

DKC310I-5EU/5EUP DKU305I-14U/14UP DISK SUBSYSTEM

Maintenance Manual

Separate Volume 1/1

REV.0

Preface

This manual describes the maintenance of DKC310I-5EU/5EUP Disk Control Unit and DKU305I-14U/14UP Disk Drive Unit, including installation and replacement.

Before starting maintenance, read the manual carefully to be familiar with operating procedures and instructions.

Particularly, be familiar with the Safety Section and obey its instructions.

Keep the manual on hand for your convenience.

The manual is copyrighted by Hitachi, Ltd. No part of the manual may be copied or reproduced in any form or by any means without the prior permission of the publisher.

All information contained herein is subject to change without notice.

The screens described herein are the screens displayed by the Hitachi-generated SVP program which runs on the Windows of the Microsoft Corporation.

MS-DOS : Registered trademark of the Microsoft Corporation in USA.

Windows : Registered trademark of the Microsoft Corporation in USA.

ARMADA : Registered trademark of the Compaq Computer Corporation in USA.

ESCON : Registered trademark of the International Business Machines Corporation in USA.

ESCD : Registered trademark of the International Business Machines Corporation in USA.

IOCDs : Registered trademark of the International Business Machines Corporation in USA.

MVS : Registered trademark of the International Business Machines Corporation in USA.

PPRC : Registered trademark of the International Business Machines Corporation in USA.

TSO : Registered trademark of the International Business Machines Corporation in USA.

COMPAQ : Trademark of the Compaq Computer Corporation in USA.

Other company names and trade names described in the manual are trademarks or registered trademarks of corresponding companies.

CONTENTS

- 1. SAFETY**
- 2. START**
- 3. LOCATION**
- 4. INSTALLATION**
- 5. TROUBLE SHOOTING**
- 6. REPLACE**
- 7. PARTS CATALOG**
- 8. ACC (ACTION CODE)**
- 9. SIM-RC**

REV.	DATE.	ECN/TN No.	REVISED SHEET		DESCRIPTION
			SHEET	REV.	
0	Jul.1999	—	—	—	Original Edition

SAFETY SECTION

FCC STATEMENT Federal Communications Commission (FCC) Statement

WARNING : This equipment generates , uses , and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual , may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Part 15 of FCC Rules , which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

"EINE LEICHT ZUGÄNGLICHE TRENN-VORRICHTUNG, MIT EINER KONTAKT-ÖFFNUNGSWEITE VON MINDESTENS 3mm IST IN DER UNMITTELBAREN NÄHE DER VERBRAUCHERANLAGE ANZUORDNEN (4-POLIGE ABSCHALTUNG)."

Maschinen lärm informations verordnung 3. GSGV, 18.01.1991: Der "höchste" Schalldruckpegel beträgt 70 db(A) oder weniger gemäß ISO 7779.

CLASS 1 LASER PRODUCT**Warning**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Table of Contents

1. General Safety Guidelines	SAFETY01T-10
1.1 Before starting maintenance.....	SAFETY01T-10
1.2 UNIT EMERGENCY POWER OFF switch.....	SAFETY01T-20
1.3 DURING work.....	SAFETY01T-25
1.4 Prevention of electric shocks.....	SAFETY01T-30
1.5 Preventing being caught by rotating or moving parts.....	SAFETY01T-40
1.6 Procedures in an emergency.....	SAFETY01T-40
1.6.1 For electric shock.....	SAFETY01T-40
1.6.2 For outbreak of fire.....	SAFETY01T-40
2. Hazard Warning Statements	SAFETY02T-10
2.1 DANGER Statements.....	SAFETY02T-10
2.2 WARNING Statements.....	SAFETY02T-10
2.3 CAUTION Statements	SAFETY02T-10

SAFETY SUMMARY

Safety Summary

1 General Safety Guidelines

Read the following safety guidelines carefully and follow them when you conduct maintenance of the machine.

1.1 Before starting maintenance

- Maintenance of the machine must be done only by trained and qualified field engineers.
- Read and follow the safety guidelines and procedures in this manual and the related manuals.
- In this manual and on the machine, hazard warnings are provided to aid you in preventing or reducing the risk of death, personal injury, or product damage.
Understand and follow these hazard warnings fully.
- The hazard warnings which appear on the warning labels on the machine or in the manual have one of the following alert headings consisting of an alert symbol and a signal word, DANGER, WARNING, or CAUTION.

 DANGER:	indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 WARNING:	indicates a potentially hazardous situation which, if not avoided, can result in death or serious injury.
 CAUTION:	indicates a hazardous situation which, if not avoided, will or can result in minor or moderate injury, or serious damage of product.
	The alert symbol shown left precedes every signal word for hazard warnings, and appears in safety related descriptions in the manual.

The signal word 'NOTICE' is used to present warnings which are not directly related to personal injury hazards.

- When warning labels become dirty or start peeling off, replace them.
- If any physical accident such as abnormal noise, smell, smoke or falling down occurs on the Disk Subsystem while running, immediately power off the Disk Subsystem by pulling one of the UNIT EMERGENCY POWER OFF switch on the Disk Subsystem.
- Keep in mind that the hazard warnings in this manual or on the machine cannot cover every possible case, as it is impossible to predict and evaluate all circumstances before hand.
Be alert and use your common sense.

⚠ SAFETY SUMMARY (Continued)

1.2 UNIT EMERGENCY POWER OFF switch

A UNIT EMERGENCY POWER OFF switch is provided on the operator panel on the front side of the DKC for an emergency powering off. When any abnormality such as an abnormal sound or smell or emitting smoke is perceived, power off the disk subsystem by operating the switch following the procedure below. The procedure for operating the switch is as follows.

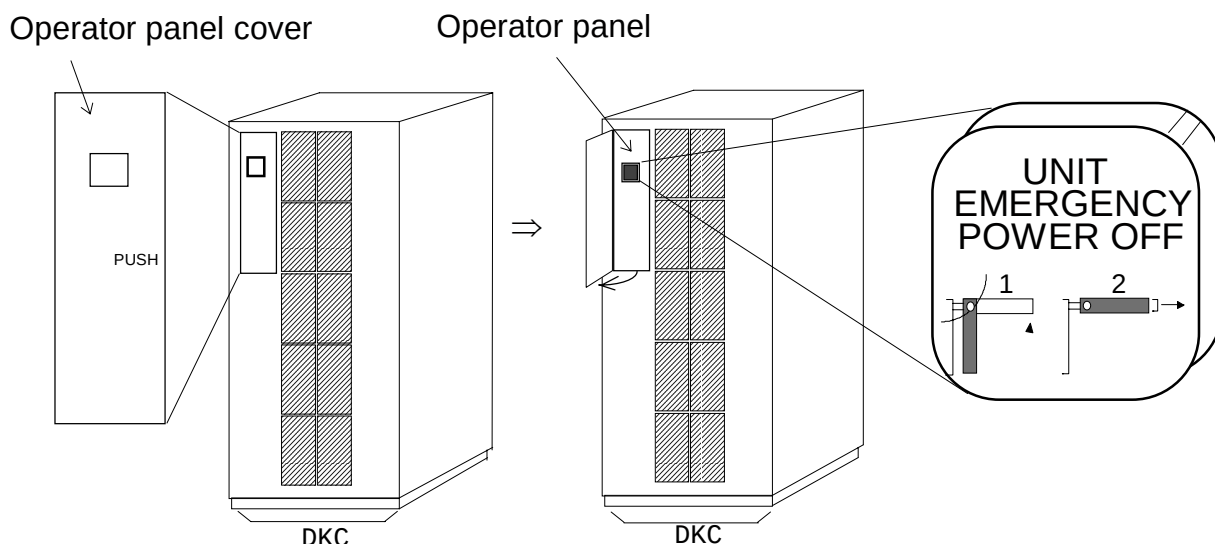


Figure 2.2 Operation of UNIT EMERGENCY POWER OFF switch

- Push the operator panel cover at the portion where a sign "PUSH" is marked, open the operator panel cover, then operate the EMERGENCY POWER OFF switch.
- In using a UNIT EMERGENCY POWER OFF switch, first pull it up and then pull it toward you as illustrated.
- Pulling a UNIT EMERGENCY POWER OFF switch on the Disk Controller instantly shuts down, neglecting the systems power off sequence. Jobs in process are aborted and their integrity after recovery is not guaranteed. Therefore, this method should be used only in an emergency and not in usual maintenance.
- UNIT EMERGENCY POWER OFF switch on the Disk Controller only provide partial power off capability, and AC input power present at primary circuit yet. Therefore, do not use the switches on these units unless powering off of the own unit is obviously enough and safe as an emergency measure.
- When pulled, a UNIT EMERGENCY POWER OFF switch locks itself to prevent further powering on and requires a trained and qualified field engineer for recovery.

 SAFETY SUMMARY (Continued)

1.3 During work

- For each procedure, follow the given sequence of steps.
- Use the spare parts, consumable and materials for maintenance which are specified in the manual; otherwise, personal injury or damage of the machine, as well as deterioration of the product's quality, may result.
- Use the special tools and instruments specified for the work in the manual or commercially available tools and instruments which fit the purpose.
- Use measurement instruments and powered tools which are properly calibrated or periodically inspected.
- Keep the maintenance area neat and tidy.
- Always put away parts, materials or tools when not in use.
- Wear an eye protector where liquid may splash or anything may fly about.
- When lifting anything heavy, hold it close to yourself and keep your back erect, to prevent injury to your back or spine.
When lifting anything, for the weight of which CAUTION is indicated, use a proper lifting tool or have somebody help you.
- Keep a soldering iron and its stand away from you to prevent accidental contact and burns.
- When using sharp objects or cutting tools, make sure that no part of your body lies in the path of the blade bit, or point.
- Before finishing you work, make sure that all parts removed during maintenance have been installed back in their original positions in the machine.
Make sure that no tool or foreign material is left in the machine.

⚠ SAFETY SUMMARY (Continued)

1.4 Prevention of electric shocks

- Before starting work, make sure that, unless otherwise specifically instructed, there is no potential electric hazard in the maintenance area such as insufficient grounding or a wet floor.
- Before starting work, note where the emergency power-off switches are located and make sure you know how to operate them.
- Unless otherwise specifically instructed, cut off all power sources to the machine before stating maintenance. Just switching off the machine power supplies is usually not enough.
When power is fed from a wall or floor outlet, unplug the power supply cord, or turn off the switch on the power distribution panel or board.
Attach a notice on the panel or board prohibiting the use of the switch.
If the machine power has been already turned off, make sure yourself that these conditions are satisfied.
- Do not touch any uninsulated conductor or surface, where so instructed, which remains charged for a limited time after the external power supply to the machine is disconnected.
- When working on a machine which has a grounding terminal, make sure that the terminal is properly connected to the facility's ground.
- When working close to a hazardously energized part, do not work alone; work with another person who can immediately turn off the power in an emergency.
- Do not wear any metallic item such as a wrist watch with a metallic surface, or metallic accessories.
If you wear eyeglasses with a metallic frame, take care not to let the frame touch an uninsulated surface.
- Make sure that your hands and arms are dry.
- Unless otherwise specifically instructed, use only one hand when it is necessary to work near an exposed live electric circuit.
This prevents the completion of the circuit through both hands even if you accidentally touch the circuit.
- Do not use a dental mirror near an exposed live electric circuit.
The mirror surface is conductive and can become hazardous even if it is made of plastic.
- Unless otherwise specifically instructed, do not supply power to any subassembly such as a power supply unit or a motor while it is removed from the machine.

 SAFETY SUMMARY (Continued)

1.5 Preventing being caught by rotating or moving parts

- Tuck in your tie, scarf, shirt, or any other loose clothing so that it will not be caught by a rotating or moving part.
- Tie up long hair.
- Unless otherwise specifically instructed, do not supply power to any device with rotating or moving parts which are not properly covered.
- When instructed to supply power to any device with rotating or moving parts whose covers have been removed, work with another person who can immediately turn off the power in an emergency.

1.6 Procedures in an emergency

1.6.1 For electric shock

- Do not be panicked. Do not become another victim through contact with the injured person.
- First, shut off the electric current passing through the victim.
Use the emergency power-off switch if there is one, or otherwise a normal power-off switch.
If this cannot be done, push the victim away from the source of the electric current by using a nonconductive object such as a dry wooden stick.
- Then, call an ambulance.
- If the victim is unconscious, artificial respiration may be necessary.
A proper method for performing artificial respiration or resuscitation should be learned beforehand.
- If the victim's heart is not beating, cardio-pulmonary resuscitation should be performed by a trained and qualified person.

1.6.2 For outbreak of fire

- First, shut off all the power from the machine using the emergency power-off switch if there is one, or otherwise the normal power-off switch.
- If the fire continues burning after the power is shut off, take suitable actions including the use of a fire extinguisher or a call for the fire department.

⚠ SAFETY SUMMARY (Continued)

2 Hazard Warning Statements

The following are the hazard warning statements contained in this manual.

2.1 ⚠ DANGER Statements

The DKC has Two Main Disconnect Devices (Two Main Breaker CB200s for Dual Power Lines) so that AC Power of the unit can be supplied from the separate power distribution board with Two Power Supply Cords. Similarly, each of the 1st DKU, the 2nd DKU, the 3rd DKU and, the 4th DKU also has Two Main Disconnect Devices (Two Main Breaker CB101s for Dual Power Lines).
(LOCATION04T-10, LOCATION04T-20)

2.2 ⚠ WARNING Statements

Be Careful of Electric Shock
(REP03T-30, REP03T-140, REP03T-250, REP03T-270, REP03T-340, REP03T-360, REP03T-420, REP03T-440)

2.3 ⚠ CAUTION Statements

Perform The Hz Conversion with care.
(INST03T-990)

Mind Your Head
(REP03T-30, REP03T-140, REP03T-250, REP03T-340)

START SECTION

REV.0	Jul.1999					
-------	----------	--	--	--	--	--

Contents

1 Precautions START01T-10

1.1 Notice in use of this maintenance manual START01T-10

1.2 How to use this maintenance manual START01T-10

2 Start Entry Table START02T-10

All Maintenance Procedures Start from Here!

1 Precautions

- All maintenance operations to be performed on this subsystem are controlled through the SVP. When taking maintenance actions, carefully read this maintenance manual to avoid operation mistakes.
- The subsystem is designed so that troubles are isolated using the action code (ACC). If no ACC is presented, isolate the trouble based on TROUBLE SHOOTING SECTION.
- This subsystem supports new technologies such as RAID and live part plugging/unplugging. The service personnel should read THEORY OF OPERATION SECTION and understand its contents.

1.1 Notice in use of this maintenance manual

This is a maintenance manual for the disk array subsystem comprises the DKC310I-5EU/5EUP and DKU305I-14U/14UP (single-phase-powered), which consists of two parts, that is, a separate volume 1/1 for the single-phase powered subsystem and four main volumes 1/4 to 4/4. The former contains information peculiar to the DKC310I-5EU/5EUP and DKU305I-14U/14UP, and the latter refers to the manual of the DKC310I and DKU305I (three-phase-powered) because it can be commonly used concerning functions not related to the supplied power.

1.2 How to use this maintenance manual

When servicing the subsystem by using this manual, select the item to be checked from the START ENTRY TABLE in START SECTION and follow the instructions given in the corresponding test procedure.

(Note)

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

2 Start Entry Table

Select the test item to be executed on this subsystem and follow the instructions given on the indicated pages.

	Test Item	Go To
A. Error Analysis		
A-1	Analyzing Errors with ACC	TRBL03T-10
A-2	—	START02-10 (Note)
B. Status Display		
B-1	—	START02-10 (Note)
C. Installation		
C-1	New Installation Procedure General Flow	INST02T-10
C-2	Non-Disruptive Installation Procedure General Flow	INST02T-20
C-3	Non-Disruptive De-Installation Procedure General Flow	INST02T-30
C-4	Disruptive Installation Procedure General Flow	INST02T-40
C-5	Disruptive De-Installation Procedure General Flow	INST02T-50
D. Microprogram FC		
D-1	—	START02-10 (Note)
E. Part Replacement		
E-1	Replacing parts (DKC AC Box, DKU AC Box, Breaker Box)	REP00T-10
E-2	Replacing parts except E-1	START02-10 (Note)
F. SVP Panel Manipulation		
F-1	—	START02-10 (Note)
G. Diagnostics		
G-1	—	START02-10 (Note)
H. Others		
H-1	Location	LOCATION00T-10
H-2	Parts Catalog	PARTS00T-10
H-3	—	START02-10 (Note)

(Note)

Refer to the Start Section in the main volume.

LOCATION SECTION

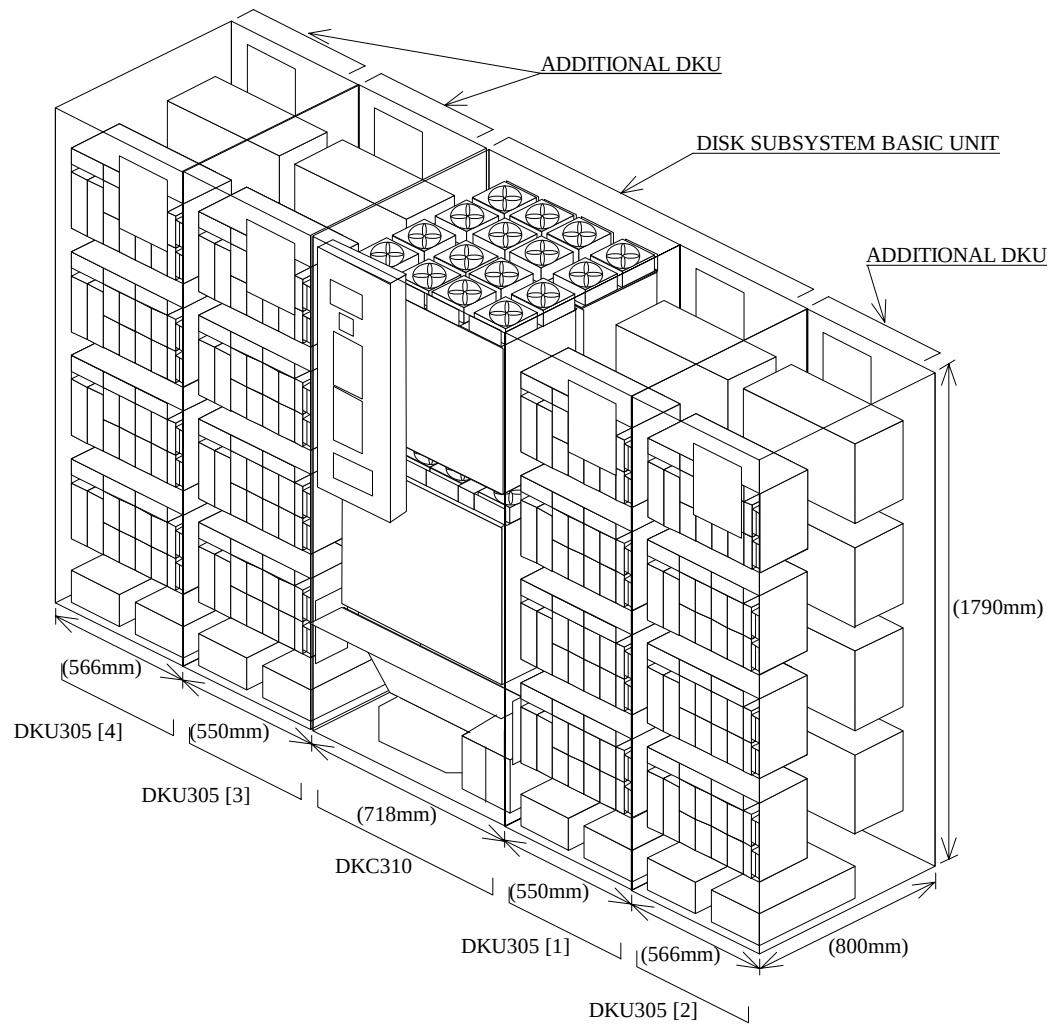
REV.0	Jul.1999					
-------	----------	--	--	--	--	--

Contents

LOCATION

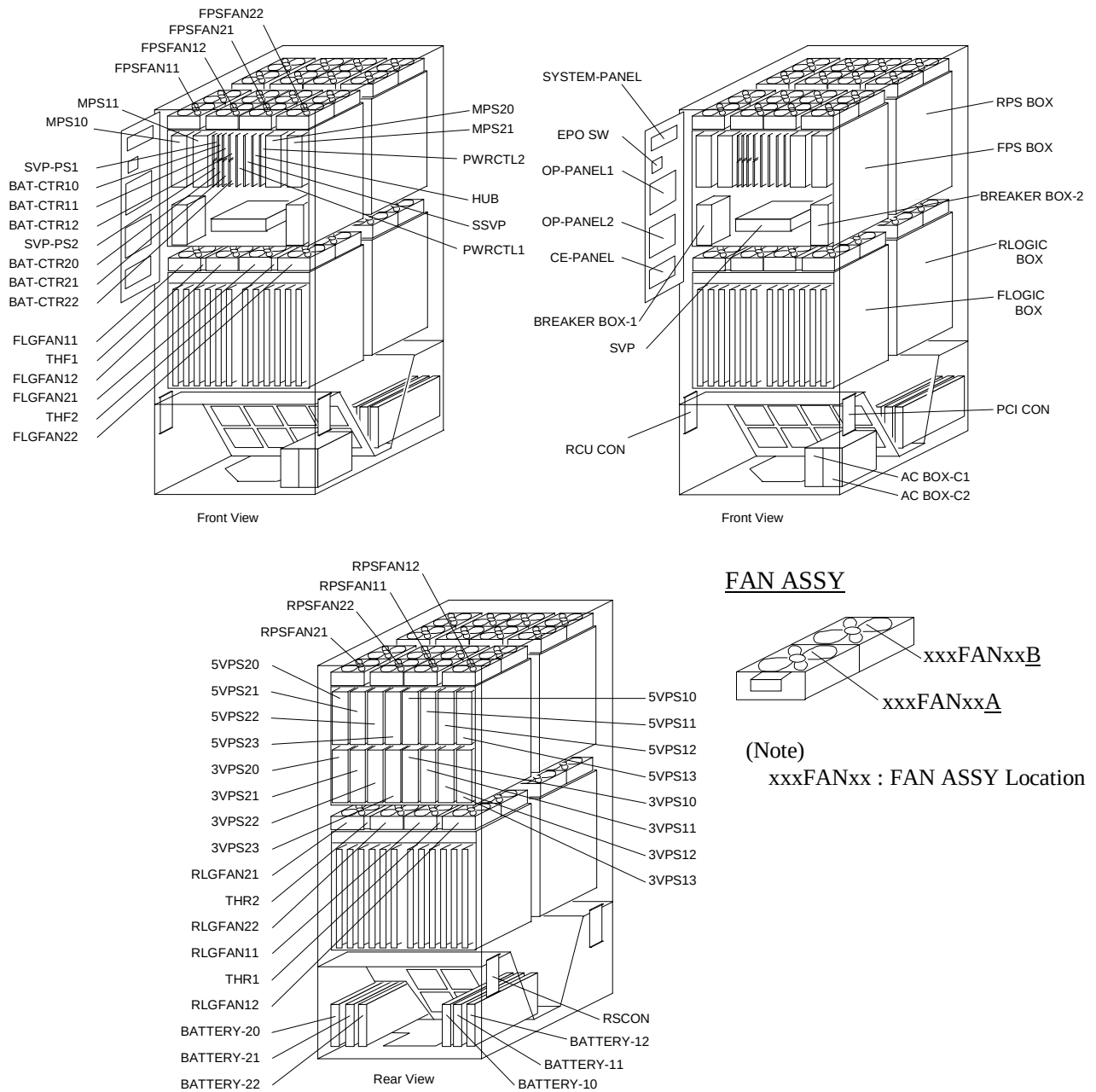
1 Overview of Disk Subsystem -----	LOCATION01T-10
2 Parts Location -----	LOCATION02T-10
2.1 Disk Controller Unit-----	LOCATION02T-10
2.2 PCB and Power Supply Location-----	LOCATION02T-20
2.3 Shared Memory Module Location -----	LOCATION02T-20
2.4 Cache Memory Module Location -----	LOCATION02T-20
2.5 Disk Unit-----	LOCATION02T-30
3 Panel -----	LOCATION03T-10
3.1 Operator Panel -----	LOCATION03T-10
3.2 Other Switches and LEDs -----	LOCATION03T-10
3.3 Circuit Breakers -----	LOCATION03T-20
4 Connection of External Cable -----	LOCATION04T-10
4.1 AC Cabling -----	LOCATION04T-10
4.1.1 DKC310IU/DKU305IU-----	LOCATION04T-10
4.1.2 DKC310IE/DKU305IE -----	LOCATION04T-20
4.2 Channel Interface-----	LOCATION04T-40
4.3 PCI Cabling-----	LOCATION04T-90
4.4 RCU Cabling -----	LOCATION04T-90
5 Internal Cabling Block Diagram -----	LOCATION05T-10
6 Jumper Setting -----	LOCATION06T-10
6.1 Shut Down Jumpers -----	LOCATION06T-10
6.2 Other Jumpers-----	LOCATION06T-10
6.3 Voltage Selector -----	LOCATION06T-10

1 Overview of Disk Subsystem



2 Parts Location

2.1 Disk Controller Unit



2.2 PCB and Power Supply Location

For locations of the PCBs and power supplies, refer to pages LOCATION02-20 to LOCATION02-40 in the Locations Section in the main volume.

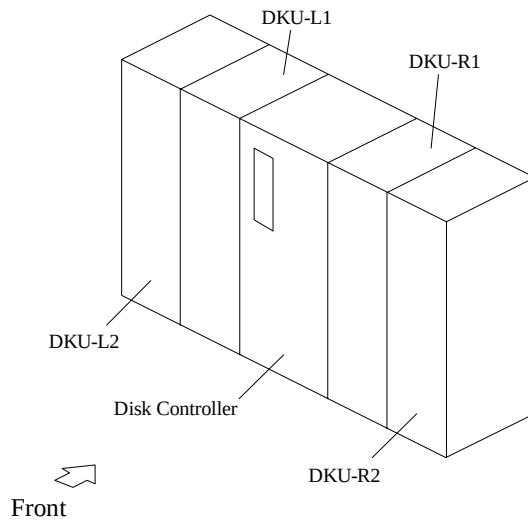
2.3 Shared Memory Module Location

For locations of the Shared Memory modules, refer to page LOCATION02-50 in the Locations Section in the main volume.

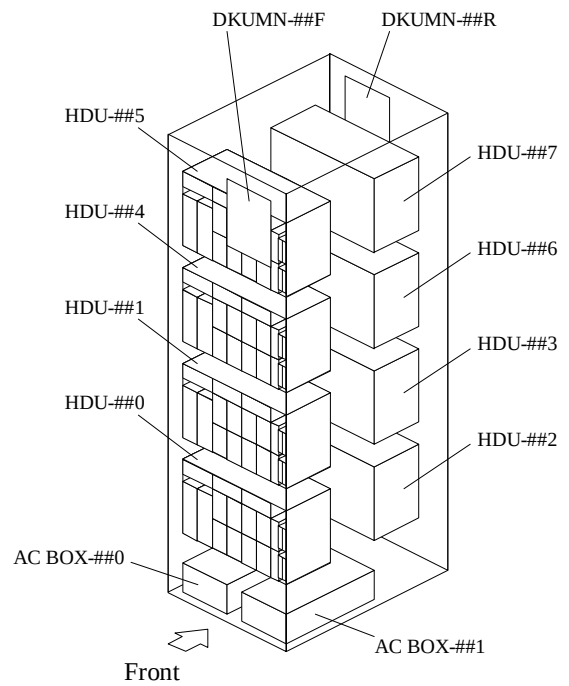
2.4 Cache Memory Module Location

For locations of the Cache Memory modules, refer to page LOCATION02-60 in the Locations Section in the main volume.

2.5 Disk Unit

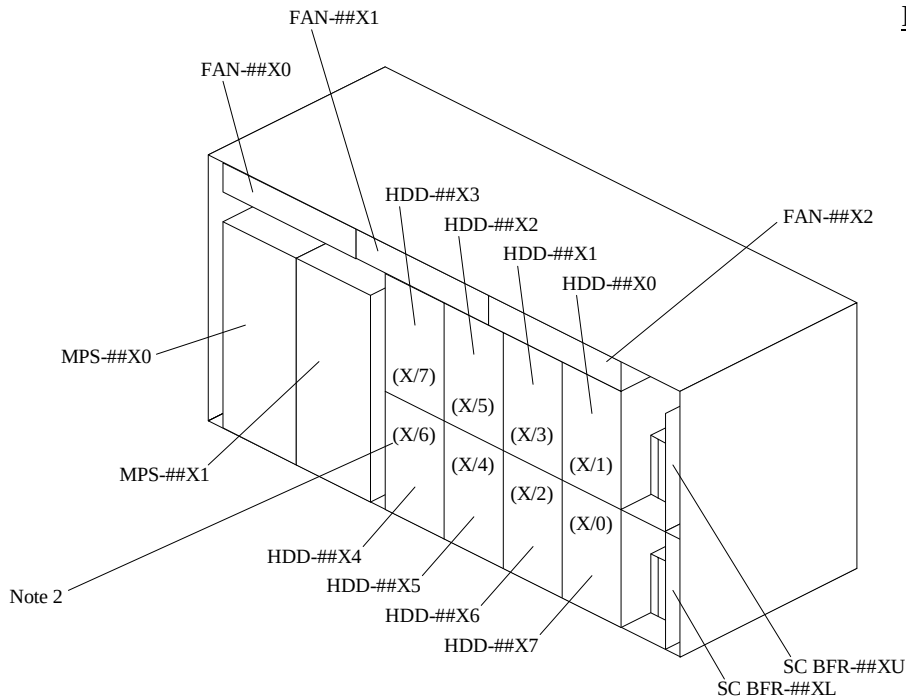


Disk Subsystem



Note: ##=Disk Unit Location(R1,R2,L1,L2)

Disk Unit



Note 1: ##X=HDU Box Location(R10,R11;... ,L27)

Note 2: The HDD canister location is expressed in the form "(Column/row)" in the SSB/SIM LOG.
Column No. : Last digit of the HDU Box location.
Row No. : 0, 1, 2,..., 7

HDU BOX

3 Panel

3.1 Operator Panel

For switches and LEDs on the operator panel, refer to pages LOCATION03-10 to LOCATION03-30 in the Locations Section in the main volume.

3.2 Other Switches and LEDs

For switches and LEDs other than those on the operator panel, refer to pages LOCATION03-40 to LOCATION03-60 in the Locations Section in the main volume.

3.3 Circuit Breakers

Fig. 3.3-1 show the locations of Circuit Breakers.

Fig. 3.3-2, Fig. 3.3-3 and Fig. 3.3-4 show the connection of power supplies.

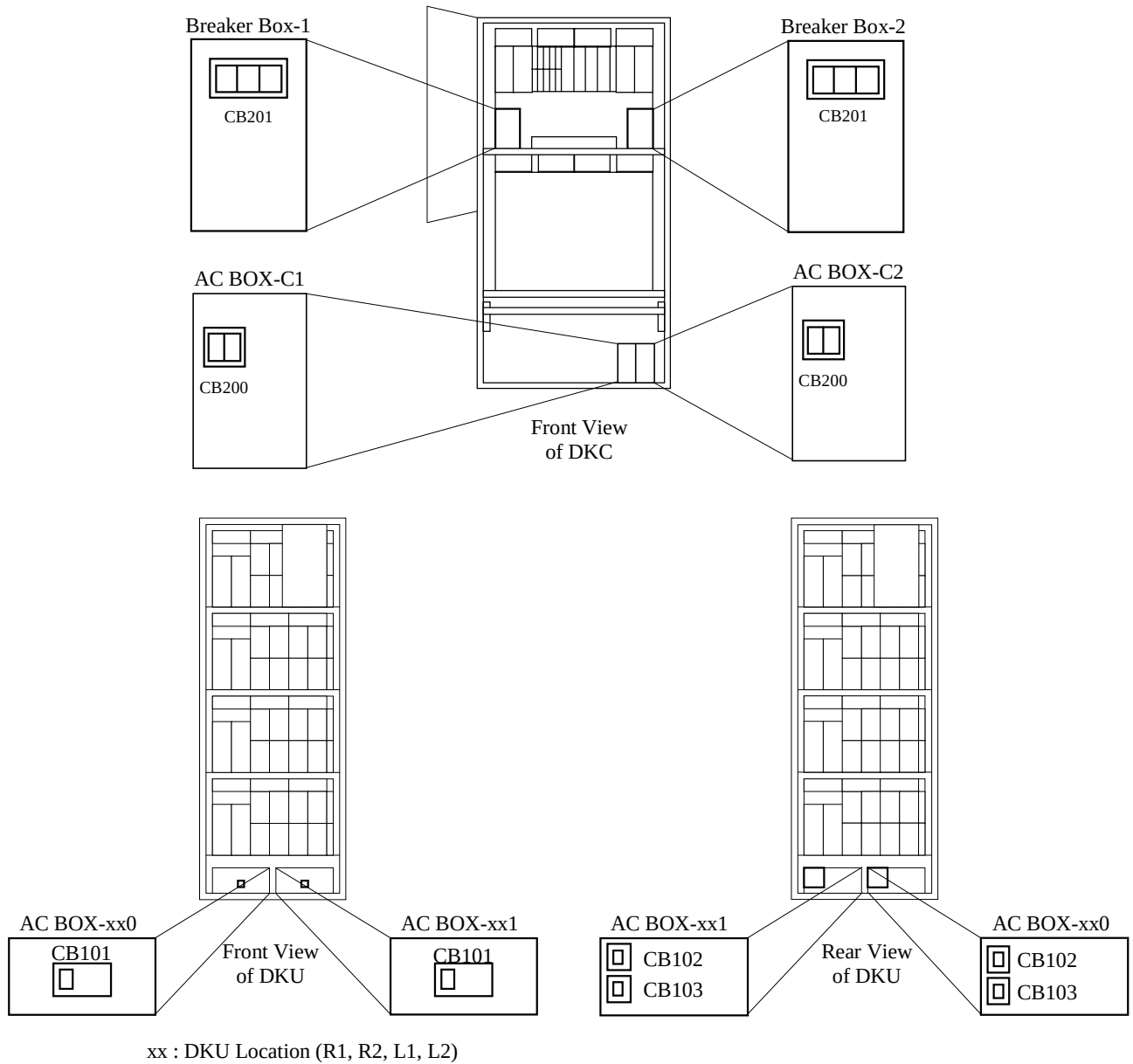


Fig. 3.3-1 Locations of Circuit Breakers

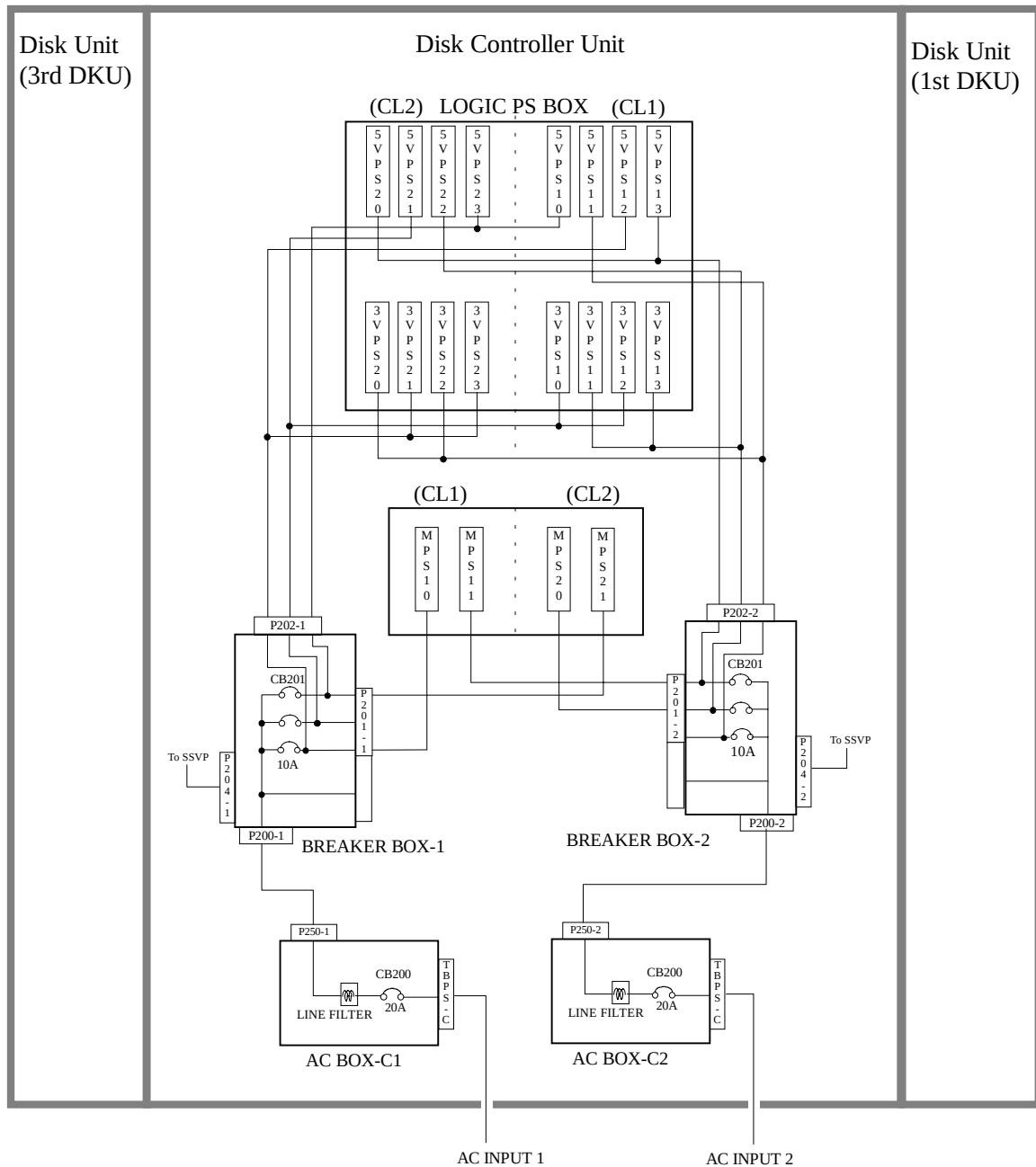


Fig. 3.3-2 Connection of POWER SUPPLIES (1/3)

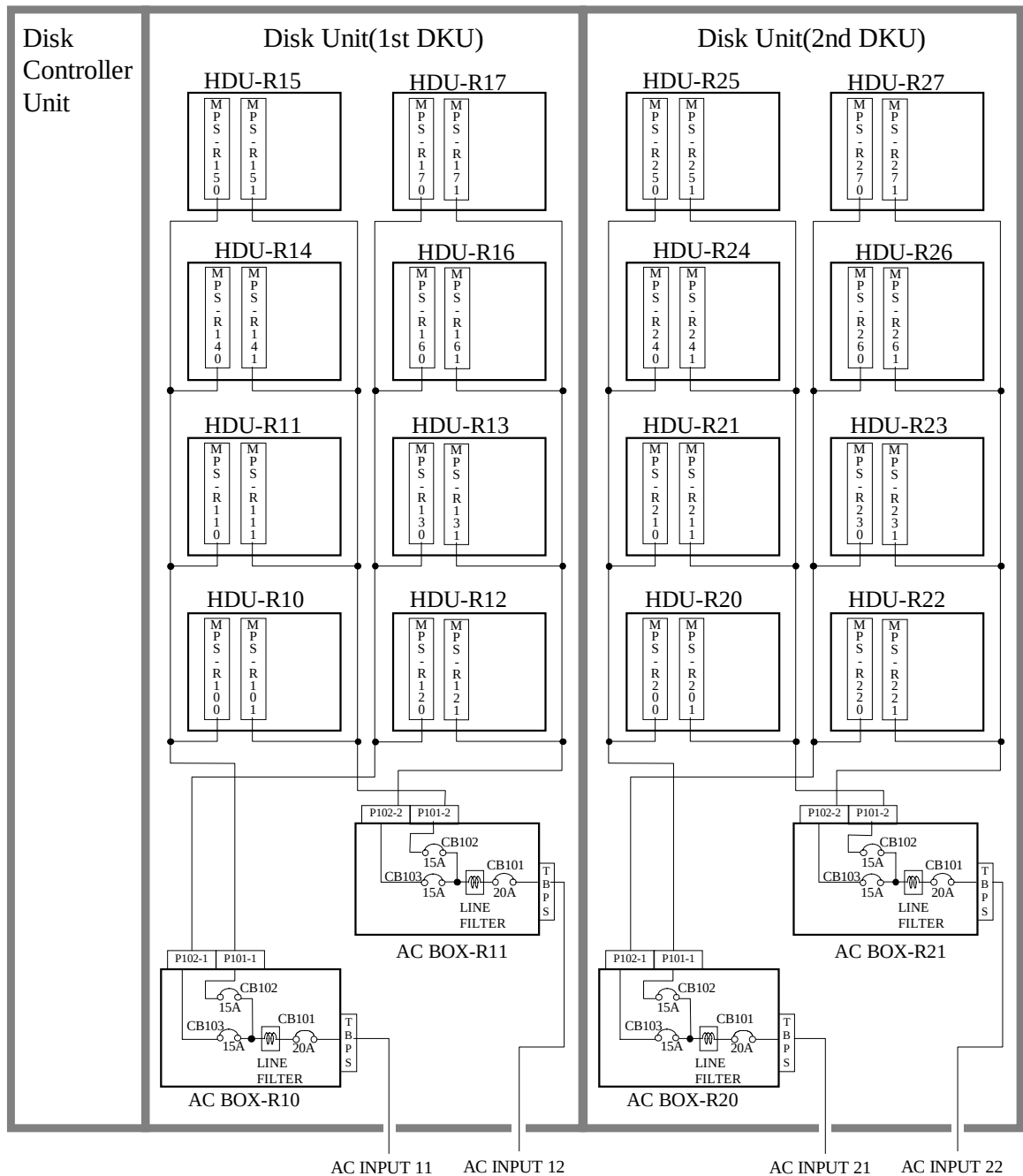


Fig. 3.3-3 Connection of POWER SUPPLIES (2/3)

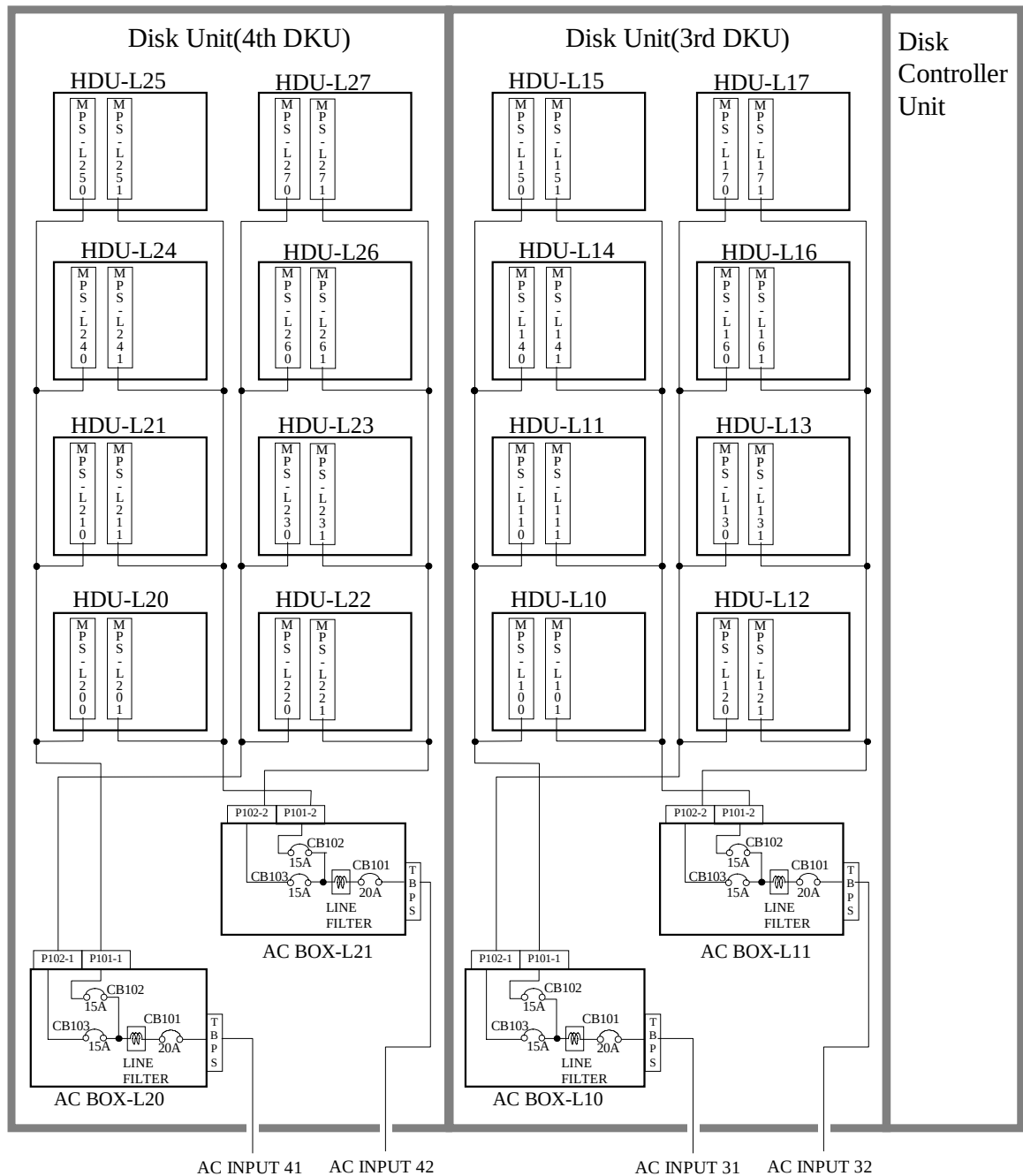


Fig. 3.3-4 Connection of POWER SUPPLIES (3/3)

4 Connection of External Cable

4.1 AC Cabling

4.1.1 DKC310IU/DKU305IU

DANGER

The DKC has Two Main Disconnect Devices (Two Main Breaker CB200s for Dual Power Lines) so that AC Power of the unit can be supplied from the separate power distribution board with Two Power Supply Cords. Similarly, each of the 1st DKU, the 2nd DKU, the 3rd DKU and, the 4th DKU also has Two Main Disconnect Devices (Two Main Breaker CB101s for Dual Power Lines). Refer to LOCATION03T-30 "Circuit Breakers".

Observe all instructions described in this manual before connecting the equipment to the power source and before servicing.

A. Connection of Power Supply Cord

The unit has two power supply cords with attachment plug type 3720DP. Be sure to prepare the following socket receptacles and power cords between the power distribution board of the building and the attachment plugs for the unit.

Socket Receptacle : R&S 3743 or 3913

Power Cord : Type SJT or equivalent, non-shielded type, with three min. #10 AWG conductors. Terminated at one end with an assembled on above socket receptacle cap.

B. Requirements to Branch Circuit

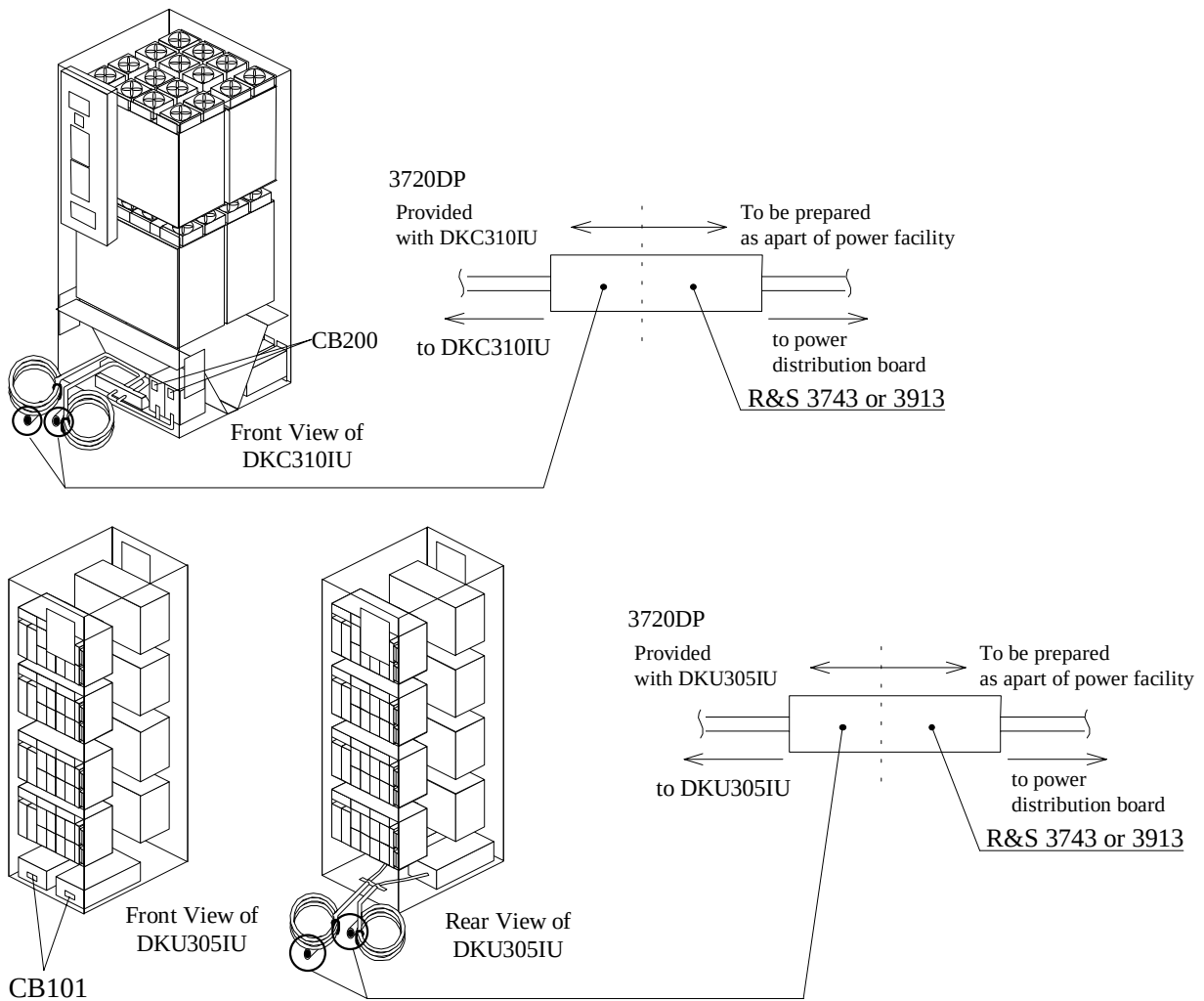
This unit relies on the building installation for protection of the internal components of the equipment. Each line (U/V line) should be protected by a short circuit protective device and by an overcurrent protective device rated 20 amp on building installation.

The protective device on building installation shall comply with the NEC requirements (or CEC requirements when installed in Canada), and if a protective device interrupts a conductor, it shall also interrupt all other supply conductors.

This protection is not required for the neutral line of this unit.

C. Disconnection from Power Supply

DKC has Two Main Disconnect Device(Two Main Breaker CB200s for Dual Power Lines). Each DKU has Two Main Disconnect Device(Two Main Breaker CB101s for Dual Power Lines). To remove all utility power from the unit, turn off both main disconnect device CB200s and CB101s at the same time.



4.1.2 DKC310IE/DKU305IE

DANGER

The DKC has Two Main Disconnect Devices (Two Main Breaker CB200s for Dual Power Lines) so that AC Power of the unit can be supplied from the separate power distribution board with Two Power Supply Cords. Similarly, each of the 1st DKU, the 2nd DKU, the 3rd DKU, and the 4th DKU also has Two Main Disconnect Devices (Two Main Breaker CB101s for Dual Power Lines). Refer to LOCATION03T-30 "Circuit Breakers".

Observe all instructions described in this manual before connecting the equipment to the power source and before servicing.

A. Connection of Power Supply Cord

The unit has two power supply cords. Be sure to prepare the following socket receptacles and power cords between the power distribution board of the building and the power cords for the unit.

Socket Receptacle : As shown in the following figure.

Power Cord : Type H07RN-F or equivalent, with three 2.5 mm² conductors.

Be sure to connect a power cord to the distribution box as illustrated in the following figure. The wrong connection of neutral line may cause damages or fire of the equipment. To reduce the risk of wrong connection, you should use approved type attachment plug and socket for power cord connection.

High leakage current may be caused between the power supply and this unit. To avoid an electric shock by high leakage current, perform the protective earthing connection before the supply connections and disconnect it after the supply connections.

B. Requirements to Branch Circuit

This unit relies on the building installation for protection of the internal components of the equipment. Each line (U/V line) should be protected by a short circuit protective device and by an overcurrent protective device rated 20 amp on building installation.

The protective device on building installation shall comply with National Standards of the country where the units shall be installed, and if a protective device interrupts a conductor, it shall also interrupt all other supply conductors.

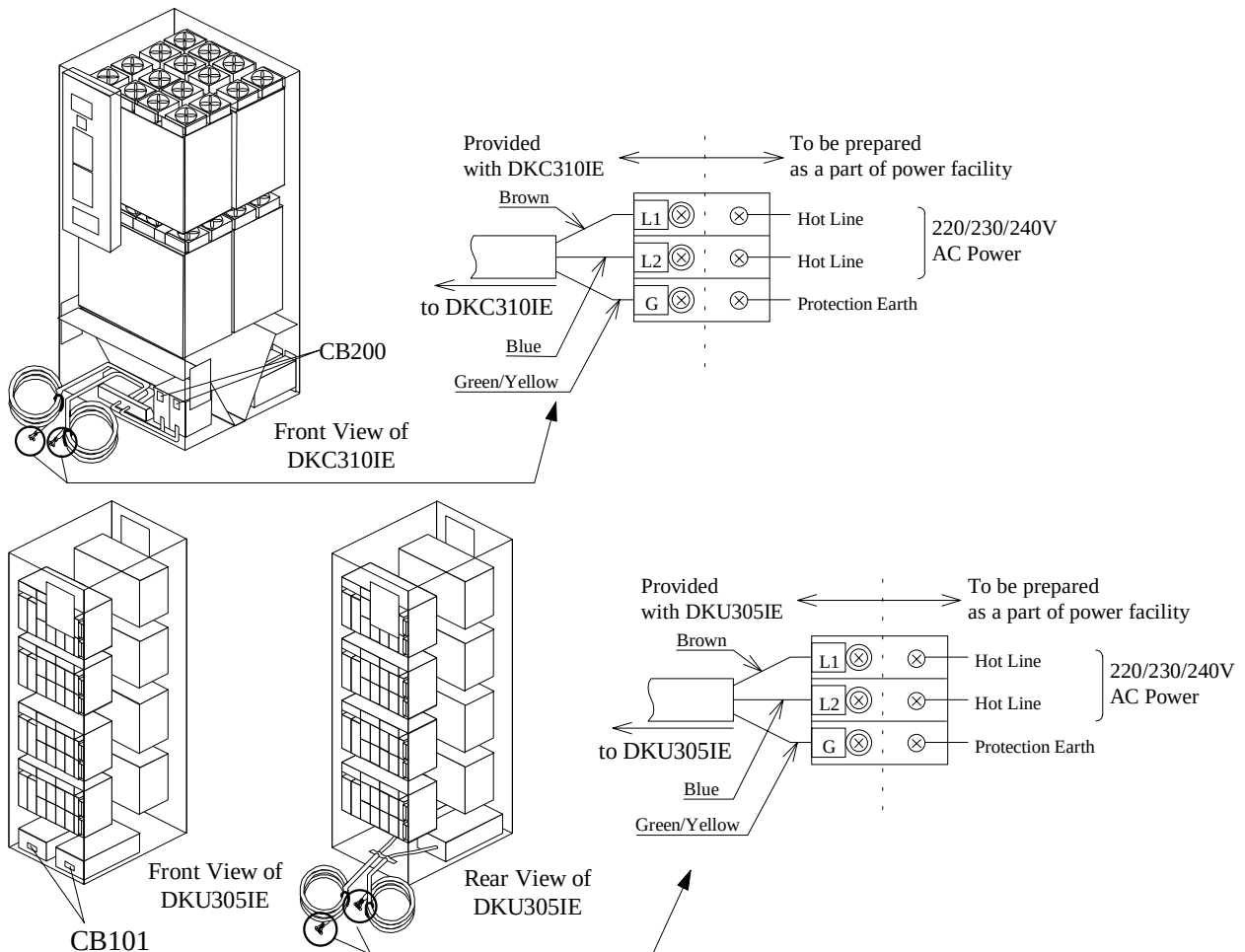
This protection is also required for the neutral line of this unit.

C. Disconnection from Power Supply

DKC has Two Main Disconnect Device (Two Main Breaker CB200s for Dual Power Lines).

Each DKU has Two Main Disconnect Device (Two Main Breaker CB101s for Dual Power Lines).

To remove all utility power from the unit, turn off both main disconnect device CB200s and CB101s at the same time.



4.2 Channel Interface

Table 4.2-1 shows the mounting limitations of channel options and the corresponding interface connector panel locations.

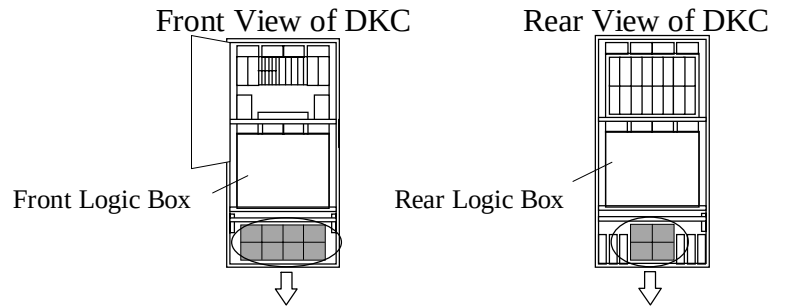


Table 4.2-1 The Mounting Limitation of Channel Options

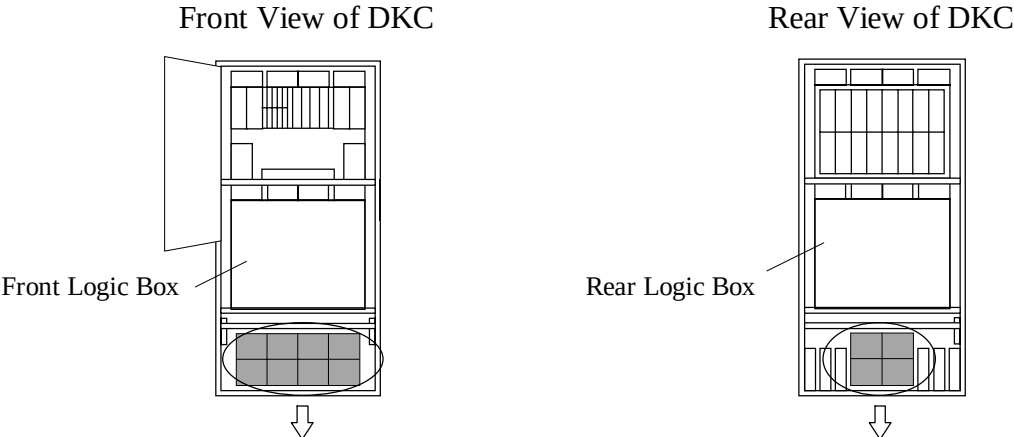
Case	Location				Number of Channel Ports	I/F Connector Panel Location and Channel No.																																													
	Basic	Add.1	Add.2	Add.3		Front View of DKC	Rear View of DKC																																												
1	8P	○	—	—	16	CL1 CL2 <table><tr><td>E</td><td>F</td><td>A</td><td>B</td><td></td></tr><tr><td>G</td><td>H</td><td></td><td></td><td></td></tr><tr><td>E</td><td>F</td><td>C</td><td>D</td><td></td></tr><tr><td>G</td><td>H</td><td></td><td></td><td></td></tr></table>	E	F	A	B		G	H				E	F	C	D		G	H				CL2 <table><tr><td>A</td><td>B</td></tr><tr><td>C</td><td>D</td></tr></table>	A	B	C	D																				
E	F	A	B																																																
G	H																																																		
E	F	C	D																																																
G	H																																																		
A	B																																																		
C	D																																																		
2	8PS	○	○	○	32	CL1 CL2 <table><tr><td>E</td><td>F</td><td>A</td><td>B</td><td>C</td><td>D</td><td></td></tr><tr><td>G</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>E</td><td>F</td><td>A</td><td>B</td><td>C</td><td>D</td><td></td></tr><tr><td>G</td><td>H</td><td></td><td></td><td></td><td></td><td></td></tr></table>	E	F	A	B	C	D		G	H						E	F	A	B	C	D		G	H						CL1 CL2 <table><tr><td>J</td><td>K</td><td>N</td><td>P</td></tr><tr><td>L</td><td>M</td><td>Q</td><td>R</td></tr><tr><td>J</td><td>K</td><td>N</td><td>P</td></tr><tr><td>L</td><td>M</td><td>Q</td><td>R</td></tr></table>	J	K	N	P	L	M	Q	R	J	K	N	P	L	M	Q	R
E	F	A	B	C	D																																														
G	H																																																		
E	F	A	B	C	D																																														
G	H																																																		
J	K	N	P																																																
L	M	Q	R																																																
J	K	N	P																																																
L	M	Q	R																																																
3	8PS	8PS	○	—	24	CL1 CL2 <table><tr><td>J</td><td>K</td><td>A</td><td>B</td><td>C</td><td>D</td><td></td></tr><tr><td>L</td><td>M</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>J</td><td>K</td><td>A</td><td>B</td><td>C</td><td>D</td><td></td></tr><tr><td>L</td><td>M</td><td></td><td></td><td></td><td></td><td></td></tr></table>	J	K	A	B	C	D		L	M						J	K	A	B	C	D		L	M						CL1 CL2 <table><tr><td>E</td><td>F</td><td>G</td><td>H</td></tr><tr><td>E</td><td>F</td><td>G</td><td>H</td></tr></table>	E	F	G	H	E	F	G	H								
J	K	A	B	C	D																																														
L	M																																																		
J	K	A	B	C	D																																														
L	M																																																		
E	F	G	H																																																
E	F	G	H																																																
4	○	○	○	○	32	CL1 CL2 <table><tr><td>A</td><td>B</td><td>E</td><td>F</td><td>J</td><td>K</td><td></td></tr><tr><td>C</td><td>D</td><td>G</td><td>H</td><td>L</td><td>M</td><td></td></tr><tr><td>A</td><td>B</td><td>E</td><td>F</td><td>J</td><td>K</td><td></td></tr><tr><td>C</td><td>D</td><td>G</td><td>H</td><td>L</td><td>M</td><td></td></tr></table>	A	B	E	F	J	K		C	D	G	H	L	M		A	B	E	F	J	K		C	D	G	H	L	M		CL1 CL2 <table><tr><td>N</td><td>P</td><td></td></tr><tr><td>Q</td><td>R</td><td></td></tr><tr><td>N</td><td>P</td><td></td></tr><tr><td>Q</td><td>R</td><td></td></tr></table>	N	P		Q	R		N	P		Q	R					
A	B	E	F	J	K																																														
C	D	G	H	L	M																																														
A	B	E	F	J	K																																														
C	D	G	H	L	M																																														
N	P																																																		
Q	R																																																		
N	P																																																		
Q	R																																																		

— : Uninstallable

○ : F8S/4S/8C/4F/4FE/4GS/4GL

A-R : Channel No.

[1] Parallel Channel Interface



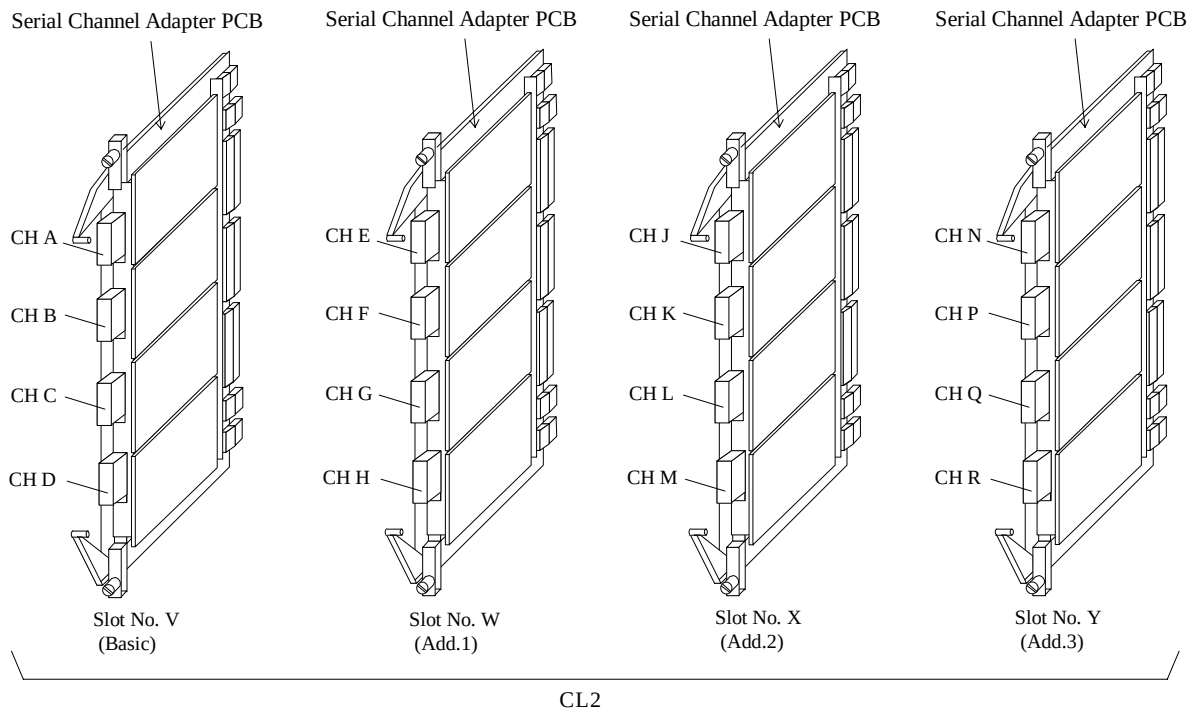
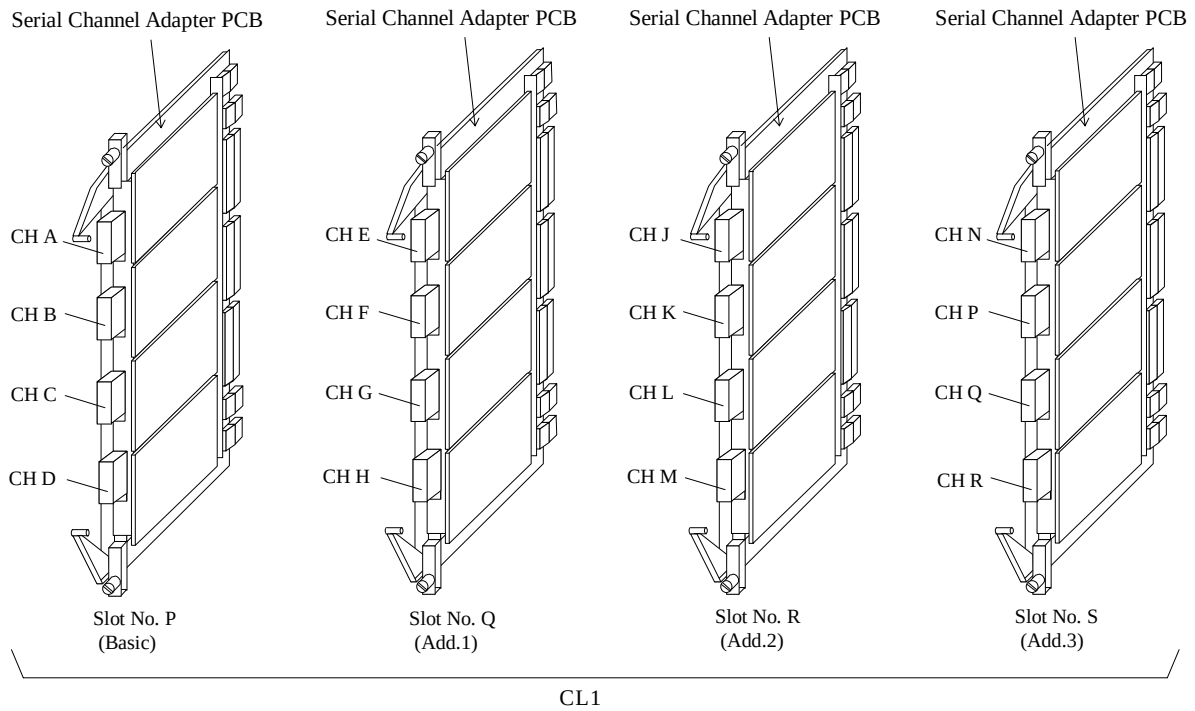
Location		Interface Connector Panel (Front View of DKC)				Interface Connector Panel (Rear View of DKC)			
Basic	Add.1	CL1				CL2			
8P	-		CH A TAG OUT BUS OUT TAG IN BUS IN	CH B TAG OUT BUS OUT TAG IN BUS IN		CH A TAG OUT BUS OUT TAG IN BUS IN	CH B TAG OUT BUS OUT TAG IN BUS IN		
8PS	8PS		CH A T OUT B OUT T IN B IN	CH B T OUT B OUT T IN B IN	CH C T OUT B OUT T IN B IN	CH D T OUT B OUT T IN B IN		CH E T OUT B OUT T IN B IN	CH F T OUT B OUT T IN B IN
			CH C T OUT B OUT T IN B IN	CH D T OUT B OUT T IN B IN		CH G T OUT B OUT T IN B IN	CH H T OUT B OUT T IN B IN		

Note

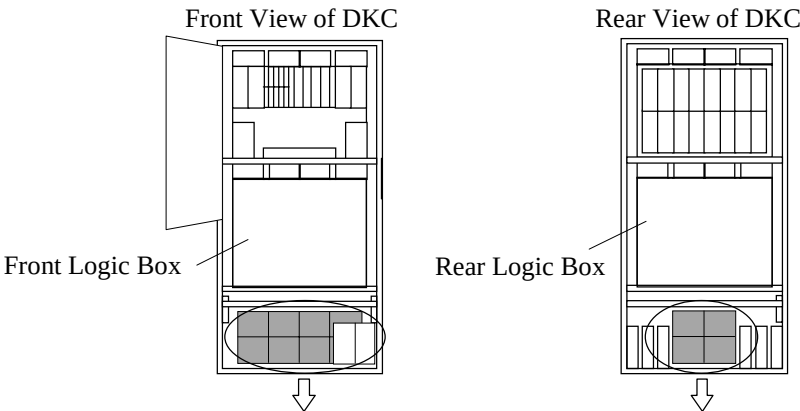
T OUT : TAG OUT
T IN : TAG IN

B OUT : BUS OUT
B IN : BUS IN

[2] Serial Channel Interface



[3] SCSI Channel Interface

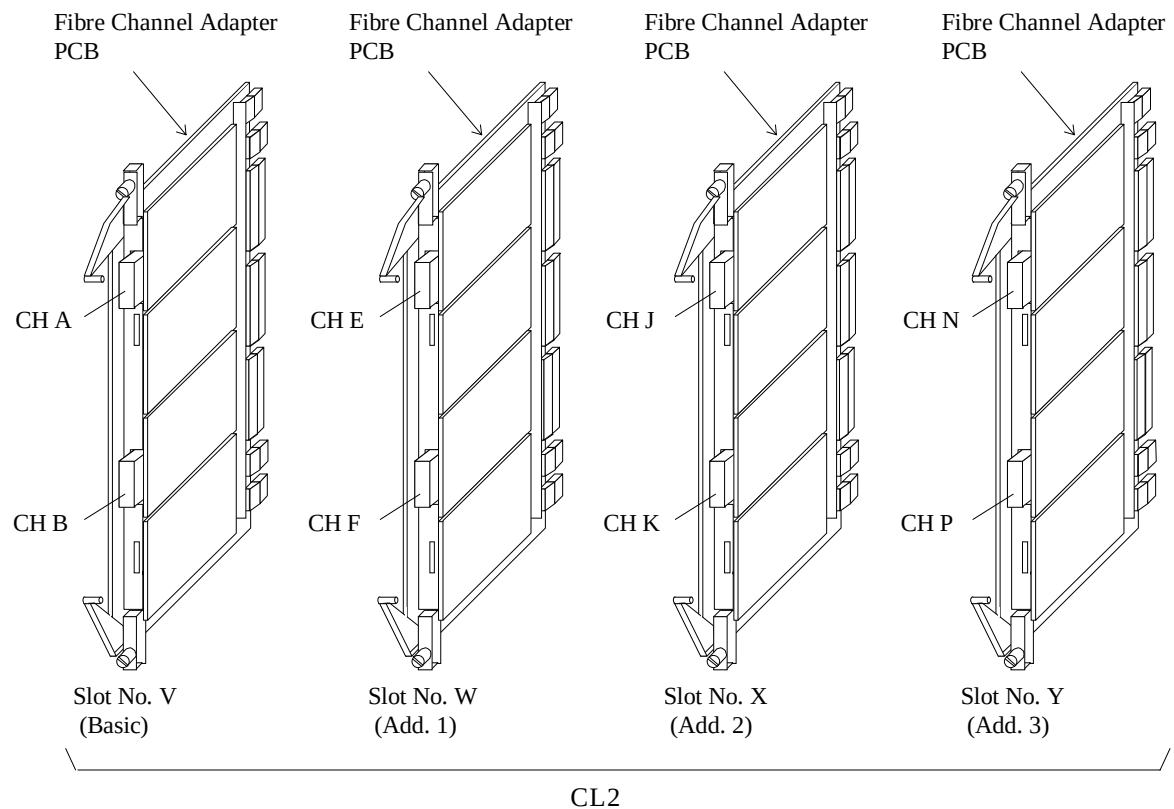
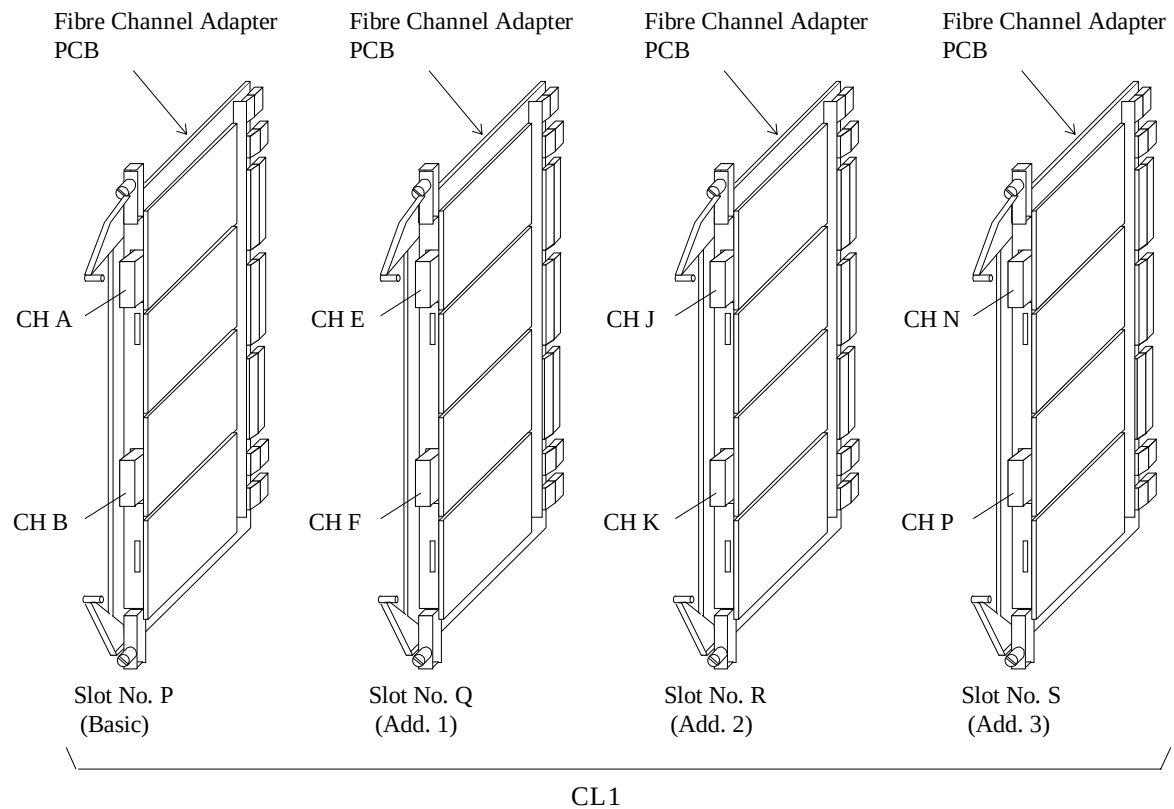


	Interface Connector Panel (Front View of DKC)					
CL1	CH A OUT	CH B OUT	CH E OUT	CH F OUT	CH J OUT	CH K OUT
	CH A IN	CH B IN	CH E IN	CH F IN	CH J IN	CH K IN
	CH C OUT	CH D OUT	CH G OUT	CH H OUT	CH L OUT	CH M OUT
	CH C IN	CH D IN	CH G IN	CH H IN	CH L IN	CH M IN
CL2	CH A OUT	CH B OUT	CH E OUT	CH F OUT	CH J OUT	CH K OUT
	CH A IN	CH B IN	CH E IN	CH F IN	CH J IN	CH K IN
	CH C OUT	CH D OUT	CH G OUT	CH H OUT	CH L OUT	CH M OUT
	CH C IN	CH D IN	CH G IN	CH H IN	CH L IN	CH M IN

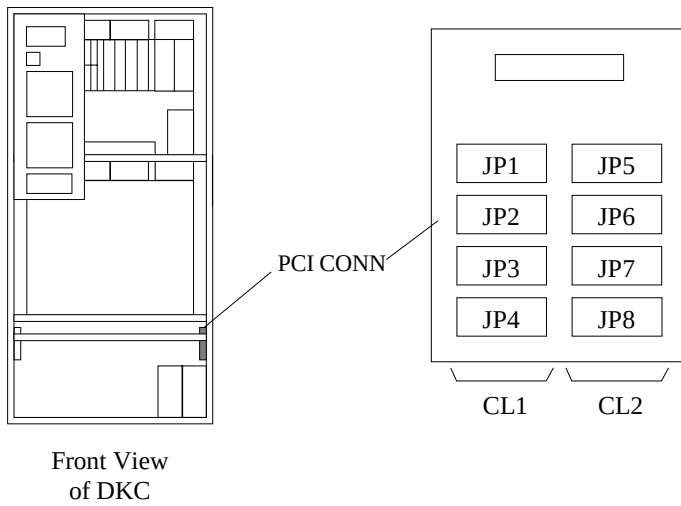
	Interface Connector Panel (Rear View of DKC)			
CL1	CH N OUT	CH P OUT		
	CH N IN	CH P IN		
	CH Q OUT	CH R OUT		
	CH Q IN	CH R IN		
CL2	CH N OUT	CH P OUT		
	CH N IN	CH P IN		
	CH Q OUT	CH R OUT		
	CH Q IN	CH R IN		

When a mixture of parallel channel is installed, referring to Table 4.1-1 The Mounting Limitation of Channel Options.

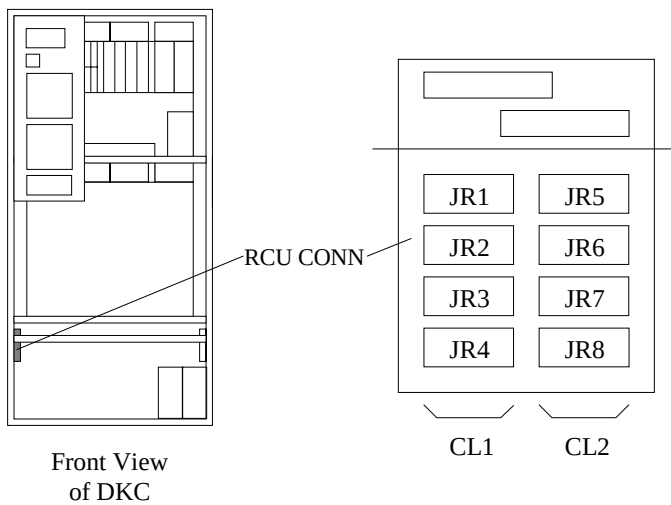
[4] Fibre Channel Interface



4.3 PCI Cabling



4.4 RCU Cabling



Connector No.	Enable/Disable Route
JR1	CL1 CH A, B
JR2	CL1 CH C, D
JR3	CL1 CH E, F
JR4	CL1 CH G, H
JR5	CL2 CH A, B
JR6	CL2 CH C, D
JR7	CL2 CH E, F
JR8	CL2 CH G, H

5 Internal Cabling Block Diagram

For cable connections inside the DKC and DKU, refer to the Location Section in the main volumes.

6 Jumper Setting

6.1 Shut Down Jumpers

For settings of the Shutdown jumper sockets, refer to pages LOCATION06-10 to LOCATION06-20 in the Locations Section in the main volume.

6.2 Other Jumpers

For settings of the other jumper socket shown in Table 6.2, refer to pages LOCATION06-30 to LOCATION06-110 in the Locations Section in the main volume.

Table 6.2 Jumper Setting List

No.	Function Name	Jumper No.	Settings	Remarks
1	CE PANEL	JP1	EPO signal	
		JP2	EPO signal	
2	RS CONN	JP2	Termination	
3	BAT CTR	J4	Jumper connector (BTJP)	
4	PWRCTL	JP1	Alarm INH Jumper (AI)	
		JP2	Not used	
5	HUB	J14	CE Panel INH Jumper (SH-D4)	
6	SVP PS	JP1	Output Voltage	
7	Channel Adapter	JP1 - JP4	Priority	Parallel 8 Channel Switch Only
8	DKUMN	JP1	Specification of address number	
		JP3	Additional Platform for Canister mount	
9	HDU Box	JP01	Specification of SCSI ID	

6.3 Voltage Selector

The AC Box for single-phase power does not require the setting of AC input power.

INSTALLATION SECTION

INSTALLATION

For contents other than the following, refer to pages INST00-10 through INST00-90 in the Installation Section in the main volume 1/4.

1 Subsystem Configuration Outline	INST01T-10
1.1 General Information	INST01T-10
1.1.1 Model List	INST01T-10
1.4.3 Installing Location	INST01T-30
1.4.4 Restrictions of Installation	INST01T-40
2 Installation and De-installation procedure.....	INST02T-10
2.1 New Installation Procedure General Flow	INST02T-20
2.2 Non-Disruptive Installation Procedure General Flow.....	INST02T-30
2.3 Non-Disruptive De-installation Procedure General Flow	INST02T-40
2.4 Disruptive Installation Procedure General Flow	INST02T-50
2.5 Disruptive De-installation Procedure General Flow.....	INST02T-60
2.10 New Installation procedures without the pre-installation at a customer site	INST02T-70
2.10.1 Application	INST02T-70
2.10.2 Conditions to use these procedures.....	INST02T-70
2.10.3 Procedures	INST02T-70
3.3 Basic subsystem Installation.....	INST03T-10
3.3.1 Flowchart	INST03T-10
3.3.2 Cabinet Setting	INST03T-10
3.3.3 Frame Connection	INST03T-60
3.3.3.1 Frame Connection.....	INST03T-60
3.3.3.2 Frame Ground Cable Attachment.....	INST03T-70
3.3.3.3 Side Cover Re-installation	INST03T-80
3.3.3.4 Installation of Kick Plate	INST03T-90
3.3.4 Installation of Switches and Jumper Plugs	INST03T-100
3.3.4.1 Installation of Switches and Jumper Plugs in DKUMN PCB.....	INST03T-100
3.3.4.2 Installation of Jumper Plugs in CE PANEL PCB	INST03T-110
3.3.4.3 Installation of Jumper Plugs in PS CONN PCB	INST03T-120
3.3.4.4 Installation of Jumper Connectors in BATT CTR PCB.....	INST03T-130
3.3.5 Cabling.....	INST03T-140
3.3.5.1 Cabling Procedure of DKUMN Cables.....	INST03T-140
3.3.5.2 Cabling Procedure of SCSI Interface Cables.....	INST03T-160
3.3.6 Check of Jumper Settings.....	INST03T-180
3.6 Installation of Channel Adapter.....	INST03T-190
3.6.1 Installation of Parallel 8-channel Switch (DKC-F310I-8P)	INST03T-190
3.6.1.1 Parts List	INST03T-190
3.6.1.2 Flowchart.....	INST03T-190
3.6.1.3 Installation Procedure of Parallel 8-channel Switch	INST03T-200

3.6.2 Installation of Parallel 8-channel Switch (DKC-F310I-8PS)	INST03T-250
3.6.2.1 Parts List	INST03T-250
3.6.2.2 Flowchart.....	INST03T-250
3.6.2.3 Installation Procedure of Parallel 8-channel Switch	INST03T-260
3.6.3 Installation of Serial 4-port Adapter (DKC-F310I-4S)	INST03T-310
3.6.3.1 Parts List	INST03T-310
3.6.3.2 Flowchart.....	INST03T-310
3.6.3.3 Installation Procedure of Serial 4-port Adapter	INST03T-320
3.6.4 Installation of Serial 8-port Adapter (DKC-F310I-8S)	INST03T-360
3.6.4.1 Parts List	INST03T-360
3.6.4.2 Flowchart.....	INST03T-360
3.6.4.3 Installation Procedure of Serial 8-port Adapter	INST03T-370
3.6.5 Installation of SCSI 8-port Adapter (DKC-F310I-8C)	INST03T-410
3.6.5.1 Parts List	INST03T-410
3.6.5.2 Flowchart.....	INST03T-410
3.6.5.3 Installation Procedure of SCSI 8-port Adapter	INST03T-420
3.6.6 Installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4F/4FE).....	INST03T-480
3.6.6.1 Parts List	INST03T-480
3.6.6.2 Flowchart.....	INST03T-480
3.6.6.3 Installation Procedure of Fibre 4-port Adapter	INST03T-490
3.6.7 Installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4GS/4GL)....	INST03T-540
3.6.7.1 Parts List	INST03T-540
3.6.7.2 Flowchart.....	INST03T-540
3.6.7.3 Installation Procedure of Fibre 4-port Adapter	INST03T-550
3.18 Check and Testing.....	INST03T-600
3.18.1 Checking Input Voltage	INST03T-600
3.18.2 Checking Input Power Cable.....	INST03T-610
3.18.3 Power On / Off Check.....	INST03T-630
3.19 Power ON / OFF Procedure	INST03T-640
3.19.1 Power ON Procedure	INST03T-640
3.19.1.1 Power ON Procedure of Disk Subsystem	INST03T-640
3.19.1.2 Power ON Procedure of Additional Disk Unit.....	INST03T-680
3.19.2 Power OFF Procedure	INST03T-700
3.19.2.1 Power OFF Procedure of Disk Subsystem	INST03T-700
3.19.2.2 Power OFF Procedure of Additional Disk Unit.....	INST03T-720
3.21 Installation of Hz Conversion Kit (DKC-F310I-56U/65U)	INST03T-730
3.21.1 Parts list	INST03T-730
3.21.2 Flowchart	INST03T-730
3.21.3 Installation Procedure of Hz Conversion Kit	INST03T-740
3.22 Installation of Phase Conversion Kit	
(3Φ→1Φ)(DKC-F310IU/IE-31U, DKC-F310IU/IE-31UP)	INST03T-770
3.22.1 Parts list	INST03T-770
3.22.2 Flowchart	INST03T-780
3.22.3 Installation Procedure of Phase Conversion Kit (3Φ→1Φ)	INST03T-780

3.23 Installation of Phase Conversion Kit (1Φ→3Φ)	
(DKC-F310IU/IE-13U, DKC-F310IU/IE-13UP).....	INST03T-880
3.23.1 Parts list.....	INST03T-880
3.23.2 Flowchart.....	INST03T-880
3.23.3 Installation Procedure of Phase Conversion Kit (1Φ→3Φ).....	INST03T-890
3.24 Installation of Hz Conversion Kit (DKU-F305IU-56U/65U).....	INST03T-980
3.24.1 Parts list.....	INST03T-980
3.24.2 Flowchart.....	INST03T-980
3.24.3 Installation Procedure of Hz Conversion Kit.....	INST03T-990
3.25 Installation of Phase Conversion Kit (3Φ→1Φ)	
(DKU-F305IU/IE-31U, DKU-F305IU/IE-31UP).....	INST03T-1080
3.25.1 Parts list.....	INST03T-1080
3.25.2 Flowchart.....	INST03T-1080
3.25.3 Installation Procedure of Phase Conversion Kit (3Φ→1Φ).....	INST03T-1090
3.26 Installation of Phase Conversion Kit (1Φ→3Φ)	
(DKU-F305IU/IE-13U, DKU-F305IU/IE-13UP).....	INST03T-1180
3.26.1 Parts list.....	INST03T-1180
3.26.2 Flowchart.....	INST03T-1180
3.26.3 Installation Procedure of Phase Conversion Kit (3Φ→1Φ).....	INST03T-1190
4.7 De-installation of Channel Adapter.....	INST04T-10
4.7.1 De-installation of Parallel 8-channel Switch (DKC-F310I-8P).....	INST04T-10
4.7.1.1 Parts List.....	INST04T-10
4.7.1.2 Flowchart.....	INST04T-10
4.7.1.3 De-installation Procedure of Parallel 8-channel Switch.....	INST04T-20
4.7.2 De-installation of Parallel 8-channel Switch (DKC-F310I-8PS).....	INST04T-60
4.7.2.1 Parts List.....	INST04T-60
4.7.2.2 Flowchart.....	INST04T-60
4.7.2.3 De-installation Procedure of Parallel 8-channel Switch.....	INST04T-70
4.7.3 De-installation of Serial 4-port Adapter (DKC-F310I-4S).....	INST04T-110
4.7.3.1 Parts List.....	INST04T-110
4.7.3.2 Flowchart.....	INST04T-110
4.7.3.3 De-installation Procedure of Serial 4-port Adapter.....	INST04T-120
4.7.4 De-installation of Serial 8-port Adapter (DKC-F310I-8S).....	INST04T-160
4.7.4.1 Parts List.....	INST04T-160
4.7.4.2 Flowchart.....	INST04T-160
4.7.4.3 De-installation Procedure of Serial 8-port Adapter.....	INST04T-170
4.7.5 De-installation of SCSI 8-port Adapter (DKC-F310I-8C).....	INST04T-210
4.7.5.1 Parts List.....	INST04T-210
4.7.5.2 Flowchart.....	INST04T-210
4.7.5.3 De-installation Procedure of SCSI 8-port Adapter.....	INST04T-220

Copyright ©1999, Hitachi, Ltd.

1 Subsystem Configuration Outline

1.1 General Information

1.1.1 Model List

1. Model of DKC

Table 1.1.1-1 shows the model list of DKC.

Table 1.1.1-1 Model List of DKC

No	Model Number	Model Name	Major Part	Remarks
1	DKC310IE-5EU DKC310IU-5EU (DKC310I-5EU) DKC310IE-5EUP DKC310IU-5EUP (DKC310I-5EUP)	Disk Controller	• AC BOX × 2 • Breaker Box × 2 • LP483-A (3VPS-PL) • LP485-A (5VPS-PL) • LP484-A (MPS-PL) • +5V PS × 2 • +3V PS × 2 • Multi PS × 2 • FAN ASSY × 16 • SCSI Cable between DKC and 1st DKU • LR001-A (L/G-PL) • WP102-B/WP132-B (DKA) × 2 • WP108-A/WP118-A (CACHE) × 2 • WP100-A (TM2) × 1 • WP100-B (TM2) × 1 • WP105-A (TM1) × 1 • WP105-B (TM1) × 1	DKC310 Disk Controller doesn't contain channel switches, cache memory module and shared memory module. It is necessary to attach the following options according to the configuration. • Channel Adapters DKC-F310I-4S/8S/8P/8PS/8C/4F/4FE/4GS/4GL • Cache Memory Module DKC-F310I-256/1024 • Shared Memory Module DKC-F310I-32/128
2	DKC-F310I-56U	Hz Conversion Kit	• Input Power Cable(IU) • Nameplate	
3	DKC-F310I-65U	Hz Conversion Kit	• Input Power Cable(IE) • Nameplate	
4	DKC-F310IU-31U DKC-F310IU-31UP	Phase Conversion Kit (3Φ → 1Φ)	• AC BOX × 2 • Strain Relief ASSY • Input Power Cable(IU) • Dummy Plate(AC)	
5	DKC-F310IE-31U DKC-F310IE-31UP	Phase Conversion Kit (3Φ → 1Φ)	• AC BOX × 2 • Strain Relief ASSY • Input Power Cable(IE) • Dummy Plate(AC)	
6	DKC-F310I-13U DKC-F310I-13UP	Phase Conversion Kit (1Φ → 3Φ)	• Nameplate	

Note: In this maintenance manual, DKC310I-5EU stands for DKC310IE-5EU or DKC310IU-5EU and DKC310I-5EUP stands for DKC310IE-5EUP or DKC310IU-5EUP.

2. Model of DKU

Table 1.1.1-2 shows the model list of DKU.

Table 1.1.1-2 Model List of DKU

No	Model Number	Model Name	Major Part	Remarks
1	DKU305IU-14U DKU305IE-14U (DKU305I-14U) DKU305IU-14UP DKU305IE-14UP (DKU305I-14UP)	Disk Unit	• AC Box × 2 • AC Cable • Input Power Cable • SZ601-A × 2 • HDU Box × 4 • LP481-A × 4 • SH087-A × 8 • FAN ASSY × 12 • 5/12V PS × 8	The basic part of Disk Unit has no HDD canister.
2	DKU-F305I-56U	Hz Conversion Kit	• Input Power Cable • Nameplate (IE → IU)	
3	DKU-F305I-65U	Hz Conversion Kit	• Input Power Cable • Nameplate (IU → IE)	
4	DKU-F305IU-31U DKU-F305IU-31UP	Phase Conversion Kit (3Φ → 1Φ)	• AC Box × 2 • Input Power Cable • Nameplate	
5	DKU-F305IE-31U DKU-F305IE-31UP	Phase Conversion Kit (3Φ → 1Φ)	• AC Box × 2 • Input Power Cable • Nameplate	
6	DKU-F305IU-13U DKU-F305IU-13UP	Phase Conversion Kit (1Φ → 3Φ)	• AC Box × 2 • Input Power Cable • Nameplate	
7	DKU-F305IE-13U DKU-F305IE-13UP	Phase Conversion Kit (1Φ → 3Φ)	• AC Box × 2 • Input Power Cable • Nameplate	

Note: In this maintenance manual, DKU305I-14U stands for DKU305IE-14U or DKU305IU-14U and DKU305I-14UP stands for DKU305IE-14UP or DKU305IU-14UP.

1.4.3 Installing Location

(1) Option installing location

The channel option installing location and the interface connector installing section are shown in Figure 1.4-1.

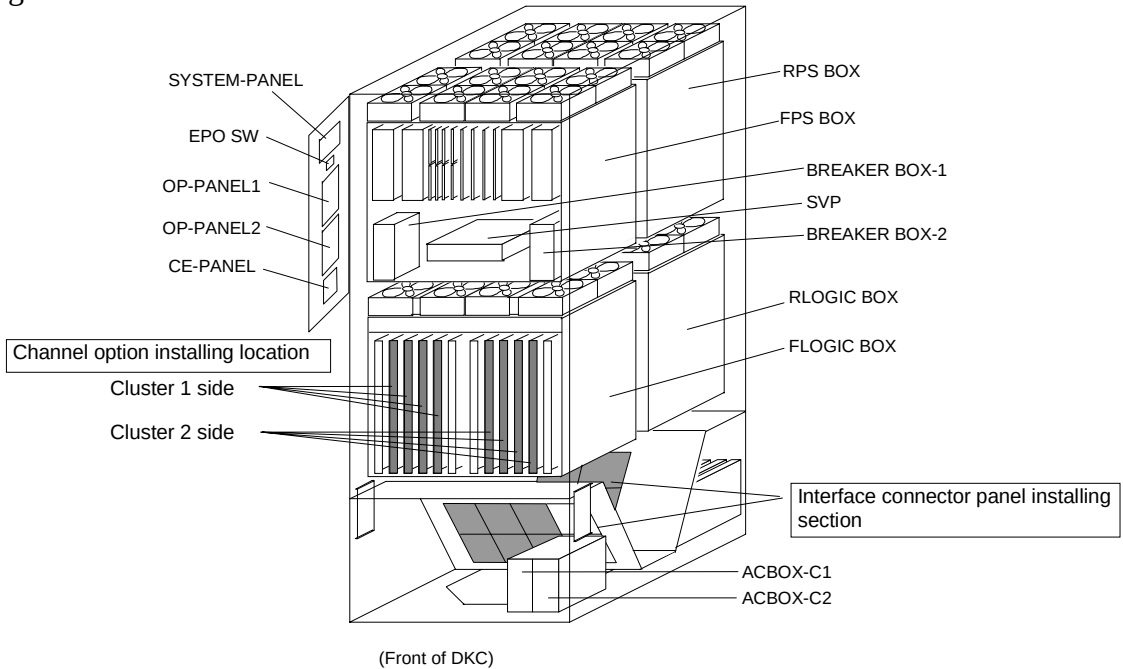


Fig. 1.4-1 Channel Option Installation

(2) PCB location diagram

Location of channel option PCBs are shown in Table 1.4-3.

Table 1.4-3 PCB Location Diagram

CL1	CL1					CL2					CL1
N	P	Q	R	S	T	U	V	W	X	Y	Z
W	8P	—	—	—	W	W	8P	—	—	—	W
P	8PS	8PS	—	—	P	P	8PS	8PS	—	—	P
1	4S	4S	4S	4S	1	1	4S	4S	4S	4S	1
0	8S	8S	8S	8S	0	1	8S	8S	8S	8S	0
5	8C	8C	8C	8C	8	8	8C	8C	8C	8C	5
-A	4F	4F	4F	4F	-B	-B	4F	4F	4F	4F	-B
	4FE	4FE	4FE	4FE			4FE	4FE	4FE	4FE	
	4GS	4GS	4GS	4GS			4GS	4GS	4GS	4GS	
	4GL	4GL	4GL	4GL			4GL	4GL	4GL	4GL	
TM-1N	CHA-1P (Basic)	CHA-1Q (Add.1)	CHA-1R (Add.2)	CHA-1S (Add.3)	CACHE-1T	CACHE-2U	CHA-2V (Basic)	CHA-2W (Add.1)	CHA-2X (Add.2)	CHA-2Y (Add.3)	TM-1Z

8P : PCB for DKC-F310I-8P 8PS : PCB for DKC-F310I-8PS 4FE : PCB for DKC-F310I-4FE
 4S : PCB for DKC-F310I-4S 8S : PCB for DKC-F310I-8S 4GS : PCB for DKC-F310I-4GS
 8C : PCB for DKC-F310I-8C 4F : PCB for DKC-F310I-4F 4GL : PCB for DKC-F310I-4GL
 — : Uninstallable

(For the configuration of each PCB, see Volume 1/4 INSTALLATION SECTION.)

1.4.4 Restrictions of Installation

When a parallel channel option is to be installed, following restrictions are imposed on the installing location.

(1) Types of parallel channel options

For the DKC310, a parallel channel option (DKC-F310I-8PS) with a miniaturized interface connector for the connection to the host CPU is newly provided in order to make it possible to connect up to 32 paths to the host CPU.

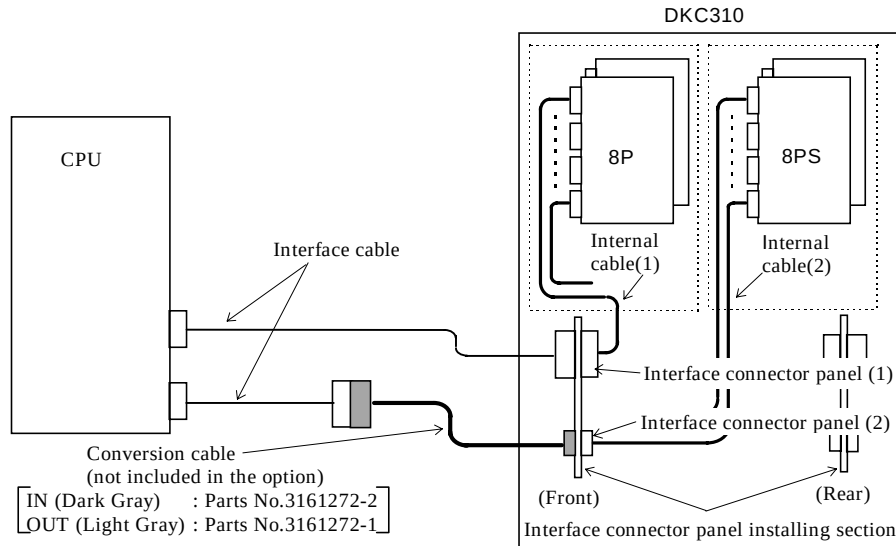


Fig. 1.4-2 Parallel Channel Connection Diagram

(2) Interface connector panel installing section

The interface connector panel installing section is shown in Fig. 1.4-3 and the number of necessary interface connector panels for each option is shown in Table 1.4-4.

(For the installing location, see Fig. 1.4-1)

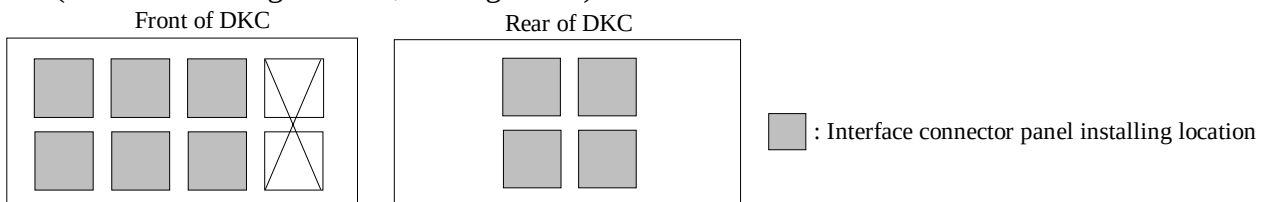


Fig. 1.4-3 Interface connector panel installing section

Table 1.4-4 Number of necessary interface connector panel

Option model	Number of necessary interface connector panels			
DKC-F310I-4S/8S/8C/4F/4FE/4GS/4GL	CL1		CL2	
DKC-F310I-8PS	CL1	CL1	CL2	CL2
DKC-F310I-8P	CL1	CL1	CL2	CL2
	CL1	CL1	CL2	CL2

(3) Restrictions imposed on option installation

When installing a channel option, following restrictions are imposed on the installing location.

Case	Installing location				Maximum number of connectable channel ports	Interface connector panel installation diagram	
	Basic	Add.1	Add.2	Add.3		Front of DKC	Rear of DKC
1	8P	×	—	—	16		
2	8PS	×	×	×	32		
3	8PS	8PS	×	—	24		
4	×	×	×	×	32		

— : Uninstallable

× : One of the options, that is, F8S, 4S, 8C, 4F, 4FE, 4GS, and 4GL can be installed.

2 Installation and De-installation procedure

2.1 New Installation Procedure General Flow

When installing Subsystem for the first time, perform all hardware installation procedures before initiating the installation through SVP procedure. The general procedure for installing a new Subsystem is shown below. Each procedure is performed referring to the following flow chart. Skip the next procedure when the procedure is not necessary. If any problems arise during the following procedure, isolate failure part with analysis of SIM log or SSB log. If neither SIM log nor SSB log has been created, re-check the general procedure and see TROUBLE SHOOTING SECTION.

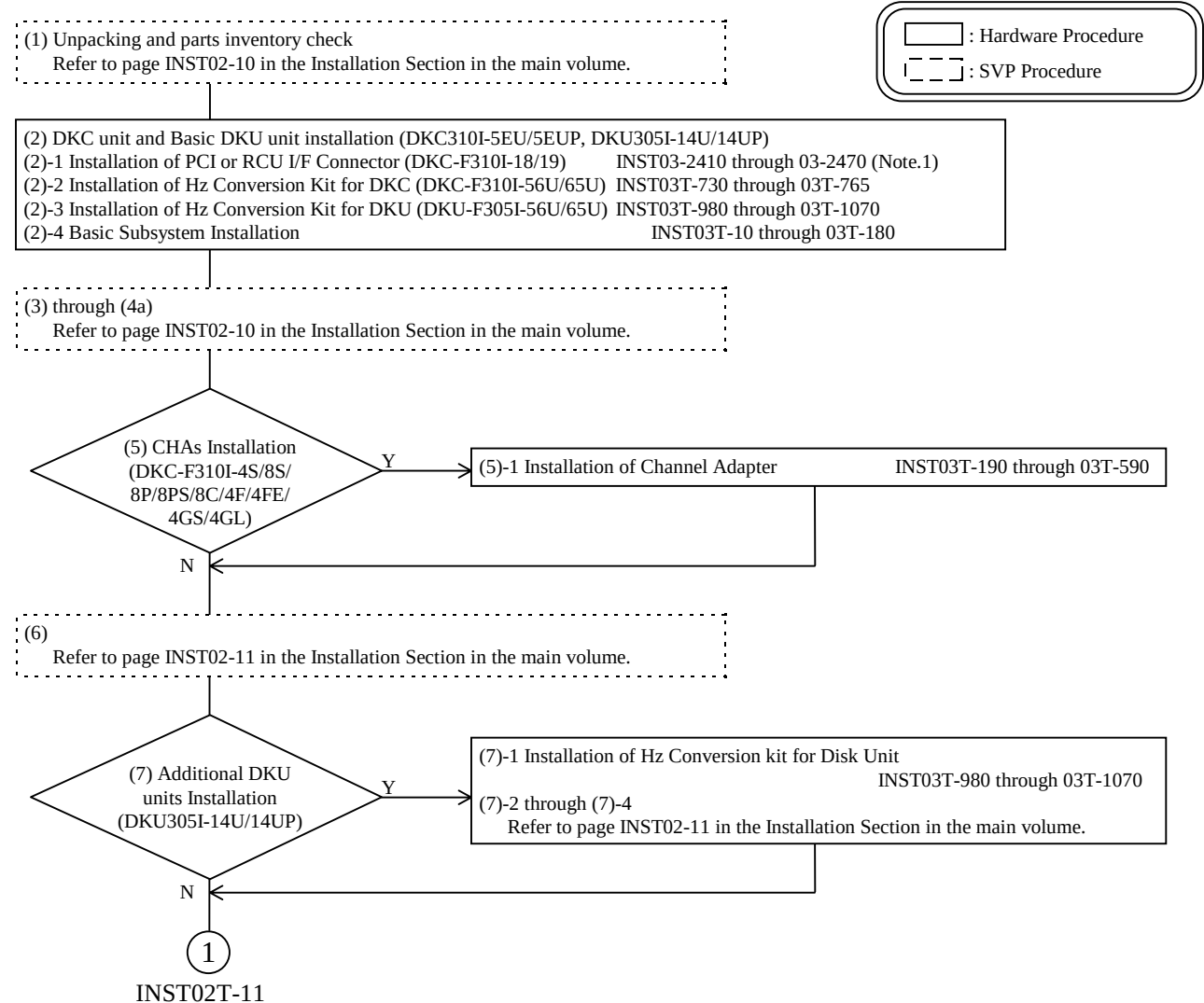
Precaution on New Installation

- The CL Additional Power Supply (DKC-F310I-80) must be installed when installing three or more channel options.

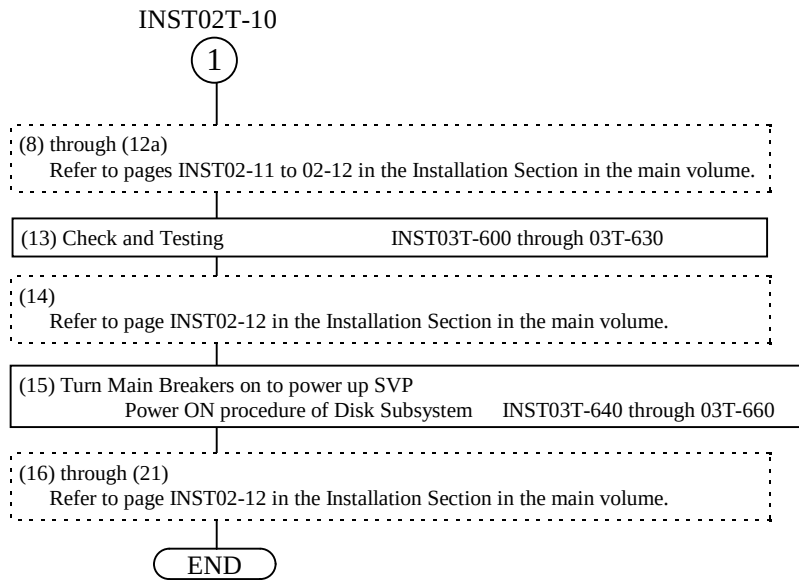
In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.

- After all hardware Installation procedures, pull out the specified CHAs and DKAs temporarily (Location DKA:C,D,E,J,K,L CHA:Q,R,S,W,X,Y) in INST02-12 step 14.

These CHAs and DKAs are reinserted in INST02-12 step 20. (Note.1)



Note.1 : Refer to the Installation Section in the main volume.

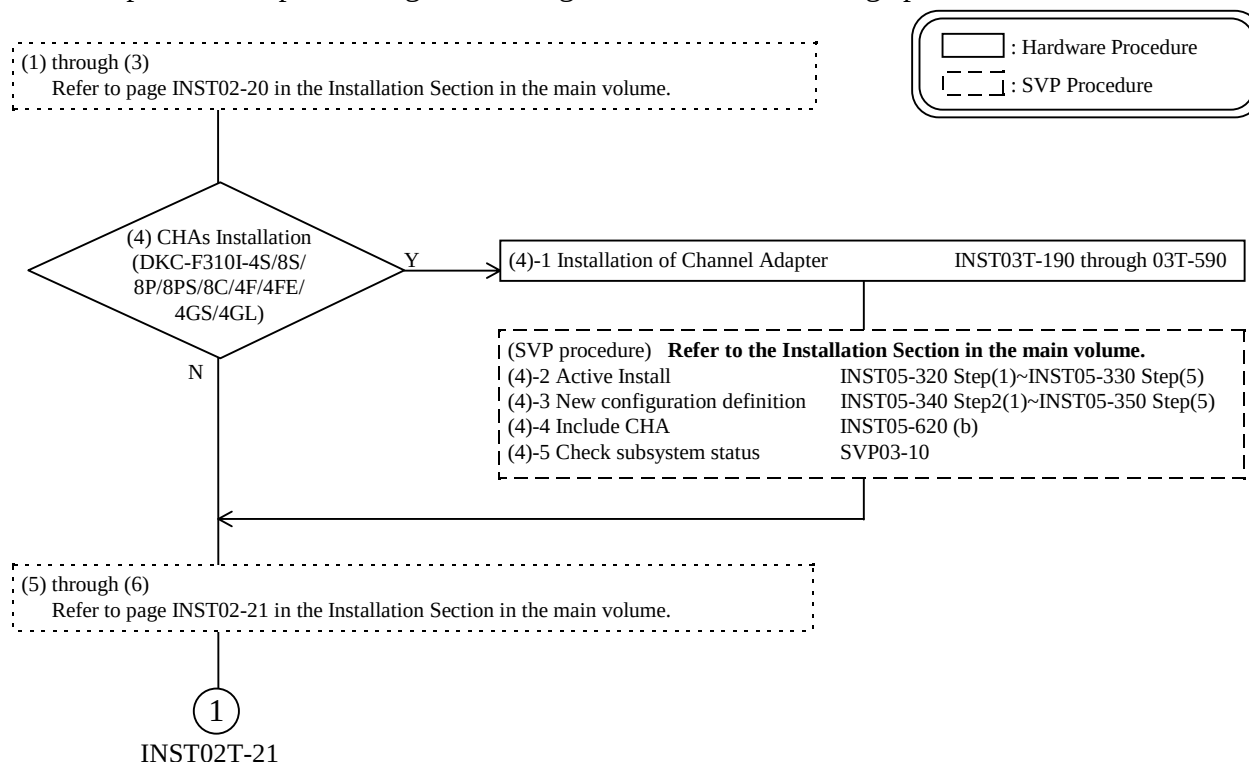


2.2 Non-Disruptive Installation Procedure General Flow

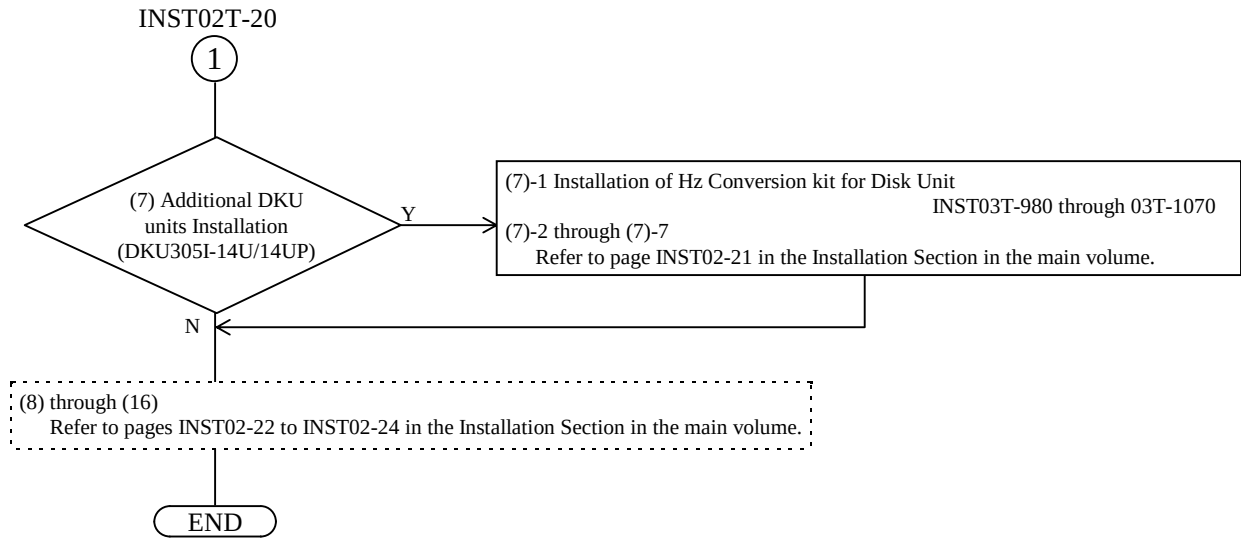
Install additional non-disruptive options according to the flow shown below. This work is completed by installing additional hardware for each option and performing SVP-controlled installation. If a fault occurs during or after additional installation, see INST02-60 to locate a faulty unit and take action. (Note.1) If any other message than the list is displayed, see the SVP Message section.

Precautions on Non-Disruptive Installation

- "Non-Disruptive" means that the subsystem is connected to the host (OS). Non-Disruptive Installation shall be done with the subsystem power ON. However, the subsystem may be disconnected from the host (OS).
 - Install additional Cache Memory and Shared Memory (DKC-F310I-20/32/128/256/1024) on one side first without affecting subsystem operation according to the SVP guidance.
 - The CL Additional Power Supply (DKC-F310I-80) must be installed when installing three or more channel options.
- In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.
- When the type of the CHAs is changed (e.g. from parallel to serial channel), de-install the old CHAs temporarily before installing new CHAs.
 - When installing 2nd and 4th DKUs, it is necessary to block the target DKA from the SVP before connecting the SCSI cables.
 - When adding a new HDD Box (DKU-F305I-B4) to the 1st or 3rd DKU or both, perform DKA upgrade procedure before proceeding with HDD upgrade procedure.
 - When changing configuration definition of SCSI path, it is necessary to stop concerned SCSI channel path before proceeding with configuration definition change procedure.



