

INSTALLATION SECTION

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INST05-460	5.2.2.1.2 Coexistence in a parity group
INST05-470	5.2.3 Check Procedure
INST05-510	5.2.4 Refer Configuration
INST05-630	5.3 Change Configuration SVP Procedure
INST05-630	5.3.1 Setting up the New Device Structure Information
INST05-640	5.3.1.1 System Option
INST05-660	5.3.1.2 DCR Configuration
INST05-710	5.3.1.3 CVS Configuration
INST05-1040	5.3.1.4 LUN Management
INST05-1540	5.3.2 Emulation Type Change
INST05-1620	5.4 Procedure for connecting external servers
INST05-1620	5.4.1 Connect SVP by remote desktop
INST05-1640	5.4.2 Configure DNS Setting of SVP
INST05-1680	5.5 Switch the Auto Account Lock Function
INST06-10	6. Storage Capacity and Cache Capacity, and the number of required options
INST06-10	6.1 Subsystem configurations and numbers of options required
INST06-70	6.2 Required CM Capacity
INST06-140	6.3 Storage Capacity Table
INST06-160	6.3.1 Standard Configuration for RAID5 (3D+1P)
INST06-2010	6.3.2 Standard Configuration for RAID5 (7D+1P)
INST06-4010	6.3.3 Standard Configuration for RAID1
INST06-6010	6.3.4 Standard Configuration for RAID6 (6D+2P)
INST06-8010	6.3.5 Standard Configuration for RAID6 (14D+2P)

1. Subsystem Configuration Outline

1.1 General Information

1.1.1 Model List

Notice: There are two kinds of models: a “model that conforms to the RoHS2” and a “model that does not conform to the RoHS2”. When selecting a model, make a correct selection referring to “Notes on Conformity to the RoHS2” on page [INST01-51](#).

(1) Model list of DKC710I

Table 1.1.1-1 shows the model list of DKC710I.

The options that have neither “Non-RoHS2 compliant option” description nor “RoHS2 compliant option” description in the model number column are RoHS2 compliant options.

Table 1.1.1-1 Model List of DKC710I

No.	Model Number	Model Name	Major Part	Remarks
1	DKC710I-CBX (Non-RoHS2 compliant option)	Controller Chassis	• DKCPANEL × 1 • Logic PL × 1 • SSVPMN × 1 • DKC PS × 4 • DKC FAN ASSY × 14	This model name doesn't contain Power cables, ESW, MPB, CHA, DKA, CPC and Rack.
2	DKC710I-CBXA (Non-RoHS2 compliant option)	Primary Controller Chassis	• DKCPANEL × 1 • Logic PL × 1 • SSVPMN × 1 • DKCPS × 4 • DKC FAN ASSY × 14 • ESW (WP730-A) × 2 • MPB (WP752-A) × 2 • CPC (WP741-A) × 2 • SVP × 1	This model name doesn't contain Power cables, CHA, DKA and Rack.
	DKC710I-CBXG (RoHS2 compliant option)	Primary Controller Chassis	• DKCPANEL × 1 • Logic PL × 1 • SSVPMN × 1 • DKCPS × 4 • DKC FAN ASSY × 14 • ESW (WP730-A) × 2 • MPB (WP752-B) × 2 • CPC (WP741-A) × 2 • SVP × 1	This model name doesn't contain Power cables, CHA, DKA and Rack.

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
3	DKC710I-CBXB (Non-RoHS2 compliant option)	Second Controller Chassis	• DKCPANEL × 1 • Logic PL × 1 • SSVPMN × 1 • DKCPS × 4 • DKC FAN ASSY × 14 • ESW (WP730-A) × 2 • MPB (WP752-A) × 2 • CPC (WP741-A) × 2 • HUBBOX × 1 • MDR Cable × 4 • SSVPMN Cable × 1 • LAN Cable × 1	This model name doesn't contain Power cables, CHA, DKA and Rack.
	DKC710I-CBXH (RoHS2 compliant option)	Second Controller Chassis	• DKCPANEL × 1 • Logic PL × 1 • SSVPMN × 1 • DKCPS × 4 • DKC FAN ASSY × 14 • ESW (WP730-A) × 2 • MPB (WP752-B) × 2 • CPC (WP741-A) × 2 • HUBBOX × 1 • MDR Cable × 4 • SSVPMN Cable × 1 • LAN Cable × 1	This model name doesn't contain Power cables, CHA, DKA and Rack.
4	DKC-F710I-RK42	Rack	• 42U Rack • Rear Door • Top Cover	
5	DKC-F710I-SCOV	Side Cover	• Side Cover L × 3 • Side Cover R × 3	
6	DKC-F710I-DECO	Decoration Panel	• Decoration Panel	for HDS
7	DKC-F710I-KYP	Key Kit	• HP Door hinge • HP Door Key	for HP
8	DKC-F710I-KYPN	Key Kit	• HP Door hinge • HP Door Key	for HP

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
9	DKC-F710I-PBR1	PDU Bracket 1-Phase	• PDU Support	for HDS
10	DKC-F710I-PBR3P	PDU Bracket 3-Phase	• PDU Support	for HP
11	DKC-F710I-PBR1P	PDU Bracket 1-Phase	• PDU Support	for HP
12	DKC-F710I-FIHT	Filler Panel	• Filler Panel	for HDS
13	DKC-F710I-UBX	LFF Drive Chassis	• HDD BOX × 2 • HDD PL × 2 • SSW × 8 • HDDPWR × 8 • DKUPS × 4 • FAN ASSY × 8	
14	DKC-F710I-SBX	SFF Drive Chassis	• HDD BOX × 2 • HDD PL × 2 • SSW × 8 • HDDPWR × 16 • DKUPS × 4 • FAN ASSY × 8	
15	DKC-F710I-SBXP	SFF Drive Chassis Base	• HDD BOX × 2 • HDD PL × 2 • FAN ASSY × 8	
16	DKC-F710I-SSWP	SFF Drive Chassis SSW Kit	• SSW × 8	
17	DKC-F710I-HPWP	SFF Drive Chassis HDDPW Kit	• HDDPWR × 16	
18	DKC-F710I-FBX	Flash Module Drive Chassis	• FMD BOX × 4 • SSW × 8 • DKUPS × 8	(*1)
19	DKC-F710I-BCH	Controller Chassis Bezel	• Bezel (14U) × 1	
20	DKC-F710I-BUH	Drive Chassis Bezel	• Bezel (13U) × 1	
21	DKC-F710I-MDEXC	Inter-Controller Connecting Kit	• MDR Cable × 4	
22	DKC-F710I-BUC	Device Interface Cable BU	• SAS Cable × 8	
23	DKC-F710I-HBUC	Device Interface Cable HBU	• SAS Cable × 8	
24	DKC-F710I-BFH	Flash Module Drive Chassis Bezel	• Bezel (2U) × 4	
25	DKC-F710I-UUC	Device Interface Cable UU	• SAS Cable × 8	
26	DKC-F710I-HUUC	Device Interface Cable HUU	• SAS Cable × 8	
27	DKC-F710I-USC	Device Interface Cable US	• SAS Cable × 8	
28	DKC-F710I-HUSC	Device Interface Cable HUS	• SAS Cable × 8	
29	DKC-F710I-RLEXC	Device Interface Cable RLEX	• SAS Cable × 8	
30	DKC-F710I-HRLEXC	Device Interface Cable HRLEX	• SAS Cable × 8	

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
31	DKC-F710I-BFC	Device Interface Cable BF	• SAS Cable × 8	
32	DKC-F710I-HBFC	Device Interface Cable HBF	• SAS Cable × 8	
33	DKC-F710I-UFC	Device Interface Cable UF	• SAS Cable × 8	
34	DKC-F710I-HUFC	Device Interface Cable HUF	• SAS Cable × 8	
35	DKC-F710I-UFEXC	Device Interface Cable UFEX	• SAS Cable × 8	
36	DKC-F710I-HUFEXC	Device Interface Cable HUFEX	• SAS Cable × 8	
37	DKC-F710I-FFC	Device Interface Cable FF	• SAS Cable × 8	
38	DKC-F710I-HFFC	Device Interface Cable HFF	• SAS Cable × 8	
39	DKC-F710I-FFEXC	Device Interface Cable FFEX	• SAS Cable × 8	
40	DKC-F710I-HFFEXC	Device Interface Cable HFFEX	• SAS Cable × 8	
41	DKC-F710I-SVP	Service Processor	• SVP × 1	
42	DKC-F710I-HUB	HUB Kit	• HUBBOX × 1	
43	DKC-F710I-PFUC	DKU(FBX) Power Cord Kit (1-phase 10A for USA)	• Power Cord × 8	
44	DKC-F710I-PFEC	DKU(FBX) Power Cord Kit (1-phase 10A for EU)	• Power Cord × 8	
45	DKC-F710I-PFCC	DKU(FBX) Power Cord Kit (1-phase 10A for China)	• Power Cord × 8	

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
46	DKC-F710I-PLUC	DKC Power Cord Kit (1-Phase 10A for USA)	• Power Cord × 4	
47	DKC-F710I-PHUC	DKU Power Cord Kit (1-Phase 10A for USA)	• Power Cord × 4	
48	DKC-F710I-PLEC	DKC Power Cord Kit (1-Phase 10A for EU)	• Power Cord × 4	
49	DKC-F710I-PHEC	DKU Power Cord Kit (1-Phase 10A for EU)	• Power Cord × 4	
50	DKC-F710I-PLCC	DKC Power Cord Kit (1-Phase 10A for China)	• Power Cord × 4	
51	DKC-F710I-PHCC	DKU Power Cord Kit (1-Phase 10A for China)	• Power Cord × 4	
52	DKC-F710I-PDU30P	30A 1-Phase PDU Kit	• PDU30 × 4	
53	DKC-F710I-PDU30F	30A 1-Phase PDU Kit	• PDU30 (NF) × 2	
54	DKC-F710I-PLJCP	DKC Power Cord Kit (1-Phase 10A for Japan)	• Power Cord × 4	
55	DKC-F710I-PHJCP	DKU Power Cord Kit (1-Phase 10A for Japan)	• Power Cord × 4	
56	DKC-F710I-APC	Additional Controller PS	• DKCPS × 2	(*2)
57	DKC-F710I-MP (Non-RoHS2 compliant option)	Processor Blade	• MPB (WP752-A) × 2	
	DKC-F710I-MPR (RoHS2 compliant option)	Processor Blade	• MPB (WP752-B) × 2	
58	DKC-F710I-CPC	Cache Memory Adapter	• WP741-A × 2 SSD (32GB) × 2 BTLCTL × 2 } × 2	
59	DKC-F710I-C16G (Non-RoHS2 compliant option)	Cache Memory (16GB)	• 4GB DIMM × 4	
	DKC-F710I-C16GR (RoHS2 compliant option)	Cache Memory (16GB)	• 4GB DIMM × 4	
60	DKC-F710I-C32G (Non-RoHS2 compliant option)	Cache Memory (32GB)	• 8GB DIMM × 4	
	DKC-F710I-C32GR (RoHS2 compliant option)	Cache Memory (32GB)	• 8GB DIMM × 4	
61	DKC-F710I-BM64	Cache Flash Memory (64GB)	• SSD (32GB) × 2	
62	DKC-F710I-BM128	Cache Flash Memory (128GB)	• SSD (64GB) × 2	
63	DKC-F710I-ESW	PCI Express Switch Adapter	• ESW (WP730-A) × 2	
64	DKC-F710I-SCA	Disk Adapter	• DKA (WP720-A) × 2	(*3)

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
65	DKC-F710I-16MFS	Mainframe Fibre 16-port Host Adapter for Shortwave	• WP711-A × 2	
66	DKC-F710I-16MFL	Mainframe Fibre 16-port Host Adapter for Longwave	• WP711-B × 2	
67	DKC-F710I-8UFC (Non-RoHS2 compliant option)	Fibre 8-port Host Adapter	• WP712-B × 2	
	DKC-F710I-8UFCR (RoHS2 compliant option)	Fibre 8-port Host Adapter	• WP712-D × 2	
68	DKC-F710I-16UFC (Non-RoHS2 compliant type option)	Fibre 16-port Host Adapter	• WP712-A × 2	
	DKC-F710I-16UFCR (RoHS2 compliant option)	Fibre 16-port Host Adapter	• WP712-C × 2	
69	DKC-F710I-16MUS (Non-RoHS2 compliant option)	Mainframe Fibre 16-port Adapter (Short Wavelength 2-8Gbps)	• WP711-E × 2	
	DKC-F710I-16MUSR (RoHS2 compliant option)	Mainframe Fibre 16-port Adapter (Short Wavelength 2-8Gbps)	• WP711-G × 2	
70	DKC-F710I-16MUL	Mainframe Fibre 16-port Adapter (Long Wavelength 2-8Gbps)	• WP711-F × 2	
71	DKC-F710I-8FOE	FCOE 8-port Host Adapter	• WP713-A × 2	
72	DKC-F710I-1US (Non-RoHS2 compliant option)	SFP for 8Gbps Shortwave	• Fibre 8Gbps SFP (Shortwave) × 1	
	DKC-F710I-1USR (RoHS2 compliant option)	SFP for 8Gbps Shortwave	• Fibre 8Gbps SFP (Shortwave) × 1	
73	DKC-F710I-1UL	SFP for 8Gbps Longwave	• Fibre 8Gbps SFP (Longwave) × 1	
74	DKC-F710I-146KCM	SFF 146GB Disk Drive	• HDU700-146KCMSS × 1	2.5 inch 146GB/15k HDD 6Gb SAS
75	DKC-F710I-300JCM	SFF 300GB Disk Drive	• HDU700-300JCMSS × 1	2.5 inch 300GB/10k HDD 6Gb SAS
76	DKC-F710I-300JCS	SFF 300GB Disk Drive	• HDU700-300JCMSS × 1	2.5 inch 300GB/10k HDD 6Gb SAS (Seagate) for HP
77	DKC-F710I-300KCM	SFF 300GB Disk Drive	• HDU700-300KCMSS × 1	2.5 inch 300GB/15k HDD 6Gb SAS
78	DKC-F710I-500HCM	SFF 500GB Disk Drive	• HDU700-500HCMSS × 1	2.5 inch 500GB/7.2k HDD 6Gb SAS

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Model Name	Major Part	Remarks
79	DKC-F710I-600JCM	SFF 600GB Disk Drive	• HDU700-600JCMSS × 1	2.5 inch 600GB/10k HDD 6Gb SAS
80	DKC-F710I-600JCS	SFF 600GB Disk Drive	• HDU700-600JCMSS × 1	2.5 inch 600GB/10k HDD 6Gb SAS (Seagate) for HP
81	DKC-F710I-900JCM	SFF 900GB Disk Drive	• HDU700-900JCMSS × 1	2.5 inch 900GB/10k HDD 6Gb SAS
82	DKC-F710I-1R0HCM	SFF 1TB Disk Drive	• HDU700-1R0HCMSS × 1	2.5 inch 1TB/7.2k HDD 6Gb SAS
83	DKC-F710I-1R2JCM	SFF 1.2TB Disk Drive	• HDU700-1R2JCMSS × 1	2.5 inch 1.2TB/10k HDD 6Gb SAS
84	DKC-F710I-2R0H2M	LFF SATA 2TB Disk Drive	• HDU700-2R0H2MAT × 1	3.5 inch 2TB/7.2k HDD 3/6Gb SATA
85	DKC-F710I-2R0H3M	LFF 2TB Disk Drive	• HDU700-2R0H3MSS × 1	3.5 inch 2TB/7.2k HDD 6Gb SAS
86	DKC-F710I-3R0H3M	LFF 3TB Disk Drive	• HDU700-3R0H3MSS × 1	3.5 inch 3TB/7.2k HDD 6Gb SAS
87	DKC-F710I-4R0H3M	LFF 4TB Disk Drive	• HDU700-4R0H3MSS × 1	3.5 inch 4TB/7.2k HDD 6Gb SAS
88	DKC-F710I-200MCM	SFF 200GB SSD Drive	• HDU700-200MCMSS × 1	2.5 inch 200GB SSD 6Gb SAS MLC
89	DKC-F710I-200SAM	SFF 200GB SSD Drive	• HDU700-200SAMSS × 1	2.5 inch 200GB SSD 3Gb SAS SLC
90	DKC-F710I-200SCM	SFF 200GB SSD Drive	• HDU700-200SAMSS/ 200SCMSS × 1	2.5 inch 200GB SSD SAS SLC
91	DKC-F710I-400MCM	SFF 400GB SSD Drive	• HDU700-400MCMSS × 1	2.5 inch 400GB SSD 6Gb SAS MLC
92	DKC-F710I-400SCM	SFF 400GB SSD Drive	• HDU700-400SCMSS × 1	2.5 inch 400GB SSD 6Gb SAS SLC
93	DKC-F710I-800MCM	SFF 800GB SSD Drive	• HDU700-800MCMSS × 1	2.5 inch 800GB SSD 6Gb SAS MLC
94	DKC-F710I-400S1M	LFF 400GB SSD Drive	• HDU700-400S1MSS × 1	3.5 inch 400GB SSD 3Gb SAS SLC
95	DKC-F710I-1R6FM	1.6TB Flash Module Drive	• FMD 1.6T × 1	
96	DKC-F710I-3R2FM	3.2TB Flash Module Drive	• FMD 3.2T × 1	

- *1: A maximum of two DKC-F710I-FBX can be controlled by a single DKC.
MNF100R-BOX_{xy} × 4.
- *2: The Additional Controller PS (DKC-F710I-APC) becomes indispensable when the configuration of DKC is corresponding to any of the following cases.

The cases of DKC-0 and DKC-1

- When two sets of the DKC-F710I-MP/MPR are installed
- When three sets or more of the DKC-F710I-CPC are installed
- When two sets of the DKC-F710I-SVP are installed
- When two sets of the DKC-F710I-ESW are installed
- When two sets of the DKC-F710I-SCA are installed
- When four sets or more of the Fibre 8/16-port Host Adapter (DKC-F710I-8UFC/8UFCE/16UFC/16UFCE) and FCOE 8-port Host Adapter (DKC-F710I-8FOE) are installed
- When three sets or more of the Mainframe Fibre 16-port Host Adapter (DKC-F710I-16MFS/16MFL/16MUS/16MUSR/16MUL) are installed

The additional PCI Express Switch Adapter (DKC-F710I-ESW) becomes indispensable according to the slot that is installed in the DKA and the CHA, and the additional power supply is needed in that case under the following conditions.

The cases of DKC-0

When the CHA is installed in the Option 2 (1FU/2RU) or the Option 3 (1FL/2RL) of the CHA slots

When the DKA or the CHA is installed in the Option 1 (1AL/2ML) of the DKA slots

The cases of DKC-1

When the CHA is installed in the Option 2 (1HU/2UU) or the Option 3 (1HL/2UL) of the CHA slots

When the DKA or the CHA is installed in the Option 1 (1LL/2XL) of the DKA slots

Twin DKC Model

In the twin DKC model, the number of installing of the DKC-F710I-ESW installed in the DKC-0 and the DKC-1 should be made the same. Therefore the additional DKC-F710I-APC might be needed according the number of installing of the DKC-F710I-ESW.

- *3: When the second DKC-F710I-SCA is installed, the Device Interface Cables between DKA and DKU, and between DKU and DKU are required to be connected.

(2) Disk drive model

SVP displays each drive model as the following table.

Disk drive model	SVP screen	Drive Form Factor
DKS5B-K146SS	DKS5B-K146SS	2.5 inch SAS HDD
DKS5C-K146SS	DKS5C-K146SS	2.5 inch SAS HDD
SDT5A-S200SS	SDT5A-S200SS	2.5 inch SSD
SDT5C-S200SS	SDT5C-S200SS	2.5 inch SSD
SFB5A-M200SS	SFB5A-M200SS	2.5 inch SSD
SLR5A-S200SS	SLR5A-S200SS	2.5 inch SSD
SLR5B-S200SS	SLR5B-S200SS	2.5 inch SSD
SLR5B-M200SS	SLR5B-M200SS	2.5 inch SSD
SLR5C-M200SS	SLR5C-M200SS	2.5 inch SSD
DKR5C-J300SS	DKR5C-J300SS	2.5 inch SAS HDD
DKR5D-J300SS	DKR5D-J300SS	2.5 inch SAS HDD
DKS5B-J300SS	DKS5B-J300SS	2.5 inch SAS HDD
DKS5D-J300SS	DKS5D-J300SS	2.5 inch SAS HDD
DKS5E-J300SS	DKS5E-J300SS	2.5 inch SAS HDD
DKS5C-K300SS	DKS5C-K300SS	2.5 inch SAS HDD
SFB5A-M400SS	SFB5A-M400SS	2.5 inch SSD
SLR5A-S400SS	SLR5A-S400SS	2.5 inch SSD
SLR5B-S400SS	SLR5B-S400SS	2.5 inch SSD
SLR5B-M400SS	SLR5B-M400SS	2.5 inch SSD
SLR5C-M400SS	SLR5C-M400SS	2.5 inch SSD
SDT2A-S400SS	SDT2A-S400SS	3.5 inch SSD
SDT2C-S400SS	SDT2C-S400SS	3.5 inch SSD
SLR2A-S400SS	SLR2A-S400SS	3.5 inch SSD

(To be continued)

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(Continued from the preceding page)

Disk drive model	SVP screen	Drive Form Factor
DKS5A-H500SS	DKS5A-H500SS	2.5 inch SAS HDD
DKS5B-H500SS	DKS5B-H500SS	2.5 inch SAS HDD
DKR5C-J600SS	DKR5C-J600SS	2.5 inch SAS HDD
DKR5D-J600SS	DKR5D-J600SS	2.5 inch SAS HDD
DKS5C-J600SS	DKS5C-J600SS	2.5 inch SAS HDD
DKS5D-J600SS	DKS5D-J600SS	2.5 inch SAS HDD
DKS5E-J600SS	DKS5E-J600SS	2.5 inch SAS HDD
SFB5A-M800SS	SFB5A-M800SS	2.5 inch SSD
SLR5C-M800SS	SLR5C-M800SS	2.5 inch SSD
DKR5D-J900SS	DKR5D-J900SS	2.5 inch SAS HDD
DKS5D-J900SS	DKS5D-J900SS	2.5 inch SAS HDD
DKS5E-J900SS	DKS5E-J900SS	2.5 inch SAS HDD
DKS5B-H1R0SS	DKS5B-H1R0SS	2.5 inch SAS HDD
DKR5E-J1R2SS	DKR5E-J1R2SS	2.5 inch SAS HDD
DKS5F-J1R2SS	DKS5F-J1R2SS	2.5 inch SAS HDD
NFH1A-P1R6SS	NFH1A-P1R6SS	Flash Module Drive
NFH1C-P1R6SS	NFH1C-P1R6SS	Flash Module Drive
DKR2C-H2R0AT	DKR2C-H2R0AT	3.5 inch SATA HDD
DKR2D-H2R0AT	DKR2D-H2R0AT	3.5 inch SATA HDD
DKR2E-H2R0AT	DKR2E-H2R0AT	3.5 inch SATA HDD
DKS2C-H2R0SS	DKS2C-H2R0SS	3.5 inch SAS HDD
DKS2D-H2R0SD	DKS2D-H2R0SS	3.5 inch SAS HDD
DKS2D-H2R0SS	DKS2D-H2R0SS	3.5 inch SAS HDD
DKS2E-H2R0SS	DKS2E-H2R0SS	3.5 inch SAS HDD
DKS2P-H2R0SS	DKS2P-H2R0SS	3.5 inch SAS HDD
DKW2E-H2R0SS	DKW2E-H2R0SS	3.5 inch SAS HDD
DKS2D-H3R0SS	DKS2D-H3R0SS	3.5 inch SAS HDD
DKS2E-H3R0SS	DKS2E-H3R0SS	3.5 inch SAS HDD
DKW2E-H3R0SS	DKW2E-H3R0SS	3.5 inch SAS HDD
NFH1B-P3R2SS	NFH1B-P3R2SS	Flash Module Drive
NFH1C-P3R2SS	NFH1C-P3R2SS	Flash Module Drive
DKS2E-H4R0SS	DKS2E-H4R0SS	3.5 inch SAS HDD
DKW2E-H4R0SS	DKW2E-H4R0SS	3.5 inch SAS HDD

(3) SVP screen display and conversion table of option type names

• SVP screen display of CHA

Model Number	SVP screen
DKC-F710I-16UFC/16UFCR	16UFC (Fibre)
DKC-F710I-8UFC/8UFCR	8UFC (Fibre)
DKC-F710I-16MF	16MF (Mfibre)
DKC-F710I-16MU	16MU (Mfibre)
DKC-F710I-8FOE	8FOE (FCoE)

• SVP screen display of DKA

Model Number	SVP screen
DKC-F710I-SCA	DKA (4Port)

• SVP screen display of Cache memory

Model Number	SVP screen
DKC-F710I-C16G/C16GR	C16G
DKC-F710I-C32G/C32GR	C32G

[Notes on Conformity to the RoHS2]

Whether a storage system conforms to the RoHS2 or not is judged from a model name of a DKC. When the DKC model name represents unconformity to the RoHS2, the storage system concerned does not conform to the RoHS2 and when it represents conformity to the RoHS2, the storage system concerned conforms to the RoHS2.

(1) Storage system that does not conform to the RoHS2

When a Storage system does not conform to the RoHS2, both “options that conform to the RoHS2” and “options that do not conform to the RoHS2” can be installed in it.

Storage system that does not conform to the RoHS2

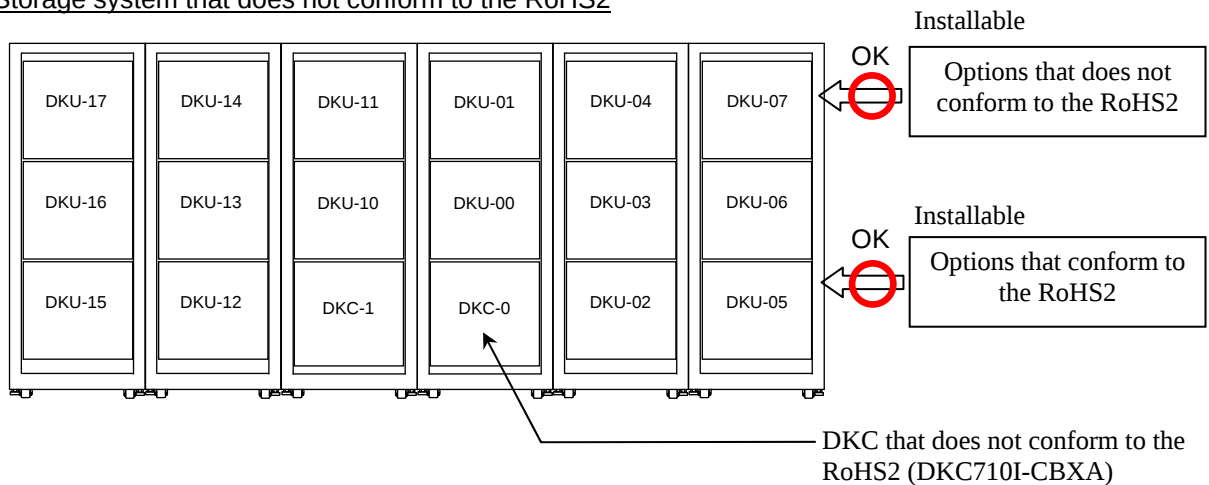


Fig. 1.1.1-1 Storage system that does not conform to RoHS2

(2) Storage system that conforms to the RoHS2

When a storage system conforms to the RoHS2, only “options that conform to the RoHS2” can be installed in it.

Storage system that conforms to the RoHS2

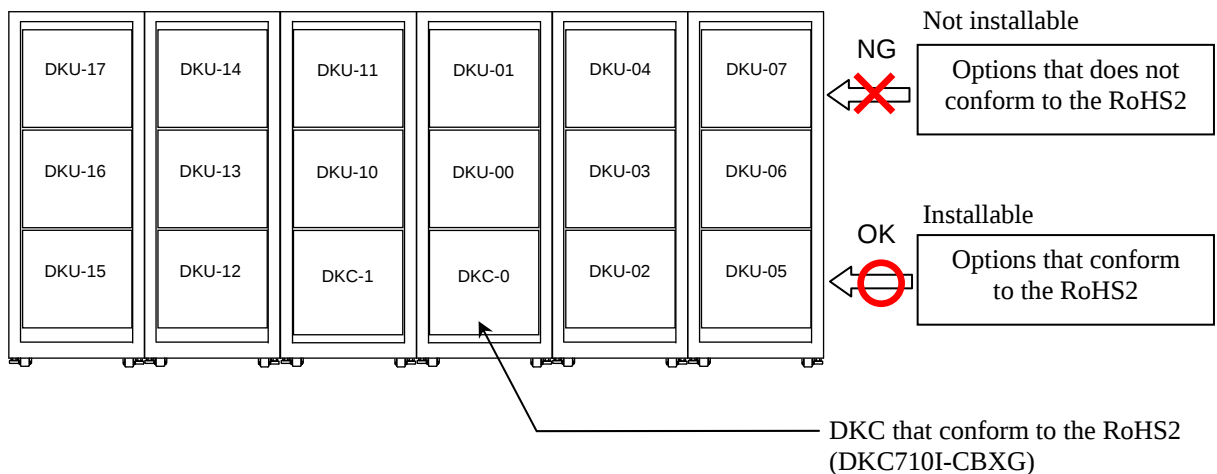


Fig. 1.1.1-2 Storage system that conforms to RoHS2

INST01-60**1.1.2 Configuration****1.1.2.1 Controller Chassis Configuration****(1) CHA Options Installation Rule**

The CHA options can be installed also in the DKA slots (option 1 and 2) in addition to the CHA slots in DKC710I. After the dedicated CHA slots are fully installed, the CHA options can be installed in the DKA slots.

The order of CHA installation is shown below.

Table 1.1.2.1-1 CHA Installation Rule

Installation Order	Installation Slot Location					
	Diskless Model		Standard Model		High Performance Model	
	DKC-0	DKC-1	DKC-0	DKC-1	DKC-0	DKC-1
1	1EU/2QU (CHA0)	1GU/2TU (CHA6)	1EU/2QU (CHA0)	1GU/2TU (CHA6)	1EU/2QU (CHA0)	1GU/2TU (CHA6)
2	1EL/2QL (CHA1)	1GL/2TL (CHA7)	1EL/2QL (CHA1)	1GL/2TL (CHA7)	1EL/2QL (CHA1)	1GL/2TL (CHA7)
3	1FU/2RU (CHA2)	1HU/2UU (CHA8)	1FU/2RU (CHA2)	1HU/2UU (CHA8)	1FU/2RU (CHA2)	1HU/2UU (CHA8)
4	1FL/2RL (CHA3)	1HL/2HL (CHA9)	1FL/2RL (CHA3)	1HL/2HL (CHA9)	1FL/2RL (CHA3)	1HL/2HL (CHA9)
5	1AL/2ML (CHA4)	1LL/2XL (CHA10)	1AL/2ML (CHA4)	1LL/2XL (CHA10)	—	—
6	1AU/2MU (CHA5)	1LU/2XU (CHA11)	—	1LU/2XU (CHA11)	—	—

(2) CPC and DKA Options Installation Rule**Table 1.1.2.1-2 CPC and DKA Installation Rule**

Installation Order	Installation Slot Location			
	CPC (DKC-F710I-CPC)		DKA (DKC-F710I-SCA)	
	DKC-0	DKC-1	DKC-0	DKC-1
1	1CA/2CC (CPC0)	1CJ/2CL (CPC4)	1AU/2MU (DKA0)	1LU/2XU (DKA2)
2	1CB/2CD (CPC1)	1CK/2CM (CPC5)	1AL/2ML (DKA1)	1LL/2XL (DKA3)
3	1CE/2CG (CPC2)	1CN/2CQ (CPC6)	—	—
4	1CF/2CH (CPC3)	1CP/2CR (CPC7)	—	—

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

(3) SVP and HUB Options Installation Rule

For the twin DKC model, HUB Kit (DKC-F710I-HUB) is installed on the 2nd Controller Chassis, instead of the SVP (DKC-F710I-SVP).

Table 1.1.2.1-3 SVP/HUB Installation Rule

No.	Installed model			
	DKC-0		DKC-1	
	SVP-BASIC slot	SVP-OPTION/ HUBBOX-01 slot	HUBBOX-10 slot	HUBBOX-11 slot
1	DKC-F710I-SVP * ¹	—	DKC-F710I-HUB * ²	—
2	DKC-F710I-SVP * ¹	DKC-F710I-HUB * ³	DKC-F710I-HUB * ²	—
3	DKC-F710I-SVP * ¹	DKC-F710I-HUB * ³	DKC-F710I-HUB * ²	DKC-F710I-HUB * ⁴
4	DKC-F710I-SVP * ¹	DKC-F710I-SVP * ⁵	DKC-F710I-HUB * ²	—
5	DKC-F710I-SVP * ¹	DKC-F710I-SVP * ⁵	DKC-F710I-HUB * ²	DKC-F710I-HUB * ⁴

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

*3: When 2nd MP (DKC-F710I-MP/MPR) are installed in the DKC-0.

*4: When 2nd MP (DKC-F710I-MP/MPR) are installed in the DKC-1.

*5: In Case to make SVP duplicated.

(4) Relation between ESW and DKA/CHA

A set of the ESW controls the DKA and the CHA of 6 slots in total.

When the additional DKA and /or CHA is/are installed, the additional ESW is required to control their slots.

The slot that each ESW controls is shown in the table below.

