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LOCATION SECTION

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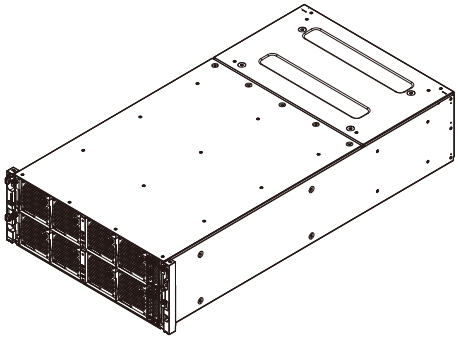
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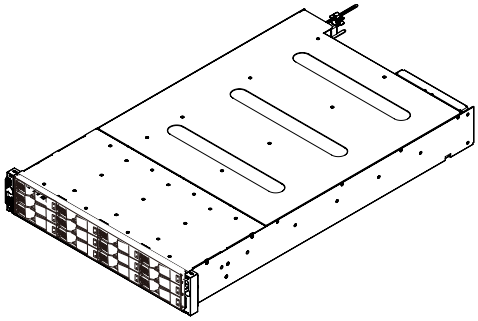
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1. Overview of Storage System

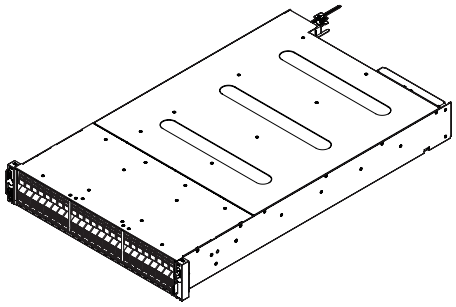
Figure 1-1 Overview of Controller Chassis



CBLM/CBLH



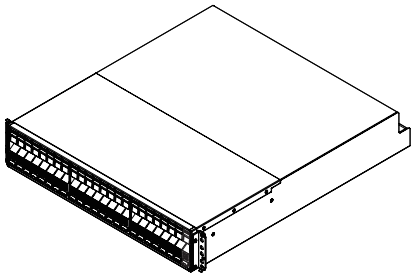
CBSL



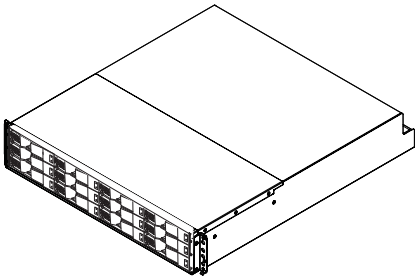
CBSS

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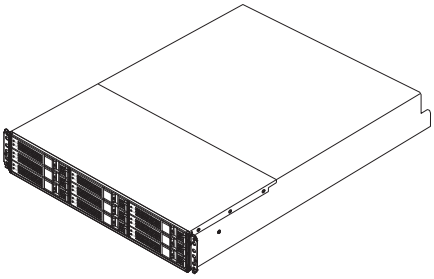
Figure 1-2 Overview of Drive Box



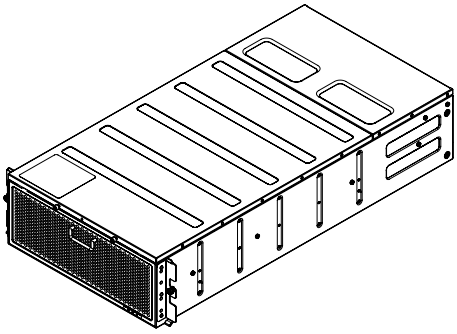
DBS



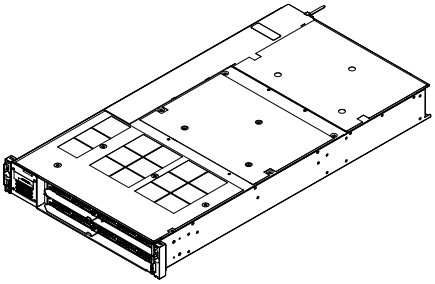
DBL



DBF



DB60



CHBB

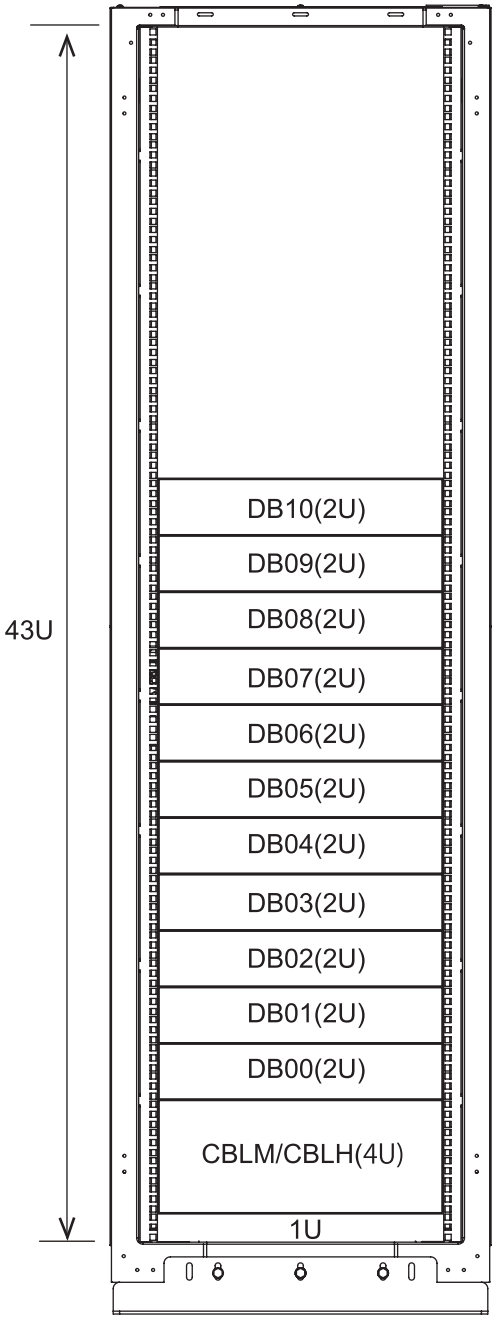
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2. Parts Location

2.1 Configuration Example of Main Parts

The following figure shows a configuration example of installing Controller Chassis (4U) and Drive Box (2U) in 43 units rack frame.

Figure 2-1 Configuration Example of Main Parts



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2.2 Controller Chassis

2.2.1 CBSS

The following figure shows the parts location of CBSS.

Figure 2-2 Parts Location of CBSS

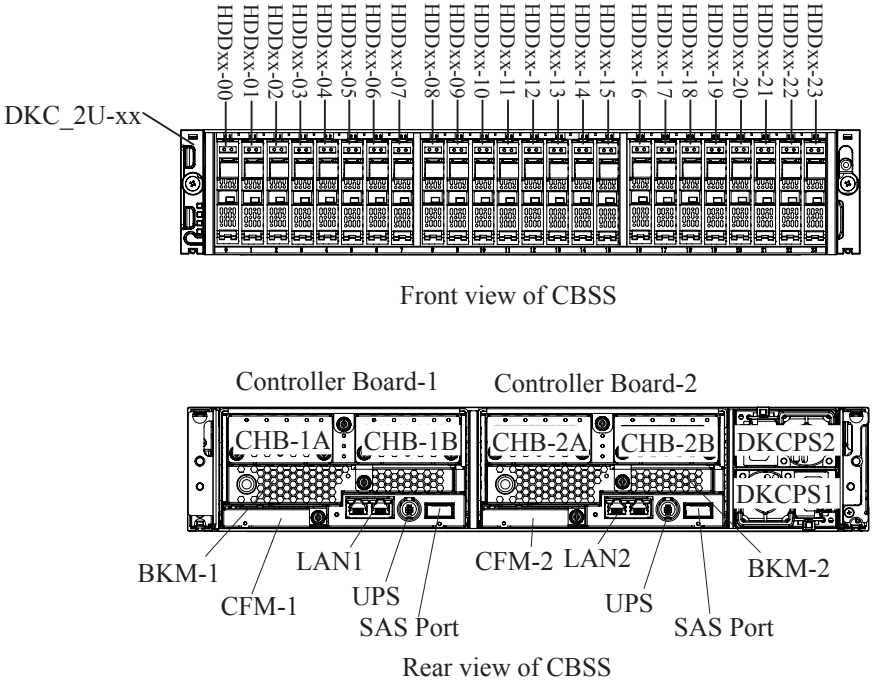


Table 2-1 Locations of SAS Ports

Controller Board	SAS Port#	Remarks
Controller Board 1	1C-0	Connection to the Drive in the CBSS. No external cable connection exists.
	1C-1	Connection to the Drive outside the CBSS. The external cable connection exists.
Controller Board 2	2C-0	Connection to the Drive in the CBSS. No external cable connection exists.
	2C-1	Connection to the Drive outside the CBSS. The external cable connection exists.

2.2.2 CBSL

The following figure shows the parts location of CBSL.

Figure 2-3 Parts Location of CBSL

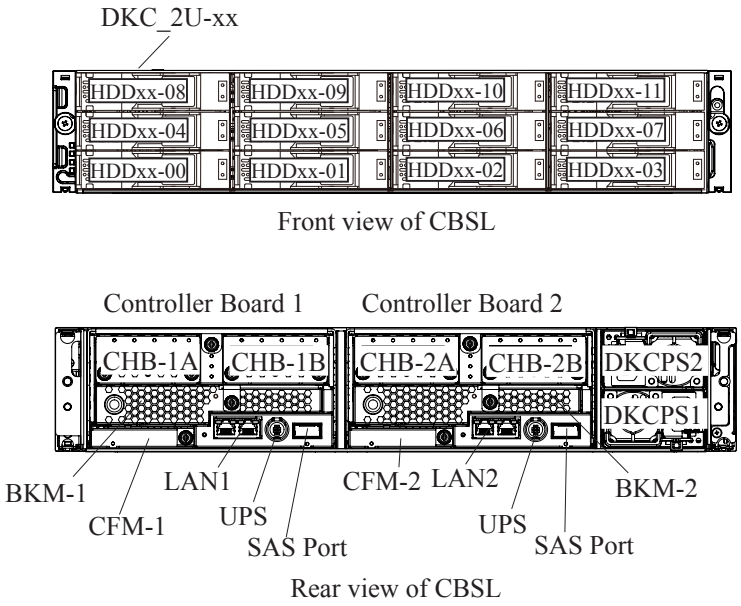


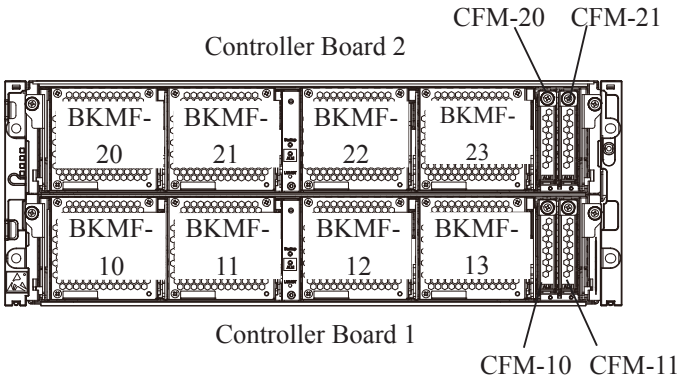
Table 2-2 Locations of SAS Ports

Controller Board	SAS Port#	Remarks
Controller Board 1	1C-0	Connection to the Drive in the CBSL. No external cable connection exists.
	1C-1	Connection to the Drive outside the CBSL. The external cable connection exists.
Controller Board 2	2C-0	Connection to the Drive in the CBSL. No external cable connection exists.
	2C-1	Connection to the Drive outside the CBSL. The external cable connection exists.

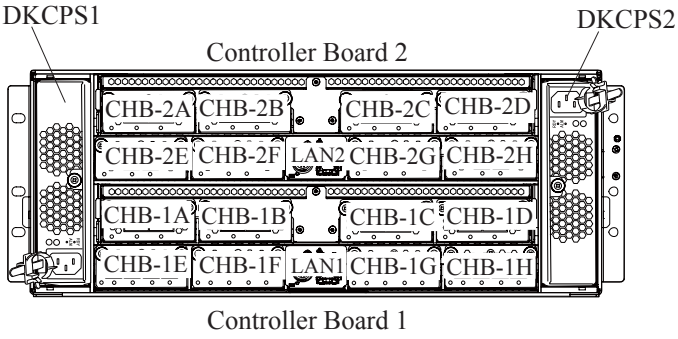
2.2.3 CBLM/CBLH

The following figure shows the parts location of CBLM/CBLH.
When installing NAS Modules, one module uses four slots of the location A, B, C and D on the rear of the Controller Board of CBLM/CBLH. It cannot be installed in the location E, F, G and H.
The location on the front of the Controller Board is common regardless of installation/removal of the NAS Modules.

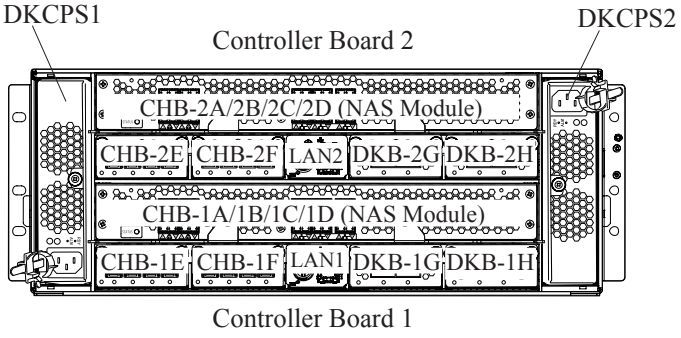
Figure 2-4 Parts Location of CBLM/CBLH



Front view of CBLM/CBLH



Rear view of CBLM/CBLH (When NAS modules are not installed)

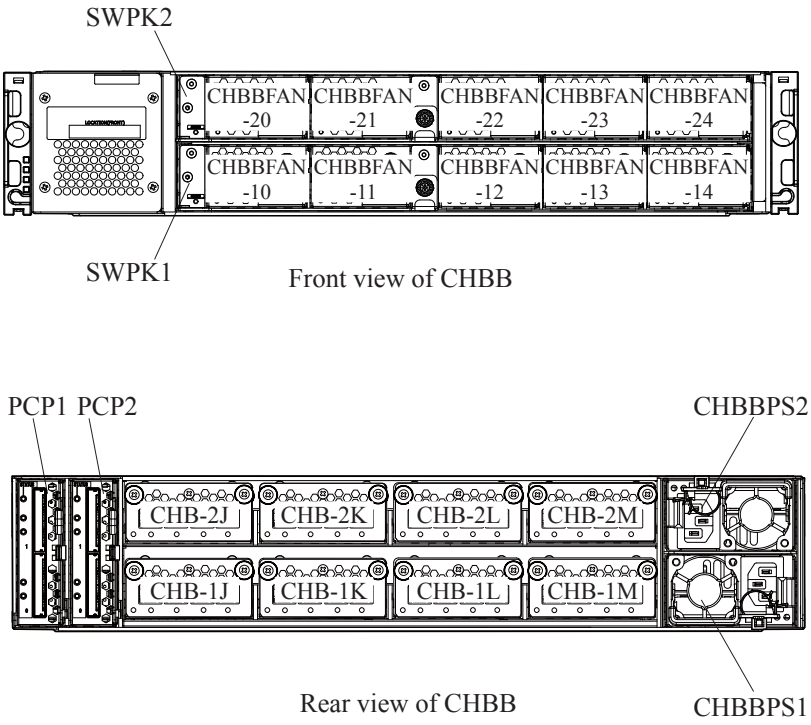


Rear view of CBLM/CBLH (When NAS modules are installed)

2.2.4 Channel Board Box (CHBB)

The following figure shows the parts location of Channel Board Box (CHBB).

Figure 2-5 Parts Location of Channel Board Box (CHBB)



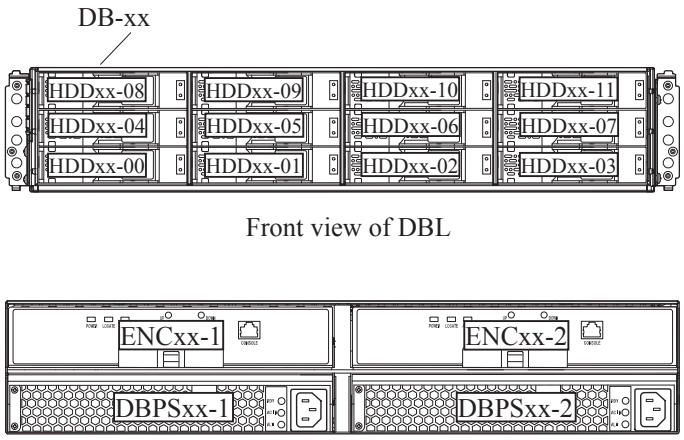
2.3 Drive Box (2U/4U)

The number (DB-xx) of Drive Box doesn't indicate the installation location of Drive Box, but indicates the order of installation. Therefore, while performing process to Drive Box, it is necessary to confirm location with the location label put on Drive Box, and be careful not to make a mistake of the target location.

2.3.1 DBL (3.5-inch Drive Box)

The following figure shows the parts location of DBL.

Figure 2-6 Parts Location of DBL



Front view of DBL

Rear view of DBL

*1 : The name in parentheses in the MPC messages shows HDDxx-yy here.

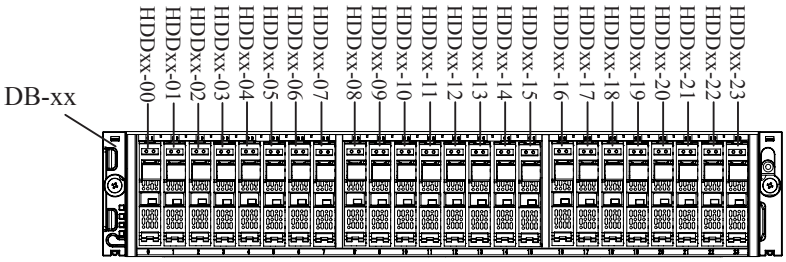
*2 : DBxx
└→ DB No. (00, 01, 02, ..., 47)

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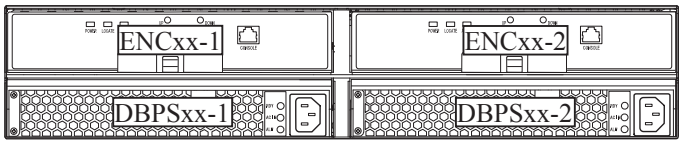
2.3.2 DBS (2.5-inch Drive Box)

The following figure shows the parts location of DBS.

Figure 2-7 Parts Location of DBS



Front view of DBS



Rear view of DBS

*1 : The name in parentheses in the MPC messages shows HDDxx-yy here.

*2 : DBxx

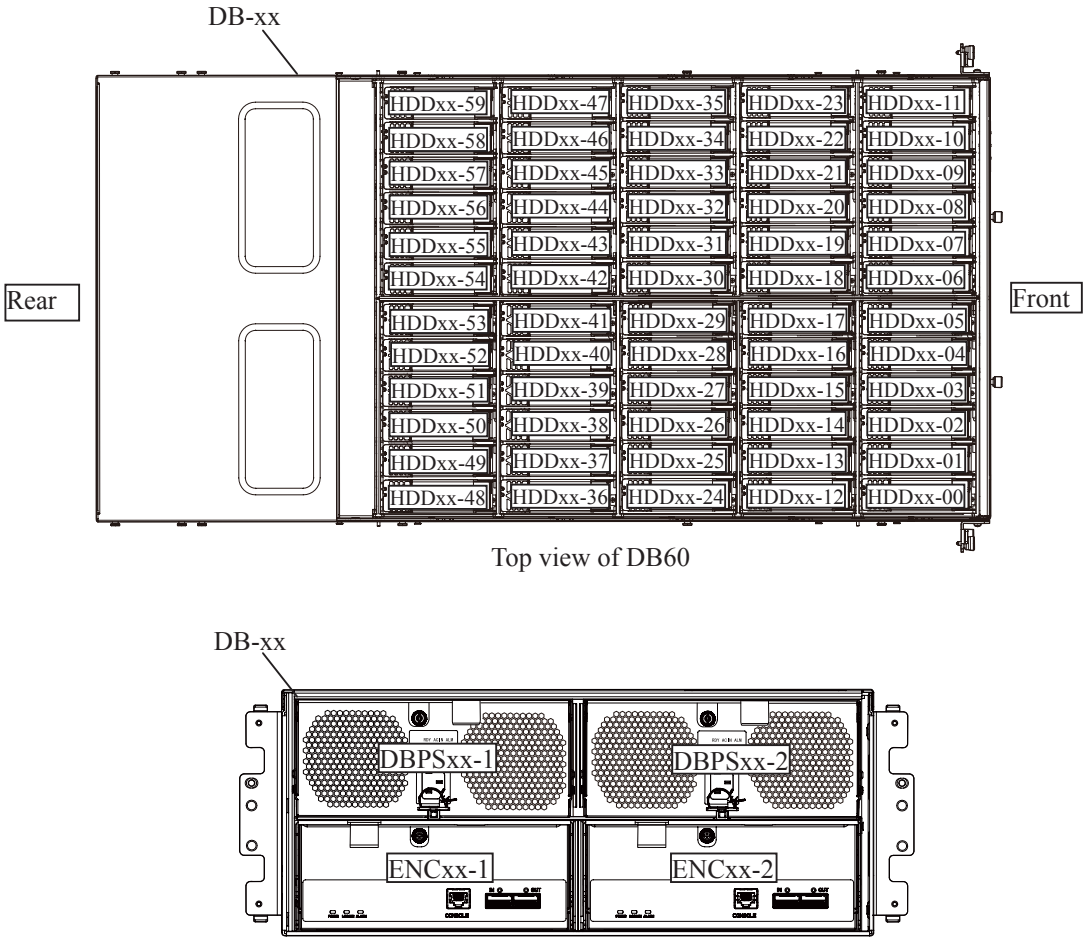
↳ DB No. (00, 01, 02, ..., 47)

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2.3.3 DB60 (3.5-inch 4U Drive Box)

The following figure shows the parts location of DB60.

Figure 2-8 Parts Location of DB60



Top view of DB60

*1 : The name in parentheses in the MPC messages shows HDDxx-yy here.

*2 : DBxx

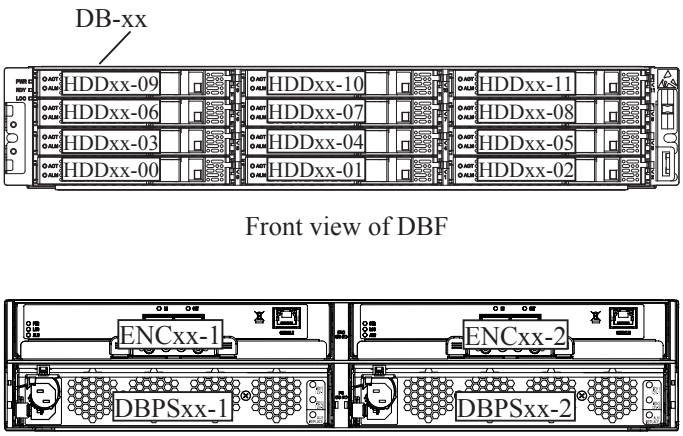
↳ DB No. (00, 01, 02, ..., 23)

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2.3.4 DBF (Flash Module Drive Box)

The following figure shows the parts location of DBF.

Figure 2-9 Parts Location of DBF



Front view of DBF

Rear view of DBF

*1: The name in parentheses in the MPC messages shows HDDxx-yy here.

*2: DBxx

└→ DB No. (00, 01, 02, ..., 47)

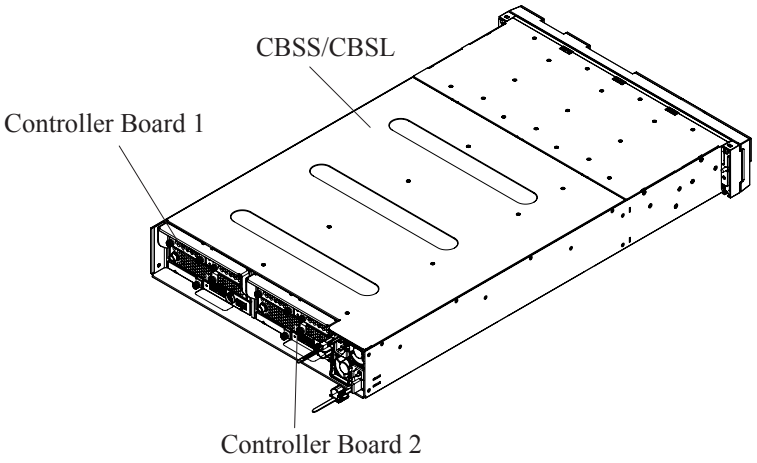
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2.4 Parts Location

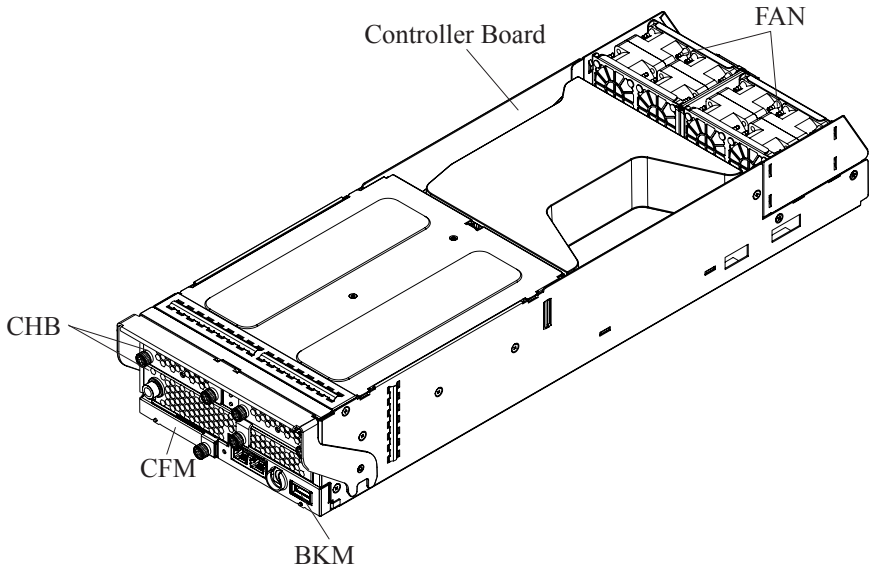
2.4.1 Parts Location of CBSS/CBSL

The following figure shows the parts location of CBSS/CBSL.