Note.1 : Refer to the Installation Section in the main volume.



2.3 Non-Disruptive De-installation Procedure General Flow

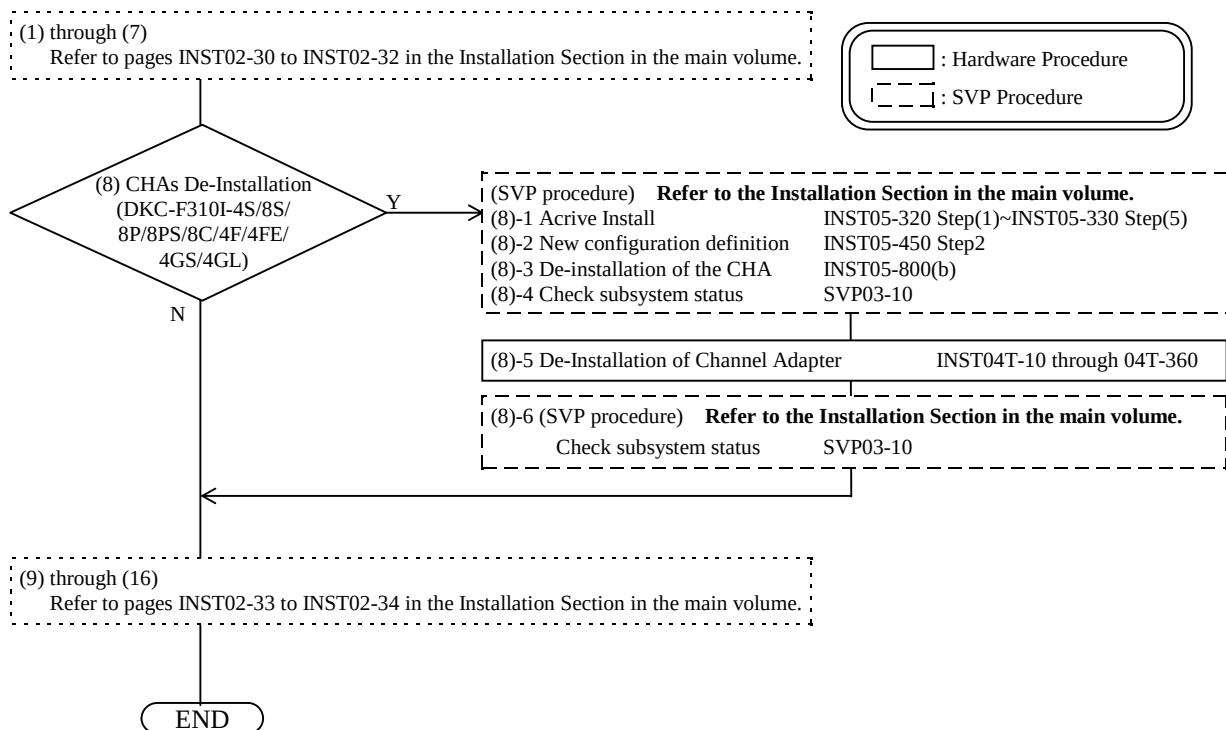
Remove additional non-disruptive options according to the flow shown below. This work is completed by removing hardware for each option and performing SVP-controlled removal. When De-Installation has been all done, make sure that all the removed units are displayed as "empty" and that the other units are normal (See the STATUS Section).

If a fault occurs during or after removal, see INST02-70 to locate a faulty unit and take action.

(Note.1) If any other message than the list is displayed, see the SVP Message section.

Precautions on Non-Disruptive De-Installation

- "Non-Disruptive" means that the subsystem is connected to the host (OS). Non-Disruptive De-Installation shall be done with the subsystem power ON. However, the subsystem may be disconnected from the host (OS).
- Remove additional Cache Memory and Shared Memory (DKC-F310I-20/32/128/256/1024) on one side first without affecting subsystem operation according to the SVP guidance.
- When de-installing HDU Box (DKU-F305I-B4) from the 2nd and 4th DKUs, it is necessary to maintenance-block the counterpart DKA from the SVP before disconnecting the SCSI cables.
- When removing HDU Box from 1st or 3rd DKU, remove HDD canisters first and then DKA.
- When de-installing HDU Box from the 1st or 3rd DKU or both, perform DKA de-installing procedure after proceeding with HDD de-installing procedure.
- When de-installing SCSI channel adapter, HDD assigned to SCSI volumes, or configuration definition of SCSI path, it is necessary to stop concerned SCSI channel path before proceeding with de-installing procedure.



Note.1 : Refer to the Installation Section in the main volume.

2.4 Disruptive Installation Procedure General Flow

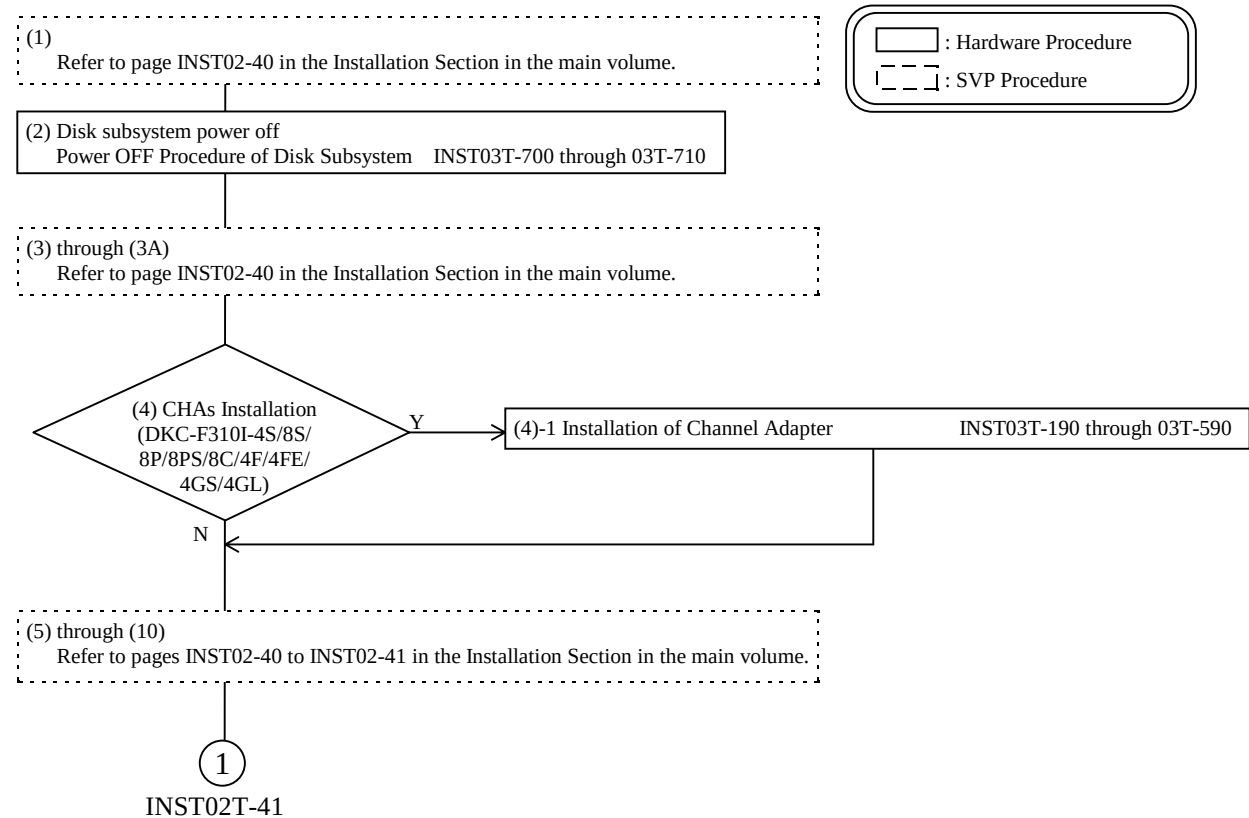
Install additional disruptive options according to the flow shown below.

If a fault occurs during or after additional installation, see INST02-60 to locate a faulty unit and take action. (Note.1) If any other message than the list is displayed, see the SVP Message section.

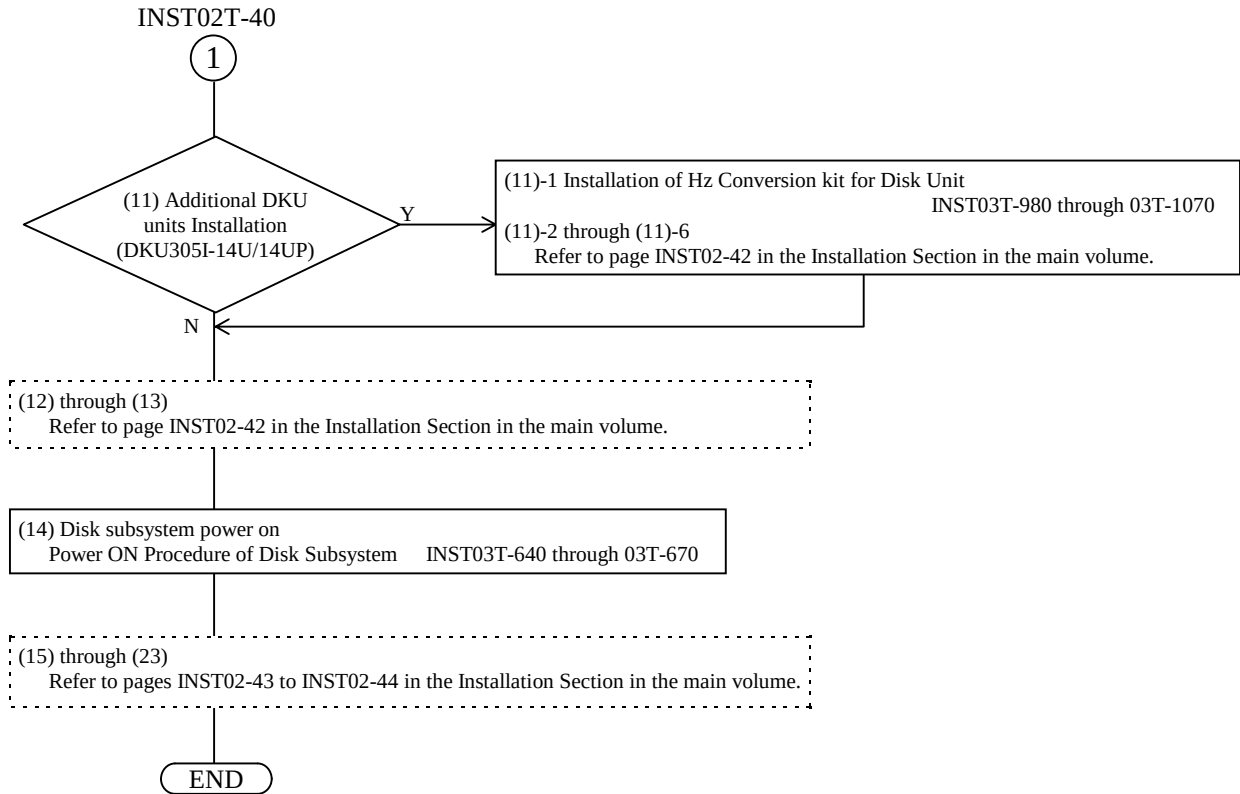
Precautions on Disruptive Installation

- "Disruptive" means that the subsystem is disconnected from the host (OS). Disruptive Installation shall be done with the subsystem power OFF. However, be sure to turn on the subsystem whenever installing additional Cache Memory and Shared Memory (DKC-F310I-20/32/128/256/1024) because configuration information must be updated simultaneously according to the SVP guidance.
- The CL Additional Power Supply (DKC-F310I-80) must be installed when installing three or more channel options.

In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.



Note.1 : Refer to the Installation Section in the main volume.



2.5 Disruptive De-installation Procedure General Flow

Remove additional disruptive options according to the flow shown below.

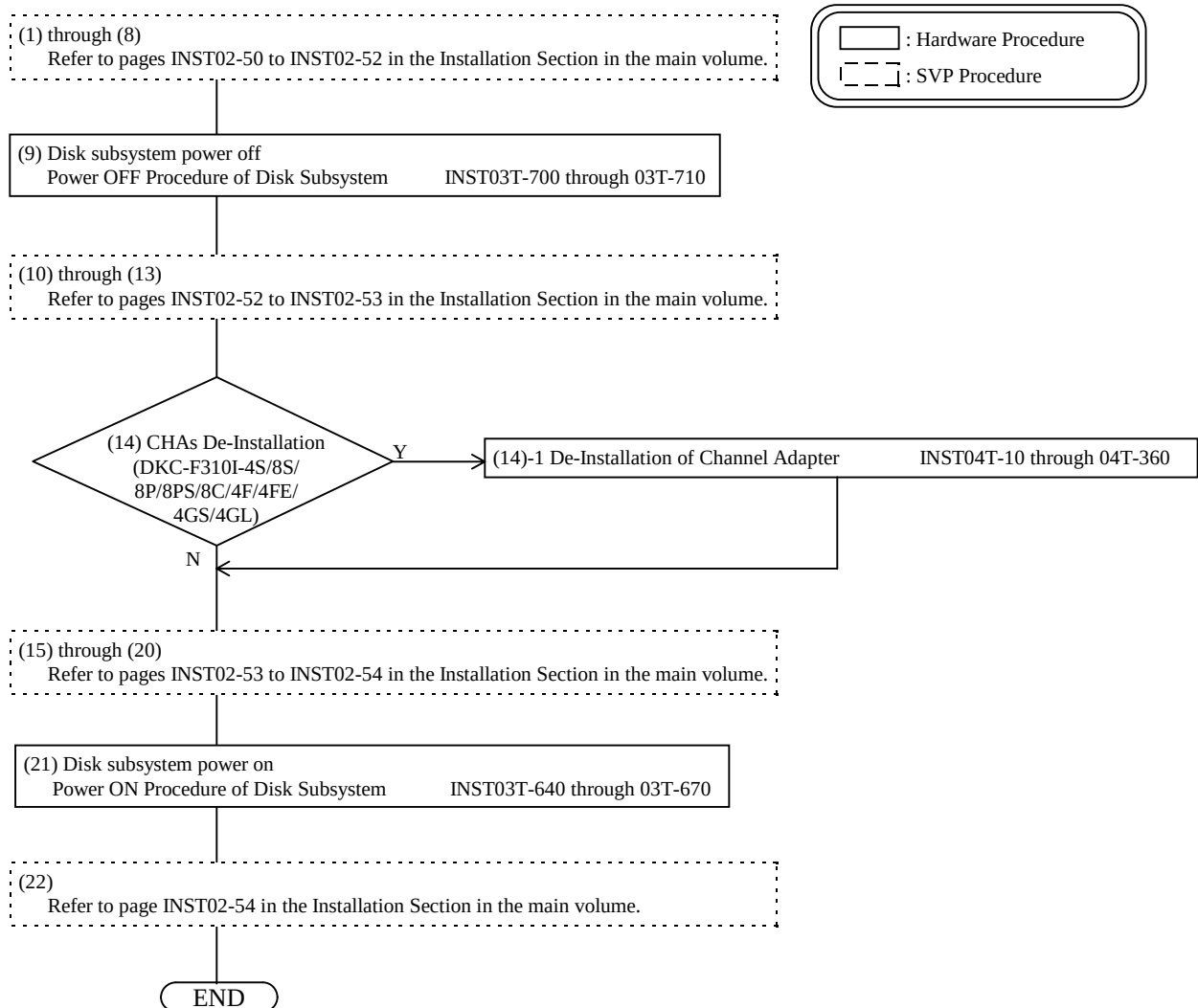
When De-Installation has been all done, make sure that all the removed units are displayed as "empty" and that the other units are normal (See the STATUS Section).

If a fault occurs during or after removal, see INST02-70 to locate a faulty unit and take action.

(Note.1) If any other message than the list is displayed, see the SVP Message section.

Precautions on Disruptive De-Installation

- "Disruptive" means that the subsystem is disconnected from the host (OS). Disruptive De-installation shall be done with the subsystem power OFF. However, be sure to turn on the subsystem whenever removing additional Cache Memory and Shared Memory (DKC-F310I-20/32/128/256/1024) because configuration information side must be updated simultaneously according to the SVP guidance.
- When de-installing SCSI channel adapter or HDD assigned to SCSI Volumes, it is necessary to stop concerned SCSI channel path before proceeding with de-installation procedure.



Note.1 : Refer to the Installation Section in the main volume.

2.10 New Installation procedures without the pre-installation at a customer site

2.10.1 Application

These procedures are applied to a new installation without the pre-installation at a customer site or the pre-installation at the warehouse as shown below.

- Installing the appropriate micro programs according to the various types of the packages.
- Installing the configuration information appropriating for the customer.

If these procedures are used in other cases, their processes are not assured.

2.10.2 Conditions to use these procedures

These procedures can be used in the following conditions.

- ① The installation of the Hardware parts (for example, the connections of cables, power supplies and so on) have been finished.
- ② The PC (SVP) can be used.

For the Hardware installation, refer to “2.1 New Installation Procedure General Flow” (INST 02T-10 step (1) through (13)) of Maintenance Manual.

2.10.3 Procedures

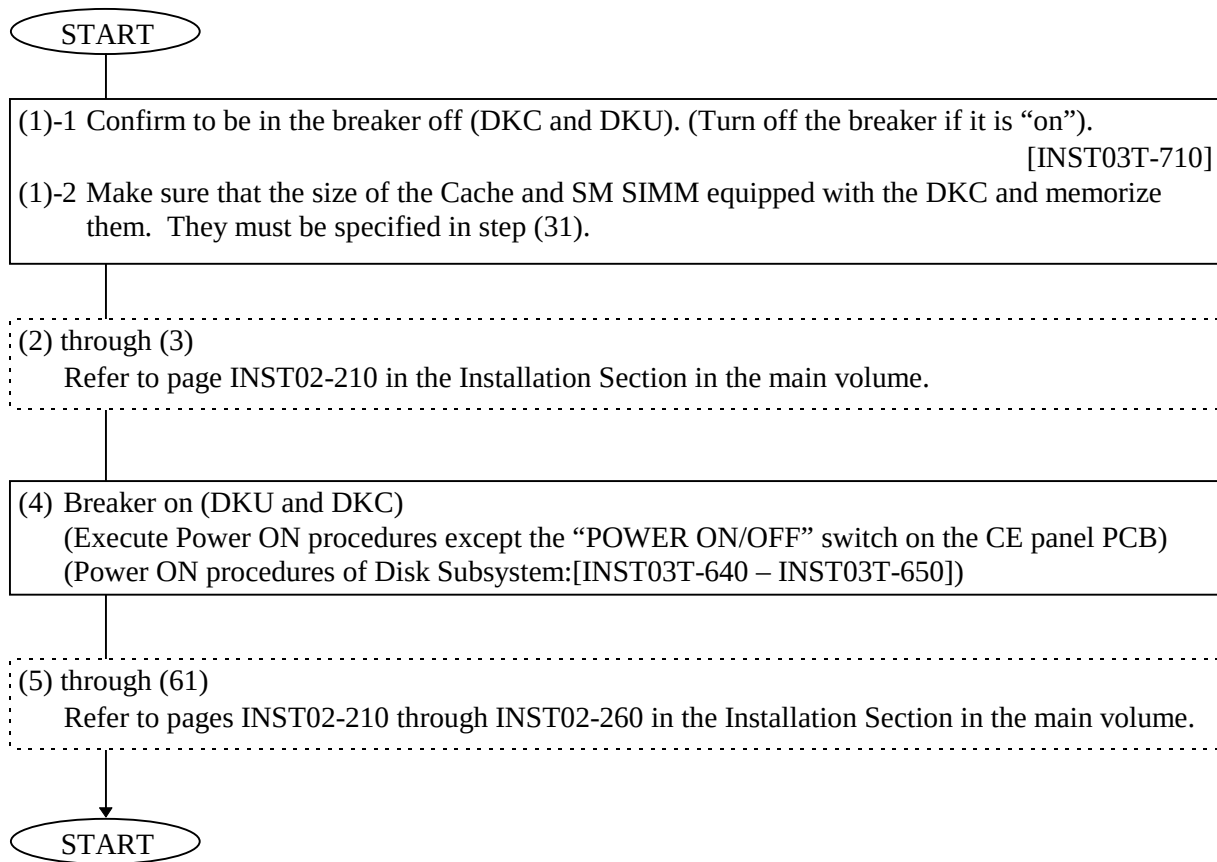
(1) Summary

The procedures are divided roughly into 4 processes.

- ① Pre-processing ((1)-(11) in the following flow)
- ② Using 4 Packages (2 CHAs (or 2 CHSs/CHF/CHTs) and 2 DKAs) at the basic locations (1P and 2V for CHA, 1B and 2H for DKA), the define configuration and installation of their packages is defined. ((12)-(32) in the following flow)
- ③ Installing more than 4 Packages, the additional installation of their packages is executed. ((33)-(42) in the following flow)
- ④ others ((43)-(61) in the following flow)

(2) Processing Flow

The processing flow of the new installation is as follows.



3.3 Basic Subsystem Installation

See SECTION 3.4 INSTALLATION OF DISK UNIT (DKU305I-14) when there are two or more Disk Units. [INST03-380 (Refer to the Installation Section in the main volume 1/4.)]

3.3.1 Flowchart

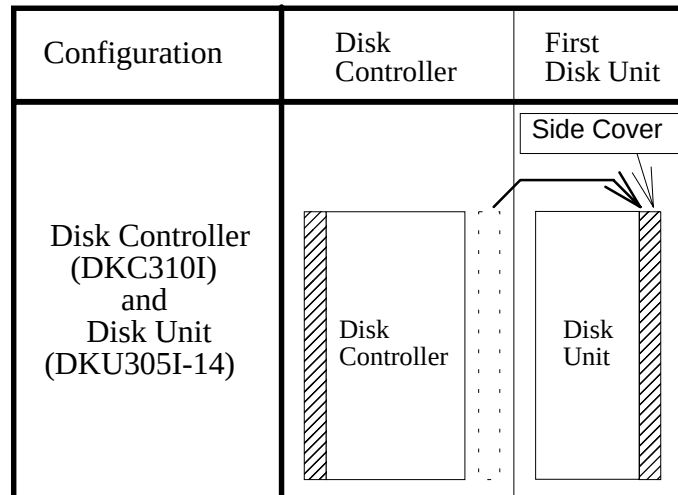
1. Cabinet Setting	[INST03T-10]
↓	
2. Frame Connection	[INST03T-50]
↓	
3. Switch and Jumper Plug Installation	[INST03T-100]
↓	
4. Cabling	[INST03T-140]
↓	
5. Check of Jumper Settings	[INST03T-180]

3.3.2 Cabinet Setting

- Refer to Table 3.3.2-1 when laying out the First Disk Unit with respect to the Disk Controller and relocating the side cover.

- Place the Disk Controller and Disk Unit in the required position.

Table 3.3.2-1 Removal and Re-installation of Side Cover



2. Remove the fall proof adapters from the Disk Unit.

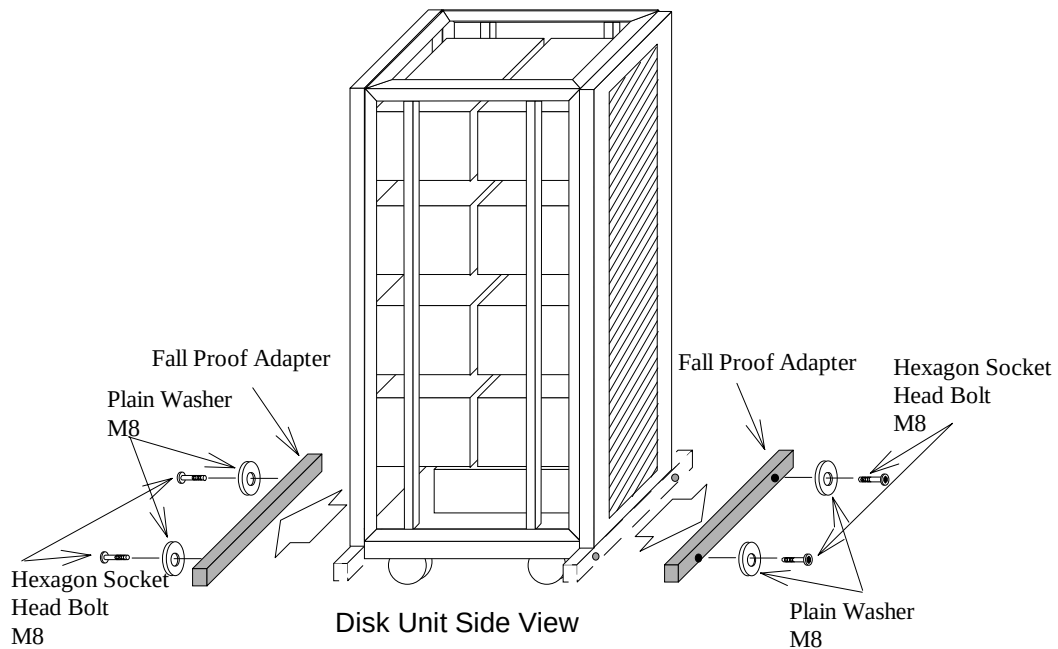


Fig. 3.3.2-1 Removal of Fall Proof Adapter

Note: The fall proof adapters, hexagon socket head bolt M8s, and plain washer M8s should be stored in the place of installation for future use in moving or taking out the unit.

3. Open the front and rear doors on the Disk Controller and the Disk Unit.
4. Remove the screw for transporting the movable rack.

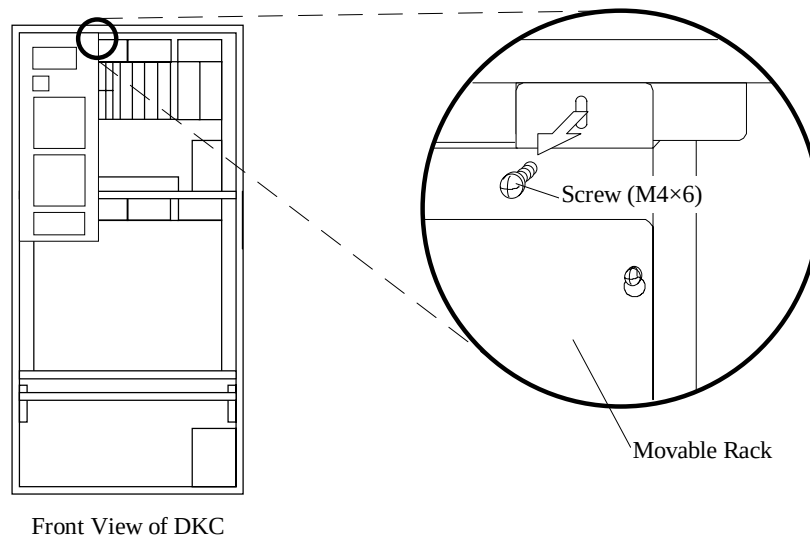


Fig. 3.3.2-2 Removal of Screw for Transporting the Movable Rack

Note: The screw for transporting the movable rack (screw M4×6) should be stored in the place of installation for future use in taking out and transporting the unit.

5. Loosen the repeat binders which secure the DKUMN cables and the SCSI interface cables.

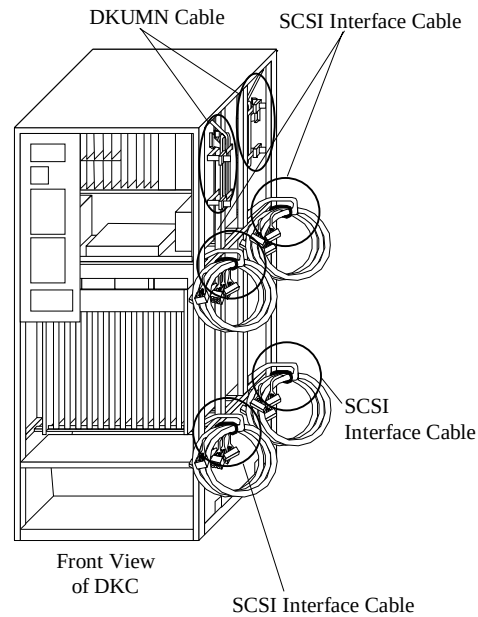


Fig. 3.3.2-3 Removal of Cables

6. Pass the DKUMN cables and the SCSI interface cables through the Basic Disk Unit frame. Refer to Fig. 3.3.2-4. Be extremely careful not to pinch the inter-frame cable when coupling the frames to each other.

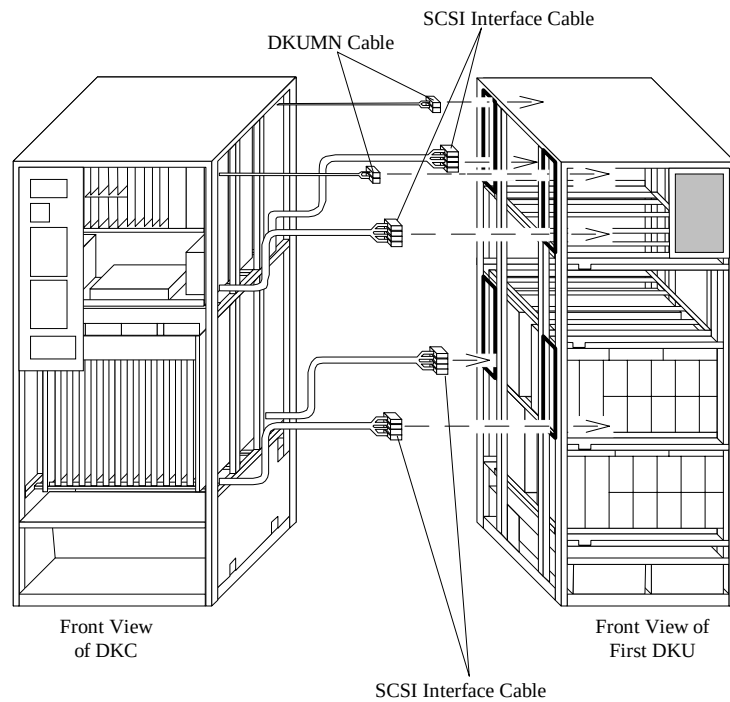


Fig. 3.3.2-4 Attachment of Cables

7. Lower the screw jacks until frame is 57mm (2.25in.) from the floor before connecting frames.
8. Level the device as shown Fig. 3.3.3.2-5.

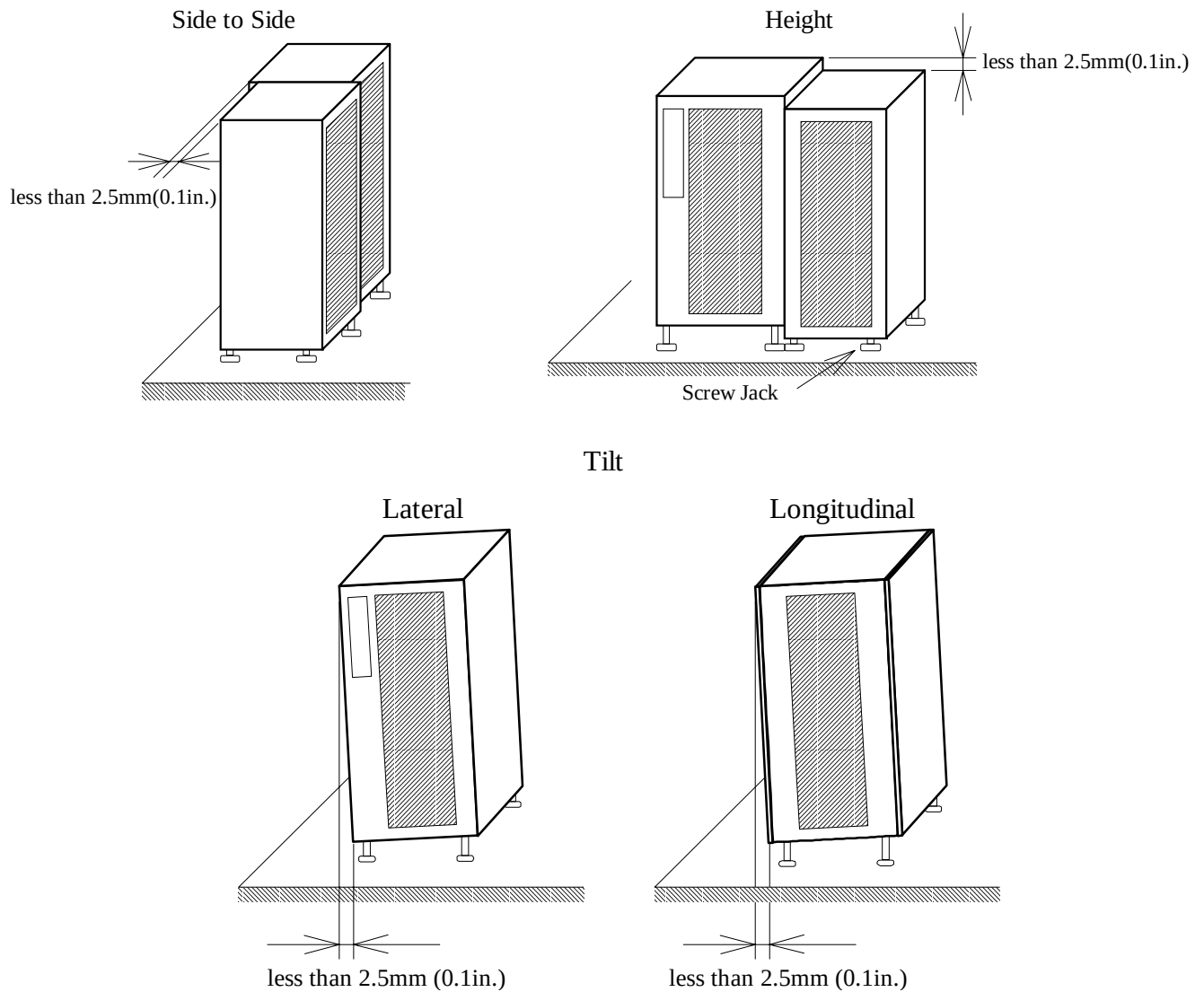


Fig. 3.3.2-5 Unit Layout, Height, and Tilt

9. Loosen the four screws (M3) and the two screws (M4), remove the Front Logic Box Cover from the Disk Controller Unit.
10. Loosen the two screws (M3) and remove the cover (frame) 2.

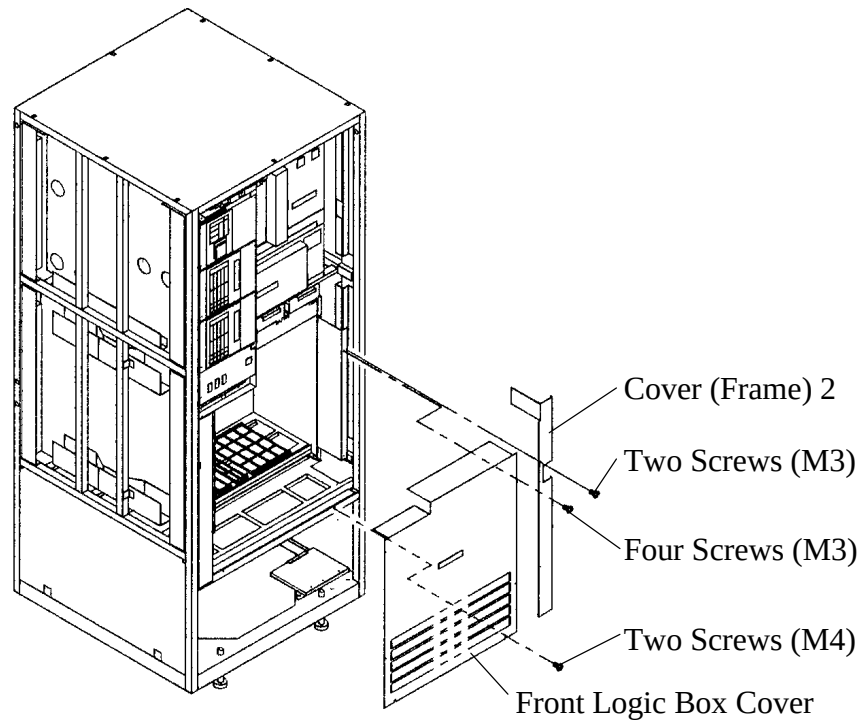


Fig. 3.3.2-6 Removal of Covers (DKC front side)

11. Loosen the four screws (M3) and the two screws (M4), remove the Rear Logic Box Cover.
12. Loosen the two screws (M3) and remove the cover (frame) 1.

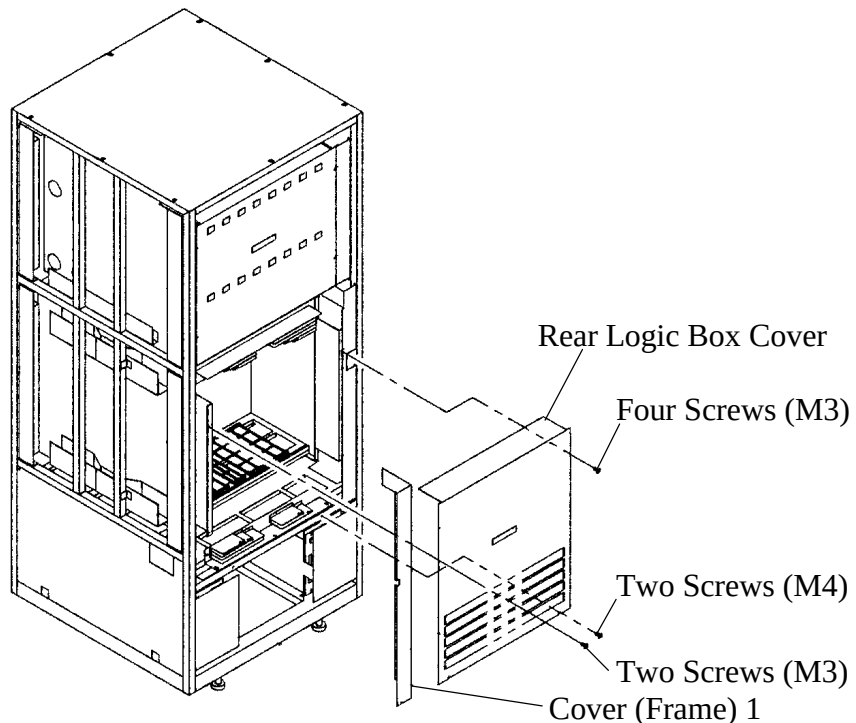


Fig. 3.3.2-7 Removal of Covers (DKC rear side)

3.3.3 Frame Connection

3.3.3.1 Frame Connection

Connect the devices together using six of Connecting Bolt assemblies, three in front and three in rear. See Fig. 3.3.3.1-1.

The direction of hexagon socket head bolts, binding screws and connecting nuts must be the same as shown in the figure.

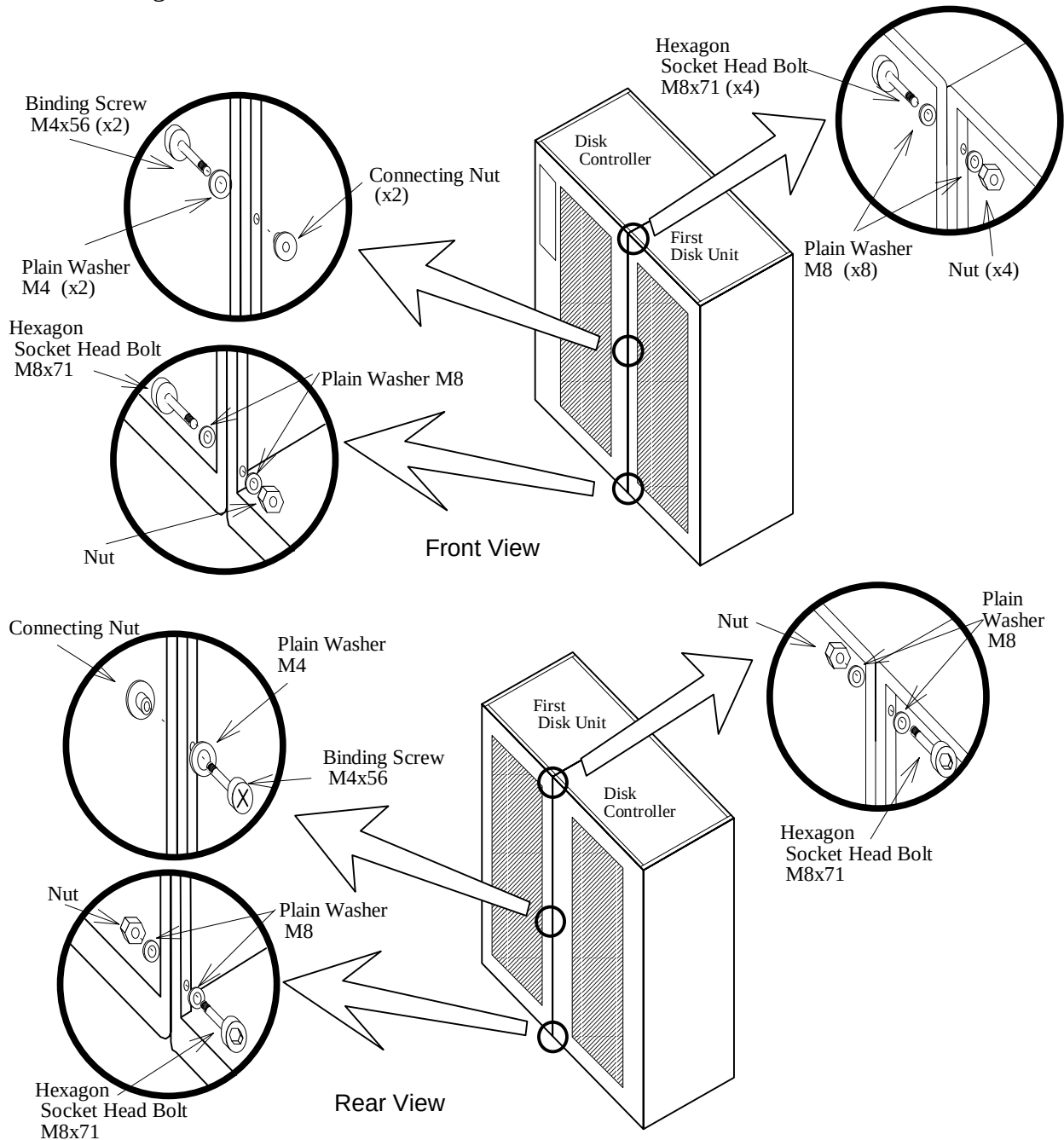
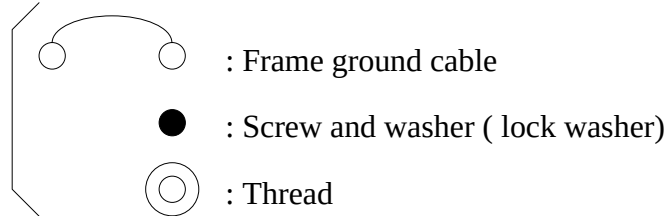


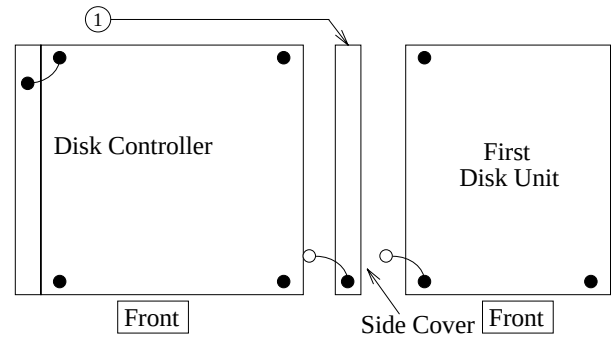
Fig. 3.3.3.1-1 Frame Connection

3.3.3.2 Frame Ground Cable Attachment

Note



1. Remove the right side cover of the Disk Controller.
2. Connect the cabinets.



3. Attach the side cover to the Disk Unit. Refer to SECTION 3.3.3.3 Side Cover Re-installation.
4. Attach the frame ground cable with the screw and lock washer.
5. Attach the Front and Rear Logic Box Covers to the Disk Controller Unit in the reverse order of SECTION 3.3.2 item 9 through 12 [INST03T-50].

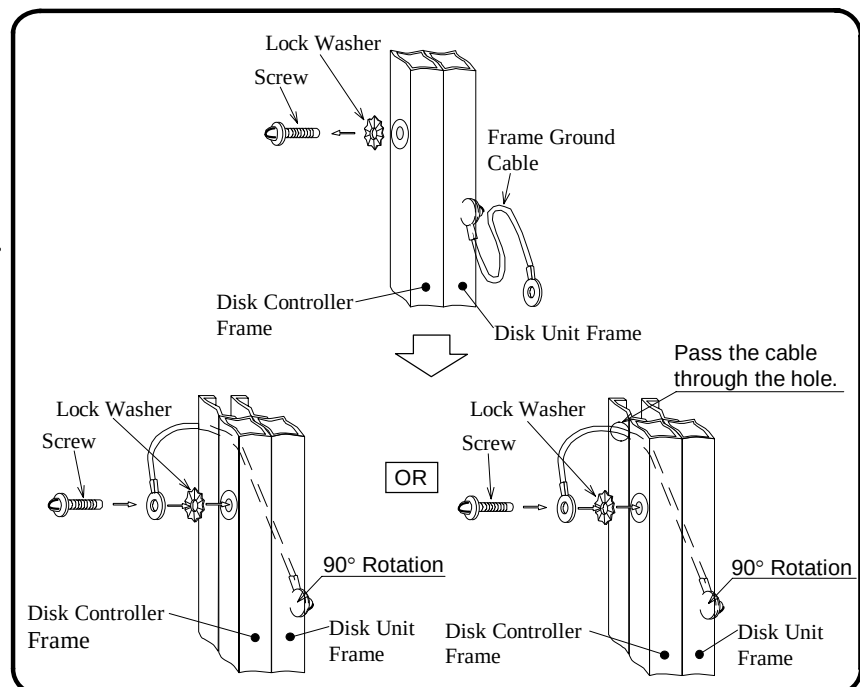
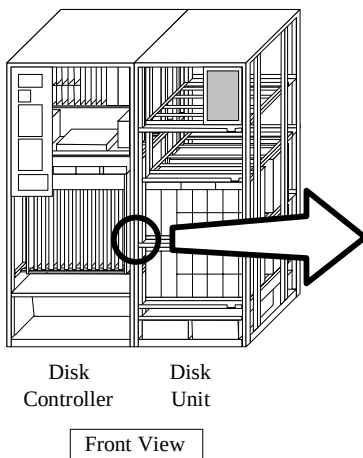
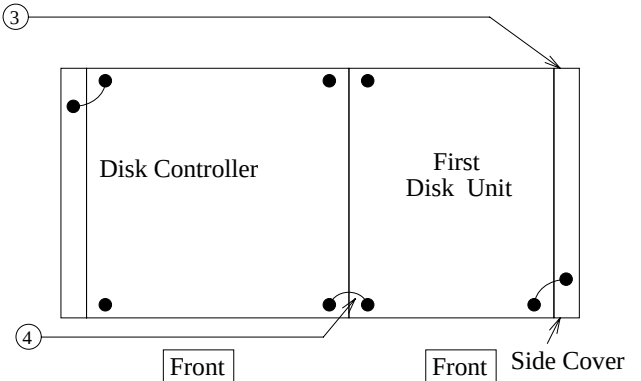


Fig. 3.3.3.2-1 Attachment of Frame Ground Cable

3.3.3.3 Side Cover Re-installation

Attach the side cover to the end of the string with the four binding screws and washers.

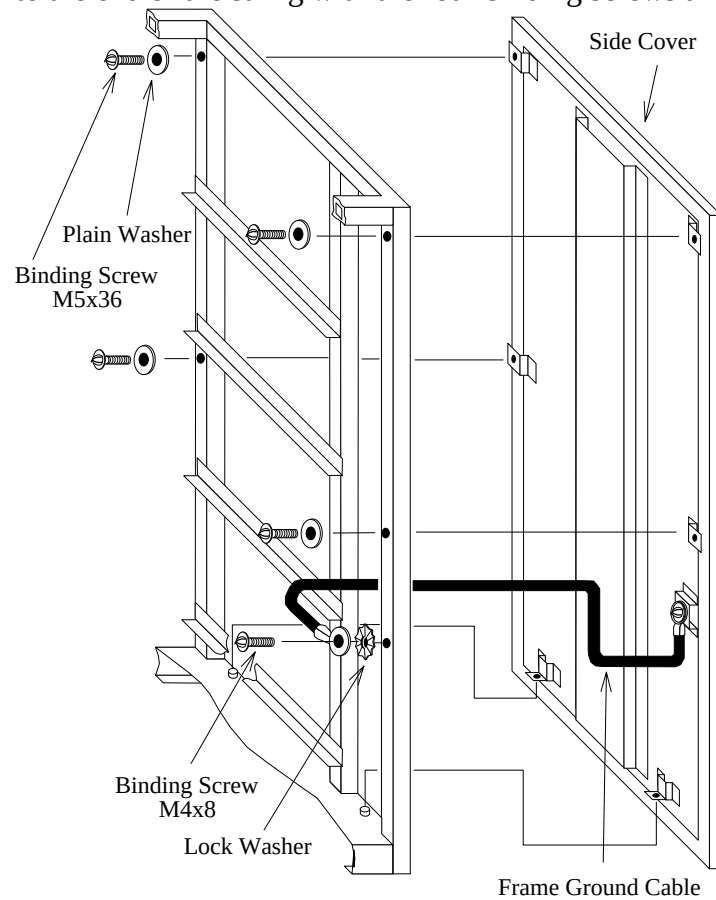


Fig. 3.3.3.3-1 Re-installation of Side Cover

3.3.3.4 Installation of Kick Plate

Attach the kick plates with the binding screws. See Fig. 3.3.3.4-1.

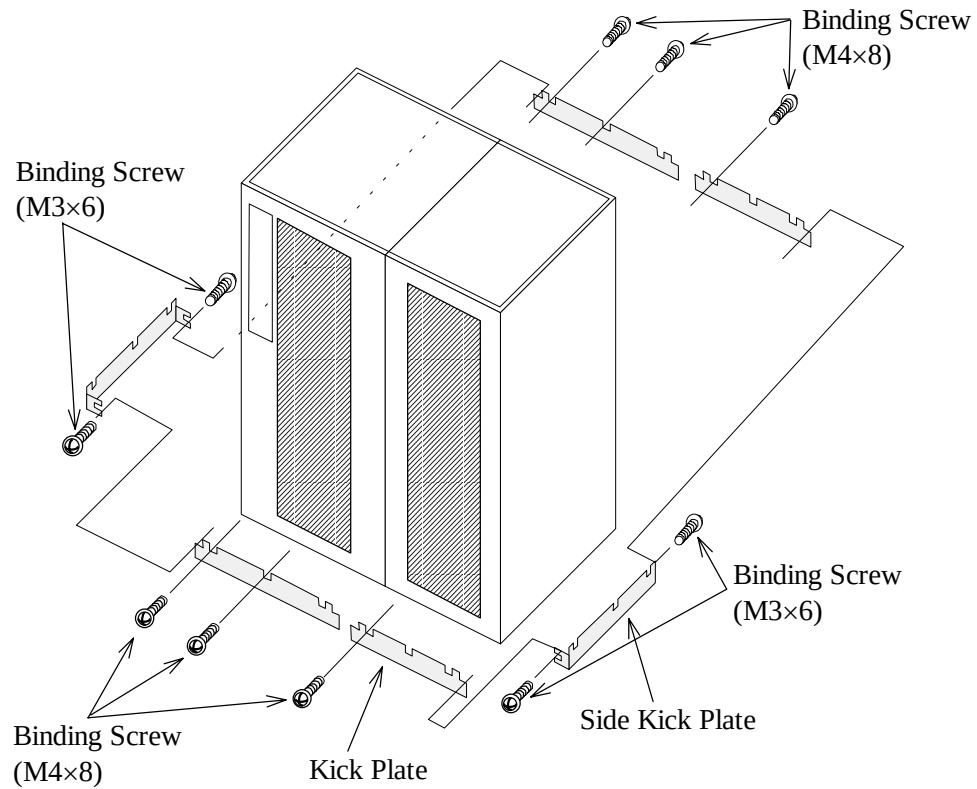


Fig. 3.3.3.4-1 Installation of Kick Plate

NOTICE:

Contact the Kick Plate to the floor to prevent static electricity.

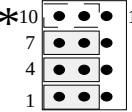
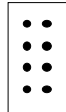
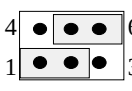
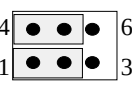
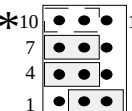
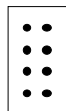
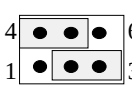
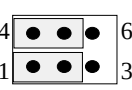
3.3.4 Installation of Switches and Jumper Plugs

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.

3.3.4.1 Installation of Switches and Jumper Plugs in DKUMN PCB

Set the switches and install the jumper plugs in the DKUMN PCBs as indicated in the table below.

Table 3.3.4.2-1 SWITCH and JUMPER PLUG installation of the DKUMN PCB

Location No.	S1	JP1	JP2	JP3		Remarks
				Note 1	Note 2	
DKUMN-R1F	Enable		 Not Used			* #10 - #12 Reserved
DKUMN-R1R	Enable		 Not Used			* #10 - #12 Reserved

Note 1 : No Platform for Canister Mount (DKU-F305I-B4) Installed (Four HDU Boxes)

Note 2 : Platform for Canister Mount (DKU-F305I-B4) Installed (Eight HDU Boxes)

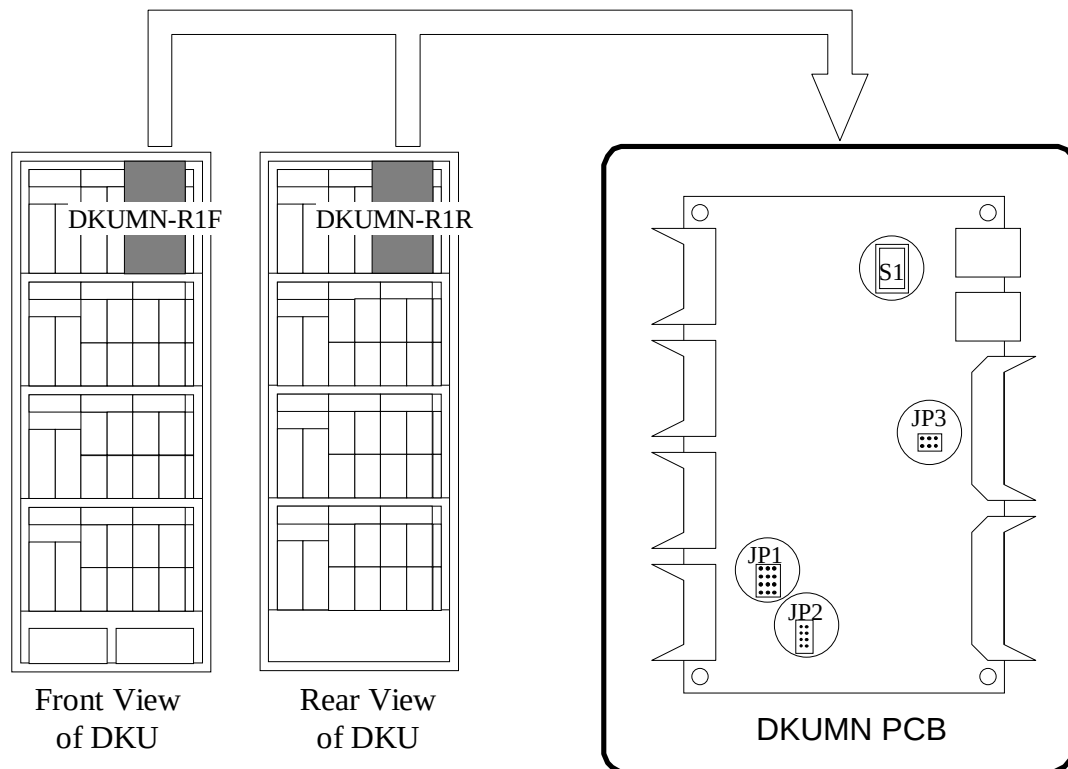


Fig. 3.3.4.1-1 Installation of Switches and Jumper Plugs in DKUMN PCB

3.3.4.2 Installation of Jumper Plugs in CE PANEL PCB

Install the jumper plugs in the CE PANEL PCB as indicated in the table below.

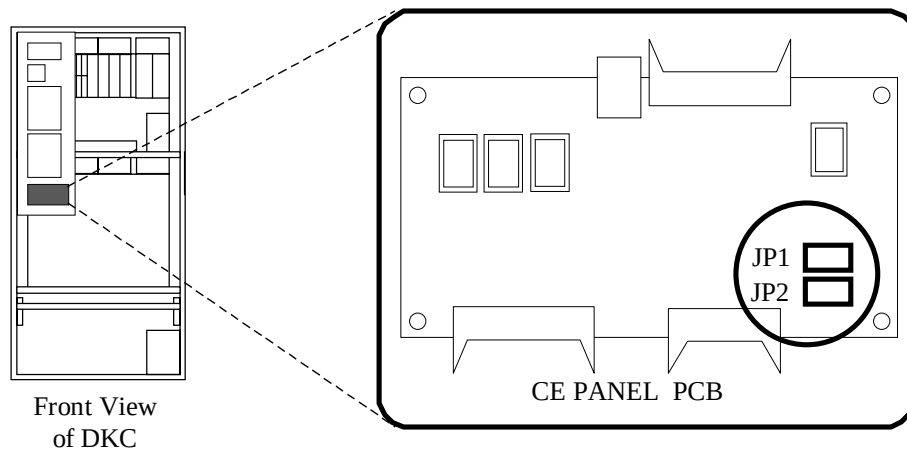


Fig. 3.3.4.2-1 Installation of Jumper Plugs in CE PANEL PCB

Table 3.3.4.2-1 Installation of Jumper Plugs in CE PANEL PCB

No.	Description	Installing status JP1 and JP2
1	When power is controlled from the host(at least one PCI cable attached to JP1-JP8 on PCI CONN PCB), set the jumpers as shown.	1 2 3 JP1 ● ● ● 1 2 3 JP2 ● ● ●
2	When power is not controlled from the host, no PCI cable attached to JP1-JP8 PCI CONN PCB or to disable the EPO of host, set the jumpers as shown.	1 2 3 JP1 ● ● ● 1 2 3 JP2 ● ● ●

3.3.4.3 Installation of Jumper Plugs in RS CONN PCB

Install the jumper plugs in the RS CONN PCB as indicated in the table below.

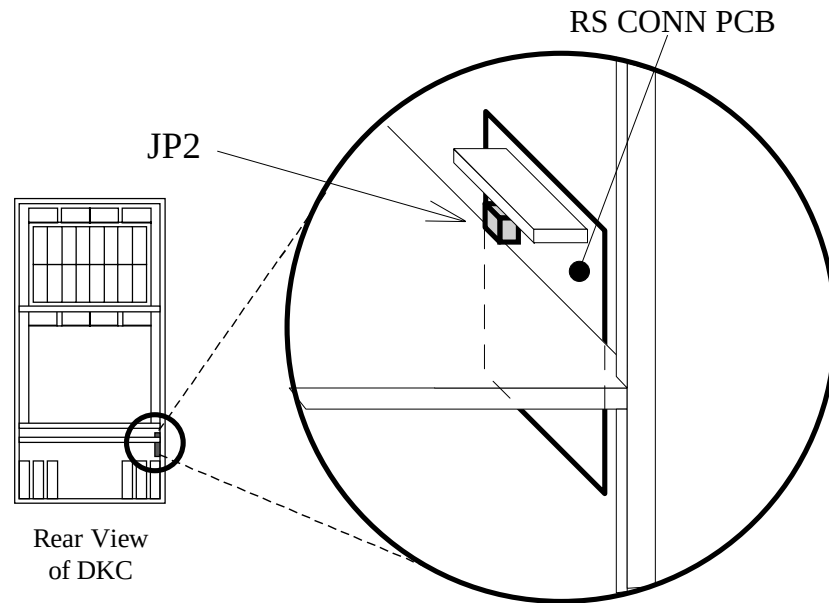


Fig. 3.3.4.3-1 Installation of Jumper Plugs in RS CONN PCB

Table 3.3.4.3-1 Installation of Jumper Plugs in RS CONN PCB

No.	Description	Installing status JP2
1	This setting attaches terminator to RS-422	JP2 1 2 3 4
2	This setting detaches terminator to RS-422	JP2 1 2 3 4

3.3.4.4 Installation of Jumper Connectors in BATT CTR PCB

This following shows the settings for the unit containing no Additional Cache Board (DKC-F310I-20). For the settings for the unit containing the Additional Cache Board (DKC-F310I-20), see [INST03-1280 (Refer to the Installation Section in the main volume 1/4.)].

1. Open the four locking clamps on the Front PS Box Cover 2 and remove the four jumper connectors.

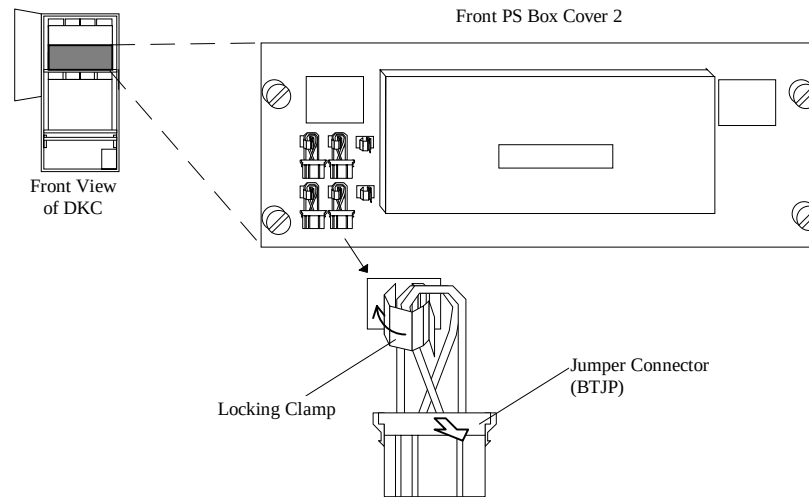


Fig. 3.3.4.4-1 Removal of Jumper Connectors

2. Install the jumper connectors in the BATT CTR PCBs as indicated in the figure below.

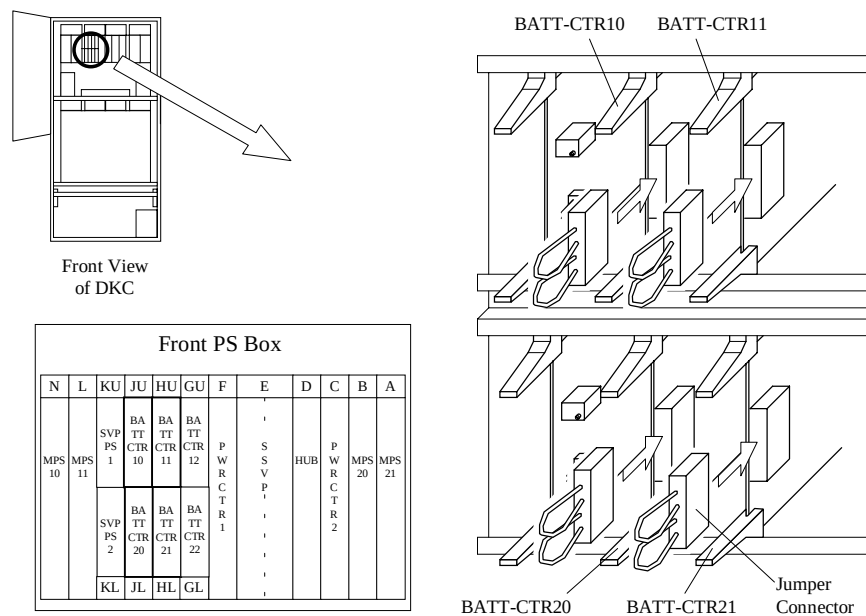


Fig. 3.3.4.4-2 Installation of Jumper Connectors in BATT CTR PCB

3.3.5 Cabling

Table 3.3.5-1 Cabling Index

No.	Description	Reference Page	Remarks
1	DKUMN cable	INST03T-140	
2	SCSI Interface cable	INST03T-160	

3.3.5.1 Cabling Procedure of the DKUMN Cables

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.

1. Connect the PWRCTL PCBs or MPS Back Board (PL) and the DKUMN PCBs as summarized in the table below.

Table 3.3.5.1-1 Connection of DKUMN Cables

No.	Disk Controller			First Disk Unit			Remarks
	Location No.	Connector No.	Cable No.	Location No.	Connector No.	Cable No.	
1	PWRCTL-1	J11	SH-F21	DKUMN-R1F	J04	P4-1R	
2	MPS BB (PL)	N10	SH-N10	DKUMN-R1F	J02	P2-1R	
3	PWRCTL-2	J11	SH-C21	DKUMN-R1R	J04	P4-2R	
4	MPS BB (PL)	A10	SH-A10	DKUMN-R1R	J02	P2-2R	

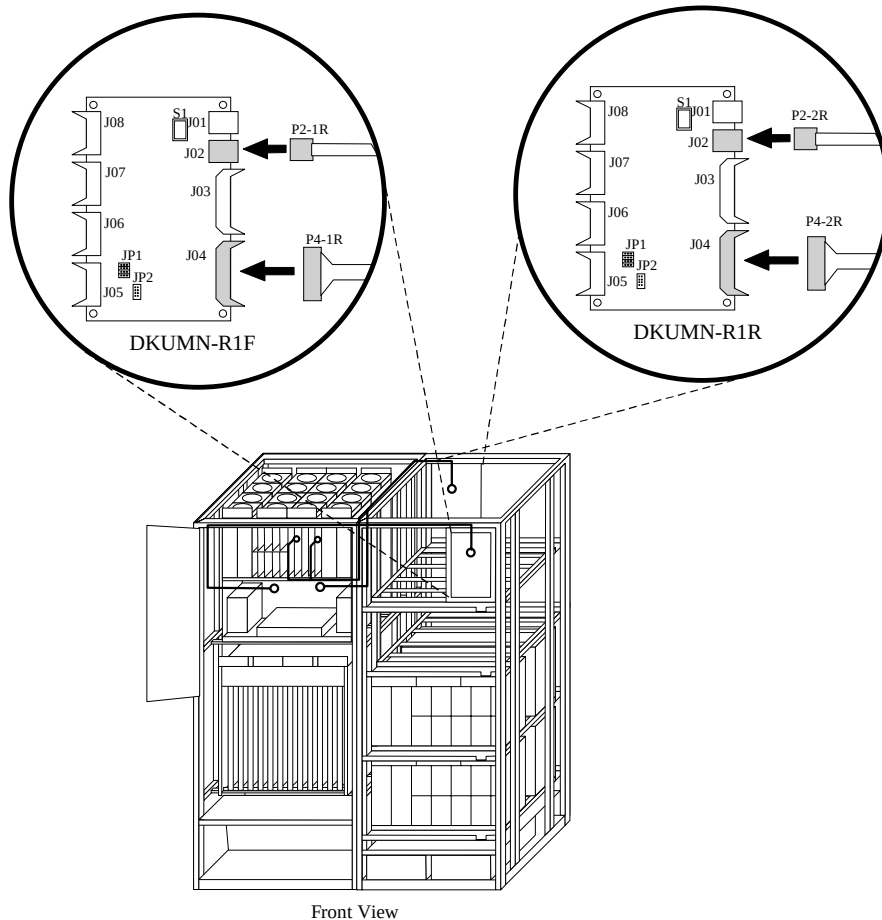


Fig. 3.3.5.1-1 Connection of DKUMN Cables

2. Before binding the DKUMN cables. Secure the DKUMN PCB. Refer to Fig. 3.3.5.1-3
 - a. Loosen the four screws.
 - b. Lift the DKUMN PCB.
 - c. Slide and secure the DKUMN PCB

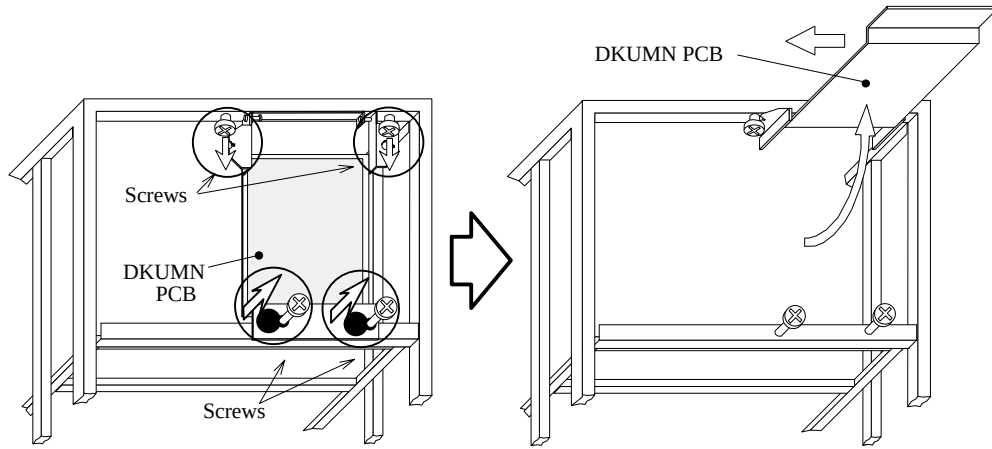


Fig. 3.3.5.1-2 Lift of DKUMN PCB

3. Bind the cables with binders to prevent them from sagging.

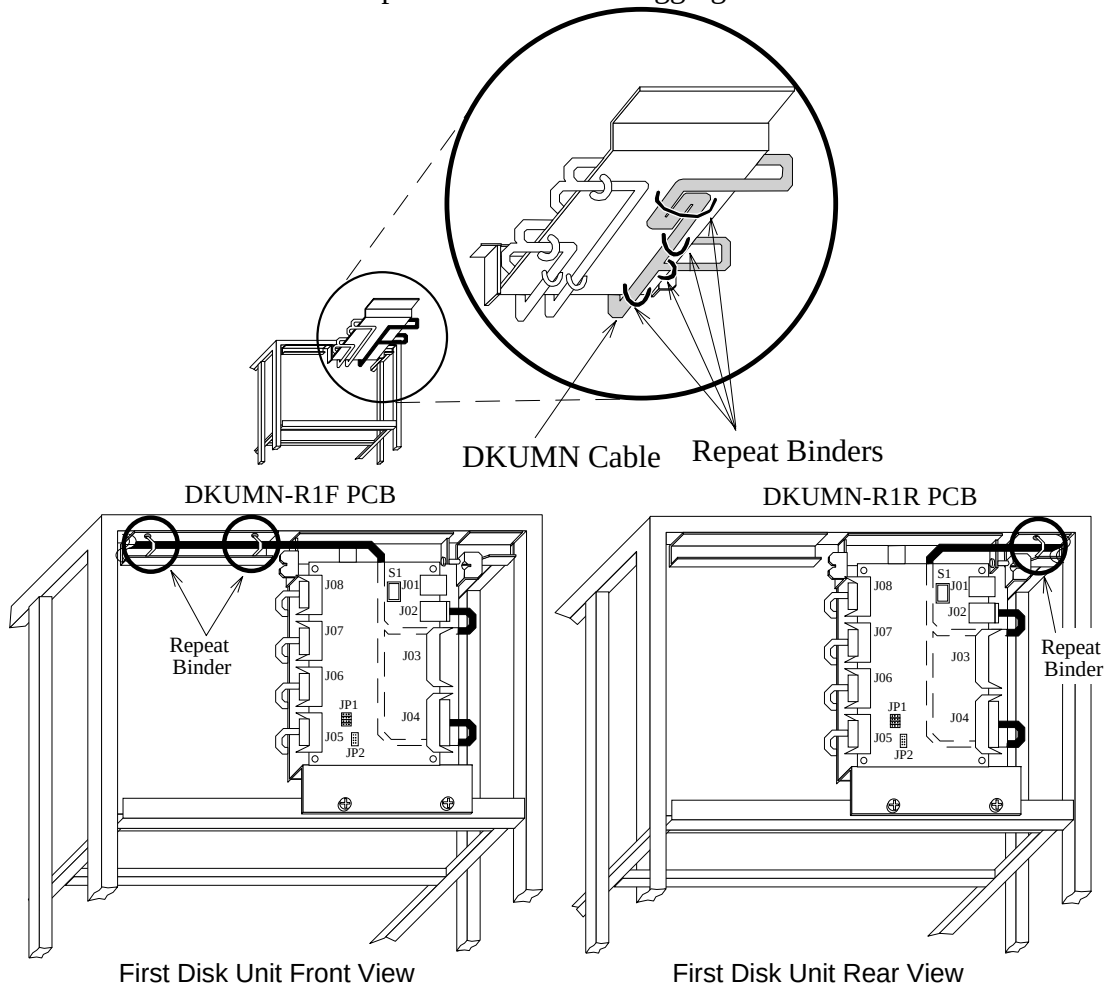


Fig. 3.3.5.1-3 Binding of DKUMN Cables

3.3.5.2 Cabling Procedure of SCSI Interface Cables

1. Connect the SCSI interface cables to the sub-edges on the SCSI BFR PCBs located in the HDU box.

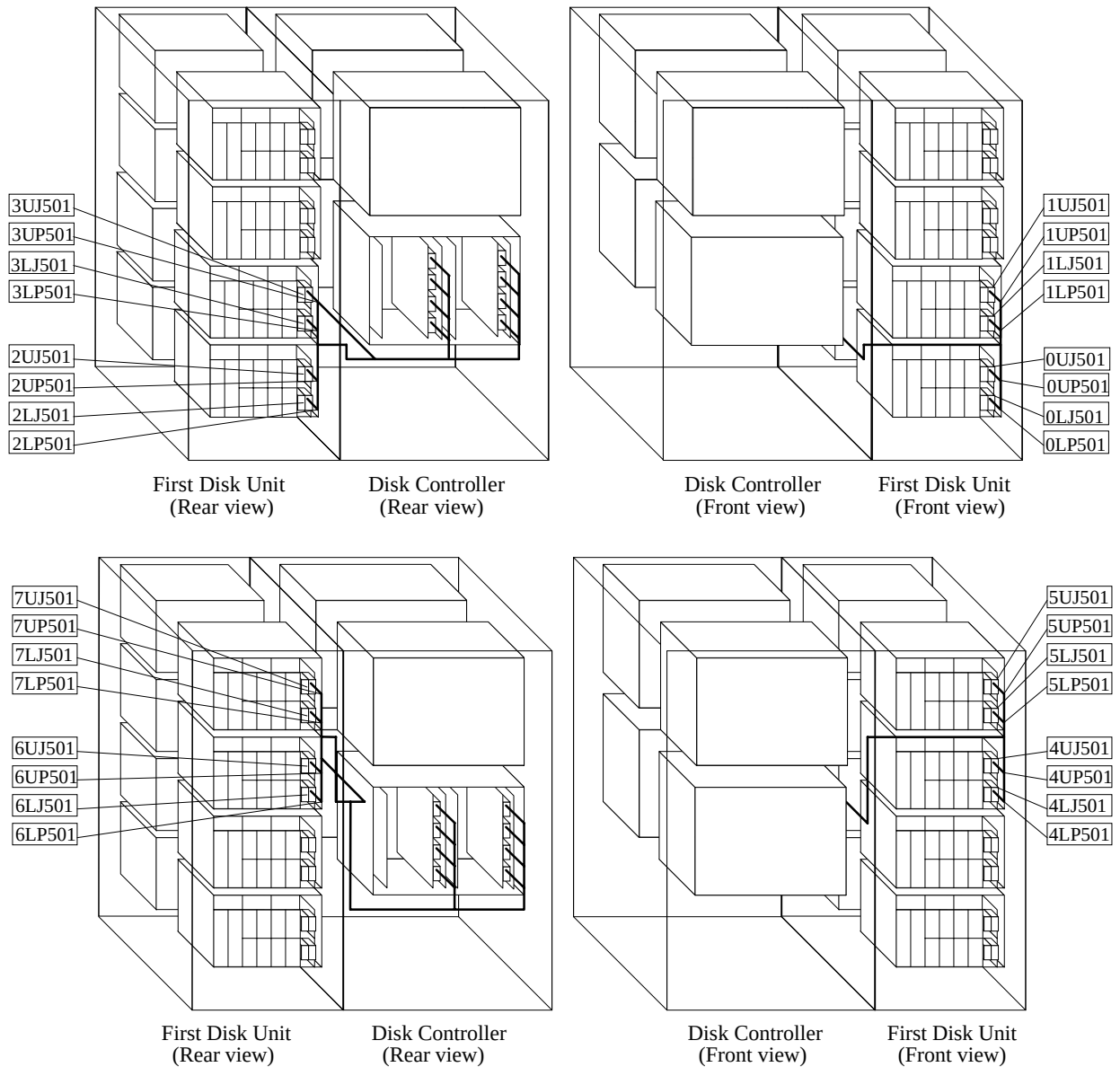


Fig. 3.3.5.2-1 SCSI Interface Cabling Diagram (SCSI BFR PCB Side)

2. Secure the SCSI interface cables to the cable conduit with cable fixing wire and repeat binder. If the SCSI interface cables are too long, fold them over inside the cable conduit and secure them with cable fixing wire and repeat binder.

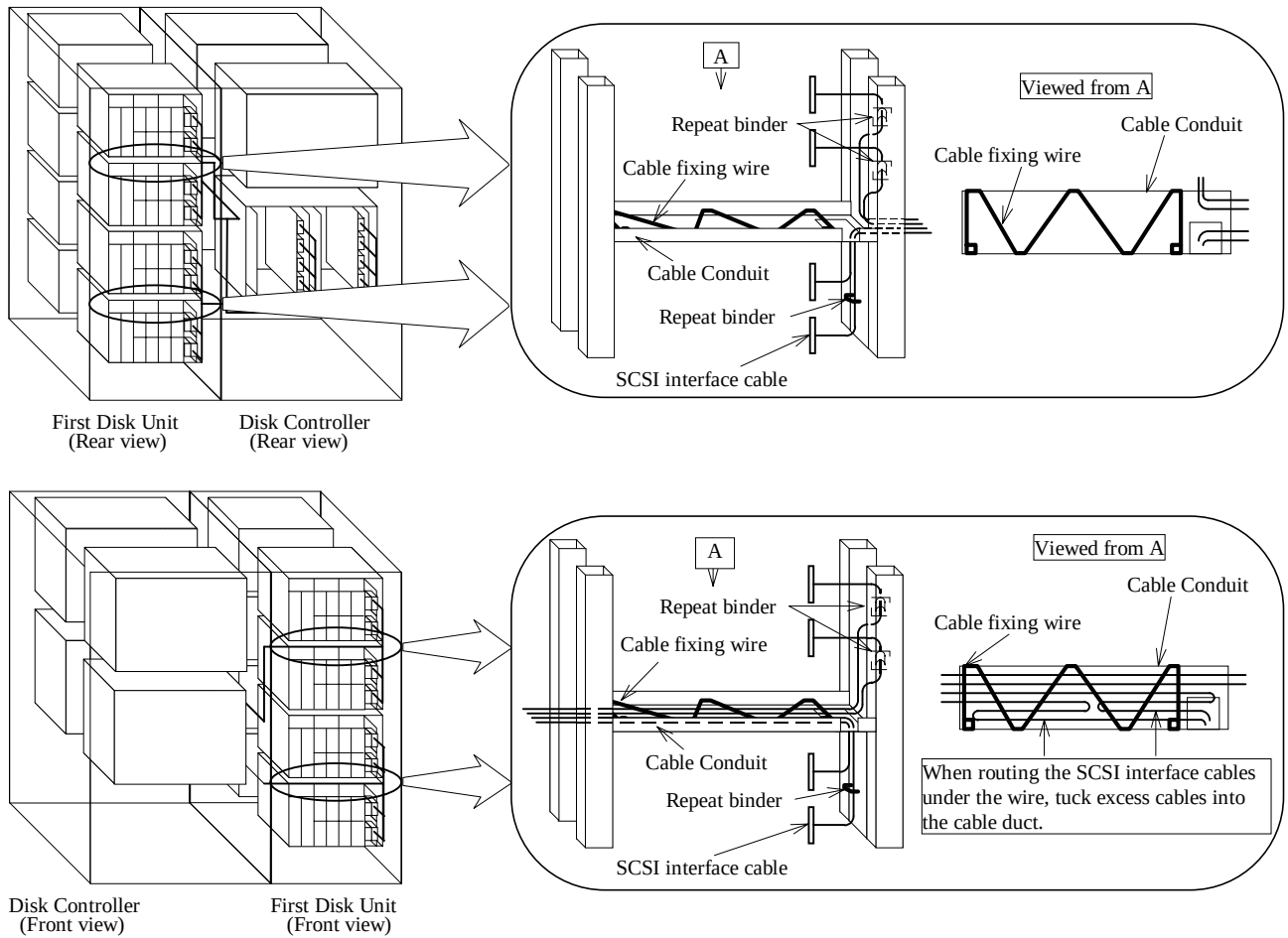


Fig. 3.3.5.2-2 Fixing of SCSI Interface Cables

3.3.6 Check of Jumper Settings

1. Check the jumper settings (JP1, JP2 and JP3) on the DKUMN PCBs. Refer to Section 3.3.4.1 Installation of Switches and Jumper Plugs in DKUMN PCB [INST03T-100].
When the jumper plugs are not installed to the correct sockets, install the jumper plugs to the correct sockets.
2. Check the SCSI ID jumpers on the HDD back boards. Refer to Fig. 3.3.6-1.
When the SCSI ID jumpers are not installed to the correct sockets, install the SCSI ID jumpers to the correct sockets.

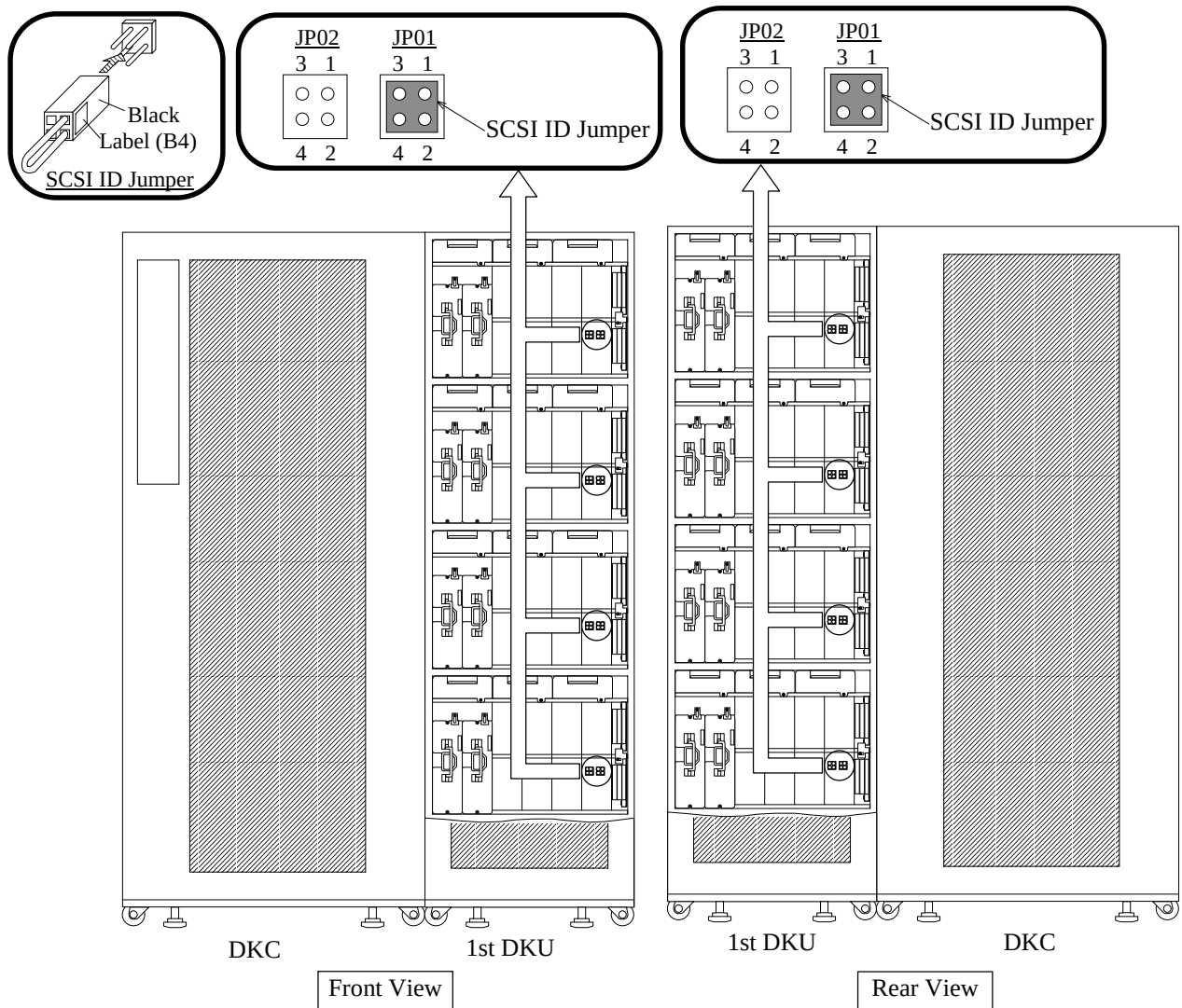


Fig. 3.3.6-1 Setting the SCSI ID Jumpers

3. Return to General Flow.
New Installation : Go to INST02T-10 step (3).

3.6 Installation of Channel Adapter

The channel adapter adding procedure for the DKC310I-5EU/5EUP (single-phase-powered model) DKC is the same as that for the DKC310I-5/5E (three-phase-powered model) DKC. However, the installation location of the panel for the I/F connector connecting the host and channel adapter is different from that of the DKC310I-5/5E because the DKC310I-5EU/5EUP has the AC Box installed inside the DKC. The adding procedure for each channel option is explained below.

Note : When installing three or more channel options, the CL Additional Power Supply (DKC-F310I-80) must be installed. In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.

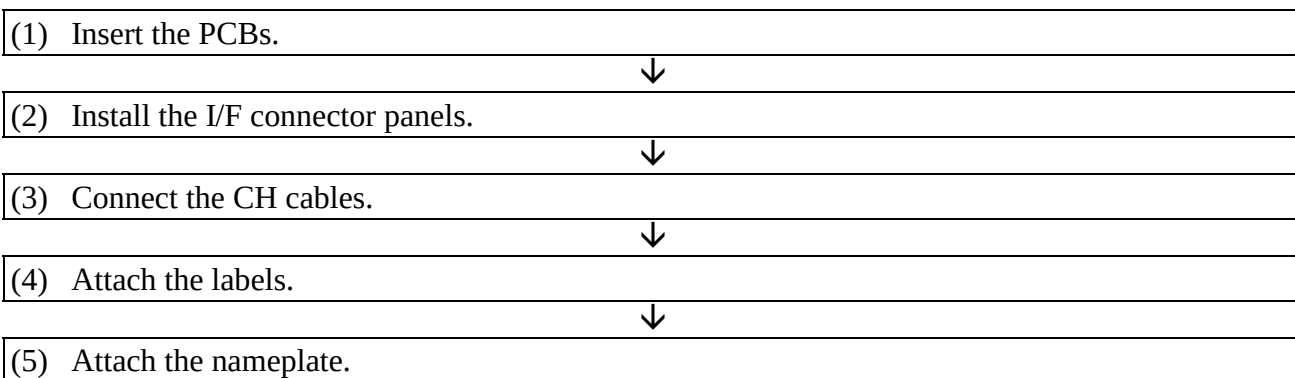
3.6.1 Installation of Parallel 8-channel Switch (DKC-F310I-8P)

3.6.1.1 Parts list

Table 3.6.1-1 Parts List for Parallel 8-channel Switch

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8P	Parallel 4-channel Switch PCB	3252510-A	2	
		I/F Connector Panel (CH A)	2102090-A	2	For CH A
		I/F Connector Panel (CH B)	2102090-B	2	For CH B
		I/F Connector Panel (CH C)	2102090-C	2	For CH C
		I/F Connector Panel (CH D)	2102090-D	2	For CH D
		Screw	SB408	32	
		Label	5500246-1	4	Parallel
		Nameplate	3252542-5	1	For DKC-F310I-8P
		Bypass Connector	5430027-8	8	For removal of CHA
		Cover (CHA)	2102102-1	2	

3.6.1.2 Flowchart



3.6.1.3 Installation Procedure of Parallel 8-channel Switch

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.1-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Set the jumper sockets (JP1 to JP4) referring to Fig. 3.6.1-2A.
 - c. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.1-2.
 - d. Fasten the two screws referring to Fig. 3.6.1-2B.

Table 3.6.1-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Only one Parallel 8-channel Switch can be installed in the slot no. P and V (Basic) in the subsystem.

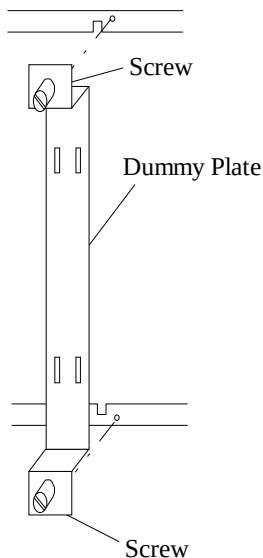
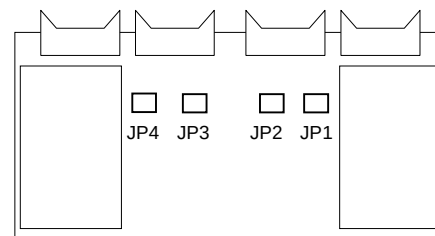


Fig. 3.6.1-1 Removal of Dummy Plate.



	Setting (JP1-JP4)	
Selected by SELECT OUT	2	8
	1	7
Selected by SELECT IN	2	8
	1	7

Fig. 3.6.1-2A Setting of Jumpers

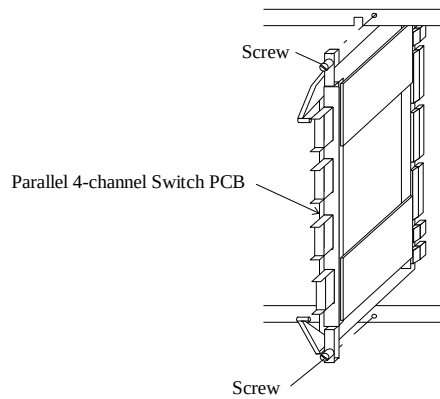


Fig. 3.6.1-2B Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel of the CL1, CL2 to the location number ①, ② respectively referring to Fig. 3.6.1-3.

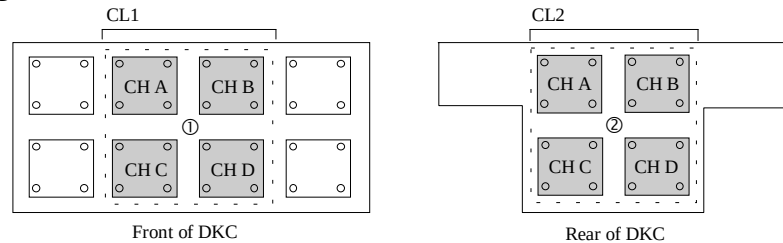


Fig. 3.6.1-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.1-4.
- Wire the CH cables to the front of DKC and then install the I/F connector panel referring to Fig. 3.6.1-5.

(Note): Dummy plates should be stored for future use in de-installation.

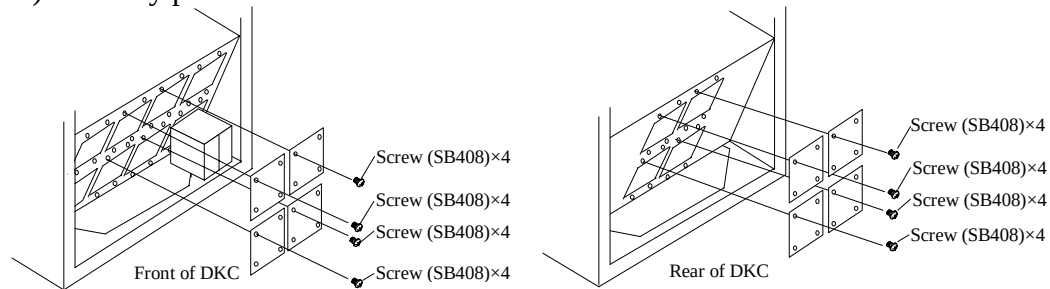


Fig. 3.6.1-4 Removal of Dummy Plate

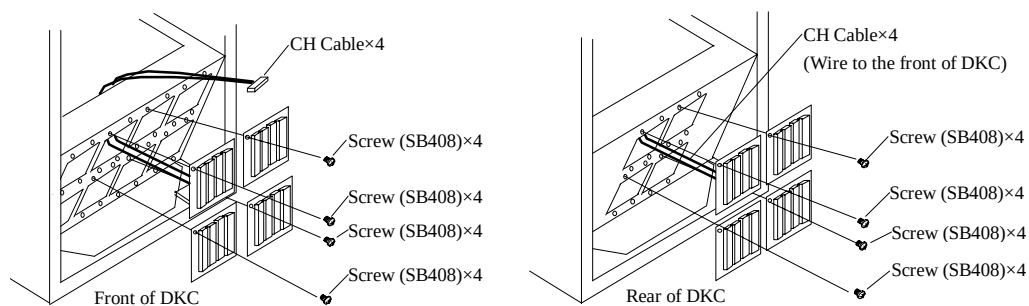


Fig. 3.6.1-5 Installation of I/F Connector Panel

3. Connection of the CH cables

- a. Connect the CH cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.1-6 and Table 3.6.1-3.

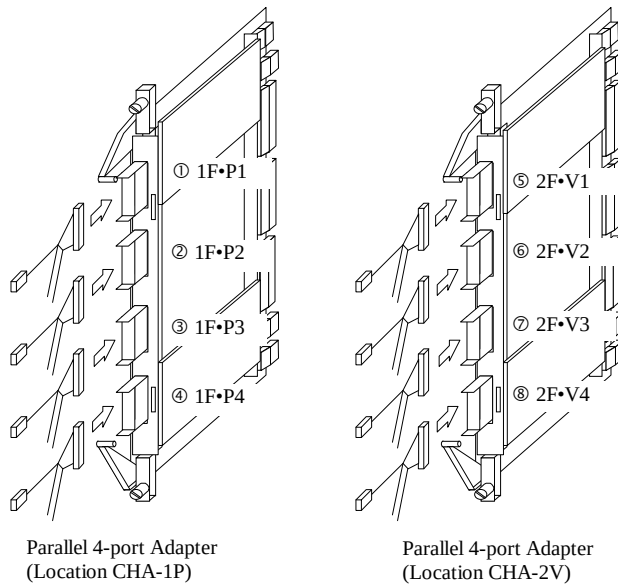


Fig. 3.6.1-6 Connection of CH Cables

Table 3.6.1-3 CH Cable Connection

No.	CH cable	Sub-edge connector on PCB
1	1F•P1/2F•V1	1F•P1
2	1F•P2/2F•V2	1F•P2
3	1F•P3/2F•V3	1F•P3
4	1F•P4/2F•V4	1F•P4
5	1F•P1/2F•V1	2F•V1
6	1F•P2/2F•V2	2F•V2
7	1F•P3/2F•V3	2F•V3
8	1F•P4/2F•V4	2F•V4

4. Labeling

- a. Attach the labels "PARALLEL PORT" to ① and ② referring to Table. 3.6.1-4 and Fig. 3.6.1-7.

Table 3.6.1-4 Attachment of Labels

Order of addition	Basic
Labeling position	① and ②
Channel No.	A,B,C,D

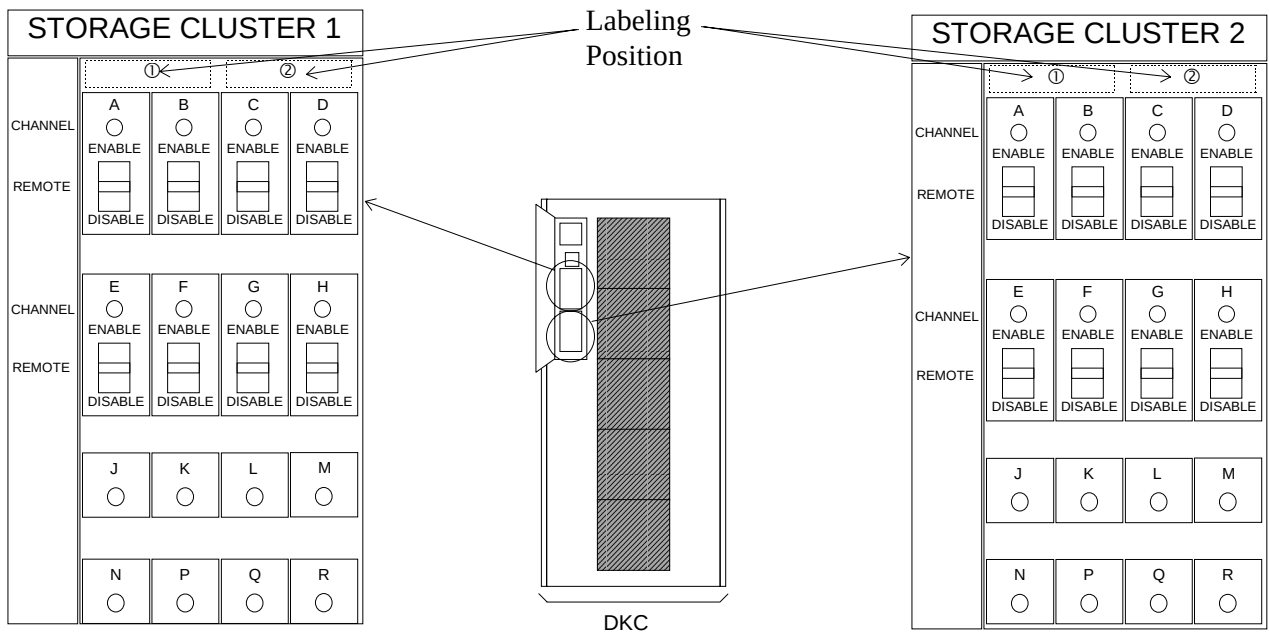


Fig. 3.6.1-7 Attachment of Labels

5. Attachment of the nameplate

- a. Attach the nameplate referring to Fig. 3.6.1-8.

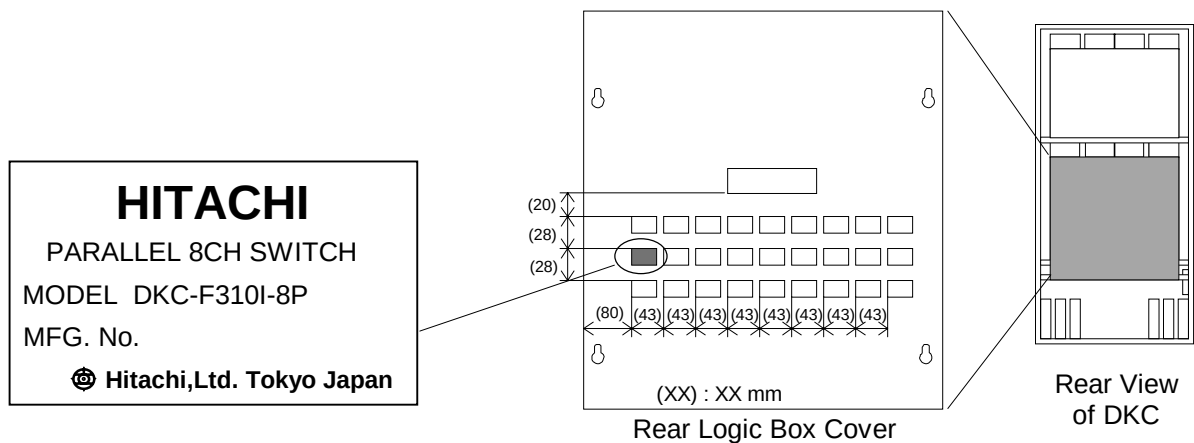


Fig. 3.6.1-8 Attachment of Nameplate

6. Return to General Flow.

New Installation: Go to INST02T-10 Step (6).

Non-disruptive Installation: Go to INST02T-20 Step (4)-2.

Disruptive Installation: Go to INST02T-40 Step (5).

3.6.2 Installation of Parallel 8-channel Switch (DKC-F310I-8PS)

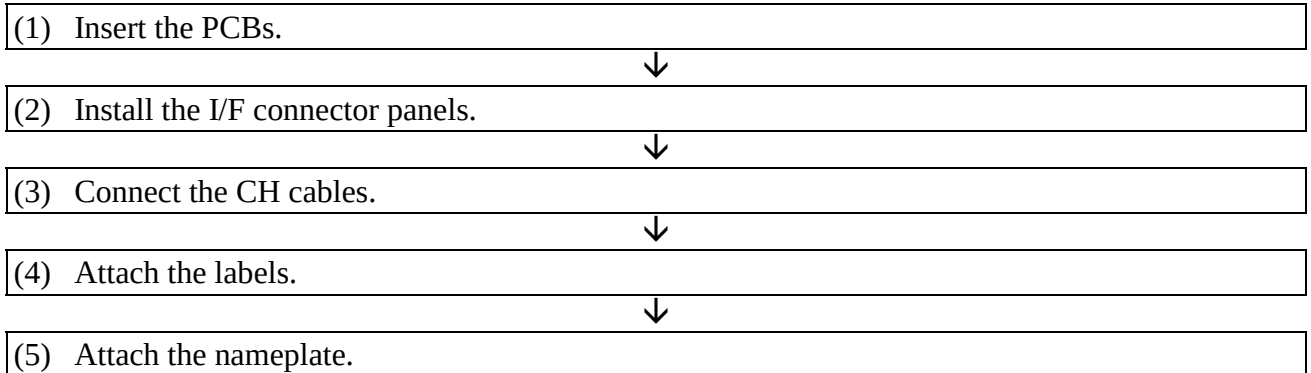
Note : When installing three or more channel options,
the CL Additional Power Supply (DKC-F310I-80) must be installed.
In such a case, be sure to add the channel option(s) after the CL Additional Power
Supply is added.

3.6.2.1 Parts list

Table 3.6.2-1 Parts List for Parallel 8-channel Switch

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8PS	Parallel 4-channel Switch PCB	3252510-A	2	
		I/F Connector Panel	2102073-A	1	For CL1(CH A,B/E,F)
		I/F Connector Panel	2102073-B	1	For CL1(CH C,D/G,H)
		I/F Connector Panel	2102073-C	1	For CL2(CH A,B/E,F)
		I/F Connector Panel	2102073-D	1	For CL2(CH C,D/G,H)
		Screw	SB408	16	
		Label	5500246-1	4	Parallel
		Nameplate	3252542-16	1	For DKC-F310I-8PS
		Bypass Connector	5430027-8	8	For removal of CHA
		Cover (CHA)	2102102-1	2	

3.6.2.2 Flowchart



3.6.2.3 Installation Procedure of Parallel 8-channel Switch

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.2-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Set the jumper sockets (JP1 to JP4) referring to Fig. 3.6.2-2A.
 - c. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.2-2.
 - d. Fasten the two screws referring to Fig. 3.6.2-2B.

Table 3.6.2-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 2 Parallel 8-channel Switches can be installed in the slot no. P and V (Basic), or Q and W (Add.1) in the subsystem.

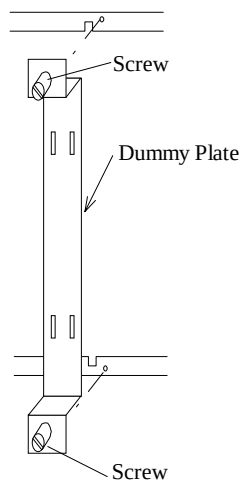


Fig. 3.6.2-1 Removal of Dummy Plate

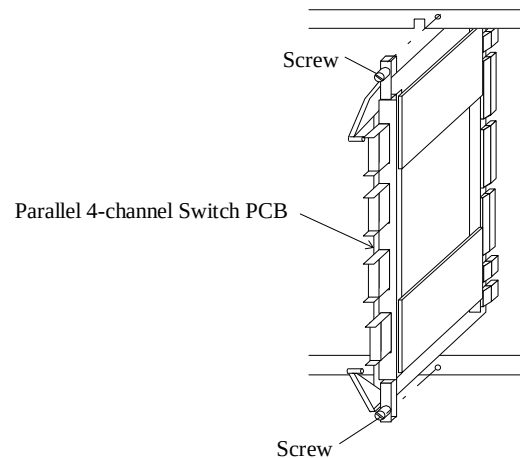


Fig. 3.6.2-2B Insertion of PCB

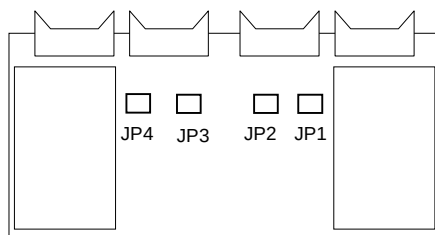


Fig. 3.6.2-2A Setting of Jumpers

		Setting (JP1-JP4)	
Selected by SELECT OUT	2	●	8
	1	●	7
Selected by SELECT IN	2	●	8
	1	●	7

2. Installation of the I/F connector panel

Install the I/F connector panel in the installation at Basic, Add.1 to the location number ① and ②, ③ and ④ respectively referring to Fig. 3.6.2-3.

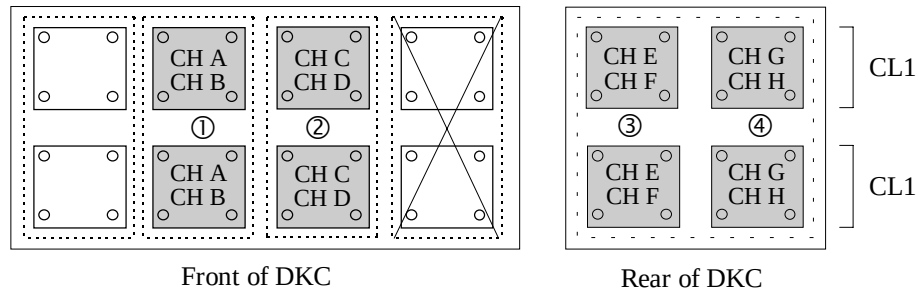


Fig. 3.6.2-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.2-4.
- Wire the CH cables to the front of DKC and then install the I/F connector panel referring to Fig. 3.6.2-5.

(Note): Dummy plates should be stored for future use in de-installation.

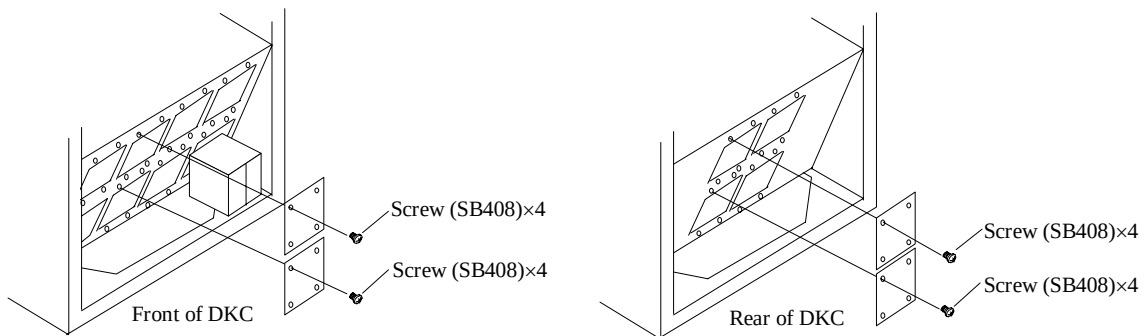


Fig. 3.6.2-4 Removal of Dummy Plate

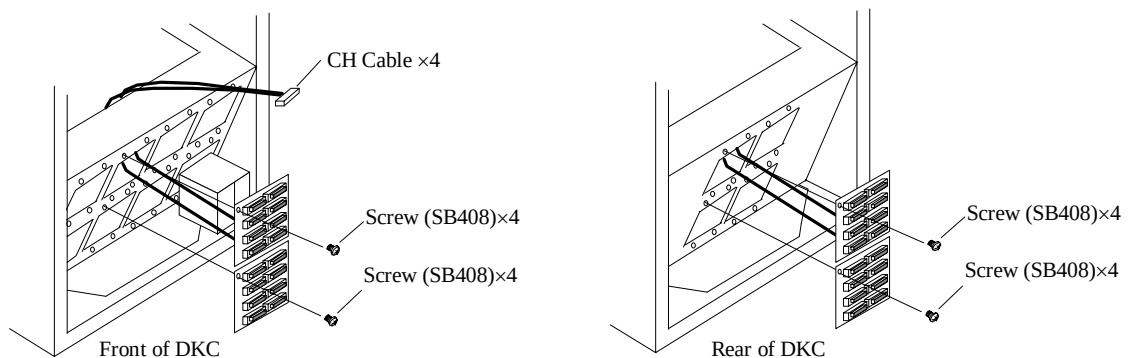


Fig. 3.6.2-5 Installation of I/F Connector Panel

3. Connection of the CH cables

In case of Basic

- a. Connect the CH cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.2-6 and Table 3.6.2-3.

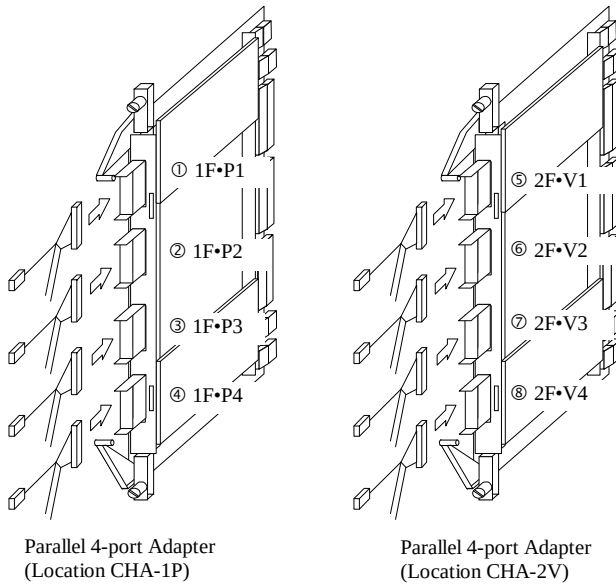


Fig. 3.6.2-6 Connection of CH Cables (Basic)

Table 3.6.2-3 CH Cable Connection

No.	CH cable	Sub-edge connector on PCB
1	1F•P1/1F•Q1	1F•P1
2	1F•P2/1F•Q2	1F•P2
3	1F•P3/1F•Q3	1F•P3
4	1F•P4/1F•Q4	1F•P4
5	2F•V1/2F•W1	2F•V1
6	2F•V2/2F•W2	2F•V2
7	2F•V3/2F•W3	2F•V3
8	2F•V4/2F•W4	2F•V4

In case of Add.1

- a. Connect the CH cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.2-7 and Table 3.6.2-4.

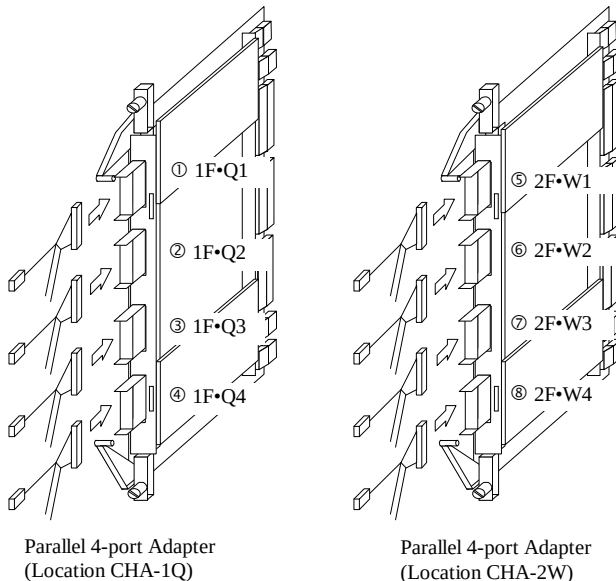


Fig. 3.6.2-7 Connection of CH Cables (Add.1)

Table 3.6.2-4 CH Cable Connection

No.	CH cable	Sub-edge connector on PCB
1	1F•P1/1F•Q1	1F•Q1
2	1F•P2/1F•Q2	1F•Q2
3	1F•P3/1F•Q3	1F•Q3
4	1F•P4/1F•Q4	1F•Q4
5	2F•V1/2F•W1	2F•W1
6	2F•V2/2F•W2	2F•W2
7	2F•V3/2F•W3	2F•W3
8	2F•V4/2F•W4	2F•W4

4. Labeling

- a. Attach the labels "PARALLEL PORT" to ① through ④ referring to Table. 3.6.2-5 and Fig. 3.6.2-8.