Table 1.1.2.1-4 Controlled Slots by Each ESW

	DKC-0		DKC-1	
	ESW 0	ESW 1	ESW 2	ESW 3
Controllable Slots	1AU/2MU (DKA0/CHA5), 1EU/2QU (CHA0), 1EL/2QL (CHA1)	1AL/2ML (DKA1/CHA4), 1FU/2RU (CHA2), 1FL/2RL (CHA3)	1LU/2XU (DKA2/CHA11), 1GU/2TU (CHA6), 1GL/2TL (CHA7)	1LL/2XL (DKA3/CHA10), 1HU/2UU (CHA8), 1HL/2UL (CHA9)

1.1.2.2 Cache Memory Upgrade Table

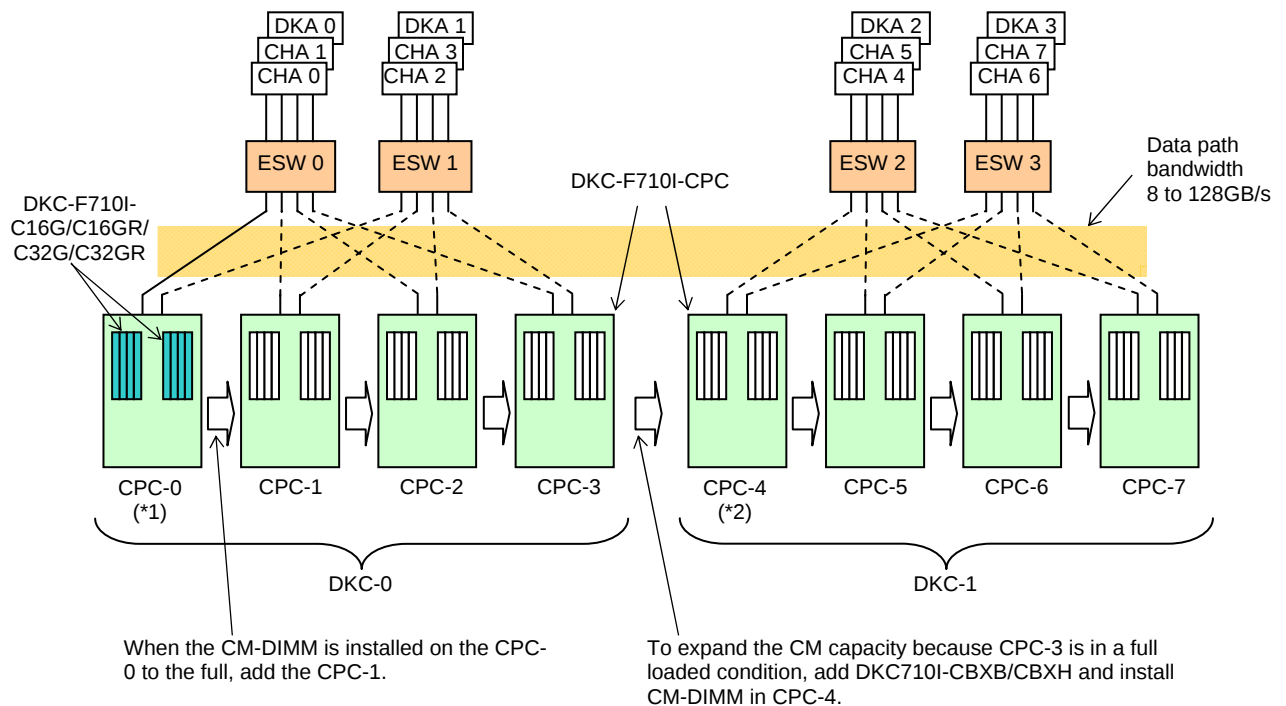
NOTICE:

- To create a CLPR, if your storage system has any additional printed circuit boards (PCBs), you must install the cache memories with the High Performance Cache Access Model. There is a case of that expansion of cache memory. If necessary, see [INST03-10-10](#).

The method of installing the cache memory has two types.

Serial Installation

When the cache memory on the 1st cache memory adapter (standard equipment) is installed to the full and the additional cache memory capacity is necessary, increase the 2nd cache memory adapter (DKC-F710I-CPC) to increase cache memory further.



*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

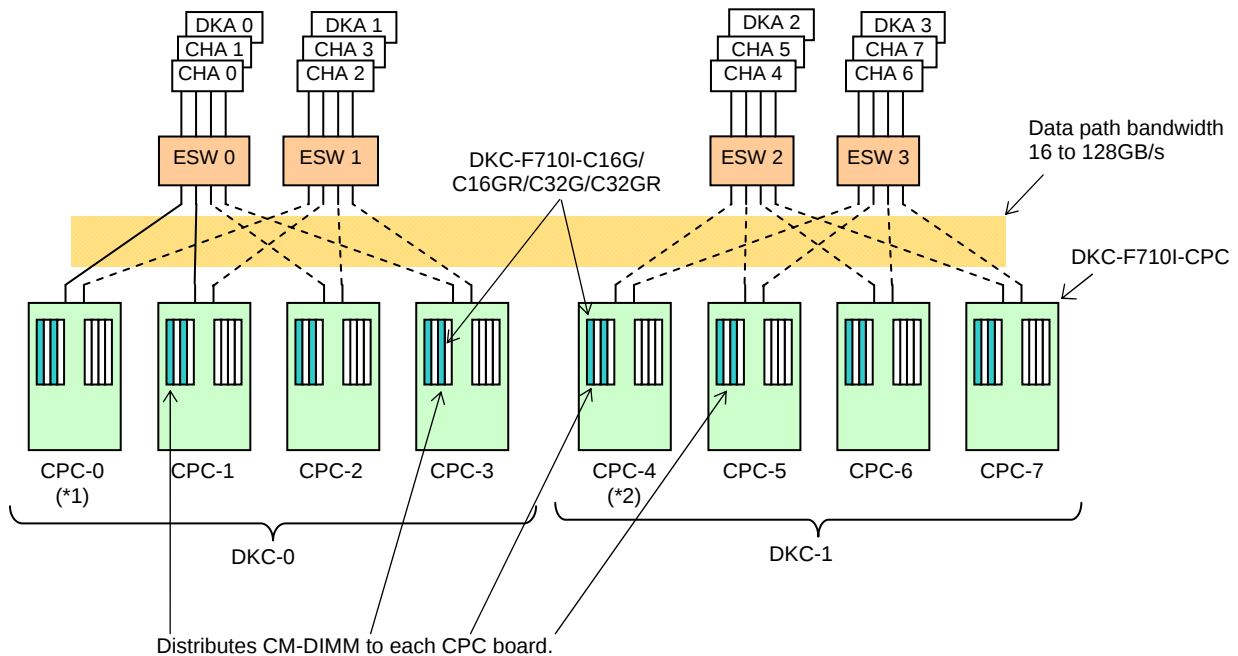
*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

Fig. 1.1.2.2-1 Serial Installation

Parallel Installation

This model distributes the cache memory to the multiple (2-8 sets) cache memory adapters (DKC-F710I-CPC).

This system upgrades the speed of the cache access performance per addition of the cache memory adapter by increasing the number of path between the CHA and the cache memory and the DKA and the cache memory.



*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

Fig. 1.1.2.2-2 Parallel Installation

The cache memory capacities and the corresponding number of options required are shown in Table 1.1.2.2-1 through 1.1.2.2-6.

Table 1.1.2.2-1 Cache Memory Upgrade Table ①

Serial Installation											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
16GB	16	—	—	—	—	—	—	—	1	0	0
32GB	32	—	—	—	—	—	—	—	2	0	0
48GB	48	—	—	—	—	—	—	—	3	0	0
64GB	64	—	—	—	—	—	—	—	4	0	1
80GB	64	16	—	—	—	—	—	—	5	1	1
96GB	64	32	—	—	—	—	—	—	6	1	1
112GB	64	48	—	—	—	—	—	—	7	1	1
128GB	64	64	—	—	—	—	—	—	8	1	2
144GB	64	64	16	—	—	—	—	—	9	2	2
160GB	64	64	32	—	—	—	—	—	10	2	2
176GB	64	64	48	—	—	—	—	—	11	2	2
192GB	64	64	64	—	—	—	—	—	12	2	3
208GB	64	64	64	16	—	—	—	—	13	3	3
224GB	64	64	64	32	—	—	—	—	14	3	3
240GB	64	64	64	48	—	—	—	—	15	3	3
256GB	64	64	64	64	—	—	—	—	16	3	4
272GB	64	64	64	64	16	—	—	—	17	3	4
288GB	64	64	64	64	32	—	—	—	18	3	4
304GB	64	64	64	64	48	—	—	—	19	3	4
320GB	64	64	64	64	64	—	—	—	20	3	5
336GB	64	64	64	64	64	16	—	—	21	4	5
352GB	64	64	64	64	64	32	—	—	22	4	5
368GB	64	64	64	64	64	48	—	—	23	4	5
384GB	64	64	64	64	64	64	—	—	24	4	6
400GB	64	64	64	64	64	64	16	—	25	5	6
416GB	64	64	64	64	64	64	32	—	26	5	6
432GB	64	64	64	64	64	64	48	—	27	5	6
448GB	64	64	64	64	64	64	64	—	28	5	7
464GB	64	64	64	64	64	64	64	16	29	6	7
480GB	64	64	64	64	64	64	64	32	30	6	7
496GB	64	64	64	64	64	64	64	48	31	6	7
512GB	64	64	64	64	64	64	64	64	32	6	8

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

Table 1.1.2.2-2 Cache Memory Upgrade Table ②

Serial Installation												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
32GB	32	—	—	—	—	—	—	—	1	0	0	0
64GB	64	—	—	—	—	—	—	—	2	0	1	0
96GB	96	—	—	—	—	—	—	—	3	0	1	0
128GB	128	—	—	—	—	—	—	—	4	0	0	1
160GB	128	32	—	—	—	—	—	—	5	1	0	1
192GB	128	64	—	—	—	—	—	—	6	1	1	1
224GB	128	96	—	—	—	—	—	—	7	1	1	1
256GB	128	128	—	—	—	—	—	—	8	1	0	2
288GB	128	128	32	—	—	—	—	—	9	2	0	2
320GB	128	128	64	—	—	—	—	—	10	2	1	2
352GB	128	128	96	—	—	—	—	—	11	2	1	2
384GB	128	128	128	—	—	—	—	—	12	2	0	3
416GB	128	128	128	32	—	—	—	—	13	3	0	3
448GB	128	128	128	64	—	—	—	—	14	3	1	3
480GB	128	128	128	96	—	—	—	—	15	3	1	3
512GB	128	128	128	128	—	—	—	—	16	3	0	4
544GB	128	128	128	128	32	—	—	—	17	3	0	4
576GB	128	128	128	128	64	—	—	—	18	3	1	4
608GB	128	128	128	128	96	—	—	—	19	3	1	4
640GB	128	128	128	128	128	—	—	—	20	3	0	5
672GB	128	128	128	128	128	32	—	—	21	4	0	5
704GB	128	128	128	128	128	64	—	—	22	4	1	5
736GB	128	128	128	128	128	96	—	—	23	4	1	5
768GB	128	128	128	128	128	128	—	—	24	4	0	6
800GB	128	128	128	128	128	128	32	—	25	5	0	6
832GB	128	128	128	128	128	128	64	—	26	5	1	6
864GB	128	128	128	128	128	128	96	—	27	5	1	6
896GB	128	128	128	128	128	128	128	—	28	5	0	7
928GB	128	128	128	128	128	128	128	32	29	6	0	7
960GB	128	128	128	128	128	128	128	64	30	6	1	7
992GB	128	128	128	128	128	128	128	96	31	6	1	7
1024GB	128	128	128	128	128	128	128	128	32	6	0	8

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

Table 1.1.2.2-3 Cache Memory Upgrade Table ③

Parallel Installation (Single DKC model)							
Cache Memory Capacity	Cache Memory Capacity (GB)				Number of options		
	DKC-0				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	-C16G/ -C16GR	-CPC	-BM64
32GB	16	16	—	—	2	1	0
48GB	32	16	—	—	3	1	0
	16	16	16	—	3	2	0
64GB	48	16	—	—	4	1	0
	32	32	—	—	4	1	0
	32	16	16	—	4	2	0
	16	16	16	16	4	3	0
80GB	64	16	—	—	5	1	1
	48	32	—	—	5	1	0
	48	16	16	—	5	2	0
	32	32	16	—	5	2	0
	32	16	16	16	5	3	0
96GB	64	32	—	—	6	1	1
	48	48	—	—	6	1	0
	64	16	16	—	6	2	1
	48	32	16	—	6	2	0
	32	32	32	—	6	2	0
	48	16	16	16	6	3	0
	32	32	16	16	6	3	0
112GB	64	48	—	—	7	1	1
	64	32	16	—	7	2	1
	48	32	32	—	7	2	0
	64	16	16	16	7	3	1
	48	32	16	16	7	3	0
	32	32	32	16	7	3	0
128GB	64	64	—	—	8	1	2
	64	32	32	—	8	2	1
	48	48	32	—	8	2	0
	64	32	16	16	8	3	1
	48	32	32	16	8	3	0
	32	32	32	32	8	3	0
144GB	64	48	32	—	9	2	1
	48	48	48	—	9	2	0
	64	32	32	16	9	3	1
	48	32	32	32	9	3	0
160GB	64	48	48	—	10	2	1
	64	32	32	32	10	3	1
	48	48	32	32	10	3	0

(To be continued)

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(Continued from the preceding page)

Parallel Installation (Single DKC model)							
Cache Memory Capacity	Cache Memory Capacity (GB)				Number of options		
	DKC-0				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	-C16G/ -C16GR	-CPC	-BM64
176GB	64	64	48	—	11	2	2
	64	48	32	32	11	3	1
	48	48	48	32	11	3	0
192GB	64	64	64	—	12	2	3
	64	48	48	32	12	3	1
	48	48	48	48	12	3	0
208GB	64	48	48	48	13	3	1
224GB	64	64	48	48	14	3	2
240GB	64	64	64	48	15	3	3
256GB	64	64	64	64	16	3	4

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

Table 1.1.2.2-4 Cache Memory Upgrade Table ④

Parallel Installation (Single DKC model)								
Cache Memory Capacity	Cache Memory Capacity (GB)				Number of options			
	DKC-0				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	-C32G/-C32GR	-CPC	-BM64	-BM128
64GB	32	32	—	—	2	1	0	0
96GB	64	32	—	—	3	1	1	0
	32	32	32	—	3	2	0	0
128GB	96	32	—	—	4	1	1	0
	64	64	—	—	4	1	2	0
	64	32	32	—	4	2	1	0
	32	32	32	32	4	3	0	0
160GB	96	64	—	—	5	1	2	0
	96	32	32	—	5	2	1	0
	64	64	32	—	5	2	2	0
	64	32	32	32	5	3	1	0
192GB	128	64	—	—	6	1	1	1
	96	96	—	—	6	1	2	0
	96	64	32	—	6	2	2	0
	64	64	64	—	6	2	3	0
	96	32	32	32	6	3	1	0
	64	64	32	32	6	3	2	0
224GB	128	96	—	—	7	1	1	1
	96	64	64	—	7	2	3	0
	96	64	32	32	7	3	2	0
	64	64	64	32	7	3	3	0
256GB	128	128	—	—	8	1	0	2
	128	64	64	—	8	2	2	1
	96	96	64	—	8	2	3	0
	96	64	64	32	8	3	3	0
	64	64	64	64	8	3	4	0
288GB	128	96	64	—	9	2	2	1
	96	96	96	—	9	2	3	0
	96	64	64	64	9	3	4	0
320GB	128	96	96	—	10	2	2	1
	128	64	64	64	10	3	3	1
	96	96	64	64	10	3	4	0
352GB	128	128	96	—	11	2	1	2
	128	96	64	64	11	3	3	1
	96	96	96	64	11	3	4	0
384GB	128	128	128	—	12	2	0	3
	128	96	96	64	12	3	3	1
	96	96	96	96	12	3	4	0

(To be continued)

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Parallel Installation (Single DKC model)								
Cache Memory Capacity	Cache Memory Capacity (GB)				Number of options			
	DKC-0				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	-C32G/ -C32GR	-CPC	-BM64	-BM128
416GB	128	96	96	96	13	3	3	1
448GB	128	128	96	96	14	3	2	2
480GB	128	128	128	96	15	3	1	3
512GB	128	128	128	128	16	3	0	4

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

Table 1.1.2.2-5 Cache Memory Upgrade Table ⑤

Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
32GB	16	—	—	—	16	—	—	—	2	0	0
48GB	32	—	—	—	16	—	—	—	3	0	0
	16	16	—	—	16	—	—	—	3	1	0
64GB	48	—	—	—	16	—	—	—	4	0	0
	32	—	—	—	32	—	—	—	4	0	0
	32	16	—	—	16	—	—	—	4	1	0
	16	16	—	—	16	16	—	—	4	2	0
80GB	64	—	—	—	16	—	—	—	5	0	1
	48	—	—	—	32	—	—	—	5	0	0
	48	16	—	—	16	—	—	—	5	1	0
	32	32	—	—	16	—	—	—	5	1	0
	32	16	—	—	16	16	—	—	5	2	0
	16	16	16	—	16	16	—	—	5	3	0
96GB	64	—	—	—	32	—	—	—	6	0	1
	48	—	—	—	48	—	—	—	6	0	0
	64	16	—	—	16	—	—	—	6	1	1
	48	32	—	—	16	—	—	—	6	1	0
	32	32	—	—	32	—	—	—	6	1	0
	48	16	—	—	16	16	—	—	6	2	0
	32	32	—	—	16	16	—	—	6	2	0
	32	16	16	—	16	16	—	—	6	3	0
112GB	16	16	16	—	16	16	16	—	6	4	0
	64	—	—	—	48	—	—	—	7	0	1
	64	32	—	—	16	—	—	—	7	1	1
	48	32	—	—	32	—	—	—	7	1	0
	64	16	—	—	16	16	—	—	7	2	1
	48	32	—	—	16	16	—	—	7	2	0
	32	32	—	—	32	16	—	—	7	2	0
	48	16	16	—	16	16	—	—	7	3	0
	32	32	16	—	16	16	—	—	7	3	0
	32	16	16	—	16	16	16	—	7	4	0
128GB	16	16	16	16	16	16	16	—	7	5	0
	64	—	—	—	64	—	—	—	8	0	2
	64	32	—	—	32	—	—	—	8	1	1
	48	48	—	—	32	—	—	—	8	1	0
	64	32	—	—	16	16	—	—	8	2	1
	48	32	—	—	32	16	—	—	8	2	0
	32	32	—	—	32	32	—	—	8	2	0

(To be continued)

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(Continued from the preceding page)

Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
128GB	64	16	16	—	16	16	—	—	8	3	1
	48	32	16	—	16	16	—	—	8	3	0
	32	32	32	—	16	16	—	—	8	3	0
	48	16	16	—	16	16	16	—	8	4	0
	32	32	16	—	16	16	16	—	8	4	0
	32	16	16	16	16	16	16	—	8	5	0
	16	16	16	16	16	16	16	16	8	6	0
144GB	64	48	—	—	32	—	—	—	9	1	1
	48	48	—	—	48	—	—	—	9	1	0
	64	32	—	—	32	16	—	—	9	2	1
	48	32	—	—	32	32	—	—	9	2	0
	64	32	16	—	16	16	—	—	9	3	1
	48	32	32	—	16	16	—	—	9	3	0
	32	32	32	—	32	16	—	—	9	3	0
	64	16	16	—	16	16	16	—	9	4	1
	48	32	16	—	16	16	16	—	9	4	0
	32	32	32	—	16	16	16	—	9	4	0
	48	16	16	16	16	16	16	—	9	5	0
	32	32	16	16	16	16	16	—	9	5	0
	32	16	16	16	16	16	16	16	9	6	0
160GB	64	48	—	—	48	—	—	—	10	1	1
	64	32	—	—	32	32	—	—	10	2	1
	48	48	—	—	32	32	—	—	10	2	0
	64	32	32	—	16	16	—	—	10	3	1
	48	32	32	—	32	16	—	—	10	3	0
	32	32	32	—	32	32	—	—	10	3	0
	64	32	16	—	16	16	16	—	10	4	1
	48	32	32	—	16	16	16	—	10	4	0
	32	32	32	—	32	16	16	—	10	4	0
	64	16	16	16	16	16	16	—	10	5	1
	48	32	16	16	16	16	16	—	10	5	0
	32	32	32	16	16	16	16	—	10	5	0
	48	16	16	16	16	16	16	16	10	6	0
	32	32	16	16	16	16	16	16	10	6	0
176GB	64	64	—	—	48	—	—	—	11	1	2
	64	48	—	—	32	32	—	—	11	2	1
	48	48	—	—	48	32	—	—	11	2	0

(To be continued)

(Continued from the preceding page)

Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
176GB	64	32	32	—	32	16	—	—	11	3	1
	48	32	32	—	32	32	—	—	11	3	0
	64	32	32	—	16	16	16	—	11	4	1
	48	32	32	—	32	16	16	—	11	4	0
	32	32	32	—	32	32	16	—	11	4	0
	64	32	16	16	16	16	16	—	11	5	1
	48	32	32	16	16	16	16	—	11	5	0
	32	32	32	32	16	16	16	—	11	5	0
	64	16	16	16	16	16	16	16	11	6	1
	48	32	16	16	16	16	16	16	11	6	0
	32	32	32	16	16	16	16	16	11	6	0
192GB	64	64	—	—	64	—	—	—	12	1	3
	64	48	—	—	48	32	—	—	12	2	1
	48	48	—	—	48	48	—	—	12	2	0
	64	32	32	—	32	32	—	—	12	3	1
	48	48	32	—	32	32	—	—	12	3	0
	64	32	32	—	32	16	16	—	12	4	1
	48	32	32	—	32	32	16	—	12	4	0
	32	32	32	—	32	32	32	—	12	4	0
	64	32	32	16	16	16	16	—	12	5	1
	48	32	32	32	16	16	16	—	12	5	0
	32	32	32	32	32	16	16	—	12	5	0
	64	32	16	16	16	16	16	16	12	6	1
	48	32	32	16	16	16	16	16	12	6	0
	32	32	32	32	16	16	16	16	12	6	0
208GB	64	64	—	—	64	16	—	—	13	2	3
	64	48	—	—	48	48	—	—	13	2	1
	64	48	32	—	32	32	—	—	13	3	1
	48	48	48	—	32	32	—	—	13	3	0
	64	32	32	—	32	32	16	—	13	4	1
	48	32	32	—	32	32	32	—	13	4	0
	64	32	32	32	16	16	16	—	13	5	1
	48	32	32	32	32	16	16	—	13	5	0
	32	32	32	32	32	32	16	—	13	5	0
	64	32	32	16	16	16	16	16	13	6	1
	48	32	32	32	16	16	16	16	13	6	0
	32	32	32	32	32	16	16	16	13	6	0

(To be continued)

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(Continued from the preceding page)

Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
224GB	64	64	—	—	64	32	—	—	14	2	3
	64	64	—	—	48	48	—	—	14	2	2
	64	48	48	—	32	32	—	—	14	3	1
	48	48	48	—	48	32	—	—	14	3	0
	64	32	32	—	32	32	32	—	14	4	1
	48	48	32	—	32	32	32	—	14	4	0
	64	32	32	32	32	16	16	—	14	5	1
	48	32	32	32	32	32	16	—	14	5	0
	32	32	32	32	32	32	32	—	14	5	0
	64	32	32	32	16	16	16	16	14	6	1
	48	32	32	32	32	16	16	16	14	6	0
	32	32	32	32	32	32	16	16	14	6	0
240GB	64	64	—	—	64	48	—	—	15	2	3
	64	48	48	—	48	32	—	—	15	3	1
	48	48	48	—	48	48	—	—	15	3	0
	64	48	32	—	32	32	32	—	15	4	1
	48	48	48	—	32	32	32	—	15	4	0
	64	32	32	32	32	32	16	—	15	5	1
	48	32	32	32	32	32	32	—	15	5	0
	64	32	32	32	32	16	16	16	15	6	1
	48	32	32	32	32	32	16	16	15	6	0
	32	32	32	32	32	32	32	16	15	6	0
256GB	64	64	—	—	64	64	—	—	16	2	4
	64	48	48	—	48	48	—	—	16	3	1
	64	48	48	—	32	32	32	—	16	4	1
	48	48	48	—	48	32	32	—	16	4	0
	64	32	32	32	32	32	32	—	16	5	1
	48	48	32	32	32	32	32	—	16	5	0
	64	32	32	32	32	32	16	16	16	6	1
	48	32	32	32	32	32	32	16	16	6	0
	32	32	32	32	32	32	32	32	16	6	0
272GB	64	64	64	—	64	16	—	—	17	3	4
	64	64	48	—	48	48	—	—	17	3	2
	64	48	48	—	48	32	32	—	17	4	1
	48	48	48	—	48	48	32	—	17	4	0
	64	48	32	32	32	32	32	—	17	5	1
	48	48	48	32	32	32	32	—	17	5	0
	64	32	32	32	32	32	32	16	17	6	1
	48	32	32	32	32	32	32	32	17	6	0

(To be continued)

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(Continued from the preceding page)

Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
288GB	64	64	64	—	64	32	—	—	18	3	4
	64	64	64	—	48	48	—	—	18	3	3
	64	48	48	—	48	48	32	—	18	4	1
	48	48	48	—	48	48	48	—	18	4	0
	64	48	48	32	32	32	32	—	18	5	1
	48	48	48	48	32	32	32	—	18	5	0
	64	32	32	32	32	32	32	32	18	6	1
	48	48	32	32	32	32	32	32	18	6	0
304GB	64	64	64	—	64	48	—	—	19	3	4
	64	48	48	—	48	48	48	—	19	4	1
	64	48	48	48	32	32	32	—	19	5	1
	48	48	48	48	48	32	32	—	19	5	0
	64	48	32	32	32	32	32	32	19	6	1
	48	48	48	32	32	32	32	32	19	6	0
320GB	64	64	64	—	64	64	—	—	20	3	5
	64	64	48	—	48	48	48	—	20	4	2
	64	48	48	48	48	32	32	—	20	5	1
	48	48	48	48	48	48	32	—	20	5	0
	64	48	48	32	32	32	32	32	20	6	1
	48	48	48	48	32	32	32	32	20	6	0
336GB	64	64	64	—	48	48	48	—	21	4	3
	64	48	48	48	48	48	32	—	21	5	1
	48	48	48	48	48	48	48	—	21	5	0
	64	48	48	48	32	32	32	32	21	6	1
	48	48	48	48	48	32	32	32	21	6	0
352GB	64	64	64	—	64	48	48	—	22	4	4
	64	48	48	48	48	48	48	—	22	5	1
	64	48	48	48	48	32	32	32	22	6	1
	48	48	48	48	48	48	32	32	22	6	0
368GB	64	64	64	—	64	64	48	—	23	4	5
	64	64	48	48	48	48	48	—	23	5	2
	64	48	48	48	48	48	32	32	23	6	1
	48	48	48	48	48	48	48	32	23	6	0
384GB	64	64	64	—	64	64	64	—	24	4	6
	64	64	64	48	48	48	48	—	24	5	3
	64	48	48	48	48	48	48	32	24	6	1
	48	48	48	48	48	48	48	48	24	6	0

(To be continued)

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Parallel Installation (Twin DKC model)											
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options		
	DKC-0				DKC-1				DKC-F710I		
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C16G/-C16GR	-CPC	-BM64
400GB	64	64	64	64	48	48	48	—	25	5	4
	64	48	48	48	48	48	48	48	25	6	1
416GB	64	64	64	64	64	48	48	—	26	5	5
	64	64	48	48	48	48	48	48	26	6	2
432GB	64	64	64	64	64	64	48	—	27	5	6
	64	64	64	48	48	48	48	48	27	6	3
448GB	64	64	64	64	64	64	64	—	28	5	7
	64	64	64	64	48	48	48	48	28	6	4
464GB	64	64	64	64	64	48	48	48	29	6	5
480GB	64	64	64	64	64	64	48	48	30	6	6
496GB	64	64	64	64	64	64	64	48	31	6	7
512GB	64	64	64	64	64	64	64	64	32	6	8

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

*3: There is no performance difference between a serial method and a parallel method when the cache memory of the same capacity is increased.

Table 1.1.2.2-6 Cache Memory Upgrade Table ⑥

Parallel Installation (Twin DKC model)												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
64GB	32	—	—	—	32	—	—	—	2	0	0	0
96GB	64	—	—	—	32	—	—	—	3	0	1	0
	32	32	—	—	32	—	—	—	3	1	0	0
128GB	96	—	—	—	32	—	—	—	4	0	1	0
	64	—	—	—	64	—	—	—	4	0	2	0
	64	32	—	—	32	—	—	—	4	1	1	0
	32	32	—	—	32	32	—	—	4	2	0	0
160GB	96	—	—	—	64	—	—	—	5	0	2	0
	96	32	—	—	32	—	—	—	5	1	1	0
	64	64	—	—	32	—	—	—	5	1	2	0
	64	32	—	—	32	32	—	—	5	2	1	0
	32	32	32	—	32	32	—	—	5	3	0	0
192GB	128	—	—	—	64	—	—	—	6	0	1	1
	96	—	—	—	96	—	—	—	6	0	2	0
	96	64	—	—	32	—	—	—	6	1	2	0
	64	64	—	—	64	—	—	—	6	1	3	0
	96	32	—	—	32	32	—	—	6	2	1	0
	64	64	—	—	32	32	—	—	6	2	2	0
	64	32	32	—	32	32	—	—	6	3	1	0
	32	32	32	—	32	32	32	—	6	4	0	0
224GB	128	—	—	—	96	—	—	—	7	0	1	1
	96	64	—	—	64	—	—	—	7	1	3	0
	96	64	—	—	32	32	—	—	7	2	2	0
	64	64	—	—	64	32	—	—	7	2	3	0
	96	32	32	—	32	32	—	—	7	3	1	0
	64	64	32	—	32	32	—	—	7	3	2	0
	64	32	32	—	32	32	32	—	7	4	1	0
	32	32	32	32	32	32	32	—	7	5	0	0
256GB	128	—	—	—	128	—	—	—	8	0	0	2
	128	64	—	—	64	—	—	—	8	1	2	1
	96	96	—	—	64	—	—	—	8	1	3	0
	96	64	—	—	64	32	—	—	8	2	3	0
	64	64	—	—	64	64	—	—	8	2	4	0
	96	64	32	—	32	32	—	—	8	3	2	0

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Parallel Installation (Twin DKC model)												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
256GB	64	64	64	—	32	32	—	—	8	3	3	0
	96	32	32	—	32	32	32	—	8	4	1	0
	64	64	32	—	32	32	32	—	8	4	2	0
	64	32	32	32	32	32	32	—	8	5	1	0
	32	32	32	32	32	32	32	32	8	6	0	0
288GB	128	96	—	—	64	—	—	—	9	1	2	1
	96	96	—	—	96	—	—	—	9	1	3	0
	96	64	—	—	64	64	—	—	9	2	4	0
	96	64	64	—	32	32	—	—	9	3	3	0
	64	64	64	—	64	32	—	—	9	3	4	0
	96	64	32	—	32	32	32	—	9	4	2	0
	64	64	64	—	32	32	32	—	9	4	3	0
	96	32	32	32	32	32	32	—	9	5	1	0
	64	64	32	32	32	32	32	—	9	5	2	0
	64	32	32	32	32	32	32	32	9	6	1	0
320GB	128	96	—	—	96	—	—	—	10	1	2	1
	128	64	—	—	64	64	—	—	10	2	3	1
	96	96	—	—	64	64	—	—	10	2	4	0
	96	64	64	—	64	32	—	—	10	3	4	0
	64	64	64	—	64	64	—	—	10	3	5	0
	96	64	64	—	32	32	32	—	10	4	3	0
	64	64	64	—	64	32	32	—	10	4	4	0
	96	64	32	32	32	32	32	—	10	5	2	0
	64	64	64	32	32	32	32	—	10	5	3	0
	96	32	32	32	32	32	32	32	10	6	1	0
	64	64	32	32	32	32	32	32	10	6	2	0
352GB	128	128	—	—	96	—	—	—	11	1	1	2
	128	96	—	—	64	64	—	—	11	2	3	1
	96	96	—	—	96	64	—	—	11	2	4	0
	96	64	64	—	64	64	—	—	11	3	5	0
	96	64	64	—	64	32	32	—	11	4	4	0
	64	64	64	—	64	64	32	—	11	4	5	0
	96	64	64	32	32	32	32	—	11	5	3	0
	64	64	64	64	32	32	32	—	11	5	4	0
	96	64	32	32	32	32	32	32	11	6	2	0
	64	64	64	32	32	32	32	32	11	6	3	0

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Parallel Installation (Twin DKC model)												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
384GB	128	128	—	—	128	—	—	—	12	1	0	3
	128	96	—	—	96	64	—	—	12	2	3	1
	96	96	—	—	96	96	—	—	12	2	4	0
	128	64	64	—	64	64	—	—	12	3	5	1
	96	96	64	—	64	64	—	—	12	3	5	0
	96	64	64	—	64	64	32	—	12	4	5	0
	64	64	64	—	64	64	64	—	12	4	6	0
	96	64	64	64	32	32	32	—	12	5	4	0
	64	64	64	64	64	32	32	—	12	5	5	0
	96	64	64	32	32	32	32	32	12	6	3	0
	64	64	64	64	32	32	32	32	12	6	4	0
416GB	128	96	—	—	96	96	—	—	13	2	3	1
	128	96	64	—	64	64	—	—	13	3	4	1
	96	96	96	—	64	64	—	—	13	3	5	0
	96	64	64	—	64	64	64	—	13	4	6	0
	96	64	64	64	64	32	32	—	13	5	5	0
	64	64	64	64	64	64	32	—	13	5	6	0
	96	64	64	64	32	32	32	32	13	6	4	0
	64	64	64	64	64	32	32	32	13	6	5	0
448GB	128	128	—	—	96	96	—	—	14	2	2	2
	128	96	96	—	64	64	—	—	14	3	4	1
	96	96	96	—	96	64	—	—	14	3	5	0
	128	64	64	—	64	64	64	—	14	4	5	1
	96	96	64	—	64	64	64	—	14	4	6	0
	96	64	64	64	64	64	32	—	14	5	6	0
	64	64	64	64	64	64	64	—	14	5	7	0
	96	64	64	64	64	32	32	32	14	6	5	0
	64	64	64	64	64	64	32	32	14	6	6	0
480GB	128	128	—	—	128	96	—	—	15	2	1	3
	128	96	96	—	96	64	—	—	15	3	4	1
	96	96	96	—	96	96	—	—	15	3	5	0
	128	96	64	—	64	64	64	—	15	4	5	1
	96	96	96	—	64	64	64	—	15	4	6	0
	96	64	64	64	64	64	64	—	15	5	7	0
	96	64	64	64	64	64	32	32	15	6	6	0
	64	64	64	64	64	64	64	32	15	6	7	0

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Parallel Installation (Twin DKC model)												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
512GB	128	128	—	—	128	128	—	—	16	2	0	4
	128	96	96	—	96	96	—	—	16	3	4	1
	128	96	96	—	64	64	64	—	16	4	5	1
	96	96	96	—	96	64	64	—	16	4	6	0
	128	64	64	64	64	64	64	—	16	5	6	1
	96	96	64	64	64	64	64	—	16	5	7	0
	96	64	64	64	64	64	64	32	16	6	7	0
	64	64	64	64	64	64	64	64	16	6	8	0
544GB	128	128	96	—	96	96	—	—	17	3	3	2
	128	96	96	—	96	64	64	—	17	4	5	1
	96	96	96	—	96	96	64	—	17	4	6	0
	128	96	64	64	64	64	64	—	17	5	6	1
	96	96	96	64	64	64	64	—	17	5	7	0
	96	64	64	64	64	64	64	64	17	6	8	0
576GB	128	128	128	—	96	96	—	—	18	3	2	3
	128	96	96	—	96	96	64	—	18	4	5	1
	96	96	96	—	96	96	96	—	18	4	6	0
	128	96	96	64	64	64	64	—	18	5	6	1
	96	96	96	96	64	64	64	—	18	5	7	0
	128	64	64	64	64	64	64	64	18	6	7	1
	96	96	64	64	64	64	64	64	18	6	8	0
608GB	128	128	128	—	128	96	—	—	19	3	1	4
	128	96	96	—	96	96	96	—	19	4	5	1
	128	96	96	96	64	64	64	—	19	5	6	1
	96	96	96	96	96	64	64	—	19	5	7	0
	128	96	64	64	64	64	64	64	19	6	7	1
	96	96	96	64	64	64	64	64	19	6	8	0
640GB	128	128	128	—	128	128	—	—	20	3	0	5
	128	128	96	—	96	96	96	—	20	4	4	2
	128	96	96	96	96	64	64	—	20	5	6	1
	96	96	96	96	96	96	64	—	20	5	7	0
	128	96	96	64	64	64	64	64	20	6	7	1
	96	96	96	96	64	64	64	64	20	6	8	0

(To be continued)

(Continued from the preceding page)

Parallel Installation (Twin DKC model)												
Cache Memory Capacity	Cache Memory Capacity (GB)								Number of options			
	DKC-0				DKC-1				DKC-F710I			
	CPC-0 (*1)	CPC-1	CPC-2	CPC-3	CPC-4 (*2)	CPC-5	CPC-6	CPC-7	-C32G/-C32GR	-CPC	-BM64	-BM128
672GB	128	128	128	—	96	96	96	—	21	4	3	3
	128	96	96	96	96	96	64	—	21	5	6	1
	96	96	96	96	96	96	96	—	21	5	7	0
	128	96	96	96	64	64	64	64	21	6	7	1
	96	96	96	96	96	64	64	64	21	6	8	0
704GB	128	128	128	—	128	96	96	—	22	4	2	4
	128	96	96	96	96	96	96	—	22	5	6	1
	128	96	96	96	96	64	64	64	22	6	7	1
	96	96	96	96	96	96	64	64	22	6	8	0
736GB	128	128	128	—	128	128	96	—	23	4	1	5
	128	128	96	96	96	96	96	—	23	5	5	2
	128	96	96	96	96	96	64	64	23	6	7	1
	96	96	96	96	96	96	96	64	23	6	8	0
768GB	128	128	128	—	128	128	128	—	24	4	0	6
	128	128	128	96	96	96	96	—	24	5	4	3
	128	96	96	96	96	96	96	64	24	6	7	1
	96	96	96	96	96	96	96	96	24	6	8	0
800GB	128	128	128	128	96	96	96	—	25	5	3	4
	128	96	96	96	96	96	96	96	25	6	7	1
832GB	128	128	128	128	128	96	96	—	26	5	2	5
	128	128	96	96	96	96	96	96	26	6	6	2
864GB	128	128	128	128	128	128	96	—	27	5	1	6
	128	128	128	96	96	96	96	96	27	6	5	3
896GB	128	128	128	128	128	128	128	—	28	5	0	7
	128	128	128	128	96	96	96	96	28	6	4	4
928GB	128	128	128	128	128	96	96	96	29	6	3	5
960GB	128	128	128	128	128	128	96	96	30	6	2	6
992GB	128	128	128	128	128	128	128	96	31	6	1	7
1024GB	128	128	128	128	128	128	128	128	32	6	0	8

*1: When Controller Chassis is DKC710I-CBXA/CBXG, this is standard equipment.