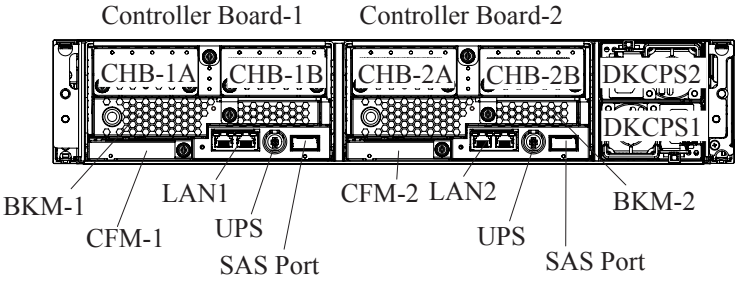
Figure 2-10 Parts Location of CBSS/CBSL



General view of CBSS/CBSL



General view of Controller Board



Rear view of CBSS/CBSL

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NOTE: • The Controller Board includes the LANB and DKB.
• The CBSS/CBSL includes DB-00.

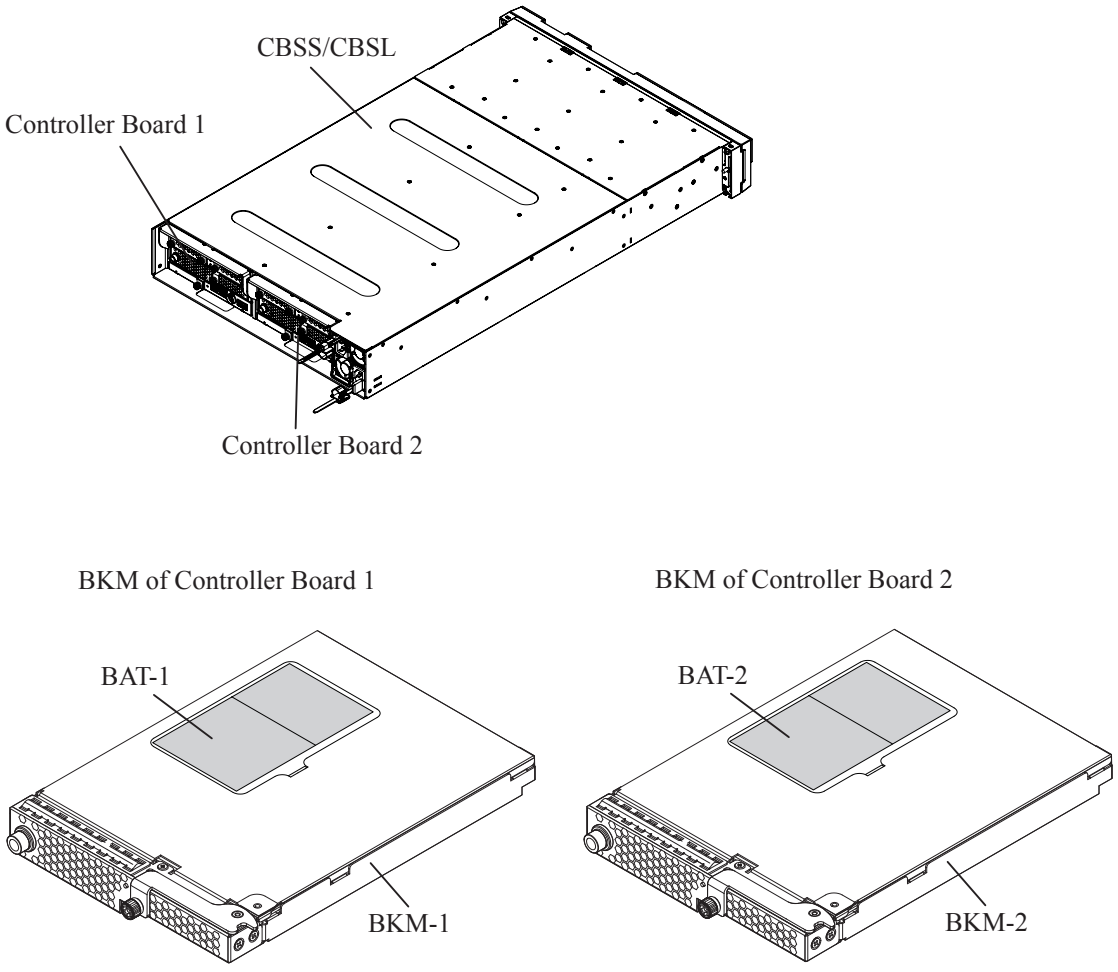
Table 2-3 Locations of SAS Ports

Controller Board	SAS Port#	Remarks
Controller Board 1	1C-0	Connect to the Drive in the CBSS/CBSL. No external cable connection exists.
	1C-1	Connect to the Drive outside the CBSS/CBSL. The external cable connection exists.
Controller Board 2	2C-0	Connect to the Drive in the CBSS/CBSL. No external cable connection exists.
	2C-1	Connect to the Drive outside the CBSS/CBSL. The external cable connection exists.

2.4.1.1 BKM

The following figure shows the BKM location and the BAT (Battery) location.

Figure 2-11 Location of BKM/BAT (Battery)

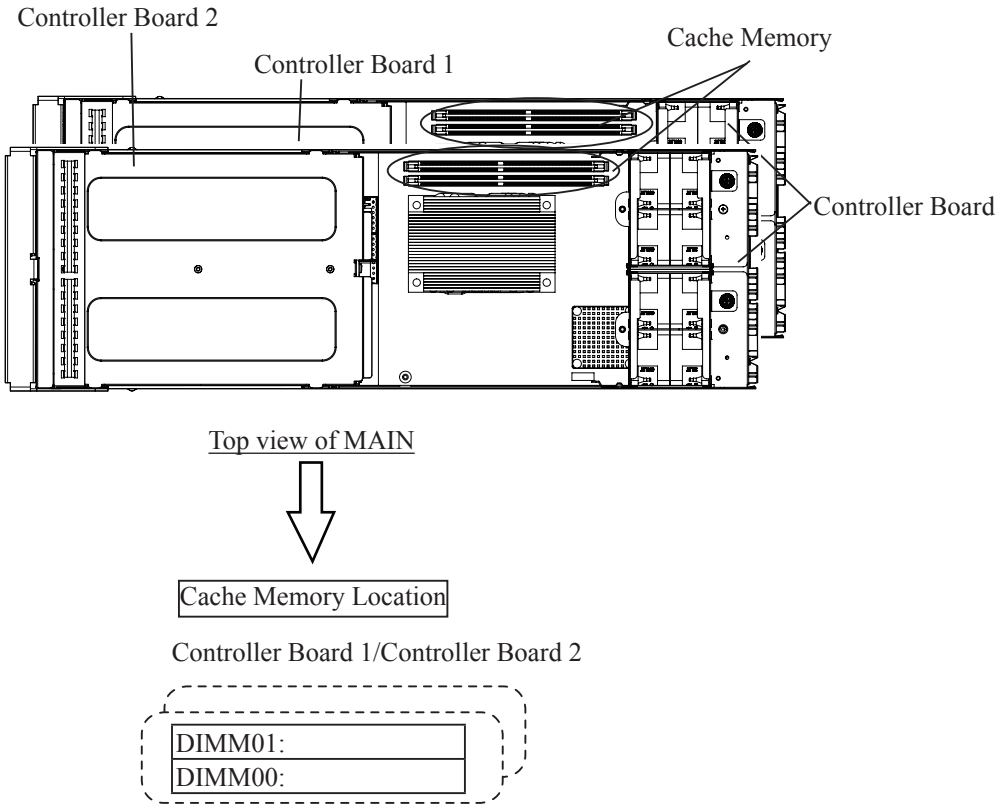


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2.4.1.2 Cache Memory Location of CBSS/CBSL

The following figure shows the Cache Memory location on the CBSS/CBSL Parts.

Figure 2-12 Cache Memory Location (CBSS/CBSL)



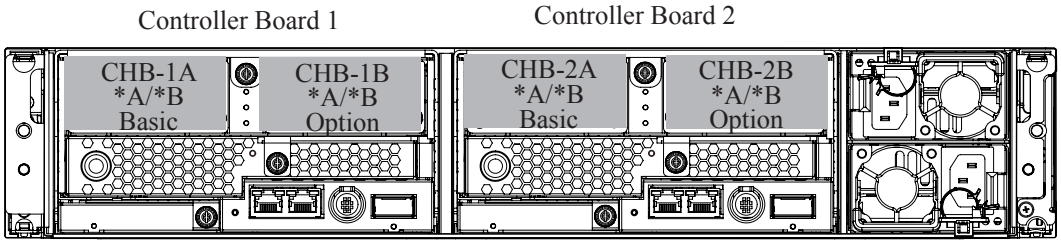
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2.4.1.3 Channel Board (CHB) of CBSS/CBSL

The following figure shows the Channel Board location of the rear side of the CBSS/CBSL.

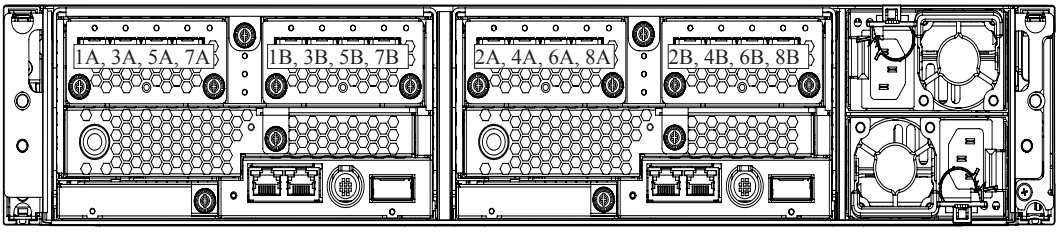
Figure 2-13 Channel Board Location (rear of CBSS/CBSL)

Channel Board location (rear of CBSS/CBSL)



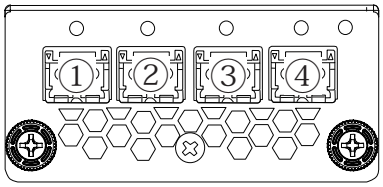
CBSS/CBSL (Rear view)

• Port location



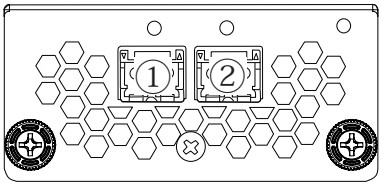
CBSS/CBSL (Rear view)

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



CHB#	①	②	③	④
CHB-1A	1A	3A	5A	7A
CHB-1B	1B	3B	5B	7B
CHB-2A	2A	4A	6A	8A
CHB-2B	2B	4B	6B	8B

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details



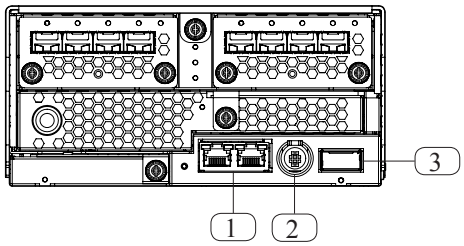
CHB#	①	②
CHB-1A	1A	3A
CHB-1B	1B	3B
CHB-2A	2A	4A
CHB-2B	2B	4B

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2.4.1.4 LAN Board (LANB)

The following figure shows the LAN board location.

Figure 2-14 LAN Board Location



No.	Parts Name	Function
1	LAN port	LAN1: Maintenance LAN port (left)
		LAN2: User LAN port (right)
2	UPS connector	Connector for a remote adapter This connector is only for use in Japan.
3	SAS port	Connector for a Drive Box

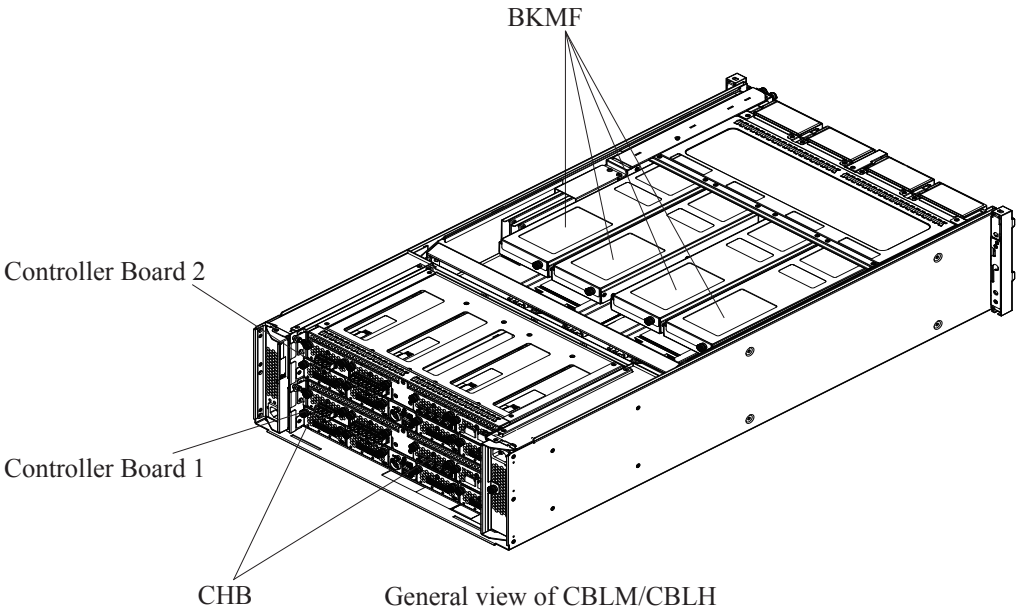
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2.4.2 Parts Location of CBLM/CBLH

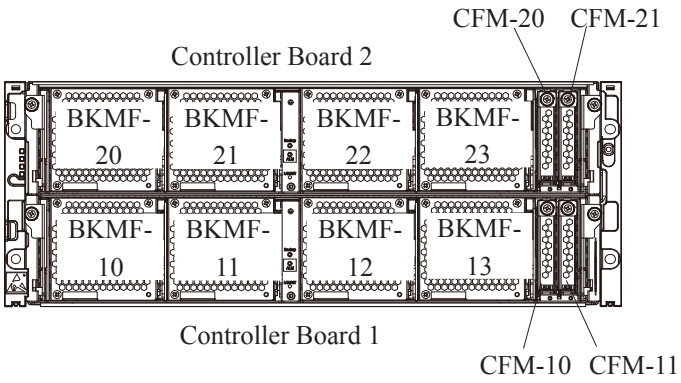
The following figure shows the parts location of CBLM/CBLH.

1. When NAS Module is not installed

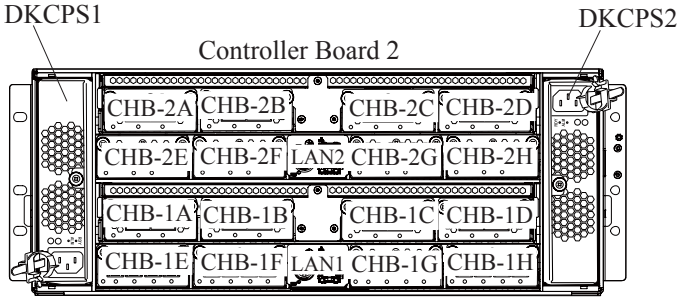
Figure 2-15 Parts Location of CBLM/CBLH when NAS Module is not installed



General view of CBLM/CBLH



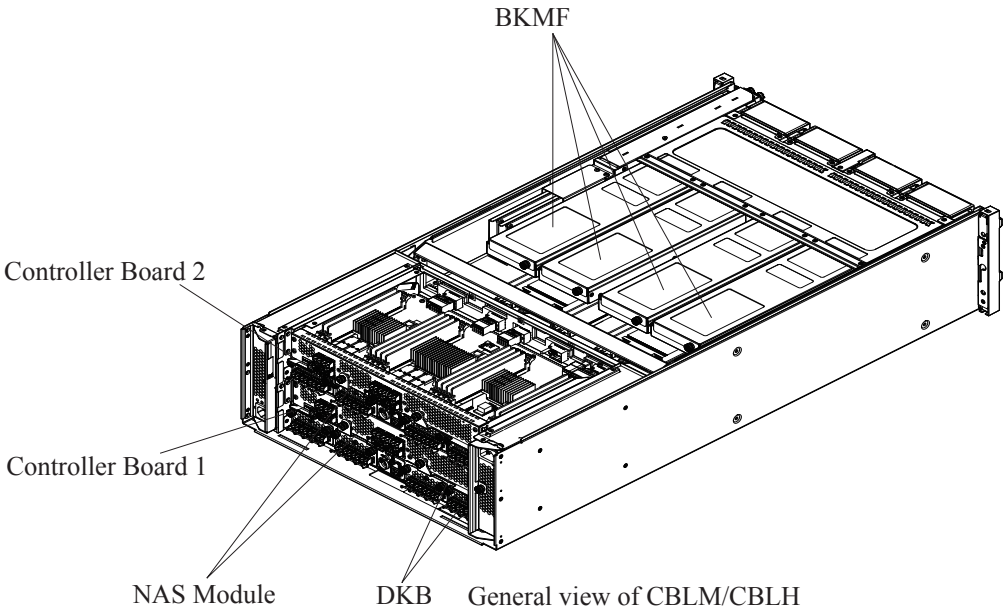
Front view of CBLM/CBLH

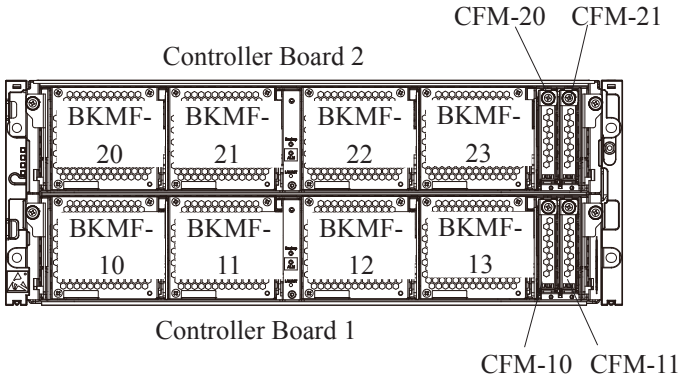


Rear view of CBLM/CBLH

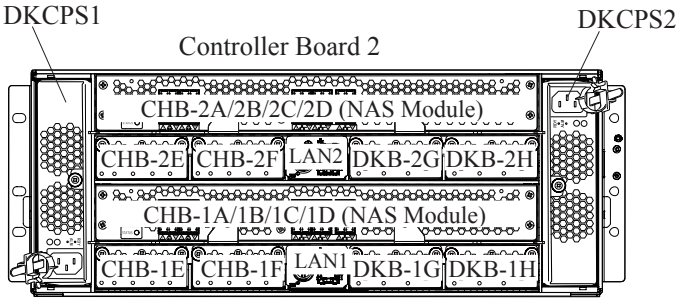
2. When NAS Module is installed.

Figure 2-16 Parts Location of CBLM/CBLH when NAS Module is installed





Front view of CBLM/CBLH

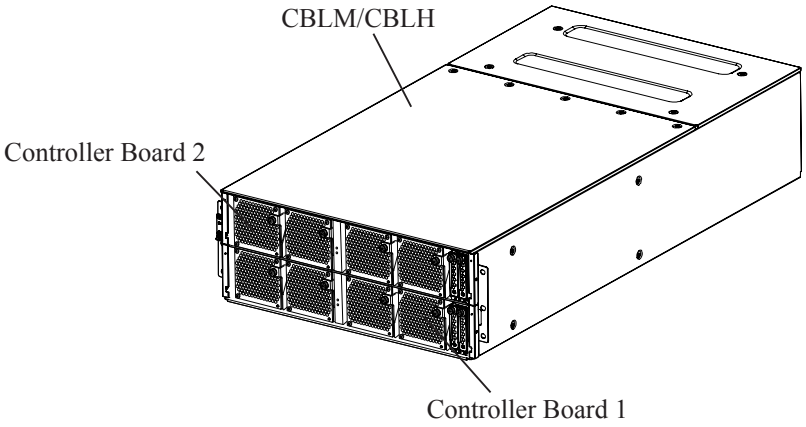


Rear view of CBLM/CBLH

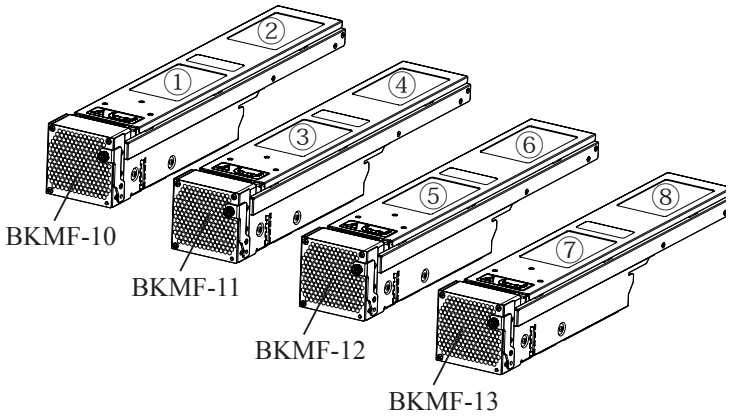
2.4.2.1 BKMF

The following figure shows the BKMF location and the BAT (Battery) location.

Figure 2-17 Location of BKMF/BAT (Battery)

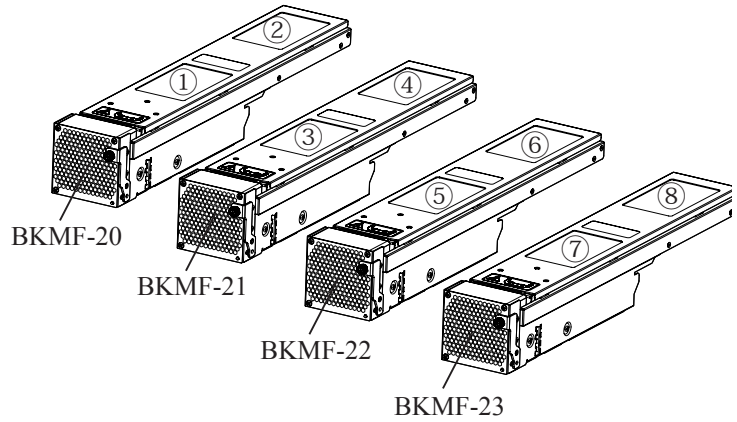


BKMF of Controller Board 1



① : BAT-F10
(when NAS Module is not installed : Installing is impossible.
when NAS Module is installed : Standard installation for NAS Module.) (*1)
② : Installing is impossible.
③ : BAT-B11 (Standard installation)
④ : BAT-O11 (Option installation) (*1)
⑤ : BAT-B12 (Standard installation)
⑥ : BAT-O12 (Option installation) (*1)
⑦ : BAT-B13 (Standard installation)
⑧ : BAT-O13 (Option installation) (*1)

BKMF of Controller Board 2



① : BAT-F20
(when NAS Module is not installed : Installing is impossible.
when NAS Module is installed : Standard installation for NAS Module.) (*1)
② : Installing is impossible.
③ : BAT-B21(Standard installation)
④ : BAT-O21(Option installation) (*1)
⑤ : BAT-B22(Standard installation)
⑥ : BAT-O22(Option installation) (*1)
⑦ : BAT-B23(Standard installation)
⑧ : BAT-O23(Option installation) (*1)

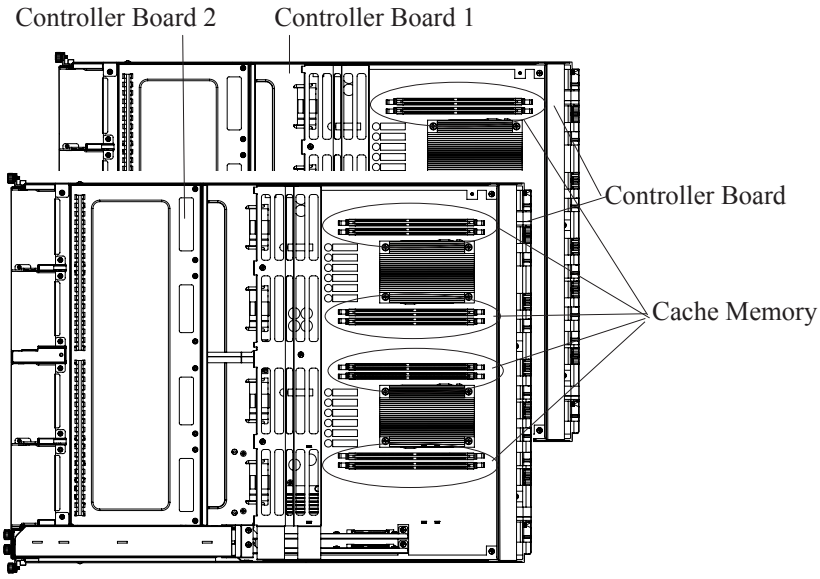
*1: See INSTALLATION SECTION "3. Cache Memory capacity, Cache Flash Memory and Backup Module installation patterns" (INST03-01-30) for option installation and battery installation patterns for NAS Modules.