Table 3.6.2-5 Attachment of Labels

Order of addition	Basic	Add.1
Labeling position	① and ②	③ and ④
Channel No.	A,B,C,D	E,F,G,H

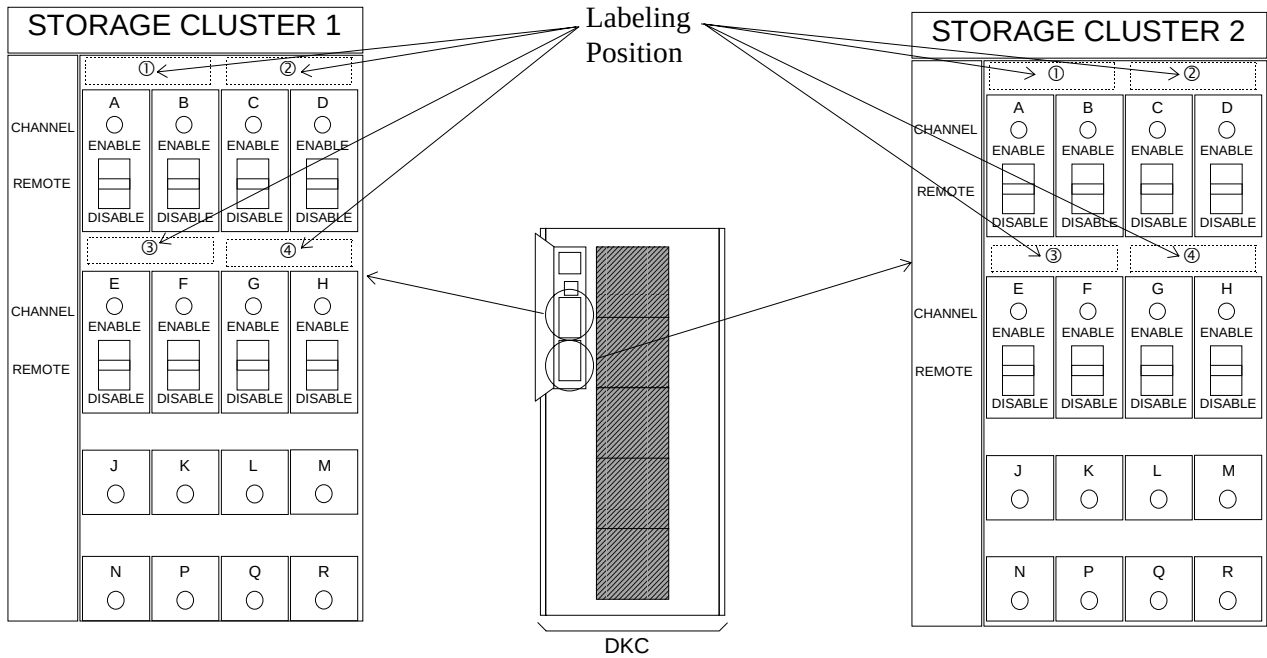


Fig. 3.6.2-8 Attachment of Labels

5. Attachment of the nameplate
 - a. Attach the nameplate referring to Fig. 3.6.2-9.

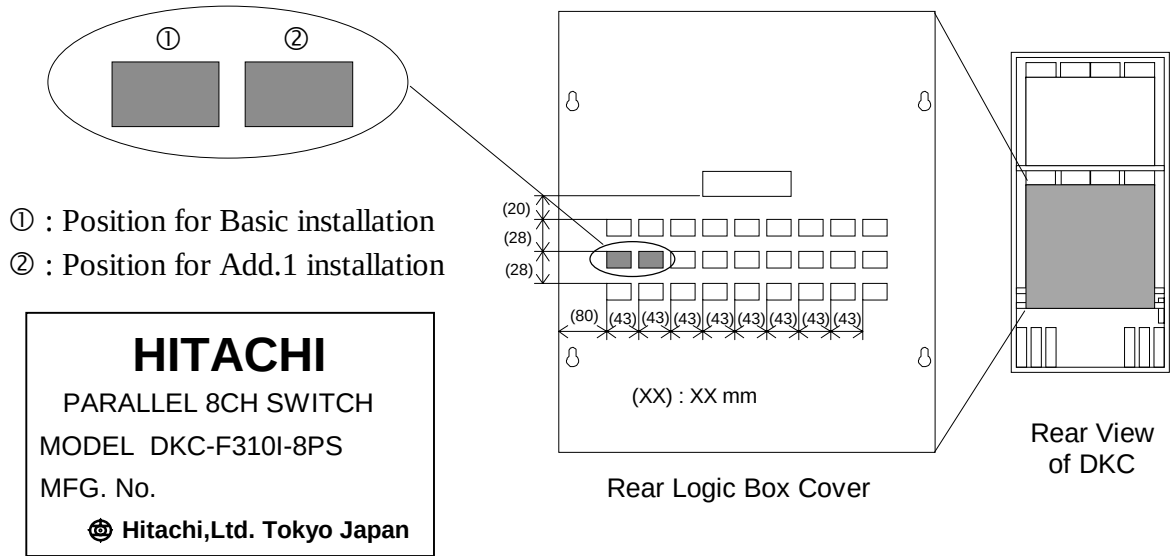


Fig. 3.6.2-9 Attachment of Nameplate

6. Return to General Flow.
 New Installation: Go to INST02T-10 Step (6).
 Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
 Disruptive Installation: Go to INST02T-40 Step (5).

3.6.3 Installation of Serial 4-port Adapter (DKC-F310I-4S)

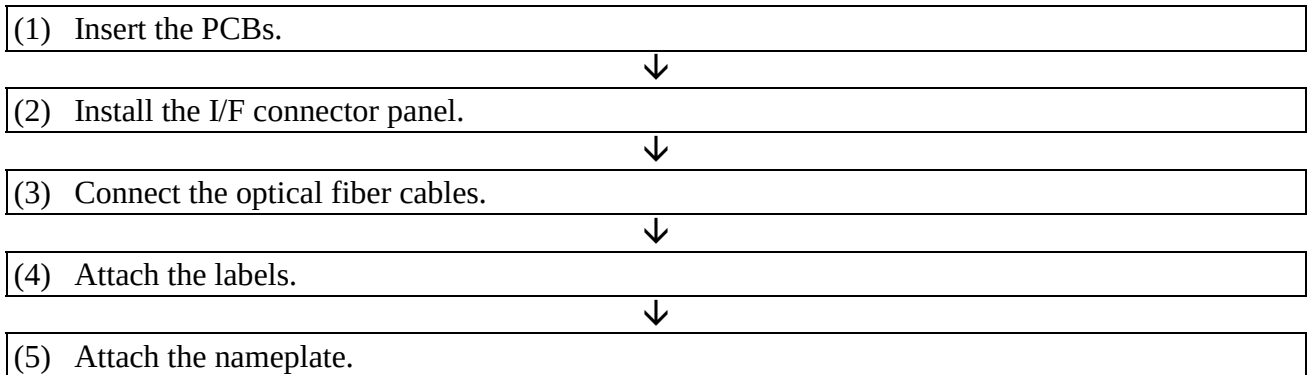
Note : When installing three or more channel options,
the CL Additional Power Supply (DKC-F310I-80) must be installed.
In such a case, be sure to add the channel option(s) after the CL Additional Power
Supply is added.

3.6.3.1 Parts list

Table 3.6.3-1 Parts List for Serial 4-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4S	Serial 2-port Adapter PCB	3252509-B	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500245-1	4	For Serial
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Holder	2084816-1	4	
		Nameplate	3252542-3	1	For DKC-F310I-4S

3.6.3.2 Flowchart



3.6.3.3 Installation Procedure of Serial 4-port Adapter

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.3-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.3-2.
 - c. Fasten the two screws referring to Fig. 3.6.3-2.

Table 3.6.3-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 4 serial 4 port adapters can be installed in the subsystem.

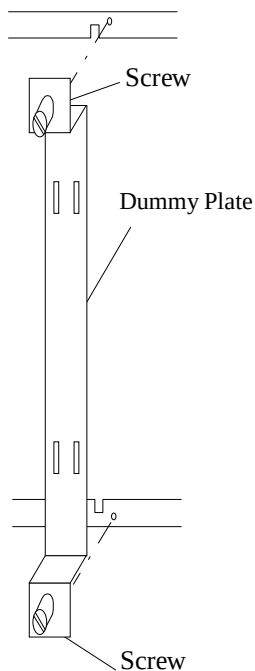


Fig. 3.6.3-1 Removal of Dummy Plate

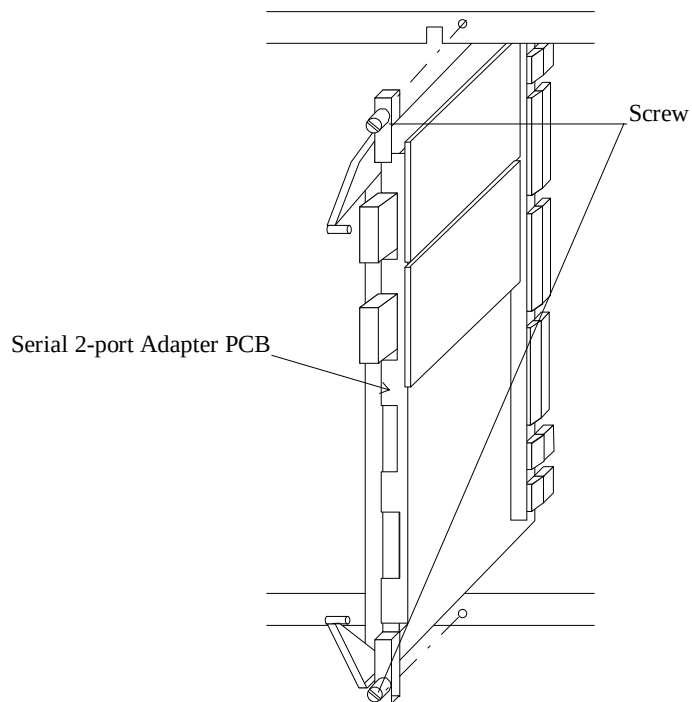


Fig. 3.6.3-2 Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel in the order of the location number ①②③④ shown in Fig. 3.6.3-3. However, when a mixture of parallel channel is installed, referring to [LOCATION04T-40] in a LOCATION Section.

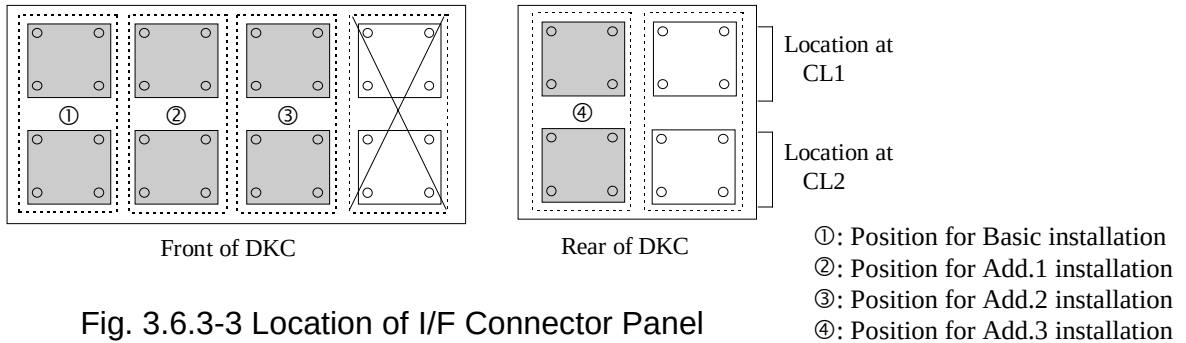


Fig. 3.6.3-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.3-5.
 - Install the I/F connector panel referring to Fig. 3.6.3-6.
- (Note): Dummy plates should be stored for future use in de-installation.

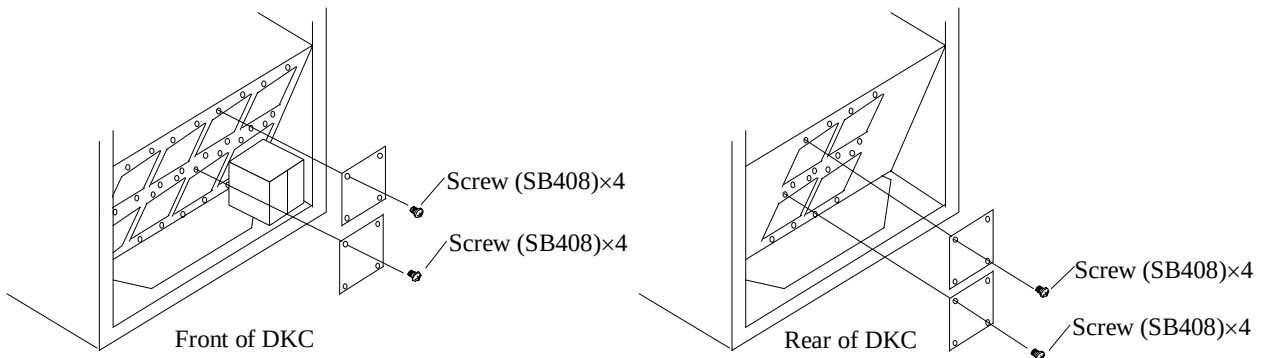


Fig. 3.6.3-5 Removal of Dummy Plate

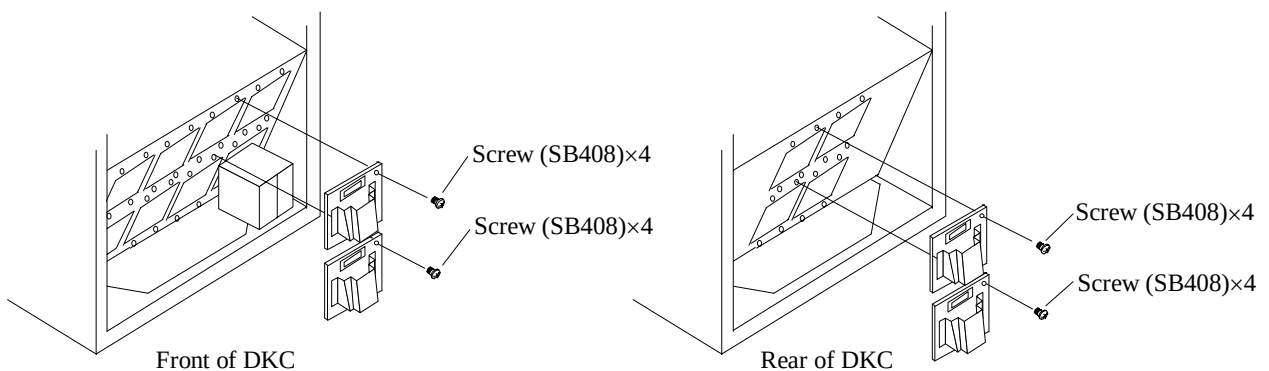


Fig. 3.6.3-6 Installation of I/F Connector Panel

3. Connection of the optical fiber cable

- Pull the optical fiber cable into the DKC through the I/F connector panel.
Connect the optical fiber cable to the PCB referring to Serial Channel Interface [LOCATION04T-60] in LOCATION section.
- Fix the cable with Holder① referring to Fig. 3.6.3-7.
- Fix the cable to Lower Strain Relief② and attach Upper Strain Relief③ and Bracket④ referring to Fig. 3.6.3-8.

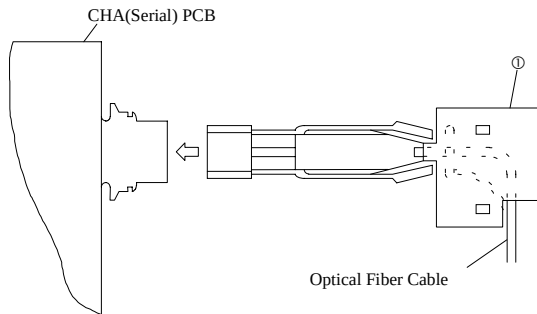


Fig. 3.6.3-7 Connection of Optical Fiber Cable

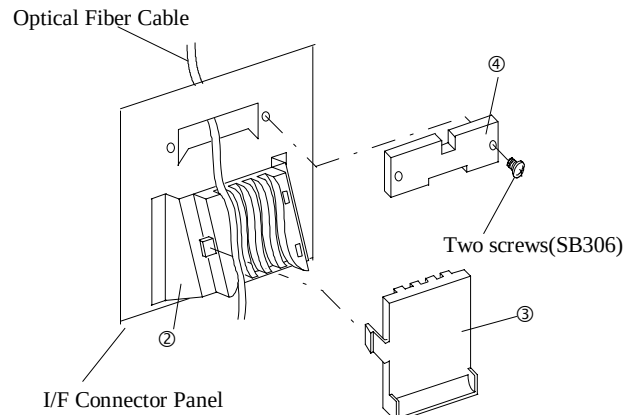


Fig. 3.6.3-8 Installation of Optical Fiber Cable

4. Labeling

- Attach the labels "SERIAL PORT" to ①, ③, ⑤, or ⑦ referring to Table. 3.6.3-3.

Table 3.6.3-3 Attachment of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

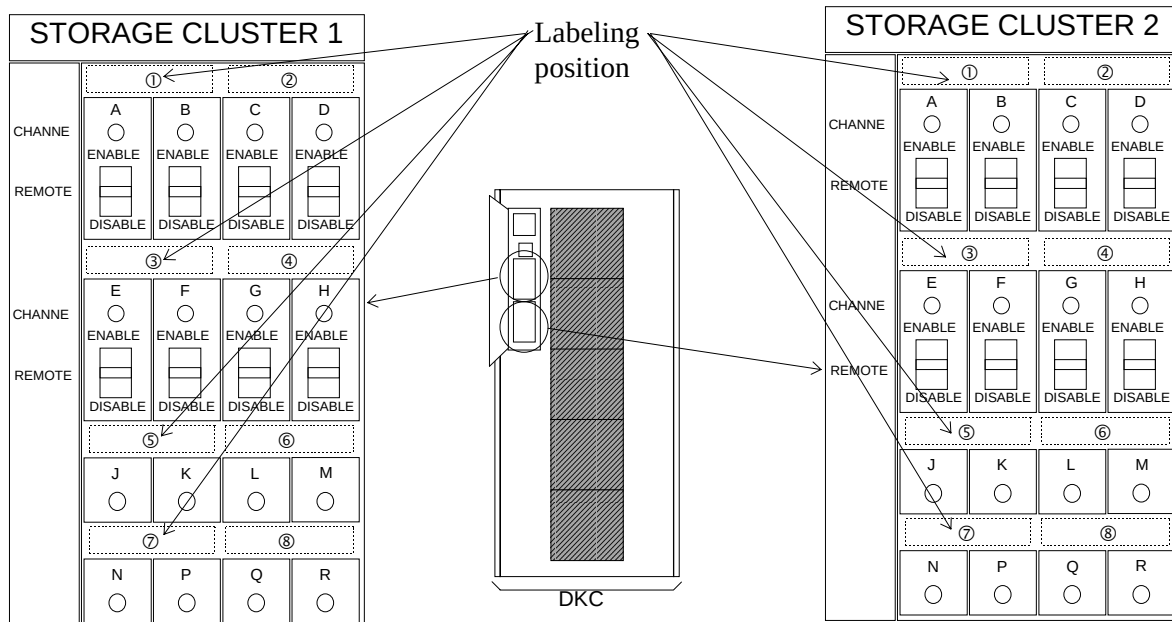


Fig. 3.6.3-9 Attachment of Labels

5. Attachment of the nameplate
 - a. Attach the nameplate referring to Fig. 3.6.3-10.

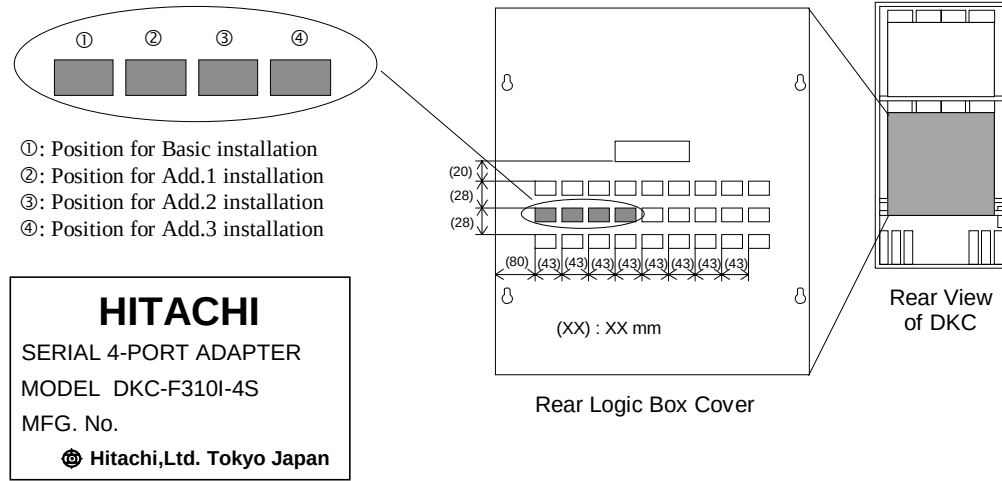


Fig. 3.6.3-10 Attachment of Nameplate

6. Return to General Flow.
 - New Installation: Go to INST02T-10 Step (6).
 - Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
 - Disruptive Installation: Go to INST02T-40 Step (5).

3.6.4 Installation of Serial 8-port Adapter (DKC-F310I-8S)

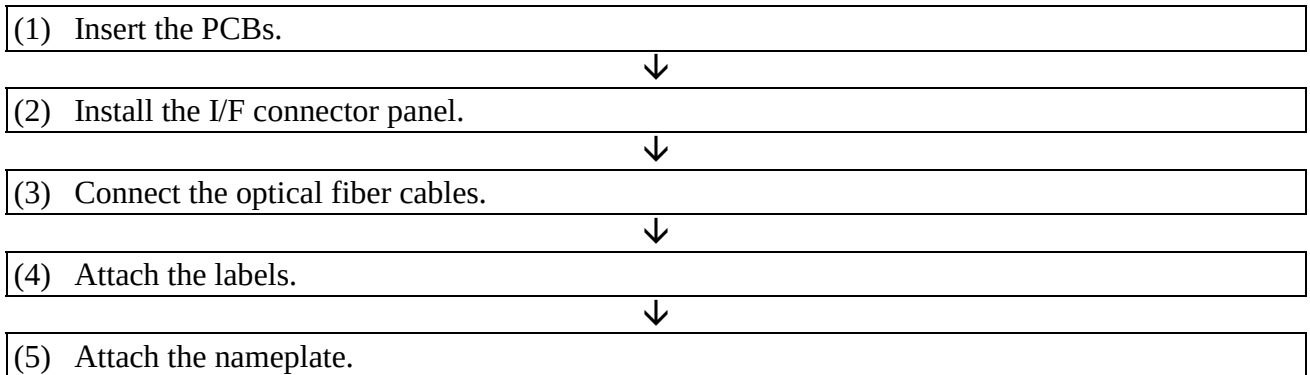
Note : When installing three or more channel options,
the CL Additional Power Supply (DKC-F310I-80) must be installed.
In such a case, be sure to add the channel option(s) after the CL Additional Power
Supply is added.

3.6.4.1 Parts list

Table 3.6.4-1 Parts List for Serial 8-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8S	Serial 4-port Adapter PCB	3252509-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500245-1	4	For Serial
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Holder	2084816-1	8	
		Nameplate	3252542-4	1	For DKC-F310I-8S

3.6.4.2 Flowchart



3.6.4.3 Installation Procedure of Serial 8-port Adapter

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.4-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.4-2.
 - c. Fasten the two screws referring to Fig. 3.6.4-2.

Table 3.6.4-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2						CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z	
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM	
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z	
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3		

Up to 4 serial 8-port adapters can be installed in the subsystem.

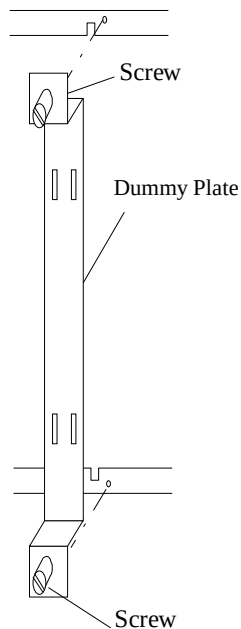


Fig. 3.6.4-1 Removal of Dummy Plate

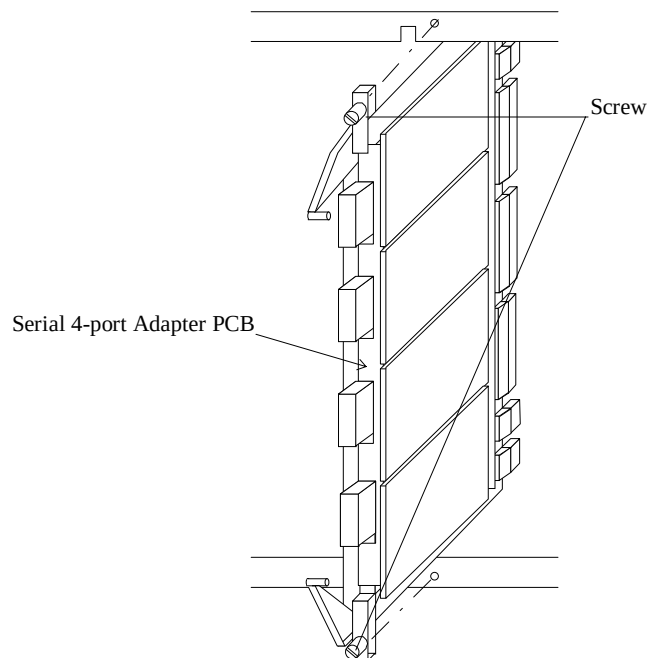


Fig. 3.6.4-2 Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel in the order of the location number ①②③④ shown in Fig. 3.6.4-3. However, when a mixture of parallel channel is installed, referring to [LOCATION04T-40] in a LOCATION Section.

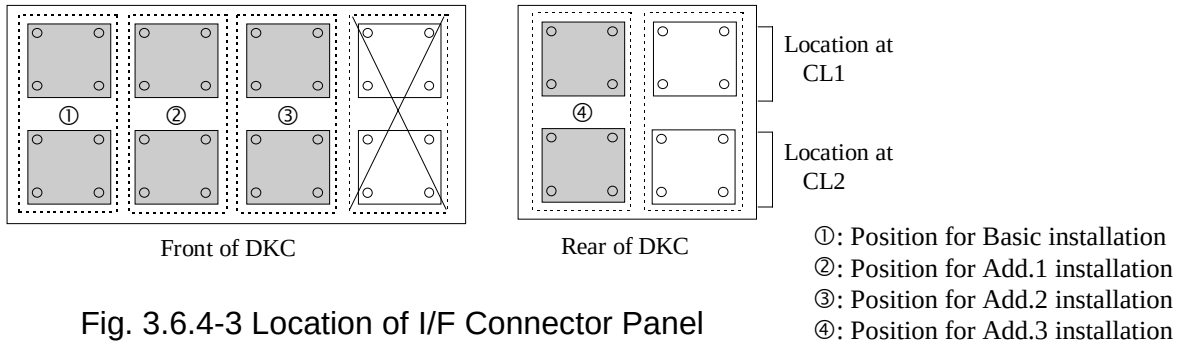


Fig. 3.6.4-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.4-5.
 - Install the I/F connector panel referring to Fig. 3.6.4-6.
- (Note): Dummy plates should be stored for future use in de-installation.

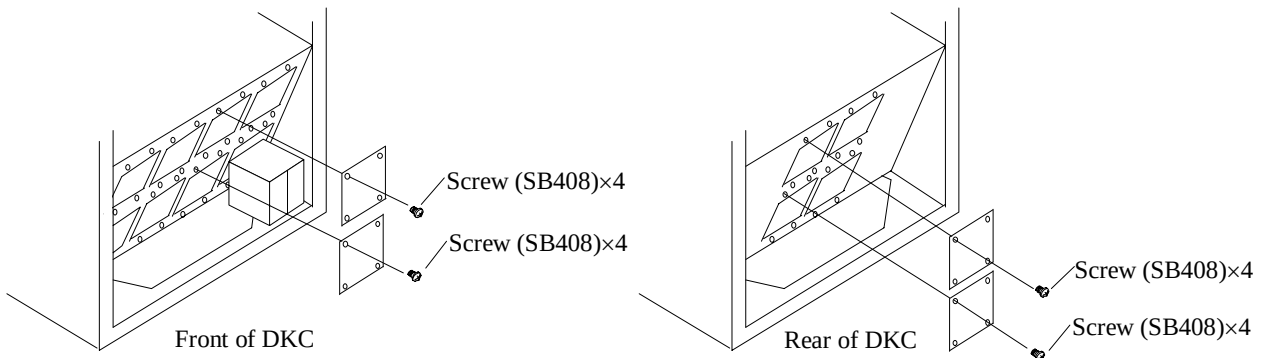


Fig. 3.6.4-5 Removal of Dummy Plate

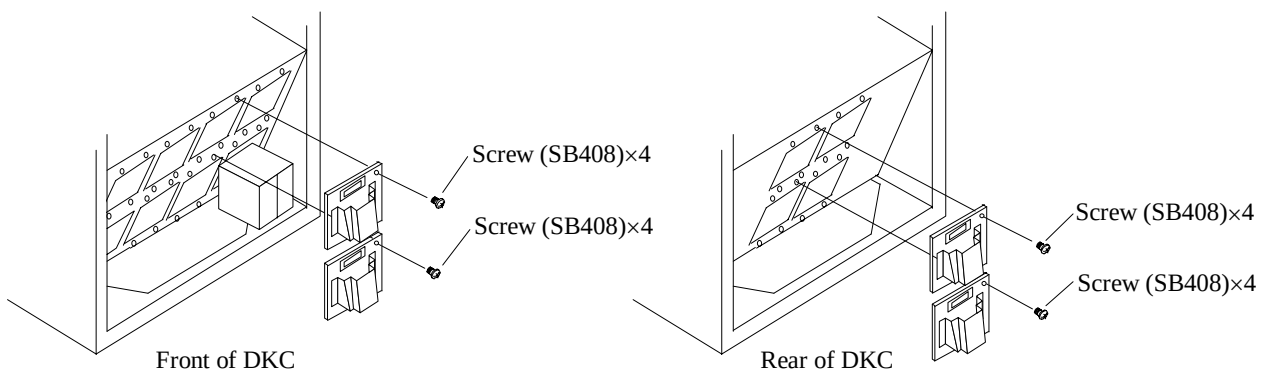


Fig. 3.6.4-6 Installation of I/F Connector Panel

3. Connection of the optical fiber cable

- Pull the optical fiber cable into the DKC through the I/F connector panel.
Connect the optical fiber cable to the PCB referring to Serial Channel Interface [LOCATION04T-60] in LOCATION section.
- Fix the cable with Holder① referring to Fig. 3.6.4-7.
- Fix the cable to Lower Strain Relief② and attach Upper Strain Relief③ and Bracket④ referring to Fig. 3.6.4-8.

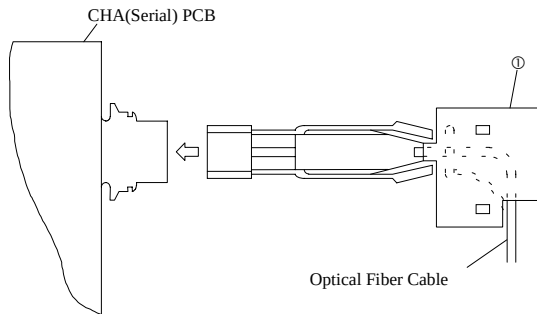


Fig. 3.6.4-7 Connection of Optical Fiber Cable

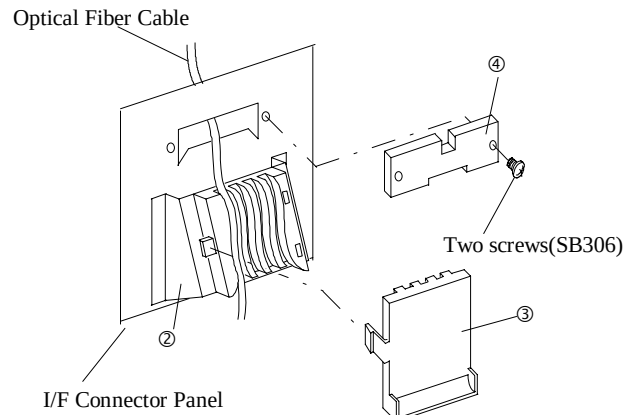


Fig. 3.6.4-8 Installation of Optical Fiber Cable

4. Labeling

- Attach the labels "SERIAL PORT" to ① through ⑧ referring to Table. 3.6.4-3.

Table 3.6.4-3 Attachment of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	① and ②	③ and ④	⑤ and ⑥	⑦ and ⑧
Channel No.	A,B,C,D	E,F,G,H	J,K,L,M	N,P,Q,R

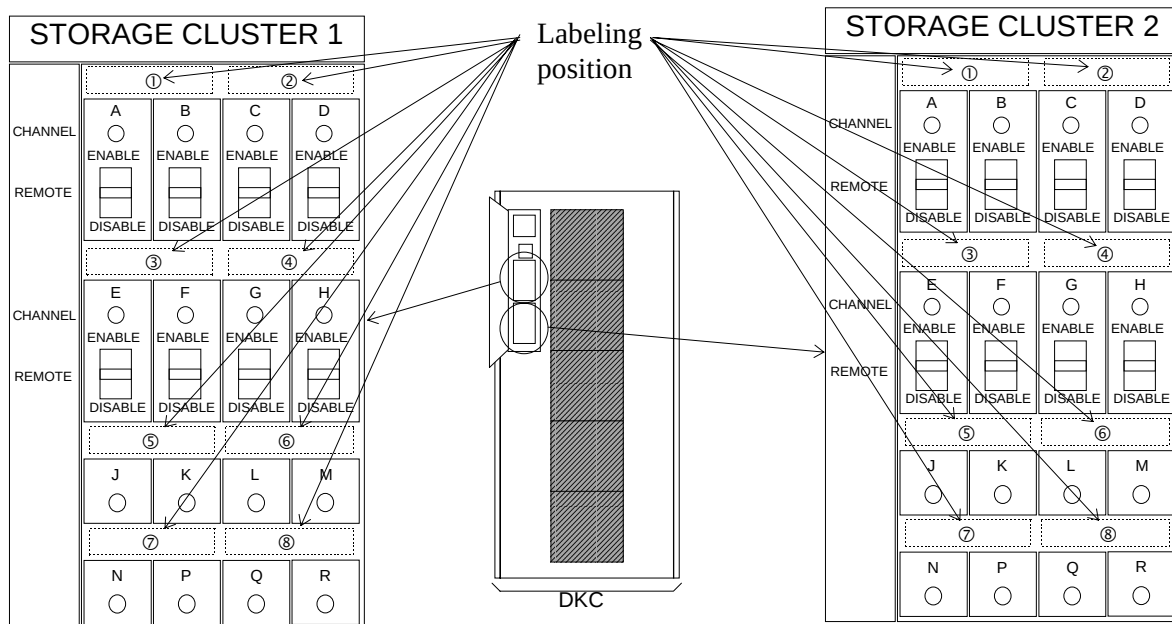


Fig. 3.6.4-9 Attachment of Labels

5. Attachment of the nameplate
 - a. Attach the nameplate referring to Fig. 3.6.4-10.

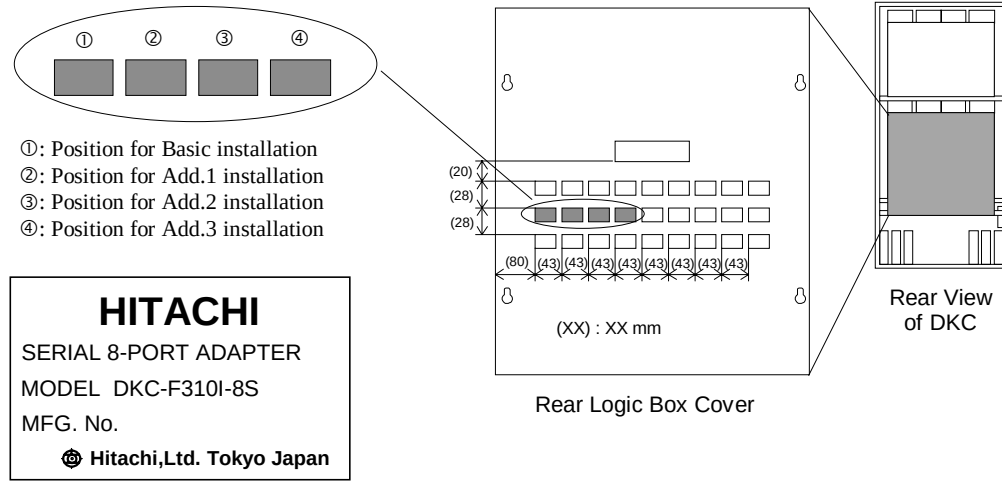


Fig. 3.6.4-10 Attachment of Nameplate

6. Return to General Flow.
 New Installation: Go to INST02T-10 Step (6).
 Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
 Disruptive Installation: Go to INST02T-40 Step (5).

3.6.5 Installation of SCSI 8-port Adapter (DKC-F310I-8C)

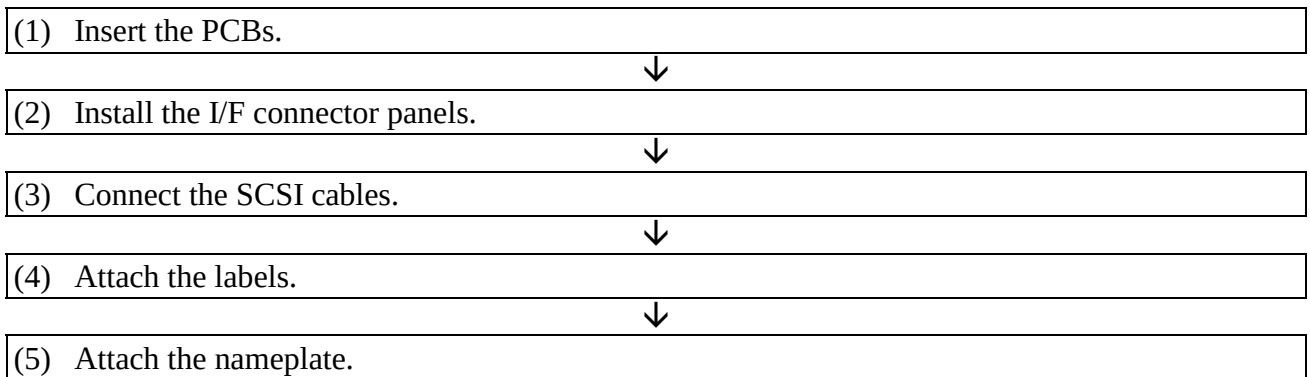
Note : When installing three or more channel options, the CL Additional Power Supply (DKC-F310I-80) must be installed. In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.

3.6.5.1 Parts list

Table 3.6.5-1 Parts List for SCSI 8-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8C	SCSI 4-port Adapter PCB	3252505-A	2	
		I/F Connector Panel	2102035-A	1	Cluster 1 side
		I/F Connector Panel	2102035-B	1	Cluster 2 side
		Screw	SB408	8	
		Label	5500247-1	4	SCSI
		Nameplate	3252542-6	1	For DKC-F310I-8C
		Connector (Terminator)	5486080-868	8	
		Cover (CHA)	2102102-1	2	

3.6.5.2 Flowchart



3.6.5.3 Installation Procedure of SCSI 8-port Adapter

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.5-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.5-2.
 - c. Fasten the two screws referring to Fig. 3.6.5-2.

Table 3.6.5-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

Up to 4 SCSI 8-port adapters can be installed in the subsystem.

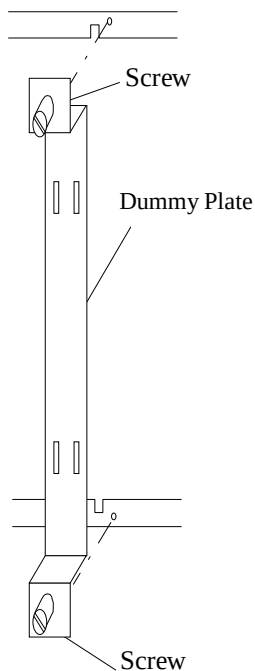


Fig. 3.6.5-1 Removal of Dummy Plate

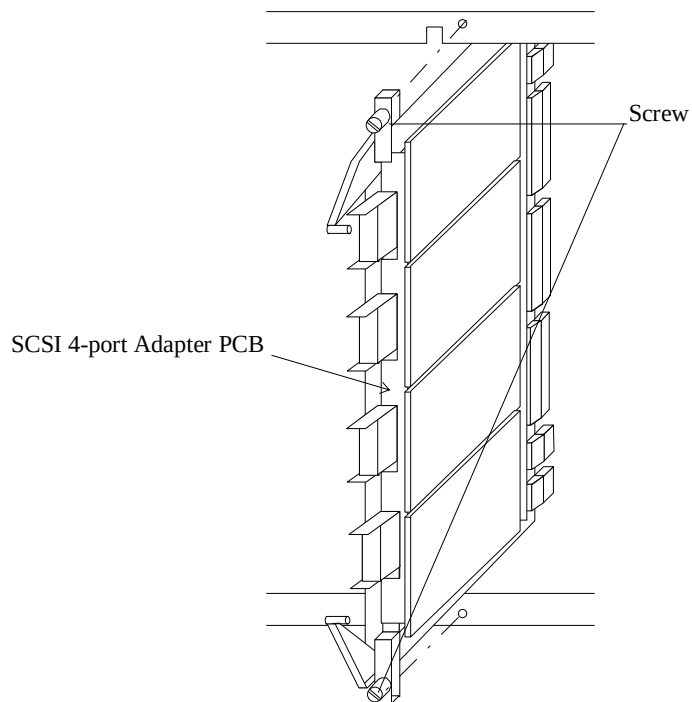


Fig. 3.6.5-2 Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel in the order of the location number ①②③④ shown in Fig. 3.6.5-3. However, when a mixture of parallel channel is installed, referring to [LOCATION04T-40, 70] in a LOCATION Section.

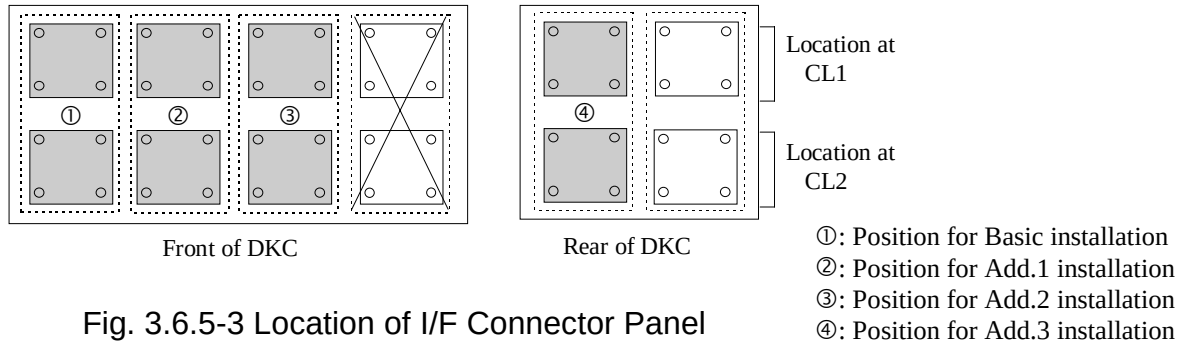


Fig. 3.6.5-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.5-5.
 - Wire the SCSI cables to the front of DKC and then install the I/F connector panel referring to Fig. 3.6.5-6.
- (Note): Dummy plates should be stored for future use in de-installation.

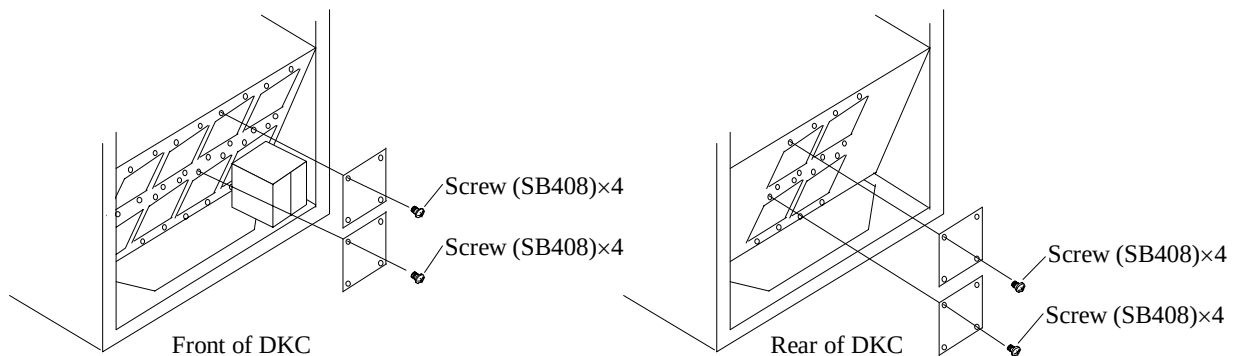


Fig. 3.6.5-5 Removal of Dummy Plate

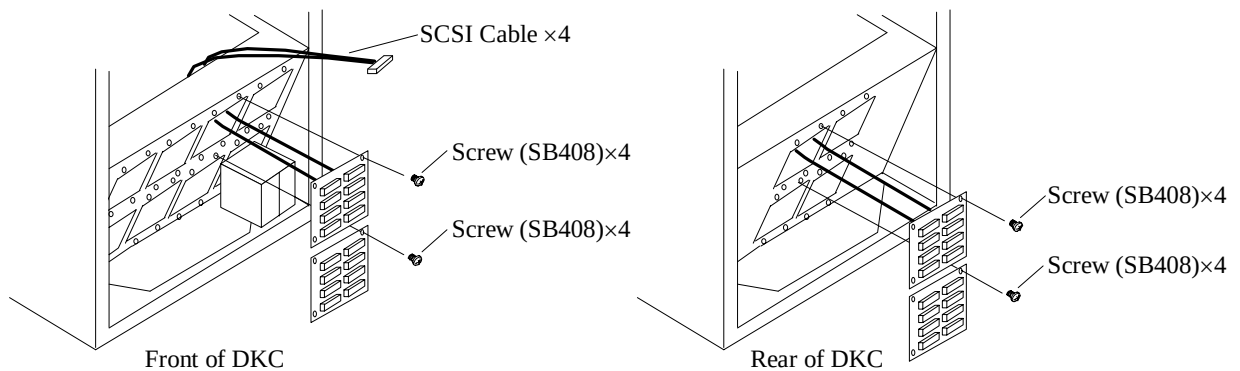
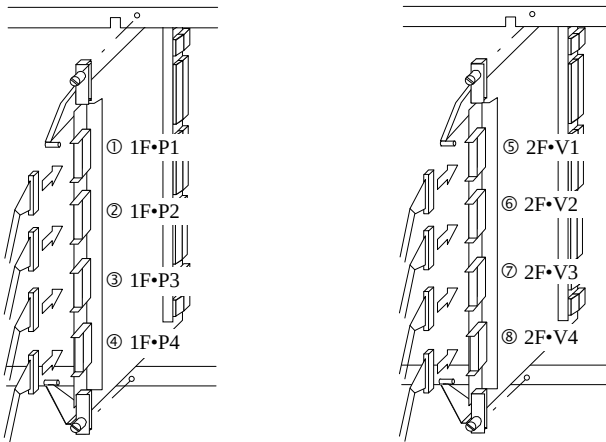


Fig. 3.6.5-6 Installation of I/F Connector Panel

3. Connection of the SCSI cables

In case of Basic

- a. Connect the SCSI cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.5-7 and Table 3.6.5-3.



SCSI,4-port Adapter
(Location CHA-1P)

SCSI 4-port Adapter
(Location CHA-2V)

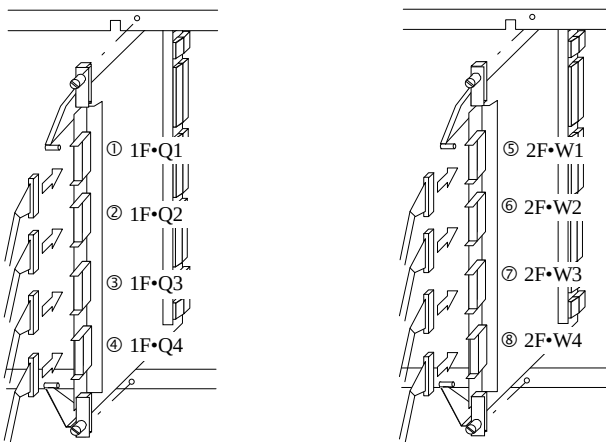
Table 3.6.5-3 SCSI Cable Connection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•P1
2	1F•SC2	1F•P2
3	1F•SC3	1F•P3
4	1F•SC4	1F•P4
5	2F•SC1	2F•V1
6	2F•SC2	2F•V2
7	2F•SC3	2F•V3
8	2F•SC4	2F•V4

Fig. 3.6.5-7 Connection of SCSI Cables (Basic)

In case of Add.1

- a. Connect the SCSI cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.5-8 and Table 3.6.5-4.



SCSI,4-port Adapter
(Location CHA-1Q)

SCSI 4-port Adapter
(Location CHA-2W)

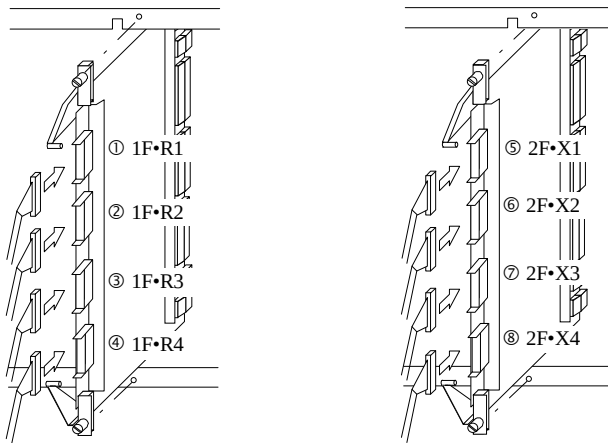
Table 3.6.5-4 SCSI Cable Connection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•Q1
2	1F•SC2	1F•Q2
3	1F•SC3	1F•Q3
4	1F•SC4	1F•Q4
5	2F•SC1	2F•W1
6	2F•SC2	2F•W2
7	2F•SC3	2F•W3
8	2F•SC4	2F•W4

Fig. 3.6.5-8 Connection of SCSI Cables (Add.1)

In case of Add.2

- a. Connect the SCSI cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.5-9 and Table 3.6.5-5.



SCSI 4-port Adapter
(Location CHA-1R)

SCSI 4-port Adapter
(Location CHA-2X)

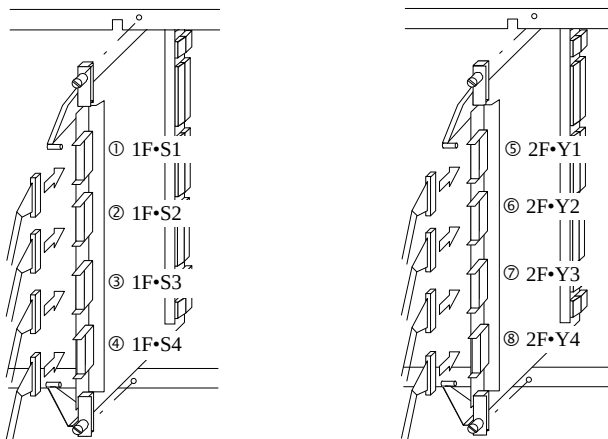
Fig. 3.6.5-9 Connection of SCSI Cables (Add.2)

Table 3.6.5-5 SCSI Cable Connection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•R1
2	1F•SC2	1F•R2
3	1F•SC3	1F•R3
4	1F•SC4	1F•R4
5	2F•SC1	2F•X1
6	2F•SC2	2F•X2
7	2F•SC3	2F•X3
8	2F•SC4	2F•X4

In case of Add.3

- a. Connect the SCSI cables to the sub-edge connectors on PCB. Refer to Fig. 3.6.5-10 and Table 3.6.5-6.



SCSI 4-port Adapter
(Location CHA-1S)

SCSI 4-port Adapter
(Location CHA-2Y)

Fig. 3.6.5-10 Connection of SCSI Cables (Add.3)

Table 3.6.5-6 SCSI Cable Connection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•S1
2	1F•SC2	1F•S2
3	1F•SC3	1F•S3
4	1F•SC4	1F•S4
5	2F•SC1	2F•Y1
6	2F•SC2	2F•Y2
7	2F•SC3	2F•Y3
8	2F•SC4	2F•Y4

4. Labeling

- a. Attach the labels "SCSI PORT" to ① through ⑧ referring to Table 3.6.5-7.

Table 3.6.5-7 Attachment of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	① and ②	③ and ④	⑤ and ⑥	⑦ and ⑧
Channel No.	A,B,C,D	E,F,G,H	J,K,L,M	N,P,Q,R

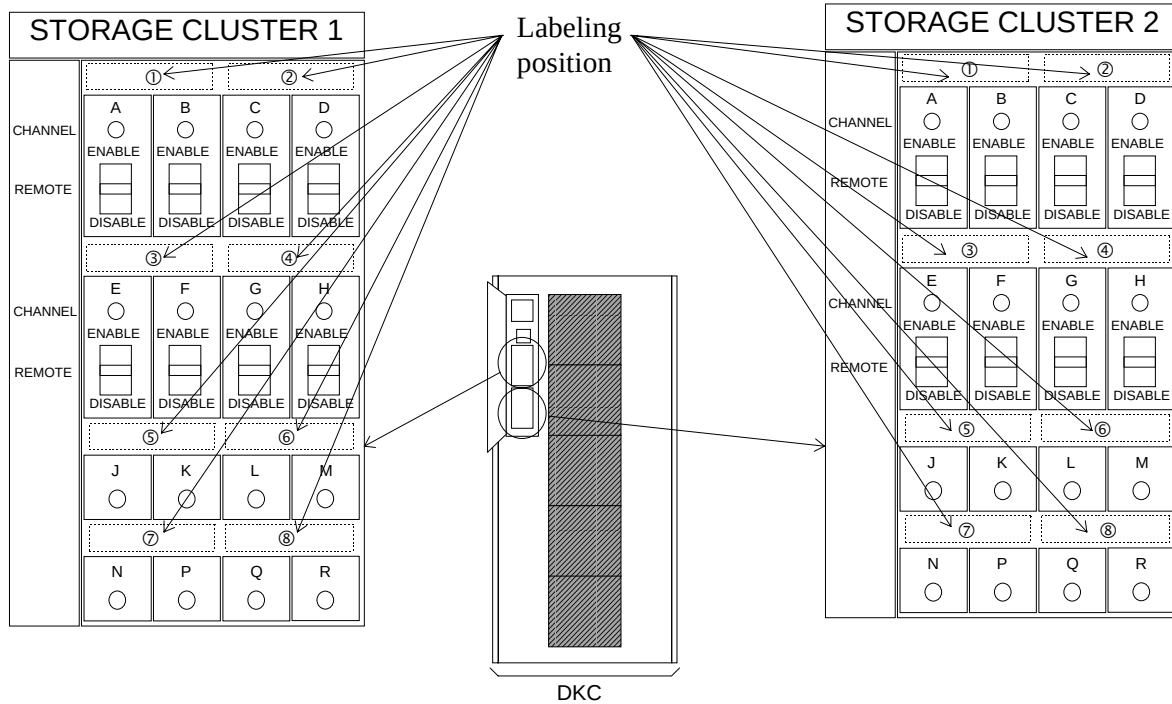


Fig. 3.6.5-11 Attachment of Labels

5. Attachment of the nameplate
 - a. Attach the nameplate referring to Fig. 3.6.5-12.

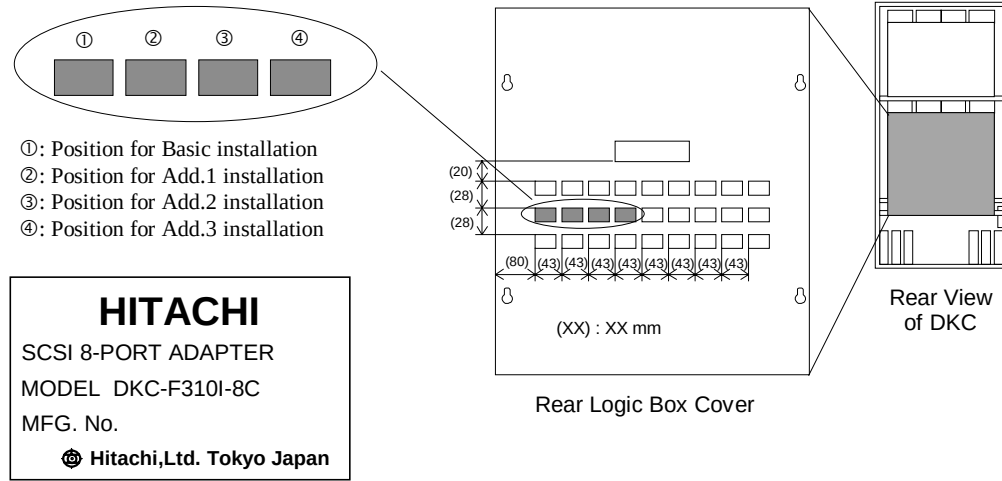


Fig. 3.6.5-12 Attachment of Nameplate

6. Return to General Flow.
 - New Installation: Go to INST02T-10 Step (6).
 - Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
 - Disruptive Installation: Go to INST02T-40 Step (5).

3.6.6 Installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4F/4FE)

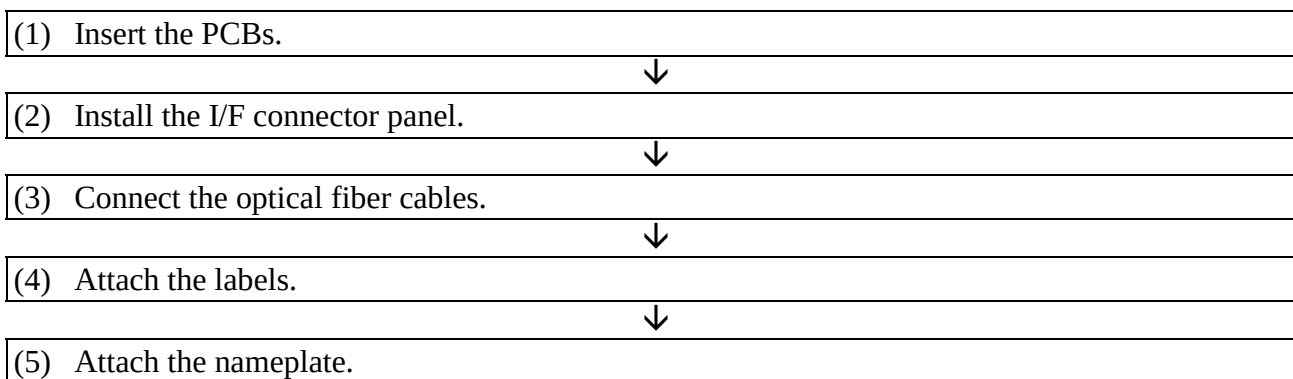
Note : When installing three or more channel options,
the CL Additional Power Supply (DKC-F310I-80) must be installed.
In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.

3.6.6.1 Parts list

Table 3.6.6-1 Parts List for Fibre 4-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4F	Fibre 2-port Adapter PCB	3252506-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	4	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-7	1	For DKC-F310I-4F
2	DKC-F310I-4FE	Fibre 2-port Adapter PCB	3252506-C	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	4	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-75	1	For DKC-F310I-4FE

3.6.6.2 Flowchart



3.6.6.3 Installation Procedure of Fibre 4-port Adapter

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.6-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.6-2.
 - c. Fasten the two screws referring to Fig. 3.6.6-2.

Table 3.6.6-2 Inserting Location (Front of the unit)

Cluster	CL1						CL2						CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z	
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM	
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z	
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3		

Up to 4 Fibre 4-port adapters can be installed in the subsystem.

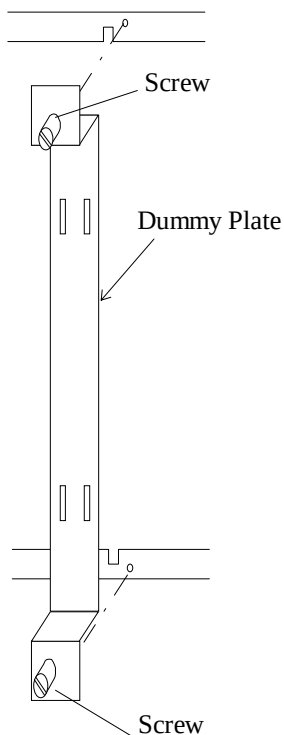


Fig. 3.6.6-1 Removal of Dummy Plate

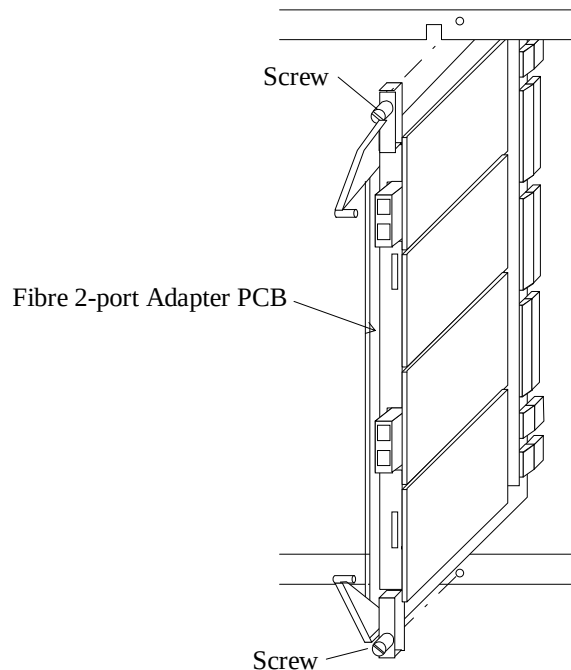


Fig. 3.6.6-2 Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel in the order of the location number ①②③④ shown in Fig. 3.6.6-3. However, when a mixture of parallel channel is installed, referring to [LOCATION04T-40] in a LOCATION Section.

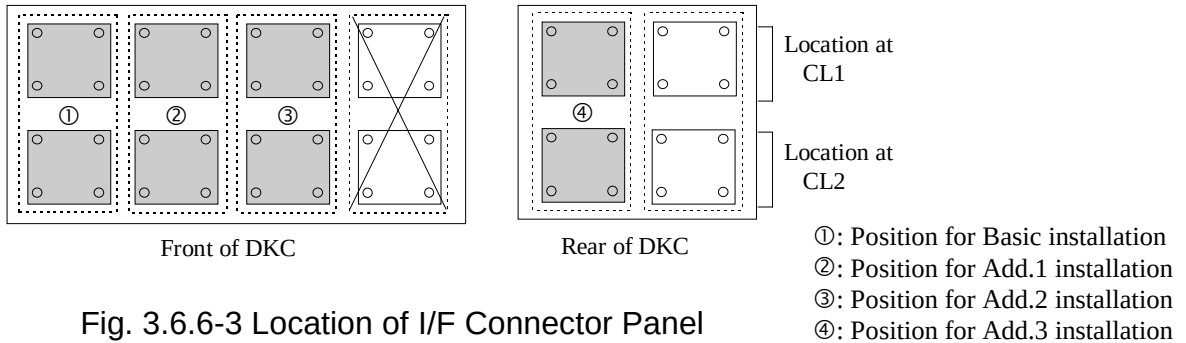


Fig. 3.6.6-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.6-5.
 - Install the I/F connector panel referring to Fig. 3.6.6-6.
- (Note): Dummy plates should be stored for future use in de-installation.

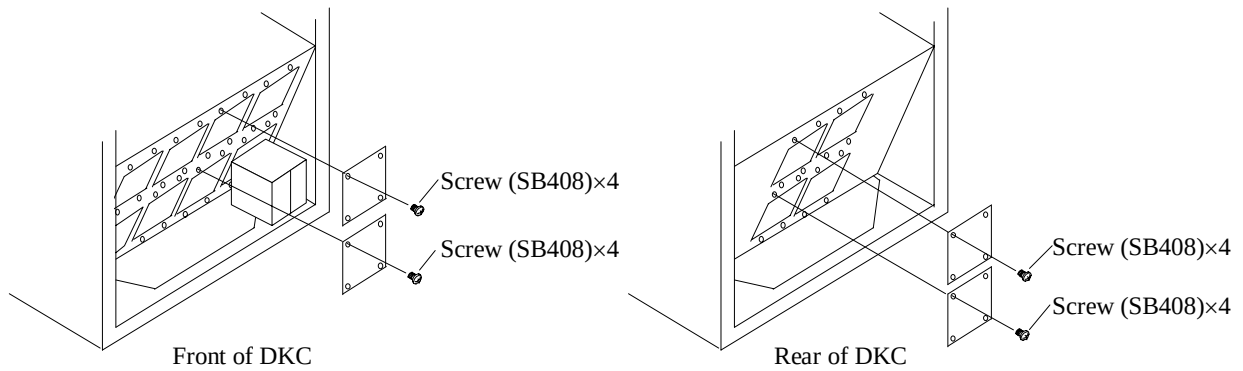


Fig. 3.6.6-5 Removal of Dummy Plate

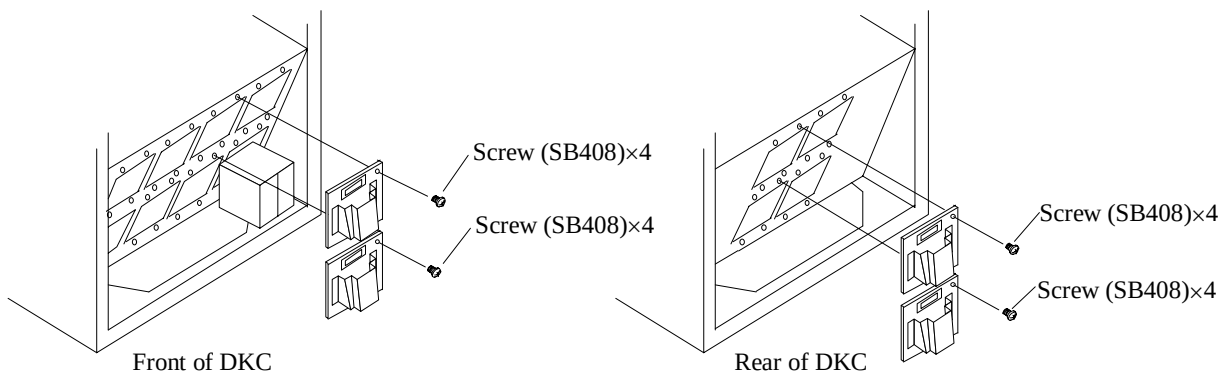


Fig. 3.6.6-6 Installation of I/F Connector Panel

3. Connection of the optical fiber cable

- a. Pull the optical fiber cable into the DKC through the I/F connector panel referring to Fig. 3.6.6.7. Connect the optical fiber cable to the PCB. Refer to Fibre Channel Interface [LOCATION04T-80] in LOCATION section.
- b. Fix the cable to Lower Strain Relief① and attach Upper Strain Relief② and Bracket③ referring to Fig. 3.6.6-8.

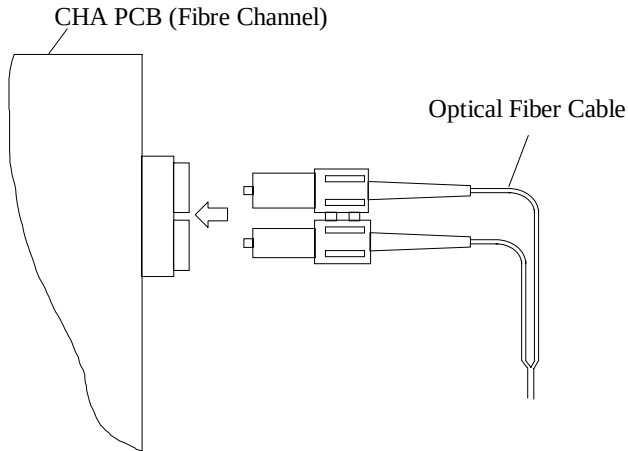


Fig. 3.6.6-7 Connection of Optical Fiber Cable

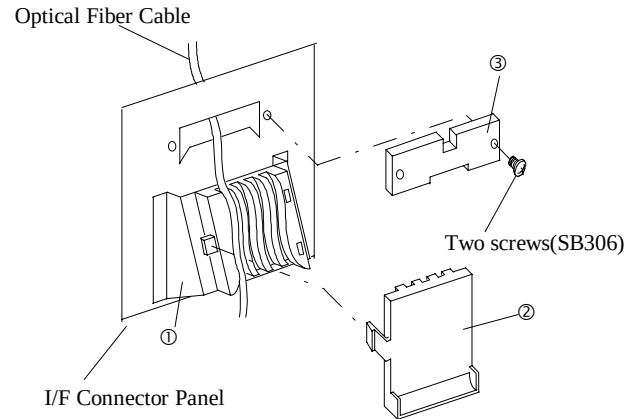


Fig. 3.6.6-8 Installation of Optical Fiber Cable

4. Labeling

- a. Attach the labels "FIBRE PORT" to ①,③,⑤, or ⑦ referring to Table. 3.6.6-3 and Fig. 3.6.6-9.

Table 3.6.6-3 Attachment of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

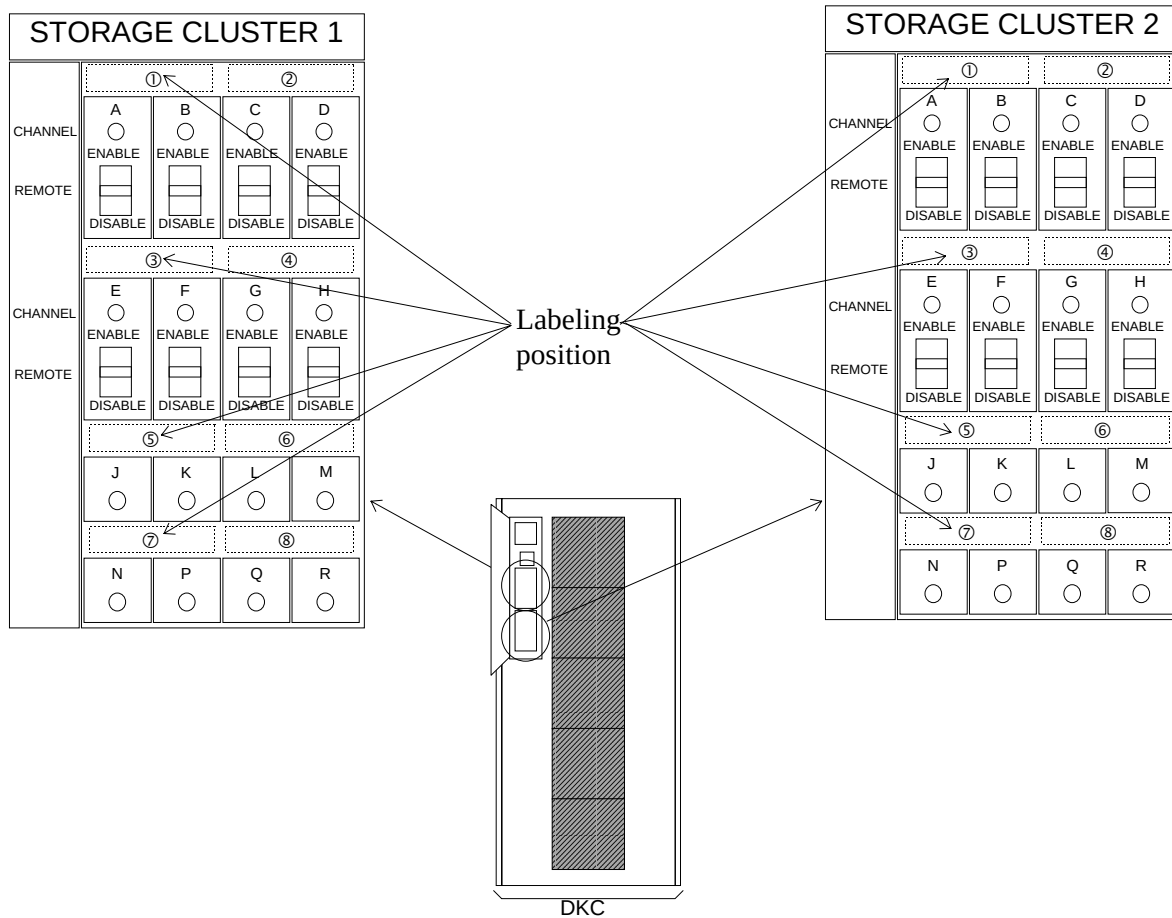


Fig. 3.6.6-9 Attachment of Labels

5. Attachment of the nameplate
- a. Attach the nameplate referring to Fig. 3.6.6-10.

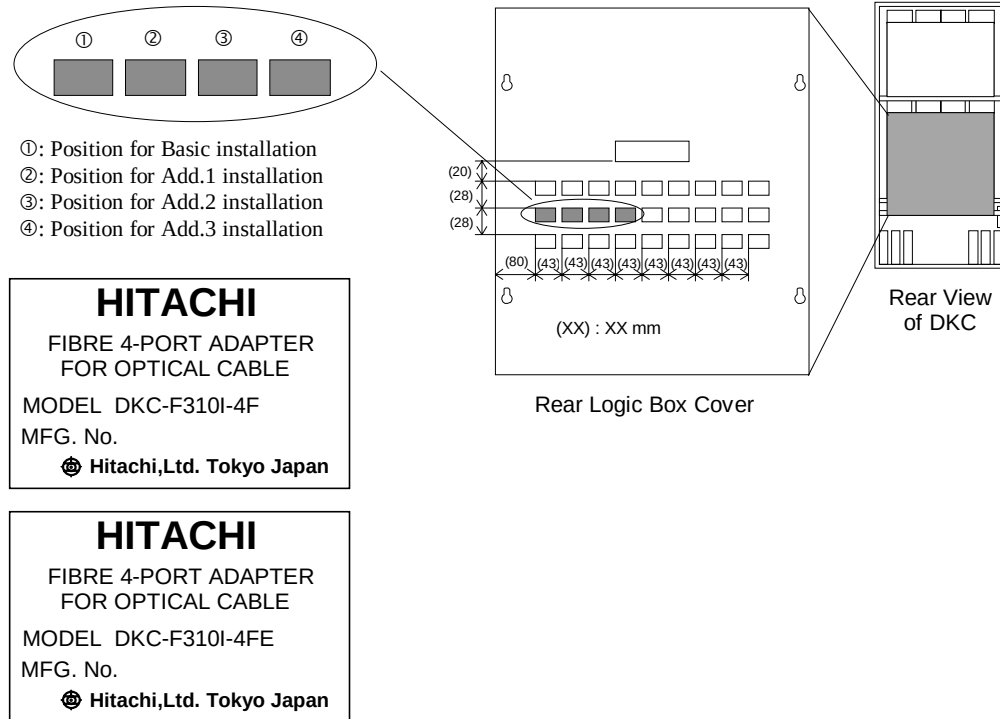


Fig. 3.6.6-10 Attachment of Nameplate

6. Return to General Flow.
- New Installation: Go to INST02T-10 Step (6).
- Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
- Disruptive Installation: Go to INST02T-40 Step (5).

3.6.7 Installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4GS/4GL)

Note : When installing three or more channel options,
the CL Additional Power Supply (DKC-F310I-80) must be installed.
In such a case, be sure to add the channel option(s) after the CL Additional Power Supply is added.

3.6.7.1 Parts list

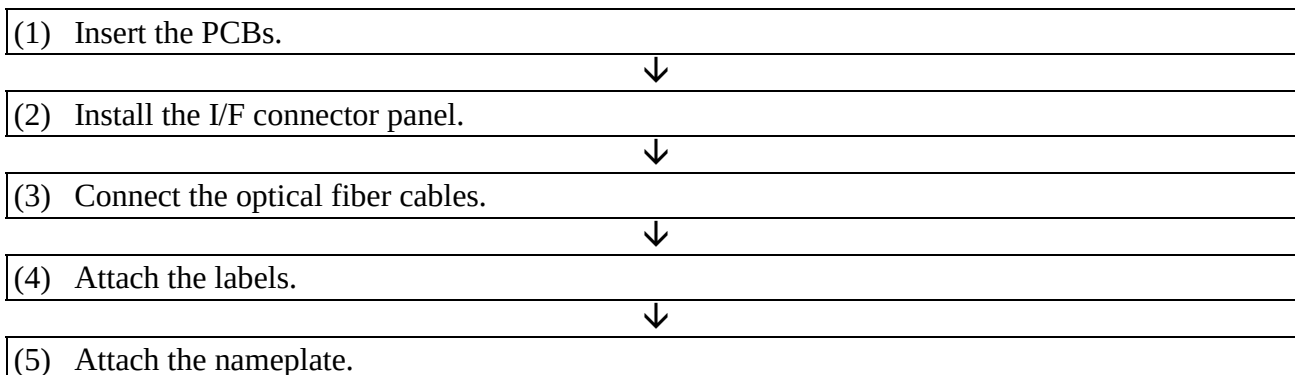
Table 3.6.7-1 Parts List for Fibre 4-port Adapter (Short Wavelength)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4GS (Short Wavelength)	Fibre 2-port Adapter PCB	3254519-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	4	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-63	1	

Table 3.6.7-2 Parts List for Fibre 4-port Adapter (Long Wavelength)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
2	DKC-F310I-4GL (Long Wavelength)	Fibre 2-port Adapter PCB	3254519-B	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	2	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-64	1	

3.6.7.2 Flowchart



3.6.7.3 Installation Procedure of Fibre 4-port Adapter

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.

1. Insertion of the PCBs
 - a. Remove the dummy plate installed in the installation location referring to the Fig. 3.6.7-1.
(Note) Dummy plates should be stored for future use in De-installation.
 - b. Insert the PCBs to the correct locations in the Logic Box. Refer to Table 3.6.7-3.
 - c. Fasten the two screws referring to Fig. 3.6.7-2.

Table 3.6.7-3 Inserting Location (Front of the unit)

Cluster	CL1						CL2						CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z	
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM	
Location No.	TM-1N	CHA-1P	CHA-1Q	CHA-1R	CHA-1S	CACHE-1T	CACHE-2U	CHA-2V	CHA-2W	CHA-2X	CHA-2Y	TM-1Z	
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3		

Up to 4 Fibre 4-port adapters can be installed in the subsystem.

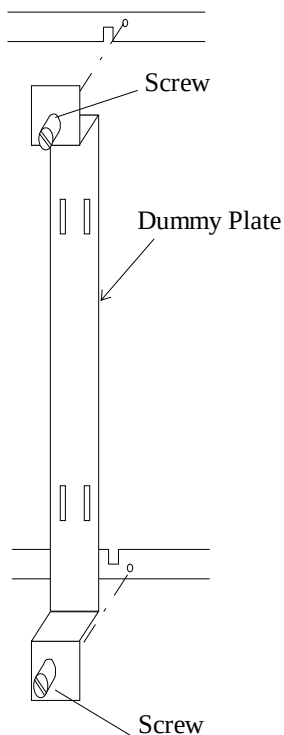


Fig. 3.6.7-1 Removal of Dummy Plate

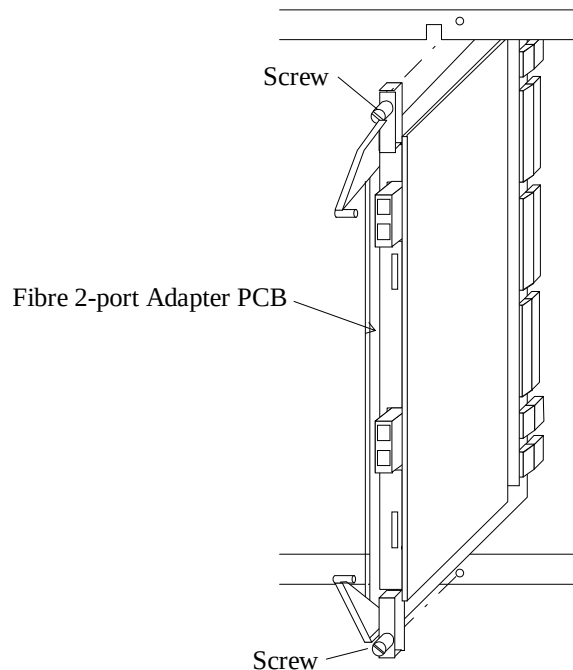


Fig. 3.6.7-2 Insertion of PCB

2. Installation of the I/F connector panel

Install the I/F connector panel in the order of the location number ①②③④ shown in Fig. 3.6.7-3. However, when a mixture of parallel channel is installed, referring to [LOCATION04T-40] in a LOCATION Section.

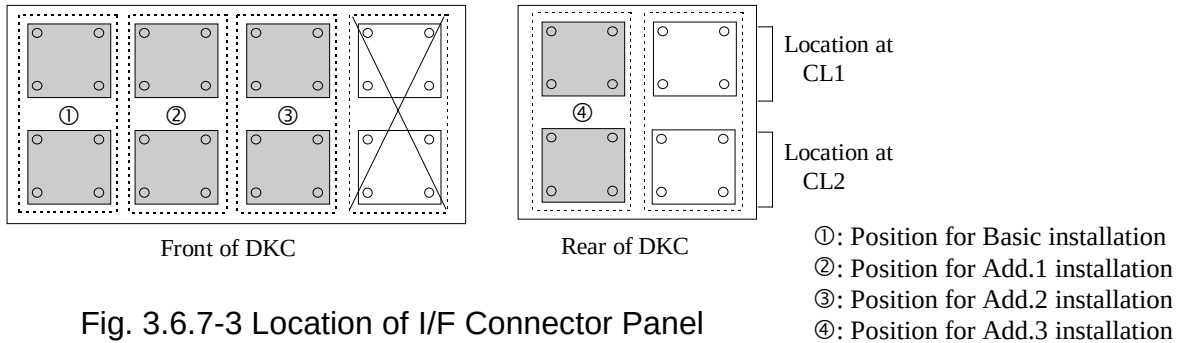


Fig. 3.6.7-3 Location of I/F Connector Panel

- Remove the dummy plate referring to Fig. 3.6.7-5.
 - Install the I/F connector panel referring to Fig. 3.6.7-6.
- (Note): Dummy plates should be stored for future use in de-installation.

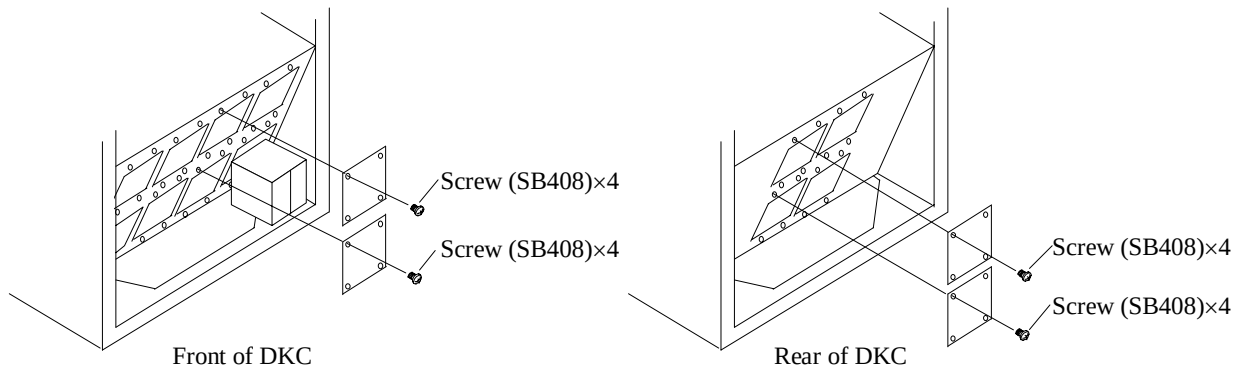


Fig. 3.6.7-5 Removal of Dummy Plate

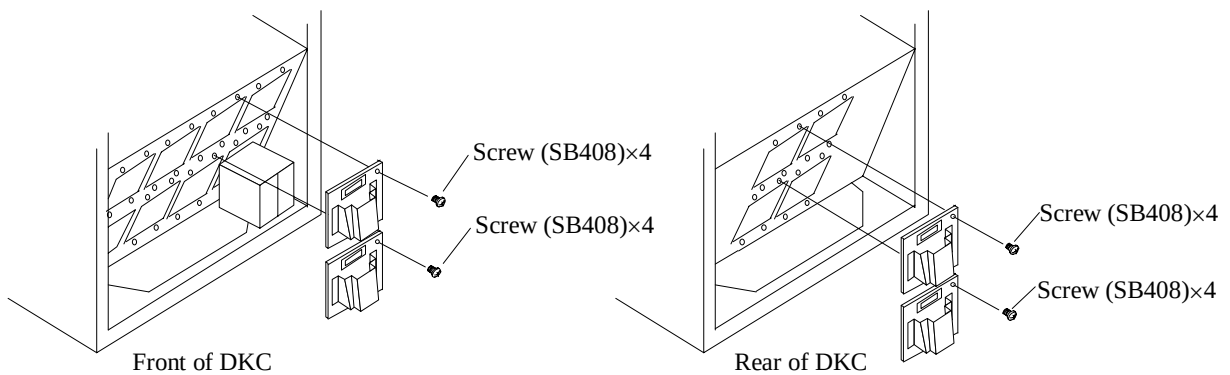


Fig. 3.6.7-6 Installation of I/F Connector Panel

3. Connection of the optical fiber cable

- a. Pull the optical fiber cable into the DKC through the I/F connector panel referring to Fig. 3.6.7-7. Connect the optical fiber cable to the PCB. Refer to Fibre Channel Interface [LOCATION04T-80] in LOCATION section.
- b. Fix the cable to Lower Strain Relief① and attach Upper Strain Relief② and Bracket③ referring to Fig. 3.6.7-8.

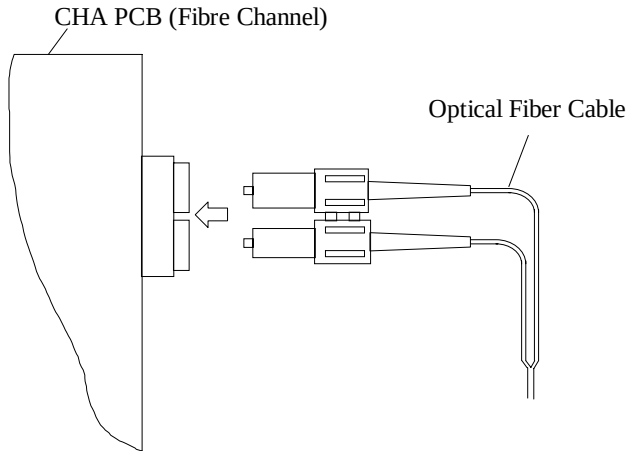


Fig. 3.6.7-7 Connection of Optical Fiber Cable

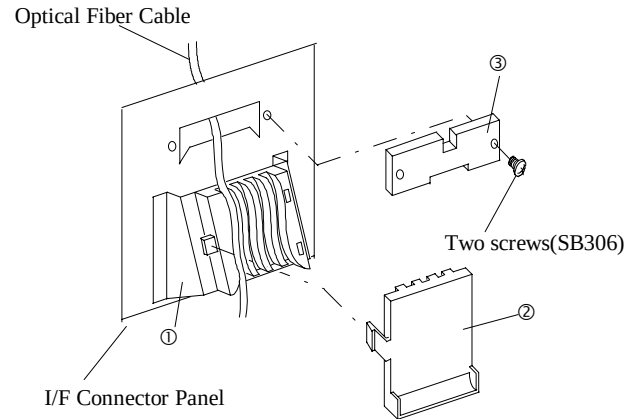


Fig. 3.6.7-8 Installation of Optical Fiber Cable

4. Labeling

- a. Attach the labels "FIBRE PORT" to ①,③,⑤, or ⑦ referring to Table. 3.6.7-4 and Fig. 3.6.7-9.

Table 3.6.7-4 Attachment of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

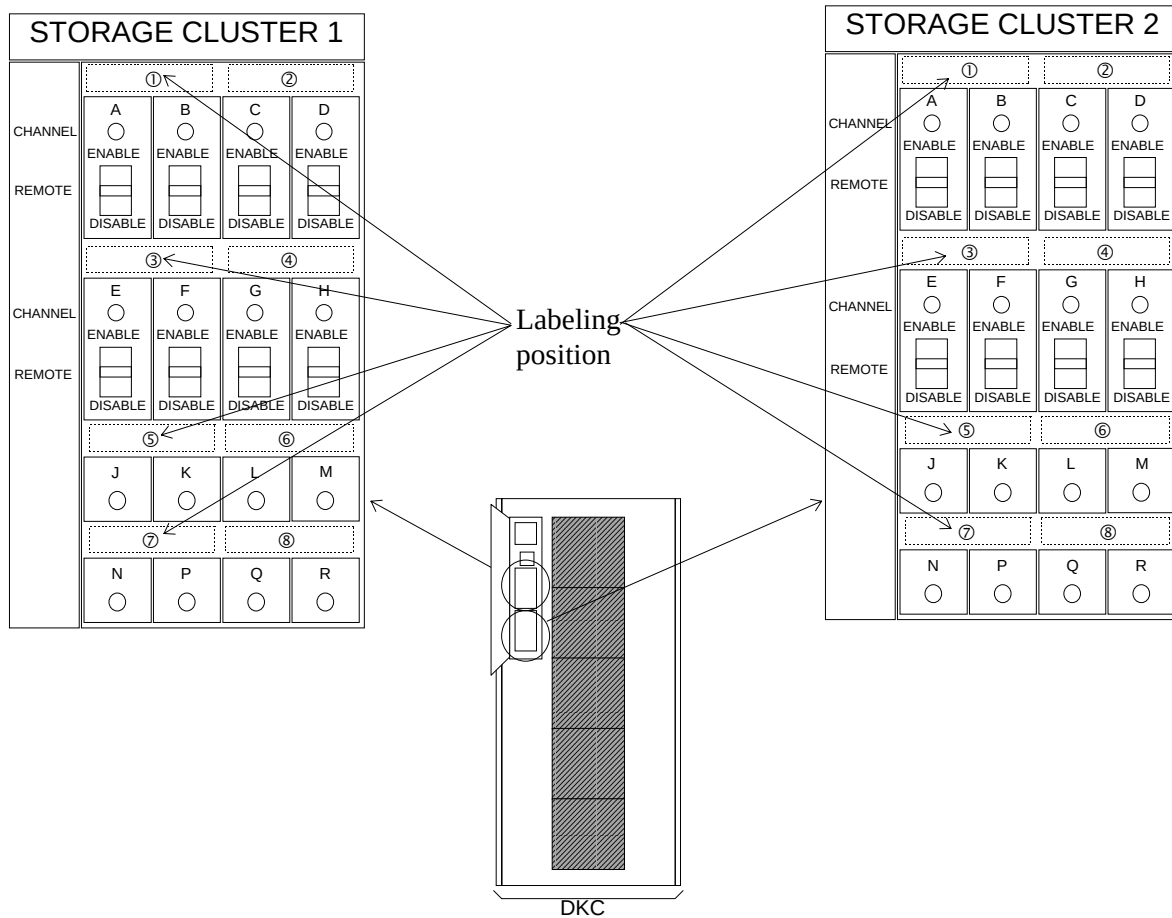


Fig. 3.6.7-9 Attachment of Labels

5. Attachment of the nameplate
- a. Attach the nameplate referring to Fig. 3.6.7-10.

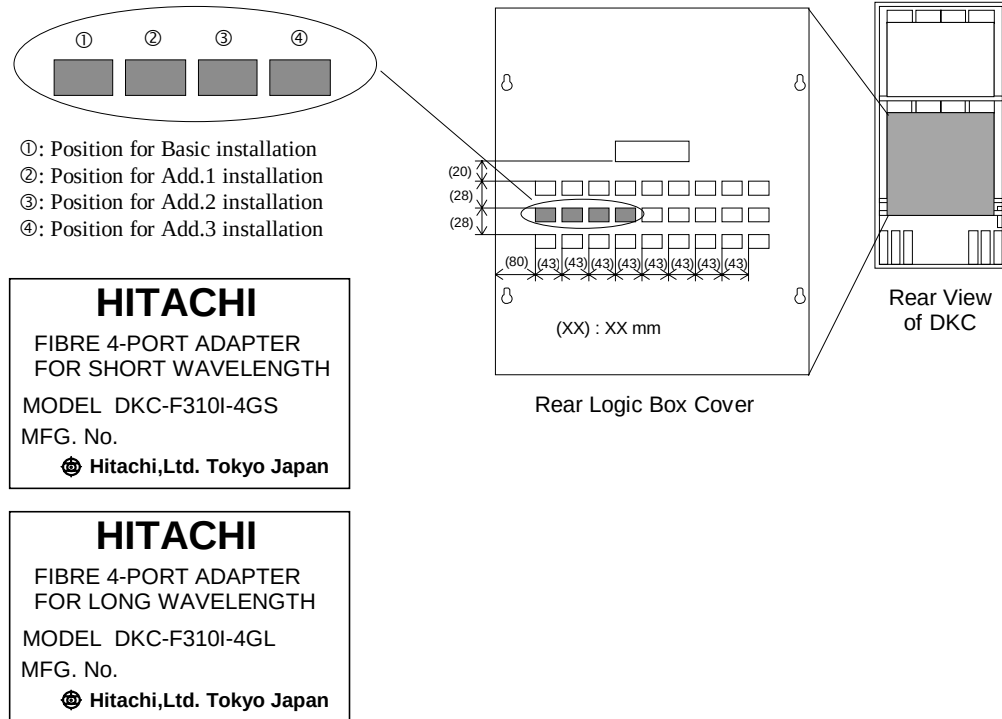


Fig. 3.6.7-10 Attachment of Nameplate

6. Return to General Flow.
- New Installation: Go to INST02T-10 Step (6).
- Non-disruptive Installation: Go to INST02T-20 Step (4)-2.
- Disruptive Installation: Go to INST02T-40 Step (5).

3.18 Check and Testing

NOTICE:
Install all of the remaining optional parts.

3.18.1 Checking Input Voltage

WARNING

Do not touch the internal parts of the AC power cable the AC Box or the Breaker Box.
Line voltage is present even if the circuit breaker is off.

1. Check the AC input voltage using a voltmeter at the customer's AC power source (at the distribution board or receptacle for R & S connectors).

3.18.2 Checking Input Power Cable

Check the input power cable at the AC BOXes in the DKC and DKU. See Table 3.18.2-1 and figures 3.18.2-1 and 3.18.2-2 for check items.

Table 3.18.2-1 AC Input Cable Conductors

UNIT	AC BOX	Input Voltage	AC Input Cable Conductors	Remarks
DKC	DKC AC BOX (AC BOX-C1, C2)	200-240Vac	3 conductors (U,V,FG)	
DKU	DKU AC BOX (AC BOX-R10, R11, R20, R21, L10, L11, L20, L21)	200-240Vac	3 conductors (U,V,FG)	

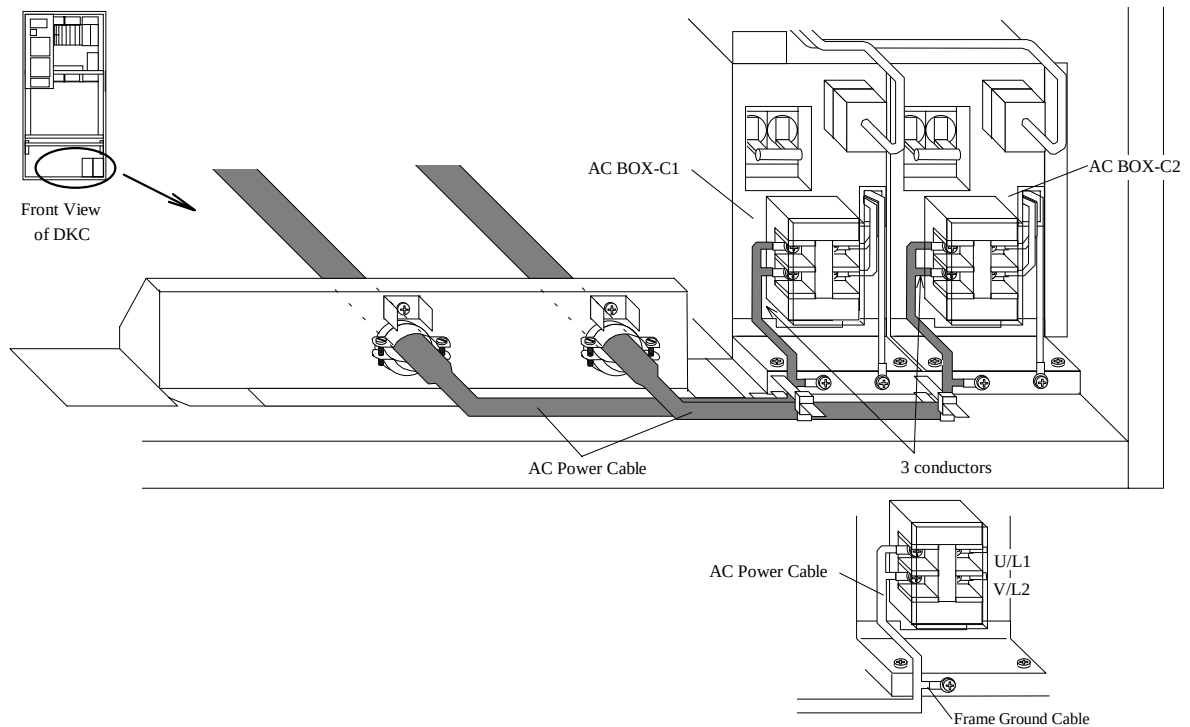


Fig. 3.18.2-1 AC Input Cable Conductors (DKC)

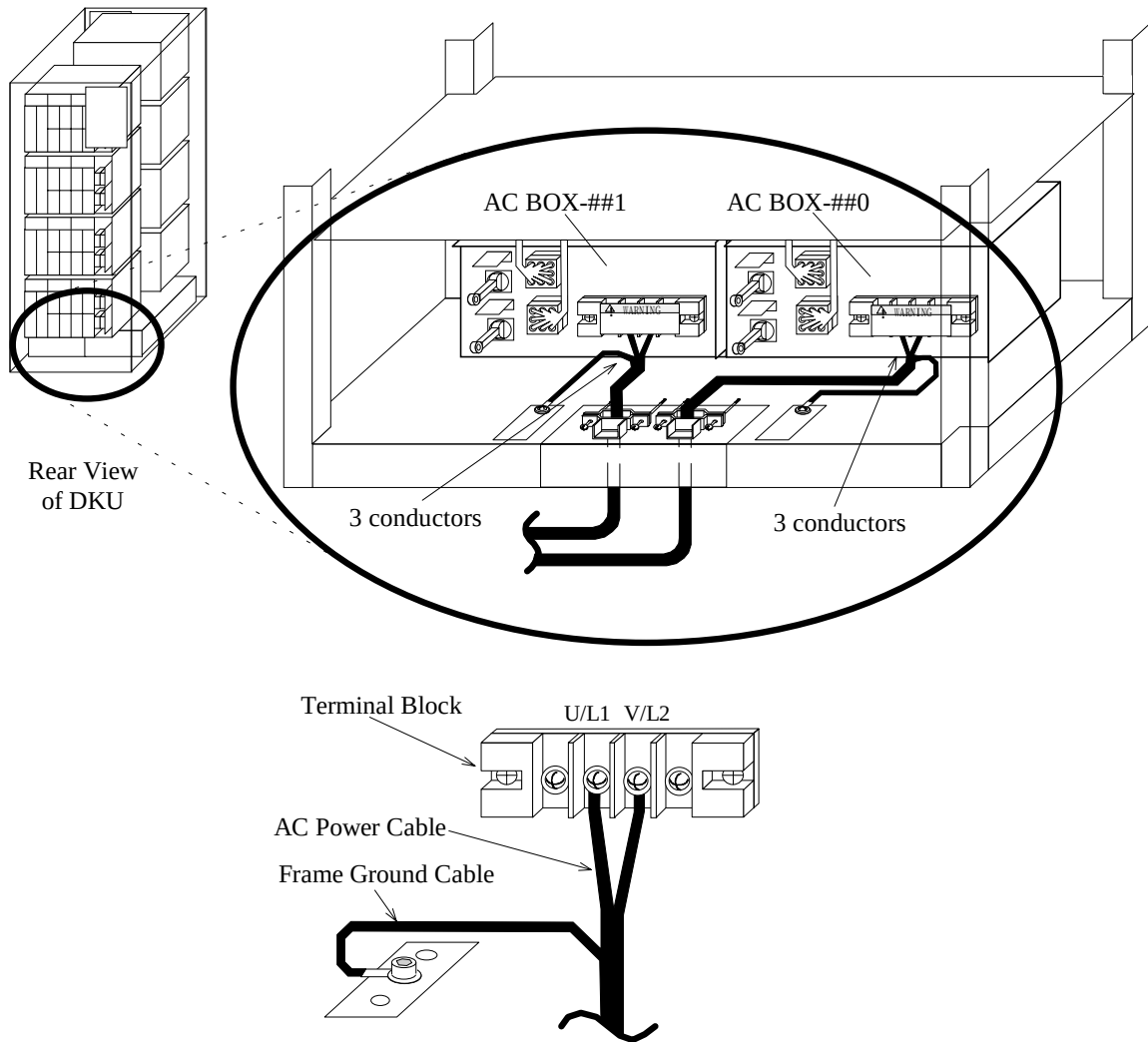


Fig. 3.18.2-2 AC Input Cable Conductors (DKU)

3.18.3 Power On/Off Check

1. Install all the remaining optional parts.
2. Turn on the disk controller according to the procedure shown in SECTION 3.19 POWER ON/OFF PROCEDURE. Refer to INST03T-640 through 670.
3. Check the power supply output voltage to verify that it indicates the required level. Refer to PERIOD.
4. Turn off the Disk Subsystem according to the procedure shown in SECTION 3.19 POWER ON/OFF PROCEDURE. Refer to INST03T-700 through 710.
5. New Installation: Go to INST02T-11 step (14).

3.19 Power ON/OFF Procedure

3.19.1 Power ON Procedure

3.19.1.1 Power ON Procedure of Disk Subsystem

1. Power on procedures are shown below. Refer to the details and start the operation.
 - a. Turn on the main circuit breaker at the AC Box on the DKC and DKU.

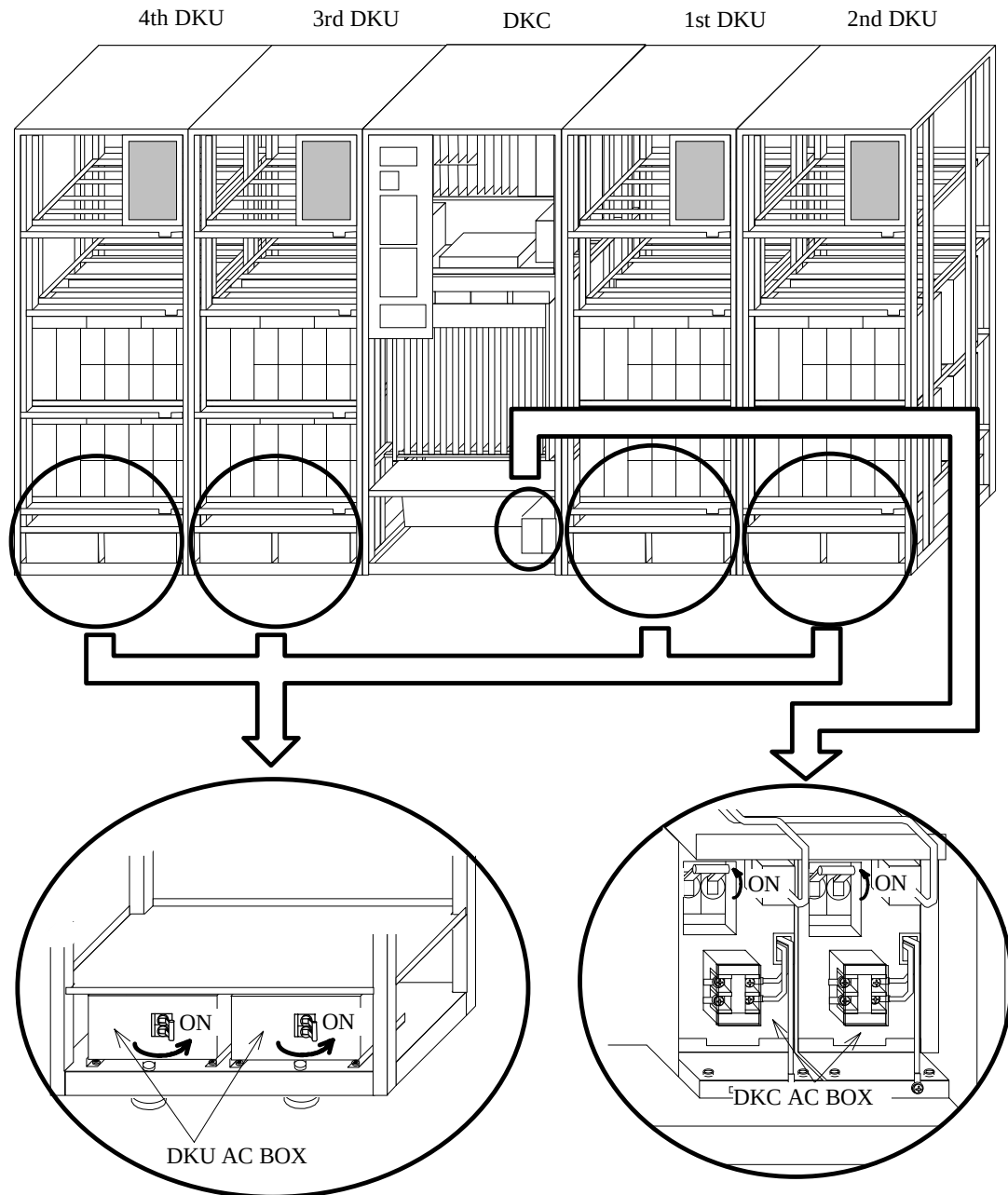


Fig. 3.19.1.1-1 Main Circuit Breaker on AC Box

b. Turn on the circuit breaker at the Breaker Box-1 and 2 in the Disk Controller.

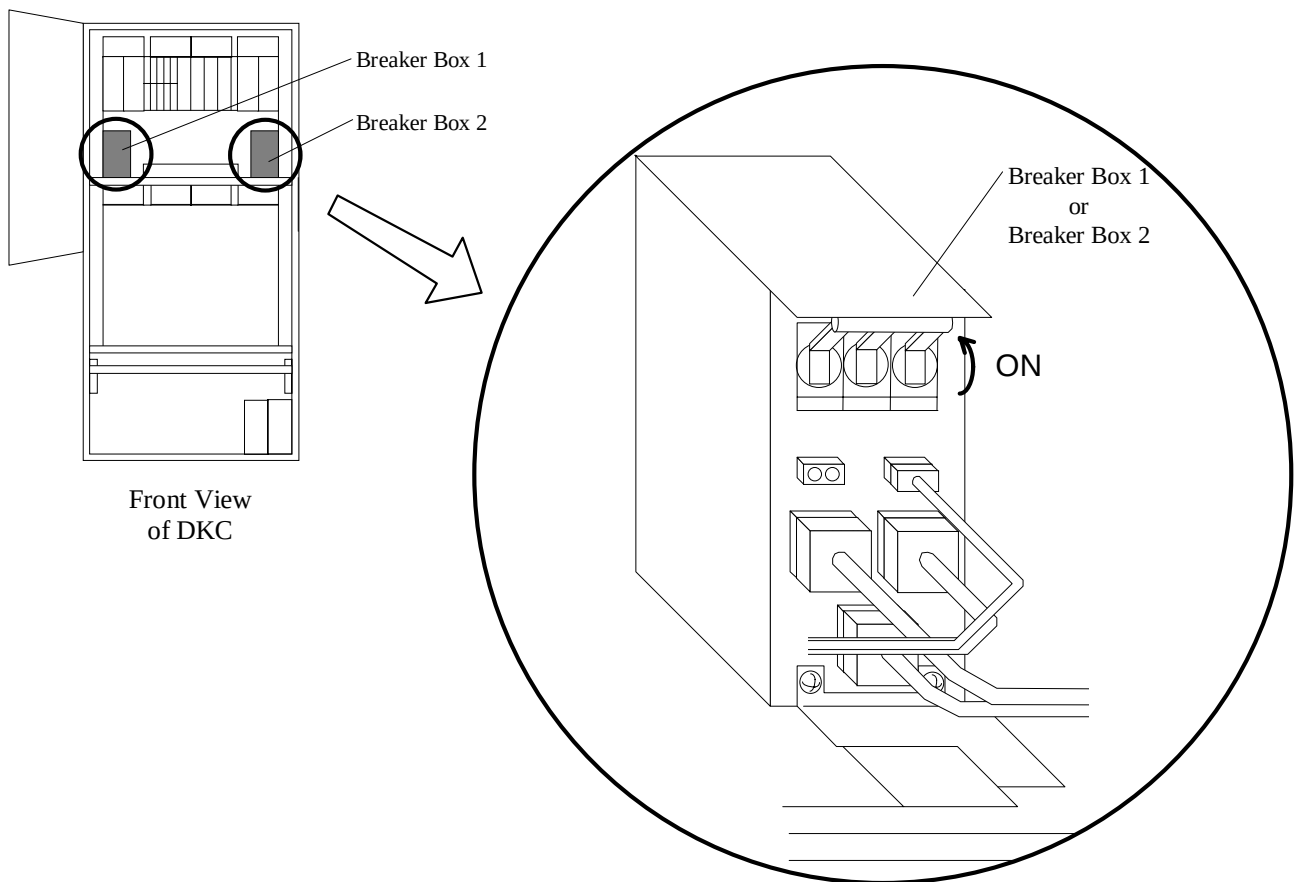


Fig. 3.19.1.1-2 Circuit Breaker in Breaker Box-1 and 2

c. Turn the “ENABLE/DISABLE” switch on the DKUMN PCB’s to “ENABLE”.

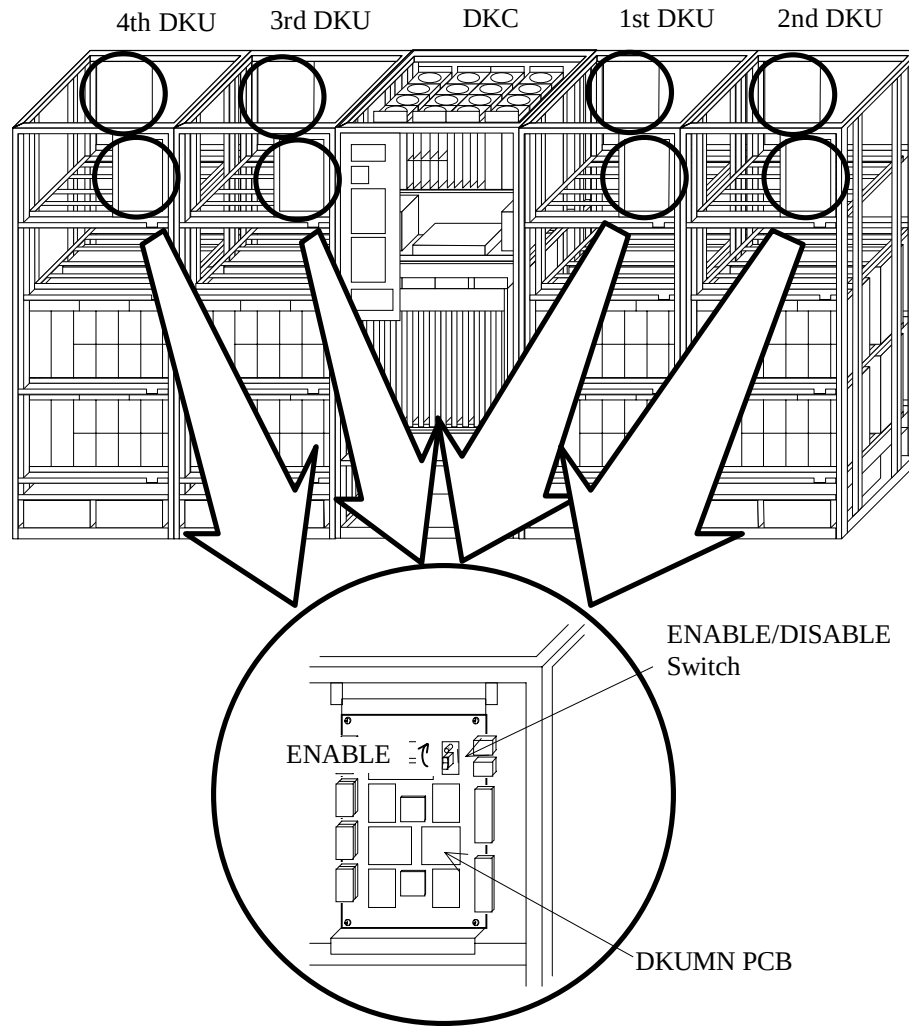


Fig. 3.19.1.1-3 ENABLE/DISABLE Switch on DKUMN PCBs

d. Return to General Flow.

New Installation: Go to INST02T-11 step (16).

Disruptive Installation: Go to INST03T-670 step “e”.

Disruptive De-installation: Go to INST03T-670 step “e”

- e. Turn “ENABLE/DISABLE” switch on the CE panel PCB to “ENABLE”.
- f. [Case as custom engineer operates]
 Turn the “REMOTE/LOCAL” switch on the CE panel PCB to “LOCAL”.
 Turn the “POWER ON/OFF” switch on the CE panel PCB to “ON”.
 [Case as that operate from CPU]
 Turn the “REMOTE/LOCAL” switch on the CE panel PCB to “REMOTE”.
 Turn on the power supply from CPU.

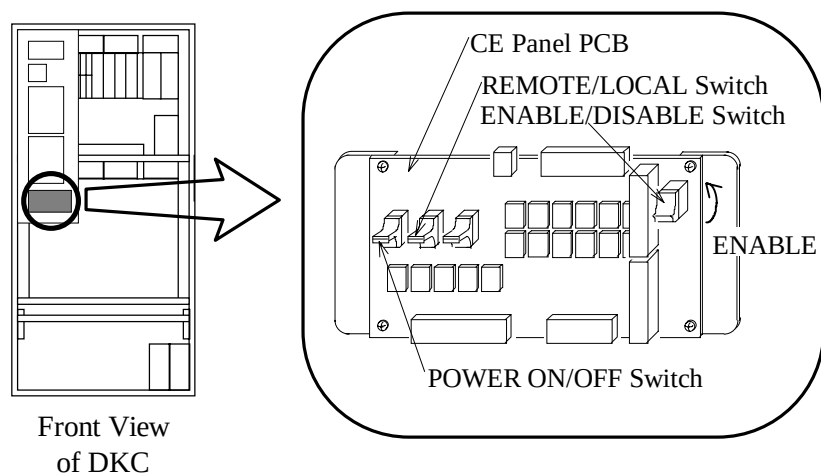


Fig. 3.19.1.1-4 CE Panel PCB

- g. Return to General Flow.
 New Installation : Go to INST02T-10 step (18).
 Disruptive Installation : Go to INST02T-40 step (15).
 Disruptive De-installation : Go to INST02T-50 step (22).

3.19.1.2 Power ON Procedure of Additional Disk Unit

Before turning the power of AC BOX on, make sure that the Enable/Disable switch on the DKU Monitor is in “Disable” position. If the switch is in “Enable” position, turn the switch to “Disable” position.

1. Power on procedures are shown below. Refer to the details and start the operation.
 - a. Turn on the main circuit breaker at the AC Box on the Disk Unit.

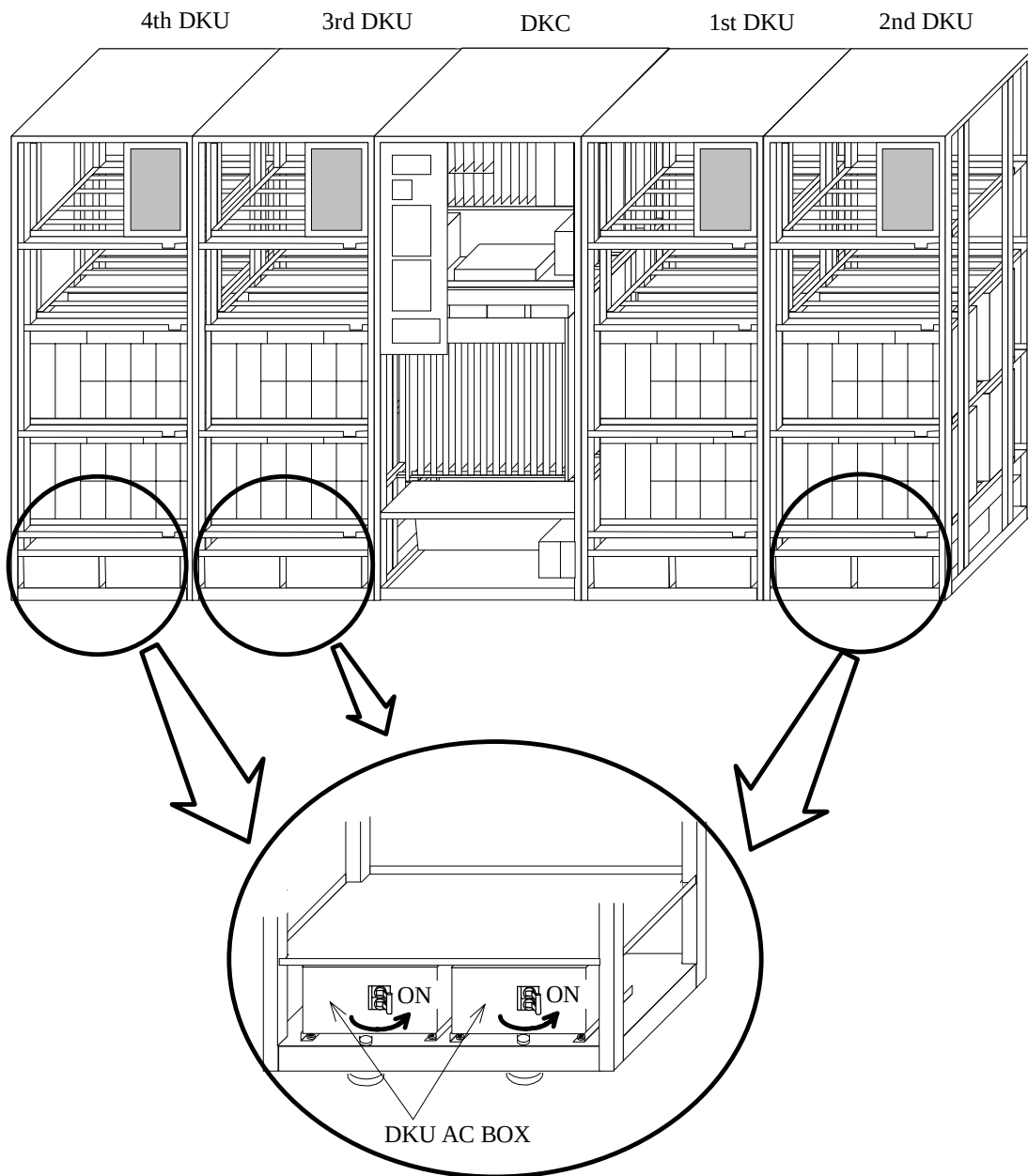


Fig. 3.19.1.2-1 Main Circuit Breaker on AC Box

- b. Turn the “ENABLE/DISABLE” switch on the DKUMN PCB’s to “ENABLE”.