*2: When Controller Chassis is DKC710I-CBXB/CBXH, this is standard equipment.

*3: There is no performance difference between a serial method and a parallel method when the cache memory of the same capacity is increased.

1.1.2.3 System Configurations and RAID Group Installation Order

1.1.2.3.1 Rough time of installation

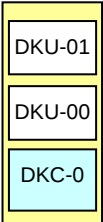
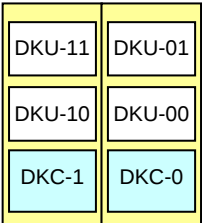
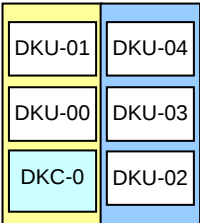
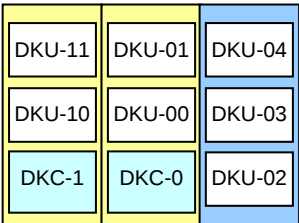
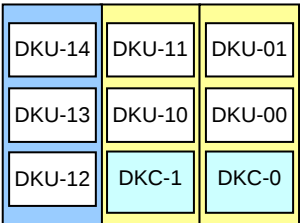
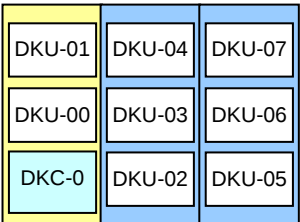
Rough time of RAID Group installation becomes addition of the following A, B, C, D, and E.

Table 1.1.2.3.1-1 Rough time of installation

	process	time	note
A	Chassis setting time	90min / 1chassis	
B	HDD setting time	5min / 1ECC	
C	Micro code overhead for Path initialization	90sec × (The number of of existing chassis + number of increase chassis)	*1
D	Micro code over head for HDD spin up	20sec × (number of increase HDD)	*1
E	LDEV Formatting time	Refer to Theory3.9	

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

INST01-121**1.1.2.3.2 Standard Layout****Table 1.1.2.3.2-1 DKC710I Standard Layout**

No.	Layout	Number of Controller Chassis	Number of Drive Chassis	Number of maximum HDD installations	
				2.5-inch HDD	3.5-inch HDD
1		1	2	256	160
2		2	4	512	320
3		1	5	640	400
4		2	7	896	560
5		2	7	896	560
6		1	8	1024	640

(To be continued)

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(Continued from the preceding page)

No.	Layout	Number of Controller Chassis	Number of Drive Chassis	Number of maximum HDD installations	
				2.5-inch HDD	3.5-inch HDD
7		2	10	1280	800
8		2	10	1280	800
9		2	10	1280	800
10		2	13	1920	1040
11		2	13	1920	1040
12		2	16	2048	1280

1.1.2.3.3 Connection of DKA to Drive Chassis

The DKA and the Drive Chassis connections are shown below.

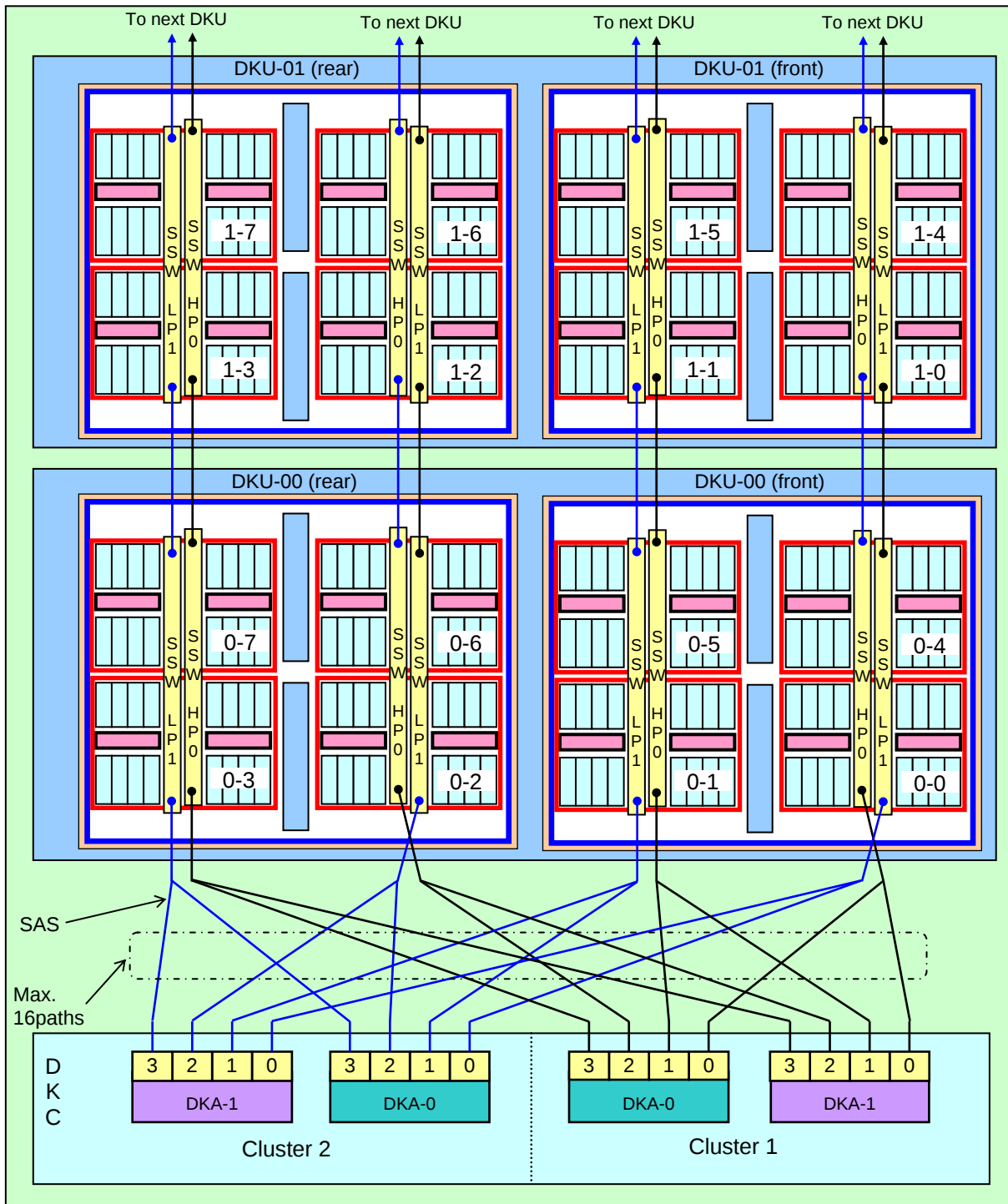


Fig. 1.1.2.3.3-1 The SAS Connections Diagram of Rack-00

The installation order of the Drive Chassis and HDDs that connects with DKA is as follows.

DKA → DKU-00 → DKU-01 → DKU-02 → 03 → 04 → 05 → 06 → DKU-07

The relation of DKA connection to HDU in the Drive Chassis is shown below.

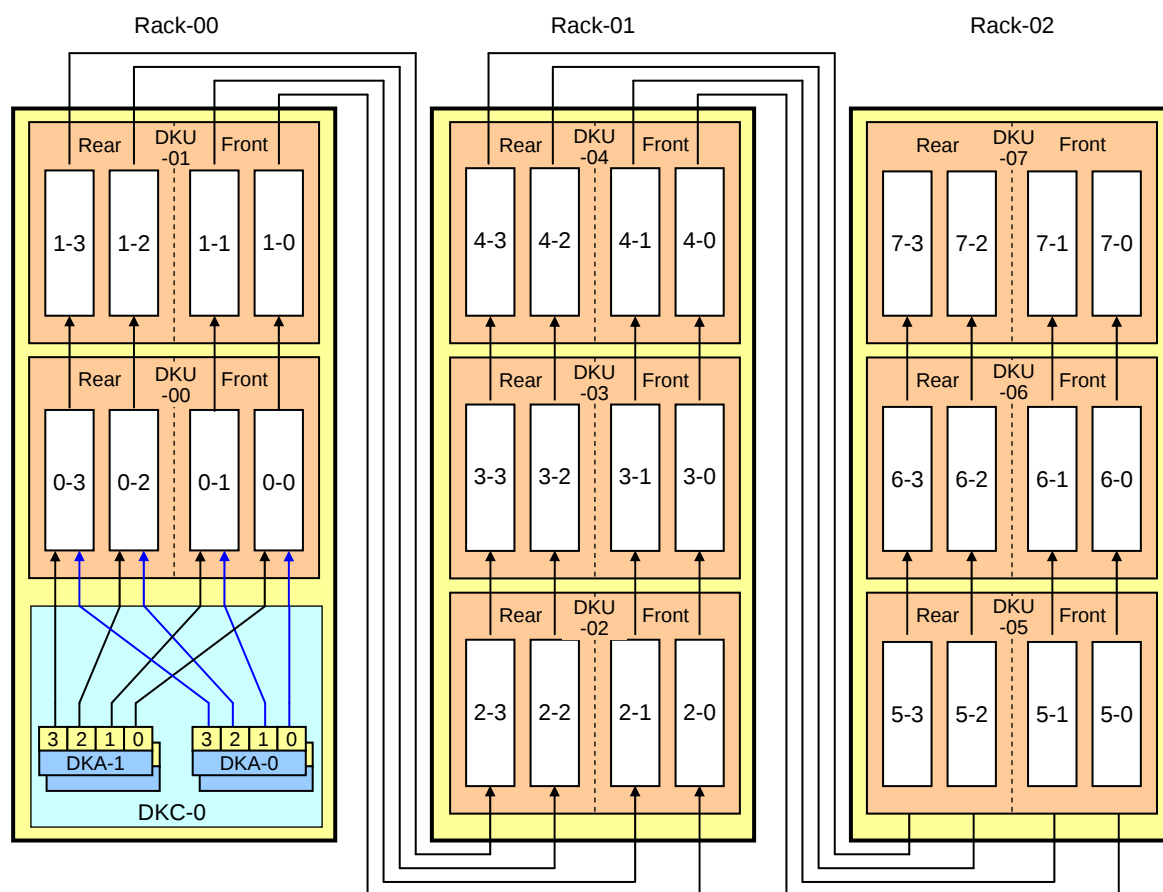


Fig. 1.1.2.3.3-2 Connection Order of Drive Chassis

INST01-160**1.1.2.3.4 System Configurations and Numbers of Options Required**

(1) In case of the twin DKC configuration that uses HDDs.

The storage system configuration and the number of required options for each model are shown below.

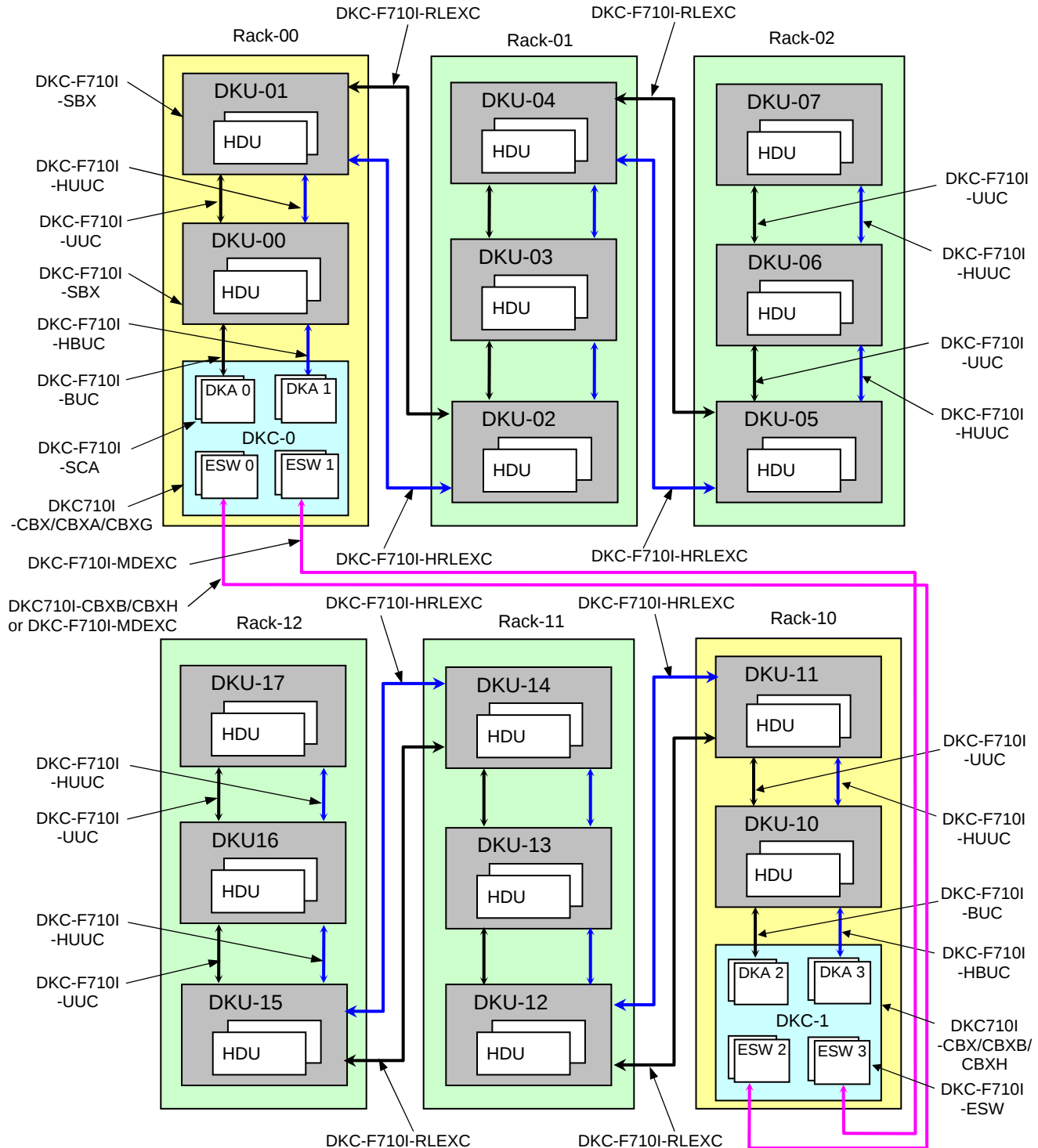


Fig. 1.1.2.3.4-1 System Configurations and Required I/F Cable Options

The required options are shown below.

Table 1.1.2.3.4-1 Requisite Options for Standard Model
(When the Controller Chassis is DKC710I-CBX)

No.	DKC710I -CBX	Number of Required Options								Max. HDD	
		DKC-F710I-								2.5-inch HDD*1	3.5-inch HDD*1
1	1	1	1	—	1	1	—	—	—	128	—
2	1	1	2	—	1	1	1	—	—	256	—
3	1	2	3	—	1	1	1	1	—	384	—
4	1	2	4	—	1	1	2	1	—	512	—
5	1	2	5	—	1	1	3	1	—	640	—
6	1	3	6	—	1	1	3	2	—	768	—
7	1	3	7	—	1	1	4	2	—	896	—
8	1	3	8	—	1	1	5	2	—	1,024	—
9	2	4	9	—	2	2	5	2	1	1,152	—
10	2	4	10	—	2	2	6	2	1	1,280	—
11	2	5	11	—	2	2	6	3	1	1,408	—
12	2	5	12	—	2	2	7	3	1	1,536	—
13	2	5	13	—	2	2	8	3	1	1,664	—
14	2	6	14	—	2	2	8	4	1	1,792	—
15	2	6	15	—	2	2	9	4	1	1,920	—
16	2	6	16	—	2	2	10	4	1	2,048	—
17	1	1	—	1	1	1	—	—	—	—	80
18	1	1	—	2	1	1	1	—	—	—	160
19	1	2	—	3	1	1	1	1	—	—	240
20	1	2	—	4	1	1	2	1	—	—	320
21	1	2	—	5	1	1	3	1	—	—	400
22	1	3	—	6	1	1	3	2	—	—	480
23	1	3	—	7	1	1	4	2	—	—	560
24	1	3	—	8	1	1	5	2	—	—	640
25	2	4	—	9	2	2	5	2	1	—	720
26	2	4	—	10	2	2	6	2	1	—	800
27	2	5	—	11	2	2	6	3	1	—	880
28	2	5	—	12	2	2	7	3	1	—	960
29	2	5	—	13	2	2	8	3	1	—	1,040
30	2	6	—	14	2	2	8	4	1	—	1,120
31	2	6	—	15	2	2	9	4	1	—	1,200
32	2	6	—	16	2	2	10	4	1	—	1,280

*1: The maximum number of installable HDDs includes the spare disk(s).

Table 1.1.2.3.4-2 Requisite Options for Standard Model
(When the Controller Chassis is DKC710I-CBXA/CBXG/CBXB/
CBXH)

No.	Number of Required Options									Max. HDD	
	DKC710I-		DKC-F710I-							2.5-inch HDD*1	3.5-inch HDD*1
	CBXA/ CBXG	CBXB/ CBXH	RK42	SBX	UBX	SCA	BUC	UUC	RLEXC		
1	1	—	1	1	—	1	1	—	—	128	—
2	1	—	1	2	—	1	1	1	—	256	—
3	1	—	2	3	—	1	1	1	1	384	—
4	1	—	2	4	—	1	1	2	1	512	—
5	1	—	2	5	—	1	1	3	1	640	—
6	1	—	3	6	—	1	1	3	2	768	—
7	1	—	3	7	—	1	1	4	2	896	—
8	1	—	3	8	—	1	1	5	2	1,024	—
9	1	1	4	9	—	2	2	5	2	1,152	—
10	1	1	4	10	—	2	2	6	2	1,280	—
11	1	1	5	11	—	2	2	6	3	1,408	—
12	1	1	5	12	—	2	2	7	3	1,536	—
13	1	1	5	13	—	2	2	8	3	1,664	—
14	1	1	6	14	—	2	2	8	4	1,792	—
15	1	1	6	15	—	2	2	9	4	1,920	—
16	1	1	6	16	—	2	2	10	4	2,048	—
17	1	—	1	—	1	1	1	—	—	—	80
18	1	—	1	—	2	1	1	1	—	—	160
19	1	—	2	—	3	1	1	1	1	—	240
20	1	—	2	—	4	1	1	2	1	—	320
21	1	—	2	—	5	1	1	3	1	—	400
22	1	—	3	—	6	1	1	3	2	—	480
23	1	—	3	—	7	1	1	4	2	—	560
24	1	—	3	—	8	1	1	5	2	—	640
25	1	1	4	—	9	2	2	5	2	—	720
26	1	1	4	—	10	2	2	6	2	—	800
27	1	1	5	—	11	2	2	6	3	—	880
28	1	1	5	—	12	2	2	7	3	—	960
29	1	1	5	—	13	2	2	8	3	—	1,040
30	1	1	6	—	14	2	2	8	4	—	1,120
31	1	1	6	—	15	2	2	9	4	—	1,200
32	1	1	6	—	16	2	2	10	4	—	1,280

*1: The maximum number of installable HDDs includes the spare disk(s).

**Table 1.1.2.3.4-3 Requisite Options for High Performance Model
(When the Controller Chassis is DKC710I-CBX)**

No.	Number of Required Options												Max. HDD	
	DKC710I-CBX	DKC-F710I-											2.5-inch HDD*1	3.5-inch HDD*1
		RK42	SBX	UBX	SCA	BUC	HBUC	UUC	HUUC	RLEXC	HRLEXC	MDEXC		
1	1	1	1	—	2	1	1	—	—	—	—	—	128	—
2	1	1	2	—	2	1	1	1	1	—	—	—	256	—
3	1	2	3	—	2	1	1	1	1	1	1	—	384	—
4	1	2	4	—	2	1	1	2	2	1	1	—	512	—
5	1	2	5	—	2	1	1	3	3	1	1	—	640	—
6	1	3	6	—	2	1	1	3	3	2	2	—	768	—
7	1	3	7	—	2	1	1	4	4	2	2	—	896	—
8	1	3	8	—	2	1	1	5	5	2	2	—	1,024	—
9	2	4	9	—	4	2	2	5	5	2	2	2	1,152	—
10	2	4	10	—	4	2	2	6	6	2	2	2	1,280	—
11	2	5	11	—	4	2	2	6	6	3	3	2	1,408	—
12	2	5	12	—	4	2	2	7	7	3	3	2	1,536	—
13	2	5	13	—	4	2	2	8	8	3	3	2	1,664	—
14	2	6	14	—	4	2	2	8	8	4	4	2	1,792	—
15	2	6	15	—	4	2	2	9	9	4	4	2	1,920	—
16	2	6	16	—	4	2	2	10	10	4	4	2	2,048	—
17	1	1	—	1	2	1	1	—	—	—	—	—	—	80
18	1	1	—	2	2	1	1	1	1	—	—	—	—	160
19	1	2	—	3	2	1	1	1	1	1	1	—	—	240
20	1	2	—	4	2	1	1	2	2	1	1	—	—	320
21	1	2	—	5	2	1	1	3	3	1	1	—	—	400
22	1	3	—	6	2	1	1	3	3	2	2	—	—	480
23	1	3	—	7	2	1	1	4	4	2	2	—	—	560
24	1	3	—	8	2	1	1	5	5	2	2	—	—	640
25	2	4	—	9	4	2	2	5	5	2	2	2	—	720
26	2	4	—	10	4	2	2	6	6	2	2	2	—	800
27	2	5	—	11	4	2	2	6	6	3	3	2	—	880
28	2	5	—	12	4	2	2	7	7	3	3	2	—	960
29	2	5	—	13	4	2	2	8	8	3	3	2	—	1,040
30	2	6	—	14	4	2	2	8	8	4	4	2	—	1,120
31	2	6	—	15	4	2	2	9	9	4	4	2	—	1,200
32	2	6	—	16	4	2	2	10	10	4	4	2	—	1,280

*1: The maximum number of installable HDDs includes the spare disk(s).

Table 1.1.2.3.4-4 Requisite Options for High Performance Model
(When the Controller Chassis is DKC710I-CBXA/CBXG/CBXB/CBXH)

No.	Number of Required Options													Max. HDD	
	DKC710I-		DKC-F710I-											2.5-inch HDD*1	3.5-inch HDD*1
	CBXA/CBXG	CBXB/CBXH	RK42	SBX	UBX	SCA	BUC	HBUC	UUC	HUUC	RLEXC	HRLEXC	MDEXC		
1	1	—	1	1	—	2	1	1	—	—	—	—	—	128	—
2	1	—	1	2	—	2	1	1	1	1	—	—	—	256	—
3	1	—	2	3	—	2	1	1	1	1	1	1	—	384	—
4	1	—	2	4	—	2	1	1	2	2	1	1	—	512	—
5	1	—	2	5	—	2	1	1	3	3	1	1	—	640	—
6	1	—	3	6	—	2	1	1	3	3	2	2	—	768	—
7	1	—	3	7	—	2	1	1	4	4	2	2	—	896	—
8	1	—	3	8	—	2	1	1	5	5	2	2	—	1,024	—
9	1	1	4	9	—	4	2	2	5	5	2	2	2	1,152	—
10	1	1	4	10	—	4	2	2	6	6	2	2	2	1,280	—
11	1	1	5	11	—	4	2	2	6	6	3	3	2	1,408	—
12	1	1	5	12	—	4	2	2	7	7	3	3	2	1,536	—
13	1	1	5	13	—	4	2	2	8	8	3	3	2	1,664	—
14	1	1	6	14	—	4	2	2	8	8	4	4	2	1,792	—
15	1	1	6	15	—	4	2	2	9	9	4	4	2	1,920	—
16	1	1	6	16	—	4	2	2	10	10	4	4	2	2,048	—
17	1	—	1	—	1	2	1	1	—	—	—	—	—	—	80
18	1	—	1	—	2	2	1	1	1	1	—	—	—	—	160
19	1	—	2	—	3	2	1	1	1	1	1	1	—	—	240
20	1	—	2	—	4	2	1	1	2	2	1	1	—	—	320
21	1	—	2	—	5	2	1	1	3	3	1	1	—	—	400
22	1	—	3	—	6	2	1	1	3	3	2	2	—	—	480
23	1	—	3	—	7	2	1	1	4	4	2	2	—	—	560
24	1	—	3	—	8	2	1	1	5	5	2	2	—	—	640
25	1	1	4	—	9	4	2	2	5	5	2	2	2	—	720
26	1	1	4	—	10	4	2	2	6	6	2	2	2	—	800
27	1	1	5	—	11	4	2	2	6	6	3	3	2	—	880
28	1	1	5	—	12	4	2	2	7	7	3	3	2	—	960
29	1	1	5	—	13	4	2	2	8	8	3	3	2	—	1,040
30	1	1	6	—	14	4	2	2	8	8	4	4	2	—	1,120
31	1	1	6	—	15	4	2	2	9	9	4	4	2	—	1,200
32	1	1	6	—	16	4	2	2	10	10	4	4	2	—	1,280

*1: The maximum number of installable HDDs includes the spare disk(s).

When DKC-F710I-SBX (SFF drive chassis) and DKC-F710I-UBX (LFF drive chassis) is installed in the same rack, DKC-F710I-USC/HUSC must be used to connect each chassis.

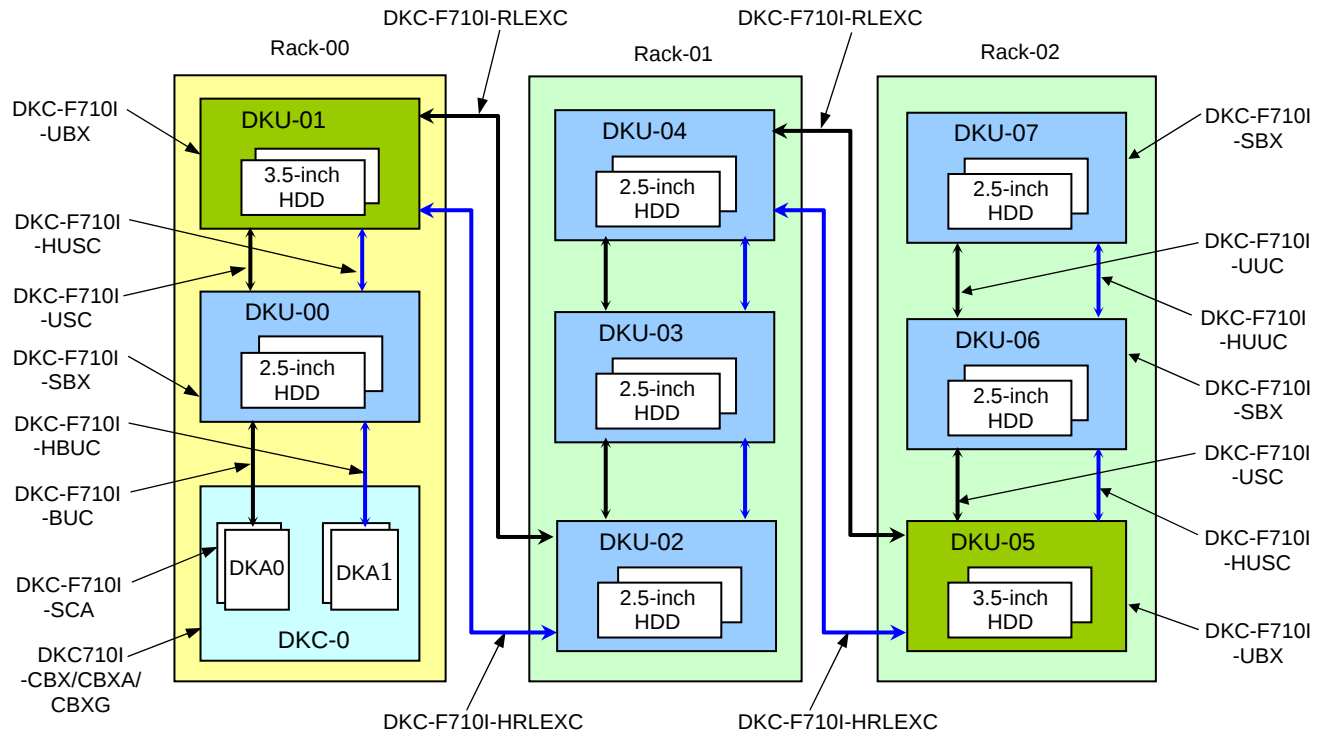
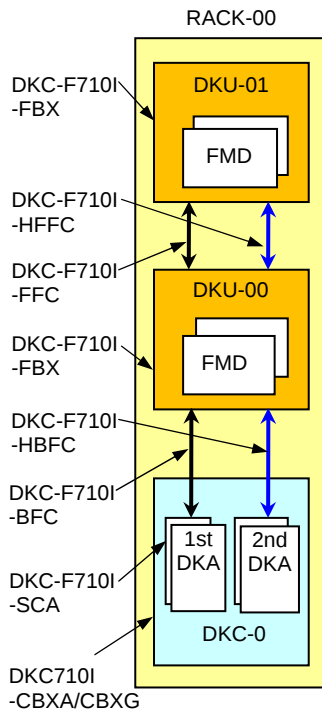


Fig. 1.1.2.3.4-2 Intermixed Configurations of DKC-F710I-SBX and DKC-F710I-UBX

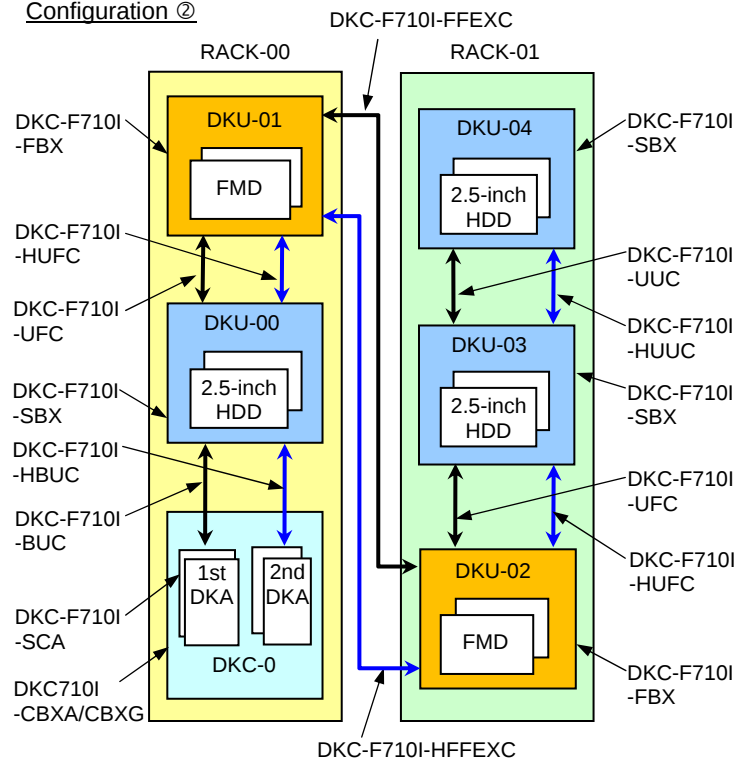
Intermixed configurations of DKC-F710I-SBX, DKC-F710I-UBX, and DKC-F710I-FBX (Flash Module Drive Chassis) in the storage system are shown below.