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2.4.2.2 Cache Memory Location of CBLM/CBLH

The following figure shows the Cache Memory location on the CBLM/CBLH Parts.

Figure 2-18 Cache Memory Location on the Controller Board (CBLM/CBLH)



Top view of MAIN

Cache Memory Location

Controller Board 1/Controller Board 2

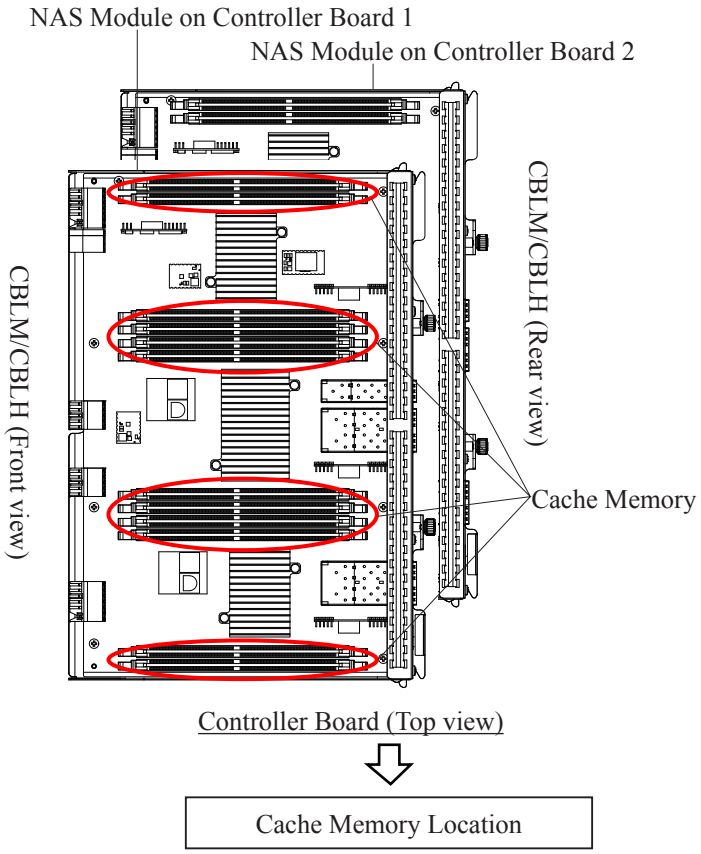
DIMM13:	*2
DIMM12:	*2
DIMM02:	*1
DIMM03:	*1
DIMM11:	*2
DIMM10:	*2
DIMM00:	*1
DIMM01:	*1

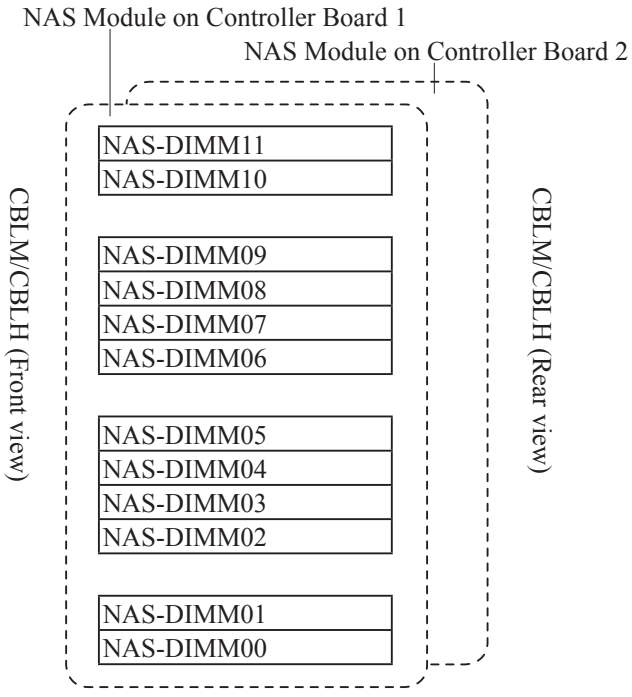
*1: Belonging to CMG0 (Cache Memory Group 0).
*2: Belonging to CMG1 (Cache Memory Group 1).
Be sure to install DIMM in CMG0.
CMG1 is an additional slot of DIMM.
Install DIMM in sets of four.

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Figure 2-19 Cache Memory Location on the NAS Module (only when the NAS module is installed)

NOTE: The Cache Memories on the NAS Module are only for the processing on the NAS Module and not included in the total Cache Memory capacity of the Storage System.





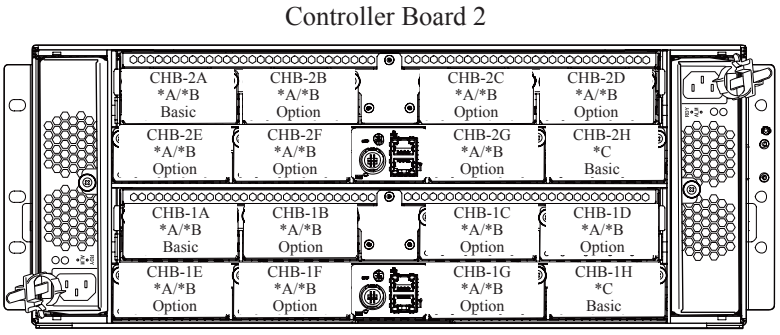
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2.4.2.3 Channel Board (CHB)/Disk Board (DKB)/NAS Module of CBLM/CBLH

The following figure shows the Channel Board/Disk Board/NAS Module location of the rear side of the CBLM/CBLH.

1. CBLM (NAS Modules are not installed, Drive Boxes are connected)

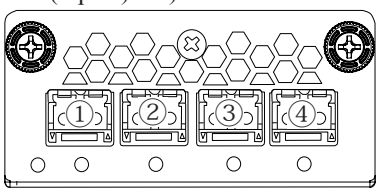
Figure 2-20 Channel Board/Disk Board Location (Rear view of CBLM)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

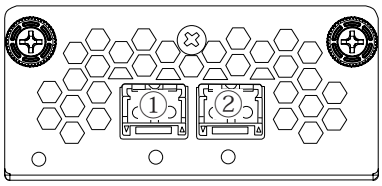
Rear view of CBLM

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



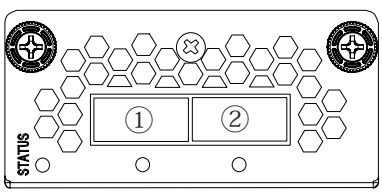
CHB#	①	②	③	④
CHB-1A	1A	3A	5A	7A
CHB-1B	1B	3B	5B	7B
CHB-1C	1C	3C	5C	7C
CHB-1D	1D	3D	5D	7D
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-1G	1G	3G	5G	7G
CHB-1H	1H	3H	5H	7H
CHB-2A	2A	4A	6A	8A
CHB-2B	2B	4B	6B	8B
CHB-2C	2C	4C	6C	8C
CHB-2D	2D	4D	6D	8D
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F
CHB-2G	2G	4G	6G	8G
CHB-2H	2H	4H	6H	8H

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details



CHB#	①	②
CHB-1A	1A	3A
CHB-1B	1B	3B
CHB-1C	1C	3C
CHB-1D	1D	3D
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-1G	1G	3G
CHB-1H	1H	3H
CHB-2A	2A	4A
CHB-2B	2B	4B
CHB-2C	2C	4C
CHB-2D	2D	4D
CHB-2E	2E	4E
CHB-2F	2F	4F
CHB-2G	2G	4G
CHB-2H	2H	4H

*C: DKB location details

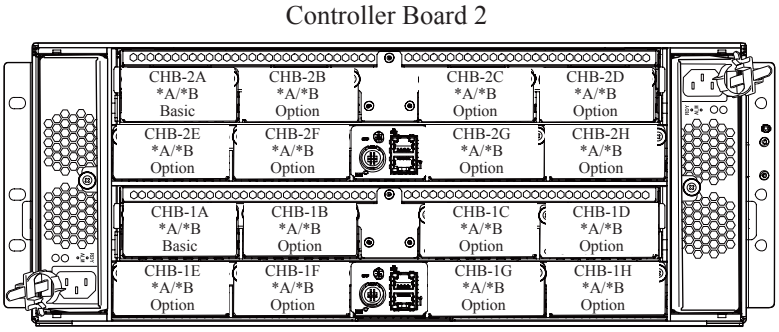


DKB#	①	②
DKB-1H	1H-0	1H-1
DKB-2H	2H-0	2H-1

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2. CBLM (NAS Modules are not installed, Drive Boxes are not connected)

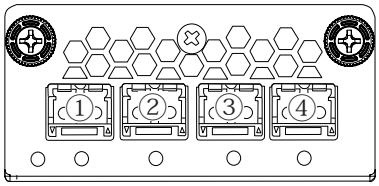
Figure 2-21 Channel Board Location (Rear view of CBLM)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

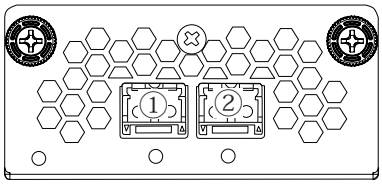
Rear view of CBLM

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



CHB#	①	②	③	④
CHB-1A	1A	3A	5A	7A
CHB-1B	1B	3B	5B	7B
CHB-1C	1C	3C	5C	7C
CHB-1D	1D	3D	5D	7D
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-1G	1G	3G	5G	7G
CHB-1H	1H	3H	5H	7H
CHB-2A	2A	4A	6A	8A
CHB-2B	2B	4B	6B	8B
CHB-2C	2C	4C	6C	8C
CHB-2D	2D	4D	6D	8D
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F
CHB-2G	2G	4G	6G	8G
CHB-2H	2H	4H	6H	8H

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details

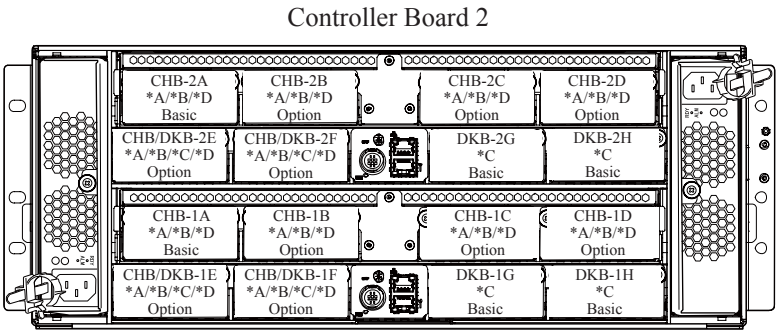


CHB#	①	②
CHB-1A	1A	3A
CHB-1B	1B	3B
CHB-1C	1C	3C
CHB-1D	1D	3D
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-1G	1G	3G
CHB-1H	1H	3H
CHB-2A	2A	4A
CHB-2B	2B	4B
CHB-2C	2C	4C
CHB-2D	2D	4D
CHB-2E	2E	4E
CHB-2F	2F	4F
CHB-2G	2G	4G
CHB-2H	2H	4H

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3. CBLH (NAS Modules are not installed, Drive Boxes are connected)

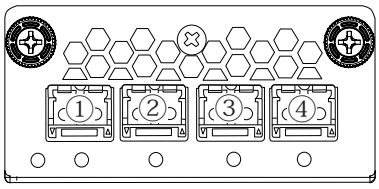
Figure 2-22 Channel Board/Disk Board Location (Rear view of CBLH)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

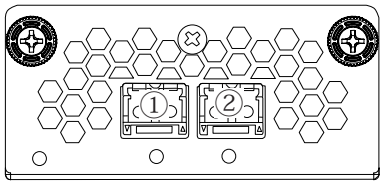
Rear view of CBLH

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



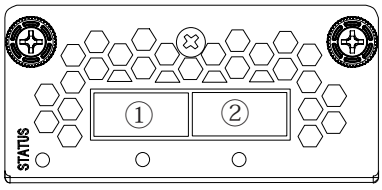
CHB#	①	②	③	④
CHB-1A	1A	3A	5A	7A
CHB-1B	1B	3B	5B	7B
CHB-1C	1C	3C	5C	7C
CHB-1D	1D	3D	5D	7D
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-2A	2A	4A	6A	8A
CHB-2B	2B	4B	6B	8B
CHB-2C	2C	4C	6C	8C
CHB-2D	2D	4D	6D	8D
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details



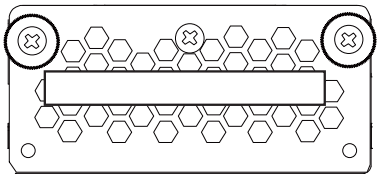
CHB#	①	②
CHB-1A	1A	3A
CHB-1B	1B	3B
CHB-1C	1C	3C
CHB-1D	1D	3D
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-2A	2A	4A
CHB-2B	2B	4B
CHB-2C	2C	4C
CHB-2D	2D	4D
CHB-2E	2E	4E
CHB-2F	2F	4F

*C: DKB location details



DKB#	①	②
DKB-1H	1H-0	1H-1
DKB-2H	2H-0	2H-1
DKB-1G	1G-0	1G-1
DKB-2G	2G-0	2G-1
DKB-1F	1F-0	1F-1
DKB-2F	2F-0	2F-1
DKB-1E	1E-0	1E-1
DKB-2E	2E-0	2E-1

*D: PECB location details

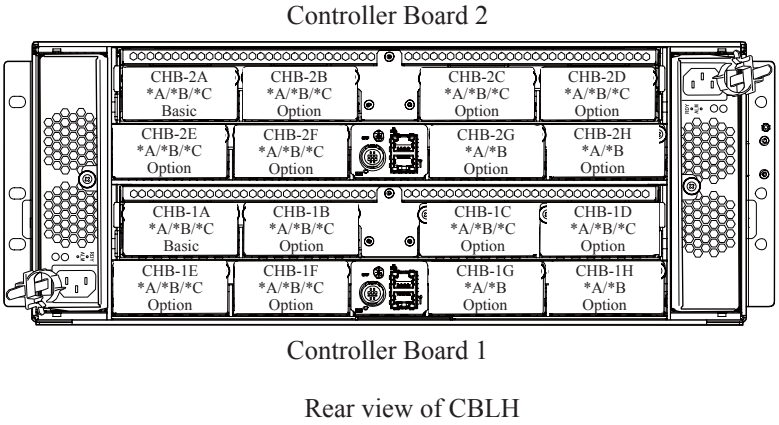


Location details are not available for PECB because it has one fixed port.

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4. CBLH (NAS Modules are not installed, Drive Boxes are not connected)

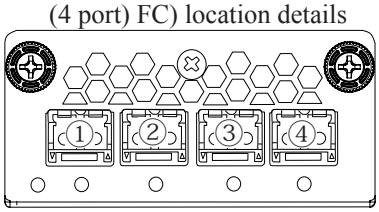
Figure 2-23 Channel Board Location (Rear view of CBLH)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

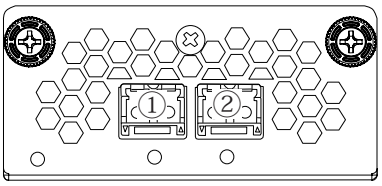
Rear view of CBLH

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



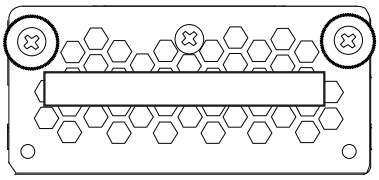
CHB#	①	②	③	④
CHB-1A	1A	3A	5A	7A
CHB-1B	1B	3B	5B	7B
CHB-1C	1C	3C	5C	7C
CHB-1D	1D	3D	5D	7D
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-1G	1G	3G	5G	7G
CHB-1H	1H	3H	5H	7H
CHB-2A	2A	4A	6A	8A
CHB-2B	2B	4B	6B	8B
CHB-2C	2C	4C	6C	8C
CHB-2D	2D	4D	6D	8D
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F
CHB-2G	2G	4G	6G	8G
CHB-2H	2H	4H	6H	8H

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details



CHB#	①	②
CHB-1A	1A	3A
CHB-1B	1B	3B
CHB-1C	1C	3C
CHB-1D	1D	3D
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-1G	1G	3G
CHB-1H	1H	3H
CHB-2A	2A	4A
CHB-2B	2B	4B
CHB-2C	2C	4C
CHB-2D	2D	4D
CHB-2E	2E	4E
CHB-2F	2F	4F
CHB-2G	2G	4G
CHB-2H	2H	4H

*C: PECB location details

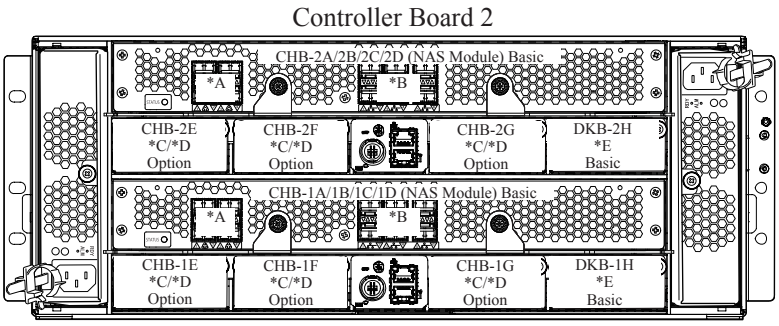


Location details are not available for PECB because it has one fixed port.

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5. CBLM (NAS Modules are installed, Drive Boxes are connected)
   NAS Module can be used and mounted to one module for four slots of the location A,B,C, and D on the Controller Board of CBLM/DBLH. It cannot be mounted to the location E,F,G, and H.

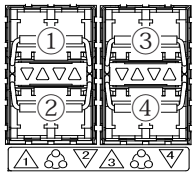
Figure 2-24 NAS Module/Channel Board/Disk Board Location (Rear view of CBLM)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

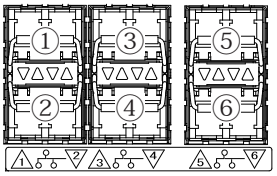
Rear view of CBLM

*A: Cluster Port location details (NAS Module) (Not supported)



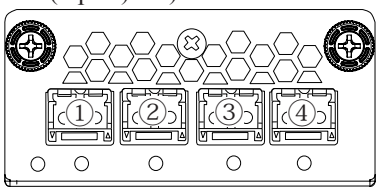
CHB#	①	②	③	④
CHB-1A/1B/1C/1D	c1	c2	c3	c4
CHB-2A/2B/2C/2D	c1	c2	c3	c4

*B: Network Port location details (NAS Module, 10 Gbps NAS)



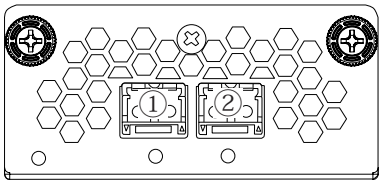
CHB#	①	②	③	④	⑤	⑥
CHB-1A/1B/1C/1D	tg1	tg2	tg3	tg4	tg5	tg6
CHB-2A/2B/2C/2D	tg1	tg2	tg3	tg4	tg5	tg6

*C: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



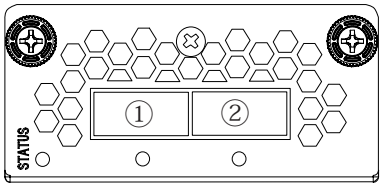
CHB#	①	②	③	④
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-1G	1G	3G	5G	7G
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F
CHB-2G	2G	4G	6G	8G

*D: CHB (16 Gbps (2 port) FC/iSCSI) location details



CHB#	①	②
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-1G	1G	3G
CHB-2E	2E	4E
CHB-2F	2F	4F
CHB-2G	2G	4G

*E: DKB location details

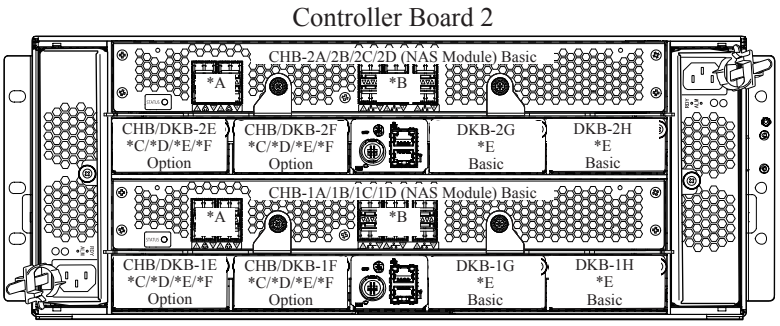


DKB#	①	②
DKB-1H	1H-0	1H-1
DKB-2H	2H-0	2H-1

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6. CBLH (NAS Modules are installed, Drive Boxes are connected)
   NAS Module can be used and mounted to one module for four slots of the location A,B,C, and D on the Controller Board of CBLM/DBLH. It cannot be mounted to the location E,F,G, and H.

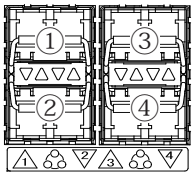
Figure 2-25 NAS Module/Channel Board/Disk Board Location (Rear view of CBLH)



Basic : Standard installation (mandatory)
Option : Option installation (arbitrary)

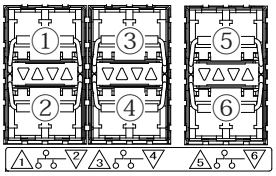
Rear view of CBLH

*A: Cluster Port location details
(NAS Module) (Not supported)



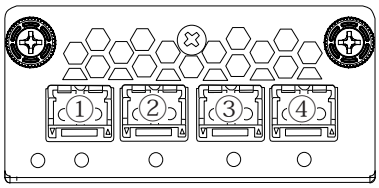
CHB#	①	②	③	④
CHB-1A/1B/1C/1D	c1	c2	c3	c4
CHB-2A/2B/2C/2D	c1	c2	c3	c4

*B: Network Port location details
(NAS Module, 10 Gbps NAS)



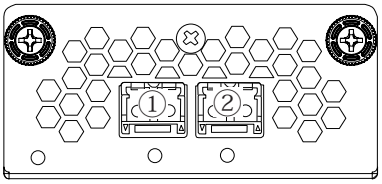
CHB#	①	②	③	④	⑤	⑥
CHB-1A/1B/1C/1D	tg1	tg2	tg3	tg4	tg5	tg6
CHB-2A/2B/2C/2D	tg1	tg2	tg3	tg4	tg5	tg6

*C: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



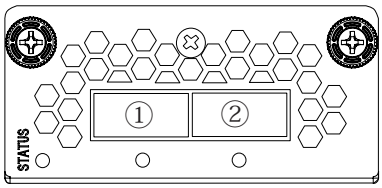
CHB#	①	②	③	④
CHB-1E	1E	3E	5E	7E
CHB-1F	1F	3F	5F	7F
CHB-2E	2E	4E	6E	8E
CHB-2F	2F	4F	6F	8F

*D: CHB (16 Gbps (2 port) FC/iSCSI) location details



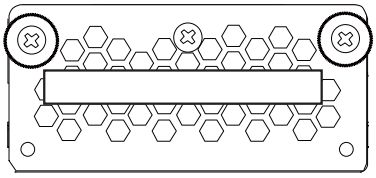
CHB#	①	②
CHB-1E	1E	3E
CHB-1F	1F	3F
CHB-2E	2E	4E
CHB-2F	2F	4F

*E: DKB location details



DKB#	①	②
DKB-1H	1H-0	1H-1
DKB-2H	2H-0	2H-1
DKB-1G	1G-0	1G-1
DKB-2G	2G-0	2G-1
DKB-1F	1F-0	1F-1
DKB-2F	2F-0	2F-1
DKB-1E	1E-0	1E-1
DKB-2E	2E-0	2E-1

*F: PECB location details



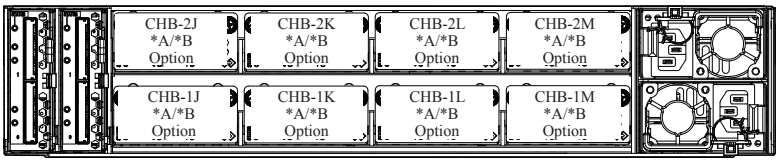
Location details are not available for PECB because it has one fixed port.