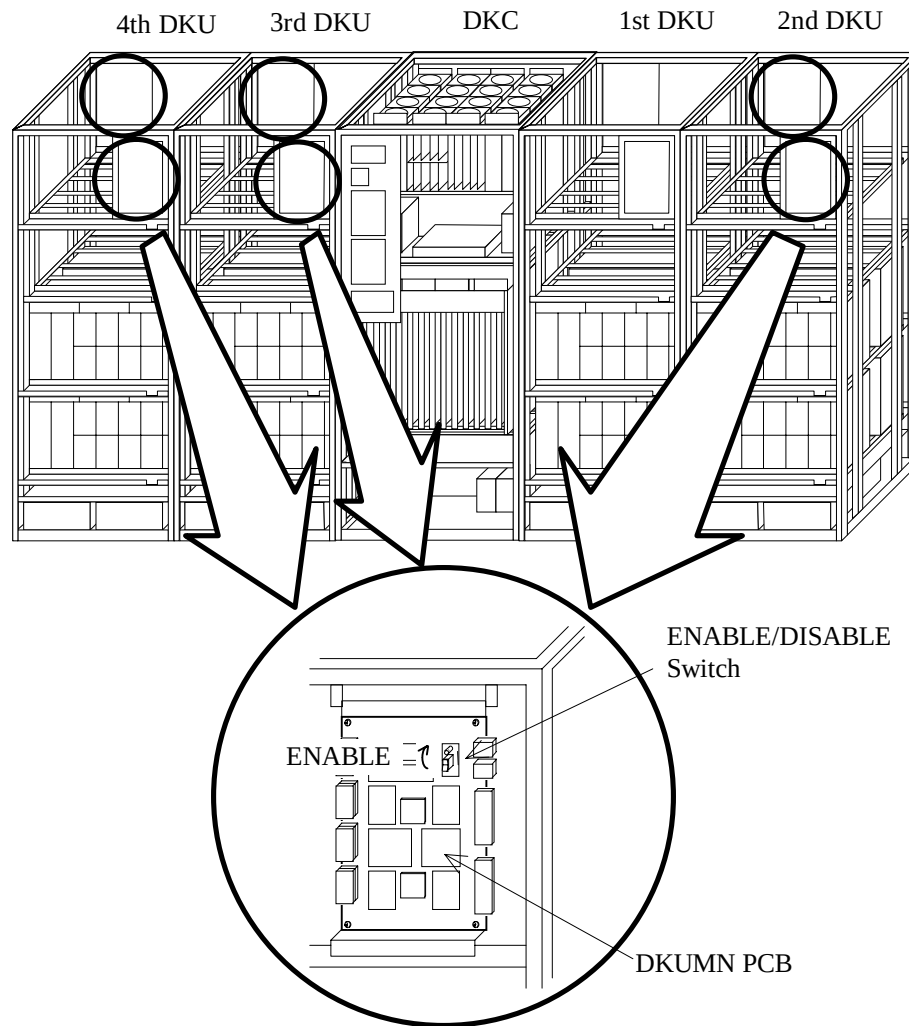


Fig. 3.19.1.2-2 ENABLE/DISABLE Switch on DKUMN PCBs

- c. Return to General Flow.
Non-Disruptive Installation : Go to INST02-21 step (7)-4.

3.19.2 Power OFF Procedure

3.19.2.1 Power OFF Procedure of Disk Subsystem

1. Power off procedures are shown below. Refer to the details and start the operation.
 - a. Stop the SVP.
 - b. [Case as custom engineer operates]

Turn the “REMOTE/LOCAL” switch on the CE panel PCB to “LOCAL”.

Turn the “POWER ON/OFF” switch on the CE panel PCB to “OFF”.

[Case as that operate from CPU]

Turn the “REMOTE/LOCAL” switch on the CE panel PCB to “REMOTE”.

Turn off the power supply from CPU.

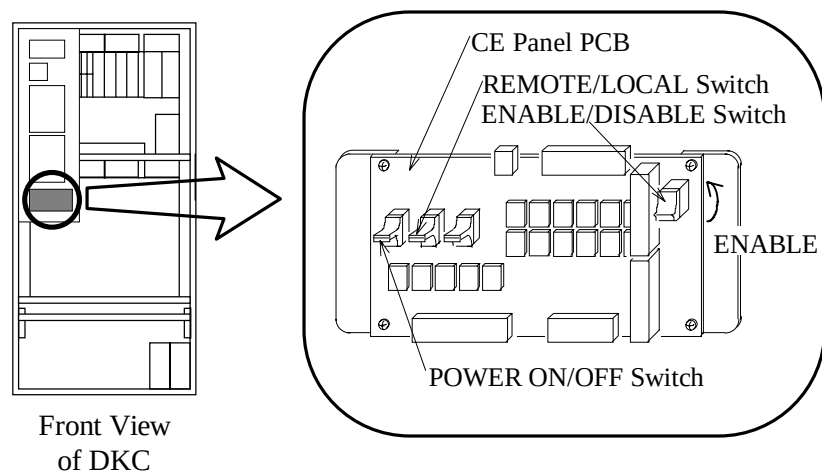


Fig. 3.19.2.1-1 CE Panel PCB

c. Turn off the main circuit breaker at the AC Box on the DKC and DKU.

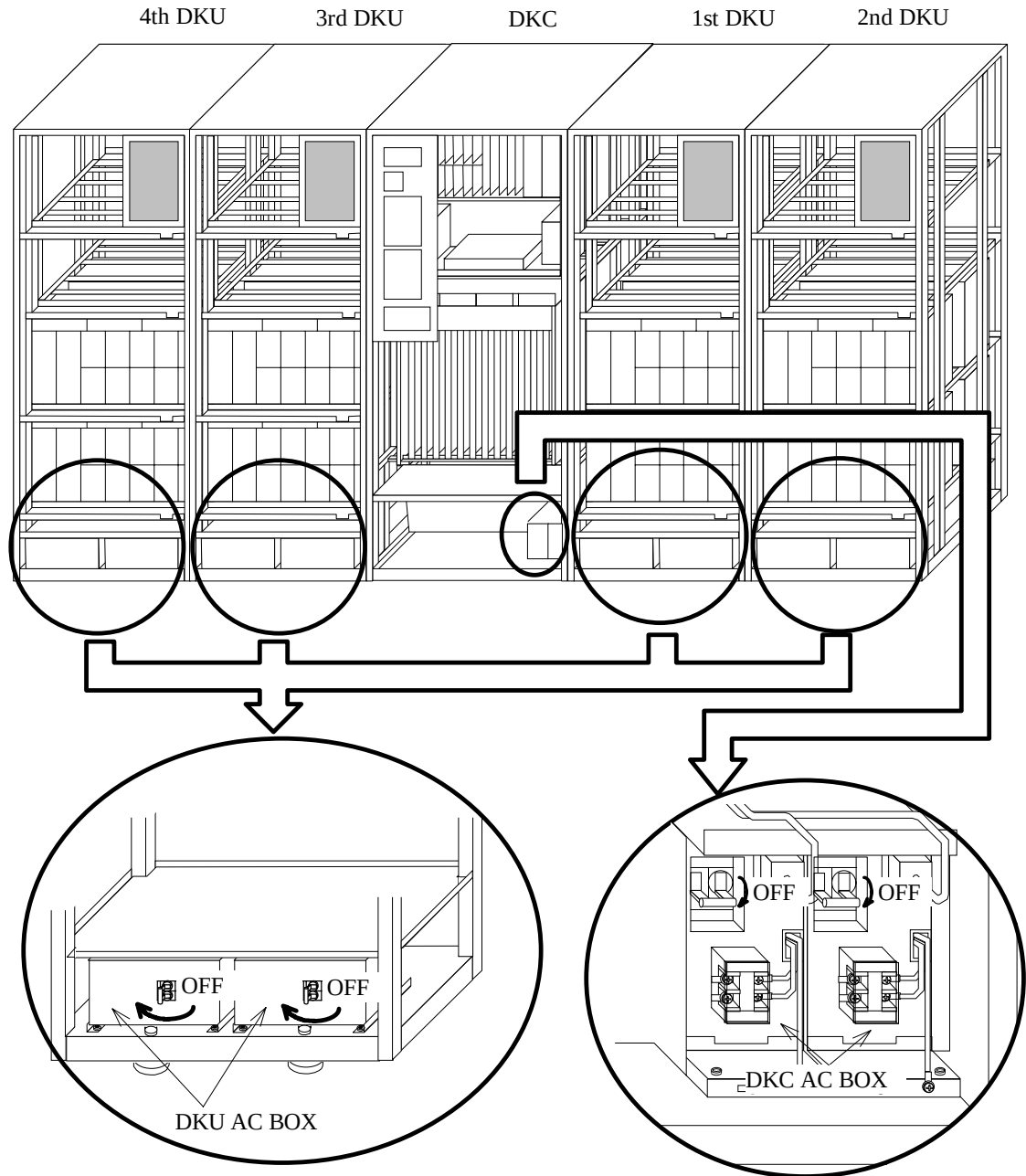


Fig. 3.19.1.2-2 Main Circuit Breaker on AC Box

d. Return to General Flow.

Disruptive Installation : Go to INST02T-40 step (3).

Disruptive De-installation : Go to INST02T-50 step (10).

3.19.2.2 Power OFF Procedure of Additional Disk Unit

1. Power off procedures are shown below. Refer to the details and start the operation.
 - a. Turn off the main circuit breaker at the AC Box on the Disk Unit.

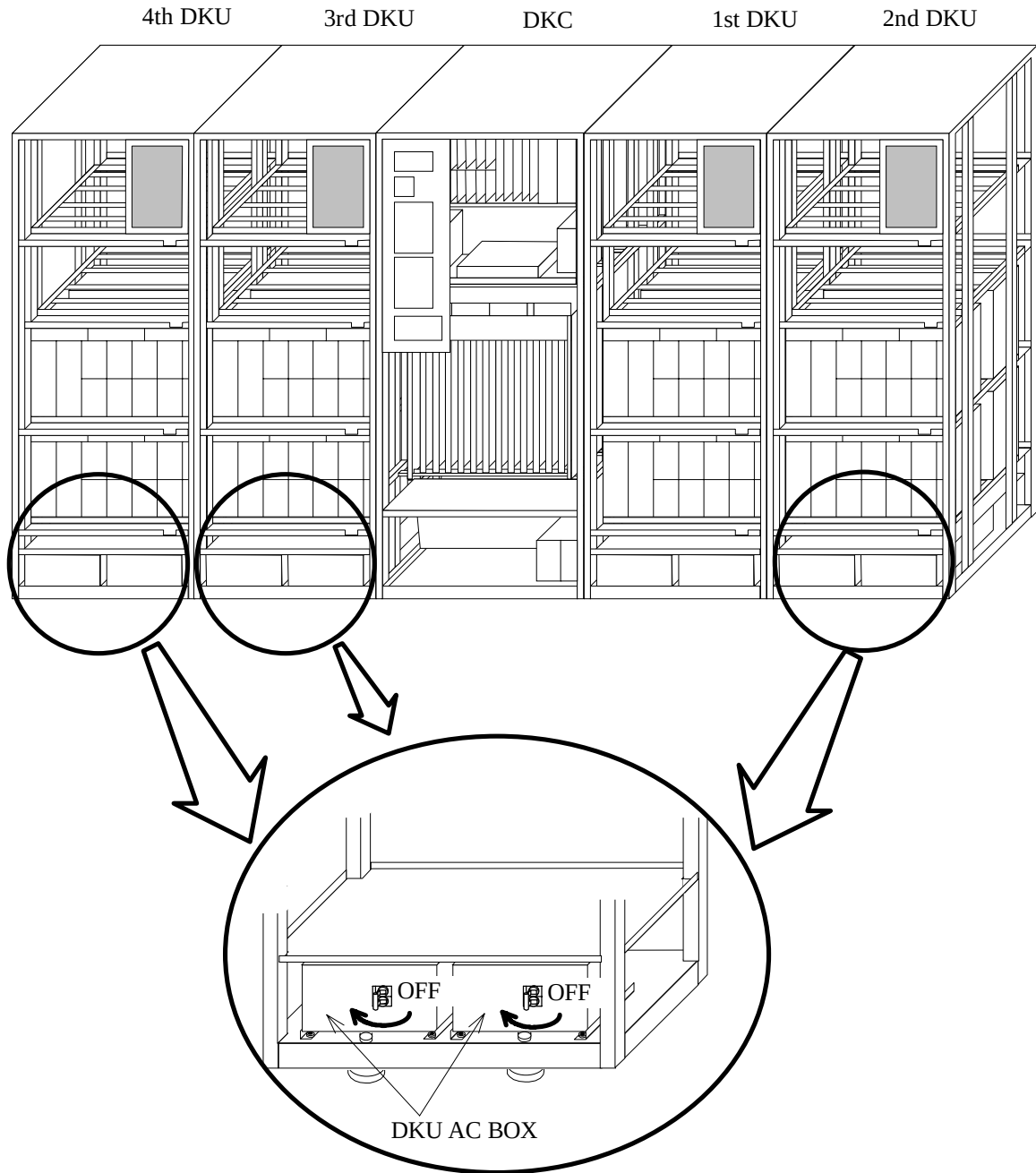


Fig. 3.19.2.2-1 Main Circuit Breaker on AC Box

3.21 Installation of Hz Conversion Kit (DKC-F310I-56U/65U)

3.21.1 Parts list

Table 3.21-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-56U	Power Cable Unit (DKC)	3257345-A	1	
		Label (FCC)	3183097-1	1	
		Nameplate	3257041-1	1	
2	DKC-F310I-65U	Power Cable Unit (DKC)	3257345-B	1	
		Label (IN)	3228038-1	1	
		Label (CE)	3240543-1	1	
		Nameplate	3257043-1	1	

3.21.2 Flowchart

(1) Remove the Power Cable Unit.



(2) Attach the new Power Cable Unit.



(3) Change the nameplate.

3.21.3 Installation Procedure of Hz Conversion Kit

1. Remove the Power Cable Unit.
 - a. Open the two repeat binders.
 - b. Remove the four screws and remove the terminal block covers from AC Boxes.
 - c. Remove the six screws and remove the AC power cables from AC Boxes.

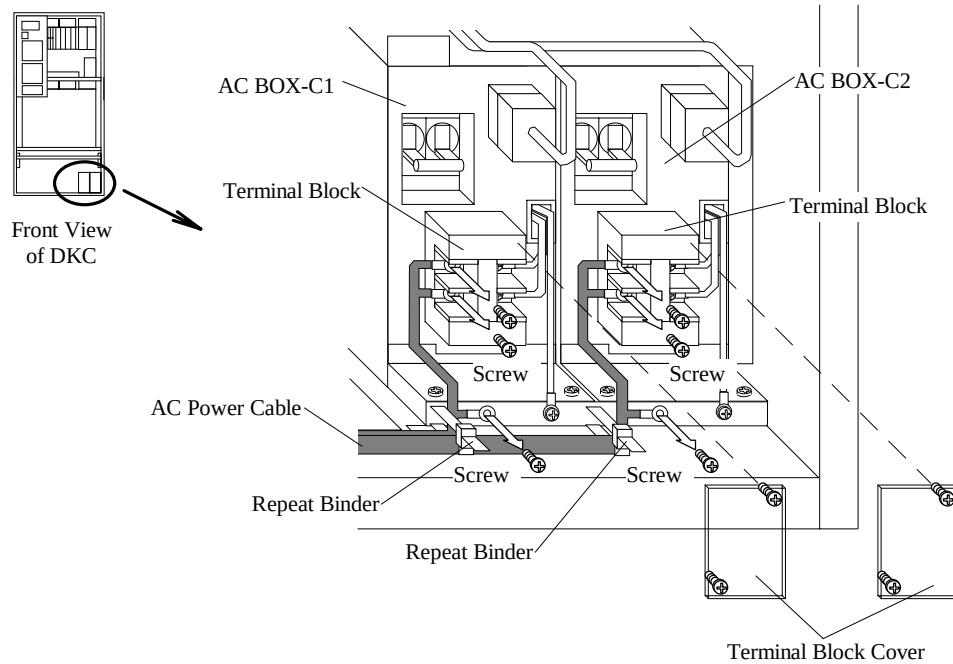


Fig. 3.21.3-1 Removal of AC Power Cables

- d. Loosen the three screws and remove the Power Cable Unit.

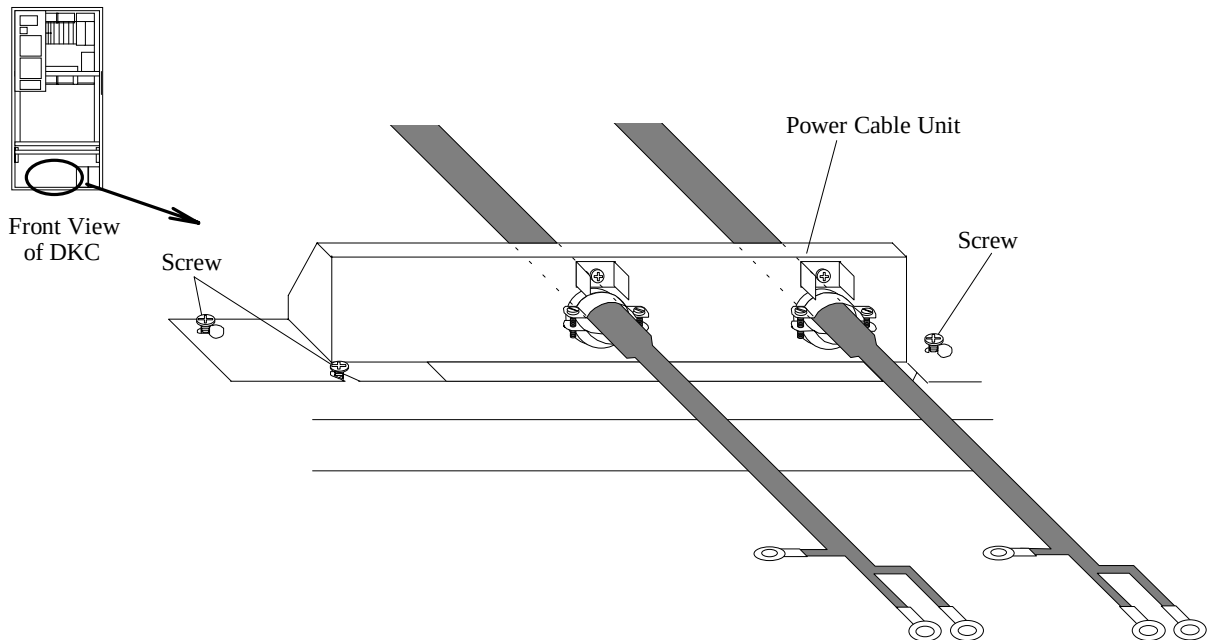


Fig. 3.21.3-2 Removal of Power Cable Unit

2. Attach the new Power Cable Unit.

- a. Attach the Power Cable Unit with the three screws.

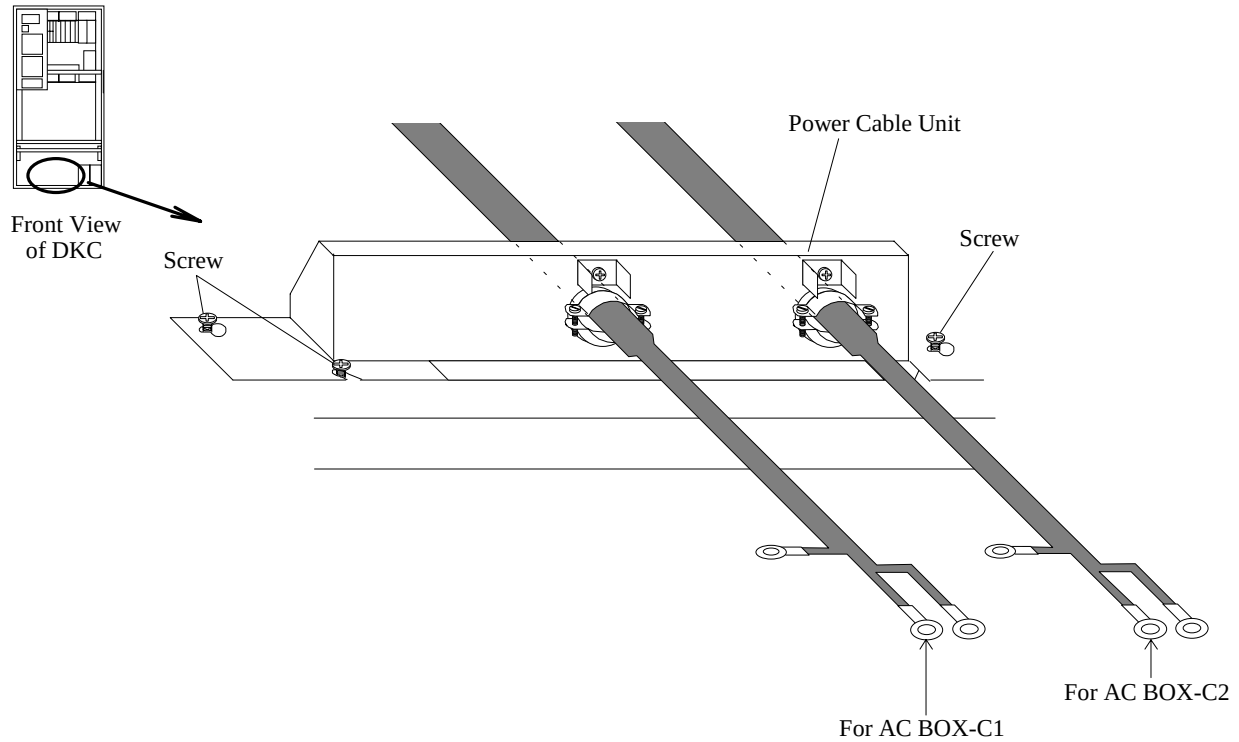
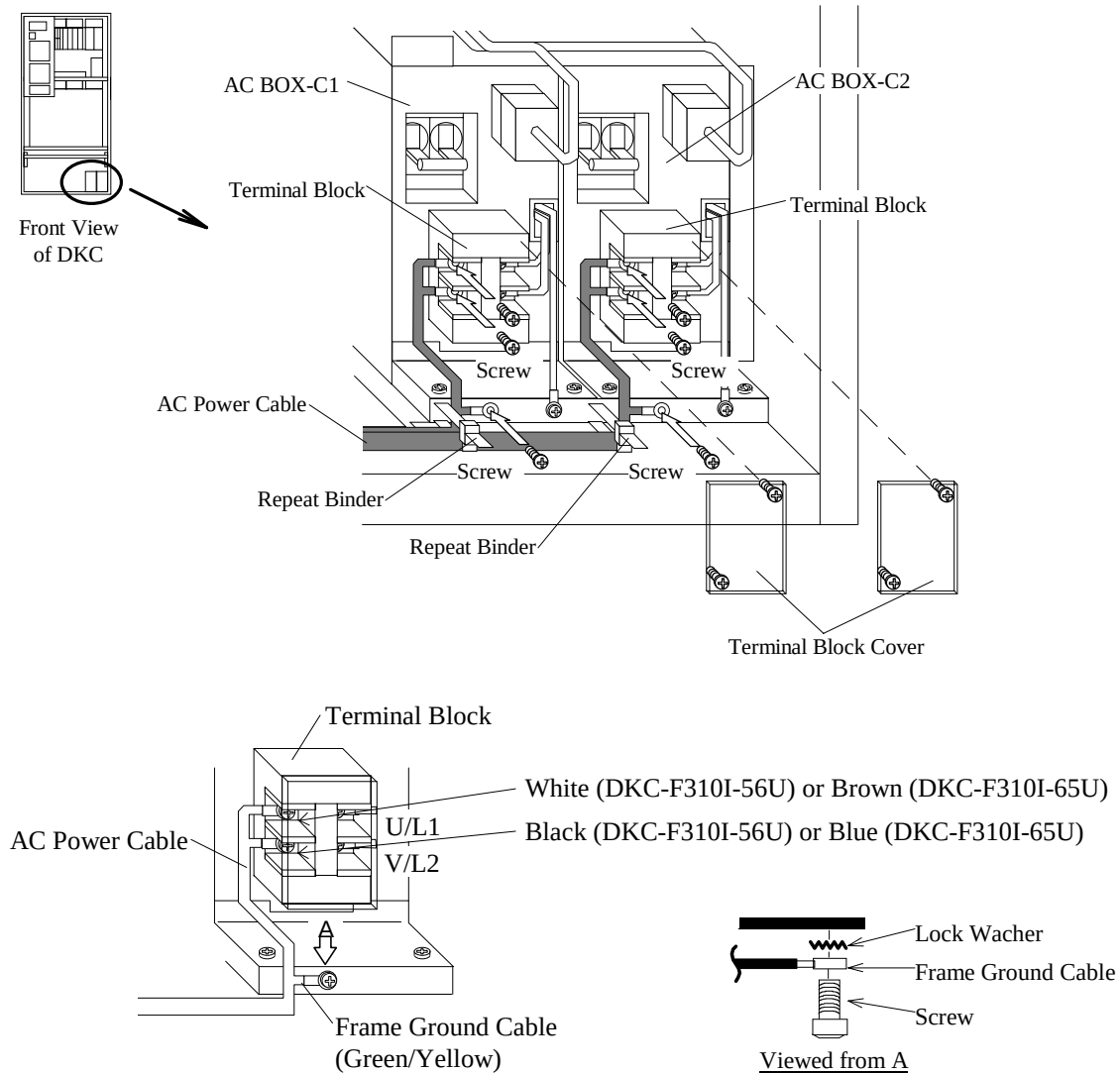


Fig. 3.21.3-3 Attachment of Power Cable Unit

- b. Attach the AC power cables to AC Boxes and fasten the six screws.
- c. Attach the terminal block covers to AC Boxes and fasten the four screws.
- d. Fasten the two repeat binders.



Connection of AC Power Cable

Letters indicated on the terminal block	Connecting LINE	Cable Color	
		DKC-F310I-56U	DKC-F310I-65U
U/L1	Phase U	White	Brown
V/L2	Phase V	Black	Blue

Fig. 3.21.3-4 Attachment of AC Power Cables

3. Change the nameplate.

DKC-F310I-56U

- Change the nameplate.
- Put the label (FCC).
- Remove the label (CE) and label (IN).

DKC-F310I-65U

- Change the nameplate.
- Put the label (CE) and label (IN).
- Remove the label (FCC).

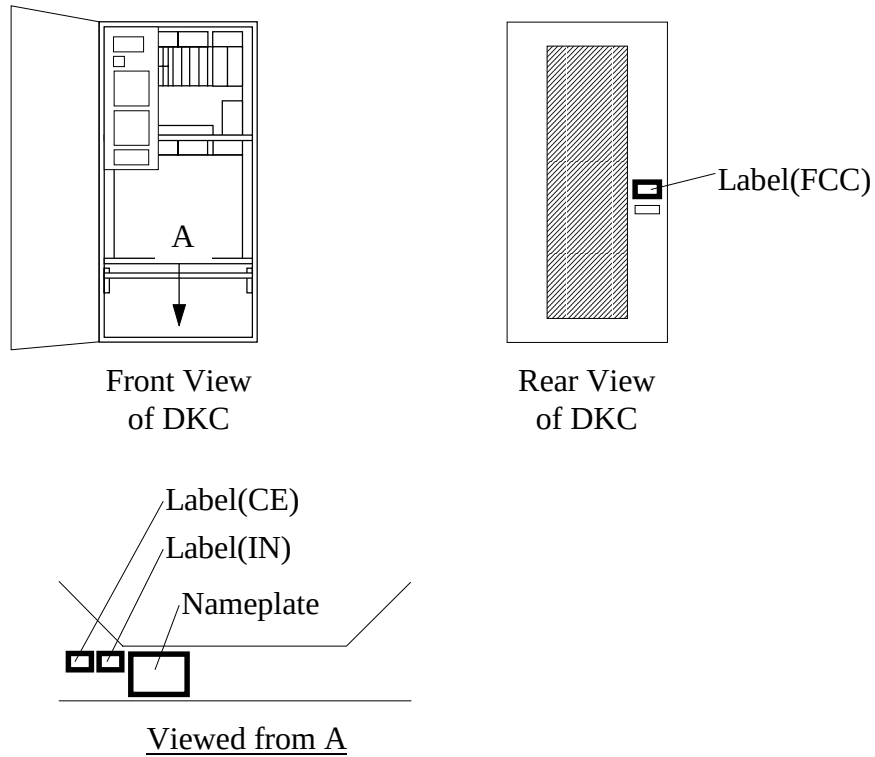


Fig. 3.21.3-5 Location of Nameplate

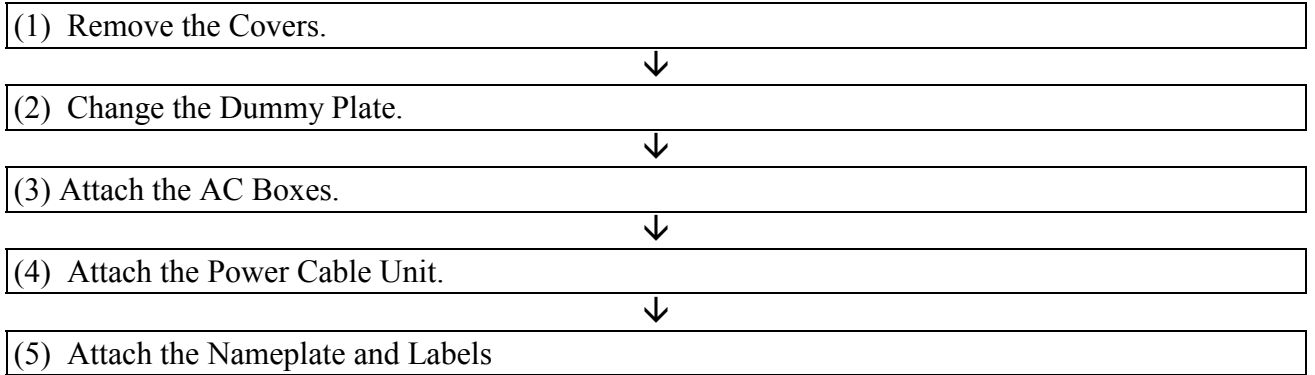
3.22 Installation of Phase Conversion Kit (3Φ→1Φ) (DKC-F310IU/IE-31U, DKC-F310IU/IE-31UP)

3.22.1 Parts list

Table 3.22-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310IU-31U DKC-F310IU-31UP	DKC AC Box	5500952-A	2	
		Power Cable Unit (DKC)	3257345-A	1	
		Dummy Plate(AC)	3253839-1	1	
		BASE(AC BOX)	3253836-1	1	
		COVER(AC BOX)	3253837-1	1	
		Edging Bush	5394487-3	1	
		Repeat Binder ①	5409042-1	2	100mm
		Repeat Binder ②	5409042-2	4	140mm
		Screw	SB408	21	
		Lock Washer	WT004	5	
		Label	3257223-1	2	P250-1, P250-2
		Caution Label①	3255556-1	1	UL5
		Caution Label②	3255552-1	1	WARNING
		Caution Label③	2103437-1	1	V·Hz
		Nameplate	3257041-1	1	For DKC-F310IU-31U
			3257221-1		For DKC-F310IU-31UP
2	DKC-F310IE-31U DKC-F310IE-31UP	DKC AC Box	5500952-A	2	
		Power Cable Unit (DKC)	3257345-B	1	
		Dummy Plate(AC)	3253839-1	1	
		BASE(AC BOX)	3253836-1	1	
		COVER(AC BOX)	3253837-1	1	
		Edging Bush	5394487-3	1	
		Repeat Binder ①	5409042-1	2	100mm
		Repeat Binder ②	5409042-2	4	140mm
		Screw	SB408	21	
		Lock Washer	WT004	5	
		Label	3257223-1	2	P250-1, P250-2
		Caution Label①	3255556-1	1	UL5
		Caution Label②	3255552-1	1	WARNING
		Caution Label③	2103437-1	1	V·Hz
		Nameplate	3257043-1	1	For DKC-F310IE-31U
			3257222-1		For DKC-F310IE-31UP

3.22.2 Flowchart



3.22.3 Installation Procedure of Phase Conversion Kit (3Φ→1Φ)

1. Remove the Covers.

- a. Remove the Front Logic Box cover from the Front Logic Box. Refer to page INST03-20 in the Installation section in the main volume.
- b. Loosen the two screws and remove the cable duct cover.

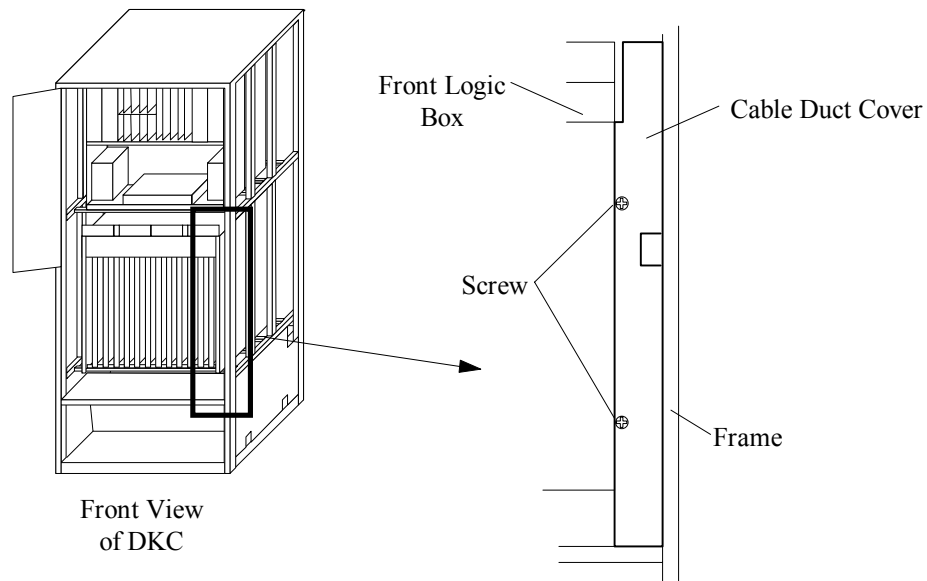


Fig. 3.22.3-1 Removal of Cable Duct Cover

2. Change the Dummy Plate.

- a. Open the repeat binder and remove the AC cable (P103-1 and P103-2).

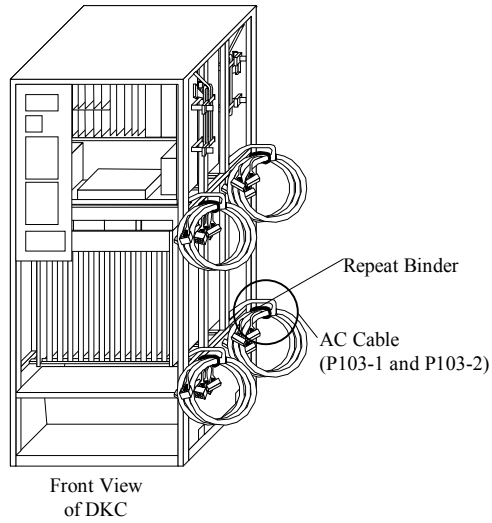


Fig. 3.22.3-2 Removal of AC Cable

- b. Remove the AC Cable from the cable duct.

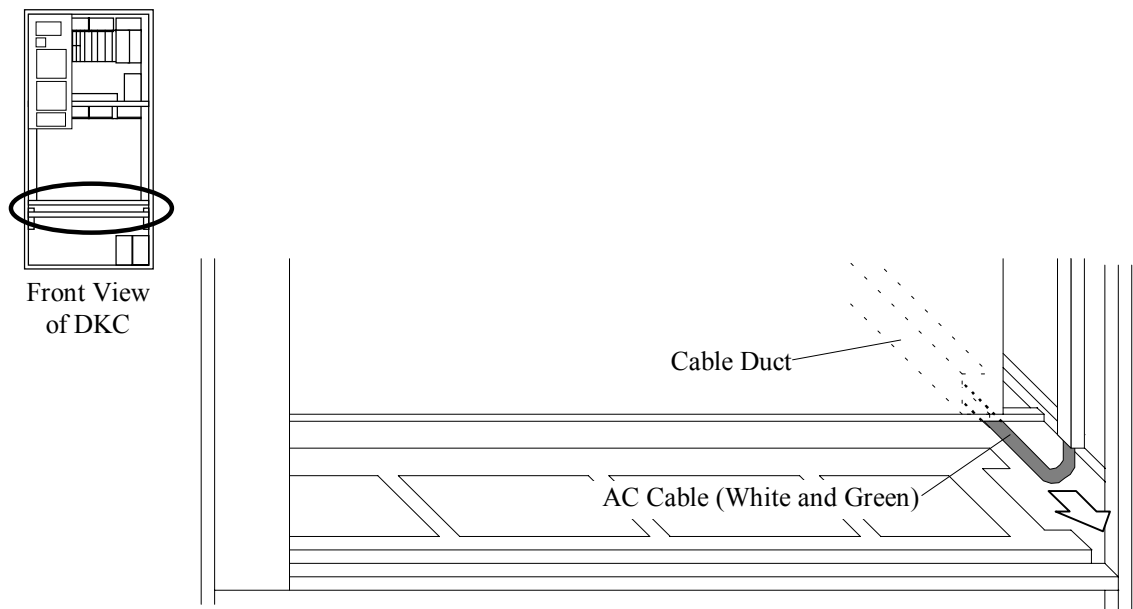


Fig. 3.22.3-3 Removal of AC Cable

- c. Bind the AC cable with repeat binders to prevent from sagging. Insert the extra cable to the cable duct.

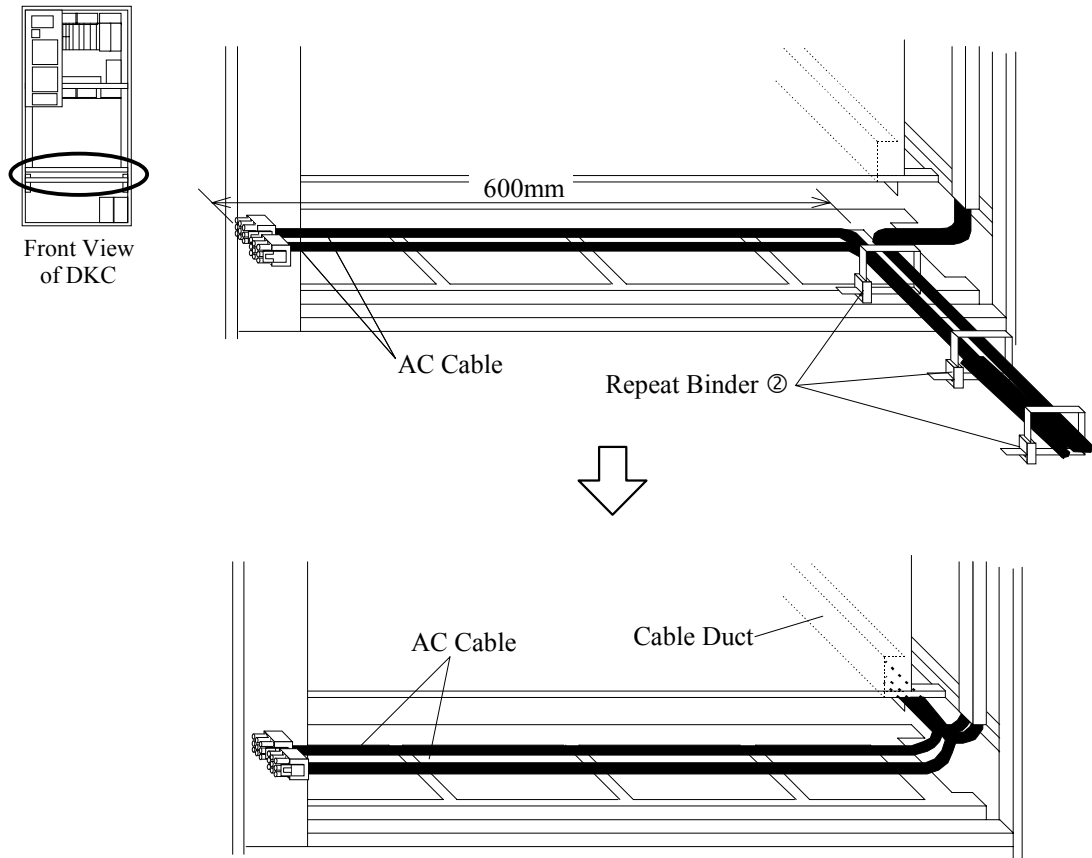


Fig. 3.22.3-4 Binding of Cable

- d. Remove the four screws and remove the dummy plate.

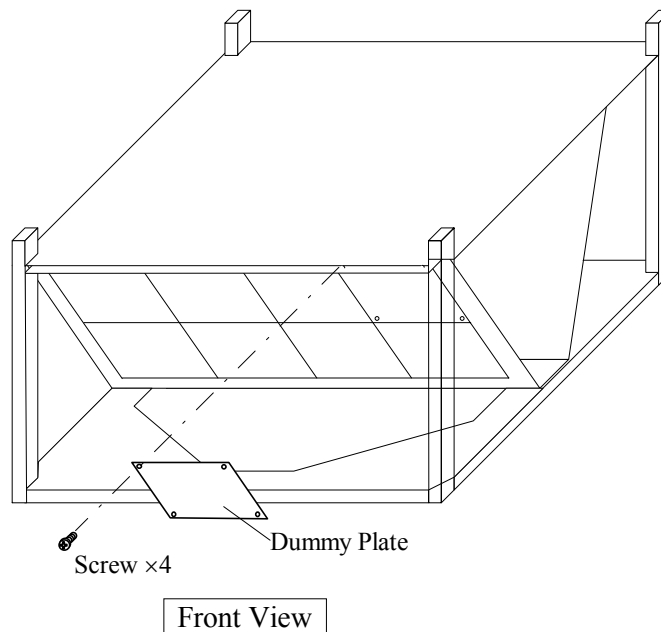


Fig. 3.22.3-5 Removal of Dummy Plate

e. Attach the repeat binder② to the dummy plate(AC).

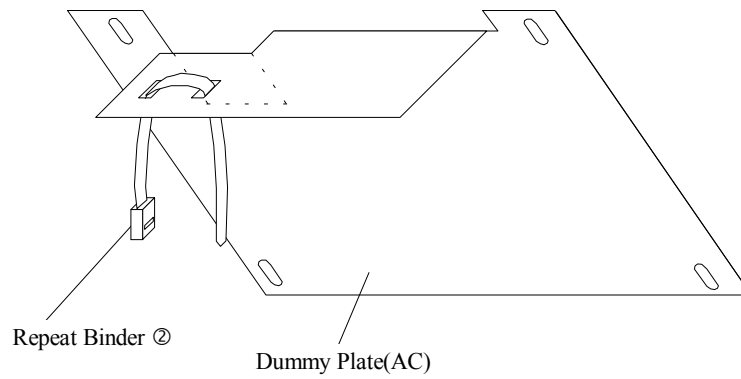


Fig. 3.22.3-6 Attachment of Repeat Binder

f. Attach the edging bush to the frame.

g. Pull out AC cable from cut out for cable and attach the dummy plate with the four screws.

h. Bind the AC cable with the repeat binder.

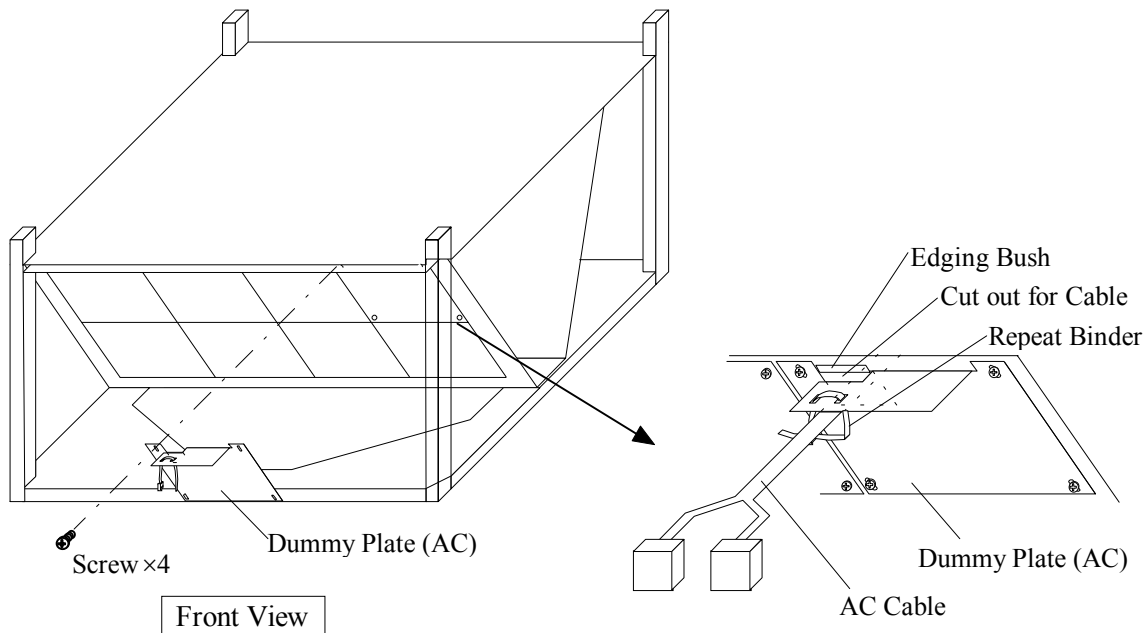


Fig. 3.22.3-7 Attachment of Dummy Plate

3. Attach the AC Boxes.

- a. Attach the AC Box cover and the two repeat binders to the AC Box base.

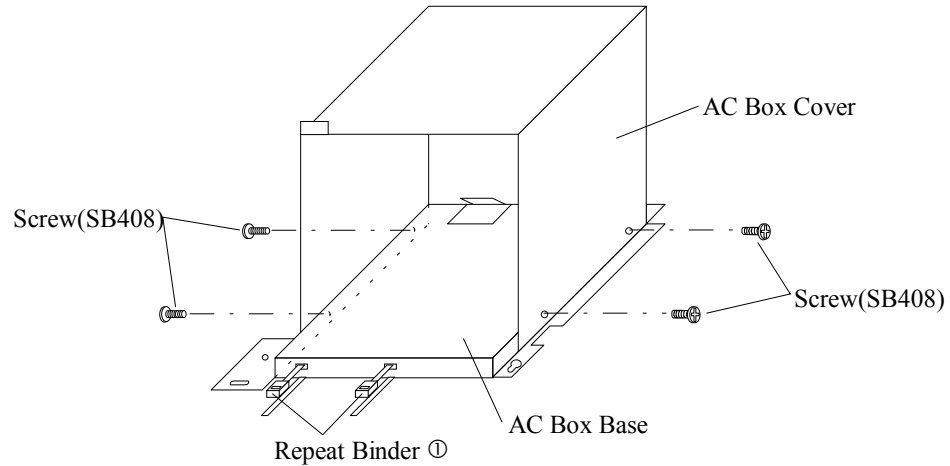


Fig. 3.22.3-8 Attachment of AC Box Cover

- b. Loosen the screw① and attach the AC Box base with the three screws.

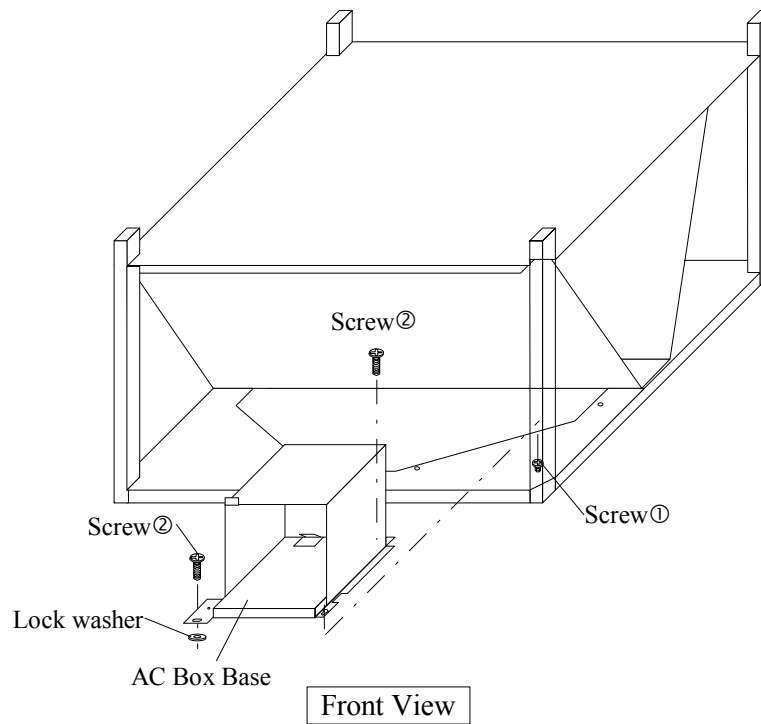


Fig. 3.22.3-9 Attachment of AC Box Base

c. Attach the two DKC AC Boxes to the AC Box base.

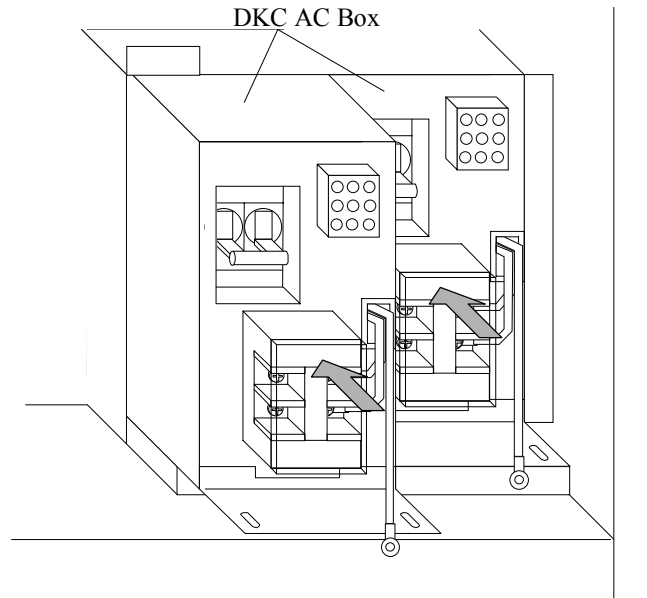


Fig. 3.22.3-10 Attachment of DKC AC Boxes

d. Fasten the six screws to DKC AC Boxes.

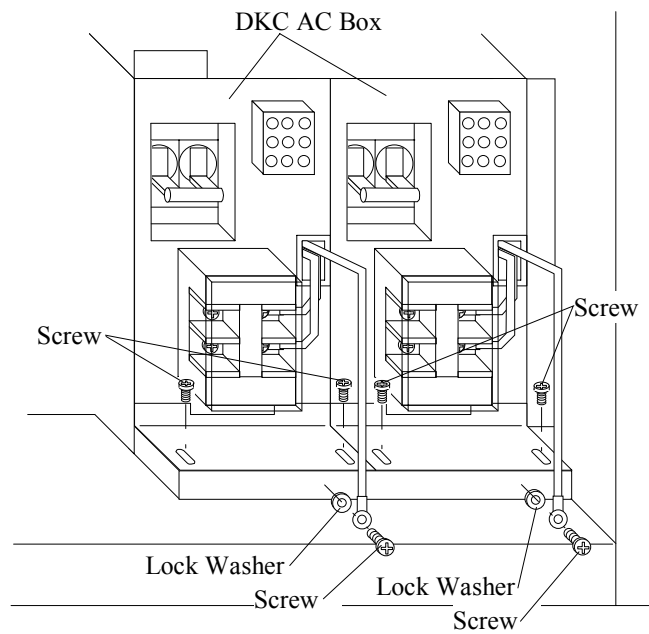
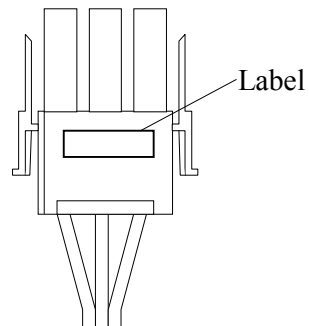


Fig. 3.22.3-11 Attachment of Screws

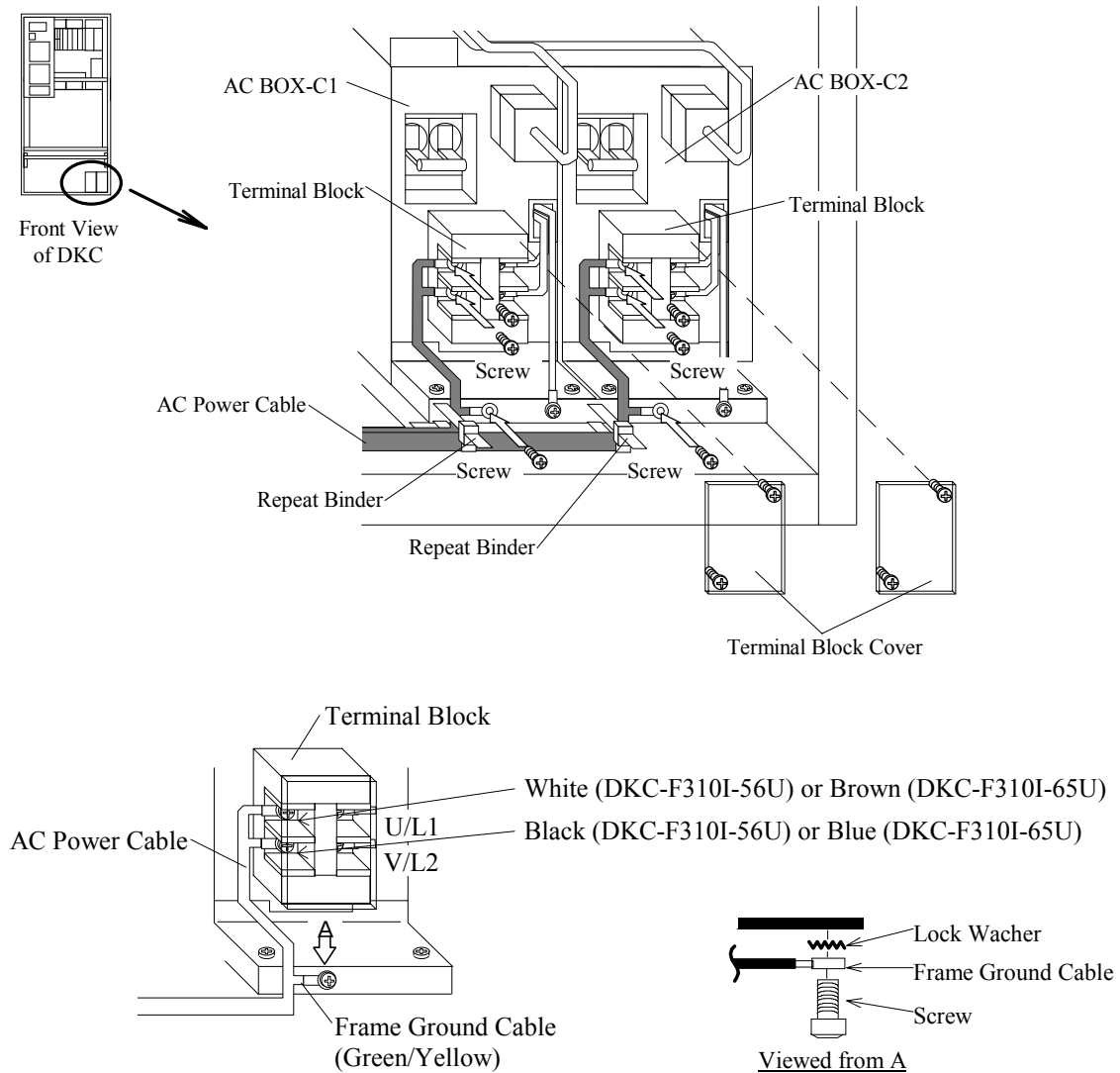
e. Remove the old labels from the cables and attach the new labels.



Cable	Old Label	New Label	Remarks
1	P103-1	→ P250-1	
2	P103-2	→ P250-2	

Fig. 3.22.3-12 Exchange of Labels

- b. Loosen the four screws and remove the terminal block covers.
- c. Attach the AC power cables to AC Boxes with the six screws.
- d. Attach the terminal block covers to AC Boxes and fasten the four screws.
- e. Fasten the two repeat binders.



Connection of AC Power Cable			
Letters indicated on the terminal block	Connecting LINE	Cable Color	
		DKC-F310I-56U	DKC-F310I-65U
U/L1	Phase U	White	Brown
V/L2	Phase V	Black	Blue

Fig. 3.22.3-15 Attachment of AC Power Cables

5. Attach the Nameplate and Labels

- a. Attach the Caution labels ① through ③.
- b. Remove the nameplate and attach the new nameplate.

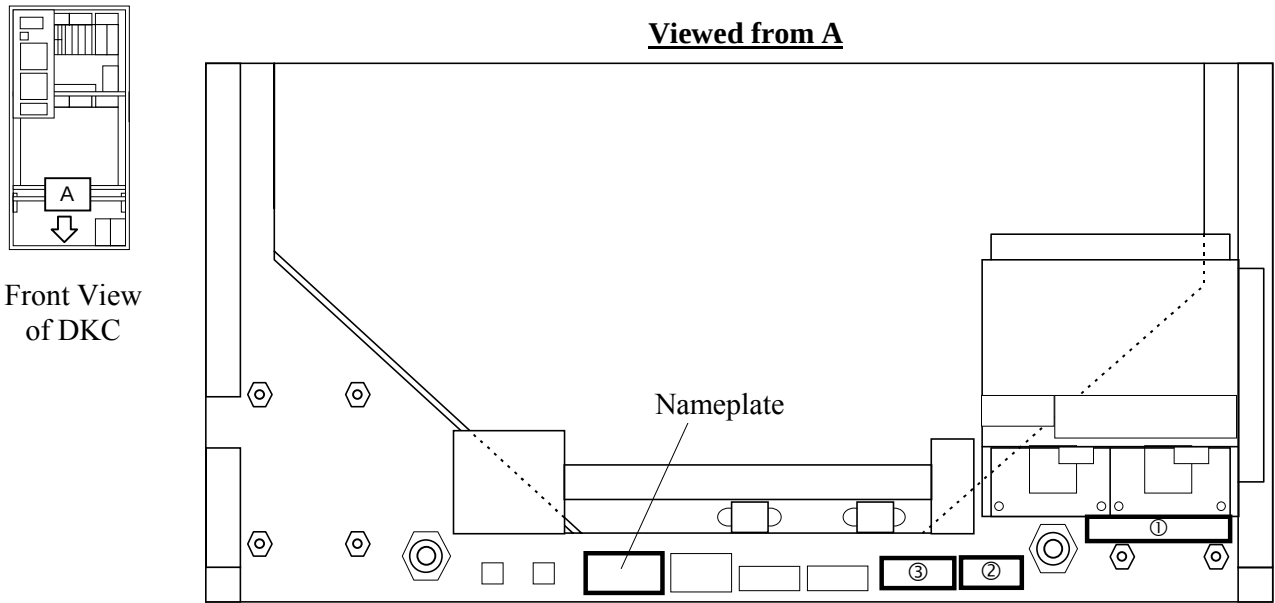


Fig. 3.22.3-16 Attachment of Caution Labels

c. Remove the labels.

DKC-F310IU-31U/31UP

c-1 Remove the label (IN) and label (CE).

DKC-F310IE-31U/31IP

c-1 Remove the label (FCC).

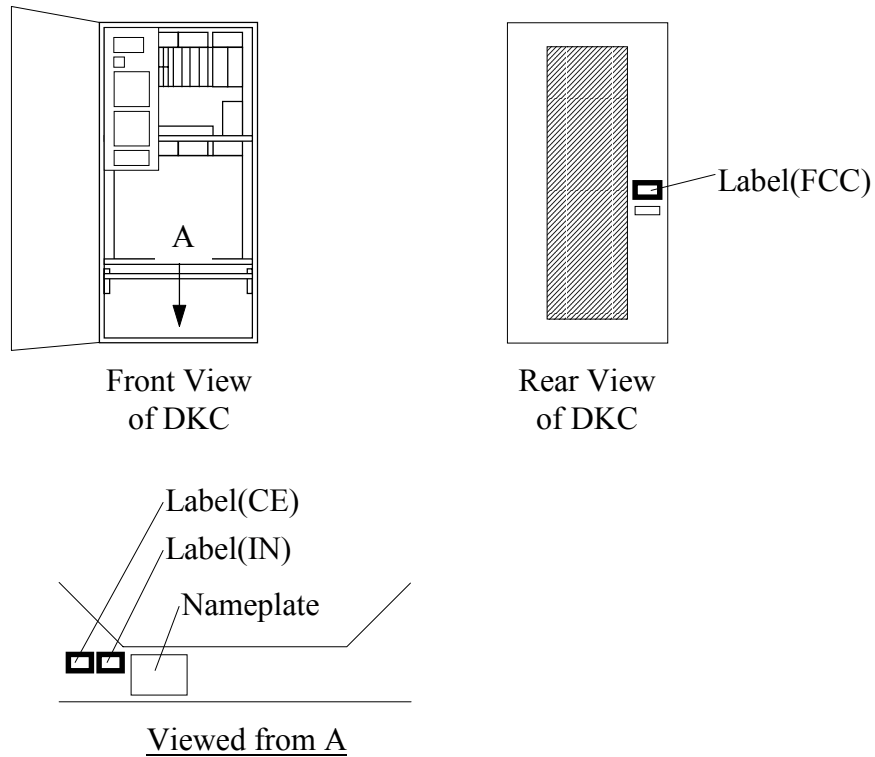


Fig. 3.22.3-17 Removal of Labels

d. Attach the cable duct cover and fasten the two screws. Refer to Fig 3.22.3-1.

e. Attach the Front Logic Box cover to the Front Logic Box. Refer to page INST03-20 in the Installation Section in the main volume.

3.23 Installation of Phase Conversion Kit (1Φ→3Φ) (DKC-F310IU/IE-13U, DKC-F310IU/IE-13UP)

3.23.1 Parts list

Table 3.23-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310IU-13U DKC-F310IU-13UP	Label	3257223-1	2	P103-1, P103-2
		Label (IN)	3228038-1	1	
		Label (CE)	3240543-1	1	
		Dummy Plate	5500112-1	1	
		Nameplate	3252541-1 3254783-1	1	For DKC-F310IU-13U For DKC-F310IU-13UP
2	DKC-F310IE-13U DKC-F310IE-13UP	Label	3257223-1	2	P103-1, P103-2
		Label (FCC)	3183097-1	1	
		Dummy Plate	5500112-1	1	
		Nameplate	3252541-1 3254783-1	1	For DKC-F310IE-13U For DKC-F310IE-13UP

3.23.2 Flowchart

(1) Remove the Covers.	↓
(2) Remove the Power Cable Unit.	↓
(3) Remove the DKC AC Boxes.	↓
(4) Change the Dummy Plate.	↓
(5) Remove the Nameplate and Labels	

3.23.3 Installation Procedure of Phase Conversion Kit (1 Φ →3 Φ)

1. Remove the Covers.

- Remove the Front Logic Box cover from the Front Logic Box. Refer to page INST03-20 in the Installation Section in the main volume.
- Loosen the two screws and remove the cable duct cover.

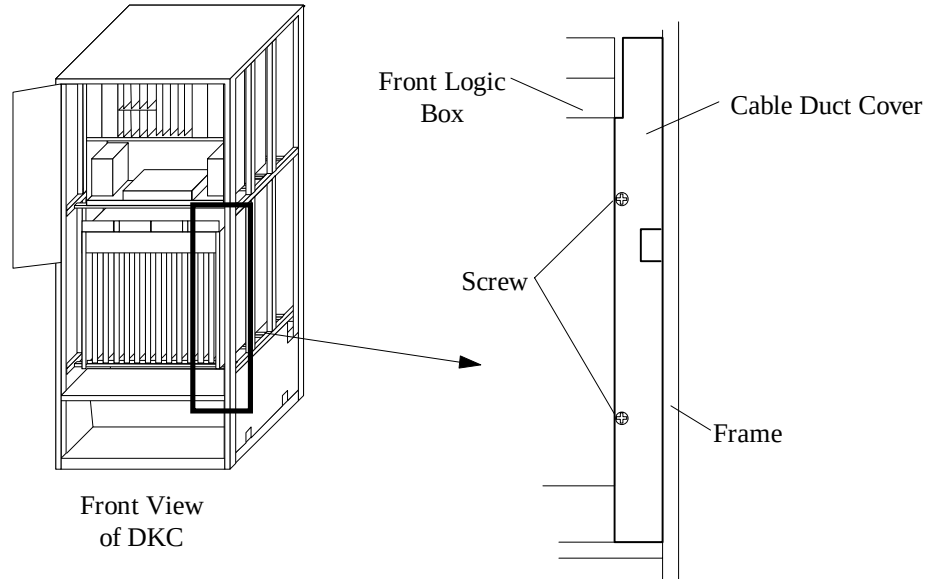


Fig. 3.23.3-1 Removal of Cable Duct Cover

2. Remove the Power Cable Unit.

- Open the two repeat binders.
- Loosen the four screws and remove the terminal block covers.
- Remove the six screws and remove the AC power cables from DKC AC Boxes.
- Attach the terminal block covers to DKC AC Boxes and fasten the four screws.

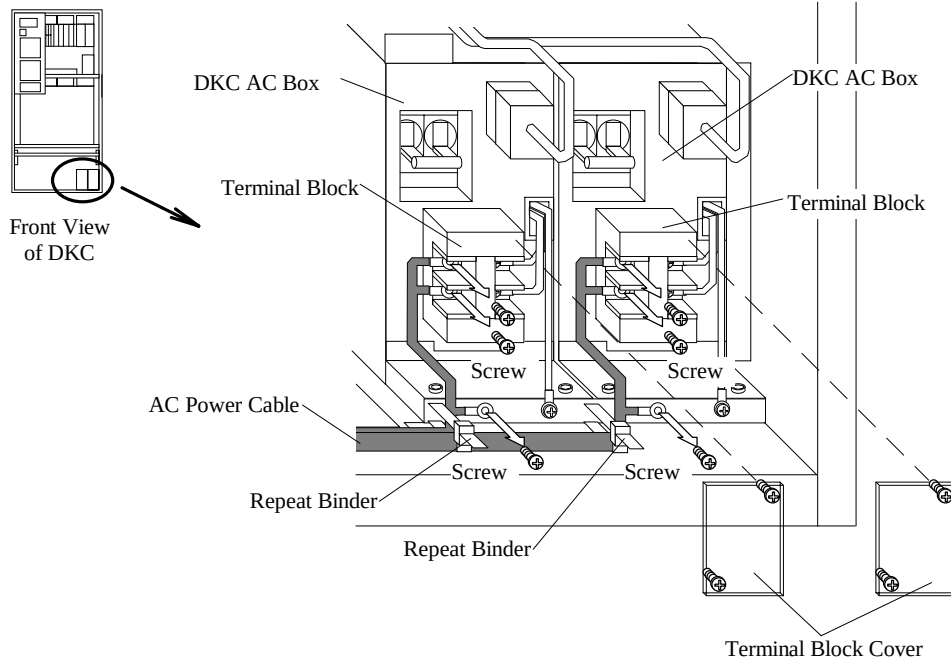


Fig. 3.23.3-2 Removal of AC Power Cables

- e. Loosen the three screws and remove the Power Cable Unit.

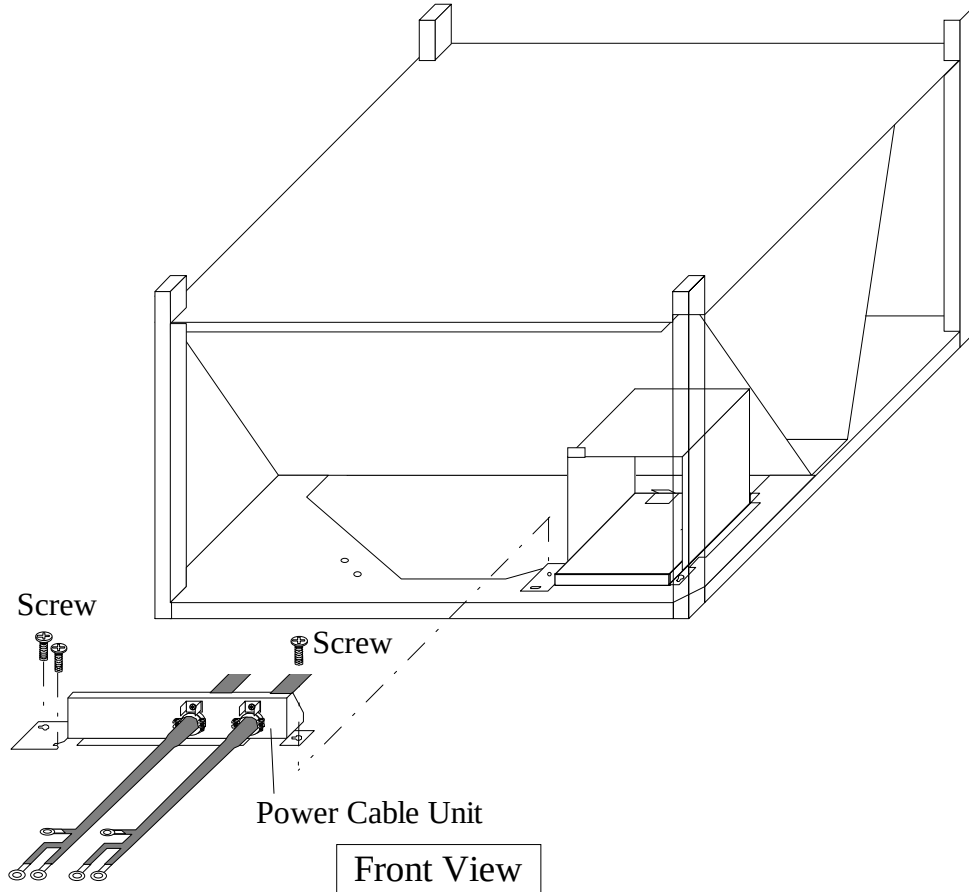


Fig. 3.23.3-3 Removal of Power Cable Unit

3. Remove the DKC AC Boxes.

- a. Disconnect the cables (P250-1 and P250-2) from the DKC AC Boxes.

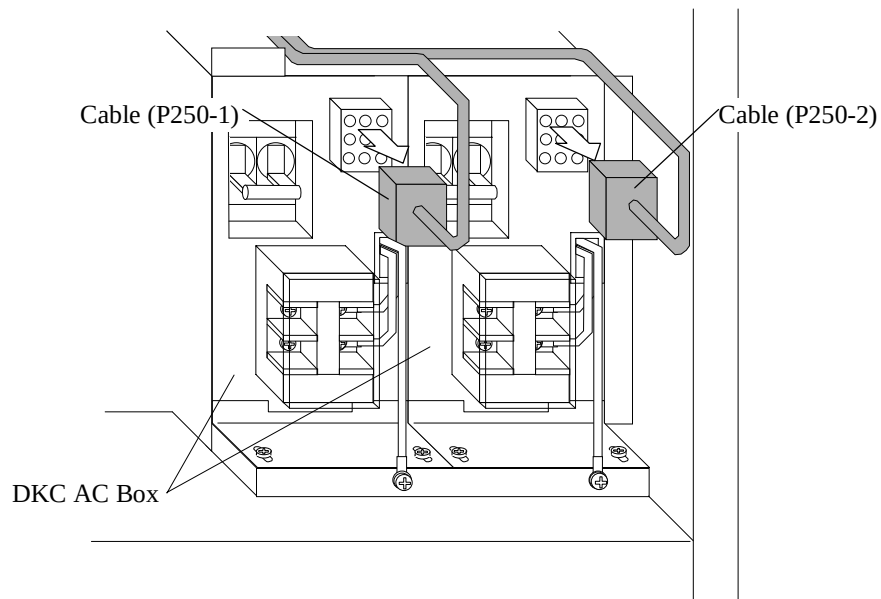


Fig. 3.23.3-4 Disconnection of Cables

b. Remove the six screws from DKC AC Boxes.

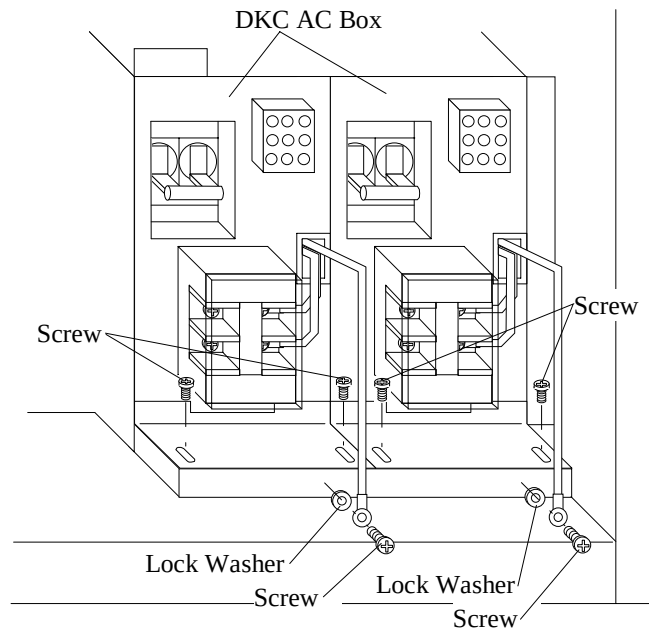


Fig. 3.23.3-5 Removal of Screws

c. Remove the two DKC AC Boxes from the AC Box base.

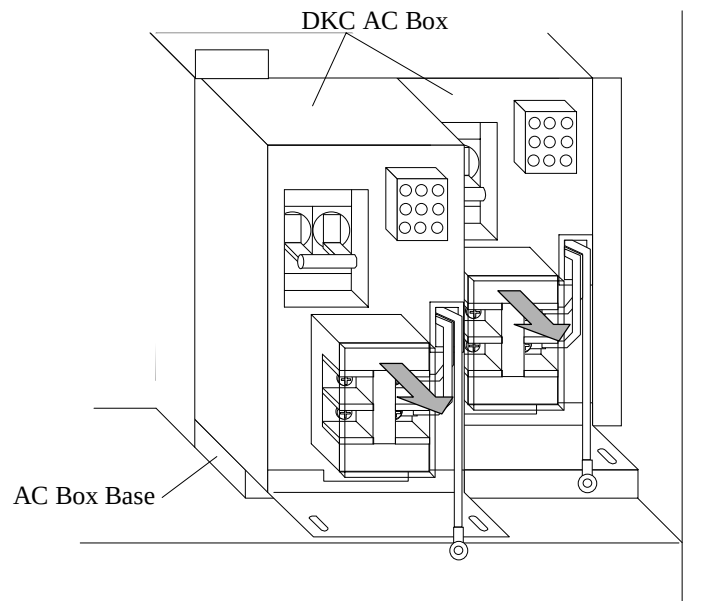


Fig. 3.23.3-6 Removal of DKC AC Boxes

d. Loosen the screw① and remove the two screws ②. Remove the AC Box base.

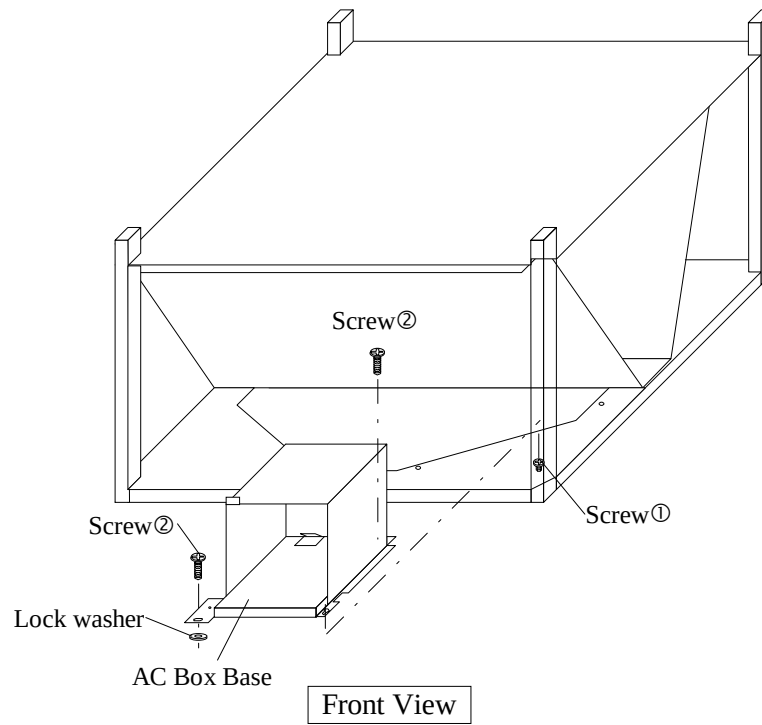


Fig. 3.23.3-7 Removal of AC Box Base

- e. Remove the two repeat binder from the AC Box base. Remove the four screws and the AC Box cover from AC Box base.

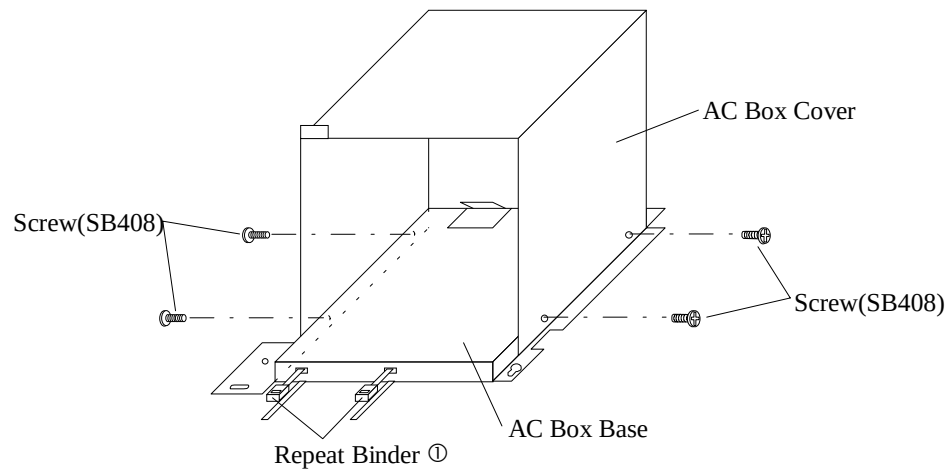
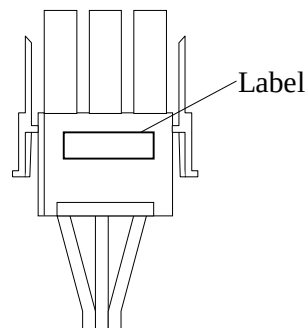


Fig. 3.23.3-8 Removal of AC Box Cover

- f. Remove the old labels from the cables and attach the new labels.



Cable	Old Label	New Label	Remarks
1	P250-1	→ P103-1	
2	P250-2	→ P103-2	

Fig. 3.23.3-9 Exchange of Labels

4. Change the Dummy Plate.

- a. Open the repeat binder. Remove the four screws and the dummy plate (AC).
- b. Remove the edging bush.

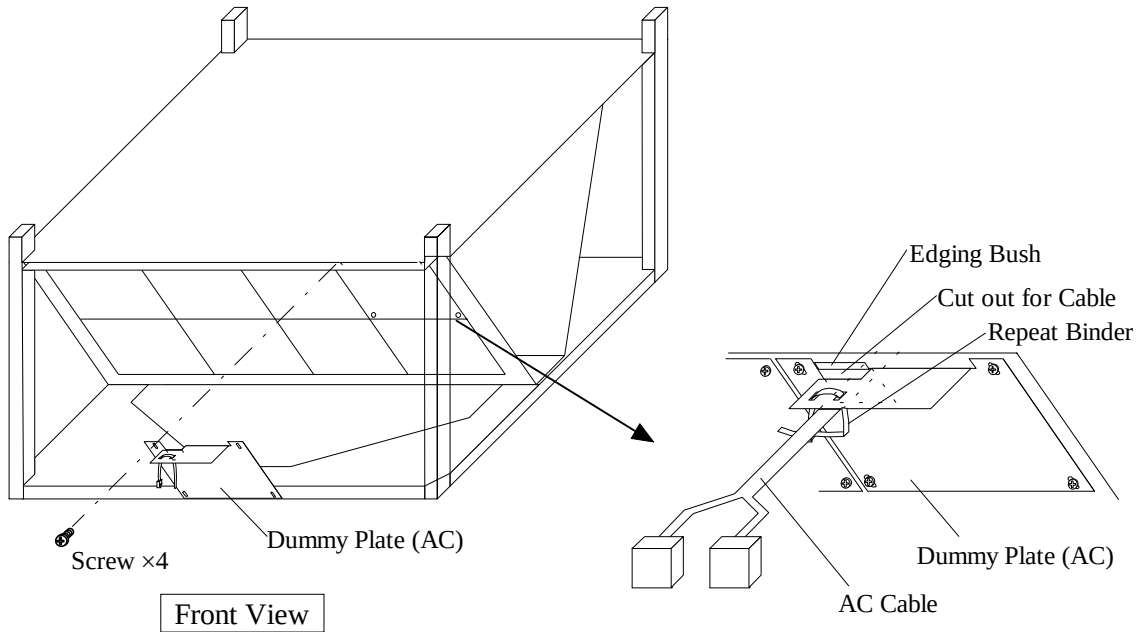


Fig. 3.23.3-10 Removal of Dummy Plate

- c. Remove the repeat binder from the dummy plate(AC).

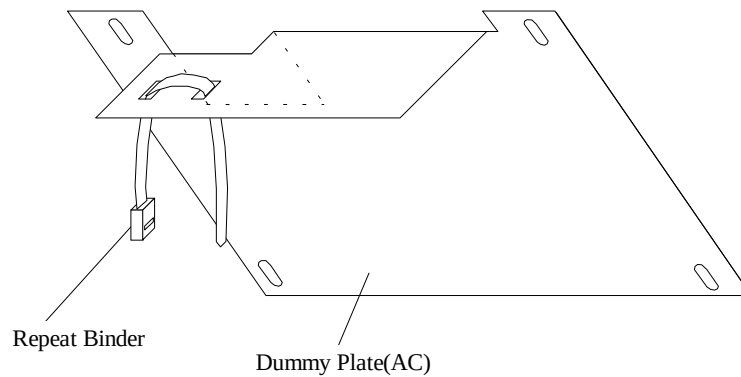


Fig. 3.23.3-11 Removal of Repeat Binder

d. Remove the AC cable from the cable duct. Remove the three repeat binders.

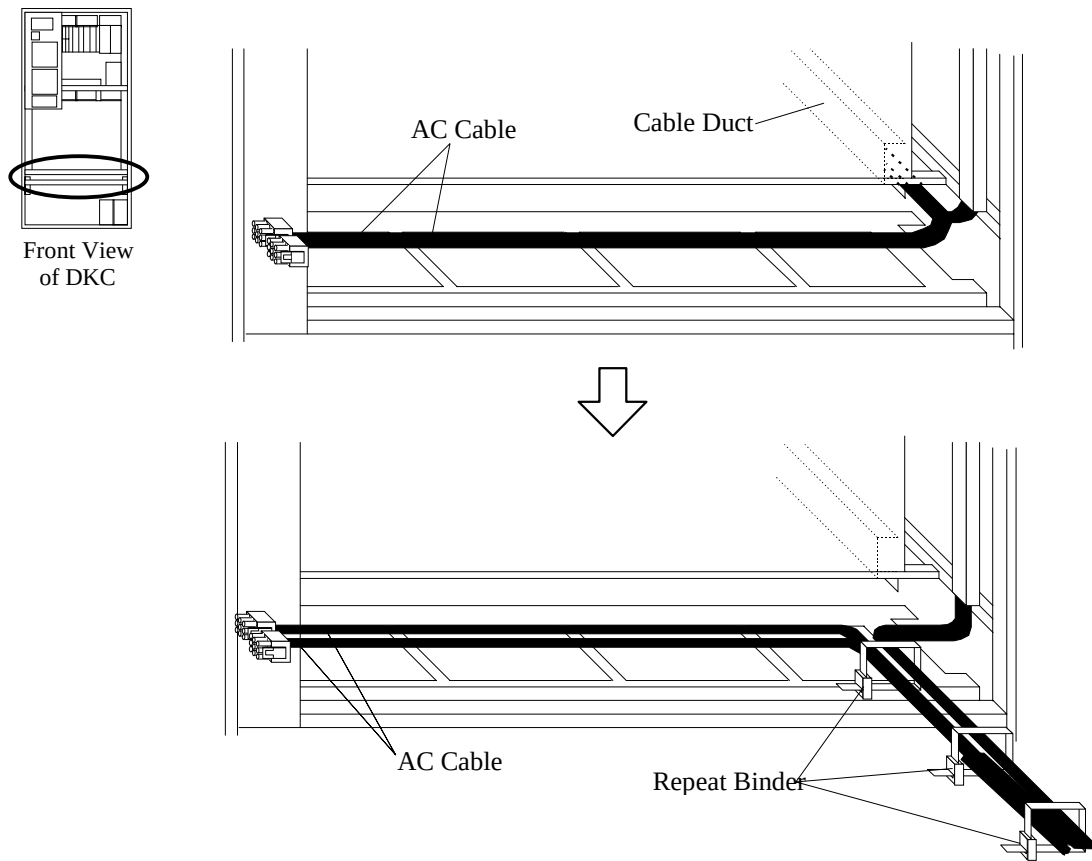


Fig. 3.23.3-12 Removal of AC Cable

e. Attach the dummy plate with the four screws.

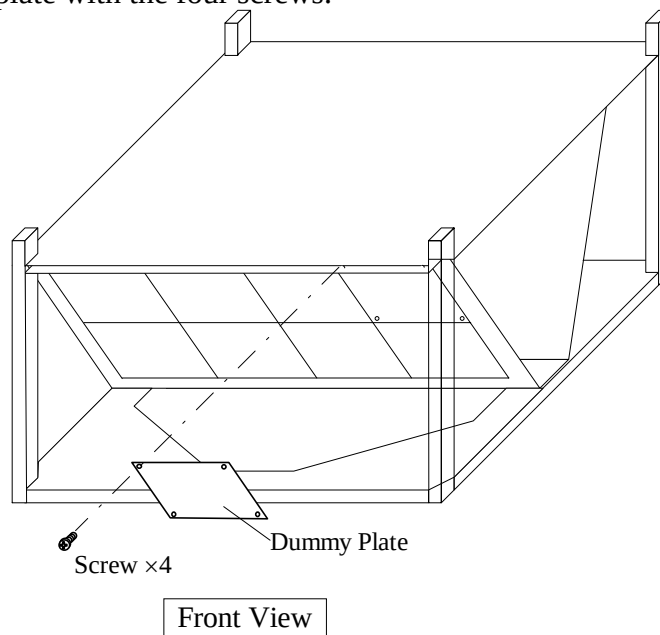


Fig. 3.23.3-13 Removal of Dummy Plate

f. Insert the AC Cables to the cable duct.

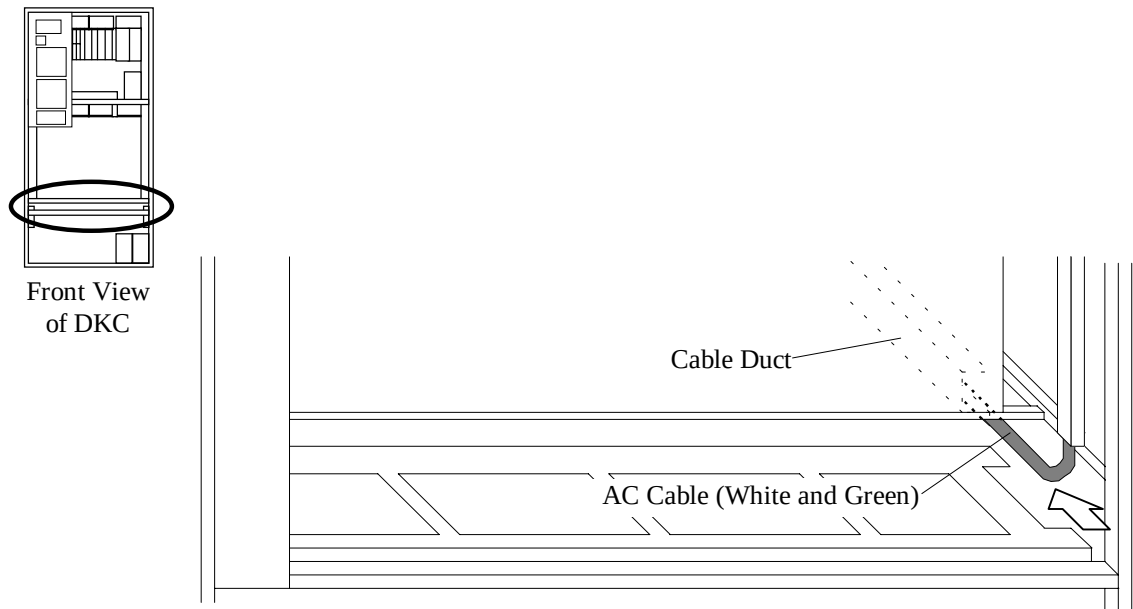


Fig. 3.23.3-14 Insertion of AC Cable

g. Bind the AC cable (P103-1 and P103-2) with the repeat binder.

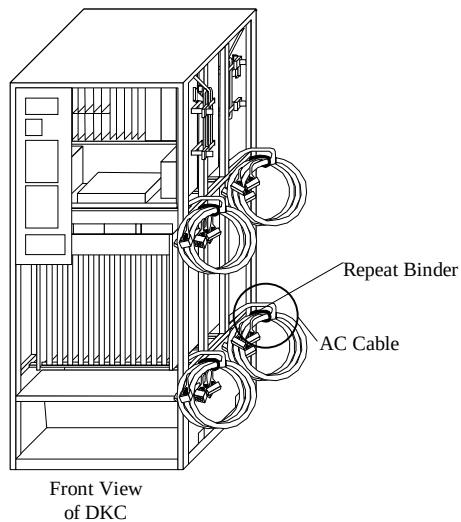


Fig. 3.23.3-15 Binding of AC Cable

5. Remove the Nameplate and Labels

- a. Remove the Caution labels ① through ③.
- b. Remove the nameplate and attach the new nameplate.

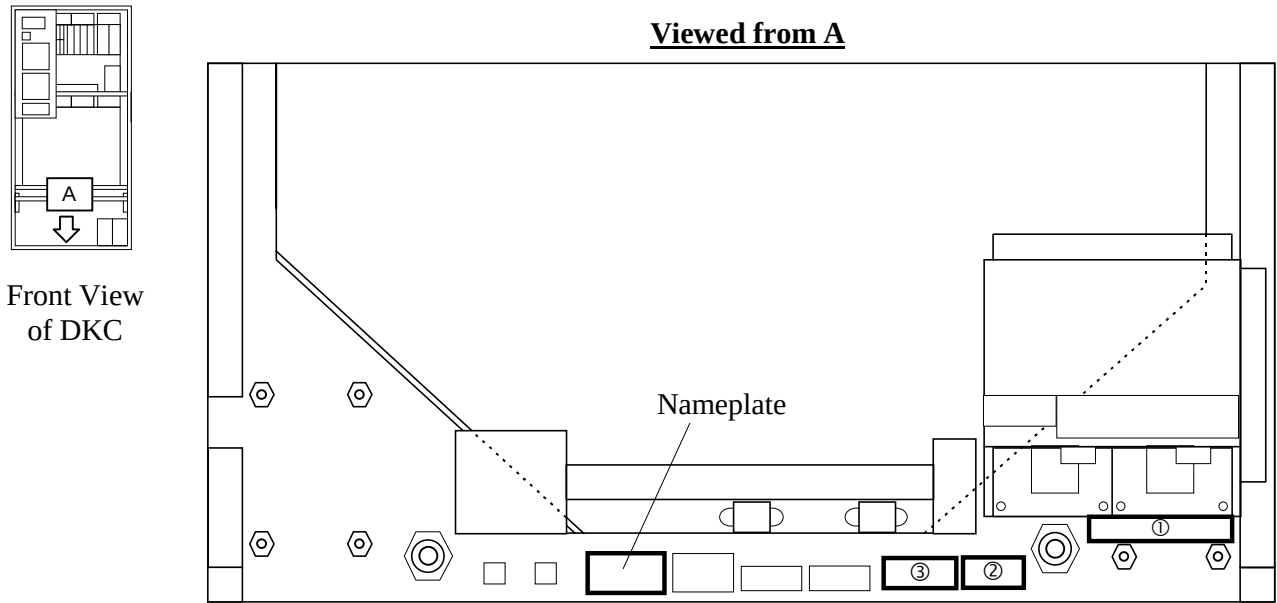


Fig. 3.23.3-16 Attachment of Caution Labels

- c. Remove the labels.

DKC-F310IU-31U/31UP

- c-1 Remove the label (IN) and label (CE).

DKC-F310IE-31U/31UP

- c-1 Remove the label (FCC).

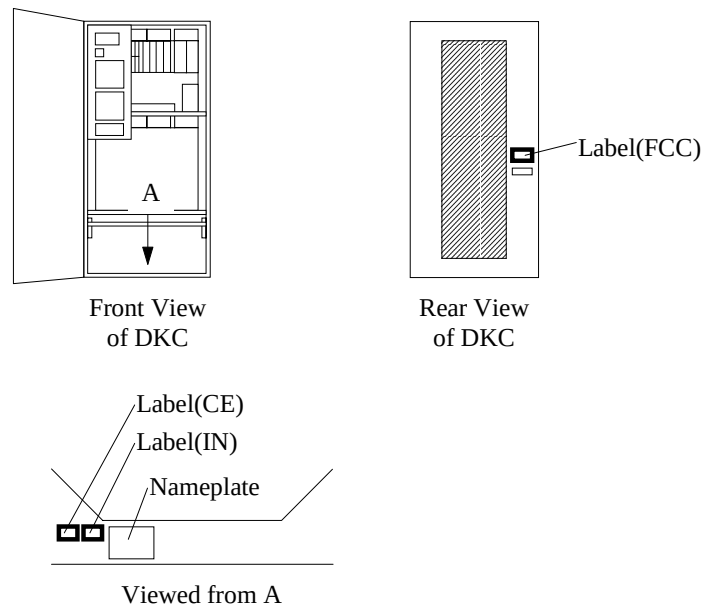


Fig. 3.23.3-17 Removal of Labels

- d. Attach the cable duct cover and fasten the two screws. Refer to Fig. 3.23.3-1.
- e. Attach the Front Logic Box cover to the Front Logic Box. Refer to page INST03-20 in the Installation Section in the main volume.

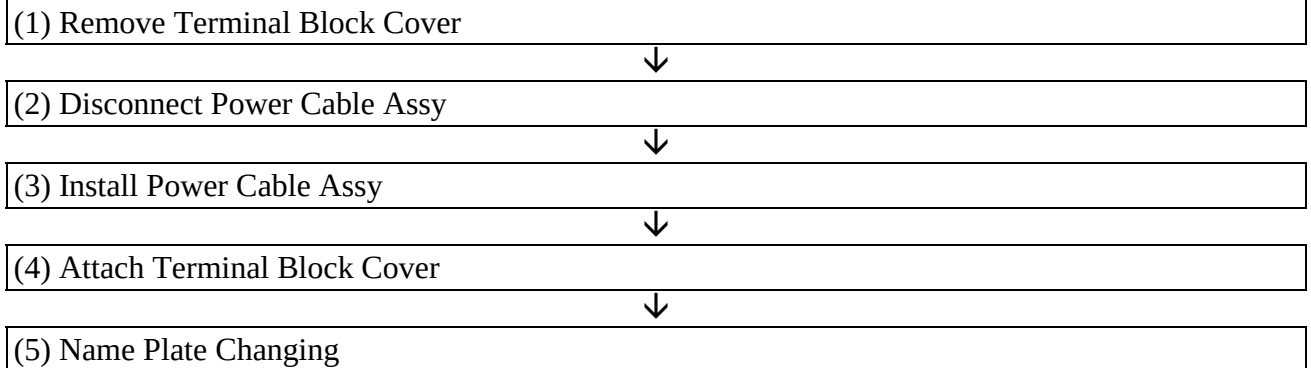
3.24 Installation of Hz Conversion Kit (DKU-F305I-56U/65U)

3.24.1 Parts list

Table 3.24-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F305I-56U	Power Cable Assy (IU type)	3255667-A	1	
		Nameplate (IU)	2099649-20	1	
		Label (V. Hz)	3213180-1	1	
		Label (CSA)	5409086-1	1	
		Label Noise (FCC/CSA)	3183097-1	1	
		Label (UL/CUL)	3243606-3	1	
2	DKU-F305I-65U	Power Cable Assy (IE type)	3255667-B	1	
		Nameplate (IE)	2099649-21	1	
		Label (V. Hz)	3213180-1	1	
		Label (CSA)	5409086-1	1	
		Label (IN)	3228038-1	1	
		Label (UL3)	5466323-1	1	
		Label (CE Mark)	3240543-1	1	

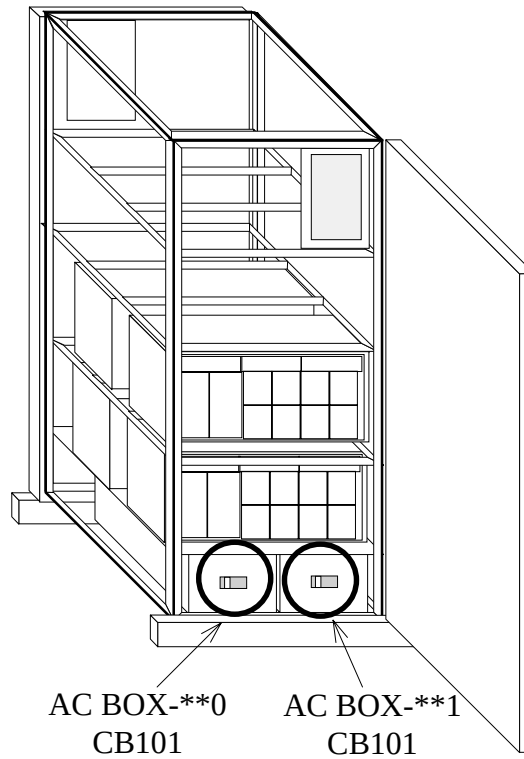
3.24.2 Flowchart



3.24.3 Installation Procedure of Hz Conversion Kit

! CAUTION

Perform The Hz Conversion with care.
 This Hz Conversion is concerned with Primary Circuit.
 Perform this procedure before connecting the Power Cable Assy.
 (Turn off the circuit breakers on the power distribution panel)
 Turn off the main circuit breaker CB101 located in the AC Box.



Front View

Fig. 3.24.3-1 Location of the Disk Unit Circuit Breakers

Table 3.24.3-1 Disk Unit Circuit Breakers

No.	Location No.	Breaker No.	Remarks
1	AC BOX-**0	CB101	
2	AC BOX-**1	CB101	

1. Remove the fall proof adapter (only for rear side).

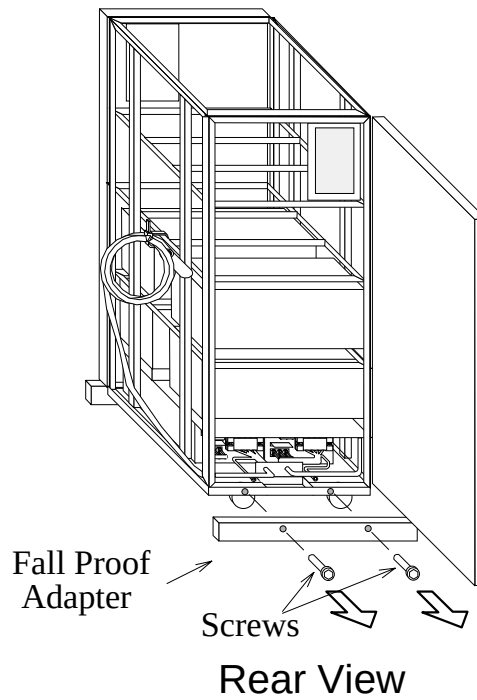


Fig. 3.24.3-2 Removal of Fall Proof Adapter

2. Remove the plate of the back side of the Disk Unit as illustrated in fig. 3.24.3-2.
 - a. Remove the two screws.
 - b. Slide the plate toward the rear side to remove.

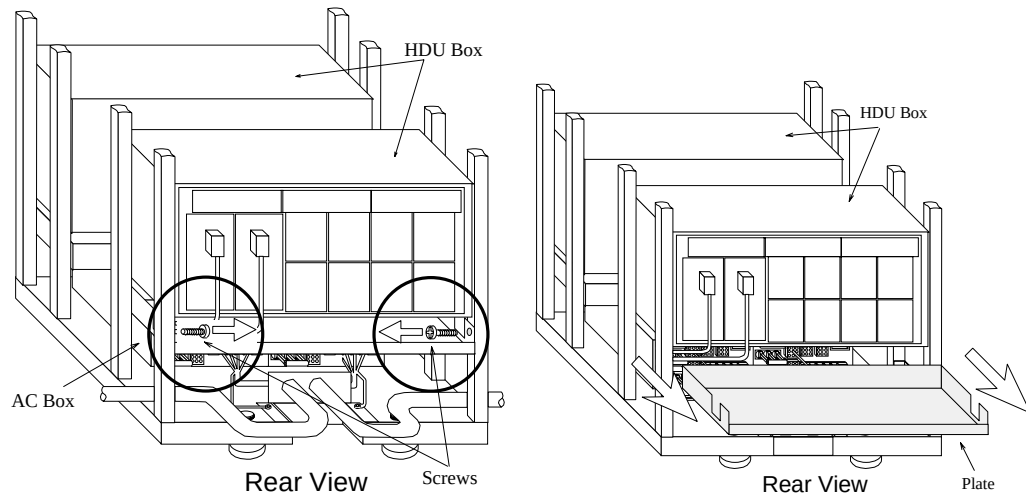


Fig. 3.24.3-3 Removal of Plate

3. Remove the terminal block cover and disconnect the power cable Assy.

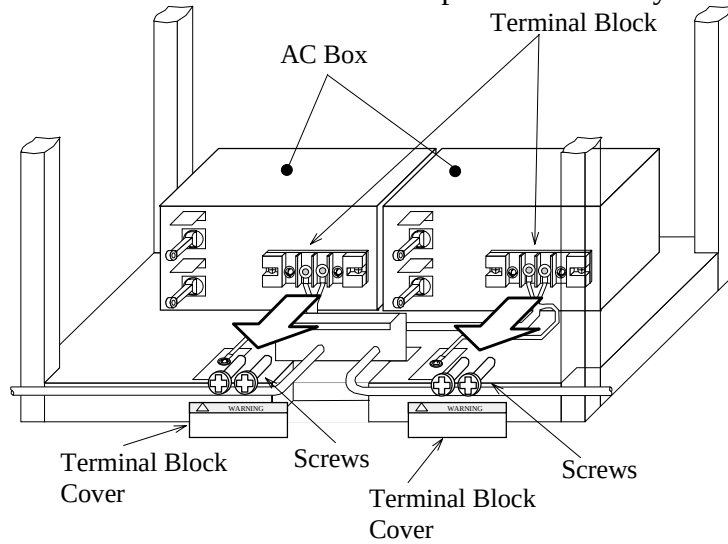


Fig. 3.24.3-4 Removal of Power Cable Assy

4. Remove the frame ground cable for each input power cable from the frame.

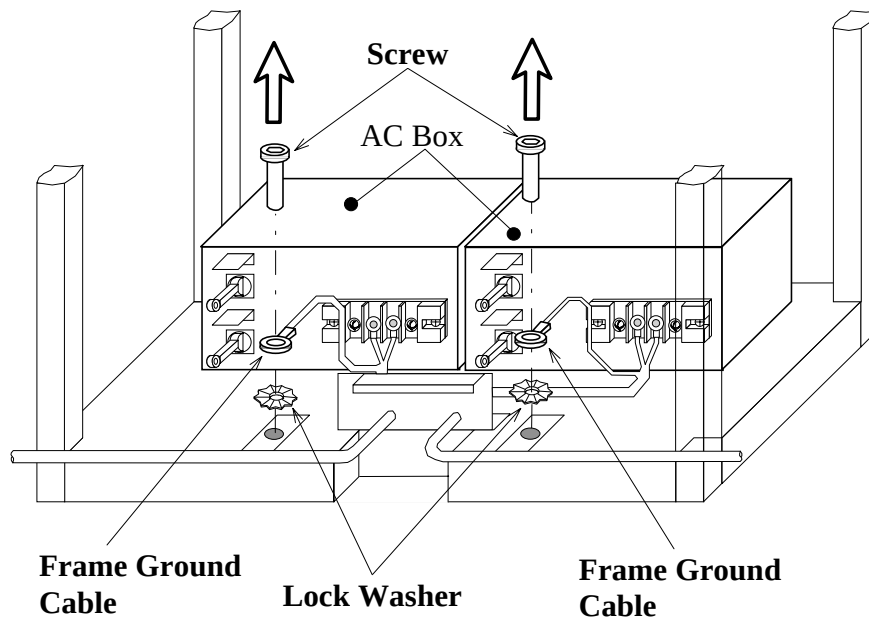


Fig. 3.24.3-5 Removal of Frame Ground Cable

5. Loosen the screws and remove the Power Cable Assy.

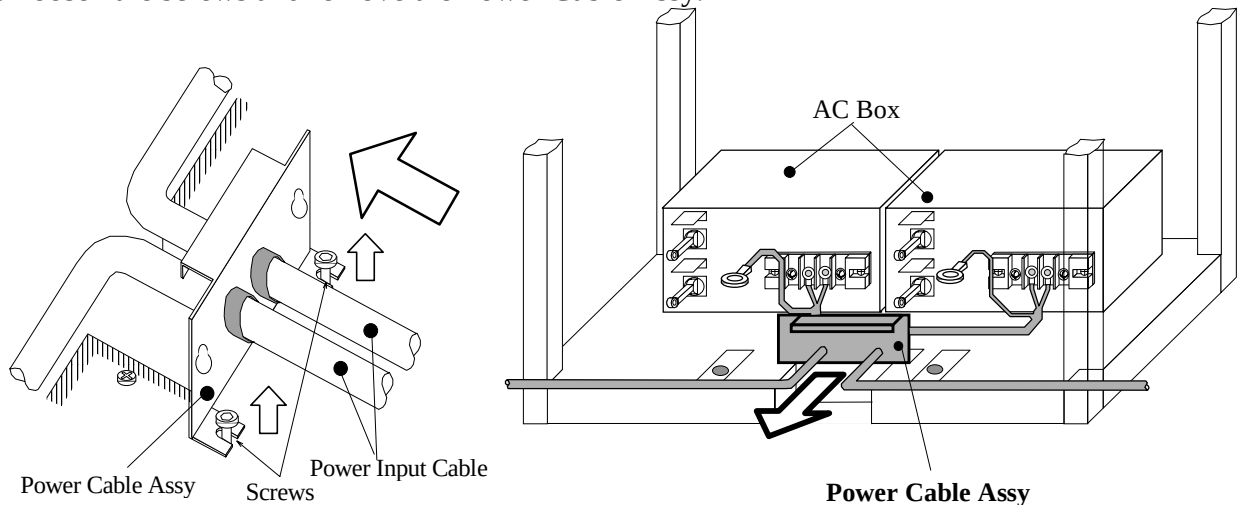


Fig. 3.24.3-6 Removal of Power Cable Assy

6. Attach the Power Cable Assy and secure two screws.

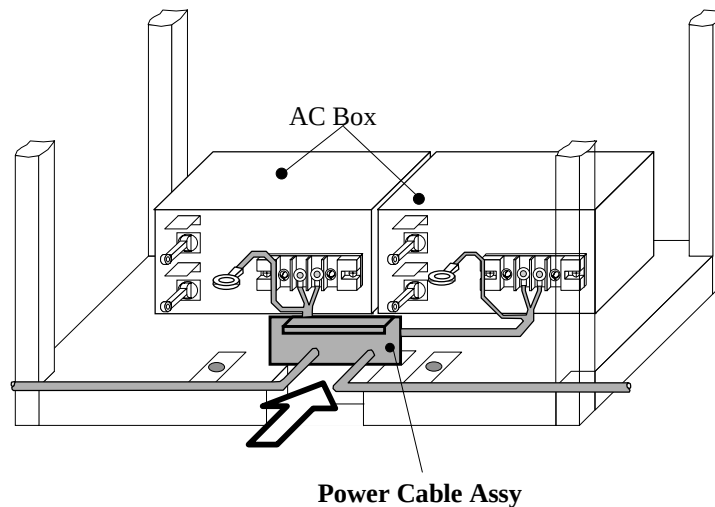


Fig. 3.24.3-7 Installation of Power Cable Assy

7. Attach frame ground cable with the screw and lock washer.

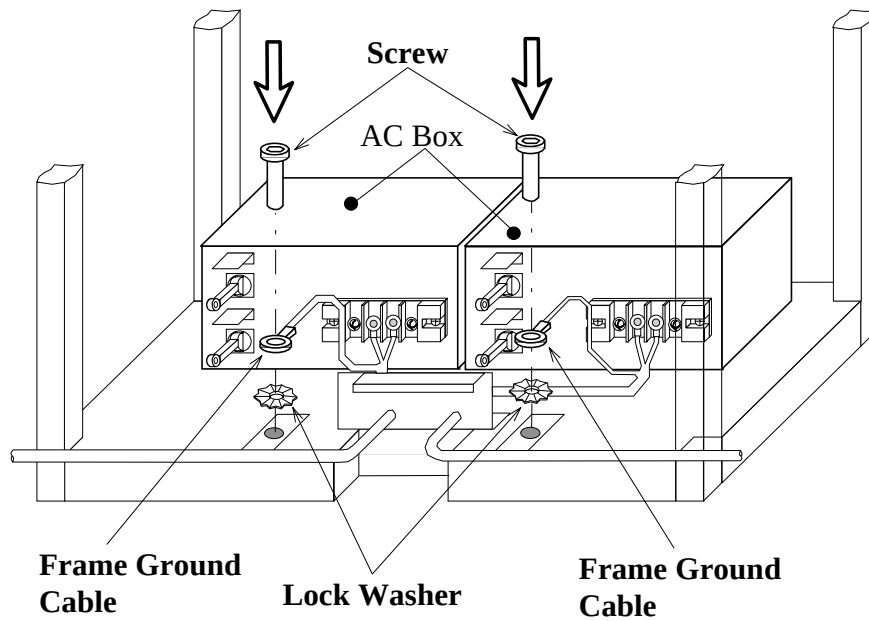


Fig. 3.24.3-8 Attachment of Frame Ground Cable

8. Connect the input power cables to the terminal block and attach terminal block cover.

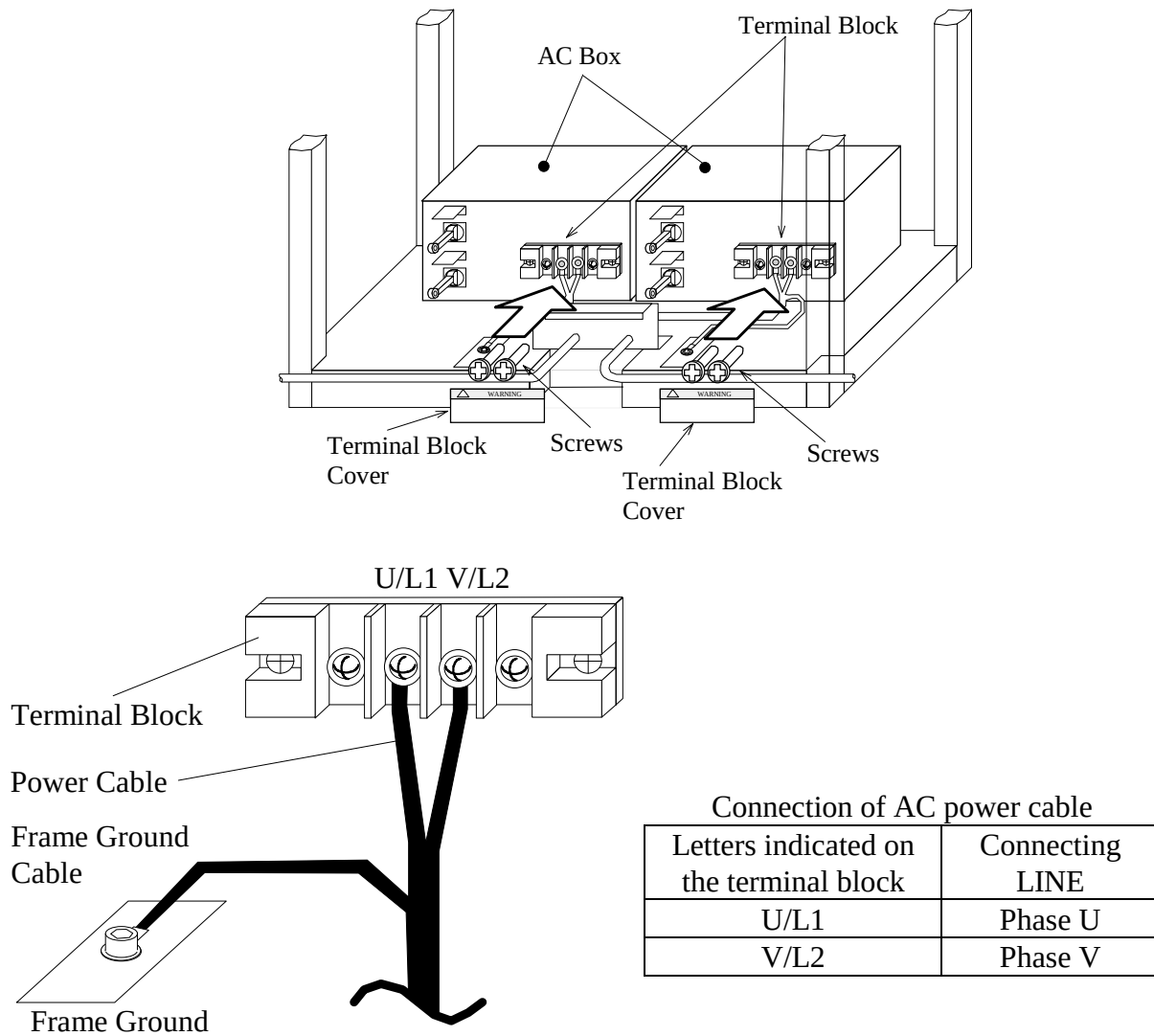


Fig. 3.24.3-9 Connection of Input Power Cables to the Terminal Block

9. Re-Install the plate.

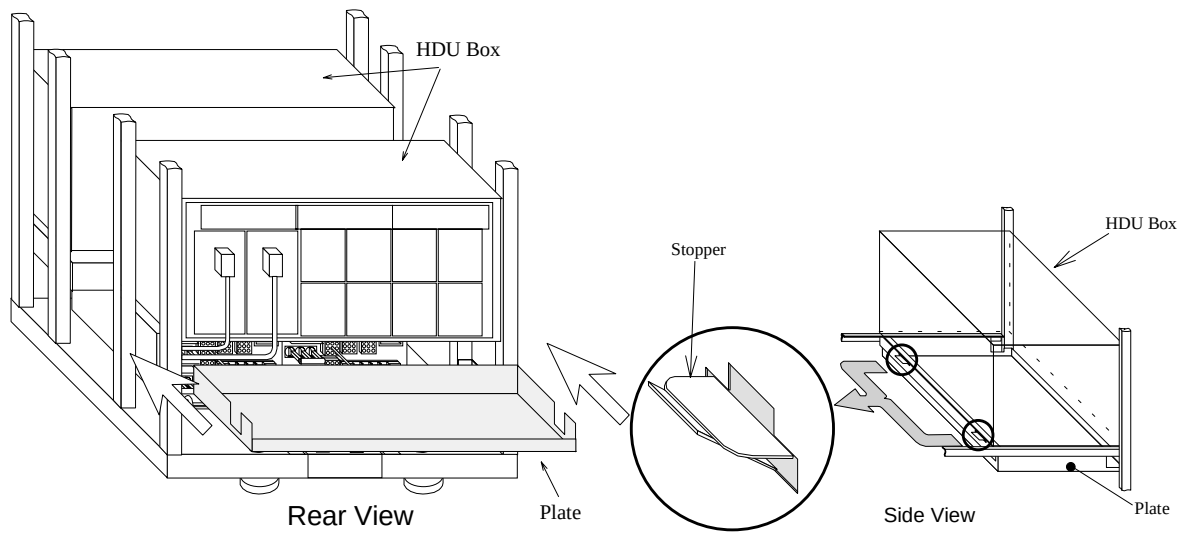


Fig. 3.24.3-10 Attachment of Plate

10. Secure the plate with screws.

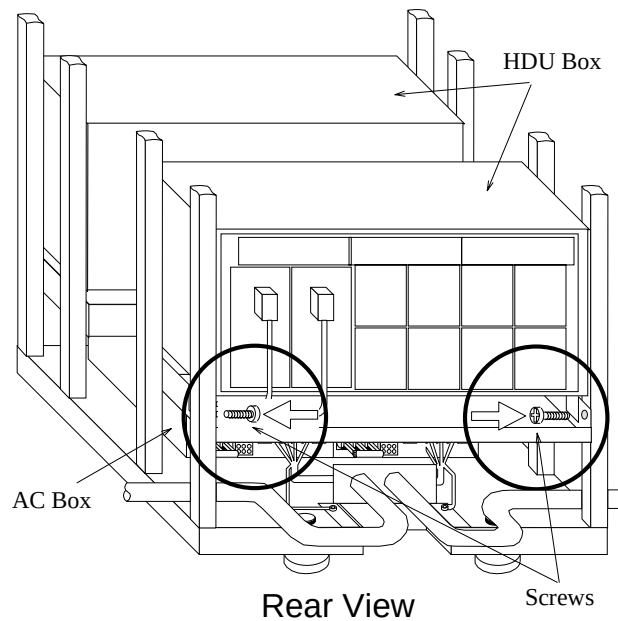


Fig. 3.24.3-11 Attachment of Plate

11. Change the Nameplate.

Refer to Fig. 3.24.3-12 and Fig. 3.24.3-13 “Location of Nameplate and Labels”.