A maximum of two DKC-F710I-FBX can be controlled by a single DKC.

Configuration ①



Configuration ②



Configuration ③

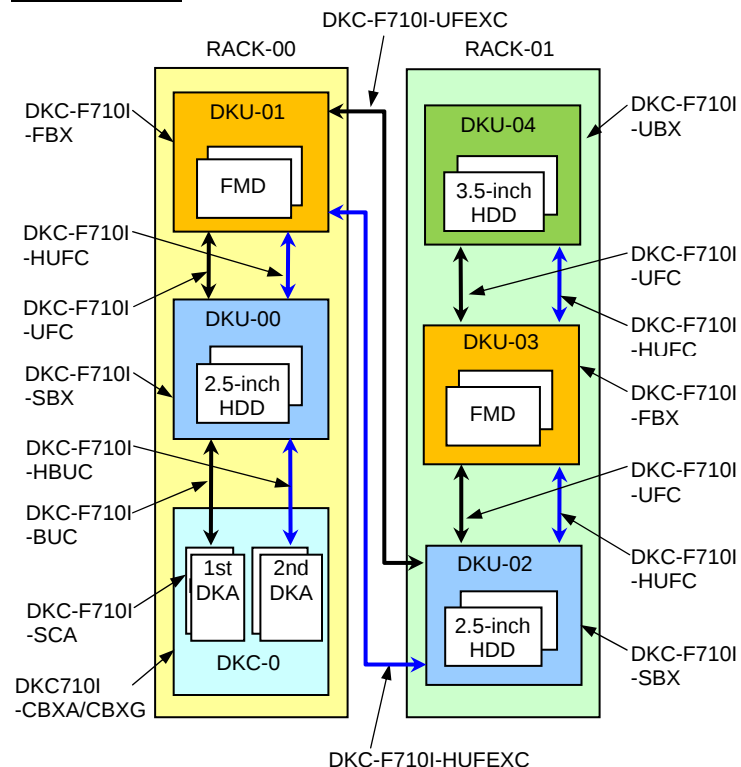


Fig. 1.1.2.3.4-2A Intermixed Configurations of DKC-F710I-SBX, UBX and FBX

(2) In case of the diskless configuration

In case of the diskless configuration, two controller chassis cannot be installed in the same rack.

The two controller chassis must be installed in separate racks.

The clearance of the 1U is required under the control chassis.

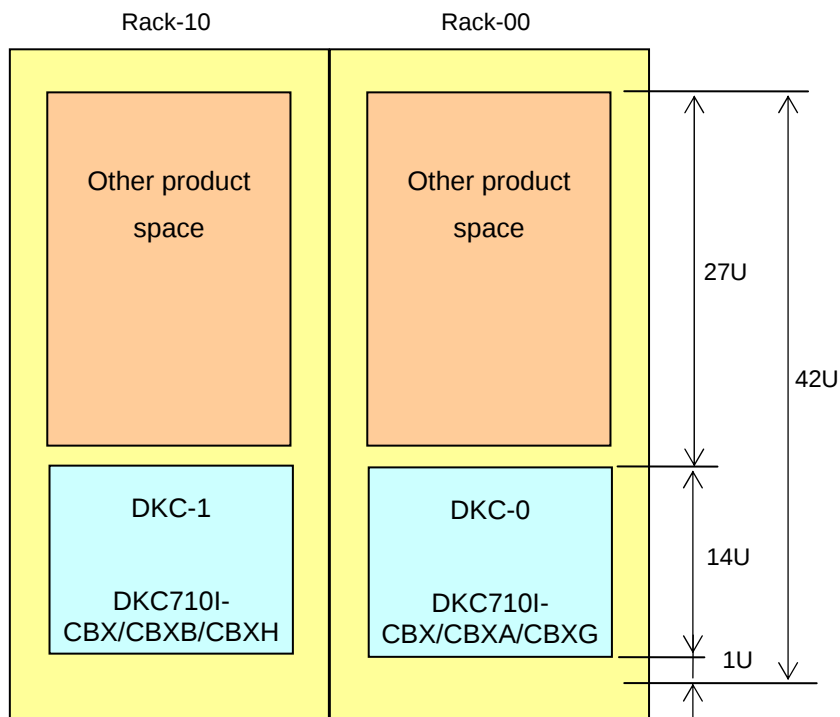


Fig. 1.1.2.3.4-3 Diskless System Configurations

1.1.2.3.5 RAID Group Installation Order

(1) Order of HDD installation in SFF Drive Chassis

The HDDs are installed from the location of 00 to 0F in turn per HDU.

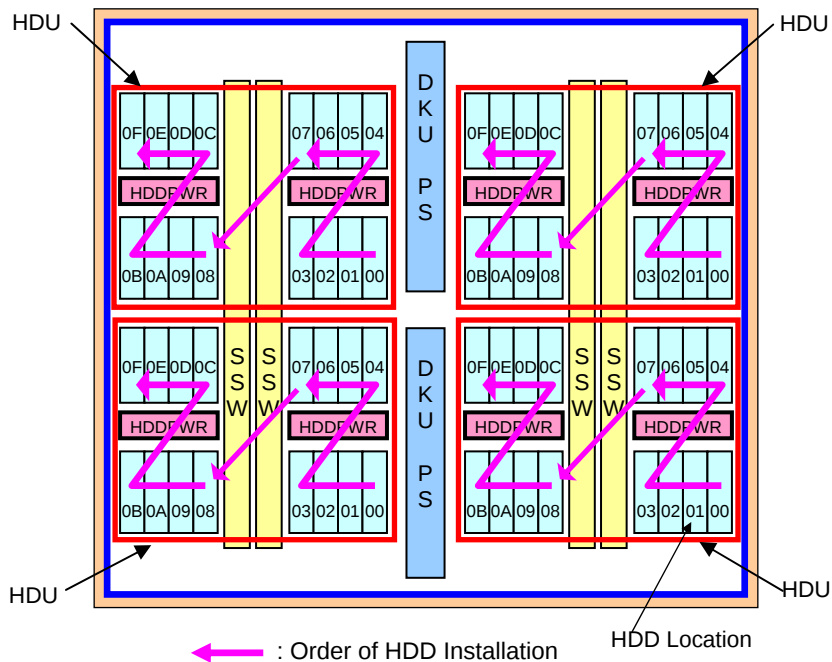


Fig. 1.1.2.3.5-1 HDD Installation Order to the SFF Drive Chassis

(2) Order of HDD installation in LFF Drive Chassis

The HDDs are installed from the location of 00 to 09 in turn per HDU.

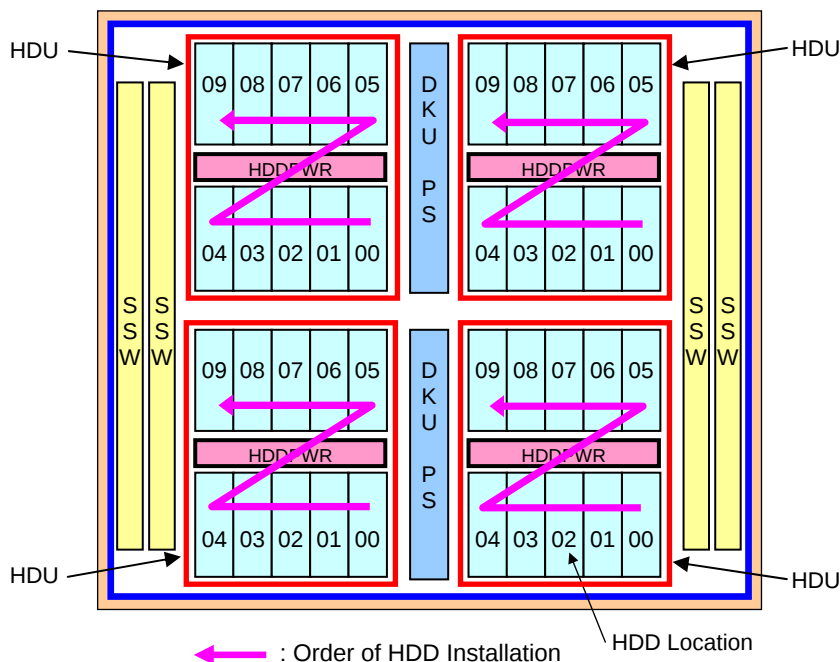


Fig. 1.1.2.3.5-2 HDD Installation Order to the LFF Drive Chassis

1.1.2.4 Notes for Installing Flash Drives

The flash-drive that can be controlled with the single DKC model is 128 drives or less. (exclusive of the spare drive)

However, the flash-drive that can be controlled with one port of the disk adapter (DKA) is 32 drives or less.

The flash-drive that can be controlled with the twin DKC model is 256 drives or less. (exclusive of the spare drive)

However, the flash-drive that can be controlled with one port of the DKA is 32 drives or less.

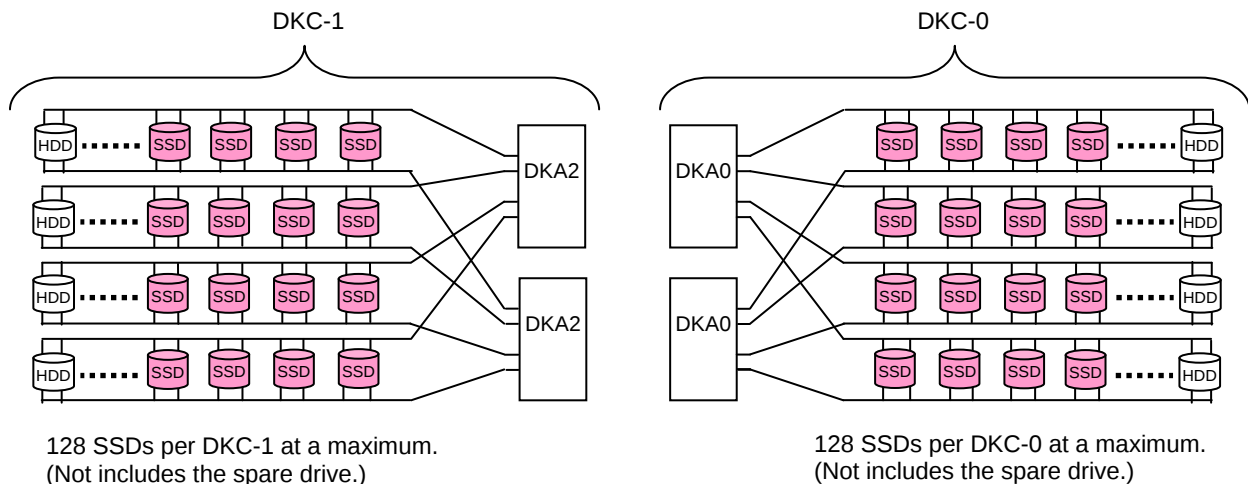


Fig. 1.1.2.4-1 Flash Drive Install Specifications

1.1.2.5 Notes for Installing Flash Module Drive Chassis

Up to two DKC-F710I-FBX (Flash Module Drive Chassis) can be connected to the DKC-0. Similarly, up to two DKC-F710I-FBX (Flash Module Drive Chassis) can be connected to the DKC-1.

Table 1.1.2.5-1 Maximum Number of Installable DKC-F710I-FBX and FMD

DKC type	Maximum number of connectable DKC-F710I-FBX	Maximum number of installable FMD (including spare drives)
DKC-0 (CBXA/CBXG)	2	96
DKC-1 (CBXB/CBXH)	2	96

1.1.2.6 RoHS2 support

(1) Non-RoHS2 compliant parts of DKC710I products

The table below lists non-RoHS2 compliant parts. Other model numbers are already RoHS2 compliant.

Table 1.1.2.6-1 List of non-RoHS2 compliant parts

Description	Model Number	Part Number (FRU)
DIMM (4G DIMM)	DKC-F710I-C16G	5541842-A
DIMM (8G DIMM)	DKC-F710I-C32G	5541843-A
MP-DIMM (2G SDRAM)	DKC710I-CBXA	N/A
	DKC710I-CBXB	N/A
	DKC-F710I-MP	5541853-A
	(MP-DIMM)	5541854-A
8G CHA (8Ports)	DKC-F710I-8UFC	5541859-A
8G CHA (16Ports)	DKC-F710I-16UFC	5541860-A
8G CHA (16Ports)	DKC-F710I-16MUS	5541863-A
Shortwave SFP (8G)	DKC-F710I-1US	5541873-A

(2) RoHS2 support method

RoHS2 compliant parts are newly defined with new model numbers and part numbers for existing non-RoHS2 compliant parts.

The table below shows the comparison list of non-RoHS2 compliant parts and RoHS2 compliant parts.

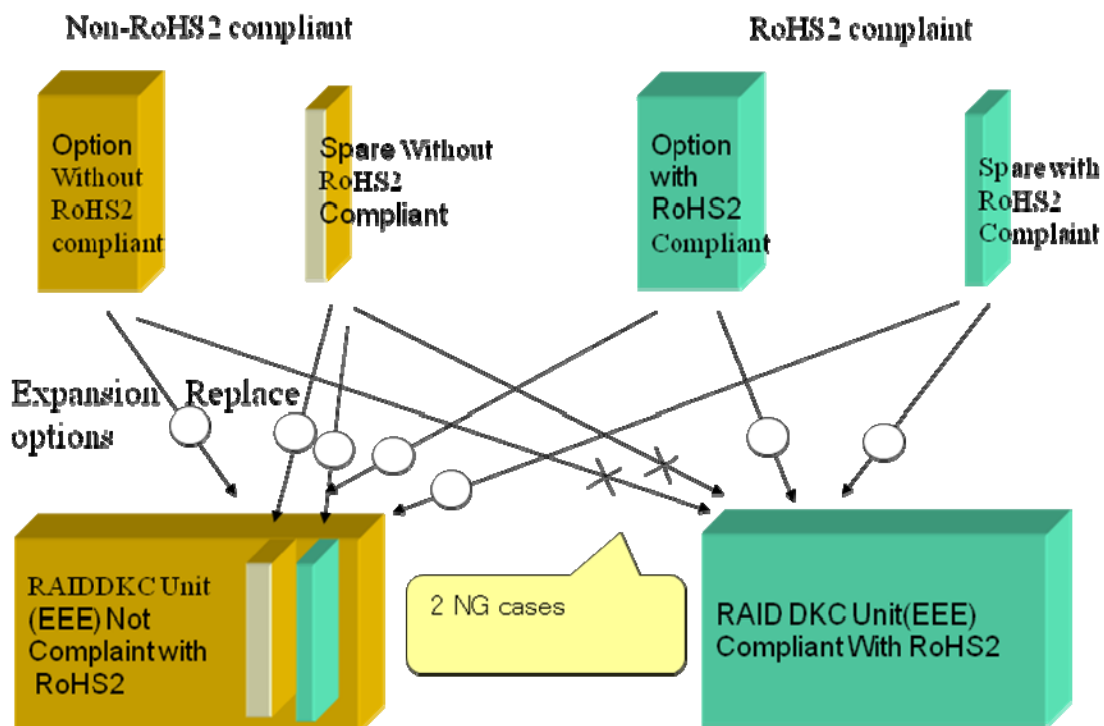
Table 1.1.2.6-2 Comparison list of non-RoHS2 and RoHS2 compliant parts

Description	Non-RoHS2 compliant parts (*1)		New RoHS2 compliant Parts	
	Model Number	Part Number (FRU)	Model Number	Part Number (FRU)
DIMM (4G DIMM)	DKC-F710I-C16G	5541842-A	DKC-F710I-C16GR	5541842-B
DIMM (8G DIMM)	DKC-F710I-C32G	5541843-A	DKC-F710I-C32GR	5541843-B
MP-DIMM (2G SDRAM)	DKC710I-CBXA	N/A	DKC710I-CBXG	N/A
	DKC710I-CBXB	N/A	DKC710I-CBXH	N/A
	DKC-F710I-MP	5541853-A	DKC-F710I-MPR	5541853-B
	(MP-DIMM)	5541854-A	(MP-DIMM)	5541854-B
8G CHA (8Ports)	DKC-F710I-8UFC	5541859-A	DKC-F710I-8UFCR	5541859-B
8G CHA (16Ports)	DKC-F710I-16UFC	5541860-A	DKC-F710I-16UFCR	5541860-B
8G CHA (16Ports)	DKC-F710I-16MUS	5541863-A	DKC-F710I-16MUSR	5541863-B
Shortwave SFP (8G)	DKC-F710I-1US	5541873-A	DKC-F710I-1USR	5541873-B

*1: Listed parts are the same as those on Table 1.1.2.5-1.

(3) RoHS2 support operation rule

The following diagram is the image of RoHS and RoHS2 operation. Refer to (3-1), (3-2) and (3-3) for detail operation. (○ Allowed; × Not Allowed)



(3-1) New System Installation Rule

Table 1.1.2.6-3 Rule of Option Installation on DKC Type

DKC type	RoHS2 Compliant Type Options	Non-RoHS2 Compliant Type Options
CBXA	Allowed	Allowed
CBXB	Allowed	Allowed
CBXG	Allowed	Not Allowed
CBXH	Allowed	Not Allowed

Table 1.1.2.6-4 Rule of CBX's Mixed Installation and RoHS2 System Judgment

1st DKC type	2nd DKC type	RoHS2 Judgment by System Level
CBXA	CBXB	Allowed, As Non-RoHS2 Support
	CBXH	Allowed, As Non-RoHS2 Support
CBXG	CBXB	Not Allowed
	CBXH	Allowed, As RoHS2 Support

(3-2) Upgrade Rule

Table 1.1.2.6-5 Upgrade Rule of DKC Type

DKC type	RoHS2 Compliant Type Options	Non-RoHS2 Compliant Type Options
CBXA	Allowed	Allowed
CBXB	Allowed	Allowed
CBXG	Allowed	Not Allowed
CBXH	Allowed	Not Allowed

(3-3) Maintenance Rule

Table 1.1.2.6-6 Maintenance Rule of DKC Type

DKC type	Failure parts	Replaced by RoHS2 Compliant Parts	Replaced by Non-RoHS2 Compliant Parts
CBXA	Non-RoHS2 parts	Allowed	Allowed
	RoHS2 parts	Allowed	Allowed
CBXB	Non-RoHS2 parts	Allowed	Allowed
	RoHS2 parts	Allowed	Allowed
CBXG	Non-RoHS2 parts	Not applicable	Not applicable
	RoHS2 parts	Allowed	Not Allowed
CBXH	Non-RoHS2 parts	Not applicable	Not applicable
	RoHS2 parts	Allowed	Not Allowed

INST01-230**1.1.3 Specifications****(1) Physical Specifications**

The DKC710I physical specifications are shown in the following table.

Table 1.1.3-1 DKC710I Physical Specifications

No.	Model Number	Weight (kg)	Heat Output (kW)	Power Consumption (kVA)	Dimension (mm)			Air Flow (m ³ /min.)
					Width	Depth	Height	
1	DKC710I-CBX	110.0	0.475 *1	0.500 *1	446	810	622	7.0
2	DKC710I-CBXA/CBXG	133.8	0.855 *1	0.901 *1	446	810	622	7.0
3	DKC710I-CBXB/CBXH	133.3	0.813 *1	0.856 *1	446	810	622	7.0
4	DKC-F710I-SBX	110.0	0.570 *1	0.600 *1	447	852	570	9.0
5	DKC-F710I-SBXP	81.4	—	—	447	852	570	—
6	DKC-F710I-SSWP	11.6	—	—	—	—	—	—
7	DKC-F710I-HPWP	2.6	—	—	—	—	—	—
8	DKC-F710I-UBX	90.0	0.570 *1	0.600 *1	447	852	570	9.0
9	DKC-F710I-FBX	89.0	0.600 *1	0.640 *1	483	720	355	6.2
10	DKC-F710I-RK42	110.0	—	—	600	1070	2006	—
11	DKC-F710I-SCOV	33.6	—	—	—	—	—	—
12	DKC-F710I-DECO	11.1	—	—	—	—	—	—
13	DKC-F710I-KYP	5.8	—	—	—	—	—	—
14	DKC-F710I-KYPN	5.8	—	—	—	—	—	—
15	DKC-F710I-PBR1	6.7	—	—	—	—	—	—
16	DKC-F710I-PBR3P	5.4	—	—	—	—	—	—
17	DKC-F710I-PBR1P	1.0	—	—	—	—	—	—
18	DKC-F710I-FIHT	0.2	—	—	—	—	—	—
19	DKC-F710I-BCH	4.2	—	—	—	—	—	—
20	DKC-F710I-BUH	3.6	—	—	—	—	—	—
21	DKC-F710I-BFH	0.6	—	—	—	—	—	—
22	DKC-F710I-APC	7.2	—	—	—	—	—	—
23	DKC-F710I-SVP	4.2	0.052	0.055	—	—	—	—
24	DKC-F710I-HUB	2.8	0.010	0.010	—	—	—	—
25	DKC-F710I-PLUC	2.1	—	—	—	—	—	—
26	DKC-F710I-PHUC	1.9	—	—	—	—	—	—
27	DKC-F710I-PLEC	1.7	—	—	—	—	—	—
28	DKC-F710I-PHEC	1.4	—	—	—	—	—	—
29	DKC-F710I-PLCC	1.6	—	—	—	—	—	—
30	DKC-F710I-PHCC	1.3	—	—	—	—	—	—
31	DKC-F710I-PFUC	4.4	—	—	—	—	—	—
32	DKC-F710I-PFEC	2.7	—	—	—	—	—	—
33	DKC-F710I-PFCC	2.6	—	—	—	—	—	—

(To be continued)

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(Continued from the preceding page)

No.	Model Number	Weight (kg)	Heat Output (kW)	Power Consumption (kVA)	Dimension (mm)			Air Flow (m ³ /min.)
					Width	Depth	Height	
34	DKC-F710I-PDU30P	14.4	—	—	—	—	—	—
35	DKC-F710I-PDU30F	6.7	—	—	—	—	—	—
36	DKC-F710I-PLJCP	2.2	—	—	—	—	—	—
37	DKC-F710I-PHJCP	1.9	—	—	—	—	—	—
38	DKC-F710I-MDEXC	0.9	—	—	—	—	—	—
39	DKC-F710I-BUC	2.3	—	—	—	—	—	—
40	DKC-F710I-HBUC	2.3	—	—	—	—	—	—
41	DKC-F710I-UUC	1.1	—	—	—	—	—	—
42	DKC-F710I-HUUC	1.1	—	—	—	—	—	—
43	DKC-F710I-RLEXC	3.5	—	—	—	—	—	—
44	DKC-F710I-HRLEXC	3.5	—	—	—	—	—	—
45	DKC-F710I-USC	1.2	—	—	—	—	—	—
46	DKC-F710I-HUSC	1.2	—	—	—	—	—	—
47	DKC-F710I-BFC	1.7	—	—	—	—	—	—
48	DKC-F710I-HBFC	1.6	—	—	—	—	—	—
49	DKC-F710I-UFC	5.0	—	—	—	—	—	—
50	DKC-F710I-HUFC	1.8	—	—	—	—	—	—
51	DKC-F710I-UFEXC	2.9	—	—	—	—	—	—
52	DKC-F710I-HUFEXC	2.9	—	—	—	—	—	—
53	DKC-F710I-FFC	1.6	—	—	—	—	—	—
54	DKC-F710I-HFFC	1.5	—	—	—	—	—	—
55	DKC-F710I-FFEXC	2.6	—	—	—	—	—	—
56	DKC-F710I-HFFEXC	2.5	—	—	—	—	—	—
57	DKC-F710I-16MFS	2.7	0.118	0.124	—	—	—	—
58	DKC-F710I-16MFL	2.7	0.118	0.124	—	—	—	—
59	DKC-F710I-8UFC/8UFCR	2.4	0.072	0.076	—	—	—	—
60	DKC-F710I-16UFC/16UFCR	2.6	0.072	0.076	—	—	—	—
61	DKC-F710I-16MUS/16MUSR	2.7	0.118	0.124	—	—	—	—
62	DKC-F710I-16MUL	2.7	0.118	0.124	—	—	—	—
63	DKC-F710I-8FOE	2.3	0.072	0.076	—	—	—	—
64	DKC-F710I-1UL	0.02	—	—	—	—	—	—
65	DKC-F710I-1US/1USR	0.02	—	—	—	—	—	—
66	DKC-F710I-SCA	2.5	0.080	0.084	—	—	—	—

(To be continued)

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No.	Model Number	Weight (kg)	Heat Output (kW)	Power Consumption (kVA)	Dimension (mm)			Air Flow (m ³ /min.)
					Width	Depth	Height	
67	DKC-F710I-CPC	7.2	0.068	0.072	—	—	—	—
68	DKC-F710I-C16G/C16GR	0.08	0.019	0.020	—	—	—	—
69	DKC-F710I-C32G/C32GR	0.08	0.021	0.022	—	—	—	—
70	DKC-F710I-BM64	0.3	0.005 *2	0.005 *2	—	—	—	—
71	DKC-F710I-BM128	0.3	0.005 *2	0.005 *2	—	—	—	—
72	DKC-F710I-MP/MPR	8.4	0.190	0.200	—	—	—	—
73	DKC-F710I-ESW	3.0	0.070	0.074	—	—	—	—
74	DKC-F710I-146KCM	0.28	0.0080*3	0.0084*3	—	—	—	—
75	DKC-F710I-300JCM	0.30	0.0079*3	0.0083*3	—	—	—	—
76	DKC-F710I-300JCS	0.30	0.0079*3	0.0083*3	—	—	—	—
77	DKC-F710I-300KCM	0.28	0.0086*3	0.0090*3	—	—	—	—
78	DKC-F710I-500HCM	0.30	0.0070*3	0.0074*3	—	—	—	—
79	DKC-F710I-600JCM	0.29	0.0080*3	0.0085*3	—	—	—	—
80	DKC-F710I-600JCS	0.29	0.0080*3	0.0085*3	—	—	—	—
81	DKC-F710I-900JCM	0.29	0.0090*3	0.0095*3	—	—	—	—
82	DKC-F710I-1R0HCM	0.28	0.0082*3	0.0087*3	—	—	—	—
83	DKC-F710I-1R2JCM	0.29	0.0083*3	0.0087*3	—	—	—	—
84	DKC-F710I-2R0H2M	0.85	0.0132*3	0.0139*3	—	—	—	—
85	DKC-F710I-2R0H3M	0.85	0.0140*3	0.0147*3	—	—	—	—
86	DKC-F710I-3R0H3M	0.85	0.0140*3	0.0147*3	—	—	—	—
87	DKC-F710I-4R0H3M	0.85	0.0141*3	0.0148*3	—	—	—	—
88	DKC-F710I-200MCM	0.25	0.0067*3	0.0071*3	—	—	—	—
89	DKC-F710I-200SAM	0.25	0.0127*3	0.0134*3	—	—	—	—
90	DKC-F710I-200SCM	0.25	0.0127*3	0.0134*3	—	—	—	—
91	DKC-F710I-400MCM	0.25	0.0067*3	0.0071*3	—	—	—	—
92	DKC-F710I-400SCM	0.25	0.0023*3	0.0024*3	—	—	—	—
93	DKC-F710I-800MCM	0.15	0.0067*3	0.0071*3	—	—	—	—
94	DKC-F710I-400S1M	0.50	0.0124*3	0.0130*3	—	—	—	—
95	DKC-F710I-1R6FM	1.40	0.017*3	0.018*3	—	—	—	—
96	DKC-F710I-3R2FM	1.40	0.018*3	0.019*3	—	—	—	—

*1: Maximum values in case all the fans rotate at maximum.

*2: Power is consumed during the battery backup time only.

*3: Actual values at a typical I/O condition. (Random Read and Write, 50 IOPSs for HDD, 2500 IOPSs for SSD/FMD, Data Length: 8Kbytes)

These values may increase for future compatible drives.

Note: The maximum power of the drive that DKC710I assumed is as follows.

SFF-Drive: 0.013kW/0.014kVA, LFF-Drive: 0.020kW/0.021kVA,

FMD: 0.034kW/0.036kVA.

INST01-250**1.1.4 Environmental Specifications**

The environmental specifications are shown in the following table.

Item	Condition		
	Operating (*1)	Non-operation (*2)	Shipping & Storage (*3)
Temperature (°C)	16 to 32	-10 to 43	-25 to 60
Relative Humidity (%) (*4)	20 to 80	8 to 90	5 to 95
Max. Wet Bulb (°C)	26	27	29
Temperature Deviation (°C/hour)	10	10	20
Vibration (*5)	5 to 10Hz: 0.25mm 10 to 300Hz: 0.49m/s ²	5 to 10Hz: 2.5mm 10 to 70Hz: 4.9m/s ² 70 to 99Hz: 0.05mm 99 to 300Hz: 9.8m/s ²	Sine Vibration: 4.9m/s ² , 5min. At the resonant frequency with the highest displacement found between 3 to 100Hz (*6)
			Random Vibration: 0.147m ² /s ³ , 30min, 5 to 100Hz (*7)
Earthquake resistance (m/s ²)	up to 2.5 (*10)	—	—
Shock	—	78.4m/s ² , 15ms	Horizontal: Incline Impact 1.22m/s (*8)
			Vertical: Rotational Edge 0.15m (*9)
Altitude	-60 to 3,000m		—

- *1: Environmental specification for operating condition should be satisfied before the disk subsystem is powered on. Maximum temperature of 32°C should be strictly satisfied at air inlet portion.
Recommended temperature range is 21 to 24°C.
- *2: Non-operating condition includes both packing and unpacking conditions unless otherwise specified.
- *3: On shipping/storage condition, the product should be packed with factory packing.
- *4: No condensation in and around the drive should be observed under any conditions.
- *5: The above specifications of vibration are applied to all three axes.
- *6: See ASTM D999-01 The Methods for Vibration Testing of Shipping Containers.
- *7: See ASTM D4728-01 Test Method for Random Vibration Testing of Shipping Containers.
- *8: See ASTM D5277-92 Test Method for Performing Programmed Horizontal Impacts Using an Inclined Impact Tester.
- *9: See ASTM D6055-96 Test Methods for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates.
- *10: Time is 5 seconds or less in case of the testing with device resonance point (6 to 7Hz).

1.1.5 Power requirement

Specifications of the power facilities necessary to supply power to the storage system are shown below.

1. Input Voltage and Input Frequency Requirements

The input voltage and input frequency are as follows.

Table 1.1.5-1 Requirements for Input Voltage and Input Frequency

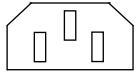
Frequency	Input Voltages (AC)	Conditions	Tolerance (%)
60Hz $\pm$ 2Hz	200V - 240V	1 Phase 2 Wire + Ground	+6% or -8%
50Hz $\pm$ 3Hz	200V - 240V	1 Phase 2 Wire + Ground	+6% or -8%

This unit does not apply to IT power system.

2. Circuit Breaker and Plug

Select a circuit breaker and a plug for the system configuration according to the specification of following table.

Table 1.1.5-2 Input Power Specifications

Item	Input Power	Input Current *1	Steady Current *2	Leakage Current	Inrush Current			Power Cord Plug Type
					1st (0-p)	2nd (0-p)	1st (0-p) Time (-25%)	
DKCPS	1-phase, AC200V to AC240V	7.18A	3.59A	0.28mA	20A	15A	80ms	IEC60320 C14 
DKUPS (UBX/SBX)		6.52A	3.26A					
DKUPS (FBX)		2.83A	1.42A	0.28mA	20A	10A	80ms	

*1: The maximum current in case AC input is not a redundant configuration (in case of 184V [200V -8%]).

*2: The maximum current in case AC input is a redundant configuration (in case of 184V [200V -8%]).

3. Choice of PDU

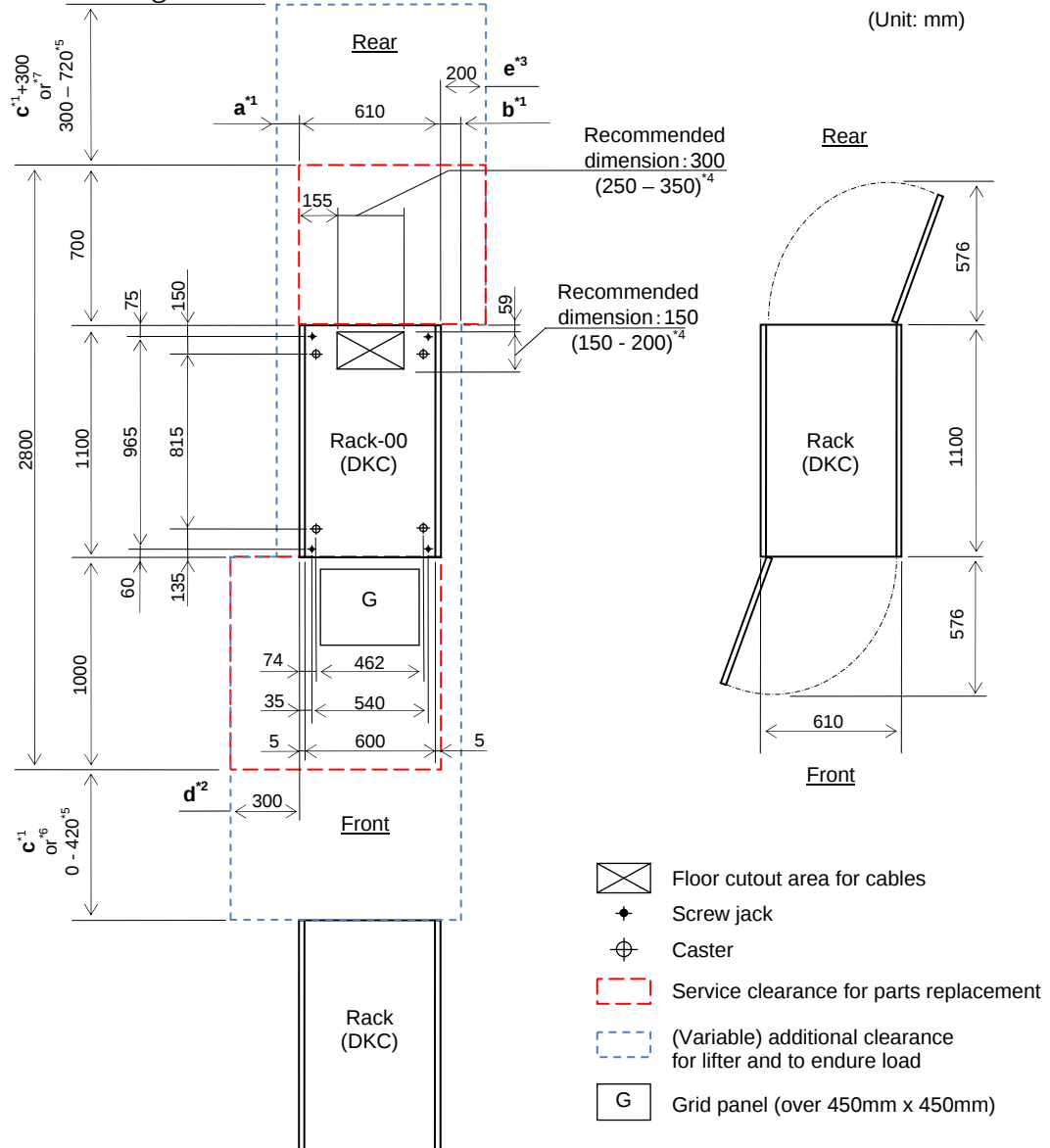
Use the PDU with the circuit breaker.

