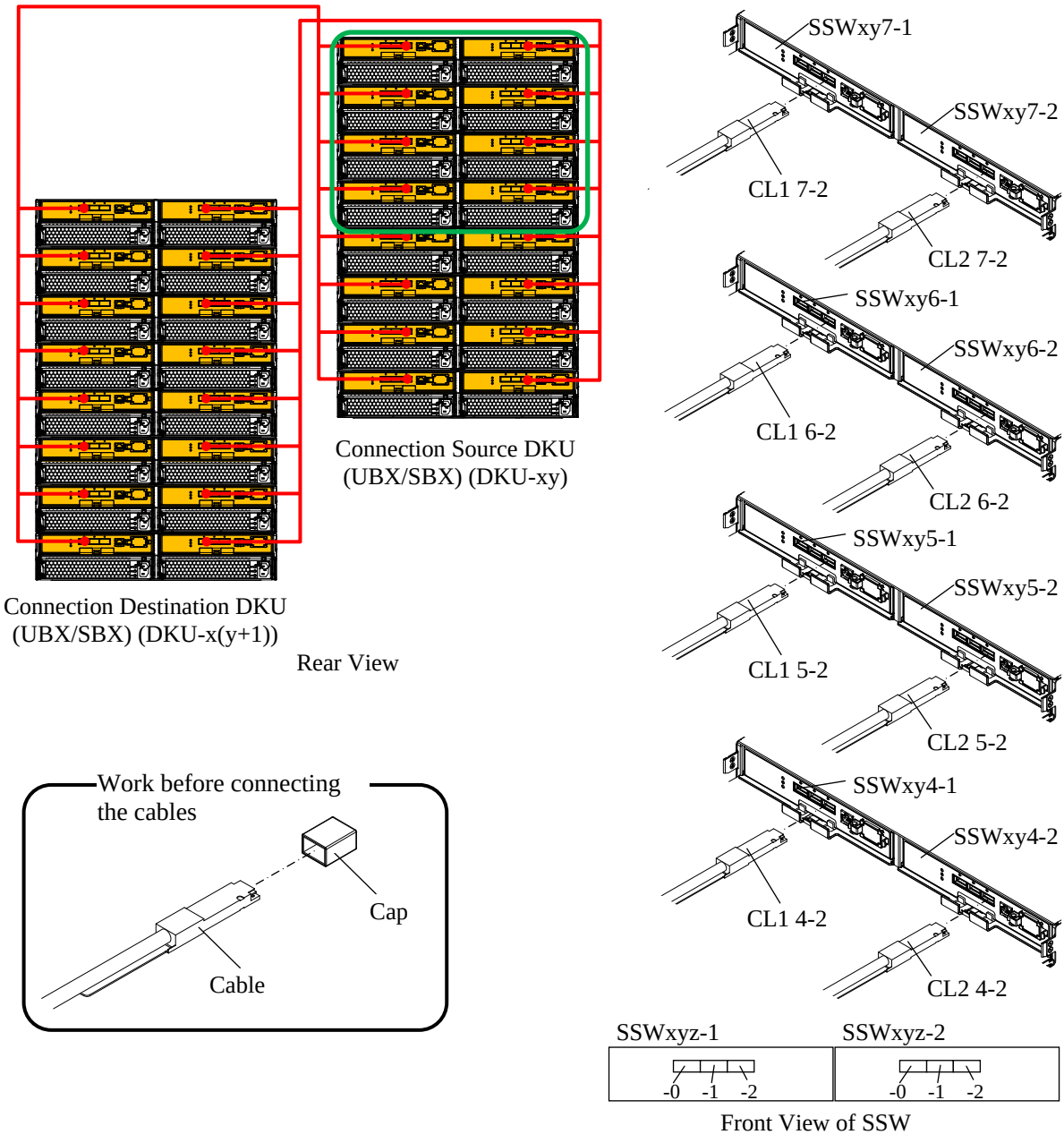


Fig. 3.11.4.7-9 Connection of Cables (CC4_DKU-xy_U)

Copyright © 2014, Hitachi, Ltd.

When connecting Connection Destination DKU (FBX) with Connection Source DKU (FBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the connection destination DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

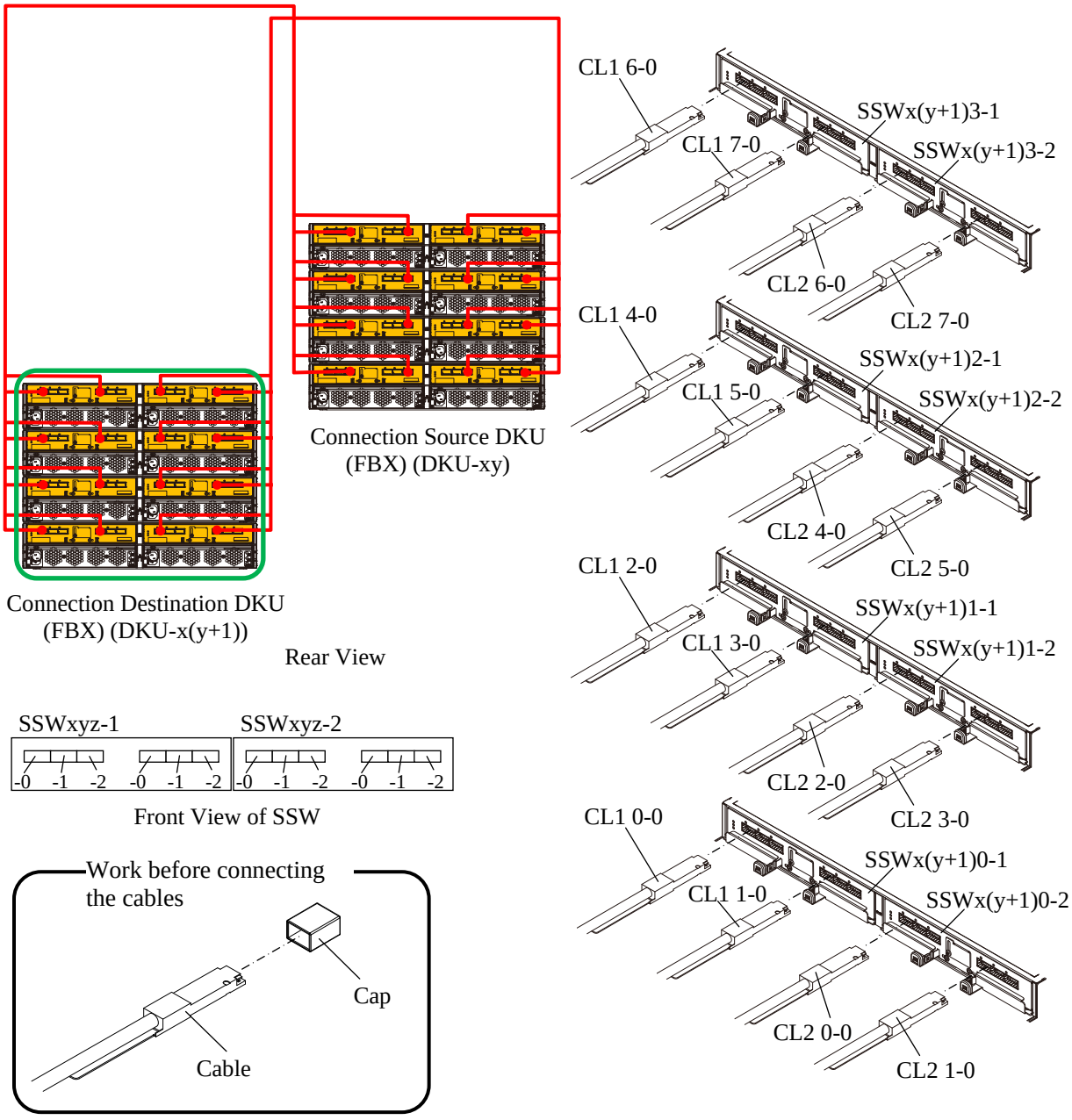


Fig. 3.11.4.7-10 Connection of Cables (CC4_DKU-x(y+1))

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the connection source DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

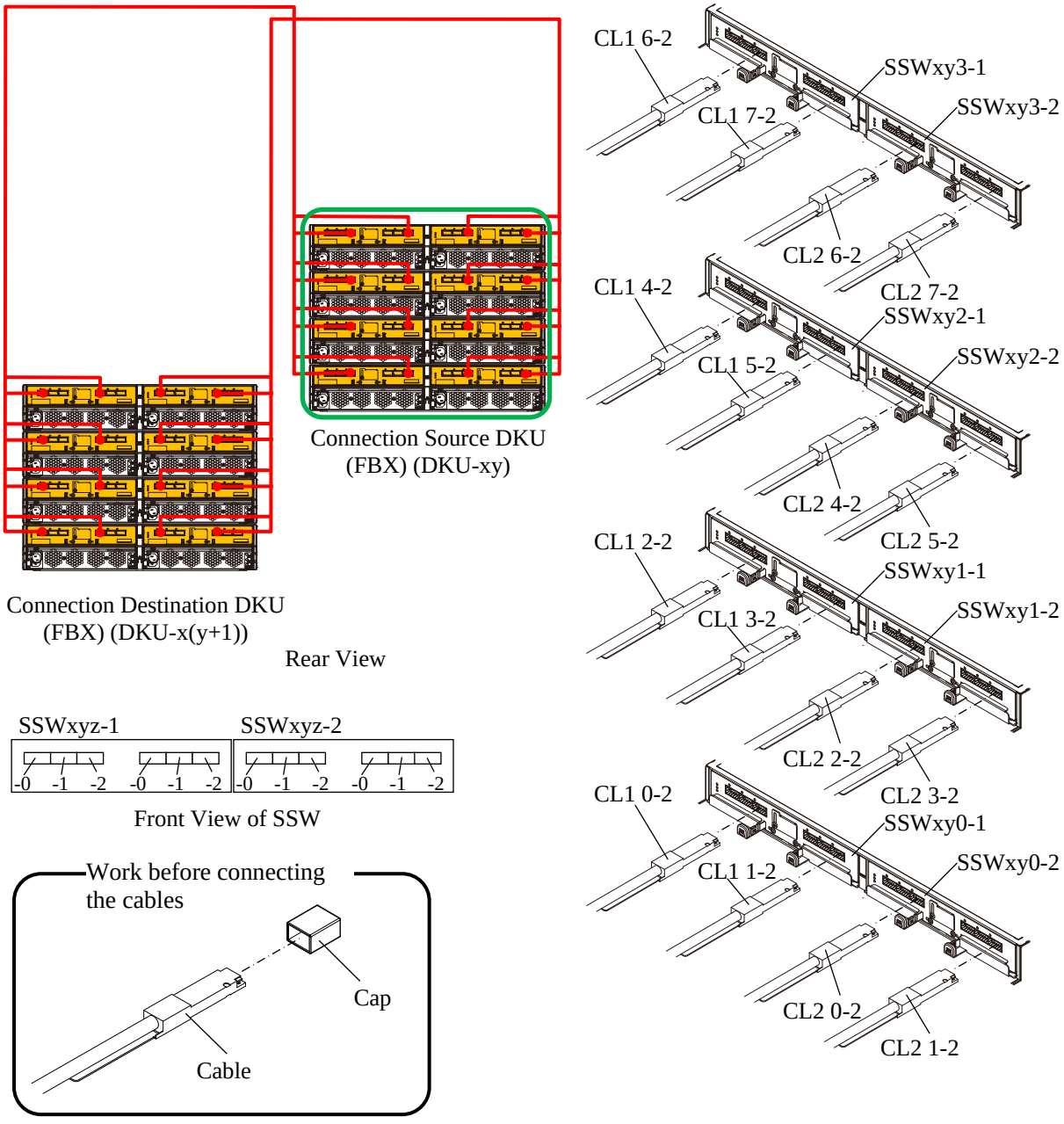


Fig. 3.11.4.7-11 Connection of Cables (CC4_DKU-xy)

Copyright © 2014, Hitachi, Ltd.

When connecting Connection Destination DKU (UBX/SBX) with Connection Source DKU (FBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the connection destination DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.7-12 and Fig. 3.11.4.7-13.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

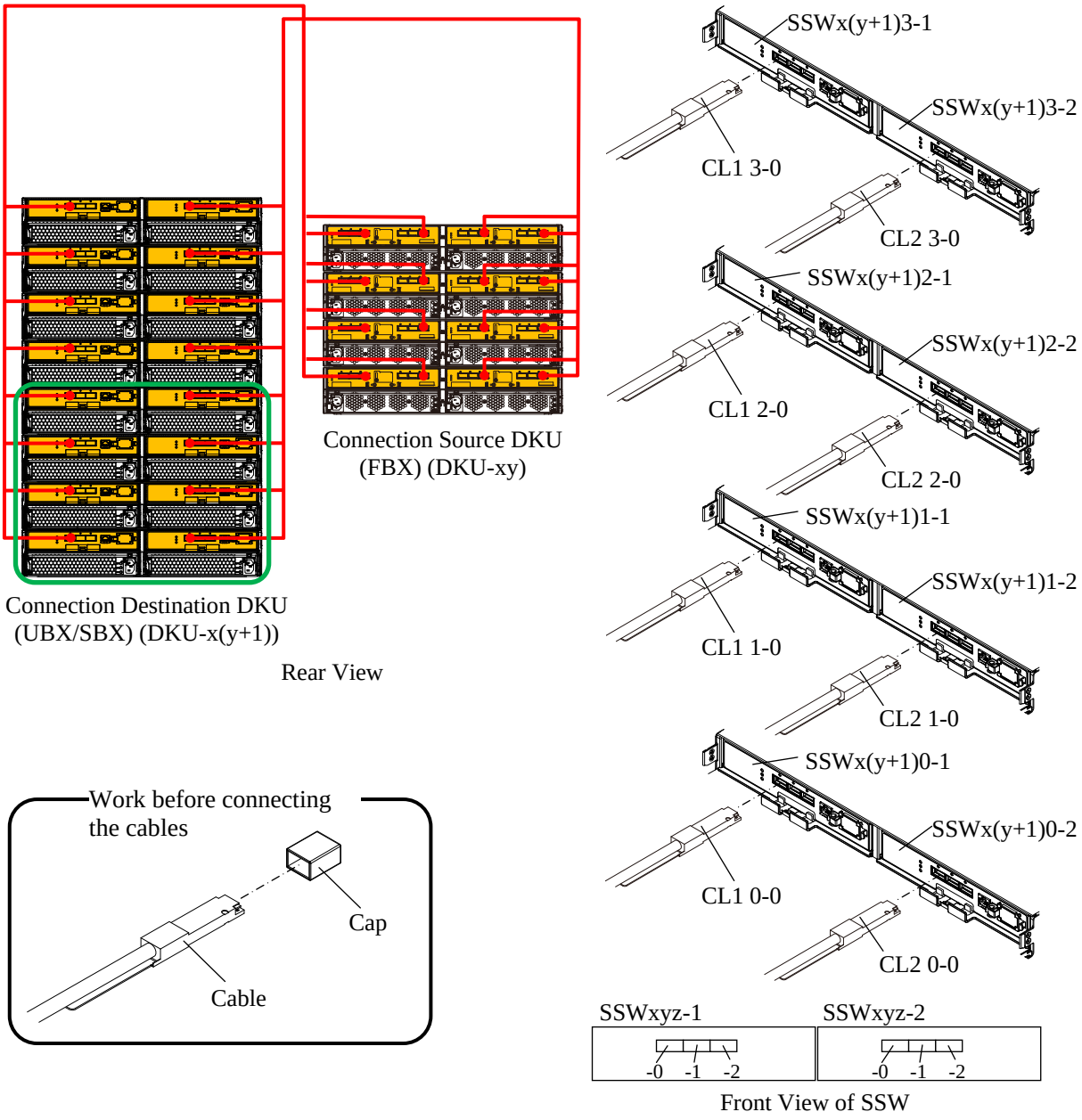


Fig. 3.11.4.7-12 Connection of Cables (CC4_DKU-x(y+1)_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

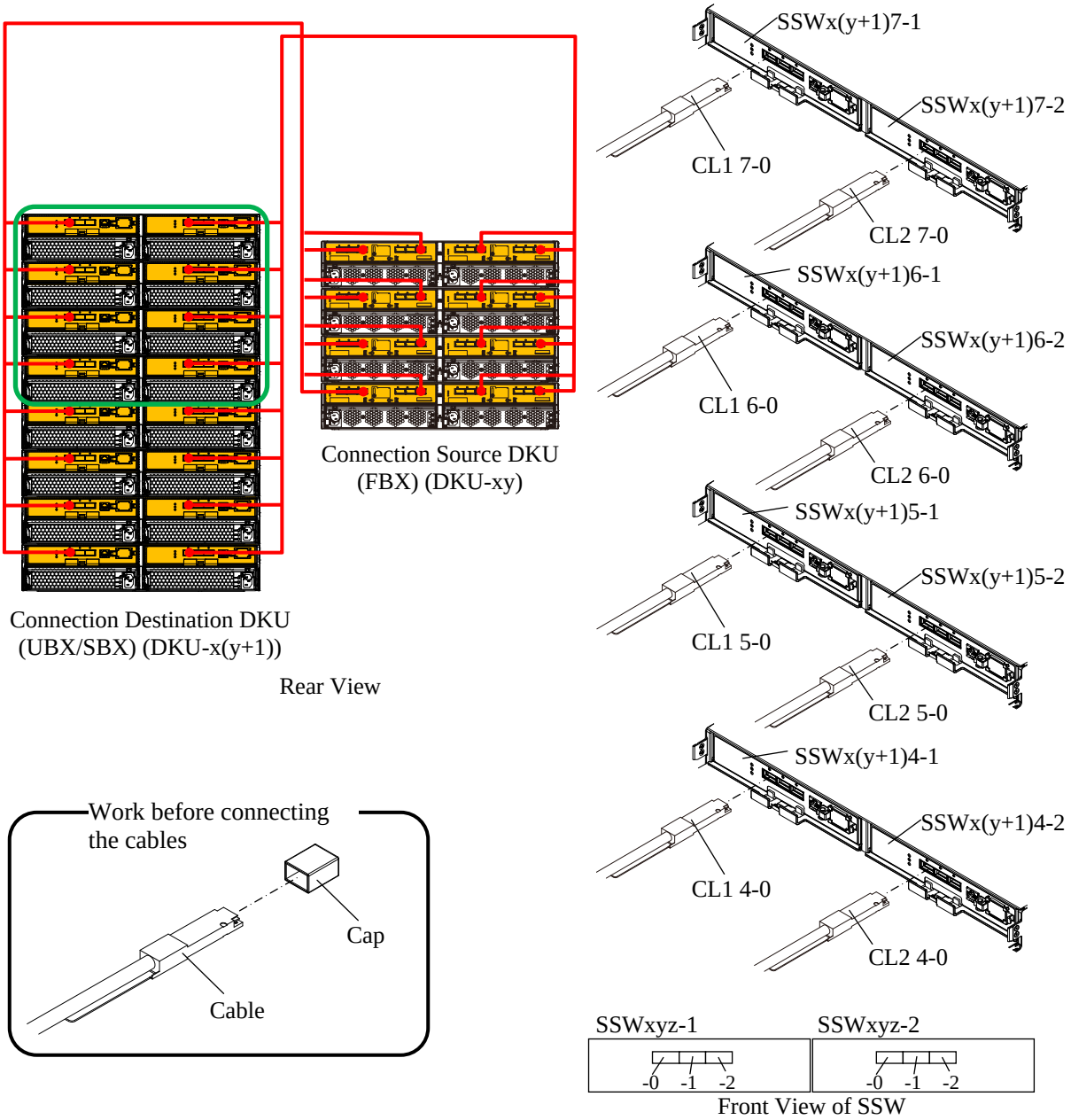


Fig. 3.11.4.7-13 Connection of Cables (CC4_DKU-x(y+1)_U)

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the connection source DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

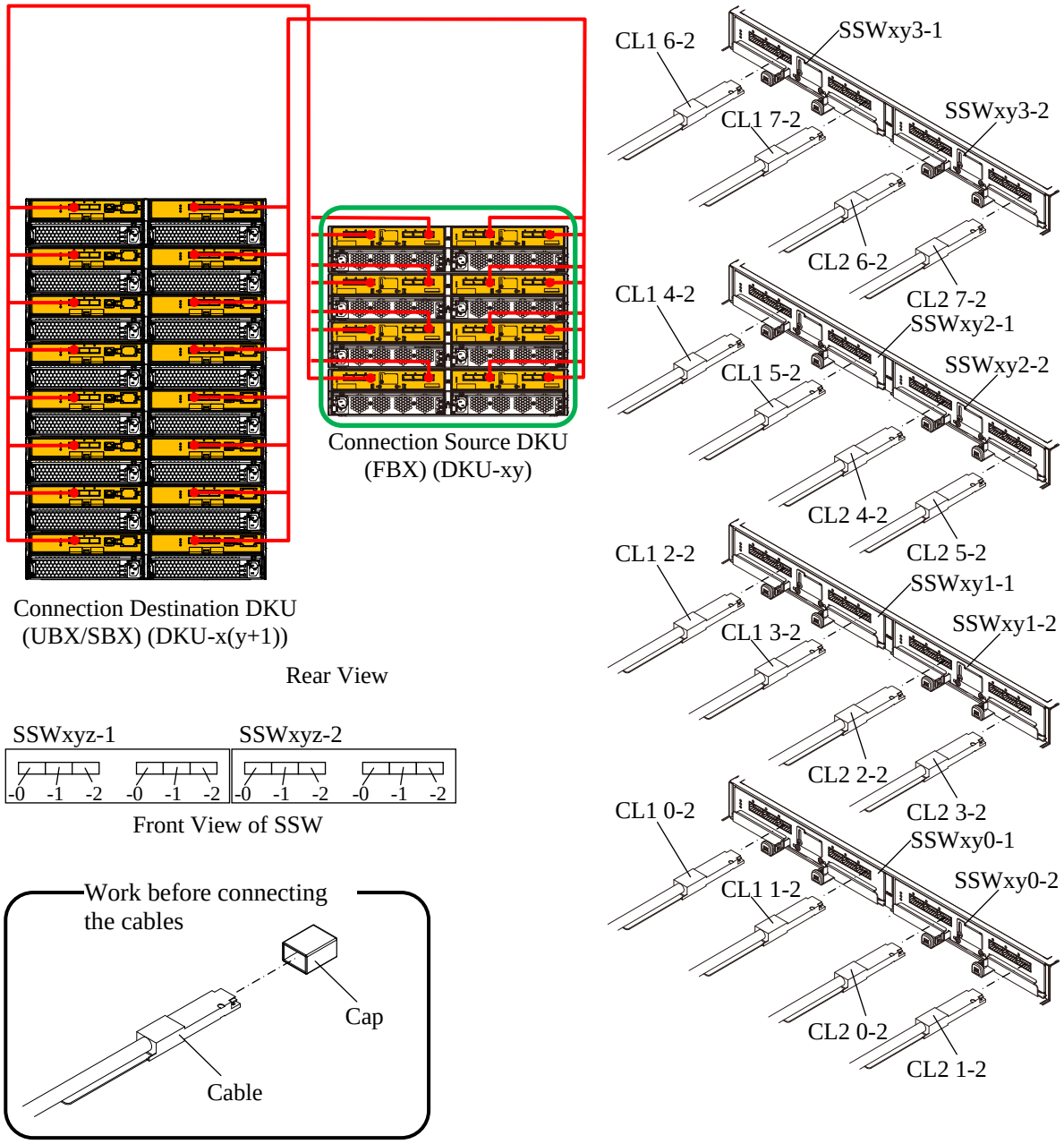


Fig. 3.11.4.7-14 Connection of Cables (CC4_DKU-xy)

Copyright © 2014, Hitachi, Ltd.

When connecting Connection Destination DKU (FBX) with Connection Source DKU (UBX/SBX)

a. Remove the caps from the cables to be connected.
b. Connect the sixteen cables to the SSWs in the connection destination DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

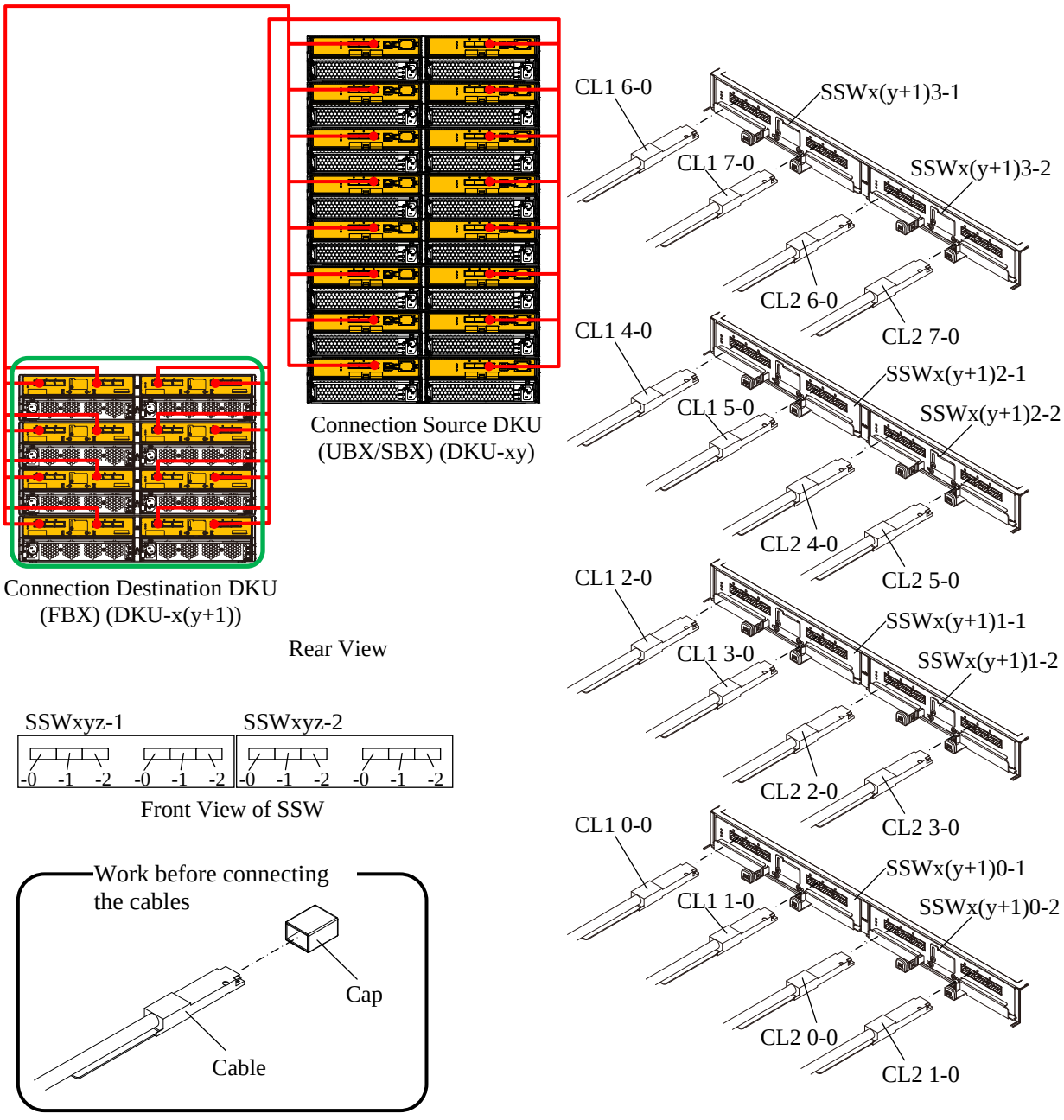


Fig. 3.11.4.7-15 Connection of Cables (CC4_DKU-x(y+1))

Copyright © 2014, Hitachi, Ltd.

c. Remove the caps from the cables to be connected.
d. Connect the sixteen cables to the SSWs in the connection source DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.7-16 and Fig. 3.11.4.7-17.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

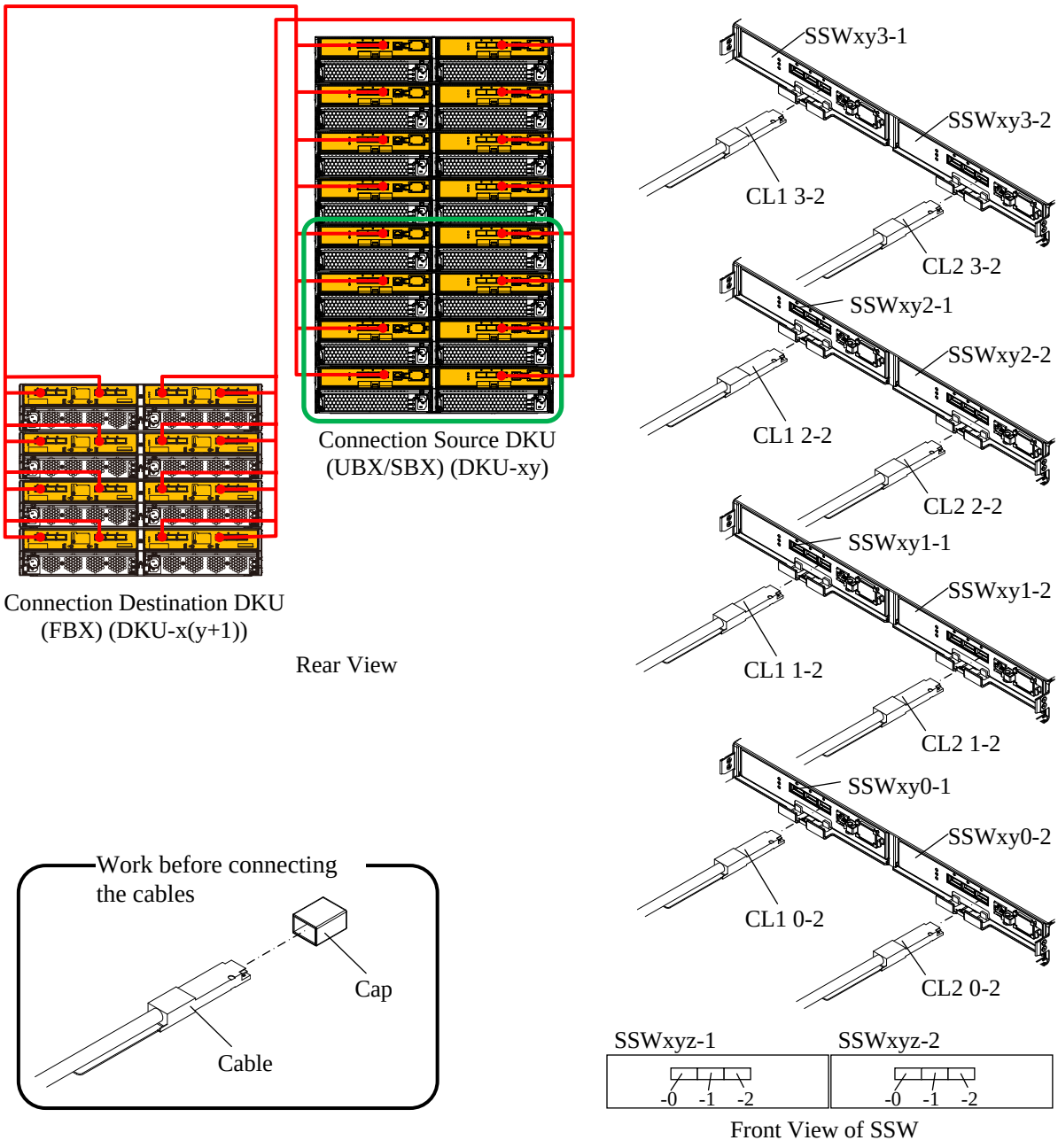


Fig. 3.11.4.7-16 Connection of Cables (CC4_DKU-xy_L)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

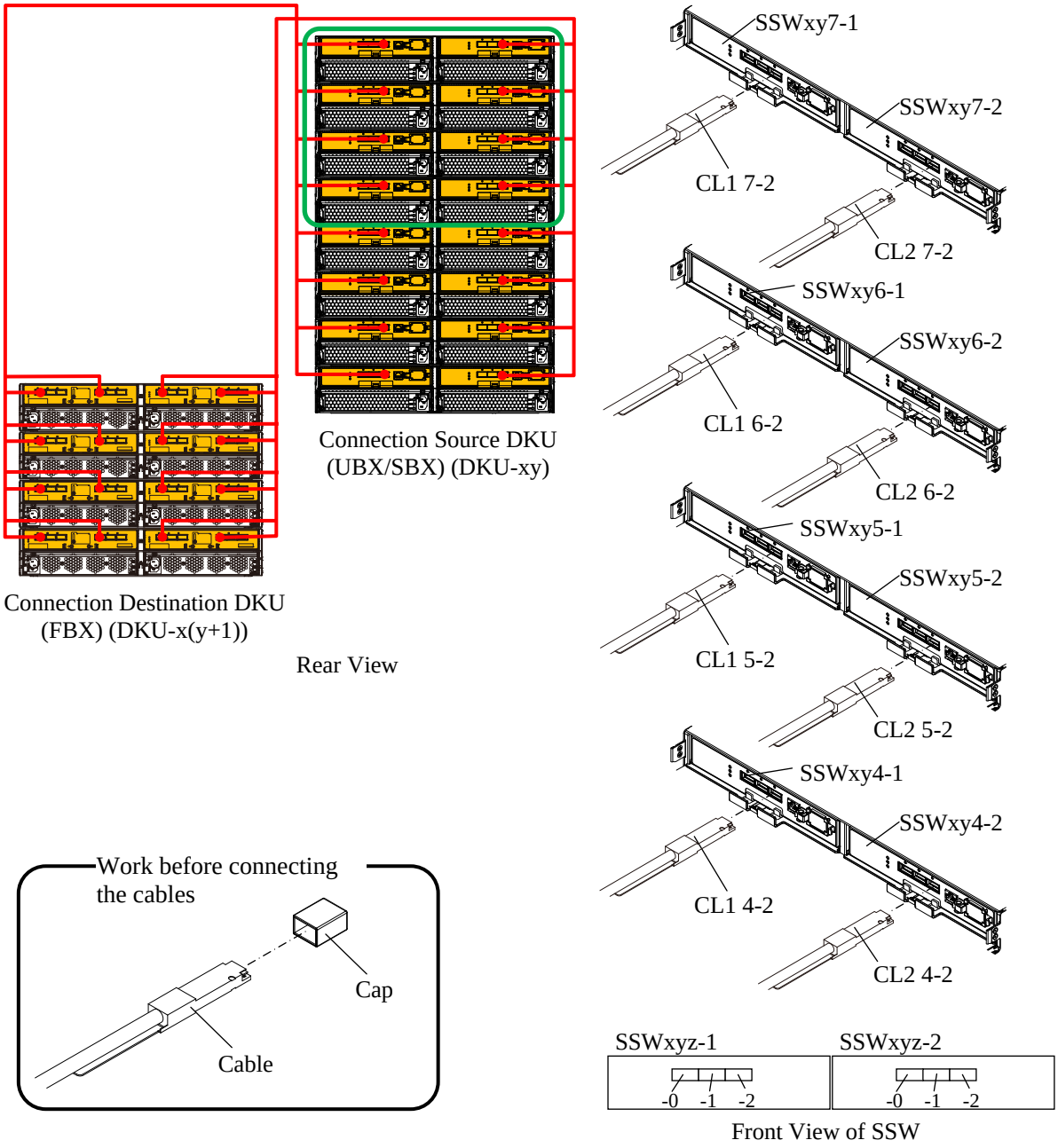


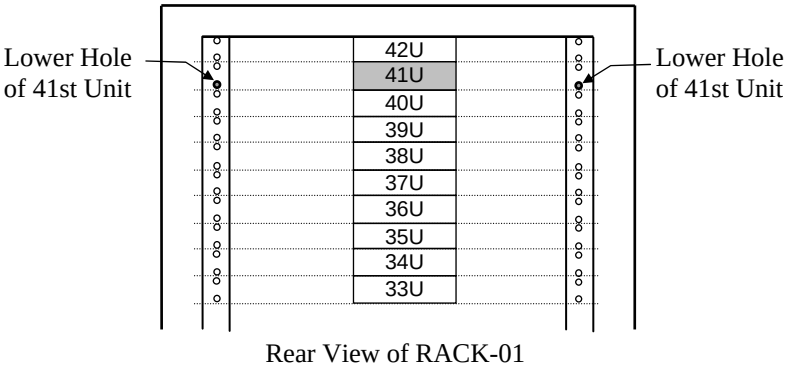
Fig. 3.11.4.7-17 Connection of Cables (CC4_DKU-xy_U)

Copyright © 2014, Hitachi, Ltd.

3. Attachment of Cables

In the case of cable installation between DKU in RACK-00 and DKU in RACK-01

a. Install the two rack nuts to the rear side of the RACK-01.



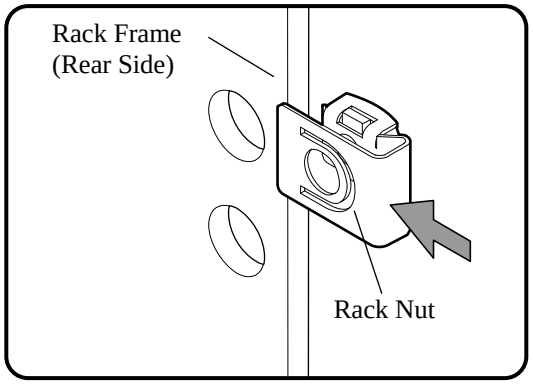


Fig. 3.11.4.7-18 Installation of Rack Nuts

b. Attach the two loop cable ties to the rear side of the RACK-01and secure them with the two screws.

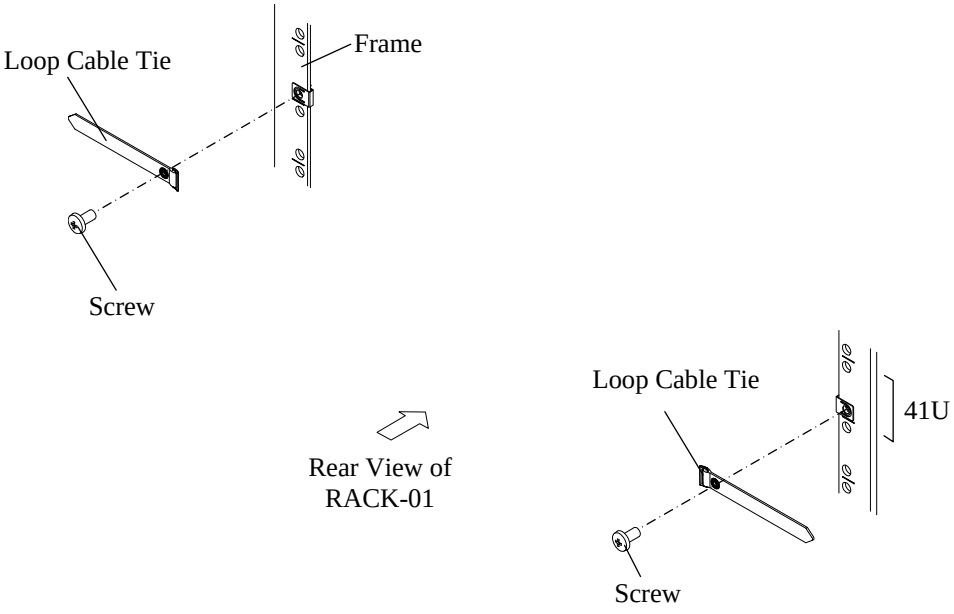


Fig. 3.11.4.7-19 Attachment of Loop Cable Ties

Copyright © 2014, Hitachi, Ltd.

c. Route the eight cables in the cluster 1 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

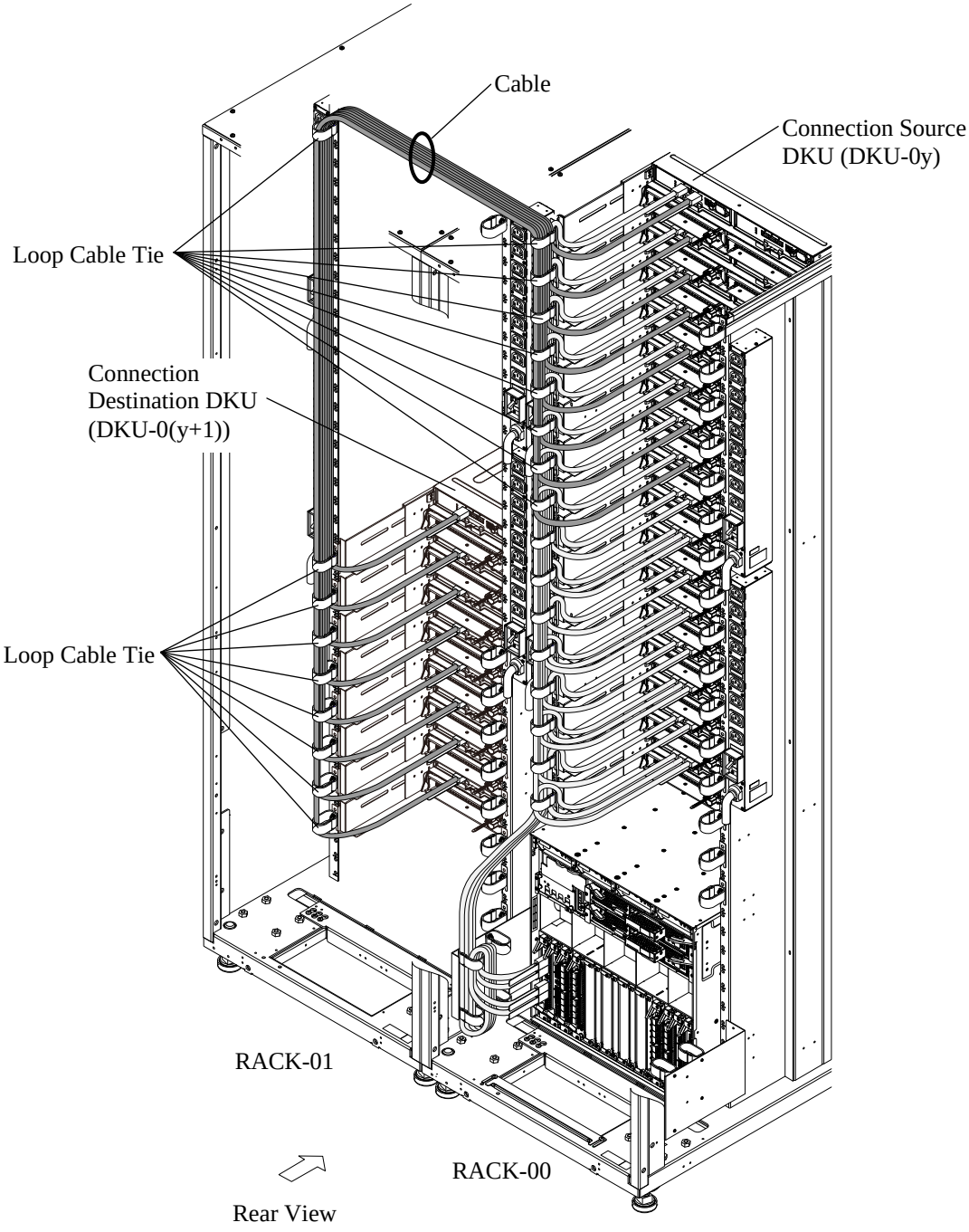


Fig. 3.11.4.7-20 Fixation of Cables (RACK-00 – RACK-01)

Copyright © 2014, Hitachi, Ltd.

d. Route the eight cables in the cluster 2 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

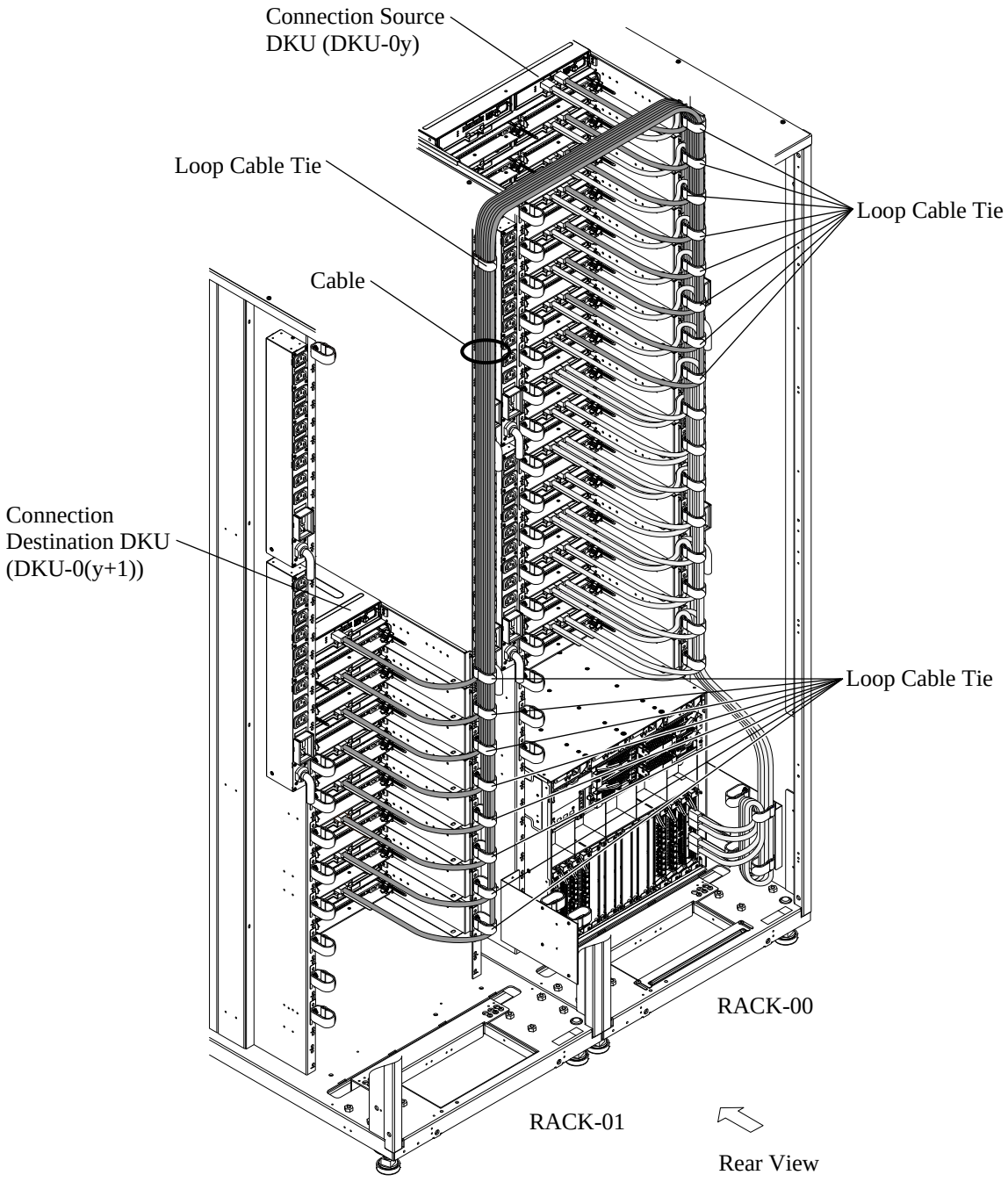
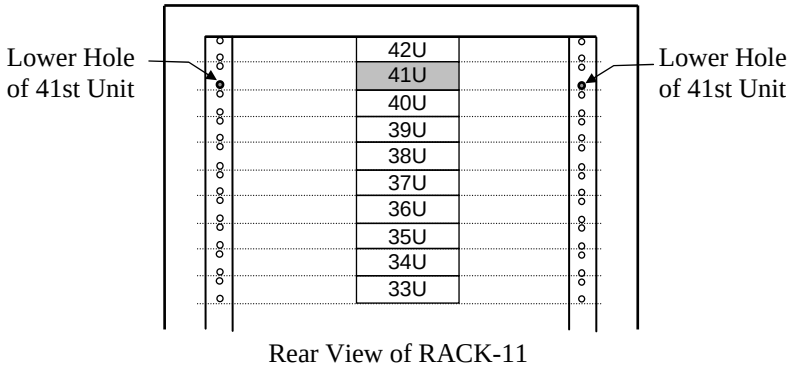


Fig. 3.11.4.7-21 Fixation of Cables (RACK-00 – RACK-01)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKU in RACK-10 and DKU in RACK-11

a. Install the two rack nuts to the rear side of the RACK-11.



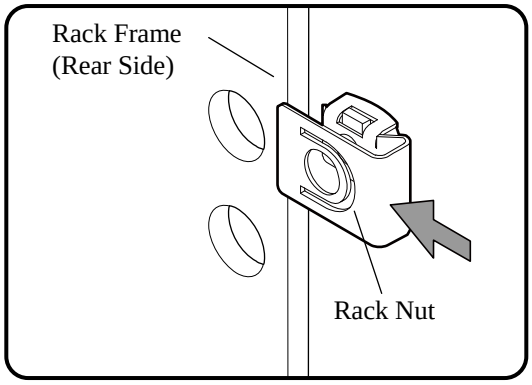


Fig. 3.11.4.7-22 Installation of Rack Nuts

b. Attach the two loop cable ties to the rear side of the RACK-11 and secure them with the two screws.

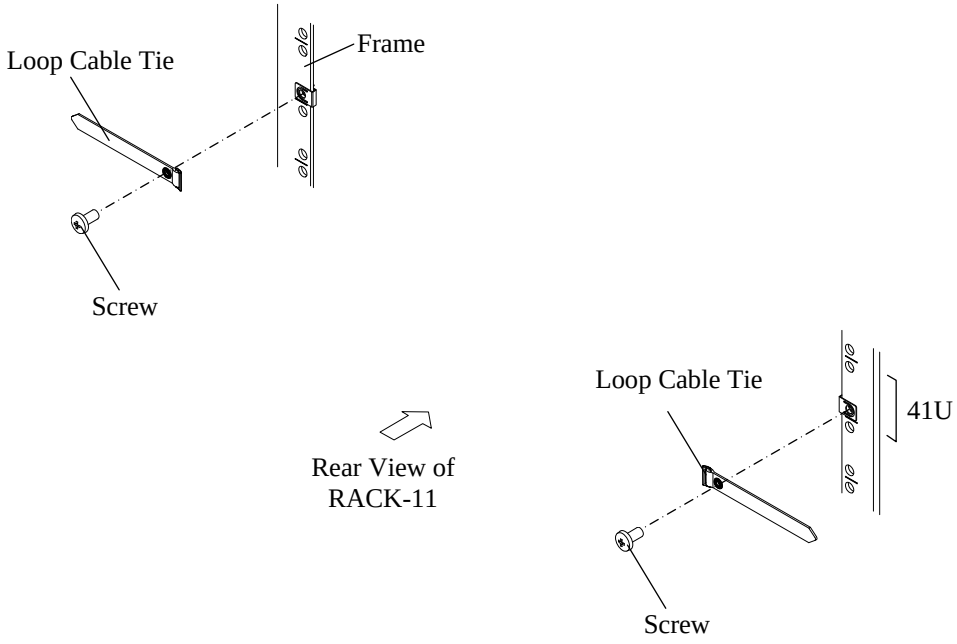


Fig. 3.11.4.7-23 Attachment of Loop Cable Ties

Copyright © 2014, Hitachi, Ltd.

c. Route the eight cables in the cluster 1 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

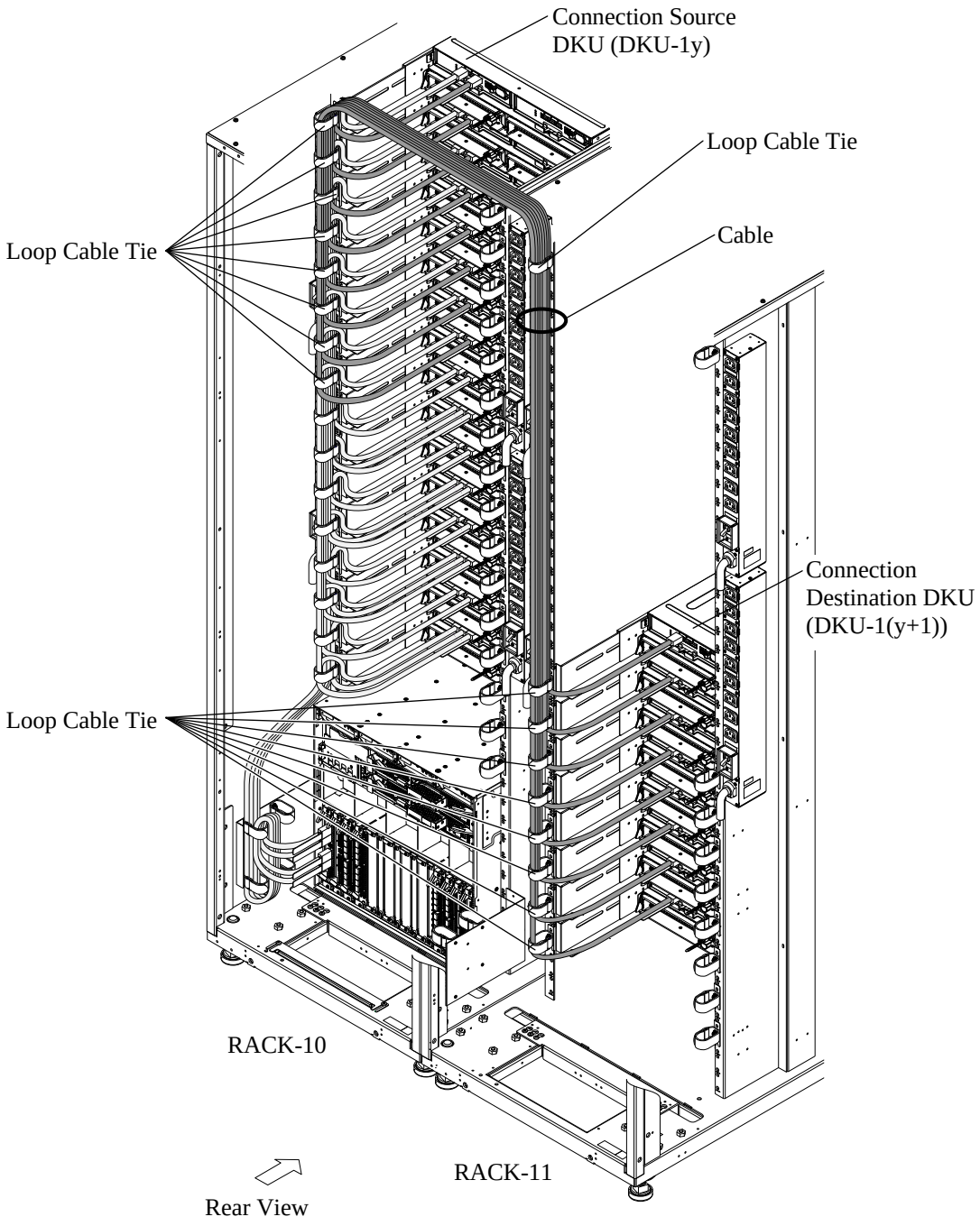


Fig. 3.11.4.7-24 Fixation of Cables (RACK-10 – RACK-11)

Copyright © 2014, Hitachi, Ltd.

d. Route the eight cables in the cluster 2 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

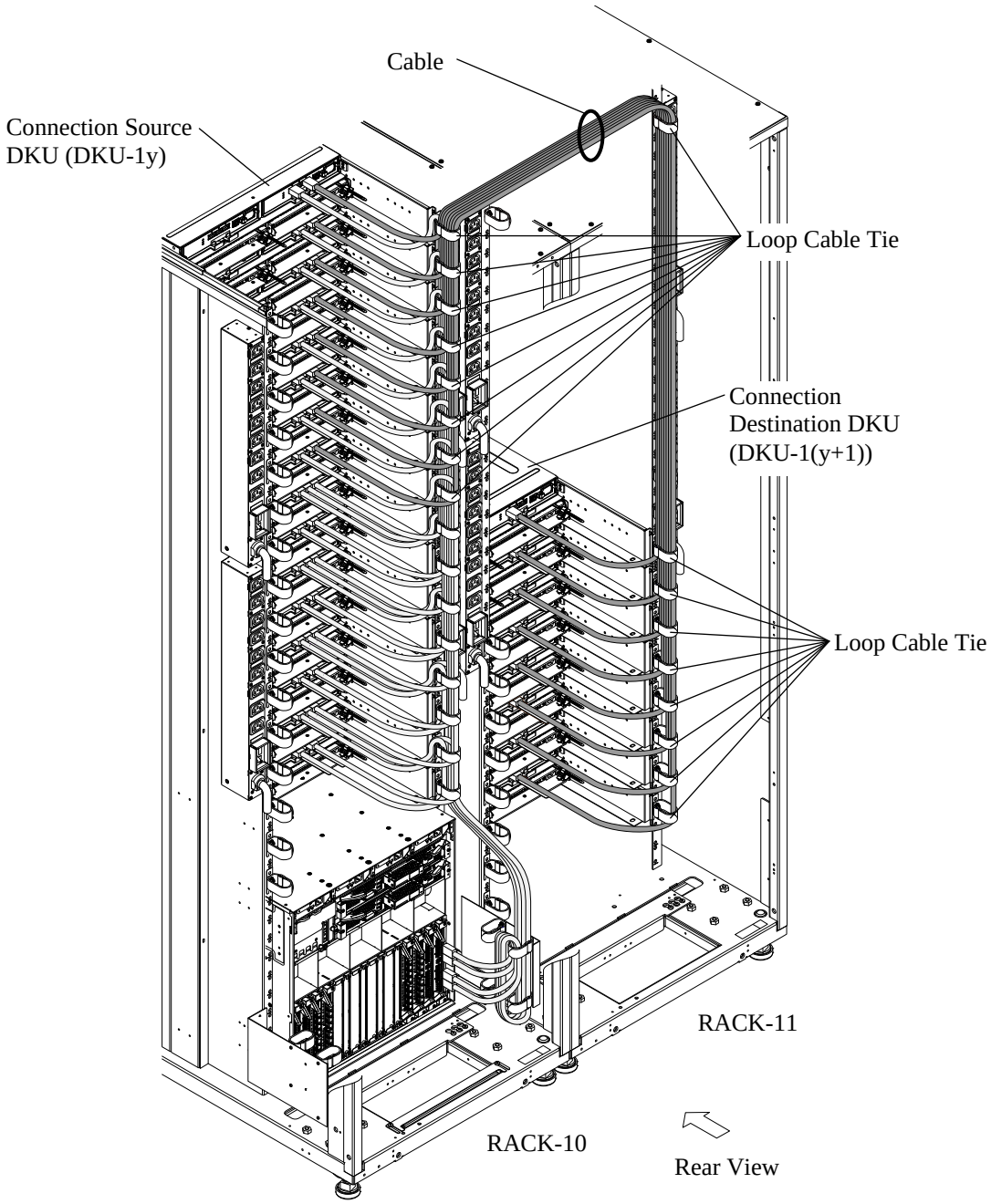


Fig. 3.11.4.7-25 Fixation of Cables (RACK-10 – RACK-11)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKU in RACK-01 and DKU in RACK-02

a. Install the two rack nuts to the rear side of the RACK-02.

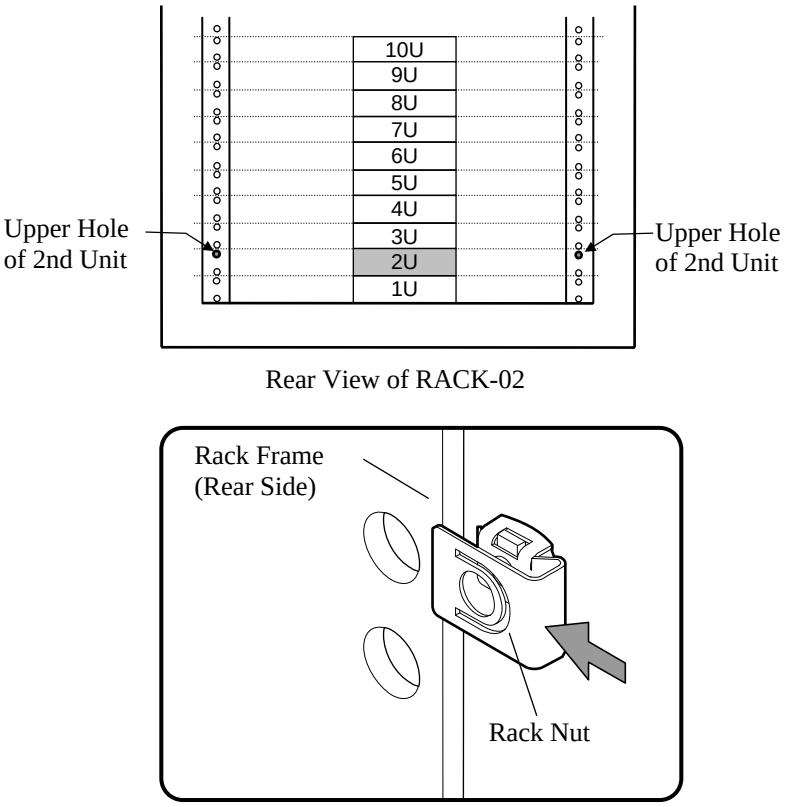


Fig. 3.11.4.7-26 Installation of Rack Nuts

b. Attach the two loop cable ties to the rear side of the RACK-02 and secure them with the two screws.

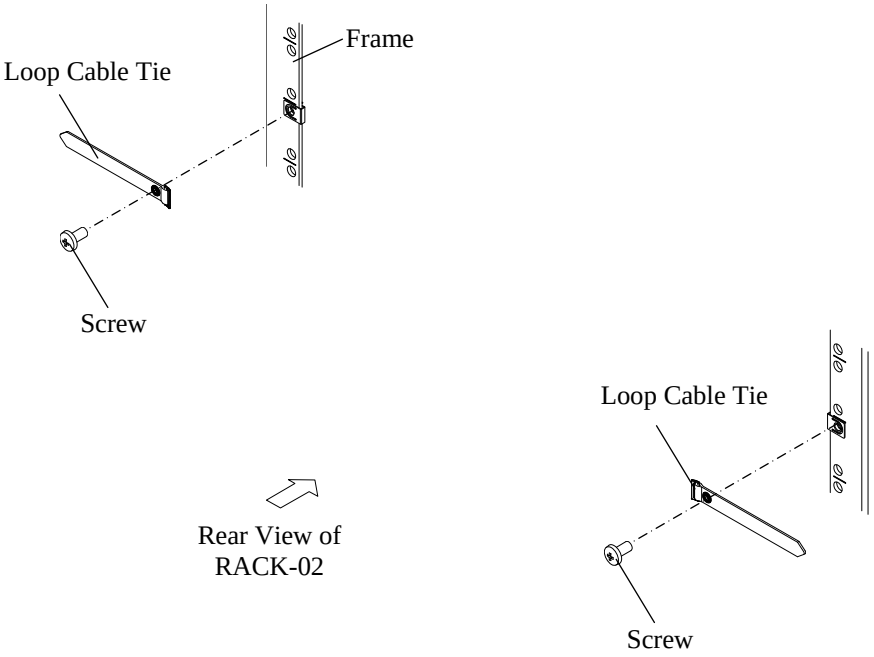


Fig. 3.11.4.7-27 Attachment of Loop Cable Ties

Copyright © 2014, Hitachi, Ltd.

c. Route the eight cables in the cluster 1 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

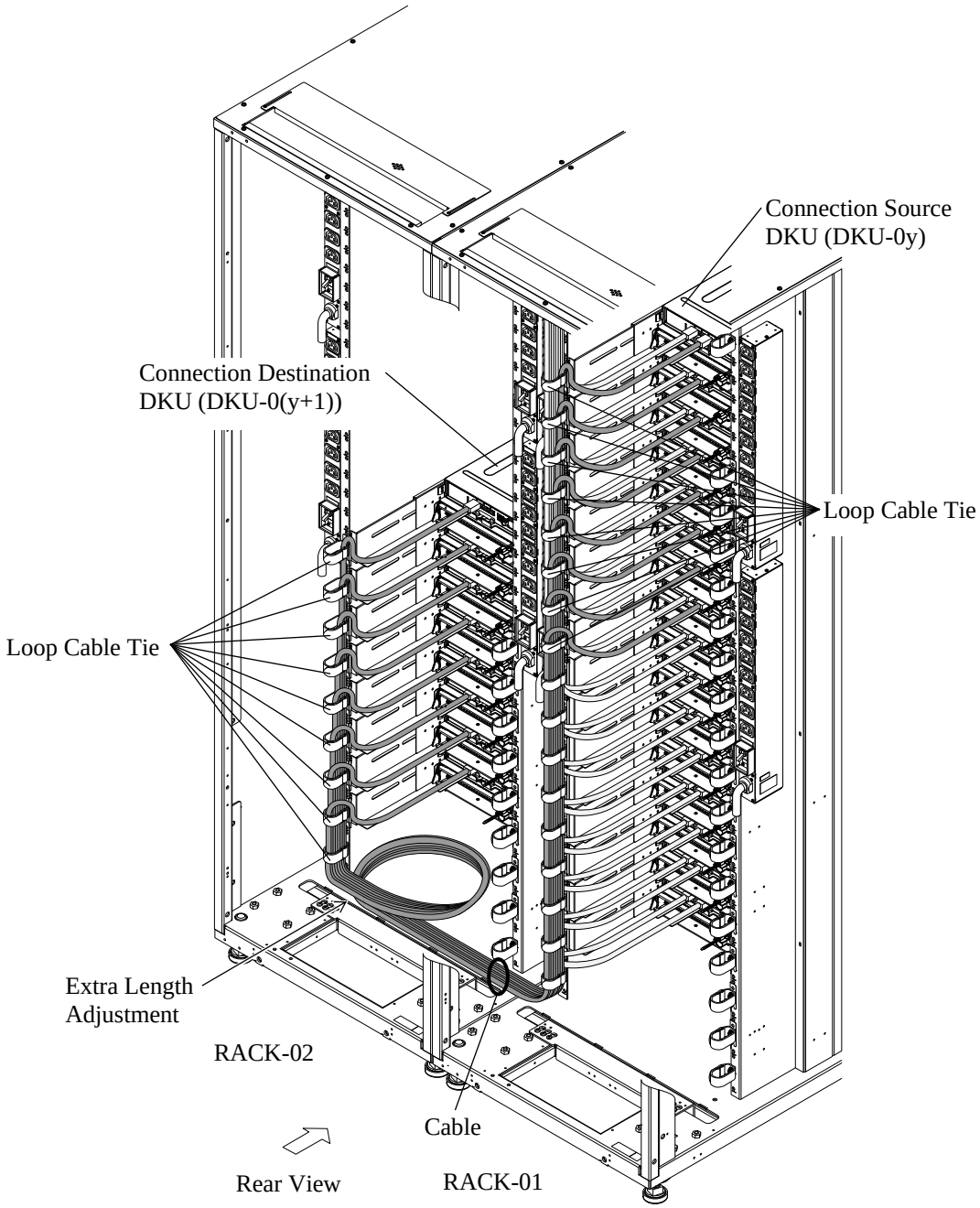


Fig. 3.11.4.7-28 Fixation of Cables (RACK-01 – RACK-02)

Copyright © 2014, Hitachi, Ltd.

d. Route the eight cables in the cluster 2 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

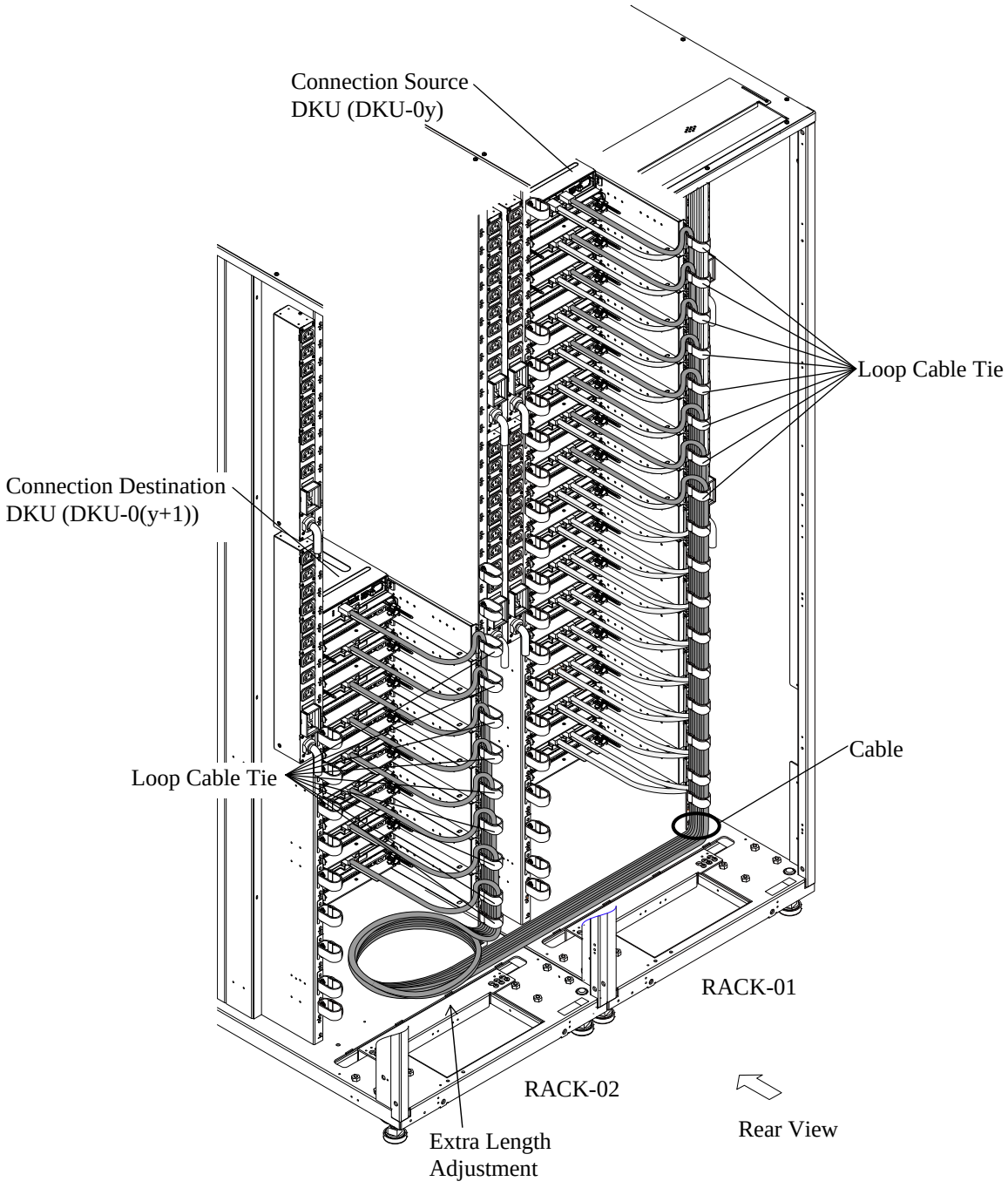
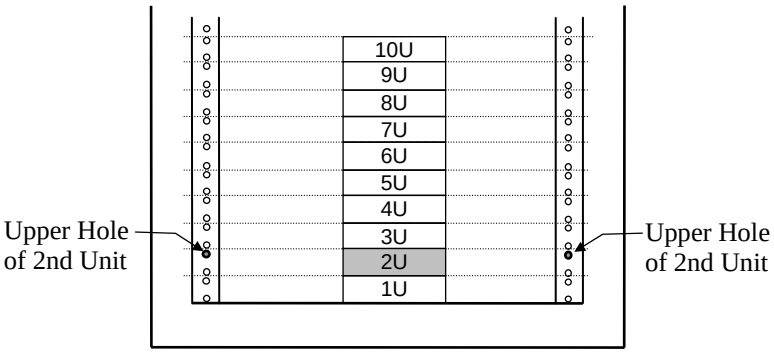


Fig. 3.11.4.7-29 Fixation of Cables (RACK-01 – RACK-02)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKU in RACK-11 and DKU in RACK-12

a. Install the two rack nuts to the rear side of the RACK-12.