DKU-F305I-56U

- Change the Nameplate , Label (V. Hz) and Label (CSA).
Engrave the manufacturing number and so forth on the new nameplate and labels.
- Remove the Label (IN), Label (CE Mark) and Label (UL3).
- Put the Label (UL/CUL) and Label Noise (FCC/CSA).

DKU-F305I-65U

- Change the Nameplate , Label (V. Hz) and Label (CSA).
Engrave the manufacturing number and so forth on the new nameplate and labels.
- Remove the Label (UL/CUL) and Label Noise (FCC/CSA).
- Put the Label (IN), Label (CE Mark) and Label (UL3).

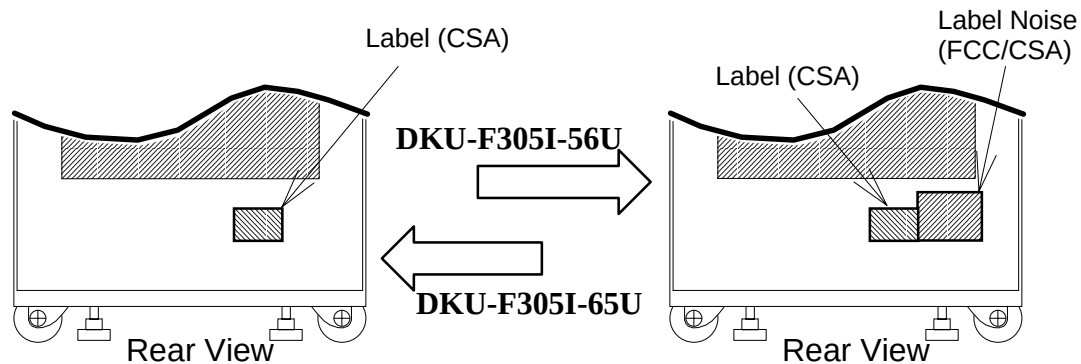


Fig. 3.24.3-12 Location of Nameplate and Labels

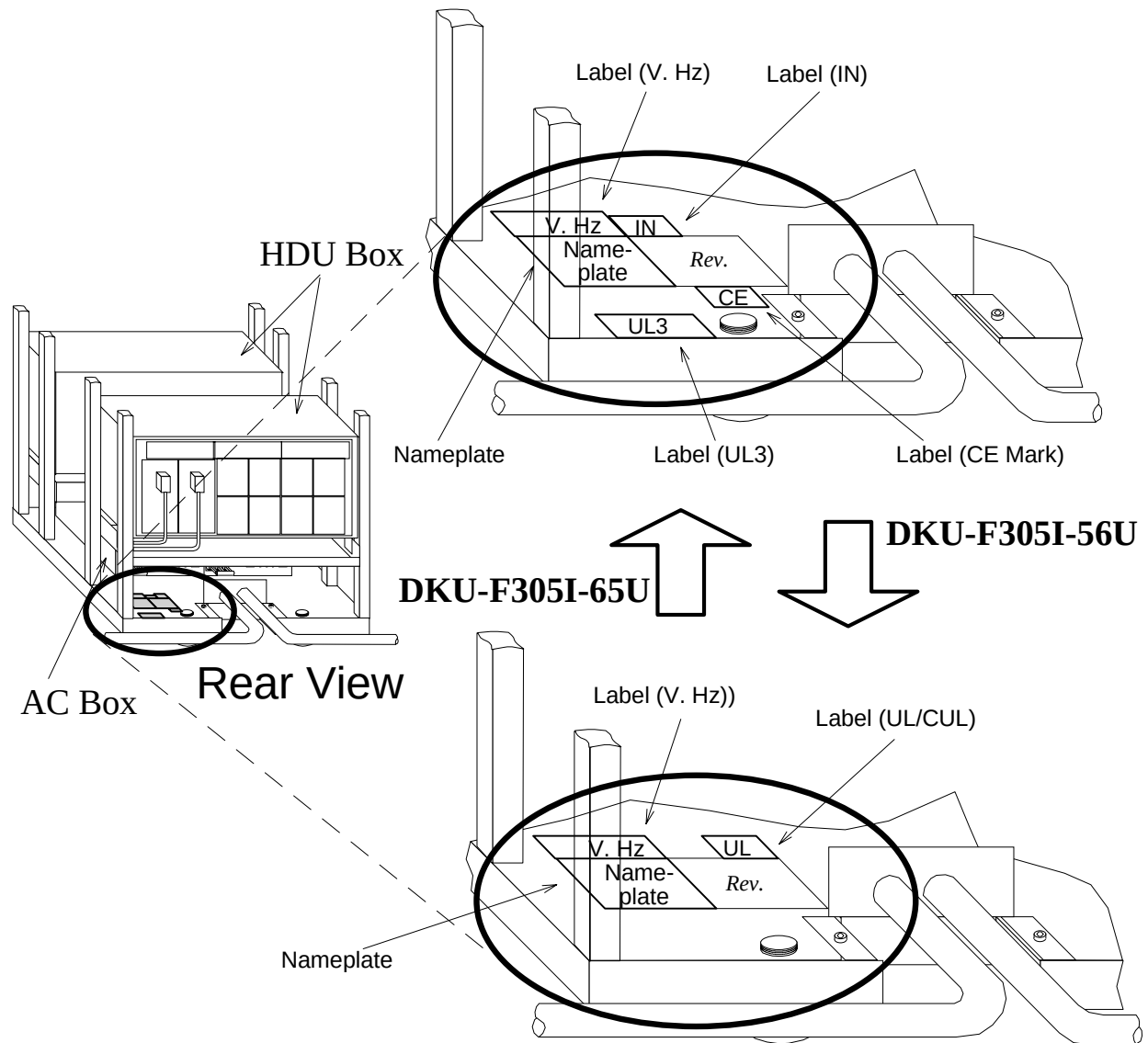


Fig. 3.24.3-13 Location of Nameplate and Labels

12. Return to General Flow.

New Installation

Basic Disk Unit Installation : Go to INST02T-10 step (2)-4.

Additional Disk Units : Go to INST02T-10 step (7)-2.

Non-Disruptive Installation : Go to INST02T-21 step(7)-2.

Disruptive Installation : Go to INST02T-41 step(11)-2.

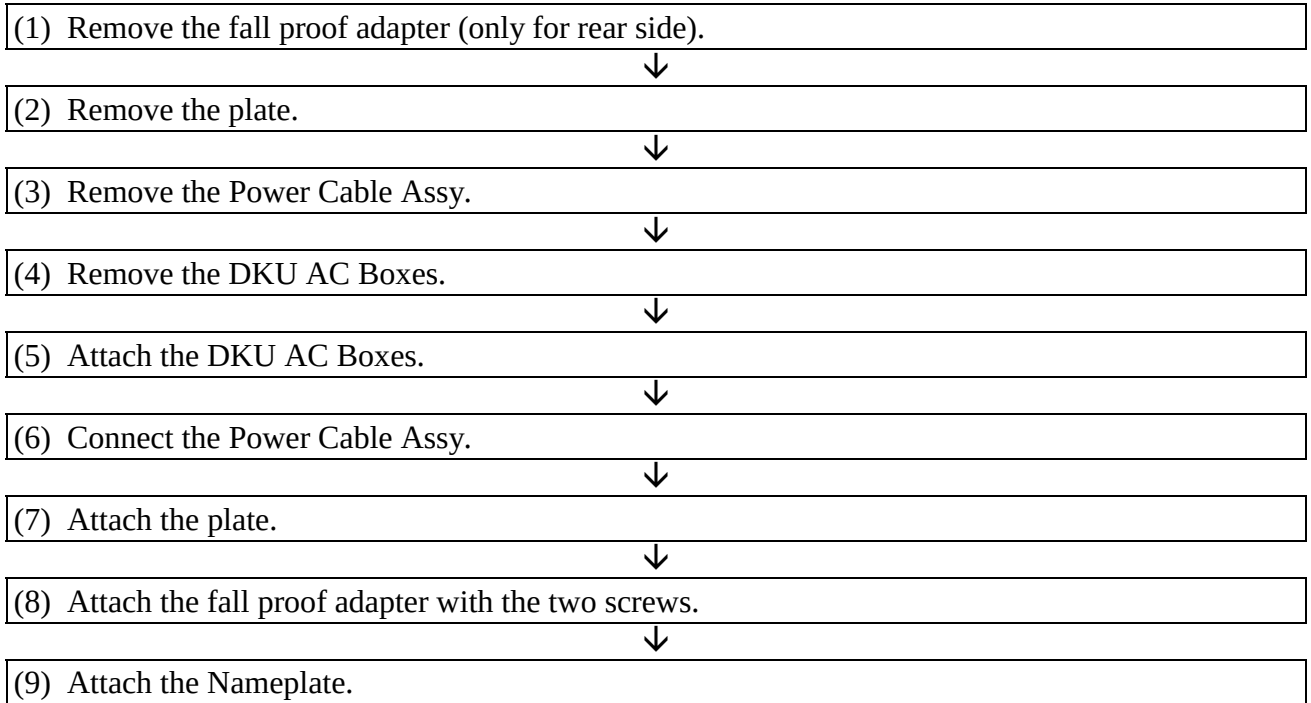
3.25 Installation of Phase Conversion Kit (3Φ→1Φ) (DKU-F305IU/IE-31U, DKU-F305IU/IE-31UP)

3.25.1 Parts list

Table 3.25-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F305IU-31U DKU-F305IU-31UP	Power Cable Assy	3255667-A	1	
		DKU AC Box	5487286-3	2	
		Nameplate	2099649-20	1	For DKU-F305IU-31U
2	DKU-F305IE-31U DKU-F305IE-31UP	Power Cable Assy	3255667-B	1	
		DKU AC Box	5487286-3	2	
		Nameplate	2099649-21	1	For DKU-F305IE-31U

3.25.2 Flowchart



3.25.3 Installation Procedure of Phase Conversion Kit (3 Φ →1 Φ)

1. Remove the fall proof adapter (only for rear side).

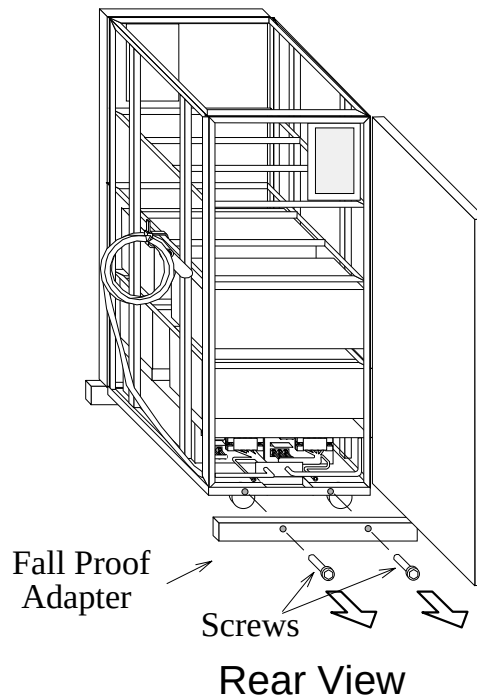


Fig. 3.25.3-1 Removal of Fall Proof Adapter

2. Remove the plate.
 - a. Remove the two screws.
 - b. Slide the plate toward the rear side to remove.

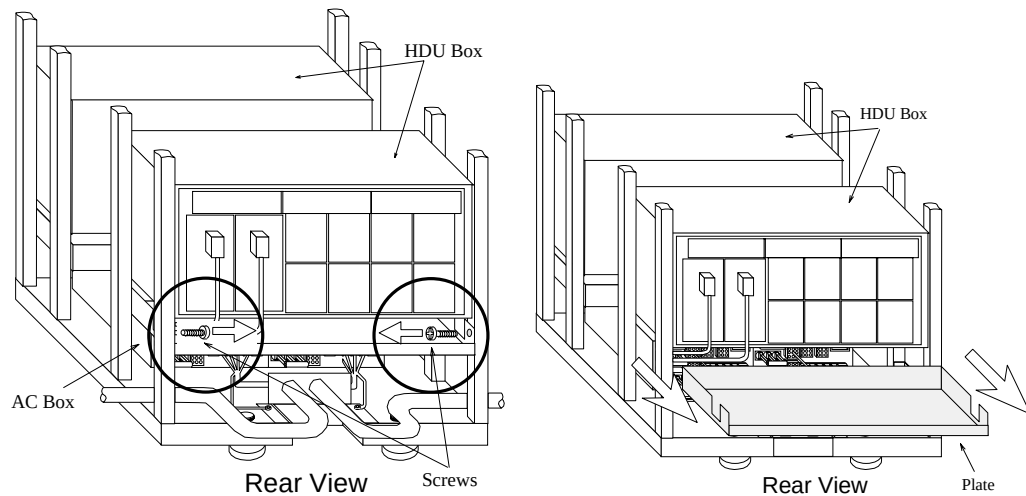


Fig. 3.25.3-2 Removal of Plate

3. Remove the Power Cable Assy.

- a. Remove the terminal block cover and disconnect the power cable Assy.

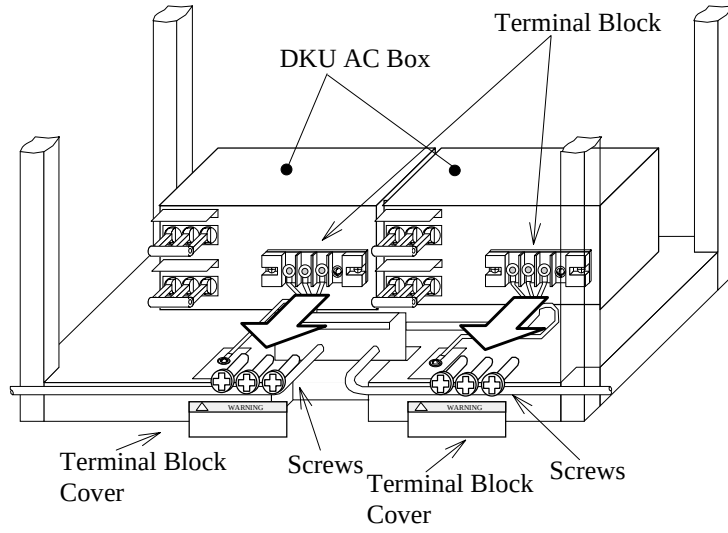


Fig. 3.25.3-3 Removal of Power Cable Assy

- b. Remove the frame ground cable for each input power cable from the frame.

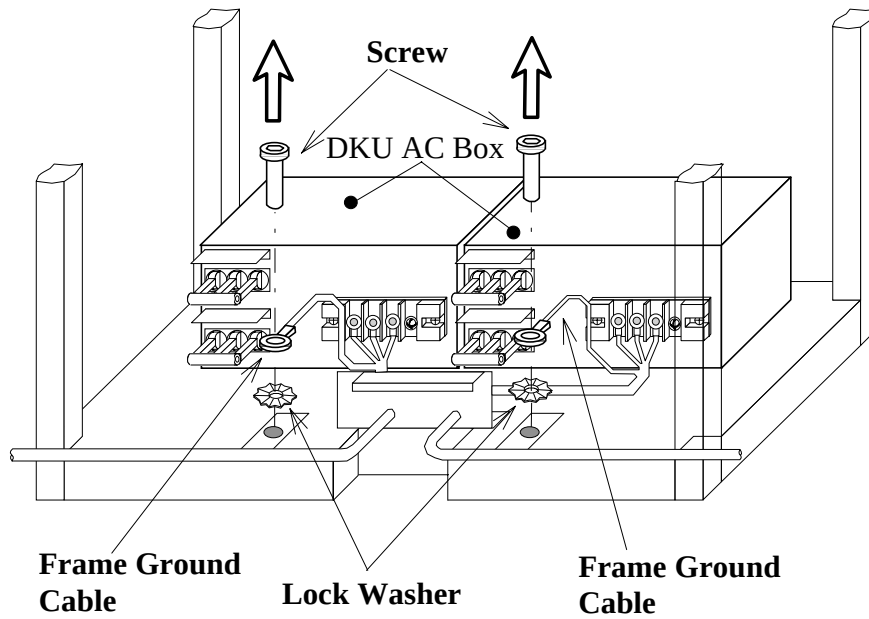


Fig. 3.25.3-4 Removal of Frame Ground Cable

c. Loosen the screws and remove the power cable Assy.

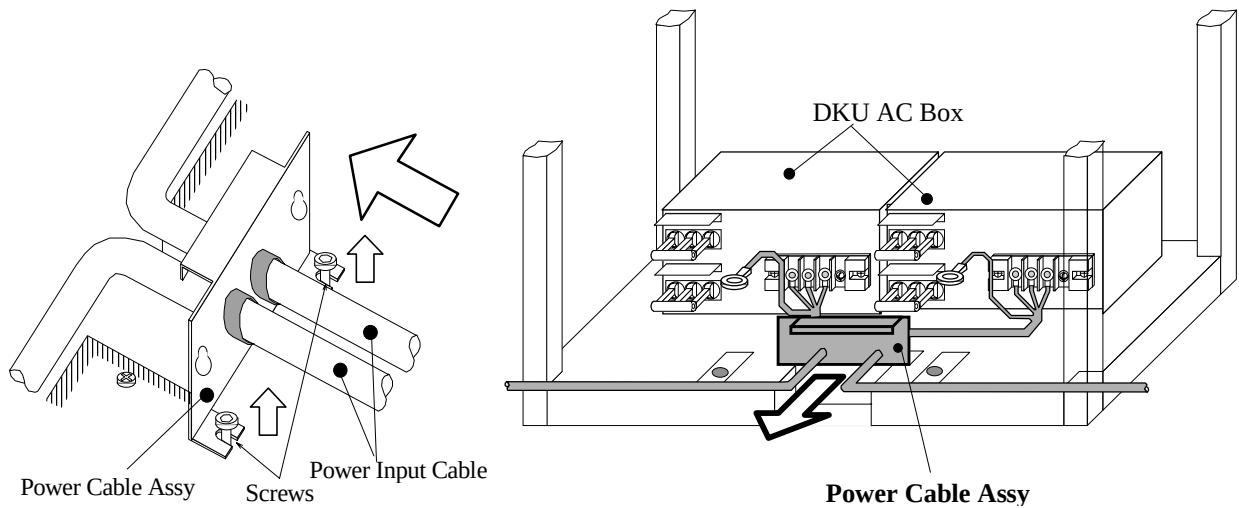
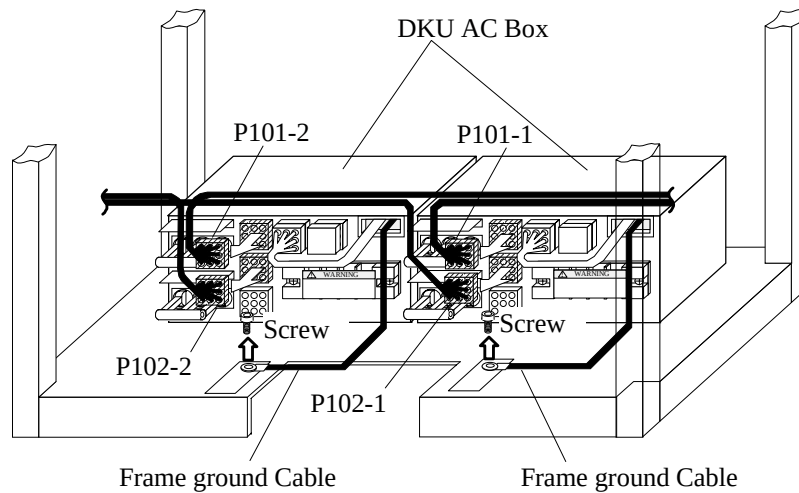


Fig. 3.25.3-5 Removal of Power Cable Assy

d. Remove the cables (P101-1, P102-1, P101-2 and P101-2) from the DKU AC Boxes.

e. Remove the frame ground cables.



Rear View

Fig. 3.25.3-6 Removal of Cables

4. Remove the DKU AC Boxes.

a. Remove the four screws from the DKU AC Boxes.

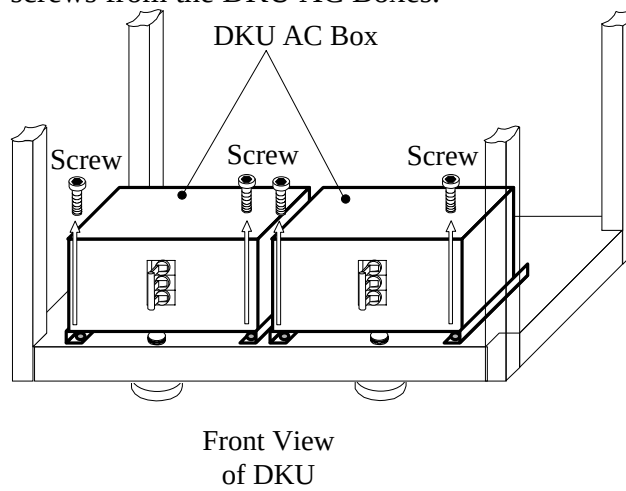


Fig. 3.25.3-7 Removal of Screws

b. Remove the DKU AC Boxes.

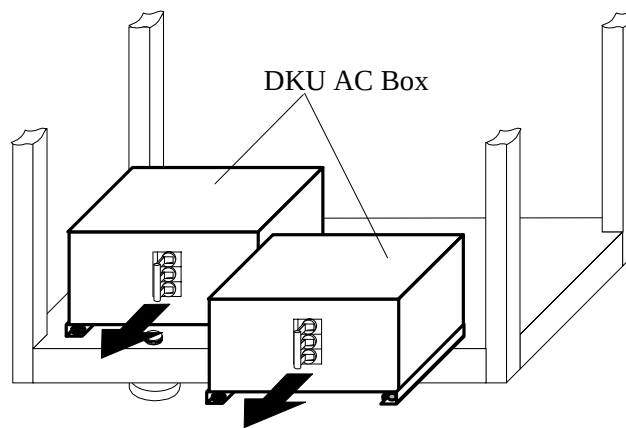


Fig. 3.25.3-8 Removal of DKU AC Boxes

5. Attach the AC Boxes.

- a. Slide the AC Boxes from the front to the rear.

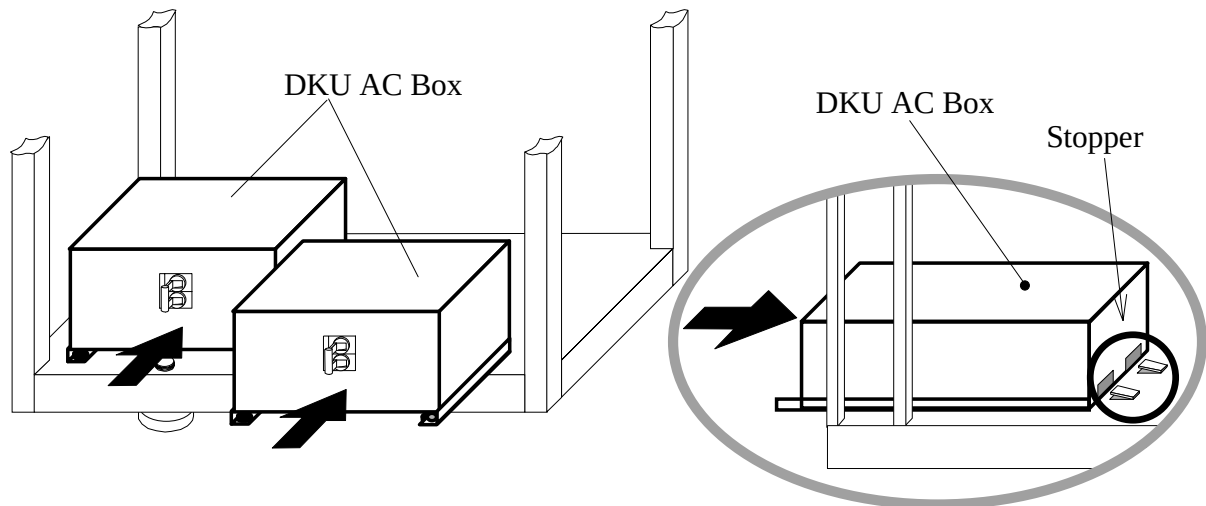


Fig. 3.25.3-9 Attachment of DKU AC Boxes

- b. Secure the DKU AC Boxes with the screws.

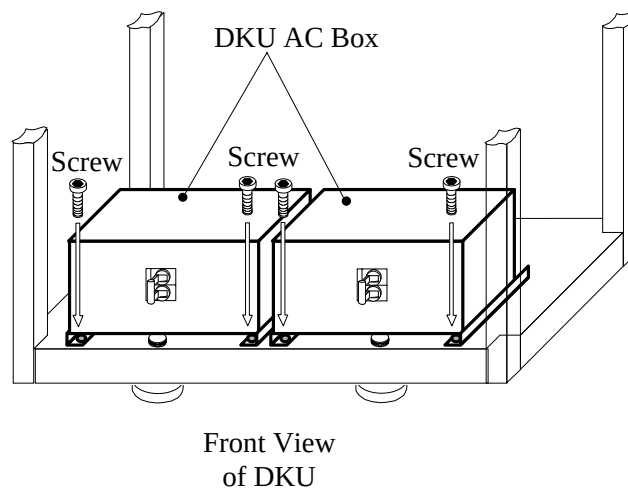
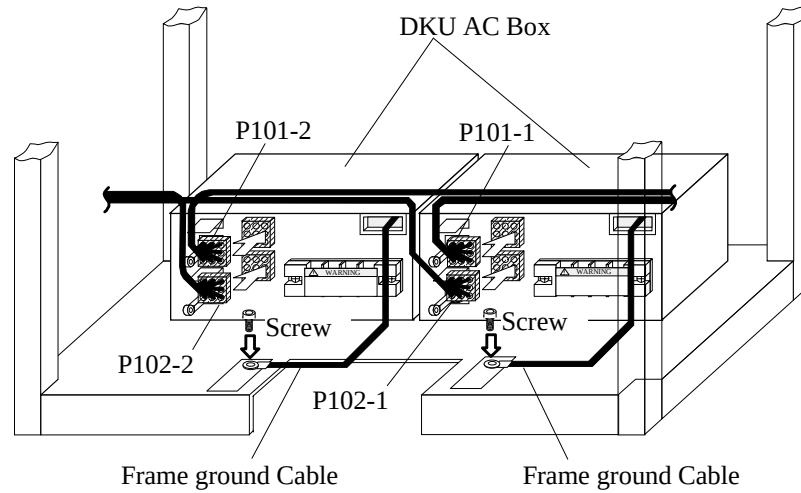


Fig. 3.25.3-10 Attachment of Screws

6. Connect the Power Cable Assy.

- a. Secure the frame ground cables with the screws.
- b. Connect the cables (P101-1, P102-1, P101-2 and P102-2) to the DKU AC Boxes.



Rear View

Fig. 3.25.3-11 Connection of Cables

- c. Secure the power cable Assy with the two screws.

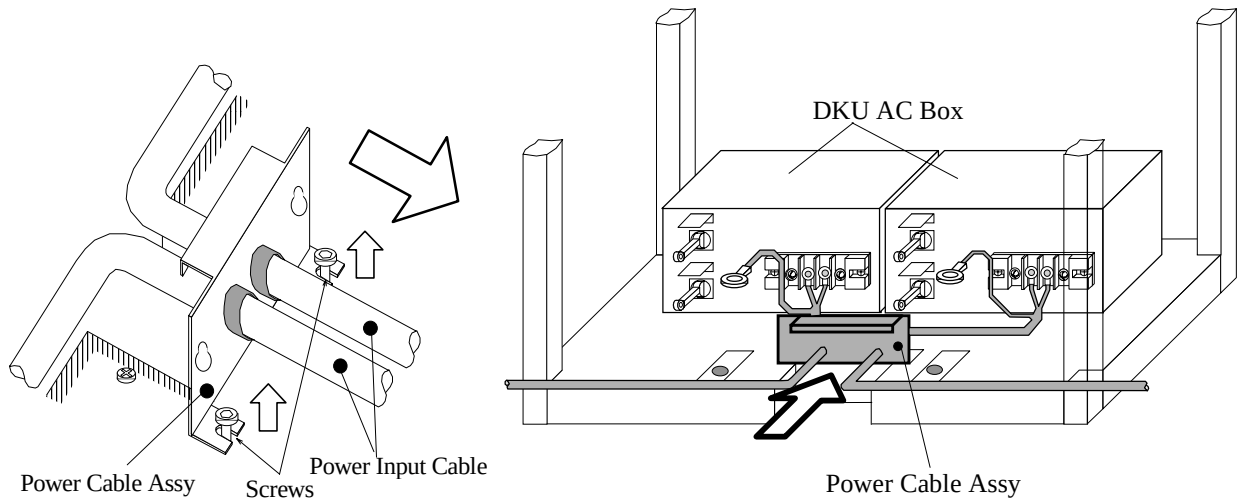


Fig. 3.25.3-12 Attachment of Power Cable Assy

d. Secure the frame ground cables with the screws and lock washers.

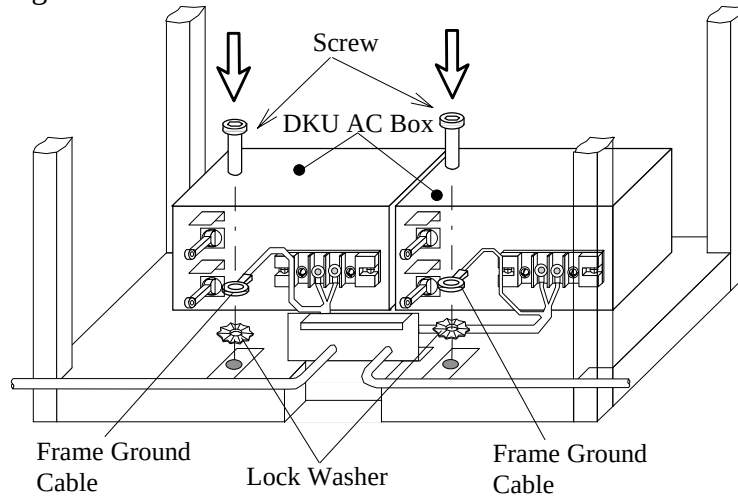
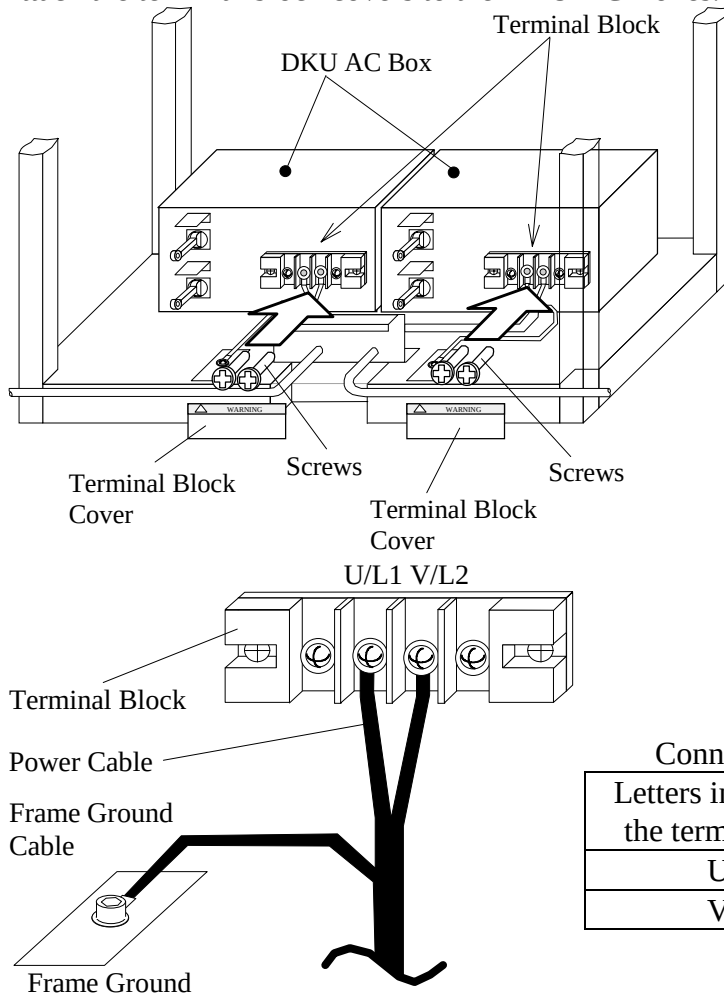


Fig. 3.25.3-13 Attachment of Cables

e. Connect the power cable to the terminal block with the screws.

f. Attach the terminal block covers to the DKU AC Boxes.



Connection of AC power cable

Letters indicated on the terminal block	Connecting LINE
U/L1	Phase U
V/L2	Phase V

Fig. 3.25.3-14 Connection of Power Cables

7. Attach the plate.
 a. Attach the plate with the two screws.

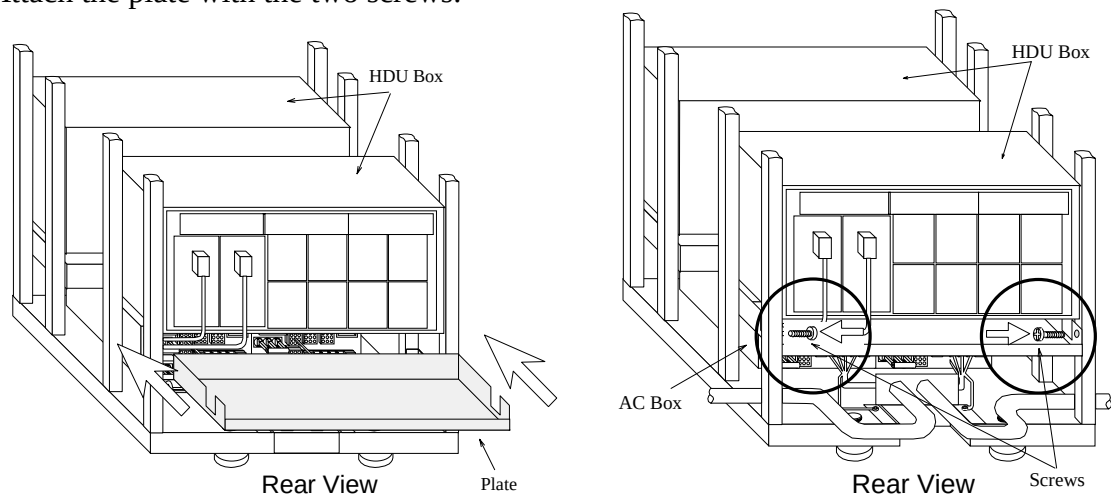
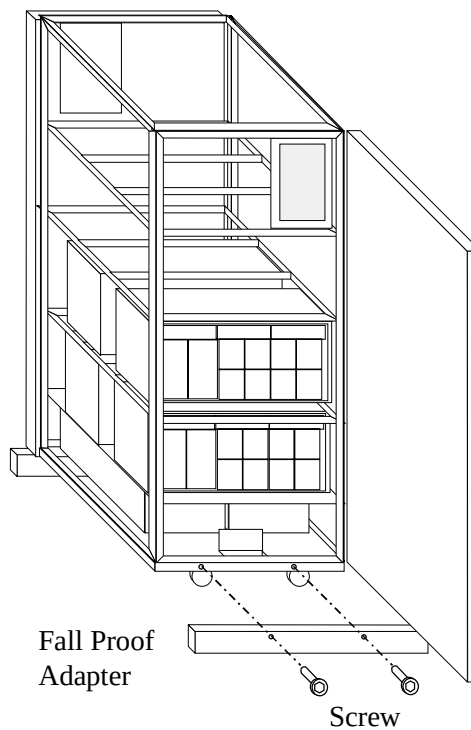


Fig. 3.25.3-15 Attachment of Plate

8. Attach the fall proof adapter with the two screws.



Rear View
of DKU

Fig. 3.25.3-16 Attachment of Fall Proof Adapter

9. Change the Nameplate.

- a. Remove the old nameplate and attach the new nameplate.

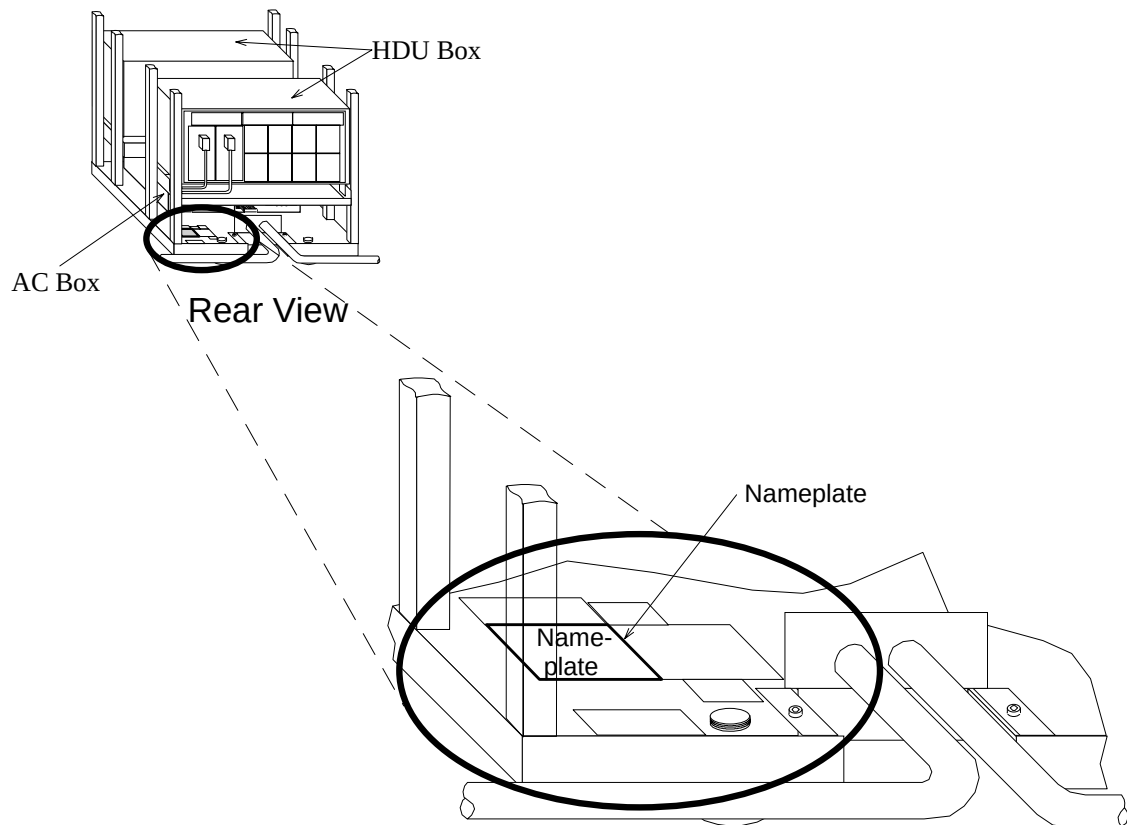


Fig. 3.25.3-17 Exchange of Nameplate

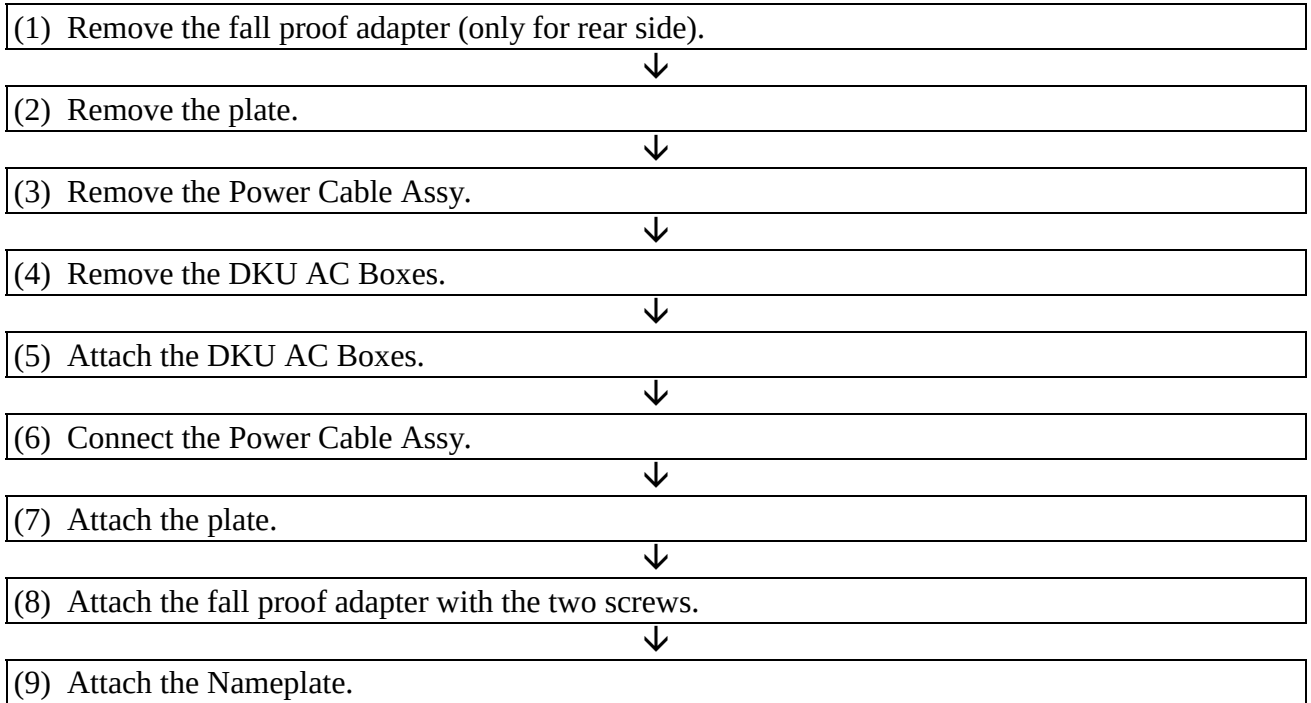
3.26 Installation of Phase Conversion Kit (1Φ→3Φ) (DKU-F305IU/IE-13U, DKU-F305IU/IE-13UP)

3.26.1 Parts list

Table 3.26-1 Parts List

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKU-F305IU-13U DKU-F305IU-13UP	Power Cable Assy	3239396-A	1	
		DKU AC Box	5487286-1	2	
		Nameplate	2099649-12	1	For DKU-F305IU-13U
2	DKU-F305IE-13U DKU-F305IE-13UP	Power Cable Assy	3239396-B	1	
		DKU AC Box	5487286-1	2	
		Nameplate	2099649-13	1	For DKU-F305IE-13U

3.26.2 Flowchart



3.26.3 Installation Procedure of Phase Conversion Kit (3Φ→1Φ)

1. Remove the fall proof adapter (only for rear side).

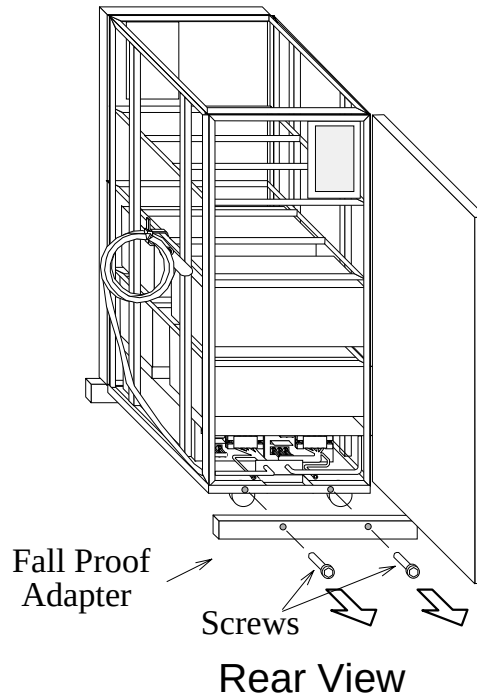


Fig. 3.26.3-1 Removal of Fall Proof Adapter

2. Remove the plate.
 - a. Remove the two screws.
 - b. Slide the plate toward the rear side to remove.

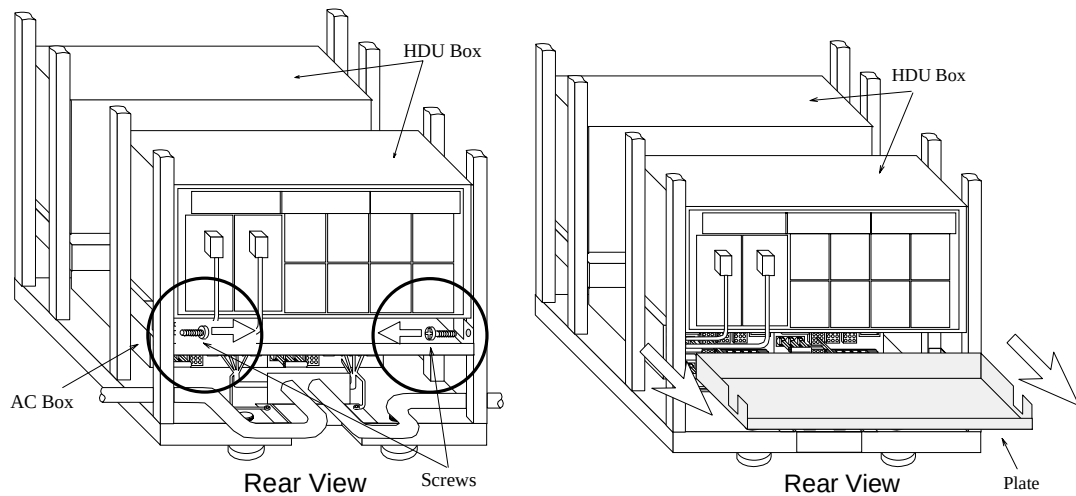


Fig. 3.26.3-2 Removal of Plate

3. Remove the Power Cable Assy.

- a. Remove the terminal block cover and disconnect the power cable Assy.

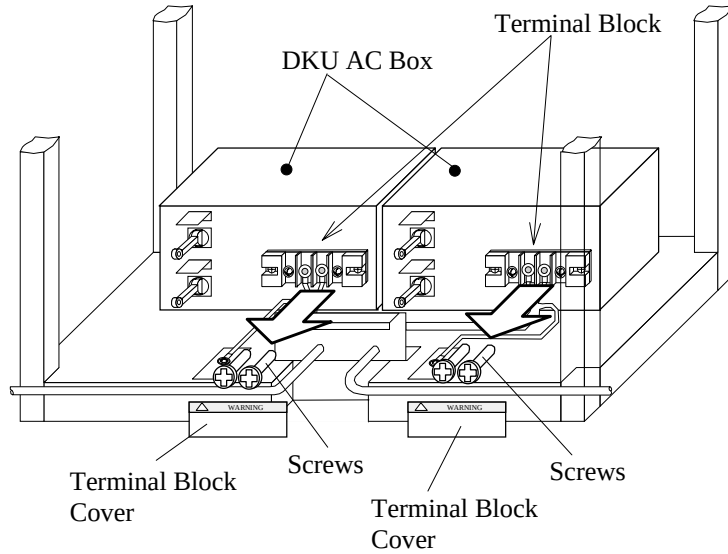


Fig. 3.26.3-3 Removal of Power Cable Assy

- b. Remove the frame ground cable for each input power cable from the frame.

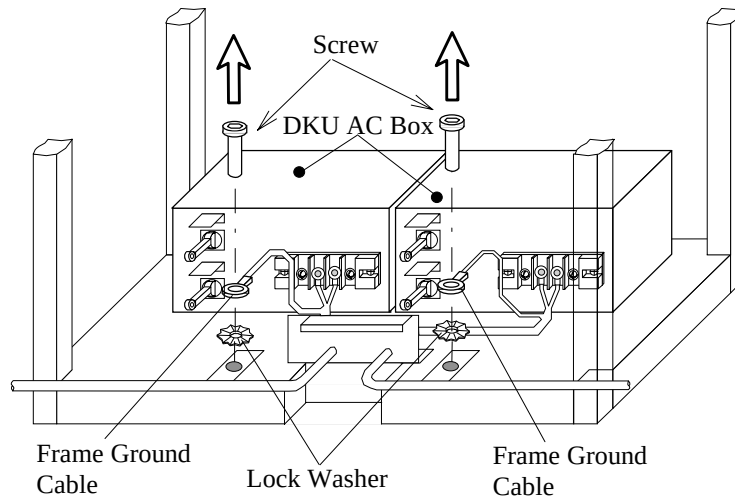


Fig. 3.26.3-4 Removal of Frame Ground Cable

c. Loosen the screws and remove the power cable Assy.

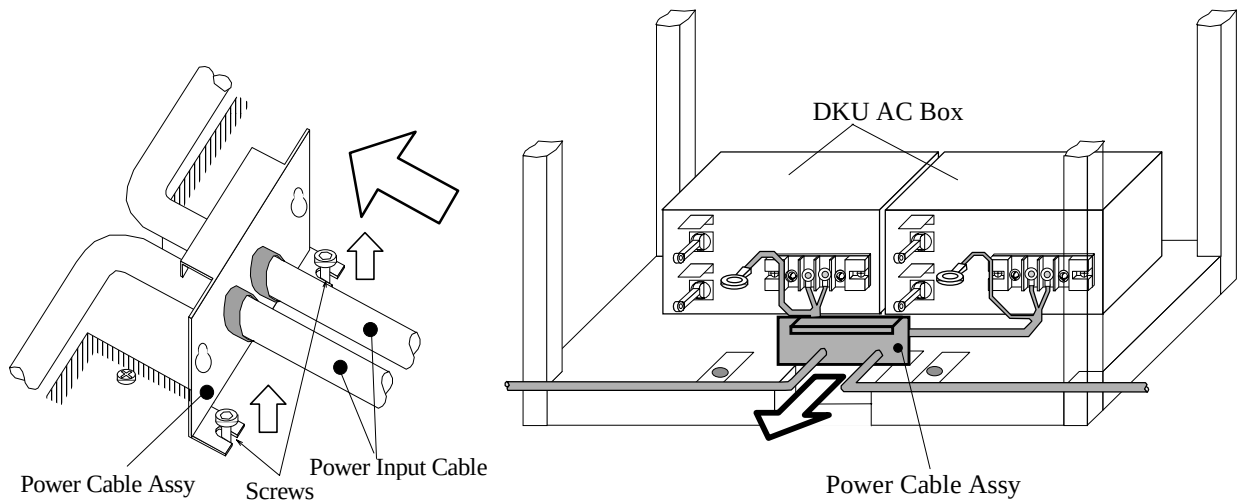
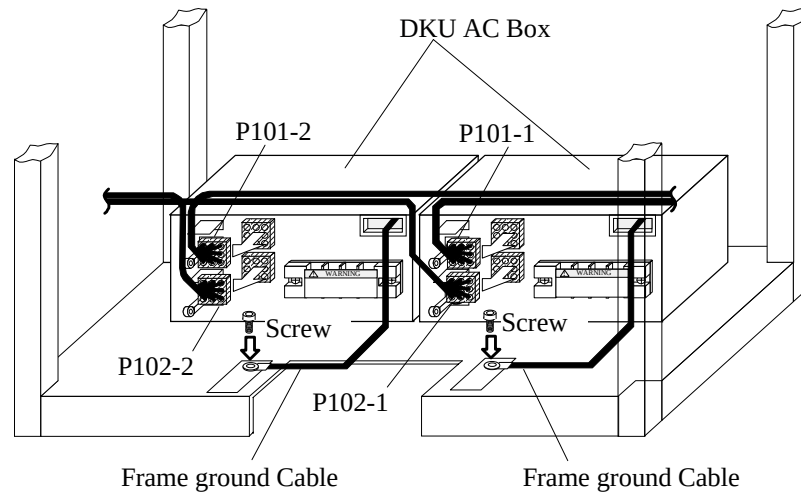


Fig. 3.26.3-5 Removal of Power Cable Assy

d. Remove the cables (P101-1, P102-1, P101-2 and P101-2) from the DKU AC Boxes.

e. Remove the frame ground cables.

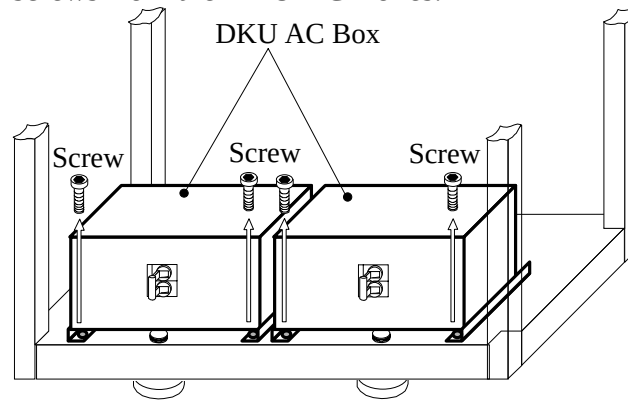


Rear View

Fig. 3.26.3-6 Removal of Cables

4. Remove the DKU AC Boxes.

a. Remove the four screws from the DKU AC Boxes.



Front View
of DKU

Fig. 3.26.3-7 Removal of Screws

b. Remove the DKU AC Boxes.

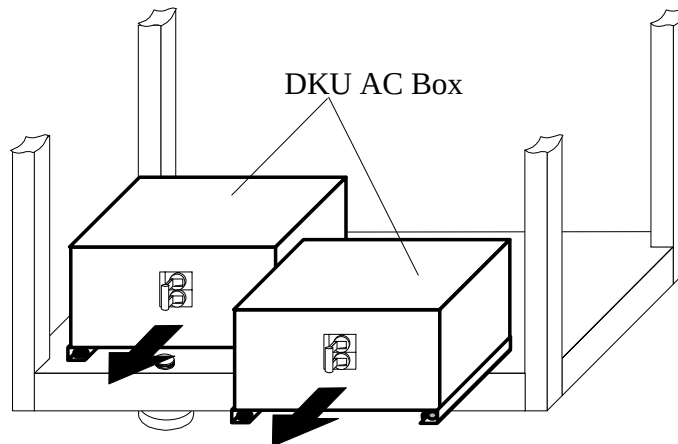


Fig. 3.26.3-8 Removal of DKU AC Boxes

5. Attach the AC Boxes.

- a. Slide the AC Boxes from the front to the rear.

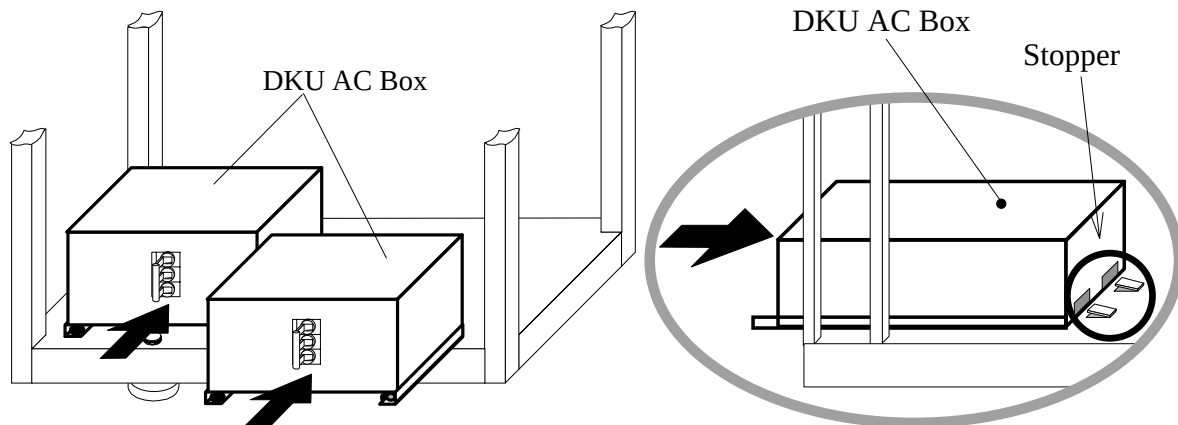


Fig. 3.26.3-9 Attachment of DKU AC Boxes

- b. Secure the DKU AC Boxes with the screws.

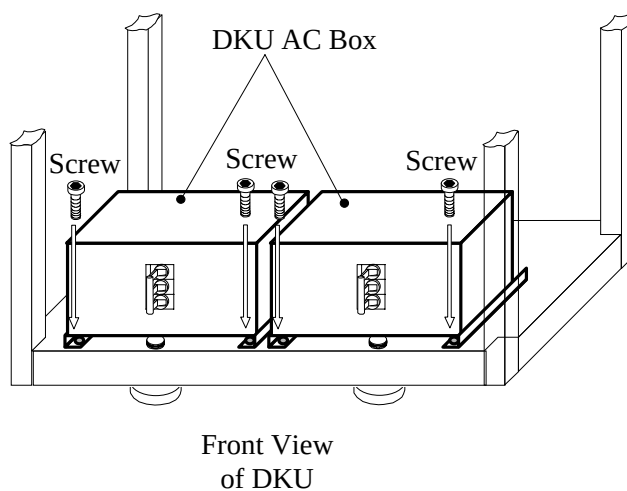
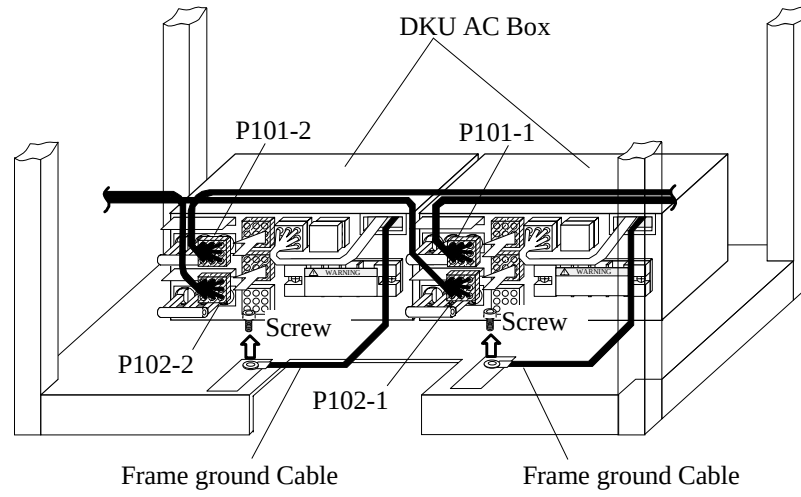


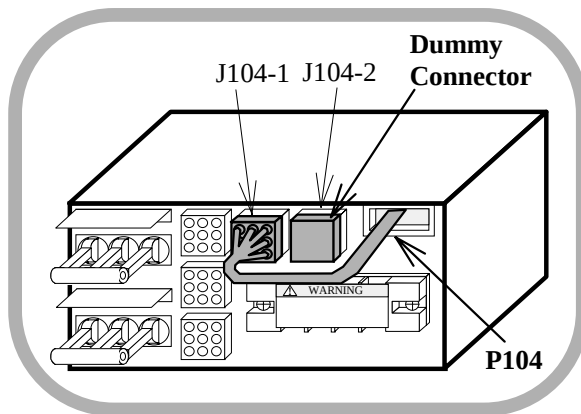
Fig. 3.26.3-10 Attachment of Screws

6. Connect the Power Cable Assy.

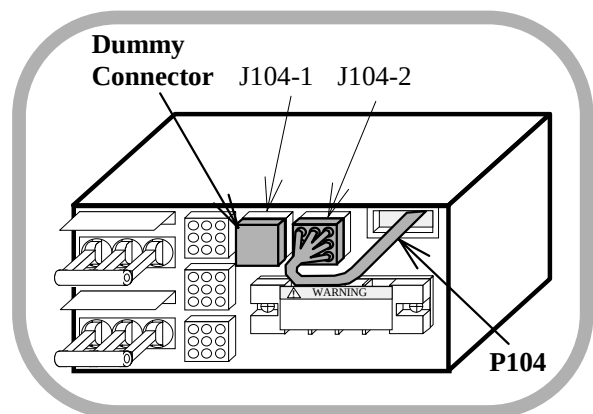
- a. Secure the frame ground cables with the screws.
- b. Connect the cables (P101-1, P102-1, P101-2 and P102-2) to the DKU AC Boxes.



Rear View



DKU305IU



DKU305IE

Fig. 3.26.3-11 Connection of Cables

c. Secure the power cable Assy with the two screws.

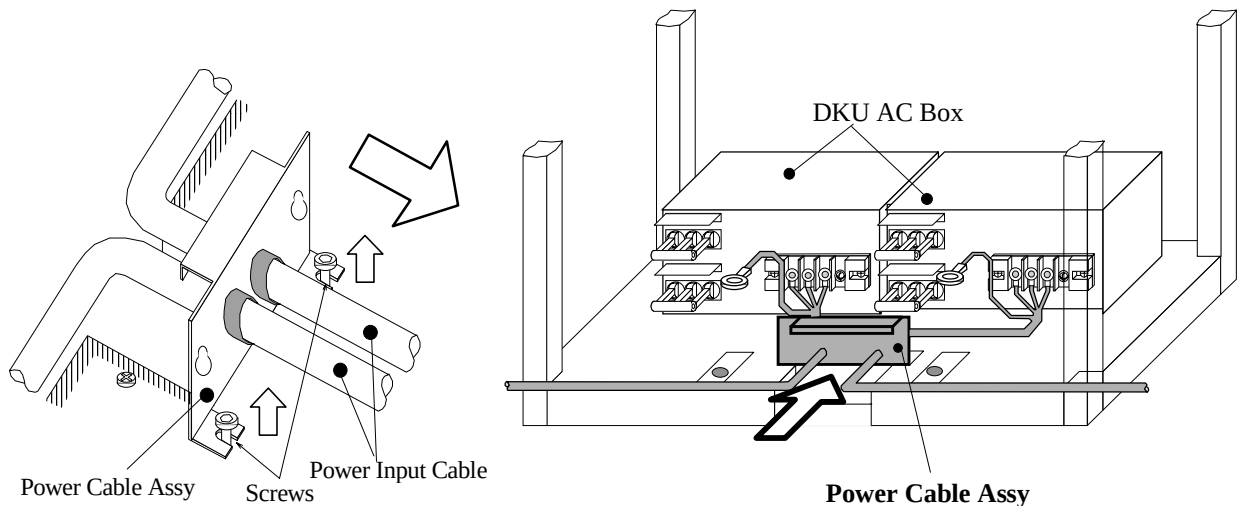


Fig. 3.26.3-12 Attachment of Power Cable Assy

d. Secure the frame ground cables with the screws and lock washers.

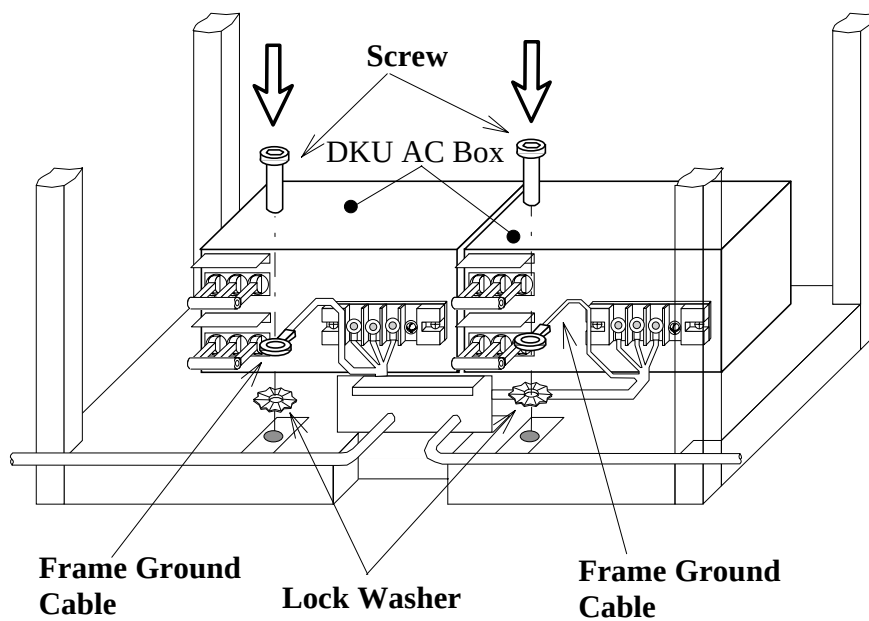


Fig. 3.26.3-13 Attachment of Cables

- e. Connect the power cable to the terminal block with the screws.
 f. Attach the terminal block covers to the DKU AC Boxes.

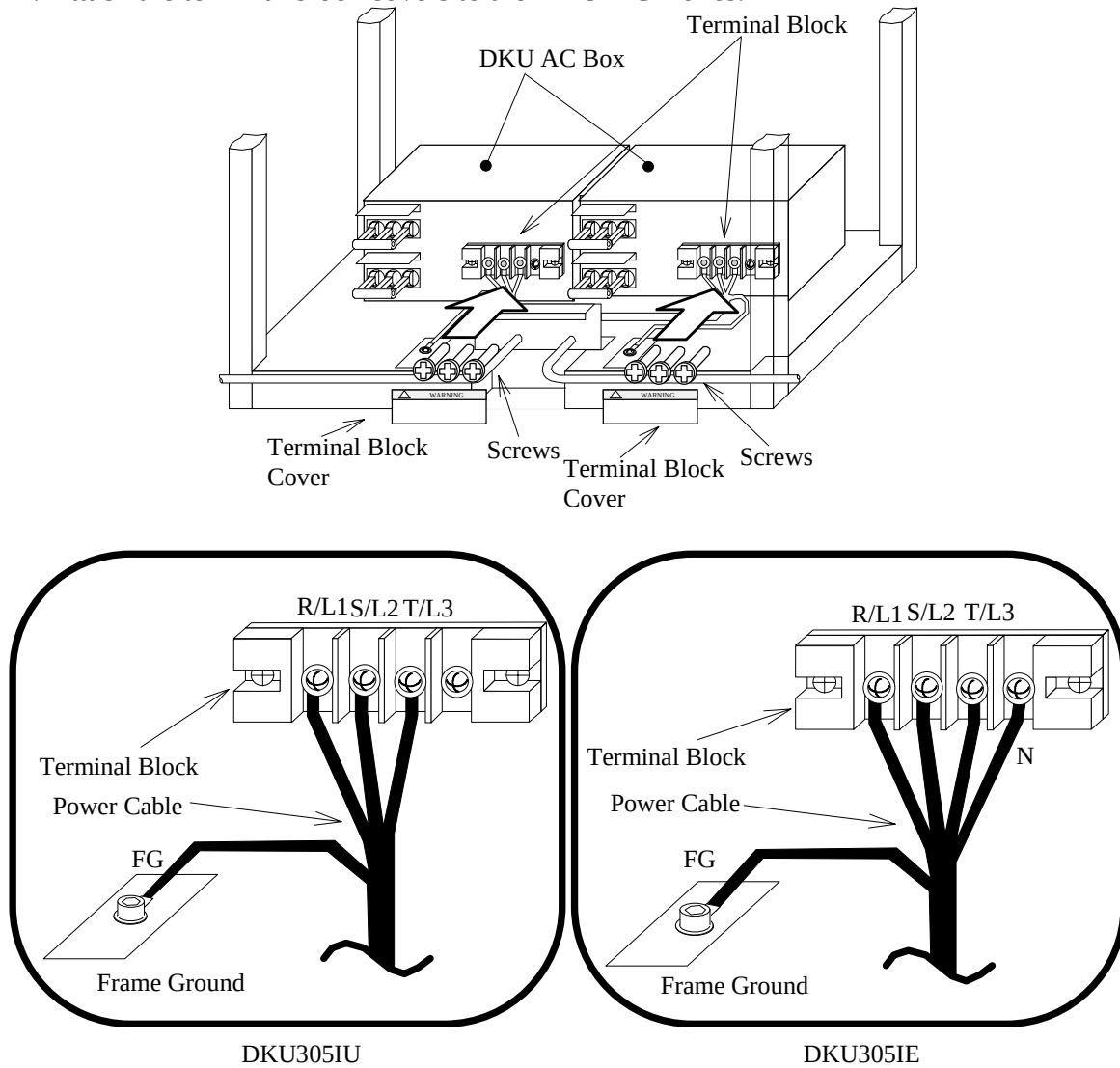


Fig. 3.26.3-14 Connection of Power Cables

Table 3.26.3-1 AC Power Cable Conductors Locations

No.	Model Number	Input Voltage	AC Power Cable Conductors	Remarks
1	DKU305IU	200-240Vac	4 (R,S,T,FG)	
2	DKU305IE	380-415Vac	5 (R,S,T,N,FG)	

7. Attach the plate.
 a. Attach the plate with the two screws.

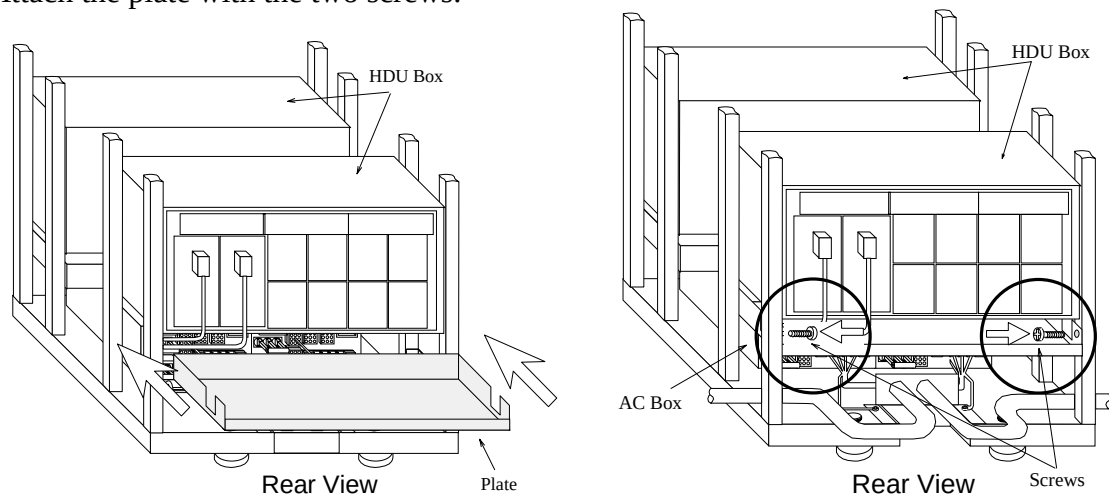
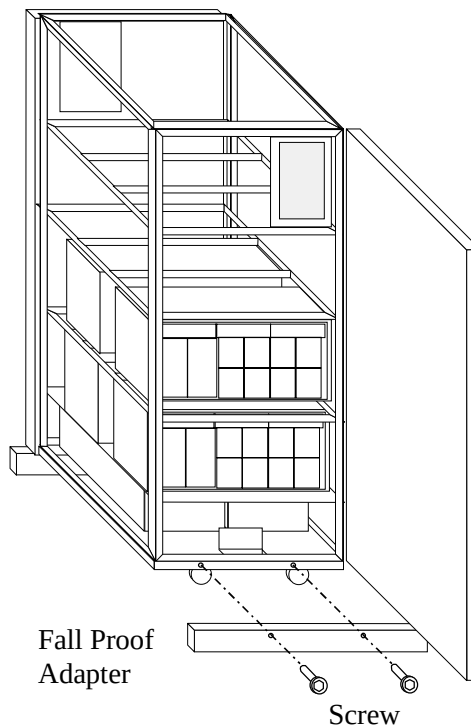


Fig. 3.26.3-15 Attachment of Plate

8. Attach the fall proof adapter with the two screws.



Rear View
of DKU

Fig. 3.26.3-16 Attachment of Fall Proof Adapter

9. Change the Nameplate.

- a. Remove the old nameplate and attach the new nameplate.

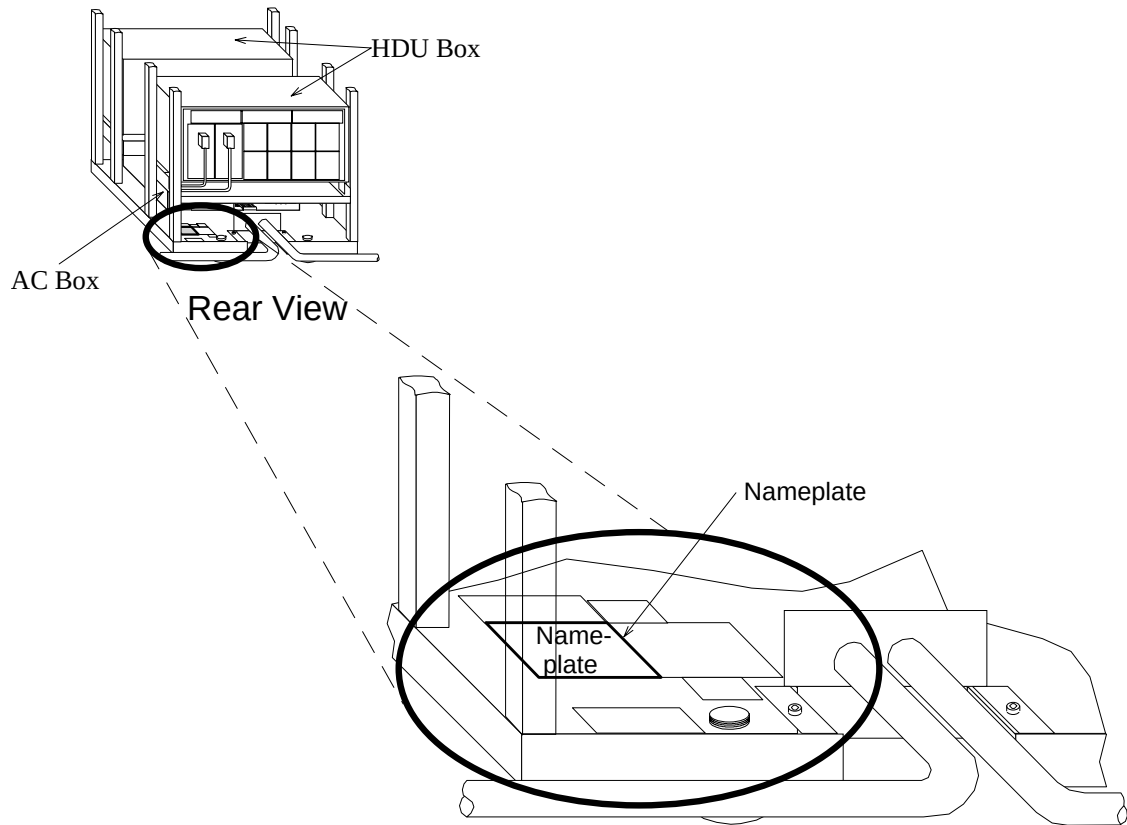


Fig. 3.26.3-17 Exchange of Nameplate

4.7 De-installation of Channel Adapter

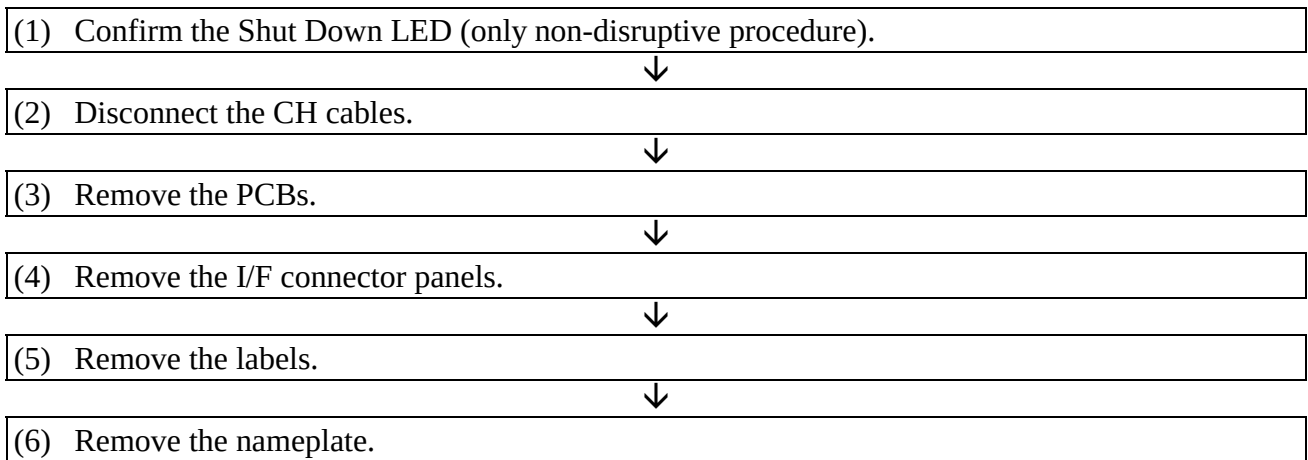
4.7.1 De-installation of Parallel 8-channel Switch (DKC-F310I-8P)

4.7.1.1 Parts list

Table 4.7.1-1 Parts List for Parallel 8-channel Switch

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8P	Parallel 4-channel Switch PCB	3252510-A	2	
		I/F Connector Panel (CH A)	2102090-A	2	For Channel A
		I/F Connector Panel (CH B)	2102090-B	2	For Channel B
		I/F Connector Panel (CH C)	2102090-C	2	For Channel C
		I/F Connector Panel (CH D)	2102090-D	2	For Channel D
		Screw	SB408	32	
		Label	5500246-1	4	Parallel
		Nameplate	3252542-5	1	For DKC-F310I-8P
		Bypass Connector	5430027-8	8	For Removal of CHA

4.7.1.2 Flowchart



4.7.1.3 De-Installation Procedure of Parallel 8-channel Switch

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.1-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

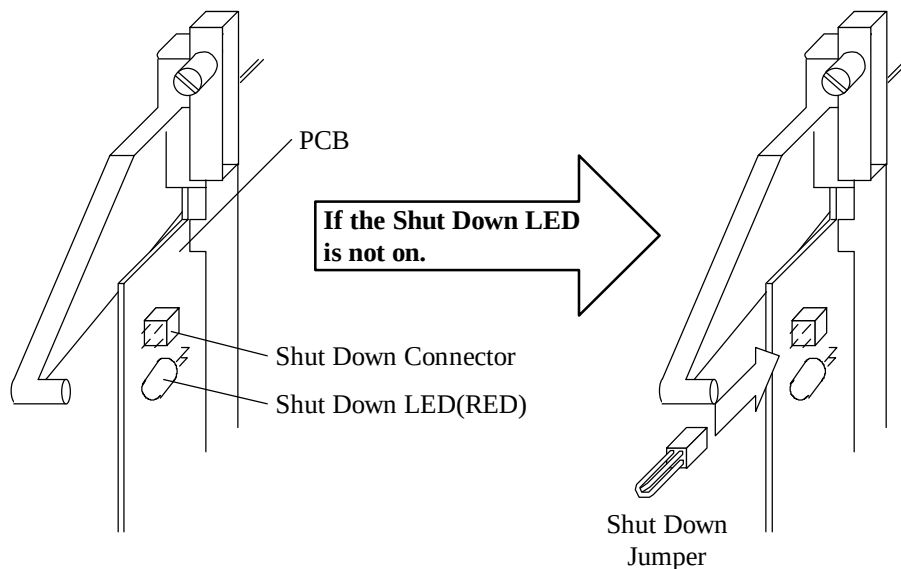


Fig. 4.7.1-1 Shut Down LED

2. Disconnection of the CH cables

- Disconnect the CH cables from the Sub-edge connectors on the PCB referring to Table 4.7.1-2, Table 4.7.1-3, and Fig. 4.7.1-2.

Table 4.7.1-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

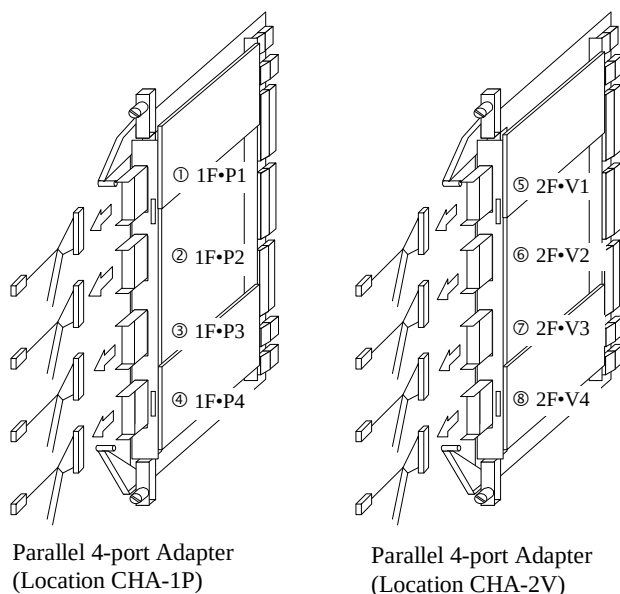


Fig. 4.7.1-2 Disconnection of CH Cables

Table 4.7.1-3 CH Cable Connection

No.	CH Cable	Sub-edge connector on PCB
1	1F•P1/2F•V1	1F•P1
2	1F•P2/2F•V2	1F•P2
3	1F•P3/2F•V3	1F•P3
4	1F•P4/2F•V4	1F•P4
5	1F•P1/2F•V1	2F•V1
6	1F•P2/2F•V2	2F•V2
7	1F•P3/2F•V3	2F•V3
8	1F•P4/2F•V4	2F•V4

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.1-3.
- Attach the dummy plates referring to Fig. 4.7.1-4.

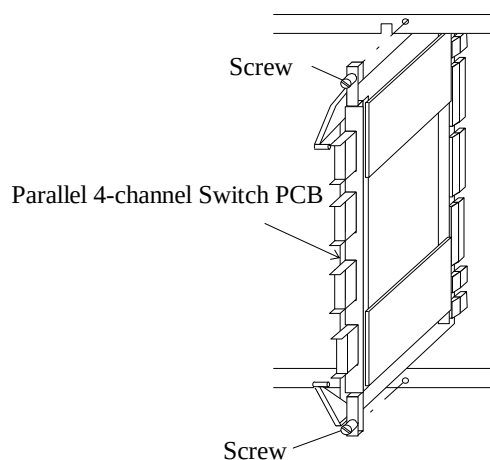


Fig. 4.7.1-3 Removal of PCB

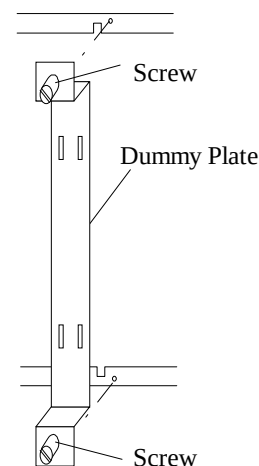


Fig. 4.7.1-4 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.1-5.
- Attach the dummy plates referring to Fig. 4.7.1-6.

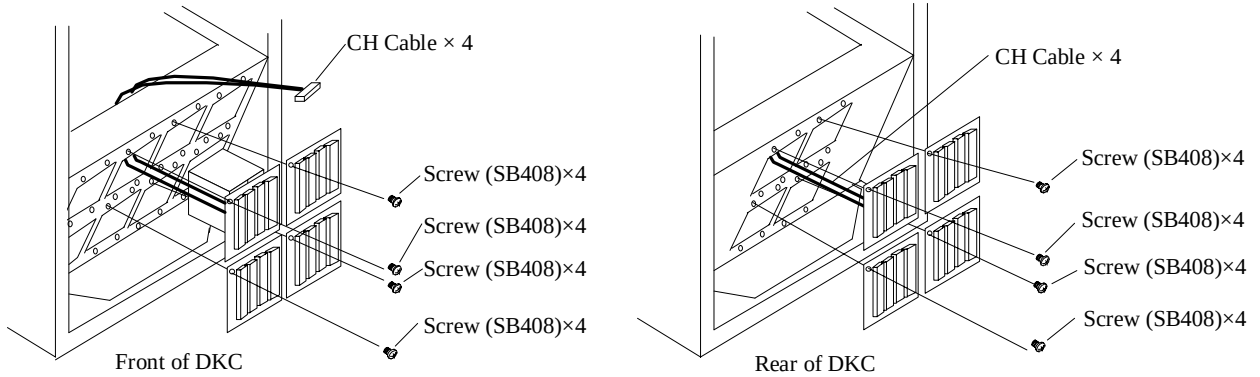


Fig. 4.7.1-5 Removal of I/F Connector Panel

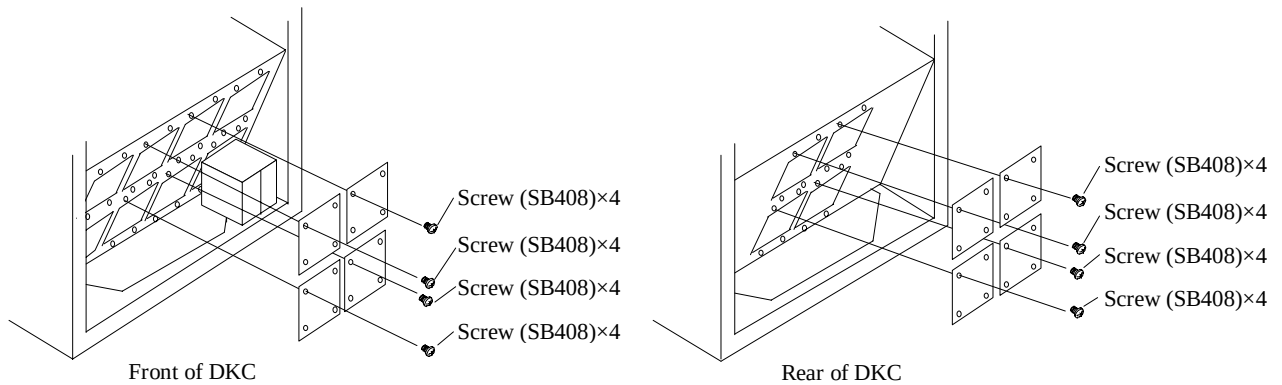


Fig. 4.7.1-6 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ PARALLEL PORT ” from ① and ② referring to Fig. 4.7.1-7.

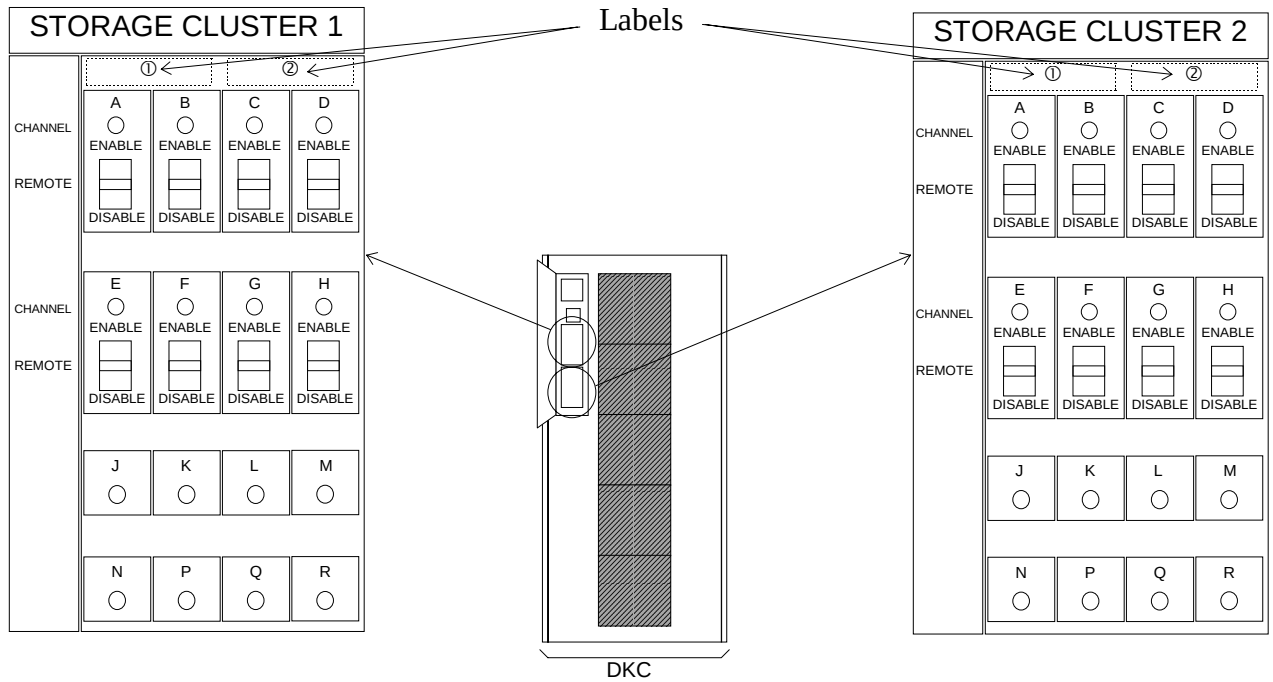


Fig. 4.7.1-7 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.1-8.

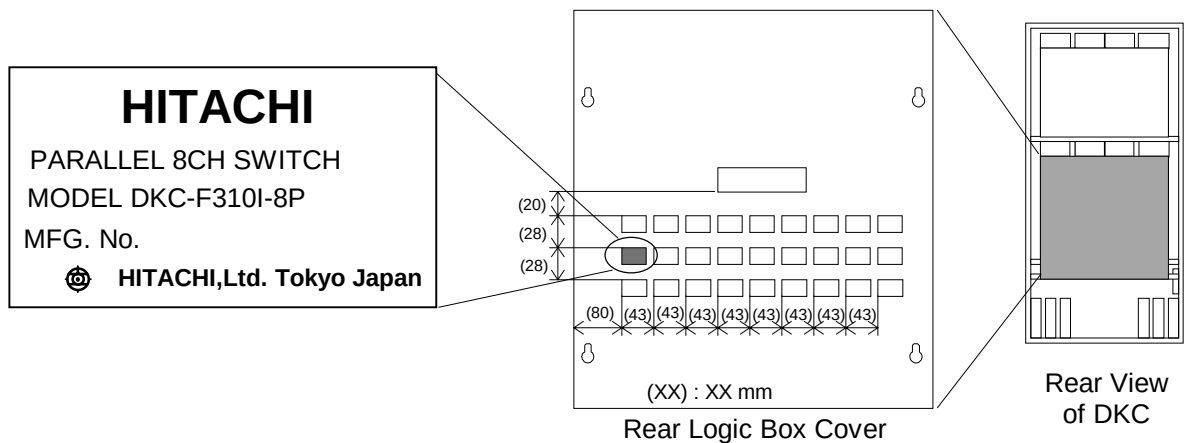


Fig. 4.7.1-8 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

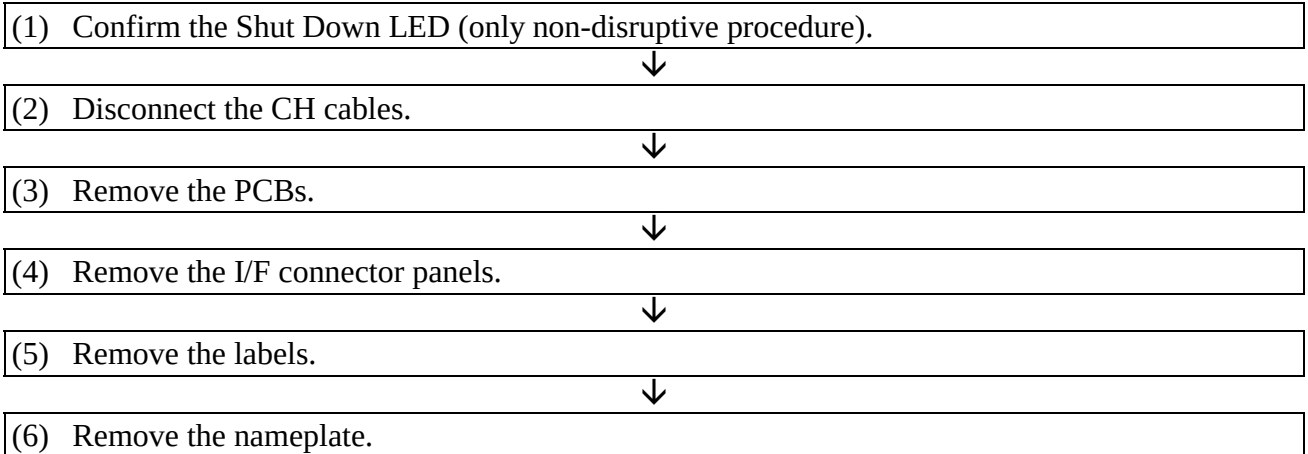
4.7.2 De-installation of Parallel 8-channel Switch (DKC-F310I-8PS)

4.7.2.1 Parts list

Table 4.7.2-1 Parts List for Parallel 8-channel Switch

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8PS	Parallel 4-channel Switch PCB	3252510-A	2	
		I/F Connector Panel (CL1-CH A,B/E,F)	2102073-A	2	For CL1-CH A,B/E,F
		I/F Connector Panel (CL1-CH C,D/G,H)	2102073-B	2	For CL1-CH C,D/G,H
		I/F Connector Panel (CL2-CH A,B/E,F)	2102073-C	2	For CL2-CH A,B/E,F
		I/F Connector Panel (CL2-CH C,D/G,H)	2102073-D	2	For CL2-CH C,D/G,H
		Screw	SB408	16	
		Label	5500246-1	4	Parallel
		Nameplate	3252542-16	1	For DKC-F310I-8PS
		Bypass Connector	5430027-8	8	For Removal of CHA

4.7.2.2 Flowchart



4.7.2.3 De-Installation Procedure of Parallel 8-channel Switch

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.2-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

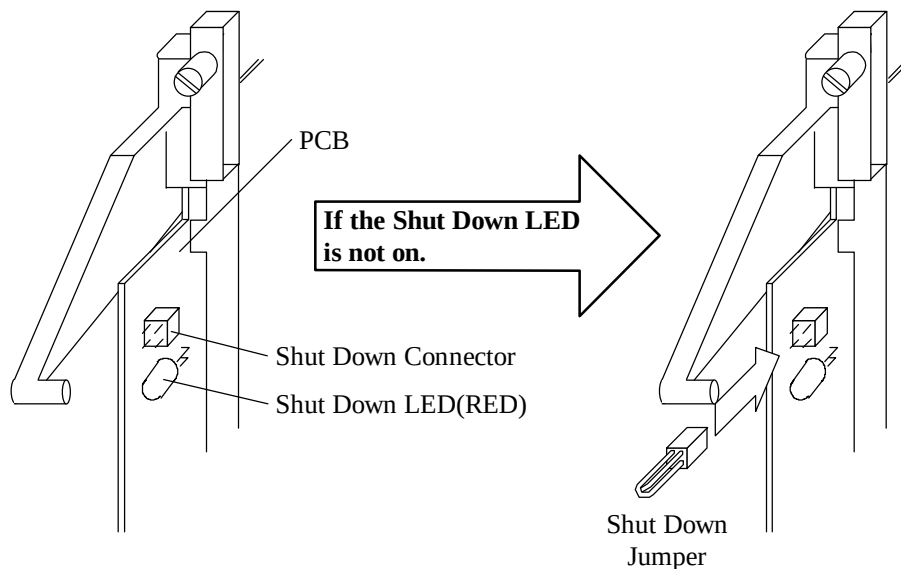


Fig. 4.7.2-1 Shut Down LED

2. Disconnection of the CH cables

Table 4.7.2-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

In case of Basic

- a. Disconnect the CH cables from the Sub-edge connectors on the PCB referring to Table 4.7.2-2, Table 4.7.2-3, and Fig. 4.7.2-2.

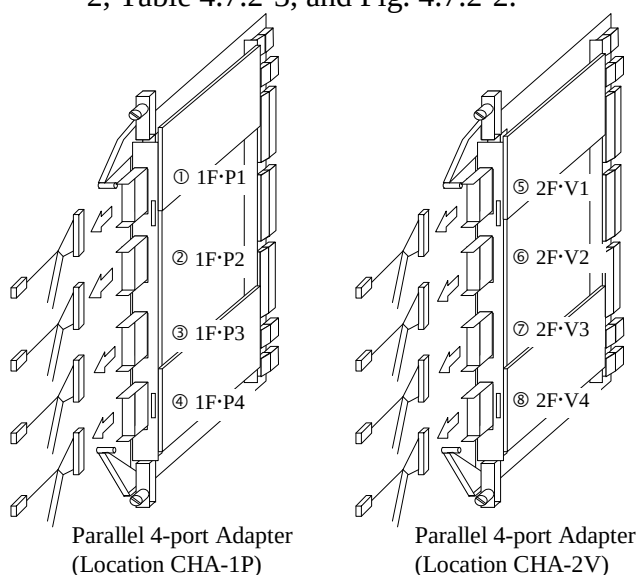


Fig. 4.7.2-2 Disconnection of CH Cables (Basic)

Table 4.7.2-3 CH Cable Connection

No.	CH Cable	Sub-edge connector on PCB
1	1F·P1/1F·Q1	1F·P1
2	1F·P2/1F·Q2	1F·P2
3	1F·P3/1F·Q3	1F·P3
4	1F·P4/1F·Q4	1F·P4
5	2F·V1/2F·W1	2F·V1
6	2F·V2/2F·W2	2F·V2
7	2F·V3/2F·W3	2F·V3
8	2F·V4/2F·W4	2F·V4

In case of Add.1

- a. Disconnect the CH cables from the Sub-edge connectors on the PCB referring to Table 4.7.2-2, Table 4.7.2-4, and Fig. 4.7.2-3.

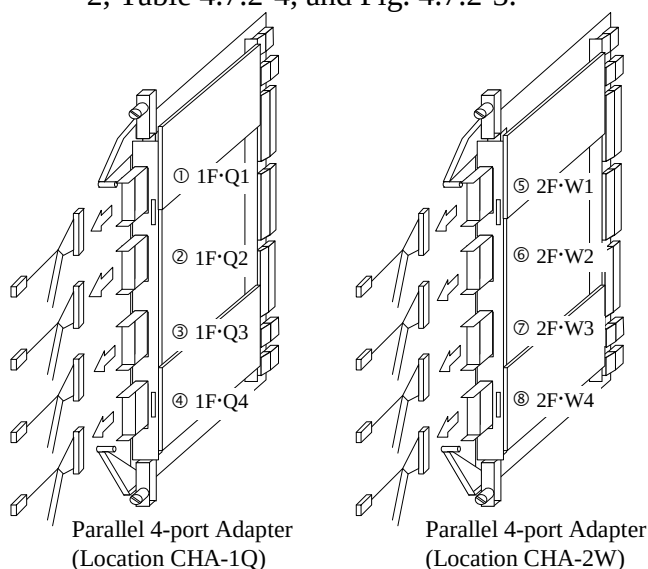


Fig. 4.7.2-3 Disconnection of CH Cables (Add.1)

Table 4.7.2-4 CH Cable Connection

No.	CH Cable	Sub-edge connector on PCB
1	1F·P1/1F·Q1	1F·Q1
2	1F·P2/1F·Q2	1F·Q2
3	1F·P3/1F·Q3	1F·Q3
4	1F·P4/1F·Q4	1F·Q4
5	2F·V1/2F·W1	2F·W1
6	2F·V2/2F·W2	2F·W2
7	2F·V3/2F·W3	2F·W3
8	2F·V4/2F·W4	2F·W4

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.2-4.
- Attach the dummy plates referring to Fig. 4.7.2-5.

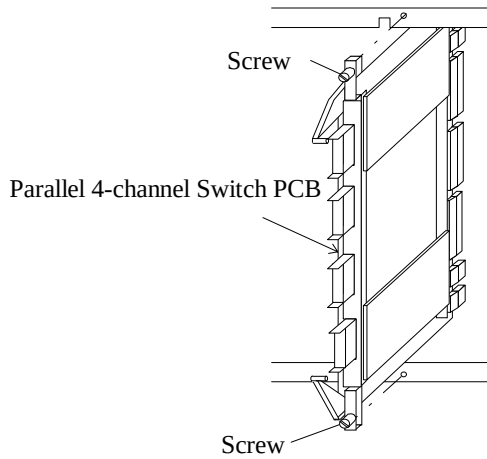


Fig. 4.7.2-4 Removal of PCB

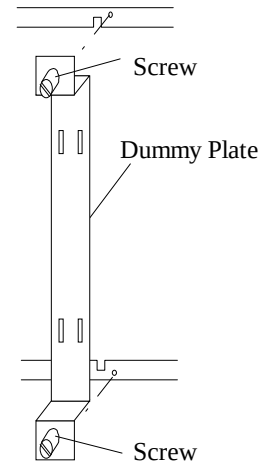


Fig. 4.7.2-5 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.2-6.
- Attach the dummy plates referring to Fig. 4.7.2-7.

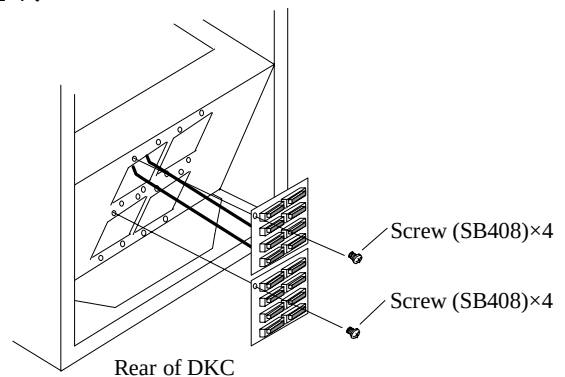
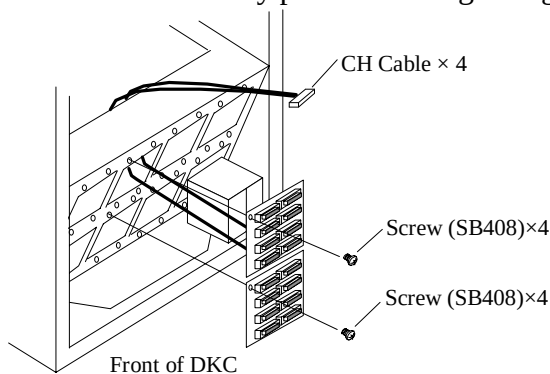


Fig. 4.7.2-6 Removal of I/F Connector Panel

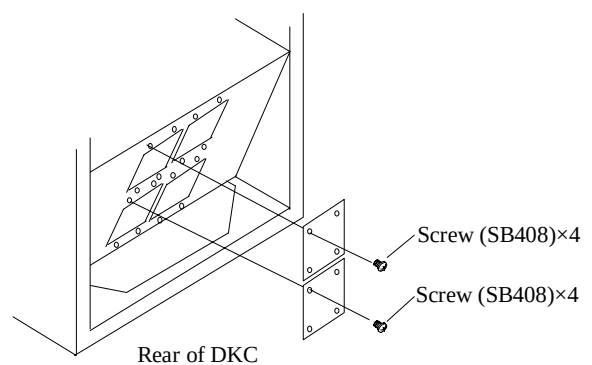
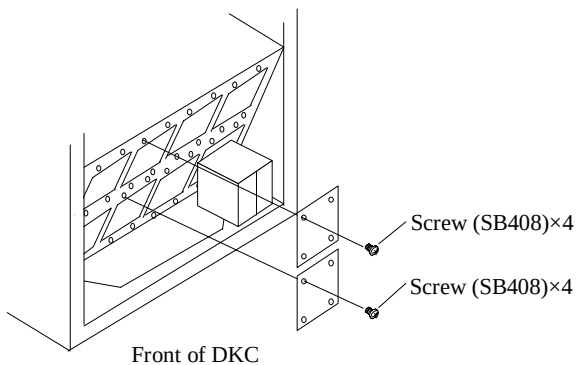


Fig. 4.7.2-7 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ PARALLEL PORT ” from ① through ④ referring to Fig. 4.7.2-8.

Table 4.7.2-5 Removal of Labels

Order of addition	Basic	Add.1
Labeling position	① and ②	③ and ④
Channel No.	A,B,C,D	E,F,G,H

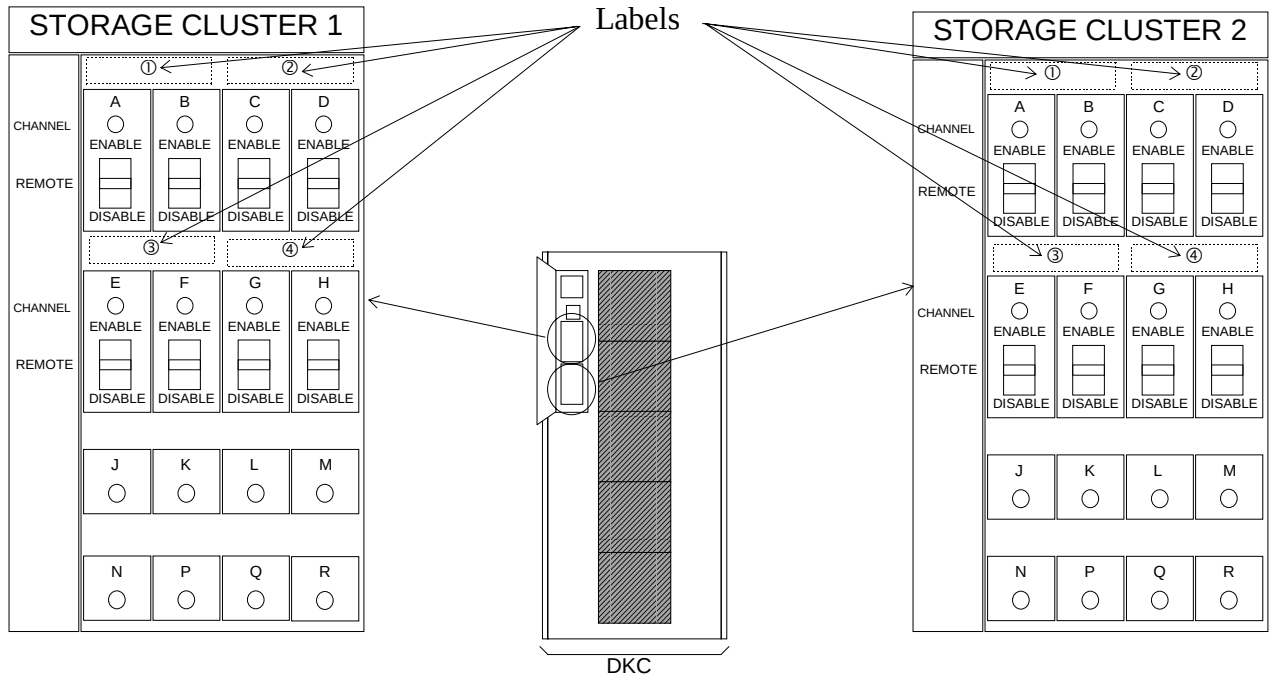


Fig. 4.7.2-8 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.2-9.

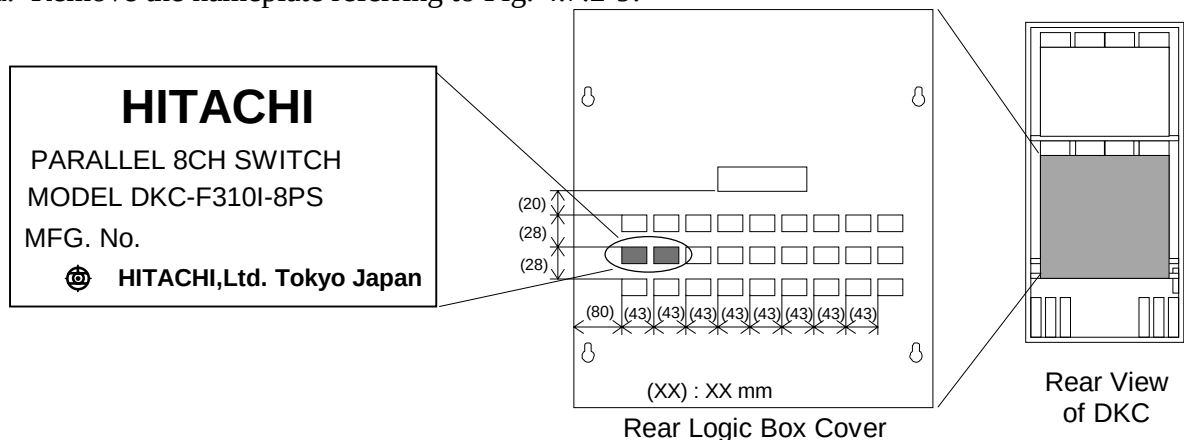


Fig. 4.7.2-9 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

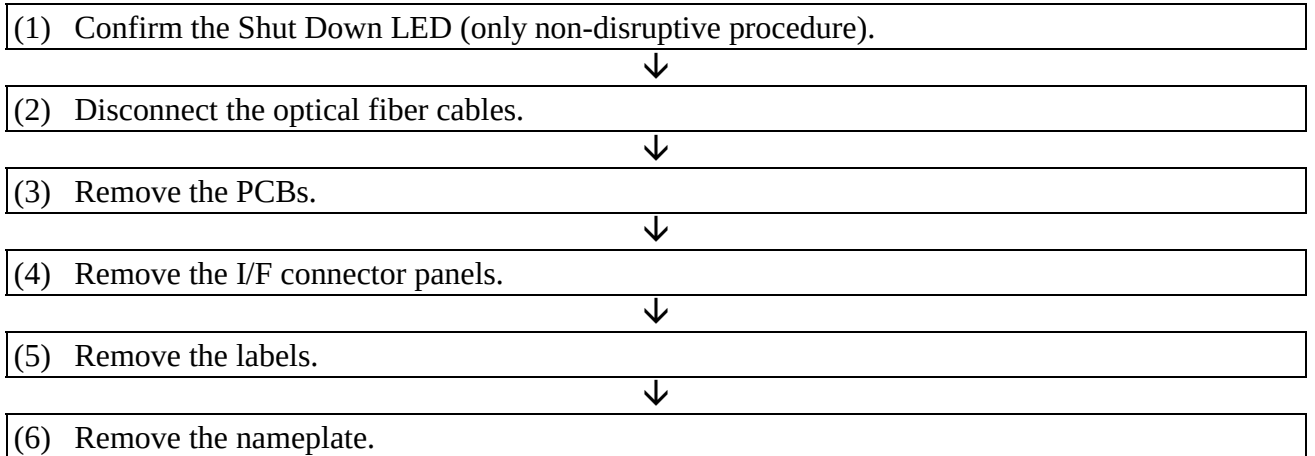
4.7.3 De-installation of Serial 4-port Adapter (DKC-F310I-4S)

4.7.3.1 Parts list

Table 4.7.3-1 Parts List for Serial 4-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4S	Serial 2-port Adapter PCB	3252509-B	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500245-1	2	For Serial
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Holder	2084816-1	4	
		Nameplate	3252542-3	1	For DKC-F310I-4S

4.7.3.2 Flowchart



4.7.3.3 De-Installation Procedure of Serial 4-port Adapter

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.3-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

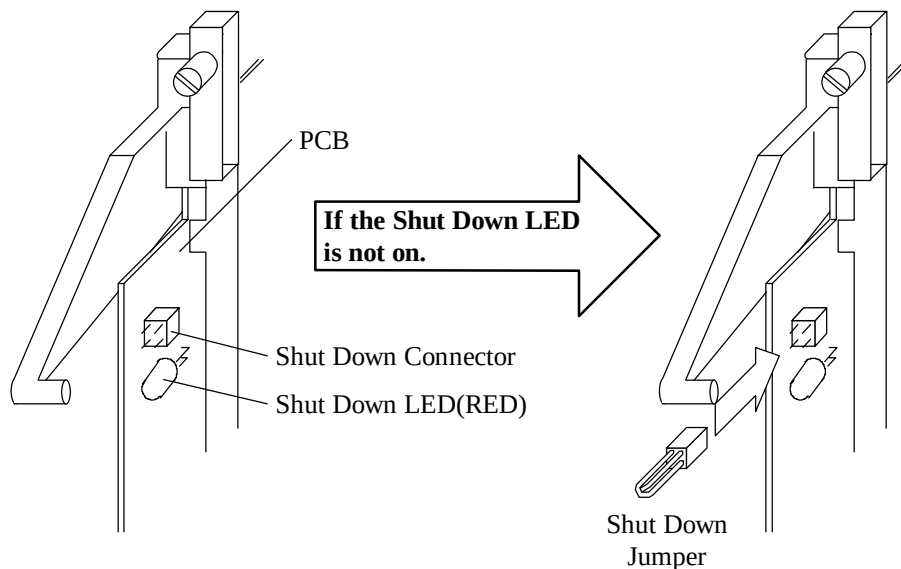


Fig. 4.7.3-1 Shut Down LED

2. Disconnection of the optical fibre cables
 - a. Remove the Bracket^③ and Strain Relief^② referring to Fig. 4.7.3-2.
 - b. Disconnect the optical fibre cables and remove the Holder^④ referring to Fig. 4.7.3-3.