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2.4.2.4 Channel Board (CHB) of Channel Board Box (CHBB)

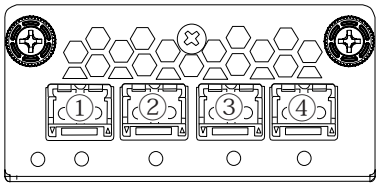
The following figure shows the Channel Board location of the rear side of the CHBB.

Figure 2-26 Channel Board Location (Rear view of Channel Board Box)



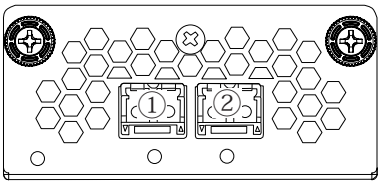
Rear view of CHBB

*A: CHB (8 Gbps FC/16 Gbps (4 port) FC/32 Gbps (4 port) FC) location details



CHB#	①	②	③	④
CHB-1J	1J	3J	5J	7J
CHB-1K	1K	3K	5K	7K
CHB-1L	1L	3L	5L	7L
CHB-1M	1M	3M	5M	7M
CHB-2J	2J	4J	6J	8J
CHB-2K	2K	4K	6K	8K
CHB-2L	2L	4L	6L	8L
CHB-2M	2M	4M	6M	8M

*B: CHB (16 Gbps (2 port) FC/iSCSI) location details



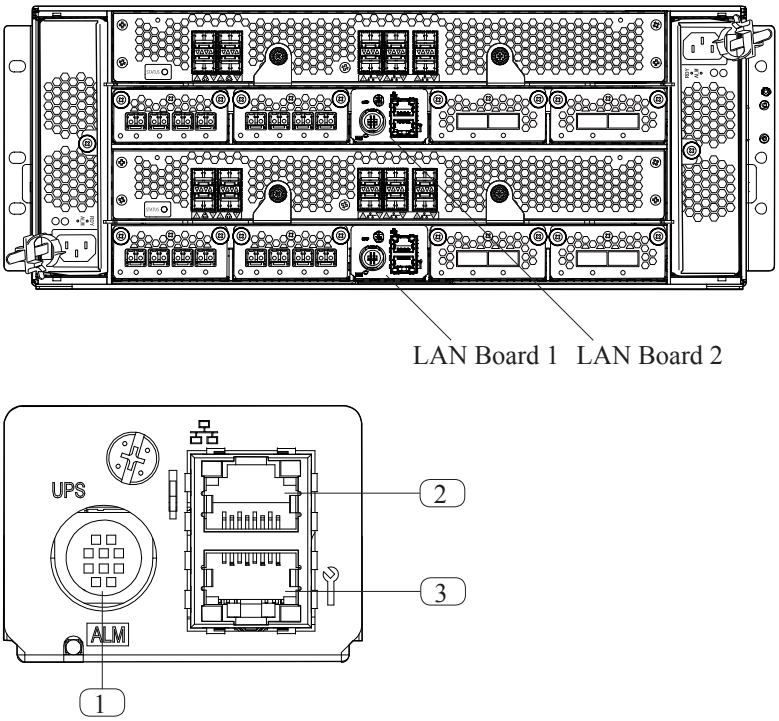
CHB#	①	②
CHB-1J	1J	3J
CHB-1K	1K	3K
CHB-1L	1L	3L
CHB-1M	1M	3M
CHB-2J	2J	4J
CHB-2K	2K	4K
CHB-2L	2L	4L
CHB-2M	2M	4M

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2.4.2.5 LAN Board

The following figure shows the LAN board location.

Figure 2-27 LAN Board Location



No.	Parts Name	Function
1	UPS connector	Connector for a remote adapter This connector is only for use in Japan.
2	User LAN port	LAN 2: User uses this port.
3	Maintenance LAN port	LAN 1: Service personnel use this port.

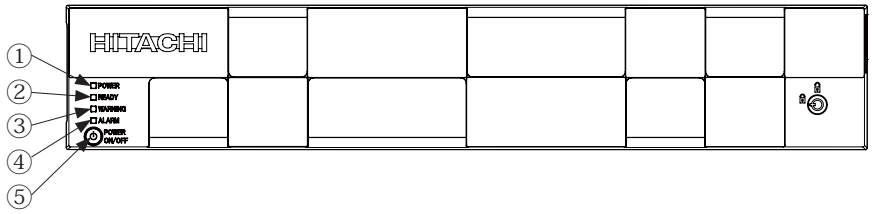
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3. Switches and LEDs

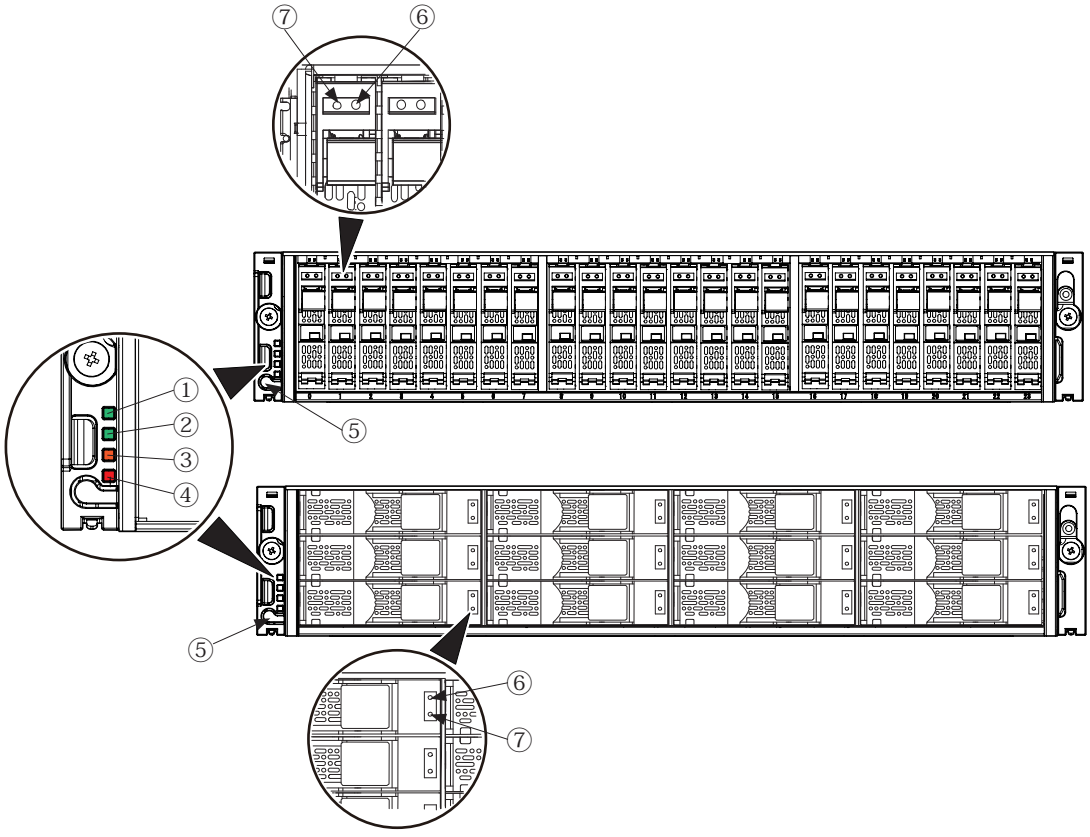
3.1 Switches and LEDs of Controller Chassis

Figure 3-1 and Figure 3-2 show the switch and LEDs of CBSS/CBSL and CBLM/CBLH respectively. Table 3-1 shows the function of the switch and LEDs.
Circled numbers in Figure 3-1 and Figure 3-2 correspond to the numbers in Table 3-1.

Figure 3-1 Switch and LEDs of CBSS/CBSL



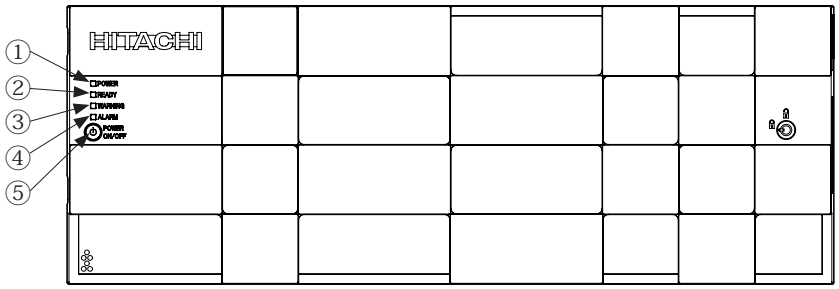
Front view of CBSS/CBSL (With Front Bezel attached)



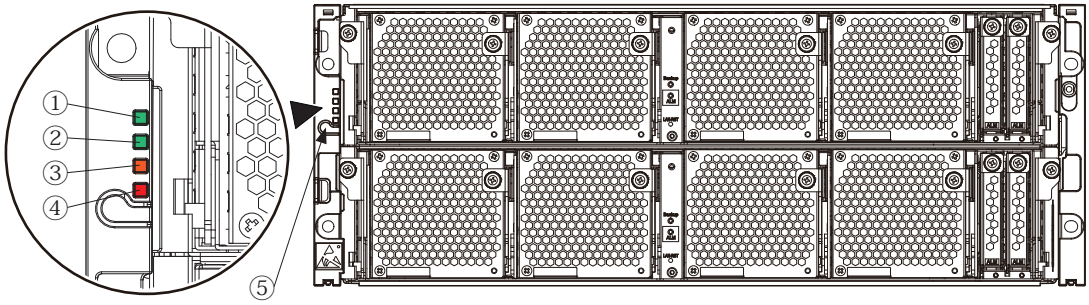
Front view of CBSS/CBSL (With Front Bezel detached)

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Figure 3-2 Switch and LEDs of CBLM/CBLH



Front view of CBLM/CBLH (With Front Bezel attached)



Front view of CBLM/CBLH (With Front Bezel detached)

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Table 3-1 Function of Controller Chassis LEDs and Switch

No.	Parts Name	Class	Function
1	POWER	LED (Green)	On : Logic power is ON. (Pressing the Main Switch for three seconds turns on the Logic power) Blinking : Power is held down. (three-second pressing issues OFF REQ) Off : When the ALARM LED lights up and the POWER LED goes out, the system is down.
		LED (Amber)	On : Sub power is ON. Off : No AC input or no Controller Board installed.
2	READY	LED (Green)	On : The storage system is operable.
3	WARNING	LED (Amber)	On : A failure (blockade) has occurred in the blocked part that service personnel or a user needs to maintain. When [System Locked] is displayed in the header area (see MAINTENANCE PC SECTION "1.8.2.6 Header Area Configuration") in the main window of Maintenance Utility, the LED does not light up. If [System Locked] is unresolved despite the operations such as maintenance and configuration changes are not performed, check the work validity and perform the system lock force release (see MAINTENANCE PC SECTION "3.17 Force Release System Lock"). Blinking : Blinks at the time of SIM report. When System Option Mode 1097 is set to ON, the WARNING LED does not blink even if the following failure information SIM issues. • Failure information SIM: 452xxx, 462xxx, 3077xy, 4100xx and 410100
4	ALARM	LED (Red)	On : Indicates an MP blockade occurred.
5	MAIN	Switch	The switch turns on/off the storage system. Do not turn the MAIN Switch on during power off process. Turn the MAIN Switch on after power off process is finished.
6	ACT	LED (Green)	On : Indicates that the HDD/SSD is powered on. Blinking : Indicates that the HDD/SSD is active.
7	ALM	LED (Red)	On : Indicates that the removal of the HDD/SSD is possible when the storage system is powered on. To remove the HDD/SSD, see REPLACEMENT SECTION "2.3 Replacing a Drive".

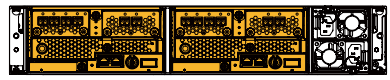
(Numbers in this table correspond to the circled numbers in Figure 3-1 and Figure 3-2.)

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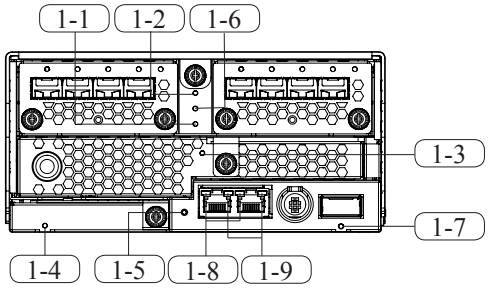
3.2 Other Switches and LEDs

1. Controller Board

Figure 3-3 LEDs of Controller Board (CBSS/CBSL)



Rear view of CBSS/CBSL



Controller Board (CBSS/CBSL)

Table 3-2 Function of Controller Board (CBSS/CBSL) LEDs

No.	Parts Name	Class	Function
1-1	CTL ALM	LED (Red)	On : CTL is removable Blinking : CTL power system is abnormal
		LED (Amber)	On : Indicates that the LAN RESET switch is pressed.
1-2	BACKUP STS	LED (Green)	On : Indicates that power outage has occurred or power restoration is in progress after power outage. Blinking (High-speed) : Restoring Blinking (Low-speed) : Restoring or the planned power off is executed
1-3	STATUS	LED	Off : Battery is uninstalled, abnormally installed or BKM firmware is being replaced.
		LED (Green)	On : Battery is fully charged Blinking : Battery is being charged or discharged
		LED (Red)	On : BKM can be removed A failure occurred in BKM. Blinking : BKM can be removed. A failure occurred in the Battery.

(To be continued)

(Numbers in this table correspond to the circled numbers in Figure 3-3.)

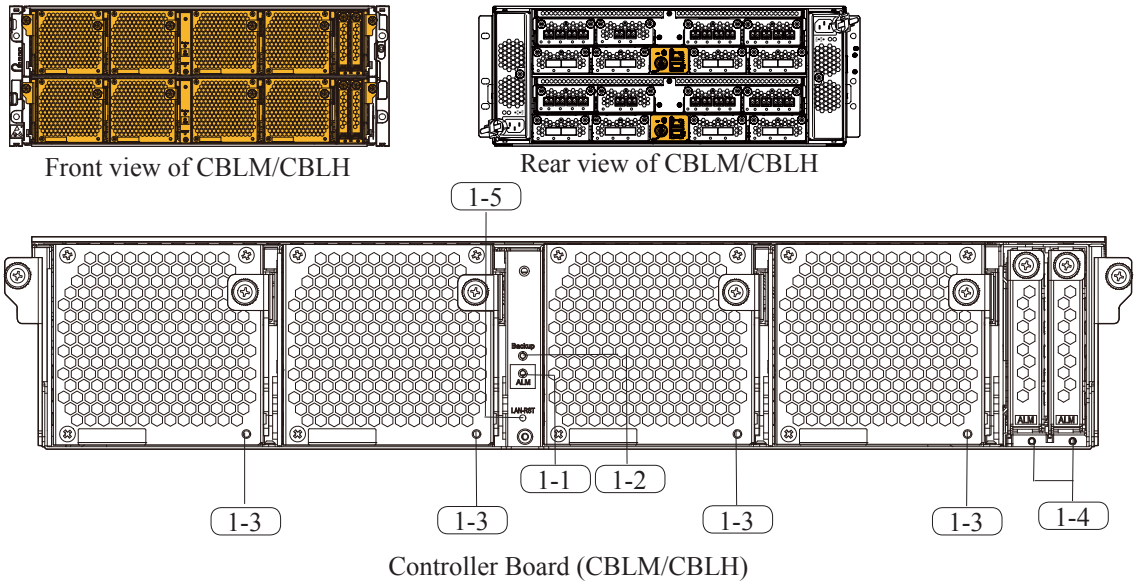
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(Continued from the preceding page)

No.	Parts Name	Class	Function
1-4	ALARM	LED (Red)	On : A status where Cache Flash Memories are removable
1-5	LAN-RST	Switch	This is a switch for GUM reset. If GUM reboot fails, reset GUM forcibly from the hardware. See MAINTENANCE PC SECTION "3.26 Resetting GUM" for how to use it.
1-6	CTL WARN	LED (Amber)	Blinking (Blinking once) : A FAN-x0 failure occurred Blinking (Blinking twice) : A FAN-x1 failure occurred
1-7	ACT LED	LED (Green)	The data is being transferred.
1-8	LINK LED	LED (Green)	The link status is normal.
1-9	Port LED	LED (Blue)	It is linked.

(Numbers in this table correspond to the circled numbers in Figure 3-3.)

Figure 3-4 LEDs of Controller Board (CBLM/CBLH)



Controller Board (CBLM/CBLH)

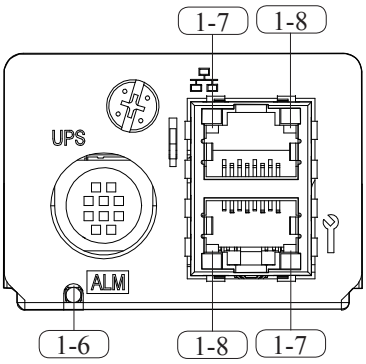


Table 3-3 Function of Controller Board (CBLM/CBLH) LEDs

No.	Parts Name	Class	Function
1-1	ALM	LED (Red)	On : CTL is removable Blinking : CTL power system is abnormal
		LED (Amber)	On : Indicates that the LAN RESET switch is pressed.
1-2	BACKUP	LED (Green)	On : Indicates that power outage has occurred or power restoration is in progress after power outage. Blinking (High-speed) : Restoring Blinking (Low-speed) : Restoring or the planned shutdown is executed

(To be continued)

(Numbers in this table correspond to the circled numbers in Figure 3-4.)

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(Continued from the preceding page)

No.	Parts Name	Class	Function
1-3	STATUS	LED	Off : Battery is uninstalled, abnormally installed or BKMF firmware is replaced (in case of a configuration with no battery installed, the LEDs for BKMF-10 and BKMF-20 go out)
		LED (Green)	On : Battery is fully charged Blinking : Battery is charged or discharged
		LED (Red)	On : BKMF can be removed Battery is abnormal Blinking : BKMF can be removed Once : A failure occurred in the Battery (Basic) Twice : A failure occurred in the Battery (Option) Three times : Failures have occurred in the Batteries (both Basic and Option) or preventive maintenance replacement of the Batteries is possible
1-4	ALM	LED (Red)	On : A status where Cache Flash Memories are removable
1-5	LAN-RST	Switch	This is a switch for GUM reset. If GUM reboot fails, reset GUM forcibly from the hardware. See MAINTENANCE PC SECTION "3.26 Resetting GUM" for how to use it.
1-6	LAN ALARM LED	LED (Red)	The removal of the LAN Board is possible.
1-7	ACT LED	LED (Green)	The data is being transferred.
1-8	LINK LED	LED (Green)	The link status is normal.

(Numbers in this table correspond to the circled numbers in Figure 3-4.)

2. Channel Board (FC/iSCSI)

Figure 3-5 LEDs of Channel Board (FC/iSCSI)

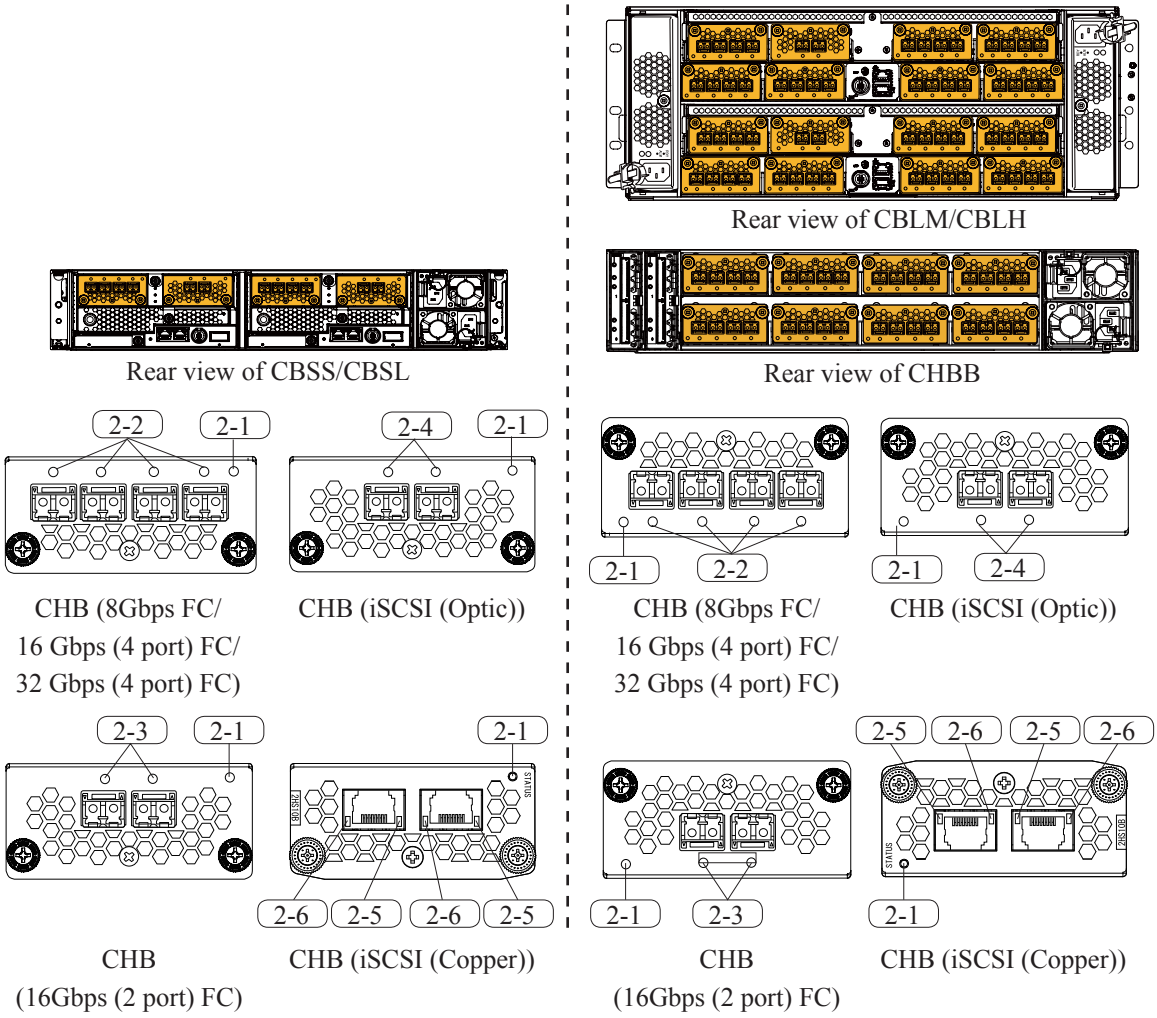


Table 3-4 Function of Channel Board (FC/iSCSI) LEDs

No.	Parts Name	Class	Function
2-1	STATUS	LED (Green)	On : Power on
		LED (Red)	On : Abnormal
		LED	Off : Power off

(To be continued)

(Numbers in this table correspond to the numbers in ovals in Figure 3-5.)

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(Continued from the preceding page)

No.	Parts Name	Class	Function
2-2	PORT	LED (Red)	On : SFP is abnormal.
		LED (Blue)	On : 8 Gbps FC : Link status is normal. (8 Gbps) 16 Gbps FC : Link status is normal. (16 Gbps) (*1) 32 Gbps FC : Link status is normal. (32 Gbps) (*2)
		LED (Green)	On : 8 Gbps FC : Link status is normal. (2 Gbps or 4 Gbps) : 16 Gbps FC : Link status is normal. (4 Gbps or 8 Gbps) (*1) : 32 Gbps FC : Link status is normal. (8 Gbps or 16 Gbps) (*2)
		LED	Off : Link down/not Ready.
2-3	PORT	LED (Red)	On : SFP is abnormal.
		LED (Blue)	On : Link status is normal. (16Gbps)
		LED (Green)	On : Link status is normal. (4Gbps or 8Gbps)
		LED	Off : Link down/not Ready.
2-4	PORT	LED (Red)	On : SFP is abnormal.
		LED (Blue)	On : Link status is normal. (10Gbps) Blinking : The status is communicating. (10Gbps)
		LED	Off : Link down/not Ready.
2-5	PORT	Link/Speed LED (Yellow/ Green)	On : Yellow: Link status is normal. (1Gbps) Green: Link status is normal. (10Gbps) Off : Link down/not Ready.
2-6	PORT	Act LED (Green)	On : Link status is normal. Blinking : The status is data communicating. Off : Link down/not Ready.

(Numbers in this table correspond to the numbers in ovals in Figure 3-5.)

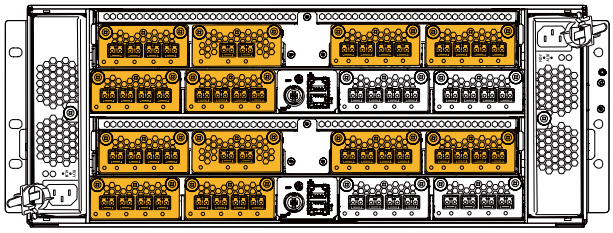
*1: If and when you use the 16 Gbps SFP to 32 Gbps FC Ready CHB of the 16 Gbps FC CHB.

*2: If you use the 32 Gbps SFP to 32 Gbps FC Ready CHB.