Rear View of RACK-12

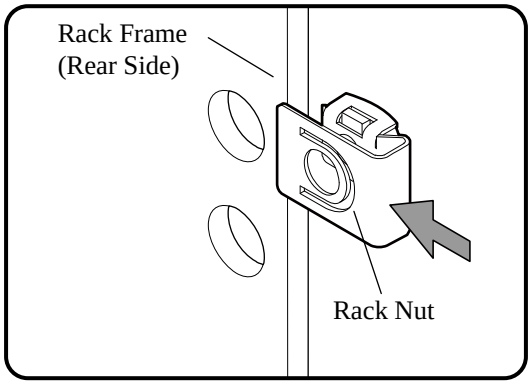


Fig. 3.11.4.7-30 Installation of Rack Nuts

b. Attach the two loop cable ties to the rear side of the RACK-12 and secure them with the two screws.

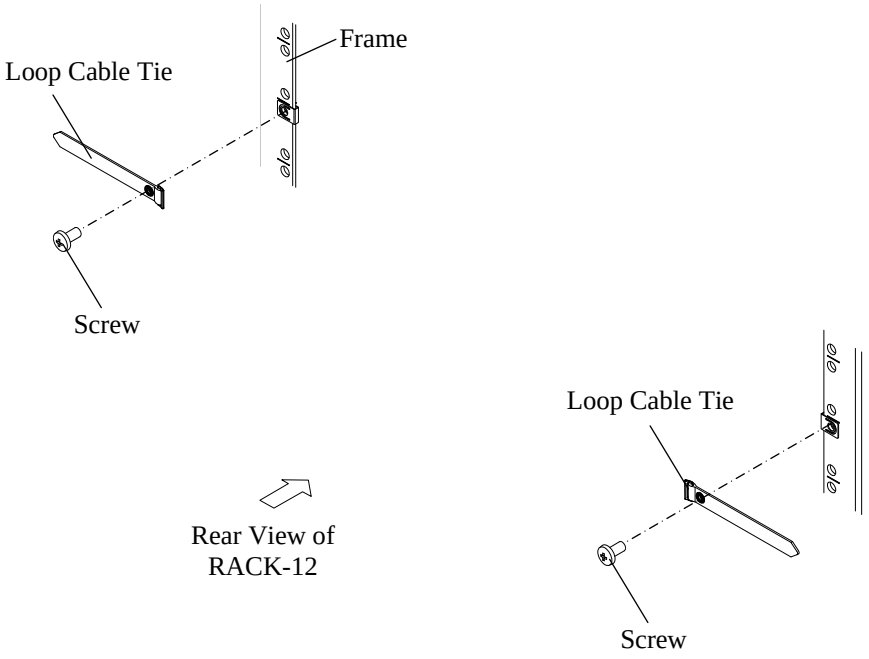


Fig. 3.11.4.7-31 Attachment of Loop Cable Ties

Copyright © 2014, Hitachi, Ltd.

c. Route the eight cables in the cluster 1 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

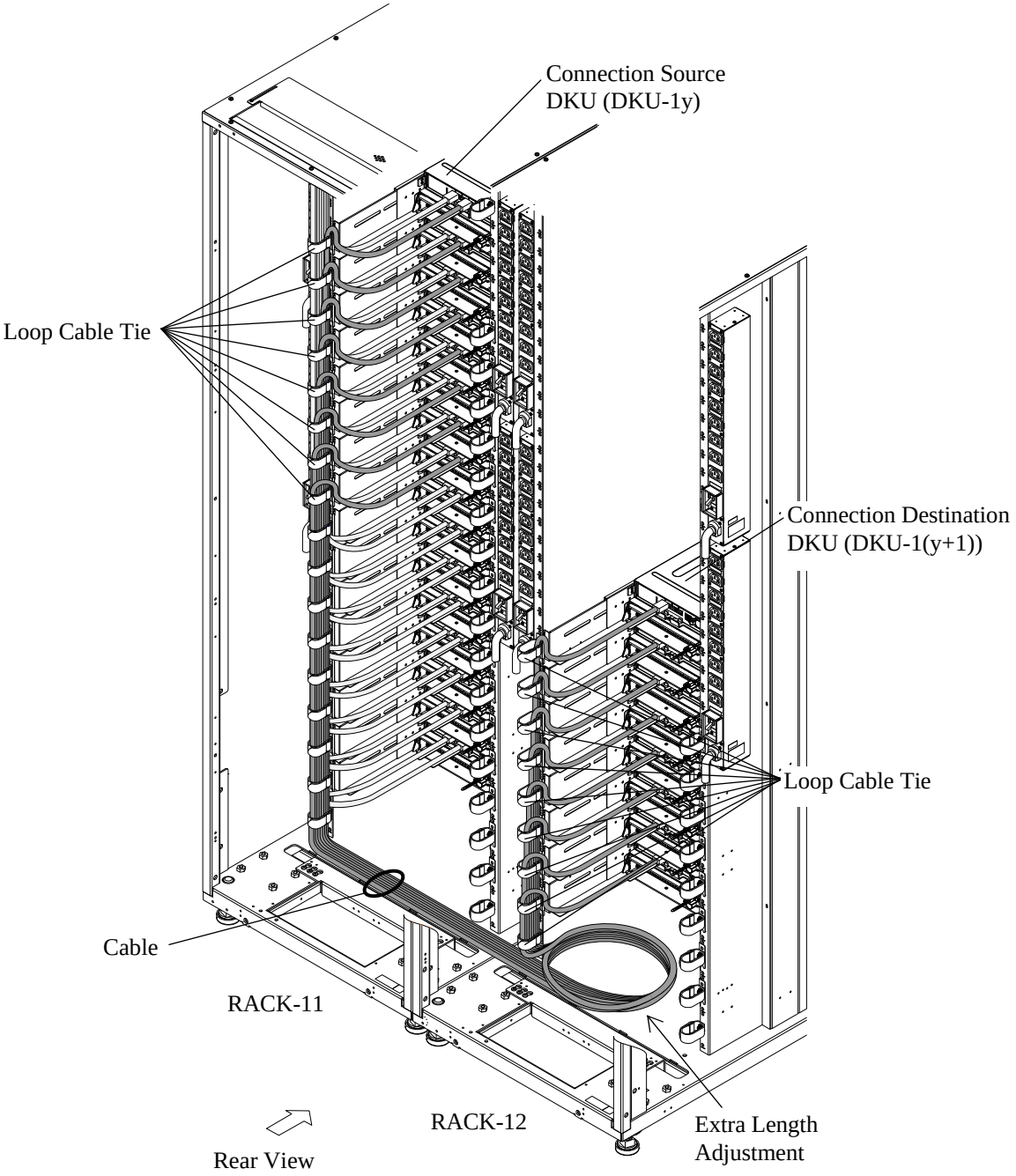


Fig. 3.11.4.7-32 Fixation of Cables (RACK-11 – RACK-12)

Copyright © 2014, Hitachi, Ltd.

d. Route the eight cables in the cluster 2 and fix them with the loop cable ties.
In the case of FBX, the cable routing is the same. Remove the cables seeing the figure below.

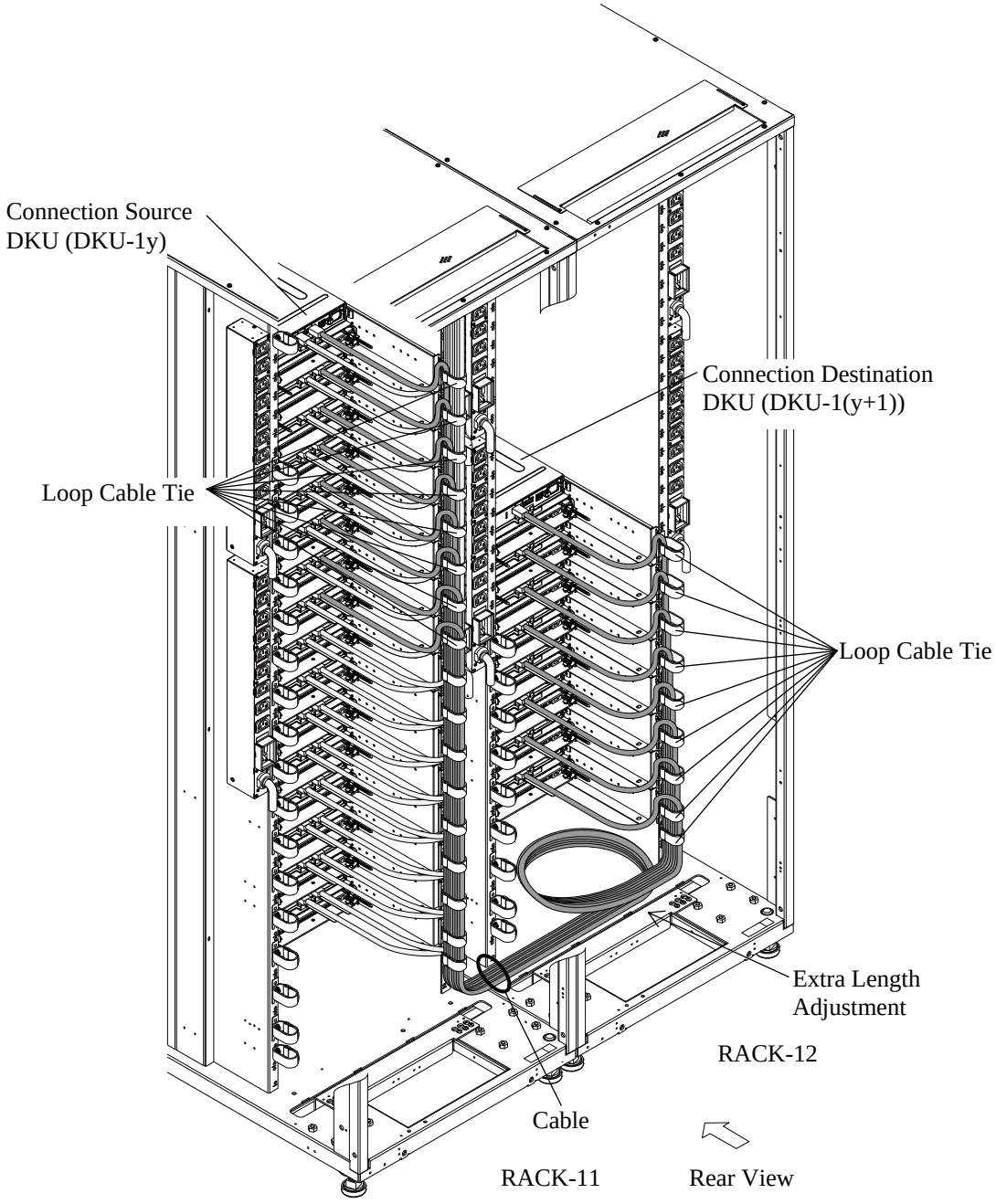


Fig. 3.11.4.7-33 Fixation of Cables (RACK-11 – RACK-12)

Copyright © 2014, Hitachi, Ltd.

3.11.4.8 Installation Procedure of Device Interface Cable CC1/CC2 in the Standard Model that Accompanies the Addition of the DKU-00/10 (DKC-F810I-CC1/CC2)

Installation Condition

To connect the DKA to the DKU-00/10 in the standard model, DKC-F810I-CC1/CC2 cable options must be installed.
If installation of the DKA is necessary, install the DKA first referring to "3.11.3 When performing addition of the DKA and Device Interface Cable (INST03-11B-10)".
Judge whether it is necessary to install DKC-F810I-CC1/CC2 cable options and go to the appropriate page. (See Table 3.11.4.8-1.)

Table 3.11.4.8-1 Work Procedure Table

No.	Condition of Work Procedure	Page
1	When Device Interface Cable CC1/CC2 (DKC-F810I-CC1/CC2) to connect DKA to DKU-00/10 is required to install in the standard model.	INST03-11C-1480
2	When Device Interface Cable CC1/CC2 (DKC-F810I-CC1/CC2) to connect DKA to DKU-00/10 is not required to install.	INST03-11C-1630

Standard Model

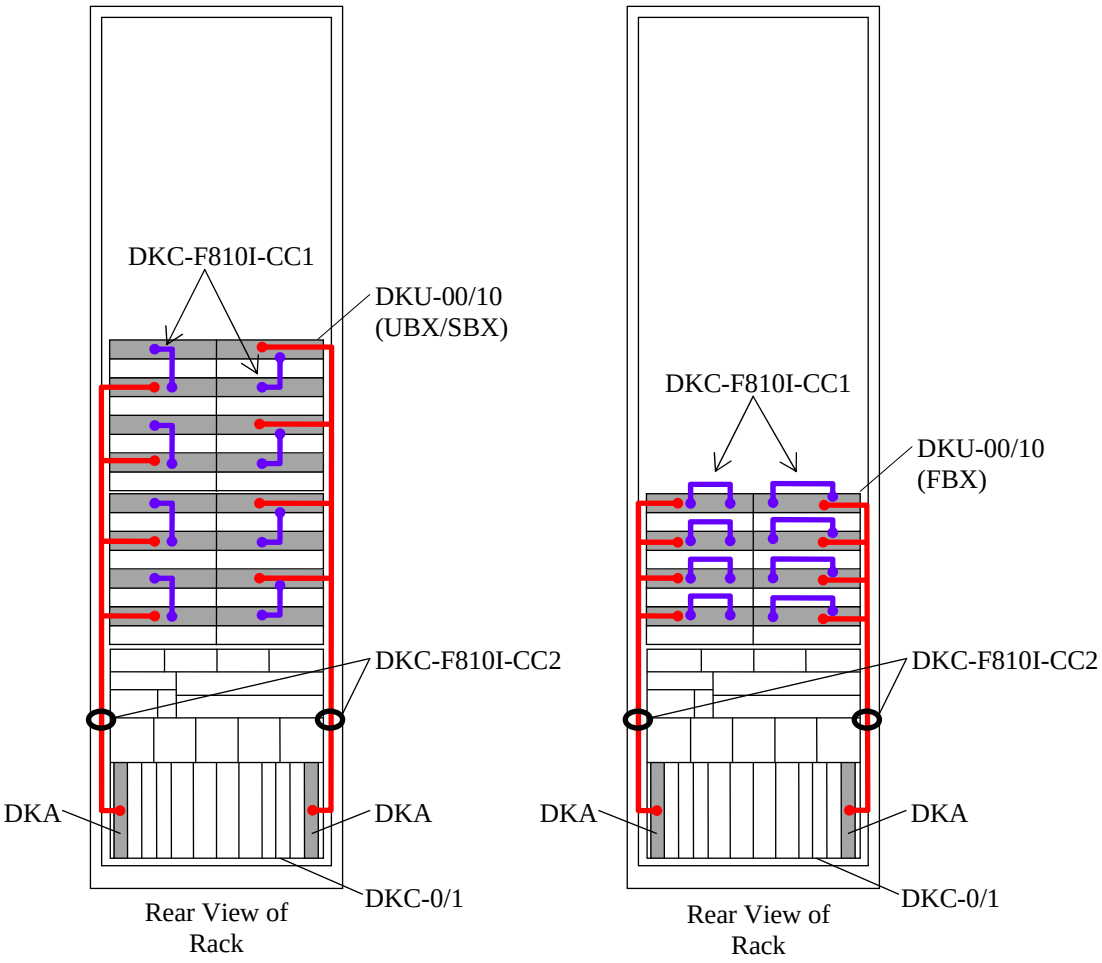


Fig. 3.11.4.8-1 Cable Routing

Copyright © 2014, Hitachi, Ltd.

1 Attachment of Device Interface Cable (CC2)

In the case of cable installation between DKA-1PA/2PA and DKU-00

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

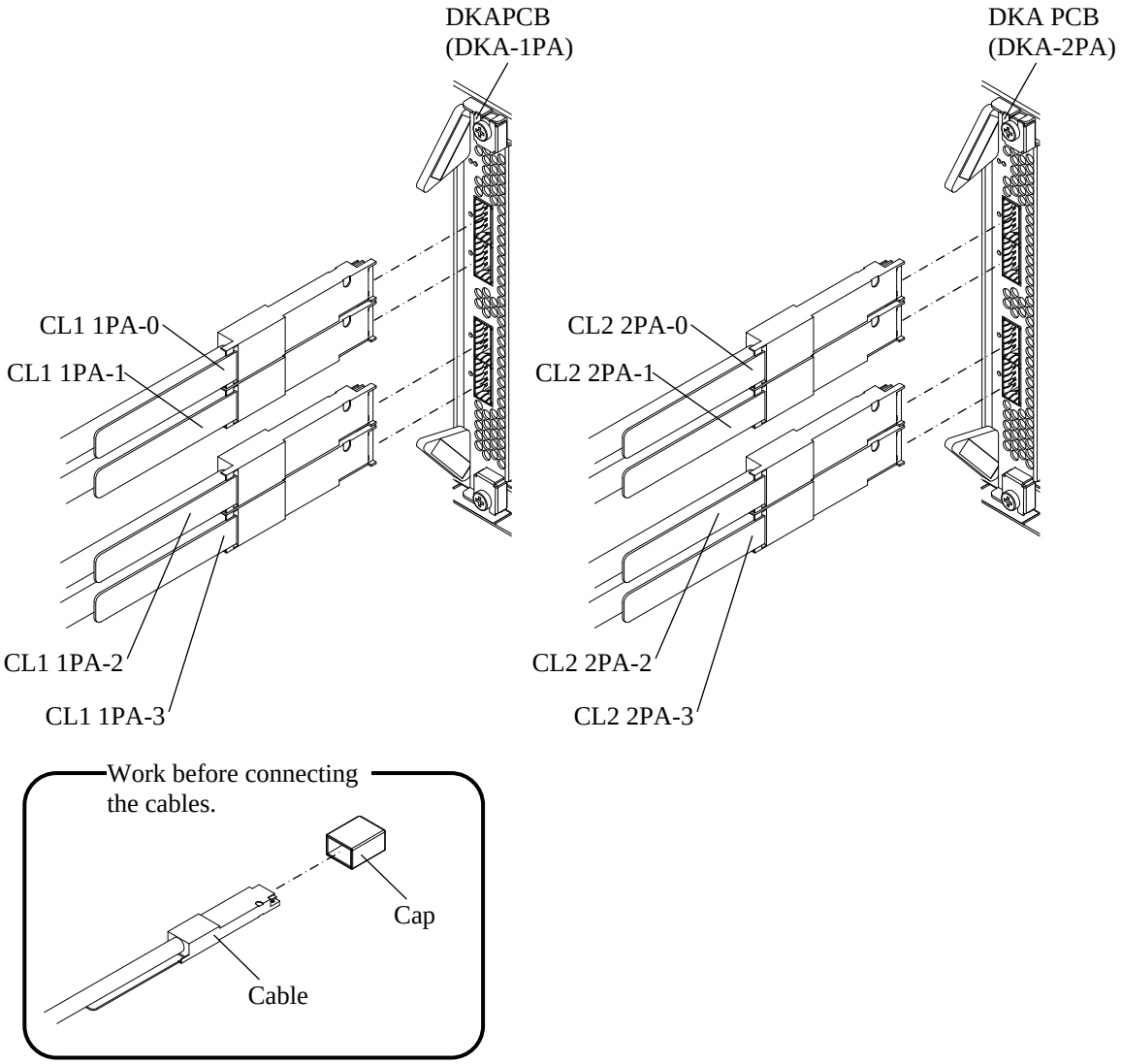


Fig. 3.11.4.8-2 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-00 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.8-3 and Fig. 3.11.4.8-4.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the UBX/SBX.

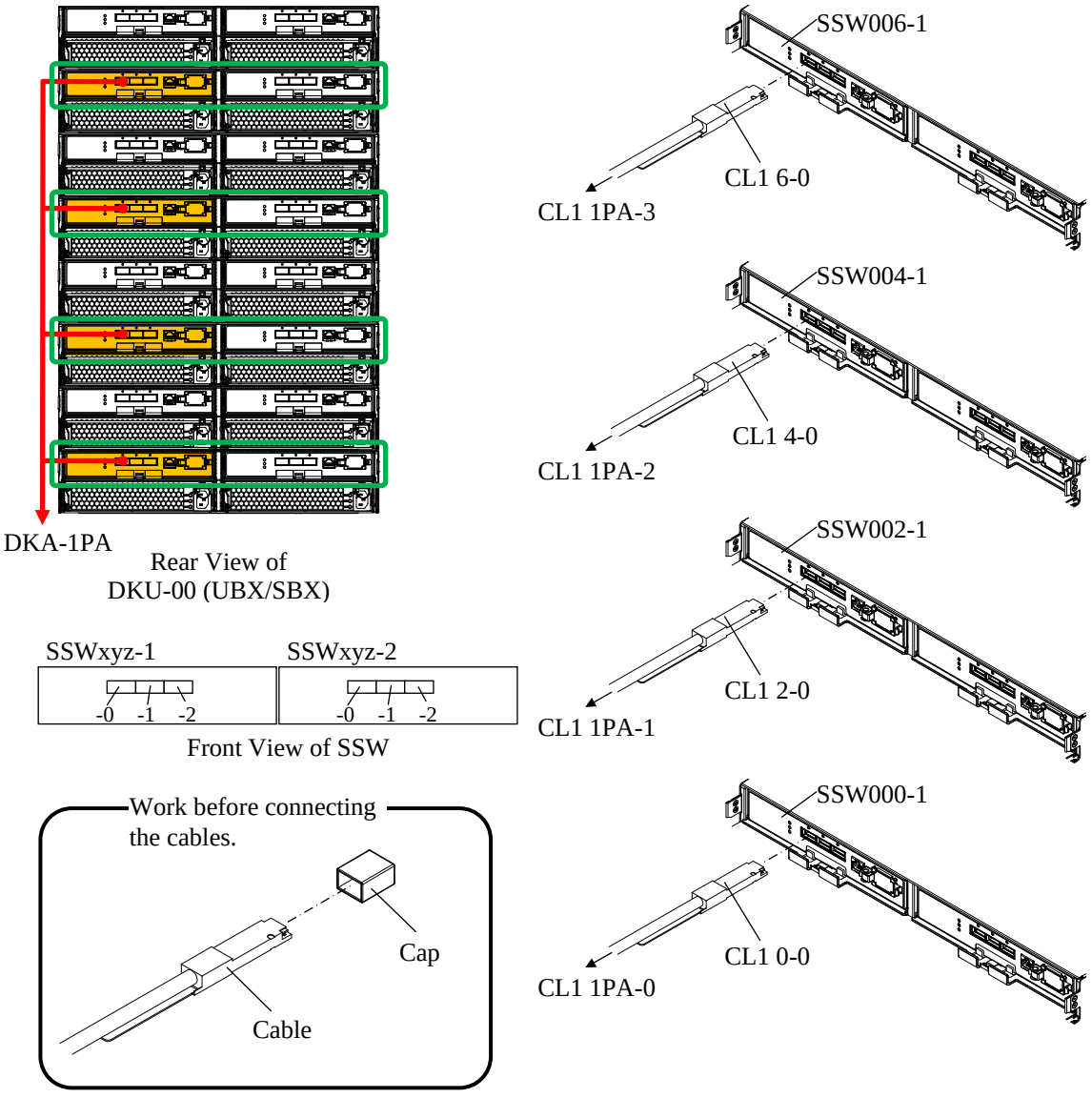


Fig. 3.11.4.8-3 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

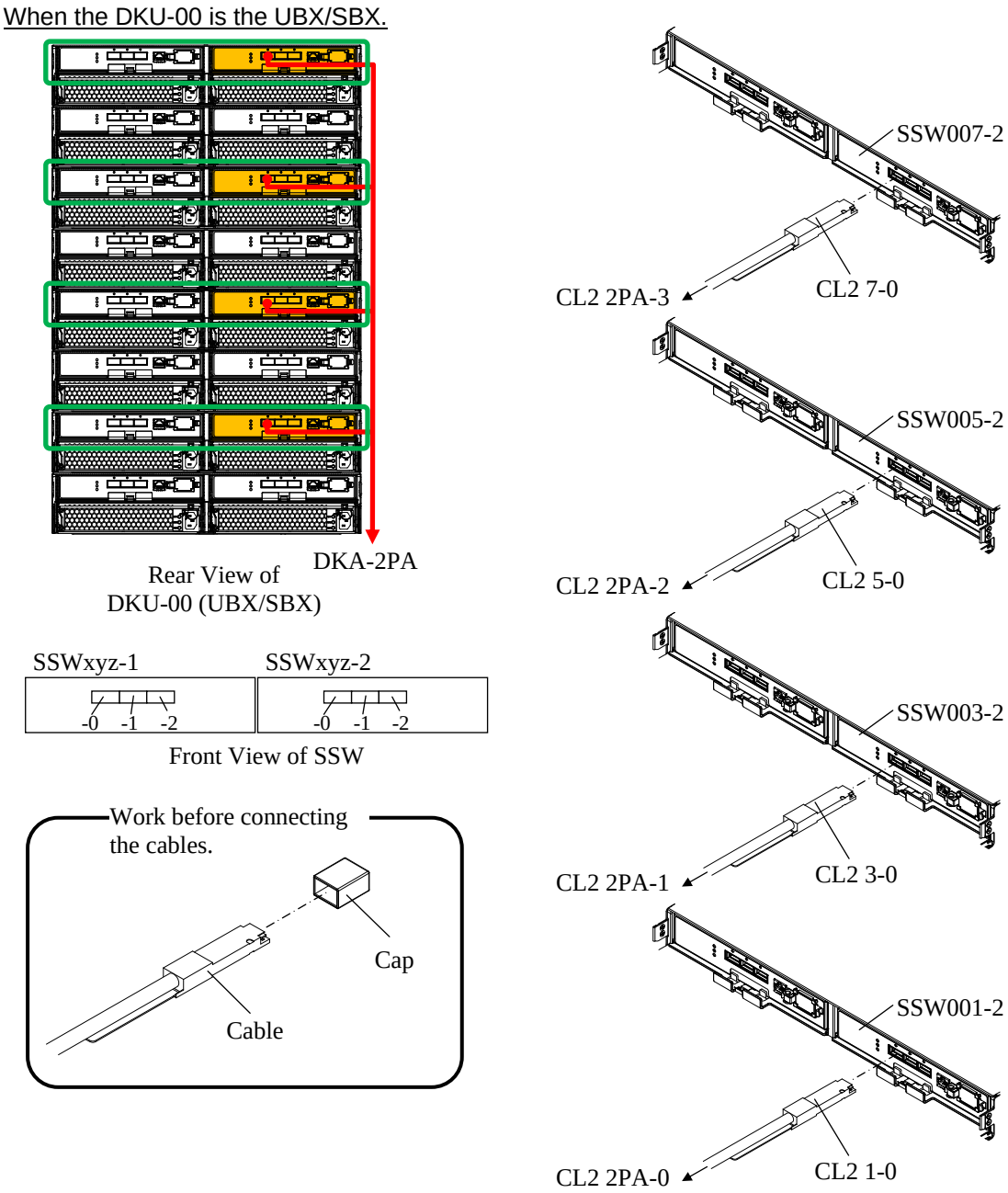


Fig. 3.11.4.8-4 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL2)

When the DKU-00 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking “3.1.6 Notes when connecting the DEV interface cable” (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the FBX.

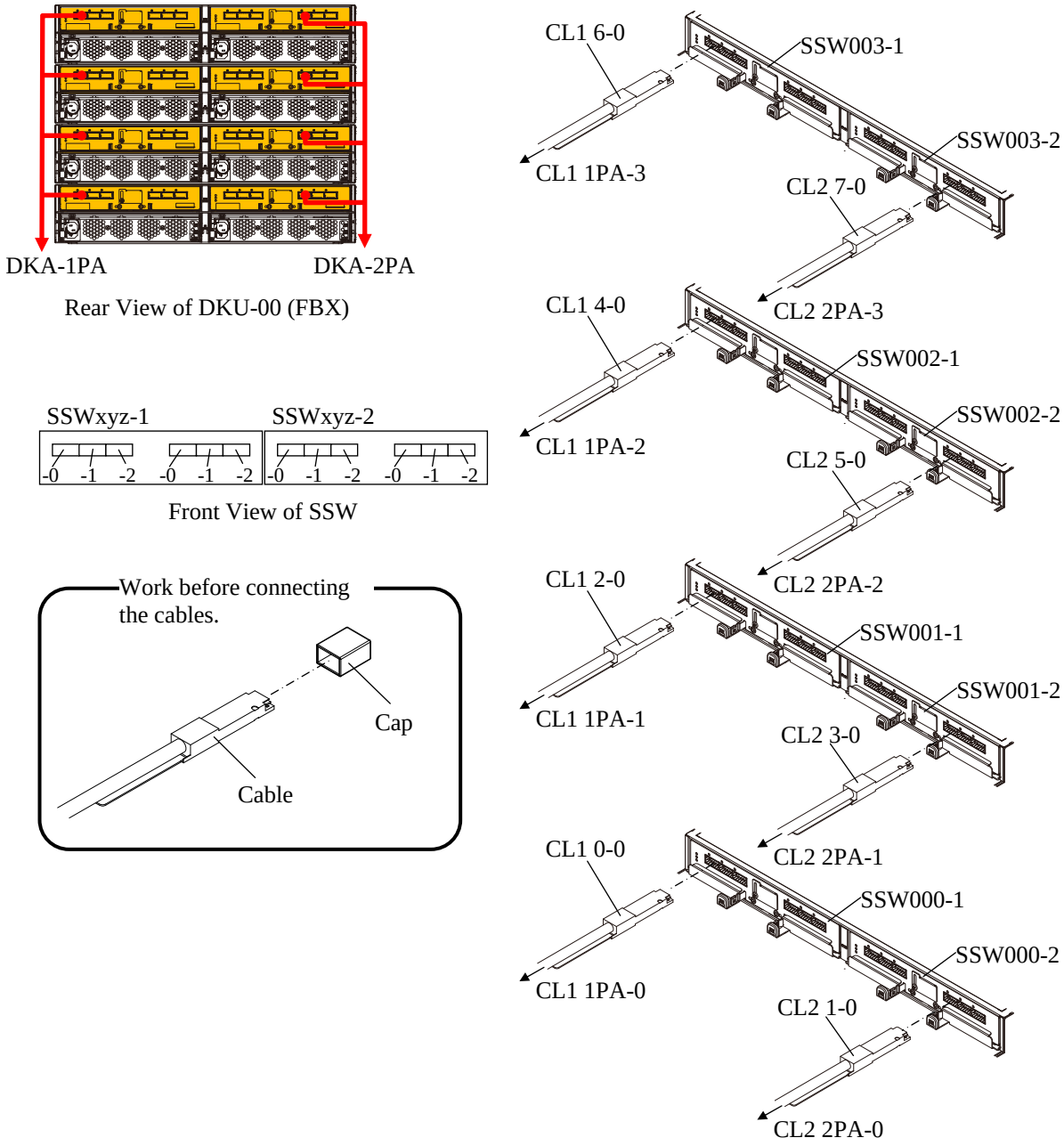


Fig. 3.11.4.8-5 Connection of Cables (CC2_DKU-00 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PG/2PG and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

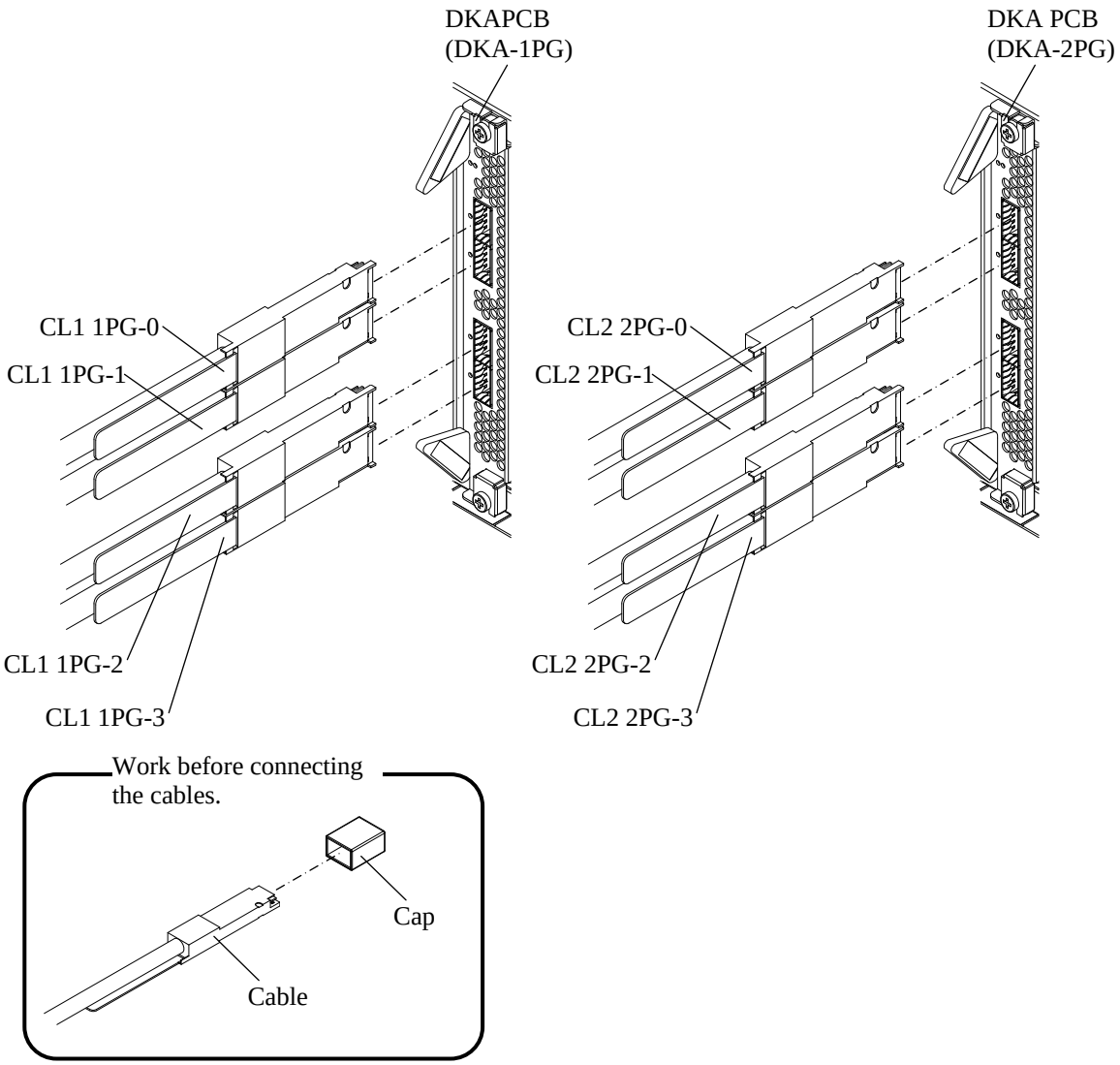


Fig. 3.11.4.8-6 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-10 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.8-7 and Fig. 3.11.4.8-8.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

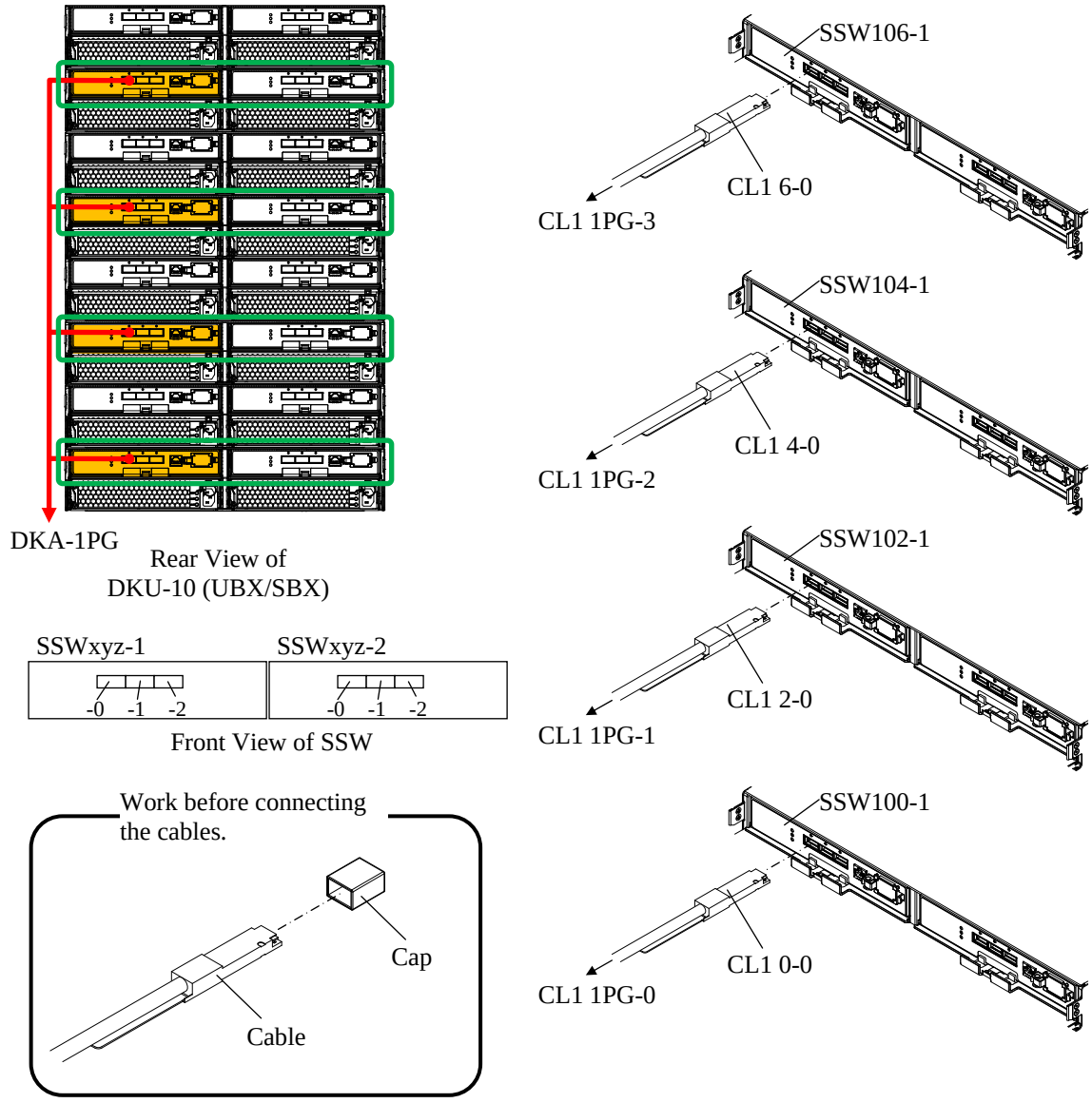


Fig. 3.11.4.8-7 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

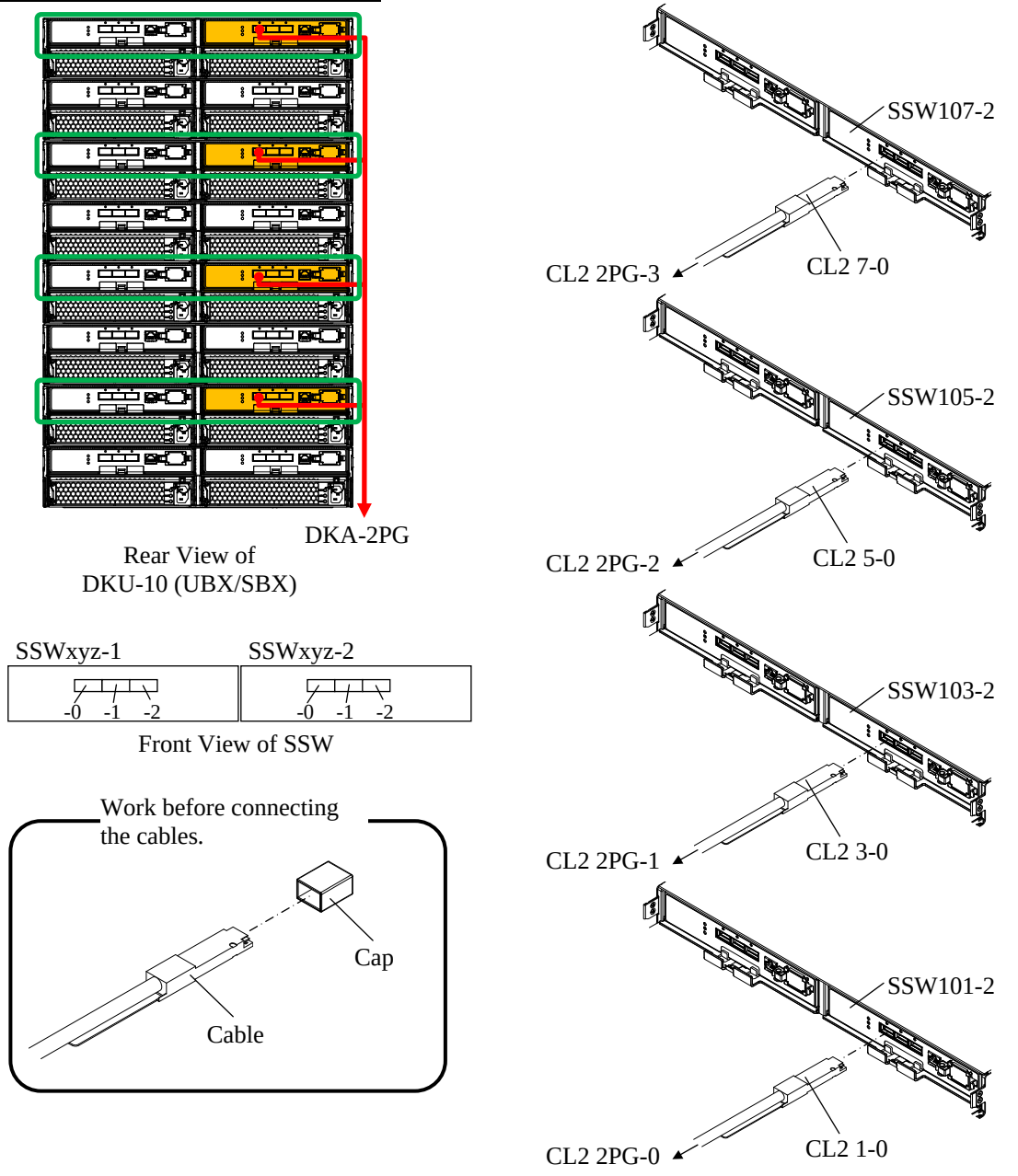


Fig. 3.11.4.8-8 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL2)

When the DKU-10 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

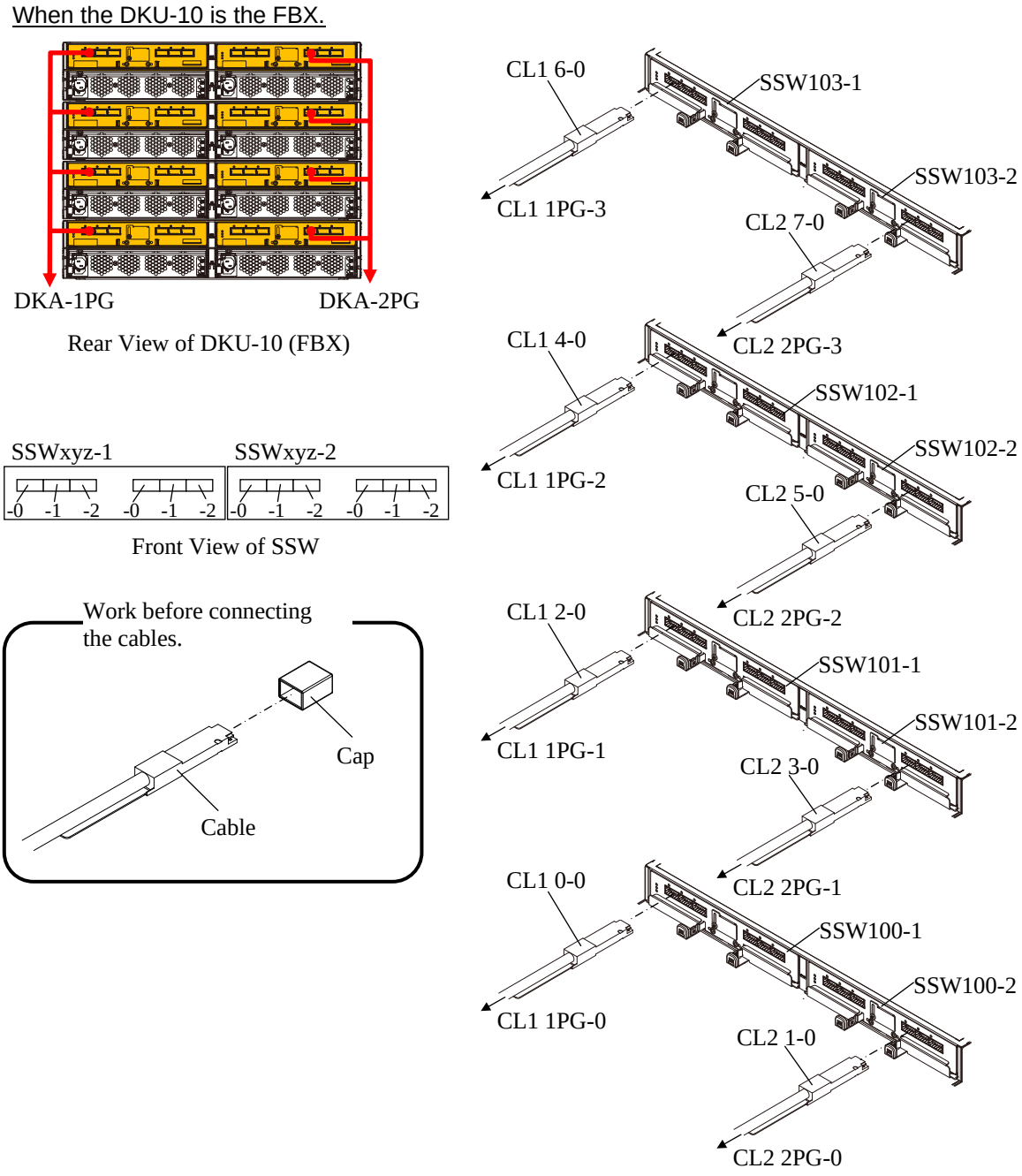


Fig. 3.11.4.8-9 Connection of Cables (CC2_DKU-10 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

2. Attachment of Device Interface Cable (CC1)

When the DKU-x0 is the UBX/SBX

a. Remove the caps from the cables to be connected.
b. Connect the cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.8-10 and Fig. 3.11.4.8-11.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

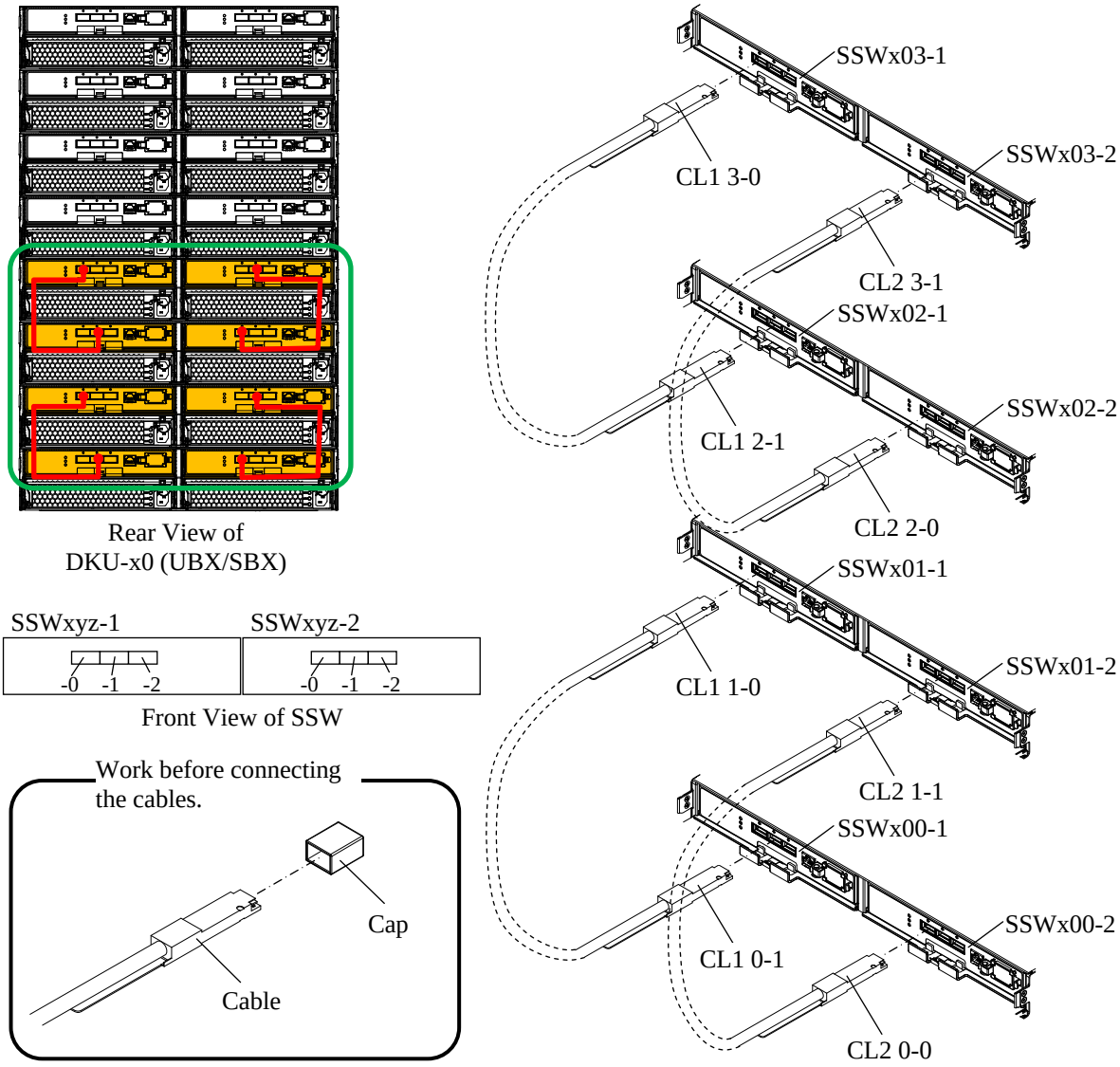
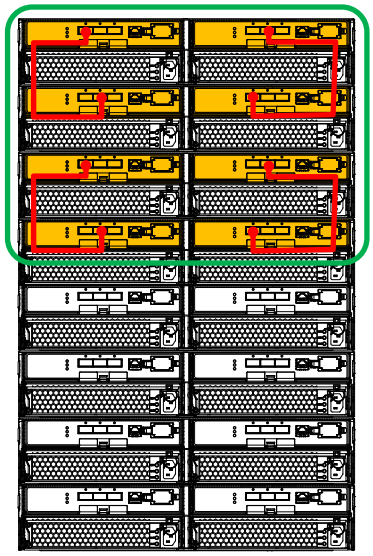


Fig. 3.11.4.8-10 Connection of Cables (UBX/SBX_CC1_CL1/CL2_L)

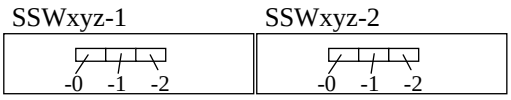
Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

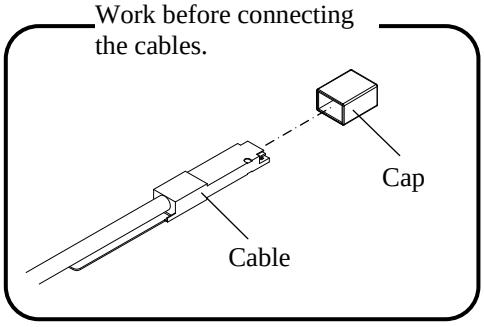
A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.



Rear View of
DKU-x0 (UBX/SBX)



Front View of SSW



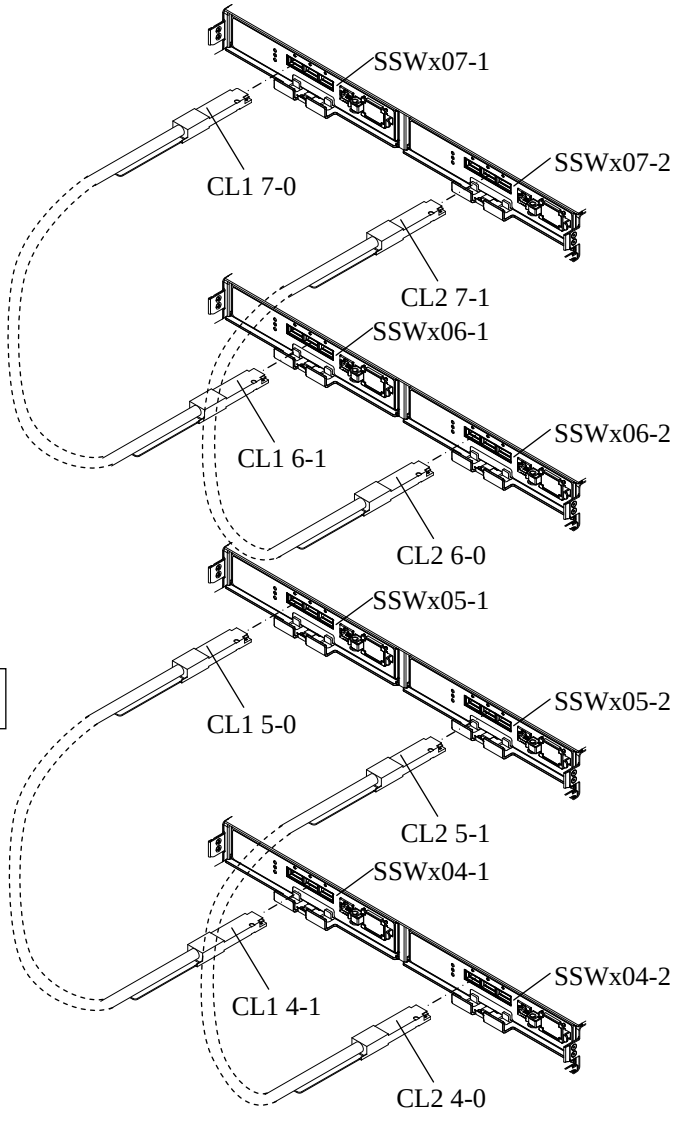


Fig. 3.11.4.8-11 Connection of Cables (UBX/SBX_CC1_CL1/CL2_U)

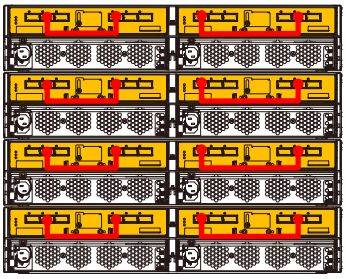
Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX

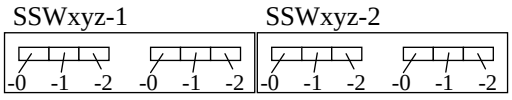
a. Remove the caps from the cables to be connected.
b. Connect the cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

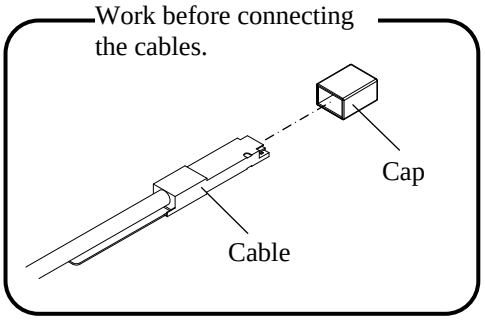
A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.



Rear View of
DKU-x0 (FBX)



Front View of SSW



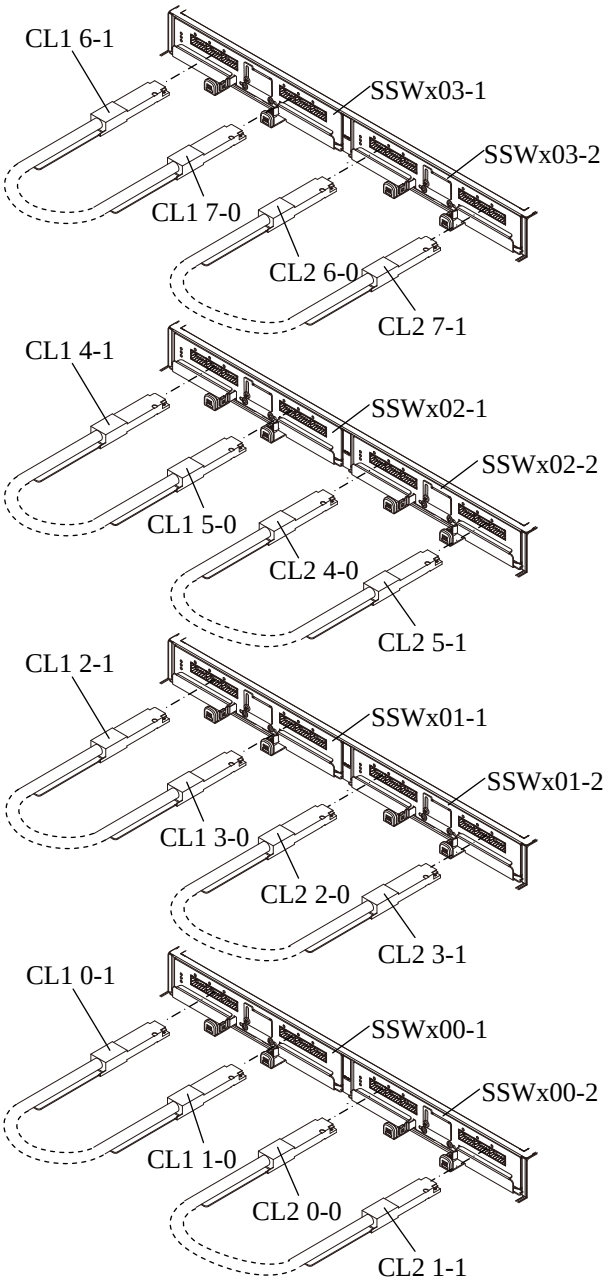


Fig. 3.11.4.8-12 Connection of Cables (FBX_CC1_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

3. Attachment of Cables
   a. Route the eight cables in the cluster 1 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.8-13 or Fig. 3.11.4.8-14.)

When the DKU-x0 is the UBX/SBX.

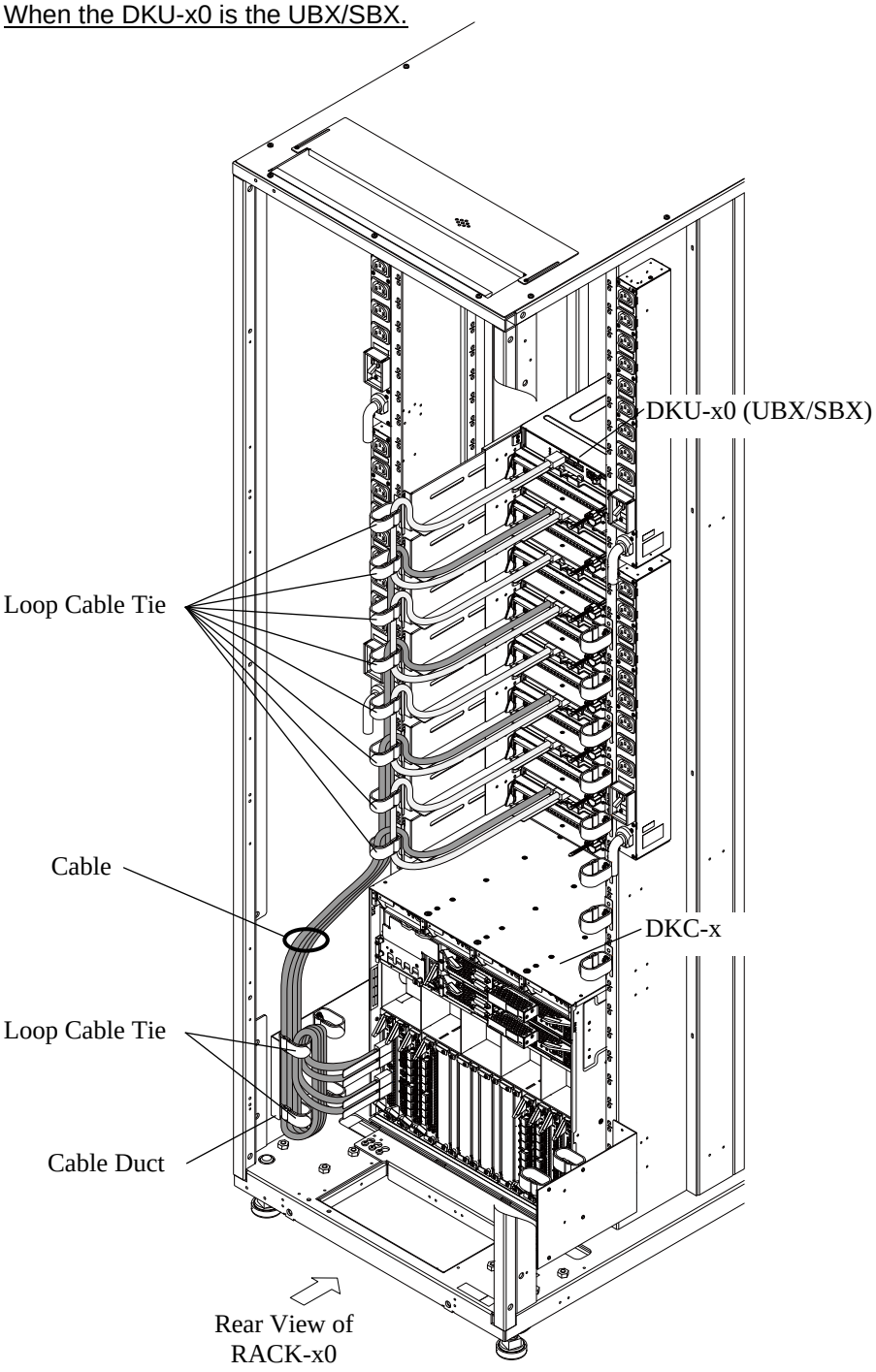


Fig. 3.11.4.8-13 Fixation of Cables
(DKA-1PA – DKU-00 (UBX/SBX) or DKA-1PG – DKU-10 (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

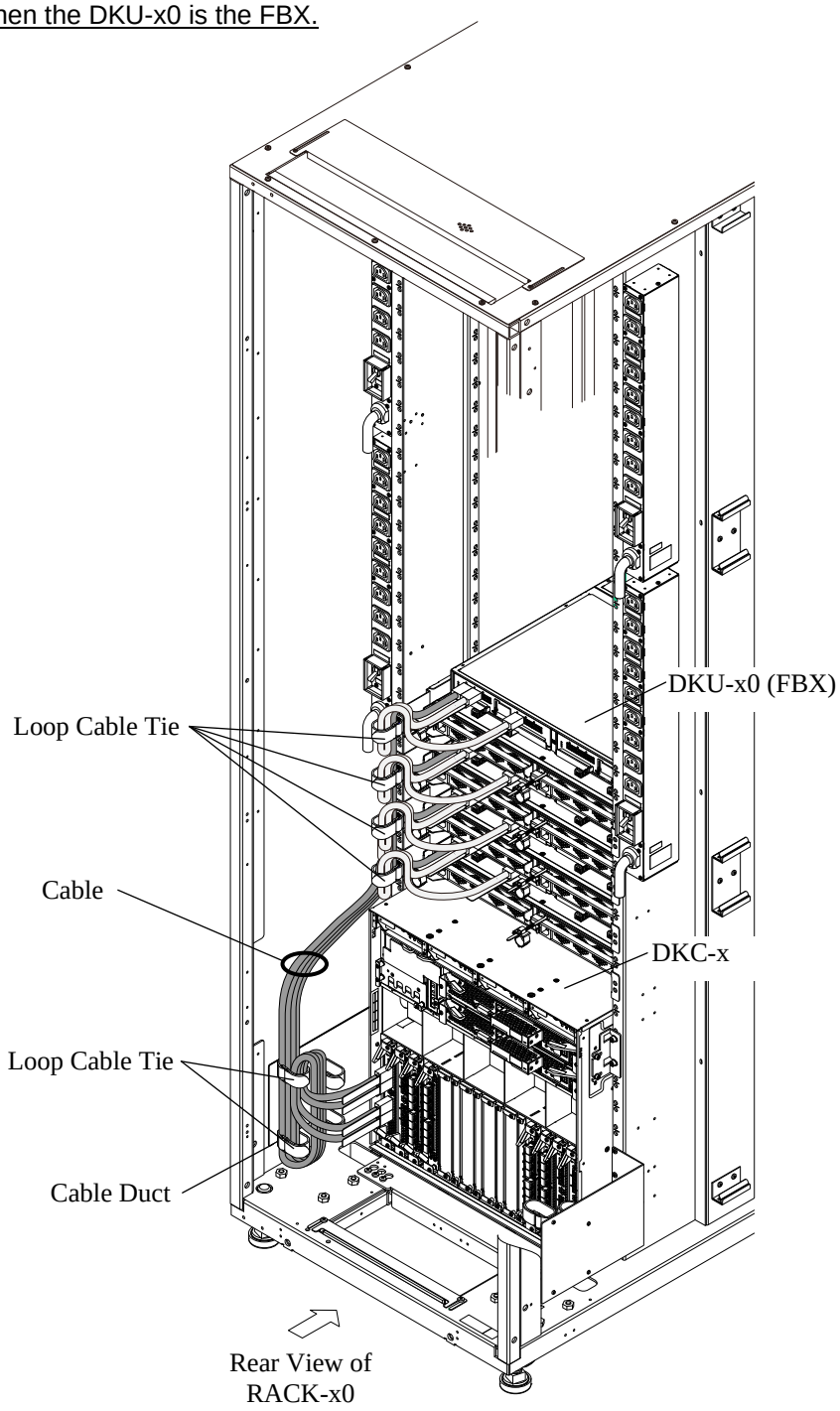


Fig. 3.11.4.8-14 Fixation of Cables
(DKA-1PA – DKU-00 (FBX) or DKA-1PG – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

b. Route the eight cables in the cluster 2 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.8-15 or Fig. 3.11.4.8-16.)