Table 4.7.3-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

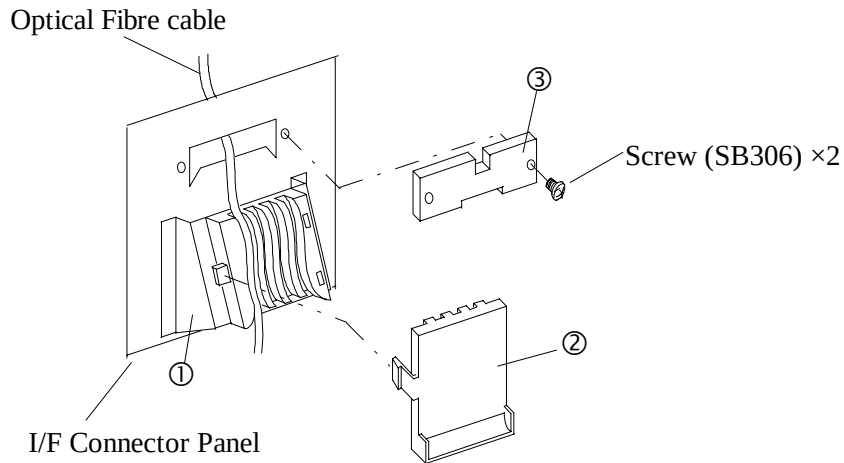


Fig 4.7.3-2 Removal of Strain Relief

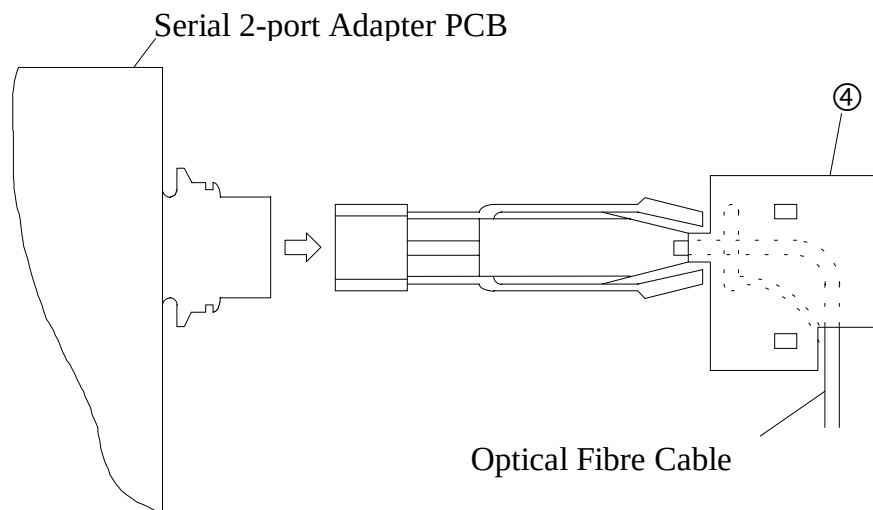


Fig. 4.7.3-3 Disconnect of Optical Fibre Cable

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.3-4.
- Attach the dummy plates referring to Fig. 4.7.3-5

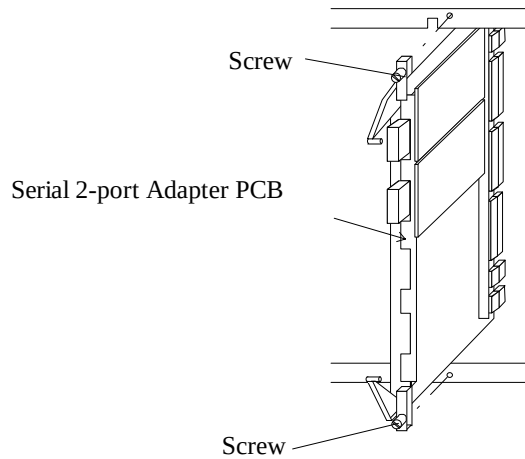


Fig. 4.7.3-4 Removal of PCB

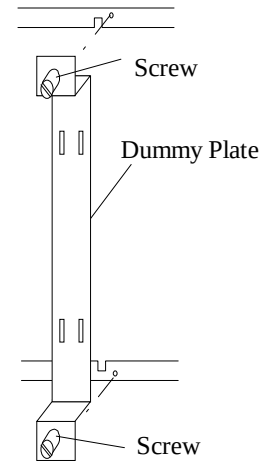


Fig. 4.7.3-5 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.3-6.
- Attach the dummy plates referring to Fig. 4.7.3-7

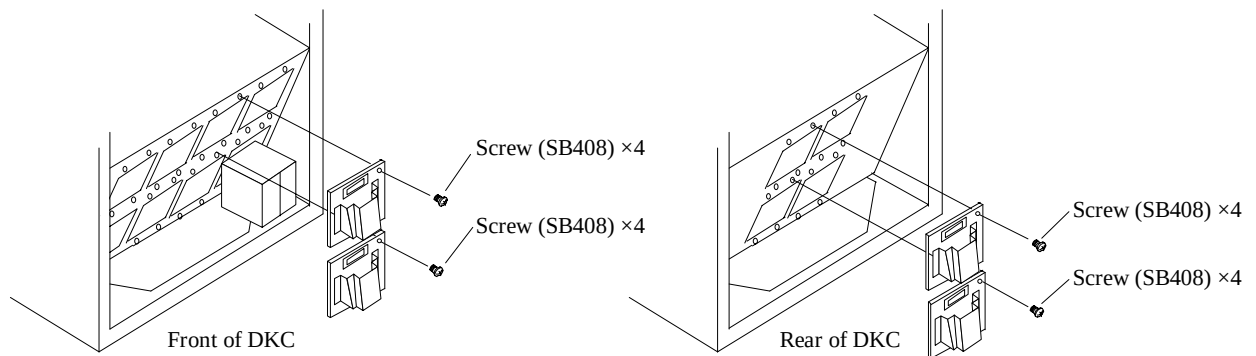


Fig. 4.7.3-6 Removal of I/F Connector Panel

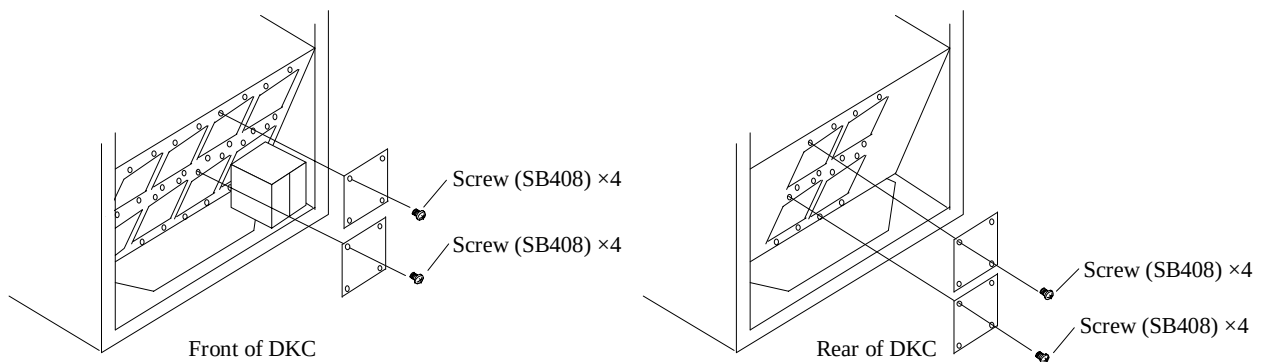


Fig. 4.7.3-7 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ SERIAL PORT ” from ①, ③, ⑤, or ⑦ referring to Fig. 4.7.3-8.

Table 4.7.3-3 Removal of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

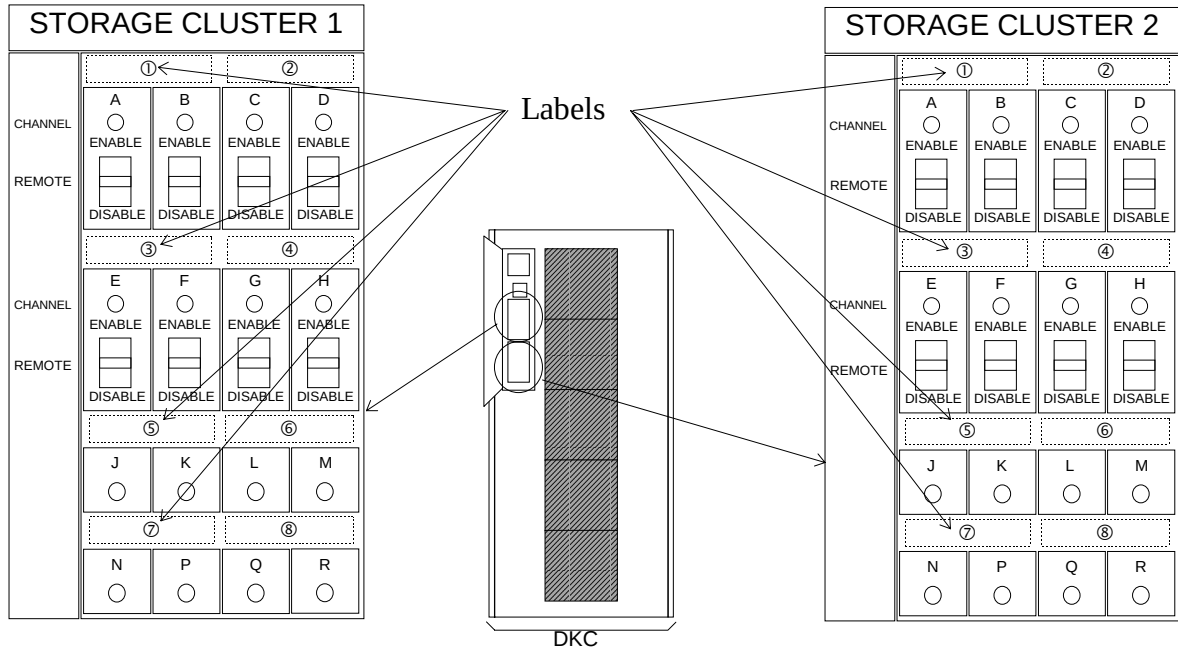


Fig. 4.7.3-8 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.3-9.

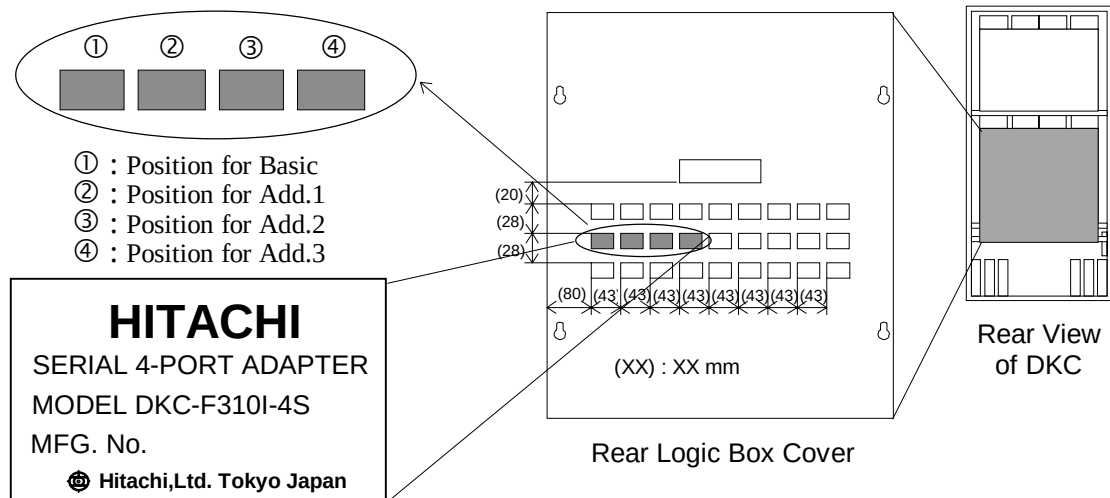


Fig. 4.7.3-9 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

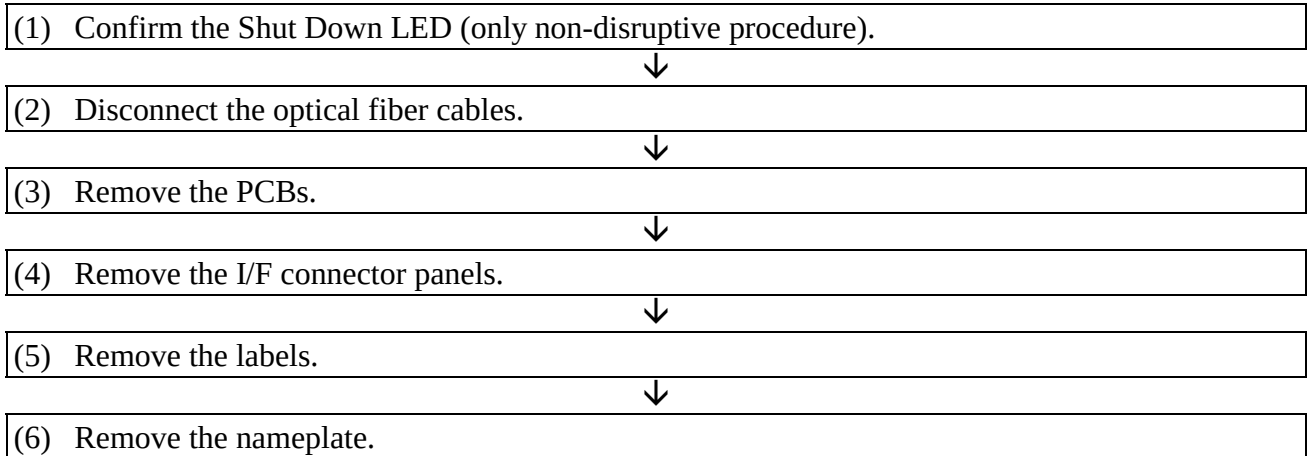
4.7.4 De-installation of Serial 8-port Adapter (DKC-F310I-8S)

4.7.4.1 Parts list

Table 4.7.4-1 Parts List for Serial 8-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8S	Serial 4-port Adapter PCB	3252509-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500245-1	4	For Serial
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Holder	2084816-1	8	
		Nameplate	3252542-4	1	For DKC-F310I-8S

4.7.4.2 Flowchart



4.7.4.3 De-Installation Procedure of Serial 8-port Adapter

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.4-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

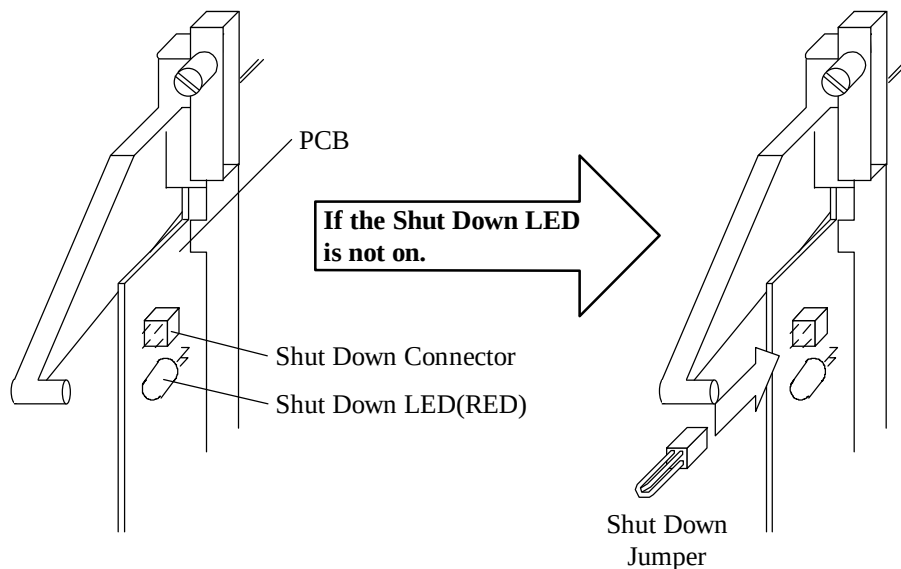


Fig. 4.7.4-1 Shut Down LED

2. Disconnection of the optical fibre cables
 - a. Remove the Bracket③ and Strain Relief ② referring to Fig 4.7.4-2.
 - b. Disconnect the optical fibre cables and remove the Holder④ referring to Fig 4.7.4-3.

Table 4.7.4-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

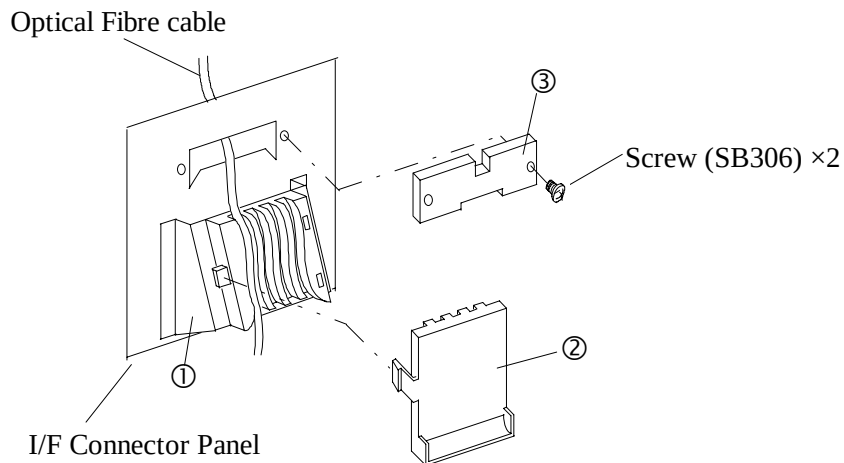


Fig 4.7.4-2 Removal of Strain Relief

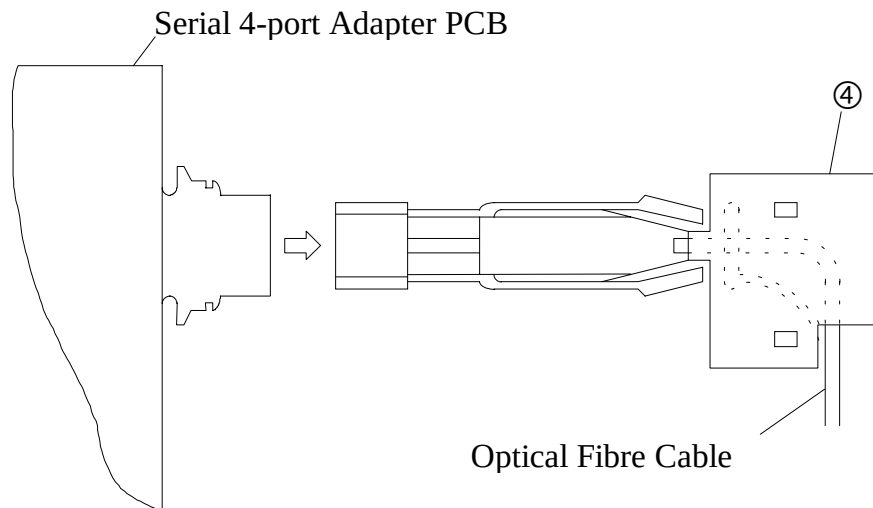


Fig. 4.7.4-3 Disconnect of Optical Fibre Cable

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.4-4.
- Attach the dummy plates referring to Fig. 4.7.4-5.

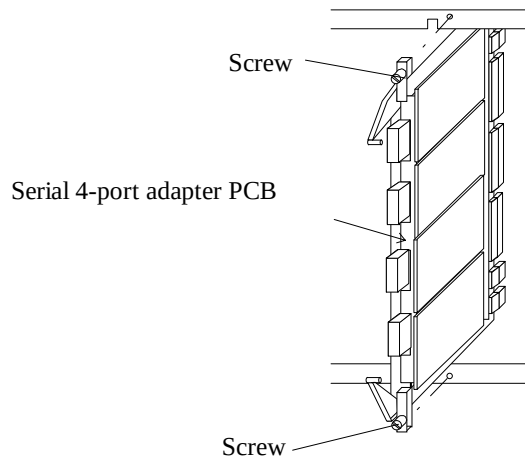


Fig. 4.7.4-4 Removal of PCB

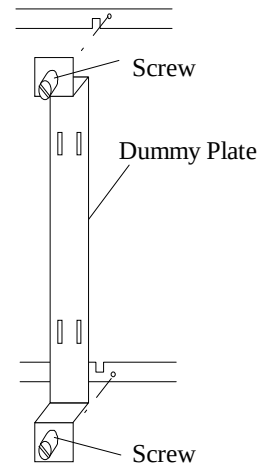


Fig. 4.7.4-5 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.4-6.
- Attach the dummy plates referring to Fig. 4.7.4-7.

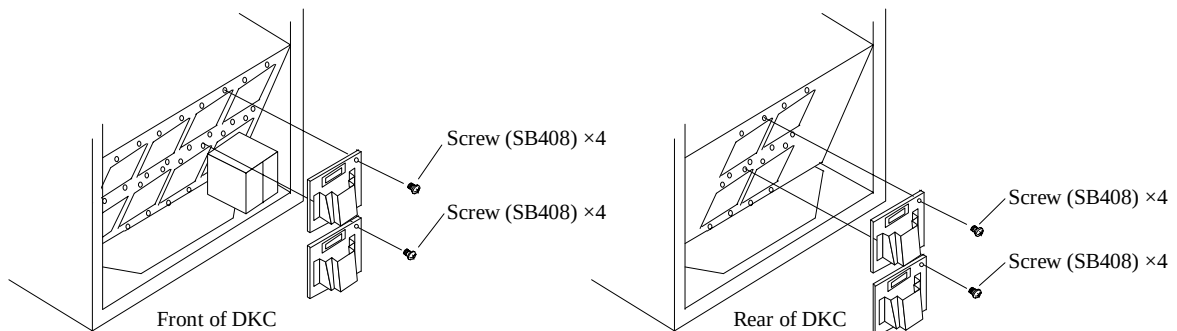


Fig. 4.7.4-6 Removal of I/F Connector Panel

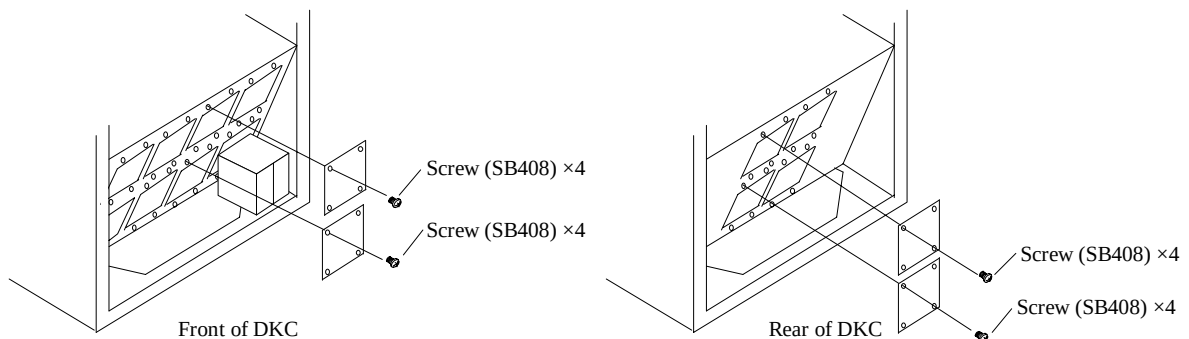


Fig. 4.7.4-7 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ SERIAL PORT ” from ① through ⑧ referring to Fig. 4.7.4-8.

Table 4.7.4-3 Removal of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	① and ②	③ and ④	⑤ and ⑥	⑦ and ⑧
Channel No.	A,B,C,D	E,F,G,H	J,K,L,M	N,P,Q,R

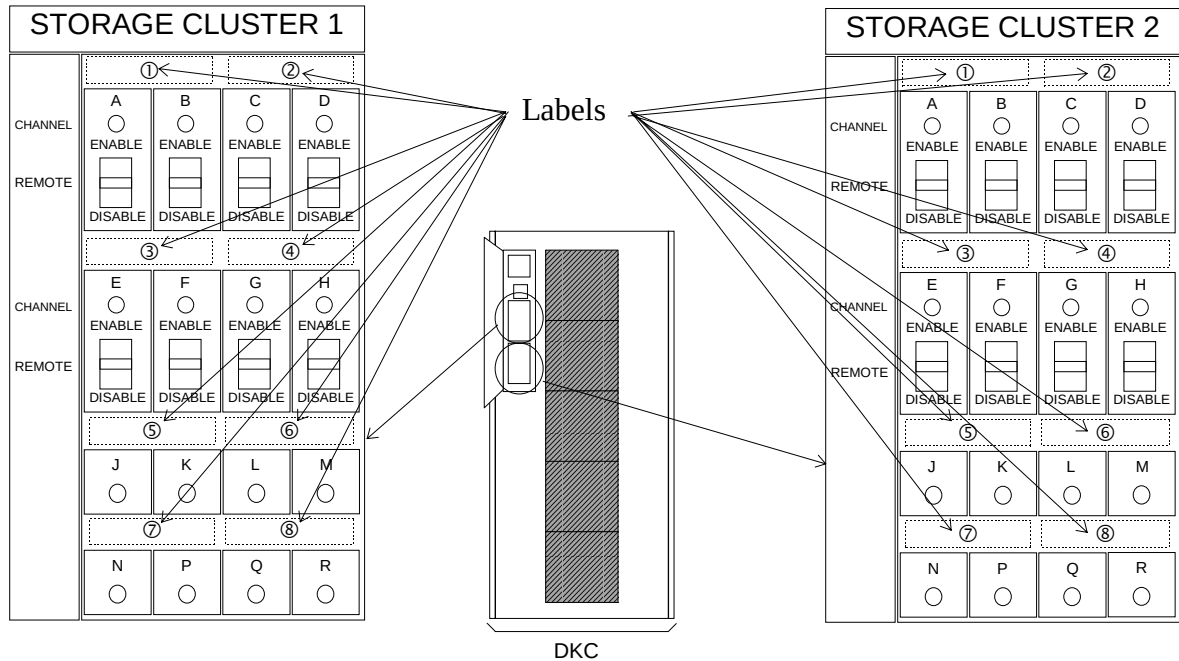


Fig. 4.7.4-8 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.4-9.

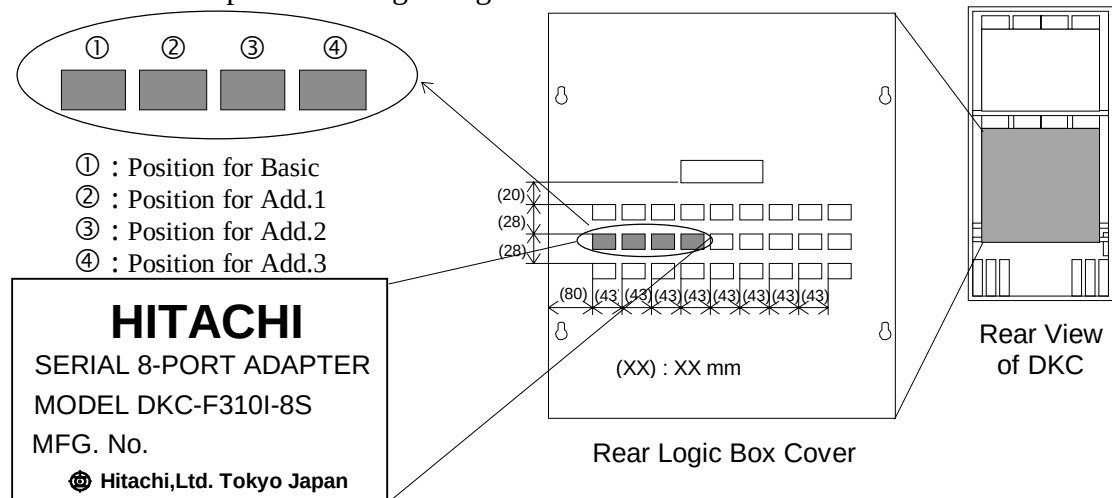


Fig. 4.7.4-9 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

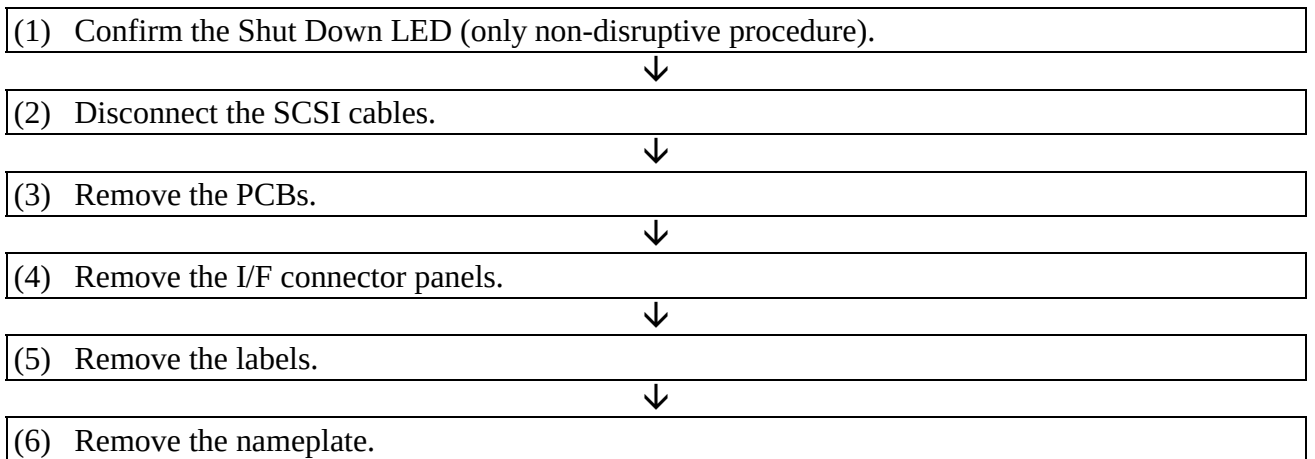
4.7.5 De-installation of SCSI 8-port Adapter (DKC-F310I-8C)

4.7.5.1 Parts list

Table 4.7.5-1 Parts List for SCSI 8-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-8C	SCSI 4-port Adapter PCB	3252505-A	2	
		I/F Connector Panel (CL1)	2102035-A	1	Cluster 1 side
		I/F Connector Panel (CL2)	2102035-B	1	Cluster 2 side
		Screw	SB408	8	
		Label	5500247-1	4	SCSI
		Nameplate	3252542-6	1	For DKC-F310I-8C
		Connector (Terminator)	5486080-868	8	

4.7.5.2 Flowchart



4.7.5.3 De-Installation Procedure of SCSI 8-port Adapter

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.5-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

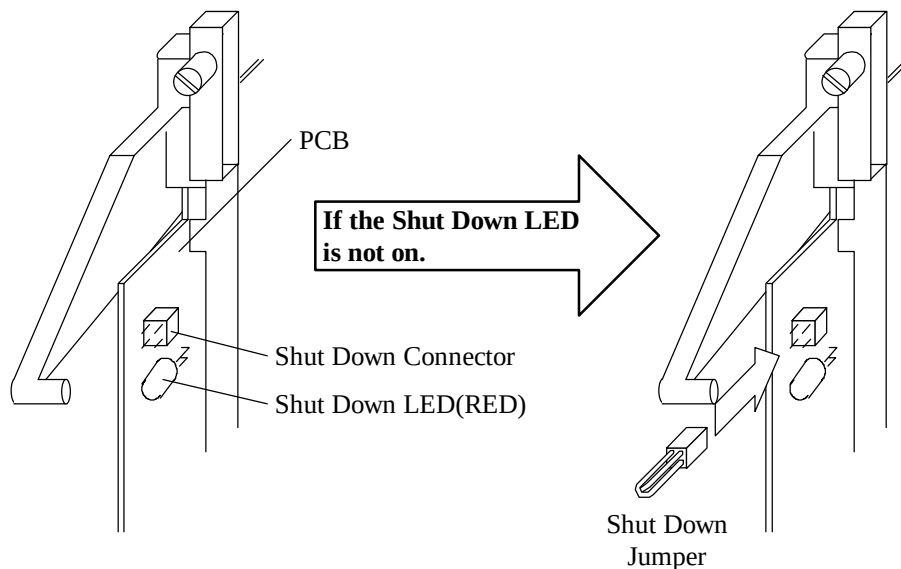


Fig. 4.7.5-1 Shut Down LED

2. Disconnection of the SCSI cables

Table 4.7.5-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
	-1N	-1P	-1Q	R	-1S	-1T	-2U	-2V	-2W	-2X	-2Y	-1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

In case of Basic

- a. Disconnect the SCSI cables from the Sub-edge connectors on the PCB referring to Table 4.7.5-2, Table 4.7.5-3, and Fig. 4.7.5-2.

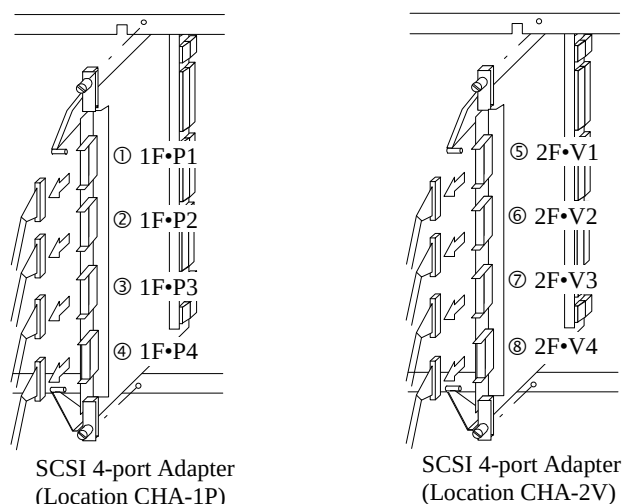


Table 4.7.5-3 SCSI Cable Disconnection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•P1
2	1F•SC2	1F•P2
3	1F•SC3	1F•P3
4	1F•SC4	1F•P4
5	2F•SC1	2F•V1
6	2F•SC2	2F•V2
7	2F•SC3	2F•V3
8	2F•SC4	2F•V4

Fig. 4.7.5-2 Disconnection of SCSI Cables (Basic)

In case of Add.1

- a. Disconnect the SCSI cables from the Sub-edge connectors on the PCB referring to Table 4.7.5-2, Table 4.7.5-4, and Fig. 4.7.5-3.

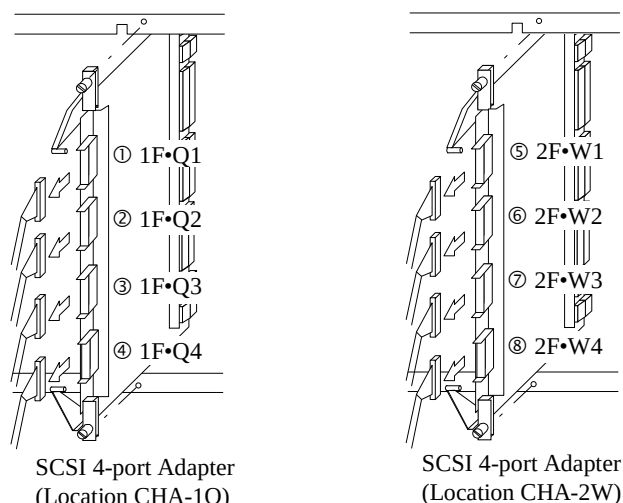


Table 4.7.5-4 SCSI Cable Disconnection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•Q1
2	1F•SC2	1F•Q2
3	1F•SC3	1F•Q3
4	1F•SC4	1F•Q4
5	2F•SC1	2F•W1
6	2F•SC2	2F•W2
7	2F•SC3	2F•W3
8	2F•SC4	2F•W4

Fig. 4.7.5-3 Disconnection of SCSI Cables (Add.1)

In case of Add.2

- a. Disconnect the SCSI cables from the Sub-edge connectors on the PCB referring to Table 4.7.5-2, Table 4.7.5-5, and Fig. 4.7.5-4.

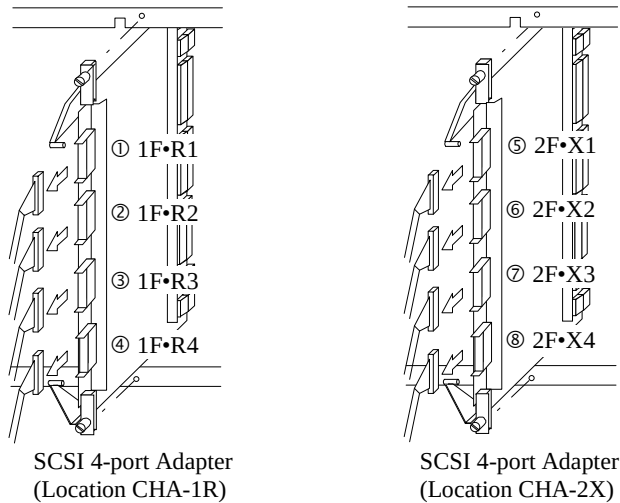


Fig. 4.7.5-4 Disconnection of SCSI Cables (Add.2)

Table 4.7.5-5 SCSI Cable Disconnection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•R1
2	1F•SC2	1F•R2
3	1F•SC3	1F•R3
4	1F•SC4	1F•R4
5	2F•SC1	2F•X1
6	2F•SC2	2F•X2
7	2F•SC3	2F•X3
8	2F•SC4	2F•X4

In case of Add.3

- a. Disconnect the SCSI cables from the Sub-edge connectors on the PCB referring to Table 4.7.5-2, Table 4.7.5-6, and Fig. 4.7.5-5.

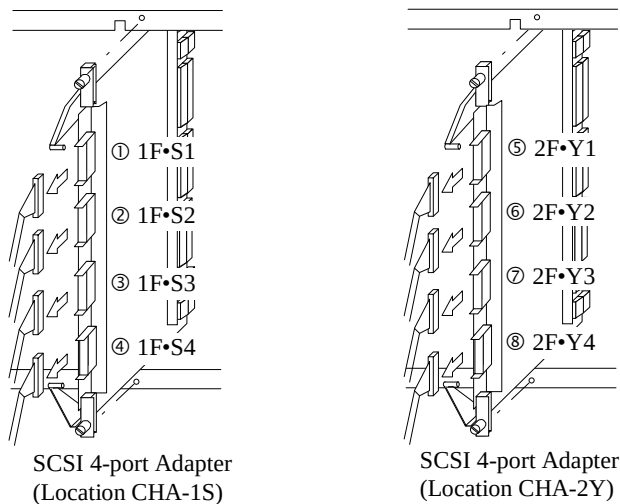


Fig. 4.7.5-5 Disconnection of SCSI Cables (Add.3)

Table 4.7.5-6 SCSI Cable Disconnection

No.	SCSI cable	Sub-edge connector on PCB
1	1F•SC1	1F•S1
2	1F•SC2	1F•S2
3	1F•SC3	1F•S3
4	1F•SC4	1F•S4
5	2F•SC1	2F•Y1
6	2F•SC2	2F•Y2
7	2F•SC3	2F•Y3
8	2F•SC4	2F•Y4

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.5-6.
- Attach the dummy plates referring to Fig. 4.7.5-7.

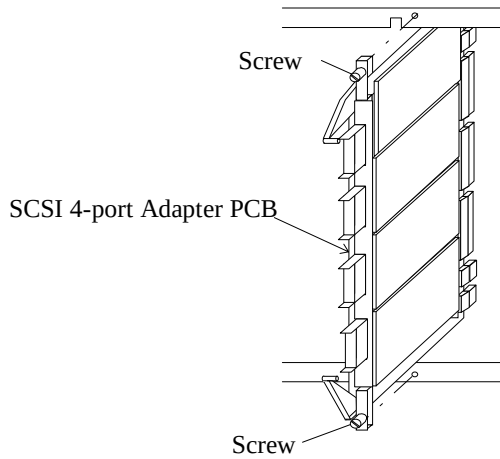


Fig. 4.7.5-6 Removal of PCB

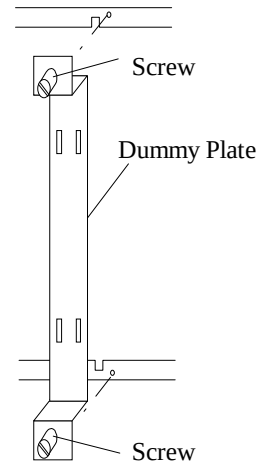


Fig. 4.7.5-7 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.5-8.
- Attach the dummy plates referring to Fig. 4.7.5-9.

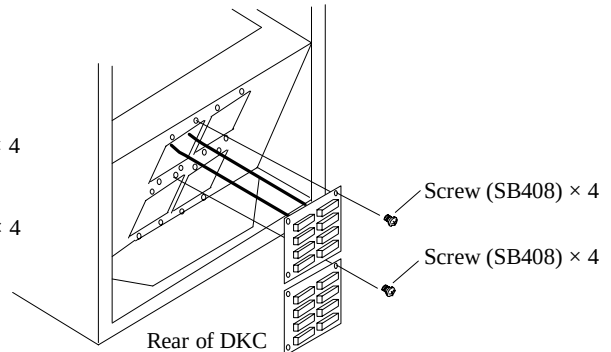
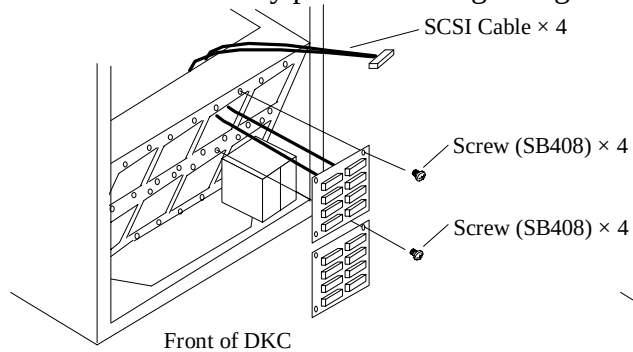


Fig. 4.7.5-8 Removal of I/F Connector Panel

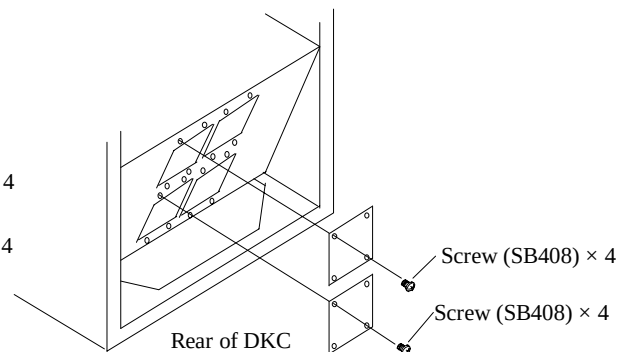
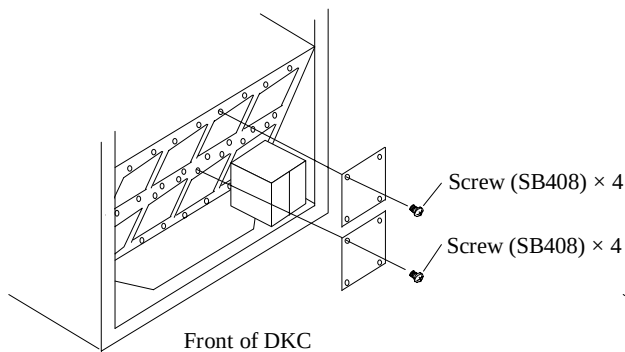


Fig. 4.7.5-9 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ SCSI PORT ” from ① through ⑧ referring to Fig. 4.7.5-10.

Table 4.7.5-7 Removal of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	① and ②	③ and ④	⑤ and ⑥	⑦ and ⑧
Channel No.	A,B,C,D	E,F,G,H	J,K,L,M	N,P,Q,R

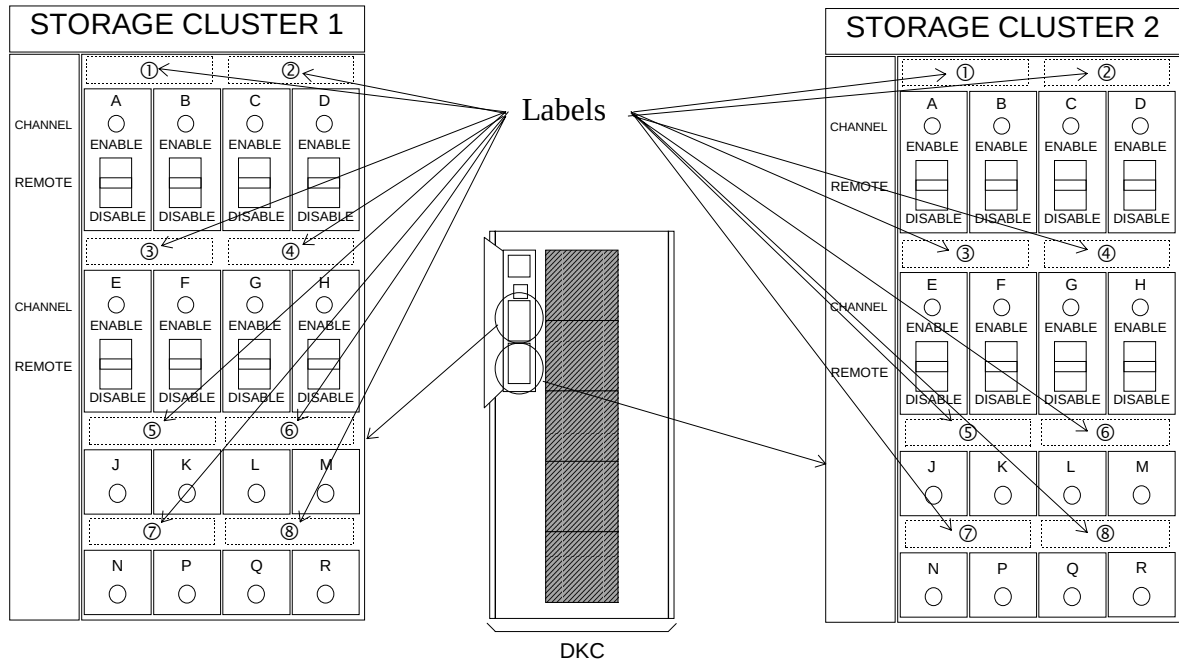


Fig. 4.7.5-10 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.5-11.

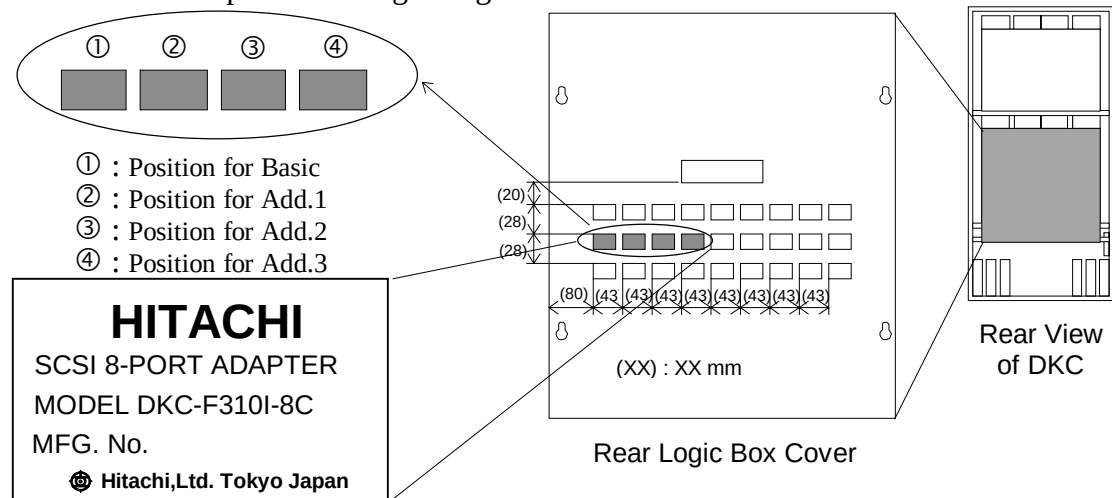


Fig. 4.7.5-11 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

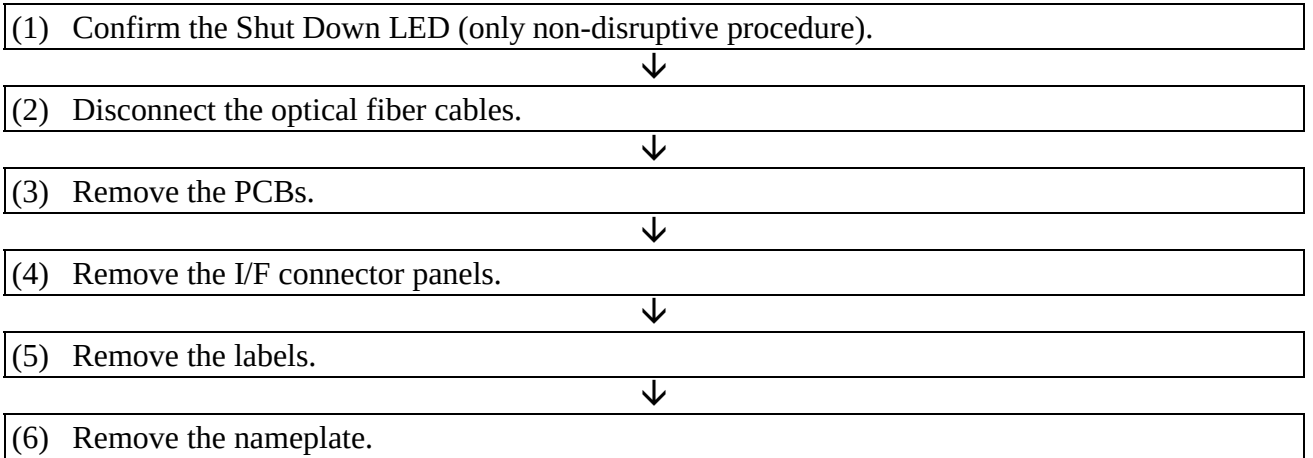
4.7.6 De-installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4F/4FE)

4.7.6.1 Parts list

Table 4.7.6-1 Parts List for Fibre 4-port Adapter

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4F	Fibre 2-port Adapter PCB	3252506-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	2	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-7	1	For DKC-F310I-4F
2	DKC-F310I-4FE	Fibre 2-port Adapter PCB	3252506-C	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	2	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-75	1	For DKC-F310I-4FE

4.7.6.2 Flowchart



4.7.6.3 De-Installation Procedure of Fibre 4-port Adapter

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.6-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

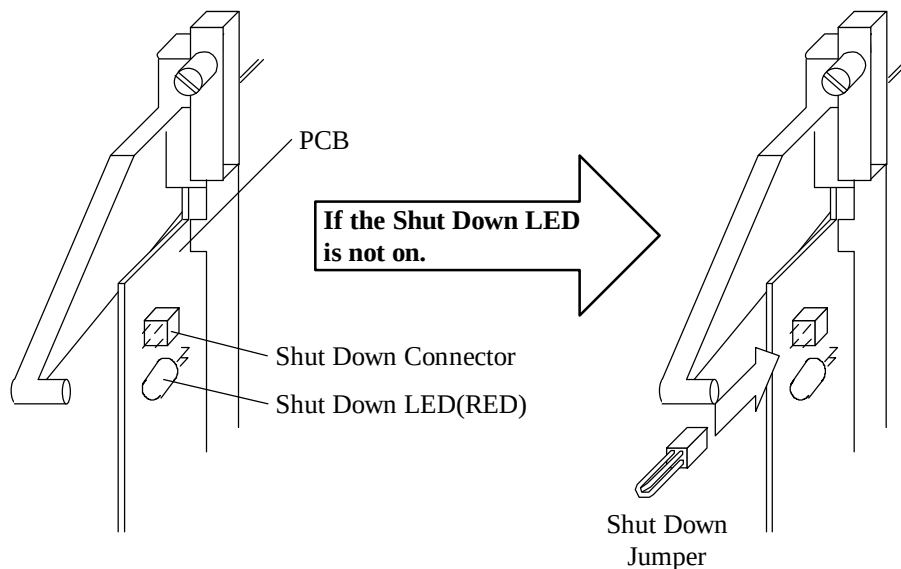


Fig. 4.7.6-1 Shut Down LED

2. Disconnection of the optical fibre cables
 - a. Remove the Bracket③ and the Strain Relief② referring to Fig. 4.7.6-2.
 - b. Disconnect the optical fibre cables referring to Fig. 4.7.6-3.

Table 4.7.3-2 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

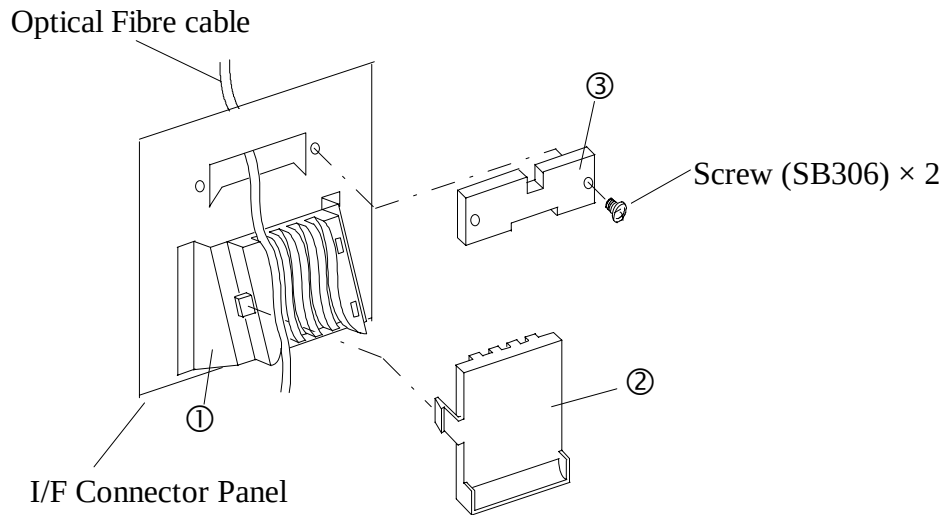


Fig 4.7.6-2 Removal of Strain Relief

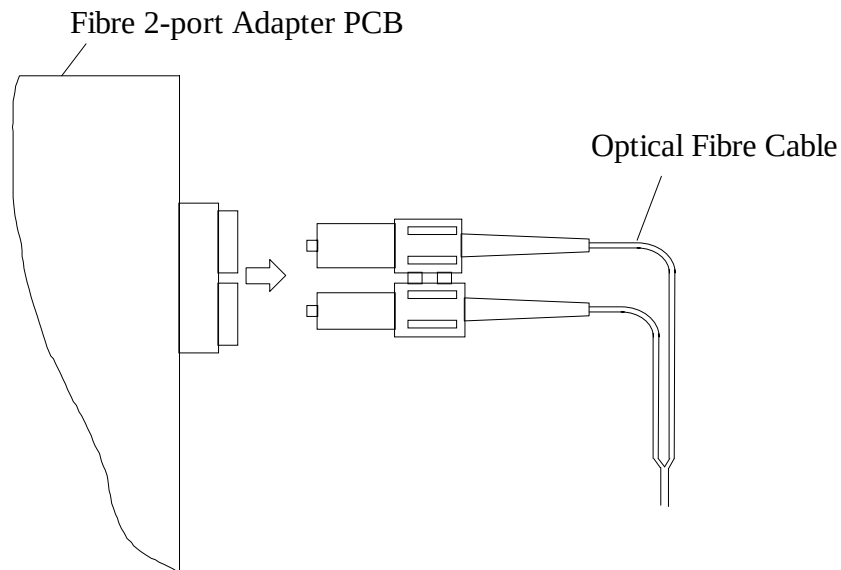


Fig. 4.7.6-3 Disconnect of Optical Fibre Cable

3. Removal of the PCBs

- Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.6-4.
- Attach the dummy plates referring to Fig. 4.7.6-5.

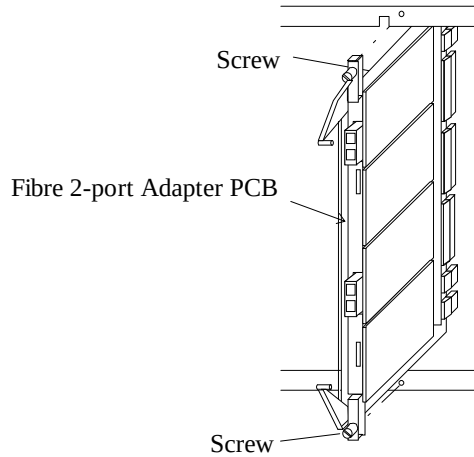


Fig. 4.7.6-4 Removal of PCB

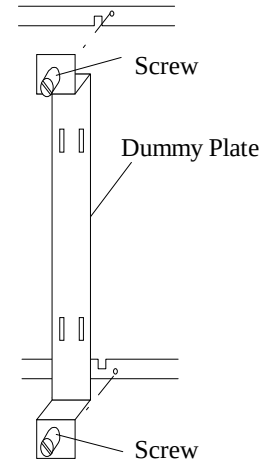


Fig. 4.7.6-5 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- Remove the I/F connector panels referring to Fig. 4.7.6-6.
- Attach the dummy plates referring to Fig. 4.7.6-7.

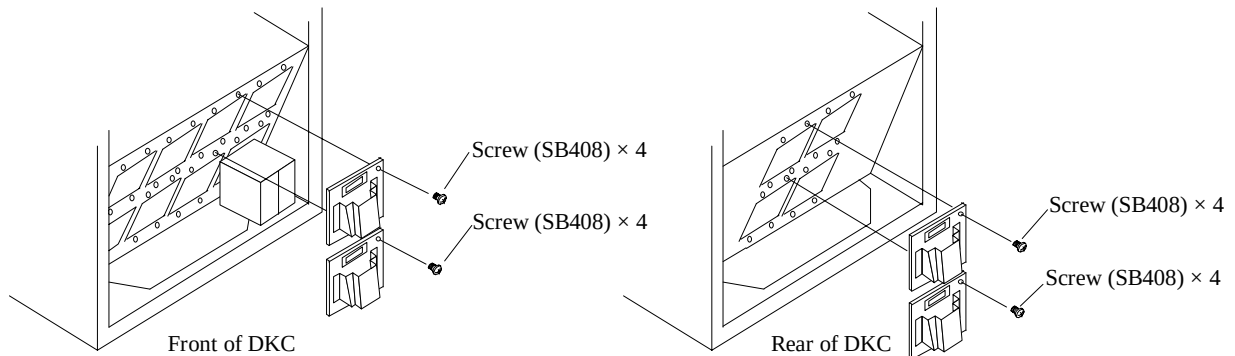


Fig. 4.7.6-6 Removal of I/F Connector Panel

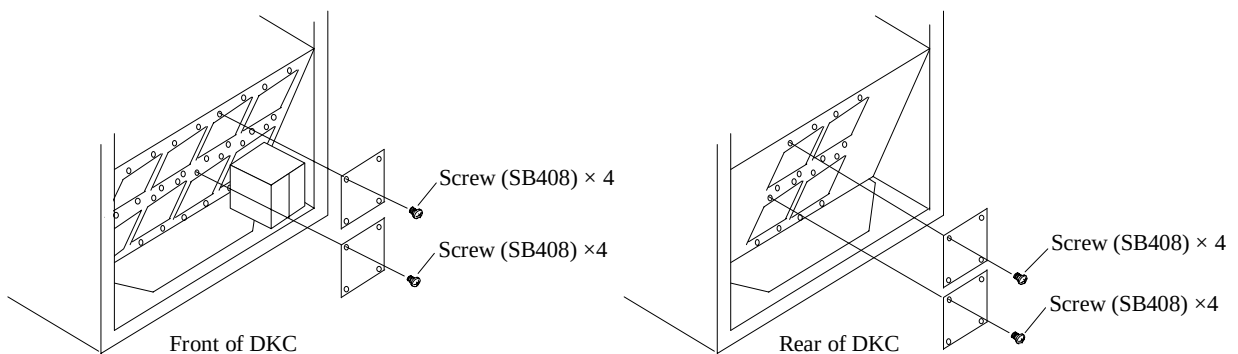


Fig. 4.7.6-7 Attachment of Dummy Plate

5. Removal of the labels.

- a. Remove the labels “ FIBRE PORT ” from ①, ③, ⑤, or ⑦ referring to Fig. 4.7.6-8.

Table 4.7.6-3 Removal of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

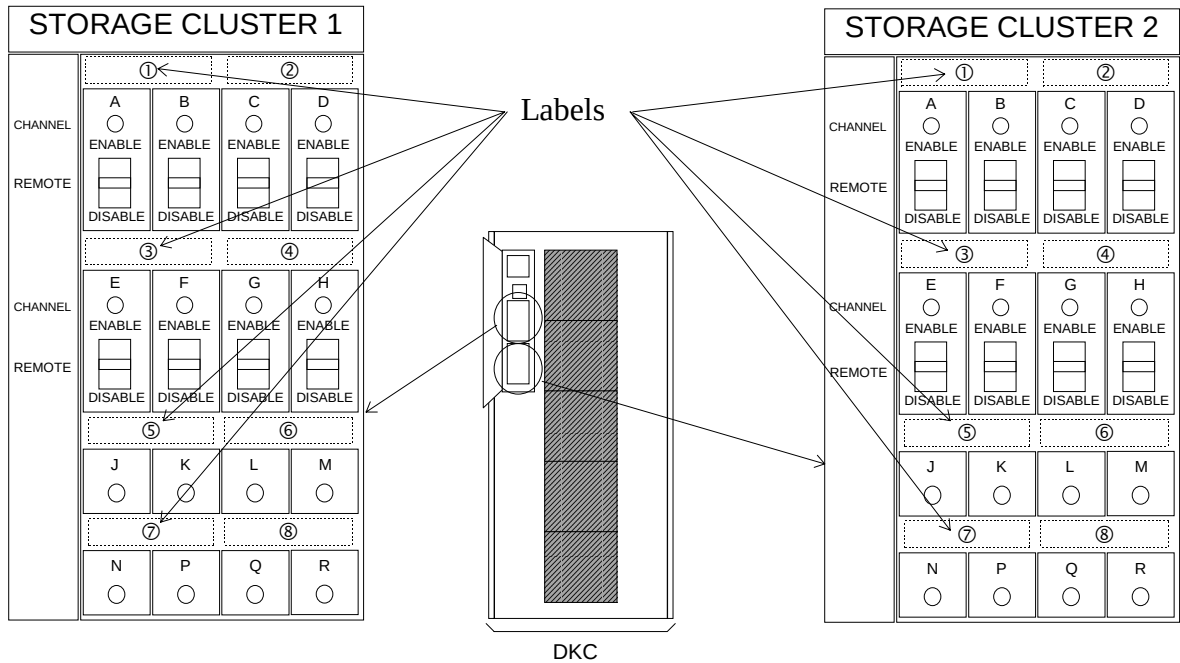


Fig. 4.7.6-8 Removal of Labels

6. Removal of the Nameplate

- a. Remove the nameplate referring to Fig. 4.7.6-9.

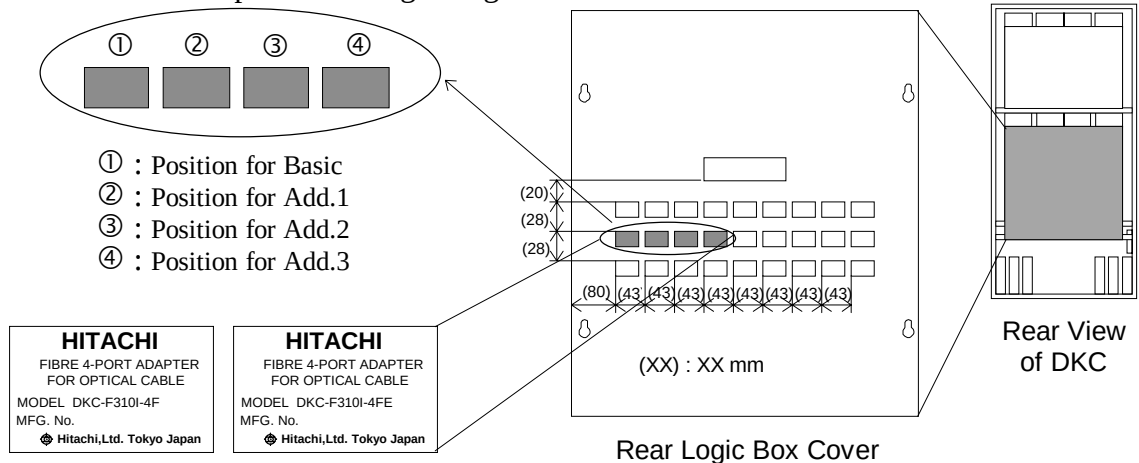


Fig. 4.7.6-9 Removal of Nameplate

7. Return to General Flow.

Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.

Disruptive De-Installation: Go to INST02T-50 Step (15).

4.7.7 De-installation of Fibre 4-port Adapter for Optical Cable (DKC-F310I-4GS/4GL)

4.7.7.1 Parts list

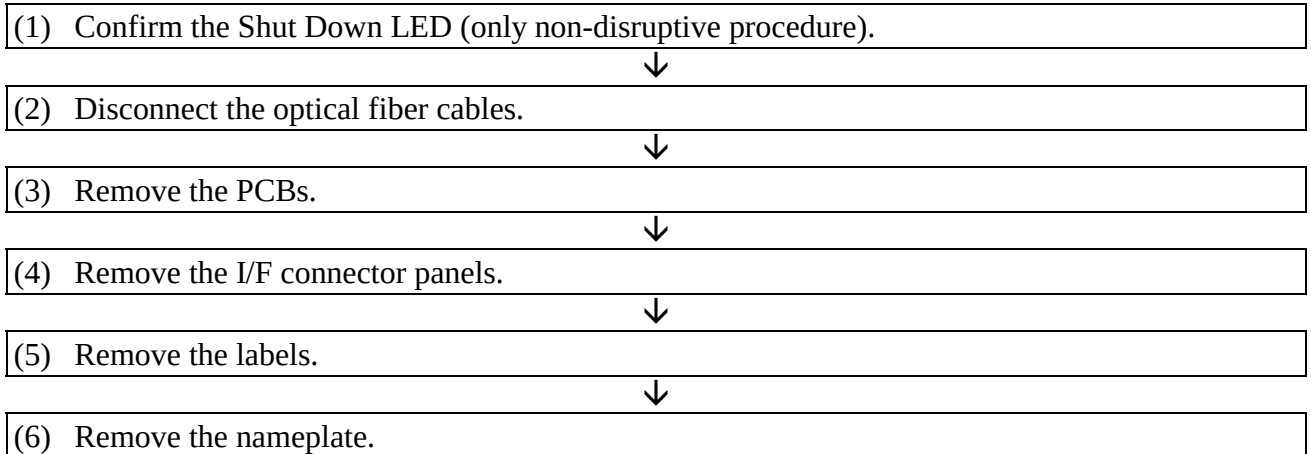
Table 4.7.7-1 Parts List for Fibre 4-port Adapter (Short Wavelength)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
1	DKC-F310I-4GS (Short Wavelength)	Fibre 2-port Adapter PCB	3254519-A	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	2	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-63	1	

Table 4.7.7-2 Parts List for Fibre 4-port Adapter (Long Wavelength)

No.	Model Number	Part Name	Part No.	Quantity	Remarks
2	DKC-F310I-4GL (Long Wavelength)	Fibre 2-port Adapter PCB	3254519-B	2	
		I/F Connector Panel	3250912-A	2	
		Screw	SB408	8	
		Label	5500248-1	2	For Fibre
		Screw	SB306	4	
		Bracket	5471998-1	2	
		Nameplate	3252542-64	1	

4.7.7.2 Flowchart



4.7.7.3 De-Installation Procedure of Fibre 4-port Adapter

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.

1. Confirmation of the Shut Down LED (Only Non-Disruptive Procedure)
 - a. Confirm that Shut Down LED is on.(Fig. 4.7.7-1). If the LED is not on, connect the Shut Down Jumper to the Shut Down Connector.

! CAUTION

A system down may be caused if the Shut Down jumper socket is inserted in a PCB other than that to be removed. Make sure that it is the PCB to be removed.

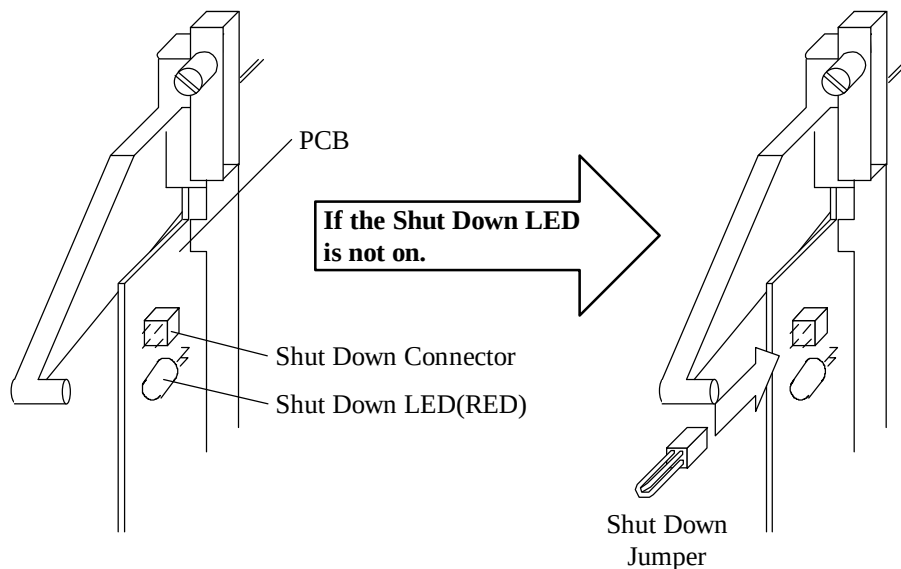


Fig. 4.7.7-1 Shut Down LED

2. Disconnection of the optical fibre cables
- a. Remove the Bracket③ and the Strain Relief② referring to Fig. 4.7.7-2.
 - b. Disconnect the optical fibre cables referring to Fig. 4.7.7-3.

Table 4.7.7-3 Removal Location (Front of the unit)

Cluster	CL1						CL2					CL1
Slot No.	N	P	Q	R	S	T	U	V	W	X	Y	Z
Function	TM	CHA	CHA	CHA	CHA	CACHE	CACHE	CHA	CHA	CHA	CHA	TM
Location No.	TM -1N	CHA -1P	CHA -1Q	CHA R	CHA -1S	CACHE -1T	CACHE -2U	CHA -2V	CHA -2W	CHA -2X	CHA -2Y	TM -1Z
Order of addition		Basic	Add.1	Add.2	Add.3			Basic	Add.1	Add.2	Add.3	

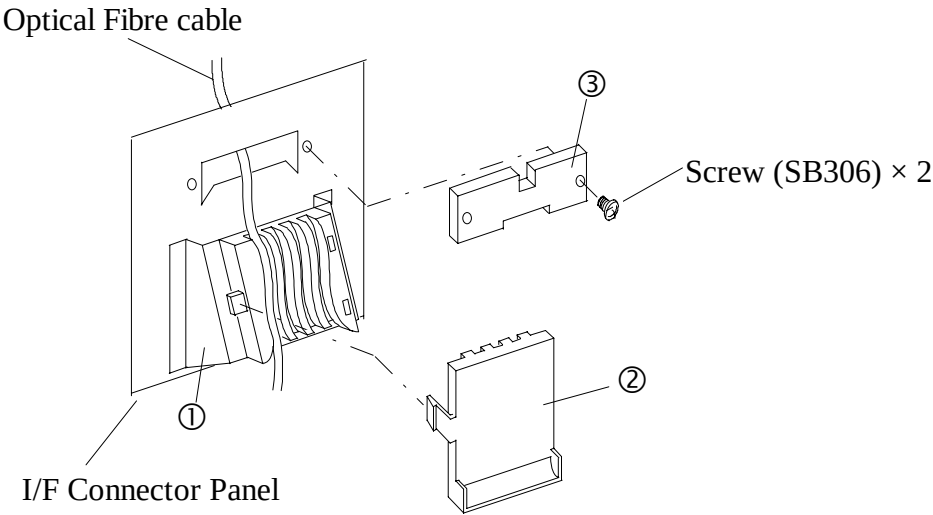


Fig 4.7.7-2 Removal of Strain Relief

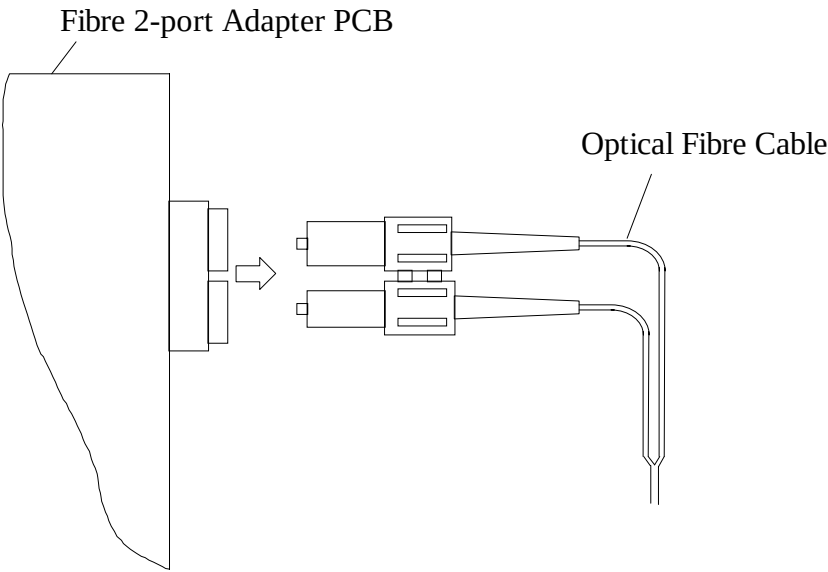


Fig. 4.7.7-3 Disconnect of Optical Fibre Cable

3. Removal of the PCBs

- a. Remove the two screws and remove the PCBs from the correct locations in the Logic Box referring to Fig. 4.7.7-4.
- b. Attach the dummy plates referring to Fig. 4.7.7-5.

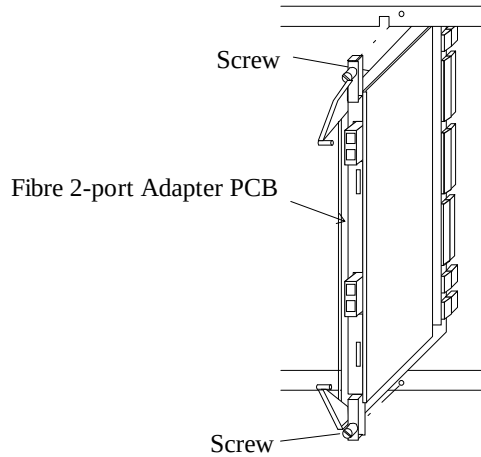


Fig. 4.7.7-4 Removal of PCB

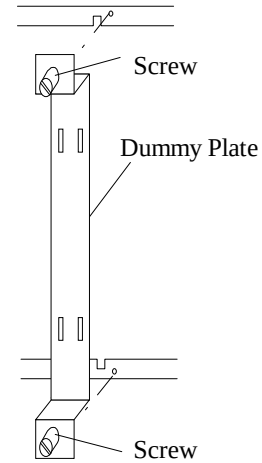


Fig. 4.7.7-5 Attachment of Dummy Plate

4. Removal of the I/F Connector Panel

- a. Remove the I/F connector panels referring to Fig. 4.7.7-6.
- b. Attach the dummy plates referring to Fig. 4.7.7-7.

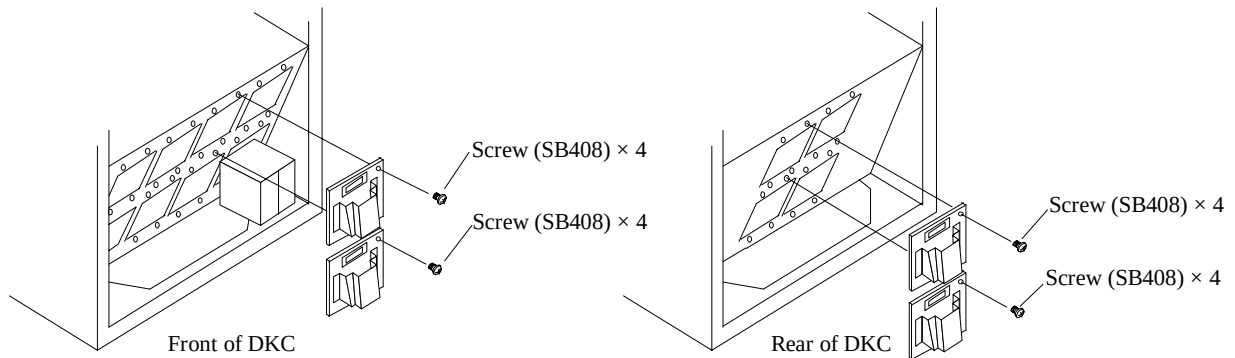


Fig. 4.7.7-6 Removal of I/F Connector Panel

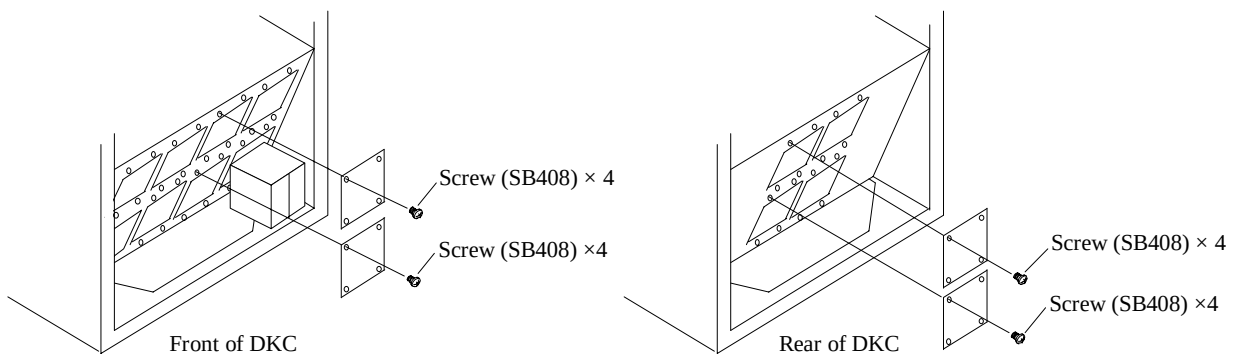


Fig. 4.7.7-7 Attachment of Dummy Plate

5. Removal of the labels.
 - a. Remove the labels “ FIBRE PORT ” from ①, ③, ⑤, or ⑦ referring to Fig. 4.7.7-8.

Table 4.7.7-4 Removal of Labels

Order of addition	Basic	Add.1	Add.2	Add.3
Labeling position	①	③	⑤	⑦
Channel No.	A,B	E,F	J,K	N,P

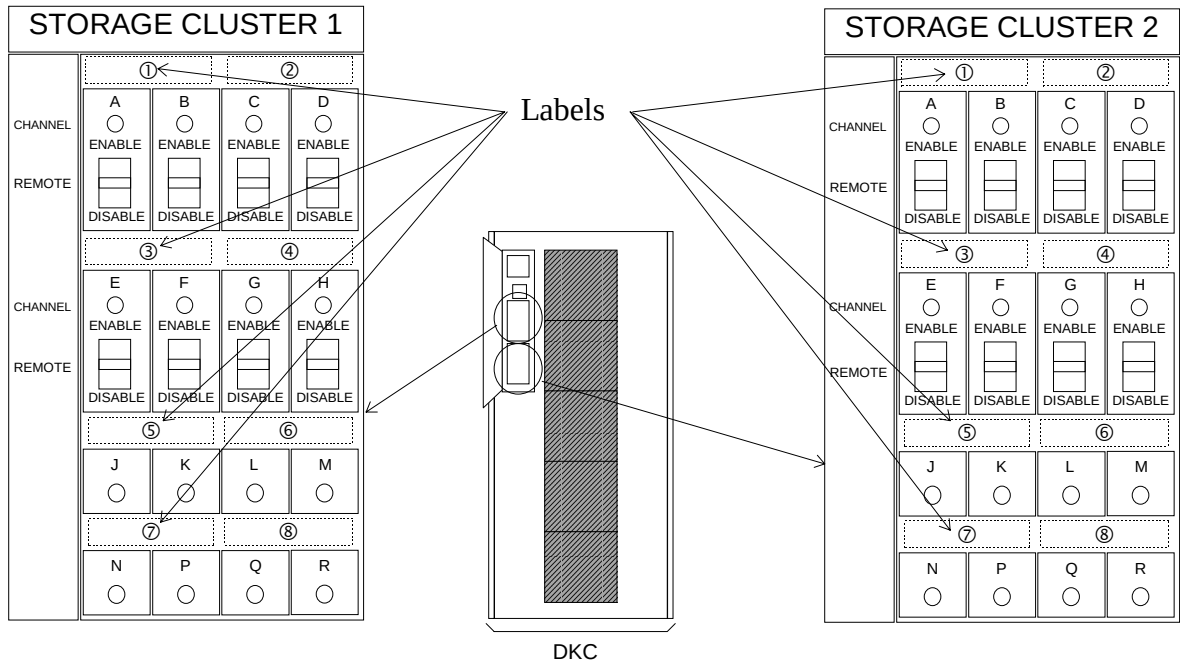


Fig. 4.7.7-8 Removal of Labels

6. Removal of the Nameplate
 - a. Remove the nameplate referring to Fig. 4.7.7-9.

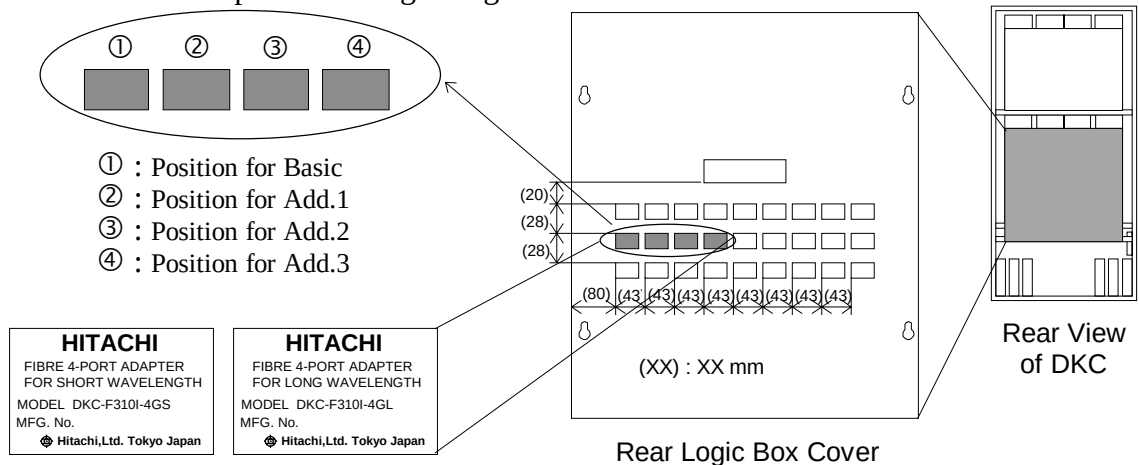


Fig. 4.7.7-9 Removal of Nameplate

7. Return to General Flow.
Non-disruptive De-Installation: Go to INST02T-30 Step (8)-6.
Disruptive De-Installation: Go to INST02T-50 Step (15).

5 SVP operation

1-phase AC BOX installation/de-installation operation in the SVP are same as 3-phase AC BOX installation/de-installation. See “5 SVP operation” in the install section (Main volume 3/3) to operate. But, you should select and set whether you want to operate against the 1-phase AC BOX or 3-phase AC BOX in the “Power Supply” screen, which is displayed in the first installation or system tuning in order to define Power Supply.

Select one of them :

(1) 3-phase AC Box

(2) 1-phase AC Box

and select (CL) [OK] to define Power Supply model.

The following pages are described the same screen like below diagram.

Please exchange the described screen to the below diagram to refer to the following pages.

- 4-3 in INST05-75
- 5 in INST05-240
- 3 (2) in INST05-360
- 3 (2) in INST05-450
- 7 in INST05-930

Need to change to the below diagram.

Power Supply

Set the Power Supply Configuration.

Type

☐ 3-phase AC Box

☒ 1-phase AC Box

Redundant Power Supply

☒ CL Redundant Power Supply

☐ CL Additional Power Supply

☐ CL Additional Redundant Power Supply

Cancel OK

Fig 5.1 Power Supply screen

TROUBLE SHOOTING SECTION

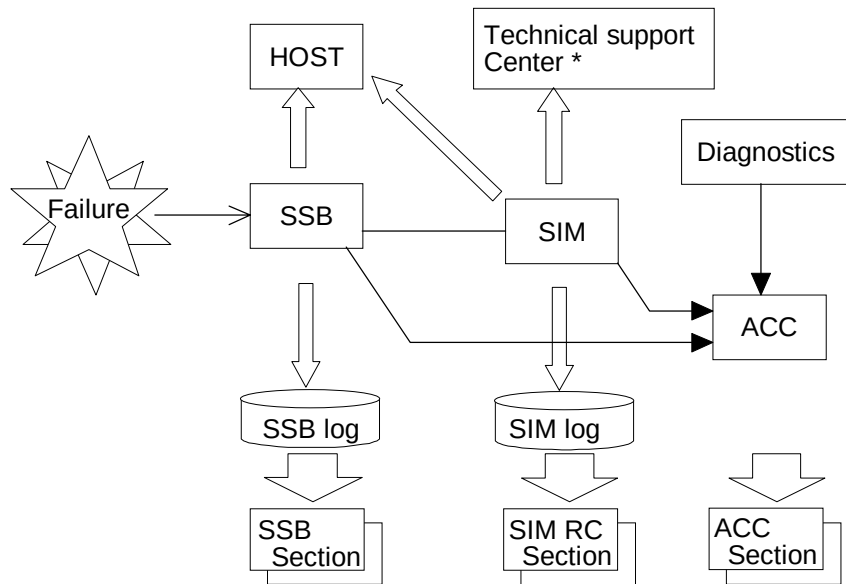
Contents

TROUBLE SHOOTING

1 Overview of TRBL	-----	TRBL01T-10
2 Point out a Failed Part	-----	TRBL02T-10
3 Isolating a Failed Part	-----	TRBL03T-10
3.1 Analyze the SIM log, SSB log or Remote Diagnostic Data	-----	TRBL03T-10

1 Overview of TRBL

The figure below shows the flowchart of creating and reporting the SIM and SSB after the DKC microprogram has detected a failure. It also shows the section of maintenance manual which should be referred to.



Since the subsystem starts its maintenance work based on the SIM and ACC, if a failure occurs check the ACC first and start troubleshooting.

For the failure which does not produce the ACC, isolate the failed part depending on its phenomenon.

* Technical Support Center: Responsible section of maintenance service and technical support.

2 Point out a Failed Part

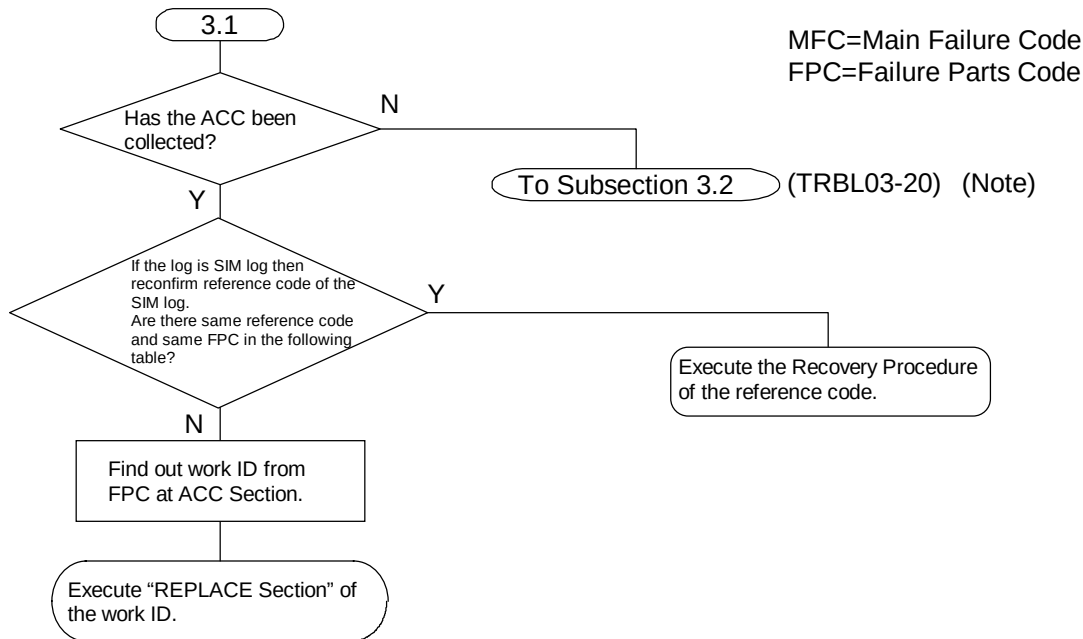
[1] The ACC has been collected -----See TRBL03T-10

[2] The ACC has not been collected-----See TRBL03-20 (Note)

(Note) Refer to the Trouble Shooting Section in the main volume 2/4.

3 Isolating a Failed Part

3.1 Analyze the SIM log, SSB log or Remote Diagnostic Data



Reference Code	FPC	Recovery Procedure
DF7XYZ	80000000	5.2 Isolation and Recovery Procedures for Common SCSI Bus Error (TRBL05-30) (Note)
DF8XYZ	80000000	
FFEA0X	80000000	5.1 Error Recovery Procedure for Bus Blocking (TRBL05-20) (Note)
FFFA0X	80000000	
3080XY	80000000	
3180XY	80000000	
BF2XYY	80000000	5.12 Voltage alarm (TRBL05-340) (Note)
BF4XXX	80000000	5.14 PS warning error (TRBL05-420) (Note)
BFA1XX	80000000	5.13 Environment monitors disagreement error (TRBL05-370) (Note)
CF90XY	80000000	5.11 Recovery Procedure for LDEV Blocking (TRBL05-330) (Note)
DF9YXX	80000000	
EF90XX	80000000	
D4XYYY	80000000	6 HRC/HODM Error Recovery (TRBL06-10) (Note)
DCXYYY	80000000	
2180XY	80000000	

(Note) Refer to the Trouble Shooting Section in the main volume 2/4.

REPLACE SECTION

SAFETY SUMMARY

Notes on the operation on the password inputting screen.

The password inputting screen is displayed on the SVP screen to arouse maintenance person's attention when the operation concerned can cause a serious failure such as a system down or a data loss.

- When the password inputting screen is displayed, be sure to observe the cautions given in the procedure concerned in the maintenance manual.
- When a confirmation by the technical support center is required in the maintenance manual, be sure to get it before executing the maintenance procedure concerned.
- Each PCB is operated by the microprogram owned by it individually.

If the PCB is replaced in the procedure that makes the version of the microprogram disagree with that of the PCB, the subsystem cannot operate normally. Be sure to make the revisions consistent each other.

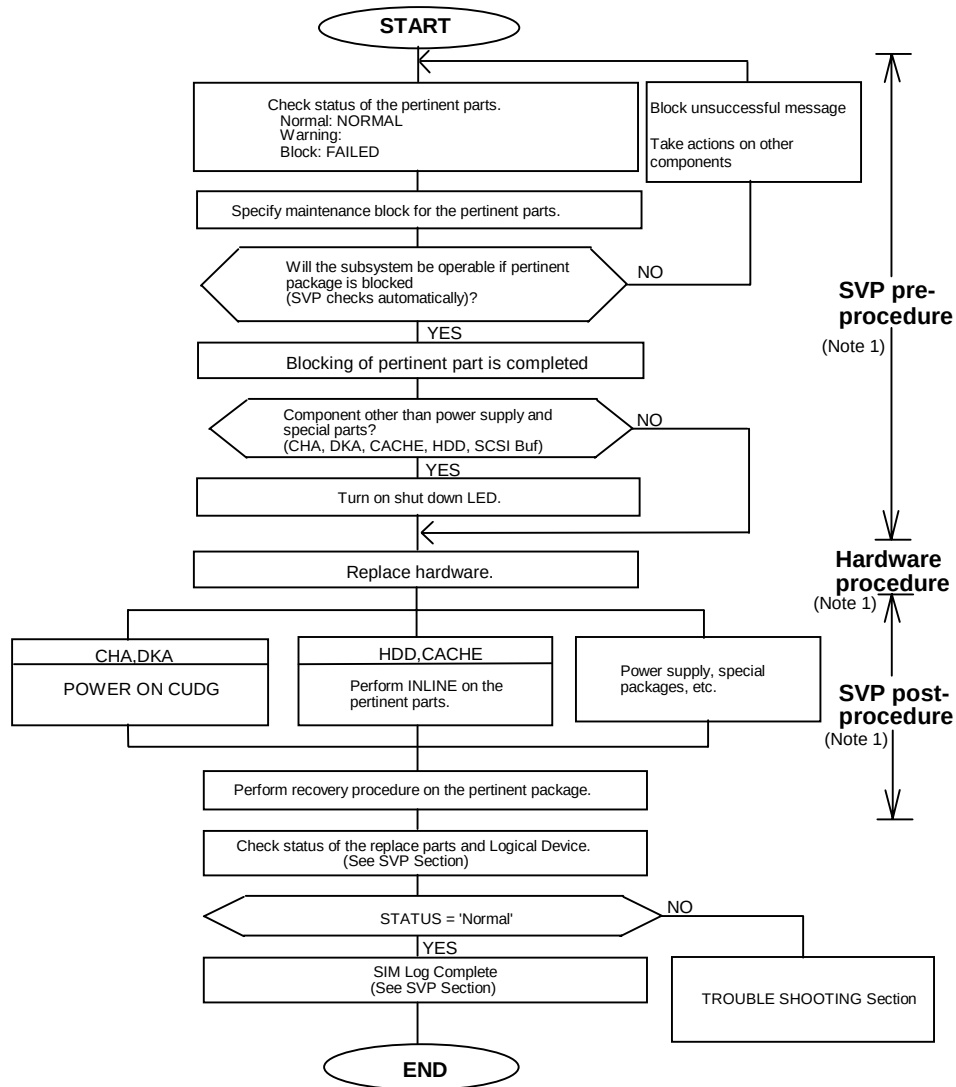
Contents

1. Hot Replace	REP01T-10
1.1 Hot Replace Flowchart	REP01T-10
1.2 Concept of Drive Maintenance	(Note 1)
1.3 Concept of Cache Maintenance	(Note 1)
1.4 How to Interpret the Hot Replace Procedure	REP01T-20
1.5 Parts Replacement Process Table	REP01T-30
1.6 Procedure contents table	REP01T-30
1.7 MAINTENANCE outline	(Note 1)
1.8 Availability of the online maintenance when HRC/HORC is used	(Note 1)
1.9 Availability of the online maintenance when HODM is used	(Note 1)
1.10 Availability of the online maintenance when HMRCF is used	(Note 1)
1.11 Availability of the online maintenance when HXRC is used	(Note 1)

(Note 1) Refer to Volume 2/4 REPLACE SECTION.

1 Hot Replace

1.1 Hot Replace Flowchart



Note 1:

SVP pre-procedure: An SVP (PC) process of issuing a maintenance block instruction after checking the status of the parts to be replaced so that the live parts can be removed and replaced.

Hard ware procedure: A process of removing a parts to be replaced (shut down LED on) and installing a maintenance package.

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

SVP post-procedure: An SVP (PC) process of making functional checks (CUDG and INLINE) on the replacement package and building it into the subsystem.

1.4 How to Interpret the Hot Replace Procedure

[In case of replacement when SIM was reported]

- ① Search a work ID which coincides with the work ID corresponding to SIM ACC(FPC) (refer to FPC list on page ACC04T-10) from Parts Replacement Process Table on page REP01T-30.
Search a work ID corresponding to the pertinent condition if "Condition Item" is described in Parts Replacement Process Table.
- ② If the work ID is found,
 - Take actions according to the SVP pre-procedure, hardware procedure, SVP post-procedure number that match the work ID.
 If no work ID is found,
 - Search a work ID corresponding to SIM ACC(FPC, and error details) from Parts Replacement Process Table on page REP01T-30.
 - Take actions according to the SVP pre-procedure, hardware procedure, SVP post-procedure number that match the work ID.

Note : See page REP01-113 for the procedure for searching a work ID to replace a drive.
When replacing a drive, be sure to see page REP01-111 and REP01-112.
(Refer to volume 2/4 REPLACE SECTION.)

[In case of replacement when SIM was not reported]

- ① Search a work ID corresponding to the part to be replaced from Parts Replacement Process Table on page REP01-120.
- ② Take actions according to the SVP pre-procedure, hardware procedure, SVP post-procedure number that match the work ID.

Note : See page REP01-113 for the procedure for searching the work ID to replace a drive.
When replacing a drive, be sure to see page REP01-111 and REP01-112.
(Refer to volume 2/4 REPLACE SECTION.)

-----<Example>-----

Condition to replace

SIM was reported

Work ID corresponding to SIM ACC FPC is RCA1

* Search an applicable Work ID identified by shaded area in the following sample of Parts Replacement Process Table under the above conditions.

<CACHE>

Work ID	Part name	Procedure			Replacing time
		SVP re-procedure	Hardware procedure	SVP post-procedure	
RCA1	CACHE with SM (WP108-A)	Pre A, pre F	Hardware B	Post e	15 minutes
RCA2					

1.5 Parts Replacement Process Table

<DKC Special PCB>

Work ID	Parts Name	Procedure			Replacing Time
		SVP pre-procedure	Hardware procedure	SVP post-procedure	
RT12	BREAKER BOX1	Pre A, Pre T3	Hardware TUV12	Post t3	28 min
RT13	BREAKER BOX2	Pre A, Pre T3	Hardware TUV13	Post t3	28 min
RT34	AC BOX-C1 (DKC)	Pre A, Pre T3	Hardware UV1	Post t3	28 min
RT35	AC BOX-C2 (DKC)	Pre A, Pre T3	Hardware UV2	Post t3	28 min

<DKU Special PCB>

Work ID	Parts Name	Procedure			Replacing Time
		SVP pre-procedure	Hardware procedure	SVP post-procedure	
RT36	AC BOX (DKU)	Pre A, Pre T4	HardwareTUV22	Post t4	30 min

1.6 Procedure contents table

SVP Pre		GO TO
Pre A	REP02T-10	
Pre T3	REP02T-30	
Pre T4	REP02T-110	

Hardware		GO TO
Procedure	Parts Name	
Hardware TUV12	Breaker Box-1	REP03T-230
Hardware TUV13	Breaker Box-2	REP03T-320
Hardware UV1	AC BOX-C1 (DKC)	REP03T-10
Hardware UV2	AC BOX-C2 (DKC)	REP03T-120
Hardware TUV22	AC BOX (DKU)	REP03T-410

SVP Post	GO TO
Post t3	REP04T-10
Post t4	REP04T-60

[PRE-PROCEDURE A]

— OUTLINE —

- ① Initial Screen.
- ② Change SVP operation mode.
- ③ Open Maintenance window.

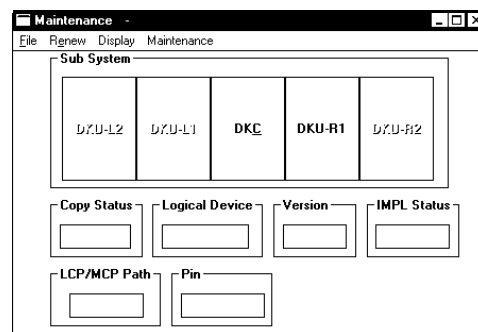
1. <Initial screen>

2. <Operation mode change>

Change the mode to [Modify Mode].
Select [Maintenance] (CL).

3. <Maintenance window>

'Maintenance' window is displayed.



[PRE-PROCEDURE T3]

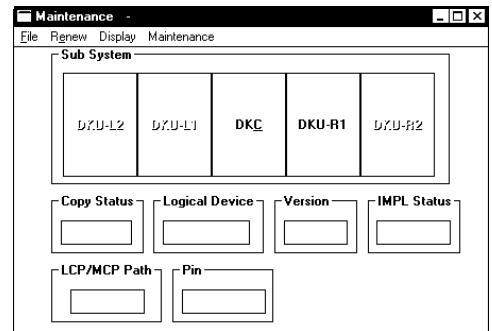
— OUTLINE —

- ① Select special (DKC) part (status check).
- ② Specify Replacement.
- ③ Detach parts related to special part.
- ④ Place parts related to special part into unpluggable state.

[1] Select special part

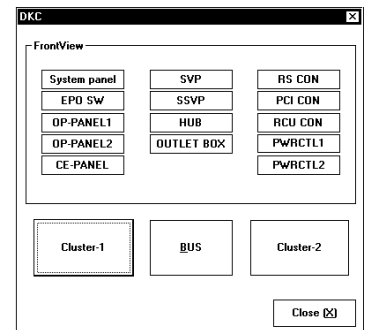
1. <Maintenance window>

In the 'Maintenance' window, check and select (CL) DKC to be replaced.



2. <DKC window>

Select (CL) [Cluster-n] in the 'DKC'.



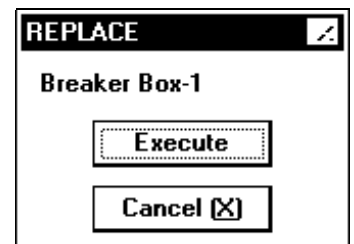
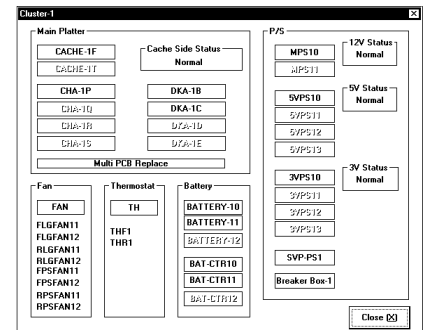
3. <Select special part>

Select (CL) part [XXXX] to be replaced from [Cluster-n] window and select (CL) [Execute].

Valid [XXXX] values are listed below.

- Breaker Box[Breaker Box-n]
- DKC AC BOX[AC BOX-Cn]

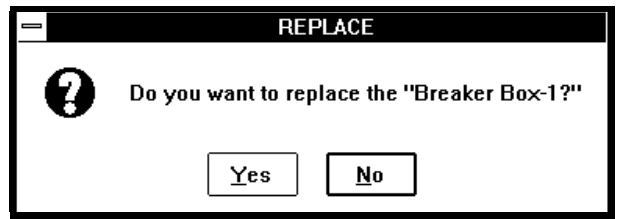
Go to [2] (REP02T-50)



[2] Breaker Box, DKC AC BOX

1.

- ① When redundant power supply is installed,
select (CL) [Yes].
Go to 5.

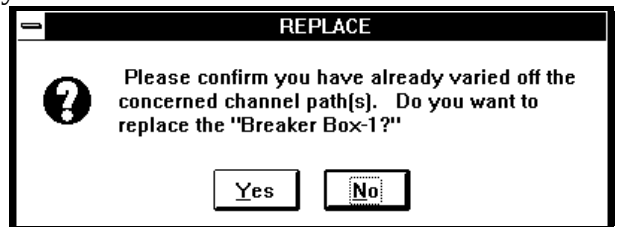


② Otherwise

- When only serial or parallel channels, or they are mixed.

“Please confirm you have already varied off the concerned channel path(s). Do you want to replace the “XXXX?” ” is displayed.

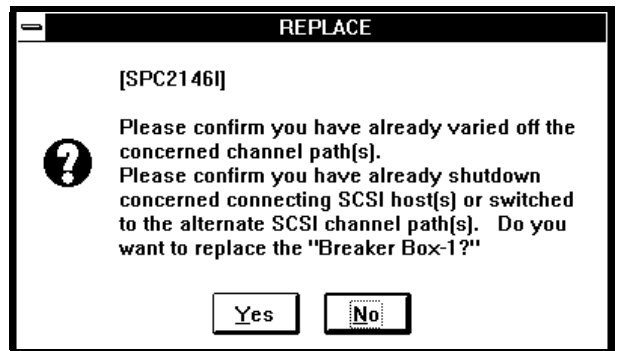
Select (CL) [Yes].



- When SCSI channels and other kinds are mixed.

“Please confirm you have already varied off the concerned channel path(s). Please confirm you have already shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI channel path(s). Do you want to replace the “XXXX?” ” is displayed.

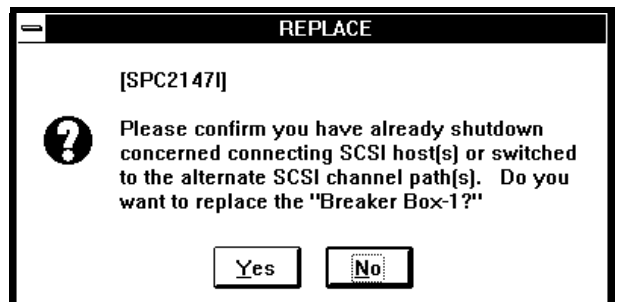
Select (CL)[Yes].



- When only SCSI channels are installed.

“Please confirm you have already shutdown concerned connecting SCSI host(s) or switched to the alternate SCSI channel path(s). Do you want to replace the “XXXX?” ” is displayed.

Select (CL) [Yes].



2.

The SVP automatically checks the power supplies to see if Breaker Box is replaceable.

3. <Block cluster>

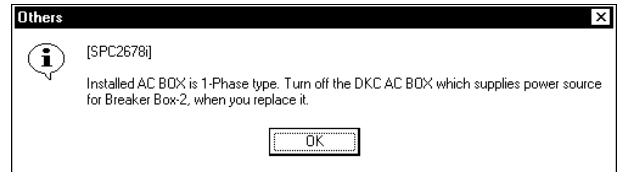
NOTICE

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

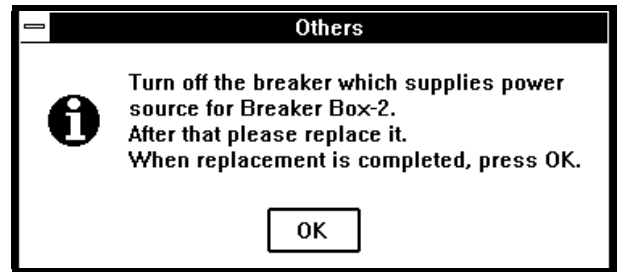
Blocking cluster has finished normally, go to next step.

4.

In the case of Breaker Box replacement, SVP displays “Installed AC BOX is 1-Phase type. Turn off the DKC AC BOX which supplies power source for XXXXX, when you replace it.” Message. Select (CL) [OK].



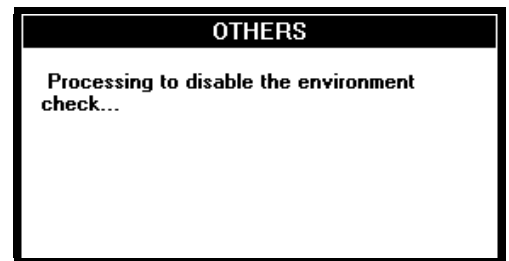
The message shown on the right is displayed.
(Reply with [OK] after replacing the special part.)
Go to [3] (REP02T-100).



5.

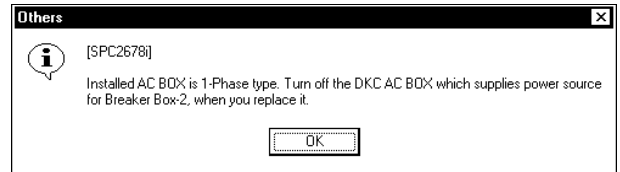
The SVP automatically checks the power supplies to see if Breaker Box is replaceable.

6. <Check environment monitor stopped state>
“Processing to disable the environment check...” is displayed.

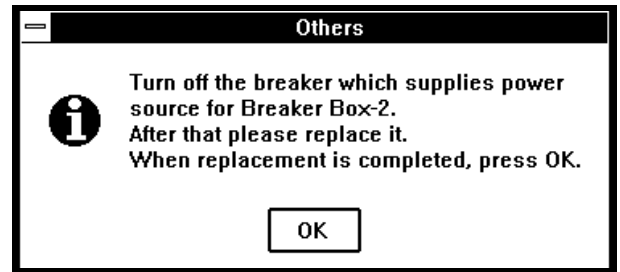


7.

In the case of Breaker Box replacement, SVP displays “Installed AC BOX is 1-Phase type. Turn off the DKC AC BOX which supplies power source for XXXXX, when you replace it.” Message. Select (CL) [OK].



The message shown on the right is displayed.
(Reply with [OK] after replacing the special part.)
Go to [3] (REP02T-100).



[3] Replacement

1. <Replace special part>
Replace the special part.

Breaker Box-1 -----see HARDWARE TUV12 (REP03T-230)
Breaker Box-2 -----see HARDWARE TUV13 (REP03T-320)
AC BOX-C1 -----see HARDWARE UV1 (REP03T-10)
AC BOX-C2 -----see HARDWARE UV2 (REP03T-120)

[End of PRE-PROCEDURE]

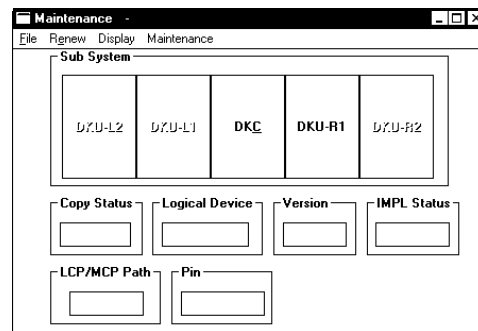
[PRE-PROCEDURE T4]

— OUTLINE —

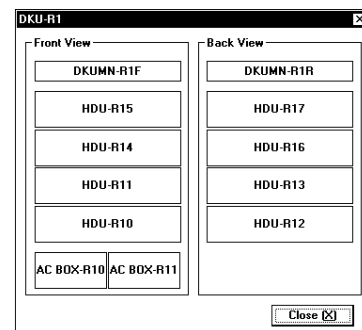
- ① Select special (DKU) part (status check).
- ② Specify Replacement.
- ③ Detach parts related to special part.
- ④ Place part into unpluggable state.

[1] Select special part

1. <Select DKU-nn>
Select (CL) [DKU-nn] from 'Maintenance'.



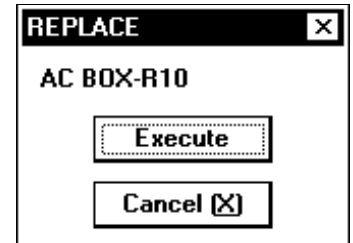
2. <Specify special part>
Select part [XXXXX] to be Replaced.
 - 'AC BOX-nnn'-----[AC BOX-nn]



3. <Specify special part Replacement>

Select (CL) [Execute].

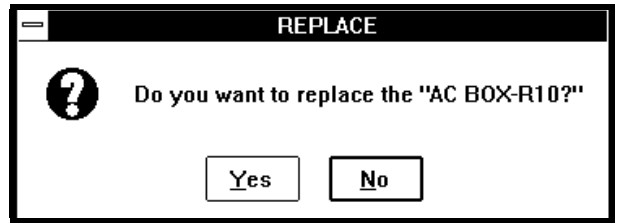
- 'AC BOX-nnn' Go to [2] (REP02T-140)



[2] DKU AC BOX

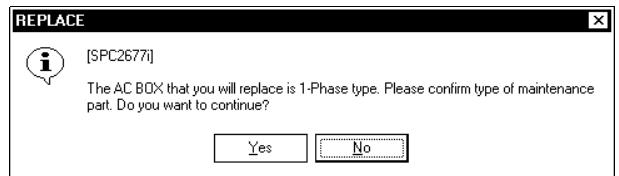
1.

“Do you want to replace the "AC BOX-xxx?"”
is displayed.
Select (CL) [Yes].



2.

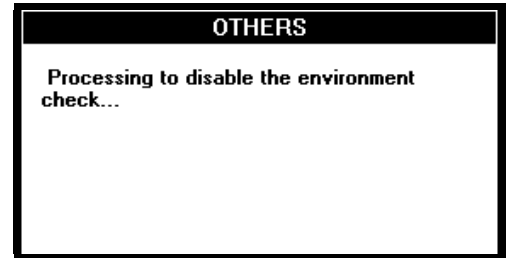
“The AC BOX that you will replace is 1-Phase
type. Please confirm type of maintenance part.
Do you want to continue?” is displayed.
Confirm that maintenance part is 1-Phase type,
and select (CL) [Yes].



3.

The SVP automatically checks the power supplies to see if Breaker Box is replaceable.

4. <Check environment monitor stopped state>
“Processing to disable the environment check...” is displayed.

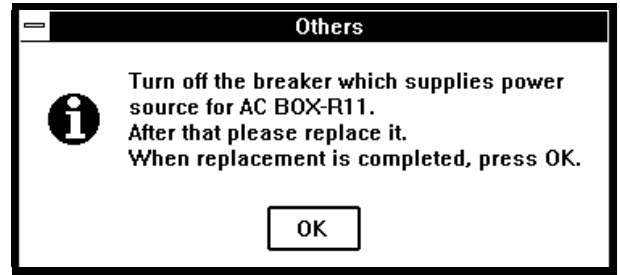


5.

“Turn off the breaker which supplies power source for AC-BOX-xxx. After that please replace it. When replacement is completed, press OK.” is displayed.

(Reply with [OK] after replacing the special part.)

Go to [3] (REP02T-170).



[3] Replacement

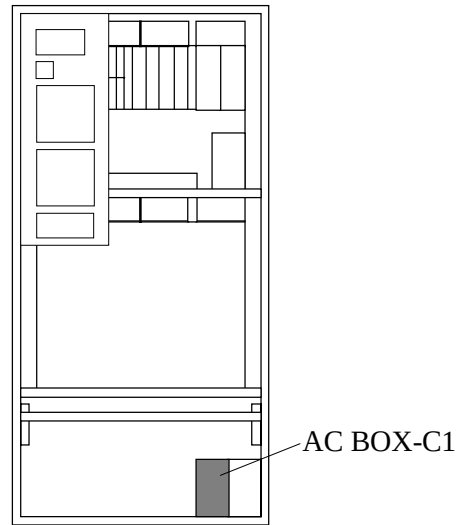
1. <Replace special part>
Replace the special part .