When using the PDU without a circuit breaker, the current specification of the PDU must be the same as the circuit breaker rating of PDP.

1.1.6 Service Clearance and Floor Cutout

Make sure that the service clearance and a space for the maintenance is secured.
Never utilize this space for the storage of any article.

(1) Single Rack Configuration



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-1.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: Clearance (e) is required over 200mm so as to open the rear door.

In case that clearance (e) is less than clearance (b), give priority to clearance (b).

*4: Dimensions in parentheses show allowable range of the floor cutout dimensions. Basically, position the floor cutout in the center of the rack. However, the position may be off-center as long as the cutout allows smooth entrance of an external cable (check the relation between the positions of the cutout and the opening on the bottom plate of the rack) and it is within the allowable range.

*5: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*6: Adopt larger value from C or 0-420.

*7: Adopt larger value from C+300 or 300-720.

Fig. 1.1.6-1 Service Clearance and Floor Cutouts for Single Rack Configuration

Table 1.1.6-1 Floor Load Rating and Required Clearances for Single Rack Configuration

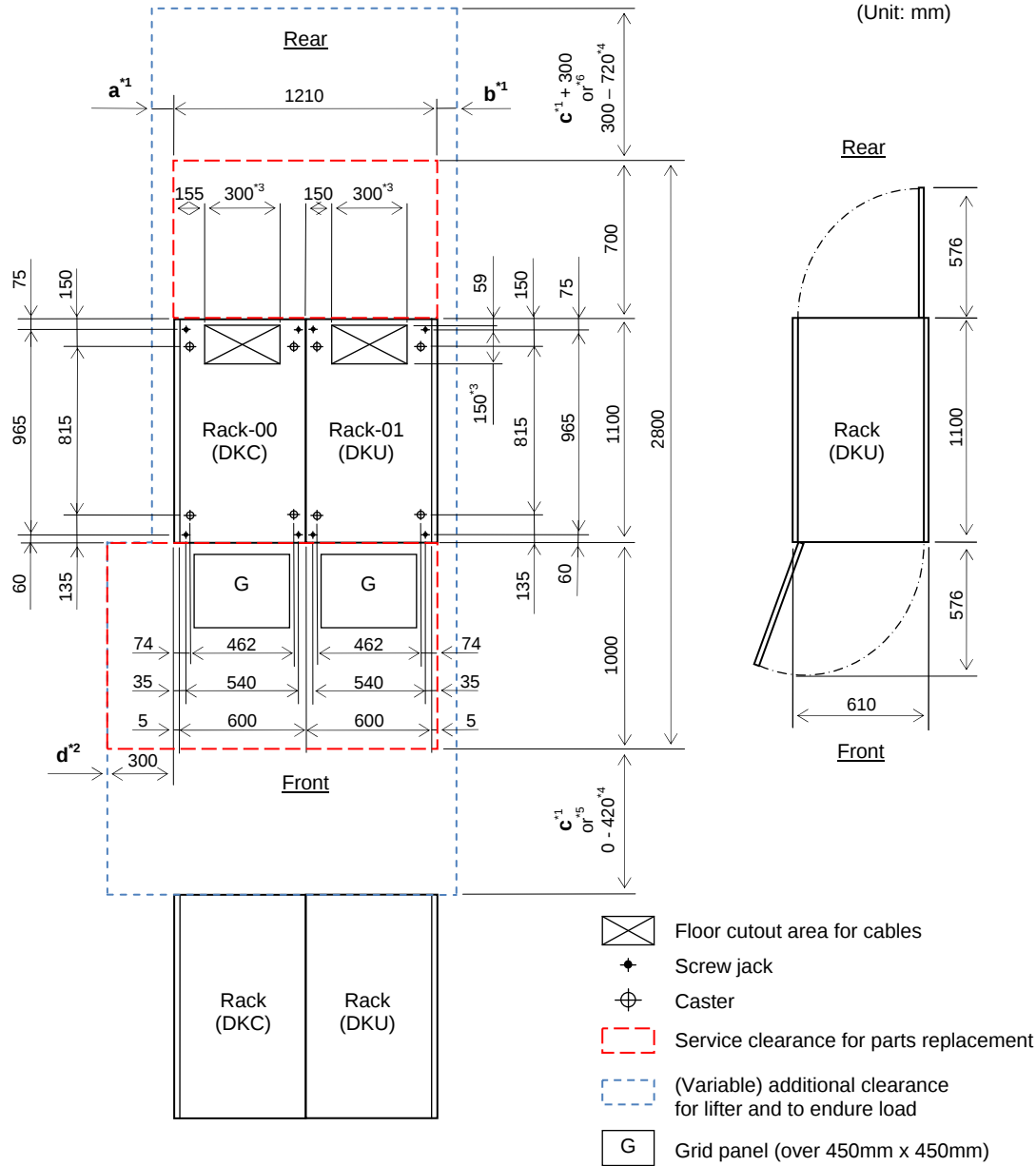
Floor Load Rating (kg/m ²)	Required Clearance (a+b) m							
	Clearance (c) m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.1	0	0	0	0	0	0	0
500	0.3	0.2	0.1	0.1	0	0	0	0
450	0.5	0.3	0.2	0.2	0.1	0.1	0	0
400	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0
350	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2
300	1.4	1.1	0.9	0.8	0.7	0.6	0.6	0.4

Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.

2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.

3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(2) Twin Rack Configuration (Single DKC Model)



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-2.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: See Fig. 1.1.6-1 about details of the single rack floor cutout.

*4: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*5: Adopt larger value from C or 0-420.

*6: Adopt larger value from C+300 or 300-720.

Fig. 1.1.6-2 Service Clearances and Floor Cutouts for Twin Racks Configuration-1

Table 1.1.6-2 Floor Load Rating and Required Clearances for Two Racks Configuration

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.2	0	0	0	0	0	0	0
500	0.6	0.3	0.2	0.1	0	0	0	0
450	0.8	0.5	0.4	0.3	0.2	0.1	0	0
400	1.2	0.9	0.7	0.5	0.4	0.3	0.2	0
350	1.7	1.3	1.1	0.9	0.8	0.6	0.5	0.3
300	2.6	2.0	1.8	1.5	1.3	1.2	1.0	0.8

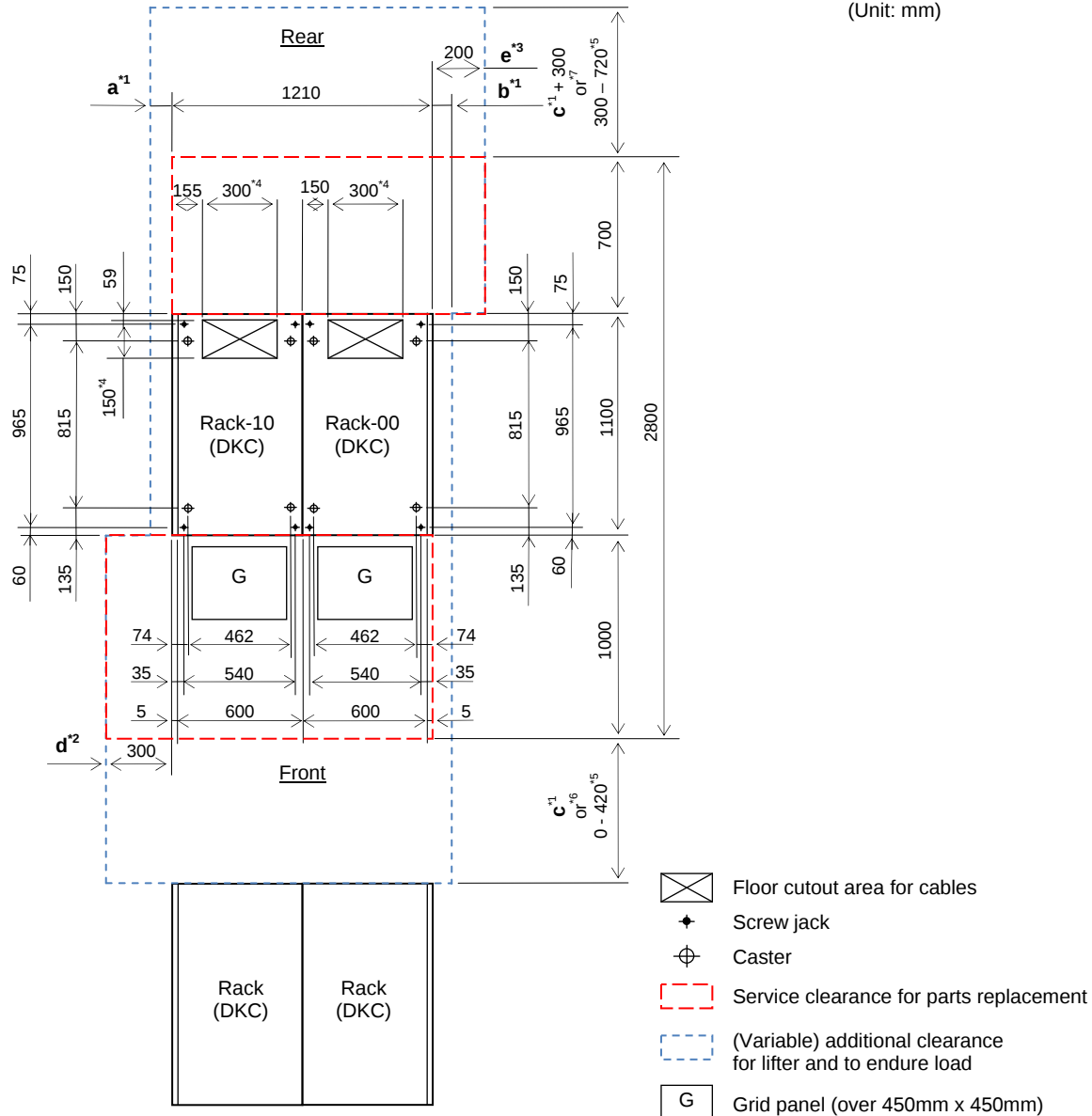
Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.

2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.

3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(3) Twin Rack Configuration (Twin DKC Model)

(Unit: mm)



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-3.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: Clearance (e) is required over 200mm so as to open the rear door.

In case that clearance (e) is less than clearance (b), give priority to clearance (b).

*4: See Fig. 1.1.6-1 about details of the single rack floor cutout.

*5: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*6: Adopt larger value from C or 0-420.

*7: Adopt larger value from C+300 or 300-720.

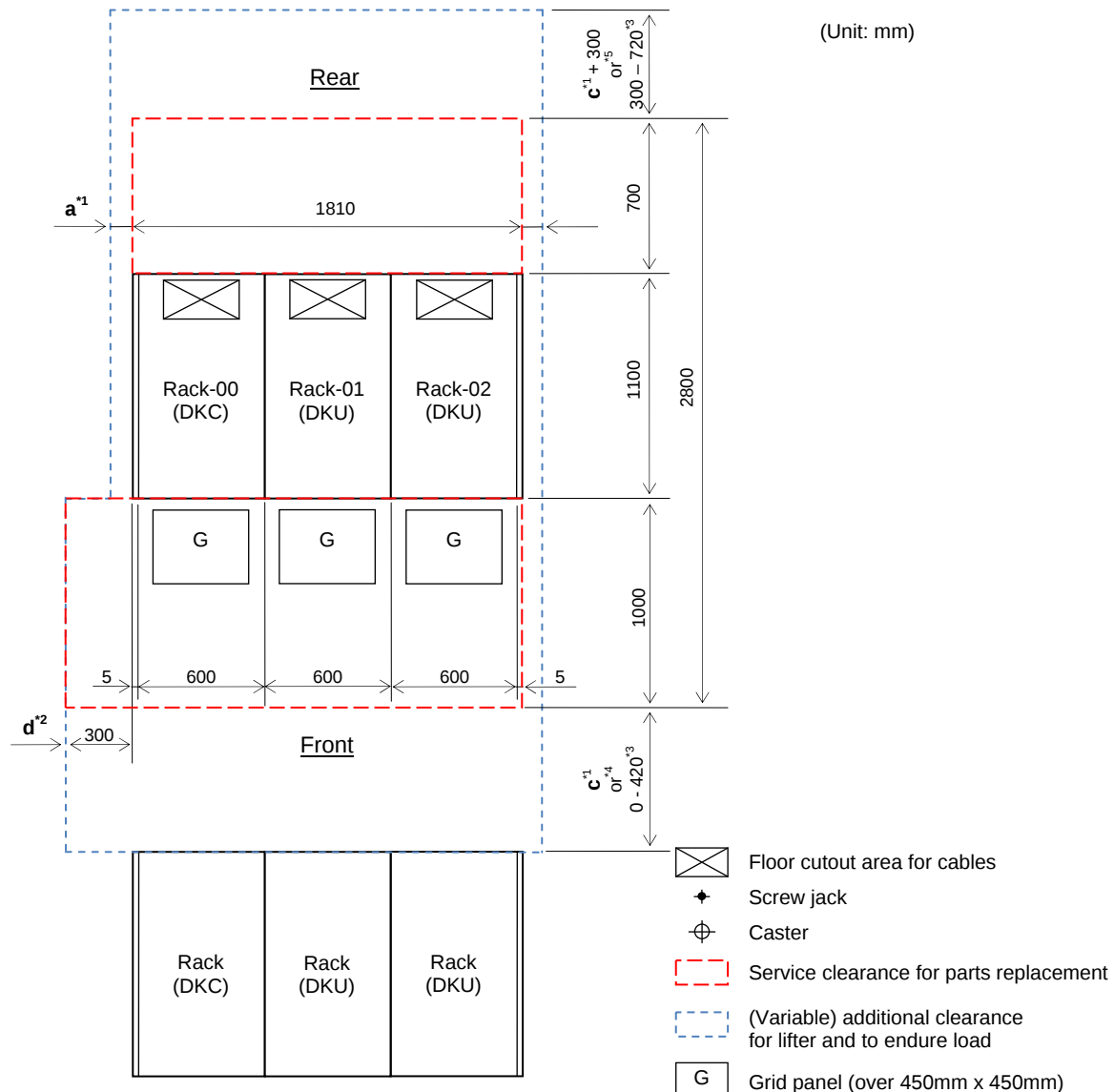
Fig. 1.1.6-3 Service Clearances and Floor Cutouts for Twin Racks Configuration-2

**Table 1.1.6-3 Floor Load Rating and Required Clearances for Twin Racks
Configuration-2**

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.2	0	0	0	0	0	0	0
500	0.6	0.4	0.2	0.1	0	0	0	0
450	0.9	0.6	0.5	0.3	0.2	0.1	0	0
400	1.3	0.9	0.8	0.6	0.5	0.4	0.3	0.1
350	1.9	1.4	1.2	1.0	0.9	0.7	0.6	0.4
300	2.7	2.2	1.9	1.6	1.4	1.3	1.1	0.8

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(4) Three Racks Configuration (Setting Up DKC-RACK in the Left Configuration)



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-4.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*4: Adopt larger value from C or 0-420.

*5: Adopt larger value from C+300 or 300-720.

Fig. 1.1.6-4 Service Clearance and Floor Cutouts for Three Racks Configuration-1

**Table 1.1.6-4 Floor Load Rating and Required Clearances for Three Racks
Configuration-1**

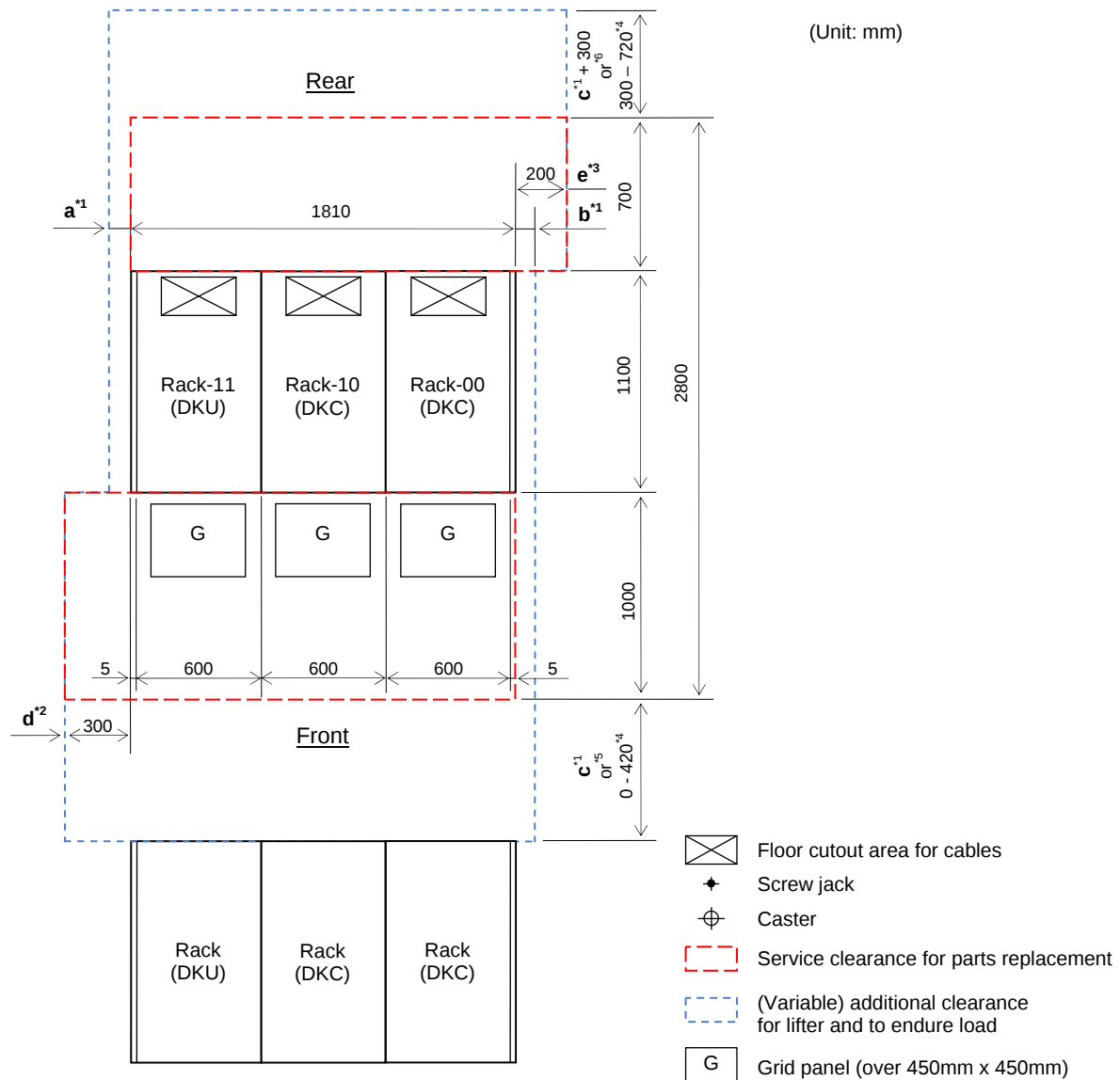
Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.2	0	0	0	0	0	0	0
500	0.8	0.4	0.2	0.1	0	0	0	0
450	1.2	0.8	0.6	0.4	0.2	0.1	0	0
400	1.7	1.2	1.0	0.8	0.6	0.4	0.3	0
350	2.5	1.9	1.6	1.3	1.1	0.9	0.7	0.5
300	3.8	3.0	2.6	2.2	1.9	1.7	1.5	1.1

Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.

2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.

3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(5) Three Racks Configuration (Setting Up DKC-RACK in the Right Configuration)



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-5.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: Clearance (e) is required over 200mm so as to open the rear door.

In case that clearance (e) is less than clearance (b), give priority to clearance (b).

*4: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*5: Adopt larger value from C or 0-420.

*6: Adopt larger value from C+300 or 300-720.

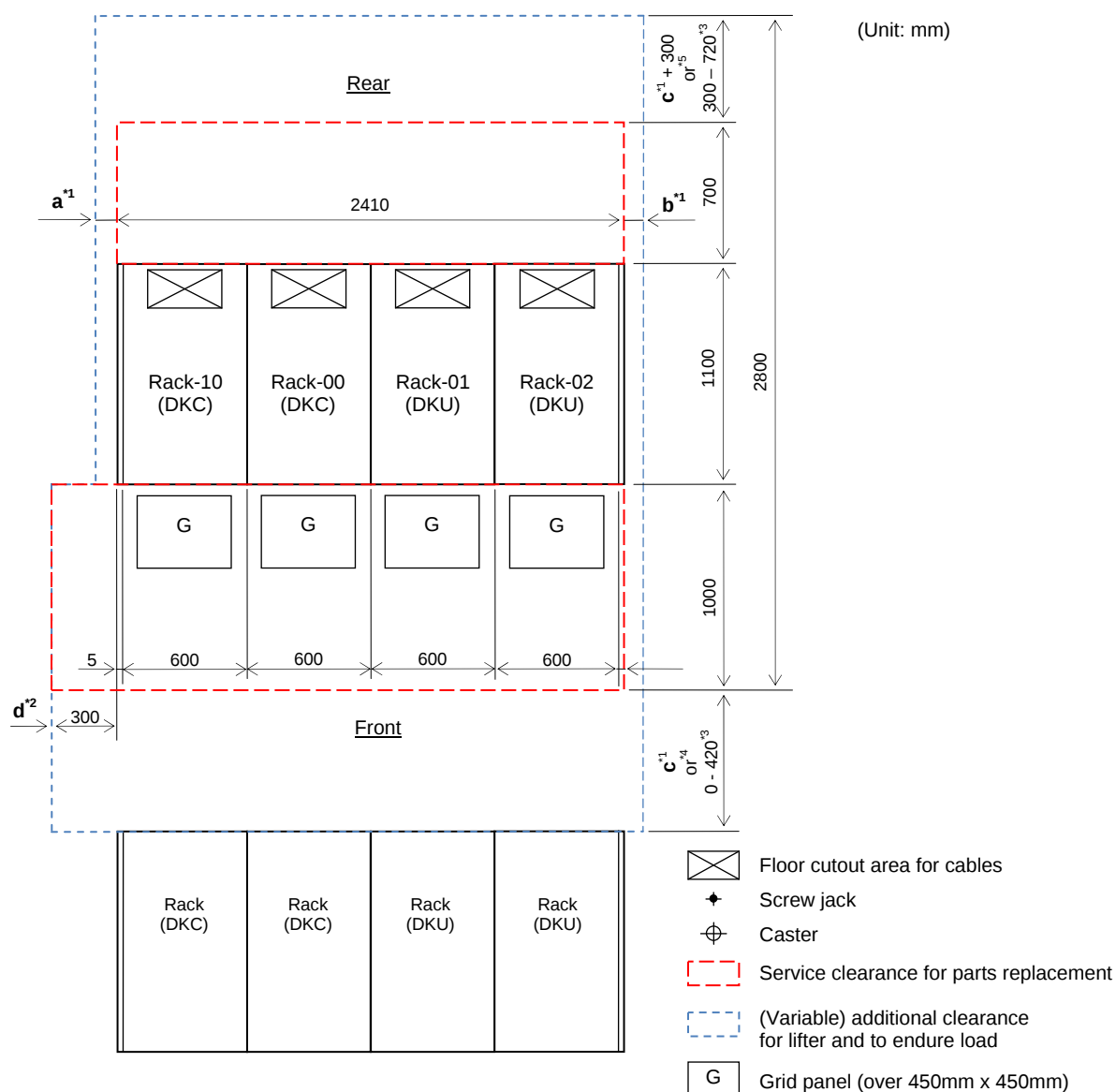
Fig. 1.1.6-5 Service Clearance and Floor Cutouts for Three Racks Configuration-2

**Table 1.1.6-5 Floor Load Rating and Required Clearances for Three Racks
Configuration-2**

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.3	0	0	0	0	0	0	0
500	0.9	0.5	0.3	0.1	0	0	0	0
450	1.3	0.9	0.6	0.4	0.3	0.1	0	0
400	1.8	1.3	1.1	0.8	0.6	0.5	0.3	0.1
350	2.7	2.0	1.7	1.4	1.2	1.0	0.8	0.5
300	3.9	3.1	2.7	2.4	2.1	1.8	1.6	1.2

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(6) Four Racks Configuration (Setting Up DKC-RACK in the Left Configuration)



- *1: Clearance (a+b) is based on the floor load rating and the clearance (c).
Floor load rating and required clearances are shown in Table 1.1.6-6.
- *2: Clearance (d) is required over 300mm so as to open the front door.
In case that clearance (d) is less than clearance (a), give priority to clearance (a).
- *3: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.
- *4: Adopt larger value from C or 0-420.
- *5: Adopt larger value from C+300 or 300-720.

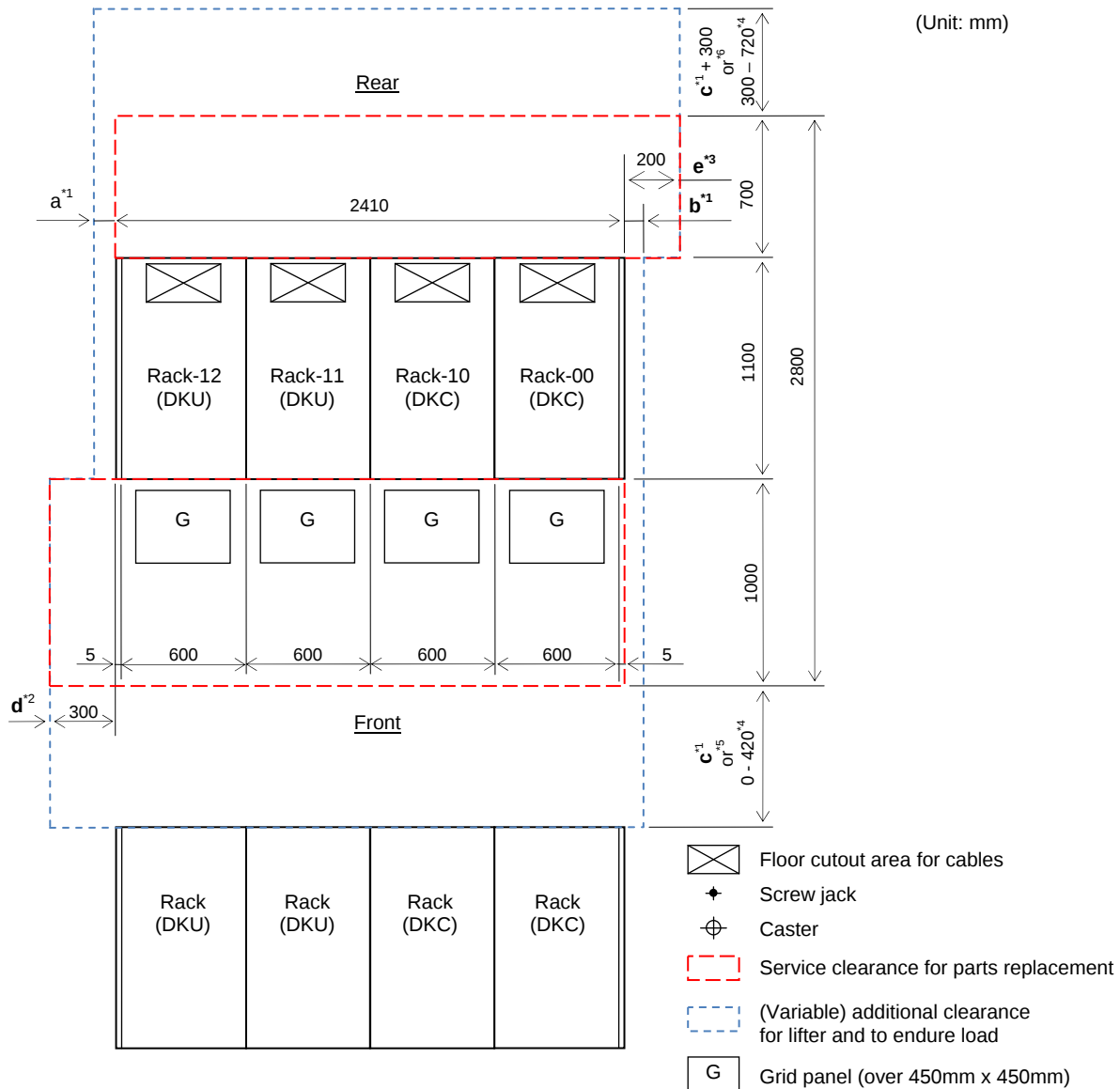
Fig. 1.1.6-6 Service Clearance and Floor Cutouts for Four Racks Configuration-1

Table 1.1.6-6 Floor Load Rating and Required Clearances for Four Racks Configuration

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.4	0	0	0	0	0	0	0
500	1.1	0.6	0.4	0.1	0	0	0	0
450	1.7	1.1	0.8	0.5	0.3	0.1	0	0
400	2.4	1.7	1.4	1.1	0.8	0.6	0.4	0.1
350	3.5	2.6	2.2	1.9	1.5	1.3	1.0	0.7
300	5.1	4.1	3.5	3.1	2.7	2.3	2.0	1.5

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(7) Four Racks Configuration (Setting Up DKC-RACK in the Right Configuration)



- *1: Clearance ($a+b$) is based on the floor load rating and the clearance (c).
Floor load rating and required clearances are shown in Table 1.1.6-7.
- *2: Clearance (d) is required over 300mm so as to open the front door.
In case that clearance (d) is less than clearance (a), give priority to clearance (a).
- *3: Clearance (e) is required over 200mm so as to open the rear door.
In case that clearance (e) is less than clearance (b), give priority to clearance (b).
- *4: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.
- *5: Adopt larger value from C or 0-420.
- *6: Adopt larger value from C+300 or 300-720.

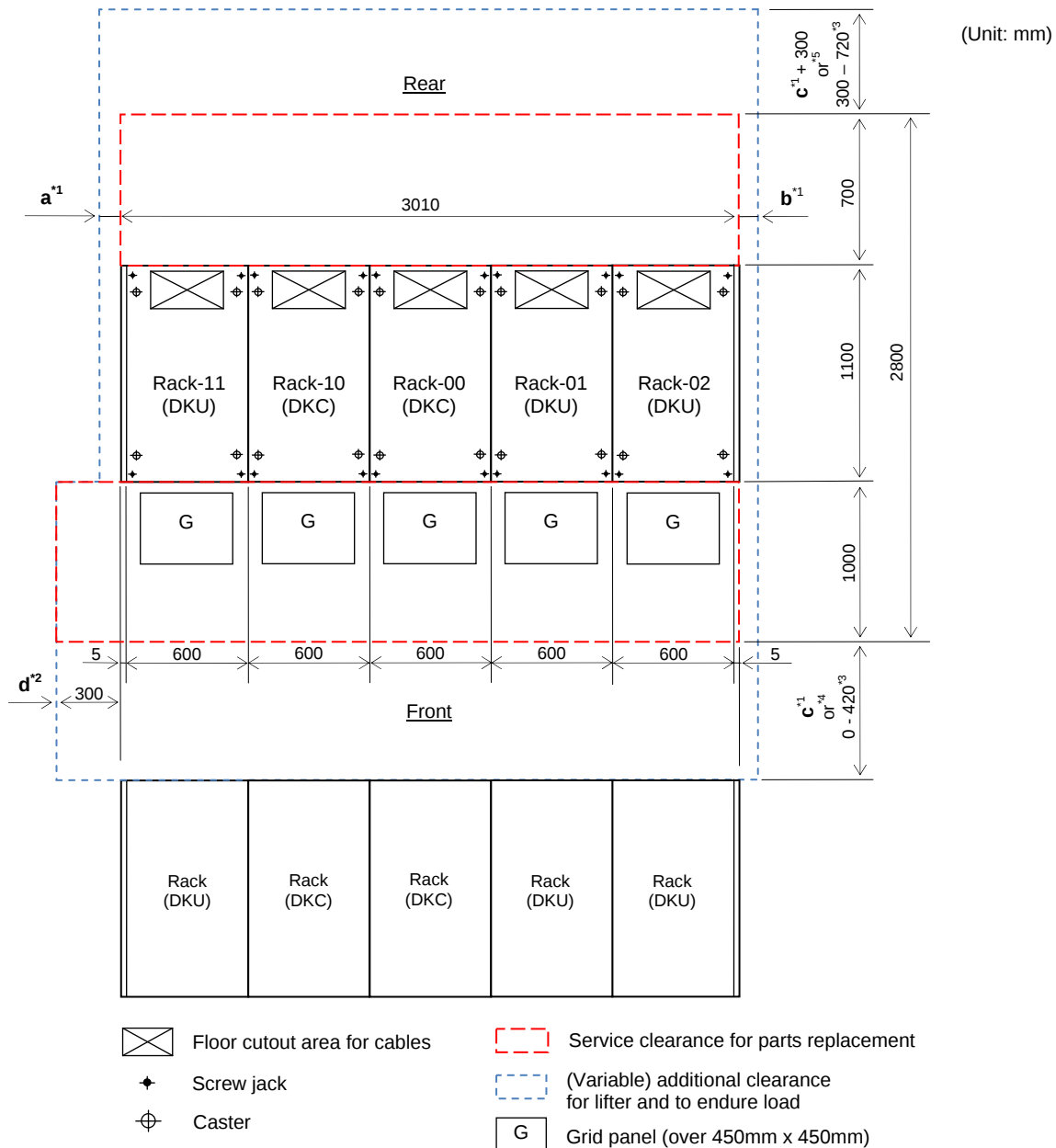
Fig. 1.1.6-7 Service Clearance and Floor Cutouts for Four Racks Configuration-2

Table 1.1.6-7 Floor Load Rating and Required Clearances for Four Racks Configuration

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.4	0	0	0	0	0	0	0
500	1.1	0.6	0.4	0.1	0	0	0	0
450	1.7	1.1	0.8	0.5	0.3	0.1	0	0
400	2.4	1.7	1.4	1.1	0.8	0.6	0.4	0.1
350	3.5	2.6	2.2	1.9	1.5	1.3	1.0	0.7
300	5.1	4.1	3.5	3.1	2.7	2.3	2.0	1.5

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(8) Five Racks Configuration



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-8.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*4: Adopt larger value from C or 0-420.