When the DKU-x0 is the UBX/SBX.

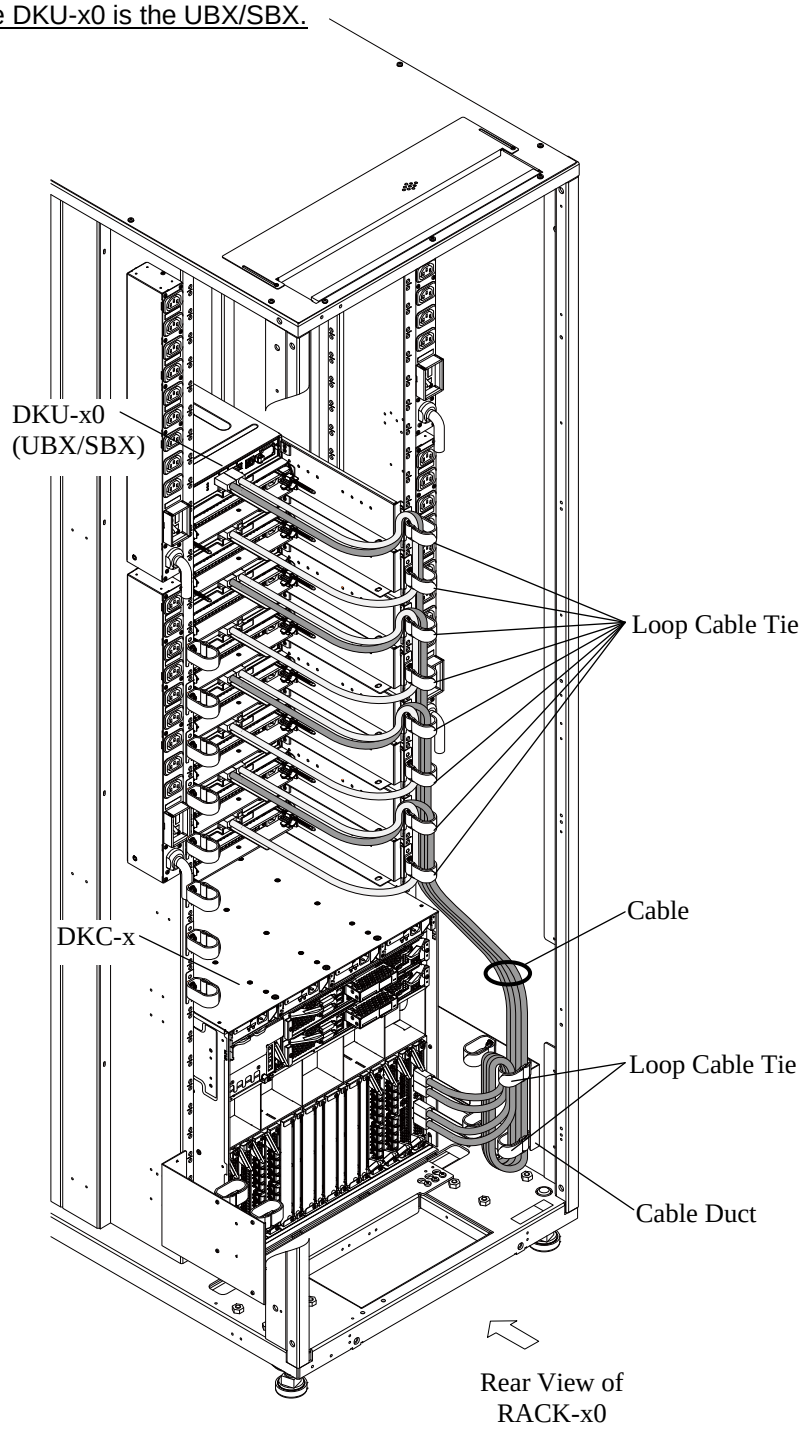


Fig. 3.11.4.8-15 Fixation of Cables
(DKA-2PA – DKU-00 (UBX/SBX) or DKA-2PG – DKU-10 (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.

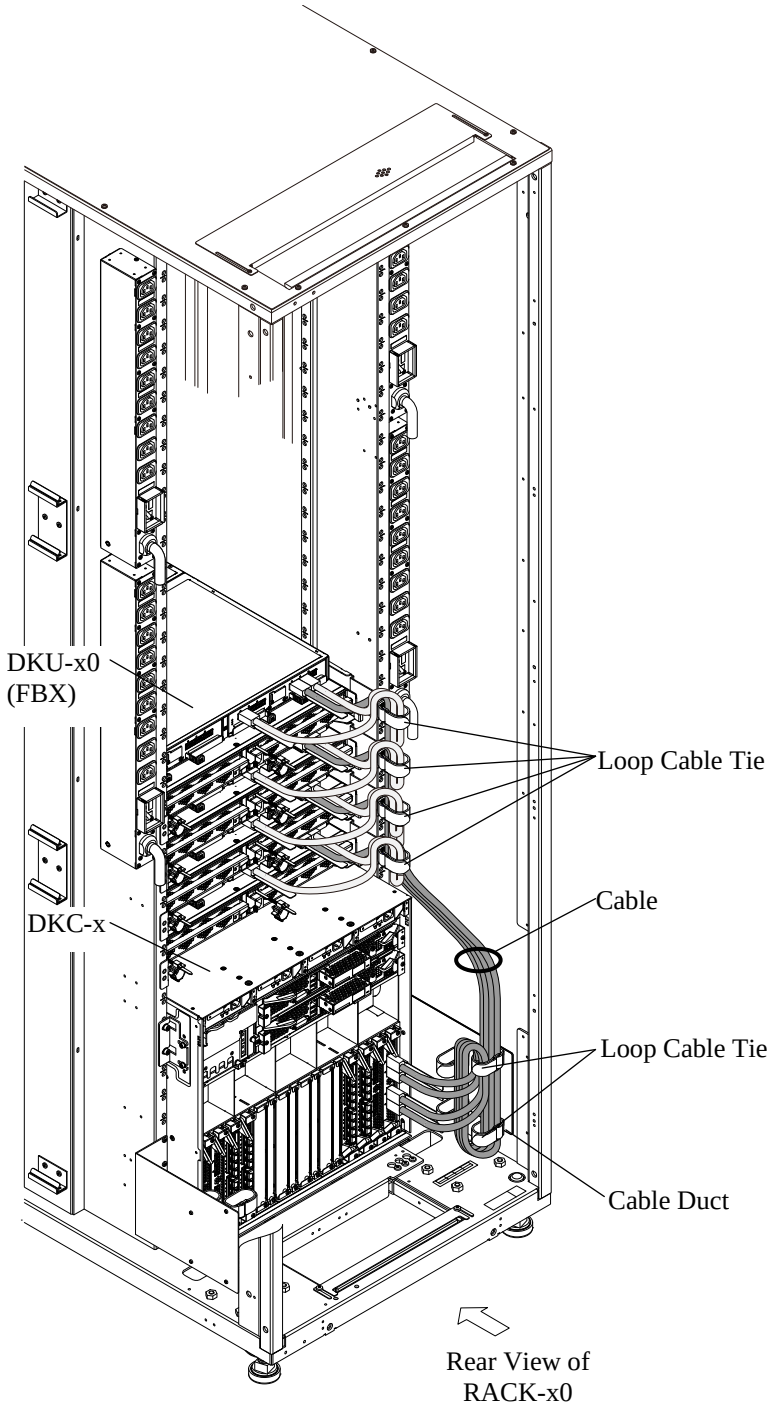


Fig. 3.11.4.8-16 Fixation of Cables
(DKA-2PA – DKU-00 (FBX) or DKA-2PG – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

3.11.4.9 Installation Procedure of Device Interface Cable CC2 in the High-Performance Model that Accompanies the Addition of the DKU-00/10 (DKC-F810I-CC2)

Installation Condition

To connect the DKA to the DKU-00/10 in the high-performance model, DKC-F810I-CC2 cable options must be installed.
If installation of the DKA is necessary, install the DKA first referring to "3.11.3 When performing addition of the DKA and Device Interface Cable (INST03-11B-10)".
Judge whether it is necessary to install DKC-F810I-CC2 cable options and go to the appropriate page. (See Table 3.11.4.9-1.)

Table 3.11.4.9-1 Work Procedure Table

No.	Condition of Work Procedure	Page
1	When Device Interface Cable CC2 (DKC-F810I-CC2) to connect DKA to DKU-00/10 is required to install in the high-performance model.	INST03-11C-1640
2	When Device Interface Cable CC2 (DKC-F810I-CC2) to connect DKA to DKU-00/10 is not required to install.	INST03-11C-1840

High-Performance Model

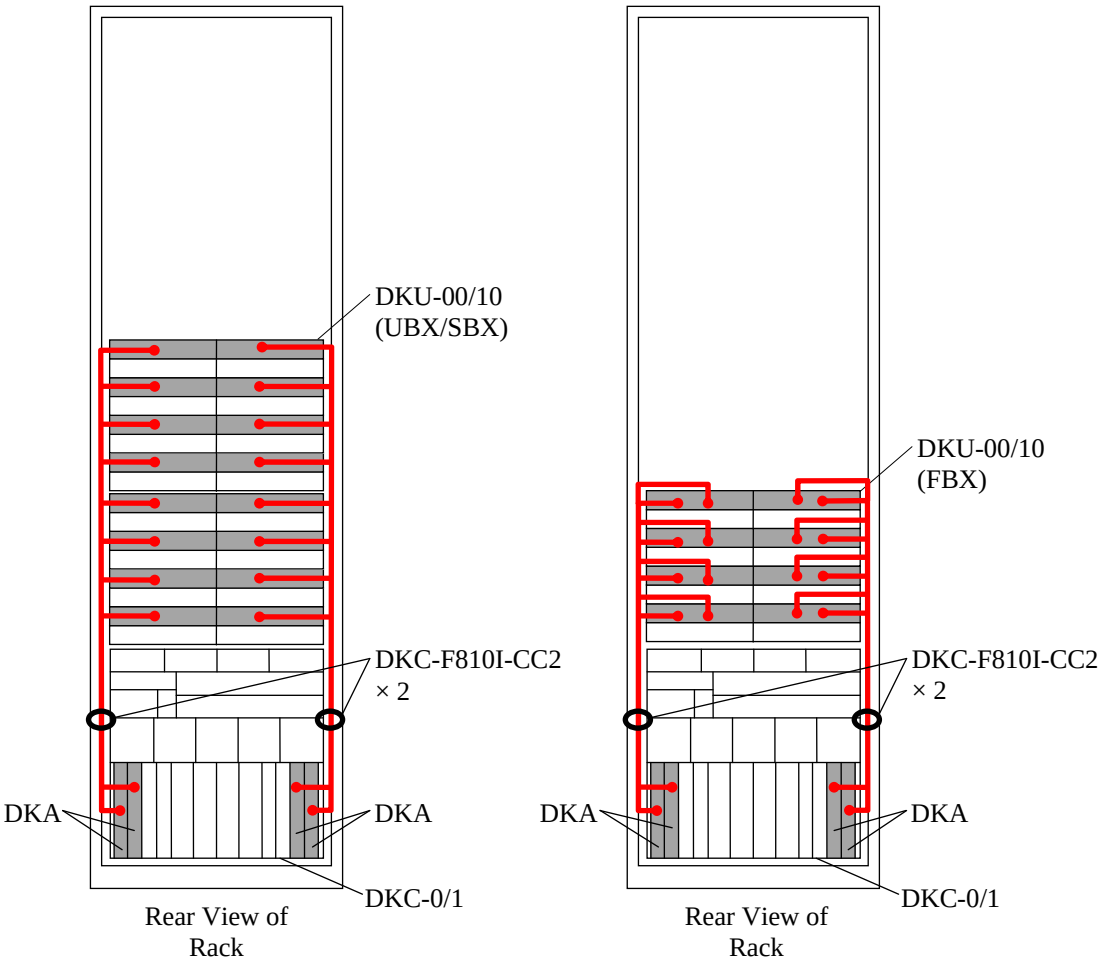


Fig. 3.11.4.9-1 Cable Routing

Copyright © 2014, Hitachi, Ltd.

1 Attachment of Device Interface Cable (CC2)

In the case of cable installation between DKA-1PA/2PA and DKU-00

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking “3.1.6 Notes when connecting the DEV interface cable” (INST03-01-180).

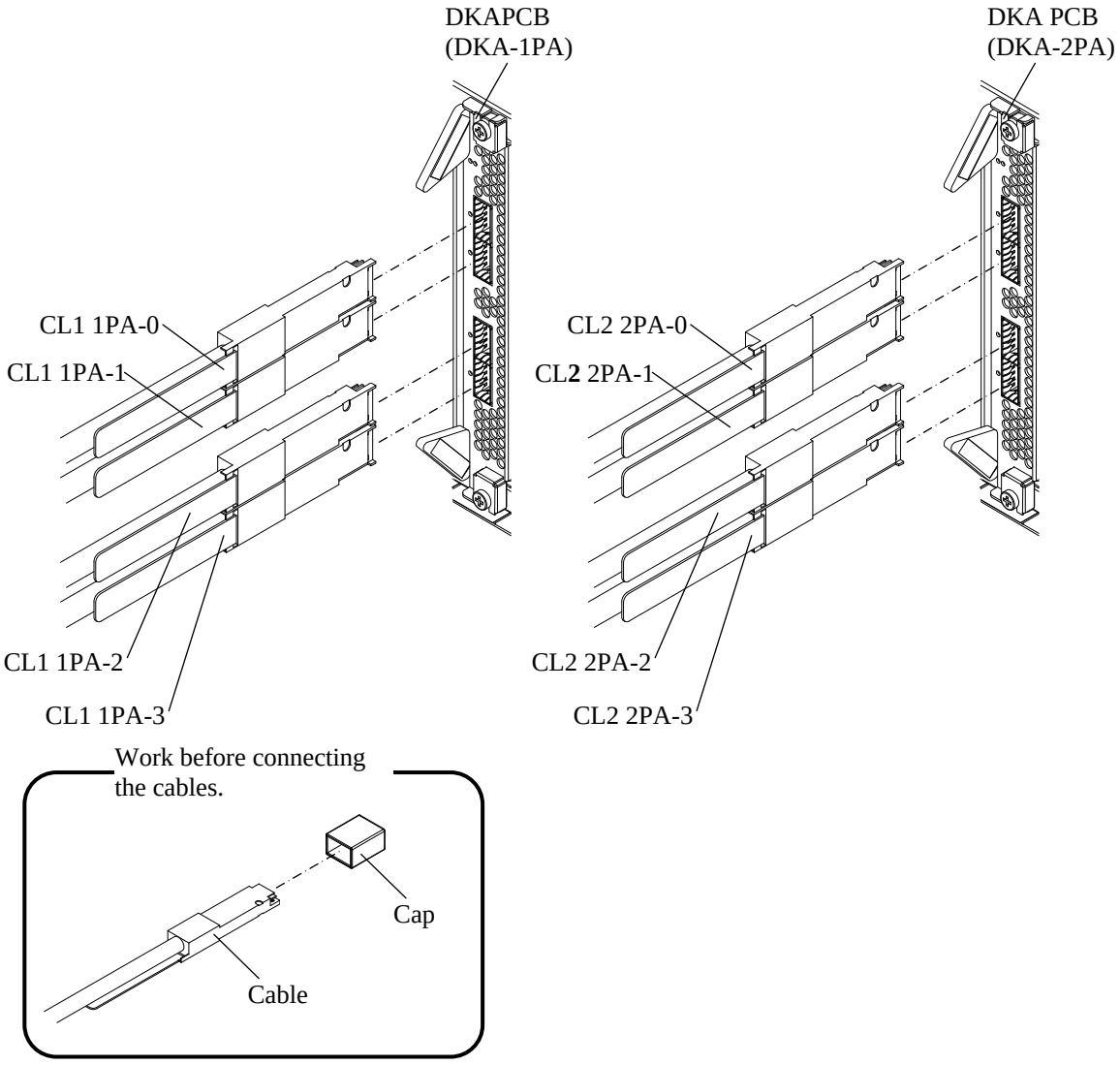


Fig. 3.11.4.9-2 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-00 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.9-3 and Fig. 3.11.4.9-4.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the UBX/SBX.

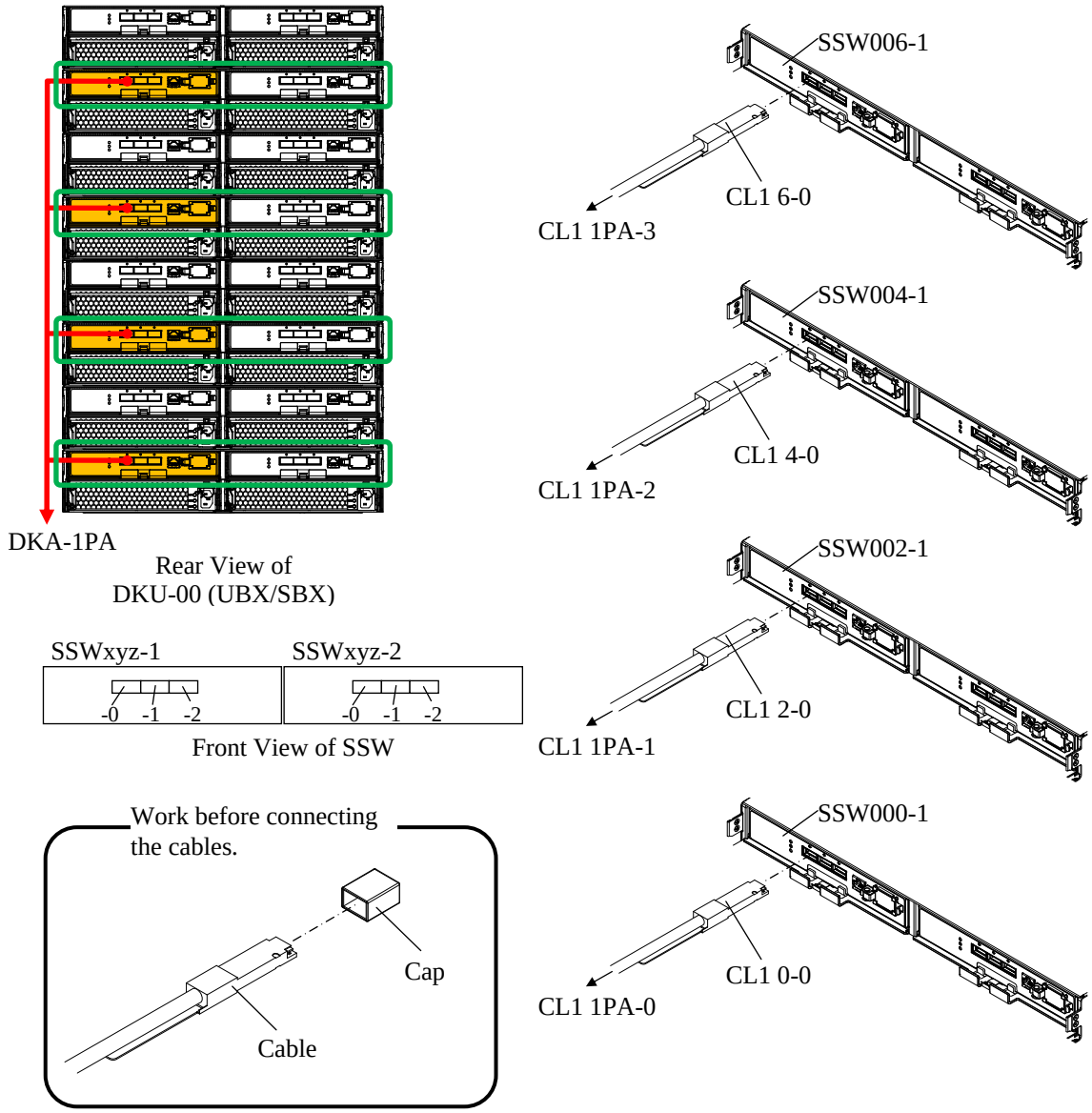


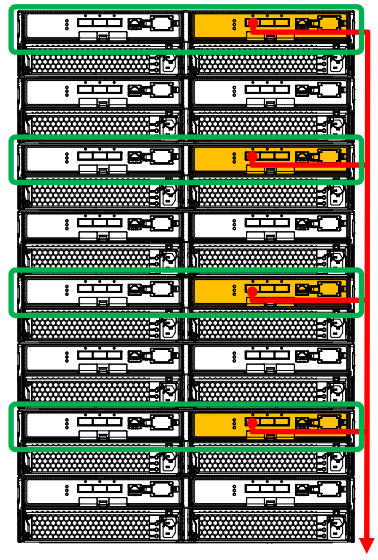
Fig. 3.11.4.9-3 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

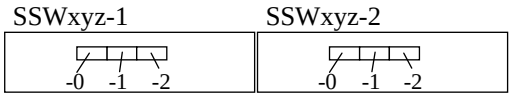
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

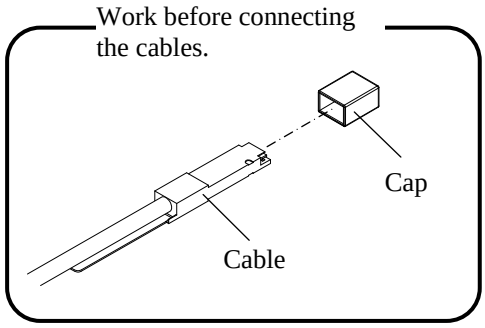
When the DKU-00 is the UBX/SBX.



Rear View of
DKU-00 (UBX/SBX)



Front View of SSW



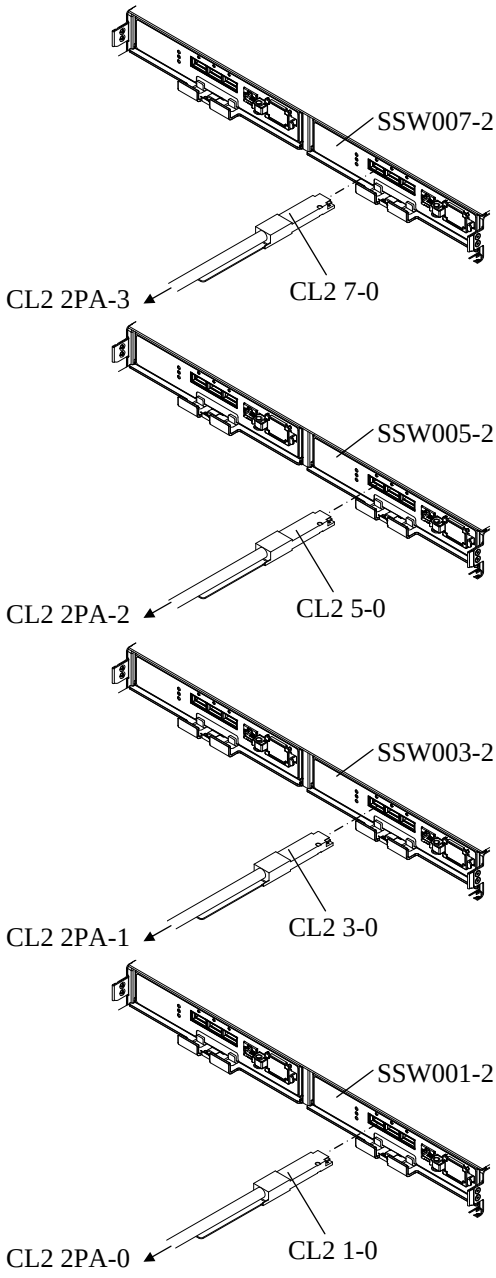


Fig. 3.11.4.9-4 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL2)

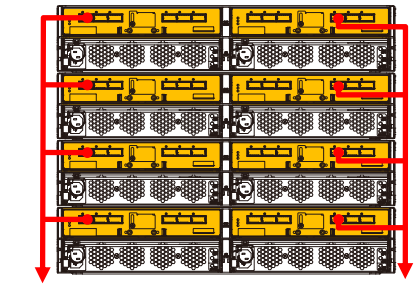
When the DKU-00 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

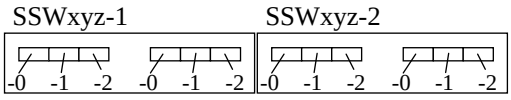
⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

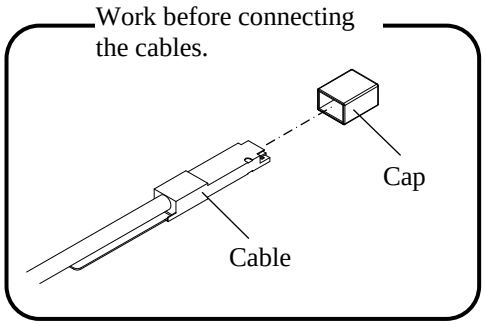
When the DKU-00 is the FBX.



Rear View of DKU-00 (FBX)



Front View of SSW



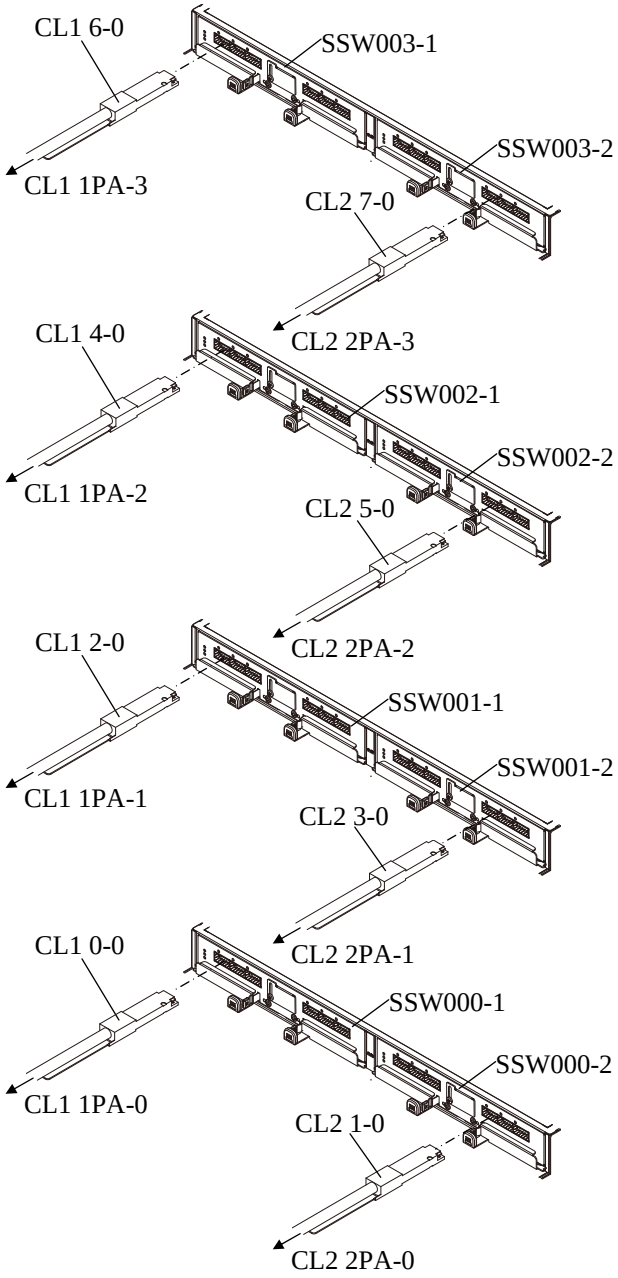


Fig. 3.11.4.9-5 Connection of Cables (CC2_DKU-00 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PB/2PB and DKU-00

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-0 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

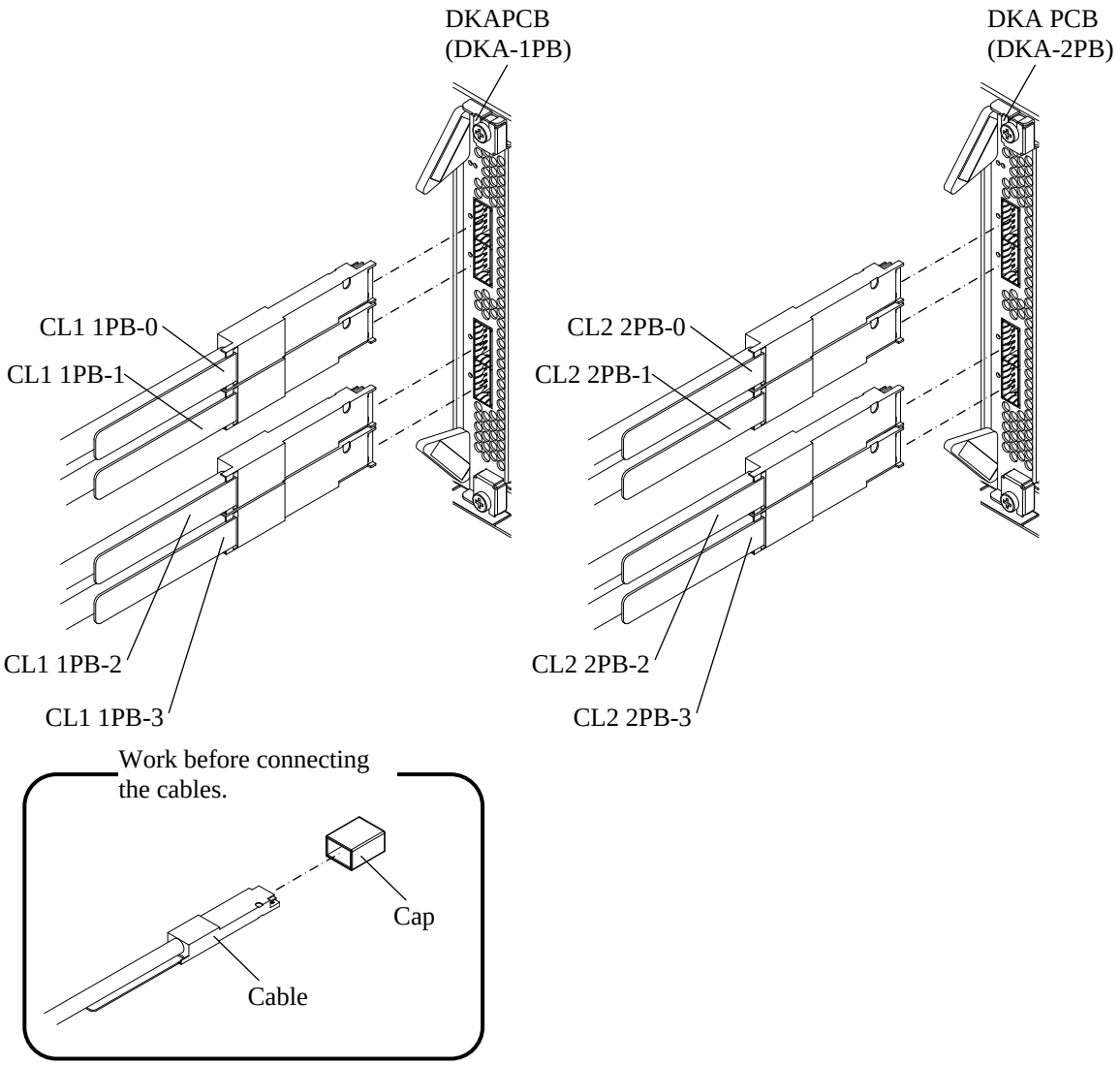


Fig. 3.11.4.9-6 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-00 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.9-7 and Fig. 3.11.4.9-8.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the UBX/SBX.

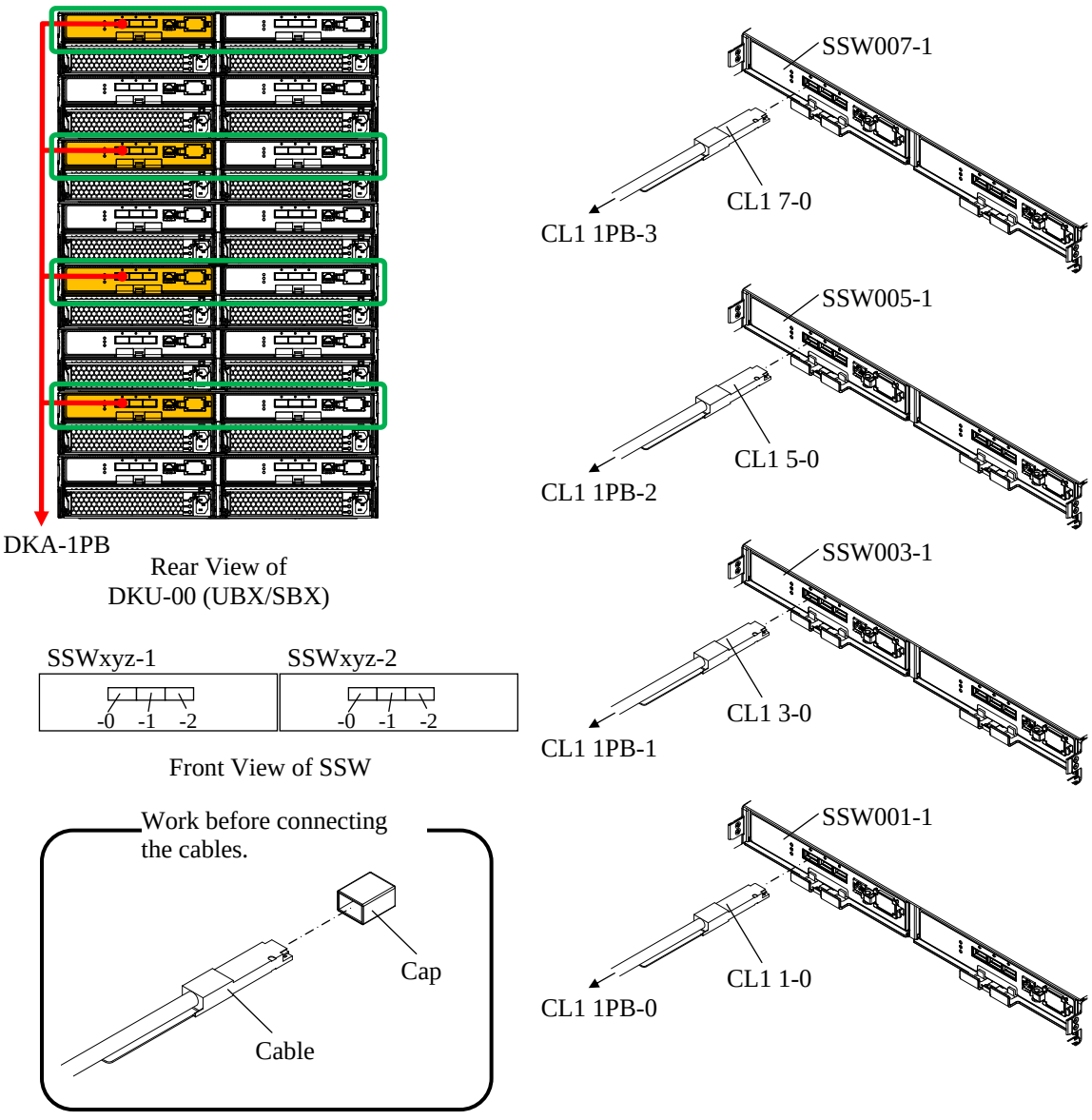


Fig. 3.11.4.9-7 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-00 is the UBX/SBX.

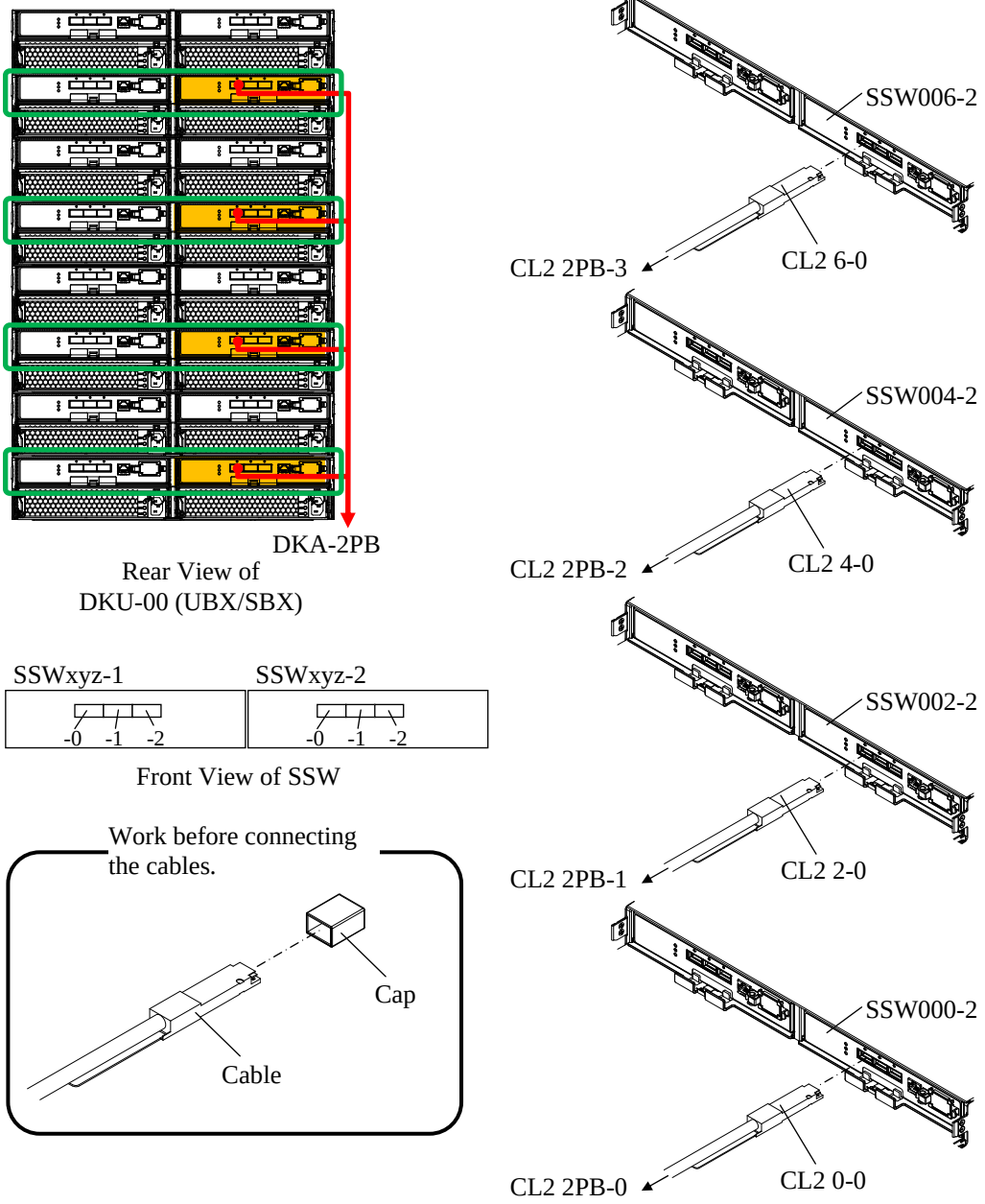


Fig. 3.11.4.9-8 Connection of Cables (CC2_DKU-00 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

When the DKU-00 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

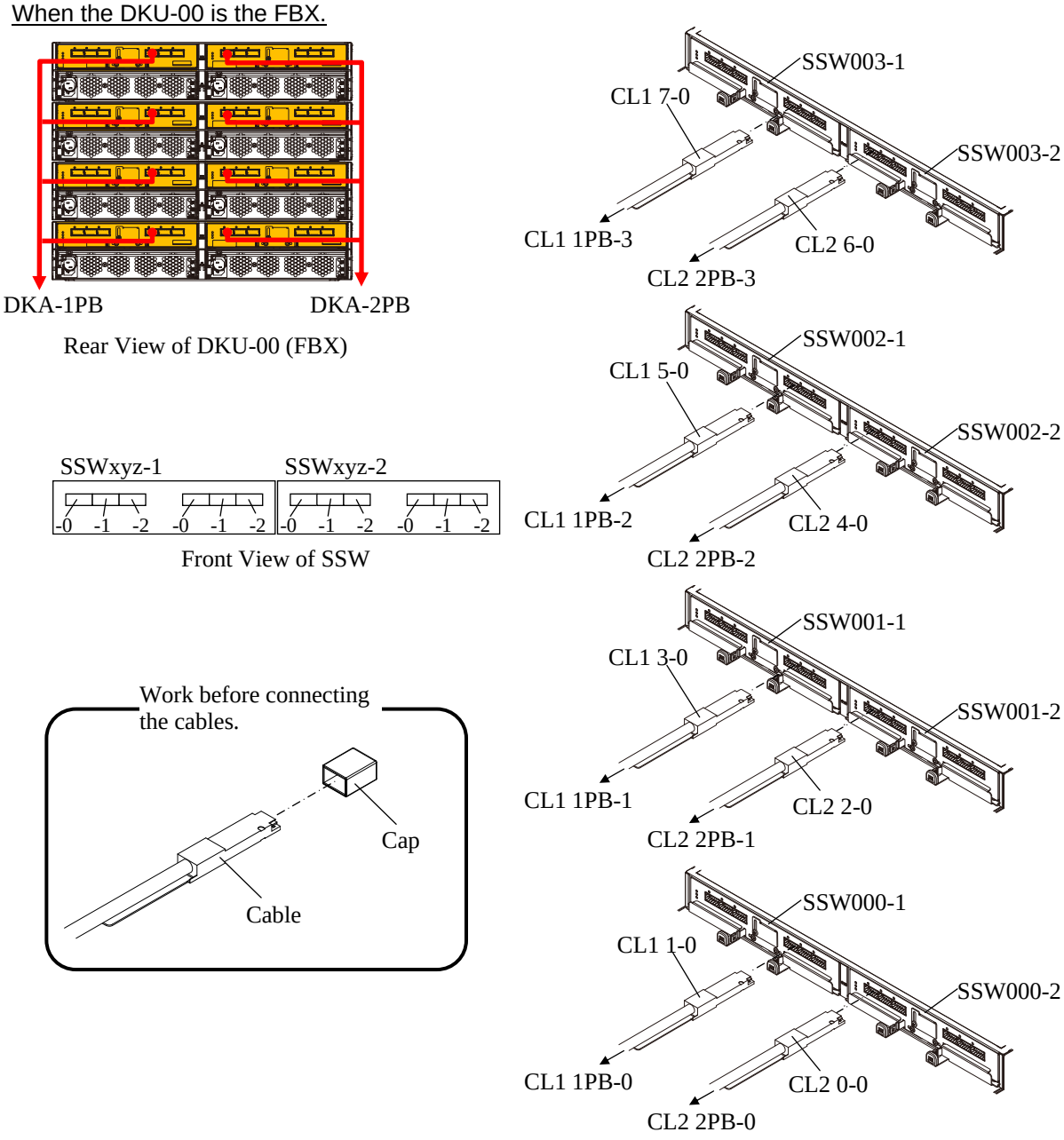


Fig. 3.11.4.9-9 Connection of Cables (CC2_DKU-00 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PG/2PG and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

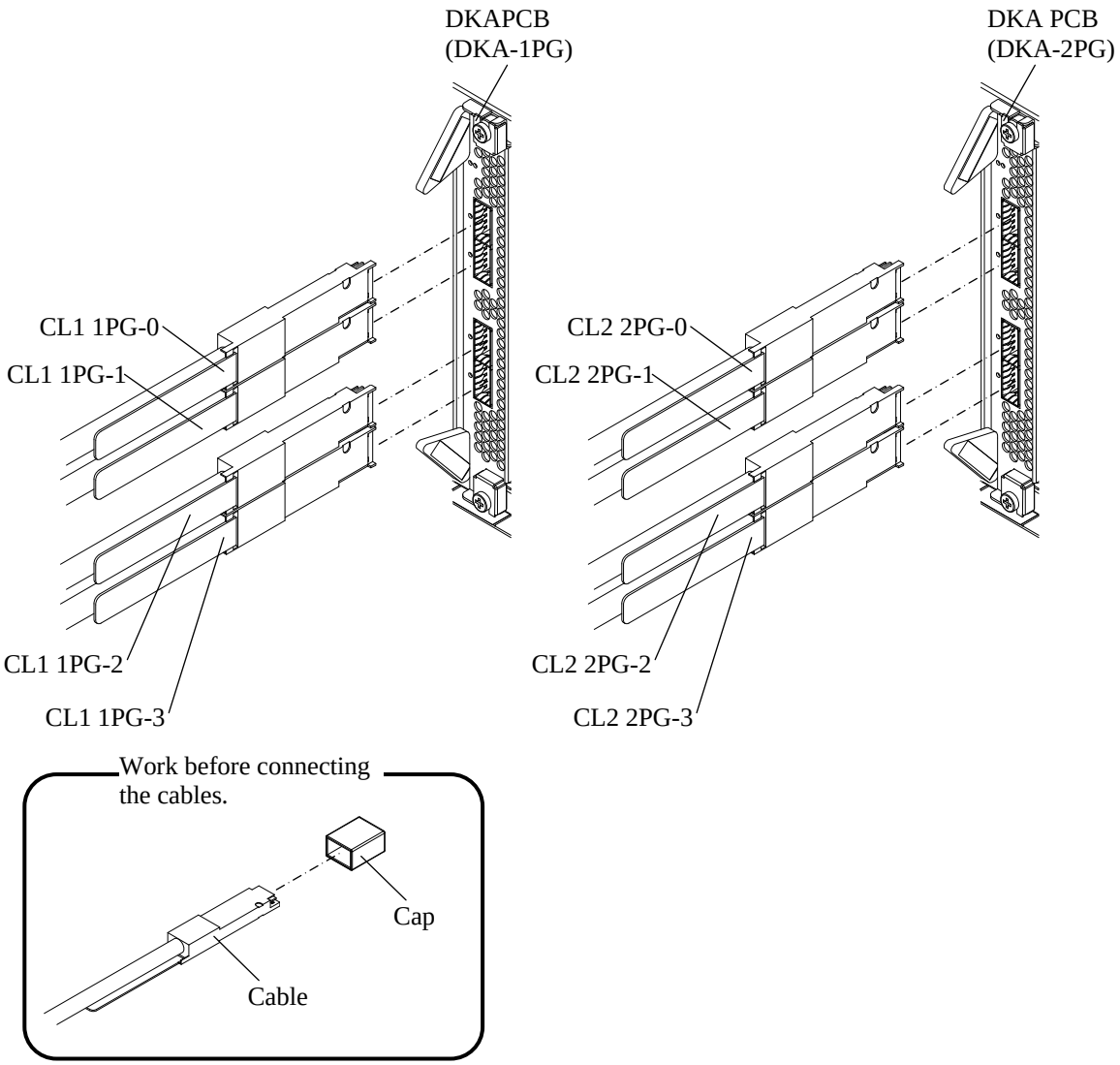


Fig. 3.11.4.9-10 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-10 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.9-11 and Fig. 3.11.4.9-12.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

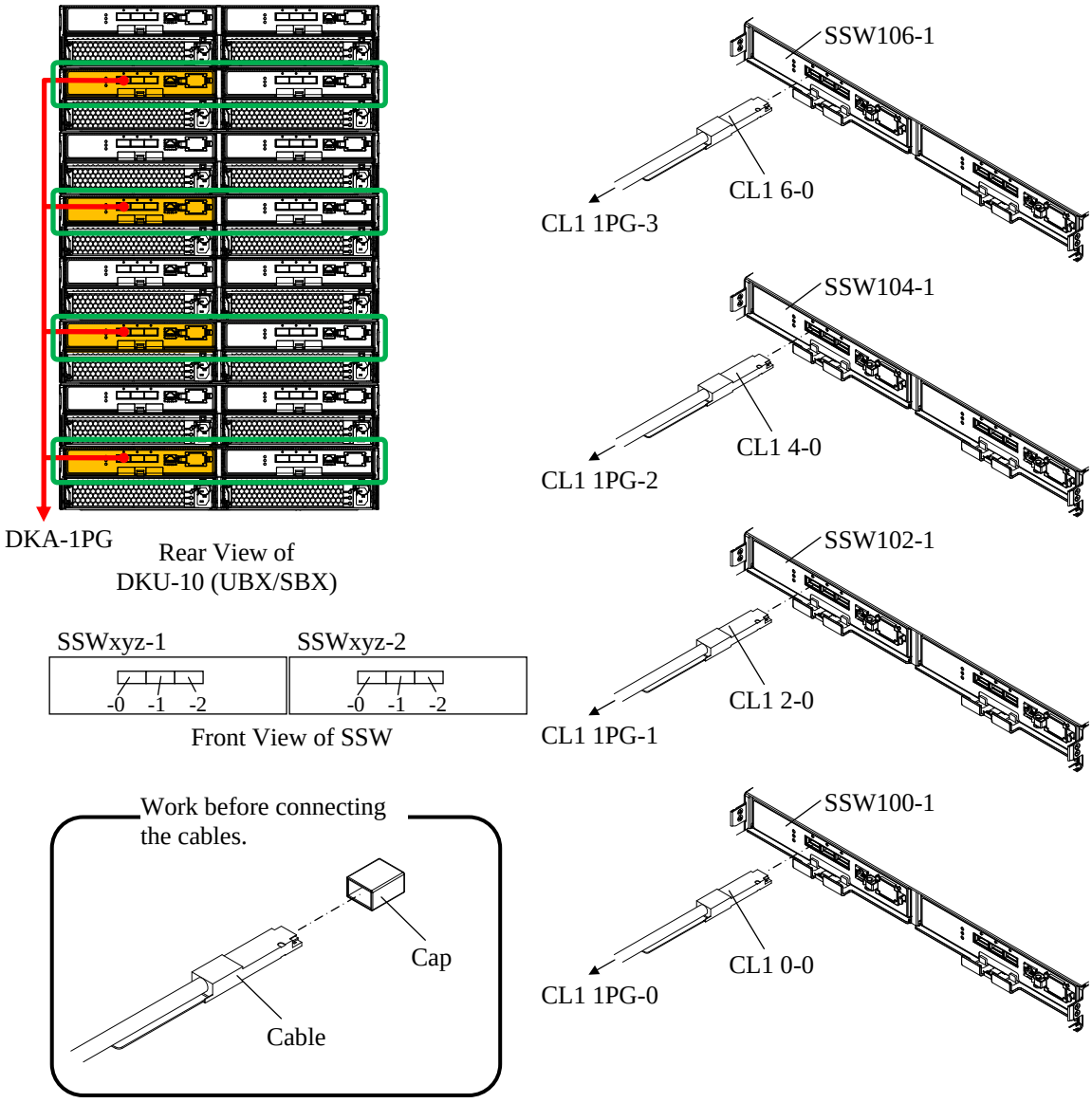


Fig. 3.11.4.9-11 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

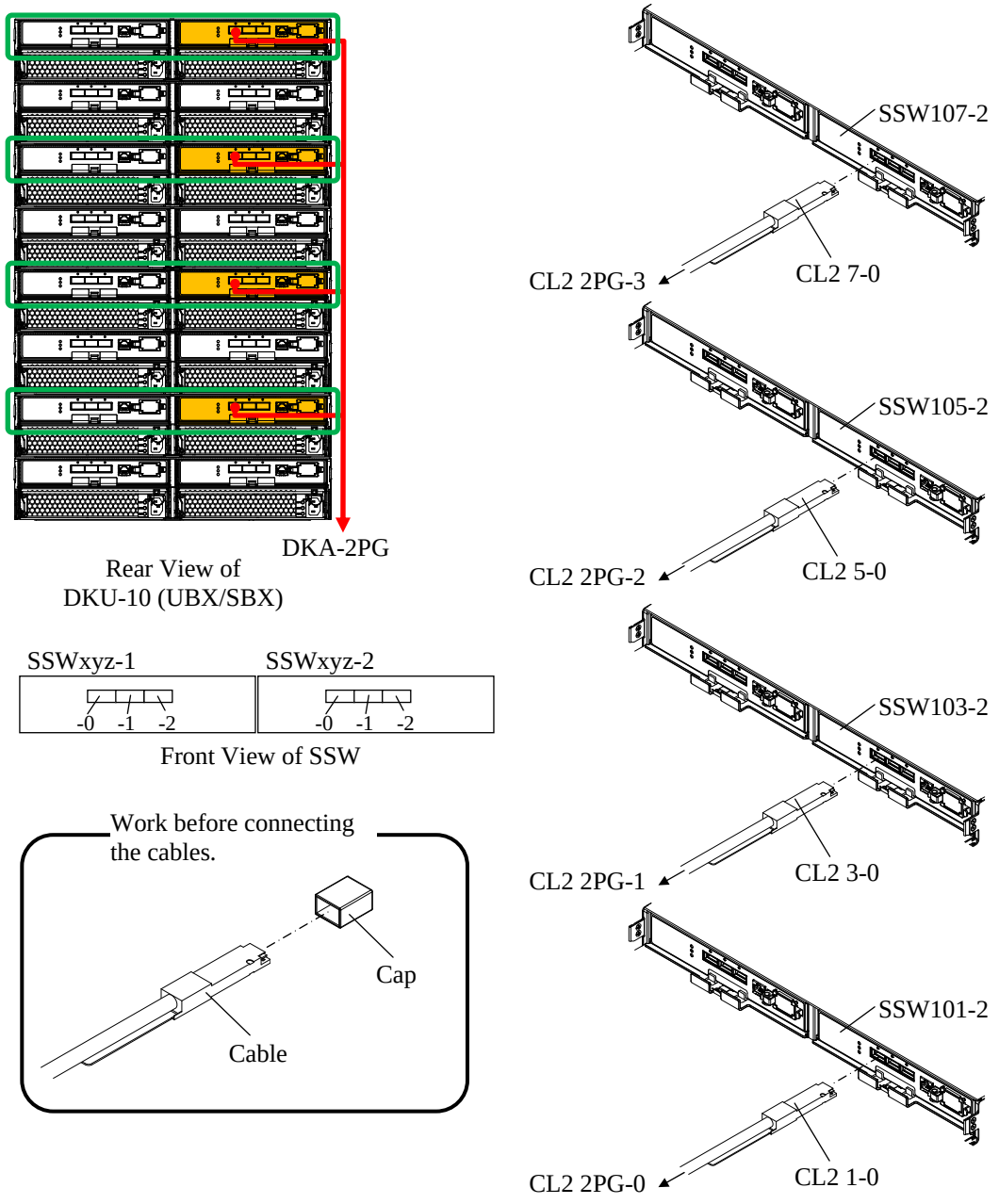


Fig. 3.11.4.9-12 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

When the DKU-10 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

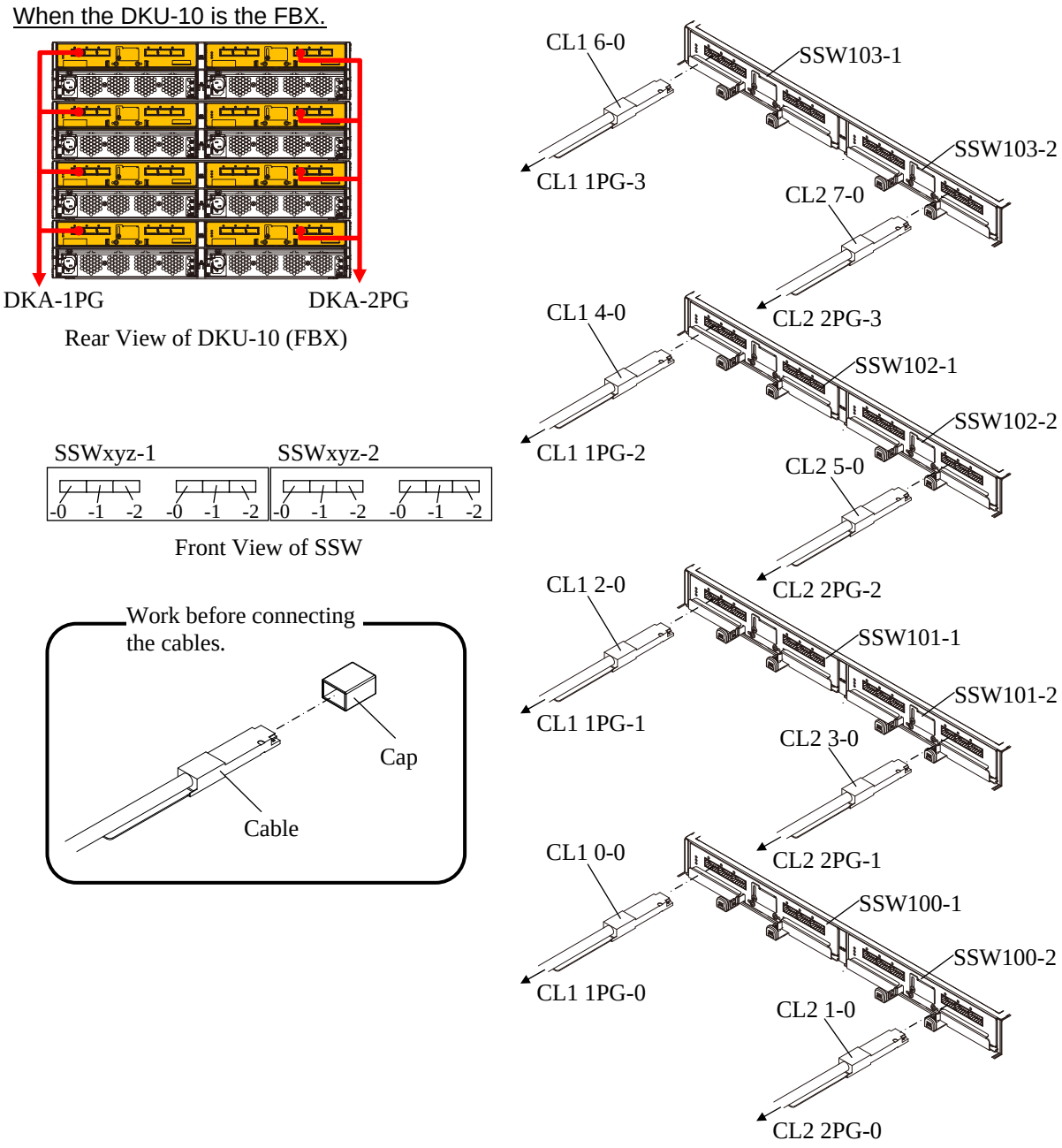


Fig. 3.11.4.9-13 Connection of Cables (CC2_DKU-10 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

In the case of cable installation between DKA-1PH/2PH and DKU-10

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

a. Remove the caps from the cables to be connected.
b. Connect the cables to the DKA PCBs in the DKC-1 after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

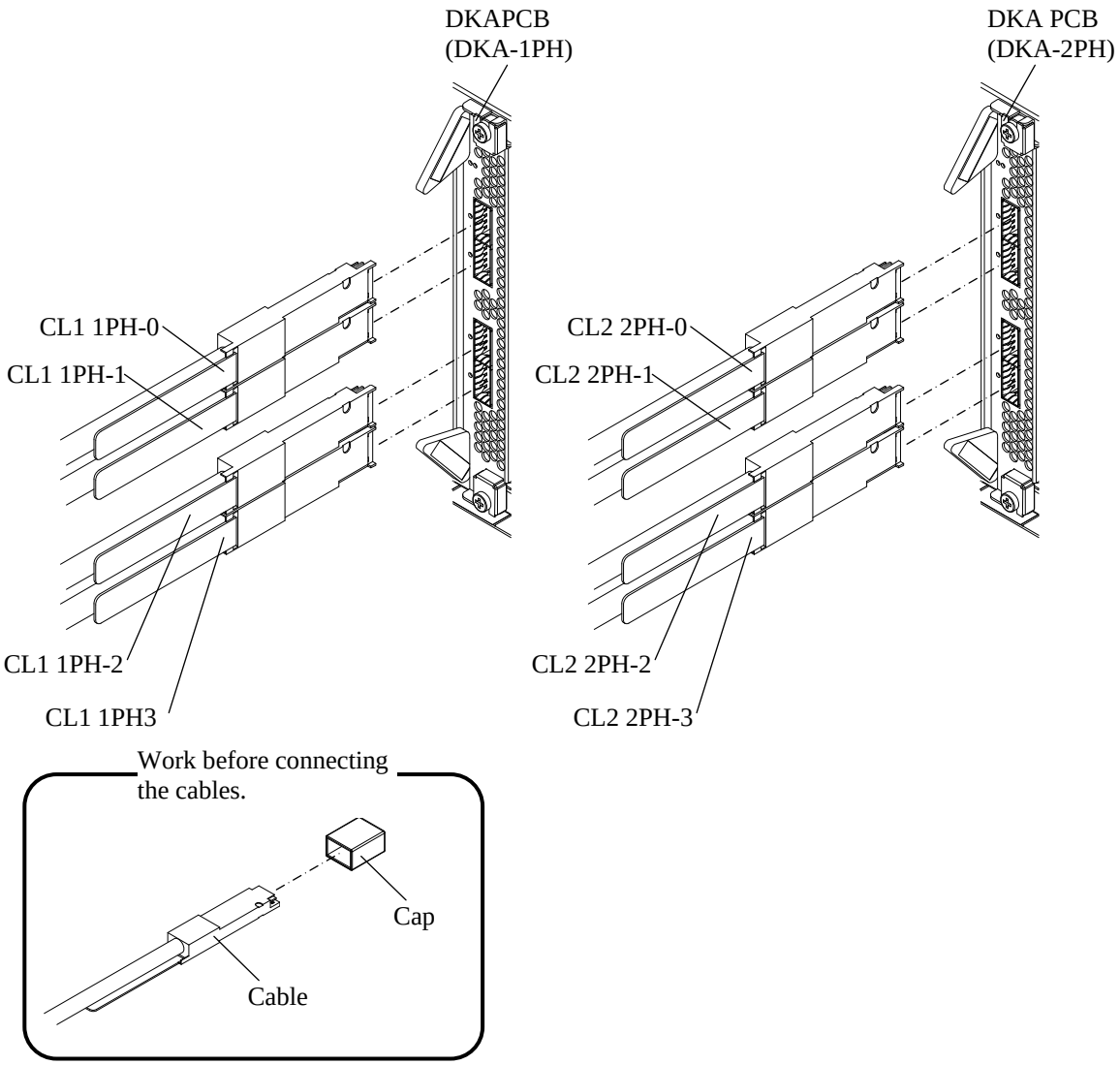


Fig. 3.11.4.9-14 Connection of Cables

Copyright © 2014, Hitachi, Ltd.

When the DKU-10 is the UBX/SBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180). (Refer to Fig. 3.11.4.9-15 and Fig. 3.11.4.9-16.)

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

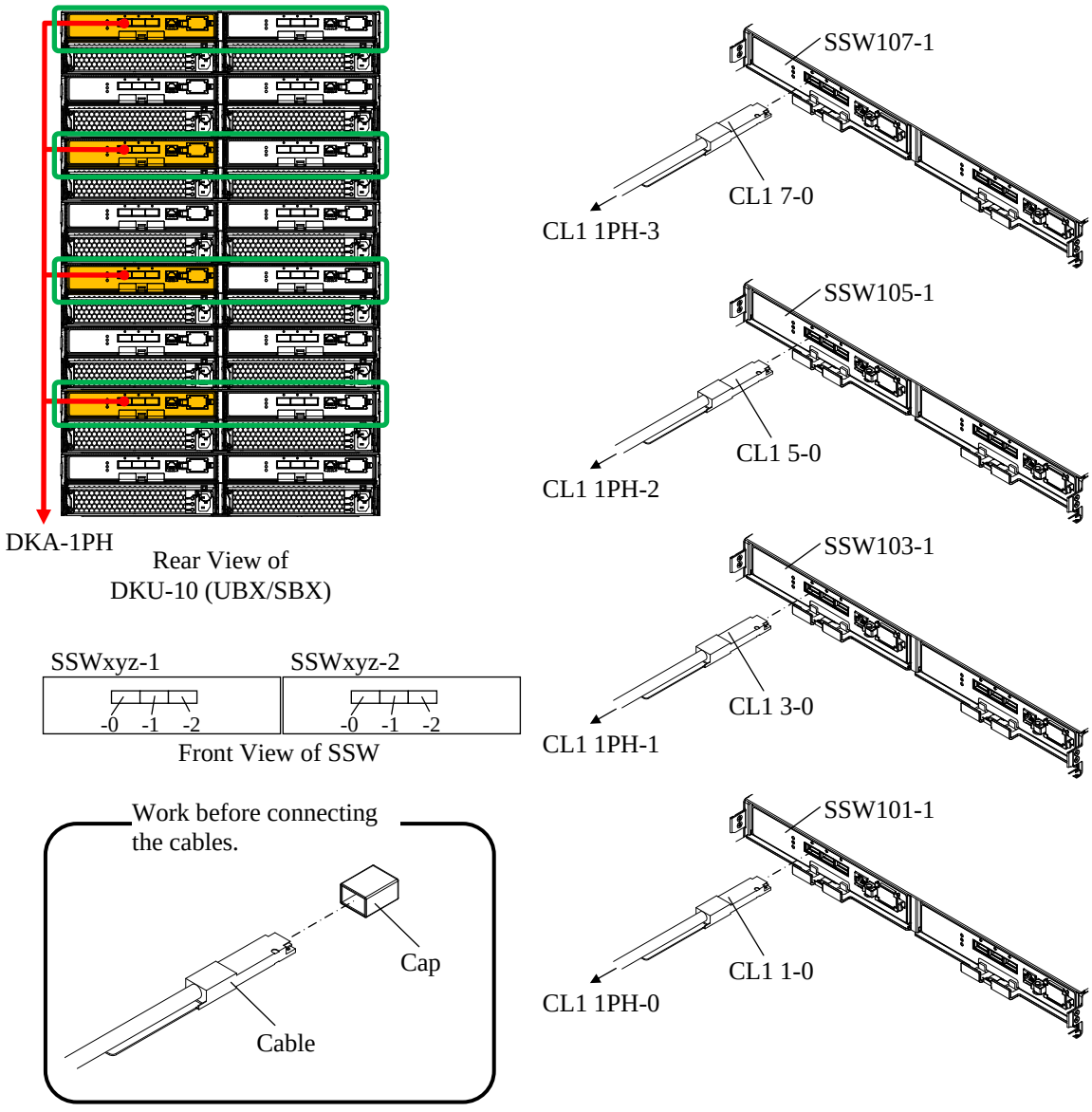


Fig. 3.11.4.9-15 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL1)

Copyright © 2014, Hitachi, Ltd.

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the UBX/SBX.