AC BOX----- see HARDWARE TUV22 (REP03T-410)

[End of PRE-PROCEDURE]

[HARDWARE UV1]

Location	Function Name of Component		Part Name
Lower Front of DKC	1	DKC AC BOX	• AC BOX-C1
(Reference) The related PCB for replacement of AC BOX-C1 1. PWRCTL-1 and PWRCTL-2 (Front PS Box in DKC) 2. Breaker Box-1 (Front PS Box in DKC) 3. Circuit breakers on the power distribution panel that are connected to the AC BOX-C1 4. CE Panel (Front of DKC)			



Front View
of DKC

AC BOX-C1

1. Connection of the Jumper

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. Connect the Alarm INH Jumpers to the connectors on the PWRCTL-1 and PWRCTL-2.

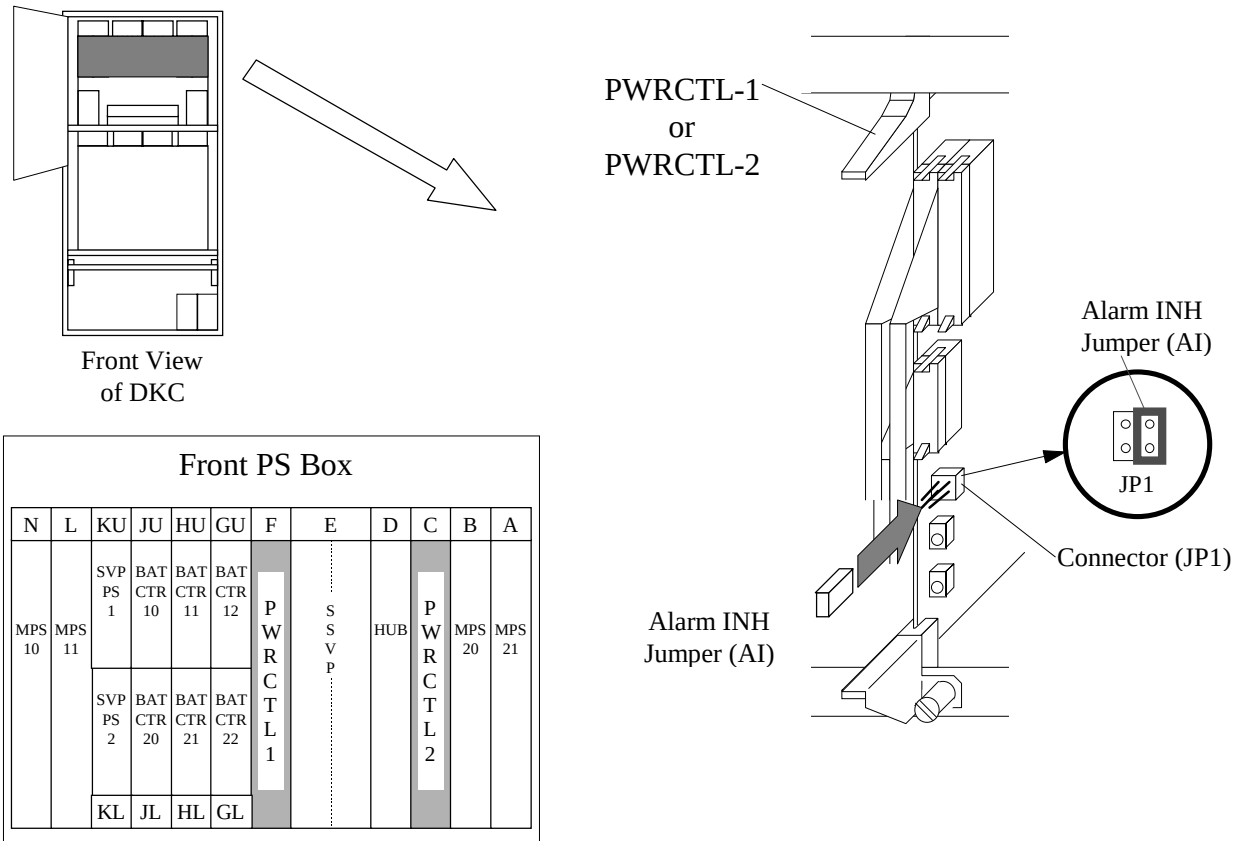


Fig. UV1-1 Connection of Jumper

2. Power Off the Component to be Replaced

WARNING

Be Careful of Electric Shock

- The power to the device is still on after turning off the breakers shown below.
- The device may be powered off when turning off the breakers not shown below.
- The circuit has residual voltage for one minute after turning off the breakers, so be sure to disconnect all the connectors after this period.

CAUTION

Mind Your Head

- Be sure to mind your head during operation, or you might hit your head against the movable rack, which could cause injury.

Table UV1-1 Circuit Breakers to be Turned Off When Replacing AC BOX-C1

No.	Unit	Location No.	Breaker No.	Remarks
1	Disk Controller	Breaker Box-1	CB201	
2	Disk Controller	AC BOX-C1	CB200	
3	Circuit breakers on the power distribution panel in the plant that are connected to the AC BOX-C1.			Failure to turn off may result in an electric shock

- a. Turn off the circuit breaker (CB201) on Breaker Box 1 in the Disk Controller.

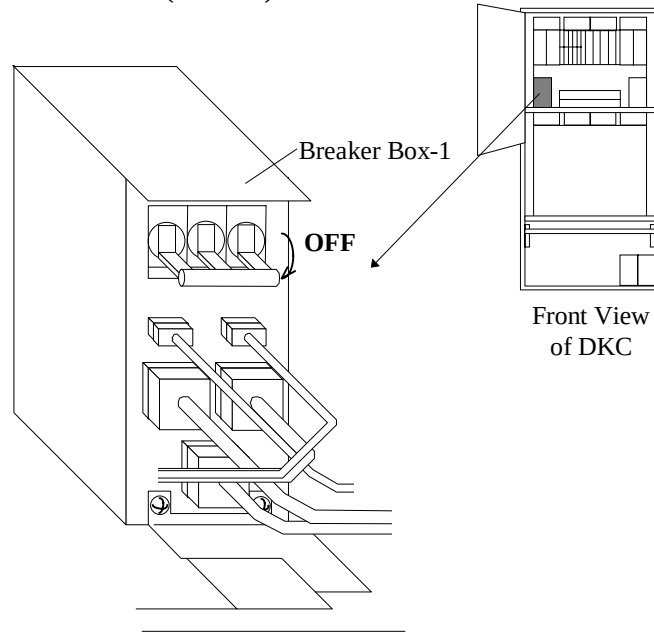


Fig. UV1-2 Circuit Breaker to be Turned Off When Replacing AC BOX-C1

- b. Turn off the circuit breaker (CB200) on AC BOX-C1 in the Disk Controller.

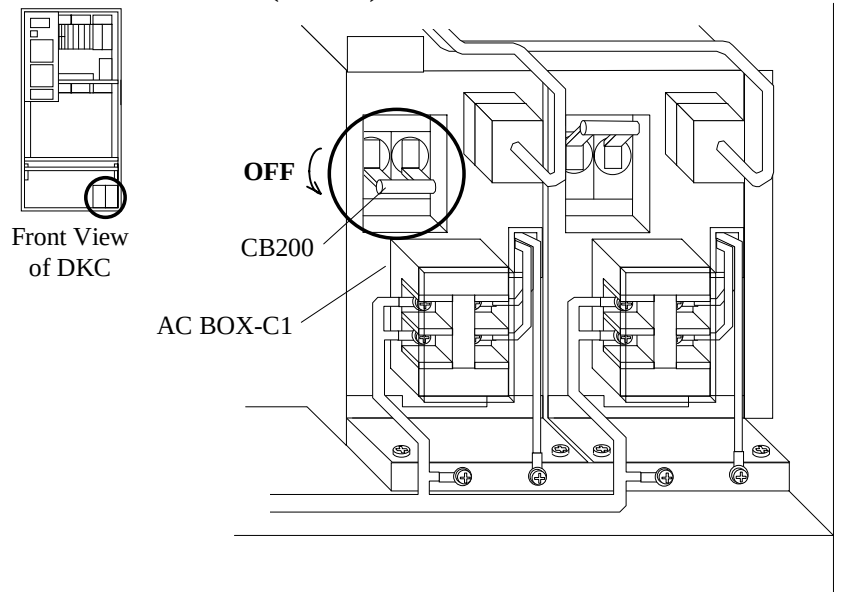


Fig. UV1-3 Circuit Breakers to be Turned Off When Replacing AC BOX-C1

- c. Turn off the circuit breakers on the power distribution panel in the plant that are connected to AC BOX-C1.

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the breaker on the distribution board connected to the AC BOX-C1.

3. Removal of DKC AC BOX

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the breaker on the distribution board connected to the AC BOX-C1.

- a. Disconnect the cable connector P250-1 from AC BOX-C1.

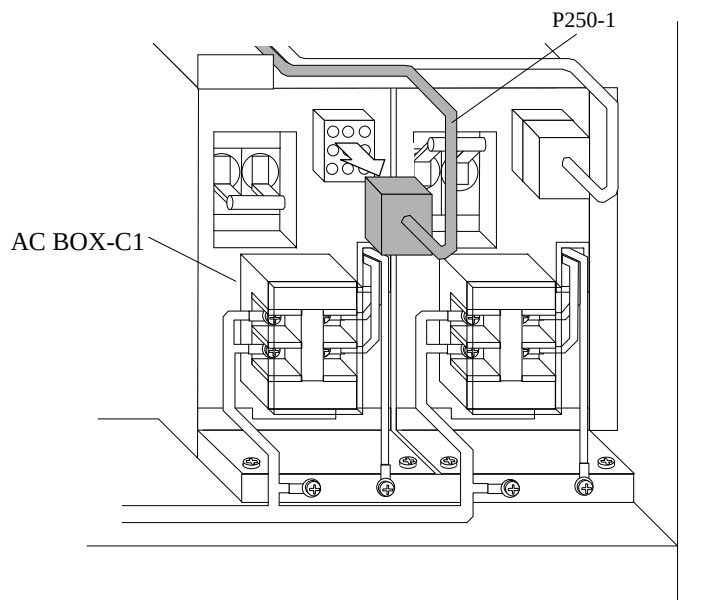


Fig. UV1-4 Removal of Cable Connector

- b. Remove the terminal block cover from AC BOX-C1. Remove the three screws, and then disconnect the AC power cable and frame ground cable.

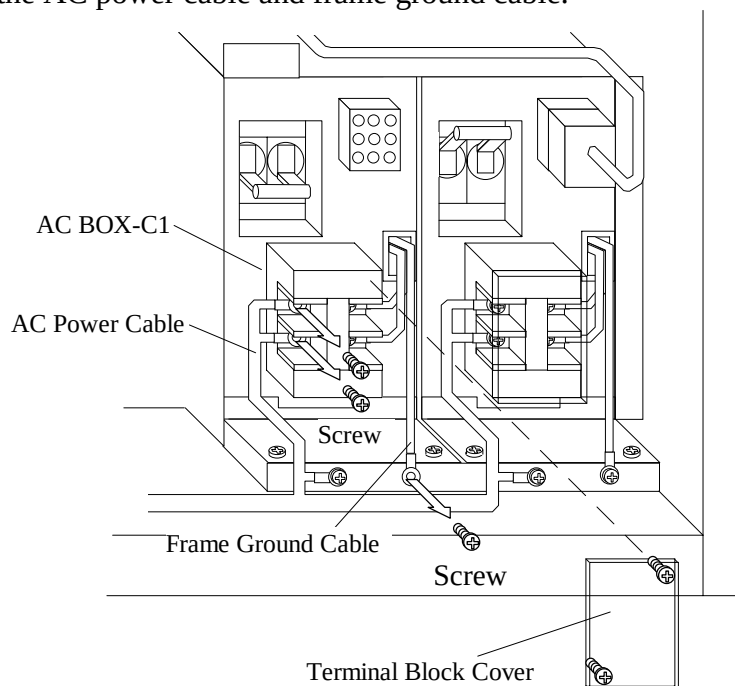


Fig. UV1-5 Disconnection of AC Power Cable

c. Remove the two screws.

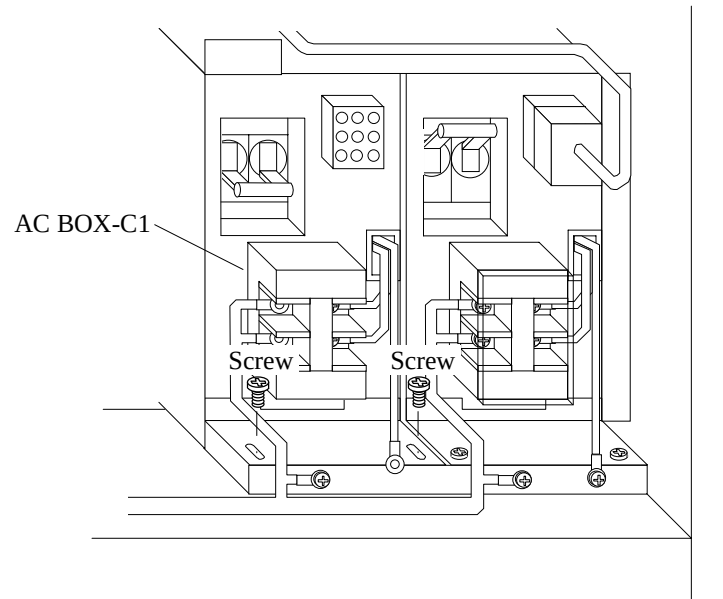


Fig. UV1-6 Removal of Screws

d. Remove AC BOX-C1.

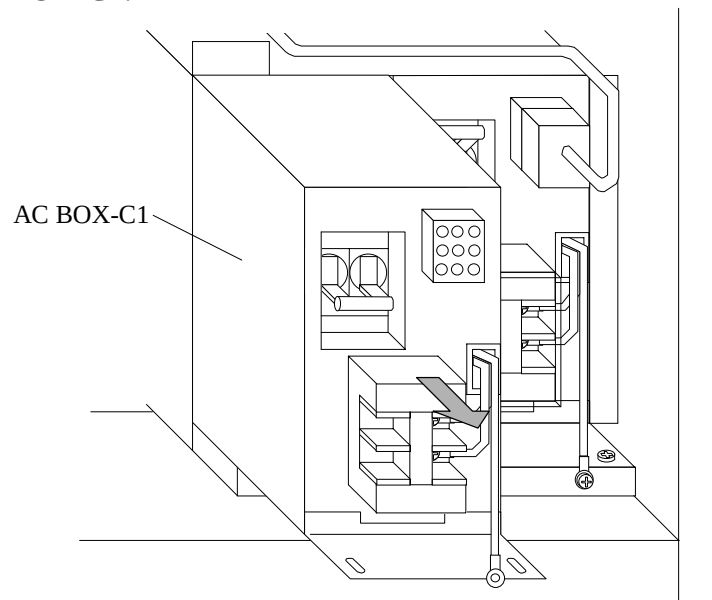


Fig. UV1-7 Removal of AC BOX-C1

4. Installation of Spare DKC AC BOX

- a. Check that the circuit breaker (CB200) on the spare DKC AC BOX are turned off.
- b. Attach the spare DKC AC BOX.

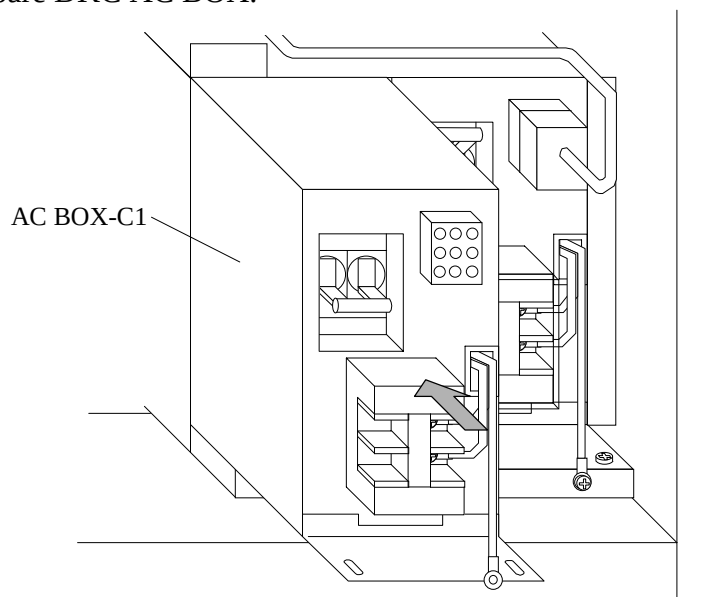


Fig. UV1-8 Attachment of Spare DKC AC BOX

- c. Secure AC BOX-C1 at the front with the screws.

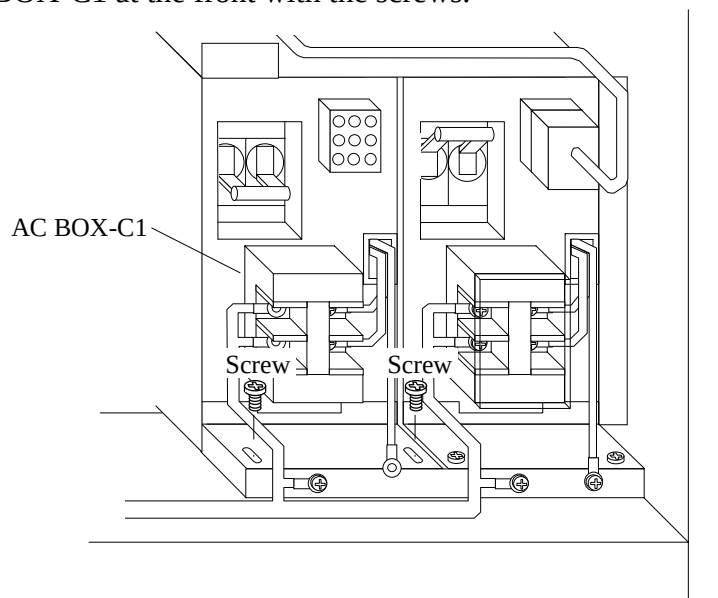


Fig. UV1-9 Attachment of AC BOX-C1

- d. Connect the frame ground cable to the frame ground.
- e. Connect the AC power cable to the terminal block. Attach the terminal block cover with the two screws.

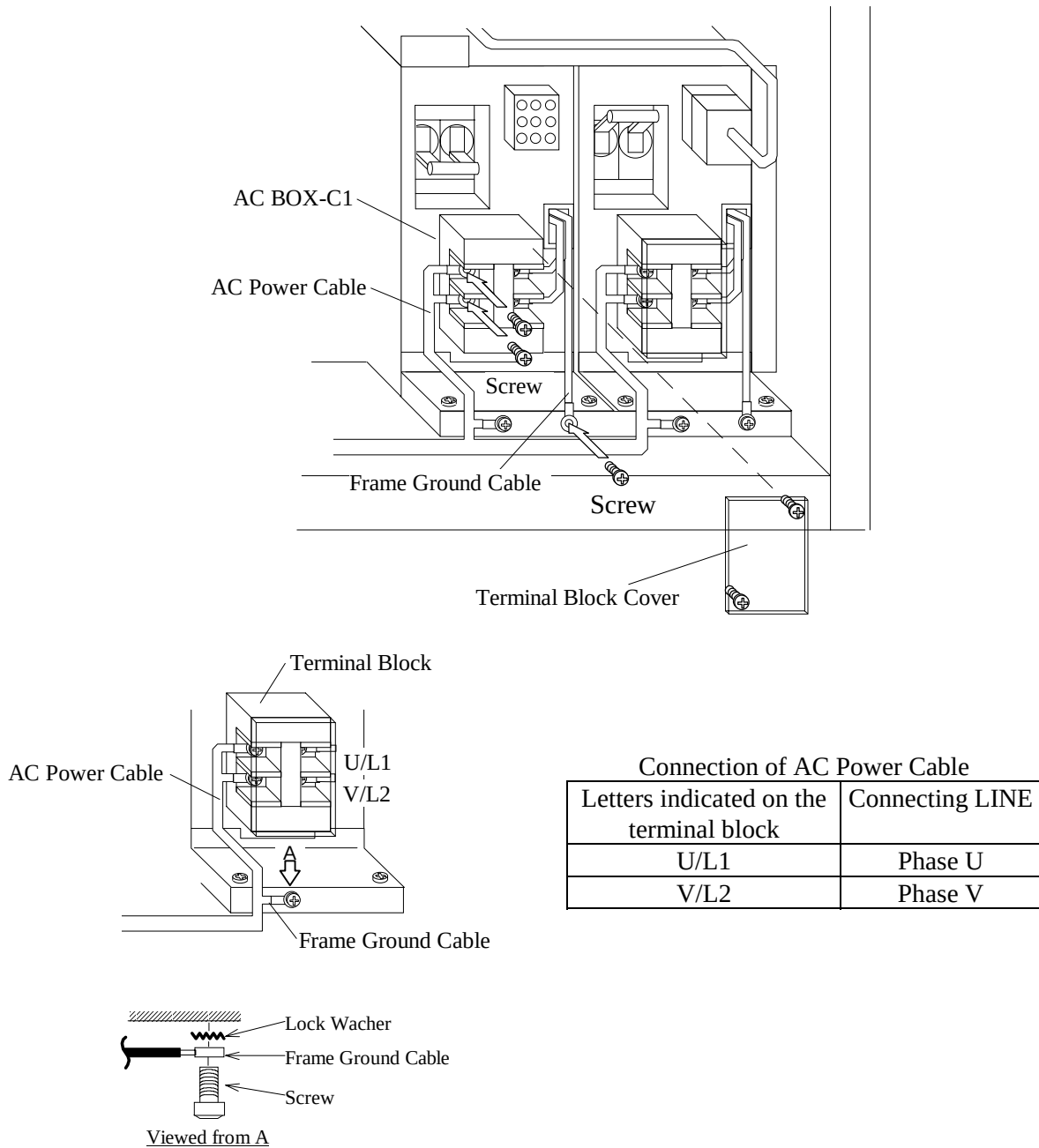


Fig. UV1-10 Connection of AC Power Cable

- f. Connect the cable connector P250-1 to AC BOX-C1.

Table UV1-2 Cable Connection of AC BOX-C1

No.	Cable No.	AC Box	Remarks
1	P250-1	J250	

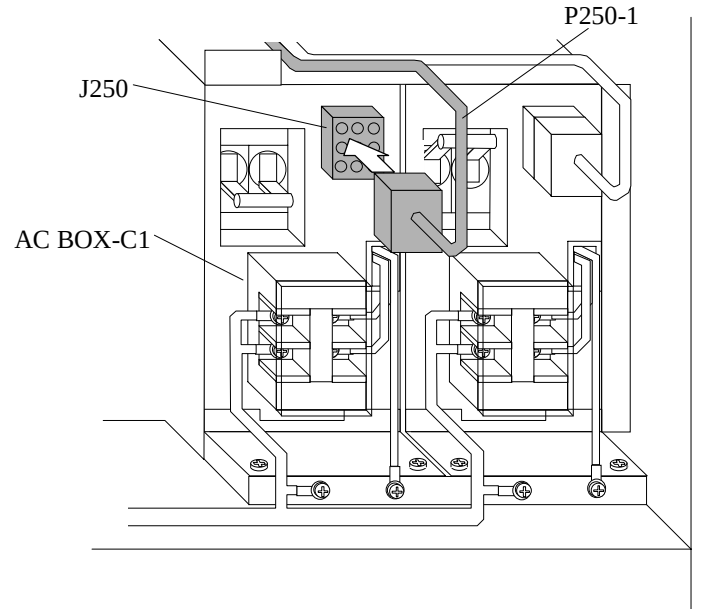
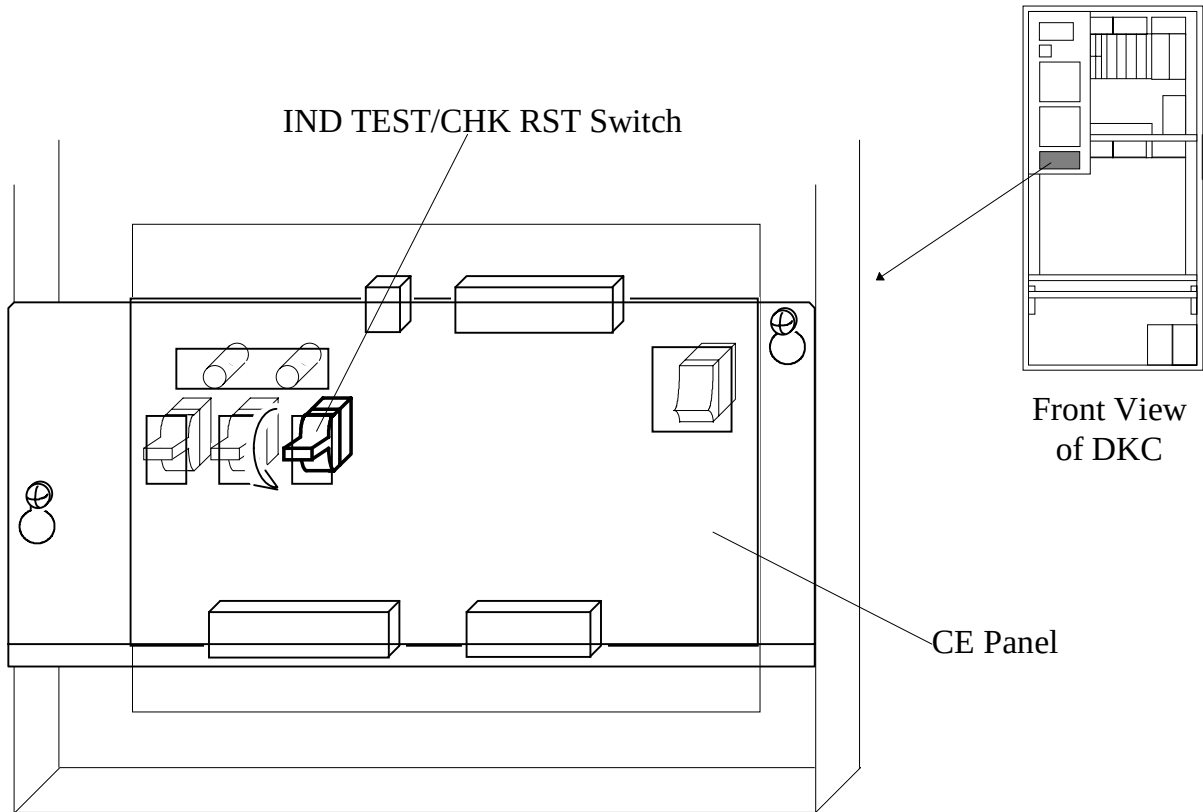


Fig. UV1-11 Connection of Cable Connector

5. Power On the Replacement Component

- a. Turn on the circuit breakers on the power distribution panel that are connected to AC BOX-C1.
- b. Turn on all the circuit breakers on AC BOX-C1.
- c. Turn on all the circuit breakers on Breaker Box-1.
- d. Turn “IND TEST / CHK RST” switch on the CE panel to “CHK RST”.



Front View of Movable Rack

Fig. UV1-12 Setting of IND TEST / CHK RST Switch

6. Disconnection of the Jumper

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. Disconnect the Alarm INH Jumpers from the connectors on the PWRCTL-1 and PWRCTL-2.

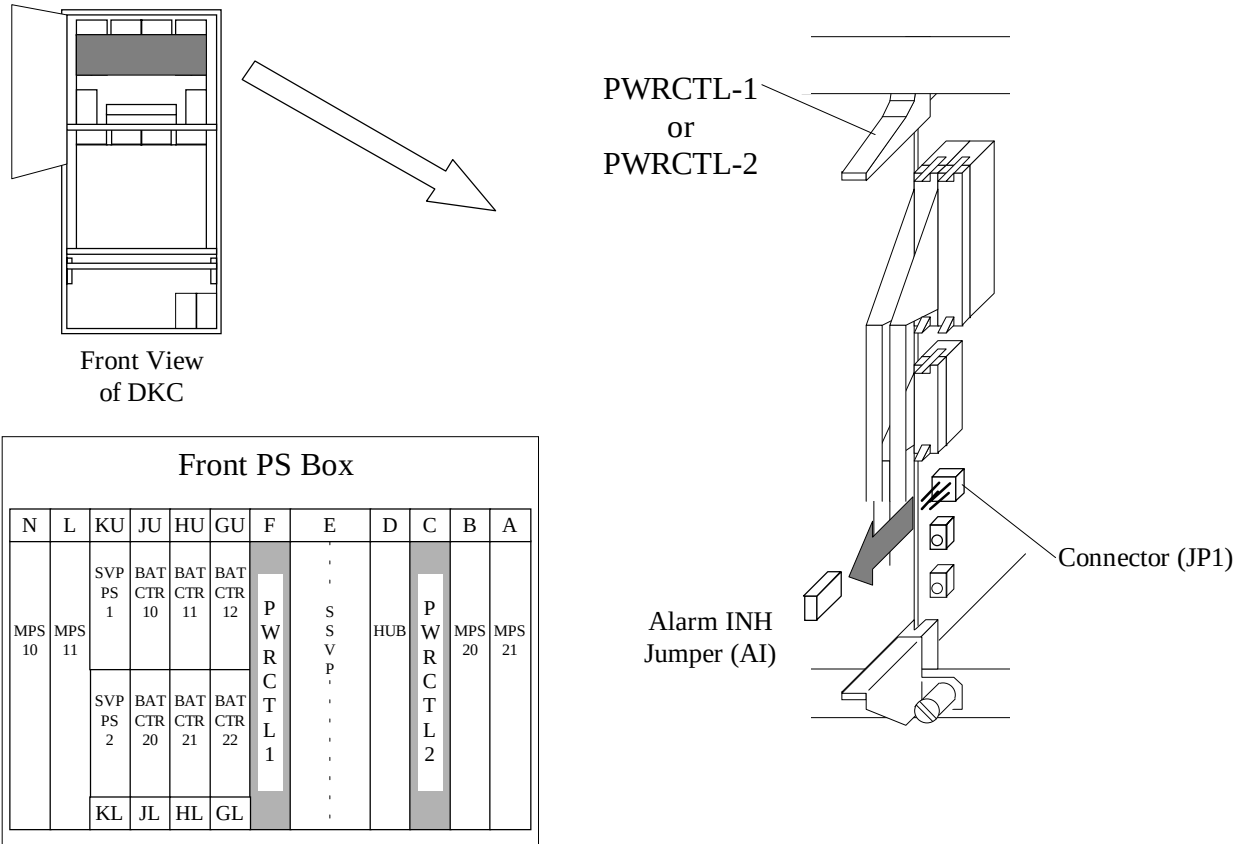
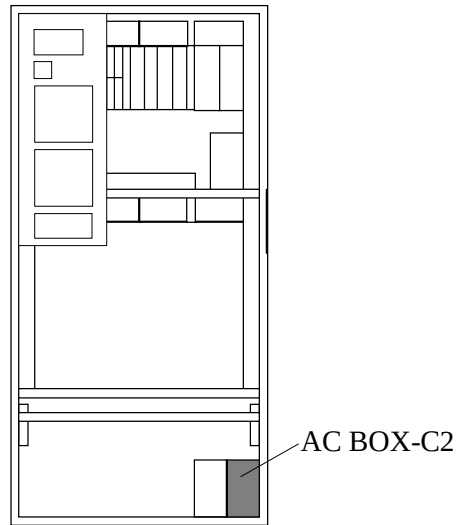


Fig. UV1-13 Disconnection of Jumper

7. Go to SVP post-procedure t3 [REP04T-10].

[HARDWARE UV2]

Location	Function Name of Component		Part Name
Lower Front of DKC	1	DKC AC BOX	• AC BOX-C2
(Reference) The related PCB for replacement of AC BOX-C2 1. PWRCTL-1 and PWRCTL-2 (Front PS Box in DKC) 2. Breaker Box-2 (Front PS Box in DKC) 3. Circuit breakers on the power distribution panel that are connected to the AC BOX-C2 4. CE Panel (Front of DKC)			



Front View
of DKC

AC BOX-C2

1. Connection of the Jumper

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. Connect the Alarm INH Jumpers to the connectors on the PWRCTL-1 and PWRCTL-2.

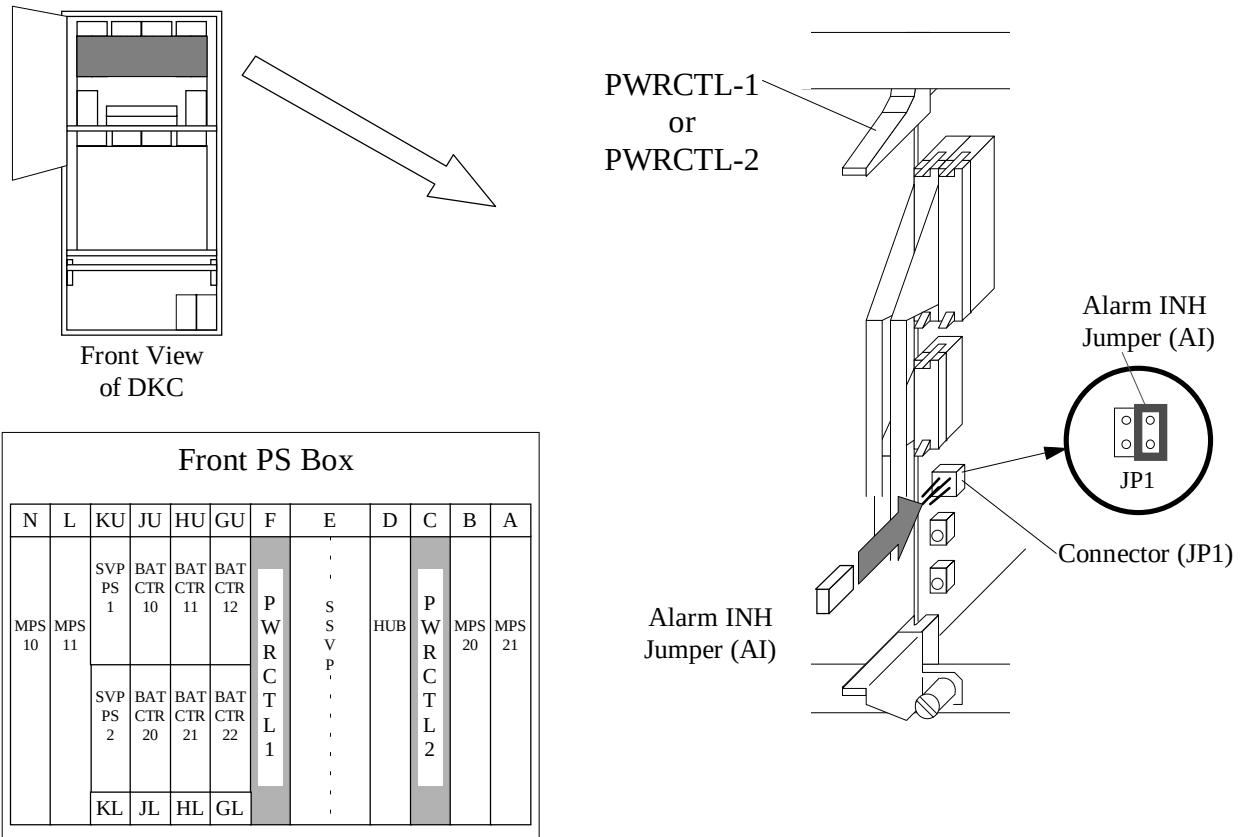


Fig. UV2-1 Connection of Jumper

2. Power Off the Component to be Replaced

WARNING

Be Careful of Electric Shock

- The power to the device is still on after turning off the breakers shown below.
- The device may be powered off when turning off the breakers not shown below.
- The circuit has residual voltage for one minute after turning off the breakers, so be sure to disconnect all the connectors after this period.

CAUTION

Mind Your Head

- Be sure to mind your head during operation, or you might hit your head against the movable rack, which could cause injury.

Table UV2-1 Circuit Breakers to be Turned Off When Replacing AC BOX-C2

No.	Unit	Location No.	Breaker No.	Remarks
1	Disk Controller	Breaker Box-2	CB201	
2	Disk Controller	AC BOX-C2	CB200	
3	Circuit breakers on the power distribution panel in the plant that are connected to the AC BOX-C2.			Failure to turn off may result in an electric shock

- a. Turn off the circuit breaker (CB201) on Breaker Box in the Disk Controller.

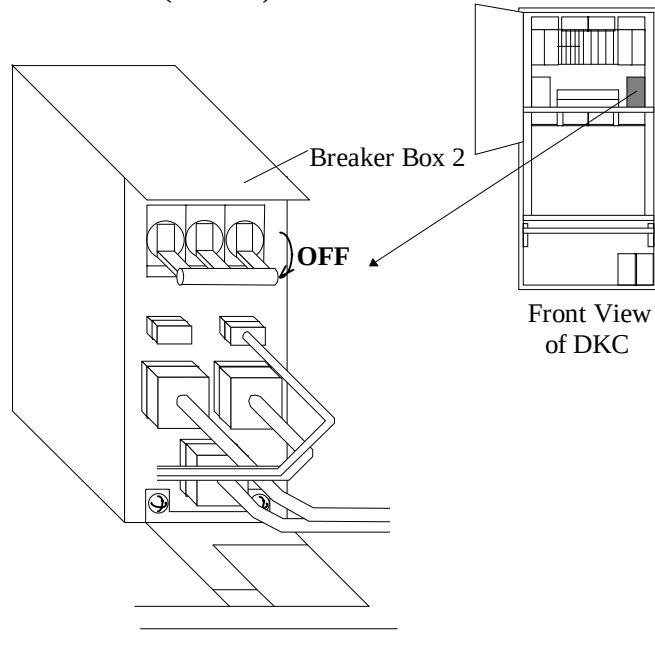


Fig. UV2-2 Circuit Breaker to be Turned Off When Replacing AC BOX-C2

- b. Turn off the circuit breaker (CB200) on AC BOX-C2 in the Disk Controller.

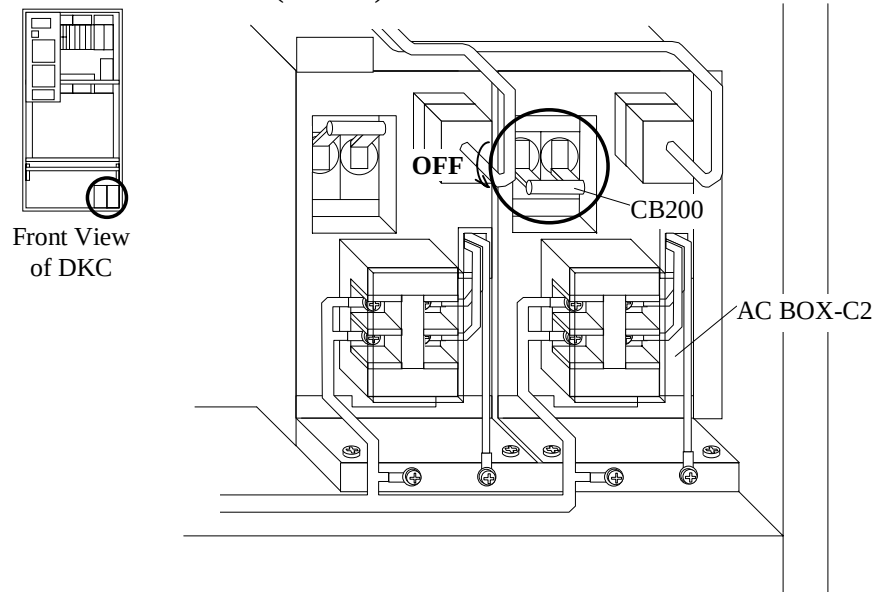


Fig. UV2-3 Circuit Breakers to be Turned Off When Replacing AC BOX-C2

- c. Turn off the circuit breakers on the power distribution panel in the plant that are connected to AC BOX-C2.

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the breaker on the distribution board connected to the AC BOX-C2.

3. Removal of DKC AC BOX

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the breaker on the distribution board connected to the AC BOX-C2.

- a. Disconnect the cable connector P250-2 from AC BOX-C2.

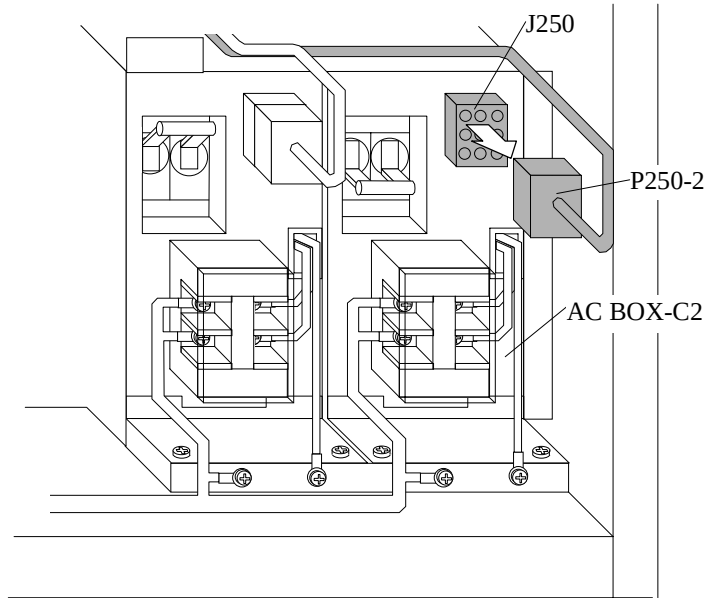


Fig. UV2-4 Removal of Cable Connector

- b. Remove the terminal block cover from AC BOX-C2. Remove the three screws, and then disconnect the AC power cable and frame ground cable.

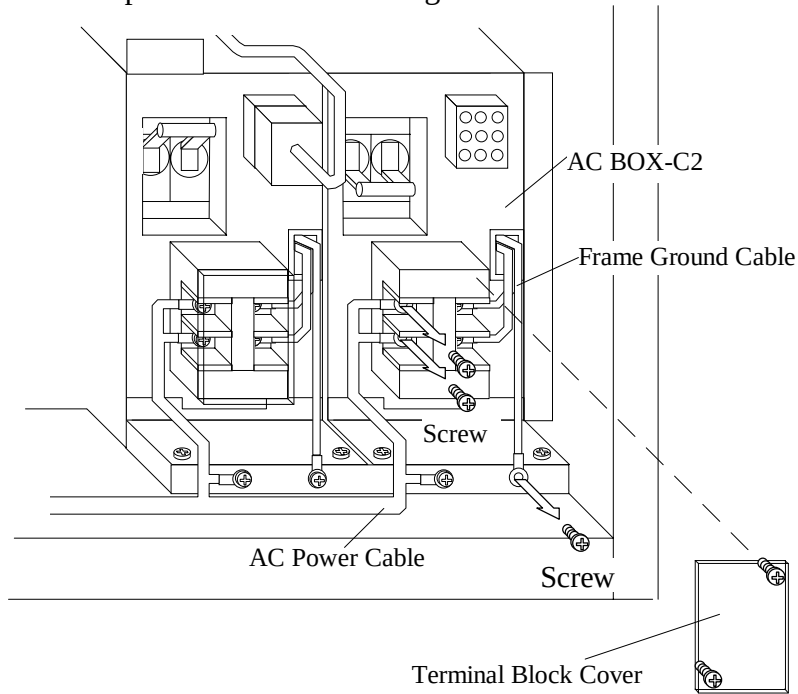


Fig. UV2-5 Disconnection of AC Power Cable

c. Remove the two screws.

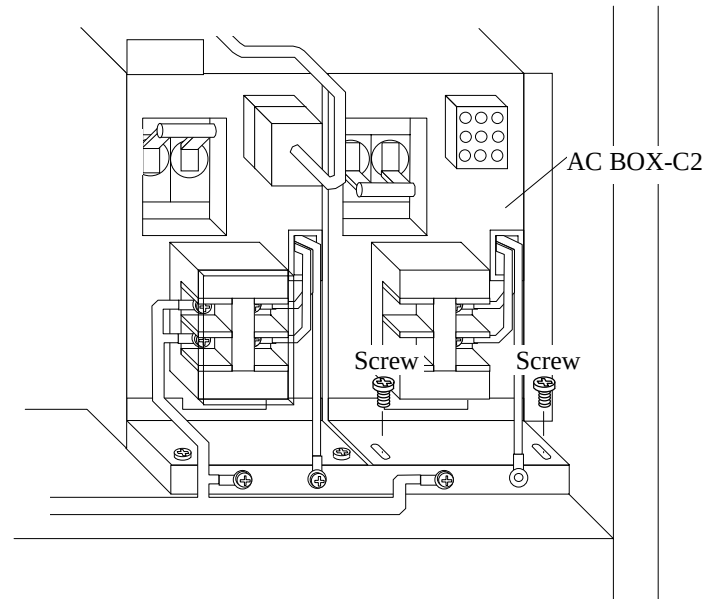


Fig. UV2-6 Removal of Screws

d. Remove AC BOX-C2.

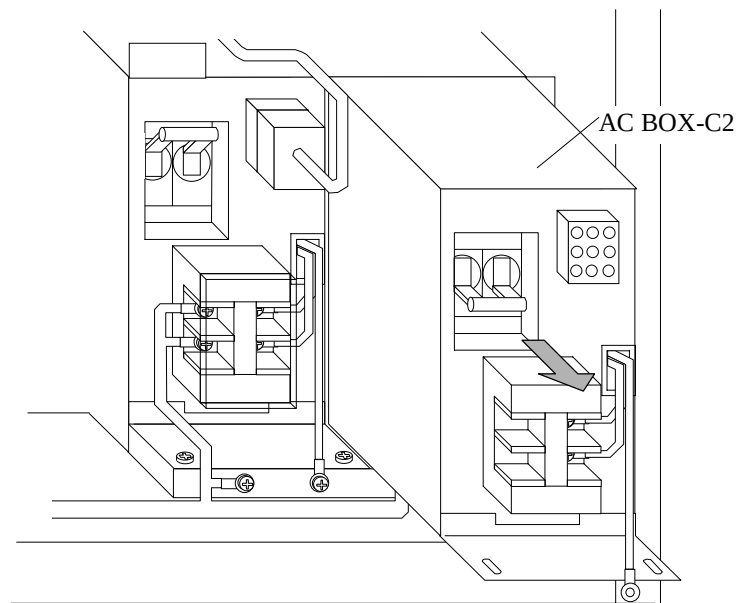


Fig. UV2-7 Removal of AC BOX-C2

4. Installation of Spare DKC AC BOX

- a. Check that the circuit breaker (CB200) on the spare DKC AC BOX are turned off.
- b. Attach the spare DKC AC BOX.

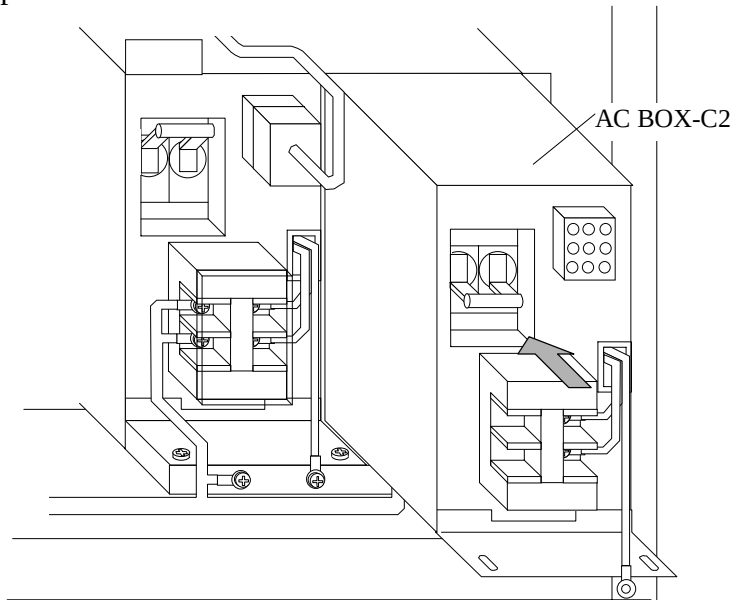


Fig. UV2-8 Attachment of Spare DKC AC BOX

- c. Secure AC BOX-C2 at the front with the screws.

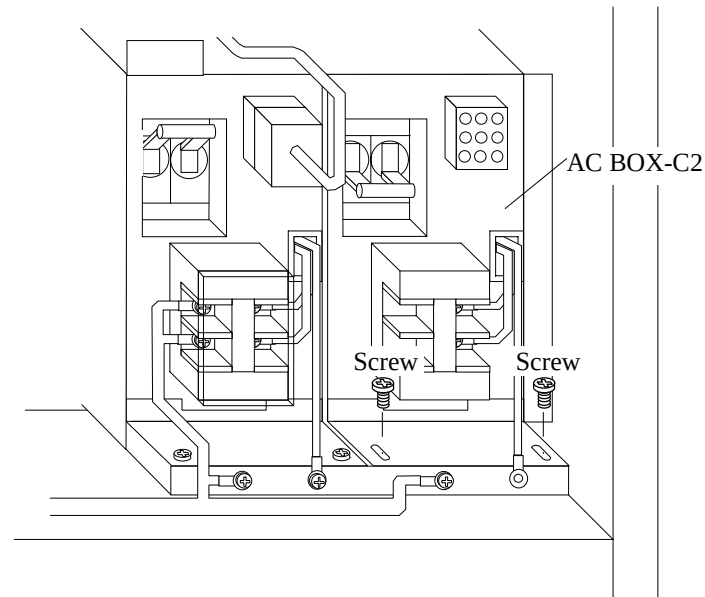


Fig. UV2-9 Attachment of AC BOX-C2

- d. Connect the frame ground cable to the frame ground.
- e. Connect the AC power cable to the terminal block. Attach the terminal block cover with the two screws.

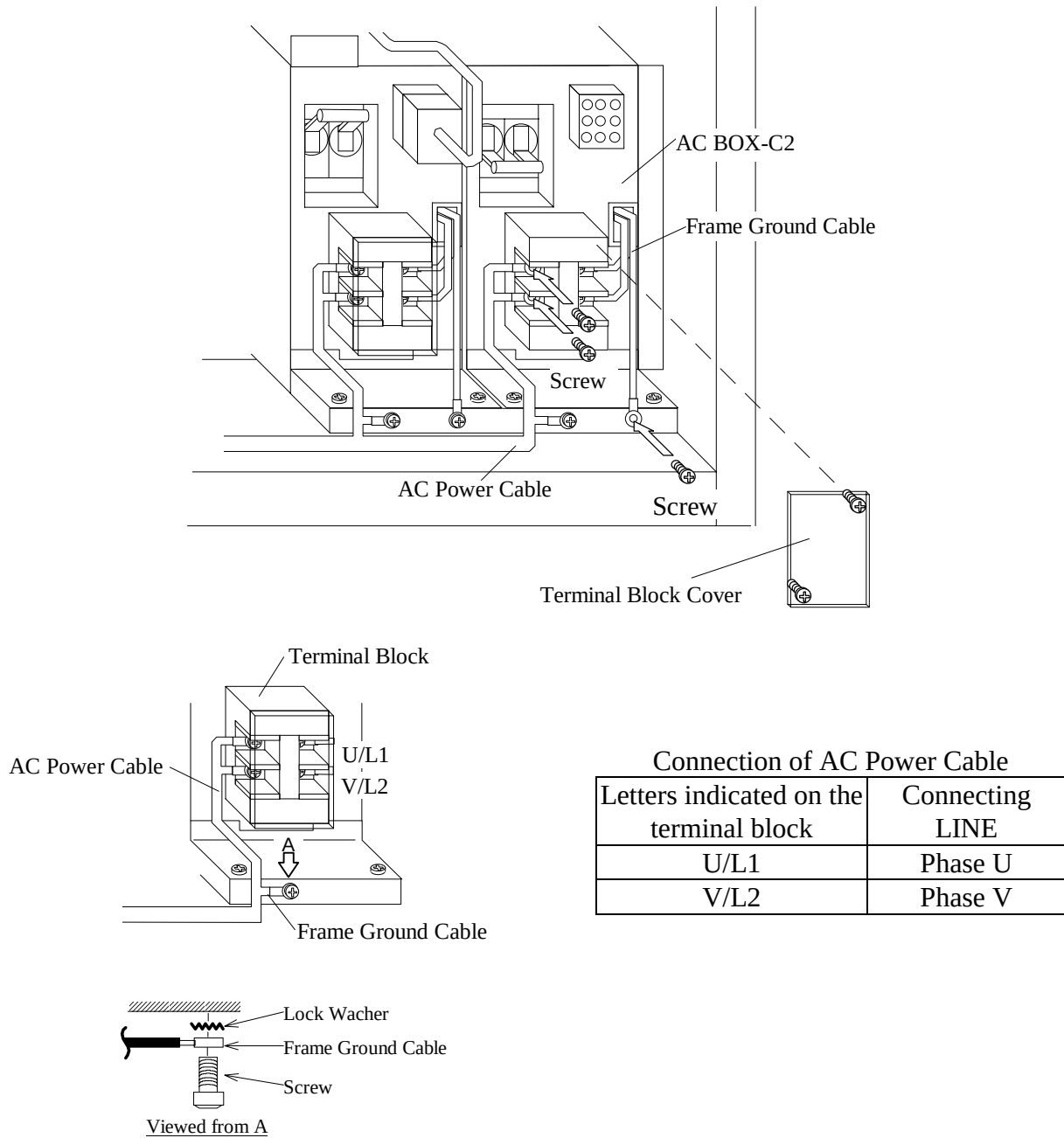


Fig. UV2-10 Connection of AC Power Cable

- f. Connect the cable connector P250-2 to AC BOX-C2.

Table UV2-2 Cable Connection of AC BOX-C2

No.	Cable No.	AC Box	Remarks
1	P250-2	J250	

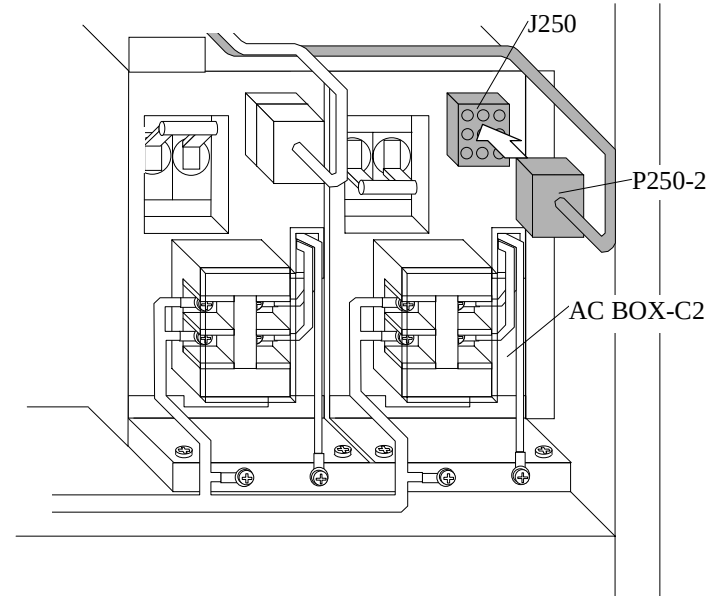
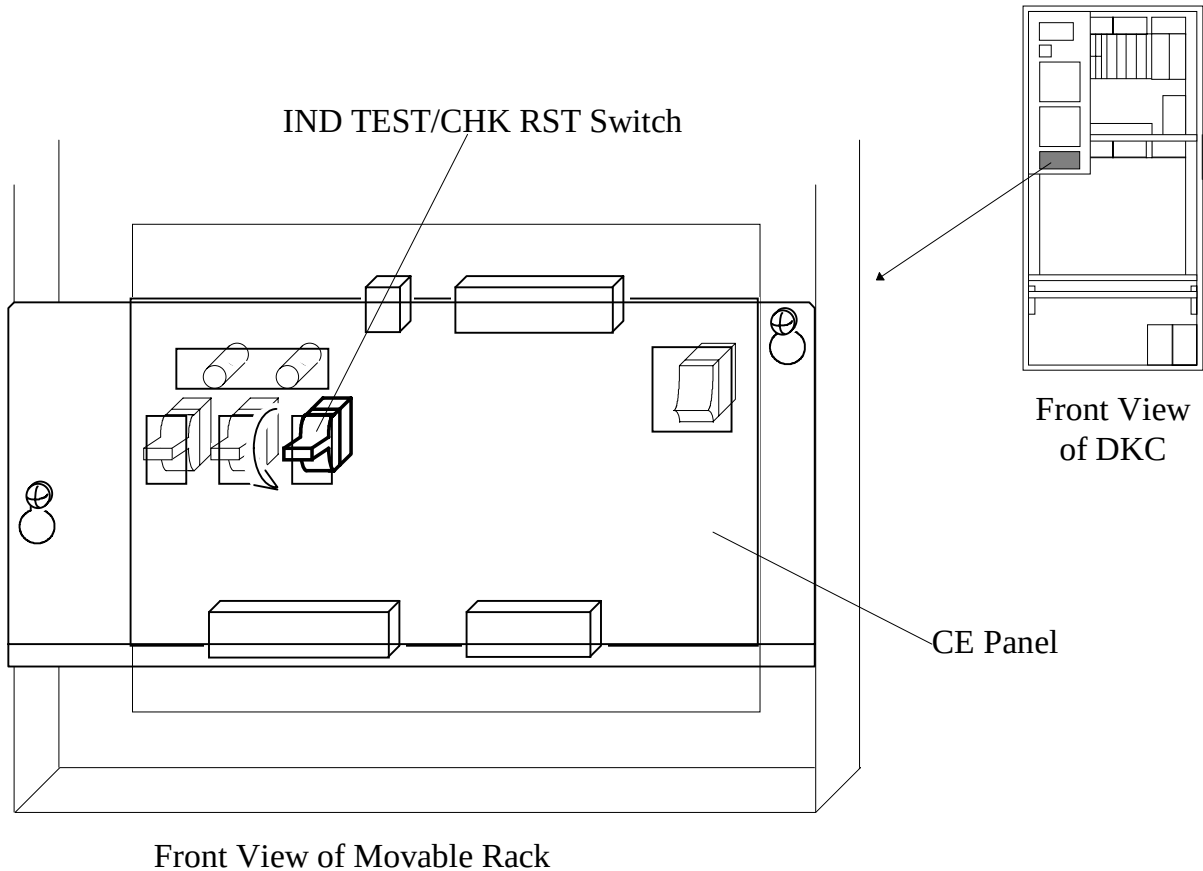


Fig. UV2-11 Connection of Cable Connector

5. Power On the Replacement Component

- a. Turn on the circuit breakers on the power distribution panel that are connected to AC BOX-C2.
- b. Turn on all the circuit breakers on AC BOX-C2.
- c. Turn on all the circuit breakers on Breaker Box-2.
- d. Turn “IND TEST / CHK RST” switch on the CE panel to “CHK RST”.



Front View of Movable Rack

Fig. UV2-12 Setting of IND TEST / CHK RST Switch

6. Disconnection of the Jumper

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. Disconnect the Alarm INH Jumpers from the connectors on the PWRCTL-1 and PWRCTL-2.

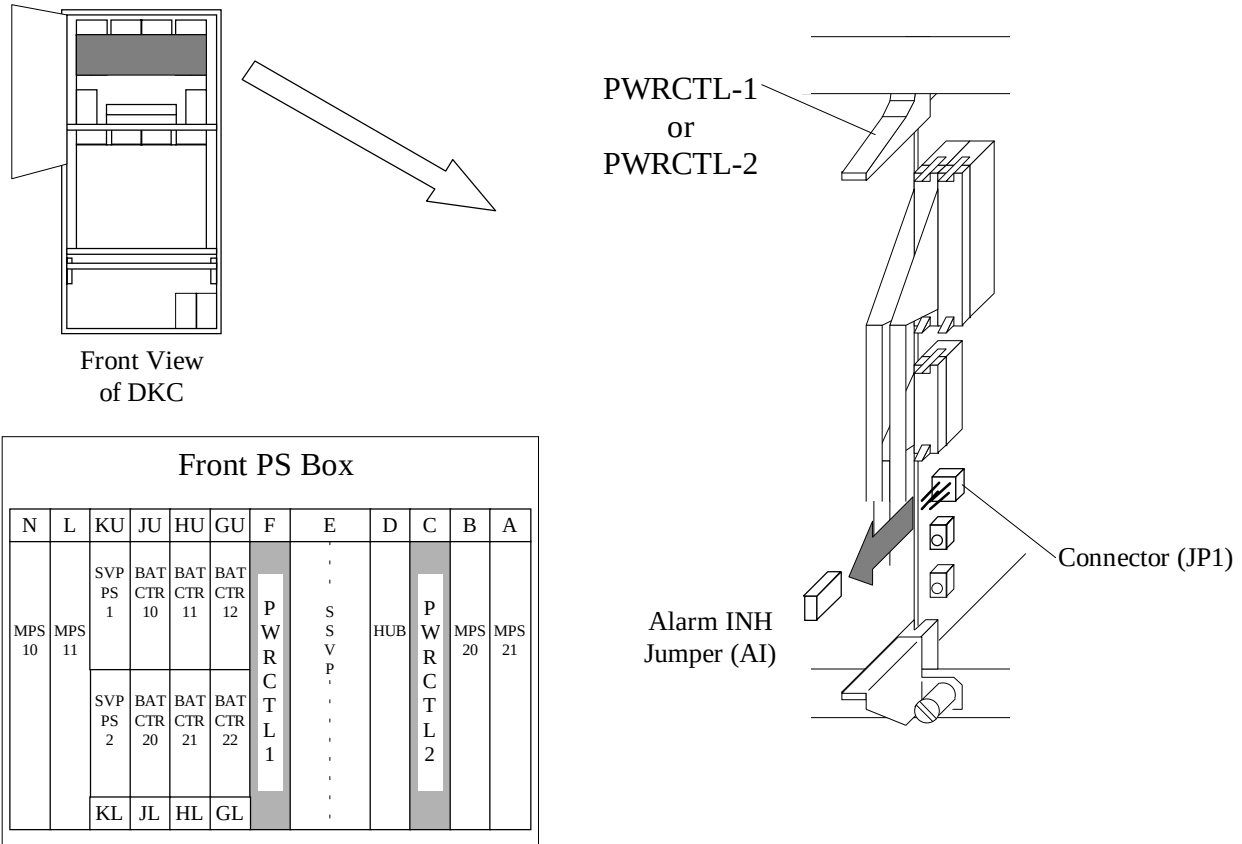
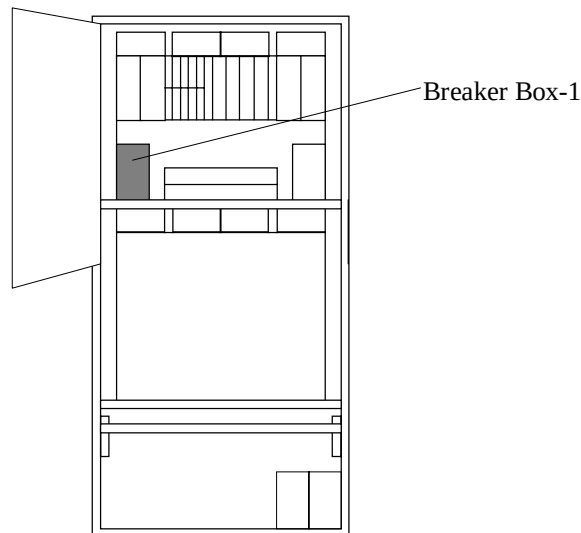


Fig. UV2-13 Disconnection of Jumper

7. Go to SVP post-procedure t3 [REP04T-10].

[HARDWARE TUV12]

Location	Function Name of Component		Part Name
Front PS Box in DKC	1	Breaker Box	• Breaker Box-1
(Reference) The related PCB for replacement of Breaker Box-1 1. PWRCTL-1 and PWRCTL-2 (Front PS Box in DKC) 2. AC BOX-C1 (Lower right front of DKC) 3. CE Panel PCB (Front of DKC)			



Front View
of DKC

1. Connection of the Jumper

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. Connect the Alarm INH Jumpers to the connectors on the PWRCTL-1 and PWRCTL-2.

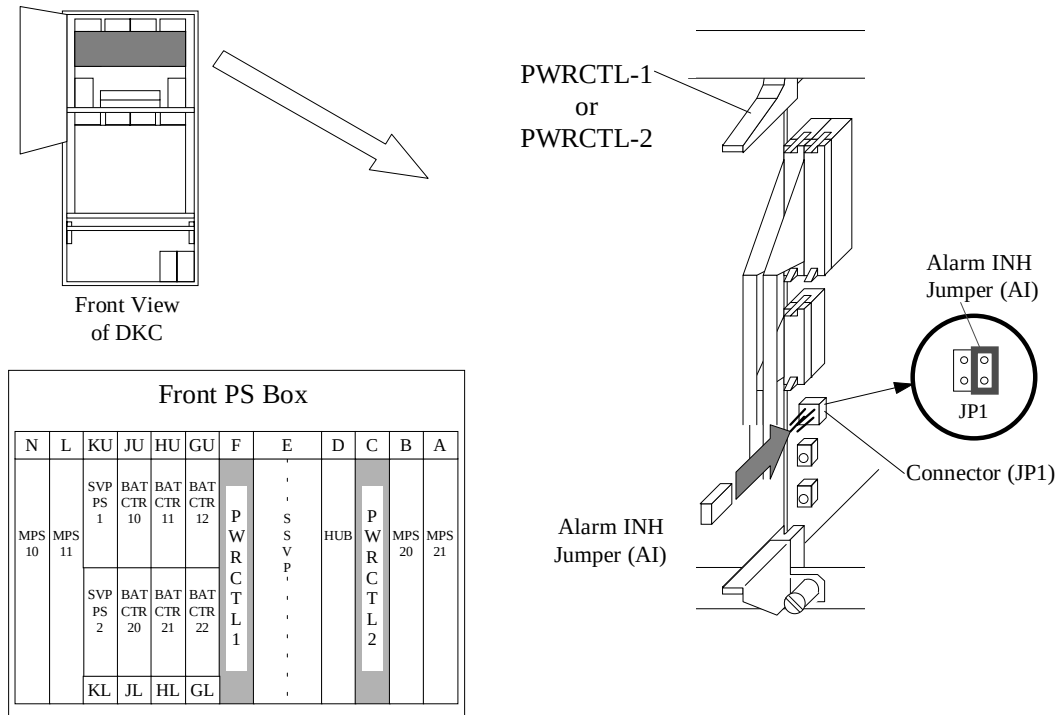


Fig. TUV12-1 Connection of Jumper

2. Power Off the Component to be Replaced

WARNING

Be Careful of Electric Shock

- The power to the device is still on after turning off the breakers shown below.
- The device may be powered off when turning off the breakers not shown below.
- The circuit has residual voltage for one minute after turning off the breakers, so be sure to disconnect all the connectors after this period.

CAUTION

Mind Your Head

- Be sure to mind your head during operation, or you might hit your head against the movable rack, which could cause injury.

Table TUV12-1 Circuit Breakers to be Turned Off When Replacing Breaker Box-1

No.	Unit	Location No.	Breaker No.	Remarks
1	Disk Controller	Breaker Box-1	CB201	
2	Disk Controller	AC BOX-C1	CB200	Failure to turn off may result in an electric shock.

- a. Turn off the circuit breaker (CB201) on the Breaker Box in the Disk Controller.

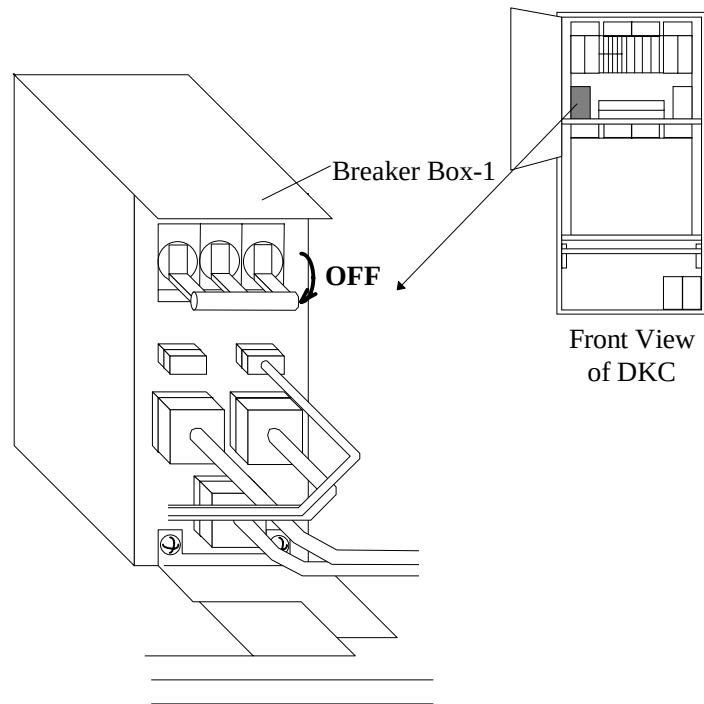


Fig. TUV12-2 Circuit Breakers to be Turned Off When Replacing Breaker Box-1

- b. Turn off the circuit breaker (CB200) on AC BOX-C1 in the Disk Controller.

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the AC BOX-C1 circuit breaker.

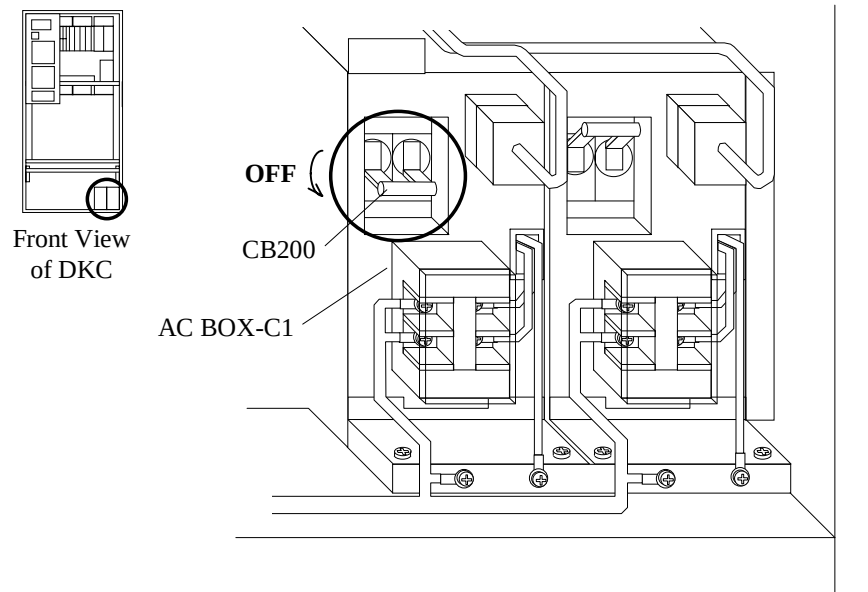


Fig. TUV12-3 Circuit Breakers to be Turned Off When Replacing Breaker Box-1

3. Breaker Box Removal

- a. Remove the Front PS Box Cover 2 from the Front PS Box.

! WARNING

Be Careful of Electric Shock

- Be sure to turn off the circuit breaker of AC BOX-C1 before operation.

- b. Disconnect the connectors from Breaker Box-1.

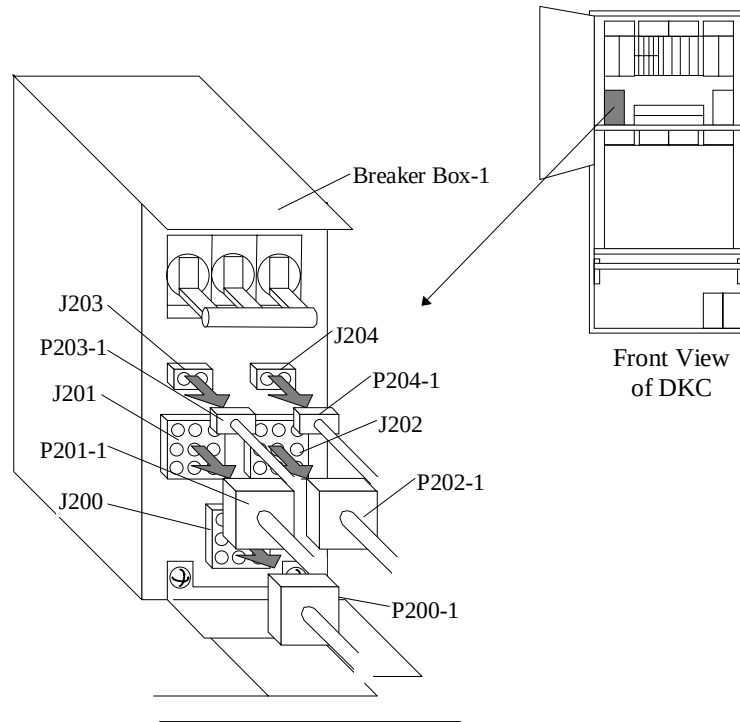


Fig. TUV12-4 Disconnection of Cable Connectors from Breaker Box-1

- c. Loosen the screw and remove Breaker Box-1.

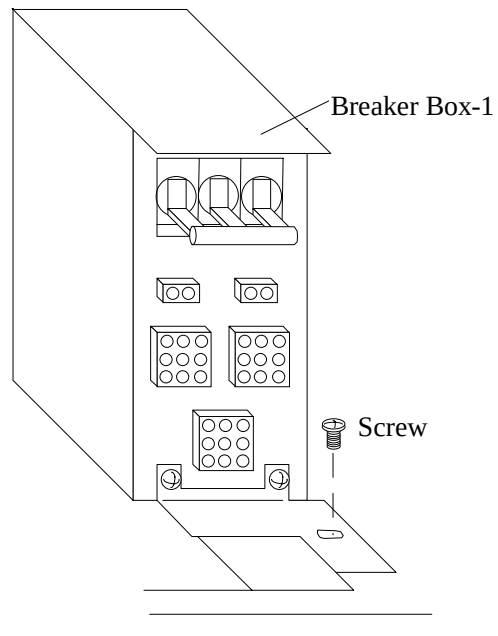


Fig. TUV12-5 Removal of Breaker Box-1

4. Angle(Breaker) Replacement

- Loosen the two screws. Remove the Angle(Breaker) from the failed Breaker Box.
- Secure the Angle(Breaker) to a spare Breaker Box with the two screws

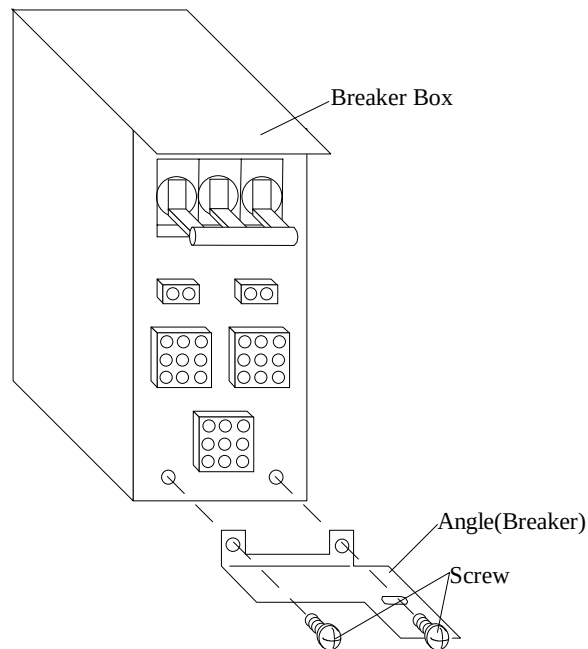


Fig. TUV12-6 Replacement of Angle(Breaker)

5. Spare Breaker Box Attachment

- Turn off the circuit breaker (CB201) on the spare Breaker Box.
- Attach the spare Breaker Box. Secure the Breaker Box with the screw.

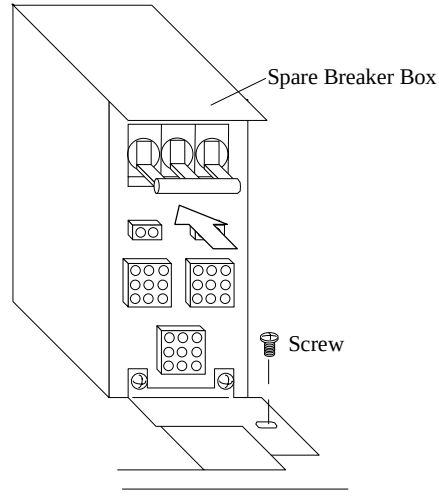


Fig. TUV12-7 Attachment of Spare Breaker Box

- Connect the cable connectors. Refer to Table TUV12-2 and Fig. TUV12-8.

Table TUV12-2 Breaker Box-1 Connectors

No.	Connector No.	Cable No.	Remarks
1	J200	P200-1	
2	J201	P201-1	
3	J202	P202-1	
4	J203	P203-1	
5	J204	P204-1	

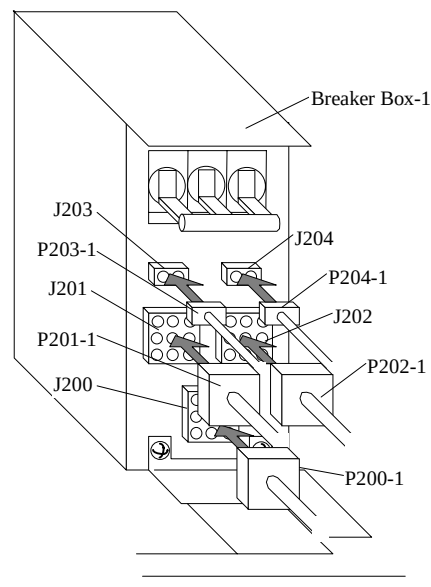


Fig. TUV12-8 Cable Connection of Breaker Box-1

- Attach the Front PS Box Cover 2 to the Front PS Box.

6. Powering On the Replacement Component

- Turn on the circuit breakers on the power distribution panel that are connected to AC BOX-C1.
- Turn on all the circuit breakers on AC BOX-C1.
- Turn on all the circuit breakers on Breaker Box-1.
- Turn “IND TEST/CHK RST” switch in CE panel to “CHK RST”.

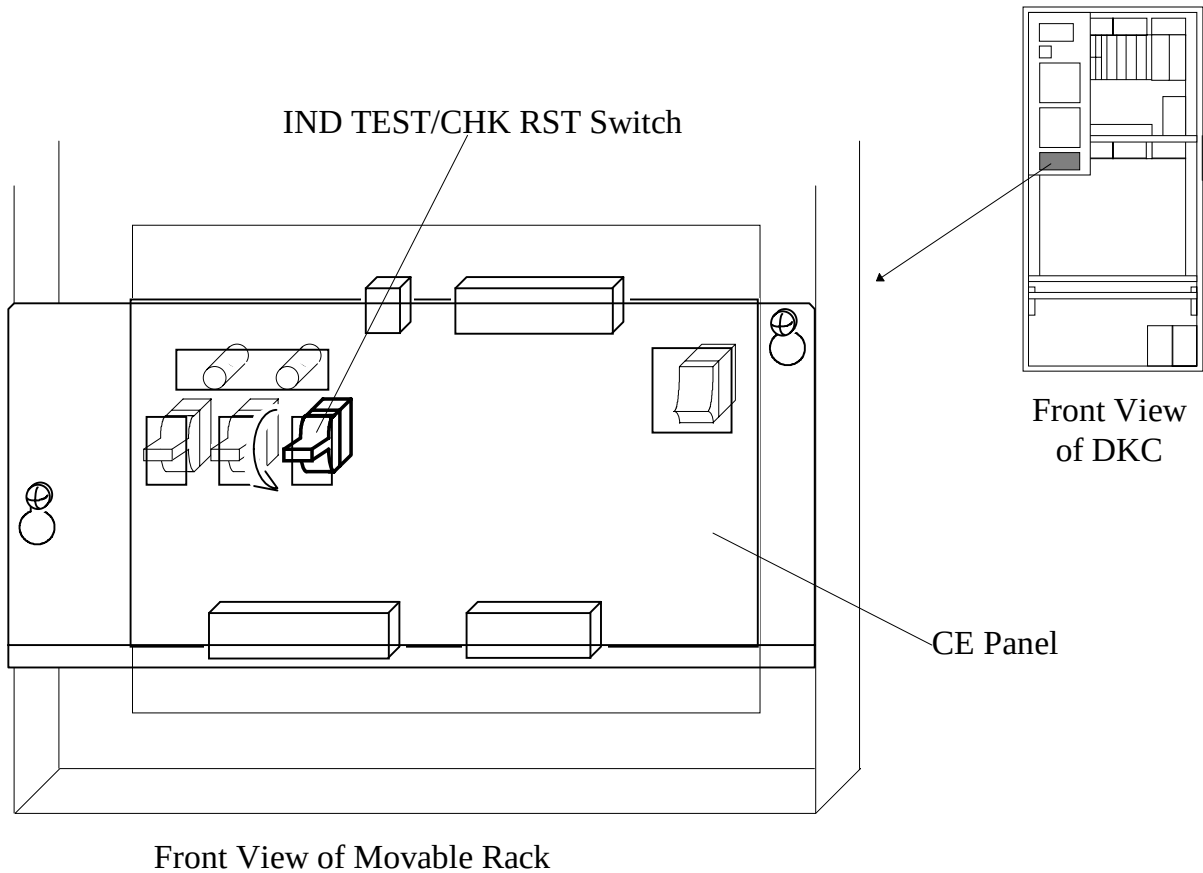


Fig. TUV12-9 Setting of IND TEST / CHK RST Switch

7. Disconnection of the Jumper

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. Disconnect the Alarm INH Jumpers from the connectors on the PWRCTL-1 and PWRCTL-2.

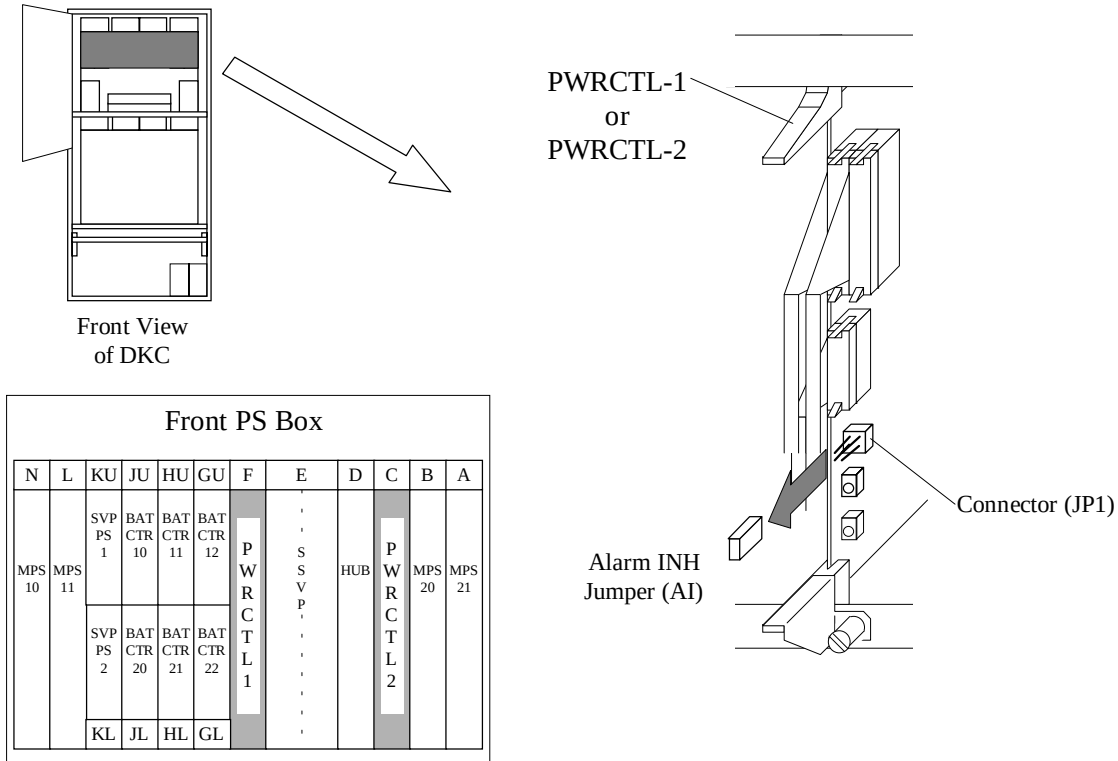
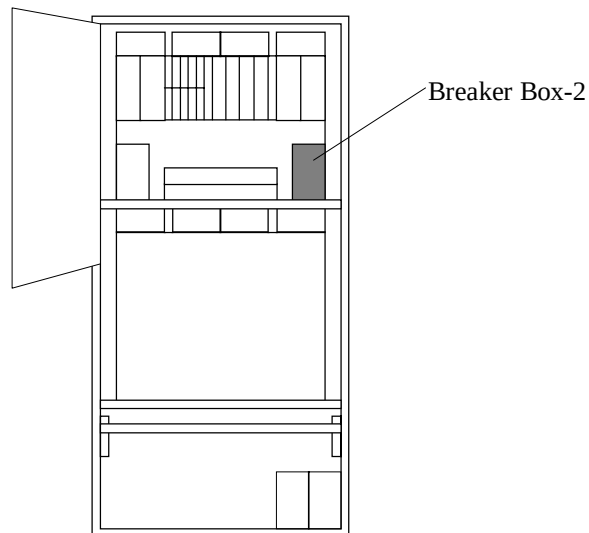


Fig. TUV12-10 Disconnection of Jumper

8. Go to SVP post-procedure t3 [REP04T-10].

[HARDWARE TUV13]

Location	Function Name of Component		Part Name
Front PS Box in DKC	1	Breaker Box	• Breaker Box-2
(Reference) The related PCB for replacement of Breaker Box-2 1. PWRCTL-1 and PWRCTL-2 (Front PS Box in DKC) 2. AC BOX-C1 (Lower left front of DKC) 3. CE Panel PCB (Front of DKC)			



Front View
of DKC

1. Connection of the Jumper

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. Connect the Alarm INH Jumpers to the connectors on the PWRCTL-1 and PWRCTL-2.

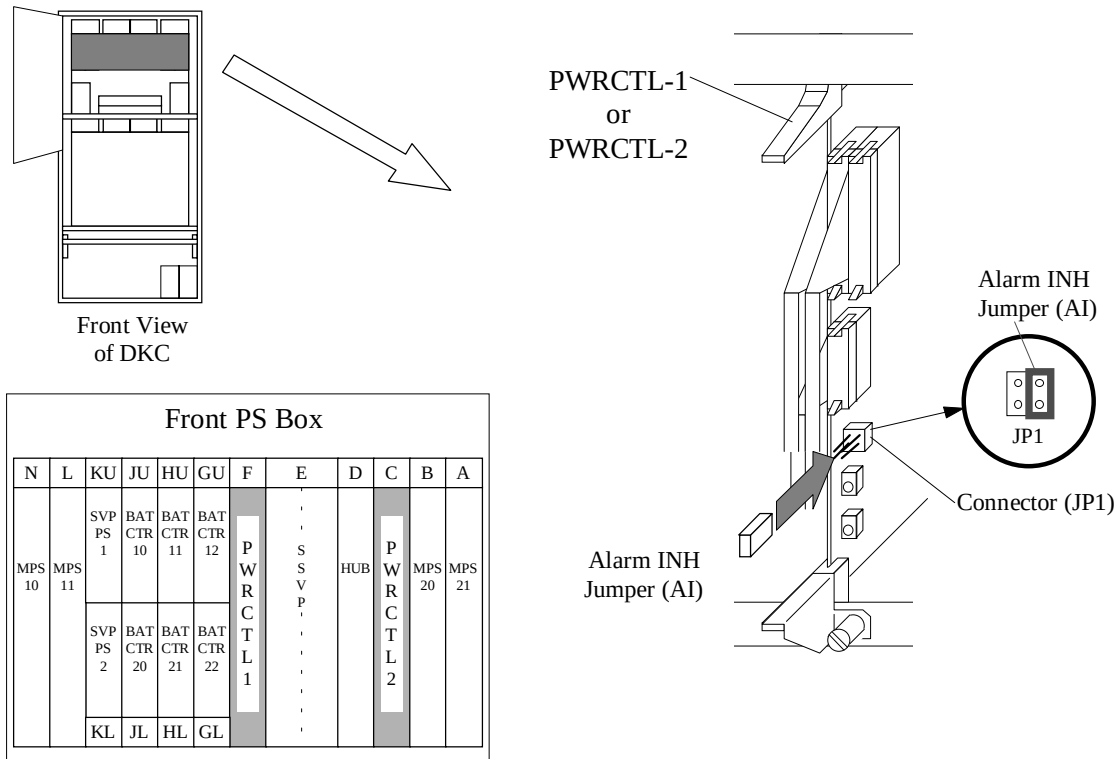


Fig. TUV13-1 Connection of Jumper

2. Powering Off the Component to be Replaced

WARNING

Be Careful of Electric Shock

- The power to the device is still on after turning off the breakers shown below.
- The device may be powered off when turning off the breakers not shown below.
- The circuit has residual voltage for one minute after turning off the breakers, so be sure to disconnect all the connectors after this period.

CAUTION

Mind Your Head

- Be sure to mind your head during operation, or you might hit your head against the movable rack, which could cause injury.

Table TUV13-1 Circuit Breakers to be Turned Off When Replacing Breaker Box-2

No.	Unit	Location No.	Breaker No.	Remarks
1	Disk Controller	Breaker Box-2	CB201	
2	Disk Controller	AC BOX-C2	CB200	Failure to turn off may result in an electric shock.

- a. Turn off the circuit breaker (CB201) on Breaker Box-2.

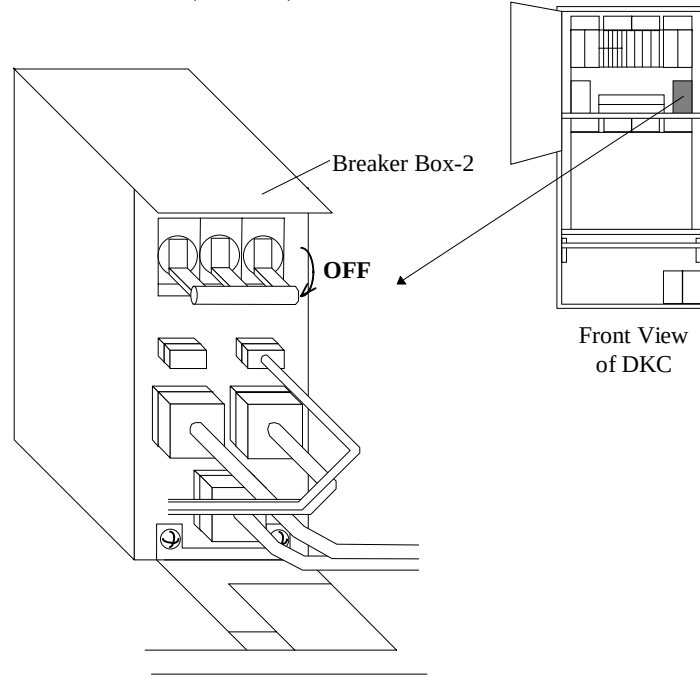


Fig. TUV13-2 Circuit Breakers to be Turned Off When Replacing Breaker Box-2

- b. Turn off the circuit breaker (CB200) on AC BOX-C2 in the Disk Controller.

! WARNING

Warning: You will get an electric shock if you fail to turn it off.
Start your work after turning off the AC BOX-C2 circuit breaker.

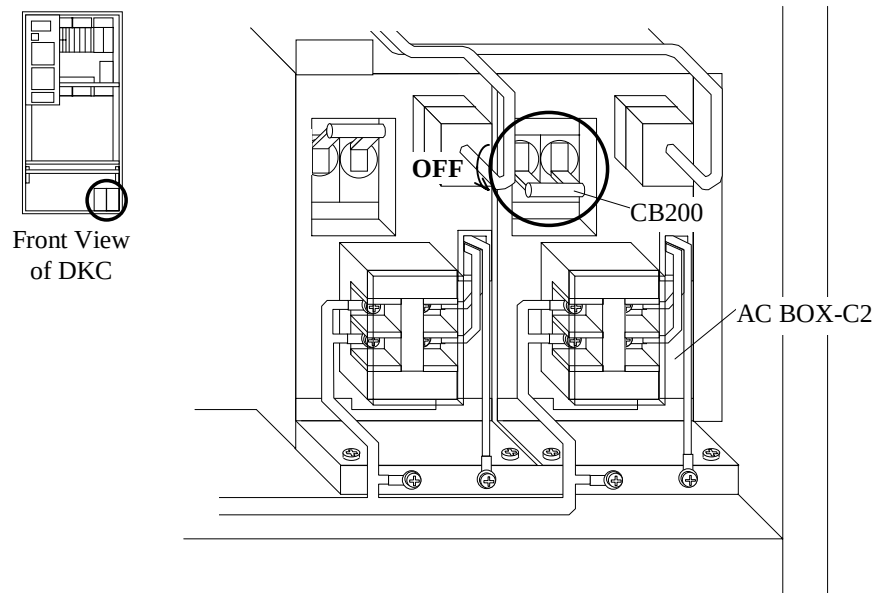


Fig. TUV13-3 Circuit Breakers to be Turned Off When Replacing Breaker Box-2

3. Breaker Box Removal

- a. Remove the Front PS Box Cover 2 from the Front PS Box.

! WARNING

Be Careful of Electric Shock

- Be sure to turn off the circuit breaker of AC BOX-C2 before operation.

- b. Disconnect the cable connectors from Breaker Box-2.

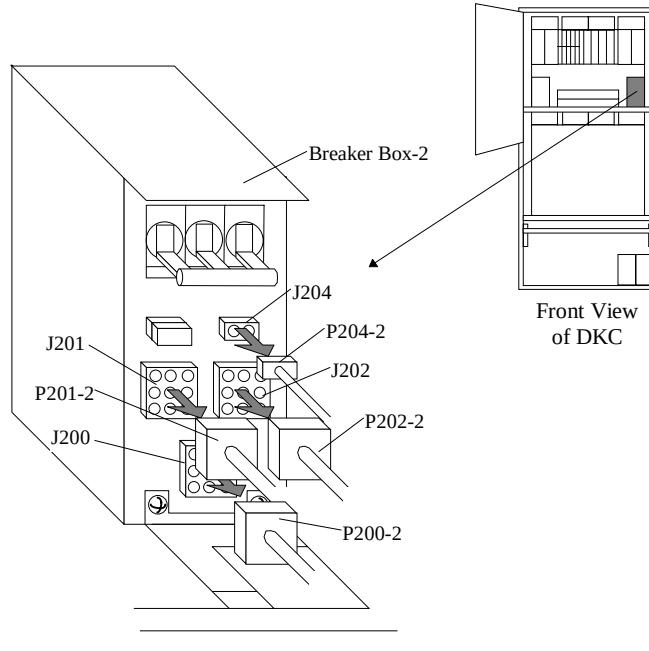


Fig. TUV13-4 Disconnection of Cable Connectors from Breaker Box-2

- c. Loosen the screw and remove Breaker Box-2.

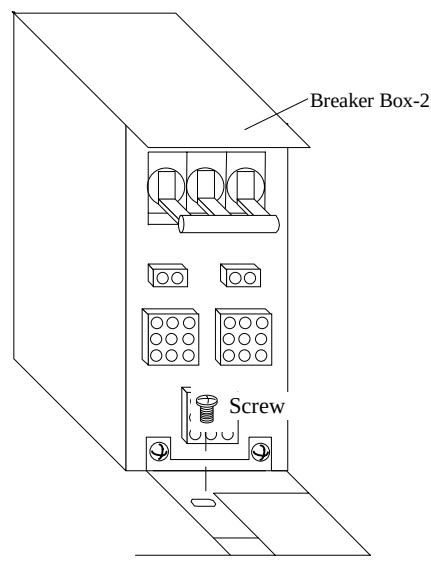


Fig. TUV13-5 Removal of Breaker Box-2

4. Angle(Breaker) Replacement

- a. Loosen the two screws. Remove the Angle(Breaker) from the failed Breaker Box.
- b. Secure the Angle(Breaker) to a spare Breaker Box with the two screws

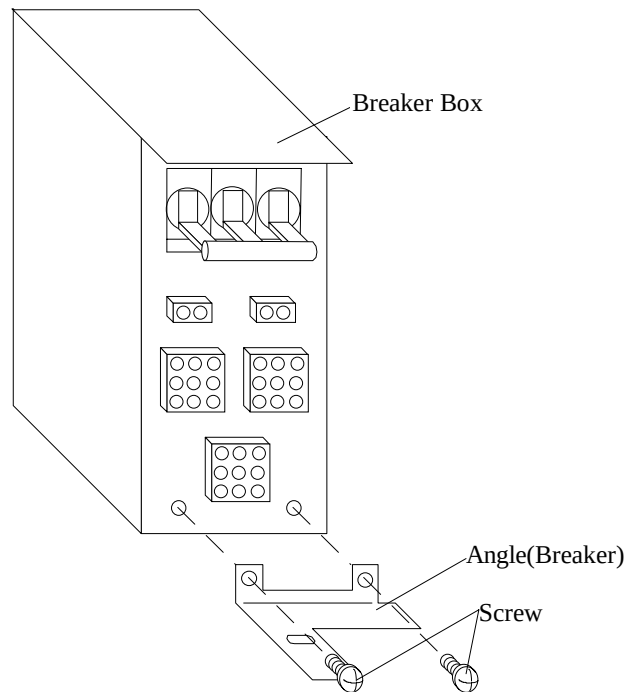


Fig. TUV13-6 Replacement of Angle(Breaker)

5. Spare Breaker Box Attachment

- a. Turn off the circuit breaker (CB201) on the spare Breaker Box.
- b. Attach the spare Breaker Box. Secure the Breaker Box with the screw.

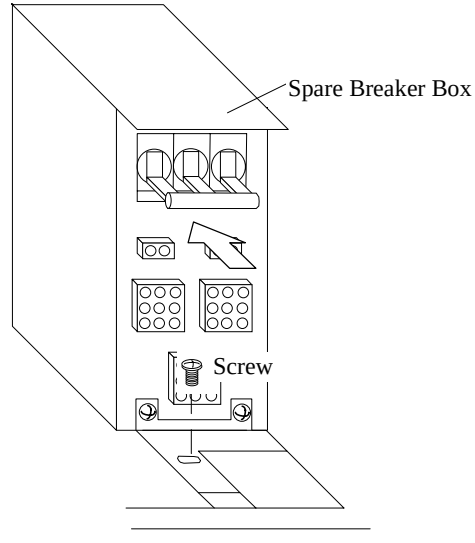


Fig. TUV13-7 Attachment of Breaker Box-2

- c. Connect the cable connectors. Refer to Table TUV13-2 and Fig. TUV13-8.

Table TUV13-2 Breaker Box-2 Connectors

No.	Connector No.	Cable No.	Remarks
1	J200	P200-2	
2	J201	P201-2	
3	J202	P202-2	
4	J204	P204-2	

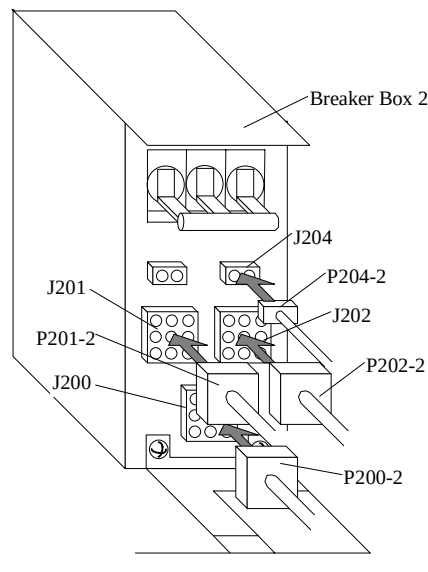
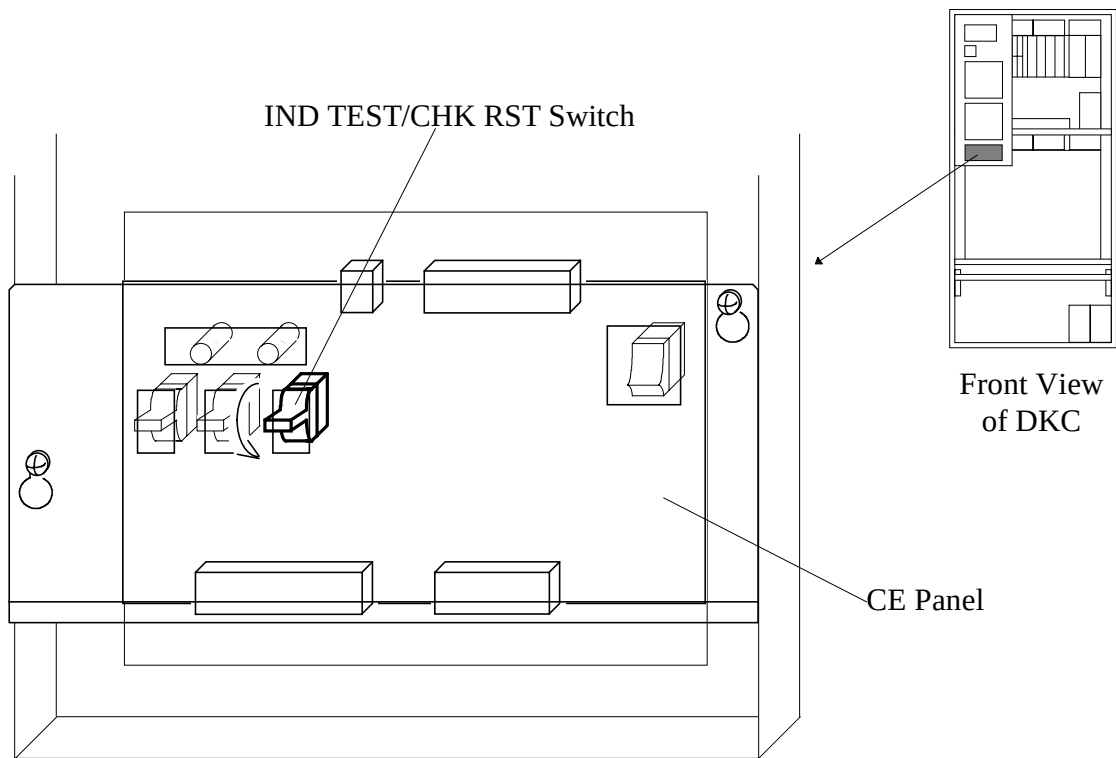


Fig. TUV13-8 Cable Connection of Breaker Box-2

- d. Attach the Front PS Box Cover 2 to the Front PS Box.

6. Powering On the Replacement Component

- a. Turn on the circuit breakers on the power distribution panel that are connected to AC BOX-C2.
- b. Turn on all the circuit breakers on AC BOX-C2.
- c. Turn on all the circuit breakers on Breaker Box-2.
- d. Turn “IND TEST / CHK RST” switch in CE panel to “CHK RST”.



Front View of Movable Rack

Fig. TUV13-9 Setting of IND TEST / CHK RST Switch

7. Disconnection of the Jumper

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. Disconnect the Alarm INH Jumpers from the connectors on the PWRCTL-1 and PWRCTL-2.

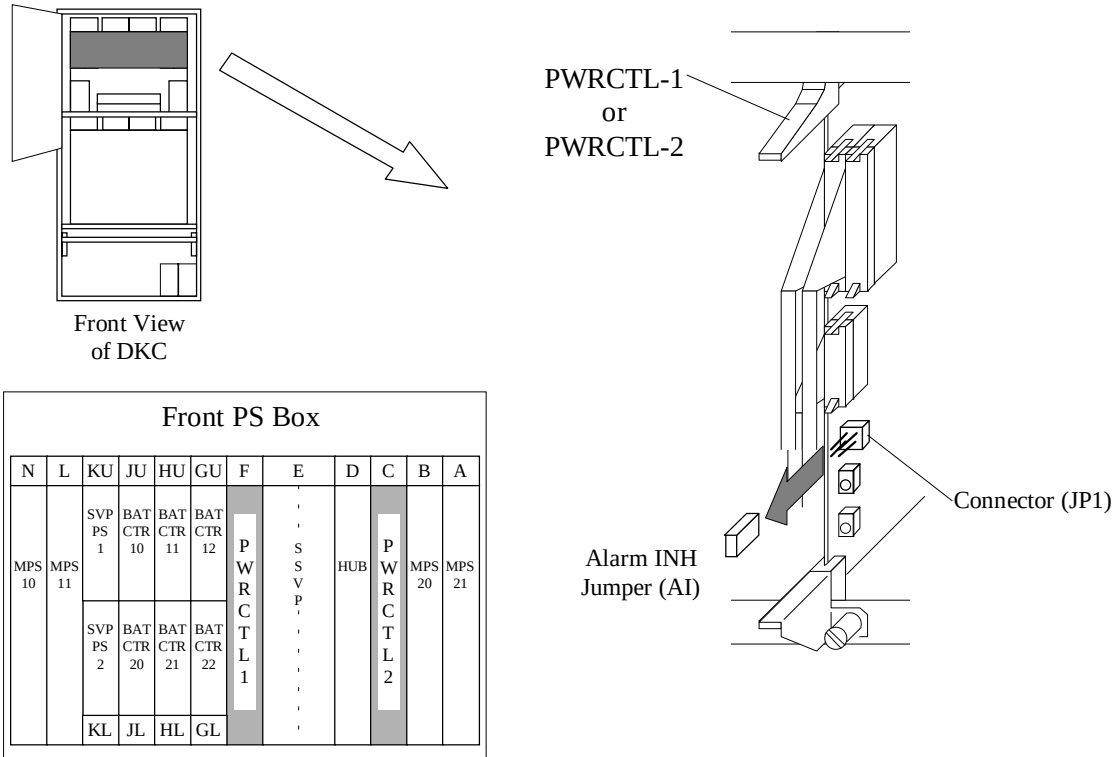
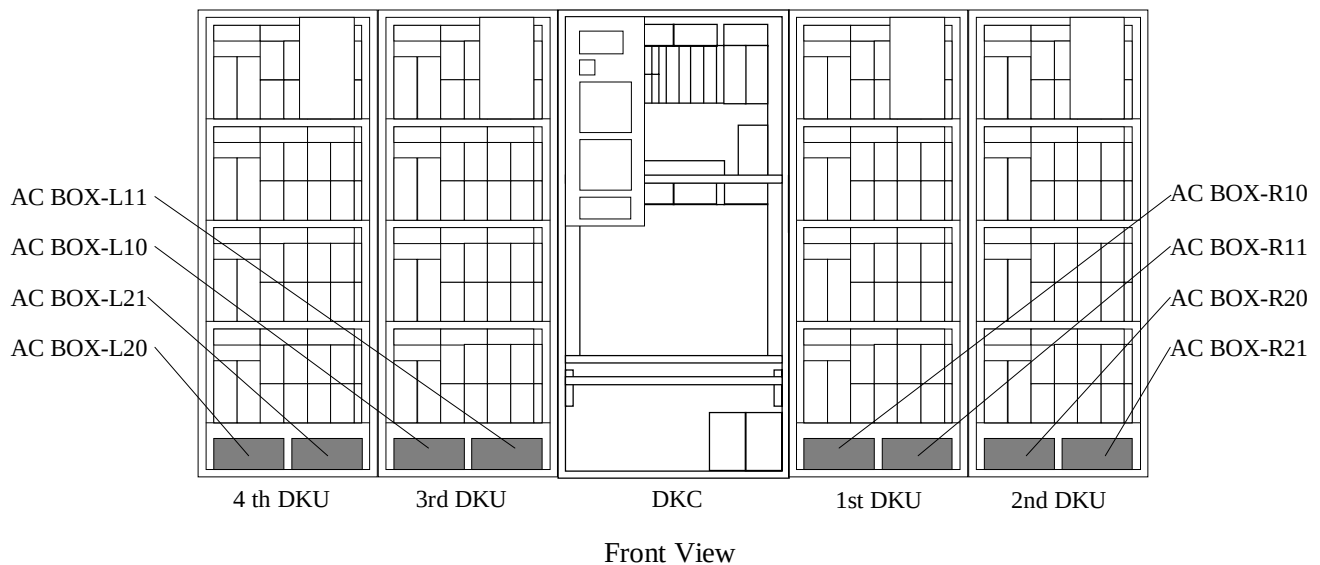


Fig. TUV13-10 Disconnection of Jumper

8. Go to SVP post-procedure t3 [REP04T-10].

[HARDWARE TUV22]

Location	Function Name of Component		Part Name
Lower of DKU	1	DKU AC BOX	• AC BOX-R10
	2		• AC BOX-R11
	3		• AC BOX-R20
	4		• AC BOX-R21
	5		• AC BOX-L10
	6		• AC BOX-L11
	7		• AC BOX-L20
	8		• AC BOX-L21
(Reference)			
The related PCB for replacement of DKU AC BOX			
1. Circuit breakers on the power distribution panel that are connected to the DKU AC BOX			



DKU AC BOX

! WARNING

Be Careful of Electric Shock

- The power to the device is still on after turning off the breakers shown below.
- The device may be powered off when turning off the breakers not shown below.
- The circuit has residual voltage for one minute after turning off the breakers, so be sure to disconnect all the connectors after this period.

1. Power Off the Component to be Replaced

- Turn off the circuit breakers for the AC Box to be replaced (CB101, CB102, and CB103).

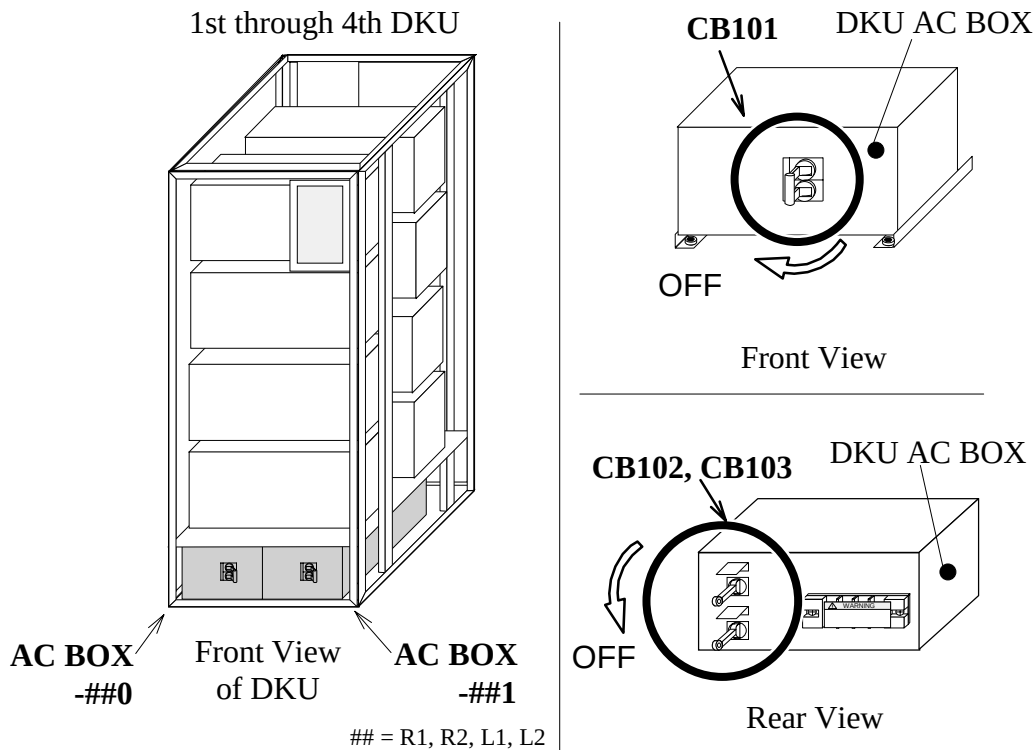


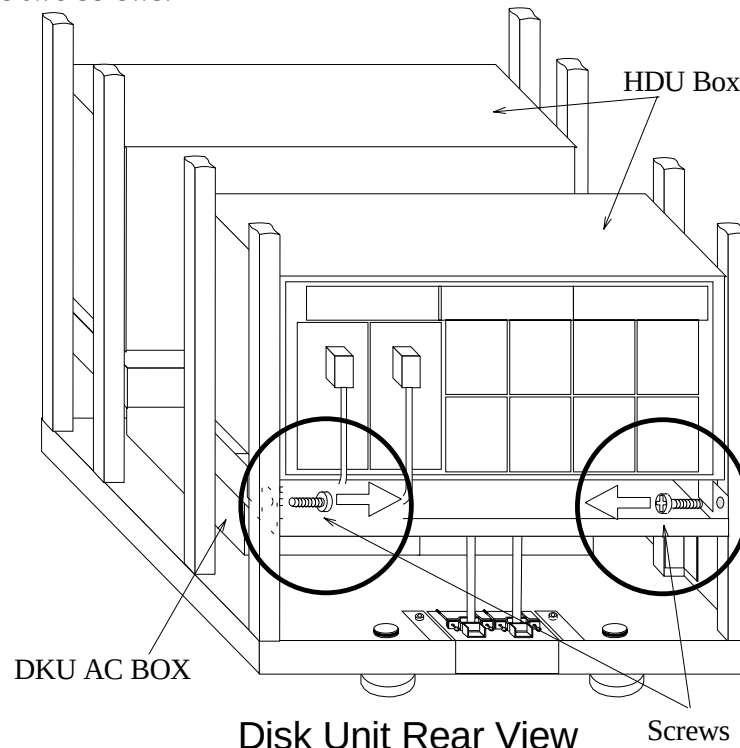
Fig. TUV22-1 AC Box Location

- Turn off the circuit breakers on the power distribution panel in the plant that are connected to the DKU AC Box to be replaced.

Failure to turn off may result in an electric shock.

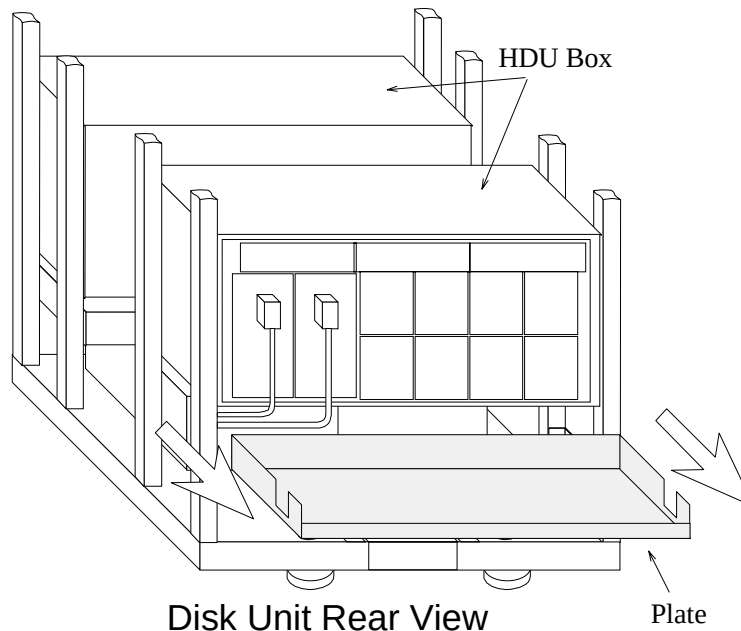
2. AC Box Removal

a. Remove the two screws.



Disk Unit Rear View
Fig. TUV22-2 Removal of Screws

b. Slide the plate toward the rear side to remove it.



Disk Unit Rear View
Fig. TUV22-3 Removal of Plate

WARNING

Be Careful of Electric Shock

- Be sure to turn off the breaker on the power distribution panel connected to replaced DKU AC BOX.

c. Disconnect the cable connectors P101-# and P102-# from the DKU AC Box to be replaced.