*5: Adopt larger value from C+300 or 300-720.

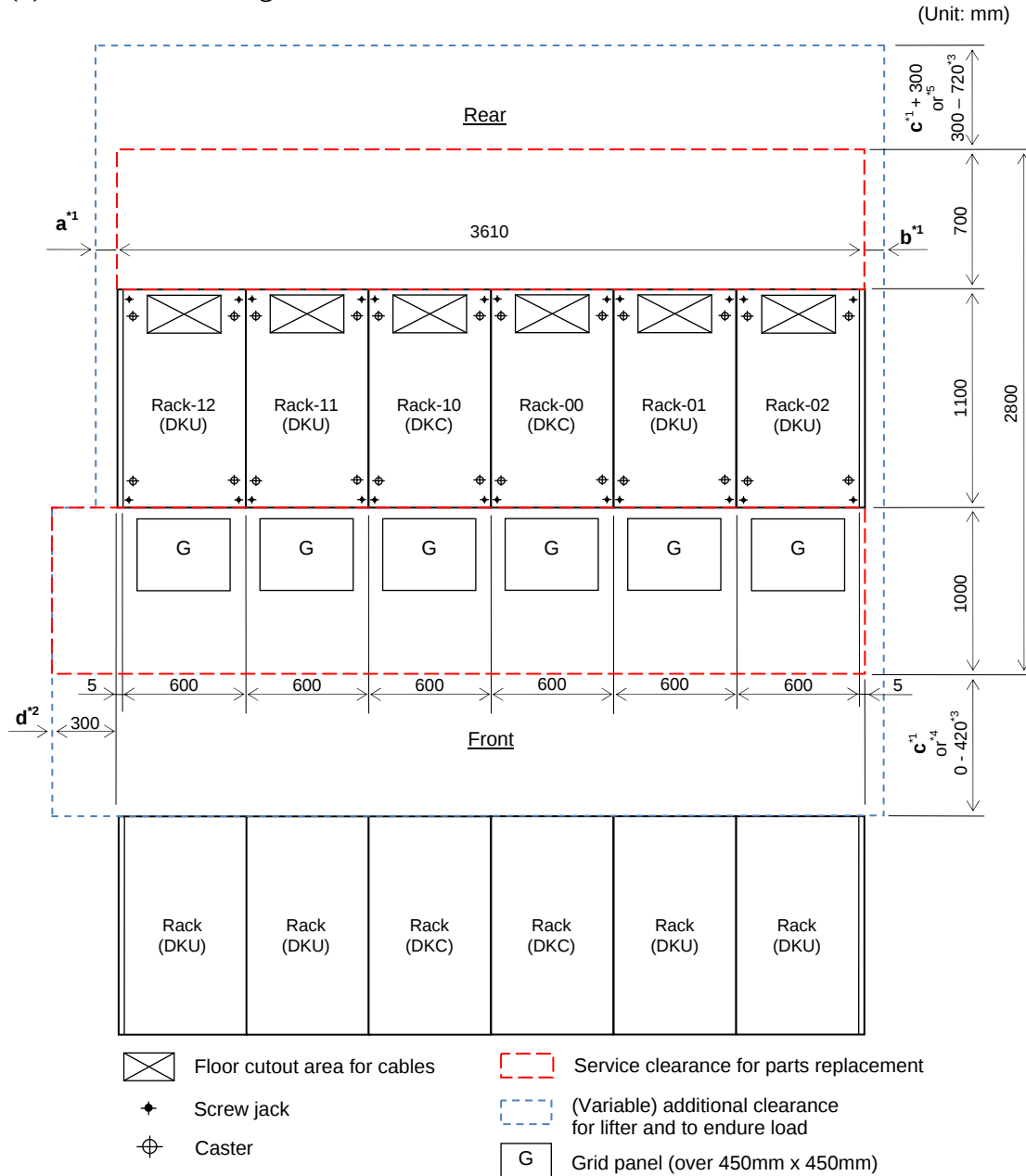
Fig. 1.1.6-8 Service Clearance and Floor Cutouts for Five Racks Configuration

Table 1.1.6-8 Floor Load Rating and Required Clearances for Five Racks Configuration

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.4	0	0	0	0	0	0	0
500	1.4	0.8	0.4	0.2	0	0	0	0
450	2.0	1.3	1.0	0.6	0.4	0.2	0	0
400	3.0	2.1	1.7	1.3	1.0	0.7	0.5	0.1
350	4.3	3.3	2.7	2.3	1.9	1.6	1.3	0.8
300	6.4	5.0	4.4	3.8	3.3	2.9	2.5	1.9

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

(9) Six Racks Configuration



*1: Clearance (a+b) is based on the floor load rating and the clearance (c).

Floor load rating and required clearances are shown in Table 1.1.6-9.

*2: Clearance (d) is required over 300mm so as to open the front door.

In case that clearance (d) is less than clearance (a), give priority to clearance (a).

*3: If the Drive Chassis is installed at computer room, additional clearance depends upon the lifter model to be used.

*4: Adopt larger value from C or 0-420.

*5: Adopt larger value from C+300 or 300-720.

Fig. 1.1.6-9 Service Clearance and Floor Cutouts for Six Racks Configuration

Table 1.1.6-9 Floor Load Rating and Required Clearances for Six Racks Configuration

Floor Load Rating (kg/m ²)	Required Clearance (a+b)m							
	Clearance (c)m							
	C = -0.3	C = 0	C = 0.2	C = 0.4	C = 0.6	C = 0.8	C = 1.0	C = 1.4
Over 700	0	0	0	0	0	0	0	0
600	0.5	0	0	0	0	0	0	0
500	1.6	0.9	0.5	0.2	0	0	0	0
450	2.4	1.6	1.1	0.8	0.4	0.2	0	0
400	3.5	2.5	2.0	1.5	1.2	0.8	0.6	0.1
350	5.1	3.9	3.2	2.7	2.2	1.8	1.5	0.9
300	7.6	6.0	5.2	4.5	3.9	3.4	2.9	2.2

- Note 1: Actual clearances for installation should be determined after consulting with construction specialist responsible for installation building, as they could vary depending on the size/layout of the system and building conditions.
- 2: When various configurations of storage systems are arranged in a row, clearance values based on the largest storage system configuration should be used.
- 3: From the viewpoint of maintenance operations, it is suggested that Clearance (c) be made as large as possible.

1.1.7 Dimensions

(1) DKC Rack

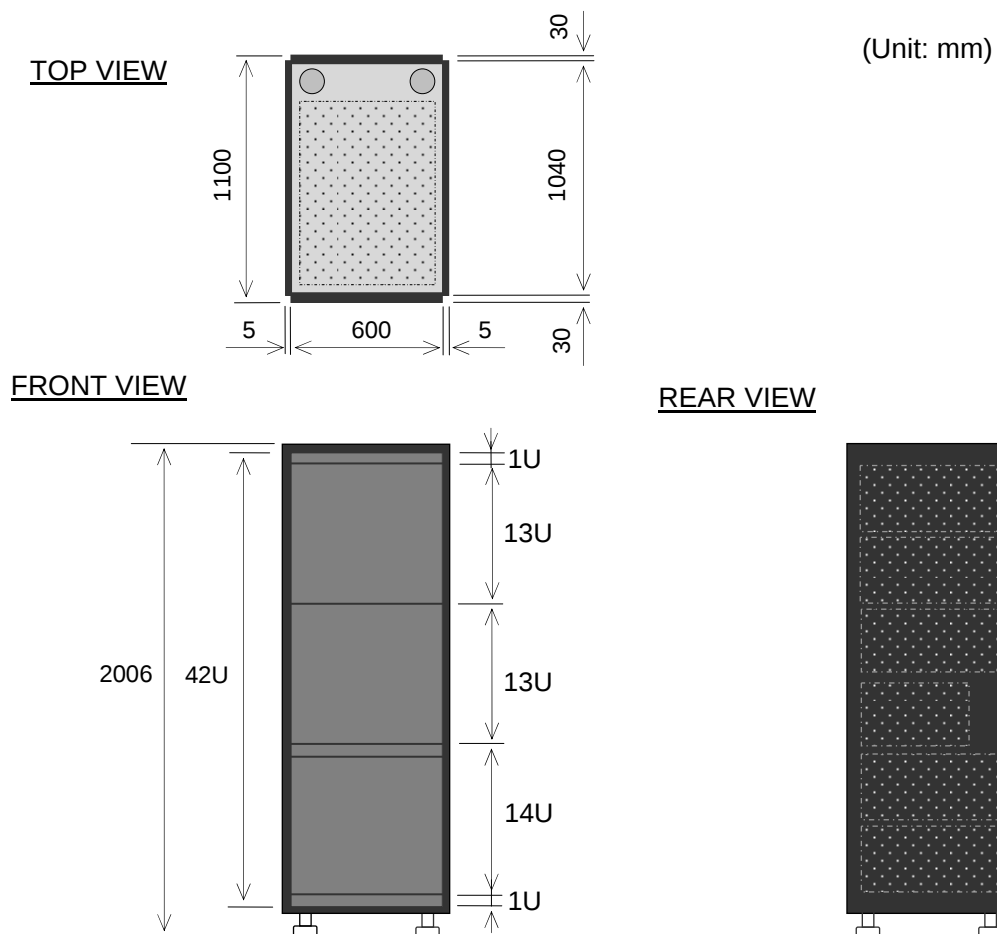


Fig. 1.1.7-1 Physical Dimensions of the DKC Rack

(2) DKU Rack

TOP VIEW

(Unit: mm)

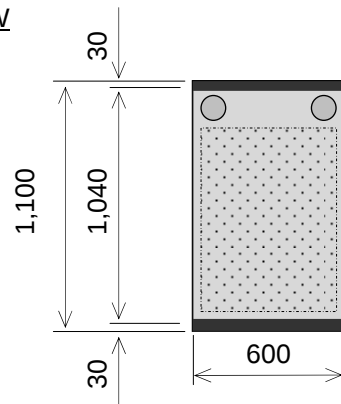
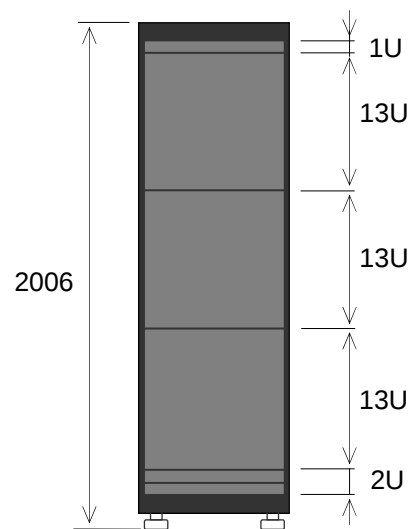
FRONT VIEW

Fig. 1.1.7-2 Physical Dimensions of the DKU Rack

(3) Six Racks Configuration

TOP VIEW

(Unit: mm)

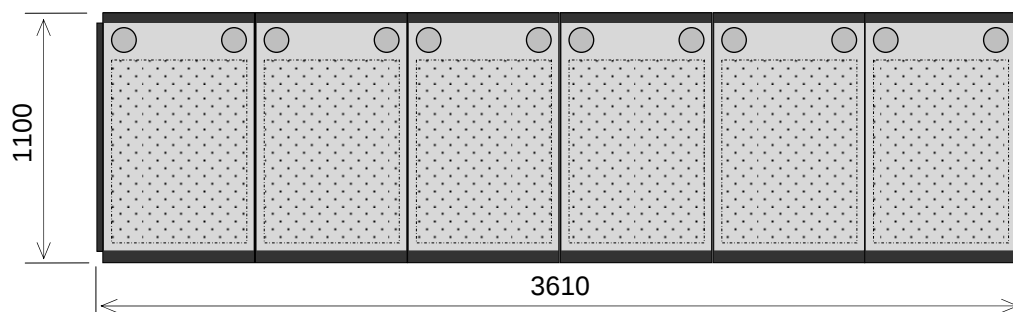
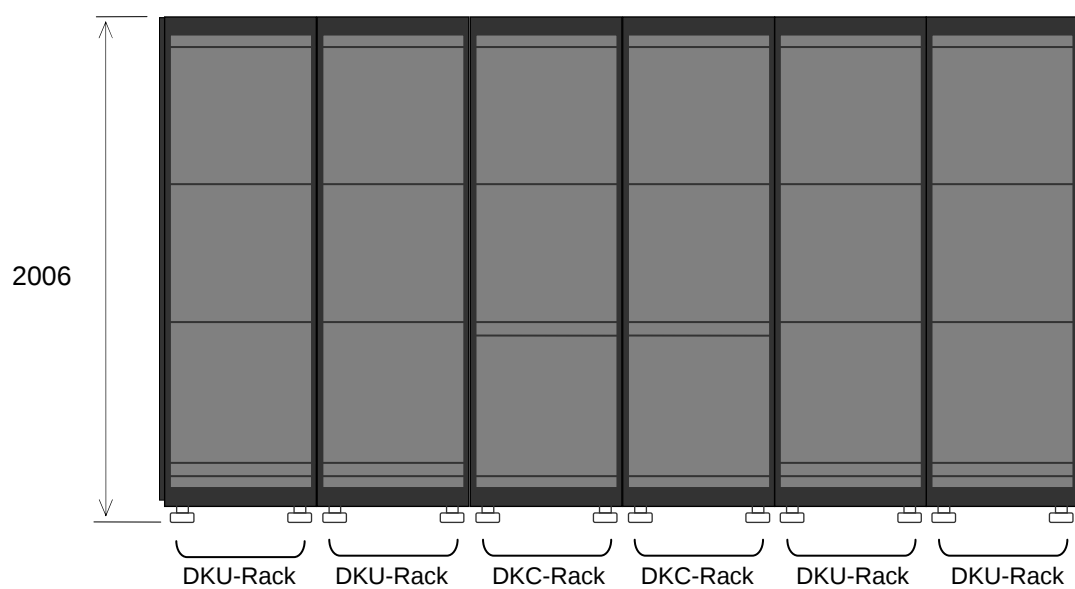
FRONT VIEW

Fig. 1.1.7-3 Dimensions of the Six Racks configurations

1.1.8 Facility grounding check

The subsystem must meet all of the following three conditions of installation for GROUNDING.

- a. An insulated grounding conductor that is identical in size and insulation material and thickness to the grounded and ungrounded branch-circuit supply conductors. It should be green, with or without yellow stripes, and is to be installed as a part of the branch circuit that supplies the unit or system.
- b. The grounding conductor mentioned in item (a.), should be grounded to earth at the service equipment or other acceptable building earth ground such as the building frame in the case of a high rise steel-frame structure.
- c. The attachment-plug receptacles in the vicinity of the unit or system are all to be a grounding type. The grounding conductors serving these receptacles should be connected to earth ground at the service equipment or other acceptable building earth ground such as the building frame in the case of a high-rise steel-frame structure.

INST02-10**2. Installation and De-installation procedure****2.1 New Installation Procedure Table**

Note: Perform the new installation in numerical order shown in the following table.
Proceed to the next work neglecting unnecessary ones.

When installing Subsystem for the first time, perform all hardware installation procedures before initiating the installation through SVP procedure. 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

Table 2.1-1 New Installation Procedure Table

No.	Working Item	Model Number	Page
1	Unpacking and Inspection	—	INST03-02-10 through
2	Rack and Side Cover Installation (DKC-F710I-RK42/SCOV)	—	INST03-03-10 through 90
3	Decoration Panel, Key Kit and PDU Bracket Installation (DKC-F710I-DECO/KYP/PBR1/PBR3P/PBR1P/KYPN)	←	INST03-17-10 through 210
3a	30A 1-Phase PDU Kit Installation (DKC-F710I-PDU30P/PDU30F)	←	INST03-20-10 through 190
4	Controller Chassis Installation (DKC710I-CBX/CBXA/CBXG/CBXB/CBXH)	←	INST03-04-10 through 200
5	DKC Power Cord Kit Installation (DKC-F710I-PLUC/PLEC/PLJCP)	←	INST03-06-10 through 120
6	Drive Chassis Installation (DKC-F710I-UBX/SBX/SBXP/SSWP/HPWP/FBX/APC)	UBX/SBX/ SBXP/SSWP/ HPWP/FBX	INST03-05-10 through 750
		APC	INST03-11-110 through 130
7	DKU Power Cord Kit Installation (DKC-F710I-PHUC/PHEC/PHJCP/PFUC/PFEC/PFCC)	←	INST03-06-130 through 690
8	Processor Blade, HUB Kit, PCI Express Switch Adapter, Inter-Controller Connecting kit and Additional Controller PS Installation (DKC-F710I-MP/MPR/HUB/ESW/MDEXC/APC)	←	INST03-07-10 through 410
9	Additional Controller PS Installation (DKC-F710I-APC)	←	INST03-11-10 through 100

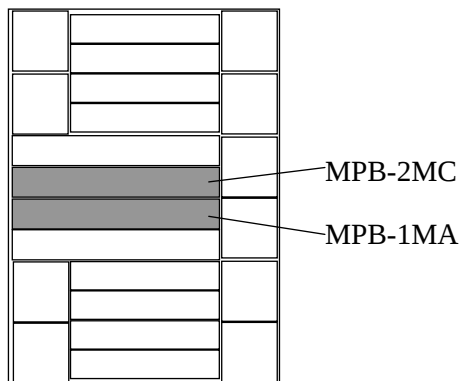
(To be continued.)

INST02-20

(Continued from preceding sheet.)

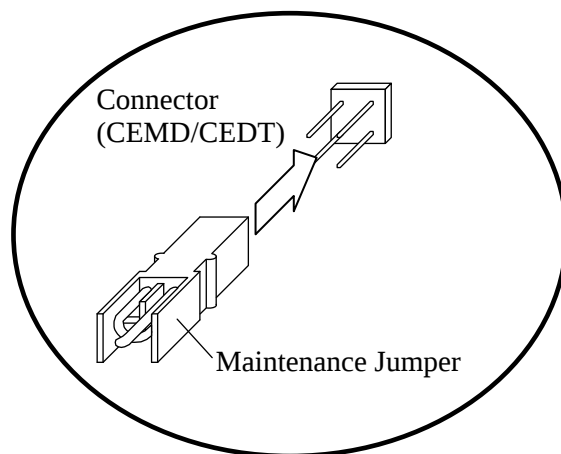
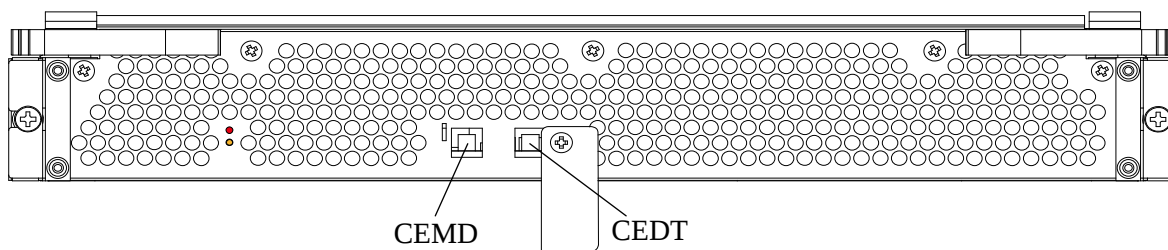
No.	Working Item	Model Number	Page
10	Channel Adapter Installation (DKC-F710I-16MFS/16MFL/8UFC/8UFCR/16UFC/ 16UFCR/16MUS/16MUSR/16MUL/8FOE)	8UFC/8UFCR/ 16UFC/ 16UFCR	INST03-08A-10 through 220 (Only Hardware Procedure)
		16MFS/16MFL/ 16MUS/ 16MUSR/ 16MUL	INST03-08B-10 through 230 (Only Hardware Procedure)
		8FOE	INST03-08C-10 through 250 (Only Hardware Procedure)
11	Changing of Fibre SFP Transceiver (DKC-F710I-1UL/1US/1USR)	←	INST03-09-10 through 80
12	Cache memory Installation (DKC-F710I-C16G/C16GR/C32G/C32GR/CPC/ BM64/BM128)	←	INST03-10-10 through 390 (Only Hardware Procedure)
13	DEV Interface Cable, Disk Adapter, Data Path Switch Adapter and Drive Installation (DKC-F710I-ESW/SCA/BUC/HBUC/UUC/HUUC/ USC/HUSC/RLEXC/HRLEXC/BFC/HBFC/UFC/ HUFC/FFC/HFFC/UFEXC/HUFEXC/FFEXC/ HFFEXC/146KCM/300JCM/300JCS/300KCM/ 500HCM/600JCM/600JCS/900JCM/1R0HCM/ 1R2JCM/2R0H2M/2R0H3M/3R0H3M/4R0H3M/ 200MCM/200SAM/200SCM/400MCM/400SCM/ 800MCM/400S1M/1R6FM/3R2FM)	←	INST03-12-10 through 12C-8320 (Only Hardware Procedure)
14	SVP Support Kit Installation (DKC-F710I-SVP)	←	INST03-13-10 through 710 (Only Hardware Procedure)
15	Filler Panel Installation (DKC-F710I-FIHT)	←	INST03-16-10 through 30
16	SVP "New Installation" Procedure	—	INST02-250
17	END	—	—

Note: The Maintenance Jumpers of the CE Mode Connectors (CEMD and CEDT).



Front View of DKC

MPB (MPB-1MA/2MC)



INST02-40**2.2 Non-Disruptive Installation Procedure Table**

Note: A serious failure will occur if the works are not done in numerical order shown in the table.

Perform the non-disruptive addition of the options in numerical order (from No.1 to No.18) shown in the table below. Neglect a unnecessary work and proceed to the next work.

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 [INST02-100](#) to locate a faulty unit and take action. 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).

Table 2.2-1 Non-Disruptive Installation Procedure Table

No.	Working Item	Model Number	Page
1	Display the SVP initial screen	←	SVP01-10 through
2	Confirm the micro-version	—	OPTVER01-10
3	Rack and Side Cover Installation (DKC-F710I-RK42/SCOV)	←	INST03-03-10 through 90
4	Decoration Panel, Key Kit and PDU Bracket Installation (DKC-F710I-DECO/KYP/PBR1/PBR3P/PBR1P/KYPN)	←	INST03-17-10 through 210
4a	30A 1-Phase PDU Kit Installation (DKC-F710I-PDU30P/PDU30F)	←	INST03-20-10 through 190
5	Controller Chassis Installation (DKC710I-CBX/CBXA/CBXG/CBXB/CBXH)	←	INST03-04-10 through 200
Note	When adding DKC-1 in No.5, do not connect the power cord with DKCPS-10 and DKCPS-11 in the procedure No.6. The installation work will fail when the Inter-Controller Connecting kit (DKC-F710I-MDEXC) of No.7 is installed with the power of DKC-1 is on. Consequently, connect the power cable of the DKCPS following the instructions of installation procedure for No. 7.		
6	DKC Power Cord Kit Installation (DKC-F710I-PLUC/PLEC/PLJCP)	←	INST03-06-10 through 120
Note	CPCs (CACHE board) are contained in a CBXB/CBXH, however MPBs and ESWs are installed in the unit first in the installation procedure of the additional CBXB/CBXH. Therefore, red LEDs (LOC03-30) of CPCs lights when the additional CBXB/CBXH is installed with CPCs (CACHE board). Lighting of red LEDs are acceptable until the CPCs are installed in the next step. Refer to “3.4 Installation of Controller Chassis (INST03-04-10)” for more details.		
7	Processor Blade, HUB Kit, PCI Express Switch Adapter, Inter-Controller Connecting kit and Additional Controller PS Installation (DKC-F710I-MP/MPR/HUB/ESW/MDEXC/APC)	←	INST03-07-10 through 410

(To be continued.)

INST02-50

(Continued from preceding sheet.)

No.	Working Item	Model Number	Page
8	Additional Controller PS Installation (DKC-F710I-APC)	←	INST03-11-10 through 100
9	Cache memory Installation (DKC-F710I-C16G/C16GR/C32G/C32GR/CPC/BM64/BM128)	←	INST03-10-10 through 390
10	Installation of SM Size without adding Cache Memory (*1)	←	INST03-19-10 through 50
11	Channel Adapter Installation (DKC-F710I-16MFS/16MFL/8UFC/8UFCR/16UFC/16UFCR/16MUS/16MUSR/16MUL/8FOE)	8UFC/8UFCR/16UFC/16UFCR	INST03-08A-10 through 220
		16MFS/16MFL/16MUS/16MUSR/16MUL	INST03-08B-10 through 230
		8FOE	INST03-08C-10 through 250
12	Changing of Fibre SFP Transceiver (DKC-F710I-1UL/1US/1USR)	←	INST03-09-10 through 80
13	Drive Chassis Installation (DKC-F710I-UBX/SBX/SBXP/SSWP/HPWP/FBX/APC) Perform the installation of the Extension Rack, setting of the SSW jumper, and connection of the power cable.	UBX/SBX/SBXP/SSWP/HPWP/FBX	INST03-05-10 through 750
		APC	INST03-11-110 through 130
14	DKU Power Cord Kit Installation (DKC-F710I-PHUC/PHEC/PHJCP/PFUC/PFEC/PFCC)	←	INST03-06-130 through 690
15	Turn on the PDU breaker installed in the increased RACK.	—	INST03-14-50 through 60
Note	Caution: When performing addition of the data/spare Drive, DKA, ESW and Device Interface Cable that accompanies the addition of the DKU, perform the works No. 3, 4, 7, 13, 14, and 15 beforehand.		
Note	If SAS HDD and SATA HDD are concurrently installed, and LDEV Format is performed, the SAS HDD is unavailable until Format of the SATA HDD is completed. In this case, install the HDDs separately, first the SAS HDD, and then the SATA HDD. To identify SAS HDD/SATA HDD, please refer to INST01-40.		
16	DEV Interface Cable, Disk Adapter, PCI Express Switch Adapter and Drive Installation (DKC-F710I-ESW/SCA/BUC/HBUC/UUC/HUUC/USC/HUSC/RLEXC/HRLEXC/BFC/HBFC/UFC/HUFC/FFC/HFFC/UFEXC/HUFEXC/FFEXC/HFFEXC/146KCM/300JCM/300JCS/300KCM/500HCM/600JCM/600JCS/900JCM/1R0HCM/1R2JCM/2R0H2M/2R0H3M/3R0H3M/4R0H3M/200MCM/200SAM/200SCM/400MCM/400SCM/800MCM/400S1M/1R6FM/3R2FM)	←	INST03-12-10 through 12C-8320
17	SVP Support Kit Installation (DKC-F710I-SVP)	←	INST03-13-10 through 710
18	Filler Panel Installation (DKC-F710I-FIHT)	←	INST03-16-10 through 30
19	END	—	—

(*1) The function is only available when CM is in full configuration as follows.

① Module 0 configuration:

4 sets of CPCs and 16 sets of C16G/C16GRs or/and C32G/C32GRs are installed.

② Module 0 & 1 configuration:

8 sets of CPCs and 32 sets of C16G/C16GRs or/and C32G/C32GRs are installed.

2.3 Non-Disruptive De-installation Procedure Table

Note: A serious failure occurs if the works are not done in numerical order shown in the table.

Perform the non-disruptive removal of the options in numerical order (from No.1 to No.17) shown in the table below. Neglect an unnecessary work and proceed to the next work.

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 SVP SECTION.)

If a fault occurs during or after removal, see [INST02-170](#) to locate a faulty unit and take action. 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).

Table 2.3-1 Non-Disruptive De-installation Procedure Table

No.	Working Item	Model Number	Page
1	Display the SVP initial screen	←	SVP01-10 through
2	Filler Panel De-Installation (DKC-F710I-FIHT)	←	INST04-11-10 through 30
3	DEV Interface Cable, Disk Adapter, PCI Express Switch Adapter and Drive De-Installation (DKC-F710I-ESW/SCA/BUC/HBUC/UUC/HUUC/USC/HUSC/RLEXC/HRLEXC/BFC/HBFC/UFC/HUFC/FFC/HFFC/UFEXC/HUFEXC/FFEXC/HFFEXC/146KCM/300JCM/300JCS/300KCM/500HCM/600JCM/600JCS/900JCM/1R0HCM/1R2JCM/2R0H2M/2R0H3M/3R0H3M/4R0H3M/200MCM/200SAM/200SCM/400MCM/400SCM/800MCM/400S1M/1R6FM/3R2FM)	←	INST04-01-10 through 01C-6790
Note	Proceed to the work No.4 after performing the work No.3. The system goes down if the power supply of the Drive Chassis to be removed in the work No.4 is turned off without performing an option removal work, that is, the work No.3.		
4	Drive Chassis De-Installation (DKC-F710I-UBX/SBX/SBXP/SSWP/HPWP/FBX/APC) Turn off the power supply of the Drive Chassis.	APC	INST04-05-120 through 140
		UBX/SBX/SBXP/SSWP/HPWP/FBX	INST04-02-10 through 410
5	DKU Power Cord Kit De-Installation (DKC-F710I-PHUC/PHEC/PHJCP/PFUC/PFEC/PFCC)	←	INST04-10-100 through 620

(To be continued.)

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(Continued from preceding sheet.)

No.	Working Item	Model Number	Page
6	Channel Adapter De-Installation (DKC-F710I-16MFS/16MFL/8UFC/8UFCR/16UFC/ 16UFCR/16MUS/16MUSR/16MUL/8FOE)	8UFC/8UFCR/ 16UFC/ 16UFCR	INST04-04A-10 through 210
		16MFS/16MFL/ 16MUS/ 16MUSR/ 16MUL	INST04-04B-10 through 210
		8FOE	INST04-04C-10 through 240
7	Changing of Fibre SFP Transceiver (DKC-F710I-1UL/1US/1USR)	←	INST03-09-10 through 80
8	Cache memory De-Installation (DKC-F710I-C16G/C16GR/C32G/C32GR/CPC/ BM64/BM128)	←	INST04-03-10 through 400
9	De-Installation of SM Size without removing Cache Memory (*1)	←	INST04-13-10 through 60
10	Additional Controller PS De-Installation (DKC-F710I-APC)	←	INST04-05-10 through 110
11	Processor Blade, HUB Kit, PCI Express Switch Adapter, Inter-Controller Connecting kit and Additional Controller PS De-Installation (DKC-F710I-MP/MPR/HUB/ESW/MDEXC/APC)	←	INST04-06-10 through 430
12	SVP Support Kit De-Installation (DKC-F710I-SVP)	←	INST04-09-10 through 210
13	DKC Power Cord Kit De-Installation (DKC-F710I-PLUC/PLEC/PLJCP)	←	INST04-10-10 through 90
14	Controller Chassis De-Installation (DKC710I-CBX/CBXA/CBXG/CBXB/CBXH)	←	INST04-07-10 through 180
15	Decoration Panel, Key Kit and PDU Bracket De- Installation (DKC-F710I-DECO/KYP/PBR1/PBR3P/PBR1P/ KYPN)	←	INST04-12-10 through 210
16	30A 1-Phase PDU Kit De-Installation (DKC-F710I-PDU30P/PDU30F)	←	INST04-14-10 through 170
17	Rack and Side Cover De-Installation (DKC-F710I-RK42/SCOV) Turn off the main breaker of the Extension Rack.	—	INST04-08-10 through 90
18	END	—	—

(*1) The function is only available when CM is in full configuration as follows.

① Module 0 configuration:

4 sets of CPCs and 16 sets of C16G/C16GRs or/and C32G/C32GRs are installed.

② Module 0 & 1 configuration:

8 sets of CPCs and 32 sets of C16G/C16GRs or/and C32G/C32GRs are installed.

2.4 Disruptive Installation Procedure Table

Note: Perform the disruptive de-installation of options in numerical order shown in the following table. Proceed to the next work neglecting unnecessary ones.

If a fault occurs during or after additional installation, see [INST02-100](#) to locate a faulty unit and take action. 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.

Table 2.4-1 Disruptive Installation Procedure Table

No.	Working Item	Model Number	Page
1	Display the SVP initial screen	←	SVP01-10 through
2	Confirm the micro-version	—	OPTVER01-10
3	POWER OFF of Subsystem	—	INST03-14-80 through 90
4	POWER ON of Subsystem	—	INST03-14-10 through 40
5	END	—	—

2.5 Disruptive De-installation Procedure Table

Note: Perform the disruptive de-installation of options in numerical order shown in the following table. Proceed to the next work neglecting unnecessary ones.
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 SVP Section.)

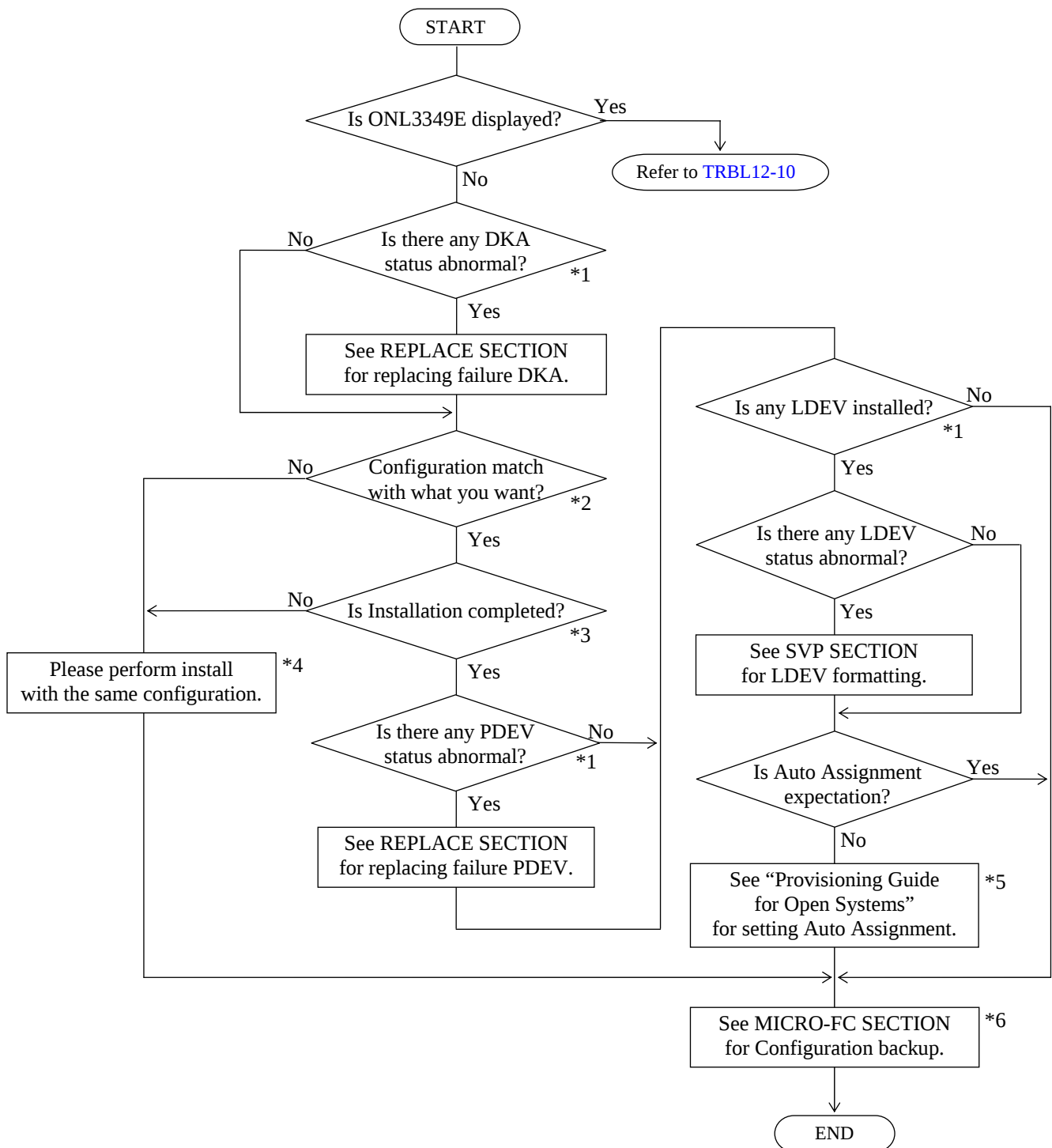
If a fault occurs during or after removal, see [INST02-170](#) to locate a faulty unit and take action. If any other message than the list is displayed, see the SVP Message section.