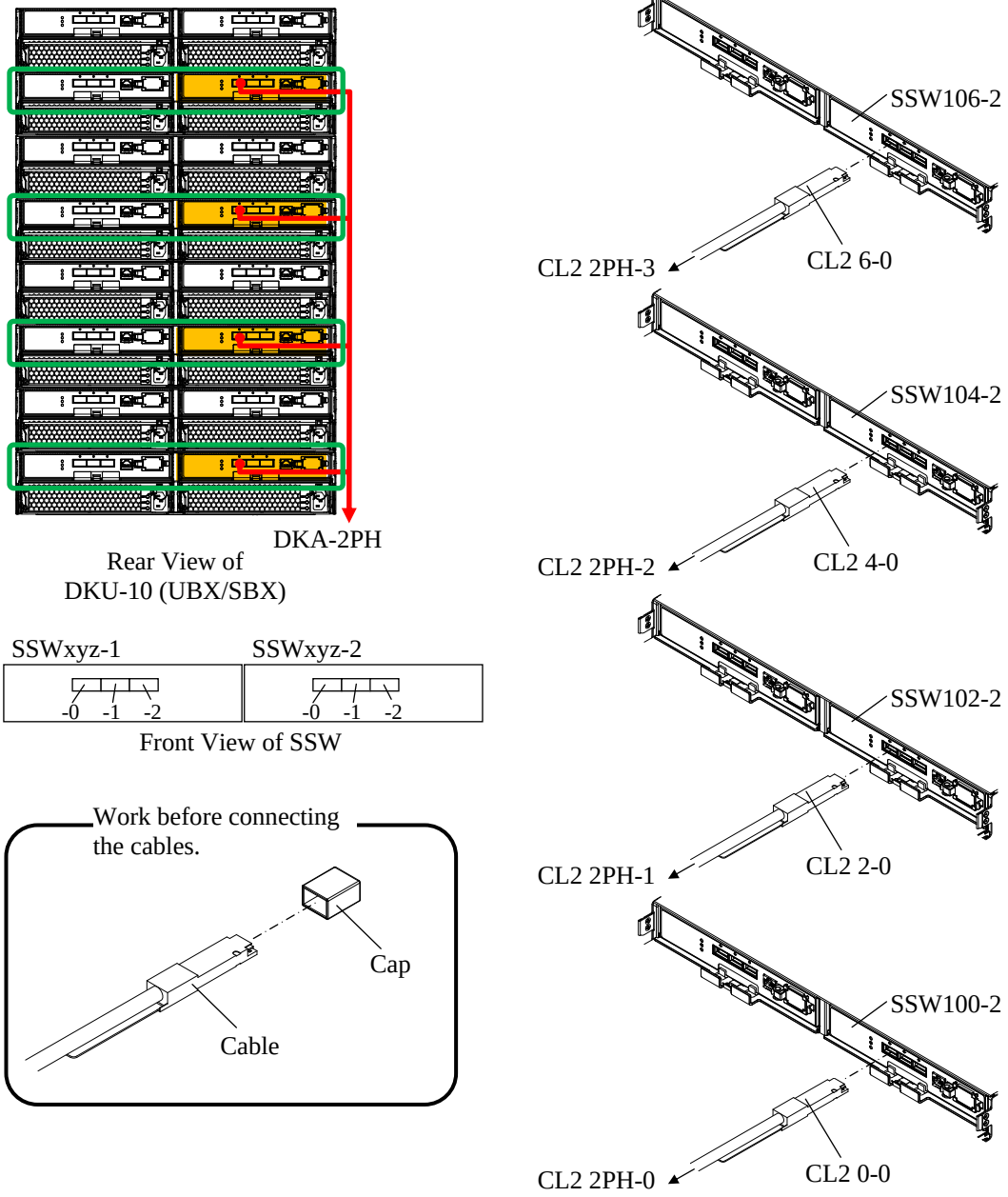


Fig. 3.11.4.9-16 Connection of Cables (CC2_DKU-10 (UBX/SBX)_CL2)

Copyright © 2014, Hitachi, Ltd.

When the DKU-10 is the FBX

c. Remove the caps from the cables to be connected.
d. Connect the eight cables to the SSWs in the DKU after checking "3.1.6 Notes when connecting the DEV interface cable" (INST03-01-180).

⚠ CAUTION

A serious failure occurs if any of cables/connectors is wrongly connected.
Since a label bearing a connection destination is affixed on each cable/connector, work very carefully referring to it and the wiring diagram.

When the DKU-10 is the FBX.

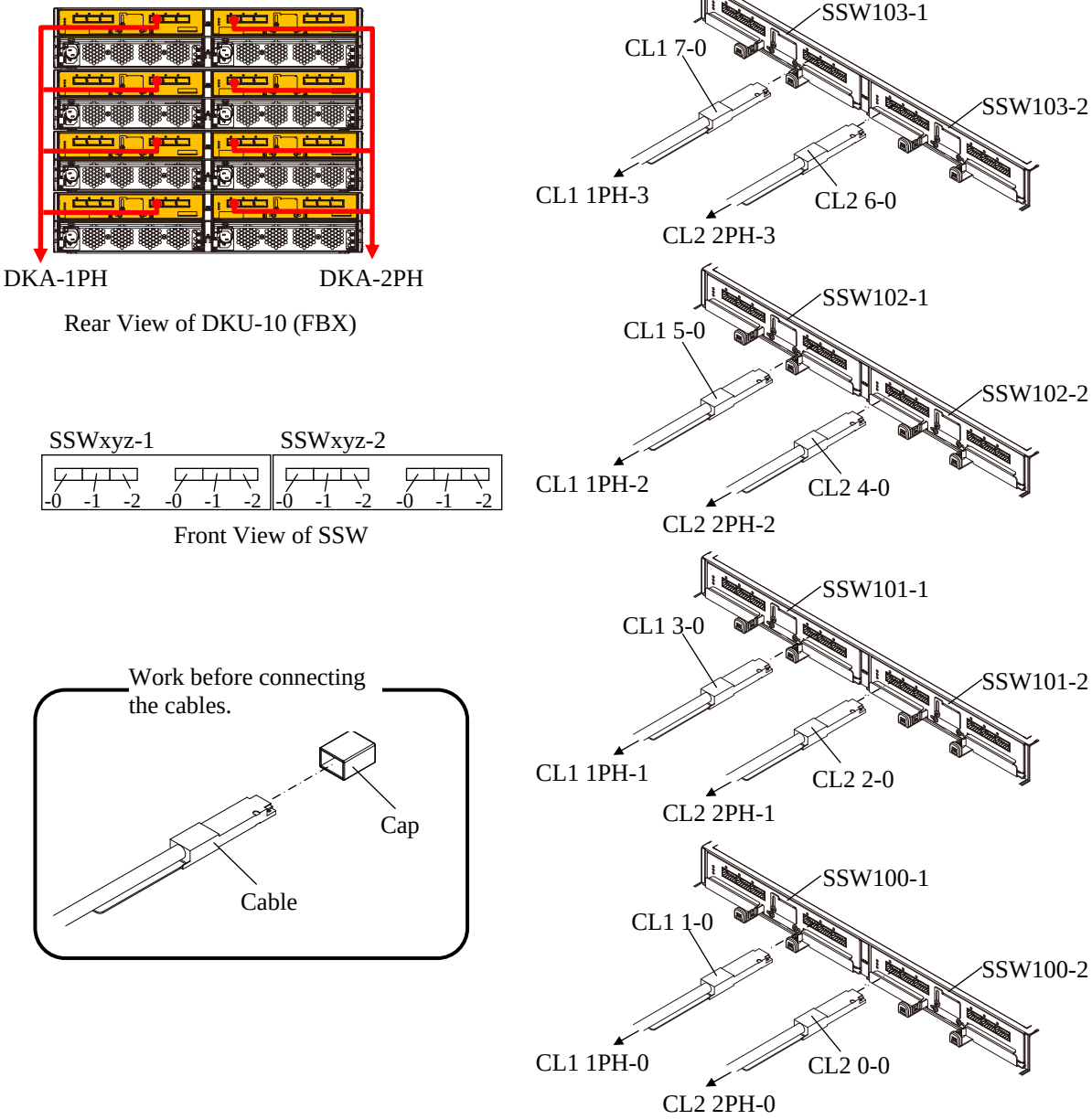
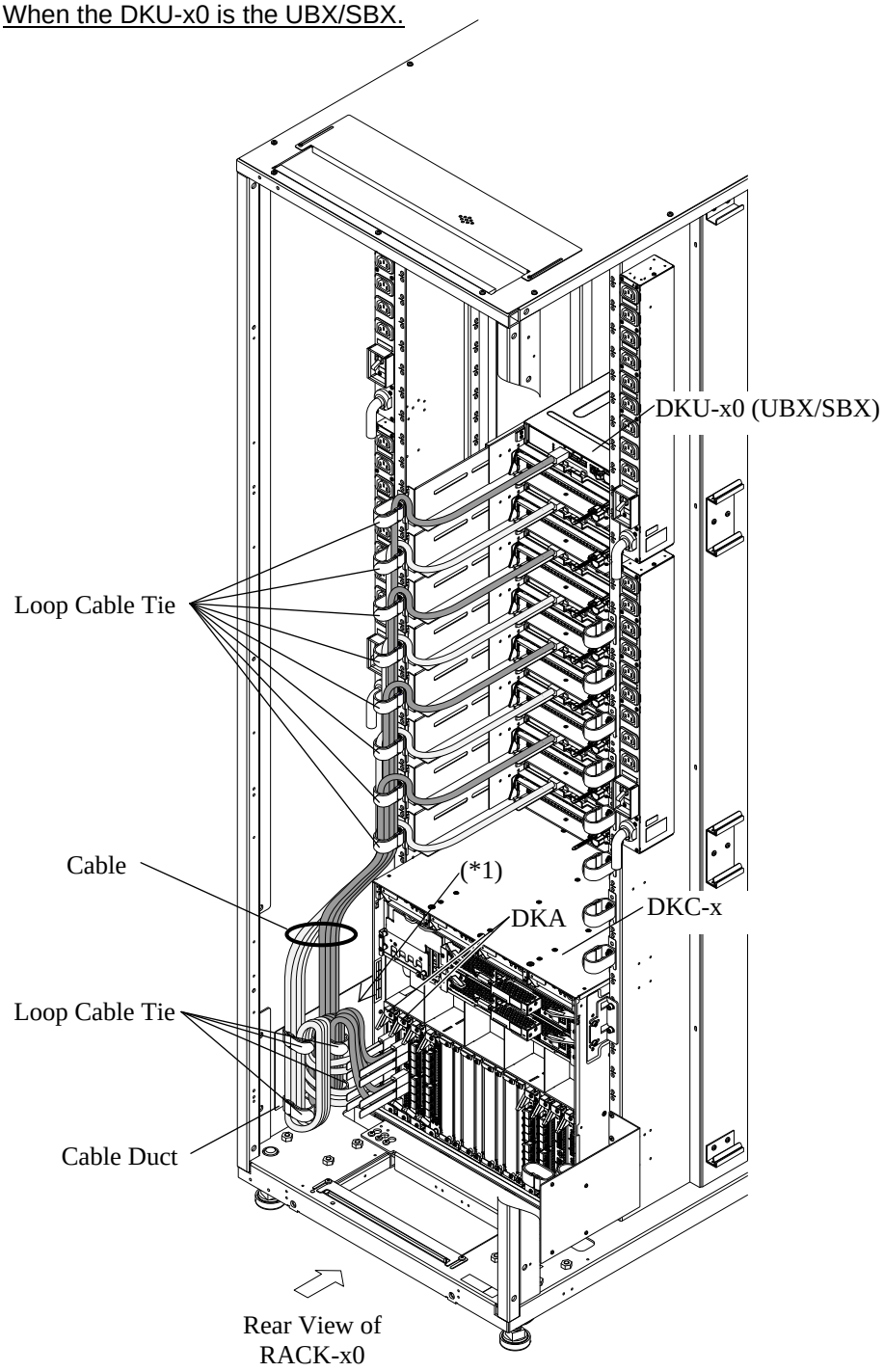


Fig. 3.11.4.9-17 Connection of Cables (CC2_DKU-10 (FBX)_CL1/CL2)

Copyright © 2014, Hitachi, Ltd.

2. Attachment of Cables
   a. Route the eight cables in the cluster 1 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.9-18 or Fig. 3.11.4.9-19.)

When the DKU-x0 is the UBX/SBX.

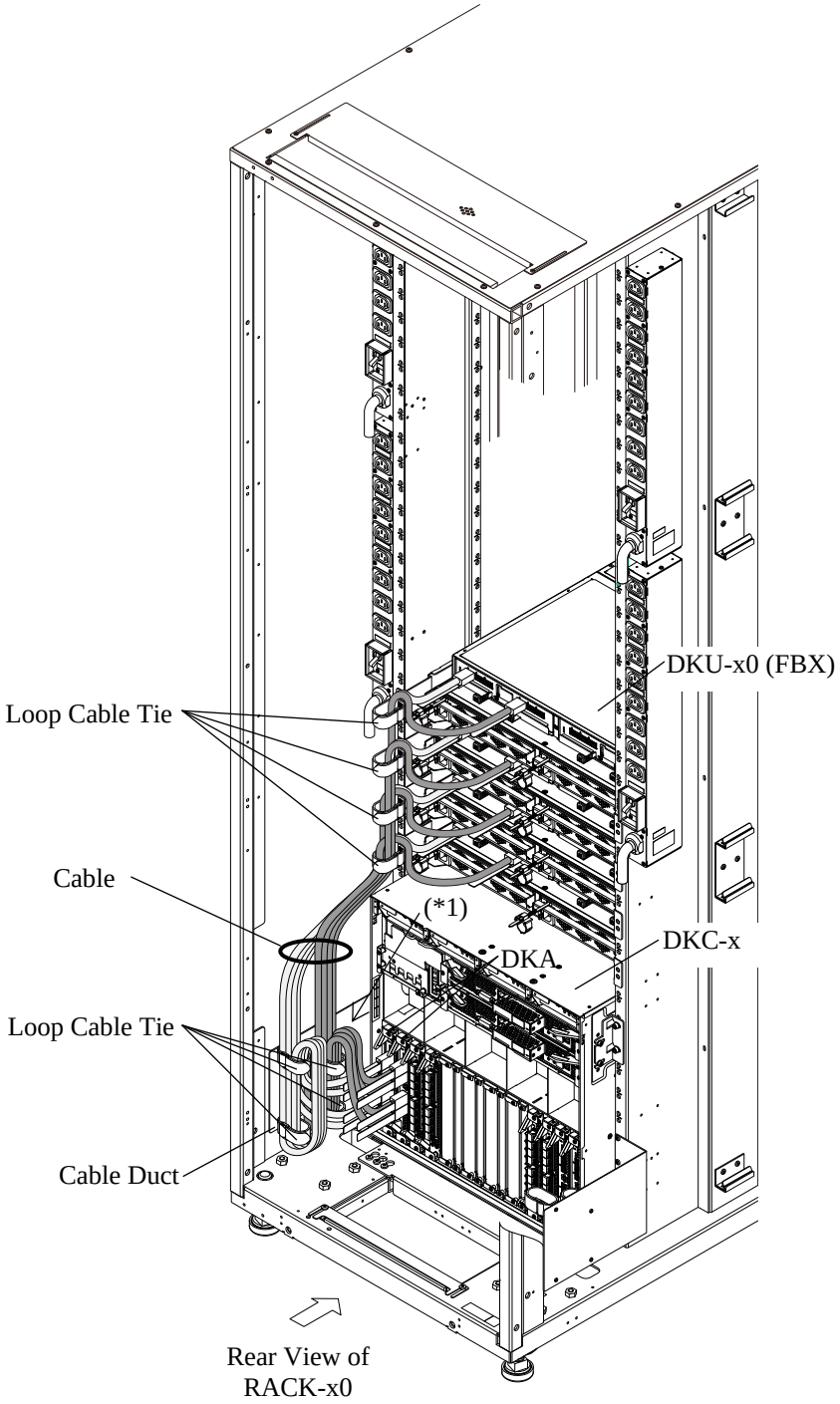


*1: Pass the cables connected to the DKA-1PB or DKA-1PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted.

Fig. 3.11.4.9-18 Fixation of Cables (DKA-1PA/1PB – DKU-00 (UBX/SBX) or DKA-1PG/1PH – DKU-10 (UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX.



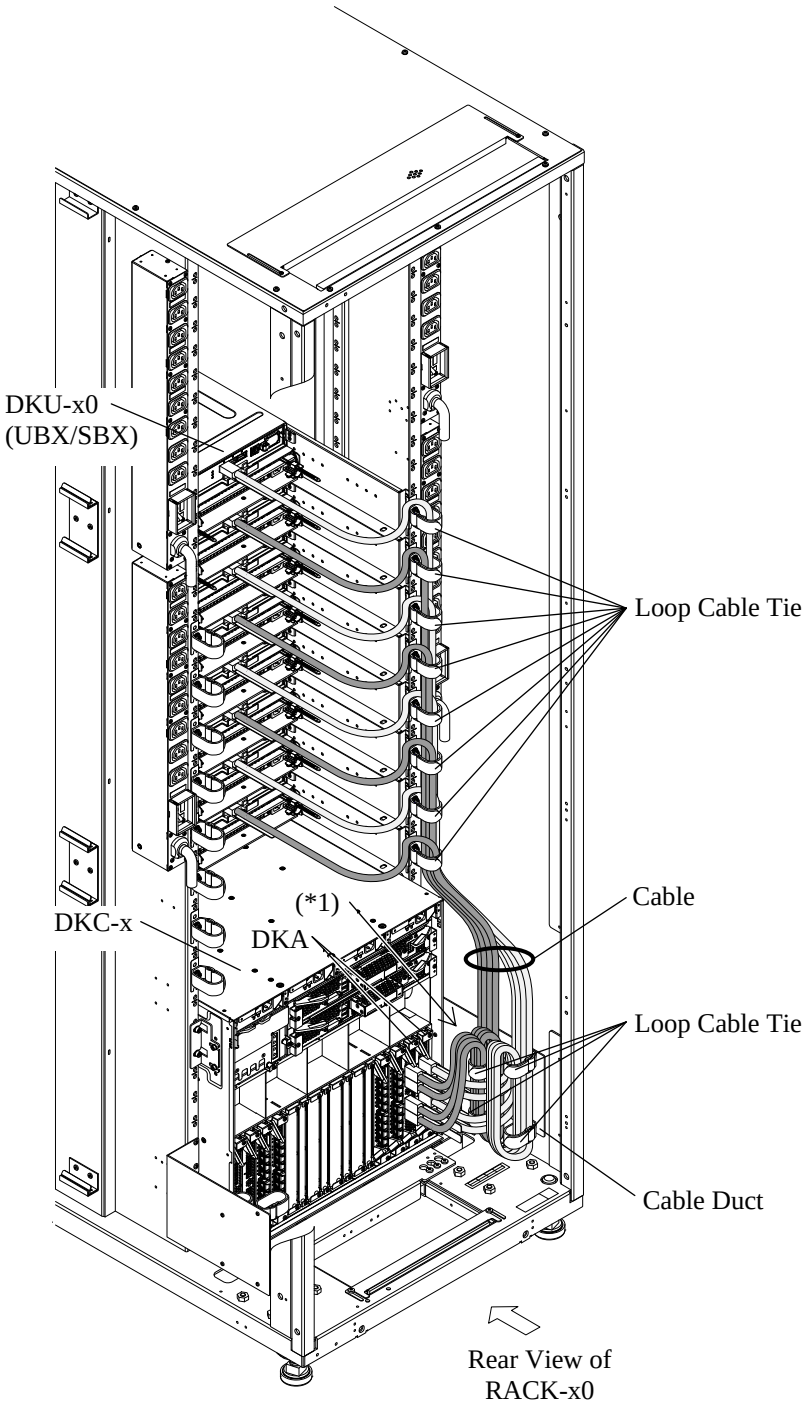
*1: Pass the cables connected to the DKA-1PB or DKA-1PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted.

Fig. 3.11.4.9-19 Fixation of Cables
(DKA-1PA/1PB – DKU-00 (FBX) or DKA-1PG/1PH – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

b. Route the eight cables in the cluster 2 and fix them with the loop cable ties. (Refer to Fig. 3.11.4.9-20 or Fig. 3.11.4.9-21.)

When the DKU-x0 is the UBX/SBX

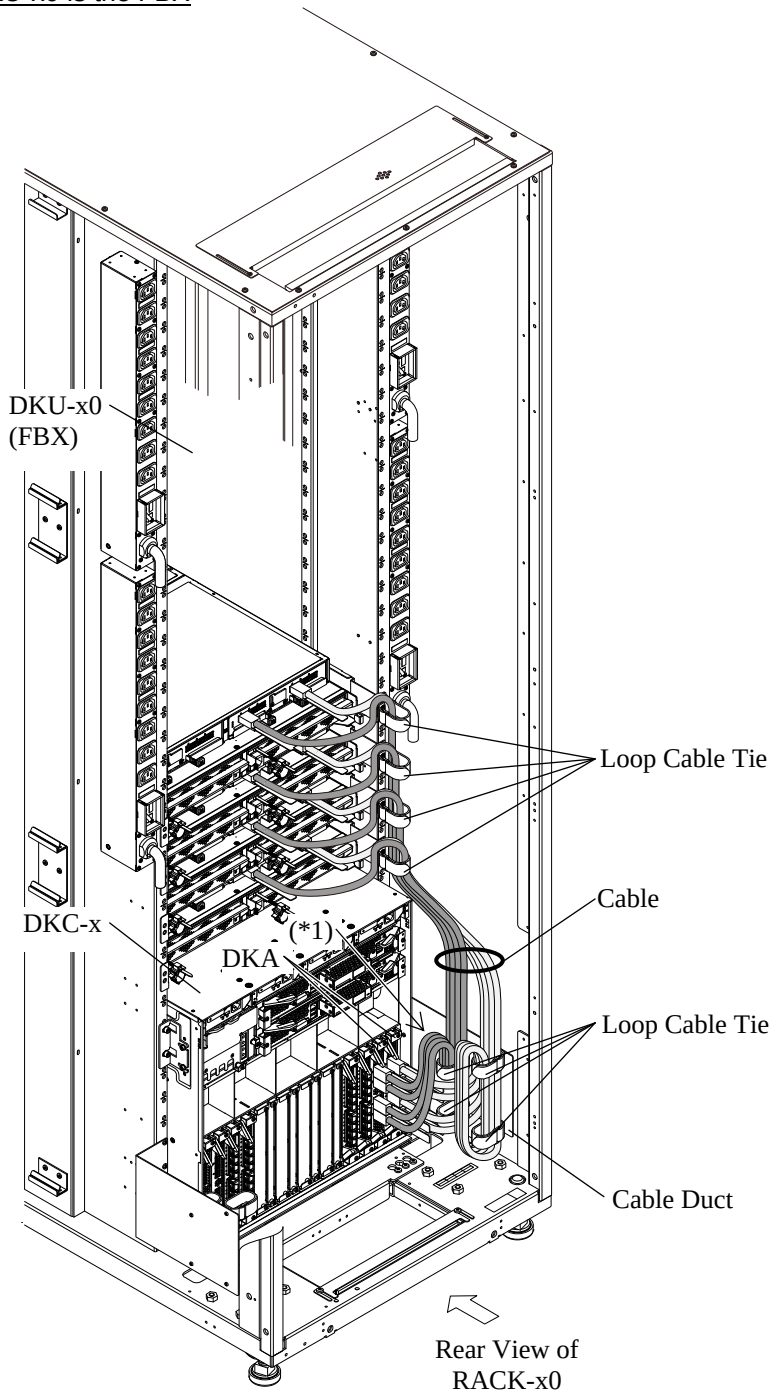


*1: Pass the cables connected to the DKA-2PB or DKA-2PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted

Fig. 3.11.4.9-20 Fixation of Cables (DKA-2PA/2PB – DKU-00(UBX/SBX) or DKA-2PG/2PH – DKU-10(UBX/SBX))

Copyright © 2014, Hitachi, Ltd.

When the DKU-x0 is the FBX



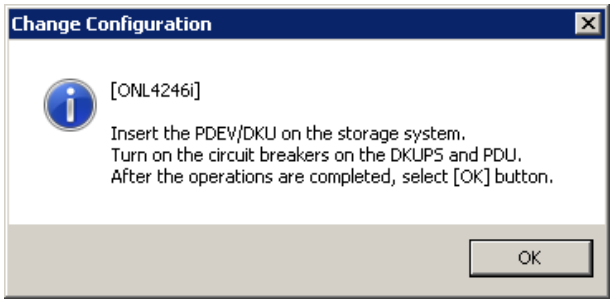
*1: Pass the cables connected to the DKA-2PB or DKA-2PH into the loop cable ties form upper side so that the DKA on the end side can be inserted or extracted.

Fig. 3.11.4.9-21 Fixation of Cables
(DKA-1PA/2PB – DKU-00 (FBX) or DKA-2PG/2PH – DKU-10 (FBX))

Copyright © 2014, Hitachi, Ltd.

3.11.4.10 SVP post procedure

(1) <Check that hardware components are installed>
Select (CL) [OK] after making sure that all hardware components are installed correctly in response to “Insert the PDEV/DKU on the storage system. Turn on the circuit breakers on the DKUPS and PDU. After the operations are completed, select [OK] button.”.



NOTE: Confirm that all the Device Interface Cables to install are connected to the SSW PCBs. If the Device Interface Cables are not connected, connect the Cables referring to
“3.11.4.6 Installation Procedure of Device Interface Cable CC2 (DKC-F810I-CC2)” (INST03-11C-990),
“3.11.4.7 Installation Procedure of Device Interface Cable CC4 (DKC-F810I-CC4)” (INST03-11C-1170).
When the breaker of PDU is OFF, please turn it on.

---

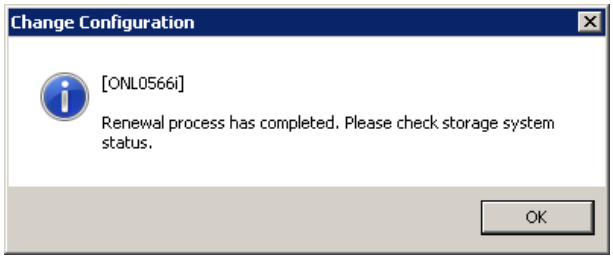
(2) <DKU PATH INLINE>
When DKA is installed, “DKU PATH INLINE is now running...” is displayed.

---

(3) <LDEV FORMAT>
“Formatting logical devices...” is displayed when Parity Group is defined.

---

(4) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.



---

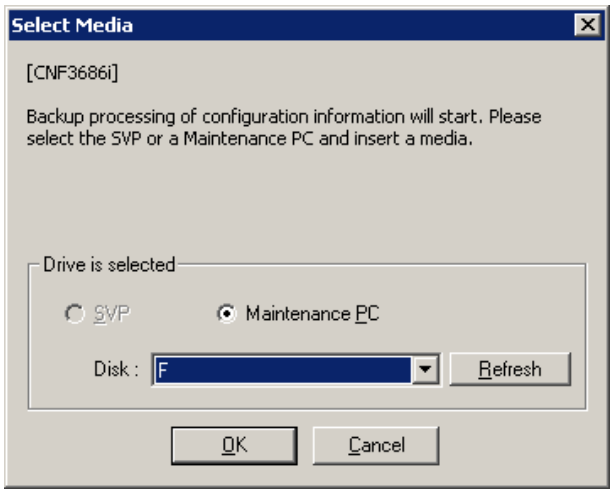
(4)-1 <QUICK FORMAT>
Refer to the logical device window in the “Maintenance” window to check that the Quick Format is in progress. (SVP03-06-10 through 100)

Copyright © 2014, Hitachi, Ltd.

(5)

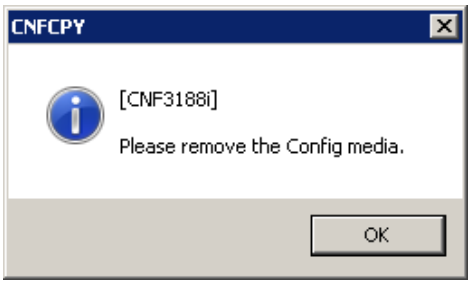
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



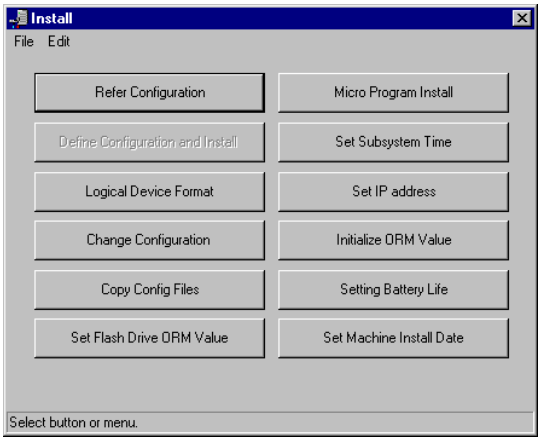
(6)

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



(7)

After the procedure is completed, return to ‘Install’.
Select (CL) [File]-[Exit].



(8) <Mode Change>
Change the mode to View Mode.

(9) Return to the work table and perform rest of the works.
New Installation: INST02-20
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.12 Installation of Service Processor (DKC-F810I-SVP)

NOTICE: This work takes about three hours. During the work, the Web Console cannot be used for some time because of a rebooting of the SVP PC and verification. Inform the customer of the following before starting the addition.

① During this installation, customer cannot use Web Console/Storage Navigator via a customer PC.

② When SNMP is being used:
- 'cold start' trap is reported several times.
- The obstacle trap which occurred during work may not be notified.
- SNMP command may not answer normally.

③ The following SIMs may occur during this work, just complete them when finished:
- BFE3F2 - SVP settings are duplicated
- BF86A3 - SVP RAS Switch#1 remains
- 7FF201 - Standby SVP failure detection

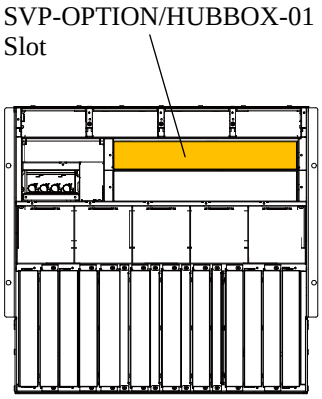
④ When two or more sets of the DKC-F810I-MP are installed in the DKC810I-CBXA (*1), the HUBBOX (DKC-F810I-HUB) is installed as well.

In this case, remove the HUBBOX and install the SVP redundant option to the same mounting position as the HUBBOX. The removing the HUBBOX and installing the SVP must be operated according to the additional installation procedures.
In addition, instruct customer to store the removed HUBBOX as it will be necessary when removing the SVP. (The DKC-1 (DKC-F810I-CBXB) of this instruction is excluded.)

*1: The installation requirements of the HUBBOX are according to the configuration of the DKC-F810I-MP in the DKC810I-CBXA.
(DKC-F810I-CBXB is excluded.)

Table 3.12-1 Installation Requirements of DKC-F810I-MP and HUBBOX

No.	Number of DKC-F810I-MP installed in DKC810I-CBXA	SVP-OPTION/HUBBOX-01 Slot	
		Without SVP Duplication	With SVP Duplication
1	1	Free space	SVP
2	2 ~ 3	HUBBOX	SVP



Rear View of
DKC810I-CBXA

Copyright © 2014, Hitachi, Ltd.

Table 3.12-2 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-SVP	SVP	5552759-A	1	
		EMI Core	5513535-1	1	
2	DKC-F810I-HUB	HUBBOX	5552760-A	1	

Copyright © 2014, Hitachi, Ltd.

3.12.1 Installation Procedure of Service Processor (DKC-F810I-SVP)

3.12.1.1 Installation Procedure

1. Operating the Basic SVP

1-1 Connecting the Maintenance PC to the SVP

(1)

Connect the Maintenance PC to the Basic SVP using SVP Connect Utility.

The login user is different by the presence of the microprogram.

[Connected to]
The Basic SVP xxx.xxx.xxx.15 in the storage system concerned

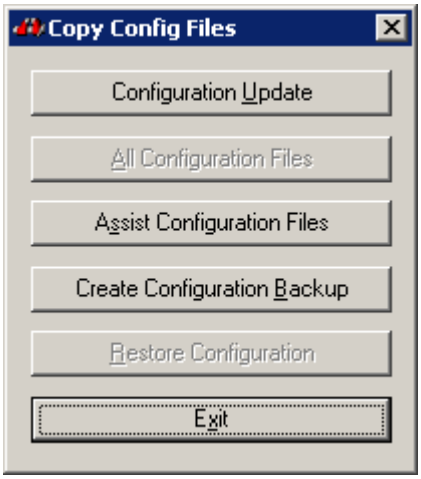
Copyright © 2014, Hitachi, Ltd.

1-2 Config Backup

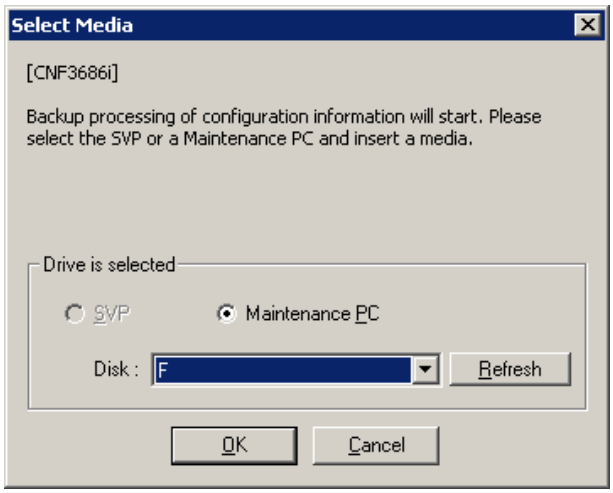
(1) <Mode change>
Change the mode to [Modify Mode].

(2)
Select (CL) [Install] in the 'SVP' window and select (CL) [Copy Config Files] in the 'Install'.

(3)
Select (CL) [Create Configuration Backup] in the 'Copy Config Files'.



(4)
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

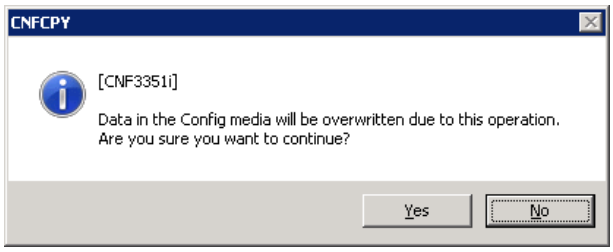


NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.

Copyright © 2014, Hitachi, Ltd.

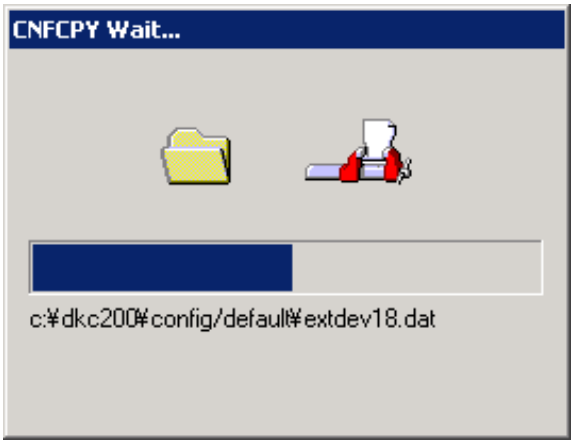
(5)

When you want to continue the process, select the [Yes] button. When the backup to the Config media is not necessary, select the [No] button.



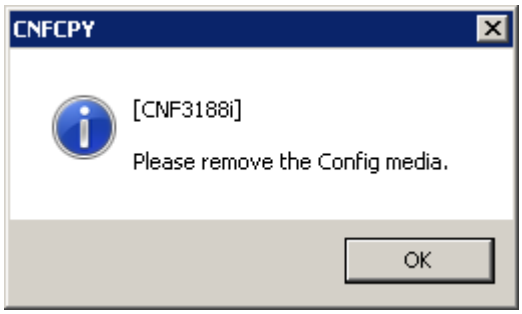
(6)

Backup the configuration information to the Config media for backup. While this operation is being done, the 'CNFCPY Wait...' window is displayed.



(7)

After the Config media is pulled out, select (CL) the [OK] in response to the message "Please remove the Config media.".



(8)

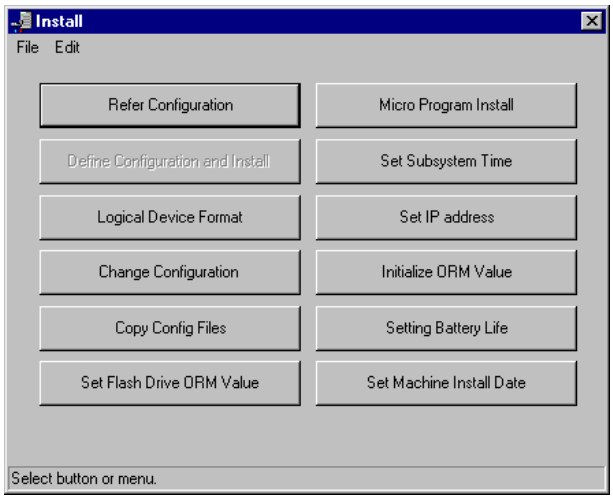
Select (CL) [Exit] of the 'Copy Config Files' to finish this operation.

Copyright © 2014, Hitachi, Ltd.

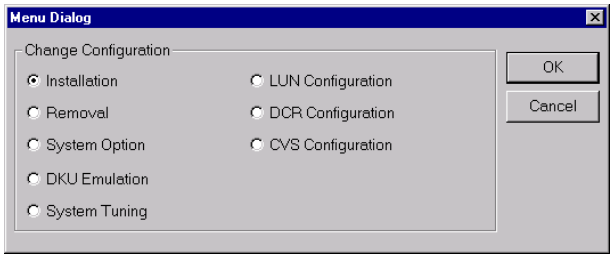
1-3 Setting of SVP Installation

(1) <Start [Install]>
Select (CL) [Install] from 'SVP'.

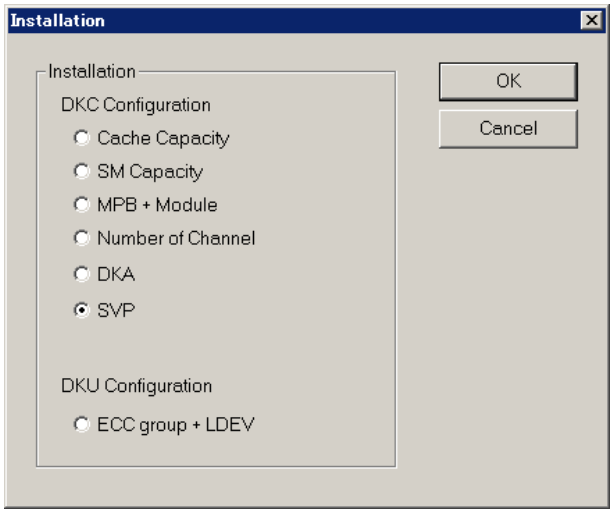
(2) <Select [Change Configuration]>
Select (CL) [Change Configuration] from 'Install'.



(3) <Select [Installation]>
Select (CL) [Installation] from 'Menu Dialog', and select (CL) [OK] button.



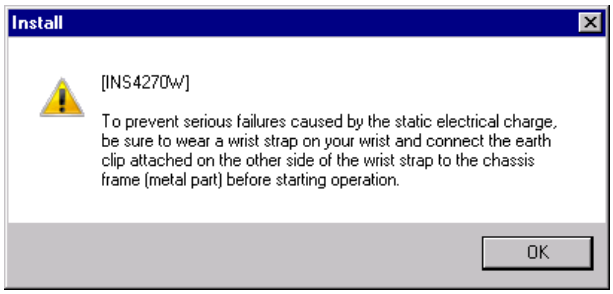
(4) <Select a part to be changed>
Select (CL) [SVP], and select (CL) [OK] button.



Copyright © 2014, Hitachi, Ltd.

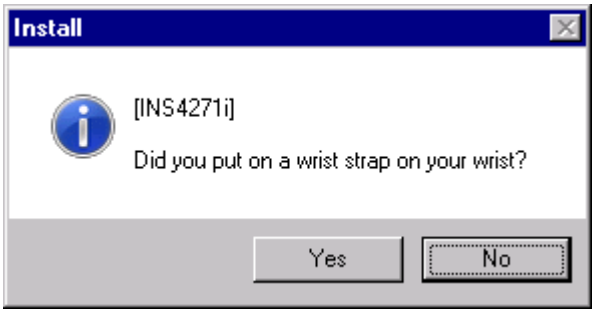
(5) <Wear a wrist strap>

Select (CL) [OK] in response to "To prevent serious failures caused by the static electrical charge, be sure to wear a wrist strap on your wrist and connect the earth clip attached on the other side of the wrist strap to the chassis frame (metal part) before starting operation.".



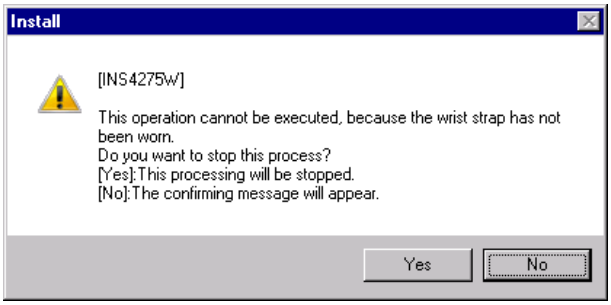
(5)-1 <Confirm wearing wrist strap>

In response to a message, "Did you put on a wrist strap on your wrist?".
Select [Yes] when wrist strap is on your wrist.
Select [No] when there is no wrist strap on your wrist.
When [No] is selected (CL), go to Step (5)-2.



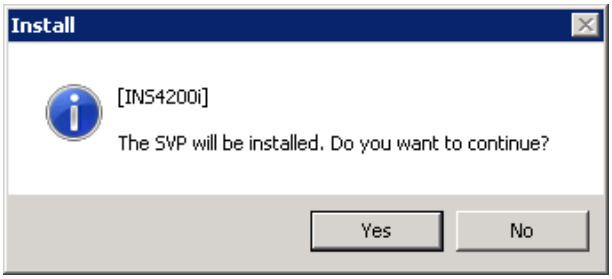
(5)-2

In response to a message, "This operation cannot be excuted, because the wrist strap has not been worn. Do you want to stop this process?
[Yes]: This processing will be stopped.
[No]: This confirming message will appear."
When [Yes] is selected (CL), the routine is returned to Step (2) on page INST03-12-60.
When [No] is selected (CL), returned to Step (5).



(6) <Start Installation>

Select (CL) [Yes] button in response to "The SVP will be installed. Do you want to continue?".
Select (CL) [No] button. Return to Step (2).

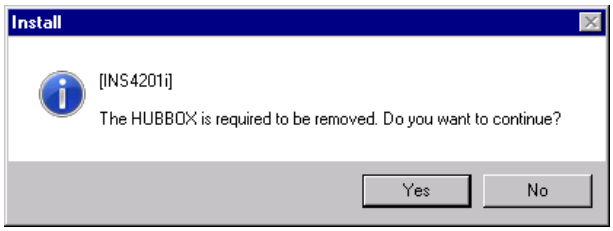


Copyright © 2014, Hitachi, Ltd.

(7) <Confirmation message>
If there is not the HUBBOX, go to Step (13).

If there is the HUBBOX, “The HUBBOX is required to be removed. Do you want to continue?” message is displayed.

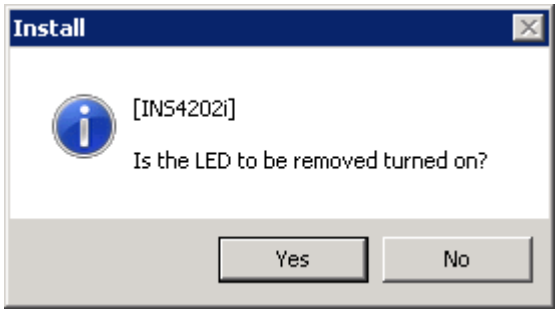
Select (CL) [Yes] button. Go to Step (8).
Select (CL) [No] button. Return to Step (2).



---

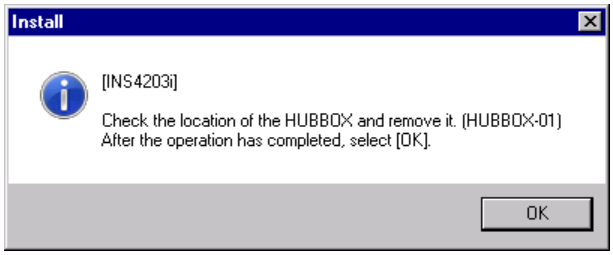
(8) <Check shut down LED>
“Is the LED to be removed turned on?” message is displayed.

If the Shut down LED is on, select (CL) [Yes] button and go to Step (10).
If the Shut down LED is off, select (CL) [No] button and go to Step (9).



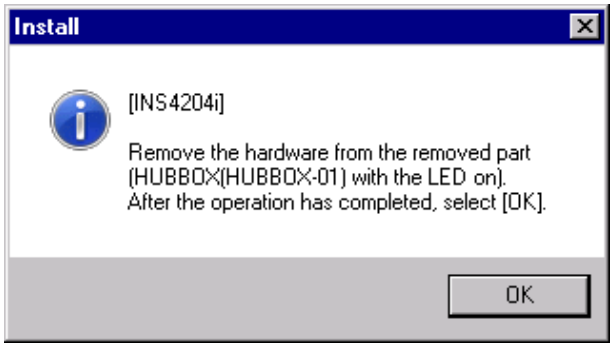
---

(9) <Removal of the HUBBOX>
“Check the location of the HUBBOX and remove it. (HUBBOX-xx) After the operation has completed, select [OK].” message is displayed.
Go to Step (11).



---

(10) <Removal of the HUBBOX>
“Remove the hardware from the removed part (HUBBOX(HUBBOX-nn) with the LED on). After the operation has completed, select [OK].” message is displayed.
Go to Step (11).



Copyright © 2014, Hitachi, Ltd.

(11) <De-Installation Procedure of Additional HUB>

a. Loosen the two screws and remove the HUBBOX.

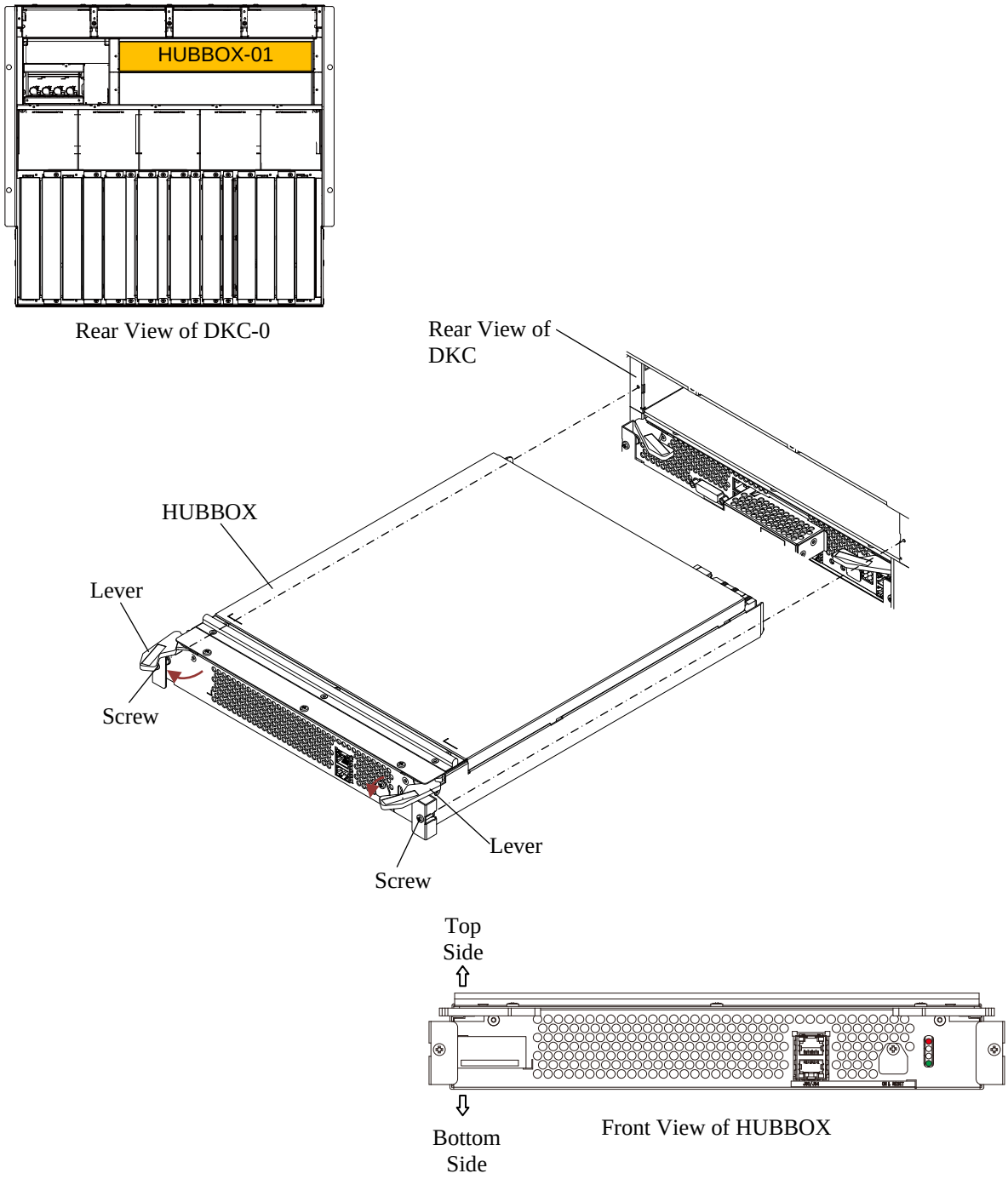
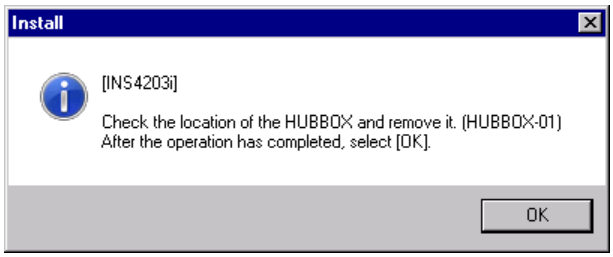


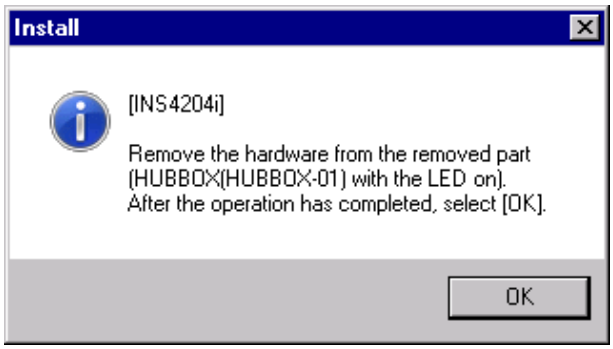
Fig. 3.12.1.1-1 Removal of HUBBOX

Copyright © 2014, Hitachi, Ltd.

(12) <Removal of the HUBBOX>

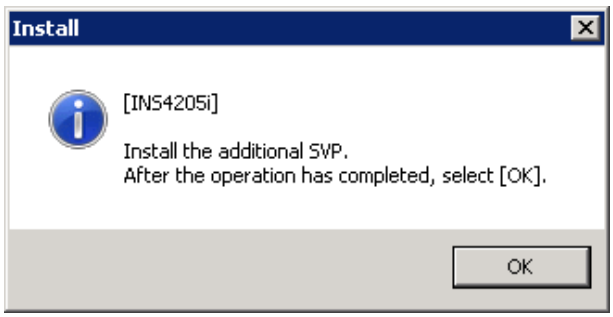
After remove the HUBBOX, select (CL) [OK].





(13) <Installation of SVP>

"Install the additional SVP. After the operation has completed, select [OK]." message is displayed.

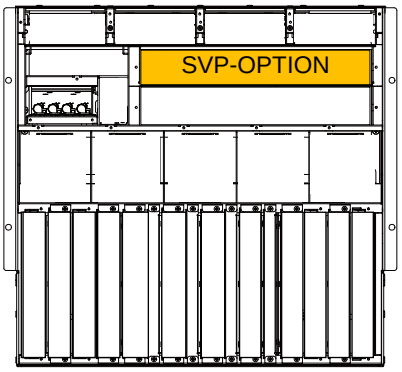


Copyright © 2014, Hitachi, Ltd.

2. Installation Procedure of Service Processor

2-1 Installation of SVP

(1) When removing the dummy plates from the SVP-OPTION slot is required, loosen the two screws and remove the dummy plate.
When removing the dummy plates from the SVP-OPTION slot is unnecessary, go to the Step (2).



Rear View of DKC-0

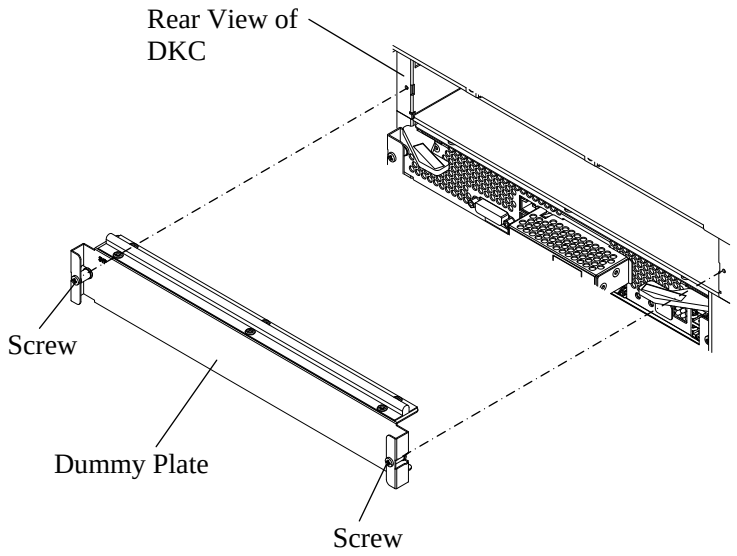


Fig. 3.12.1.1-2 Removal of Dummy Plate

Copyright © 2014, Hitachi, Ltd.

(2) Loosen the screw and rotate the cover on the SVP-OPTION upward. Then, tighten the screw.
(3) Set the SVP RAS Switch #1 on the SVP-OPTION to ON (lower position).
Use something sharp (eg. a pen or a mini screwdriver etc.) when set the SVP RAS Switch #1.
(4) Install the SVP and fasten the two screws.

NOTICE: Confirm the vertical direction of the SVP. If the direction is wrong, the SVP will not be ON.

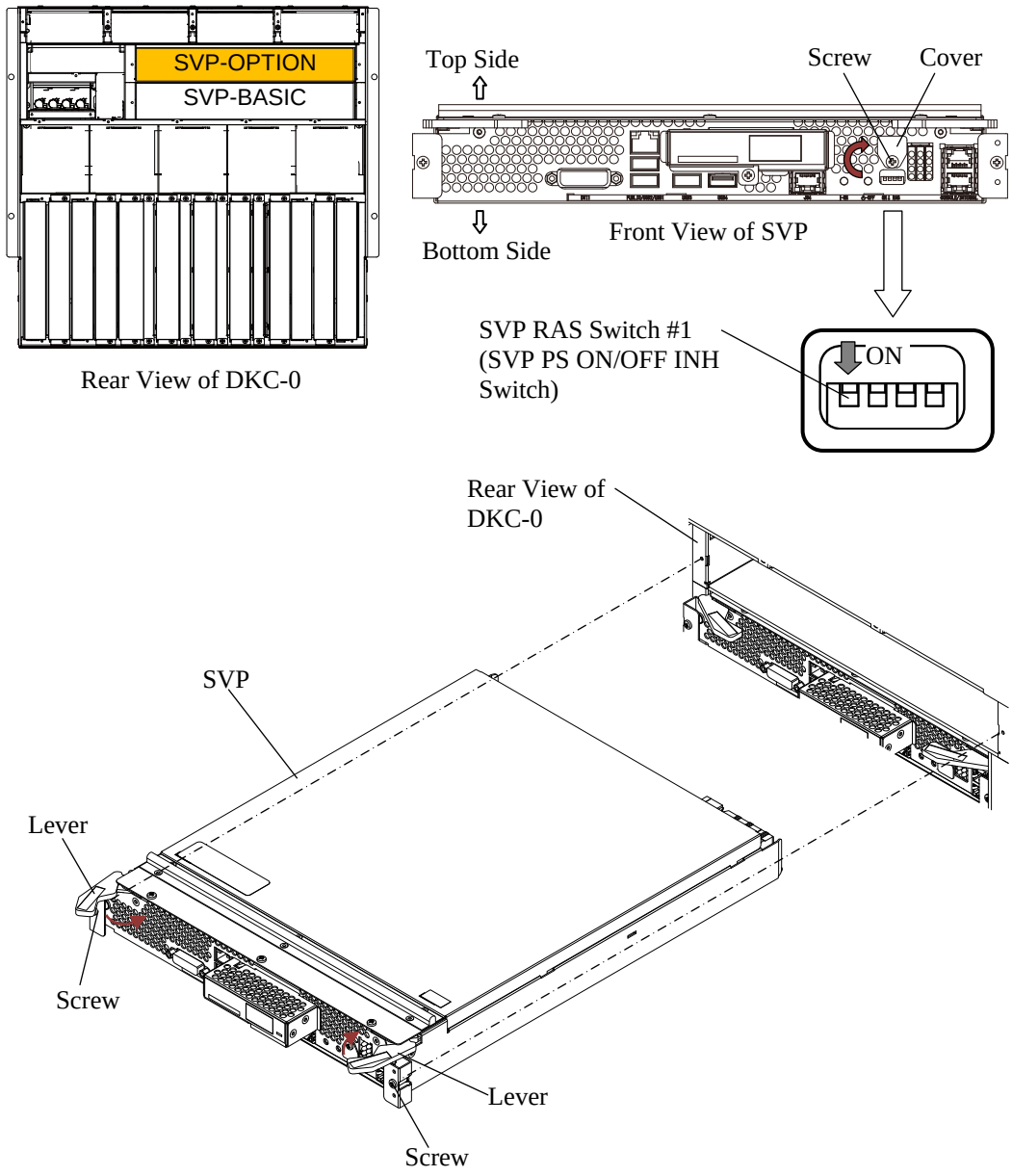


Fig. 3.12.1.1-3 Installation of SVP

Copyright © 2014, Hitachi, Ltd.

2-2 Storage of Dummy Plate

(1) When there are removed dummy plates, loosen the three screws ① on the front side of the DKC and remove the cable cover.
When there are no removed dummy plates, go to the Step 2-3.

(2) Loosen the screw ② and remove the accessory box.

(3) Put the removed dummy plate in the accessory box.

(4) Put the accessory box in place and fix it with the screw ②.

(5) Put the cable cover in place and fix it with the three screws ①.

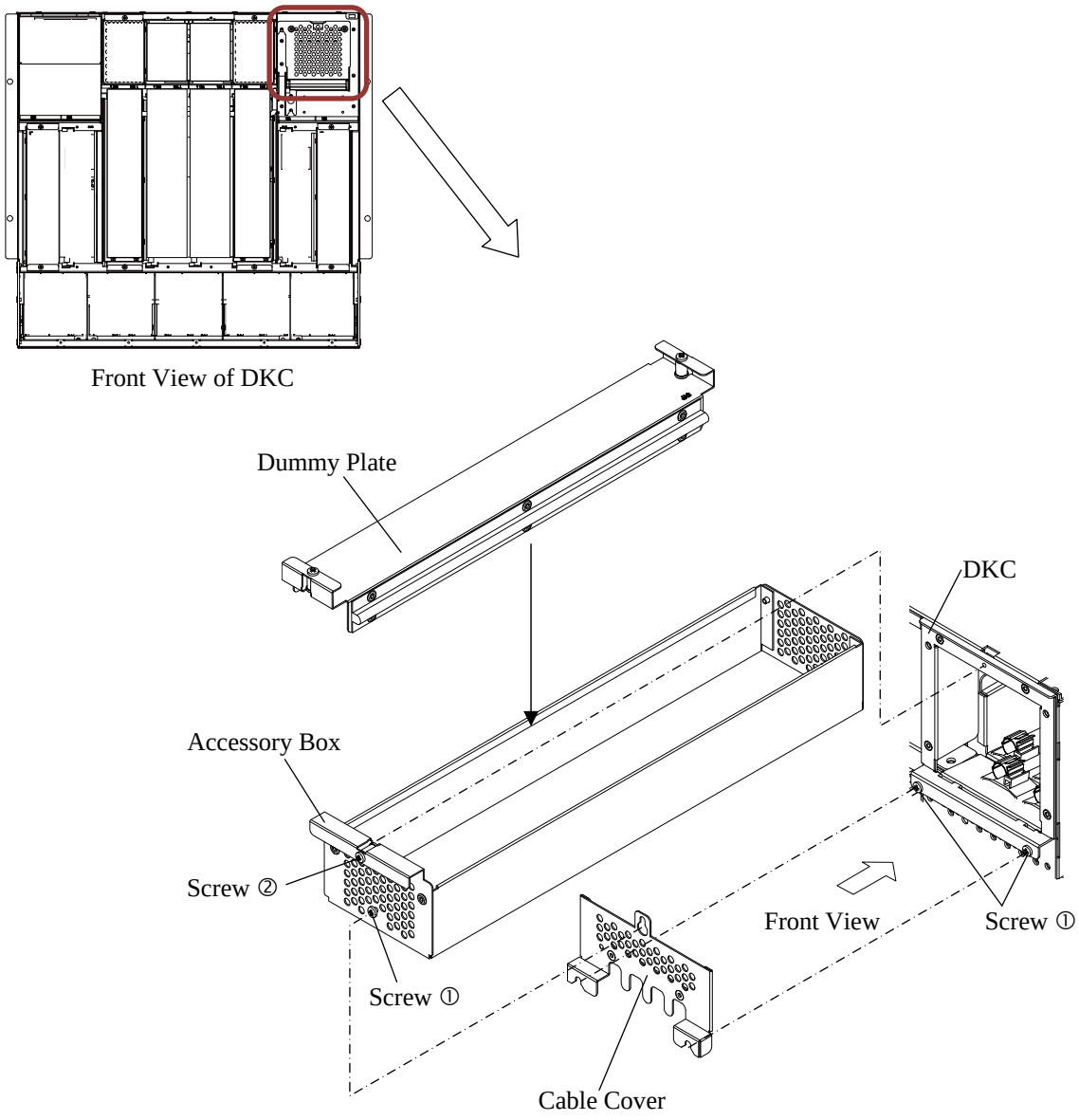
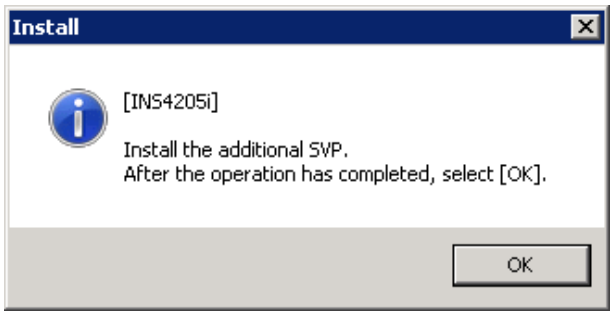


Fig. 3.12.1.1-4 Storage of Dummy Plate

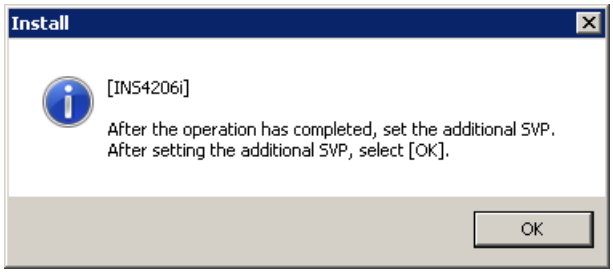
Copyright © 2014, Hitachi, Ltd.

3. Operating the Basic SVP

3-1 <Confirmation of the SVP installation>
After the Installation of SVP, select (CL) [OK].



3-2 <Operation of after the SVP installation>
"After the operation has completed, set the additional SVP. After setting the additional SVP, select [OK]." message is displayed.



Copyright © 2014, Hitachi, Ltd.

4. Operating the Additional SVP

4-1 Connecting the Maintenance PC

Connect the Maintenance PC to the SVP has been installed using the utility for connection.

The login user is different by the presence of the microprogram.

[Connected to] Additional SVP 126.255.254.15

NOTE: When the IP address of the Maintenance PC is not 126.xxx.xxx.13, change the IP address of the Maintenance PC to 126.255.254.13 once, and then connect it to SVP.

In this section, using two user type to connect with the SVP. If you don't know the password, please contact with the technical support division. When there is no description, using "Installed User".

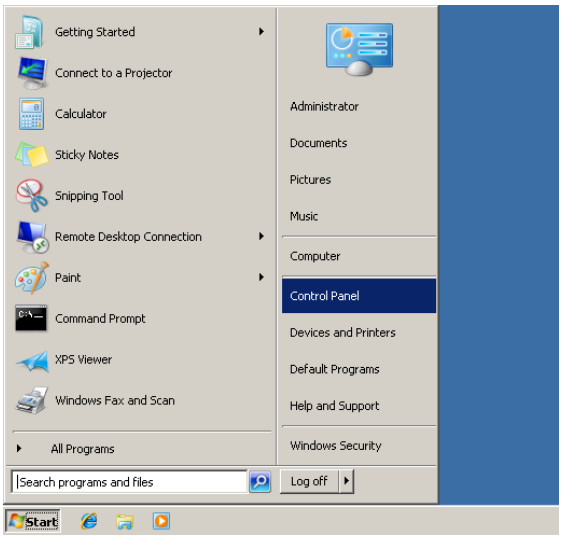
After you input a user name and the password, input "Maintenance Password". If you don't know the "Maintenance Password", please contact with the technical support division.

Copyright © 2014, Hitachi, Ltd.

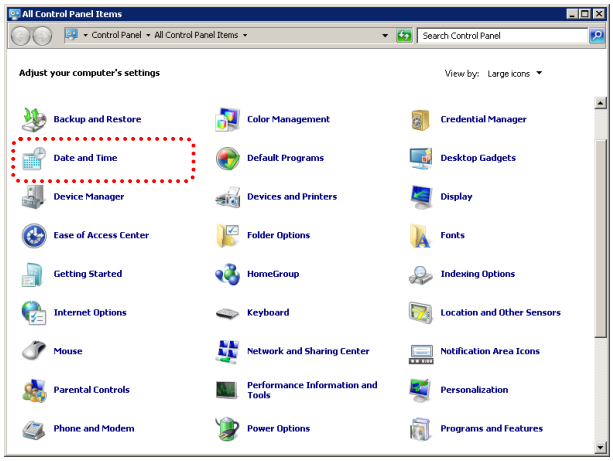
4-2 Setting the Data and Time

<Making sure of the setting of a time zone>

(1) Open the ‘Control Panel’ window.
Select (DR) [Control Panel] from the [Start] menu.

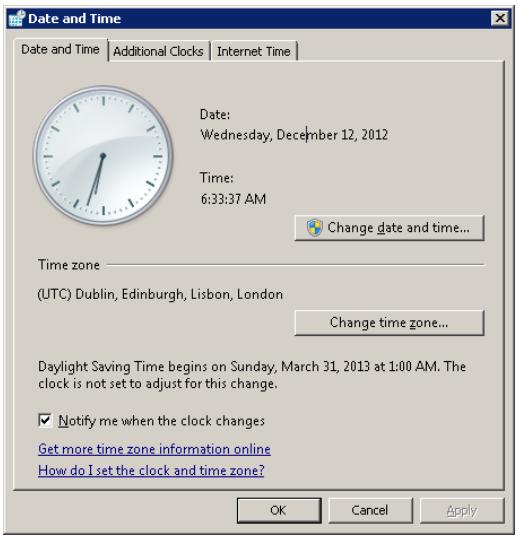


(2) Open the ‘Date and Time’ window.
Select (DC) [Date and Time] in the ‘Control Panel’ window.

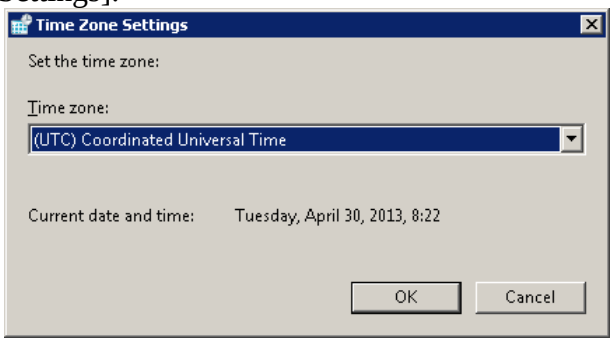


Copyright © 2014, Hitachi, Ltd.

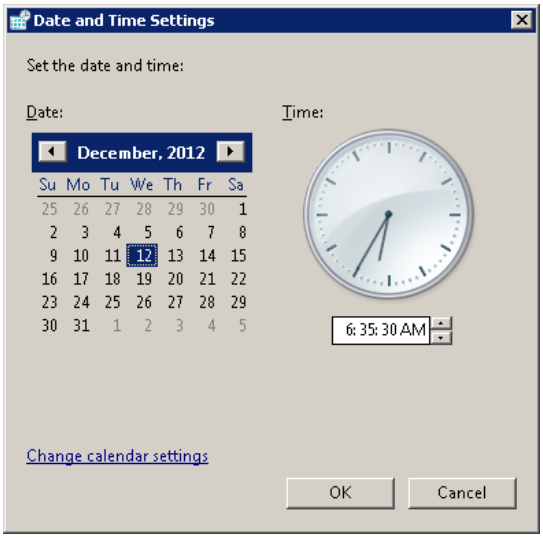
(3) Select [Change time zone].
Select (CL) [Change time zone...].



(4) Make sure of the setting of the [Time Zone Settings].
Make sure that the 'Time Zone Settings' is set as "(UTC) Coordinated Universal Time" irrespective of a place where the storage system is installed.



(5) <Set the [Date and Time Settings]>
Select (CL) [Change date and time...].
Check if the 'Date and Time Settings' is set to the current time and date.
If not, reset it correctly. Then, select (CL) [OK].