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3. PCIe Channel Board (PECB)
   The PCIe Channel Board (PECB) can be mounted to the locations A/B, C/D, and E/F on the CBLH. It cannot be mounted to the location G/H.

Figure 3-6 LEDs of PCIe Channel Board (PECB)



Rear view of CBLH

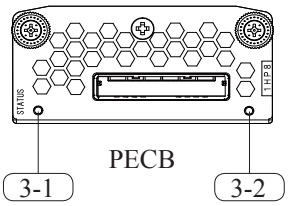


Table 3-5 Function of PCIe Channel Board (PECB) LEDs

No.	Parts Name	Class	Function
3-1	STATUS	LED (Green)	On : PCIe Channel Board is powered on Off : PCIe Channel Board is powered off
		LED (Red)	On : Abnormal
3-2	Link	LED (Green)	On : PCIe is Gen3.0 (8 Gbps) and it is linked up normally Off : • PCIe is not linked up (including the status that PCIe cable is unconnected) • Cables can be removed

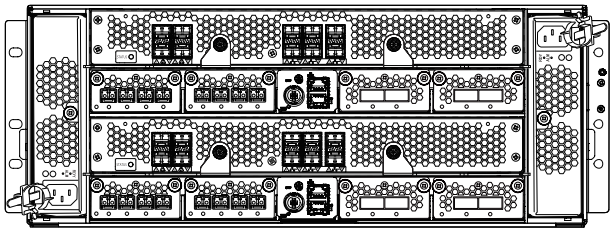
(Numbers in this table correspond to the numbers in ovals in Figure 3-6.)

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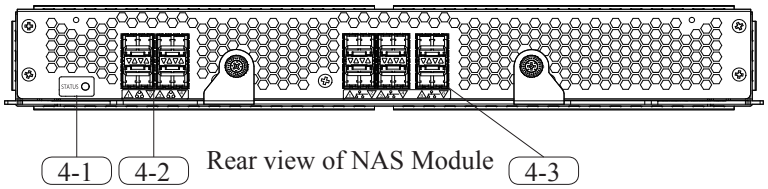
4. NAS Module

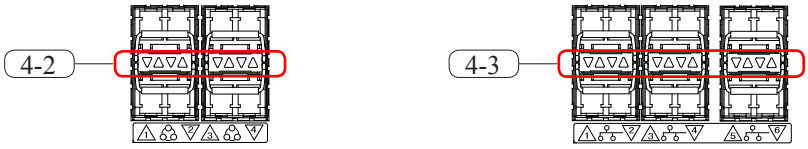
NAS Module can be used and mounted to one module for four slots of the location A,B,C, and D on the Controller Board of CBLM/DBLH. It cannot be mounted to the location E,F,G, and H.

Figure 3-7 LEDs of NAS Module

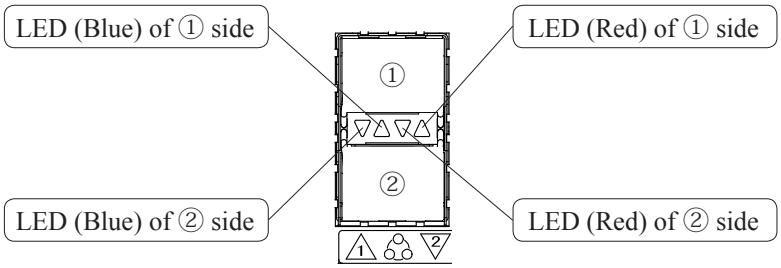


Rear view of CBLM/CBLH





Cluster Port (Not supported) Network Port



Port LED details (Common to 4-2 and 4-3)

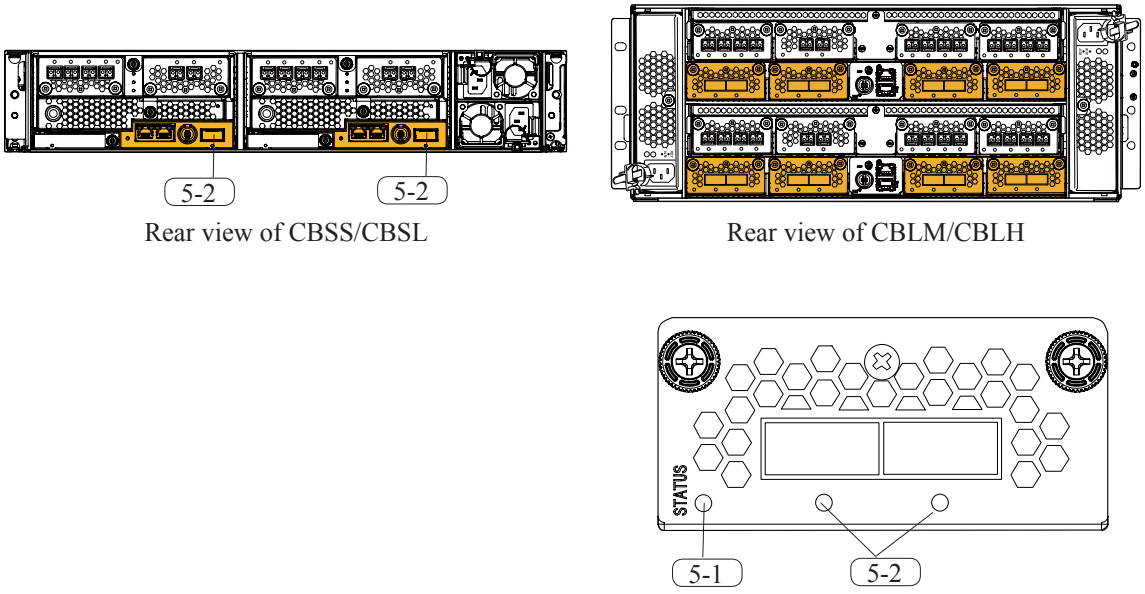
Table 3-6 Function of NAS Module LEDs

No.	Parts Name	Class	Function
4-1	STATUS	LED (Green/Red)	On : Green : NAS Module is powered on. : Red : NAS Module is abnormal. Off : NAS Module is powered off.
4-2	CLUSTER PORT (Not Supported)	-	-
4-3	NETWORK PORT	LED (Blue)	On : Blue : Link status is normal. Blinking : Blue : Accessing the data.
		LED (Red)	On : Red : SFP is abnormal. On (both) : Only NAS Module is not Ready. Off (both): Link down/not Ready.

(Numbers in this table correspond to the numbers in ovals in Figure 3-7.)

5. Disk Board

Figure 3-8 LEDs of Disk Board



Rear view of CBSS/CBSL

Rear view of CBLM/CBLH

Disk Board

Table 3-7 Function of Disk Board LEDs

No.	Parts Name	Class	Function
5-1	STATUS	LED (Green/Red)	Green : Power on Red : Disk Board can be removed. Off : Power off
5-2	PORT (LINK/ LOCATE)	LED (Blue)	Blue : Link status Off : Link down

(Numbers in this table correspond to the numbers in ovals in Figure 3-8.)

6. DKCPS (CBSS/CBSL/CBSSD/CBSLD)

Figure 3-9 LEDs of DKCPS

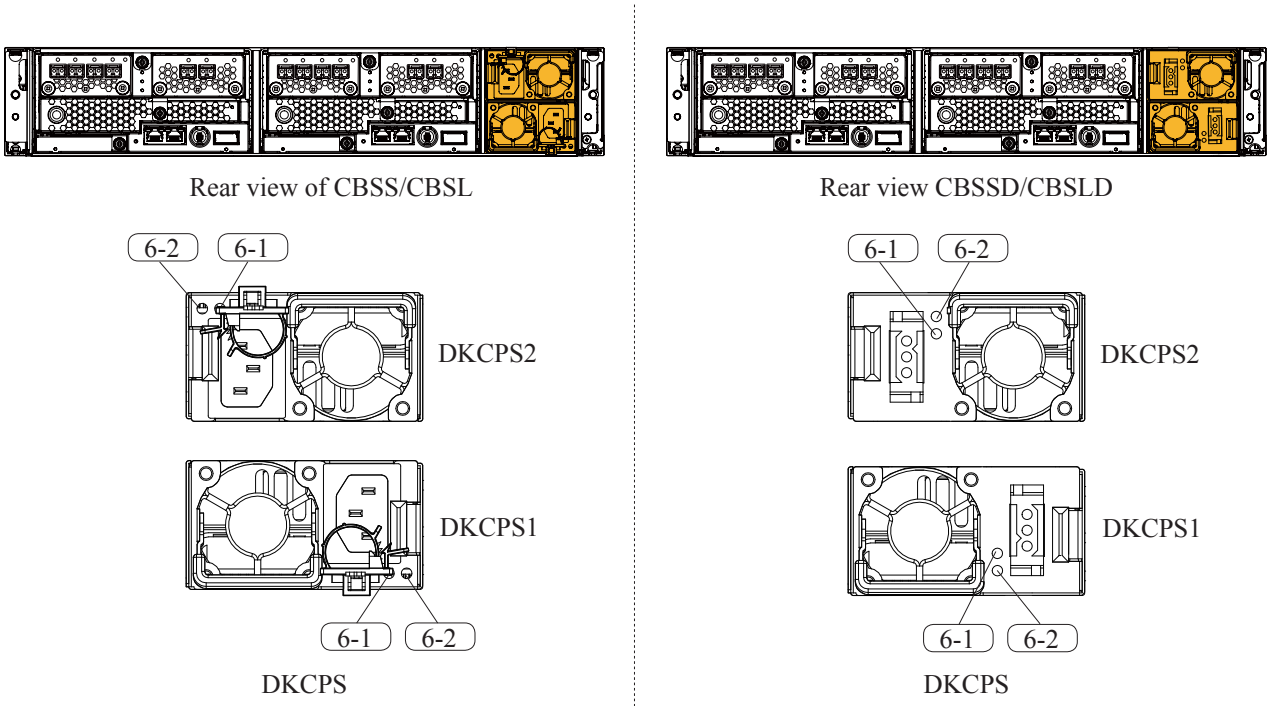


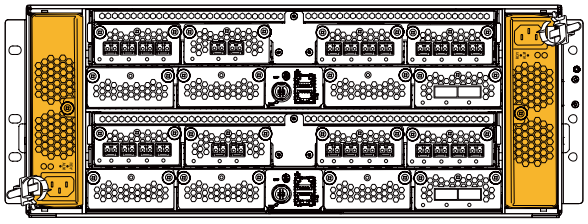
Table 3-8 Function of DKCPS LEDs

No.	Parts Name	Class	Function
6-1	ALM/RDY	LED (Red/Green)	Red : Indicates that replacement of the DKCPS is possible. To replace the DKCPS, see REPLACEMENT SECTION "2.15 Replacing a Power Supply". Green : Indicates that the DKCPS operates normally.
6-2	AC IN (CBSS/CBSL)	LED (Blue)	On: Indicates that AC input is normal.
	DC IN (CBSSD/CBSLD)		On: Indicates that DC input is normal.

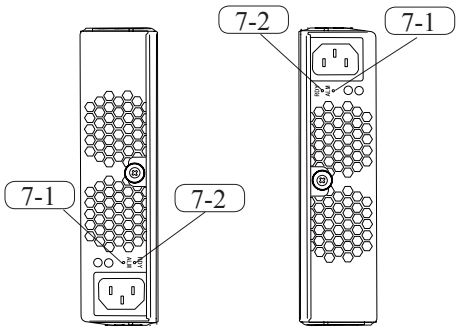
(Numbers in this table correspond to the numbers in ovals in Figure 3-9.)

7. DKCPS (CBLM/CBLH)

Figure 3-10 LEDs of DKCPS (CBLM/CBLH)



Rear view of CBLM/CBLH



DKCPS

Table 3-9 Function of DKCPS LEDs (CBLM/CBLH)

No.	Parts Name	Class	Function
7-1	ALM	LED (Red)	Indicates that replacement of the DKCPS is possible.
7-2	RDY	LED (Green)	Indicates that the DKCPS operates normally.

(Numbers in this table correspond to the numbers in ovals in Figure 3-10.)

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8. DBS/DBL and Drive

Figure 3-11 LEDs of DBS/DBL and Drive

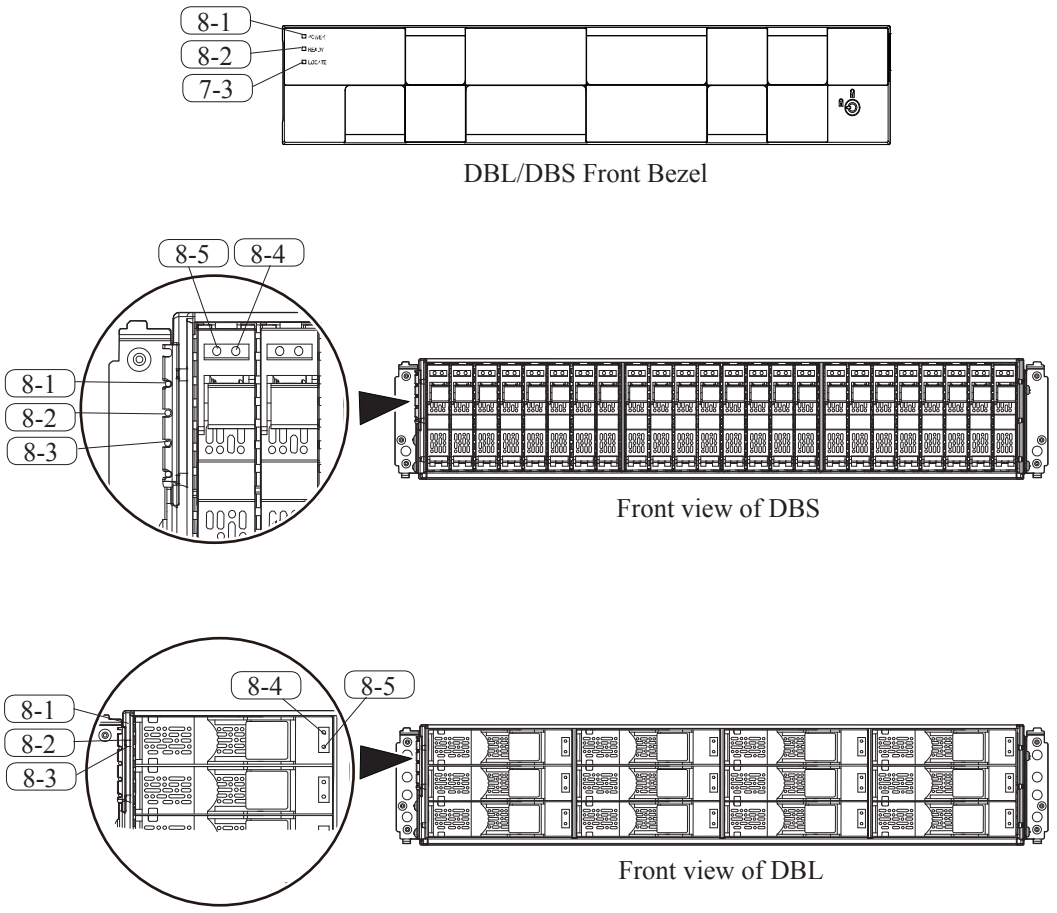


Table 3-10 Function of DBS/DBL and Drive LEDs

No.	Parts Name	Class	Function
8-1	POWER	LED (Green)	Indicates that the power supply is supplied to the storage system.
8-2	READY	LED (Green)	Indicates that the ENC is operating normally.
8-3	LOCATE	LED (Amber)	• Indicates the location of the chassis that detects a failure. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION "3.9 Turn on/off Locate LEDs".)

(To be continued)

(Numbers in this table correspond to the numbers in ovals in Figure 3-11.)

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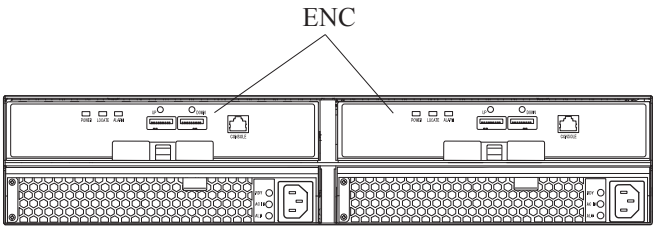
(Continued from preceding page)

No.	Parts Name	Class	Function
8-4	ACT	LED (Green)	Indicates the HDD/SSD status. On : Indicates that the HDD/SSD is powered on. Blinking : Indicates that the HDD/SSD is active. The interval of blinking may be different in HDD and SSD, but it is not abnormal.
8-5	ALM	LED (Red)	Indicates that the removal of the HDD/SSD is possible when the storage system is powered on. To remove the HDD/SSD, see REPLACEMENT SECTION "2.3 Replacing a Drive".

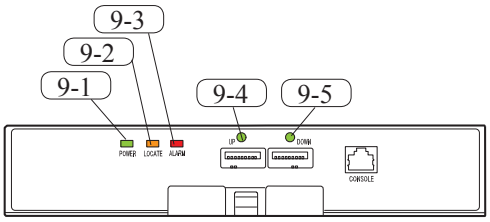
(Numbers in this table correspond to the numbers in ovals in Figure 3-11.)

9. ENC (DBS/DBL)

Figure 3-12 LEDs of ENC



Rear view of DBS/DBL



ENC

Table 3-11 Function of ENC LEDs

No.	Parts Name	Class	Function
9-1	POWER	LED (Green)	Indicates that the power is supplied to the ENC.
9-2	LOCATE	LED (Amber)	• A LED to specify the chassis location on the rear of the chassis. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION “3.9 Turn on/off Locate LEDs”.)
9-3	ALARM (REPLACE)	LED (Red)	Lights up when replacement of the ENC is possible. To replace the ENC, see REPLACEMENT SECTION “2.16 Replacing an ENC”.
9-4	PATH (IN side)	LED (Green)	Indicates that IN side is linked up.
9-5	PATH (OUT side)	LED (Green)	Indicates that OUT side is linked up.

(Numbers in this table correspond to the numbers in ovals in Figure 3-12.)

10. DBPS (DBL/DBS)

Figure 3-13 LEDs of DBPS

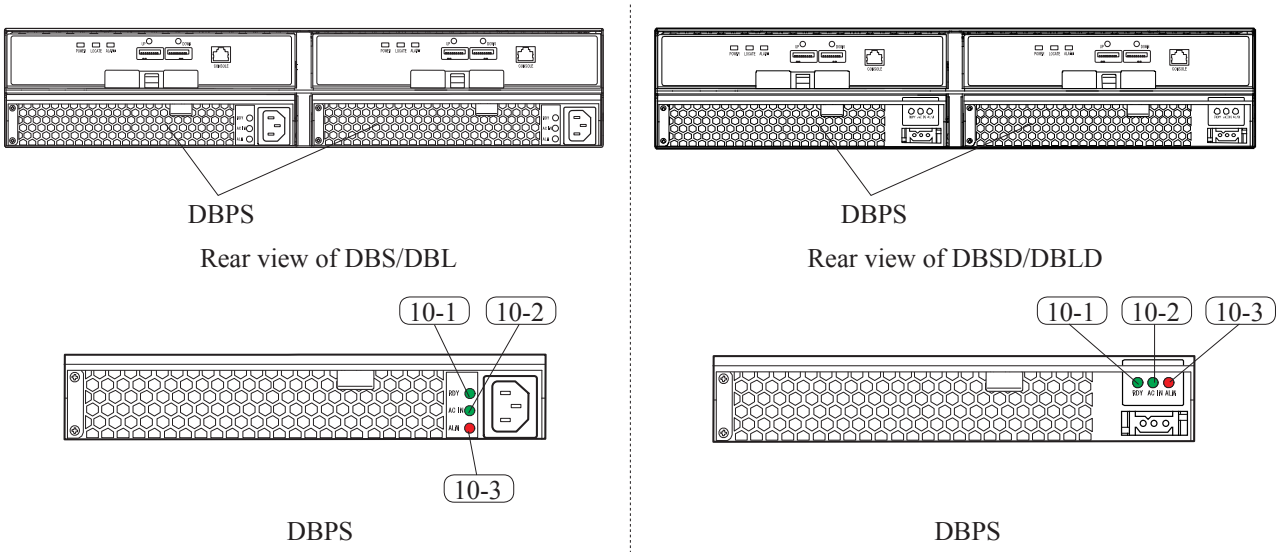


Table 3-12 Function of DBPS LEDs

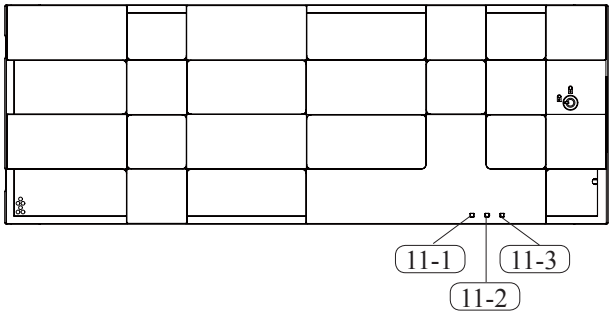
No.	Parts Name	Class	Function
10-1	RDY	LED (Green)	Indicates the operation state of the DBPS. On : Normal operation Off : Abnormal operation or out of operation
10-2	AC IN (DBS/DBL)	LED (Green)	Lighting: Indicates that AC input is normal.
	DC IN (DBSD/DBLD)		Lighting: Indicates that DC input is normal.
10-3	ALM (REPLACE)	LED (Red)	Lights up when replacement of the DBPS is possible. To replace the DBPS, see REPLACEMENT SECTION "2.15 Replacing a Power Supply".

(Numbers in this table correspond to the numbers in ovals in Figure 3-13.)

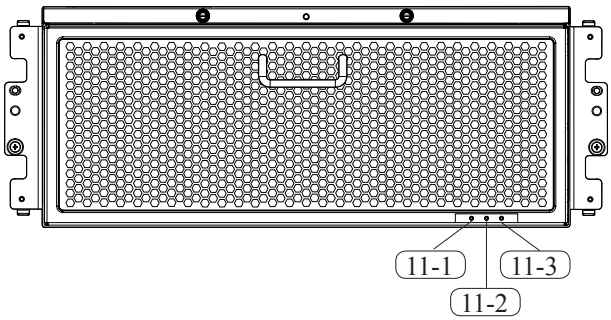
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11. DB60 and Drive

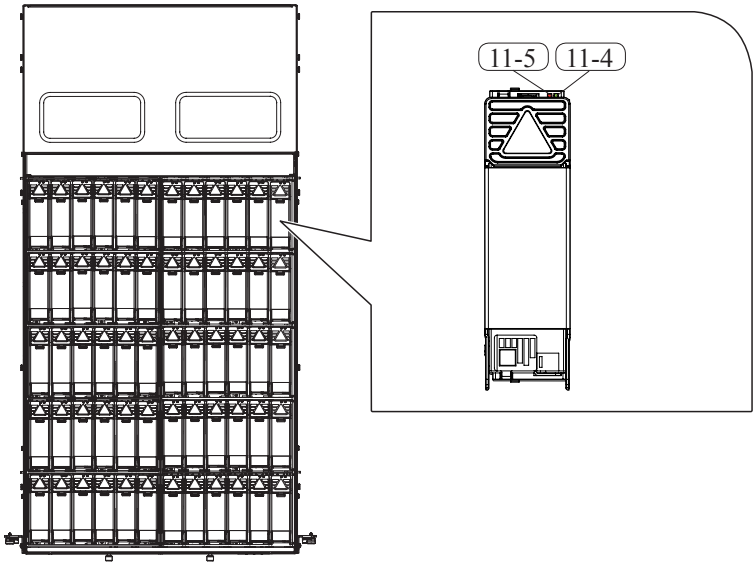
Figure 3-14 LEDs of DB60 and Drive



Front view of DB60 (With Front Bezel attached)



Front view of DB60 (With Front Bezel detached)



DB60 of Top (With Top cover detached)

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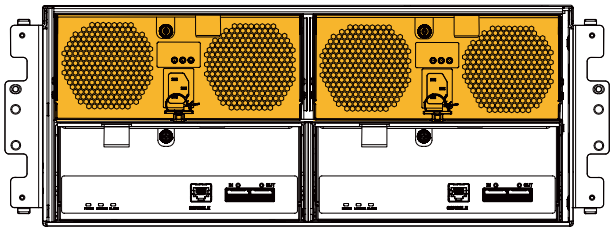
Table 3-13 Function of DB60 LEDs

No.	Parts Name	Class	Function
11-1	POWER	LED (Green)	Indicates that the power is supplied to the storage system.
11-2	READY	LED (Green)	Indicates that the ENC is operating normally.
11-3	LOCATE	LED (Amber)	• Indicates the location of the chassis that detects a failure. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION "3.9 Turn on/off Locate LEDs".)
11-4	ACT	LED (Green)	Indicates the HDD/SSD status. On : Indicates that the HDD is powered on. Blinking : Indicates that the HDD is active. The interval of blinking may be different in HDD, however it is not abnormal.
11-5	ALM	LED (Red)	Indicates that the removal of the HDD is possible when the storage system is powered on. To remove the HDD, see REPLACEMENT SECTION "2.3 Replacing a Drive".