Precautions on Disruptive De-Installation

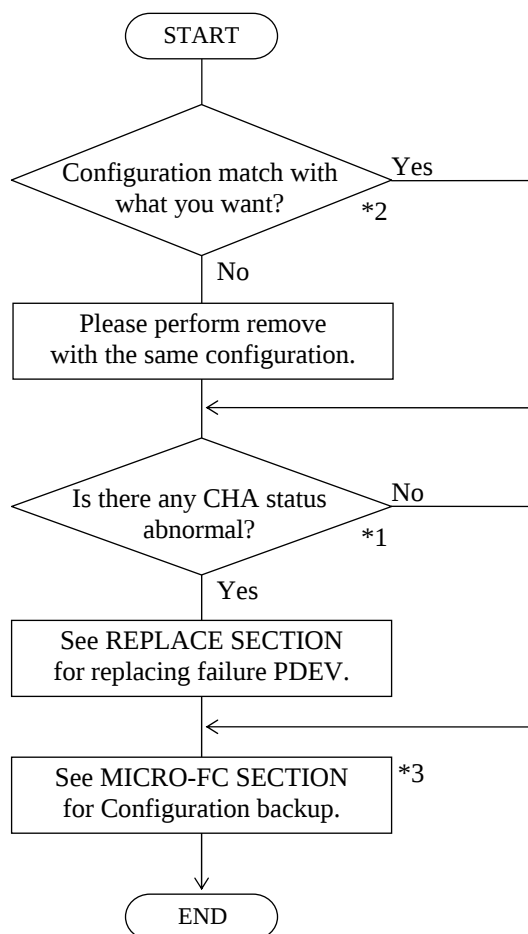
- “Disruptive” means that the subsystem is disconnected from the host (OS). Disruptive De-installation shall be done with the subsystem power OFF.

Table 2.5-1 Disruptive De-installation Procedure Table

No.	Working Item	Model Number	Page
1	Display the SVP initial screen	←	SVP01-10 through
2	POWER OFF of Subsystem	—	INST03-14-80 through 90
3	POWER ON of Subsystem	—	INST03-14-10 through 40
4	END	—	—

INST02-100**2.6 Trouble shooting for errors in install SVP procedure****2.6.1 DKA + ECC group + LDEV**

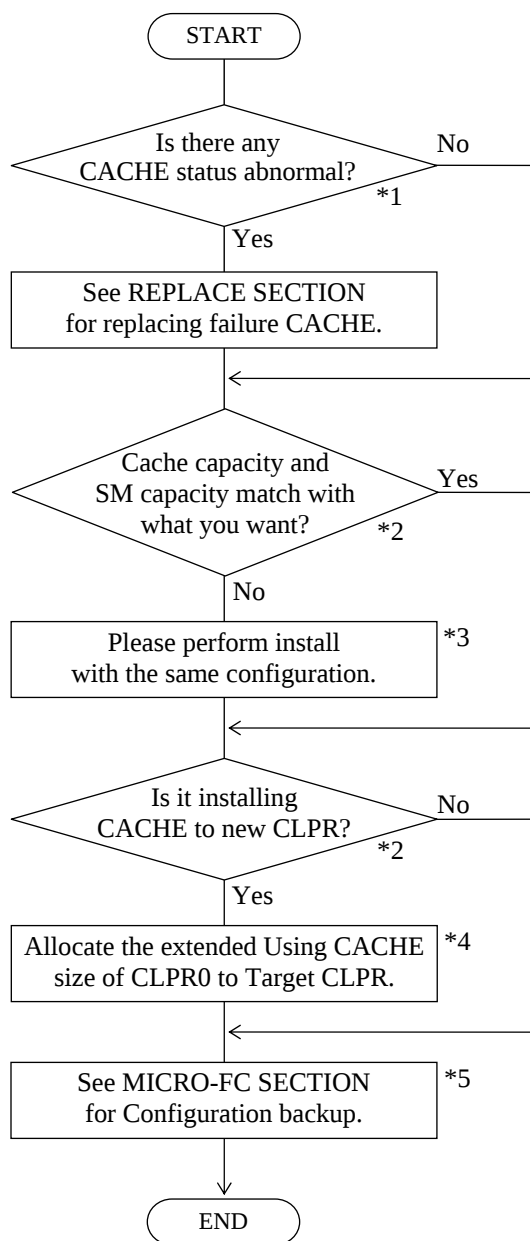
- *1: Select (CL) [Maintenance] in the 'SVP' Window.
- *2: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.
- *3: Wasn't INS2450E displayed when select (CL) [Install]-[Change Configuration] in the 'SVP' Window?
- *4: There is a case where you cannot change the type of spare drive.
In that case, please install again with the same configuration except for the spare drive.
After this operation is complete, please uninstall the spare drive and install the spare drive again.
- *5: Select (CL) [Components] in the 'Storage Navigator' Window.
- *6: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

INST02-120**2.6.2 Number of Channel**

*1: Select (CL) [Maintenance] in the 'SVP' Window.

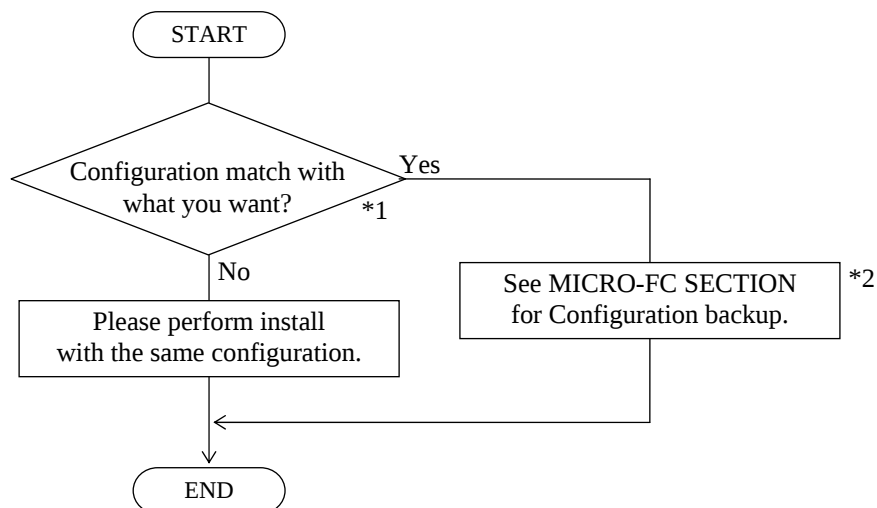
*2: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*3: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

INST02-130**2.6.3 Cache Capacity**

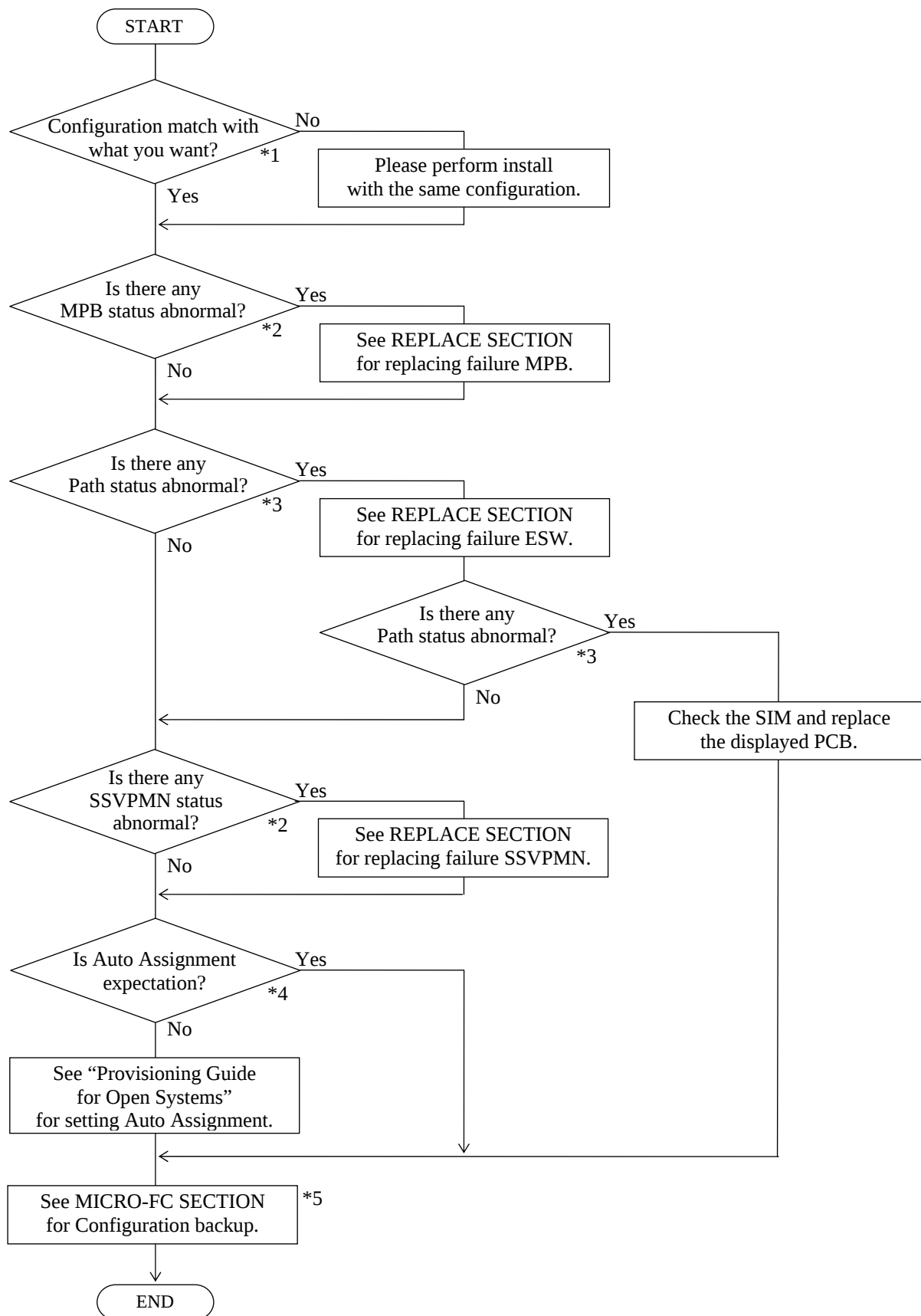
- *1: Select (CL) [Maintenance] in the 'SVP' Window.
- *2: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.
- *3: The installation of the cluster 1 may be completed depending on the contents of the installation failure. In this case, if the installation is performed again, processing will begin from the cluster 2.
- *4: Select (CL) [Settings]-[Environmental Setting]-[Partition Definition...] in the 'Storage Navigator' Window. Extend Cache memory reference to "Performance Guide" - "Creating a CLPR".
- *5: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

2.6.4 Power Supply



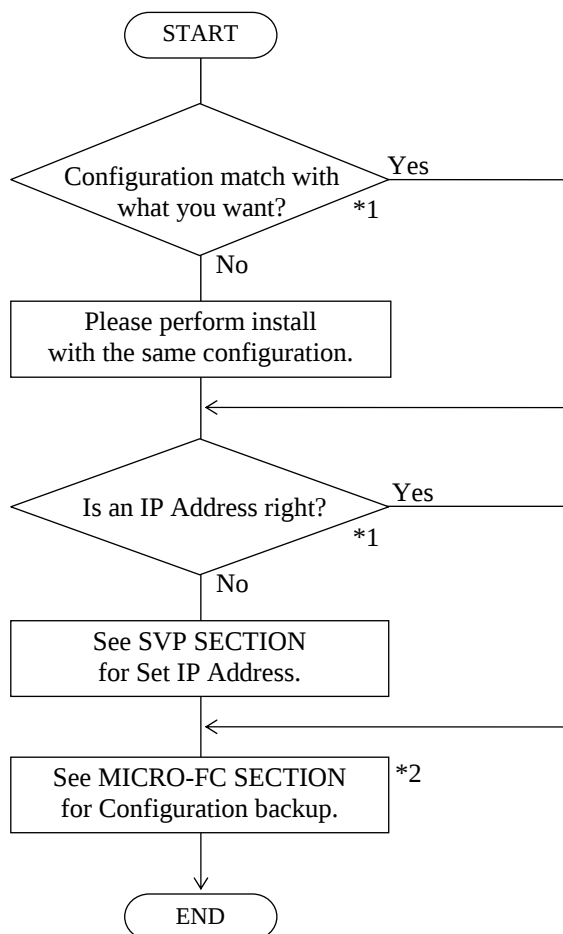
*1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

INST02-151**2.6.5 MPB + Module**

- *1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.
- *2: Select (CL) [Maintenance] in the 'SVP' Window.
- *3: Select (CL) [Maintenance]-[Inter-PCB Logical Path Status] in the 'SVP' Window.
- *4: Select (CL) [Components] in the 'Storage Navigator' Window.
- *5: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

2.6.6 SVP

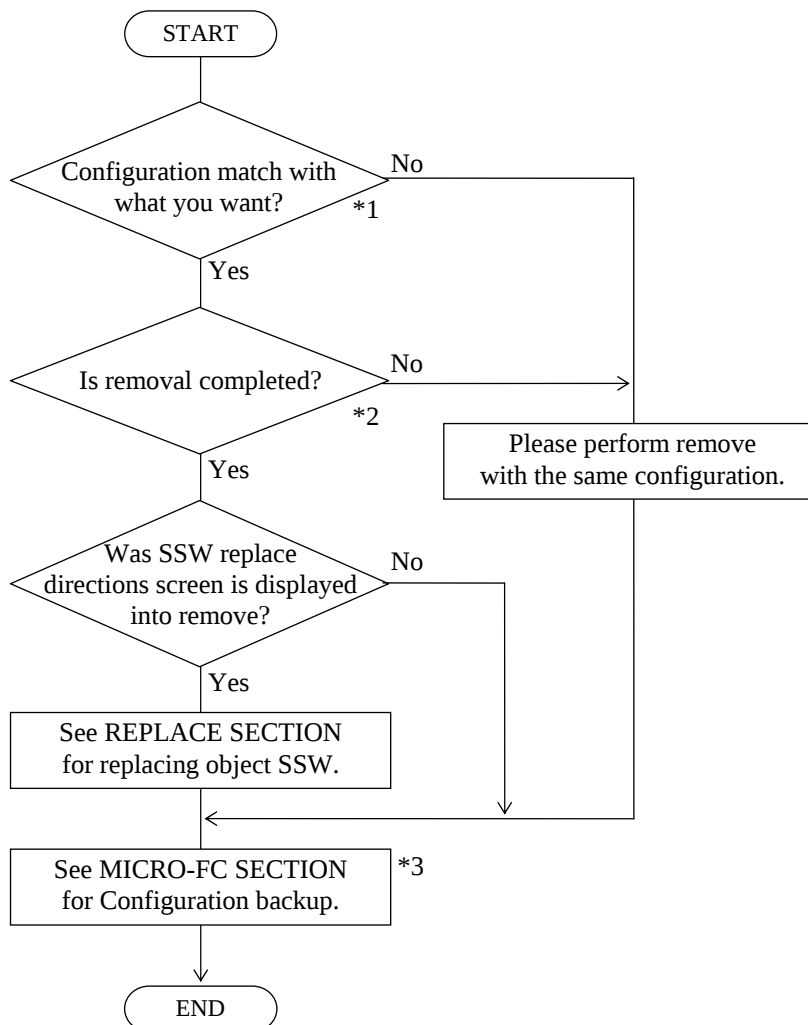


*1: Select (CL) [Install]-[Set IP Address] in the 'SVP' Window.

*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

2.7 Trouble shooting for errors in remove SVP procedure

2.7.1 DKA + ECC group + LDEV

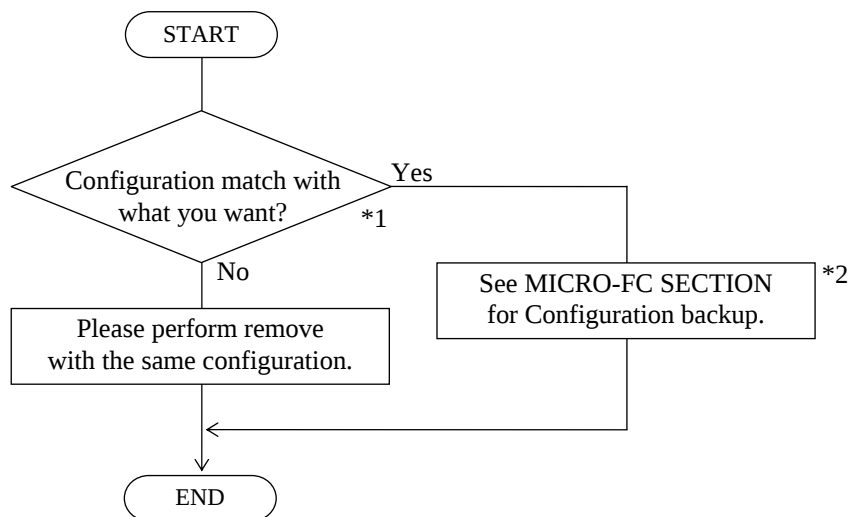


*1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*2: Wasn't INS2450E displayed when select (CL) [Install]-[Change Configuration] in the 'SVP' Window?

*3: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

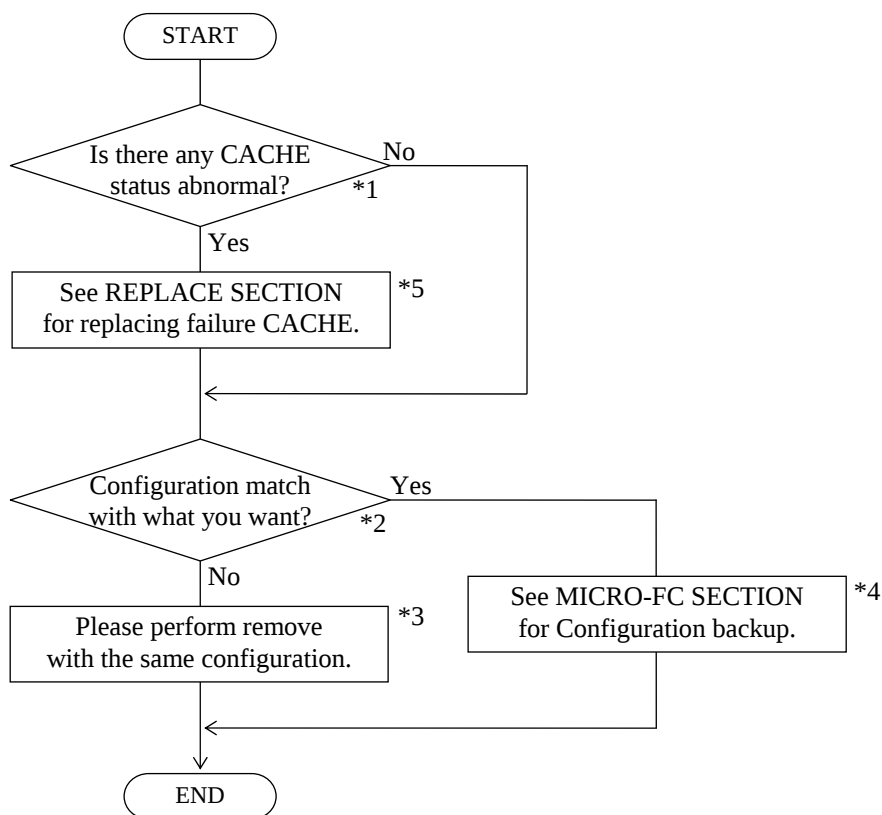
2.7.2 Number of Channel



*1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

2.7.3 Cache Capacity



*1: Select (CL) [Maintenance] in the 'SVP' Window.

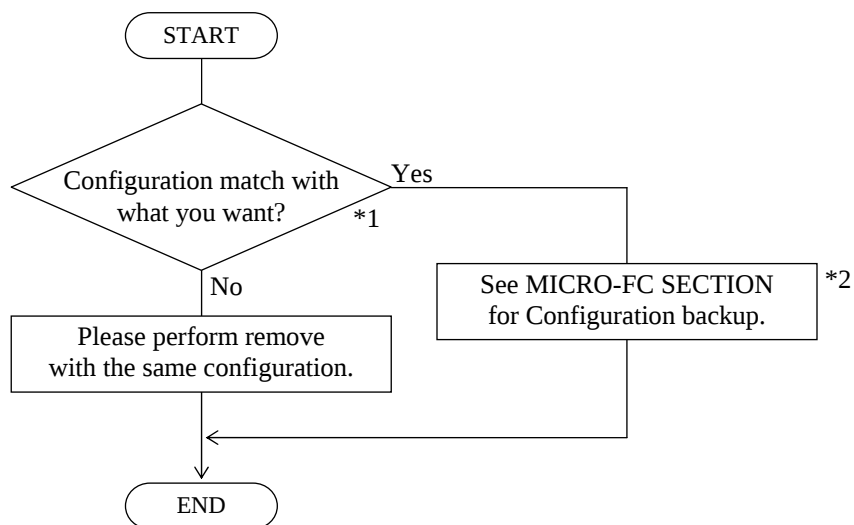
*2: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*3: The removal of the cluster 1 may be completed depending on the contents of the de-installation failure. In this case, if the de-installation is performed again, processing will begin from the cluster 2.

*4: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

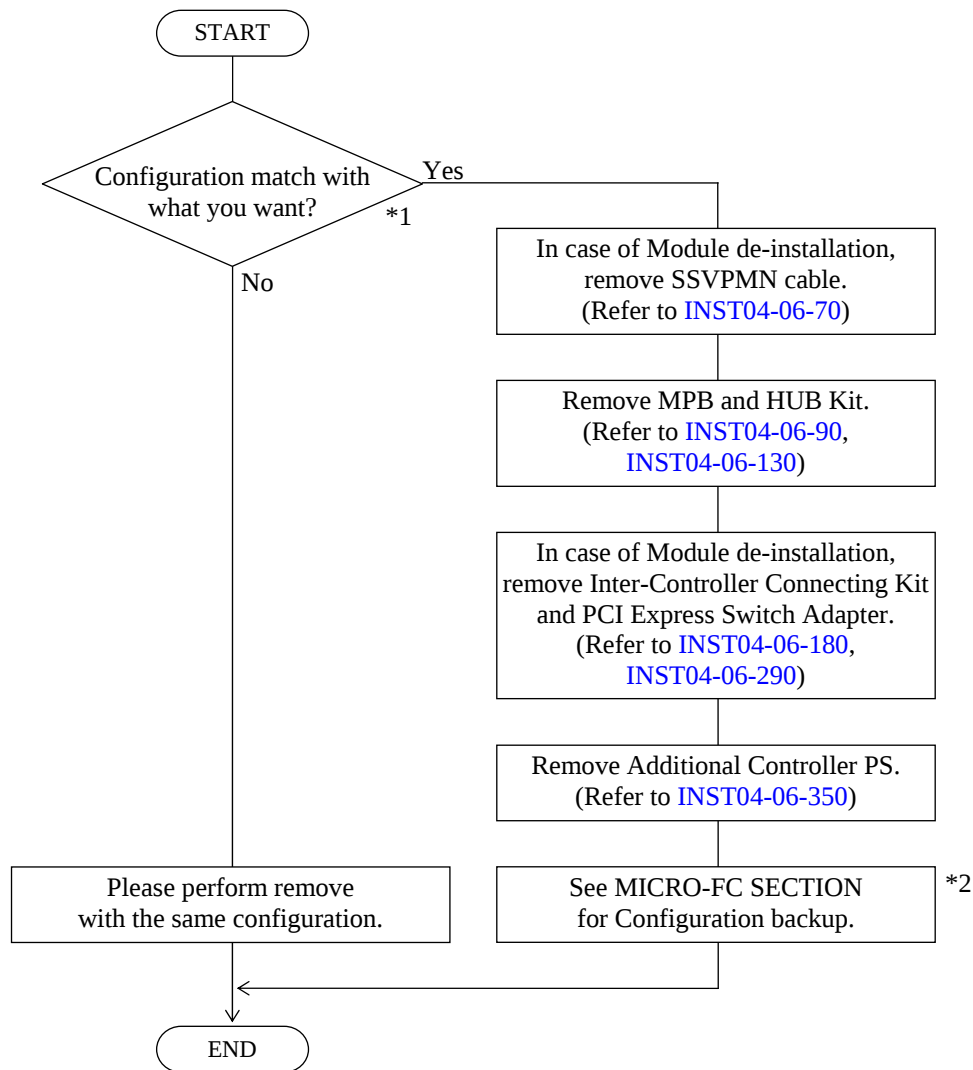
*5: When work stops it by SVP reboot, please perform self-replacement both 1CA and 2CC.

2.7.4 Power Supply



*1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

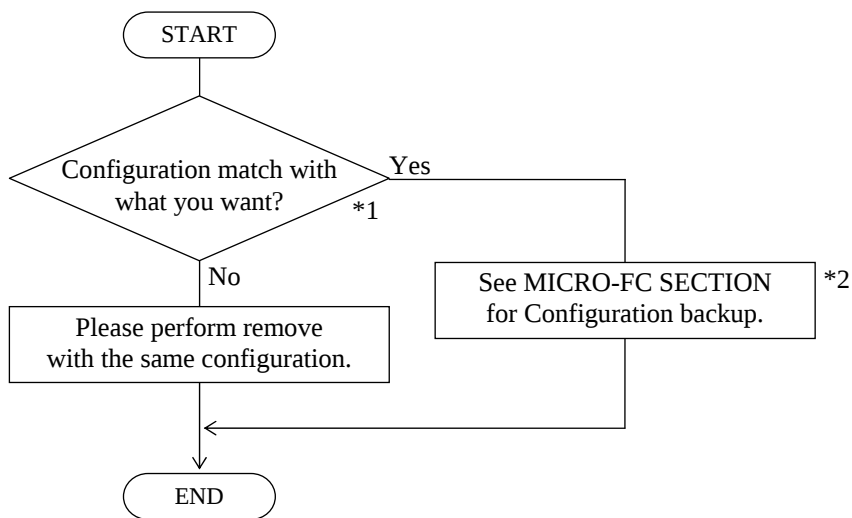
*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

INST02-191**2.7.5 MPB + Module**

*1: Select (CL) [Install]-[Refer Configuration] in the 'SVP' Window.

*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

2.7.6 SVP



*1: Select (CL) [Install]-[Set IP Address] in the 'SVP' Window.

*2: Select (CL) [Install]-[Copy Config Files]-[Create Configuration Backup] in the 'SVP' Window.

INST02-200

2.8 Availability of Installation and De-installation

The pair can be suspended if the ESTPAIR or paircreate (pairesync) command is issued during the HDD Canister or the Cache PCB installation/de-installation. Please ask your customer before the online maintenance operation.

PP	Status		HDD Canister			Cache PCB	CHA		DKA	MP
			DATA		SPARE					
			Installation	De-installation	Installation/De-installation		Installation/De-installation	Installation	De-installation	Installation/De-installation
TC-MF/TC (*5)	TC-MF path established	MCU	×	×	×	×	×	SVP4280W	×	×
		RCU	×	×	×	×	×	×	×	×
	During initial copy	MCU	×	SVP2031W (*1)	×	SVP2059W	×	SVP4280W	×	×
		RCU	×	SVP2034W	×	SVP2079W	×	SVP2038W	×	×
	After completing initial copy	MCU	×	SVP2031W (*1)	×	×	×	SVP4280W	×	×
		RCU	×	SVP2034W	×	×	×	SVP2038W	×	×
	Suspend	MCU	×	SVP2031W (*1)	×	×	×	SVP4280W	×	×
		RCU	×	SVP2034W	×	×	×	SVP2038W	×	×
UR (JNL-GROUP)	TC-MF path established	MCU	×	×	×	×	×	×	×	×
		RCU								
	Initial	MCU	×	SVP3825W	×	×	×	×	×	×
		RCU								
	Active	MCU	×	SVP3825W	×	×	×	×	×	×
		RCU								
	Halting	MCU	×	SVP3825W	×	×	×	×	×	×
		RCU								
	Stop	MCU	×	SVP3825W	×	×	×	×	×	×
		RCU								
	Stopping	MCU	×	SVP3825W	×	×	×	×	×	×
		RCU								

(To be continued)

INST02-210

(Continued from preceding sheet)

PP	Status		HDD Canister			Cache PCB	CHA		DKA	MP
			DATA		SPARE					
			Installation	De-installation	Installation/ De-installation		Installation/ De-installation	Installation/ De-installation		
SI-MF	Reserve	—	×	SVP2485W	×	×	×	×	(*7)	×
	Pending/ Resync/ SP-Pend	S-VOL	×	SVP2485W	×	×	×	×	×	(*7)
		T-VOL	×	SVP2485W	×	×	×	×	×	(*7)
	Duplex	S-VOL	×	SVP2485W	×	×	×	×	×	(*7)
		T-VOL	×	SVP2485W	×	×	×	×	×	(*7)
	Split	S-VOL	×	SVP2485W	×	×	×	×	×	(*7)
		T-VOL	×	SVP2485W	×	×	×	×	×	(*7)
	Suspend	S-VOL	×	SVP2485W	×	×	×	×	×	(*7)
		T-VOL	×	SVP2485W	×	×	×	×	×	(*7)
FCv2	During copy	S-VOL	×	SVP2485W	×	×	×	×	×	×
		T-VOL	×	SVP2485W	×	×	×	×	×	×
	NOCOPY	S-VOL	×	SVP2485W	×	×	×	×	×	×
		T-VOL	×	SVP2485W	×	×	×	×	×	×
	Incremental FlashCopy	S-VOL	×	SVP2485W	×	×	×	×	×	×
		T-VOL	×	SVP2485W	×	×	×	×	×	×
XRC	During initial copy	Primary	×	(*3)	×	(*4)	×	×	×	(*4)
		Secondary	×	(*3)	×	×	×	×	×	×
	Established	Primary	×	(*3)	×	(*4)	×	×	×	(*4)
		Secondary	×	(*3)	×	×	×	×	×	×
	Suspend	Primary	×	(*3)	×	(*4)	×	×	×	(*4)
		Secondary	×	(*3)	×	×	×	×	×	×

(To be continued)

INST02-220

(Continued from preceding sheet)

PP	Status		HDD Canister			Cache PCB	CHF		CHM		DKA	MP
			DATA		SPARE							
			Installation	De-installation	Installation/ De-installation		Installation	De-installation	Installation	De-installation	Installation/ De-installation	Installation/ De-installation
UR (DATA-VOL)	TC-MF path established	MCU	×	×	×	×	×	×	×	×	×	×
		RCU	×	×	×	×	×	SVP4280W	×	×	×	×
	During initial copy	MCU	×	SVP2031W	×	SVP2059W	×	SVP3848W	×	×	×	×
		RCU	×	SVP2034W	×	SVP2079W	×	SVP4280W	×	SVP4291W (*6)	×	×
	After completing initial copy	MCU	×	SVP2031W	×	×	×	SVP3848W	×	×	×	×
		RCU	×	SVP2034W	×	×	×	SVP4280W	×	SVP4291W (*6)	×	×
	Suspend	MCU	×	SVP2031W	×	×	×	SVP3848W	×	×	×	×
		RCU	×	SVP2034W	×	×	×	SVP4280W	×	×	×	×
	Suspending	MCU	×	SVP2031W	×	×	×	SVP3848W	×	×	×	×
		RCU	×	SVP2034W	×	×	×	SVP4280W	×	SVP4291W (*6)	×	×
	Deleting	MCU	×	SVP2031W	×	×	×	SVP3848W	×	×	×	×
		RCU	×	SVP2034W	×	×	×	SVP4280W	×	SVP4291W (*6)	×	×

× : Maintenance is available.

SVPXXXXW : Maintenance is not available based on the specification. Refer to SVP MESSAGE SECTION.

*1: If CU which all HDEV's are deleted from by this operation exists and there is registration of RCU in this CU, SVP will display a warning message with SVP2466W.

*2: When the different 'DKC – Emulation –Type' of CHA is installed, SVP displays a warning message with SVP3289W.

*3: When a maintenance operation is needed while XRC is being used, XRC should be stopped before the maintenance operation.

- *4: When a maintenance operation is needed while XRC is being used, I/O's for XRC pair volumes or XRC itself should be stopped before the maintenance operation.
If the maintenance operation must be done while XRC is being used, you must confirm that the usage of Sidefile monitor is less than 20% of total Cache capacity by monitoring each combination of MPPK and CLPR usage before you start the maintenance operation. Only when the usage of Sidefile monitor is less than 20% of total Cache capacity, you can proceed the maintenance operation.
Refer to SVP SECTION "2.4 Monitoring" ([SVP02-240](#)) about Sidefile monitor.
Select the [Monitor] icon in the 'SVP' window.
Next select the [Monitor] menu in the 'Information' window and select [start....].
Next select the 'Sidefile' box in the 'Item' menu in the 'Monitoring' window and select [OK].
- *5: It is impossible to change the DKC No, SSID, or DKC Emulation type by system tuning when TrueCopy for Mainframe or TrueCopy is used.
- *6: In this operation, when all of CHM were set down, the warning message of 'SVP4291W' will be outputted.
- *7: In the case of SI-MF, when all CHM is specified to de-install with pair includes 3390-A volume, the alert message of 'SVPXXXXW' is shown.