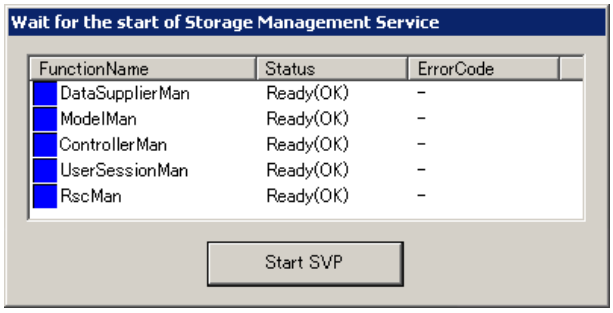


(6) Close the 'Control Panel' window.
Select (DR) [File] and [Close] in this order in the 'Control Panel' window.

Copyright © 2014, Hitachi, Ltd.

4-3 <Installing the Microprogram>

4-3-1 Preparation



When the Microprogram has already been installed (when “Wait for the start of Storage Management Service” is displayed in desktop window) in the Additional SVP, perform the following operations. When the Microprogram is not installed, go to 4-3-2.

① Perform uninstalling Apache program. (Go to 4-3-1-1 Uninstalling Apache)
② Perform uninstalling Tomcat program. (Go to 4-3-1-2 Uninstalling Tomcat program)
③ Perform uninstalling SMI-S Provider program. (Go to 4-3-1-3 Uninstalling SMI-S Provider program)
④ Perform uninstalling Java program. (Go to 4-3-1-4 Uninstalling Java program)
⑤ Perform uninstalling Perl program. (Go to 4-3-1-5 Uninstalling Perl program)
⑥ Perform uninstalling Flash Player program. (Go to 4-3-1-6 Uninstalling Flash Player program)

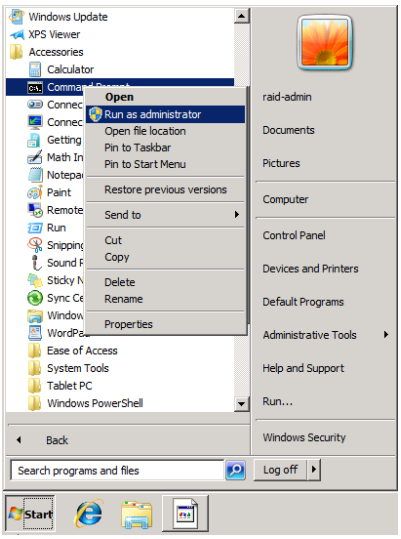
Copyright © 2014, Hitachi, Ltd.

4-3-1-1 Uninstalling Apache

(1) Mount the OSS media
Insert the OSS media (the second media) to the CD-ROM drive in the Maintenance PC.

---

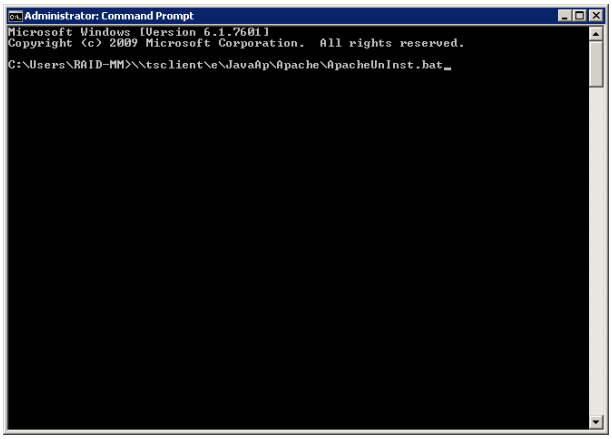
(2) Launch the Command Prompt as administrator
Select (DR) [Start]-[All Programs]-[Accessories], and launch the Command Prompt with 'Run as administrator' in right-click menu.



---

(3) Launch the uninstallation batch
Enter "\\tsclient\e\JavaAp\Apache\ApacheUnInst.bat" into the Command Prompt, and press the Enter key.

At the end of this process, the Command Prompt will close automatically.



NOTE: The input value is the form of
"\\tsclient\<drive letter>\JavaAp\Apache\ApacheUnInst.bat".
A drive letter is made the drive which inserted the OSS media.

The above is a case where the CD-ROM drive is assigned a drive letter E.

---

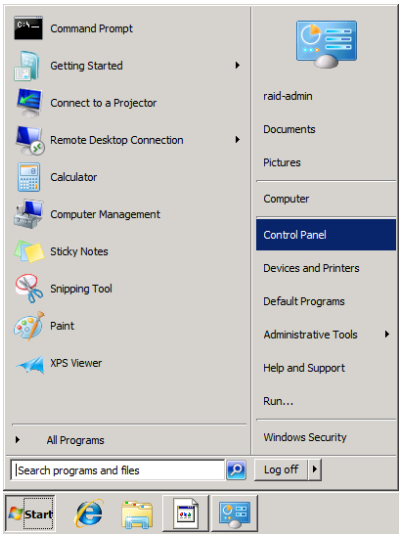
(4) Take out the OSS media
Take out the OSS media (the second media) from the CD-ROM drive in the Maintenance PC.

Copyright © 2014, Hitachi, Ltd.

4-3-1-2 Uninstalling Tomcat program

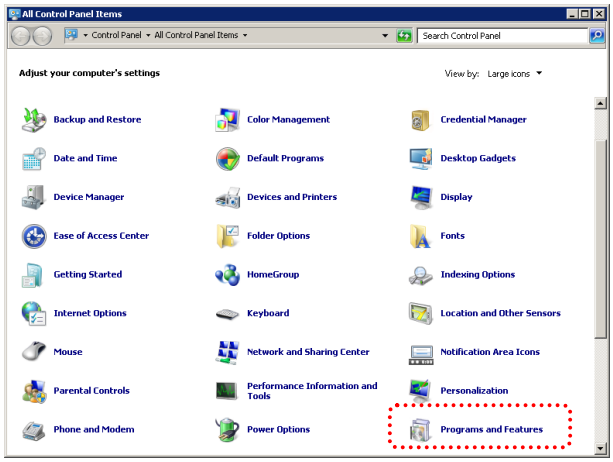
(1)

Select (DR) [Start]-[Control Panel].



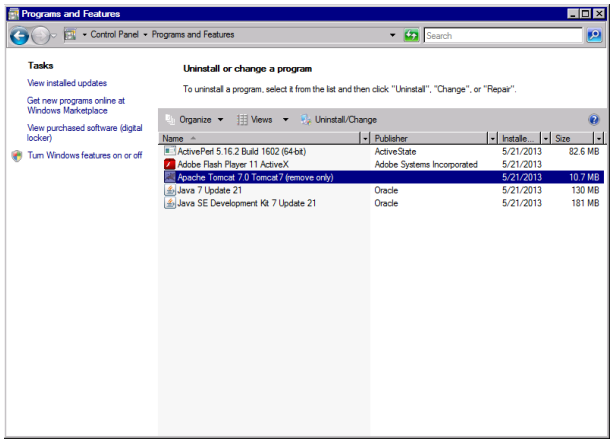
(2)

Select (DC) [Programs and Features].



(3)

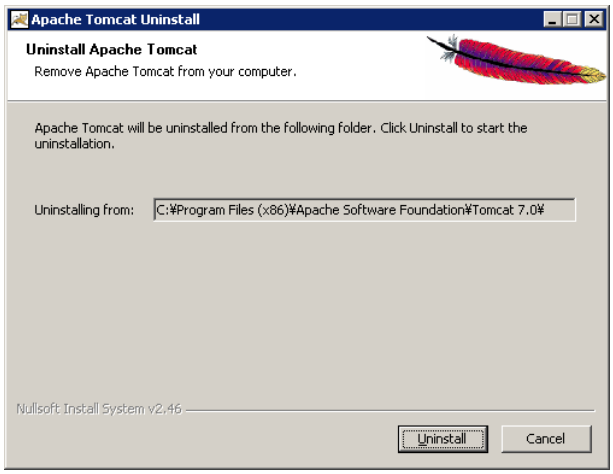
Select (CL) [Apache Tomcat 7.0 Tomcat7 (remove only)], and select (CL) [Uninstall/Change].
If there is no [Apache Tomcat 7.0 Tomcat7 (remove only)] in the list, go to 4-3-1-3.



Copyright © 2014, Hitachi, Ltd.

(4)

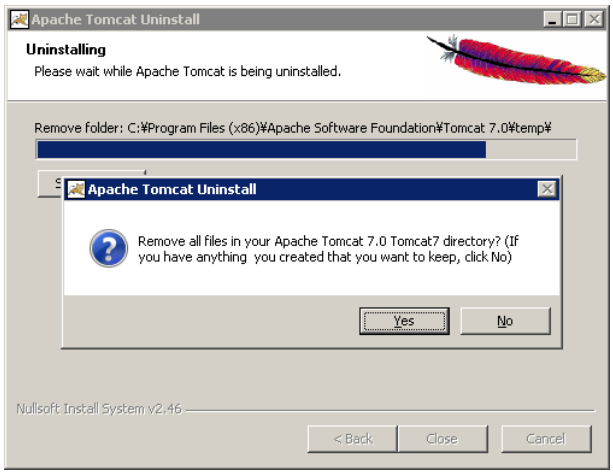
Select (CL) [Uninstall].



(5)

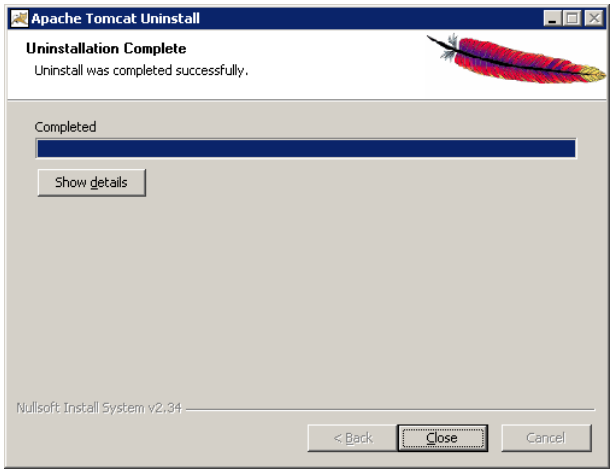
If the following message box is displayed, select (CL) [Yes].

If “Note: C:\Program Files (x86)\Apache Software Foundation\Tomcat 7.0 could not be removed.” is displayed, select (CL) [OK].



(6)

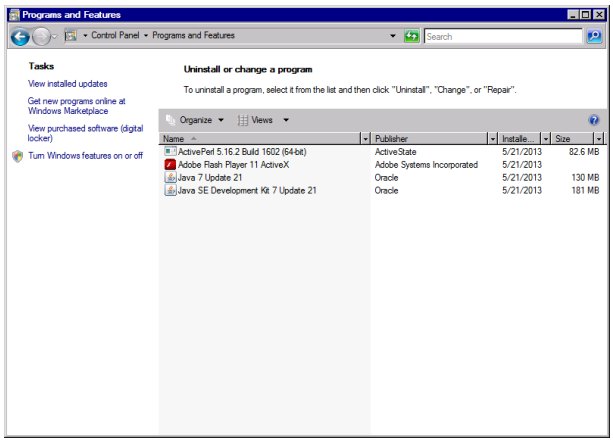
When “Uninstallation Complete” dialogue box is displayed, select (CL) [Close].



Copyright © 2014, Hitachi, Ltd.

(7)

[Apache Tomcat 7.0 Tomcat7 (remove only)] in ‘Programs and Features’ window was deleted.
Close the window.



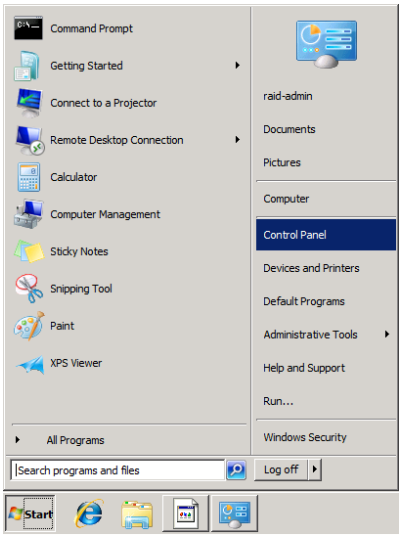
NOTICE: Until procedure 4-3-1 is finished, please don’t logout or shutdown SVP. If you do them, SVP may no longer work properly. If a shutdown request message is displayed, please don’t shutdown.

Copyright © 2014, Hitachi, Ltd.

4-3-1-3 Uninstalling SMI-S Provider program

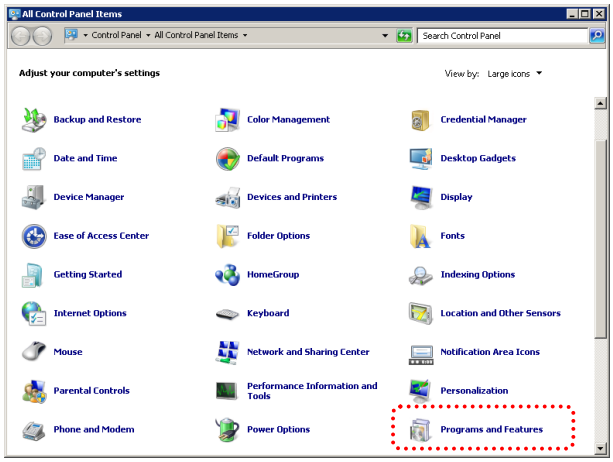
(1)

Select (DR) [Start]-[Control Panel] in this order.



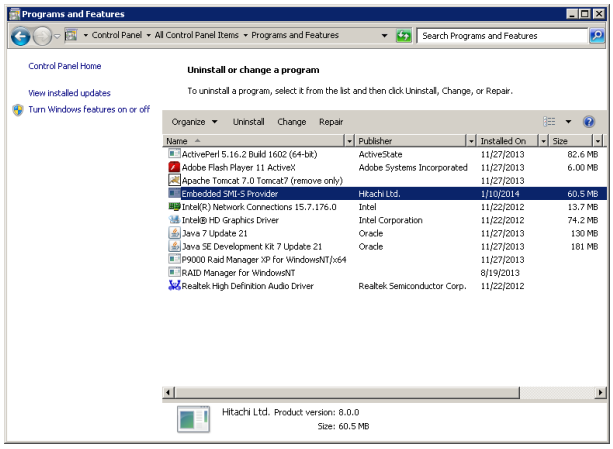
(2)

Select (DC) [Programs and Features].



(3)

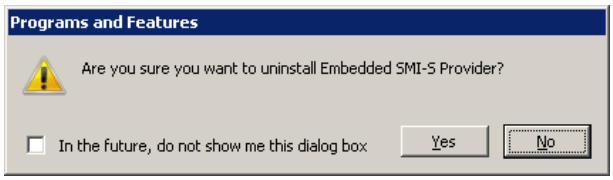
Select (CL) [Embedded SMI-S Provider], and then select (CL) [Uninstall].
If there is no [Embedded SMI-S Provider] in the list, go to 4-3-1-4.



Copyright © 2014, Hitachi, Ltd.

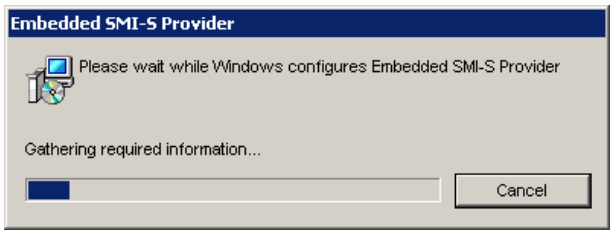
(4)

A message, “Are you sure you want to uninstall Embedded SMI-S Provider?” is displayed.
Select (CL) [Yes].



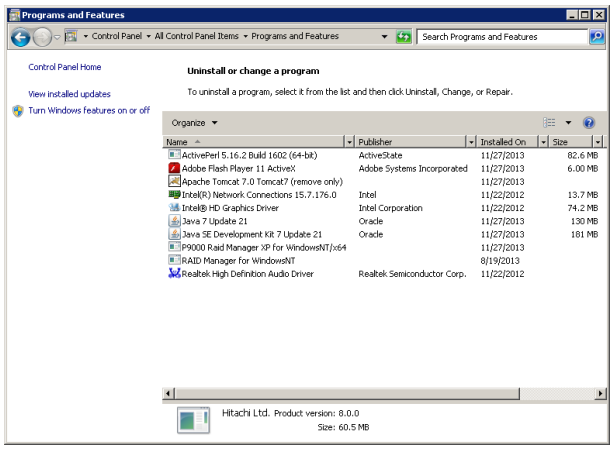
(5)

Uninstallation of SMI-S Provider is started.



(6)

The [Embedded SMI-S Provider] is deleted from the ‘Programs and Features’ window.
Close the window by selecting (CL) the [×] button.



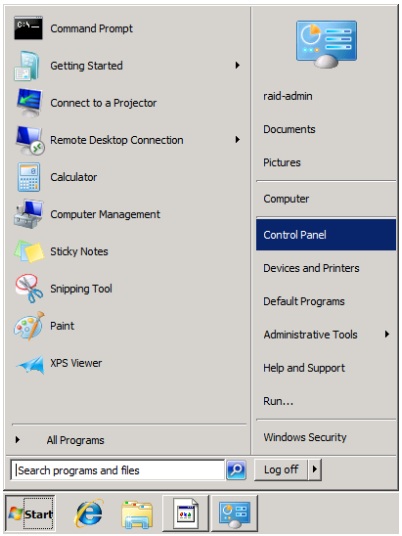
NOTE: When the SVP High Reliability Kit is installed, you need to install it for the standby SVP in the same procedure.
About the switching SVP, refer to Post-Procedure “2.17 SVP Switching” (SVP02-17-10) in the SVP SECTION.

Copyright © 2014, Hitachi, Ltd.

4-3-1-4 Uninstalling Java program

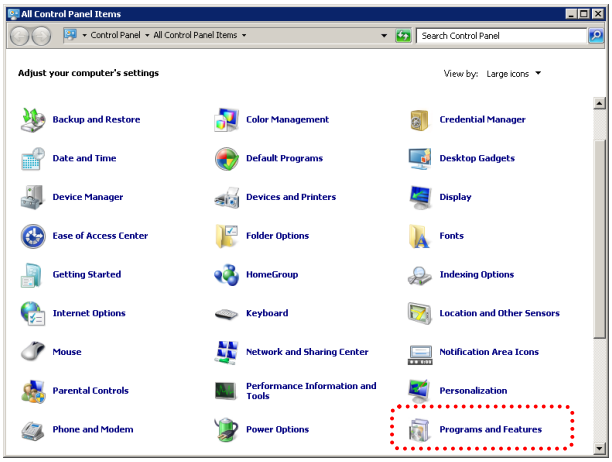
(1)

Select (DR) [Start]-[Control Panel] in this order.



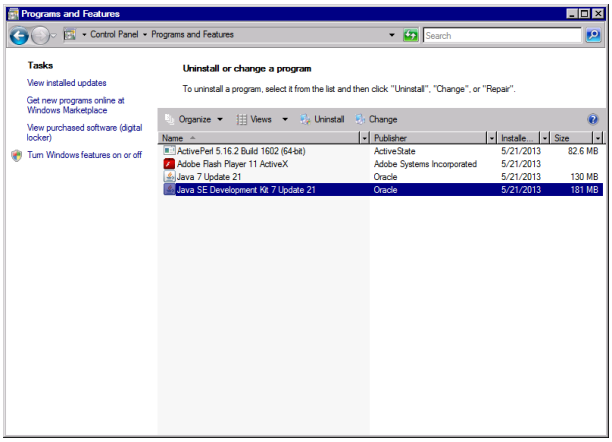
(2)

Select (DC) [Programs and Features].



(3)

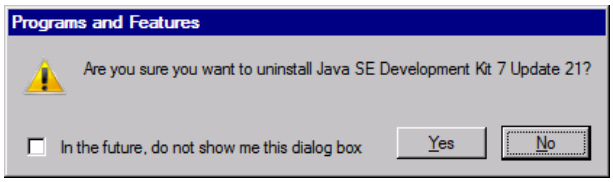
Select [Java SE Development Kit 7 Update 21], and then select (CL) [Uninstall].
If there is no [Java SE Development Kit 7 Update 21] in the list, go to (8).



Copyright © 2014, Hitachi, Ltd.

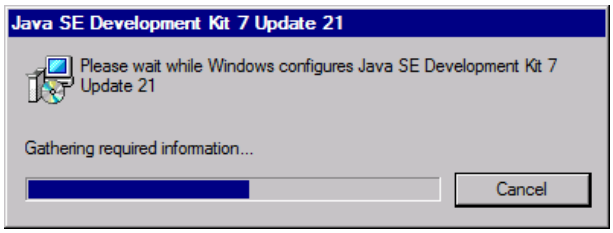
(4)

A message, “Are you sure you want to uninstall Java SE Development Kit 7 Update 21?” is displayed.
Select (CL) [Yes].



(5)

Uninstallation of Java is started.



(6)

When the window to require rebooting the system is displayed, select (CL) [No]. (*1)
When this window is not displayed, go to Step (7).

NOTE: Don’t select [Yes]. If you do them, SVP may no longer work properly.

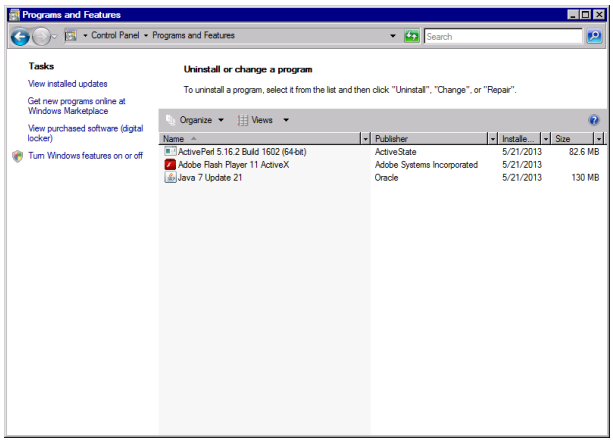
*1: If selecting (CL) [Yes], SVP will be rebooted. In this case, follow the procedures below.

- Login to SVP after rebooting.
  Refer to “4-1 Connecting the Maintenance PC” (INST03-12-150) to choose login user name.
- When following messages are displayed, select (CL) [OK].
  “Unable to log into the SVP, because there is a problem with its system requirements. Reboot it, and then reconfigure the SVP.”
- Continue procedures (8) after SVP rebooting.
  Refer to “4-1 Connecting the Maintenance PC” (INST03-12-150). Please use “Preinstalled User”.

Copyright © 2014, Hitachi, Ltd.

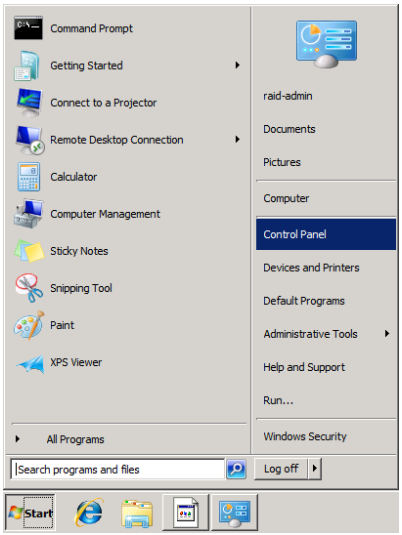
(7)

The [Java SE Development Kit 7 Update 21] is deleted from the 'Programs and Features' window.
Close the window by selecting (CL) the [×] button.



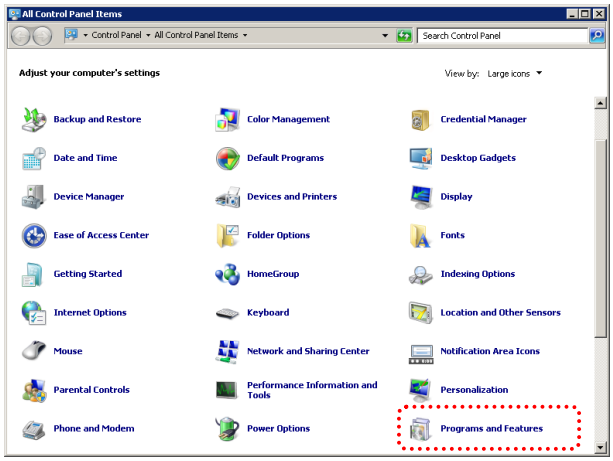
(8)

Select (DR) [Start]-[Control Panel] in this order.



(9)

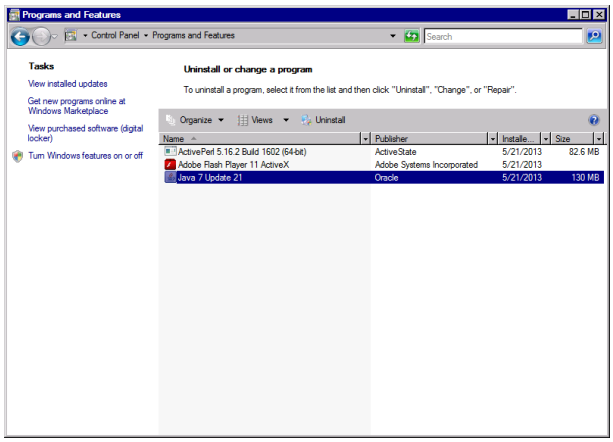
Select (DC) [Programs and Features].



Copyright © 2014, Hitachi, Ltd.

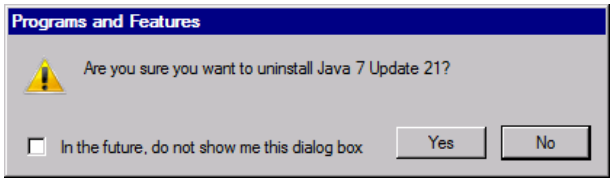
(10)

Select [Java 7 Update 21], and then select (CL) [Uninstall].
If there is no [Java 7 Update 21] in the list, go to 4-3-1-5.



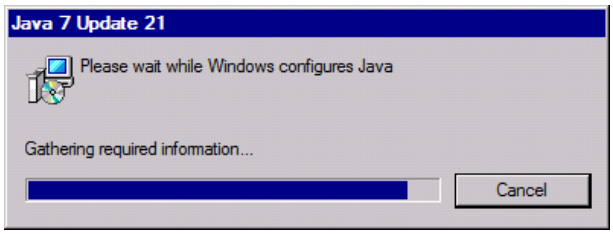
(11)

A message, “Are you sure you want to uninstall Java 7 Update 21?” is displayed.
Select (CL) [Yes].



(12)

Uninstallation of Java is started.



(13)

If the following message box is displayed, select (CL) [Close Programs and Continue].

If the message, “Save your work and data! Then click OK to close your programs and complete the Java update.” is displayed, select (CL) [OK].



Copyright © 2014, Hitachi, Ltd.

(14)

When the window to require rebooting the system is displayed, select (CL) [No]. (*1)
When this window is not displayed, go to Step (15).

NOTE: In several minutes, it may reboot automatically.

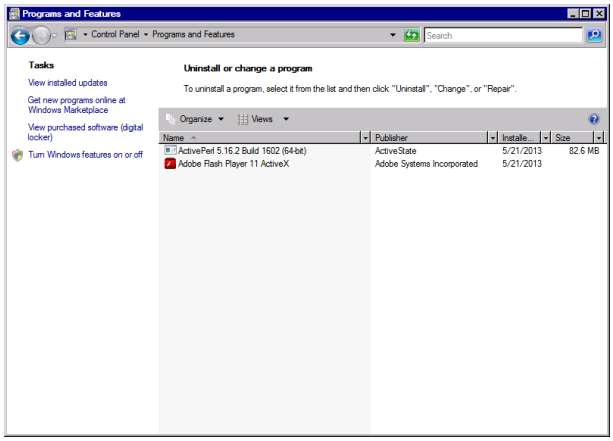
*1: If selecting (CL) [Yes] or automatically, SVP will be rebooted. In this case, follow the procedures below.

- Login to SVP after rebooting.
  Refer to “4-1 Connecting the Maintenance PC” (INST03-12-150) to choose login user name.
- When following messages are displayed, select (CL) [OK].
  “Unable to log into the SVP, because there is a problem with its system requirements. Reboot it, and then reconfigure the SVP.”
- Continue procedures 4-3-1-5 after SVP rebooting.
  Refer to “4-1 Connecting the Maintenance PC” (INST03-12-150). Please use “Preinstalled User”.

---

(15)

The [Java 7 Update 21] is deleted from the ‘Programs and Features’ window.
Close the window by selecting (CL) the [×] button.

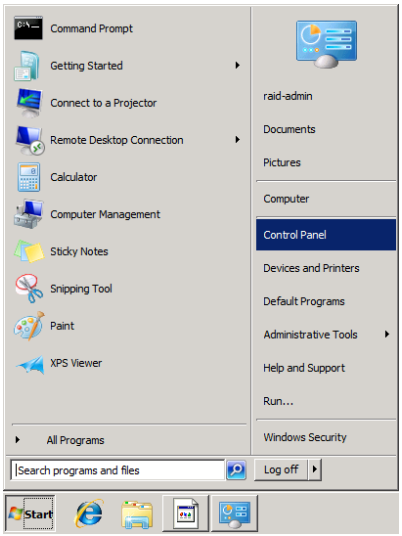


Copyright © 2014, Hitachi, Ltd.

4-3-1-5 Uninstalling Perl program

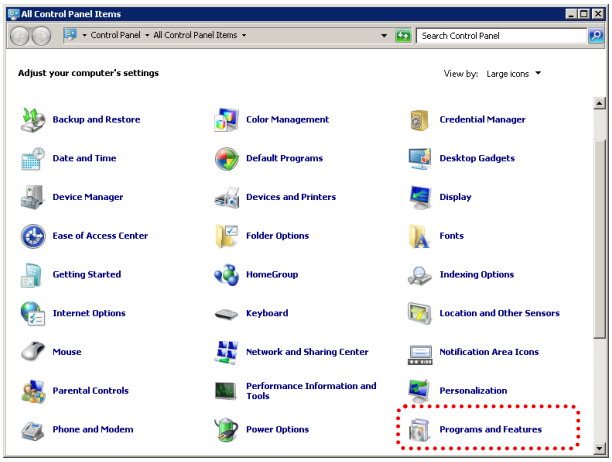
(1)

Select (DR) [Start]-[Control Panel] in this order.



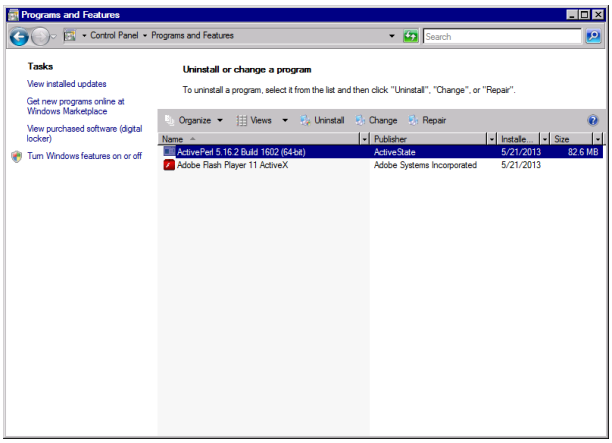
(2)

Select (DC) [Programs and Features].



(3)

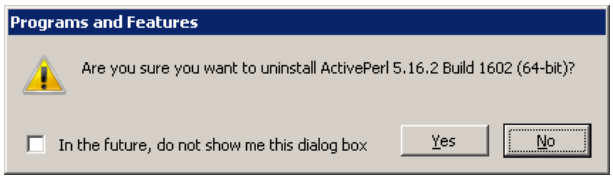
Select [ActivePerl 5.16.2 Build 1602 (64-bit)], and then select (CL) [Uninstall].
If there is no [ActivePerl 5.16.2 Build 1602 (64-bit)] in the list, go to 4-3-1-6.



Copyright © 2014, Hitachi, Ltd.

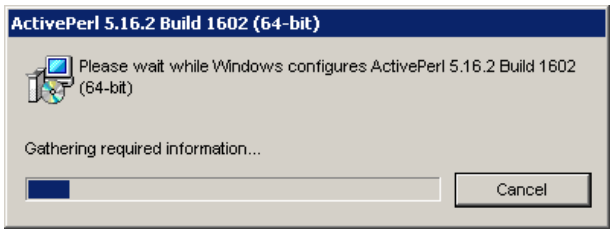
(4)

A message, “Are you sure you want to uninstall ActivePerl 5.16.2 Build 1602 (64-bit)?” is displayed.
Select (CL) [Yes].



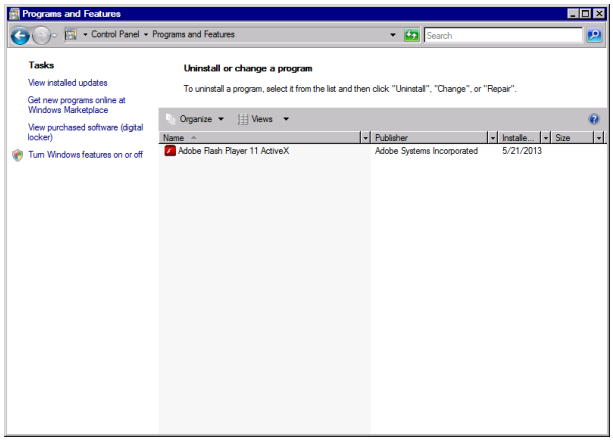
(5)

Uninstallation of Perl is started.



(6)

The [ActivePerl 5.16.2 Build 1602 (64-bit)] is deleted from the ‘Programs and Features’ window.
Close the window by selecting (CL) the [×] button.

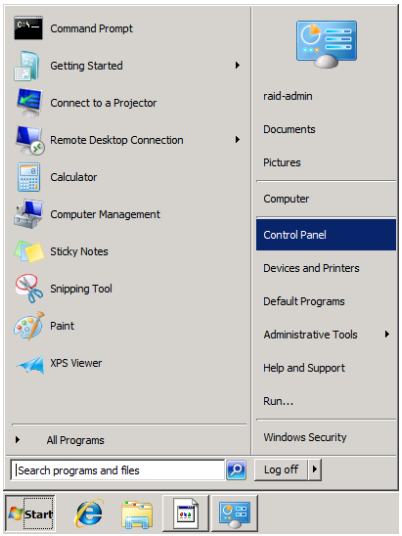


Copyright © 2014, Hitachi, Ltd.

4-3-1-6 Uninstalling Flash Player program

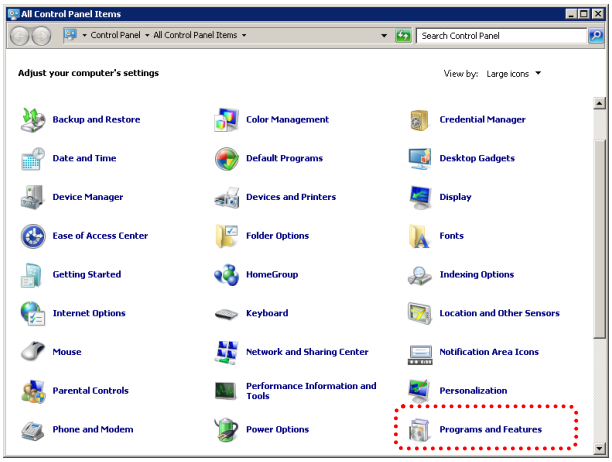
(1)

Select (DR) [Start]-[Control Panel] in this order.



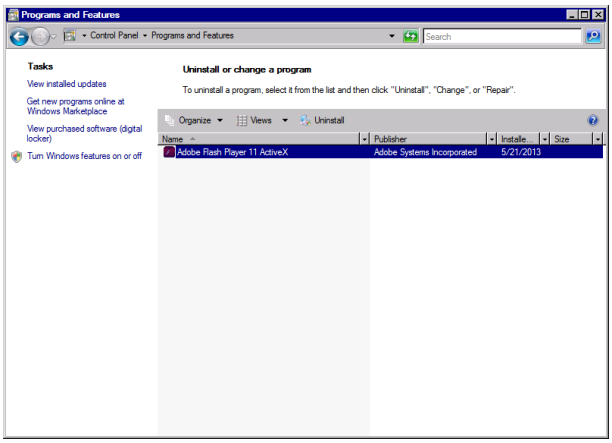
(2)

Select (DC) [Programs and Features].



(3)

Select [Adobe Flash Player 11 ActiveX], and then select (CL) [Uninstall].
If there is no [Adobe Flash Player 11 ActiveX] in the list, go to 4-3-2.

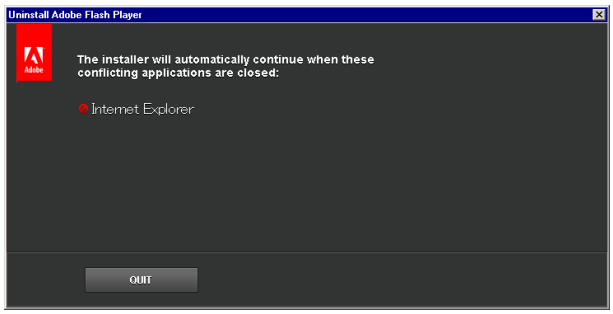


Copyright © 2014, Hitachi, Ltd.

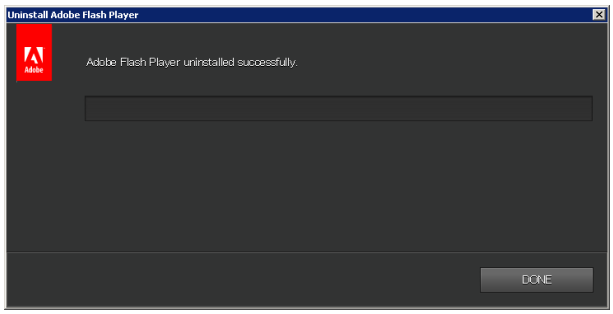
(4) Starting uninstallation
Select (CL) [UNINSTALL].



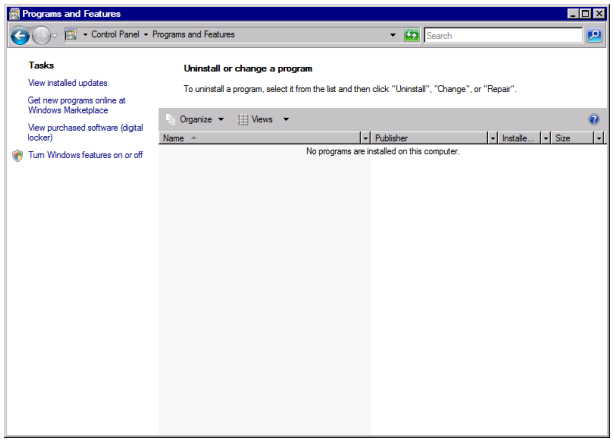
(5) Finishing application
If some applications were using Flash Player, the application name is displayed. Please finish the applications.



(6) Finishing uninstallation
Select (CL) [DONE].



(7)
The [Adobe Flash Player 11 ActiveX] is deleted from the 'Programs and Features' window.
Close the window by selecting (CL) the [×] button.



Copyright © 2014, Hitachi, Ltd.

4-3-2 <Starting Installation>

① Insert a micro program media in the CD-ROM drive of Maintenance PC and wait for one minutes or so.

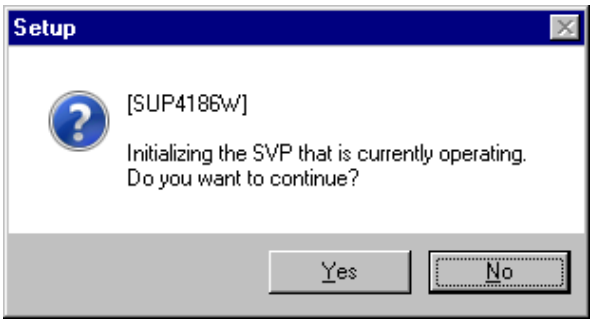
② Select (DR) [All Programs]-[Accessories]-[Run] from [Start] menu on SVP. Enter "\\tsclient\E\setup.exe" and select (CL) the [OK] button.

NOTE1: Select the drive which inserted a CD-R in ②.

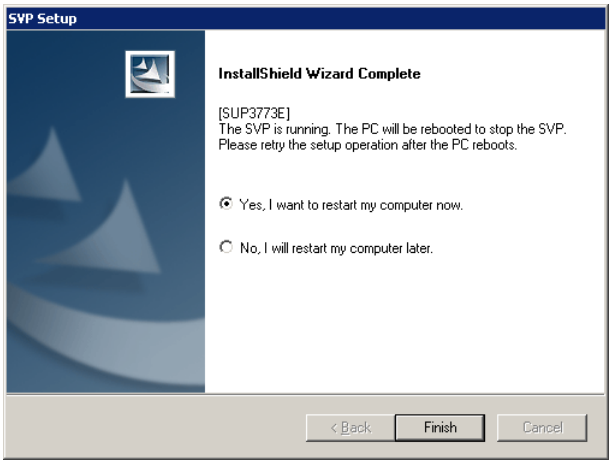
"\\tsclient\E\setup.exe"

- Input the drive name of the CD-ROM drive of Maintenance PC.
- Indicate Maintenance PC. (This spelling is inputted.)

NOTE2: When the SVP is running, the message "Initializing the SVP that is currently operating. Do you want to continue?" is displayed. Select (CL) [Yes].



The window to reboot the SVP is displayed. Select (CL) [Finish] after check "Yes" in radio buttons. After waiting for about five minutes, install the microprogram again from 4-3-2 ② after rebooting the SVP. Refer to "4-1 Connecting the Maintenance PC" (INST03-12-150). Please use "Preinstalled User" to connect with SVP.



"The publisher could not be verified. Are you sure you want to run this software?" is displayed. Select (CL) [Yes].



Copyright © 2014, Hitachi, Ltd.

4-4 <Using another media>

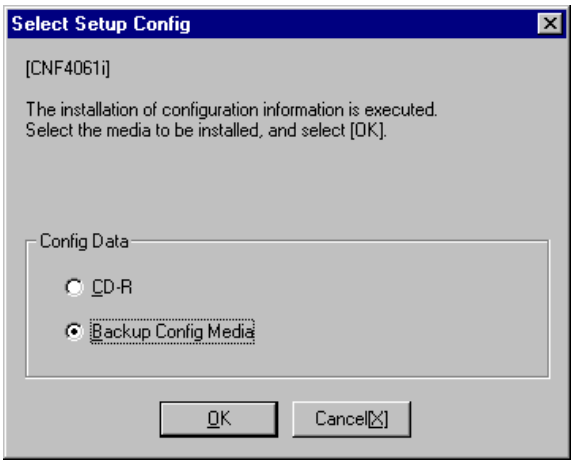
4-4-1 <Installing the Configuration Information>

(1)

Prepare the Config media which did backup.

(2)

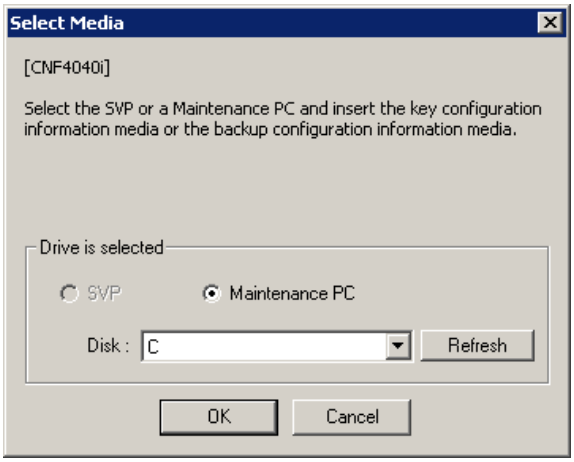
Select (CL) [Backup Config Media] in the 'Select Setup Config' window and select (CL) the [OK] button.



(3)

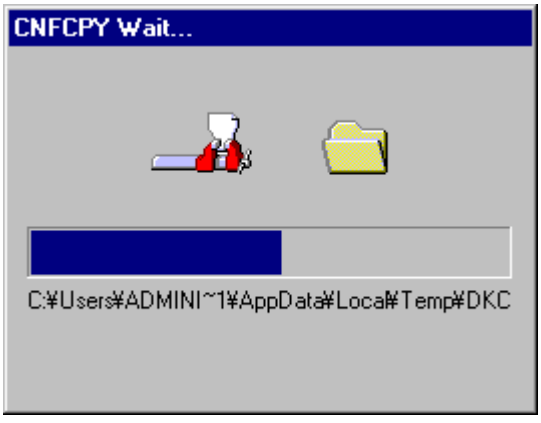
Select the drive which insert the Backup Config Media (prepared with Step (1)), and select (CL) the [OK] button.

Select (CL) [Refresh] button, Disk is updated to the latest information.



(4)

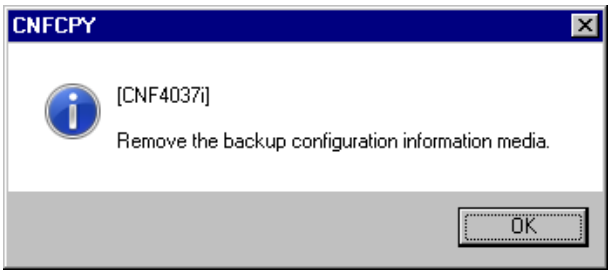
Perform copy processing of the configuration information from the Backup Config Media to the SVP.
The 'CNFCPY Wait...' window is displayed during this time.



Copyright © 2014, Hitachi, Ltd.

(5)

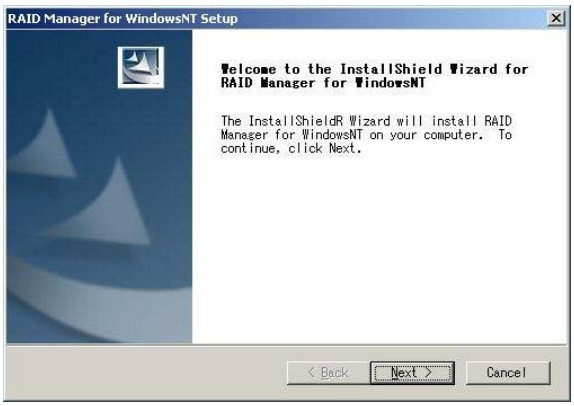
Select (CL) the [OK] button after removing the configuration information media.



4-4-2 <Installing the RAID Manager>

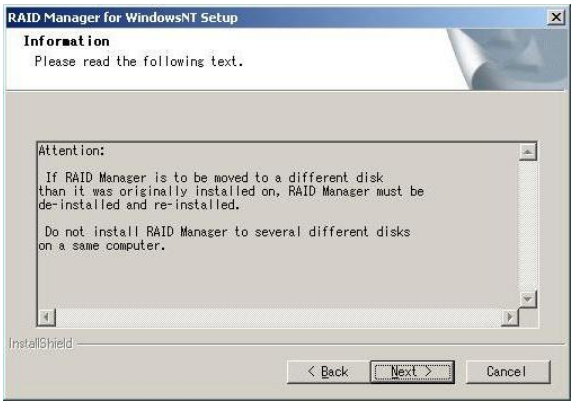
(1)

Select (CL) [Next>].



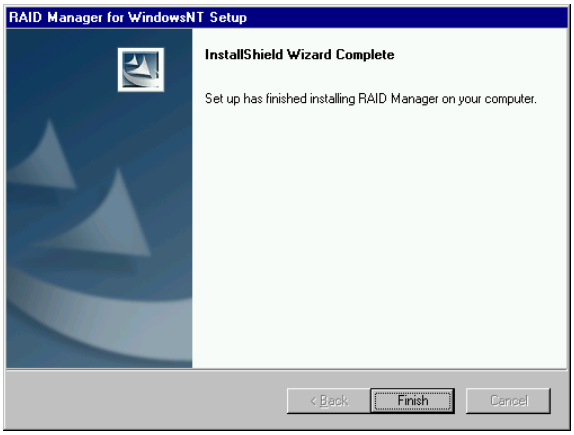
(2)

Select (CL) [Next>].



(3)

Select (CL) [Finish].



Copyright © 2014, Hitachi, Ltd.

4-4-3 <Installing the OSS media>

(1)

When the message of “Insert the second CD-R.” is displayed, replace it to the second media. Select (CL) [OK] after the replacement.



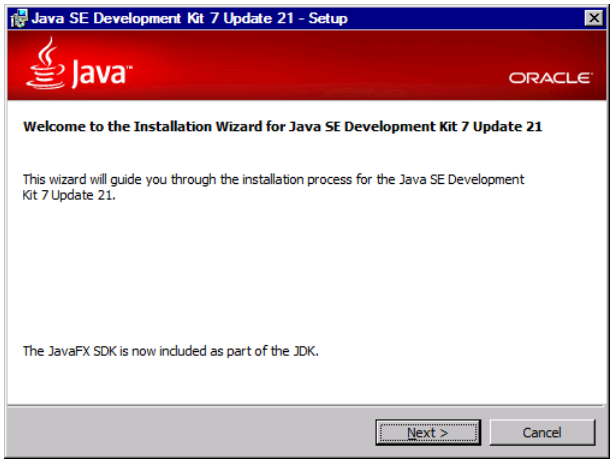
Copyright © 2014, Hitachi, Ltd.

4-5 Setting Up of JAVA

Perform setting up operation of Java.
When JAVA has already been installed, go to Section 4-6.

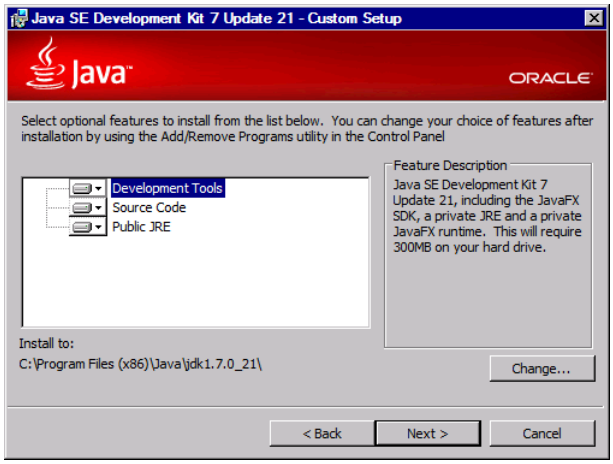
(1)

Select (CL) [Next>].



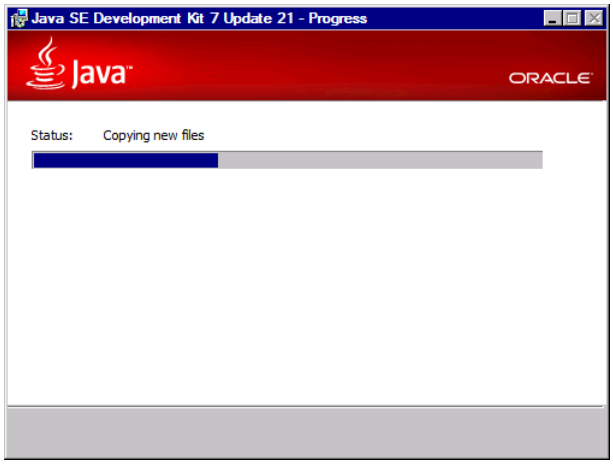
(2)

Select (CL) [Next>].



(3)

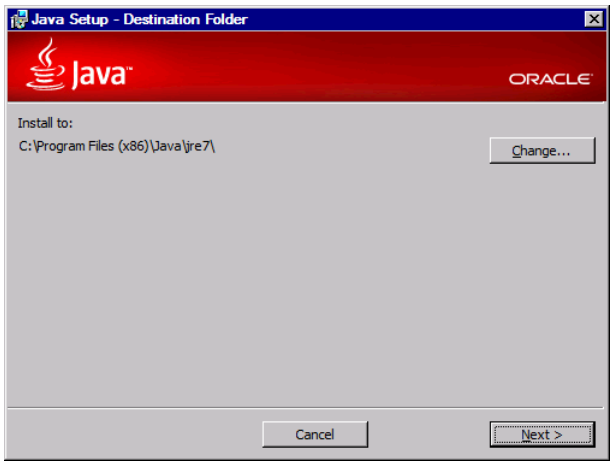
Copying of the file is started.



Copyright © 2014, Hitachi, Ltd.

(4)

Select (CL) [Next>].



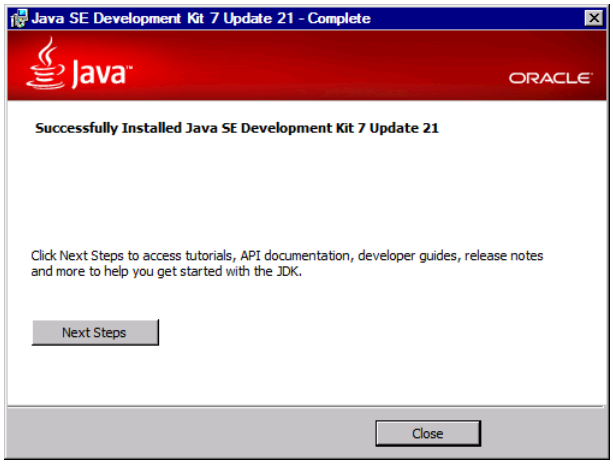
(5)

Installation is started.



(6)

Select (CL) [Close].
If [Register your JDK] window opens, close it.



Copyright © 2014, Hitachi, Ltd.

(7)

When the window to require rebooting the system is displayed, select (CL) [No].
When this window is not displayed, go to 4-6.

NOTE: Do not select [Yes]. If you do, it may cause a SVP failure.

NOTE: Do not logout or shutdown SVP until SVP is rebooted in 4-10.
If you do, it may cause a SVP failure.

4-6 The Setting of Apache SSL communication

The things of default are set in the key creation for SSL communication and the certificate file.
When you install an SSL communication key and a certificate file responding to the customer's request, see "Hitachi Command Suite User Guide" or "Hitachi Virtual Storage Platform G1000 Mainframe System Administrator Guide".
It advances to Step 4-7 when setting it by default.

Copyright © 2014, Hitachi, Ltd.

4-7 Setting Up of Perl

Perform setting up operation of Perl.
When Perl has already been installed, go to Section 4-8.

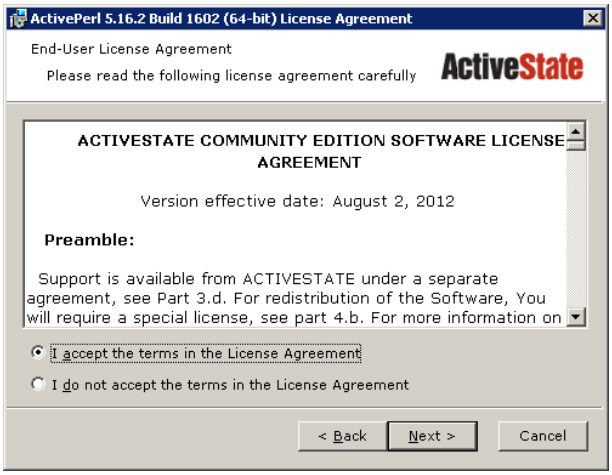
(1)

Select (CL) [Next>].



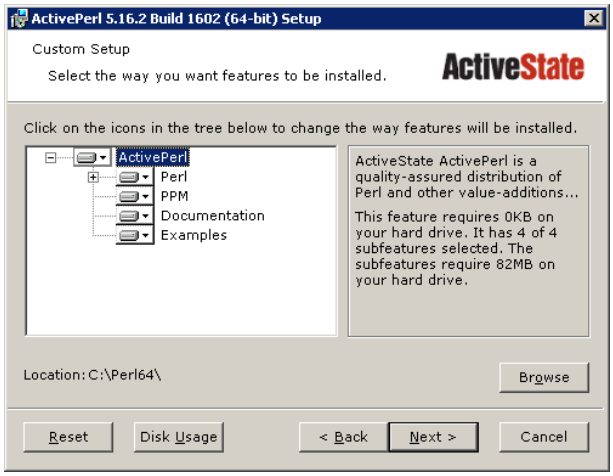
(2)

After selecting “I accept the terms in the License Agreement”, select (CL) [Next>].



(3)

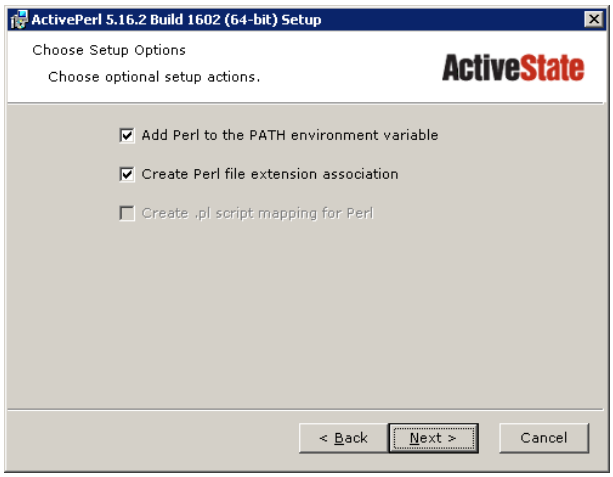
Select (CL) [Next>].



Copyright © 2014, Hitachi, Ltd.

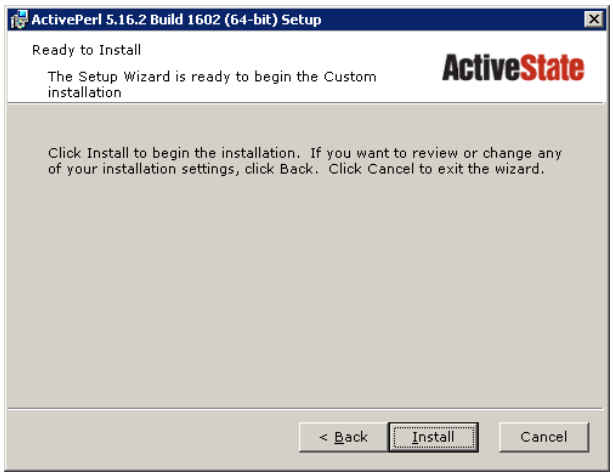
(4)

Select (CL) [Next>].



(5)

Select (CL) [Install].
Copying of the file is started.



(6)

When the copying of the file is completed, this window is displayed. Remove the check mark from the left side check box of the “Display the release notes” and select (CL) [Finish].



Copyright © 2014, Hitachi, Ltd.

4-8 Setting Up of Tomcat

Perform setting up operation of Tomcat.
When Tomcat has already been installed, go to 4-9.

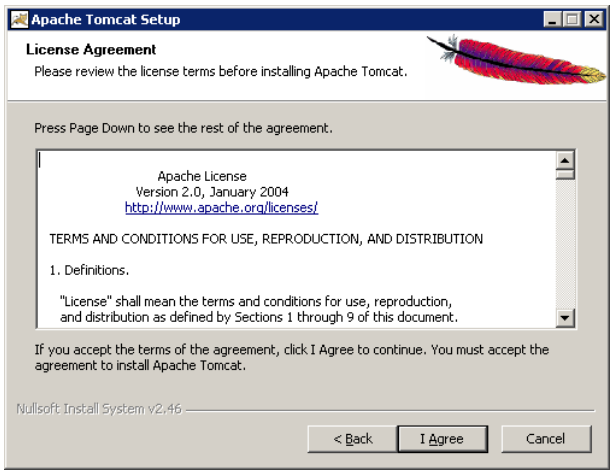
(1)

Select (CL) [Next>].



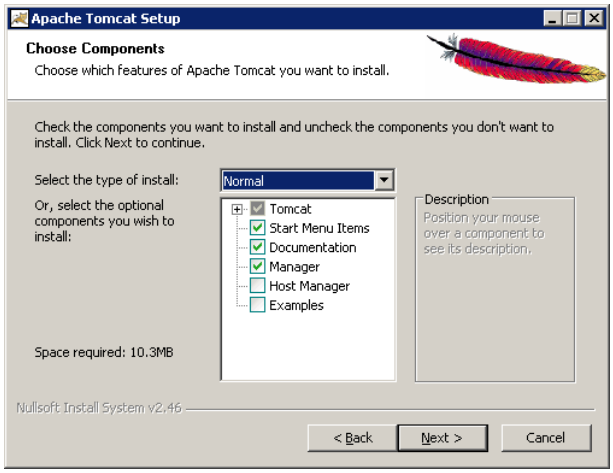
(2)

Select (CL) [I Agree].



(3)

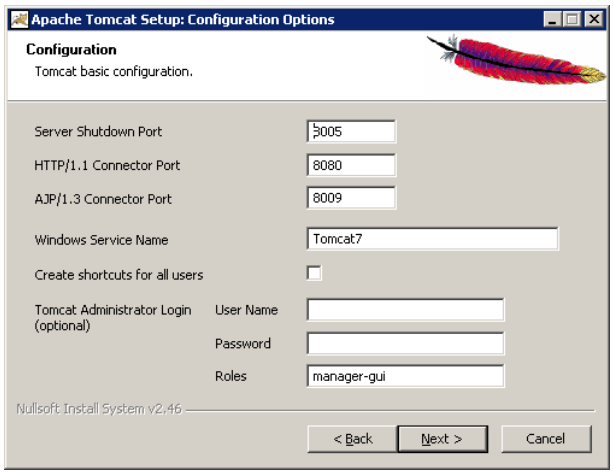
Select (CL) [Next>].



Copyright © 2014, Hitachi, Ltd.

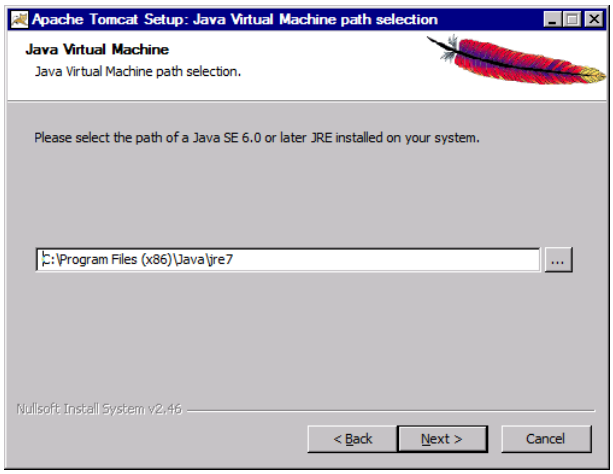
(4)

Select (CL) [Next>].



(5)

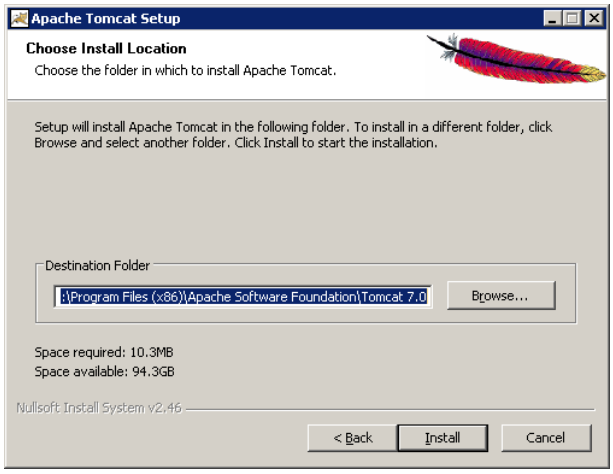
Select (CL) [Next>].



(6)

Select (CL) [Install].

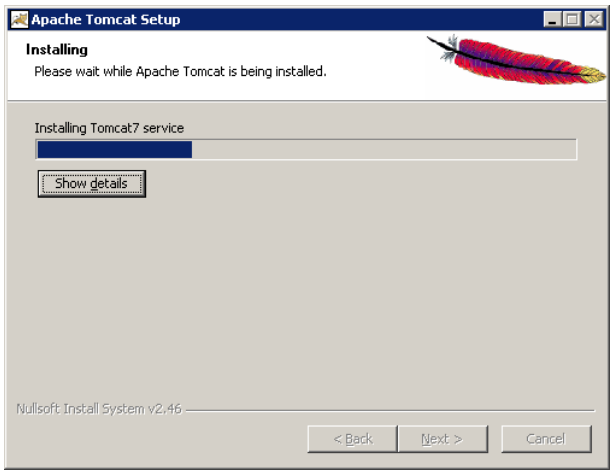
If the message, “The specified installation directory is not empty. Do you wish to continue?” is displayed, select (CL) [OK].



Copyright © 2014, Hitachi, Ltd.

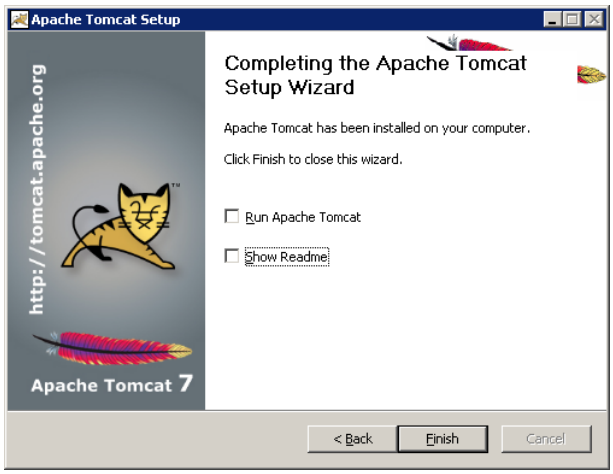
(7)

Wait while installing.



(8)

Uncheck all the checkboxes, and select (CL) [Finish].



Copyright © 2014, Hitachi, Ltd.

4-9 Setting Up of Flash Player

Perform setting up operation of Flash Player.
When Flash Player has already been installed, go to Section 4-10.

(1) Starting installation

Select (CL) [I have read and agree to the terms of the Flash Player License Agreement.], and select (CL) [INSTALL].



(2) Finishing installation

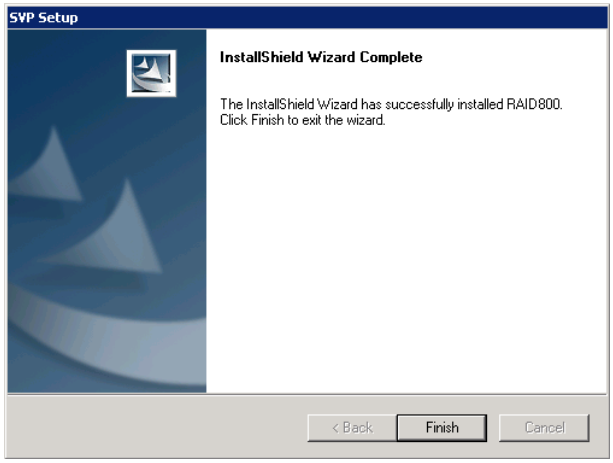
After installation is finished, select (CL) [Never check for updates (not recommended)], and select (CL) [DONE].



4-10<Rebooting the SVP>

When the setting up is completed, remove the CD-ROM and select (CL) [Finish].
The SVP automatically restarts. When it reboots, the connection between the Maintenance PC and the Additional SVP is cut off. Wait for about five minutes, and then reconnect the Maintenance PC to the Additional SVP.

[Connected to]
The Additional SVP 126.255.254.15



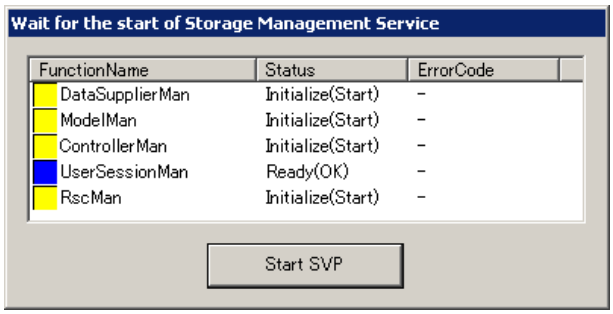
Copyright © 2014, Hitachi, Ltd.

4-11 <Setting an IP Address and Duplication of Additional SVP>

(1) <Starting SVP program>

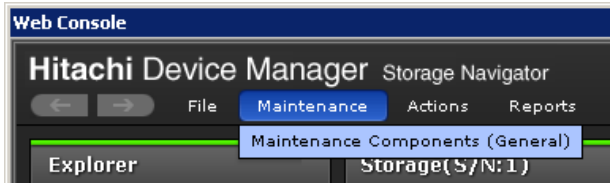
<When Web Console isn't working>

Select (CL) [Start SVP].



<When Web Console is working>

Select (CL) [Maintenance]-[Maintenance Components (General)].

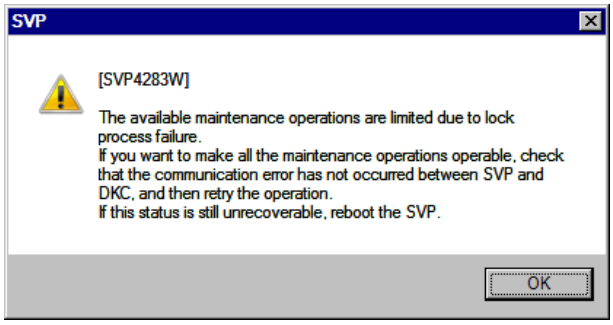


---

(2) <Mode change>

Select (CL) the [View Mode] of SVP main screen. When it becomes [Modify Mode (Unlocked)] and the next message is displayed, select (CL) the [OK] button and go to Step (3).