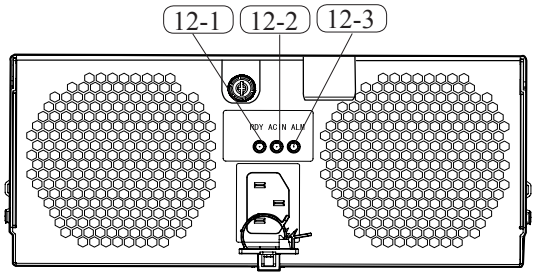
(Numbers in this table correspond to the numbers in ovals in Figure 3-14.)

12. DBPS (DB60)

Figure 3-15 LEDs of DBPS



Rear view of DB60



DBPS

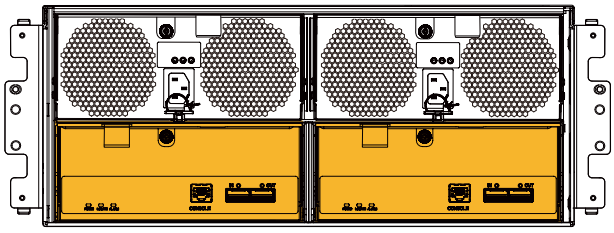
Table 3-14 Function of DPBS LEDs

No.	Parts Name	Class	Function
12-1	RDY	LED (Green)	Indicates the operation state of the Power Supply. On : Normal operation Off : Abnormal operation or out of operation
12-2	AC-IN	LED (Green)	Lighting: AC input is normal
12-3	ALM (REPLACE)	LED (Red)	Lights up when replacement of the DBPS is possible. To replace the DBPS, see REPLACEMENT SECTION “2.15 Replacing a Power Supply”.

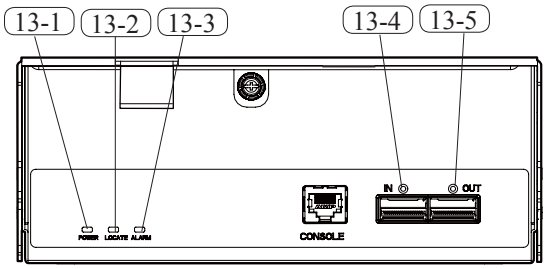
(Numbers in this table correspond to the numbers in ovals in Figure 3-15.)

13. ENC (DB60)

Figure 3-16 LEDs of ENC



Rear view of DB60



ENC

Table 3-15 Function of ENC LEDs

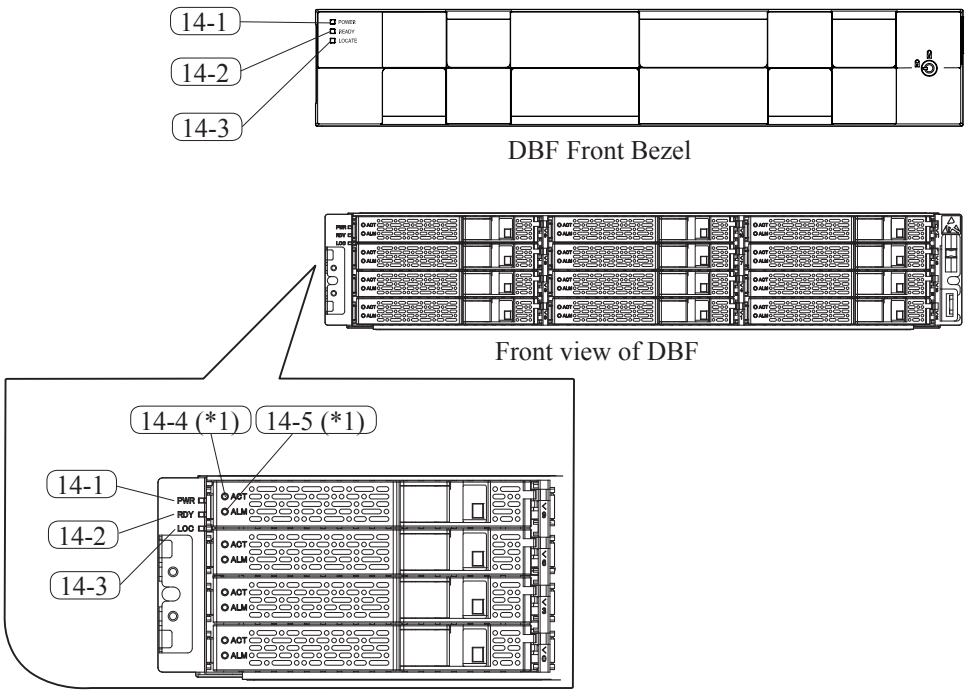
No.	Parts Name	Class	Function
13-1	POWER	LED (Green)	Indicates that the power supply is supplied to ENC.
13-2	LOCATE	LED (Amber)	• A LED to specify the chassis location on the rear of the chassis. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION "3.9 Turn on/off Locate LEDs".)
13-3	ALARM (REPLACE)	LED (Red)	Lights up when replacement of the ENC is possible. To replace the ENC, see REPLACEMENT SECTION "2.16 Replacing an ENC".
13-4	PATH0 (IN side)	LED (Green)	Indicates that the IN side is linked up.
13-5	PATH0 (OUT side)	LED (Green)	Indicates that the OUT side is linked up.

(Numbers in this table correspond to the numbers in ovals in Figure 3-16.)

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14. DBF and Flash Module Drive

Figure 3-17 LEDs of Drive Box and Flash Module Drive



*1: ACT/ALM is printed on some types of FMDs and not printed on the other types of FMDs.

Table 3-16 Function of Drive Box and Flash Module Drive LEDs

No.	Parts Name	Class	Function
14-1	POWER	LED (Green)	Indicates that the power is supplied to the storage system.
14-2	READY	LED (Green)	Indicates that the ENC is operating normally.
14-3	LOCATE	LED (Amber)	• Indicates the location of the chassis that detects a failure. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION "3.9 Turn on/off Locate LEDs".)
14-4	FMD ACTIVE	LED (Green)	This LED indicates the Flash Module Drive status. • Lighting: Indicates that Flash Module Drive power is on. • Blinking: Indicates that Flash Module Drive is operating. (Lights up with I/O and goes out with no I/O) There is no problem if each Flash Module Drive has a different LED blinking cycle. • Low-speed blinking (1.5-second lighting, 1.5-second lights-out) : [Drive type: NFH1A/NFH1B/NFH1C-PxRxSS] Indicates that the battery capacity in the Flash Module Drive is insufficient. [Drive type: NFHAx-QxRxSS, NFH1D-PxRxSS] Indicates that the Flash Module Drive built-in capacitor is charged. When the Storage System is turned on, the LED blinks for about two minutes until the capacitor is charged completely.

(Numbers in this table correspond to the numbers in ovals in Figure 3-17.)

(To be continued)

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(Continued from the preceding page)

No.	Parts Name	Class	Function
14-5	ALM	LED (Red)	Indicates that the Flash Module Drive is removable with the storage system turned on. To remove the Flash Module Drive, see REPLACEMENT SECTION “2.3 Replacing a Drive”.

(Numbers in this table correspond to the numbers in ovals in Figure 3-17.)

15. ENC (DBF)

Figure 3-18 LEDs of ENC

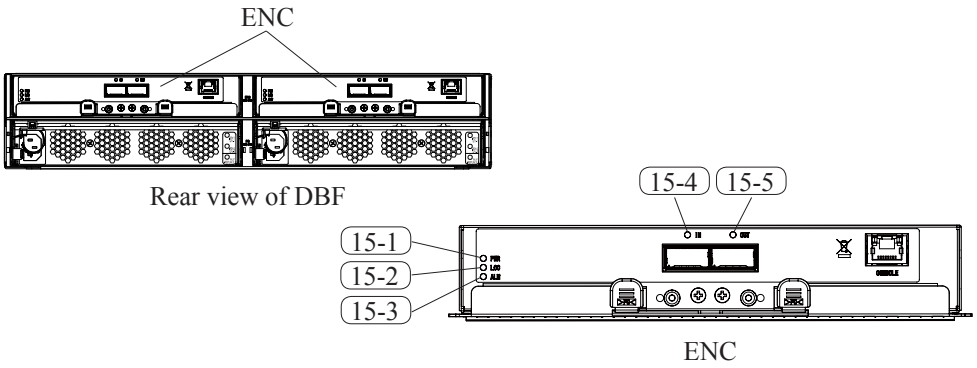


Table 3-17 Function of ENC LEDs

No.	Parts Name	Class	Function
15-1	POWER	LED (Green)	Indicates that the power supply is supplied to ENC.
15-2	LOCATE	LED (Amber)	• A LED to specify the chassis location on the rear of the chassis. • The LED can be lit/turned off by Maintenance Utility. (See MAINTENANCE PC SECTION "3.9 Turn on/off Locate LEDs".)
15-3	ALARM (REPLACE)	LED (Red)	Lights up when replacement of the ENC is possible. To replace the ENC, see REPLACEMENT SECTION "2.16 Replacing an ENC".
15-4	PATH (IN side)	LED (Green)	Indicates that the IN side is linked up.
15-5	PATH (OUT side)	LED (Green)	Indicates that the OUT side is linked up.

(Numbers in this table correspond to the numbers in ovals in Figure 3-18.)

16. DBPS (DBF)

Figure 3-19 LEDs of DBPS

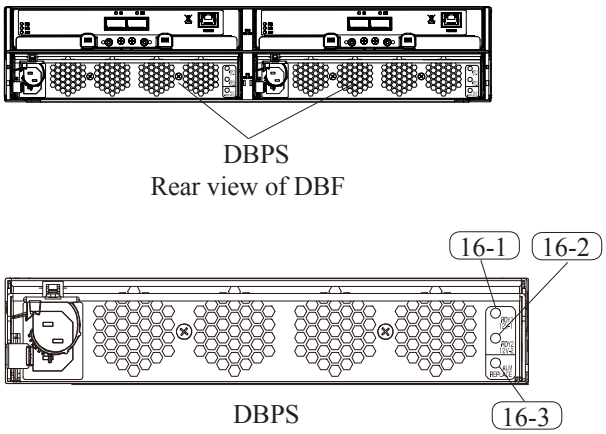


Table 3-18 Function of DPBS LEDs

No.	Parts Name	Class	Function
16-1	RDY 1	LED (Green)	This LED is on each power supply and lights up when the power is supplied from the power supply to the load or the supply is possible.
16-2	RDY 2	LED (Green)	This LED is on each power supply and lights up when the power is supplied from the power supply to the load or the supply is possible.
16-3	ALM REPLACE	LED (Red)	Lights up when replacement of the DBPS is possible. To replace the DBPS, see REPLACEMENT SECTION “2.15 Replacing a Power Supply”.

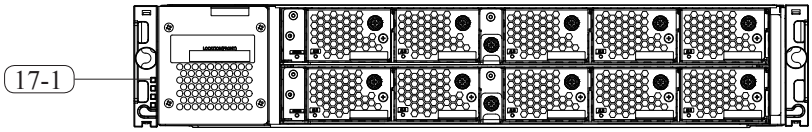
(Numbers in this table correspond to the numbers in ovals in Figure 3-19.)

17. Channel Board Box (CHBB)

Figure 3-20 LEDs of Channel Board Box (CHBB)



Front view of CHBB (With Front Bezel attached)



Front view of CHBB (With Front Bezel detached)

Table 3-19 Function of Channel Board Box (CHBB) LEDs

No.	Parts Name	Class	Function
17-1	POWER	LED (Green)	On : Power is supplied to CHBB
		LED (Amber)	On : PDU is on Off : PDU is off

(Numbers in this table correspond to the numbers in ovals in Figure 3-20.)

18. Switch Package (SWPK)

Figure 3-21 LEDs of Switch Package (SWPK)

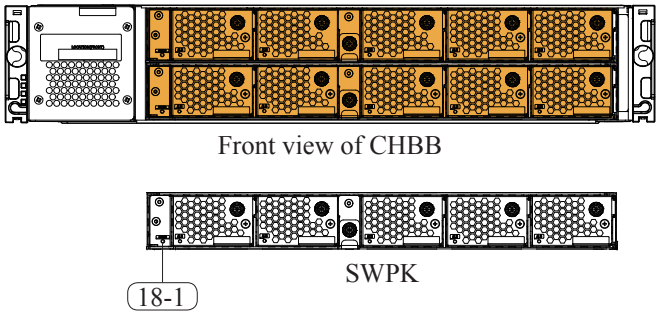


Table 3-20 Function of Switch Package (SWPK) LEDs

No.	Parts Name	Class	Function
18-1	STATUS	LED (Green)	On : SWPK is powered on Off : SWPK is powered off
		LED (Red)	SWPK can be replaced

(Numbers in this table correspond to the numbers in ovals in Figure 3-21.)

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19. CHBBFAN

Figure 3-22 LEDs of CHBBFAN

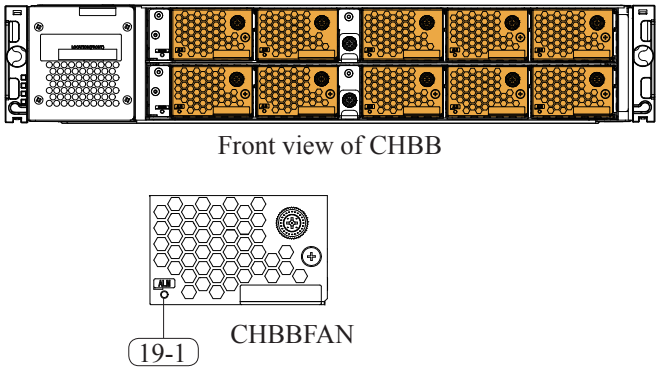


Table 3-21 Function of CHBBFAN LEDs

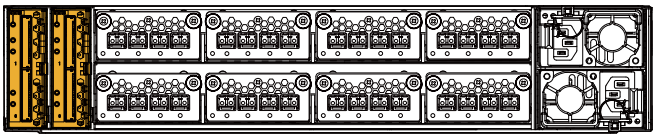
No.	Parts Name	Class	Function
19-1	ALM	LED (Red)	On : Abnormal Off : Normal

(Numbers in this table correspond to the numbers in ovals in Figure 3-22.)

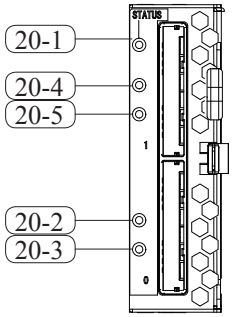
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20. PCIe-cable Connecting Package (PCP)

Figure 3-23 LEDs of PCIe-cable Connecting Package (PCP)



Rear view of CHBB



PCP

Table 3-22 Function of PCIe-cable Connecting Package (PCP) LEDs

No.	Parts Name	Class	Function
20-1	STATUS	LED (Green)	On : PCP is powered on Off : PCP is powered off
		LED (Red)	PCP can be replaced
20-2	Link Basic	LED (Green)	On : Basic PCIe is Gen3.0 (8 Gbps) and it is linked up normally Off : • Basic PCIe is not linked up (including the status that PCIe cable is unconnected) • Cables can be removed
20-3	InAct Basic	LED (Amber)	On : The status of Basic PCIe changed from Linkup to Down and cables can be removed. Off : • Basic PCIe is normally • PCIe is not set
20-4	Link Option	LED (Green)	On : Option PCIe is Gen3.0 (8 Gbps) and it is linked up normally Off : • Option PCIe is not linked up (including the status that PCIe cable is unconnected) • Cables can be removed
20-5	InAct Option	LED (Amber)	On : The status of Option PCIe changed from Linkup to Down and cables can be removed. Off : • Option PCIe is normally • PCIe is not set

(Numbers in this table correspond to the numbers in ovals in Figure 3-23.)

21. CHBBPS

Figure 3-24 LEDs of CHBBPS

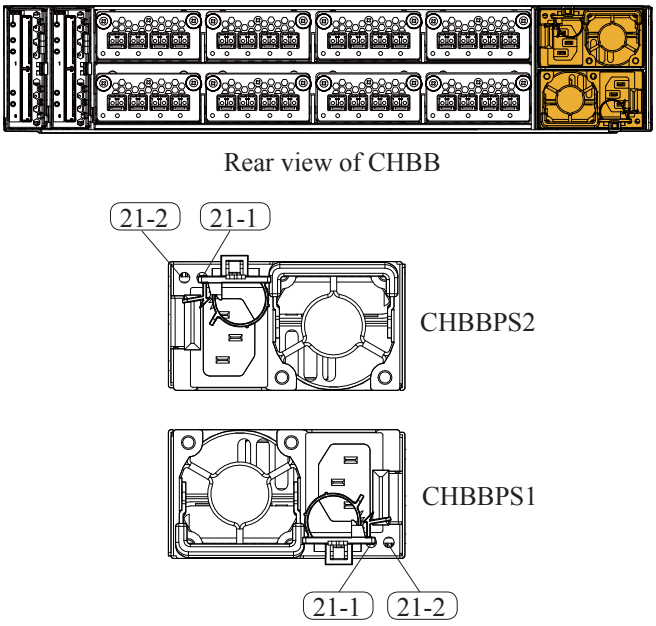


Table 3-23 Function of CHBBPS LEDs

No.	Parts Name	Class	Function
21-1	ALM/RDY	LED (Red/Green)	Red : CHBBPS can be replaced Green : CHBBPS is normal
21-2	AC IN	LED (Blue)	On : AC input is normal

(Numbers in this table correspond to the numbers in ovals in Figure 3-24.)

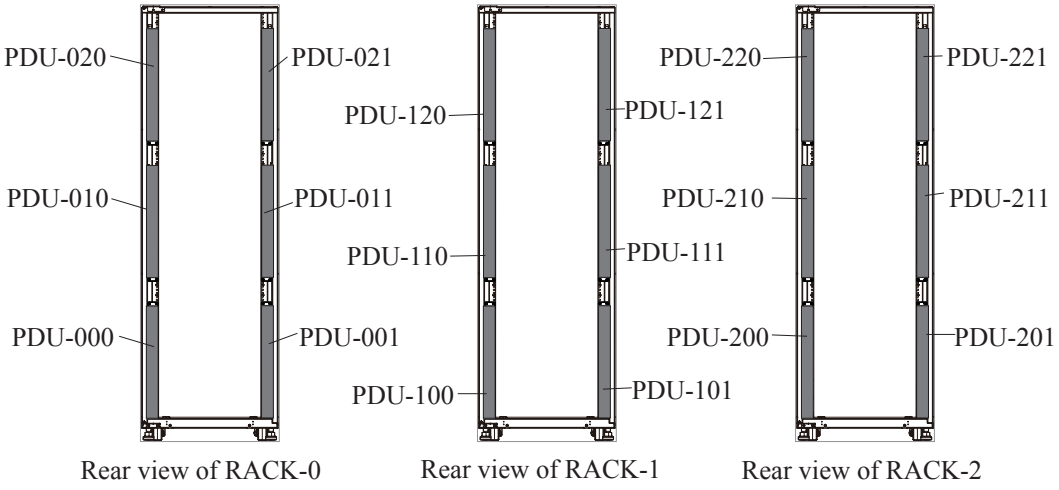
3.3 Circuit Breaker

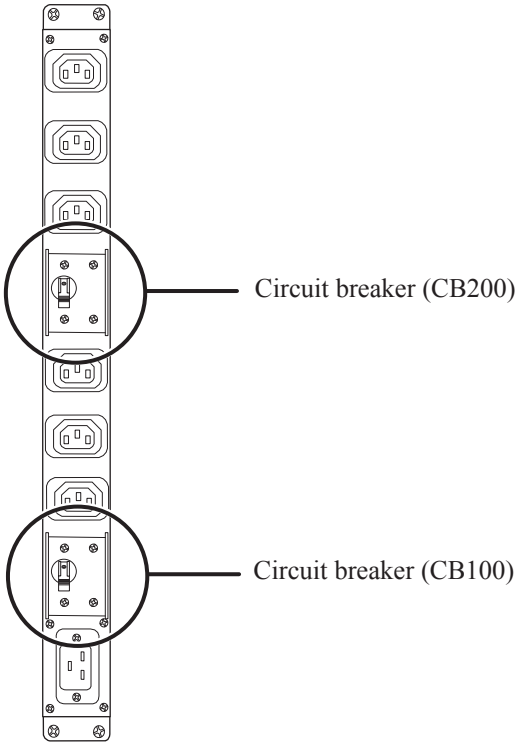
3.3.1 Location of Circuit Breaker

For information about the Hitachi Universal V2 rack used with HDS VSP storage systems, refer to the Hitachi Universal V2 Rack Reference Guide (MK-94HM8035).

Figure 3-25 shows the location of the circuit breaker in the rack frame.

Figure 3-25 Location of Circuit Breaker in Rack Frame





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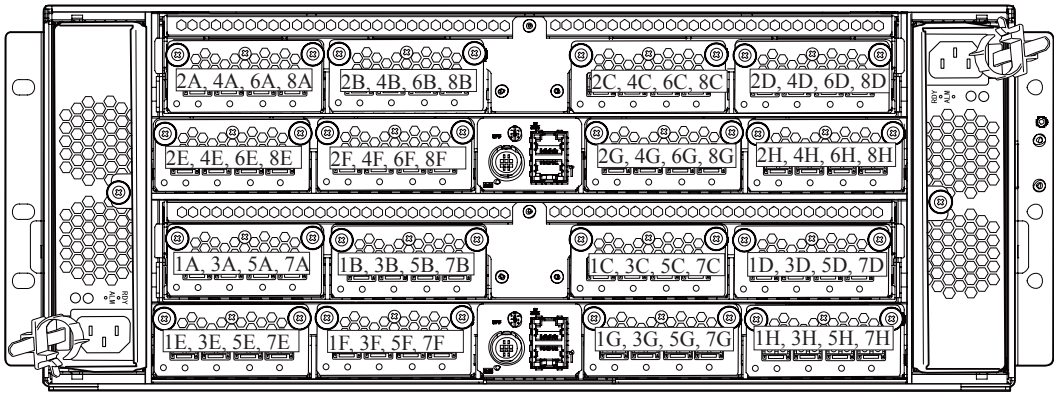
4. Connection of External Cable

4.1 Channel Interface

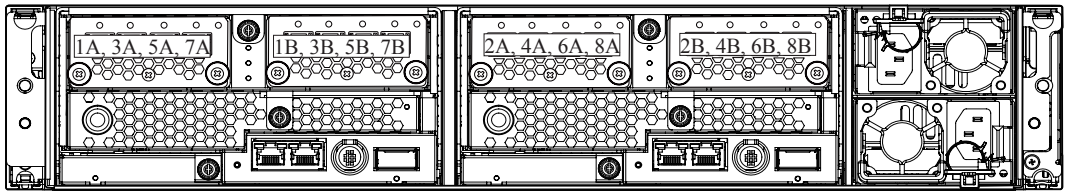
1. Channel Board

Figure 4-1 Port Number of Channel Board (8 Gbps FC/16 Gbps (4 Port) FC/32 Gbps (4 Port) FC)

CHB Port Number



Rear view of CBLM/CBLH

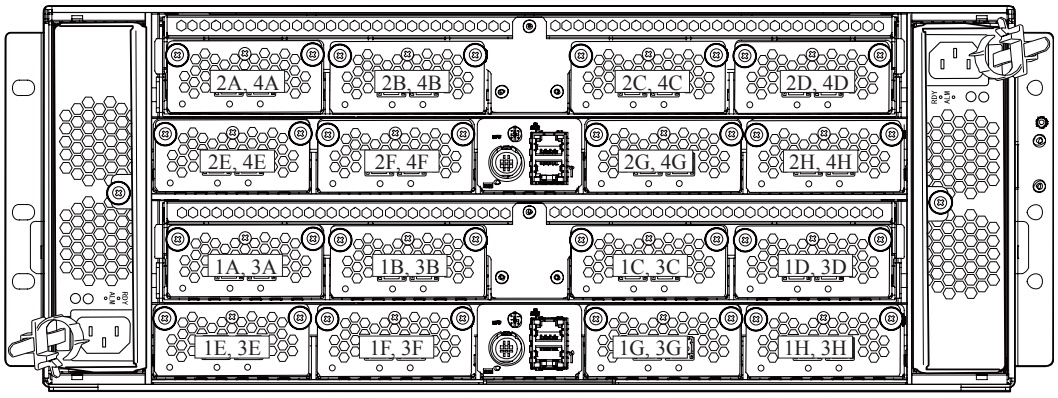


Rear view of CBSS/CBSL

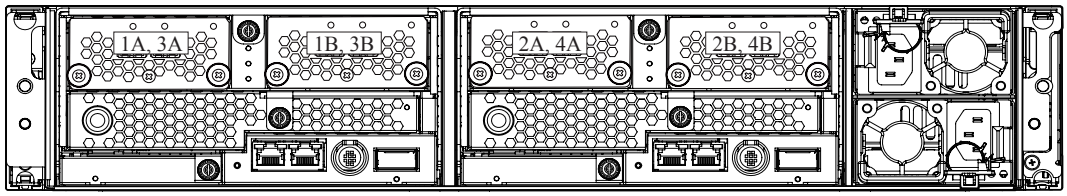
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Figure 4-2 Port Number of Channel Board (16 Gbps (2 Port) FC/iSCSI)