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

2.9.1 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 micro programs into the DKC subsystem. Its version must be appropriate one.
- Installing the configuration information which is appropriate to the customer.

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

2.9.2 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. (For the Hardware installation, refer to “2.1 New Installation Procedure Table” ([INST02-10 ~ INST02-20](#)))
- ② The PC (SVP) is installed and can be used. (For the SVP installation, refer to [REP03-20-190 ~ REP03-20-640](#))

2.9.3 Procedures

(1) Summary

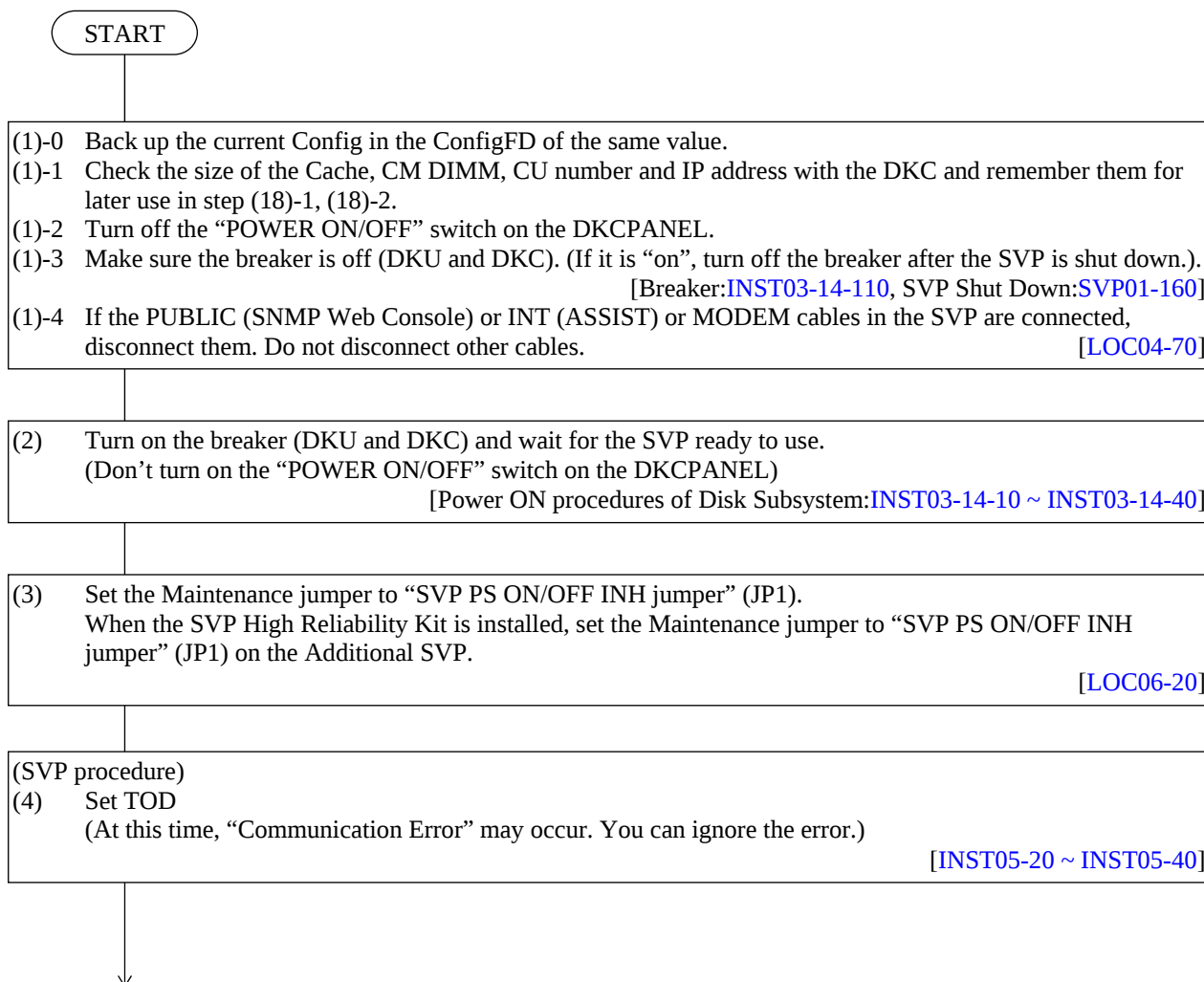
The procedures are divided roughly into 3 processes.

- ① Pre-processing (the installation of the micro-programs into the SVP HD : (1)-(8) in the following flow)
- ② Execution of “Define Configuration and Install” by the SVP.(By this procedure, the customer’s configurations are defined, and the micro-programs are installed.) : ((9)-(18) in the following flow)
- ③ Others ((19)-(39) in the following flow)

(2) Processing Flow

The processing flow of the new installation is as follow:

INST02-280



(SVP procedure)

(5) Execute the following procedures: (*10)

[Install micro-programs and configuration to the HD to the SVP]

[REP03-20-220 ~ REP03-20-490]

step0: Connect to the SVP display from the client PC by the remote desktop.

step1: Prepare the 1st and 2nd CD-ROM. (*1)

step2: De-install any additional software installed on the SVP such as Hi-Track/C-Track and Anti-Virus client.

REP03-20-230 1. Apache (launch the uninstallation batch)
Select "start"- "programs"- "accessories"-
"cmd prompt (right click to administrator)"
and enter the following command:
\\tsclient\JavaAp\Apache\ApacheUnInst.bat (enter)
Remove CD-ROM from client PC's drive.

REP03-20-240 2. Apache Tomcat uninstall from "Control panel"- "Add or Remove programs".
During uninstall the following message is displayed:
"Remove all files in your Tomcat directory?"
If you have anything you created you want to keep, click NO."
Select Yes, press Enter.
Do NOT allow Reboot!

REP03-20-270 3. Java Dev. Kit uninstall from "Control panel"- "Add or Remove Programs".
Do NOT allow Reboot!

4. Java Update uninstall from "Control panel"- "Add or Remove Programs".
Do NOT allow Reboot!

REP03-20-320 5. Perl uninstall from "Control panel"- "Add or Remove Programs".
Do NOT allow Reboot!

REP03-20-340 6. Flash uninstall from "Control panel"- "Add or Remove Programs".
Do NOT allow Reboot!

step3: Click "START" on the task bar and select "Settings"- "Control Panel"- "Add or Remove Programs".
Uninstall JRE:Java(TM) + Java(TM) SE Development Kit, Apache, and Perl. Do not reboot after each
uninstall. Stop any services that are coming out in the Warning messages.

step4: Insert the CD-ROM disk into the client PC's drive.

step5: Enter the following command: \\tsclient\E\setup.exe (enter).

* In the case client PC's CD-ROM drive is "E:".

Message is displayed:

"(SVP4186W) Initializing the SVP is currently operating. Do you want to continue?"

Select Yes, press Enter.

The following message is displayed:

"SVP will be rebooted to stop the SVP, please retry the setup after the PC reboots!"

press Enter.

SVP reboots....

After reboot 2 icons are displayed (RAID ADMIN and OTHER USER) Switch to OTHER USER icon and enter "administrator" (user) and "raid-login" (password). Follow the process on the screen.

Select [CD-R] to install configuration information from CD-R, when the message CNF4061i.

Enter the key code of the configuration information when the message CNF4055i, and then click [OK]. (*12)

Insert the second CD-R (OSS), when requested and select [OK].

This operation causes the "SVP Reboot". Then wait few minutes and reconnect by the remote desktop.

Java, Perl and Apache Tomcat is being installed at this step.

Do not change any parameters during install (leave unchanged values).

step6: Remove the CD-ROM from the client PC's drive.

(SVP procedure)

(6) Set IP Address

IP Address must be 126.255.255.15 and Subnet mask must be 255.0.0.0. Also, "Target" must be "SVP".

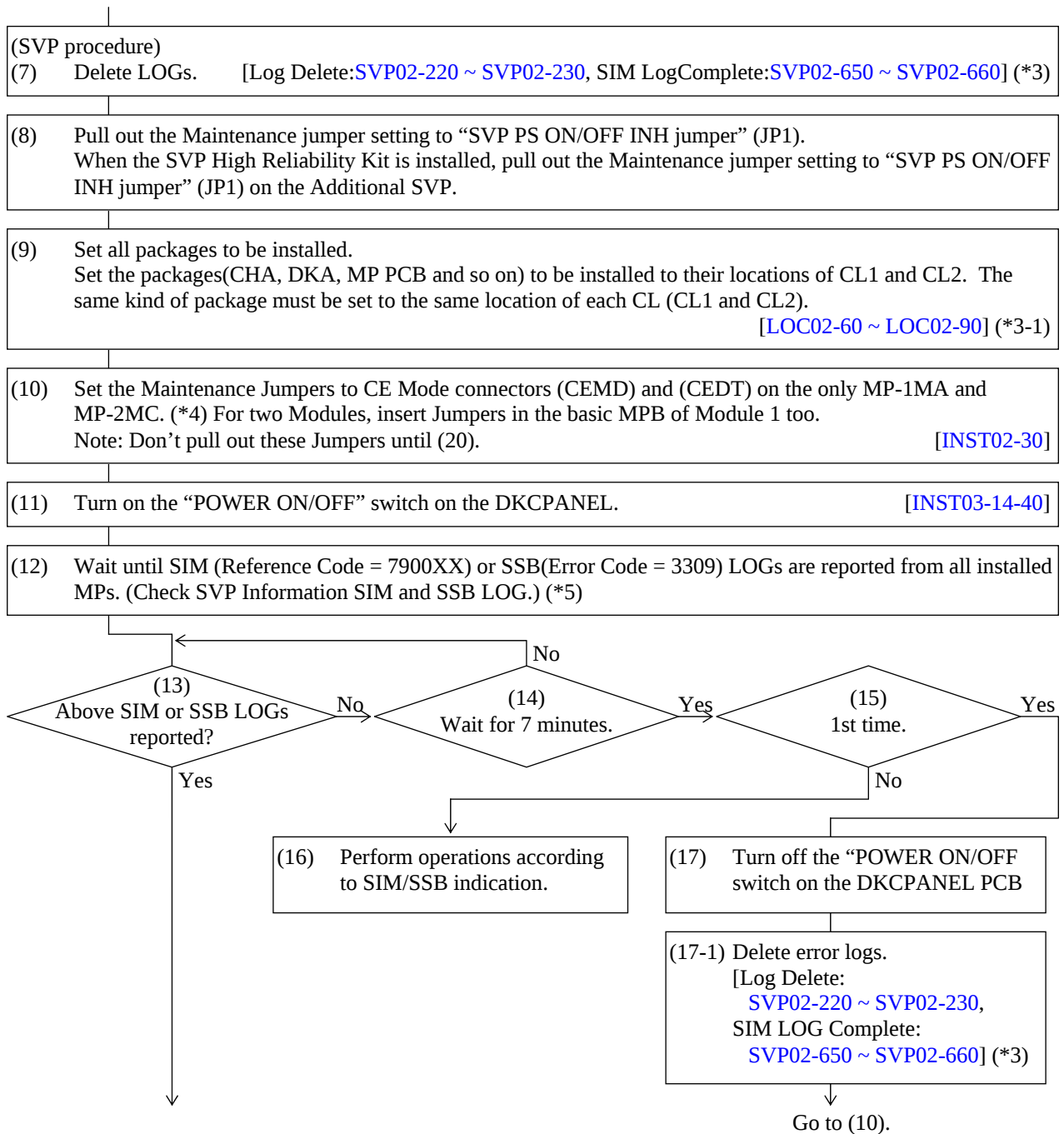
(Don't select "SVP and DKC" as the "Target".

[INST05-50 ~ INST05-70] (*2)

Besides, do not select "Use Duplex SVP" in the "External IP Address" box.

Config BackUp is accompanies.

INST02-290



INST02-300

Change the SVP mode to “Initial Setting”. (*6)

(SVP procedure) -- (Execution of Define Configuration and Install)

(18)-1 Execution of Config Exchange Procedure.

Select the “Install” in the “SVP” window and select “Copy Config Files” in the “Install” window. And select “All Configuration Files” in the “Copy Config Files” window.

[[MICRO07-60 ~ MICRO07-70](#)]

(18)-2 Define the configuration information that you want to install now for this DKC subsystem.

Then, the defined size of the Cache and CM DIMM must be equal to ones of the Cache and CM DIMM equipped for the DKC subsystem. (*7) (*11)

The configuration information must be defined according to the SVP guidance. Especially, you must not forget the definition of the following information.

① DKC Serial No., IP Address. ③ Host Interface Configuration:

② Cache Configuration ④ PDEVs, LDEVs, etc. [[INST05-80 ~ INST05-430](#)]

(19) Turn off the “POWER ON/OFF” switch on the DKCPANEL.

[[INST03-14-80](#)]

(20) Pull out the Maintenance Jumpers from all the MP PCBs.

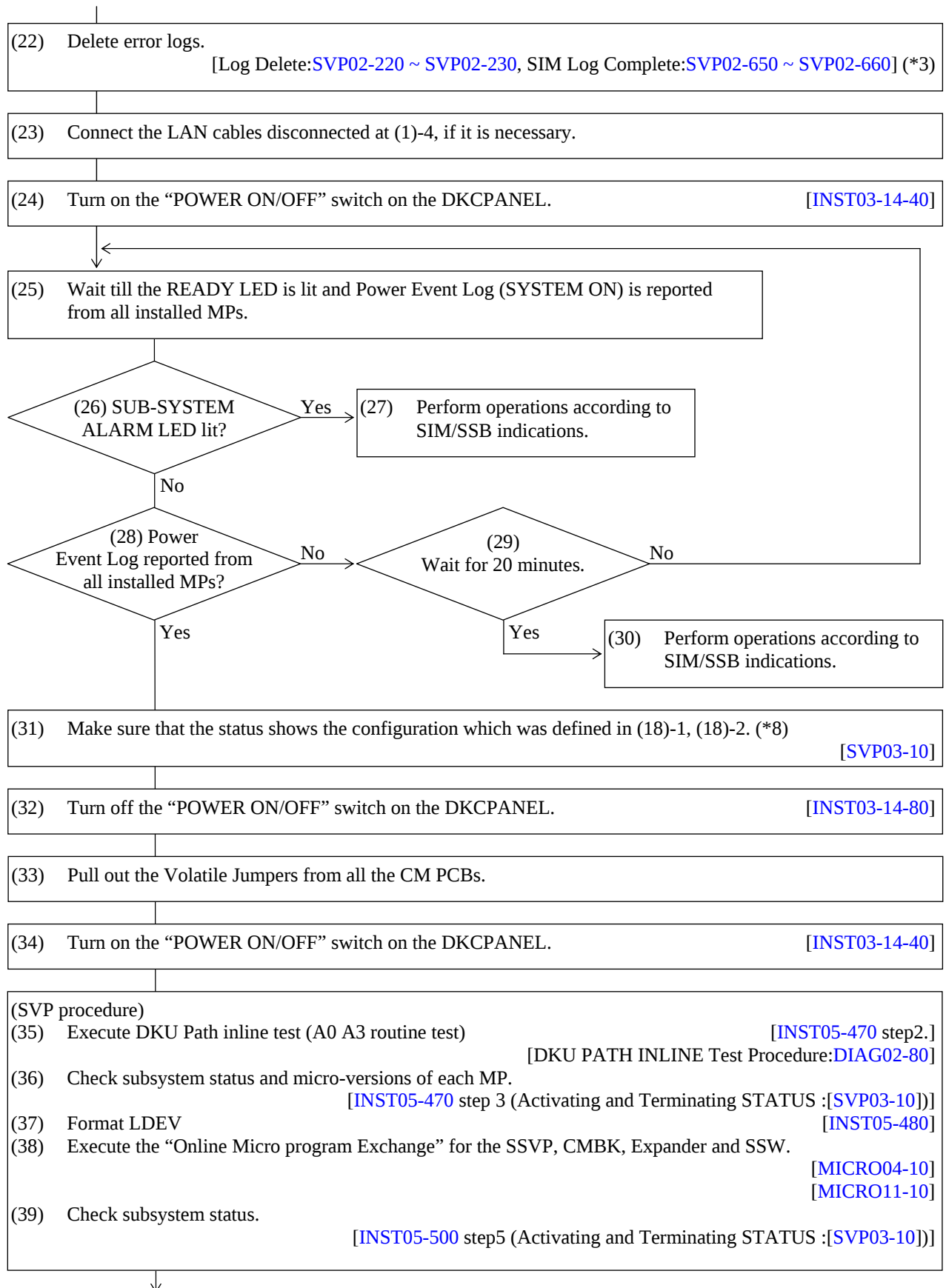
(*4)

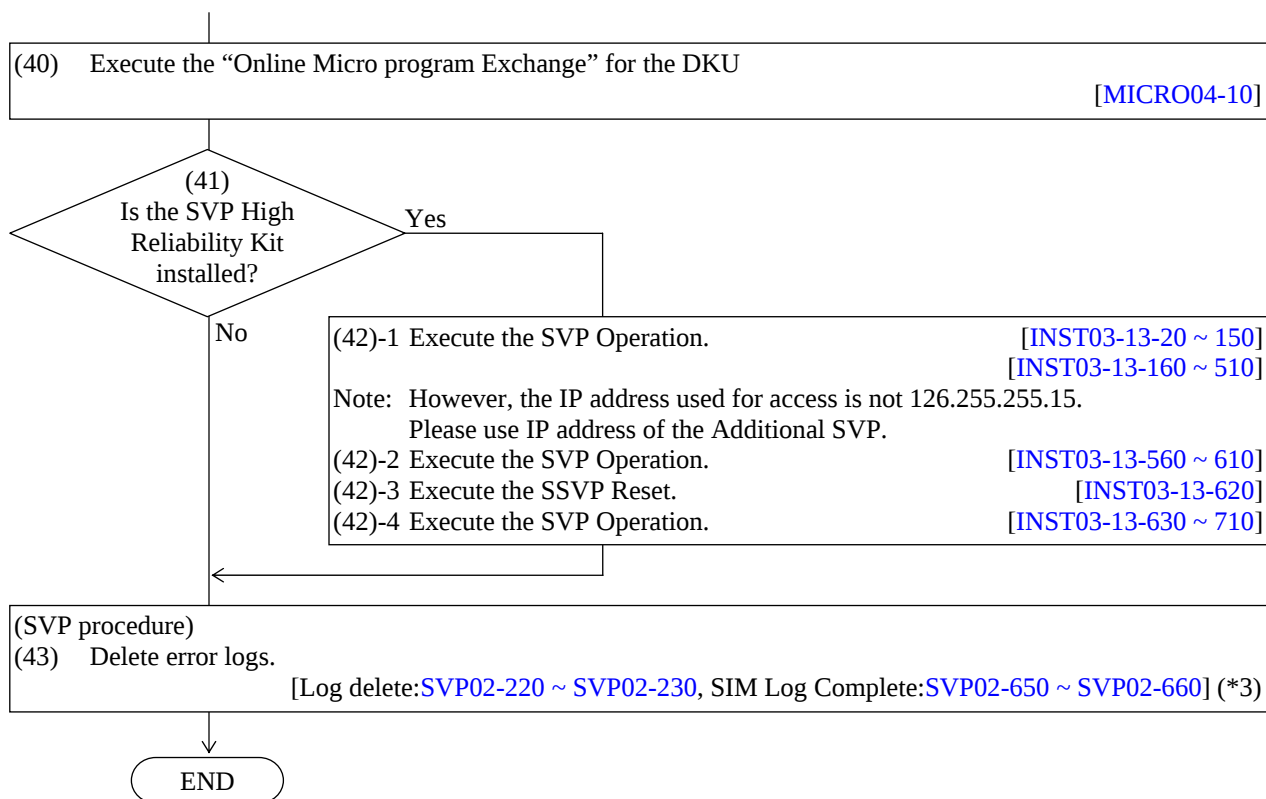
(21) Set the Volatile Jumpers on all the CM PCBs.

Note: Don't pull out these Jumpers until (33).



INST02-310

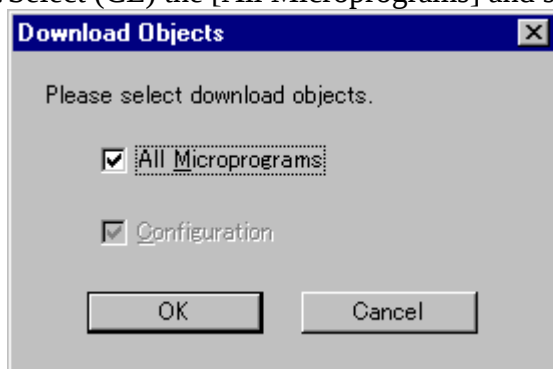


INST02-320

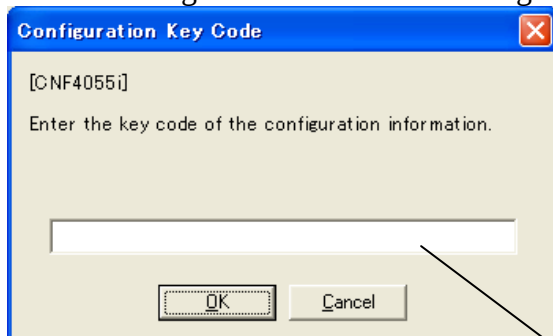
- *1 : The 1st CD-ROM includes the micro-programs and configuration information to be installed into the DKC subsystem.
The 2nd CD-ROM (OSS) includes Apache, Perl, Java, Storage Navigator and Tomcat.
- *2 : Even if the “IP Address” is “126.255.255.15” and the “Subnet Mask” is “255.0.0.0” on the screen of “Set IP Address”, be sure to select “OK” and reply “OK” to the message “This will reboot SVP.”.
- *3 : It’s necessary to execute the procedure of “SIM Log Complete” before deleting the SIM data.
- *3-1: At least, a pair of MP PCBs must be installed in the CL1 and CL2 PCB locations.
- *4 : Refer to the following about the Maintenance Jumpers.
 - “INST02-30 Note”
- *5 : Count SSB Logs (Error Code = 3309). The number is same as the number of the installed MPs.
- *6: Press the following keys at the same time to change the mode to “Initial Setting”.
[SHIFT], [CTRL], [I]
And input the password. (*9)
- *7: In this definition, specify the actual DKC Serial Number.
Also, “IP Address” should be specified as follows:
 - ① Specifying the IP Address according to the DKC Serial Number Select “Based on Serial Number”, and the IP Address will be assigned automatically.
 - ② Specifying in option
Select “Specified” and specify the optional address for the IP Address.
And, the defined value for the size of the Cache and CM DIMM should be equal to the value that was confirmed at (1) in the processing flow. After the configuration information is defined, Turn on the “POWER ON/OFF” switch of the DKC and the reboot of the SVP will be executed.
- *8: Surely, check the following status:
 - (1) the condition of each PCB status.----- PCB Kind/Normal or not/etc
 - (2) the micro-program version
- *9: For the password, ask the technical support division. And use it with their approval.

*10: The SIM BF85A3 (Basic SVP JP1 setting error) may be reported. When the SVP high-reliability kit is installed, the SIM BF86A3 (Optional SVP JP1 setting error), BFE3A2 (SVP duplication setting defect) and 7FF201 (standby SVP failure detection) may occur but there is no problem because they occur in process of the SVP replacement.

*11: Select (CL) the [All Microprograms] and select (CL) the [OK] button. ([INST05-410](#))



*12: The Following tables show all the configuration key codes.



Type	Configuration key code
/00	VSP
/10	P9500

2.10 Obstacle part replacement procedure in install

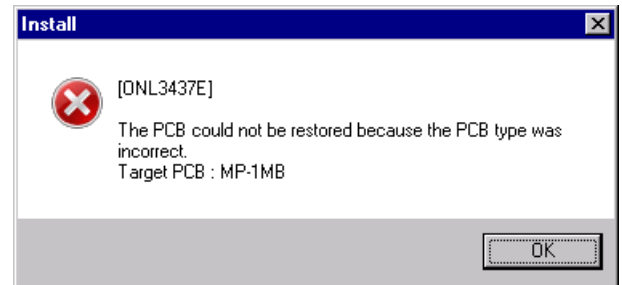
2.10.1 Replacement procedure when PCB could not be restoring

(1)

The following messages are displayed when PCB could not be restoring.

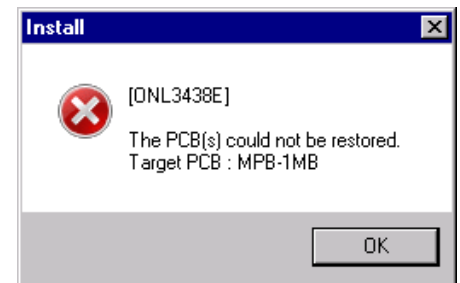
When “The PCB could not be restored because the PCB type was incorrect. Target PCB : *****” is displayed, please check the PCB type. (The target PCB location is displayed on Target PCB : *****.)

Please select(CL) [OK] after a check.



When “The PCB(s) could not be restored. Target PCB : *****” is displayed, please check the PCB. (The target PCB location is displayed on Target PCB : *****.)

Please select(CL) [OK] after a check.

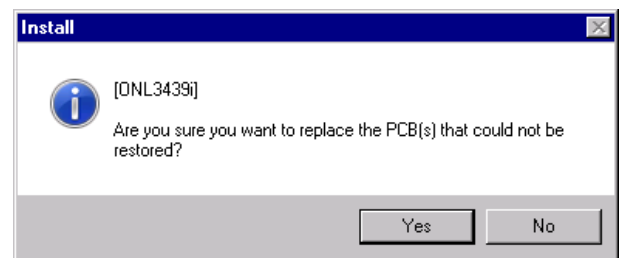


(2)

“Are you sure you want to replace the PCB(s) that could not be restored?” is displayed.

When the maintenance parts to replace exist, please select (CL) [Yes]. → Go to (3)

When the maintenance parts to replace do not exist, please select (CL) [No] and refer to trouble shooting for errors in install. ([INST02-110](#), [INST02-130](#))

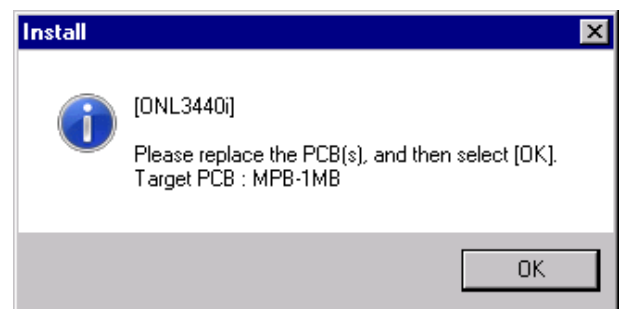


(3)

“Please replace the PCB(s), and then select [OK]. Target PCB : *****” is displayed. (The target PCB location is displayed on Target PCB : *****.)

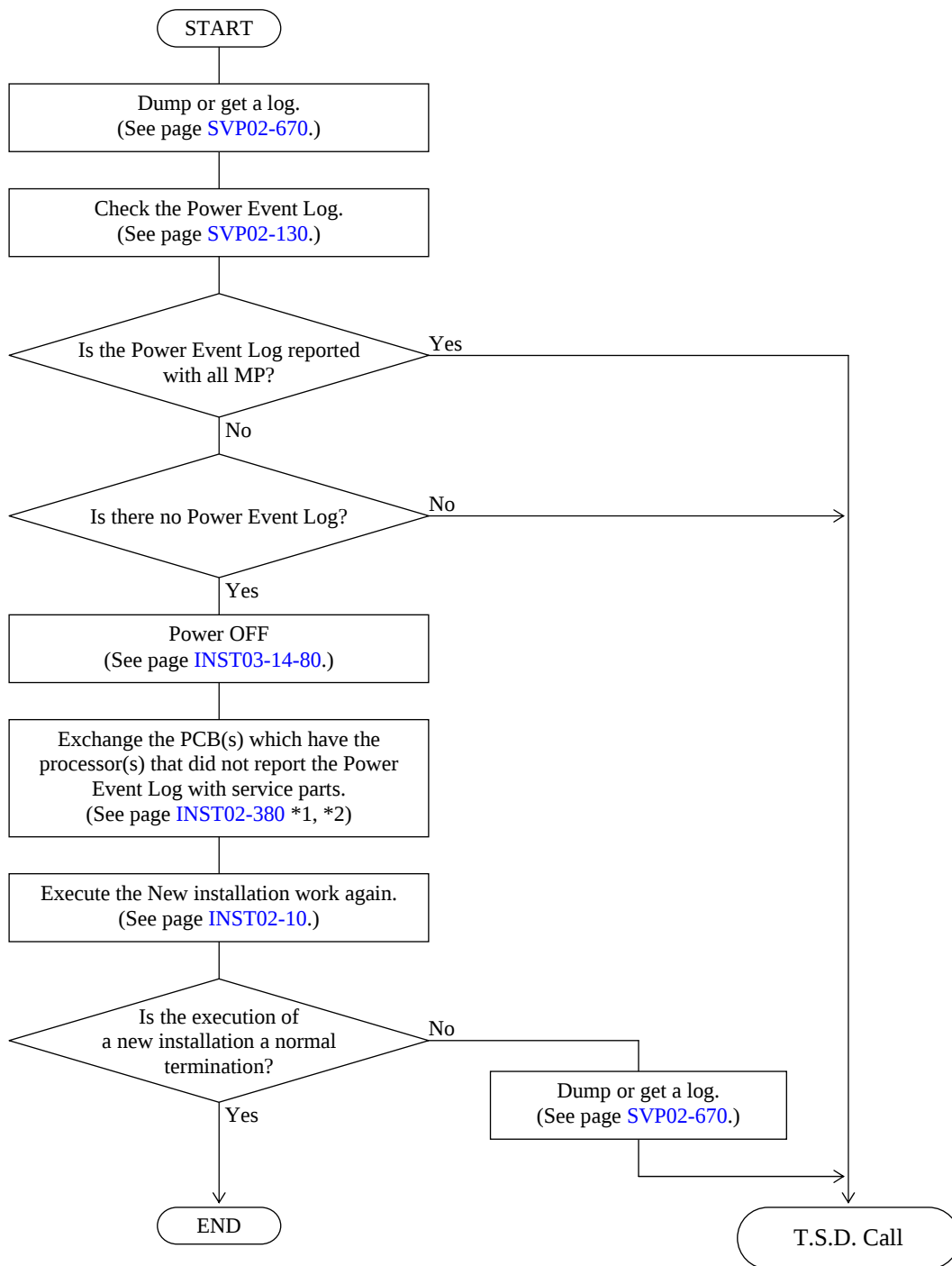
Please select (CL) [OK], after replacing the target PCB.

It returns to the former install section.

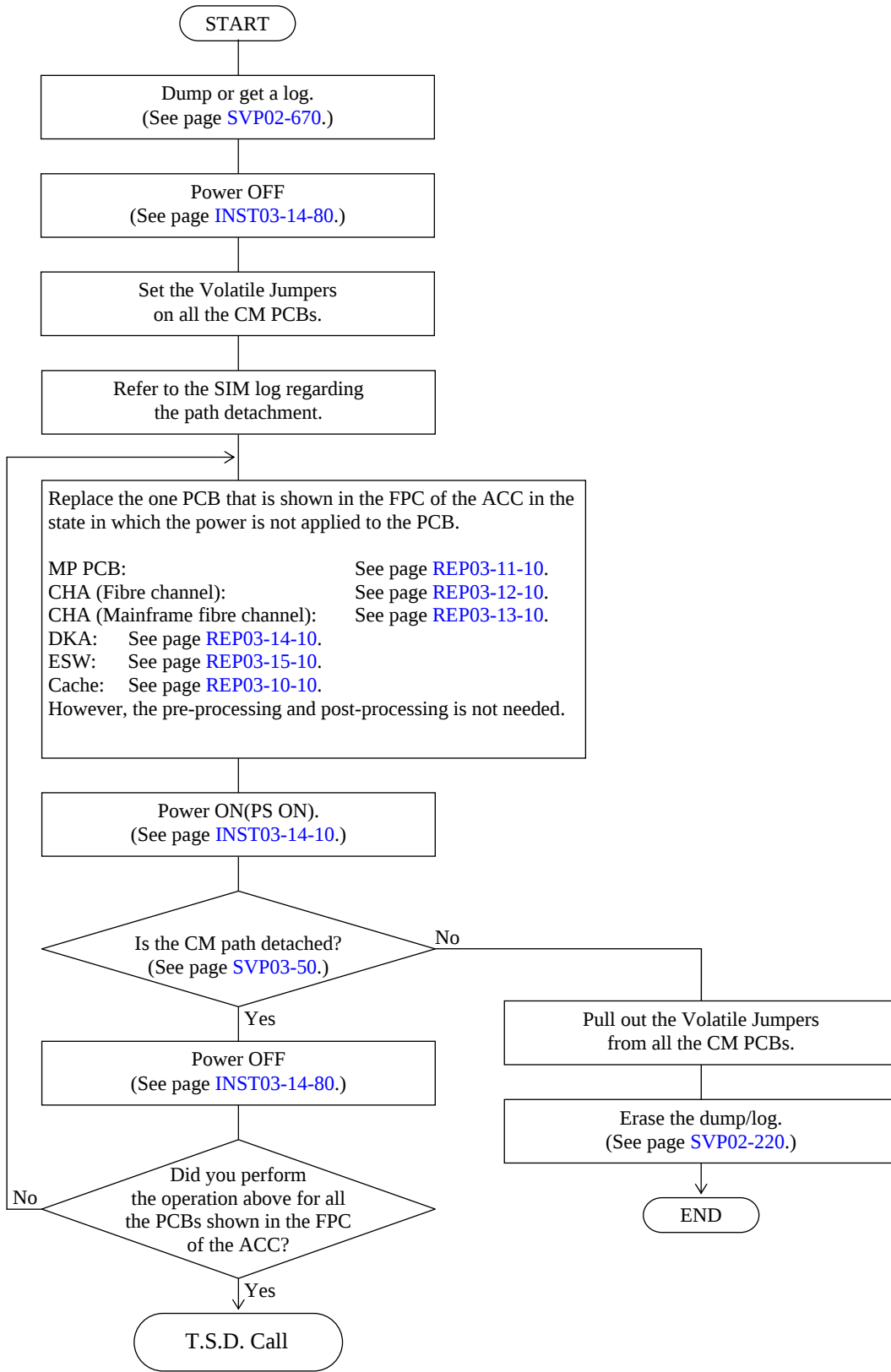


2.11 Troubleshooting at the time of new installation

(1) When the ALARM LED comes on



(2) When the CM path is detached



INST02-380

- *1: Pulling out of the processor PCB
Refer to page [INST04-06-80](#).
- *2: Insertion of the processor PCB
Refer to page [INST03-07-50](#).