"The available maintenance operations are limited due to lock process failure. If you want to make all the maintenance operations operable, check that the communication error has not occurred between SVP and DKC, and then retry the operation. If this status is still unrecoverable, reboot the SVP.".



Select (CL) the [View Mode] of the SVP main screen. When it becomes to [Modify Mode] from [View Mode] too, select (CL) the [OK] button and go to Step (3).

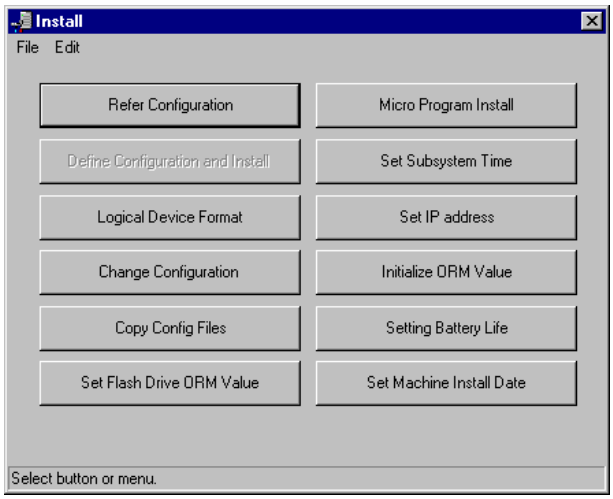
---

(3) <Opening the Install window>

Select (CL) [Install] from the [SVP] menu.

Copyright © 2014, Hitachi, Ltd.

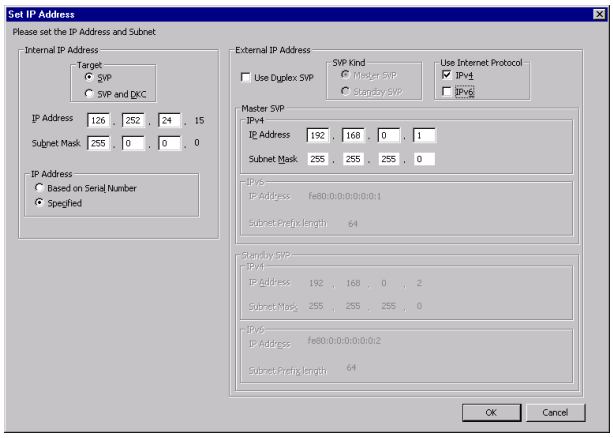
(4) <Selecting [Set SVP IP Address]>
Select (CL) [Set IP Address] in the 'Install' window.



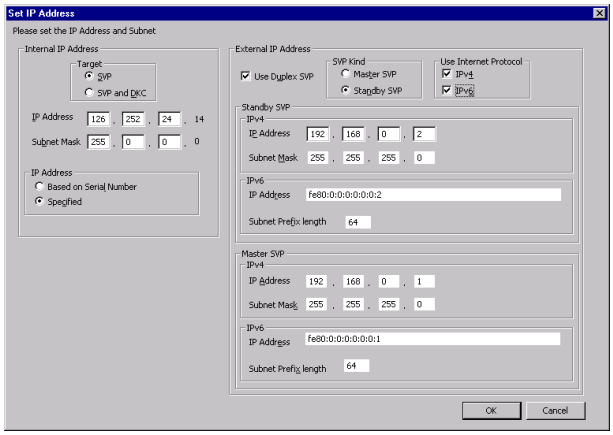
NOTE: Although it may be an error display if the Web Server Status window is displayed before the IP address setting work of SVP is completed, there is no problem because it is the one by the process of the SVP replacement.

Copyright © 2014, Hitachi, Ltd.

(5) <Verifying an IP address>
Select (CL) [SVP] in the Internal IP Address, and check if the IP Address and the Subnet Mask of the Internal IP Address are setup correctly.



(6) <Setting the SVP duplication>
(a) Check (CL) [Use Duplex SVP] in the External IP address box.
(b) Select (CL) [Standby SVP] in the SVP Kind box.
(c) Enter the IP addresses and subnet masks of the Master and Standby SVPs, and then select (CL) [OK].

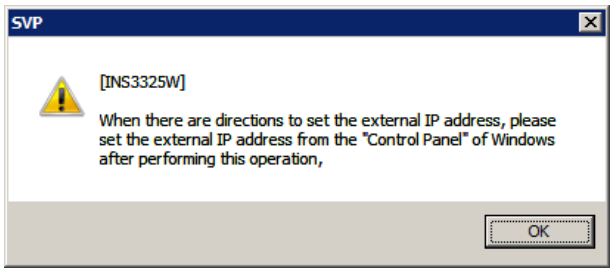


NOTE: You do not have to enter the information of Item (c) above when the setting of the external IP address is not required.
Go to Step (8).

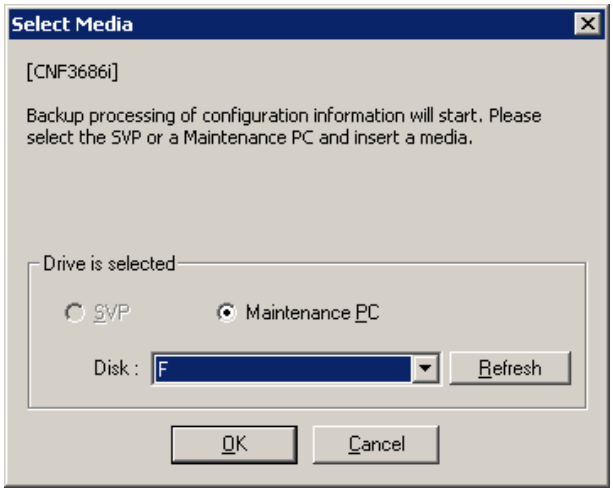
NOTE: When the Service Processor is installed, information transmission to Standby SVP is performed once per a day. The Standby SVP reboots for the application after the information transfer. Even if a Standby SVP does not have setting of periodical reboot, Standby SVP reboots. For example, Standby SVP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

Copyright © 2014, Hitachi, Ltd.

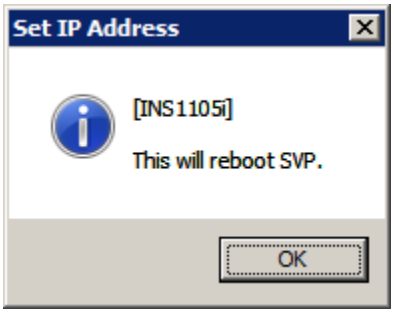
(7) <Confirming the external IP address setting>
When a message, “When there are directions to set the external IP address, please set the external IP address from the “Control Panel” of Windows after performing this operation,” is displayed, select (CL) the [OK] button.



(8) <Inserting the media containing the configuration information>
Select (CL) the [Cancel] button.



(9) <Confirming rebooting of the SVP>
Select (CL) [OK] in response to a message, “This will reboot SVP.”



When the setting up is completed, the SVP reboots automatically. When it reboots, the connection between the Maintenance PC and the Additional SVP is cut off. Wait for about five minutes, and then reconnect the Maintenance PC to the Additional SVP.

[Connected to]
The IP Address xxx.xxx.xxx.14 which is setup in the Additional SVP by Step 4-11 (5) in the storage system concerned.

NOTE: When the IP address of the Maintenance PC is changed in “4-1 Connecting the Maintenance PC”, return the IP address of the Maintenance PC to xxx.xxx.xxx.13, and then connect it to SVP.

Copyright © 2014, Hitachi, Ltd.

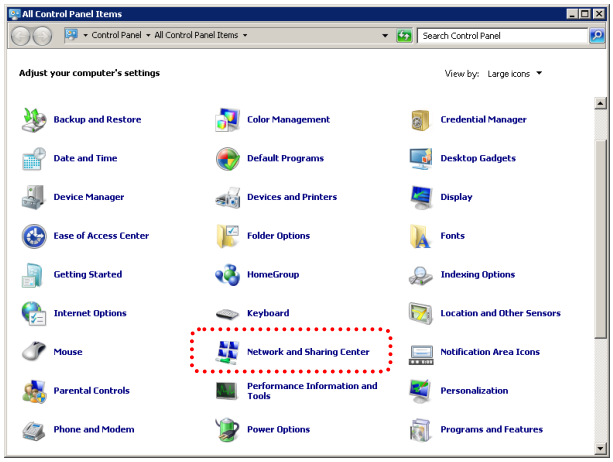
4-12 <Setting an external IP address>

When the setting of the external IP address is not required, go to Step 5.

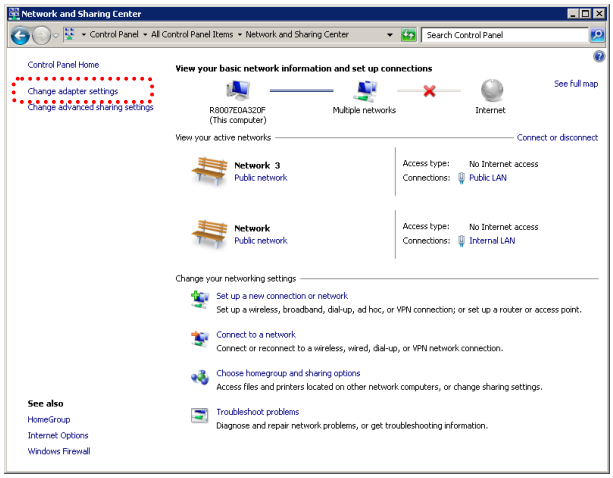
(1)

(a) <Opening the Control Panel window>
Select (DR) [Control Panel] from the [Start] menu.

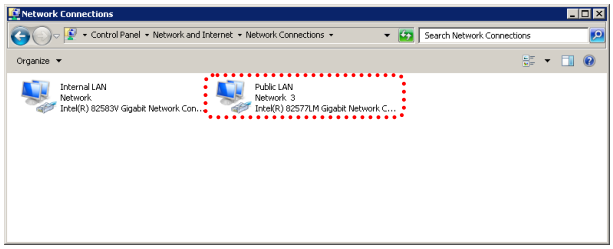
(b) <Opening the Network and Sharing Center window>
Select (CL) [Network and Sharing Center] in the 'Control Panel' window.



(c) <Opening the Network Connections window>
Select (CL) [Change adapter settings] in the 'Network and Sharing Center' window.



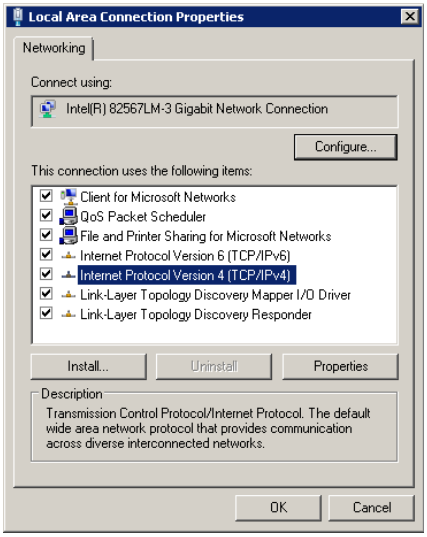
(d) <Opening the Public LAN Properties window>
Select (CL) [Public LAN] in the 'Network Connections' window and select (CL) [Properties] by clicking the right mouse button.



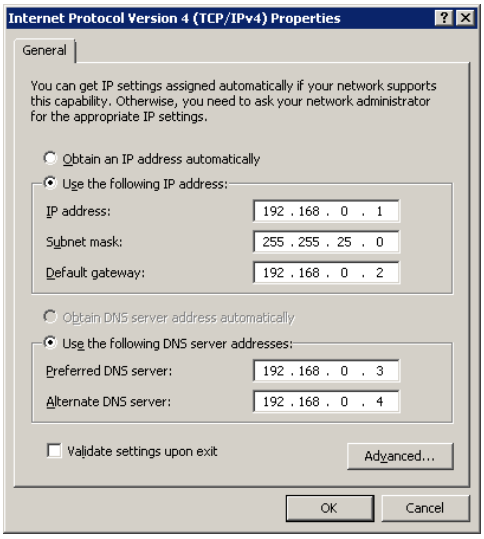
Copyright © 2014, Hitachi, Ltd.

(e)

Select (CL) [Internet Protocol Version 4 (TCP/IPv4)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.

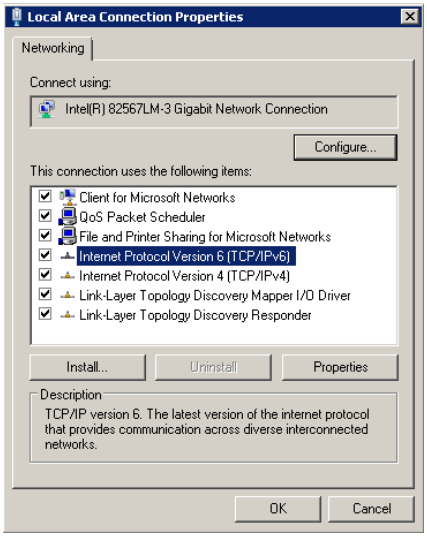


(f) <Setting the external IP address>
Set the "IP address", "Subnet mask", "Default gateway", "Preferred DNS server" and "Alternate DNS server" and select (CL) the [OK] button.
When you do not set IPv6, go to Step (i).



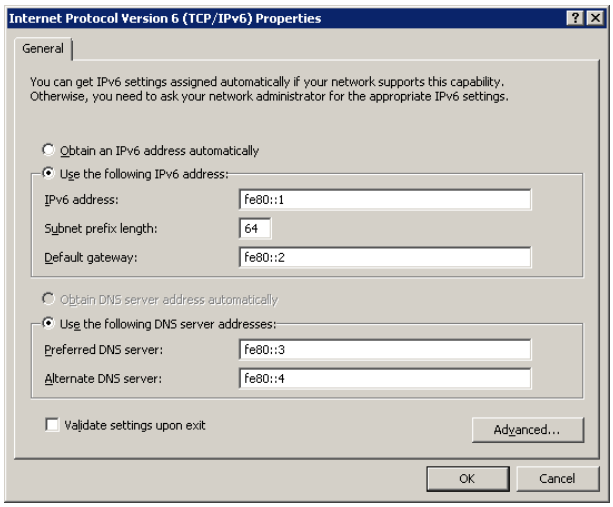
(g)

Select (CL) [Internet Protocol Version 6 (TCP/IPv6)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.



Copyright © 2014, Hitachi, Ltd.

(h) <Setting the external IP address>
Set the “IPv6 address”, “Subnet prefix length”, “Default gateway”, “Preferred DNS server”, “Alternate DNS server” and select (CL) the [OK] button.



(i)
After the setting is completed, select (CL) the [OK] button in the “Local Area Connection Properties” window.
Close the ‘Network Connections’ window.

4-13<Setting Web Console>
Make a setting of the WEB CONSOLE (WEB CONSOLE SECTION “1. Before using Web Console ”). (WEB01-10)

4-14<Erasing logs>
Erase all logs that were made during operation of the SVP. (SVP02-03-10)

Copyright © 2014, Hitachi, Ltd.

5. Operating the Basic SVP
Operate the basic SVP as follows.

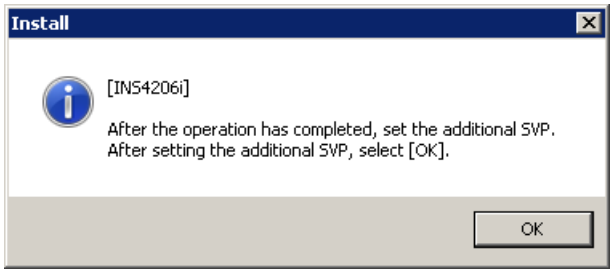
5-1 Connecting the Maintenance PC
Connect the Maintenance PC to the Basic SVP.

The login user is different by the presence of the microprogram.

[Connected to]
The Basic SVP xxx.xxx.xxx.15 in the storage system concerned

5-2

(1) <Operation of SVP installation>
Select (CL) [OK] button, in response to "After the operation has completed, set the additional SVP. After setting the additional SVP, select [OK]."



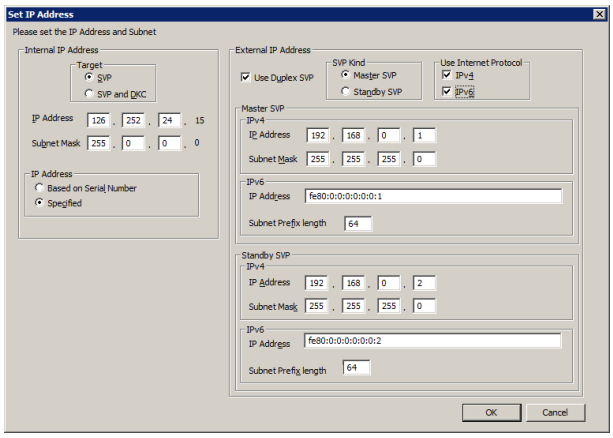
Copyright © 2014, Hitachi, Ltd.

(2) <Setting the SVP duplication>

(a) Check (CL) [Use Duplex SVP] in the External IP Address box.

(b) Select (CL) [Master SVP] in the SVP Kind box.

(c) Enter the IP addresses and subnet masks of the Master and Standby SVPs, and then select (CL) [OK].

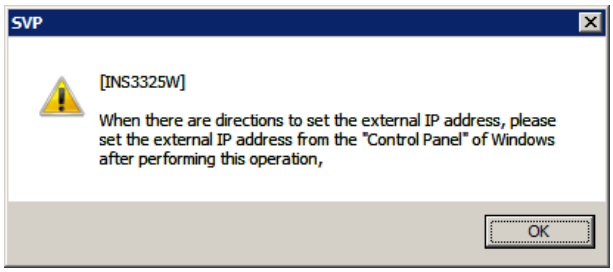


*1: You do not have to enter the information of Item (c) above when the setting of the external IP address is not required. Go to Step (4).

---

(3) <Confirming the external IP address setting>

When a message, “When there are directions to set the external IP address, please set the external IP address from the “Control Panel” of Windows after performing this operation,” is displayed, select (CL) the [OK] button.



---

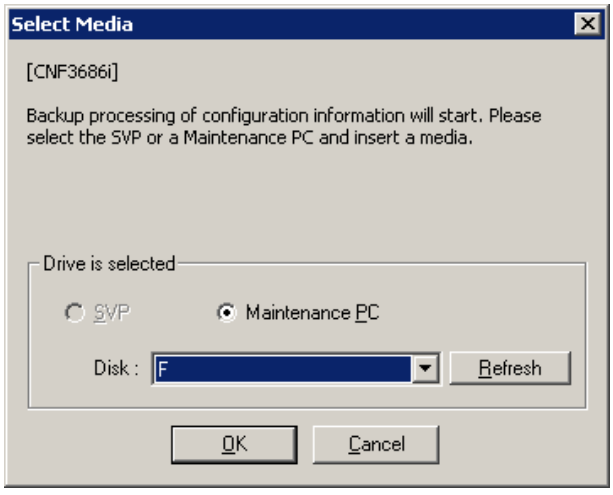
(4) <Inserting the media containing the configuration information>

Execute an operation for backing up the configuration information.

Prepare the removable media for backup and insert the media.

Please select (CL) the [Refresh] button, and update drive information.

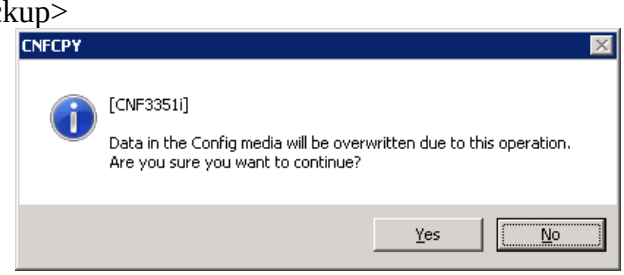
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.



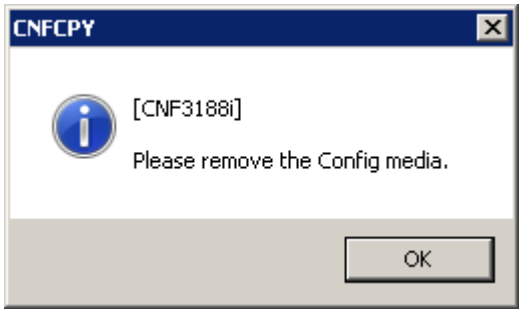
NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.

Copyright © 2014, Hitachi, Ltd.

(5) <Confirming the configuration information backup>
When you want to continue the process, select (CL) the [Yes] button.
When the backup to the Config media is not necessary, select (CL) the [No] button.



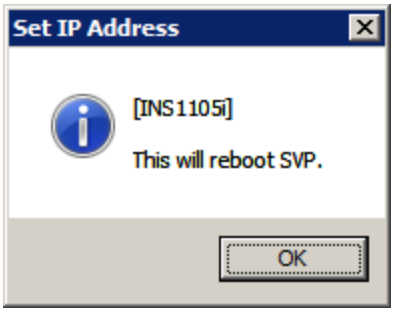
(6) <Taking out the Config media>
When this procedure is completed, the message "Please remove the Config media." is displayed.
Remove the configuration information media, select (CL) [OK].



(7) <Confirming rebooting of the SVP>
Select (CL) [OK].

When the SVP reboots, the connection between the Maintenance PC and the Basic SVP is cut off. Wait for about five minutes, and then reconnect the Maintenance PC to the Basic SVP.

[Connected to]
The Basic SVP xxx.xxx.xxx.15 in the storage system concerned



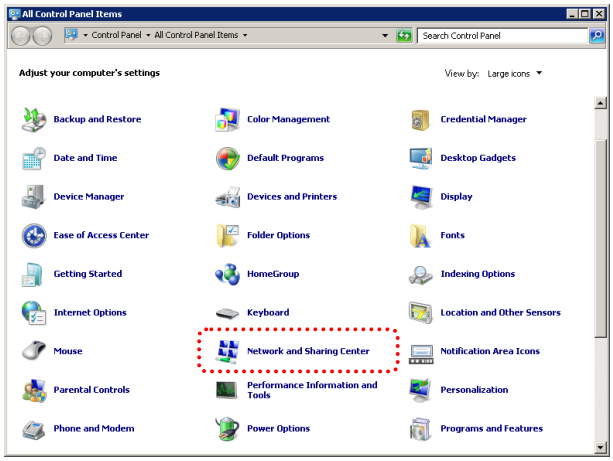
Copyright © 2014, Hitachi, Ltd.

5-3 <Setting an external IP address>
When the setting of the external IP address is not required, go to Step 6.

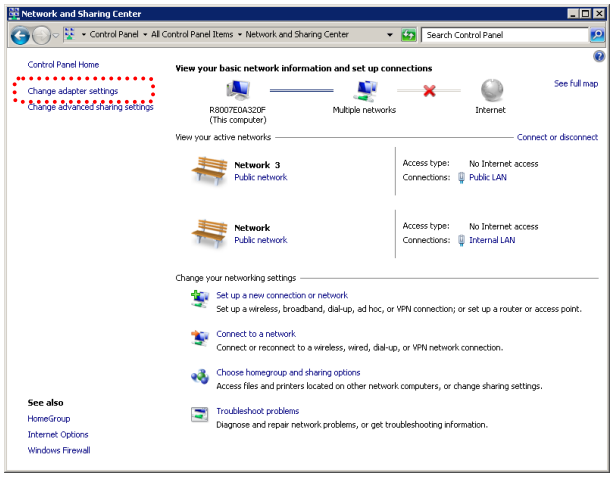
(1)

(a) <Opening the Control Panel window>
Select (DR) [Control Panel] from the [Start] menu.

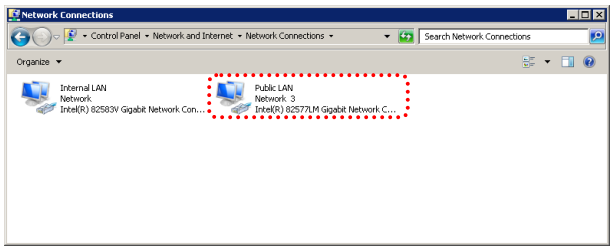
(b) <Opening the Network and Sharing Center window>
Select (CL) [Network and Sharing Center] in the 'Control Panel' window.



(c) <Opening the Network connections window>
Select (CL) [Change adapter settings] in the 'Network and Sharing Center' window.



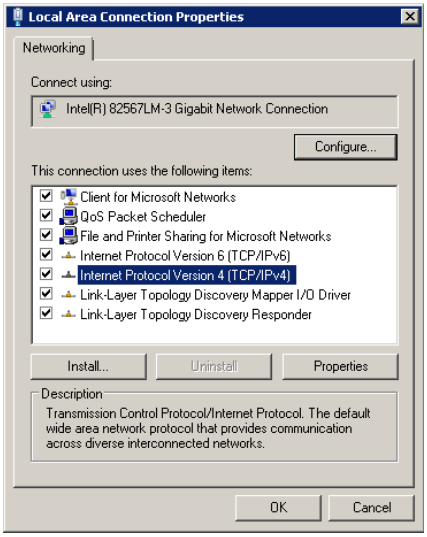
(d) <Opening the Public LAN Properties window>
Select (CL) [Public LAN] in the 'Network Connections' window and select (CL) [Properties] by clicking the right mouse button.
When you do not set IPv4, go to Step (g).



Copyright © 2014, Hitachi, Ltd.

(e)

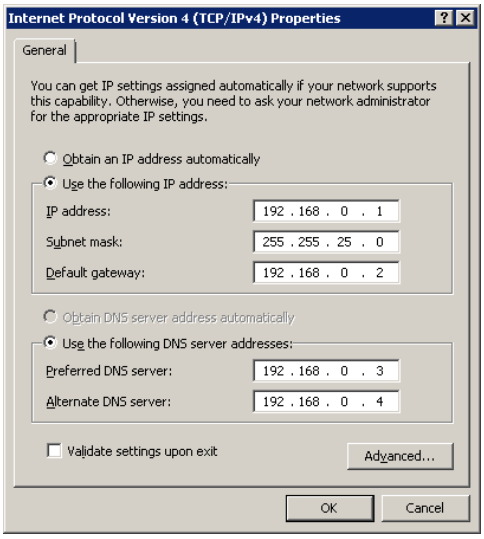
Select (CL) [Internet Protocol Version 4 (TCP/IPv4)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.



(f) <Setting the external IP address>

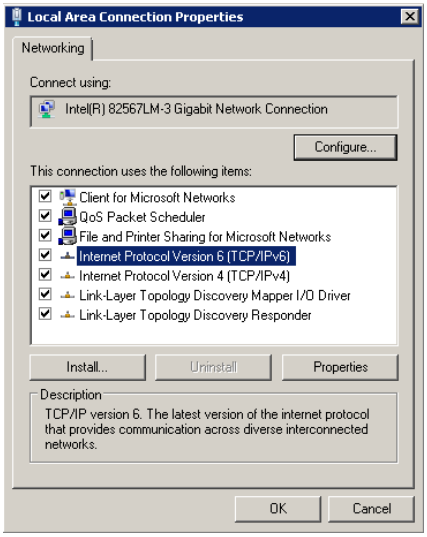
Set the "IP address", "Subnet mask", "Default gateway", "Preferred DNS server" and "Alternate DNS server" and select (CL) the [OK] button.

When you do not set IPv6, go to Step (i).



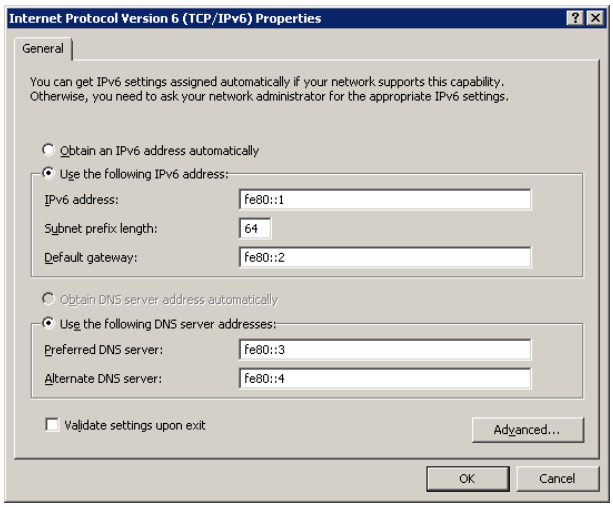
(g)

Select (CL) [Internet Protocol Version 6 (TCP/IPv6)] in the 'Local Area Connection Properties' window and select (CL) the [Properties] button.



Copyright © 2014, Hitachi, Ltd.

(h) <Setting the external IP address>
Set the “IPv6 address”, “Subnet prefix length”, “Default gateway”, “Preferred DNS server”, “Alternate DNS server” and select (CL) the [OK] button.



(i)
After the setting is completed, select (CL) the [Close] button(In case of no change of IP address, select (CL) [OK] button) in the “Public LAN Properties” window.
Close the ‘Network connections’ window.

Copyright © 2014, Hitachi, Ltd.

6. Executing SSVP Reset
   a. Loosen the screw, and remove the jumper cover from the DKCPANEL.

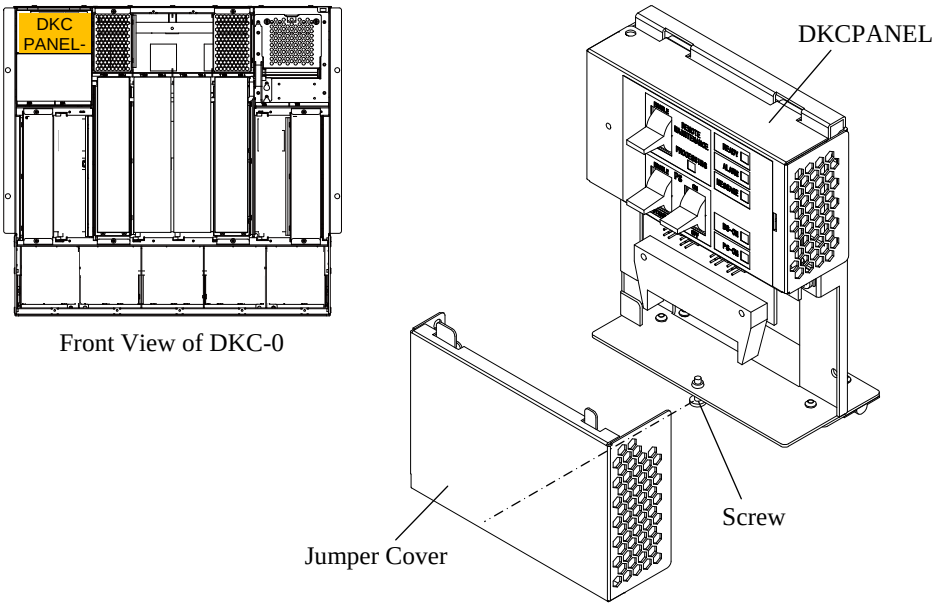


Fig. 3.12.1.1-5 Removal of Jumper Cover

   b. Insert the maintenance jumper into SSVP ALARM RESET jumper (JP3) on the DKCPANEL. And then, remove the maintenance jumper. Confirm that four SSVP STATUSLED of DKCPANEL turns on and turns off the light.
   c. Attach the jumper cover to the DKCPANEL, and tighten the screw.

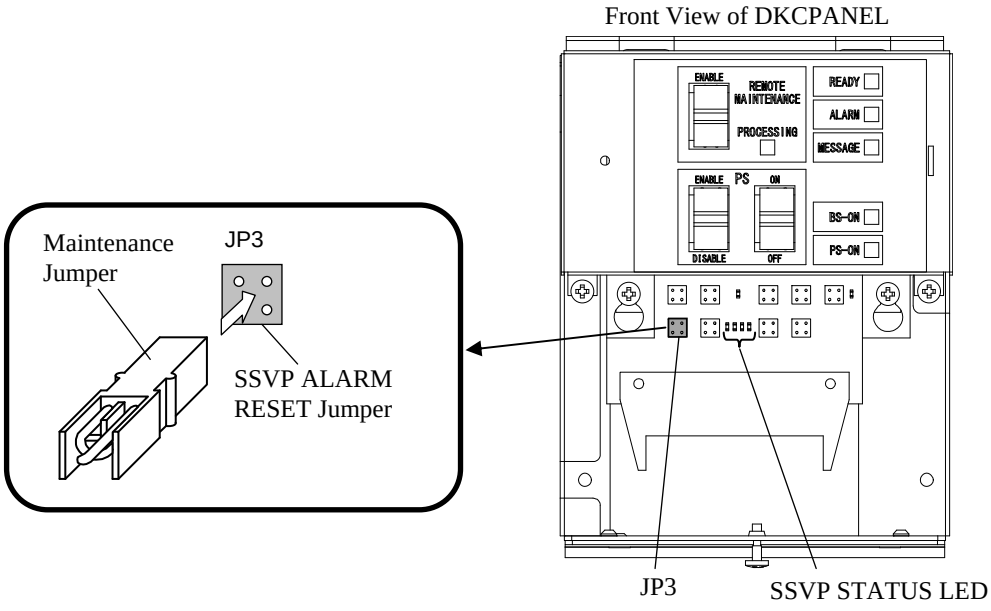


Fig. 3.12.1.1-6 Location of SSVP ALARM RESET Jumper

   d. Set the SVP RAS Switch #1 on the SVP-OPTION to OFF (upper position). (Refer to Fig. 3.12.1.1-3.)
   e. Loosen the screw and put the cover on the SVP back in place. Then, tighten the screw.

Copyright © 2014, Hitachi, Ltd.

3.12.1.2 Confirmation Procedure

1. Verifying the LED
   Make sure that statuses of LEDs on the SVP-BASIC and SVP-OPTION are those shown in the figure below in a lighting part.

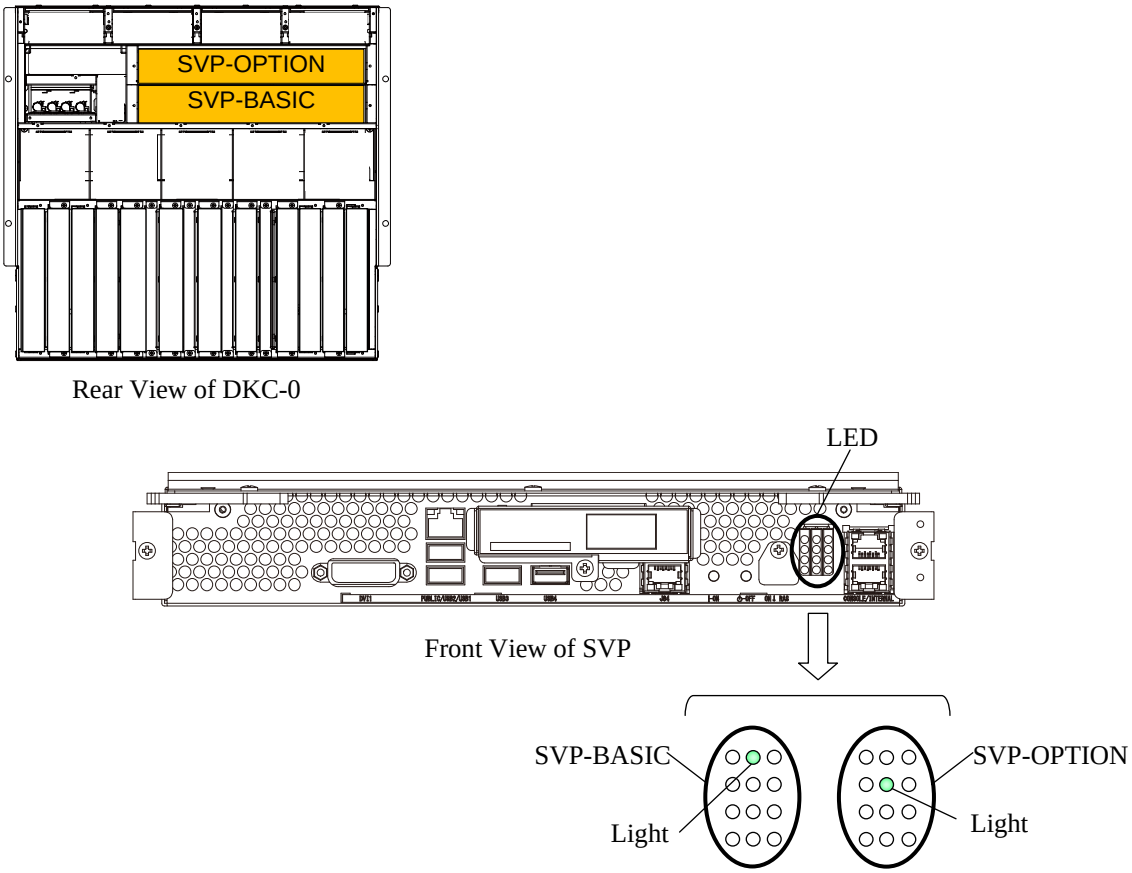


Fig. 3.12.1.2-1 Confirmation of LEDs

Copyright © 2014, Hitachi, Ltd.

2. Operating the Basic SVP

NOTE: This operation needs that Standby SVP is a [View mode].

(1) Connecting the Maintenance PC
Check if the Maintenance PC is connected to the Basic SVP.
If not connected, connect it.

[Connected to]
The Basic SVP xxx.xxx.xxx.15

---

(2) <Initial screen>

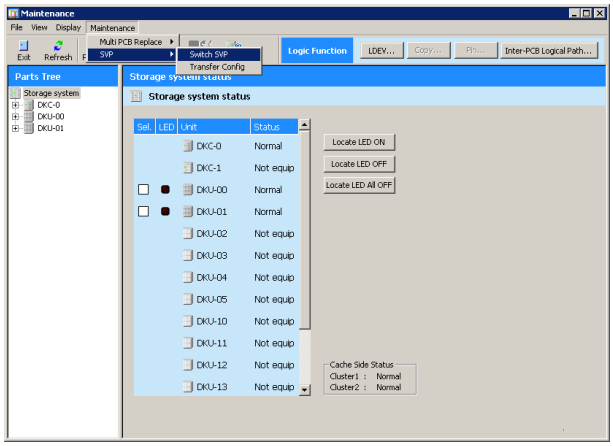
---

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

---

(4)

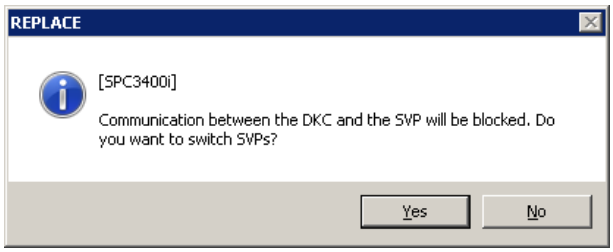
Select (CL) [Maintenance]-[SVP]-[Switch SVP] from the menu.



Copyright © 2014, Hitachi, Ltd.

(5) <Execution>
Execute switching.
Select (CL) [Yes].

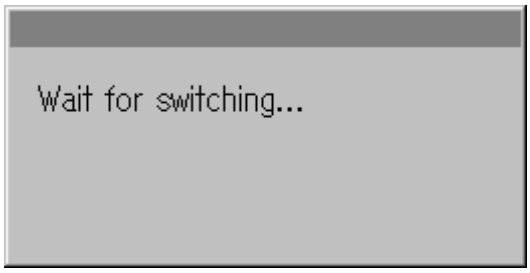
NOTE: Switching takes about 20 minutes.



(6) <Configuration Information Transfer>
The message “Transferring storage system configuration data...” is displayed.



(7) <SVP Switching Start>
The message “Wait for switching...” is displayed.
The Basic SVP and the Maintenance PC are disconnected for the SVP switching process.
Wait for about three minutes until the switching is completed.



Copyright © 2014, Hitachi, Ltd.

(8) Verifying the LED

Make sure that statuses of LEDs on the SVP-BASIC and SVP-OPTION are those as shown in the figure below in a lighting part.

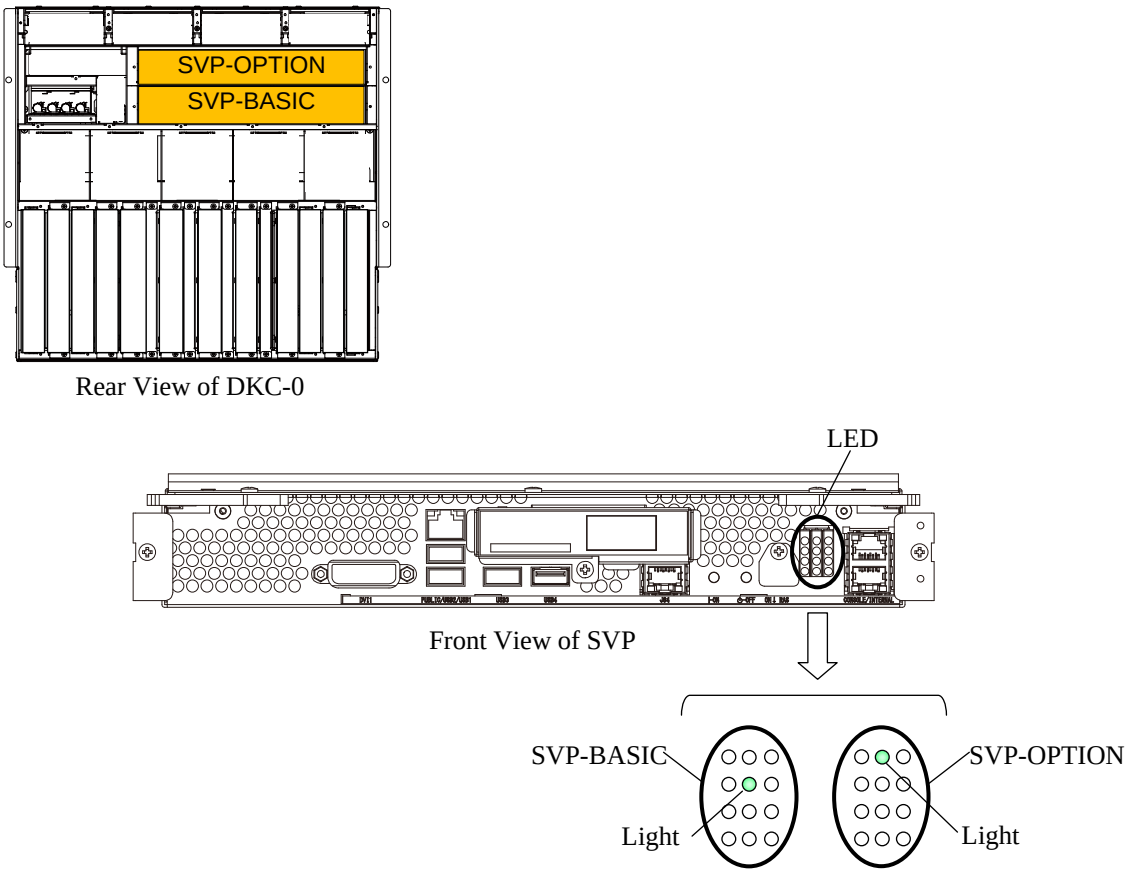


Fig. 3.12.1.2-2 Confirmation of LEDs

Copyright © 2014, Hitachi, Ltd.

3. Operating the Additional SVP

NOTE: This operation needs that Standby SVP is a [View mode].

(1) <Connection to the Additional SVP>
The Additional SVP restarts by the SVP switching indication from the Basic SVP.
Connect the Maintenance PC to the Additional SVP.

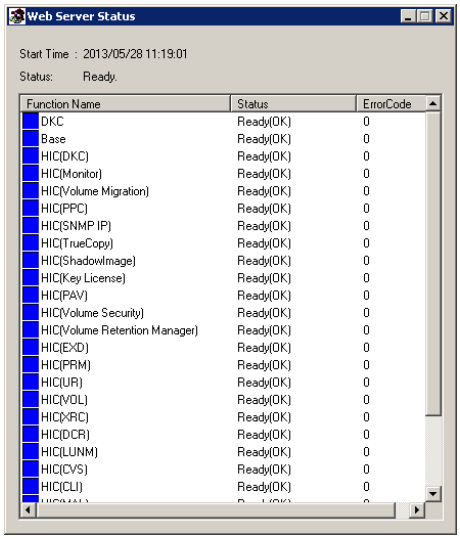
[Connected to]
The Additional SVP xxx.xxx.xxx.15

---

(2) <Initial Window>
Press the [Web Server Status] button.

---

(3) <Web Server Status Window>
Check if all function's Status displays Ready.
After confirmation, close Web Server Status screen.



---

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

Copyright © 2014, Hitachi, Ltd.

(5) <Maintenance window>
Make sure that the 'Maintenance' window is open normally.
Close 'Maintenance' window.

---

(6) <Web Console>
If Customer doesn't use Web Console/Storage Navigator via a customer PC, don't need to do the following confirmation work.
Please run Web Console/Storage Navigator from customer PC, and check whether you can login using by Customer user-id and password.

NOTE: The user-id and password are defined by customer. Therefore, entrust a customer with a login test.

If you can see the main screen of Web Console/Storage Navigator, the confirmation work is done.

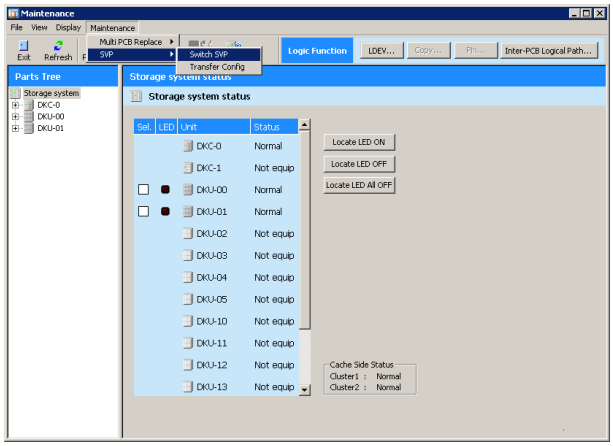
---

(7) <Select Maintenance>
Select (CL) [Maintenance].

---

(8)

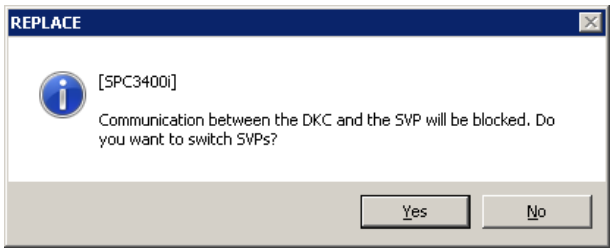
Select (CL) [Maintenance]-[SVP]-[Switch SVP] from the menu.



Copyright © 2014, Hitachi, Ltd.

(9) <Execution>
Execute switching.
Select (CL) [Yes].

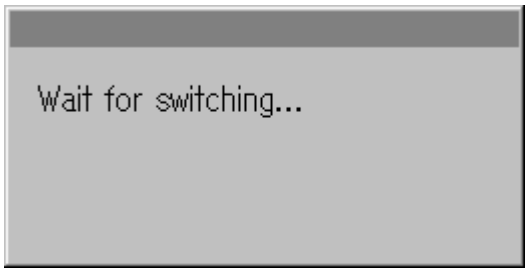
NOTE: Switching takes about 20 minutes.



(10) <Configuration Information Transfer>
The message “Transferring storage system configuration data...” is displayed.



(11) <SVP Switching Start>
The message “Wait for switching...” is displayed.
The Additional SVP and the Maintenance PC are disconnected for the SVP switching process.
Wait for about three minutes until the switching is completed.



Copyright © 2014, Hitachi, Ltd.

(12) Verifying the LED

Make sure that statuses of LEDs on the SVP-BASIC and SVP-OPTION are those shown in the figure below in a lighting part.

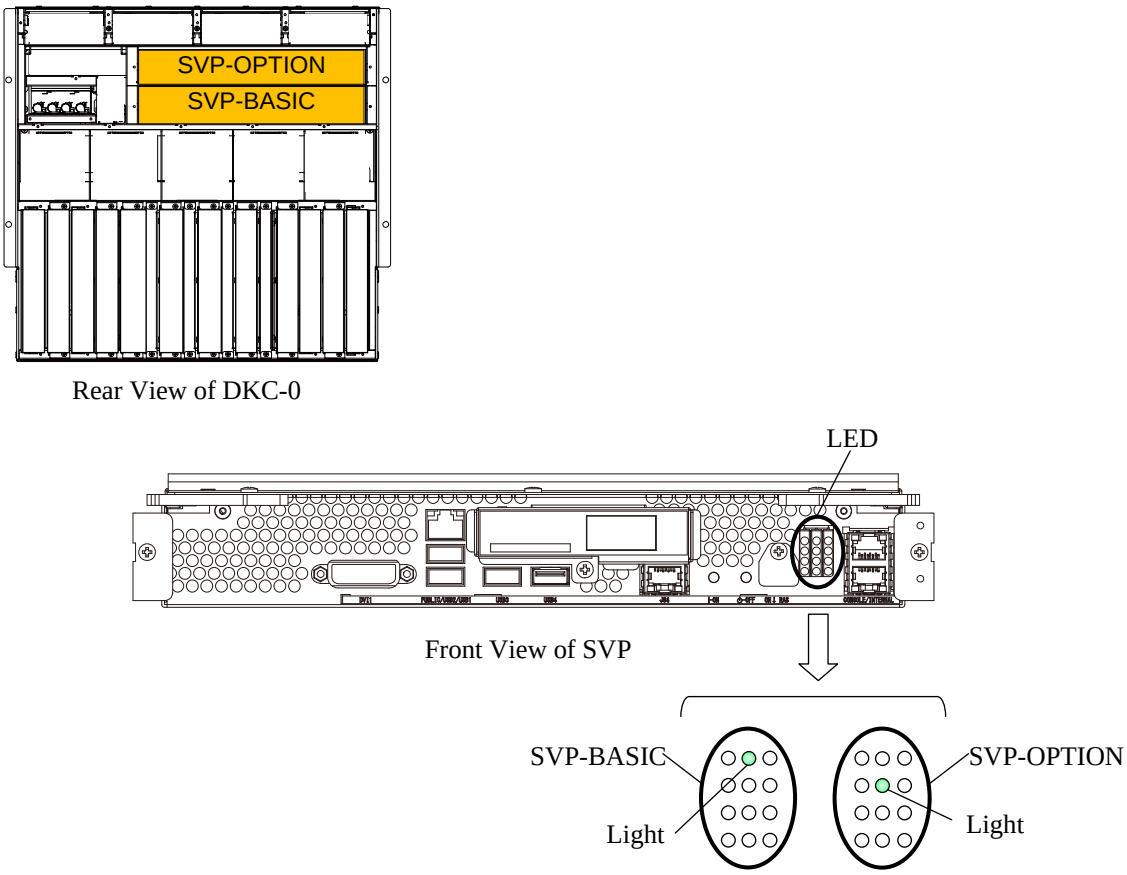


Fig. 3.12.1.2-3 Confirmation of LEDs

Copyright © 2014, Hitachi, Ltd.

4. Operating the Basic SVP

(1) Connecting the Maintenance PC

Connect the Maintenance PC to the Additional SVP.

[Connected to]
The Basic SVP xxx.xxx.xxx.15

---

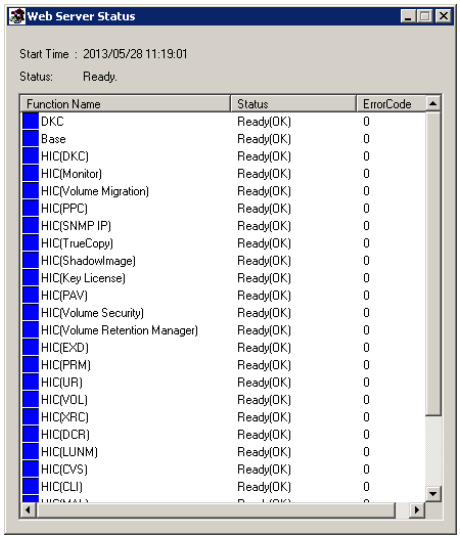
(2) <Initial Window>

Press the [Web Server Status] button.

---

(3) <Web Server Status Window>

If all function's Status displays Ready, switching is completed.



End of verification of the setting.

---

5. Return to the working table and do the rest of the work.

New Installation: INST02-20
Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.13 Installation of Filler Panel (DKC-F810I-FIHT)

Table 3.13-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-FIHT	Filler Panel	5545408-A	1	

Copyright © 2014, Hitachi, Ltd.

3.13.1 Installation Procedure of Filler Panel

1. Installation of filler panel
   a. Set the left side of the filler panel.
   b. Set the right side of the filler panel while pushing it to the left.

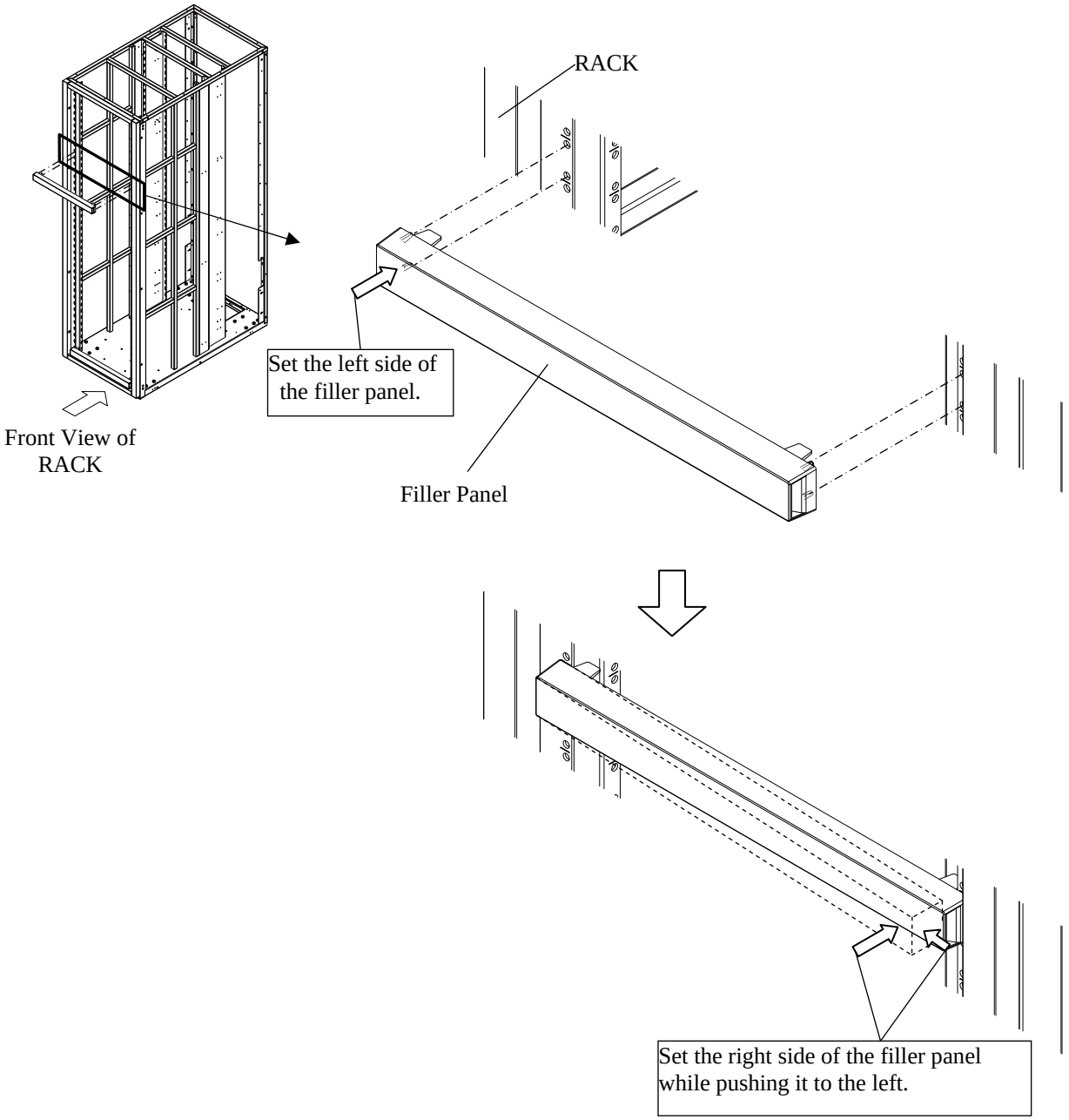


Fig. 3.13.1-1 Installation of Filler Panel

Copyright © 2014, Hitachi, Ltd.

2. Return to the working table and do the rest of the work.
   New Installation: INST02-20,
   Non-Disruptive Installation: INST02-50

Copyright © 2014, Hitachi, Ltd.

3.14 Power ON/OFF Procedure

NOTICE: When some control frames (DKCs) are installed in the Disk-less configuration, check the serial number of target DKC on the SVP screen and beware of a attachment position to prevent mistakes. (See “5.2.4 Refer Configuration 3. <DKC Configuration window>” (INST05-02-540).)

3.14.1 Power ON Procedure

NOTICE: Confirm that the PDUs are correctly connected to each power unit (DKCPS/DKUPS) before powering on the breakers on the PDUs in each rack frame. If the connection is not right, correct it.
This storage system has a duplex configuration for AC input by the PDU. Incorrect connection causes a system failure if a failure occurs in a facility power source, power distribution panel or PDU.

NOTICE: Do not remove the BKM from the storage system when the storage system has electricity and the BS-ON LED is lit (breakers ON and AC input has electricity). If you do so, the abnormality of the batteries may be detected as the batteries are being charged and have electricity during the BS-ON LED is lit.
If you power on the storage system when the abnormality of the batteries is detected in both the clusters, the storage system is prohibited from starting for a certain period of time (maximum 85 minutes) and the battery charging SIM = FE0000 is generated as cache data backup cannot be performed in the case of power outage.
If the battery charging SIM = FE0000 is generated, follow “3.12 Recovery procedure of SIM occurrence during battery charge (SIM = FE0000)” (TRBL03-12-10) and perform recovery operation.

1. Power ON Procedure of Storage system
   a. Turn on the main circuit breakers at the PDUs on the Rack frames.
      The equipment is in a standby mode when the PDU breaker is in a power-on state and the power of equipment is off, therefore the FANs of the DKC and the DKU continue to operate (*1). Execute this operation just before the power-on processing of the following procedure b when the standby electricity must be controlled, because the standby electricity (*2) exists in the equipment under this condition.

      *1: All the FANs of DKC and DKU continue to operate.
      *2: Refer to Table 3.14.1-1.

NOTICE: Turn on the breakers on all the PDUs that are connected to the DKC.
If any PDU is not turned on, the DKC may not become BS ON status.

Copyright © 2014, Hitachi, Ltd.

Table 3.14.1-1 Maximum Standby Electricity per Chassis

No.	Chassis	Maximum Standby Electricity [VA]
1	CBXA/CBXB (Controller Chassis)	500
2	SBX (SFF Drive Chassis)	1,120
3	UBX (LFF Drive Chassis)	720
4	FBX (FMD Chassis)	1,280

b. Turn the “POWER ON/OFF” switch to “ON”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position.

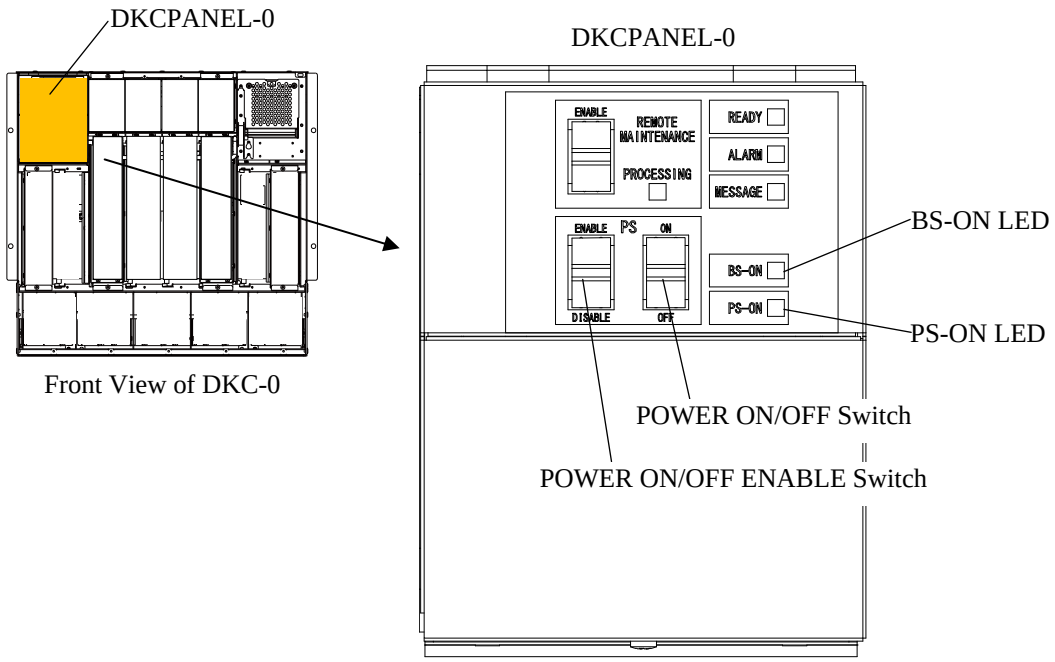


Fig. 3.14.1-1 Switch on DKCPANEL

Copyright © 2014, Hitachi, Ltd.

2. Power ON Procedure of additional Rack frame
   a. Turn on the circuit breakers at the PDUs on the additional Rack frame.

Copyright © 2014, Hitachi, Ltd.

3. Power ON Procedure of Storage system in Power-On State of PDU Breaker
   a. Turn the “POWER ON/OFF” switch to “ON”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position.

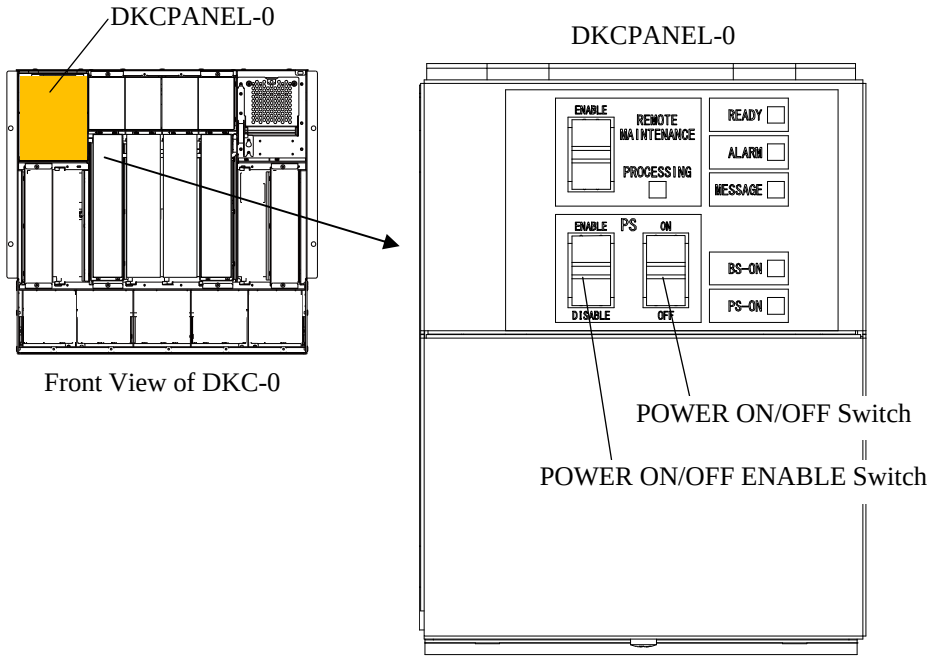


Fig. 3.14.1-2 Switch on DKCPANEL

Copyright © 2014, Hitachi, Ltd.

3.14.2 Power OFF Procedure

1. Power OFF Procedure of Storage system

NOTICE:	Please confirm that maintenance operations (except for configuration information setting) has been completed before powering OFF DKC. When turning the breaker off before or during a power-off operation, an emergency processing that transfers data to the SSD is performed with the battery. Make sure the power is completely turned off after executing the following procedures because the emergency processing drains the batteries and prolongs the next power-on time according to the remaining battery charge.

NOTICE:	Do not remove the BKM from the storage system when the storage system has electricity and the BS-ON LED is lit (breakers ON and AC input has electricity). If you do so, the abnormality of the batteries may be detected as the batteries are being charged and have electricity during the BS-ON LED is lit. If you power on the storage system when the abnormality of the batteries is detected in both the clusters, the storage system is prohibited from starting for a certain period of time (maximum 85 minutes) and the battery charging SIM = FE0000 is generated as cache data backup cannot be performed in the case of power outage. If the battery charging SIM = FE0000 is generated, follow “3.12 Recovery procedure of SIM occurrence during battery charge (SIM = FE0000)” (TRBL03-12-10) and perform recovery operation.

a. Turn the “POWER ON/OFF” switch to “OFF”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position. (Refer to Fig. 3.14.2-1.)

b. Procedure for checking the power OFF of Storage system
Perform all checks of the following (i) and (ii), and confirm the power OFF status of storage system.
Even if the equipment is in the state of the power-off, the FANs of the DKC and the DKU continue to operate (*1) because the equipment is in a standby mode. Execute the power-off processing of the PDU breaker as the following procedure d when the standby electricity must be controlled, because the standby electricity (*2) exists in the equipment under this condition.

*1: All the FANs of DKC and DKU continue to operate.

*2: Refer to Table 3.14.1-1.

(i) Checking the PS-ON LED OFF
Move to the position where you can see the DKCPANEL from the front to be able to check that the BS-ON LED on the DKCPANEL is on.
Check that the BS-ON LED is on and the PS-ON LED is off (*3). When the BS-ON LED is off, turn on the power of storage system again and perform the power OFF procedure from Step a.

*3: At this time, HDD ENABLE LED (green light) of SSD may light, however it is acceptable.

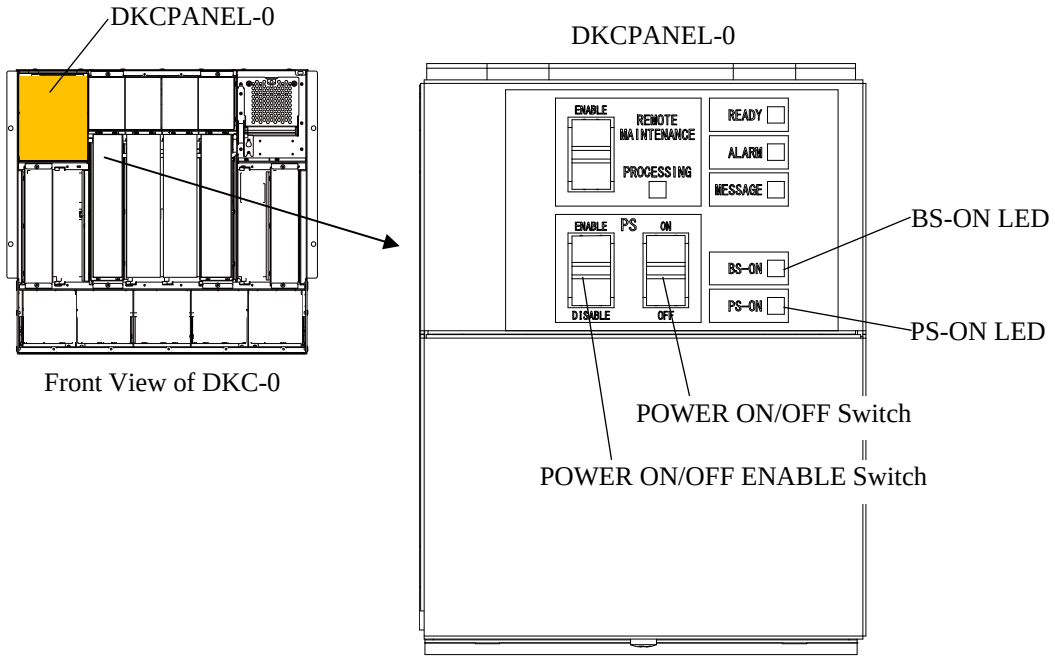


Fig. 3.14.2-1 Switch on DKCPANEL

(ii) Checking the SVP Power Off Event Log
Check that there are the logs of “System OFF” of the date or later which the power OFF operation in Step a is operated to the Power Event Log for 1MP or more referring to the log display in the SVP SECTION (SVP02-02-120).

c. Turn off the power of the SVP referring to the SVP SECTION (SVP01-170).

NOTICE: Make sure to perform the procedure d within 15 minutes after turning OFF the power of SVP. If the condition that SVP is OFF and breaker is ON continues for more than 15 minutes, the following occurs.
(If SVP High Availability kit is not installed) SVP power is forcibly turned ON.
(If SVP High Availability kit is installed) SVP failover takes place.

d. Turn off the main circuit breakers at the PDUs on the Rack frames.

NOTE: Be sure to turn off all the PDU breakers that are connected to the DKC.
If any PDUs are not turned off, DKC voltage alarm may be detected.

Copyright © 2014, Hitachi, Ltd.