CHB Port Number



Rear view of CBLM/CBLH

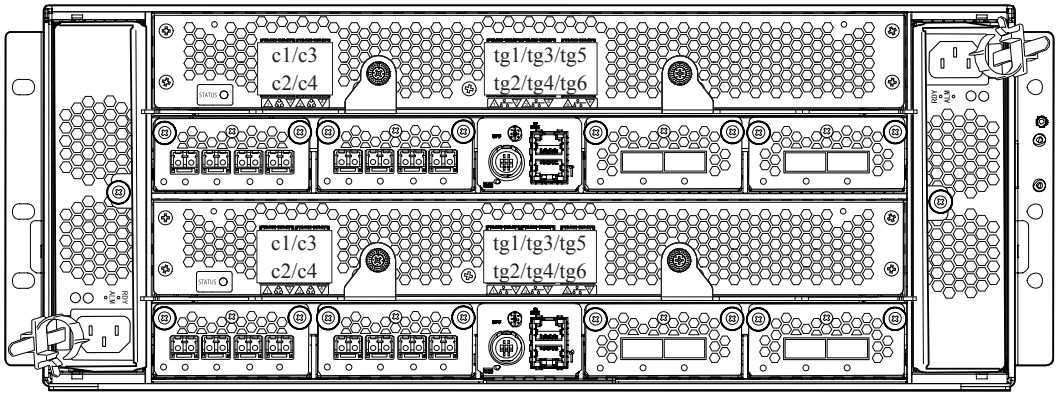


Rear view of CBSS/CBSL

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2. NAS Module

Figure 4-3 Port Number of NAS Module



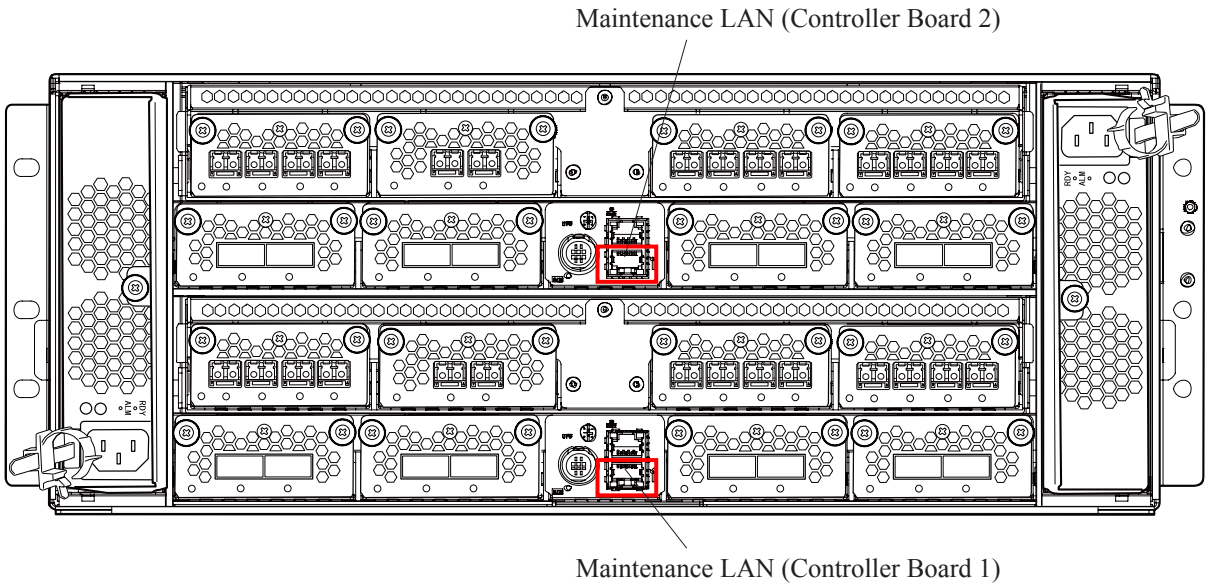
Rear view of CBLM/CBLH

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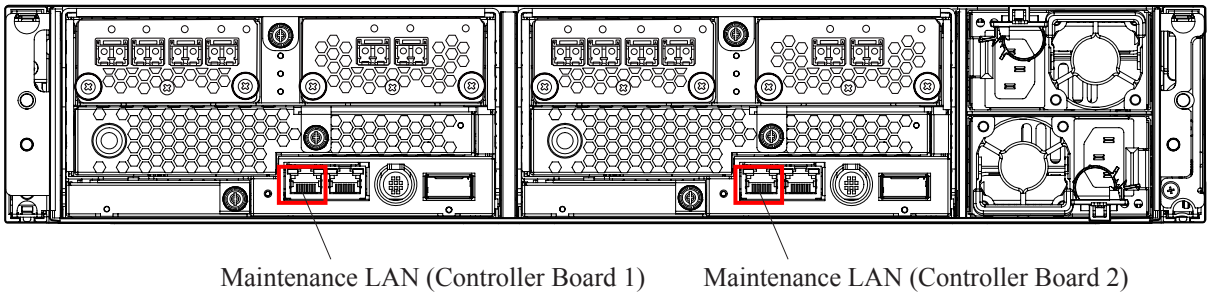
4.2 Maintenance PC Interface

Figure 4-4 Maintenance PC Interface

• CBLM/CBLH (Rear view)



• CBSS/CBSL (Rear view)



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4.3 Network Cable Connection Diagram

See INSTALLATION SECTION “2.10 Connecting Cables” for the network cable connection diagram.

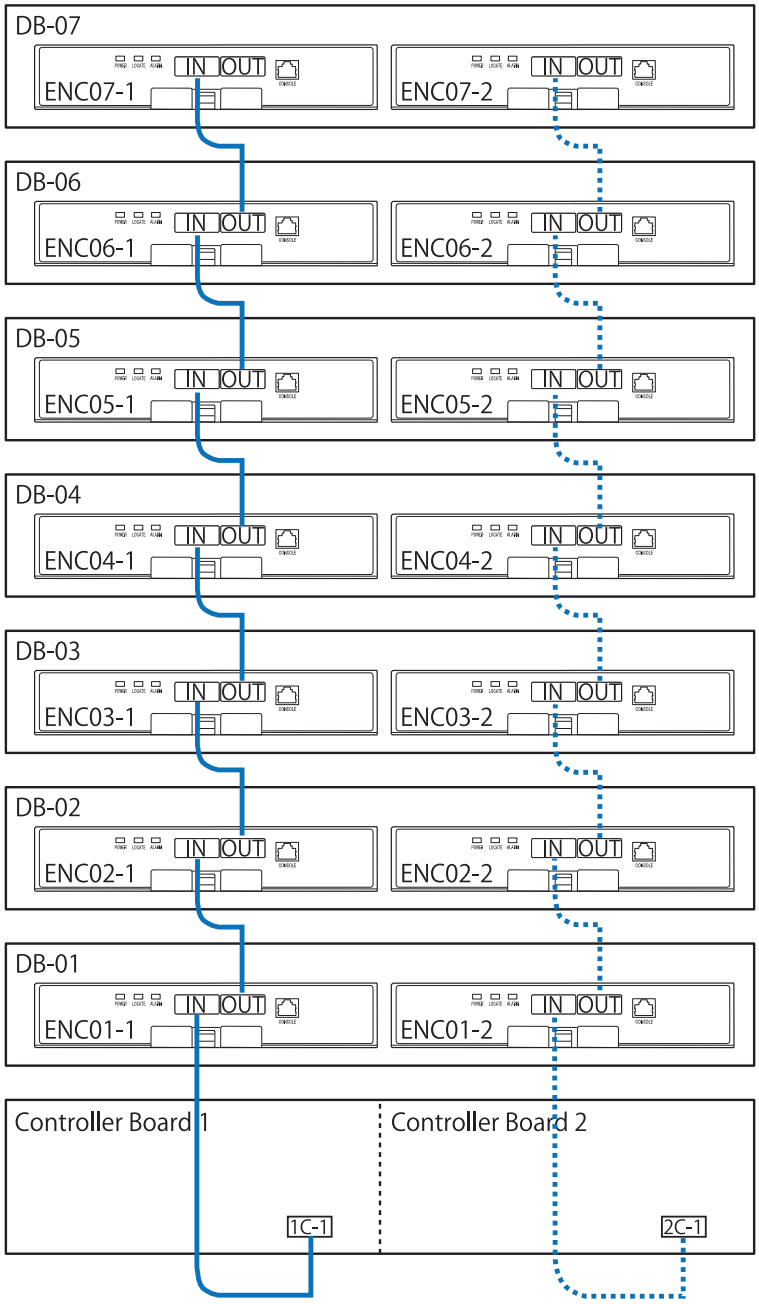
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5. Storage System Cable Diagram

5.1 SAS Cable Diagram

5.1.1 CBSS/CBSL + DBS/DBL/DBF x 7

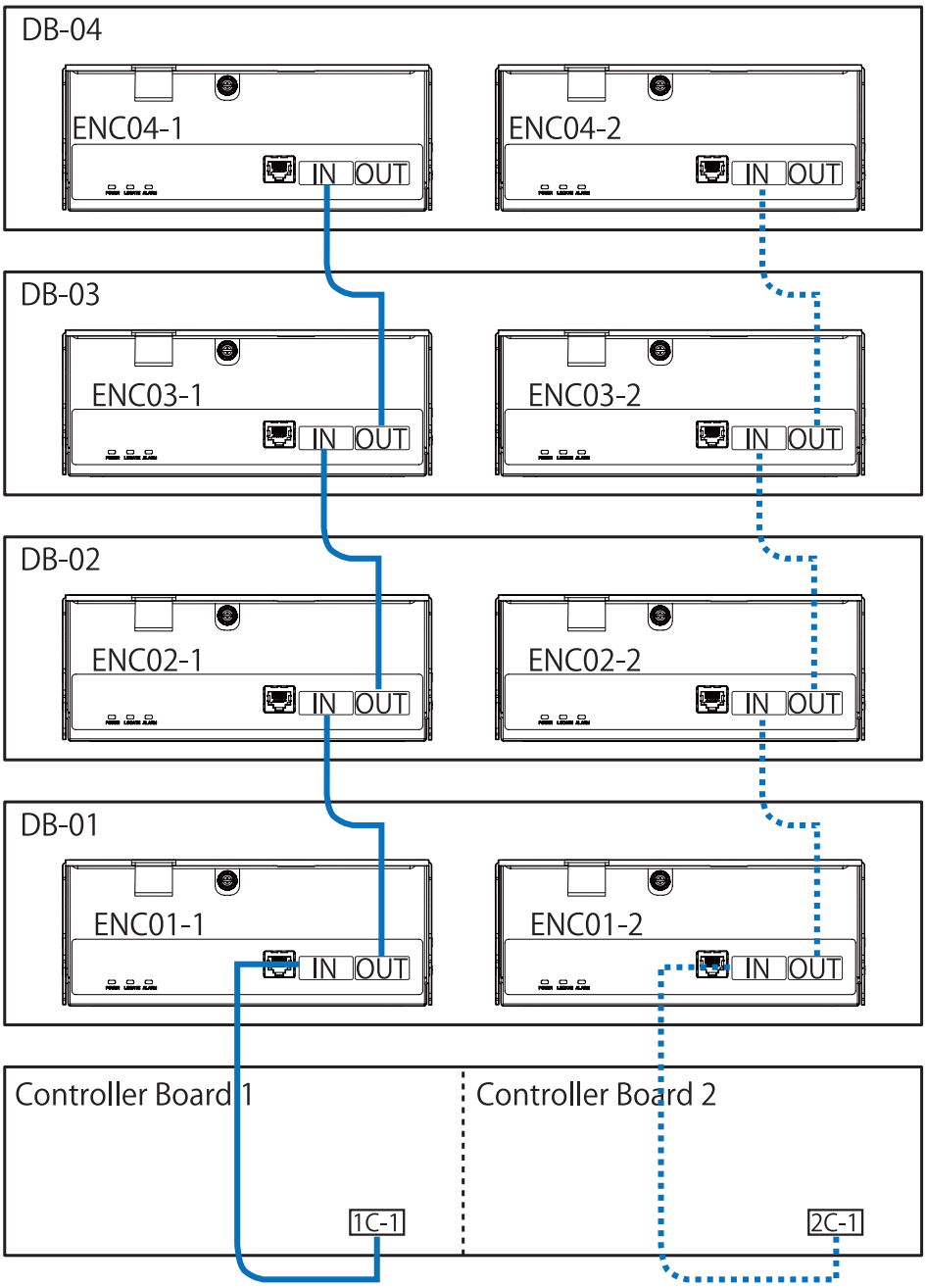
Figure 5-1 SAS Cable Diagram (CBSS/CBSL+DBS/DBL/DBFx7)



NOTE: • In case of a CBSS/CBSL, it includes DB-00.
• Up to seven DBS/DBL/DBFs can connect to VSP G200.

5.1.2 CBSS/CBSL + DB60 x 4

Figure 5-2 SAS Cable Diagram (CBSS/CBSL+DB60x4)



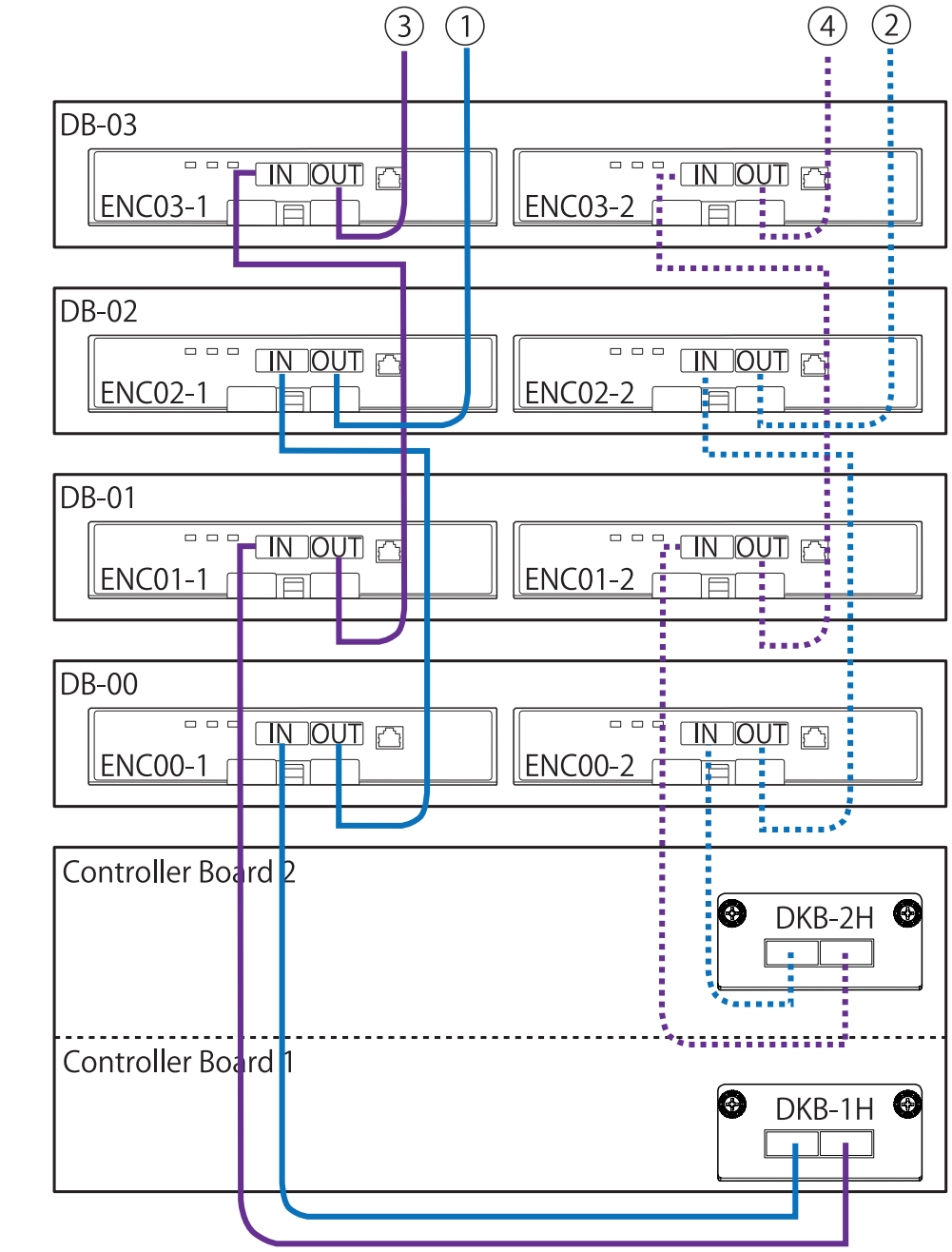
NOTE: • In case of a CBSS/CBSL, it includes DB-00.
• Up to four DB60s can connect to VSP G200.

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5.1.3 CBLM + DBS/DBL/DBF x 24

Figure 5-3 to Figure 5-6 show the SAS cable connection diagrams of CBLM+DBS/DBL/DBFx24.

Figure 5-3 SAS Cable Diagram (CBLM+DBS/DBL/DBFx24)

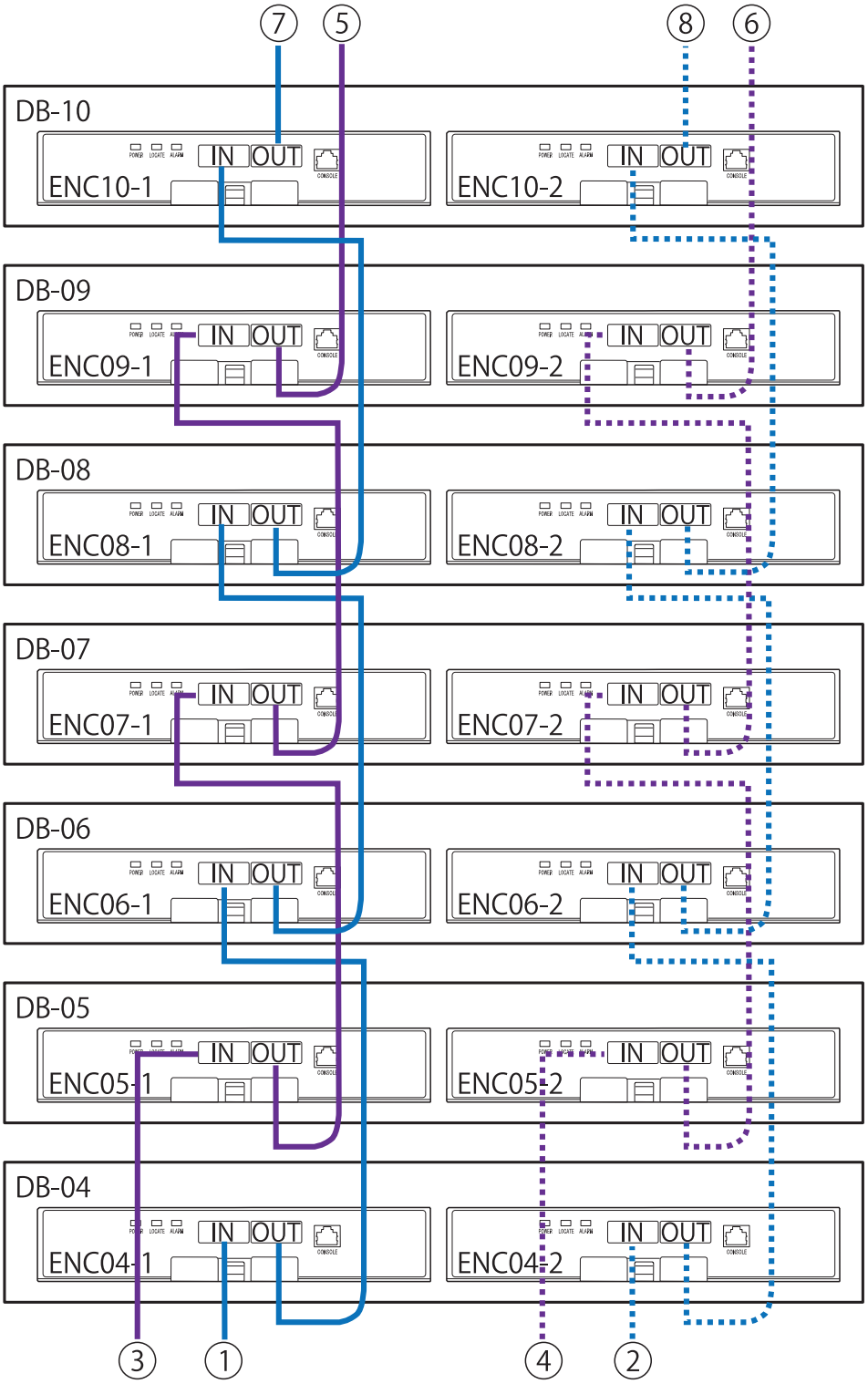


NOTE: DBF is the only Drive Box that can be mounted on VSP Fx00 Models.

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Figure 5-4 SAS Cable Diagram (CBLM+DBS/DBL/DBFx24)

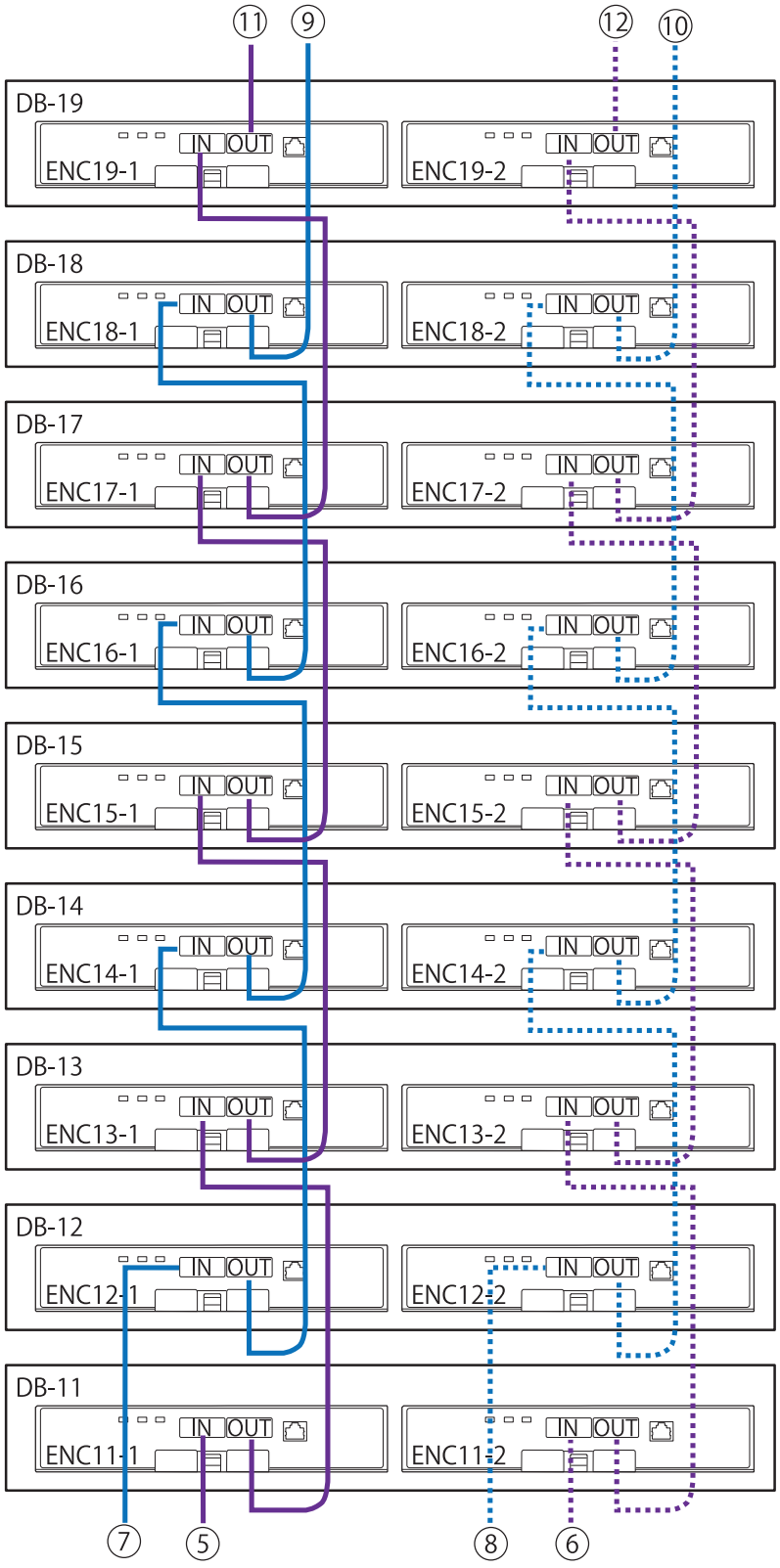
DB-04 to DB-10



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Figure 5-5 SAS Cable Diagram (CBLM+DBS/DBL/DBFx24)