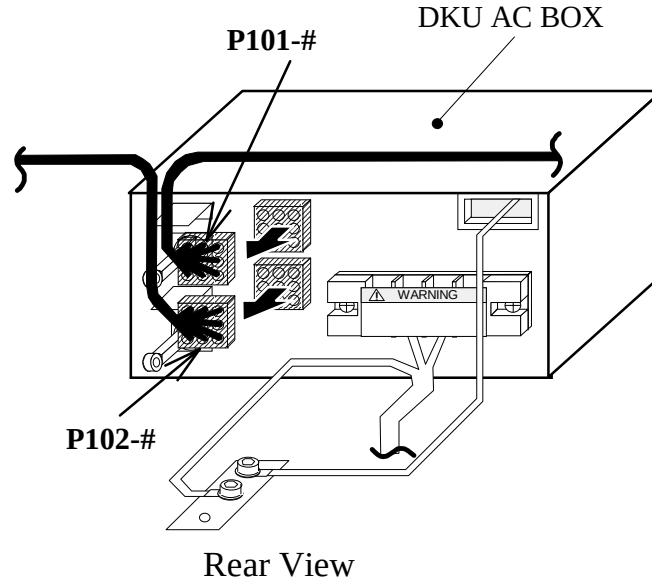


Fig. TUV22-4 Disconnection of Cable Connectors from DKU AC Box

d. Remove the terminal block cover and disconnect the AC power cable.

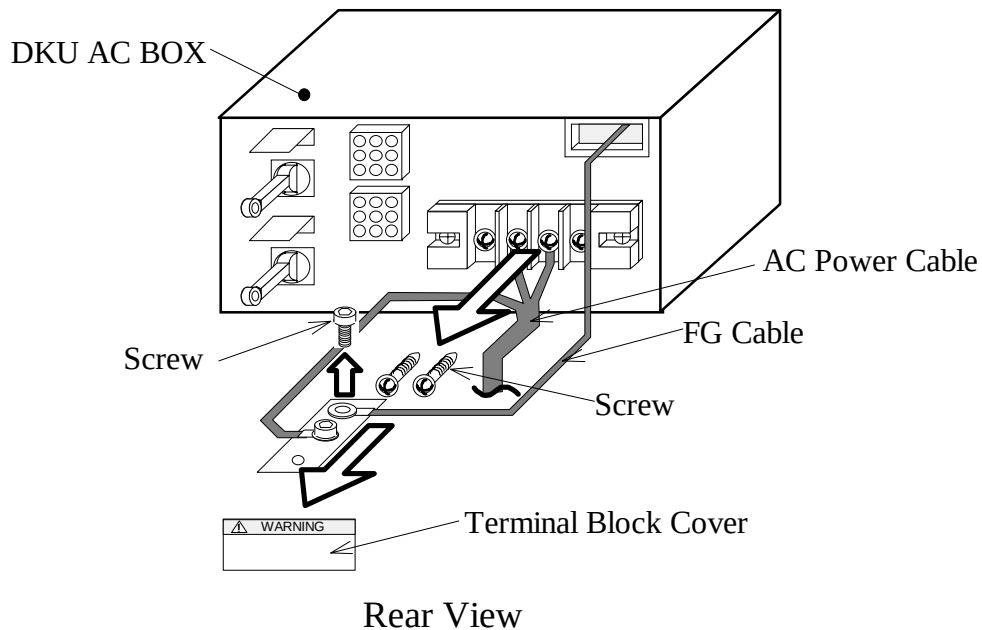


Fig. TUV22-5 Disconnection of AC Power Cable

- e. Remove the two screws from the front panel of the DKU AC BOX to be replaced.

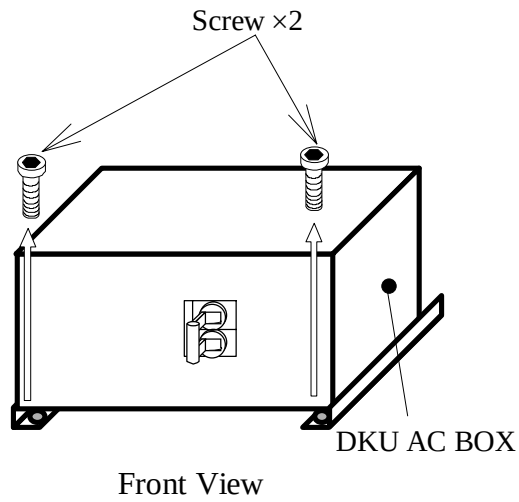


Fig. TUV22-6 Disconnection of AC Power Cable

- f. Slide the DKU AC BOX to be replaced backward and pull it out.

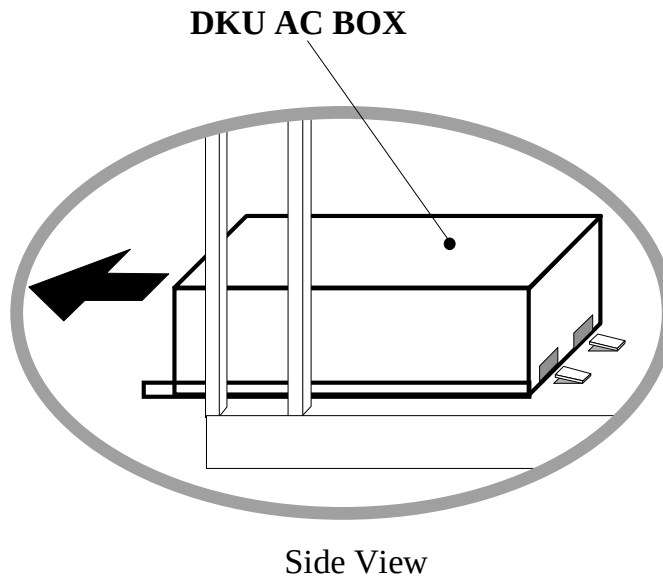


Fig. TUV22-7 Removal of DKU AC BOX

3. Spare DKU AC Box Installation

- a. Check that the circuit breakers (CB101, CB102, CB103) on the spare DKU AC Box are turned off.
- b. Slide the replacement DKU AC BOX from the front to the rear.

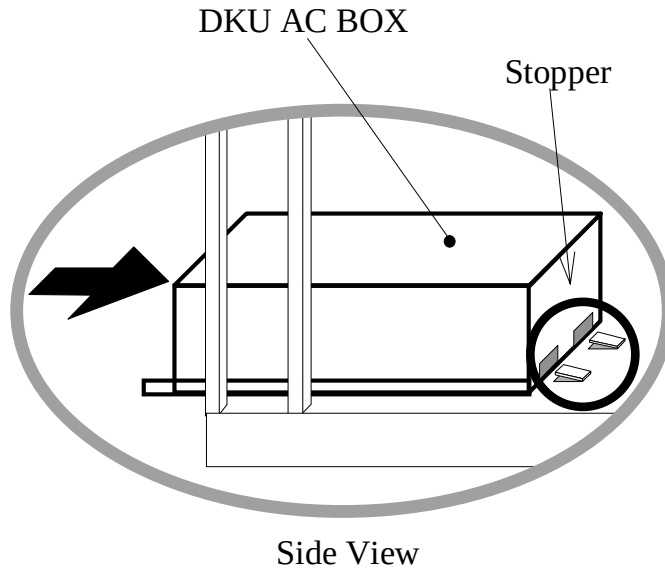


Fig. TUV22-8 Spare DKU AC BOX Installation

- c. Secure the replacement DKU AC BOX at the front side with the screws.

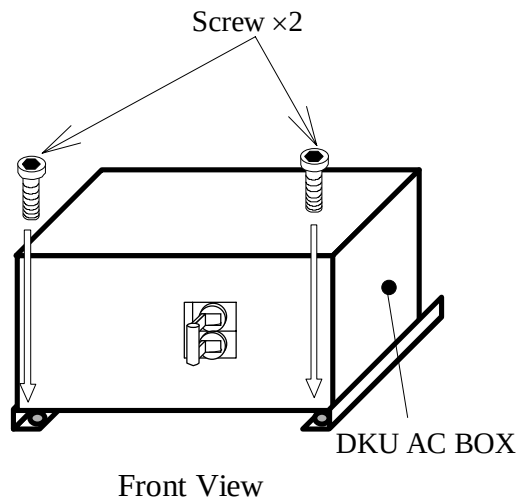


Fig. TUV22-9 Spare DKU AC BOX Installation

d. Connect the AC power cable to the terminal block. Replace the terminal block cover.

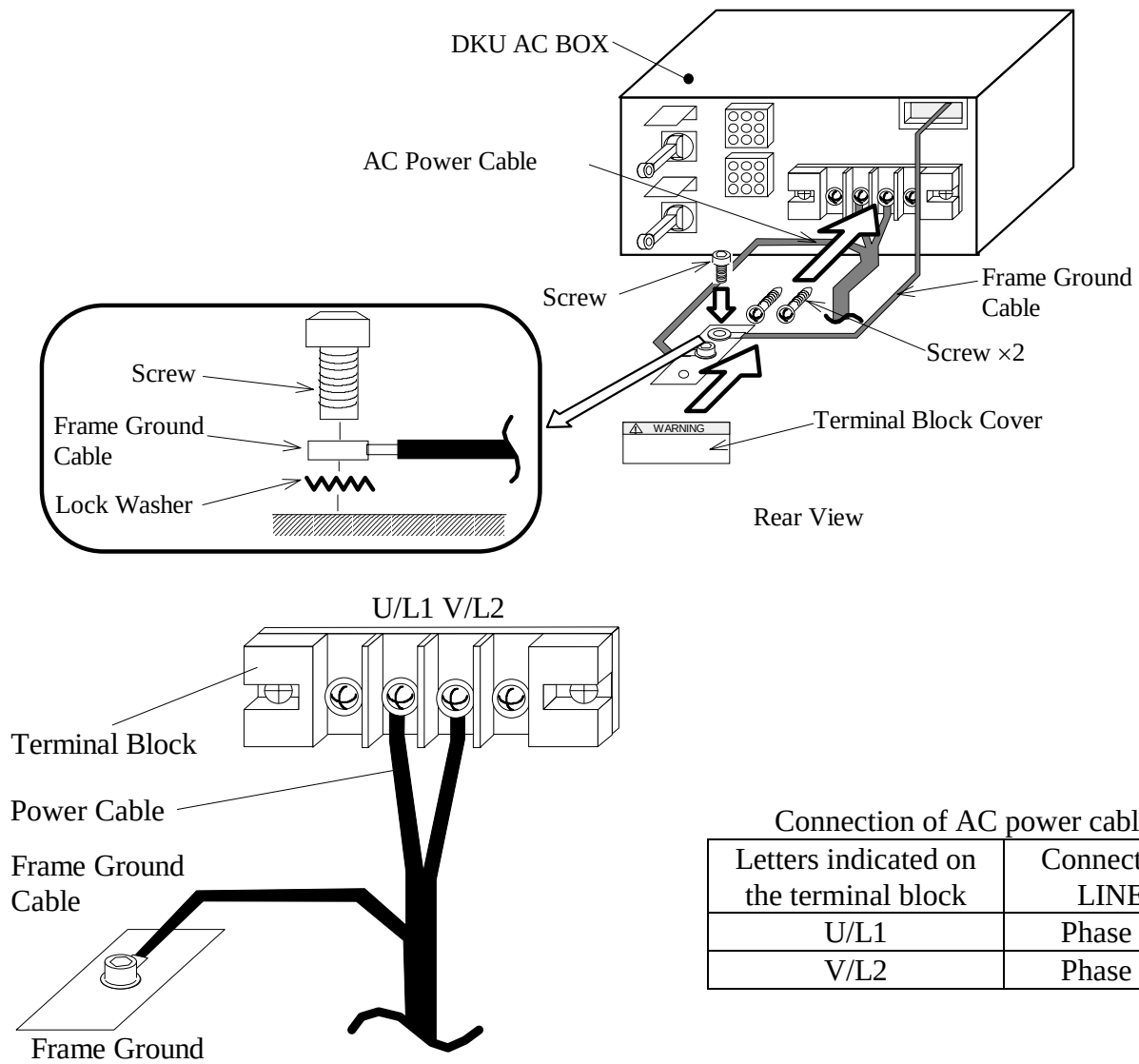
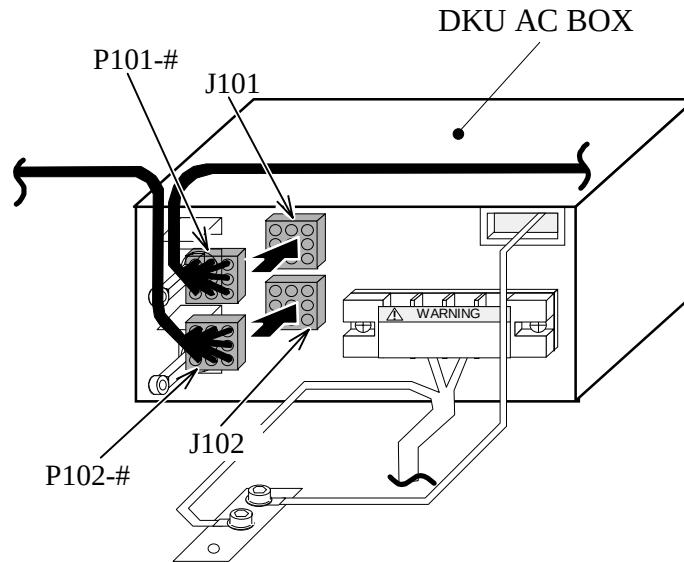


Fig. TUV22-10 Connection of AC Power Cable

e. Connect the cables connectors to DKU AC BOX.

Table TUV22-1 DKU AC BOX Cables

No.	Cable No.	Connector No.	Remarks
1	P101-#	J101	
2	P102-#	J102	



Rear View

Fig. TUV22-11 Connection of Cable Connectors

f. Attach the plate.

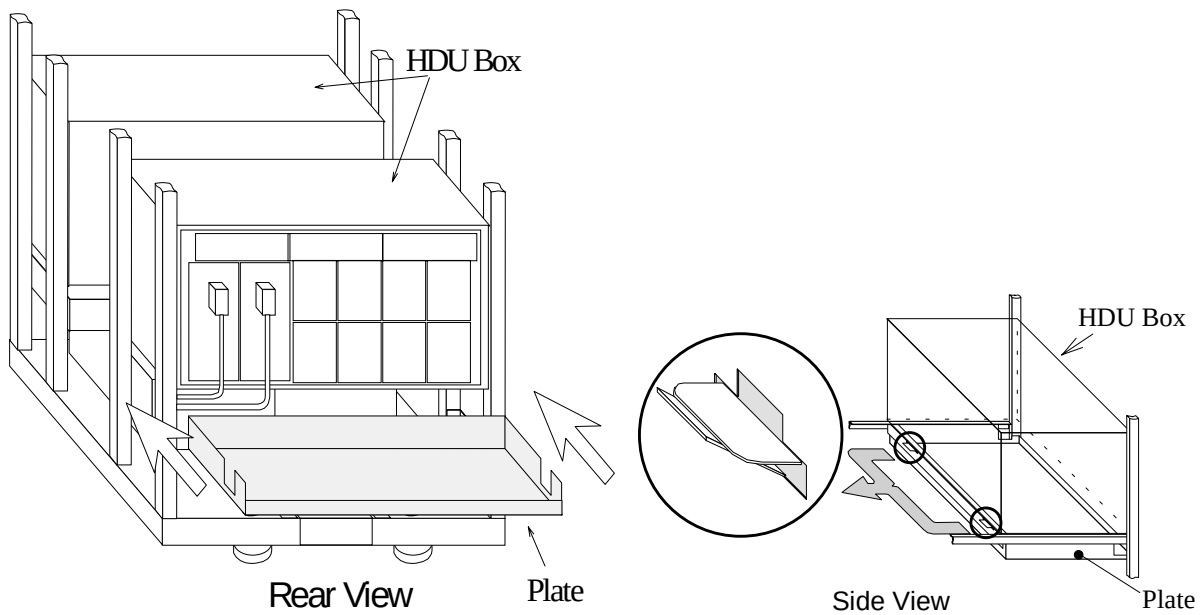


Fig. TUV22-12 Attachment of Plate

g. Secure the plate with the screws.

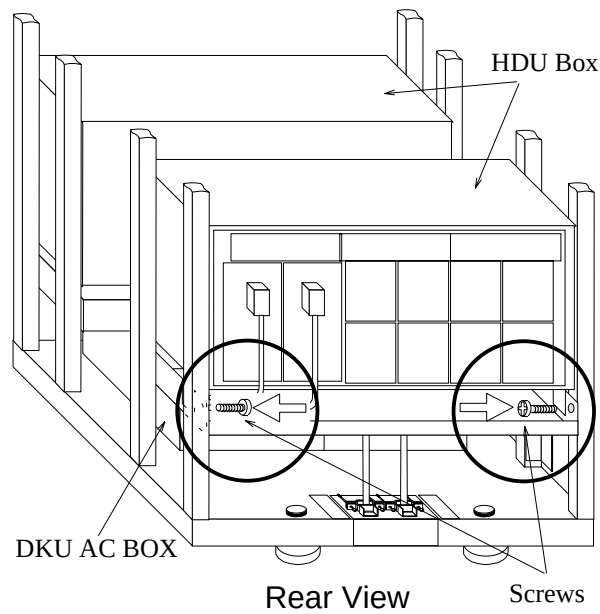


Fig. TUV22-13 Attachment the Plate

-
4. Power On the Replacement Component
 - a. Turn on the circuit breakers on the power distribution panel that are connected to the replacement DKU AC BOX.
 - b. Turn on all the circuit breakers (CB101, CB102 and CB103) on the replacement DKU AC BOX.

-
5. Go to SVP post-procedure t4 [REP04T-60].

[POST-PROCEDURE t3]

— OUTLINE —

- ① Specify end of special part replacement.
- ② Reinstall related parts.
- ③ Start environment monitor.
- ④ SIM Complete

[1] START OF POST-PROCEDURE

1. <Check special part replacement>

Select (CL) [OK] in response to “Turn off the breaker which supplies power source for XXXXX. After that please replace it. When replacement is completed, press OK.

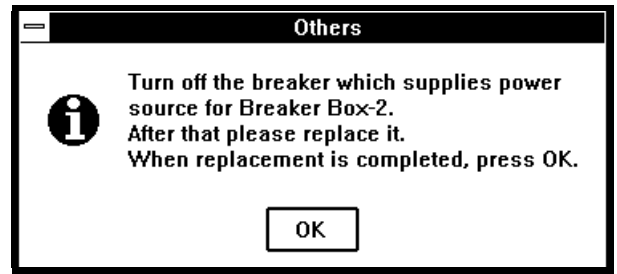
- ‘Breaker Box-n’
- ‘AC BOX-Cn’

When redundant power supply is installed

-----Go to [2] (REP04T-30)

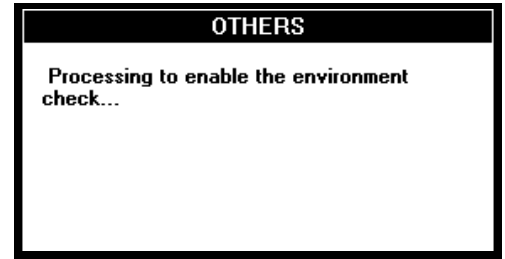
Not installed

-----Go to [3] (REP04T-40)



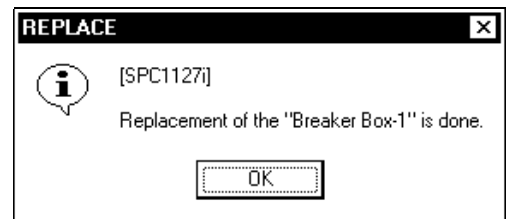
[2] Breaker Box, DKC AC BOX

1. <Checking the environment monitor start processing>
"Processing to enable the environment check..." is displayed.



-
2. <Checking the end of replacement>
Select (CL) [OK] in response to "Replacement of the "XXXXXX" is done."

Go to [4] (REP04T-50)

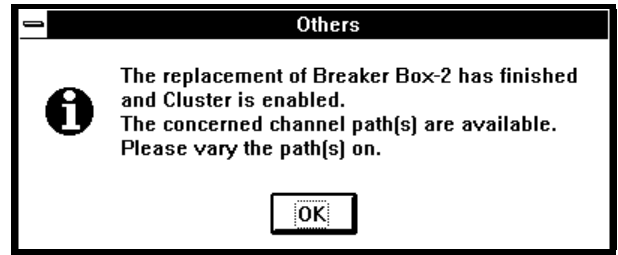


[3] Breaker Box, DKC AC BOX

1. <checking end of replacement>

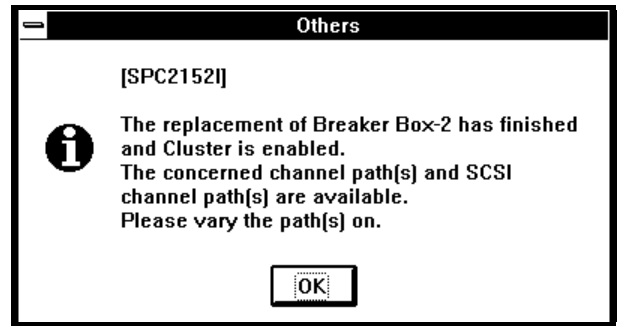
- When only serial or parallel channels, or they are mixed.

Select (CL) [OK] in response to “The replacement of XXXXX has finished and Cluster is enabled. The concerned channel path(s) are available. Please vary the path(s) on.”.

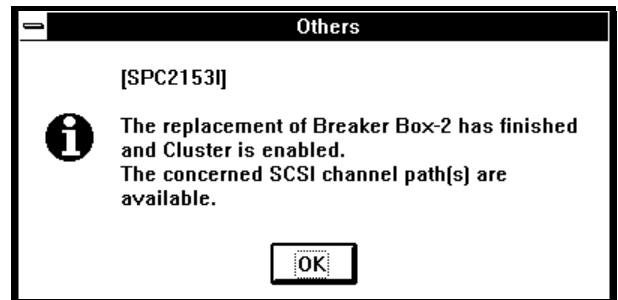


- When SCSI channels and other kinds are mixed.

Select (CL) [OK] in response to “The replacement of XXXXX has finished and Cluster is enabled. The concerned channel path(s) and SCSI channel path(s) are available. Please vary the path(s) on.”.



- When only SCSI channels are installed.
- Select (CL) [OK] in response to “The replacement of XXXXX has finished and Cluster is enabled. The concerned SCSI channel path(s) are available.”.



Go to [4] (REP04T-50).

[4] Confirm Cluster

If Cluster is blocked, recover it.
See SVP02-890.
Go to [5] (REP04T-50).

[5] SIM Log Complete

See SVP02-500.
Close 'Cluster-X' window.
Close 'DKC' window.
Close 'Maintenance' window.

[End of POST-PROCEDURE]

[POST-PROCEDURE t4]

— OUTLINE —

- ① Specify end of special part replacement.
- ② Reinstall related parts.
- ③ Start environment monitor.
- ④ DKU Path Inline Test.
- ⑤ SIM Complete.

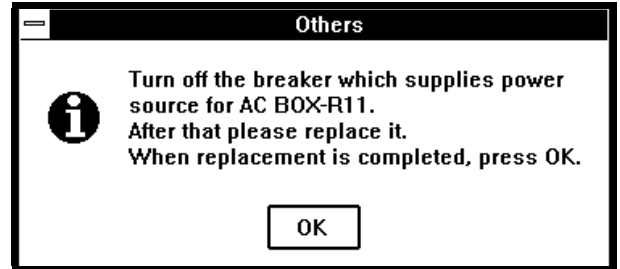
[1] Start of POST-PROCEDURE

1. <Making part replacement check>

- AC BOX-n

Select (CL) [OK] in response to “Turn off the breaker which supplies power source for AC BOX-XXX. After that please replace it. When replacement is completed, press OK.”.

-----Go to [2] (REP04T-80).



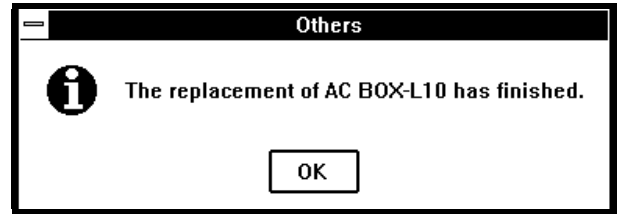
[2] DKU AC BOX

1. <End of replacement>

If an error occurs, go to [3] (REP04T-90).

Select (CL) [OK] in response to “The replacement of AC BOX-Rn/Ln has finished.”.

Go to [4] (REP04T-90).

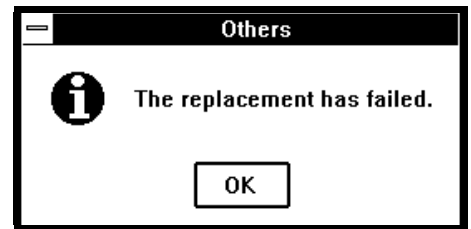


[3] Error

1. <Replacement error>

Select (CL) [OK] in response to “The replacement has failed.”.

[End of POST-PROCEDURE]



[4] SIM Log Complete

See SVP02-500.

Close 'DKU-xx' window.

Close 'Maintenance' window.

[End of POST-PROCEDURE]

PARTS CATALOG SECTION

Table of contents

1 HOW TO USE PARTS CATALOG.....	PARTS01T-10
2 PARTS LIST OF DKU305I	PARTS02T-10
3 PARTS LIST OF DKC310I	PARTS03T-10
4 PARTS LIST OF PCB AND MEMORY MODULE	PARTS04T-10
4.1 PCB LOCATION	PARTS04T-10
4.2 SHARED MEMORY MODULE LOCATION	PARTS04T-10
4.3 CACHE MEMORY MODULE LOCATION.....	PARTS04T-10
4.4 PARTS LIST	PARTS04T-10
5 INTERNAL CABLING AND CABLE ASSEMBLY PARTS LIST	PARTS05T-10
5.1 INTERNAL CABLING	PARTS05T-10
5.2 CABLE ASSEMBLY PARTS LIST	PARTS05T-20
6 SPARE PARTS LIST	PARTS06T-10
7 TOOL LIST.....	PARTS07T-10

1 HOW TO USE PARTS CATALOG

1. Parts list

Table 1-1 shows the reference page of each part.

Table 1-1 Reference page of each part

No.	Part Name	Pages
1	DKU	PARTS02T-10 through 02T-130
2	DKC	PARTS03T-10 through 03T-100
3	PCBs and Memory Modules	PARTS04T-10
4	Cable Assemblies	PARTS05T-10 through 05T-20
5	Spare Parts	PARTS06T-10

2. Tool list

This list shows tools necessary to exchange a part or to troubleshoot DKC310I and DKU305I.

3. How to refer to parts list

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
1- 1 2	2100572-B 1503328-A 1505540-A	DKU FINAL ASSY • DKU SUB ASSY • DKU DOOR ASSY	1 2	

- ① : Indicates the list number of the assembly.
 ② : Indicates the item number given in the figure.
 ③ : Indicates the part number.
 ④ : Non-dot mark indicates a main assembly in a parts list.
 One-dot mark indicates a part included in a main assembly.
 Two-dot mark indicates a part included in a one-dot marked part.
 ⑤ : Indicates the unit type.
 ⑥ : Indicates the detailed list number if any.
 ⑦ : Indicates a quantity per main assembly.
 ⑧ : If 'SP' is written, it indicates a spare part.

2 PARTS LIST OF DKU305I

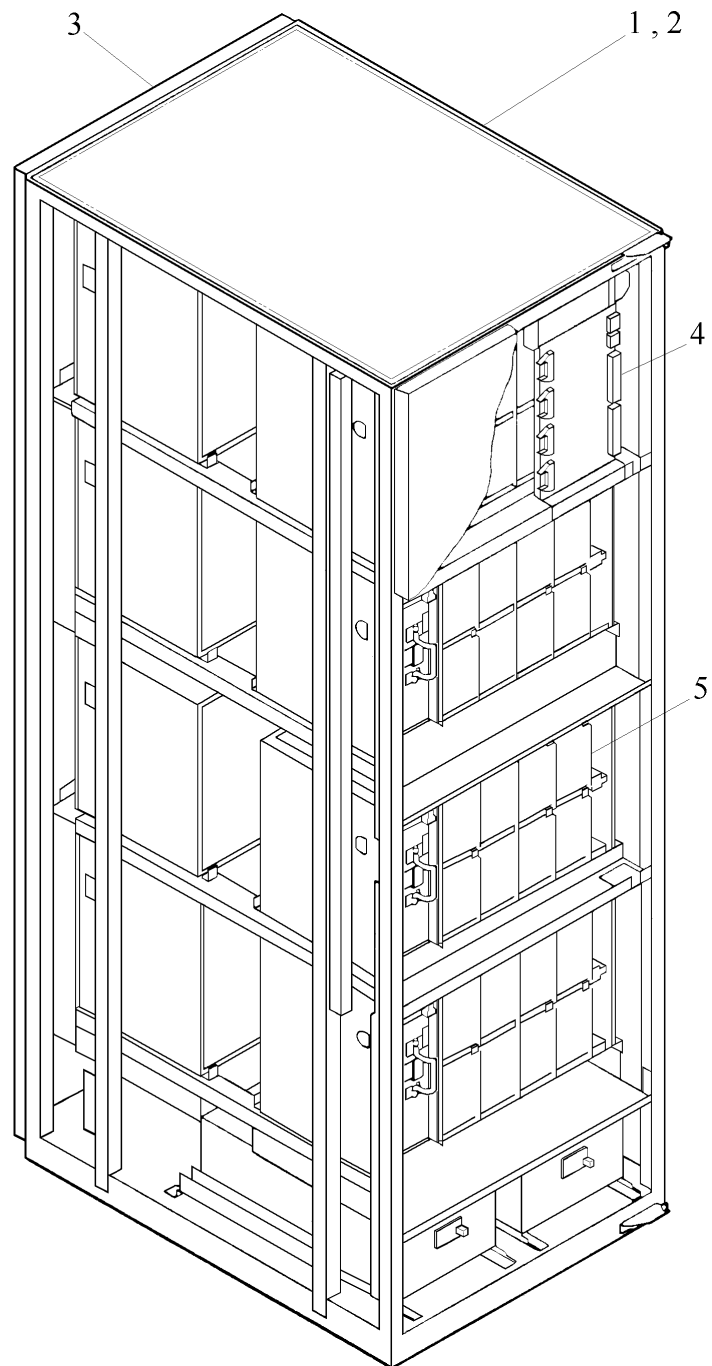


Fig. 2-1 DKU ASSY

PARTS LIST 1-1 (Parts listed below are shown in Fig. 2-1)

LIST NUMBER	NAME OF PART	PAGE
1	DKU 305 FINAL ASSY	PARTS02-30, 02-40
2	DKU SUB ASSY	PARTS02-50, 02-60, 02-70
3	DKU DOOR ASSY	PARTS02-80, 02-90
4	DKU MONITOR ASSY	PARTS02-100, 02-110
5	HDU-6F1(60) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130
	HDU-901(90) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130
	HDU-1801(180) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130
	HDU-9F1(90) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130
	HDU-15F1(150) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130
	HDU-3601(360) for RAID5, RAID1 NOTE 1	PARTS02-120, 02-130

NOTE 1 : see PARTS LIST 1-3.

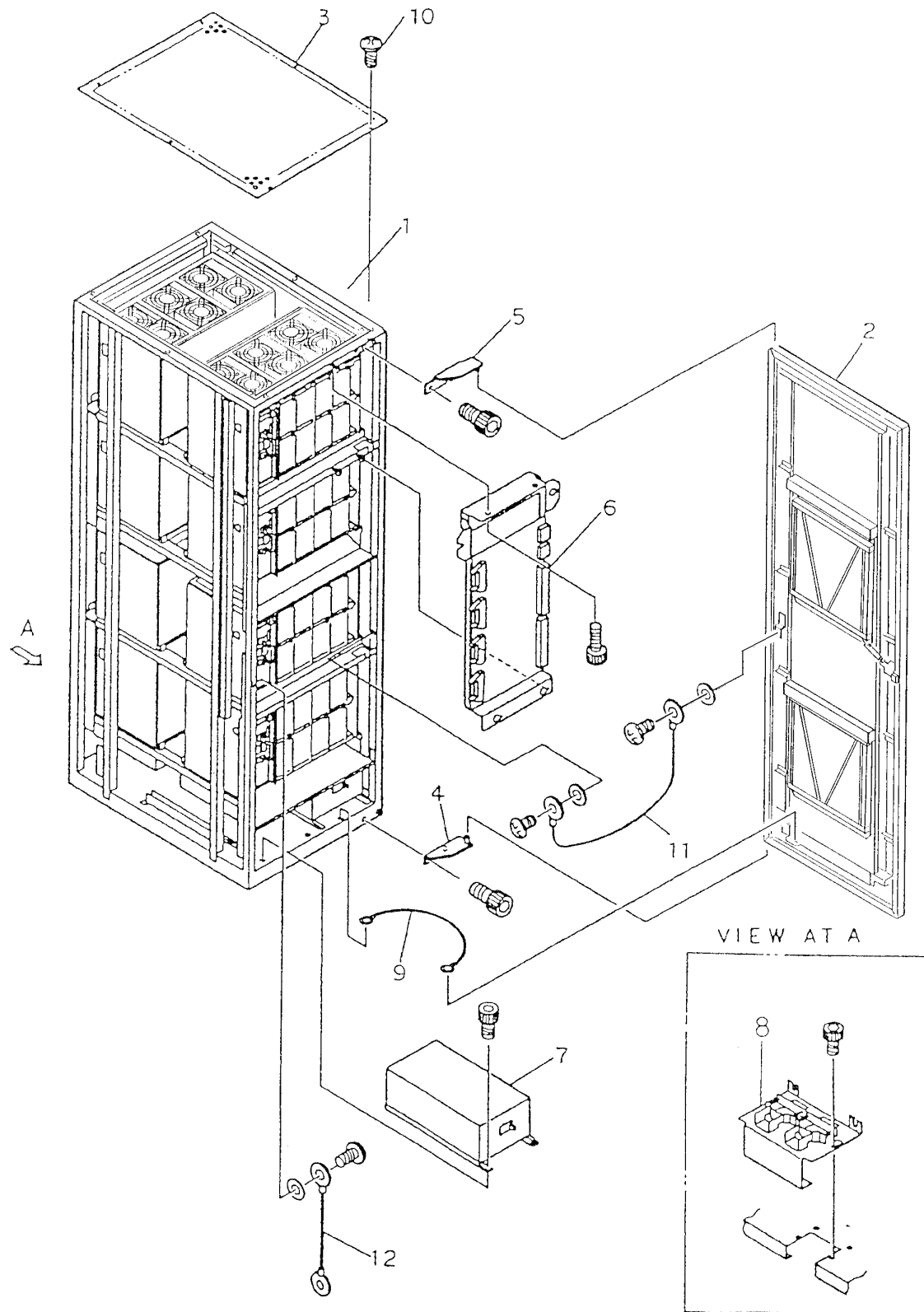


Fig. 2-2 DKU305 FINAL ASSY

PARTS LIST 1-2 (Parts listed below are shown in Fig. 2-2)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
1-	2100572-B	DKU305 FINAL ASSY		
1	1503328-A	• DKU SUB ASSY See PARTS LIST 1-3.	1	
2	1505540-A	• DKU DOOR ASSY See PARTS LIST 1-4.	2	
3	3239218-1	• TOP COVER	1	
4	5460630-A	• HINGE ASM-L	2	
5	5460631-A	• HINGE ASM-U	2	
6	3239331-A	• DKU MONITOR ASSY See PARTS LIST 1-5.	2	
7	5487058-C	• DKU AC BOX	2	S.P
8	3239268-B,C	• STR ASSY	1	NOTE 1
9	3210567-1	• WIRE ROPE	2	
	3210567-101	• WIRE ROPE	2	ALTERNATE
10	3183101-1	• BLACK SCREW	6	
11	3183008-B	• EARTH WIRE	2	
	3243620-B	• EARTH WIRE	2	ALTERNATE
12	5473095-A	• FG CABLE	1	

NOTE 1 : P/N-B :IU

P/N-C :IE

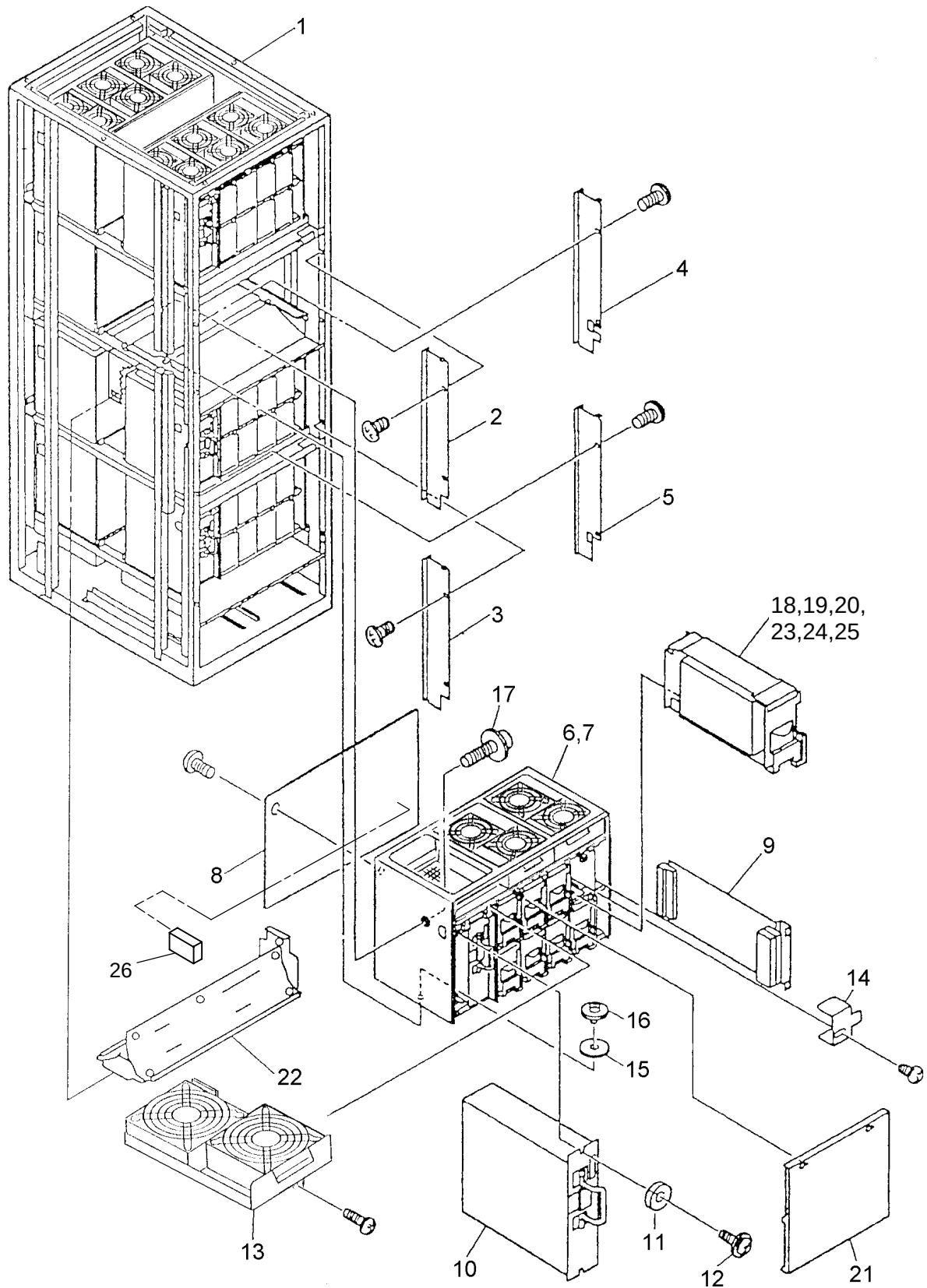


Fig. 2-3 DKU SUB ASSY

PARTS LIST 1-3 (Parts listed below are shown in Fig. 2-3)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
2-	1503328-A	DKU SUB ASSY		
1	3239259-A	• FRAME ASSY	1	
2	3239260-A	• PLATE ASSY(U-R)	2	
3	3239261-A	• PLATE ASSY(L-R)	2	
4	3239262-A	• PLATE ASSY(U-L)	2	
5	3239263-A	• PLATE ASSY(L-L)	2	
6	1505536-A	• B4 ASSY	1	
7	1505534-A	•• HDD BOX ASSY	NOTE.1	
8	5497469-A	•• HDD BACK BOARD(LP481-A)	NOTE.1	S.P
9	5497468-A	•• SCSI BFR PCB(SH087-A)	NOTE.2	S.P
10	5497470-A	•• MULTI POWER SUPPLY(HS400-08C-S)	NOTE.2	S.P
	5497470-B	MULTI POWER SUPPLY(HS400-08C-R)	NOTE.2	S.P
	5497470-C	MULTI POWER SUPPLY(TSG-370HS)	NOTE.2	S.P
11	5487148-1	•• BUSH(SWPS)	NOTE.3	
12	3183100-310	•• SCREW	NOTE.3	
13	5497471-A	•• HDD FAN ASSY	NOTE.4	S.P
14	5487238-1	•• STOPPER(SCSI-PK)	NOTE.1	
15	5476890-1	• WASHER(HDU)	16	
16	5473003-2	• BOLT(LL-WASHER)	16	
17	5473003-3	• BOLT(LL-WASHER)	16	
18	5497472-A	• HDU-6F1(60) See PARTS LIST 1-6.	NOTE.5	S.P

NOTE.1 : DKU305I-14U/14UP : 4

DKU305I-14U/14UP+DKU-F305I-B4 : 8

NOTE.2 : DKU305I-14U/14UP : 8

DKU305I-14U/14UP+DKU-F305I-B4 : 16

NOTE.3 : DKU305I-14U/14UP : 16

DKU305I-14U/14UP+DKU-F305I-B4 : 32

NOTE.4 : DKU305I-14U/14UP : 12

DKU305I-14U/14UP+DKU-F305I-B4 : 24

NOTE.5 : DKU-F305I-6F4 : 4

DKU-F305I-6F1 : 1

PARTS LIST 1-3 (Parts listed below are shown in Fig. 2-3)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
19	5491618-A	• HDU-901(90) See PARTS LIST 1-6.	NOTE.6	S.P
20	5497473-A	• HDU-1801(180) See PARTS LIST 1-6.	NOTE.7	S.P
21	3252630-1	COVER(HDD BOX)	NOTE.1	
22	3250915-A	CENTER PLATE ASSY	1	
23	5502138-A	• HDU-9F1(90) See PARTS LIST 1-6.	NOTE.8	S.P
24	5502085-A	• HDU-15F1(150) See PARTS LIST 1-6.	NOTE.9	S.P
25	5502084-A	• HDU-3601(360) See PARTS LIST 1-6.	NOTE.10	S.P
26	5502320-A	SCSI ID JUMPER PLUG	NOTE.1	S.P

NOTE.1 : DKU305I-14U/14UP : 4

DKU305I-14U/14UP+DKU-F305I-B4 : 8

NOTE.6 : DKU-F305I-907 : 7

DKU-F305I-904 : 4

DKU-F305I-901 : 1

NOTE.7 : DKU-F305I-1804 : 4

DKU-F305I-1801 : 1

NOTE.8 : DKU-F305I-9F4 : 4

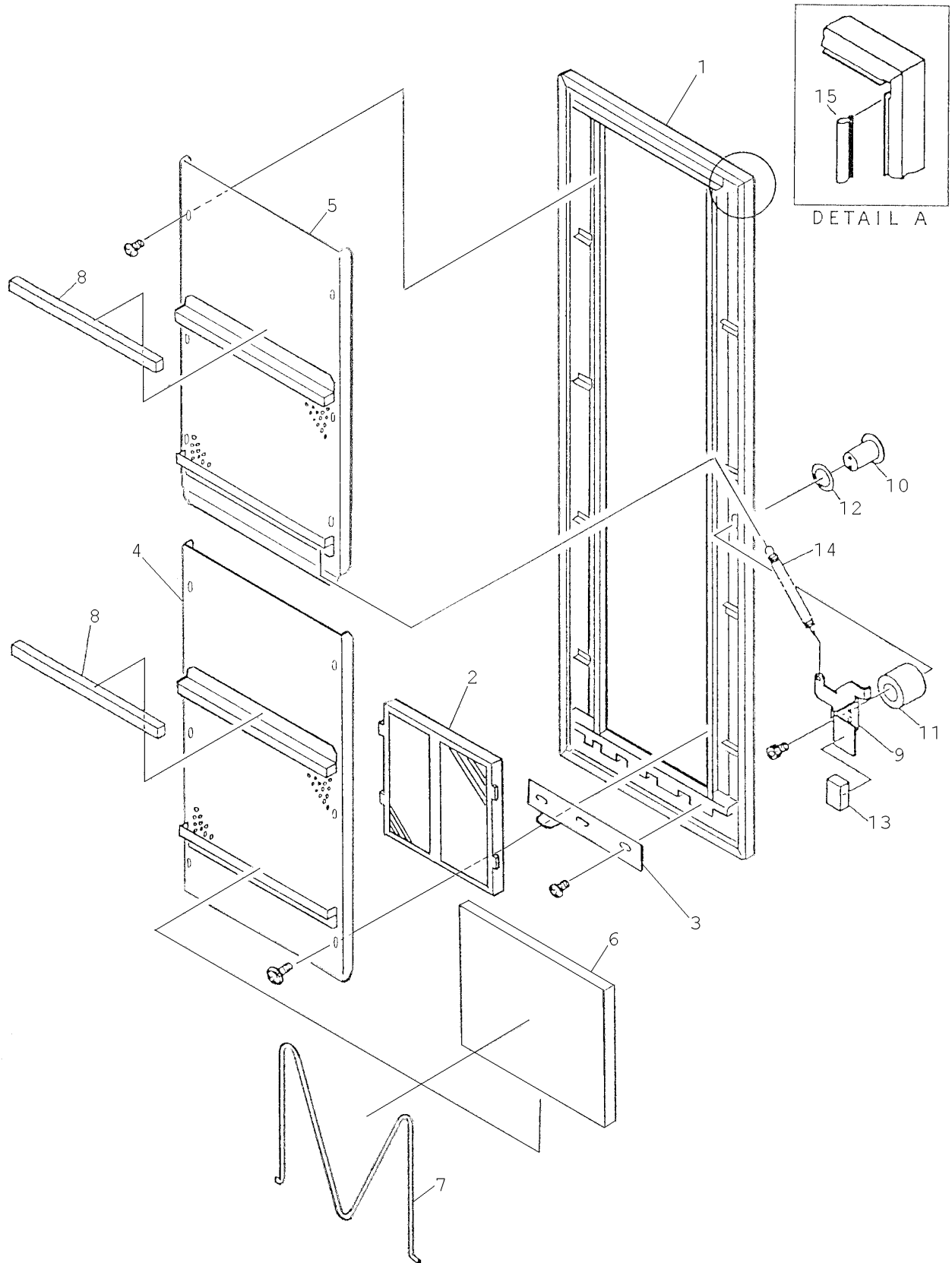
DKU-F305I-9F1 : 1

NOTE.9 : DKU-F305I-15F4 : 4

DKU-F305I-15F1 : 1

NOTE.10 : DKU-F305I-3604 : 4

DKU-F305I-3601 : 1



PARTS LIST 1-4 (Parts listed below are shown in Fig. 2-4)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
3-	1505540-A	DKU DOOR ASSY		
1	1505539-B	• DOOR ASM(DKU)	1	
2	2102064-1	• LOUVER	5	
3	3252741-1	• ANGLE(DOOR)	1	
4	2102103-A	• BRACKET(FILTER)-L	1	
5	2102104-A	• BRACKET(FILTER)-U	1	
6	3236791-5	• FILTER(DKC210)	2	
7	3252669-1	STOPPER(FILTER)	2	
8	3239345-5	• PACKING(DOOR)	2	
9	3239342-1	• LATCH(DOOR)	1	
10	5478840-2	• SLEEVE(DOOR)	1	
11	5481966-1	• SPACER(DOOR)	1	
12	5478842-1	• INSULATOR(DOOR)	1	
13	5478843-2	• CUSHION(DOOR)	1	
14	MT144	• SPRING(T)	1	
15	5444307-1	• PACKING	1	

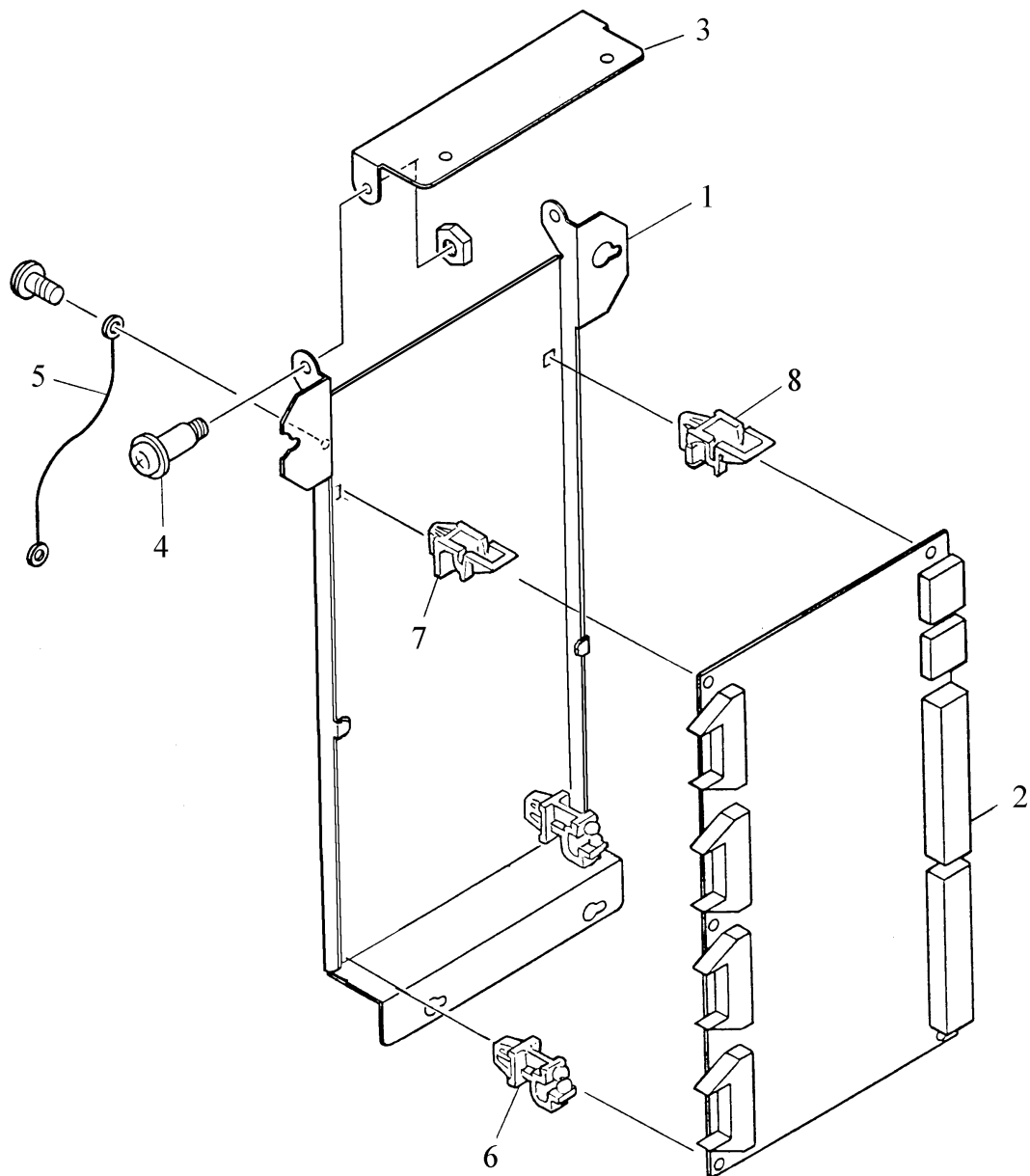


Fig. 2-5 DKU MONITOR ASSY

PARTS LIST 1-5(Parts listed below are shown in Fig. 2-5)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
4-	3239331-A	DKU MONITOR ASSY		
1	3239329-1	• DKU MONI BRACKET	1	S.P
2	5487055-A	• DKU MN PCB(SZ601-A)	1	
3	3239330-1	• DKU MONI HINGE	1	
4	5481843-1	• SCREW(DKU-MONI)	2	
5	5473095-A	• FG CABLE	1	
6	3243585-1	• PIERCE HOLD	2	
7	3243586-1	• CARD EDGE SPACER	1	
8	3243587-1	• FG EDGE SPACER	1	

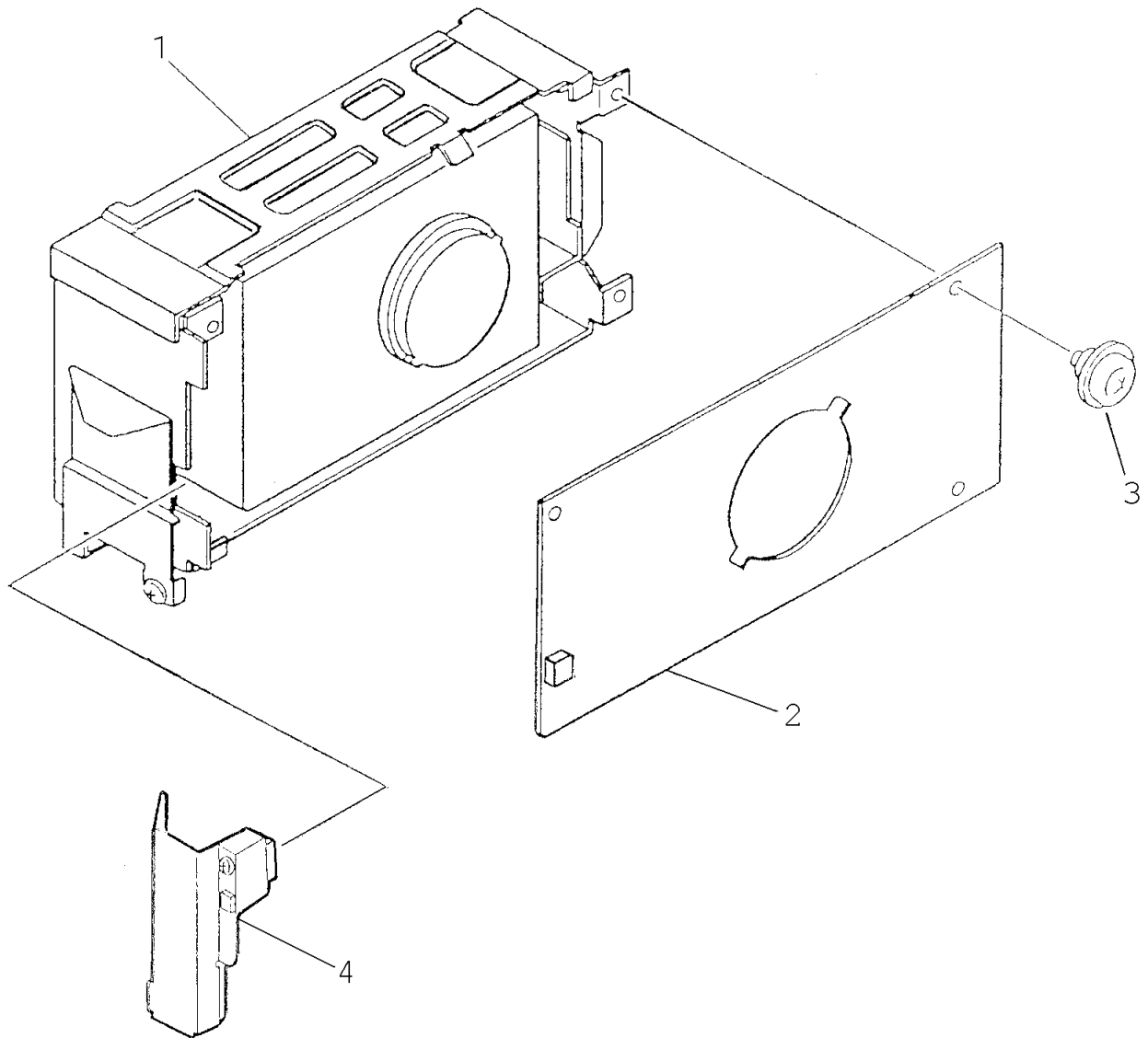


Fig. 2-6 CANISTER ASSY

PARTS LIST 1-6(Parts listed below are shown in Fig. 2-6)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
5-	5497472-A	HDU-6F1(60)		S.P for RAID 5, RAID 1
	5491618-A	HDU-901(90)		S.P for RAID 5, RAID 1
	5497473-A	HDU-1801(180)		S.P for RAID 5, RAID 1
	5502138-A	HDU-9F1(90)		S.P for RAID 5, RAID 1
	5502085-A	HDU-15F1(150)		S.P for RAID 5, RAID 1
	5502084-A	HDU-3601(360)		S.P for RAID 5, RAID 1
1	2101635-A	• HDA(6F1)	1	
	2101621-B	• HDA(901)	1	
	2101621-A	• HDA(1801)	1	
	2101758-B	• HDA(9F1)	1	
	2101758-A	• HDA(15F1)	1	
	2101756-A	• HDA(3601)	1	
2	1504312-A	• HDD MAIN PCB(SH112-A)	1	
	1504281-B	• HDD MAIN PCB(SH094-B)	1	
	1504281-A	• HDD MAIN PCB(SH094-A)	1	
	2101707-B	• HDD MAIN PCB(SH169-B)	1	
	2101707-A	• HDD MAIN PCB(SH169-A)	1	
	2101730-A	• HDD MAIN PCB(SH172-A)	1	
3	5491848-A	• SCREW(HDD-PK)	3	
4	2102163-1	• CONNECTOR(WITH-SPRING)	1	

3 PARTS LIST OF DKC310I

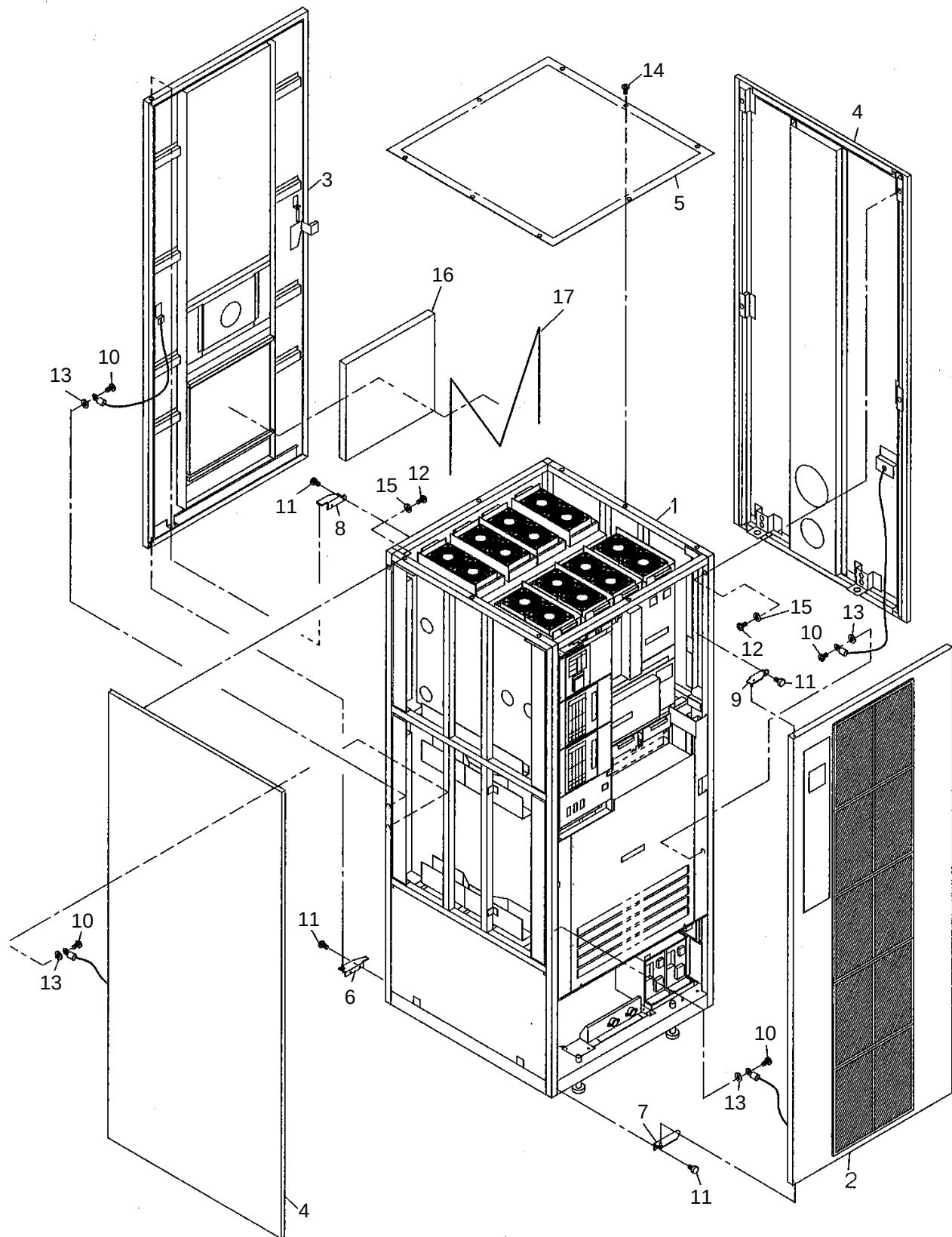
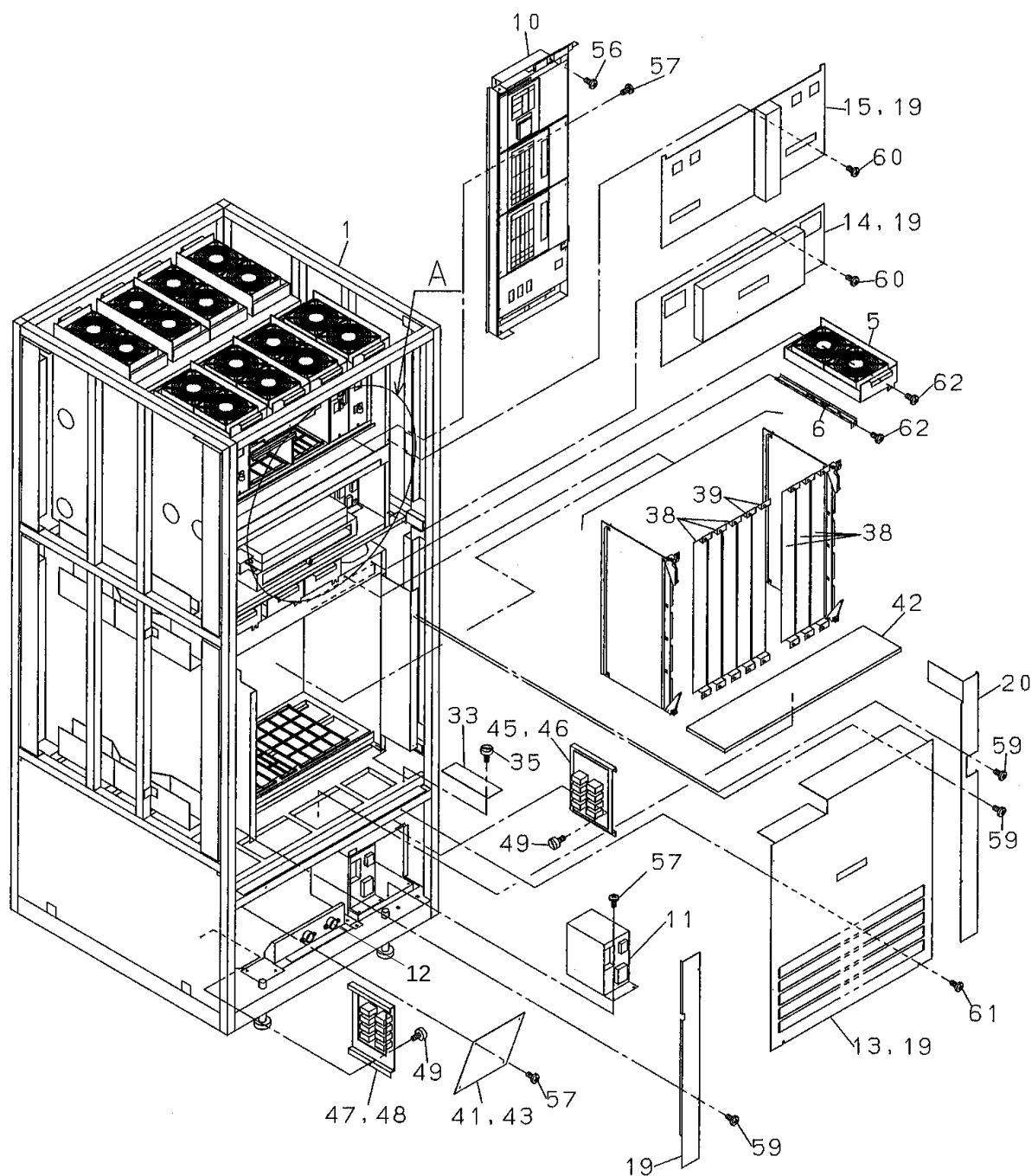


Fig. 3-1 DKC ASSY

PARTS LIST 2-1 (Parts listed below are shown in Fig. 3-1)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
6-	1505517-A	DKC ASSY	—	
1	1505448-A	• MAIN ASSY	1	
2	1505521-A	• FRONT DOOR ASSY	1	
3	1505522-A	• REAR DOOR ASSY	1	
4	3236770-C	• SIDE COVER ASSY	2	
5	3236746-1	• TOP COVER	1	
6	5460630-A	• HINGE ASM(L)	1	
7	5460930-B	• HINGE ASM(L)	1	
8	5460631-A	• HINGE ASM(U)	1	
9	5460631-B	• HINGE ASM(U)	1	
10	SB408	• BINDING SCREW M4×8	4	
11	BS510	• HEXAGON SOCKET BOLT M5×10	8	
12	SB536	• BINDING SCREW M5×36	8	
13	WT004	• LOCK WASHER M4	4	
14	3183101-1	• HWA BIND SCREW	8	
15	2051001-532	• LL WASHER	8	
16	3236791-5	• FILTER(DKC210)	2	
17	3252669-1	• STOPPER(FILTER)	2	



PARTS LIST 2-2 (Parts listed below are shown in Fig. 3-2, 3-3, 3-3A, 3-3B and 3-4)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
7-	1505448-A	MAIN ASSY	—	
1	1505447-A	• SUB MAIN ASSY	1	
2	5500003-A	• 5V POWER SUPPLY(HS05065C-S)	2	S.P
3	5500003-B	• 3V POWER SUPPLY(HS03075C-S)	2	S.P
4	5479654-C	• MULTI POWER SUPPLY(HS300-04C-V) (HS300-04C-R)	2	S.P
	5491916-2	• MULTI POWER SUPPLY(TSG-370HS-C)		
	EC5000367-A	• MULTI POWER SUPPLY(HS400-08GR)		
5	3250826-A	• FAN ASSY	16	S.P
6	3247490-A	• THERMOSTAT ASSY	4	S.P
7	5497350-A	• BREAKER BOX ASSY	2	S.P
8	5497288-1	• BRACKET(BREAKER-L)	1	
9	5497289-1	• BRACKET(BREAKER-R)	1	
10	1505532-A	• OP ASSY	1	See LIST 8
11	5505097-1	DKC AC BOX	2	S.P
12	3257345-A	POWER CABLE ASSY(IU)	1	
	3257345-B	POWER CABLE ASSY(IE)	1	
13	3252681-1	• L/G COVER(F)	1	
14	2102019-A	• COVER(BREAKER) ASM	1	
15	3250833-1	• PL COVER(SH)	1	
16	3250903-1	• L/G COVER	1	
17	3250910-1	• P/S COVER	1	
18	5493656-1	• TOTTE	7	
19	3252683-1	• COVER(FRAME)4	1	
20	3250905-2	• COVER(FRAME)2	1	
21				

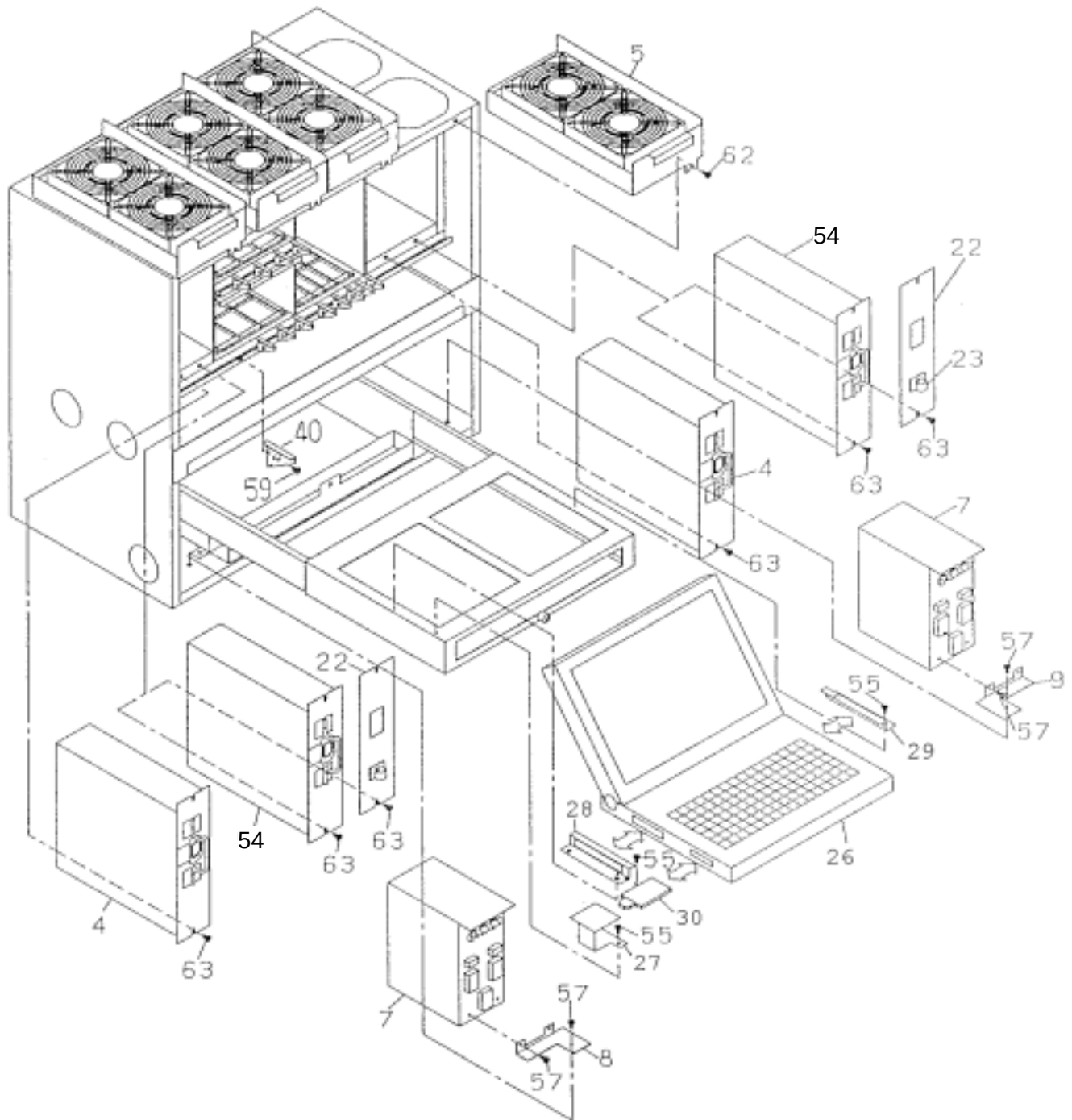


Fig. 3-3 MAIN ASSY(2/3) (Detail of A, A case that the ARMADA SVP is installed)

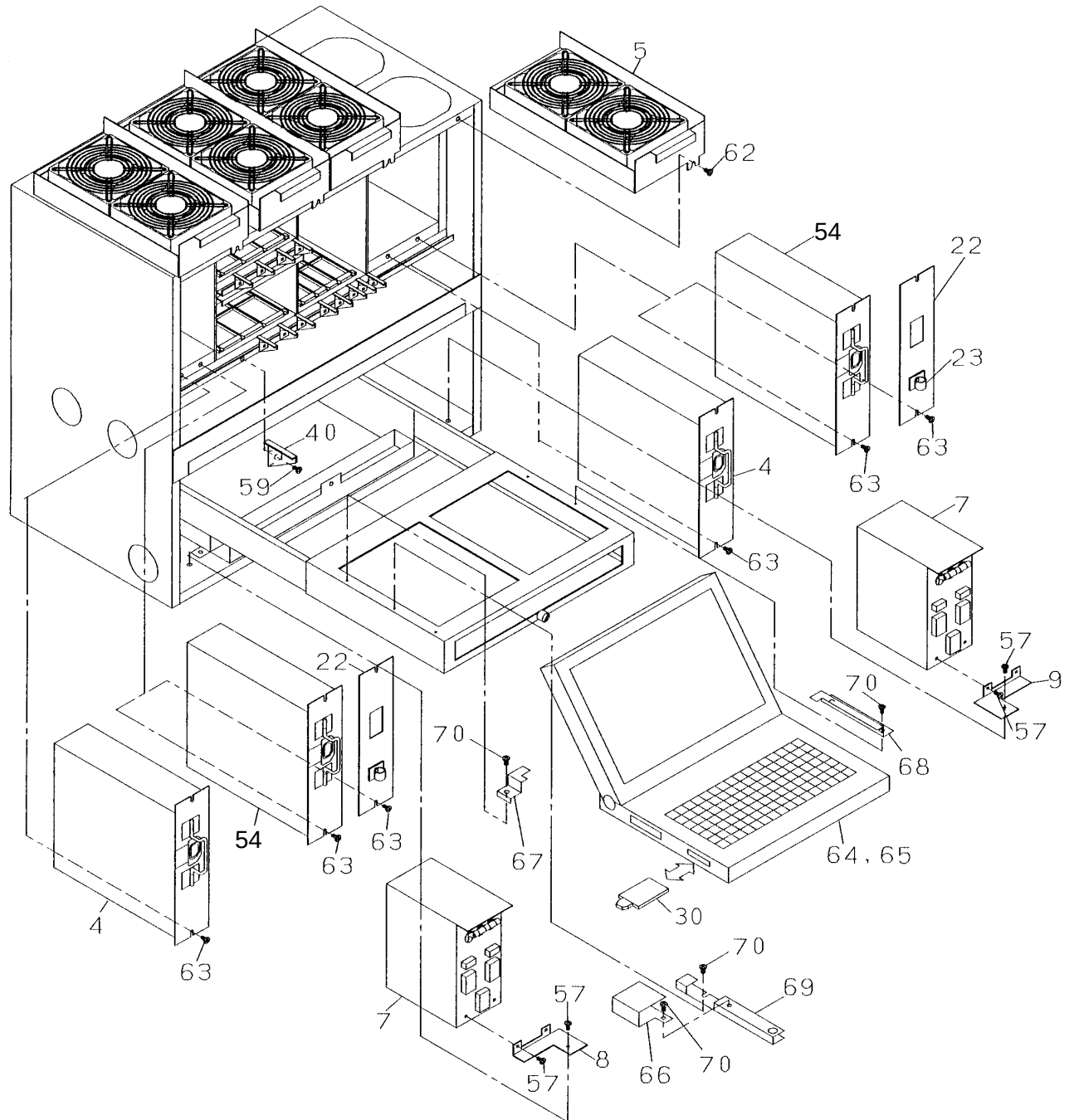


Fig. 3-3A MAIN ASSY(2/3) (Detail of A, A case that the FLORA230 SVP is installed)

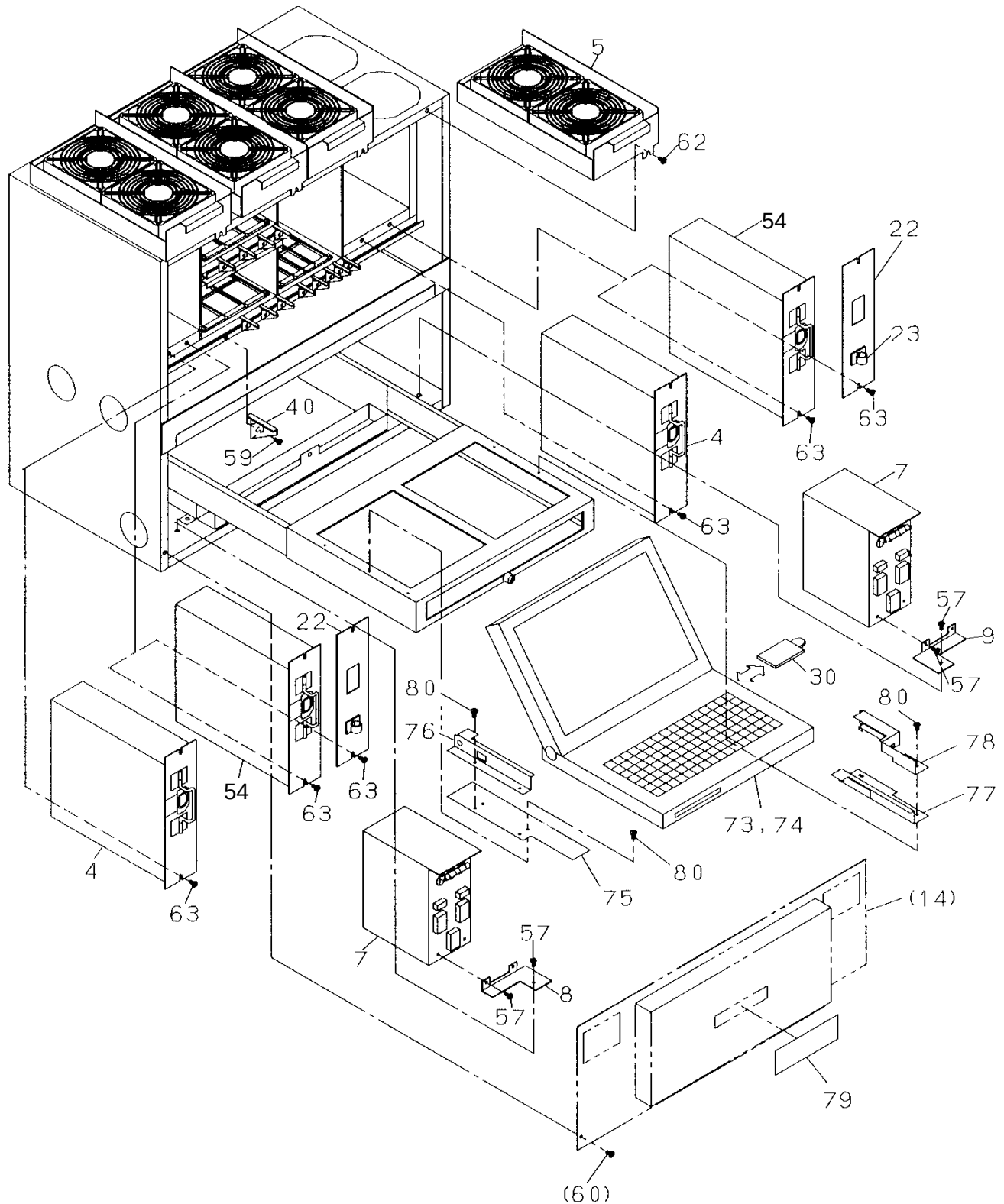


Fig. 3-3B MAIN ASSY(2/3) (Detail of A, A case that the FLORA270V SVP is installed)

PARTS LIST 2-3 (Parts listed below are shown in Fig. 3-2, 3-3, 3-3A, 3-3B and 3-4)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
22	5480251-1	• DUMMY PLATE(PS)	14	
23	3183059-3	• LOCKING CLAMP(CABLE)	14	
24	5500030-1	• PLATE(PS-U)	1	
25	5500031-1	• PLATE(PS-L)	1	
26	5497440-1	• SVP(ARMADA)	1	S.P
27	5500189-1	• PROTECTOR(LAN)	1	
28	5500190-1	• STOPPER (PC)	1	
29	5500190-2	• STOPPER (PC)	1	
30	5486353-1	• LAN CARD	1	S.P
31	3236759-A	• BATTERY ASSY	4	S.P
32	2098612-A	• SZ592-A P/K ASSY	1	S.P
33	5480304-1	• COVER(PCI/RCU)	2	
34	5480215-2	• COVER(PCI/RCU)	1	
35	5480385-1	• LOCK SCREW	3	
36				
37	3252608-A	• DUMMY PLATE(DKA) ASSY	6	
38	3252609-A	• DUMMY PLATE(CHA) ASSY	6	
39	3252610-A	• DUMMY PLATE(CA) ASSY	2	
40	5500302-1	• STOPPER(SH-PK)	12	
41	5500112-1	• DUMMY PLATE	10	
42	3236791-1	• FILTER(DKC210)	2	

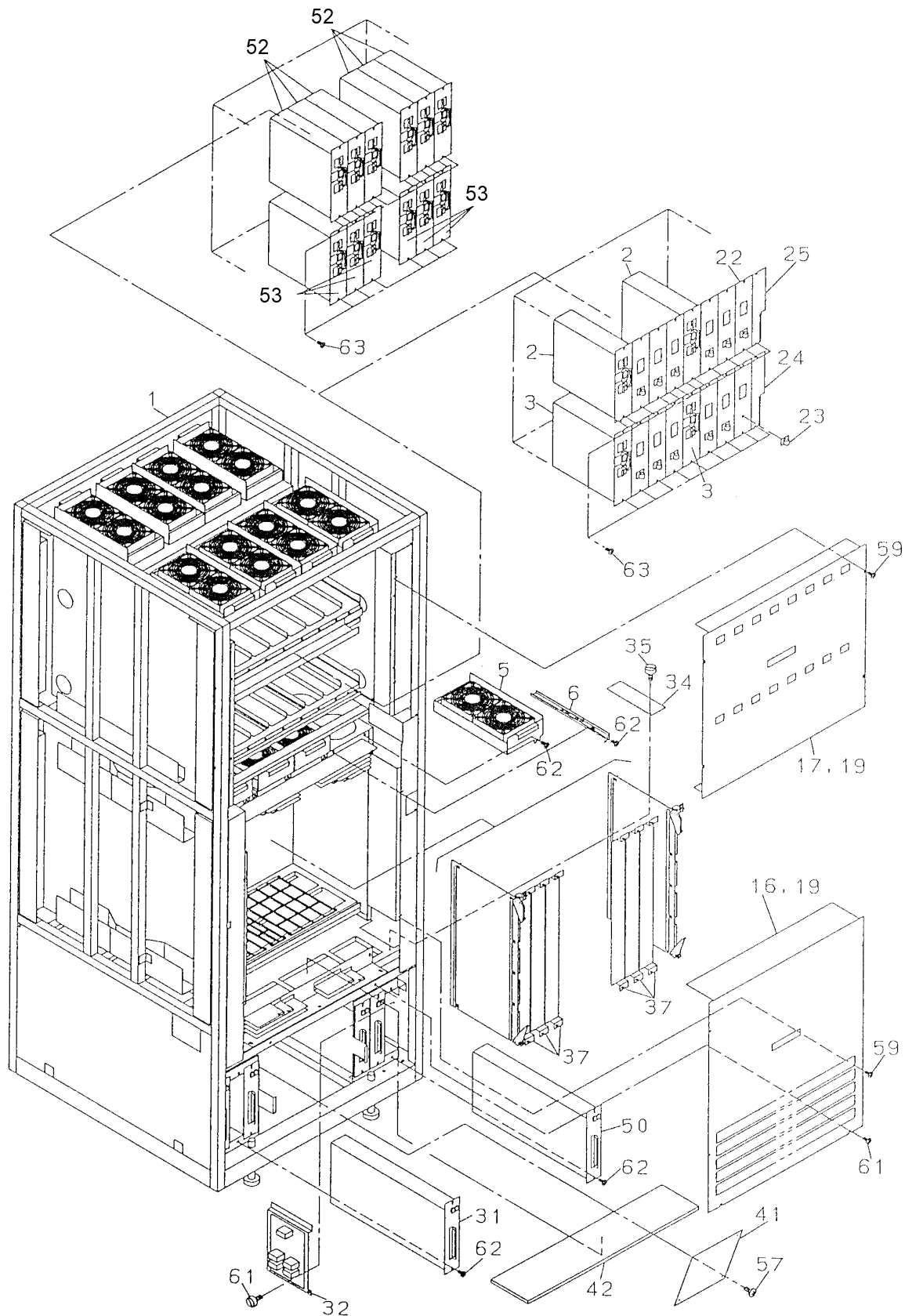


Fig. 3-4 MAIN ASSY(3/3) (Rear Side)

PARTS LIST 2-4 (Parts listed below are shown in Fig. 3-2, 3-3, 3-3A, 3-3B and 3-4)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
43				
44				
45	3236713-A	• PCI/RCU CON ASSY	1	
46	2098689-A	• • SZ624-A P/K ASSY	1	S.P, NOTE.3
47	3236713-B	• PCI/RCU CON ASSY	1	
48	2098691-A	• • SZ625-A P/K ASSY	1	S.P, NOTE.4
49	5480385-2	• LOCK SCREW	2	
50	3236759-A	• BATTERY ASSY	2	S.P, NOTE.5
51				
52	5500003-A	• 5V POWER SUPPLY(HS05065C-S)	6	S.P, NOTE.6
53	5500003-B	• 3V POWER SUPPLY(HS03075C-S)	6	S.P, NOTE.6
54	5479654-C	• MULTI POWER SUPPLY(HS300-04C-V) (HS300-04C-R)	2	S.P, NOTE.7
	5491916-2	• MULTI POWER SUPPLY(TSG-370HS-C)		
	EC5000367-A	• MULTI POWER SUPPLY(HS400-08GR)		
55	3217069-306	• SCREW(TORQUES)	5	
56	SB406	• BINDING SCREW M4×6.3	1	
57	SB408	• BINDING SCREW M4×8	50	
58	BS408	• HEXAGON SOCKET BOLT M4×8	2	
59	5480283-1	• SCREW(STOPPER)	28	
60	5480283-2	• SCREW(STOPPER)	8	
61	5480283-4	• SCREW(STOPPER)	6	
62	5480283-6	• SCREW(STOPPER)	32	
63	5480283-7	• SCREW(STOPPER)	32	

NOTE. 1. DKC-F310I-18

2. DKC-F310I-19

3. DKC-F310I-20 (The same parts as list number 7-31.)

4. DKC-F310I-80/81/82 (The same parts as list number 7-2 or 3.)

5. DKC-F310I-81 (The same parts as list number 7-4.)

PARTS LIST 2-4A (Parts listed below are shown in Fig. 3-3A and 3-3B)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
64	5500595-B	• SVP(FLORA230)	1	S.P
65	5500677-A	• • SVP	1	
66	5500550-1	• • PROTECTOR(LAN)	1	
67	5500547-1	• • STOPPER(PC-L)	1	
68	5500548-1	• • STOPPER(PC-R)	1	
69	5500549-1	• • PROTECTOR BASE(PC)	1	
70	3217069-306	• • SCREW(TORQUES)	6	S.P
71				
72				
73	5500595-C	• SVP(FLORA270V)	1	
74	5503238-A	• • SVP	1	
75	5503097-1	• • BASE PLATE(270V)	1	
76	5503099-1	• • STOPPER(270V/L)	1	
77	5503098-1	• • STOPPER(270V/R)	1	
78	3253993-1	• • PROTECTOR(270V/LAN)	1	
79	5503100-1	• • DUMMY LABEL	1	
80	3217069-306	• • SCREW(TORQUES)	6	
81				

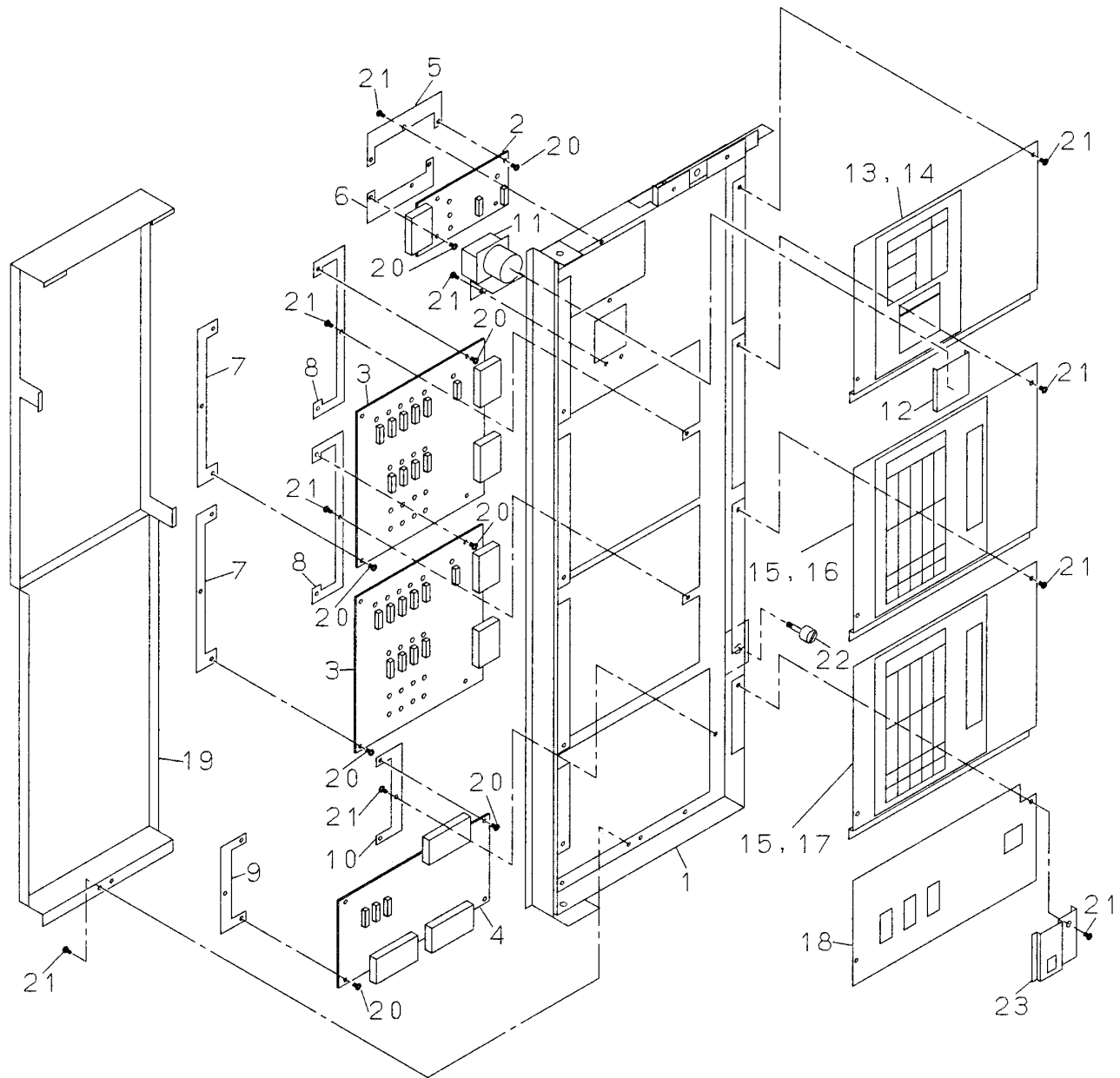


Fig. 3-5 OP ASSY

PARTS LIST 2-5 (Parts listed below are shown in Fig. 3-5)

LIST AND INDEX NUMBER	PART NUMBER	NAME OF PART	UNITS PER ASSY	REMARKS
8-	1505532-A	OP ASSY	—	
1	2102084-1	• BOX(OP)	1	
2	2098610-A	• SZ569-A P/K ASSY	1	S.P
3	1504196-A	• SH089-A P/K ASSY	2	S.P
4	1503458-A	• SZ591-A P/K ASSY	1	S.P
5	5480310-1	• PLATE(PK 1)	1	
6	5480311-1	• PLATE(PK 2)	1	
7	5500080-1	• PLATE(PK 10)	2	
8	5500079-1	• PLATE(PK 9)	2	
9	5480314-1	• PLATE(PK 5)	1	
10	5480314-2	• PLATE(PK 5)	1	
11	3240104-A	• EPO ASSY	1	S.P
12	5471981-1	• KNOB	1	
13	3252615-1	• OP PANEL-4	1	
14	1505529-1	• SHEET(OP-4)	1	
15	3252616-1	• OP PANEL-5	2	
16	1505530-1	• SHEET(OP-5)	1	
17	1505530-2	• SHEET(OP-5)	1	
18	3252614-1	• OP PANEL-6	1	
19	2102081-1	• COVER(OP)	1	
20	SB306	• BINDING SCREW M3×6.3	16	
21	5480283-1	• SCREW(STOPPER)	18	
22	5480344-1	• LOCK SCREW	1	
23	5500460-1	• SWITCH COVER	1	

4 PARTS LIST OF PCB AND MEMORY MODULE

4.1 PCB LOCATION

For locations of the PCBs and power supplies, refer to pages PARTS04-10 to PARTS04-20 in the Parts Catalog Section in the main volume.

4.2 SHARED MEMORY MODULE LOCATION

For locations of the Shared Memory modules, refer to page PARTS04-30 in the Parts Catalog Section in the main volume.

4.3 CACHE MEMORY MODULE LOCATION

For locations of the Cache Memory modules, refer to pages PARTS04-40 to PARTS04-50 in the Parts Catalog Section in the main volume.

4.4 PARTS LIST

For a parts list of the PCBs, refer to page PARTS04-60 in the Parts Catalog Section in the main volume.

5 INTERNAL CABLING AND CABLE ASSEMBLY PARTS LIST

5.1 INTERNAL CABLING

For connection diagrams other than the following, refer to pages PARTS05-10 to PARTS05-30 in the Parts Catalog Section in the main volume.

DKC

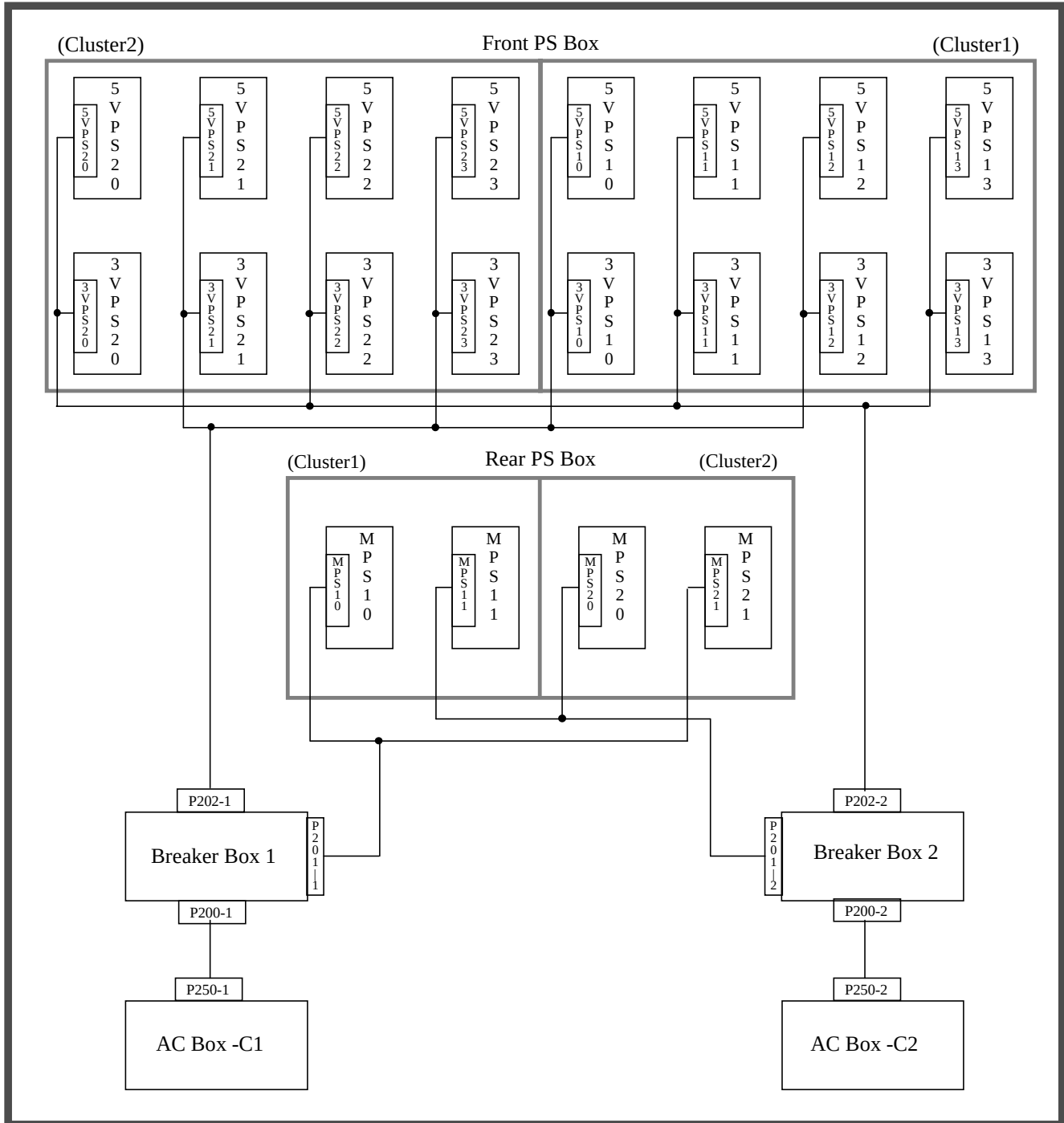


Fig. 5.1-1 Subsystem Internal Cabling Diagram

5.2 CABLE ASSEMBLY PARTS LIST

For cable assemblies other than the following, refer to pages PARTS05-100 to PARTS05-140 in the Parts Catalog Section in the main volume.

List and Index No.	Connector No.		Part No.	Part Name
	Source	Destination		
11K-1	P200-1 (BREAKER1)	P250-1 (AC Box-C1)	3253994-A	CABLE ASSY (BREAKER Box)
	P200-2 (BREAKER2)	P250-2 (AC Box-C2)	3253994-B	CABLE ASSY (BREAKER Box)

6 SPARE PARTS LIST

Maintenance parts peculiar to the DKC310I-5EU/5EUP (single-phase-powered) are shown in Table 6.1. For the other maintenance parts, refer to pages PARTS06-10 to PARTS06-20 in the Parts Catalog Section in the main volume.

Table 6.1 Spare parts list of single phase powered

No.	Parts Name	Part Number	Corresponding List and Index Number
1	DKC AC BOX	5500952-A	7-11

Maintenance parts peculiar to the DKU305I-14U/14UP (single-phase-powered) are shown in Table 6.2. For the other maintenance parts, refer to page PARTS06-30 in the Parts Catalog Section in the main volume.

Table 6.2 Spare parts list of DKU

No.	Parts Name	Part Number	Corresponding List and Index Number
1	DKU AC BOX	5487058-C	1-7

7 TOOL LIST

For lists of maintenance tools and special maintenance tools, refer to Table 7-2 on page PARTS07-10 in the Parts Catalog Section in the main volume.

ACC (ACTION CODE) SECTION

Contents

1. Action Code Outline.....ACC01T-10

2. Action Code Format.....ACC02T-10

3. List of WICACC03T-10

 3.1. List of PKC when WIC=0X/1XACC03T-20

4. Power Supply.....ACC04T-10

 4.1. DKC power supplyACC04T-10

 4.2. DKU power supplyACC04T-30

1 Action Code Outline

Action Code(ACC) is made from SSB/SIM and shows possible failure parts from the log. ACC consists of 4 bytes data. Up to 64 ACCs are generated in priority order and can point out max. 64 possible failure parts.

The way to get ACC is shown in following figure.

The procedure of parts replacement is shown in **REPLACE section** with WORK ID that consist in ACC.

The PCB name is shown in **LOCATION section**.

way to get	Kind of LOG data	
	Failure	Diagnosis
SVP Log display	SSB or SIM log	SSB or DIAG log
Remote function	SSB or SIM log	SSB log

(ACC is not created from SSB/DIAG log at presence.)

2 Action Code Format

An ACC format is shown below.

0	1	2	3
WIC	PKC	PLC	

WIC(Work Identified Code) :Shows a rough action to be taken.
(See ACC03T-10)

PKC(Parts Kind Code) :Shows a possible failure part(function, performance).
(See ACC03T-20 for WIC=0X/1X)

PLC(Parts Location Code) :Shows a failure part location.

3 List of WIC

WIC	Contents	Sheet No.	Remarks
0X	Replacement	ACC04-10 – 04-200, ACC04T-10 – 04T-50 , ACC04-260 – 04-780	This section mentions for DKC/DKU power supply. (ACC04T-10 – 04T-50)
1X	Hot-replacement	ACC04-10 – 04-200, ACC04T-10 – 04T-50 , ACC04-260 – 04-780	This section mentions for DKC/DKU power supply. (ACC04T-10 – 04T-50)
2X	Reserved	–	
3X	Reserved	–	
4X	Reserved	–	
5X	Reserved	–	
6X	Reserved	–	
7X	Reserved	–	
8X	Reference to manual	ACC04-790	
9X	Collection of information	ACC04-800	
AX	Reserved	–	
BX	SW operation	ACC04-810	
CX	Execution of CUDG	ACC04-820	
DX	Breach of restriction	ACC04-825	
EX	Setting work	ACC04-830	
FX	Other	ACC04-840	

3.1 List of PKC for WIC=0X/1X

A list of PKC for WIC=0X/1X(Replacement/Hot-replacement) is shown below.

PKC	Contents	Sheet No.	Remarks
0X	Un-analizable	ACC04-10	
1X	Processor	ACC04-20 – 04-50	
2X	Memory	ACC04-60 – 04-200	
3X	DKC power supply	ACC04T-10 – 04T-20	Refer to this section
4X	DKU power supply	ACC04T-30 – 04T-50	Refer to this section
5X	Drive	ACC04-260 – 04-495	
6X	DKC special parts	ACC04-680 – 04-690	
7X	DKU special parts	ACC04-700 – 04-760	
8X	SVP special parts	ACC04-770	
9X	Micro-program	ACC04-780	
AX	Reserved	–	
BX	Reserved	–	
CX	Reserved	–	
DX	Reserved	–	
EX	Reserved	–	
FX	Reserved	–	

4 Power Supply

4.1 DKC power supply

Table 4.1 List of ACC(DKC power supply)(1/2)

ACC	Location	Function Name	Additional Information	WORK ID		
				Disruptive		Nondisruptive
				Hot	Cold	Hot
10300000	5VPS10	5V PS	5V PS for Logic (Basic)	RT20 –22		RT20–22
10301000	5VPS11	↑	5V PS for Logic (Option)	↑		↑
10302000	5VPS12	↑	5V PS for Logic (Option)	↑		↑
10303000	5VPS13	↑	5V PS for Logic (Option)	↑		↑
10307F00		↑	5V PS for Logic (Cluster1)			
10308000	5VPS20	↑	5V PS for Logic (Basic)	RT20 –22		RT20–22
10309000	5VPS21	↑	5V PS for Logic (Option)	↑		↑
1030A000	5VPS22	↑	5V PS for Logic (Option)	↑		↑
1030B000	5VPS23	↑	5V PS for Logic (Option)	↑		↑
1030FF00		↑	5V PS for Logic (Cluster2)			
10310000	3VPS10	3V PS	3.3V PS for Logic (Basic)	RT26 –28		RT26–28
10311000	3VPS11	↑	3.3V PS for Logic (Option)	↑		↑
10314000	3VPS12	↑	3.3V PS for Logic (Option)	↑		↑
10315000	3VPS13	↑	3.3V PS for Logic (Option)	↑		↑
10317F00		↑	3.3V PS for Logic (Cluster1)			
10318000	3VPS20	↑	3.3V PS for Logic (Basic)	RT26 –28		RT26–28
10319000	3VPS21	↑	3.3V PS for Logic (Option)	↑		↑
1031C000	3VPS22	↑	3.3V PS for Logic (Option)	↑		↑
1031D000	3VPS23	↑	3.3V PS for Logic (Option)	↑		↑
1031FF00		↑	3.3V PS for Logic (Cluster2)			
10320000	MPS10	Multi PS (Logic)	Multi PS for Logic (Basic)	RT23 –25		RT23–25
10321000	MPS11	↑	Multi PS for Logic (Option)	↑		↑
10327F00		↑	Multi PS for Logic (Cluster1)			
10328000	MPS20	↑	Multi PS for Logic (Basic)	RT23 –25		RT23–25
10329000	MPS21	↑	Multi PS for Logic (Option)	↑		↑
1032FF00		↑	Multi PS for Logic (Cluster2)			

Table 4.1 List of ACC(DKC power supply)(2/2)

ACC	Location	Function Name	Additional Information	WORK ID		
				Disruptive		Nondisruptive
				Hot	Cold	Hot
10330000	Battery-10	Battery ASSY	Battery for Shared Memory	RT14		RT14
10331000	Battery-11	↑	Battery for Cache Memory	↑		↑
10332000	Battery-12	↑	Battery for Cache Memory	↑		↑
10338000	Battery-20	↑	Battery for Shared Memory	↑		↑
10339000	Battery-21	↑	Battery for Cache Memory	↑		↑
1033A000	Battery-22	↑	Battery for Cache Memory	↑		↑
10340000	BATT CTR-10	Battery Controller PCB	Battery Controller for Shared Memory	RT15		RT15
10341000	BATT CTR-11	↑	Battery Controller for Cache Memory	↑		↑
10342000	BATT CTR-12	↑	Battery Controller for Cache Memory	↑		↑
10348000	BATT CTR-20	↑	Battery Controller for Shared Memory	↑		↑
10349000	BATT CTR-21	↑	Battery Controller for Cache Memory	↑		↑
1034A000	BATT CTR-22	↑	Battery Controller for Cache Memory	↑		↑
10350000	breaker box-1	Breaker Box	Breaker box for Cluster1	RT12		RT12
10358000	breaker box-2	↑	Breaker box for Cluster2	RT13		RT13
10360000	outlet box	Outlet Box	Outlet box in DKC	RT16		RT16
10368000	outlet box	↑	Outlet box in DKC	RT16		RT16
10380000		PS CHECK	Refer to "Isolating a Failed Part(TRBL03-10)".			
10390000	AC BOX-C1	AC BOX	AC Box for Cluster1 (1-Phase Type)	RT34		RT34
10398000	AC BOX-C2	↑	AC Box for Cluster2 (1-Phase Type)	RT35		RT35

4.2 DKU power supply

Table 4.2 List of ACC(DKU power supply)(1/3)

ACC	Location	Function Name	Additional Information	WORK ID		
				Disruptive		Nondisruptive
				Hot	Cold	Hot
10400000	MPS-R100	Multi PS(HDD)	Multiple power supply for HDU-R10	RT30		RT30
10400400	MPS-R101	↑	↑	↑		↑
10400800	MPS-R110	↑	Multiple power supply for HDU-R11	↑		↑
10400C00	MPS-R111	↑	↑	↑		↑
10401000	MPS-R120	↑	Multiple power supply for HDU-R12	↑		↑
10401400	MPS-R121	↑	↑	↑		↑
10401800	MPS-R130	↑	Multiple power supply for HDU-R13	↑		↑
10401C00	MPS-R131	↑	↑	↑		↑
10402000	MPS-R140	↑	Multiple power supply for HDU-R14	↑		↑
10402400	MPS-R141	↑	↑	↑		↑
10402800	MPS-R150	↑	Multiple power supply for HDU-R15	↑		↑
10402C00	MPS-R151	↑	↑	↑		↑
10403000	MPS-R160	↑	Multiple power supply for HDU-R16	↑		↑
10403400	MPS-R161	↑	↑	↑		↑
10403800	MPS-R170	↑	Multiple power supply for HDU-R17	↑		↑
10403C00	MPS-R171	↑	↑	↑		↑
10404000	MPS-R200	↑	Multiple power supply for HDU-R20	↑		↑
10404400	MPS-R201	↑	↑	↑		↑
10404800	MPS-R210	↑	Multiple power supply for HDU-R21	↑		↑
10404C00	MPS-R211	↑	↑	↑		↑
10405000	MPS-R220	↑	Multiple power supply for HDU-R22	↑		↑
10405400	MPS-R221	↑	↑	↑		↑
10405800	MPS-R230	↑	Multiple power supply for HDU-R23	↑		↑
10405C00	MPS-R231	↑	↑	↑		↑
10406000	MPS-R240	↑	Multiple power supply for HDU-R24	↑		↑
10406400	MPS-R241	↑	↑	↑		↑
10406800	MPS-R250	↑	Multiple power supply for HDU-R25	↑		↑
10406C00	MPS-R251	↑	↑	↑		↑
10407000	MPS-R260	↑	Multiple power supply for HDU-R26	↑		↑
10407400	MPS-R261	↑	↑	↑		↑
10407800	MPS-R270	↑	Multiple power supply for HDU-R27	↑		↑
10407C00	MPS-R271	↑	↑	↑		↑

Table 4.2 List of ACC(DKU power supply)(2/3)

ACC	Location	Function Name	Additional Information	WORK ID		
				Disruptive		Nondisruptive
				Hot	Cold	Hot
10408000	MPS-L100	Multi PS(HDD)	Multiple power supply for HDU-L10	RT30		RT30
10408400	MPS-L101	↑	↑	↑		↑
10408800	MPS-L110	↑	Multiple power supply for HDU-L11	↑		↑
10408C00	MPS-L111	↑	↑	↑		↑
10409000	MPS-L120	↑	Multiple power supply for HDU-L12	↑		↑
10409400	MPS-L121	↑	↑	↑		↑
10409800	MPS-L130	↑	Multiple power supply for HDU-L13	↑		↑
10409C00	MPS-L131	↑	↑	↑		↑
1040A000	MPS-L140	↑	Multiple power supply for HDU-L14	↑		↑
1040A400	MPS-L141	↑	↑	↑		↑
1040A800	MPS-L150	↑	Multiple power supply for HDU-L15	↑		↑
1040AC00	MPS-L151	↑	↑	↑		↑
1040B000	MPS-L160	↑	Multiple power supply for HDU-L16	↑		↑
1040B400	MPS-L161	↑	↑	↑		↑
1040B800	MPS-L170	↑	Multiple power supply for HDU-L17	↑		↑
1040BC00	MPS-L171	↑	↑	↑		↑
1040C000	MPS-L200	↑	Multiple power supply for HDU-L20	↑		↑
1040C400	MPS-L201	↑	↑	↑		↑
1040C800	MPS-L210	↑	Multiple power supply for HDU-L21	↑		↑
1040CC00	MPS-L211	↑	↑	↑		↑
1040D000	MPS-L220	↑	Multiple power supply for HDU-L22	↑		↑
1040D400	MPS-L221	↑	↑	↑		↑
1040D800	MPS-L230	↑	Multiple power supply for HDU-L23	↑		↑
1040DC00	MPS-L231	↑	↑	↑		↑
1040E000	MPS-L240	↑	Multiple power supply for HDU-L24	↑		↑
1040E400	MPS-L241	↑	↑	↑		↑
1040E800	MPS-L250	↑	Multiple power supply for HDU-L25	↑		↑
1040EC00	MPS-L251	↑	↑	↑		↑
1040F000	MPS-L260	↑	Multiple power supply for HDU-L26	↑		↑
1040F400	MPS-L261	↑	↑	↑		↑
1040F800	MPS-L270	↑	Multiple power supply for HDU-L27	↑		↑
1040FC00	MPS-L271	↑	↑	↑		↑
1040FF00		↑				

Table 4.2 List of ACC(DKU power supply)(3/3)

ACC	Location	Function Name	Additional Information	WORK ID		
				Disruptive		Nondisruptive
				Hot	Cold	Hot
10420000	AC BOX-R10	AC BOX	AC Box in 1st. Disk Unit(DKU-R1) (1-Phase Type)	RT36		RT36
10420800	AC BOX-R11	↑	↑	↑		↑
10424000	AC BOX-R20	↑	AC Box in 2nd. Disk Unit(DKU-R2) (1-Phase Type)	↑		↑
10424800	AC BOX-R21	↑	↑	↑		↑
10428000	AC BOX-L10	↑	AC Box in 3rd. Disk Unit(DKU-l1) (1-Phase Type)	↑		↑
10428800	AC BOX-L11	↑	↑	↑		↑
1042C000	AC BOX-L20	↑	AC Box in 4th. Disk Unit(DKU-l2) (1-Phase Type)	↑		↑
1042C800	AC BOX-L21	↑	↑	↑		↑

SIM RC SECTION

REV.0	Jul.1999					
-------	----------	--	--	--	--	--

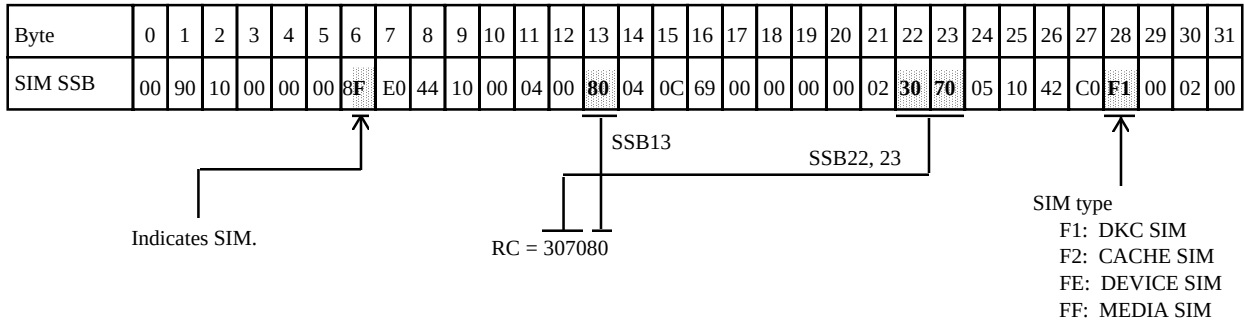
Contents

1 Reference Code-----	SIM-RC01T-10
2 Reference Codes -----	SIM-RC02T-10
2.1 SIM Reference Codes Detected by the Processor -----	(Note 1)
2.2 SIM Reference Codes Detected by the SVP-----	SIM-RC02T-10
3 SIM Format -----	(Note 1)

(Note 1) Refer to SIM RC SECTION in the main volume.

1 Reference Code

A six-byte reference code (RC) is provided for a SIM (service information message) to identify an error and error section. The following shows 32 SIM bytes and reference codes.



2 Reference Codes

SIMs are roughly classified into two types: SIMs detected by the processor and SIMs detected by the SVP.

2.1 SIM Reference Codes Detected by the Processor

Please refer to SIM RC SECTION in the main volume.

2.2 SIM Reference Codes Detected by the SVP

In this section, only the different operations between 1 phase AC BOX type and 3 phase AC BOX are described. Please refer to SIM RC SECTION in the main volume for other operation.

SIM Reference Codes Detected by the SVP

Error		REF code			SIM 28	Level of error	Host report	Remarks
		22	23	13				
Environmental error	AC warning(Cluster-1)	BF	60 ^{*1}	A0 ^{*2}	F1	Moderate	Yes	
	AC warning(Cluster-2)	BF	60 ^{*1}	A1 ^{*2}	F1	Moderate	Yes	

*1 Contents of byte 23 when an AC warning was given

Byte 23	Error
60	AC power off/interruption of the breaker box occurred.

*2 Contents of byte 13 when an environment monitors disagreement error occurred

Byte 13	Error
A0	AC BOX-C1
A1	AC BOX-C2