2. Power OFF Procedure of additional Rack frame
   a. Turn off the main circuit breakers at the PDUs on the additional Rack frame.

Copyright © 2014, Hitachi, Ltd.

3. Power OFF Procedure of Storage system in Power-On State of PDU Breaker

NOTICE:	Please confirm that maintenance operations (except for configuration information setting) have been completed before powering OFF DKC.

NOTICE:	Notes on the Power OFF Operation of Device. Confirm the below requirements when turning off the device. • Make sure the SVP Mode is “View”. • All users from Navigator should log off.

a. Turn the “POWER ON/OFF” switch to “OFF”, while turning the POWER ON/OFF ENABLE switch to the ENABLE position.

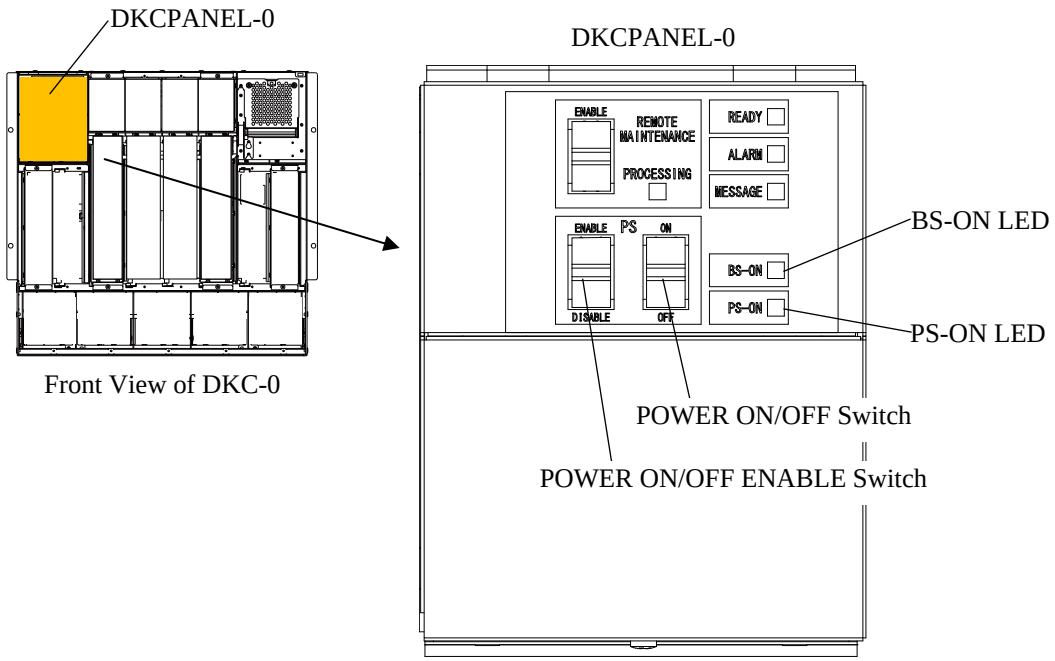


Fig. 3.14.2-2 Switch on DKCPANEL

Copyright © 2014, Hitachi, Ltd.

b. Procedure for checking the power OFF of Storage system
Perform all checks of the following (i) and (ii), and confirm the power OFF status of storage system.
Even if the equipment is in the state of the power-off, the FANs of the DKC and the DKU continue to operate (*1) because the equipment is in a standby mode. The standby electricity (*2) exists in the equipment under this condition.*1: All the FANs of DKC and DKU continue to operate.

*1: All the FANs of DKC and DKU continue to operate.

*2: Refer to Table 3.14.1-1.

(i) Checking the PS-ON LED OFF
Move to the position where you can see the DKCPANEL from the front to be able to check that the BS-ON LED on the DKCPANEL is on.
Check that the BS-ON LED is on and the PS-ON LED is off (*3). When the BS-ON LED is off, turn on the power of storage system again and perform the power OFF procedure from Step a.

*3: At this time, HDD ENABLE LED (green light) of SSD may light, however it is acceptable.

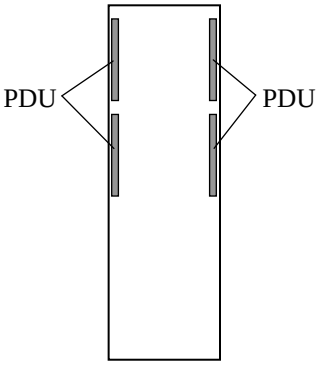
(ii) Checking the SVP Power Off Event Log
Check that there are the logs of “System OFF” of the date or later which the power OFF operation in Step a is operated to the Power Event Log for 1MP or more referring to the log display in the SVP SECTION (SVP02-02-120).

Copyright © 2014, Hitachi, Ltd.

3.14.3 Method of Disconnecting Power Supply to Storage system

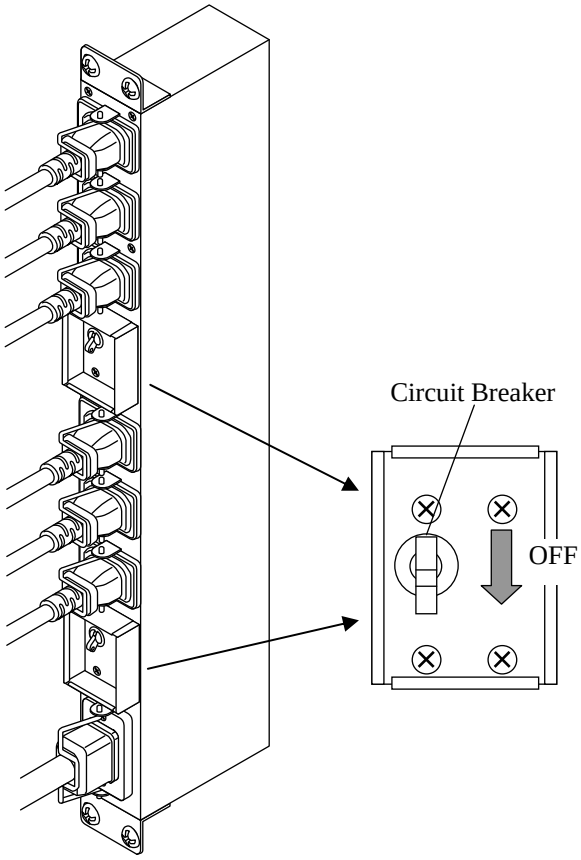
1. When there are some circuit breakers in PDU.
   a. Turn off the circuit breakers of PDU.

2. When there are no circuit breakers in PDU.
   a. Disconnect the power cables corresponding the each unit from PDU.



Rear View of
Rack Frame

PDU (When there are some circuit breakers)



PDU (When there is no circuit breakers)

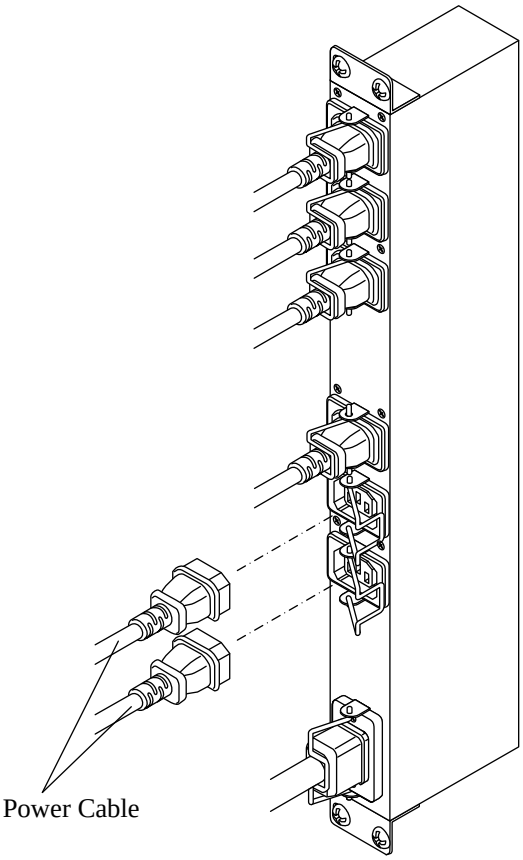


Fig. 3.14.3-1 Work Example of Disconnecting Power Supply

Copyright © 2014, Hitachi, Ltd.

3.15 Mounting on Rack Frame

You can use a special lifter to mount the storage system on the rack frame.
This section explains a procedure for the mounting using the special lifter.
If you do not use the lifter, you must follow another procedure.

CAUTION

Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.

(1) External appearance of the special lifter
Fig. 3.15-1 shows external appearance of the special lifter.

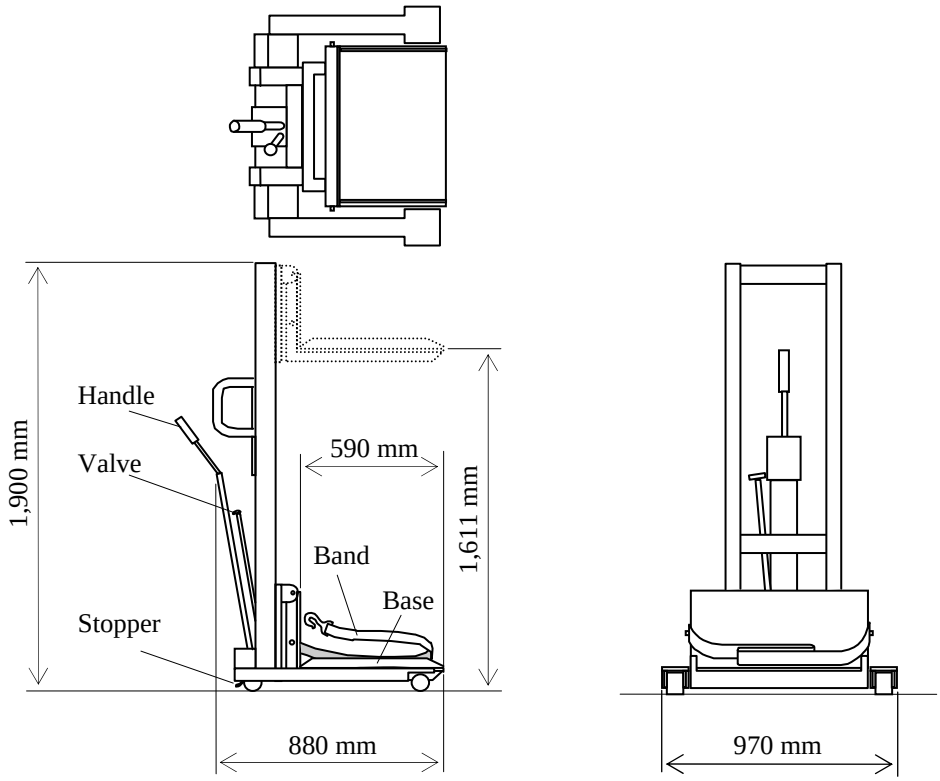


Fig. 3.15-1 External lifter

Copyright © 2014, Hitachi, Ltd.

3.15.1 Mounting Lifter on Rack Frame

⚠ CAUTION

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single DKC is about 140 kg, LFF SBB is about 27 kg, SFF SBB is about 23 kg and FMU is about 20 kg.

(1) Bring the special lifter close to the storage system to be mounted and apply the brake to the lifter.
(2) Put the storage system on the special lifter.
(3) Secure the storage system to the lifter with a band of the lifter.
Bind the storage system with the band tightly by fitting the length of the belt to the storage system.

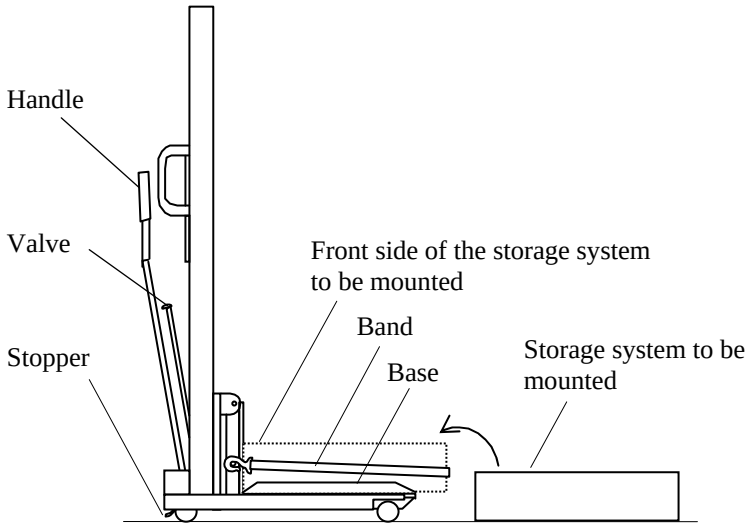


Fig. 3.15.1-1 Putting the Storage systems on Special Lifter

Copyright © 2014, Hitachi, Ltd.

3.15.2 Mounting Storage system on Rack Frame

⚠ CAUTION

If the storage system falls when the elevator of the lifter is at a high position, a personal injury will be caused.

Perform the positioning, fastening, or other handlings very carefully.

⚠ CAUTION

- Rack mounting and lifter operation should only be conducted by a person who has been trained and qualified since the storage system could turn over or a worker could be caught under the storage system.
- Operate the valve slowly when opening it. If it is opened quickly, the elevator of the lifter descends rapidly and may cause personal injury.
- Be sure to perform the operation with two or more workers.
- Work carefully because the mass of the single DKC is about 140 kg, LFF SBB is about 27 kg, SFF SBB is about 23 kg and FMU is about 20 kg.
- Please be cautious of your safety and use a stepladder as you need while assembling or removing parts on top of the RACK frame.

(1) Take off the brake of the special lifter on which the storage system has been put, and move the lifter close to the rack frame.
(2) Adjust the position of the storage system so that it is seated in the center of the rack frame.
(3) Move the pumping handle of the special lifter to the right and left repeatedly to lift the storage system up to the height suitable for the mounting.
Be careful not to lift the elevating base too high. If you lift it too high, lower it by opening the up/down valve gently.
(4) Remove the band and adjust the position of the storage system so that the storage system comes in the center in front of the rack frame. If the storage system is positioned off-centered, a screw contacts the front bezel preventing the bezel from being opened or closed.
(5) Shift the storage system onto the rails in the rack frame. When shifting the storage system, push it in to the end gently.

Copyright © 2014, Hitachi, Ltd.

(6) After mounting the storage system on the rack frame, lower the elevating base to the lowermost position by gently opening the up/down valve of the special lifter and take off the brake of the lifter.
(7) Move the special lifter to the place where the lifter does not disturb the following works.

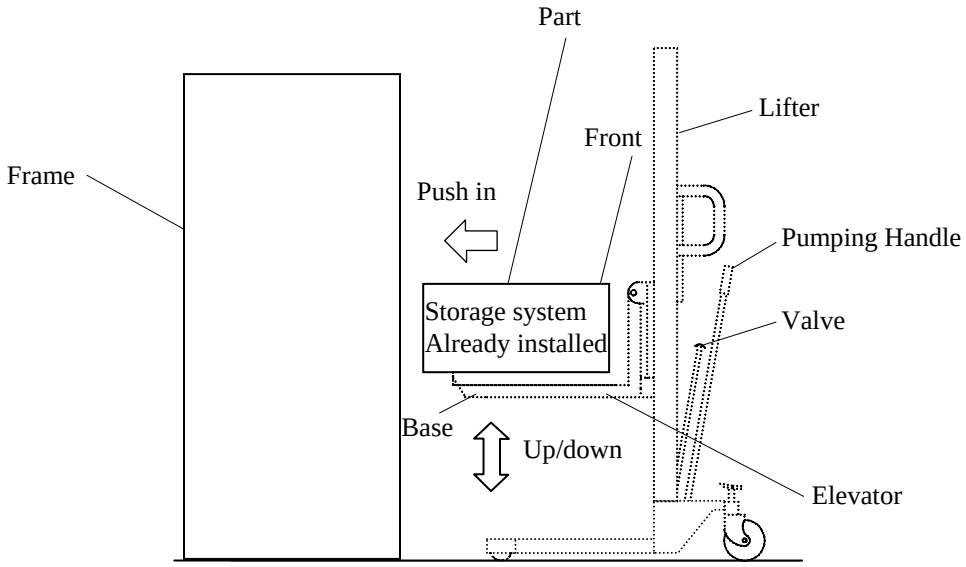
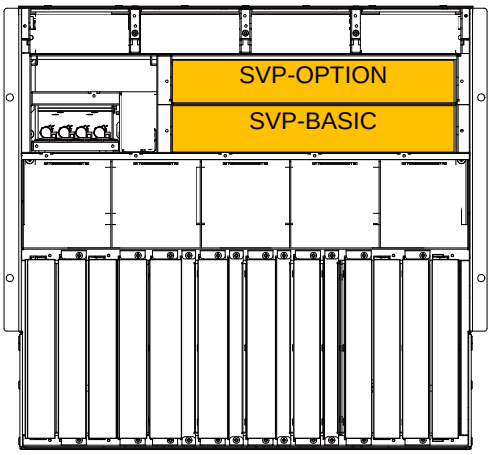


Fig. 3.15.2-1 Mounting Storage system on Rack Frame

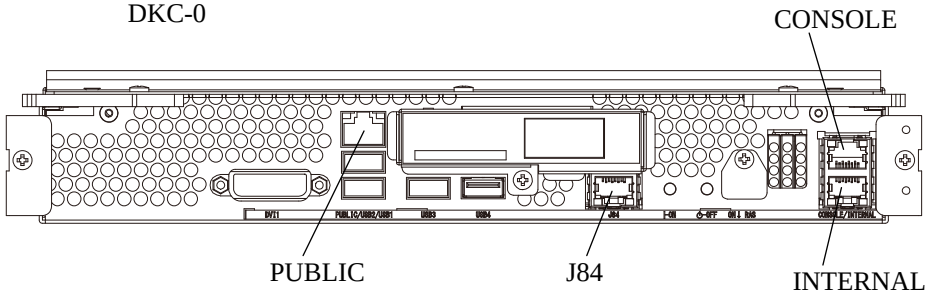
Copyright © 2014, Hitachi, Ltd.

3.16 LAN Cable Wiring for SVP

The SVP consists of the four LAN ports in all. The applications of the LAN cables that are connected to these LAN ports are shown in the table below.
Refer to the table below for the LAN cable wiring operation procedures.
Please note that the EMI cores should be installed in each LAN cable to connect them to the three LAN ports (PUBLIC, INTERNAL, CONSOLE).



Rear View of DKC-0



Front View of SVP

Fig. 3.16-1 LAN Port Positions of SVP

Table 3.16-1 Application of LAN Cables for SVP

No.	Port Name	Work	Pages	EMI Core	NOTE
1	PUBLIC	When SNMP Web Console is used	INST03-16-20, 30	Required	Connected to both SVP-BASIC and SVP-OPTION.
2	INTERNAL	When connected to other devices	INST03-16-20	Required	Only connected to SVP-BASIC. Unnecessary to SVP-OPTION.
3	J84	When DKC-F810I-MOD5/MOD30/ MOD1J is used	INST03-07-640	Unnecessary	In the twin DKC configuration, connect to the HUBBOX-10 (J83) in the DKC-1. (The SVP-OPTION is unused.)
4	CONSOLE	When CE Laptop PC is used	INST03-01-130	Required	Generally, only connected to SVP-BASIC. Connected to SVP-OPTION only when a trouble occurs on SVP-BASIC.

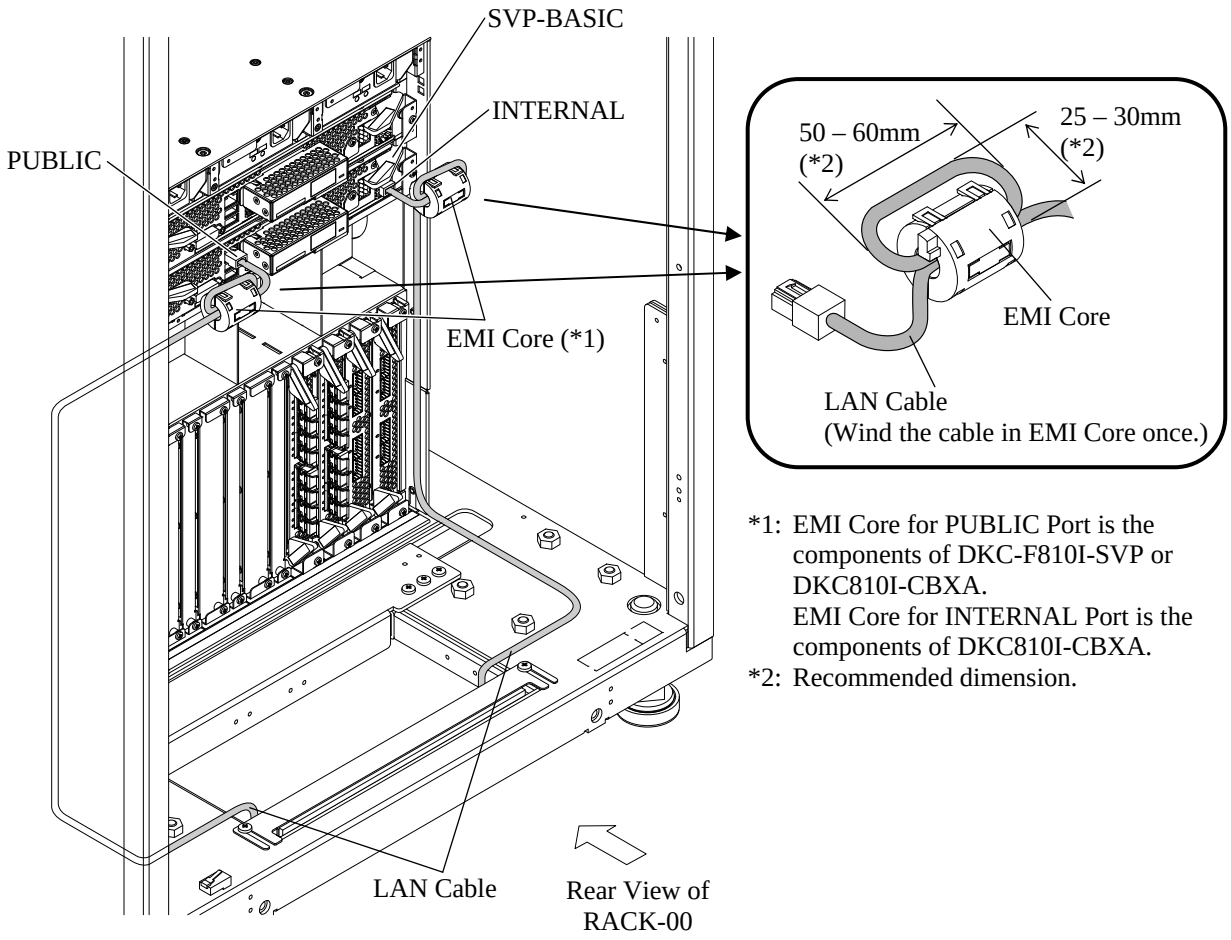
Copyright © 2014, Hitachi, Ltd.

3.16.1 Procedures of LAN Cable Wiring for SVP

1. Connecting the LAN Cable with the SVP-BASIC

NOTICE:	To connect the LAN cable with the INTERNAL port of the SVP, connect it only with the SVP-BASIC. Connecting the cable with the INTERNAL port of the SVP-OPTION is not necessary.

a. Wire the LAN cable after pulling the cable into the RACK.
b. Pass the LAN cable through the EMI core, and wind the cable in the EMI core once.
c. Connect the LAN cable with the SVP-BASIC port (PUBLIC or INTERNAL).



*1: EMI Core for PUBLIC Port is the components of DKC-F810I-SVP or DKC810I-CBXA.
EMI Core for INTERNAL Port is the components of DKC810I-CBXA.
*2: Recommended dimension.

Fig. 3.16.1-1 Connection of LAN Cable (SVP-BASIC)

Copyright © 2014, Hitachi, Ltd.

2. Wiring LAN Cable with SVP-OPTION

NOTICE: To connect the LAN cable with the INTERNAL port of the SVP, connect it only with the SVP-BASIC.
Connecting the cable with the INTERNAL port of the SVP-OPTION is not necessary.

a. Wire the LAN cable after pulling the cable into the RACK.
b. Pass the LAN cable through the EMI core, and wind the cable in the EMI core once.
c. Connect the LAN cable with the PUBLIC port of the SVP-OPTION.

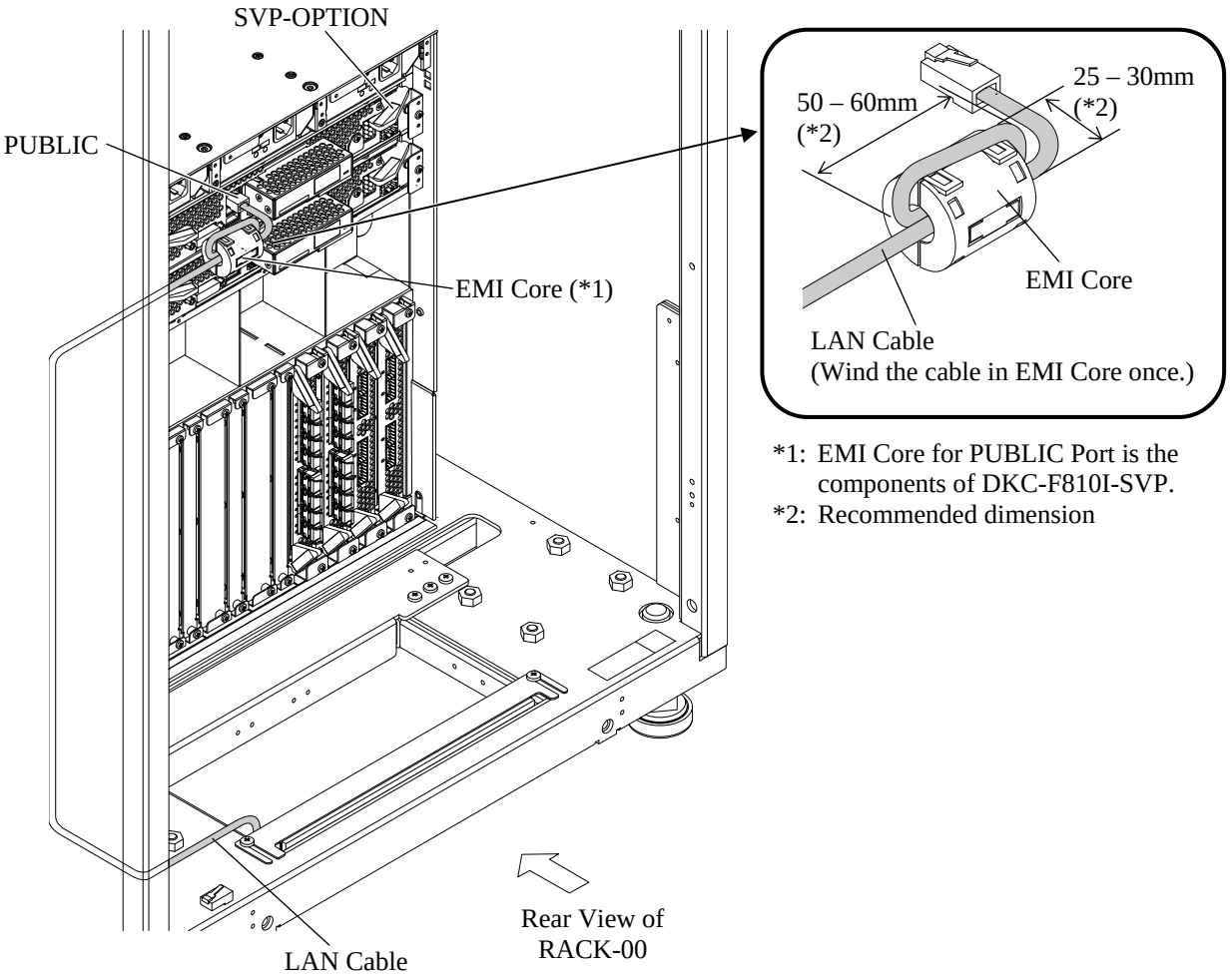


Fig. 3.16.1-2 Connection of LAN Cable (SVP-OPTION)

Copyright © 2014, Hitachi, Ltd.

3.17 Installation of SM Size without adding Cache Memory

NOTICE: The CM capacity decreases if SM size is increased by this operation. Make sure there will be no performance effect and so on in the configuration to be built. For the information on cache memory capacity, please refer to INST06-10.

Rough time of SM size installation becomes addition of the following A, B and C.

Table 3.17-1 Rough time of installation

	Process	Time	Remarks
A	BASIC CM PCB blocking time	5 ~ 60min × 2 (*1)	
B	BASIC CM PCB diagnosis time	10min × 2	
C	BASIC CM PCB recovering time	5 ~ 20min × 2 (*1)	

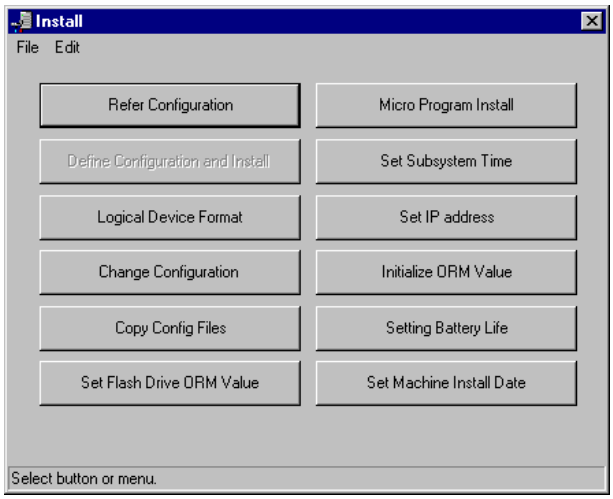
*1: Standard processing time is indicated. The processing time depends on the use situation, especially, the influence of the amount of write pending is received. When the amount of write pending is large, time more than the indication value might be required.

Copyright © 2014, Hitachi, Ltd.

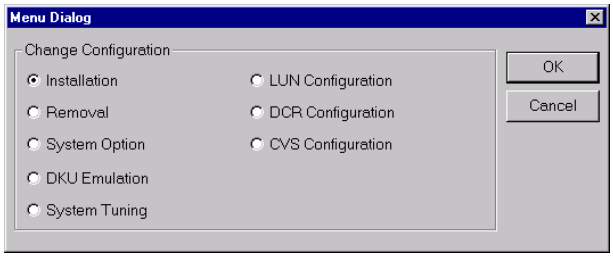
1. Setting up the New Device Structure Information

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

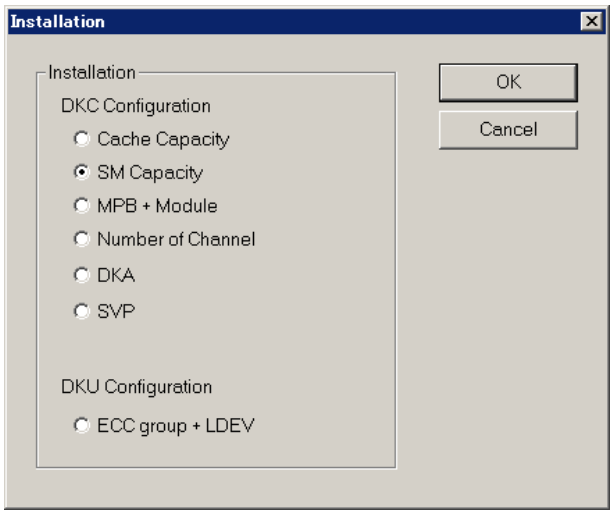
(2) <Start the 'Menu Dialog' screen>
Select (CL) [Change Configuration].



(3) <Start Device Structure Setup screen>
Select (CL) [Installation] in the 'Menu Dialog' dialog box and select (CL) [OK].



(4) <Select a part to be changed>
Select (CL) [SM Capacity], and select (CL) [OK].

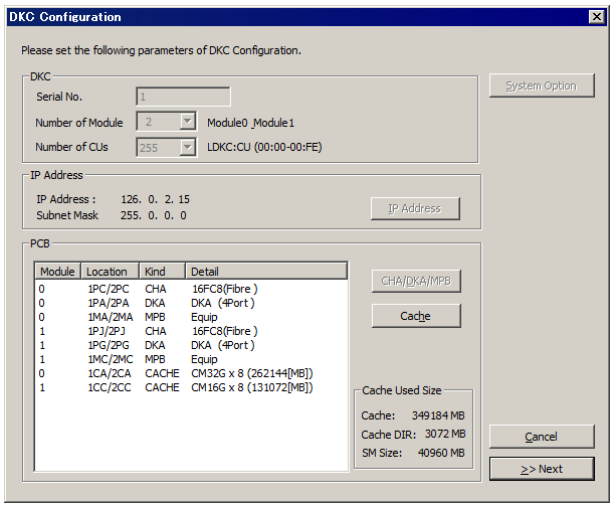


Copyright © 2014, Hitachi, Ltd.

(5) <DKC Configuration screen>
In the 'DKC Configuration' screen, select (CL) [Cache].
Go to Step (6).

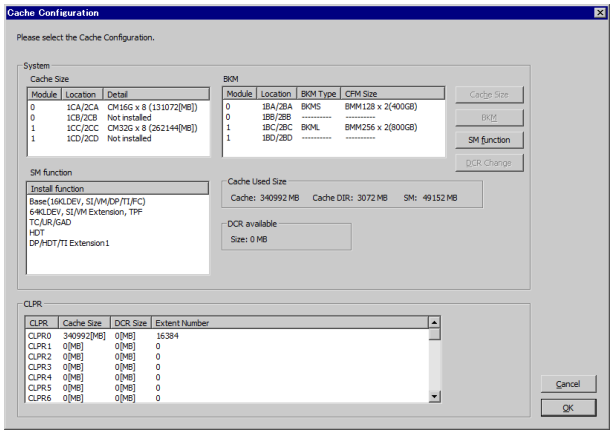
NOTE: It is impossible to install multiple types of parts at the same time.

Make sure that the all input items are correct and select (CL) [>>Next].
Go to Step (7).

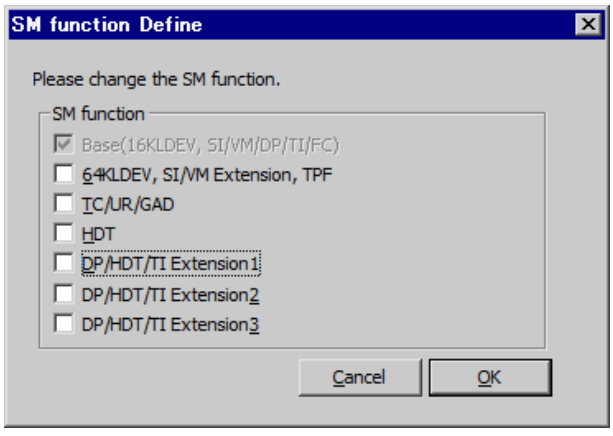


(6) <Cache Configuration screen>
Select (CL) [SM function] in the 'Cache Configuration' screen.
Go to Step (6)-1.

Make sure that the all input items are correct and select (CL) [OK].
Go back to Step (5).



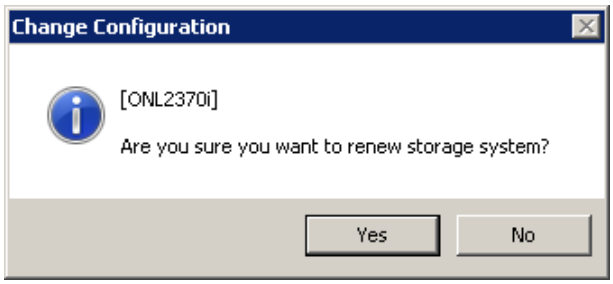
(6)-1 <SM function Define screen>
Set the SM function in the 'SM function Define' screen, select (CL) [OK].
Go back to Step (6).



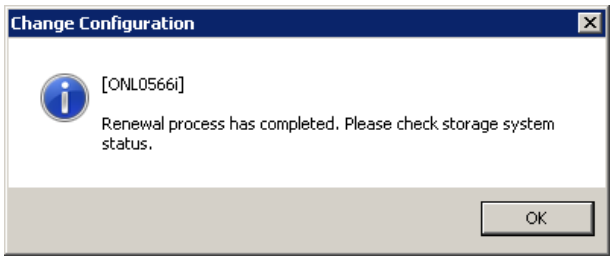
Copyright © 2014, Hitachi, Ltd.

(7) <Start installation>
Select (CL) [Yes] in response to “Are you sure you want to renew storage system?”.

When [No] is selected (CL), returns to INST03-17-20 Step (2).



(8) <End of system update processing>
“Renewal process has completed. Please check storage system status.” is displayed when recovery processing on all installed components is completed. Select (CL) [OK] in response to this message.

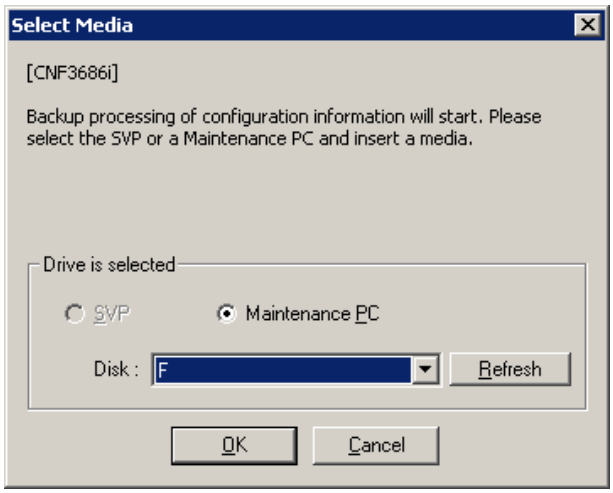


Copyright © 2014, Hitachi, Ltd.

(9)

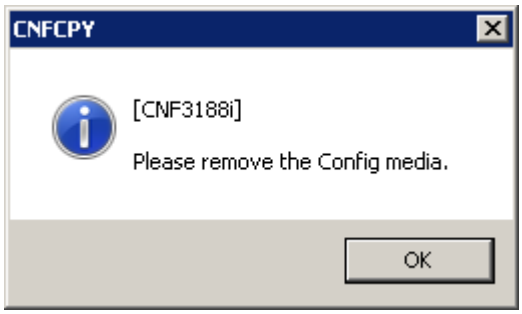
Execute an operation for backing up the configuration information.
Prepare the removable media for backup and insert the media.
Please select (CL) the [Refresh] button, and update drive information.
Select (CL) the drive and the PC in which the media was inserted. Select (CL) the [OK] button.

NOTE: For the procedure of backing up the configuration information to a CD-R, see page MICRO07-190.



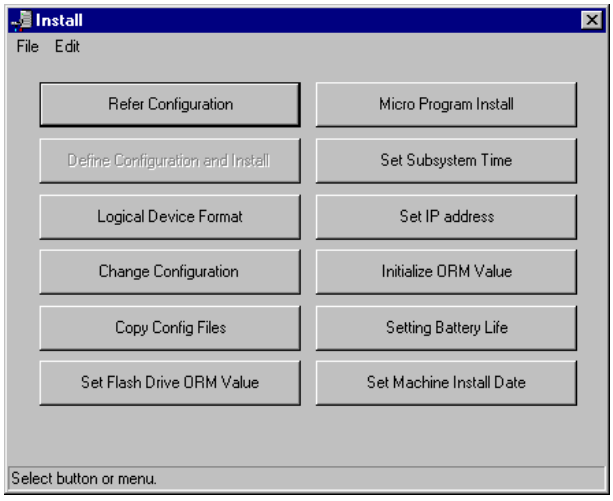
(10)

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



(11)

After the procedure is completed, return to 'Install'.
Select (CL) [File]-[Exit].



(12) <Mode Change>
Change the mode to View Mode.

Copyright © 2014, Hitachi, Ltd.

3.18 Installation of Decoration Panel, Key Kit, Front Door, Front Door Hinge Kit and PC Tray for RK42 (DKC-F810I-DECO/DECOP/KYH/KYP/FDR/FDH42/TR42)

Table 3.18-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F810I-DECO	Top Panel	3287238-1	1	
		Lower Panel	3287249-1	1	
		Fixing Bracket	3287239-1	4	
		Panel	2854946-1	2	
		Screw	SB406N	12	
		Screw	SB410N	2	
2	DKC-F810I-DECOP	Top Panel (HP)	3290502-A	1	
		Lower Panel	3287249-1	1	
		Fixing Bracket	3287239-1	4	
		Panel	2854946-1	2	
		Screw	SB406N	12	
		Screw	SB410N	2	
3	DKC-F810I-KYH	Handle ASSY	3283382-A	1	
		Key	—	1	
		Screw	SB306N	4	
4	DKC-F810I-KYP	Bracket (KEY)	3283278-1	1	
		Stopper Bracket	5545386-1	1	
		Screw	SB306N	4	
		Screw	SB406N	2	
5	DKC-F810I-FDR	Front Door	2855887-A	1	
6	DKC-F810I-FDH42	Hinge U	5552841-1	1	
		Hinge L	5552842-1	1	
		Stopper	5555001-1	1	
		Screw	SB410N	1	
		Screw	SB510N	2	
		Socket Bolt	BS510N	4	
		Collar	5513552-404	1	
		LL Washer	5513553-433	1	
7	DKC-F810I-TR42	PC Tray	3287327-A	1	
		Stopper	5552806-1	1	
		Door Bar	5552807-1	1	
		Stopper	5552808-1	1	
		Hinge	5552993-1	1	Hinge L
		Hinge	5552814-1	1	Hinge R
		Screw	SB408N	4	
		Screw	SB410N	4	
		Screw (Stopper)	5513661-412	1	

Copyright © 2014, Hitachi, Ltd.

3.18.1 Installation Procedure of Decoration Panel (DKC-F810I-DECO/DECOP)

1. Installation of front parts
   a. Install the top panel on the front upper part of the RACK, and secure it with the two screws.
   b. Install the lower panel on the front lower part of the RACK, and secure it with the two screws.
   c. Install the four fixing brackets on the front side of the RACK, and secure them with the eight screws.

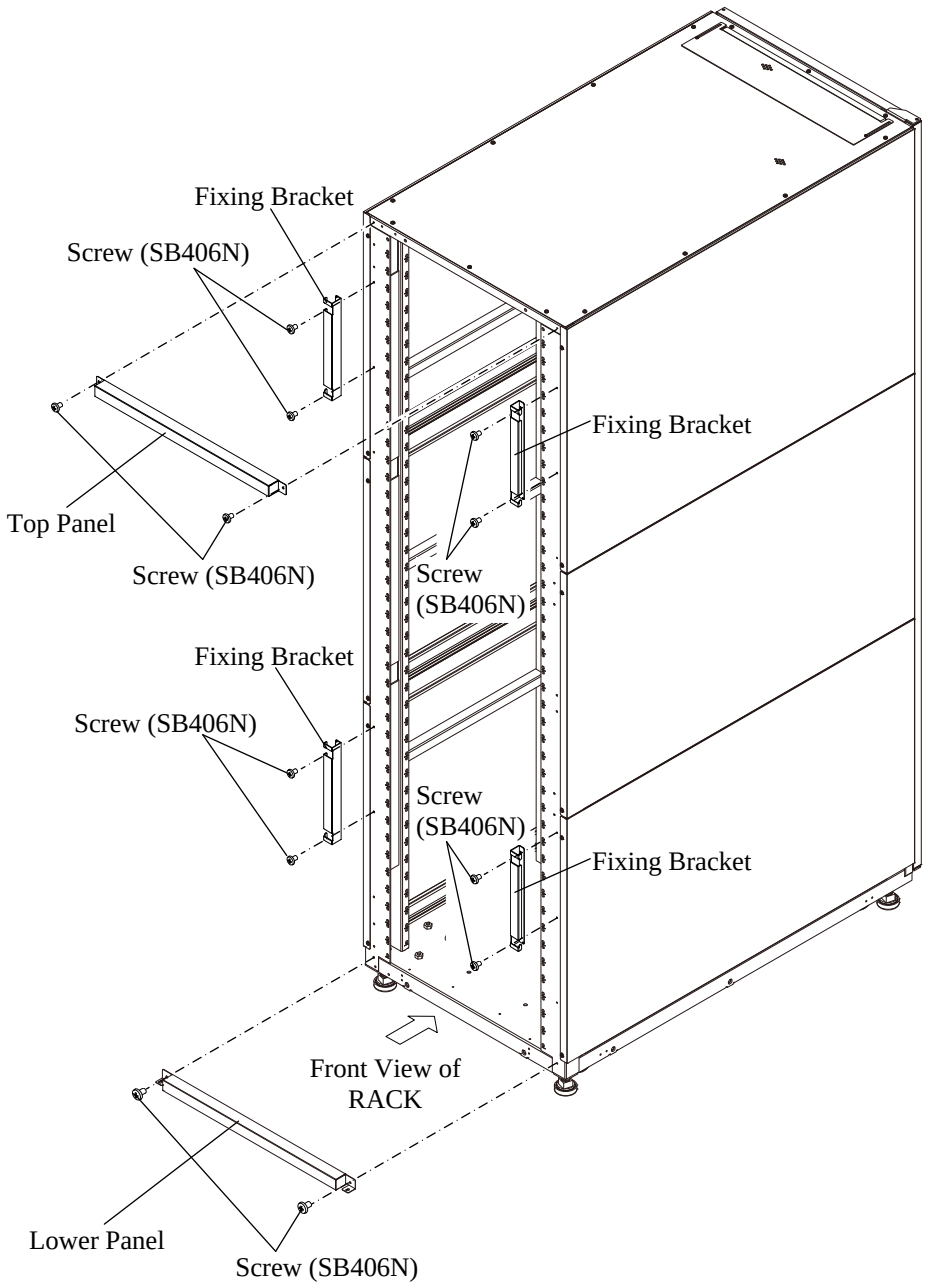


Fig. 3.18.1-1 Installation of Panels (Front)

Copyright © 2014, Hitachi, Ltd.

d. Install the two panels on the fixing brackets, and secure it with the two screws.

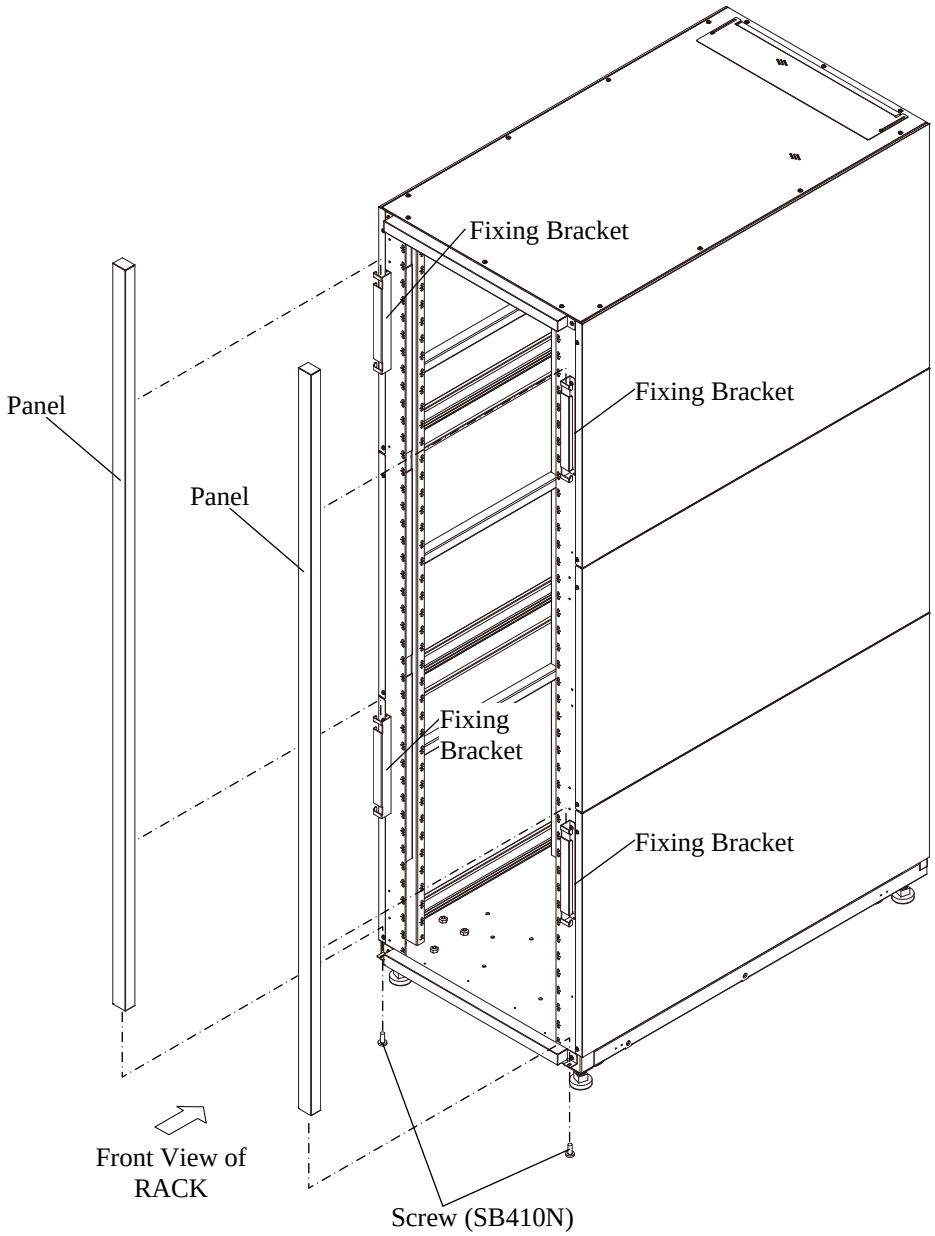


Fig. 3.18.1-2 Installation of Panels (Front)

2. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.18.2 Installation Procedure of Key Kit (DKC-F810I-KYH)

1. Installation of rear parts
   a. Install the Handle ASSY on the rear side of the rear door, and secure it with the four screws.
   b. When the rear door is unlocked, hung the key on the locking clamp of the rear side of the rear door.

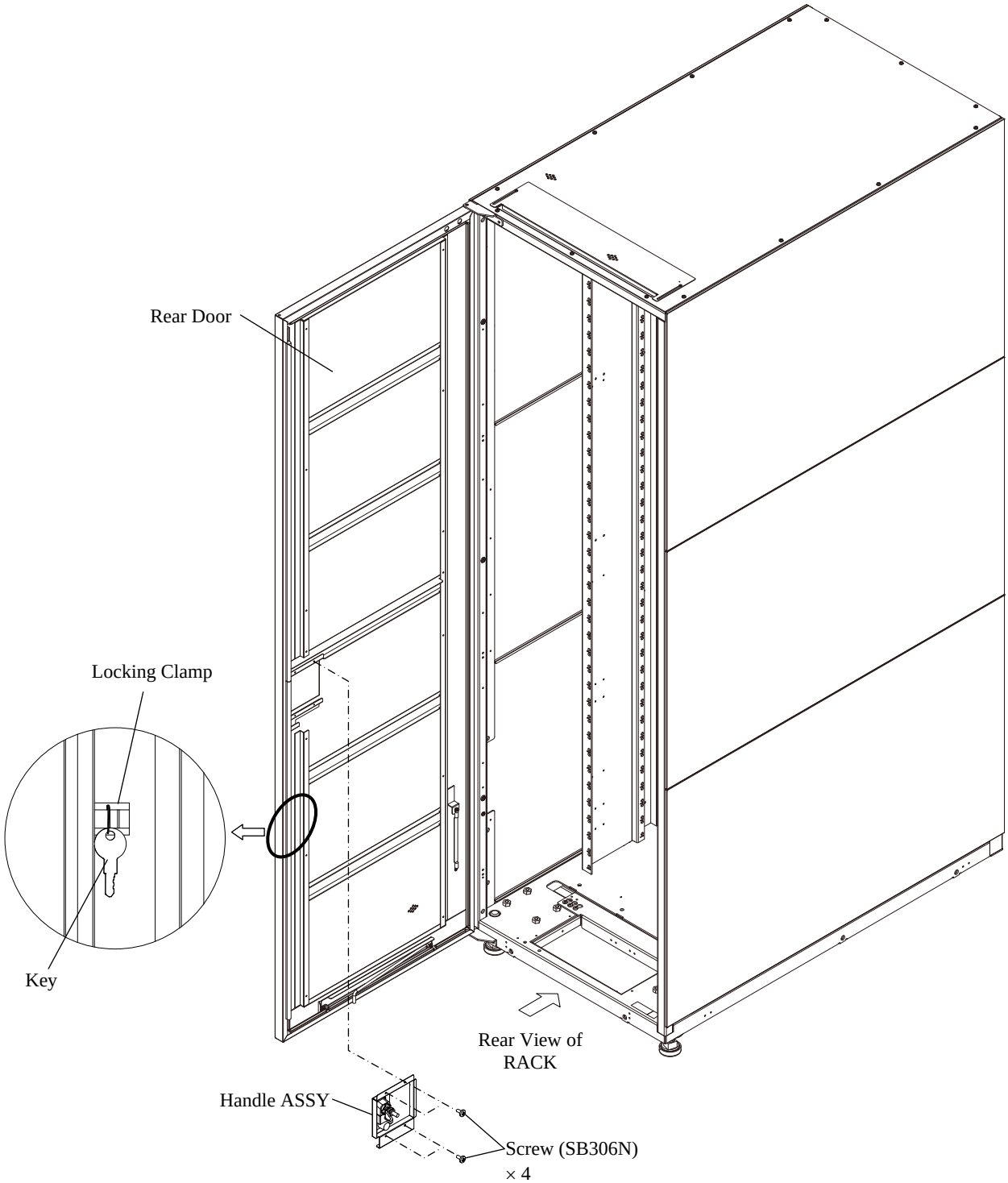


Fig. 3.18.2-1 Installation of Handle ASSY (Rear)

Copyright © 2014, Hitachi, Ltd.

2. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.18.3 Installation Procedure of Key Kit (DKC-F810I-KYP)

1. Installation of rear parts
   a. Install the stopper bracket, and secure it with the two screws ① slightly. Then fully tighten the two screws ① by pressing the stopper bracket downword.
   b. Install the bracket (KEY), and secure it with the four screws ②.

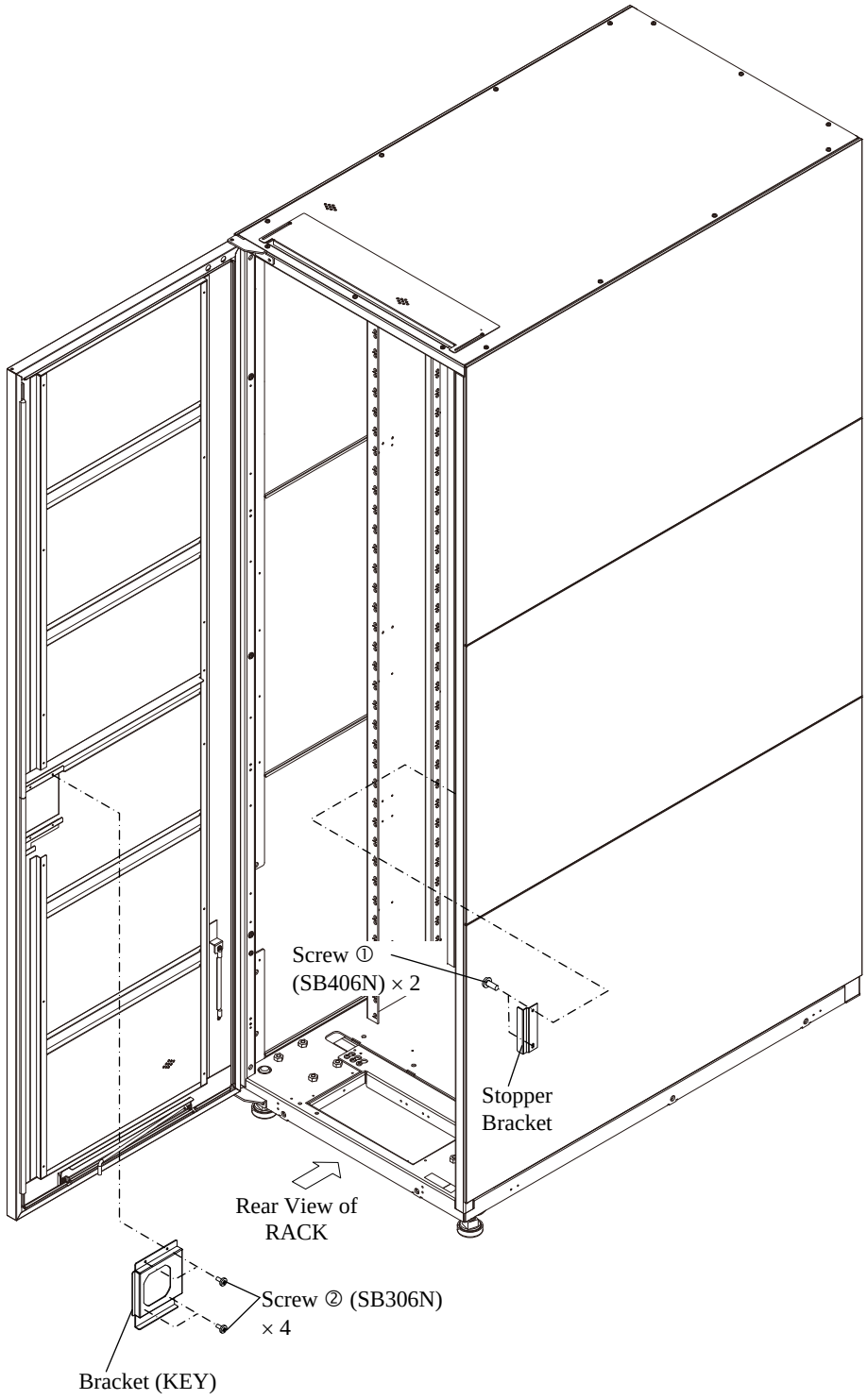


Fig. 3.18.3-1 Installation of Parts (Rear)

Copyright © 2014, Hitachi, Ltd.

2. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.18.4 Installation Procedure of Front Door Hinge Kit (DKC-F810I-FDH42)

1. Installation of front parts
   a. Install the hinge U, and secure it with the two socket bolts.
   b. Install the stopper, and secure it with the two screws.
   c. Install the hinge L, and secure it with the two socket bolts.
   d. Install the collar, LL washer and screw on the hinge L.

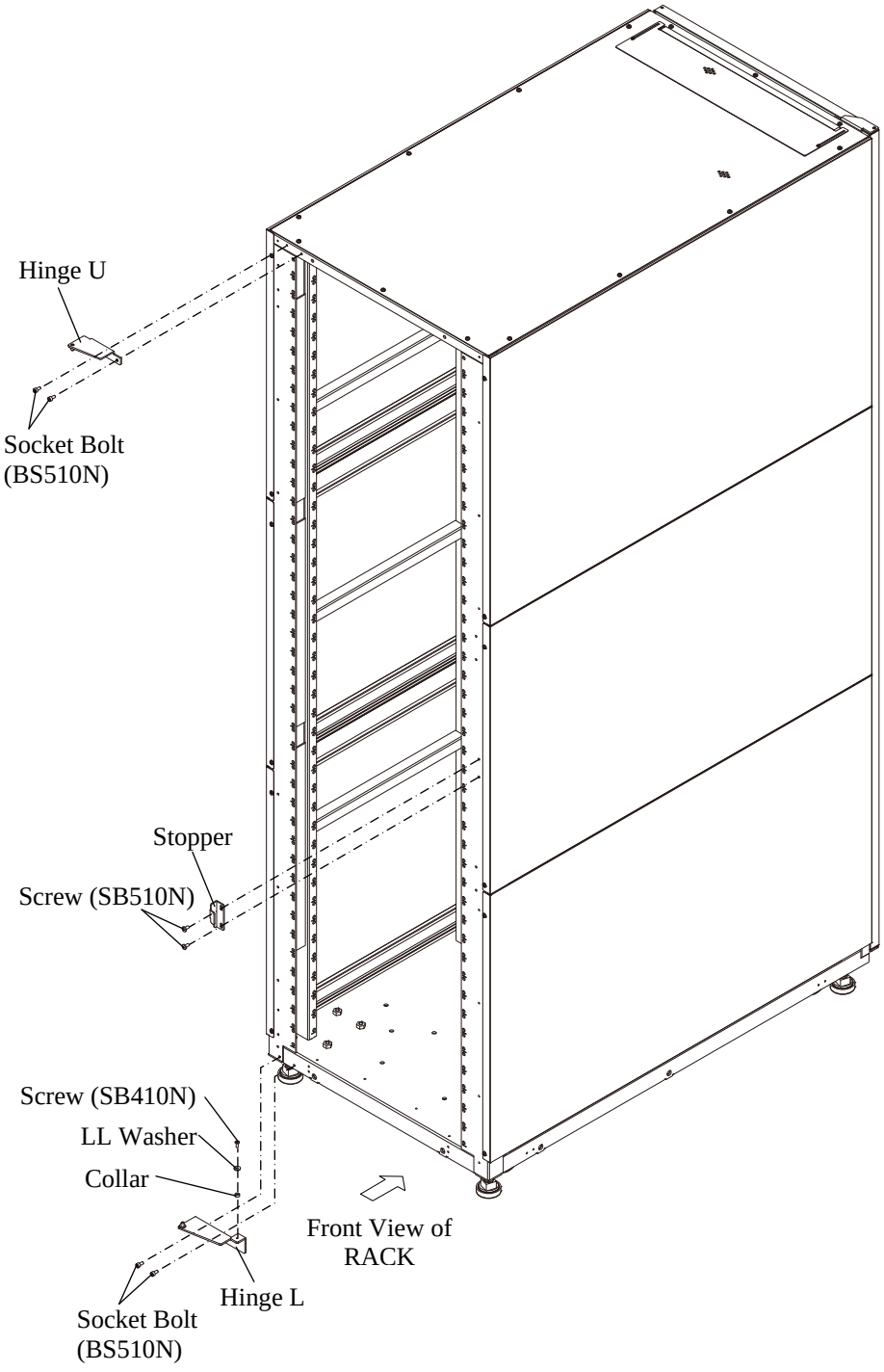


Fig. 3.18.4-1 Installation of Parts (Front)

Copyright © 2014, Hitachi, Ltd.

2. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.18.5 Installation Procedure of Rack Front Door (DKC-F810I-FDR)

1. Installation of Front Door
   a. Loosen the two socket bolts on the front top of the rack and turn the hinge U.
   b. Insert the pin of the hinge L into the hole on the bottom of the front door to mount the front door.
   c. Turn the hinge U back and insert the pin of the hinge U into the hole on the front door.
   d. Tighten the two socket bolts to secure the hinge U.

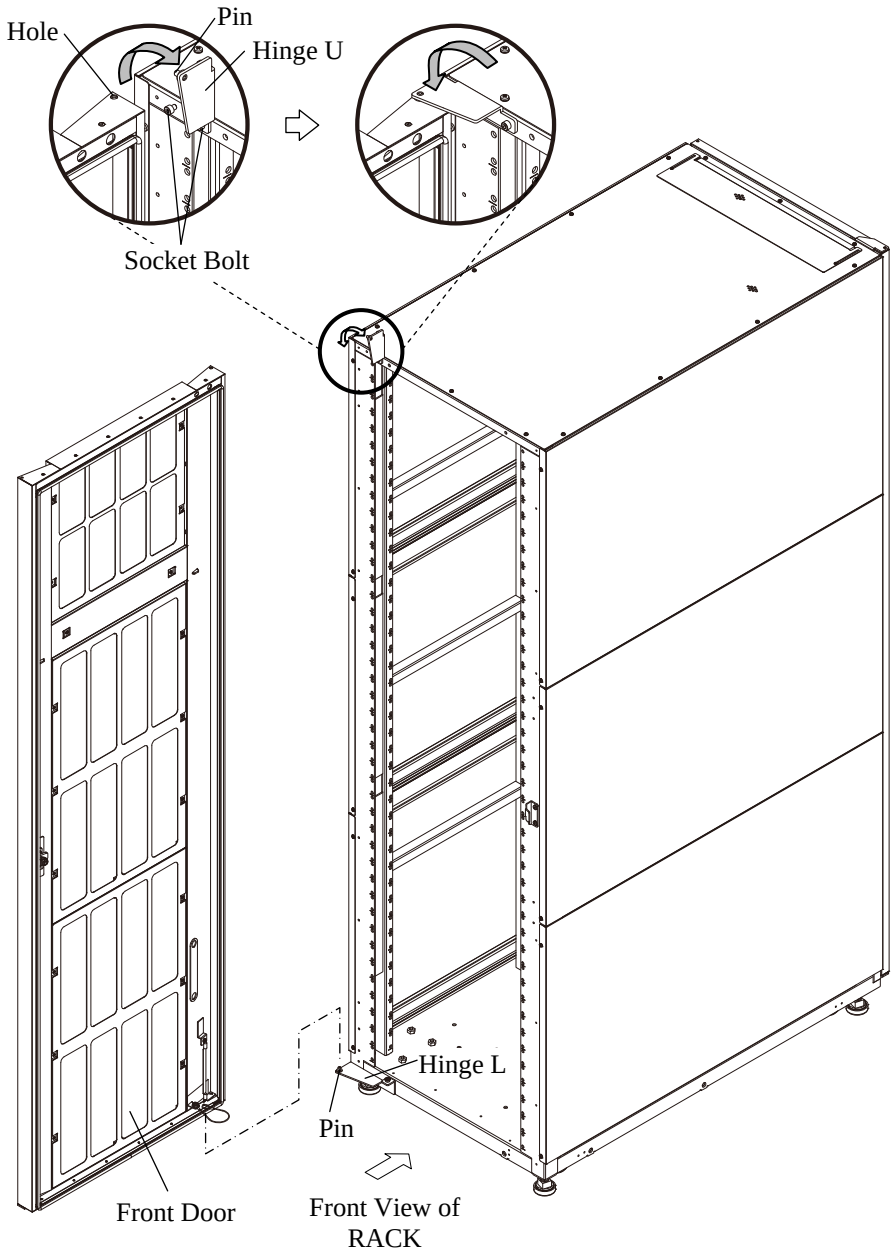


Fig. 3.18.5-1 Installation of Front Door

Copyright © 2014, Hitachi, Ltd.

e. Attach the wire rope to the screw on the hinge L on the front bottom of the rack.
f. Secure the FG cable to the rack with the screw and washer.

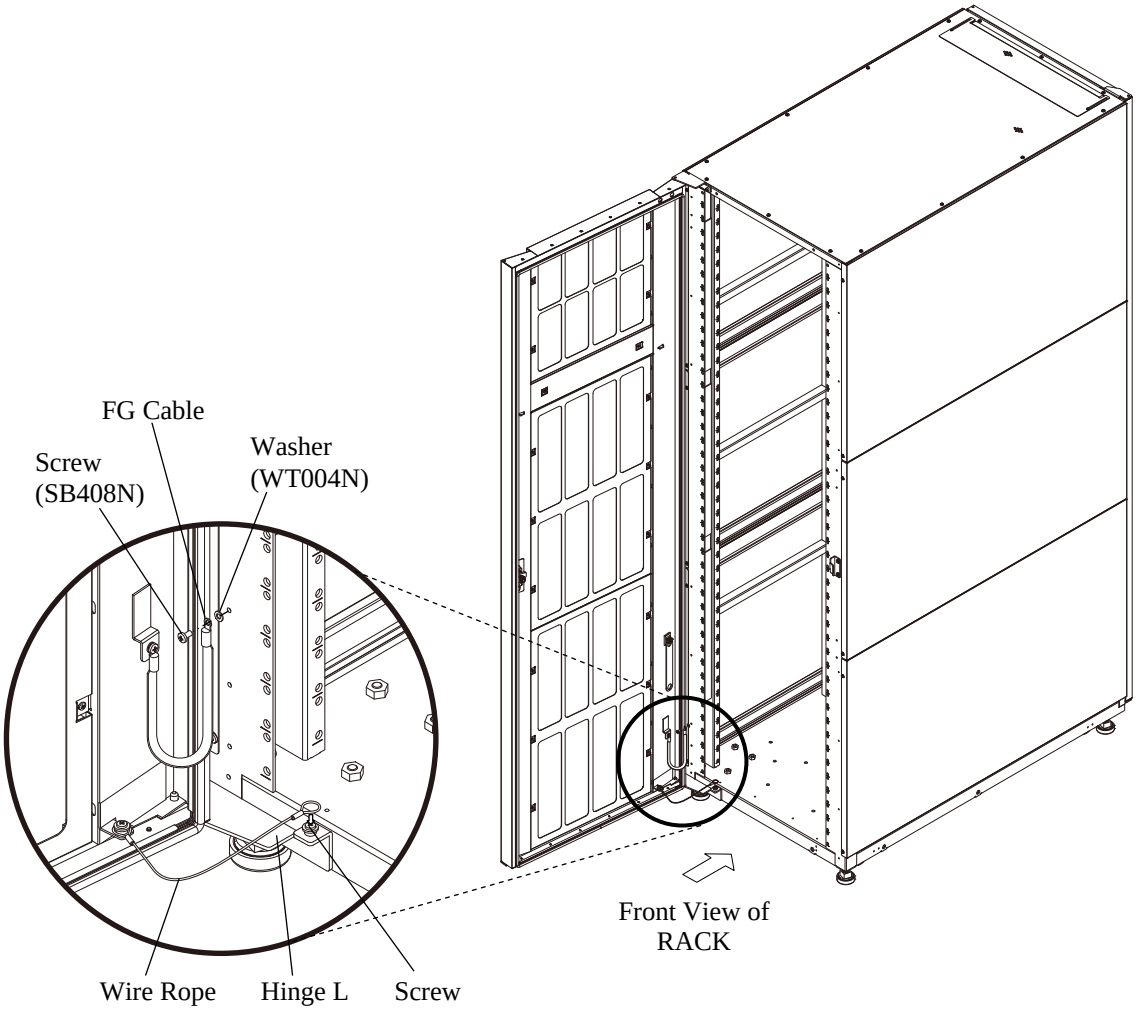


Fig. 3.18.5-2 Installation of Wire Rope and FG Cable

Copyright © 2014, Hitachi, Ltd.

2. Making the Front Door Steady
   a. Open the locking clamp on the back of the front door and remove the door stopper.

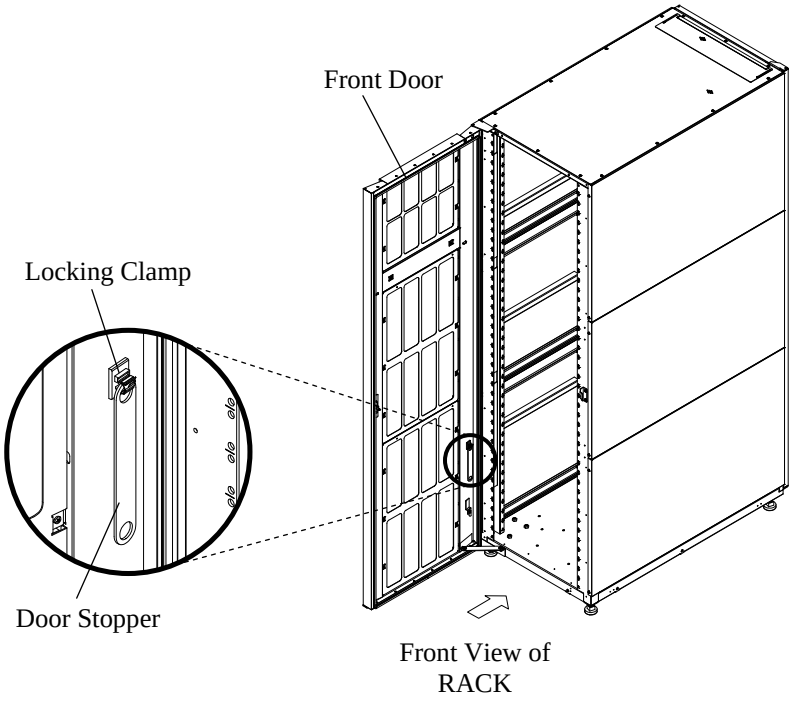


Fig. 3.18.5-3 Removal of Door Stopper

Copyright © 2014, Hitachi, Ltd.

b. Secure the door stopper to the screw at the bottom of the back of the front door and the screw on the hinge L.

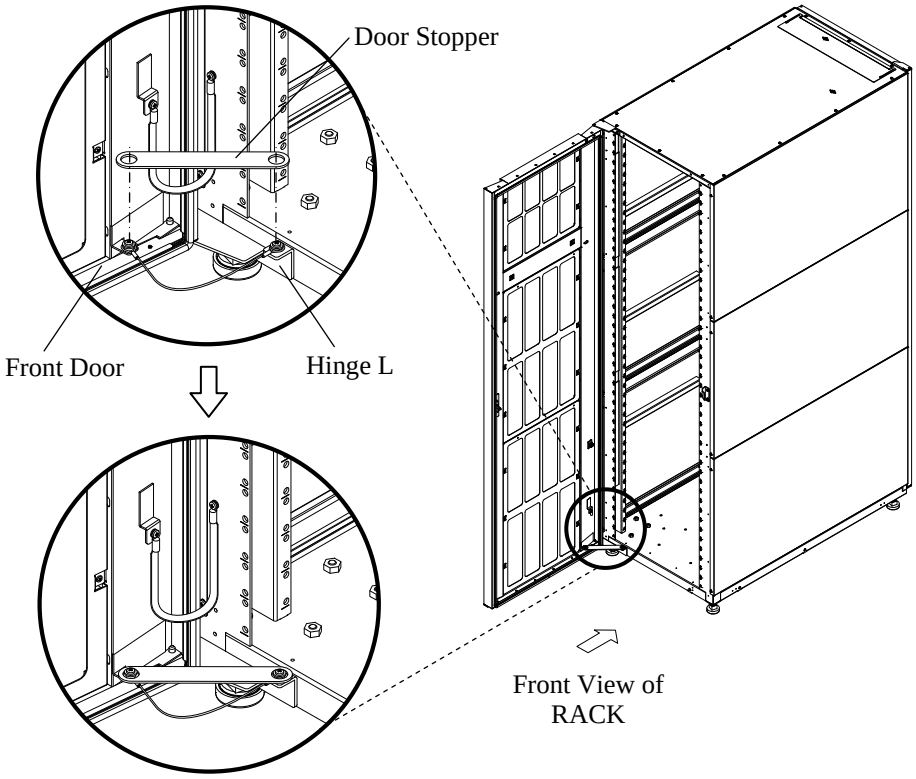


Fig. 3.18.5-4 Attachment of Door Stopper

3. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.18.6 Installation Procedure of PC Tray for RK42

1. Install the PC Tray
   a. Insert the edge of the Hinge R into the insertion hole on the PC Tray and tighten the two screws to secure the Hinge R to the back side of the rear door.

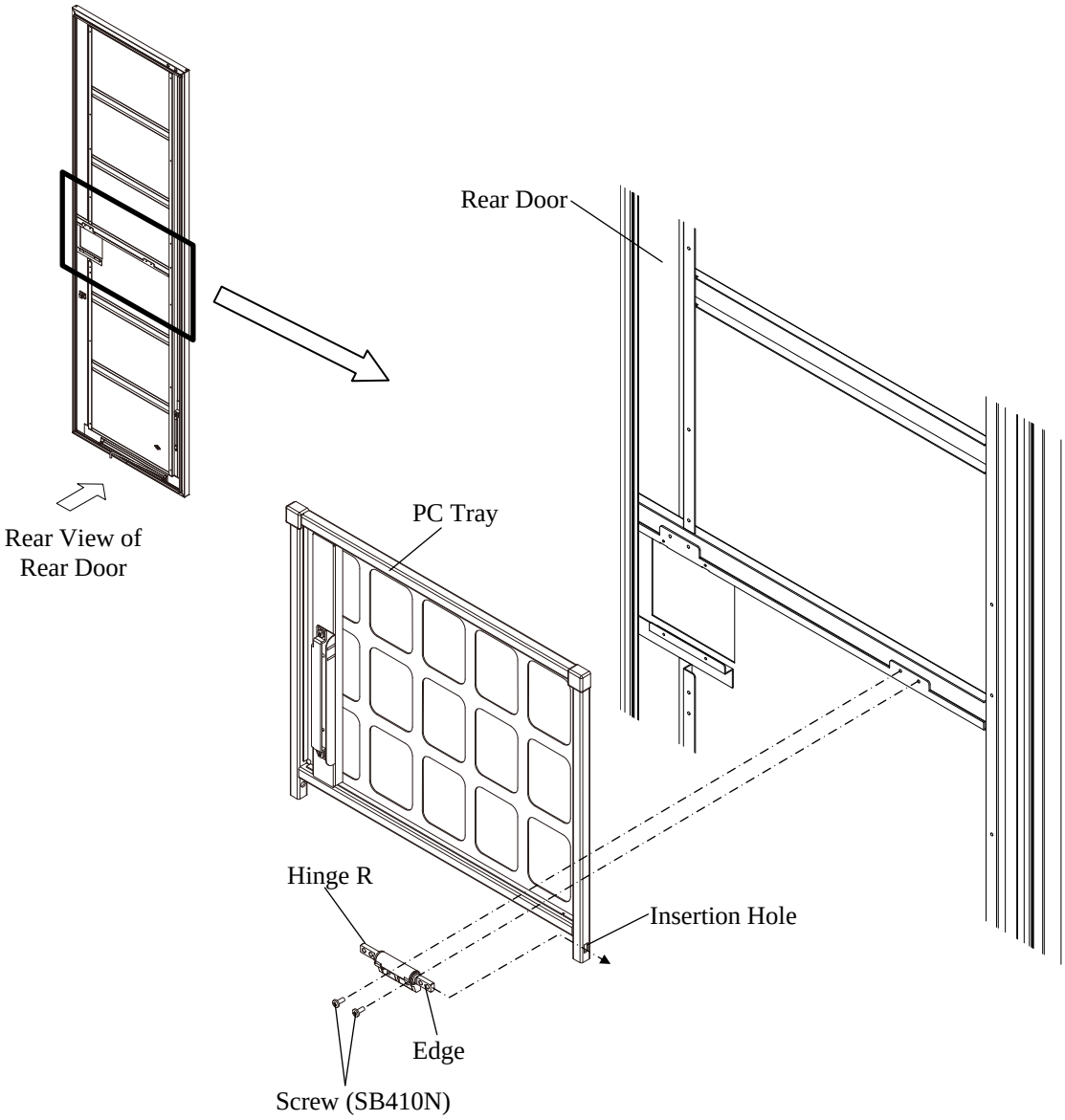


Fig. 3.18.6-1 Attachment of PC Tray and Hinge

Copyright © 2014, Hitachi, Ltd.

b. Insert the edge of the Hinge L into the insertion hole on the PC Tray and tighten the two screws to secure the Hinge L to the back side of the rear door.

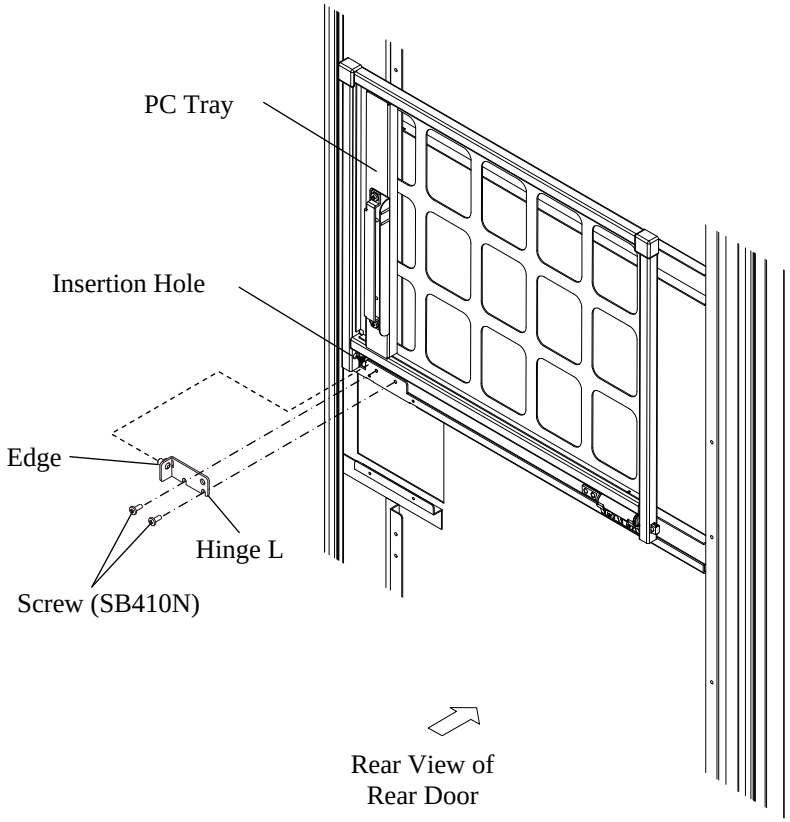


Fig. 3.18.6-2 Attachment of Hinge

Copyright © 2014, Hitachi, Ltd.

c. Insert the edge of the Door Bar into the PC Tray and turn the Door Bar 90 degrees in a counterclockwise direction.

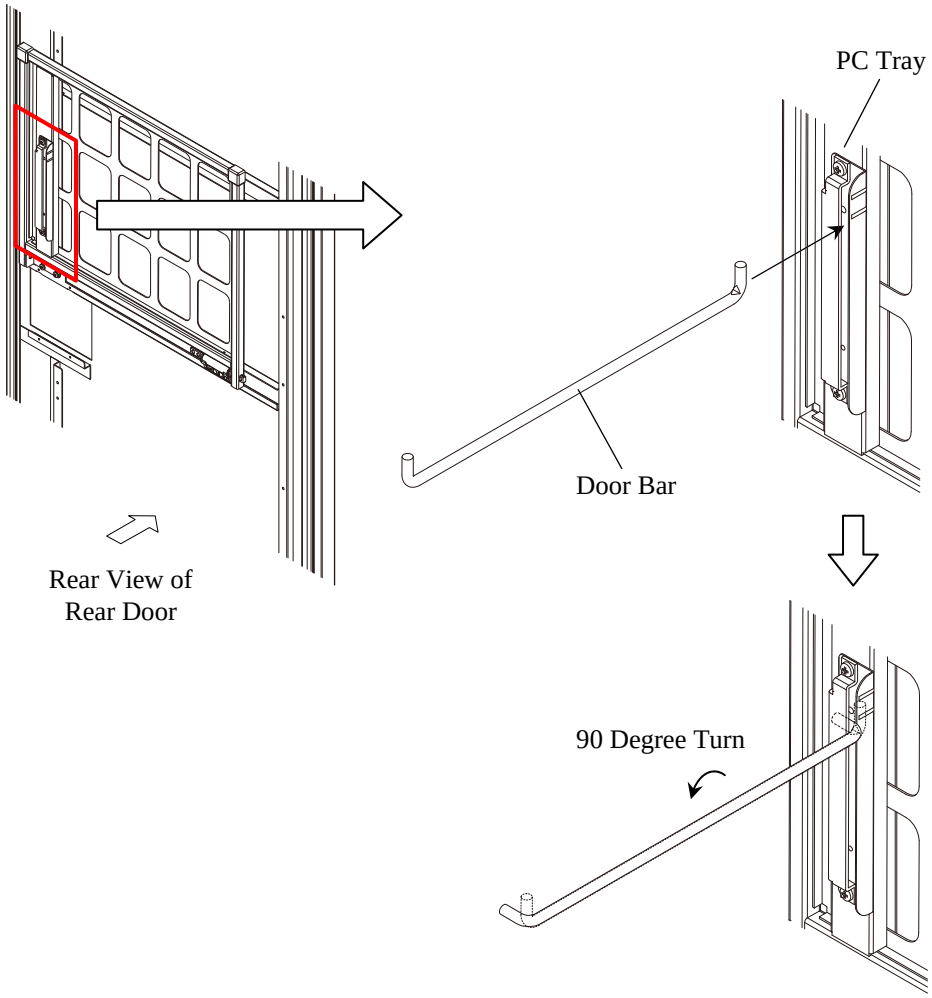


Fig. 3.18.6-3 Attachment of Door Bar

Copyright © 2014, Hitachi, Ltd.

d. Attach the Stopper to the opposite edge of the Door Bar.
e. Secure the Stopper attached to the Door Bar to the back side of the rear door with the two screws.

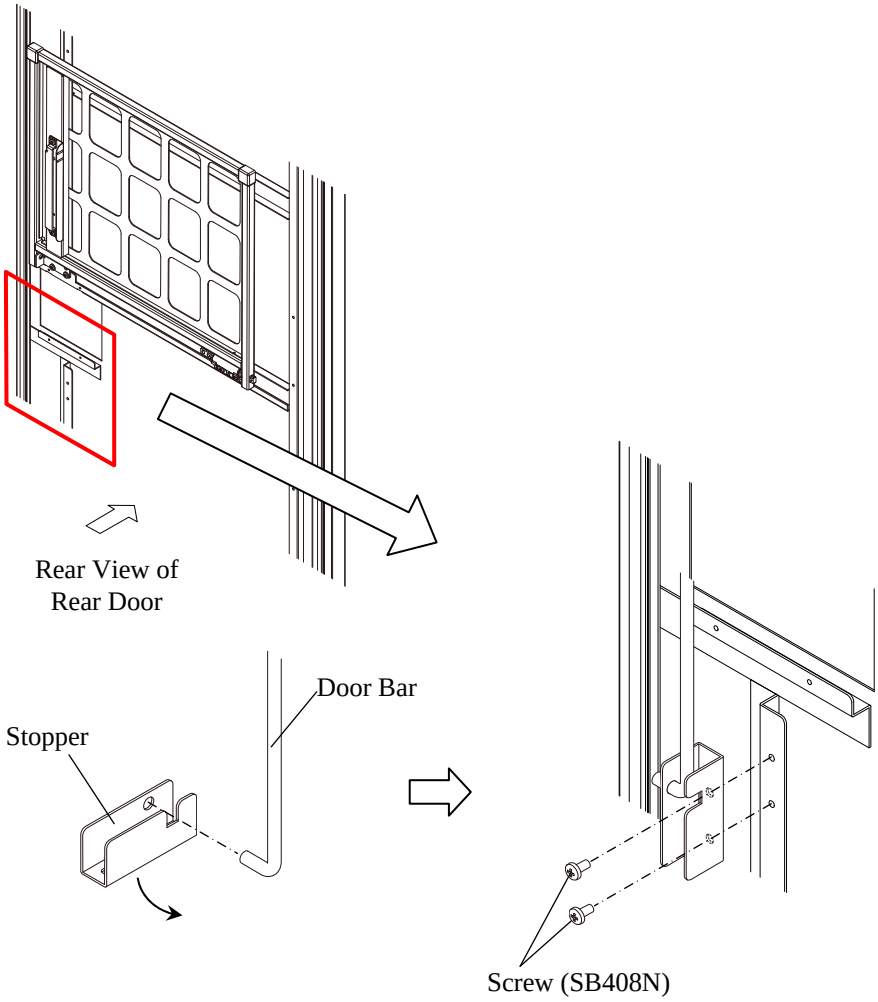


Fig. 3.18.6-4 Attachment of Stopper

Copyright © 2014, Hitachi, Ltd.

f. Attach and secure the Stopper with the screw.

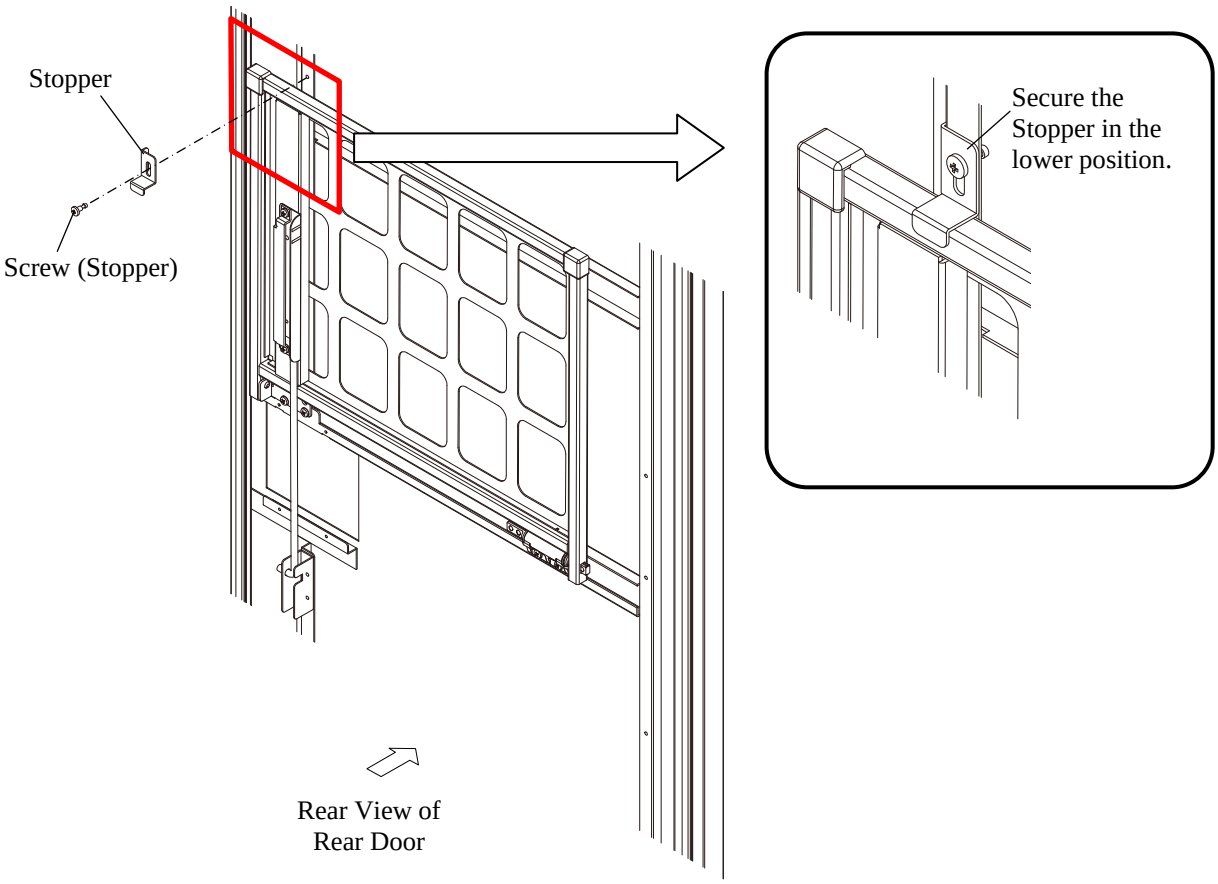


Fig. 3.18.6-5 Attachment of Stopper

2. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40

Copyright © 2014, Hitachi, Ltd.

3.19 Installation of PDU Bracket for HP (DKC-F810I-PDBP)

Table 3.19-1 Parts List

No.	Model Number	Part Name		Part No.	Quantity	Remarks
1	DKC-F810I-PDBP	Support (22U36U PDU)		2856421-1	2	Support
		Stopper (22U36U PDU)		3290542-1	4	Stopper
		Keyhole Bracket		5557415-1	8	
		Cover (INLET CABLE)		3290570-1	4	Cover
		Packing Work (OPTION)		3290551-A	1	
			Screw (Stopper)	5513661-412	8	Components of Packing Work (OPTION)
			Screw	SB406N	24	
			Screw	SB410N	19	
			P Washer	5513598-4	19	
			Screw	SB510N	1	
			LL Washer	5513553-513	1	
		Packing Work (PARTS)		3290582-A	1	
			Screw	SB406N	4	Components of Packing Work (PARTS)
			Lock Washer	WT004N	4	

Copyright © 2014, Hitachi, Ltd.

3.19.1 Installation Procedure of PDU Bracket for HP

1. Installation of PDU Bracket
   a. Remove the 20 screws, 20 washers and 20 Loop Cable Ties from the rear side of the rack.
   b. Fix the four Covers to the rear side of the rack with the 8 screws.

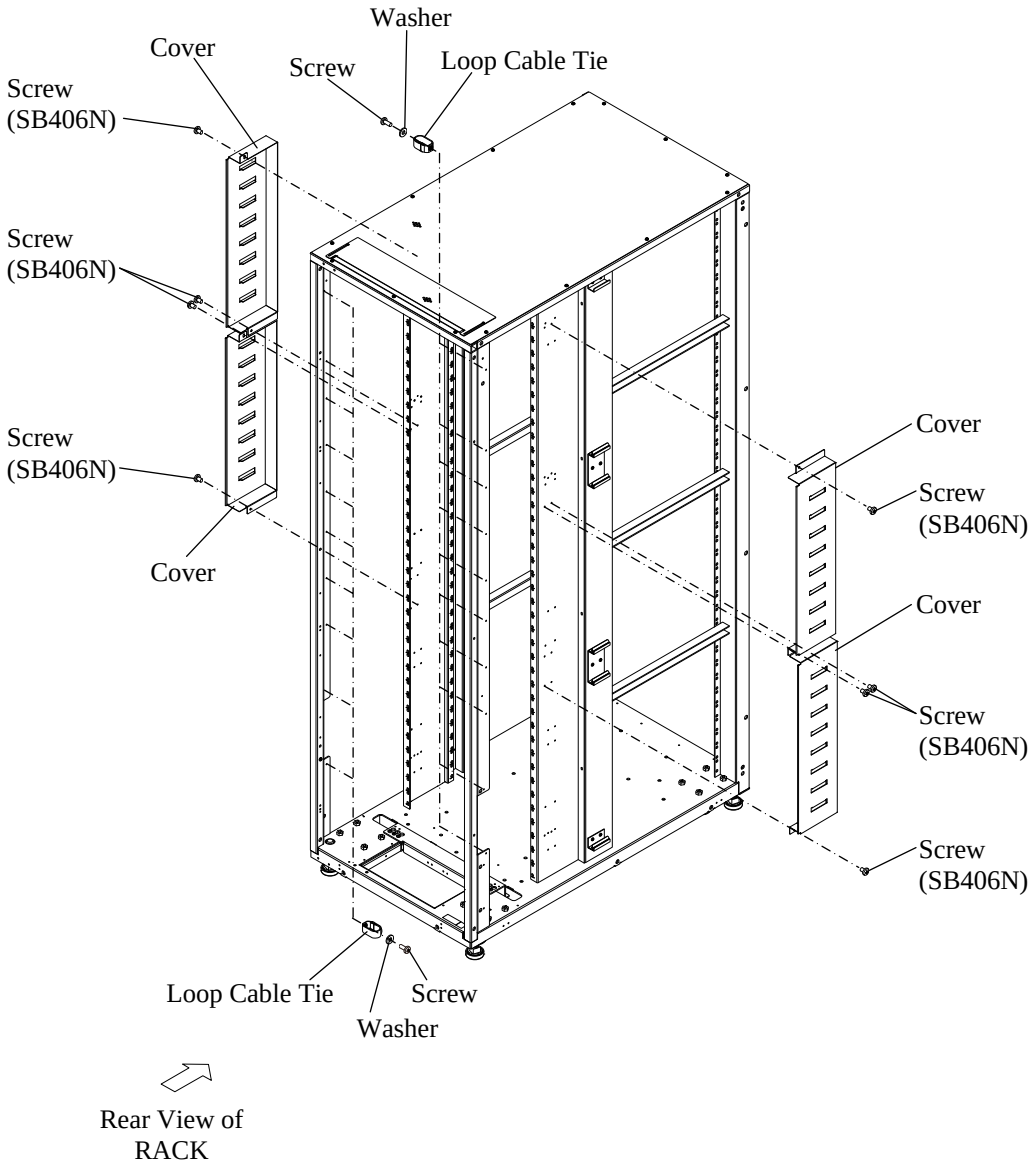


Fig. 3.19.1-1 Installation of Cover

Copyright © 2014, Hitachi, Ltd.

In the Case of 3 Phase PDU (D9N51A/H5M72A)

c. Fix the two Supports and the 20 Loop Cable Ties to the rear side of the rack with the LL washer, the 19 P washers, the screw ① and the 19 screws②.
d. Fix the two Stoppers to the attached Supports with the four Screws (Stoppers).
e. Fix the four Keyhole Brackets to the Supports with the eight screws.

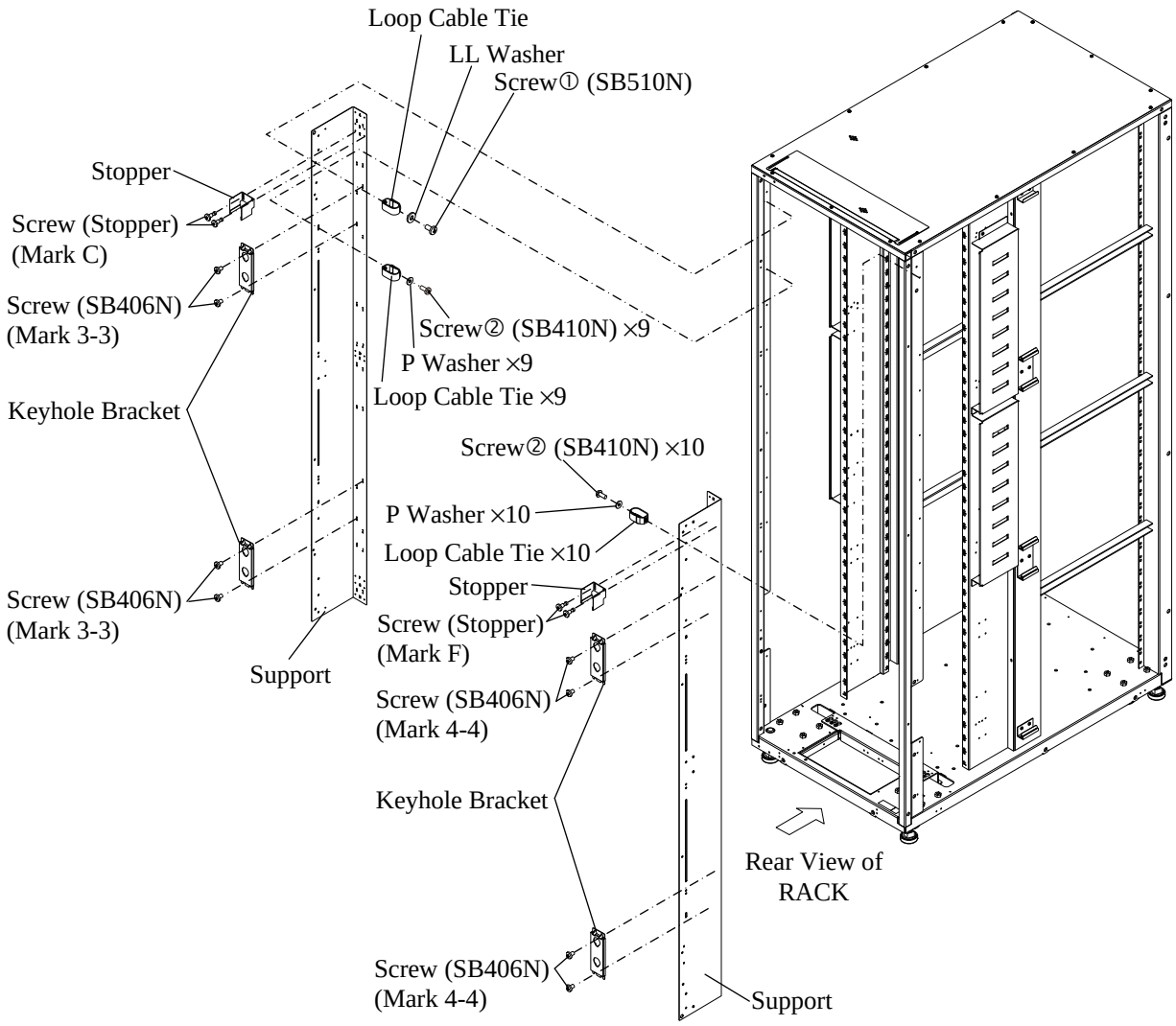


Fig. 3.19.1-2 Installation of Parts

Copyright © 2014, Hitachi, Ltd.

In the Case of 1 Phase PDU (H5M58A/H5M68A)

c. Fix the two Supports and the 20 Loop Cable Ties to the rear side of the rack with the LL washer, the 19 P washers, the screw ① and the 19 screws②.
d. Fix the four Stoppers to the attached Supports with the eight Screws (Stoppers).
e. Fix the eight Keyhole Brackets to the Supports with the 16 screws.

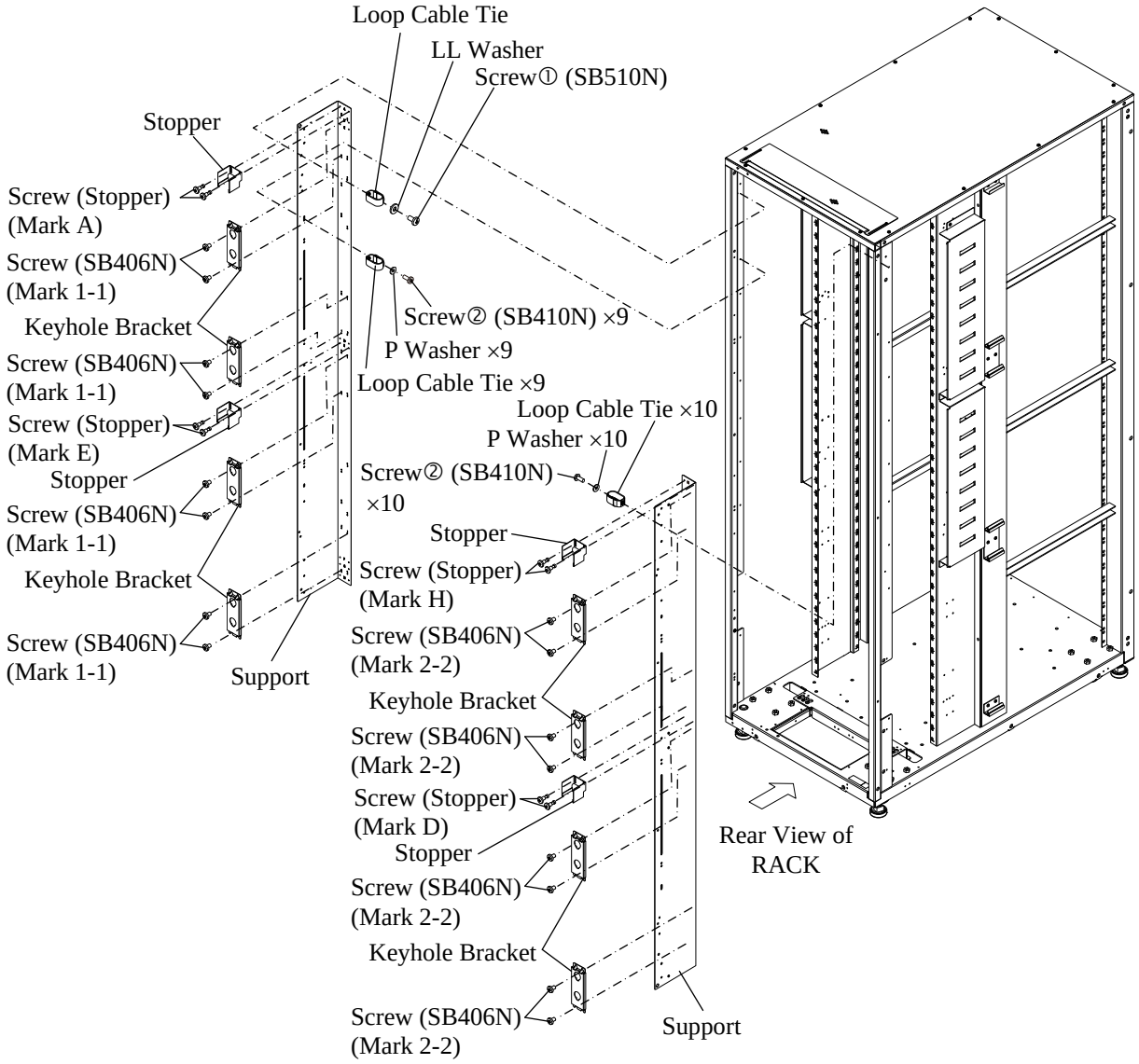


Fig. 3.19.1-3 Installation of Parts

Copyright © 2014, Hitachi, Ltd.

2. Installation of PDU

In the Case of 3 Phase PDU (D9N51A/H5M72A) with Power Cables Drawn from Bottom Surface

a. Mount the two PDUs in the lower holes on the Keyhole Brackets and slide the PDUs downward.
b. Fix the PDUs with the stoppers.

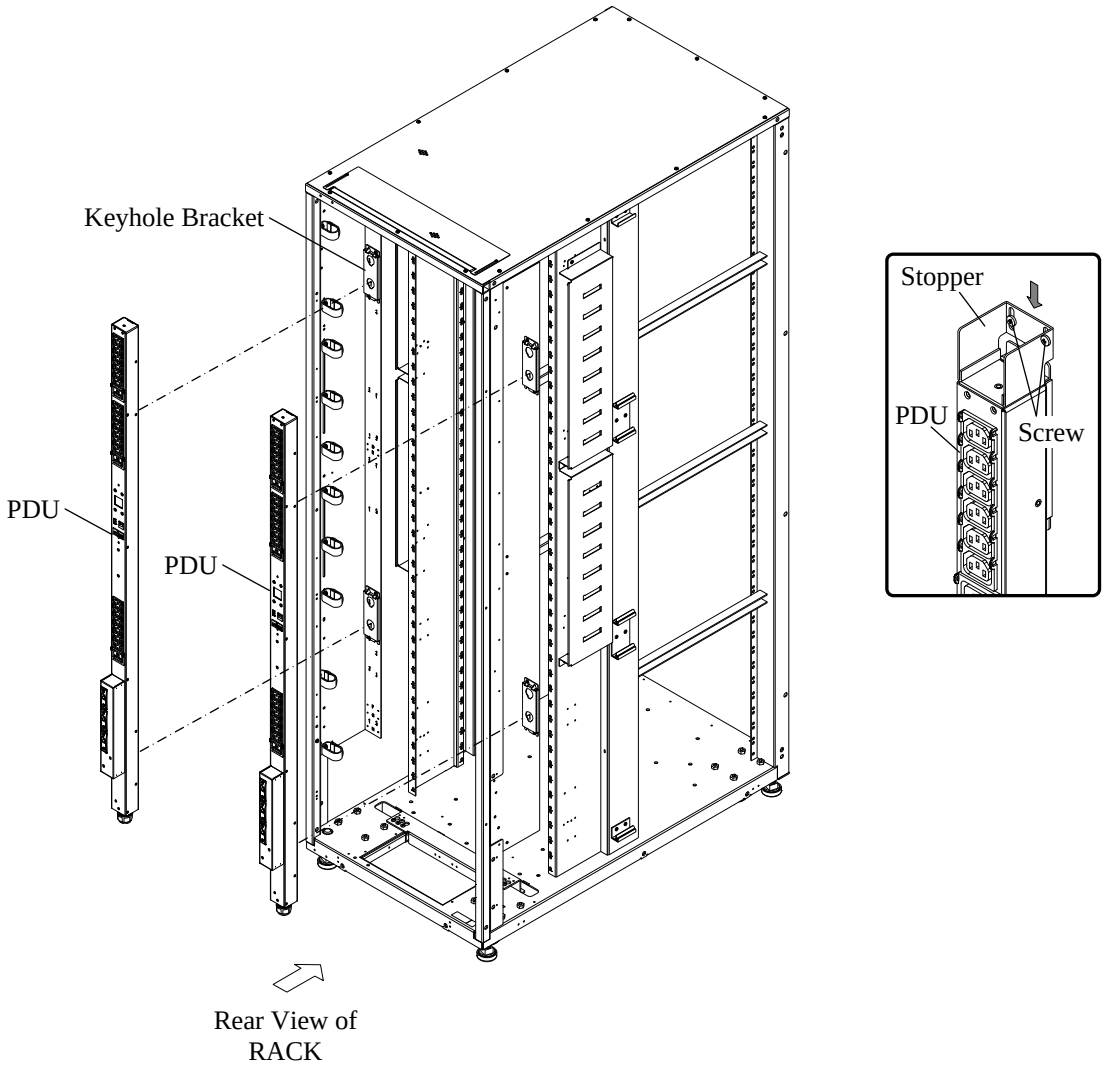


Fig. 3.19.1-4 Installation of PDU

Copyright © 2014, Hitachi, Ltd.

In the Case of 3 Phase PDU (D9N51A/H5M72A) with Power Cables Drawn from Top Cover

a. Mount the two PDUs in the lower holes on the Keyhole Brackets and slide the PDUs downward.
b. Fix the PDUs with the stoppers.

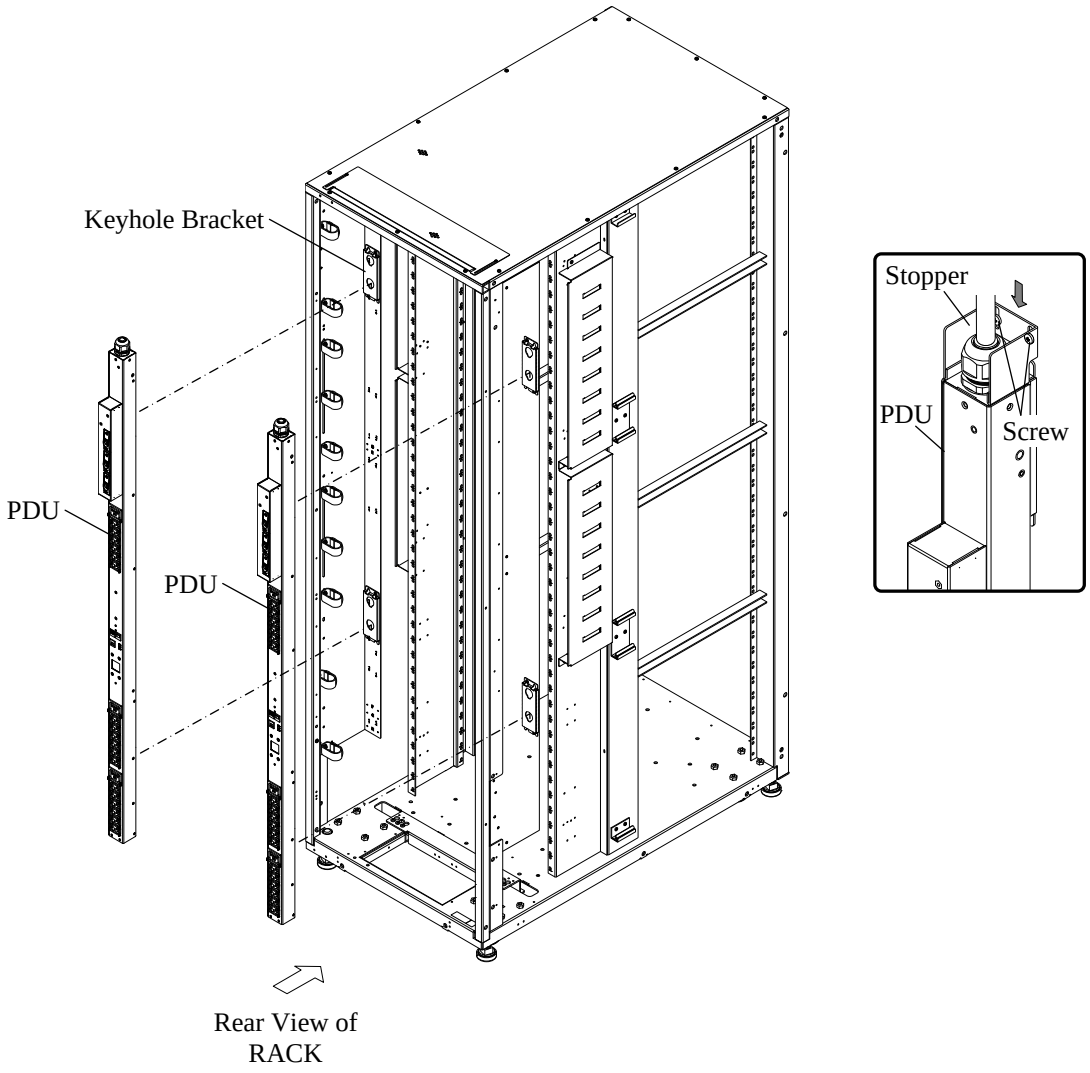


Fig. 3.19.1-5 Installation of PDU (Upside Down)

Copyright © 2014, Hitachi, Ltd.

In the Case of 1 Phase PDU (H5M58A/H5M68A) Drawn from Bottom Surface

a. Mount the four PDUs in the lower holes on the Keyhole Brackets and slide the PDUs downward.
b. Fix the PDUs with the stoppers.

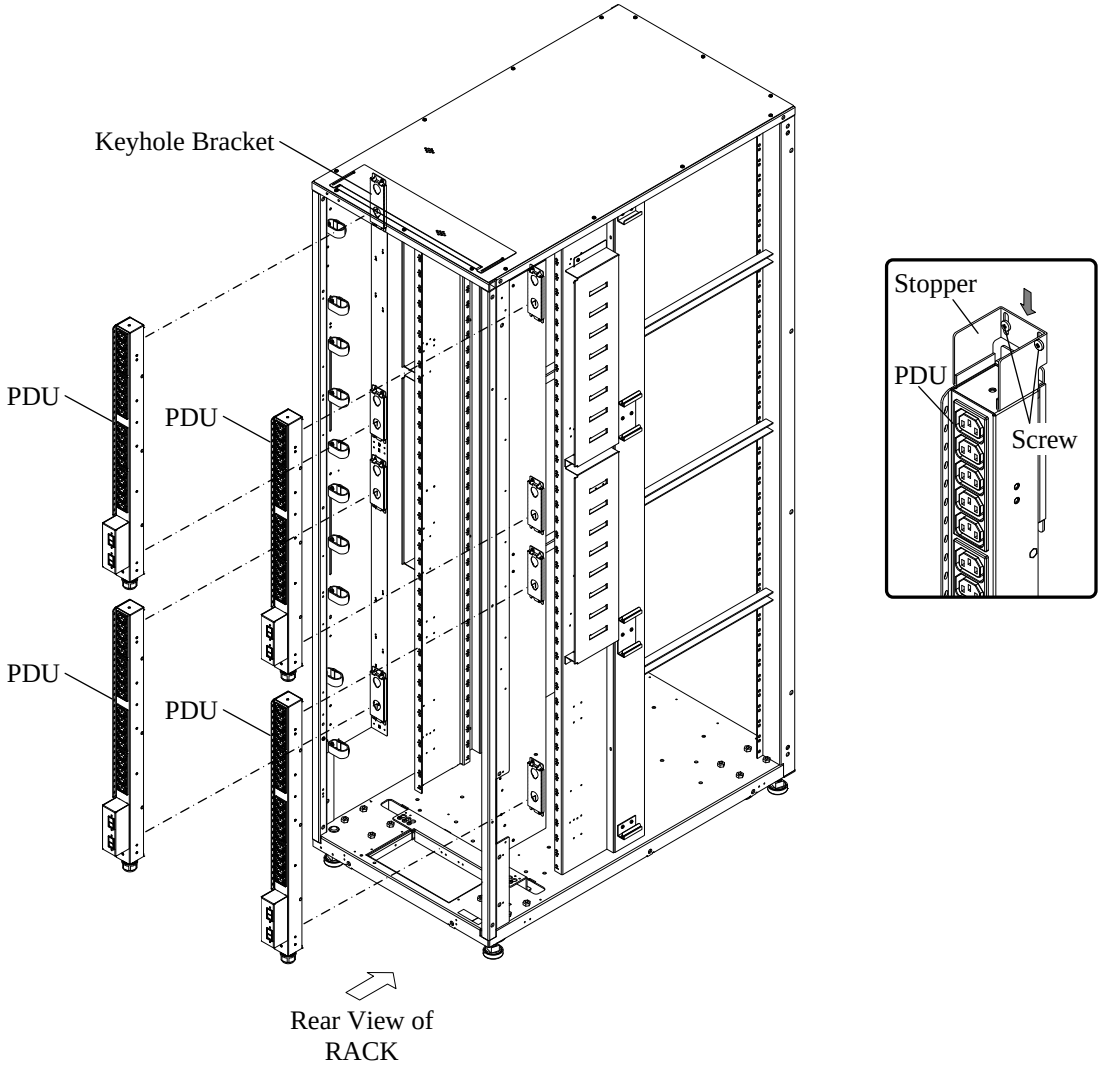


Fig. 3.19.1-6 Installation of PDU

Copyright © 2014, Hitachi, Ltd.

In the Case of 1 Phase PDU (H5M58A/H5M68A) with Power Cables Drawn from Top Cover

a. Mount the four PDUs in the upper holes on the Keyhole Brackets and slide the PDUs downward.
b. Fix the PDUs with the stoppers.

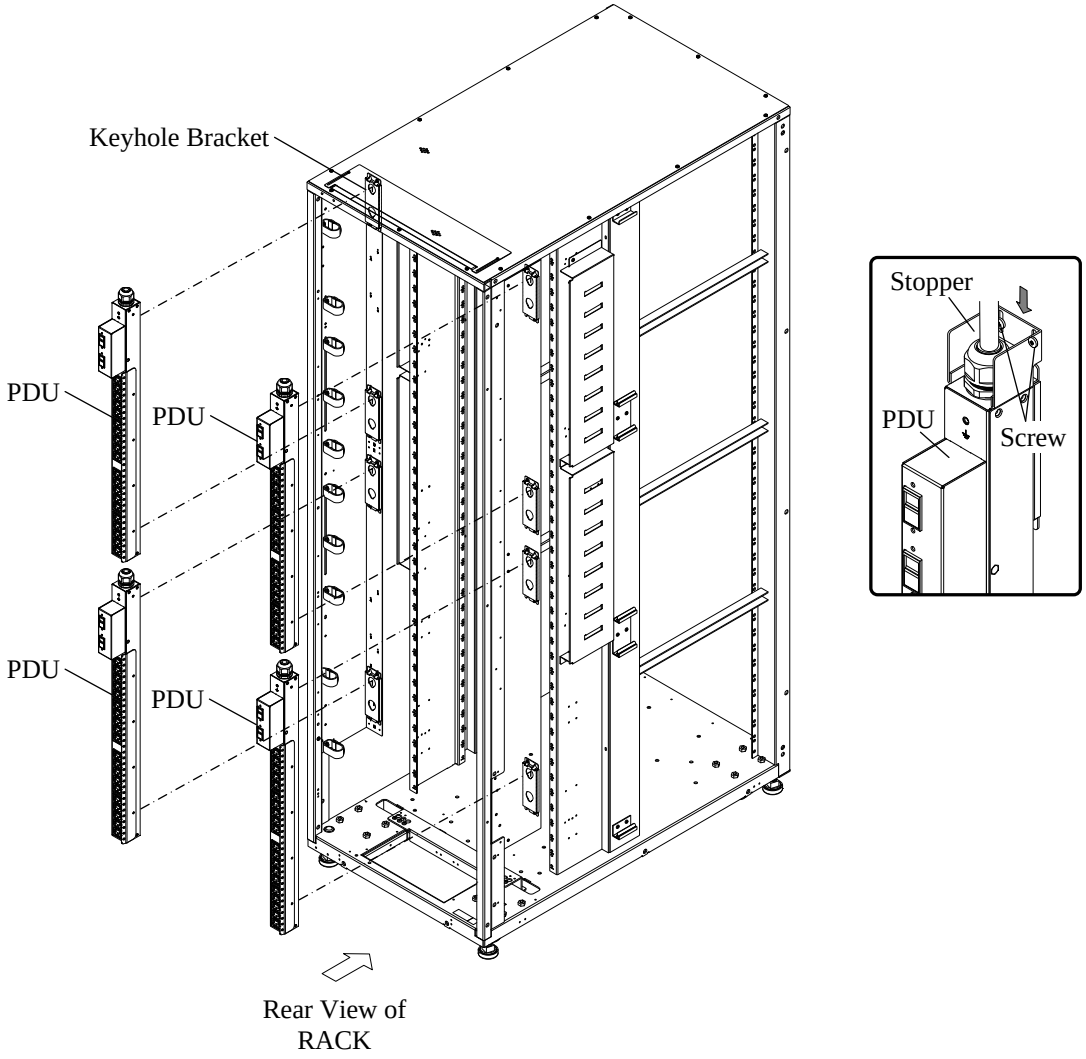


Fig. 3.19.1-7 Installation of PDU (Upside Down))

Copyright © 2014, Hitachi, Ltd.

3. Power Cable Wiring

In the Case of 3 Phase PDU (D9N51A/H5M72A) with Power Cables Drawn from Bottom Surface

a. Loosen the six screws and remove the Plate.
b. Run the two power cables of the PDUs through an opening on the bottom of the rack to the outside.
c. Put the Plate back in place and fix it with the six screws.

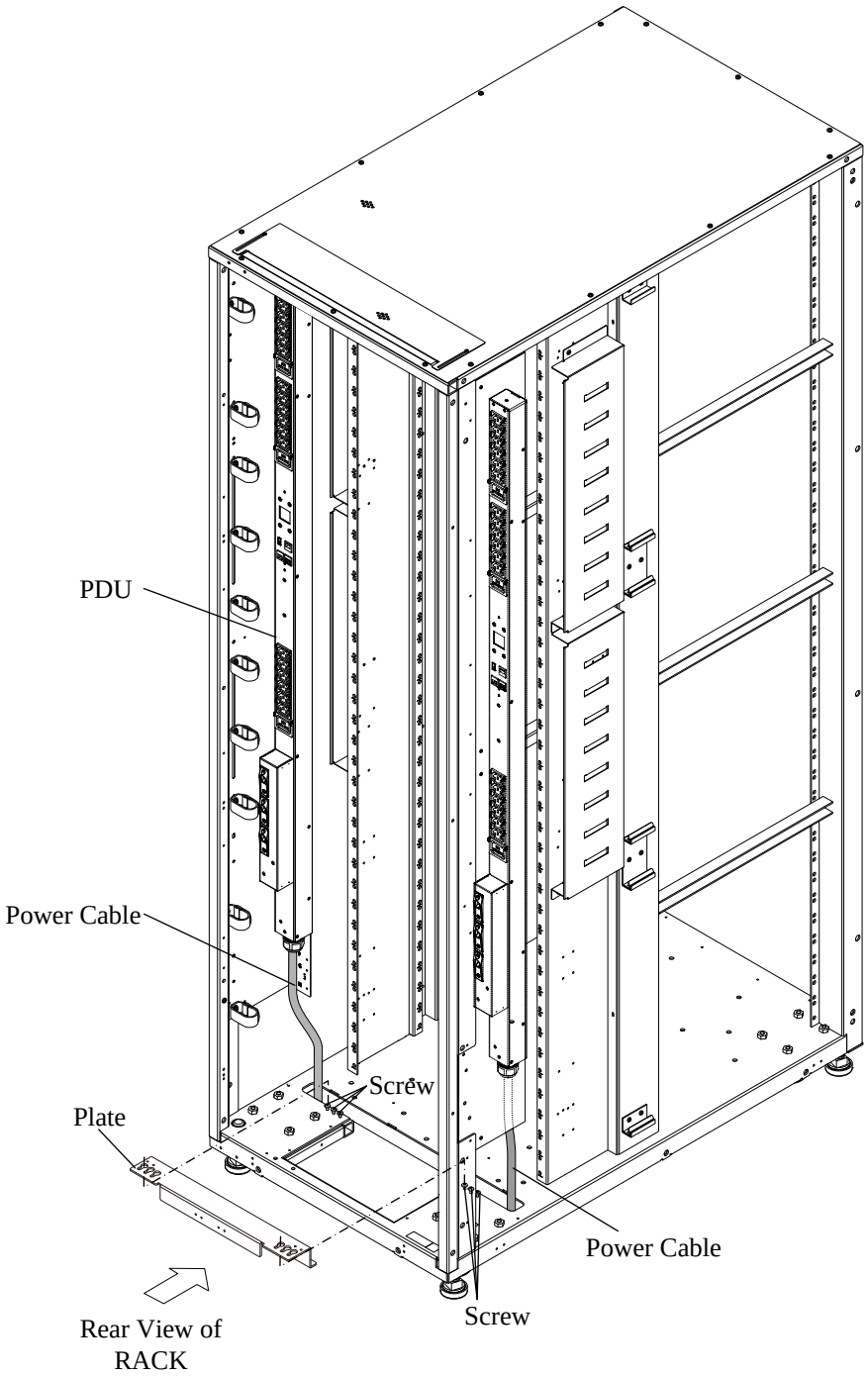


Fig. 3.19.1-8 Power Cable Wiring

Copyright © 2014, Hitachi, Ltd.

In the Case of 3 Phase PDU (D9N51A/H5M72A) with Power Cables Drawn from Top Cover

a. Loosen the two screws of the top cover, and slide the window opening toward the front side.
b. Run the two power cables of the PDUs through the window opening on the top cover to the outside.
c. Slide the window to close the opening, and retighten it with the two screws.

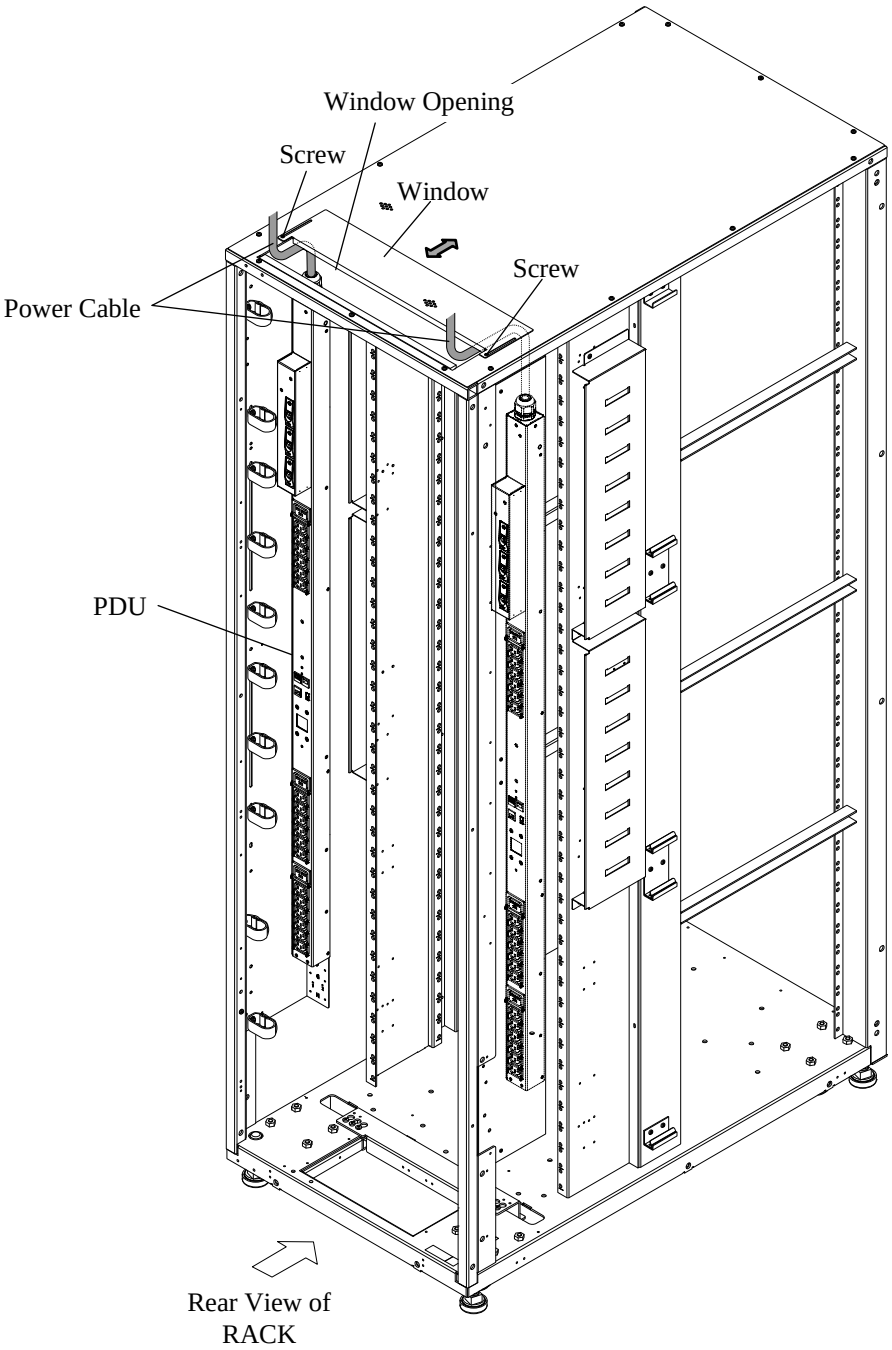


Fig. 3.19.1-9 Power Cable Wiring (Window Opening)

Copyright © 2014, Hitachi, Ltd.

In the Case of 1 Phase PDU (H5M58A/H5M68A) with Power Cables Drawn from Bottom Surface

a. Loosen the six screws and remove the Plate.
b. Run the four power cables of the PDUs through an opening on the bottom of the rack to the outside and fix them with the clamp tapes.
c. Put the Plate back in place and fix it with the six screws.

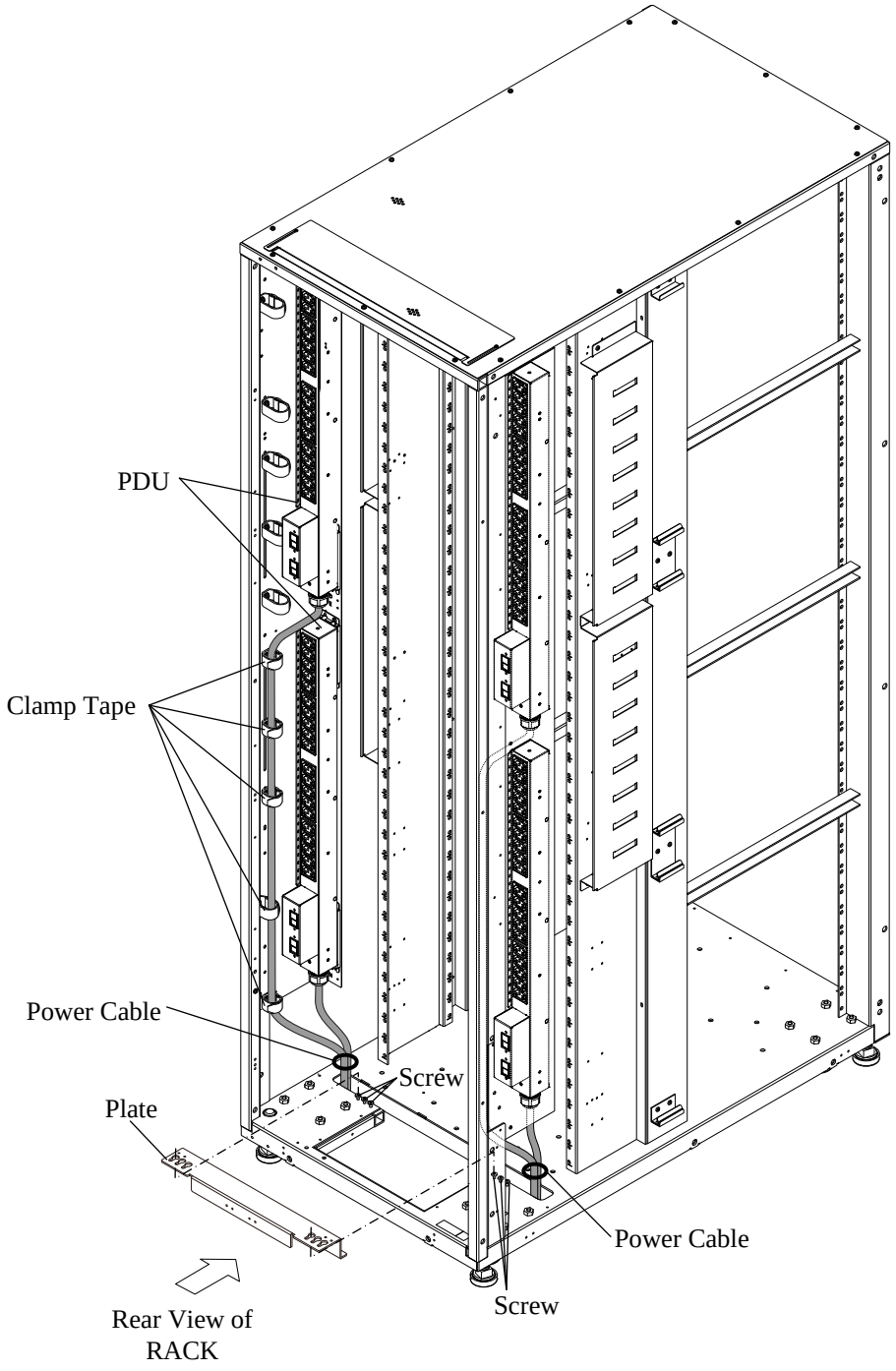


Fig. 3.19.1-10 Power Cable Wiring

Copyright © 2014, Hitachi, Ltd.

In the Case of 1 Phase PDU (H5M58A/H5M68A) with Power Cables Drawn from Top Cover

a. Loosen the two screws of the top cover, and slide the window opening toward the front side.
b. Run the four power cables of the PDUs through the window opening on the top cover to the outside and fix them with the clamp tapes.
c. Slide the window to close the opening, and retighten it with the two screws.

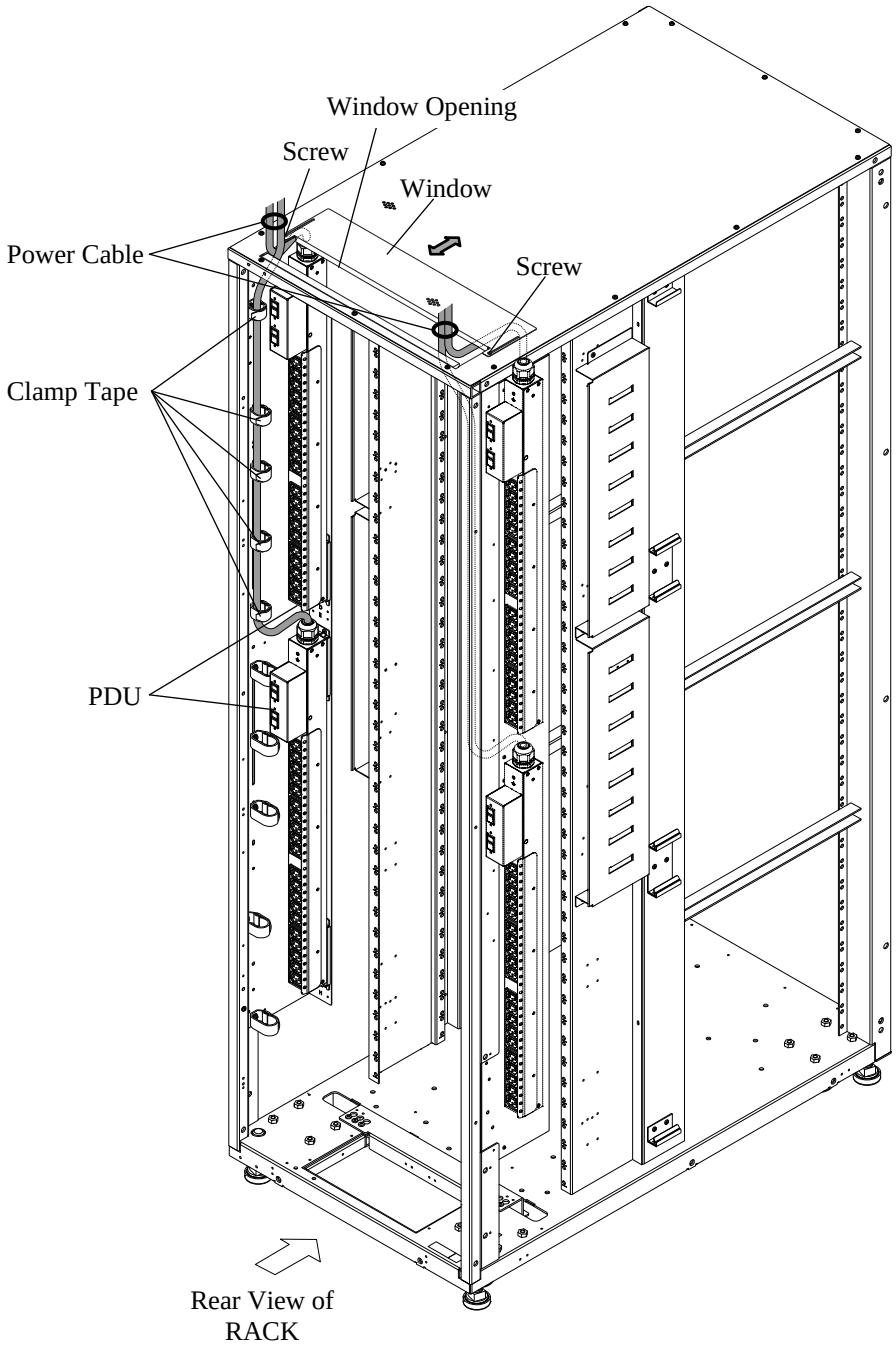


Fig. 3.19.1-11 Power Cable Wiring (Window Opening)

Copyright © 2014, Hitachi, Ltd.

4. Return to the working table and do the rest of the work.
   New Installation: INST02-10
   Non-Disruptive Installation: INST02-40