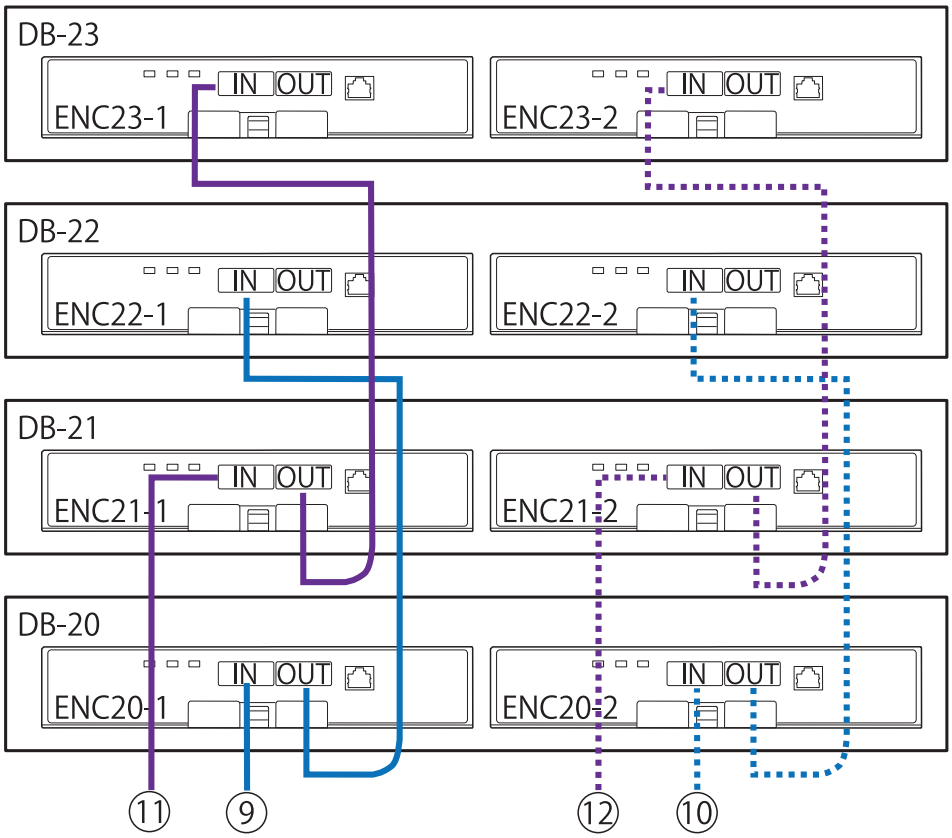
DB-11 to DB-19



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Figure 5-6 SAS Cable Diagram (CBLM+DBS/DBL/DBFx24)

DB-20 to DB-23



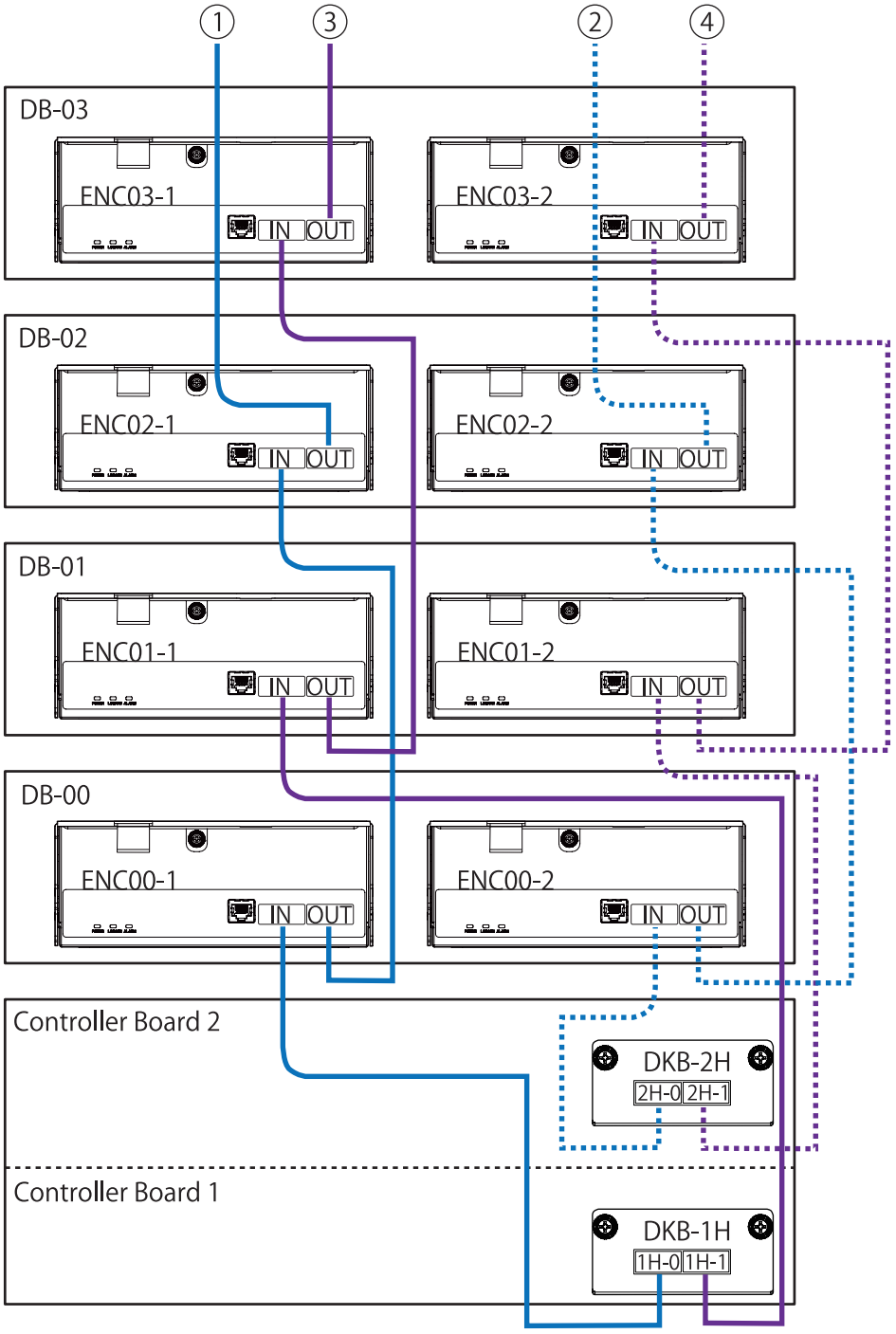
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5.1.4 CBLM + DB60 x 12

Figure 5-7 to Figure 5-9 show the SAS cable connection diagrams of CBLM+DB60x12.

Figure 5-7 SAS Cable Diagram (CBLM+DB60x12)

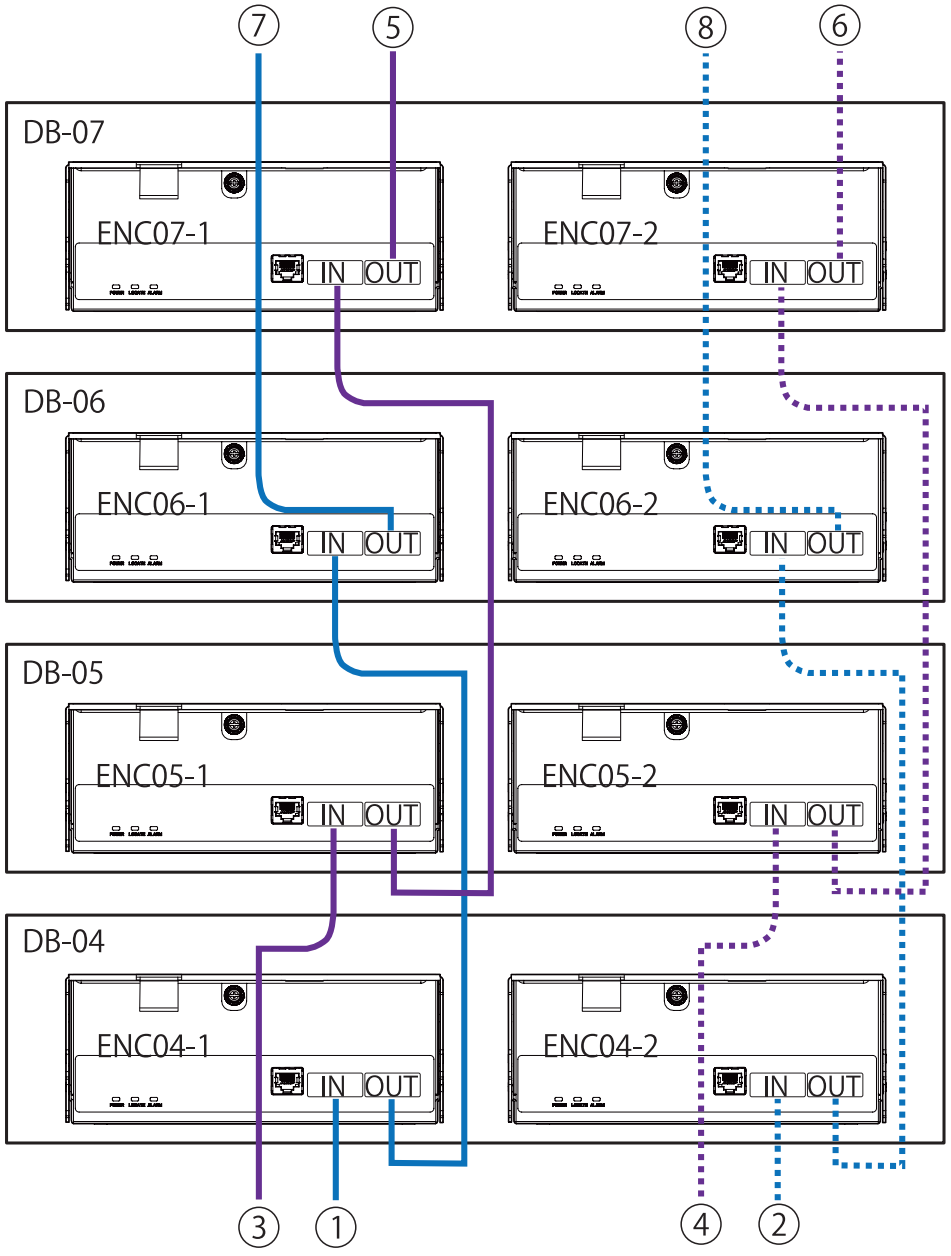
DB-00 to DB-03



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Figure 5-8 SAS Cable Diagram (CBLM+DB60x12)

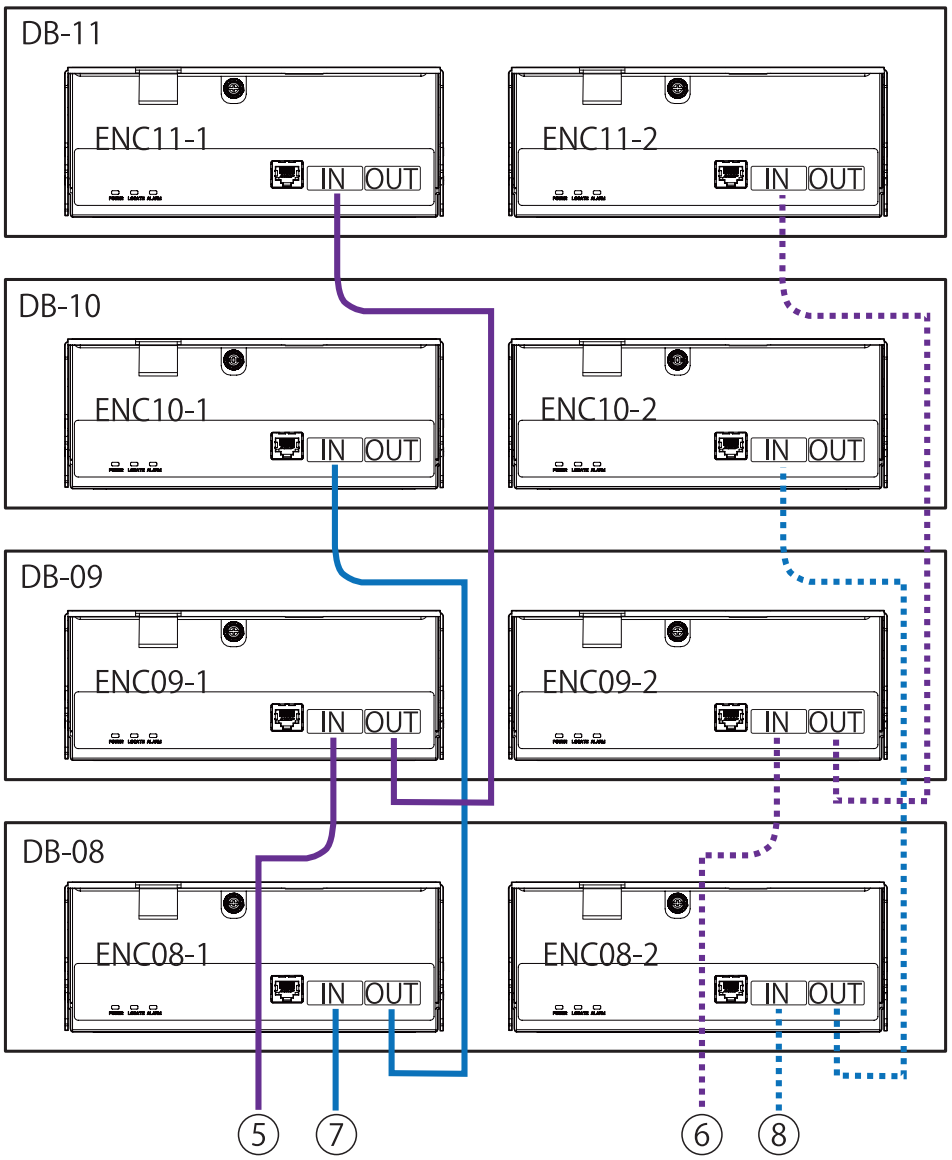
DB-04 to DB-07



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Figure 5-9 SAS Cable Diagram (CBLM+DB60x12)

DB-08 to DB-11



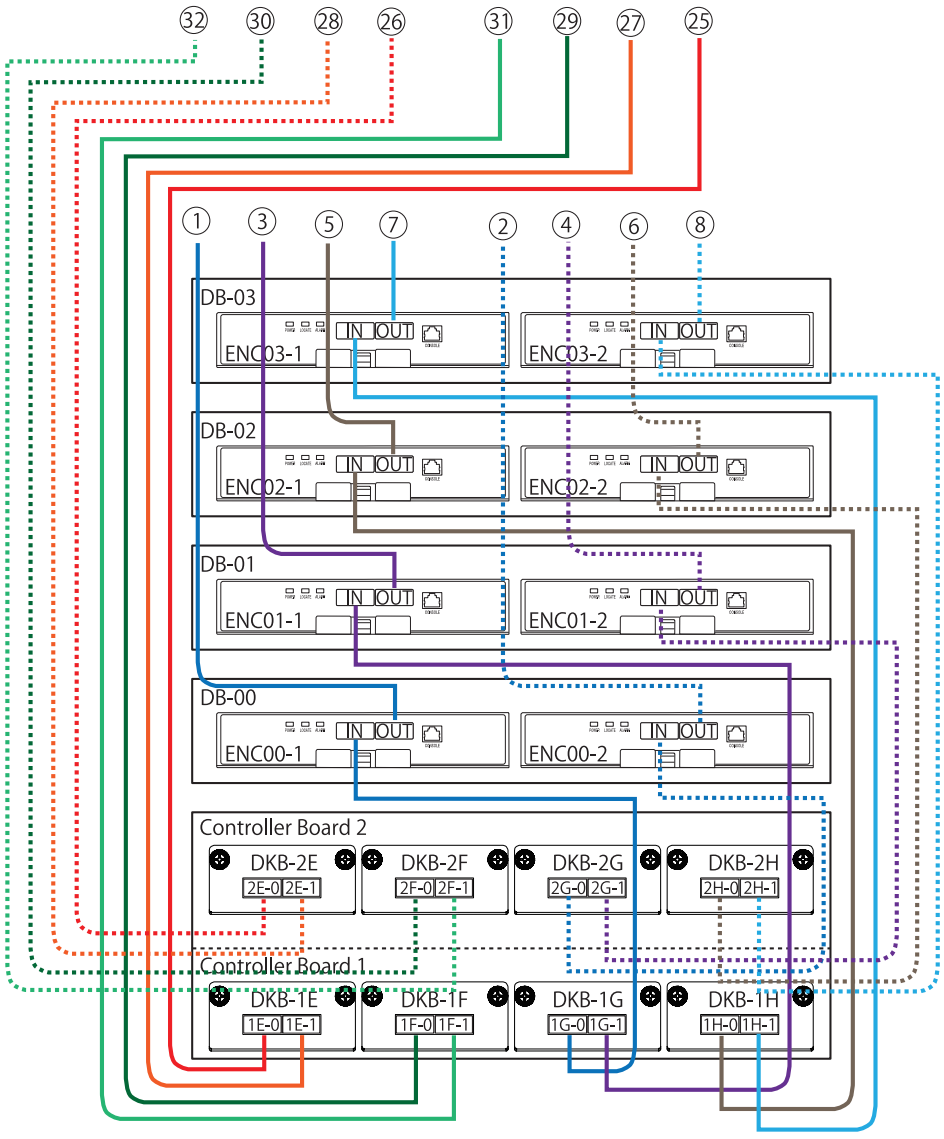
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5.1.5 CBLH (DKB x 8) + DBS/DBL/DBF x 48

Figure 5-10 to Figure 5-16 show the SAS cable connection diagrams of CBLH (DKBx8)+DBS/DBL/DBFx48.

Figure 5-10 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)

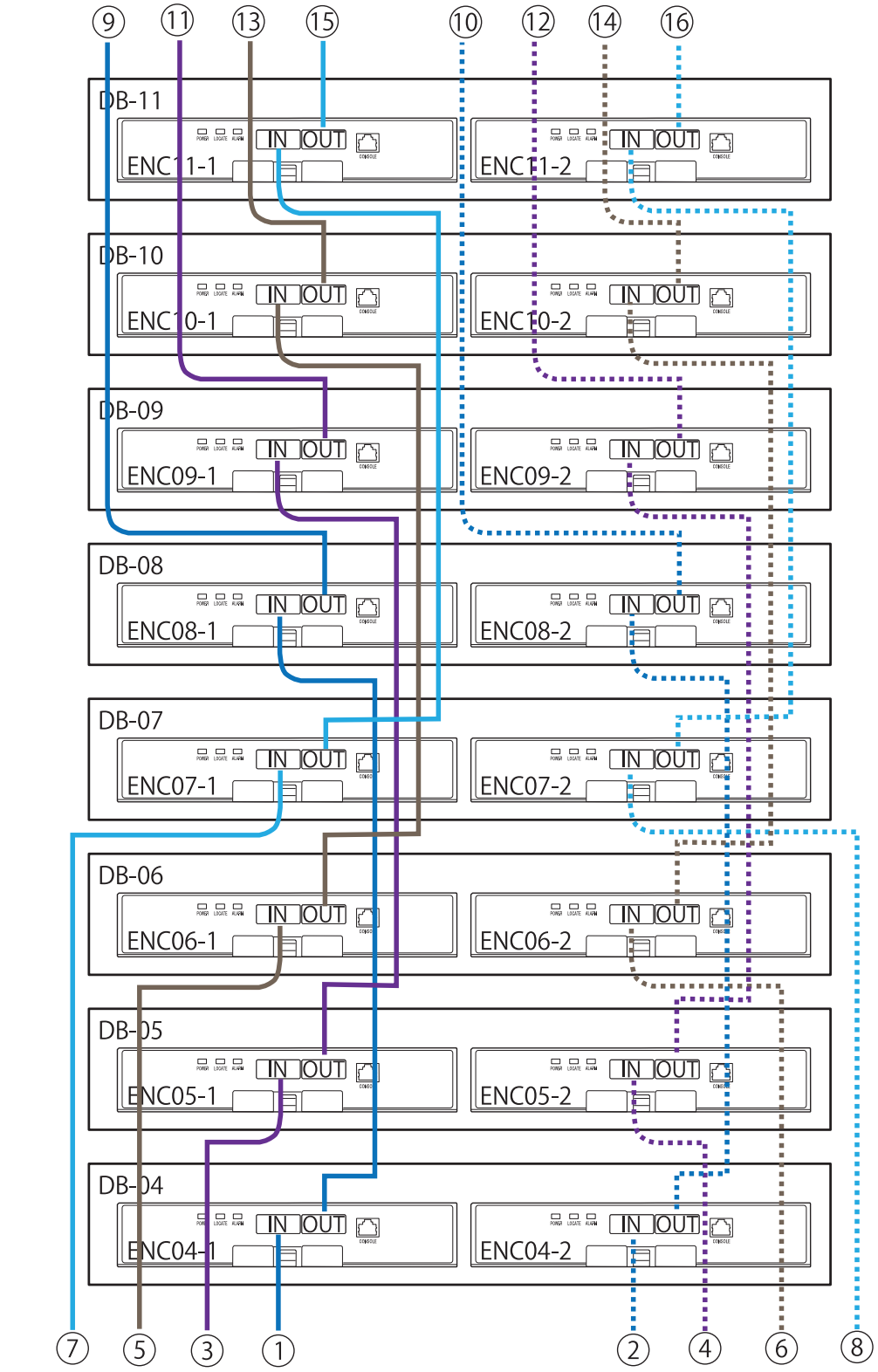
DB-00 to DB-03



NOTE: DBF is the only Drive Box that can be mounted on VSP Fx00 Models.

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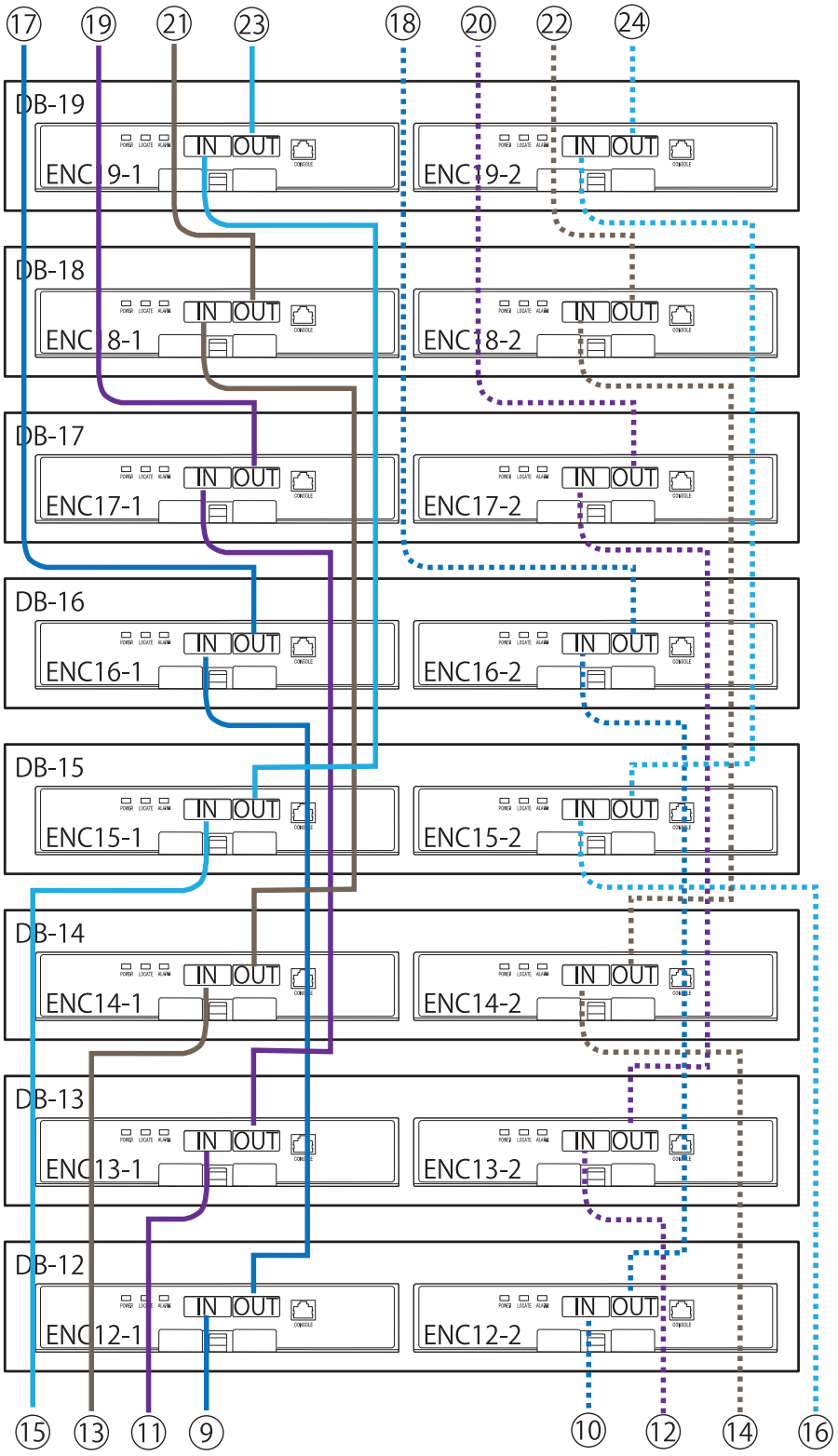
Figure 5-11 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)



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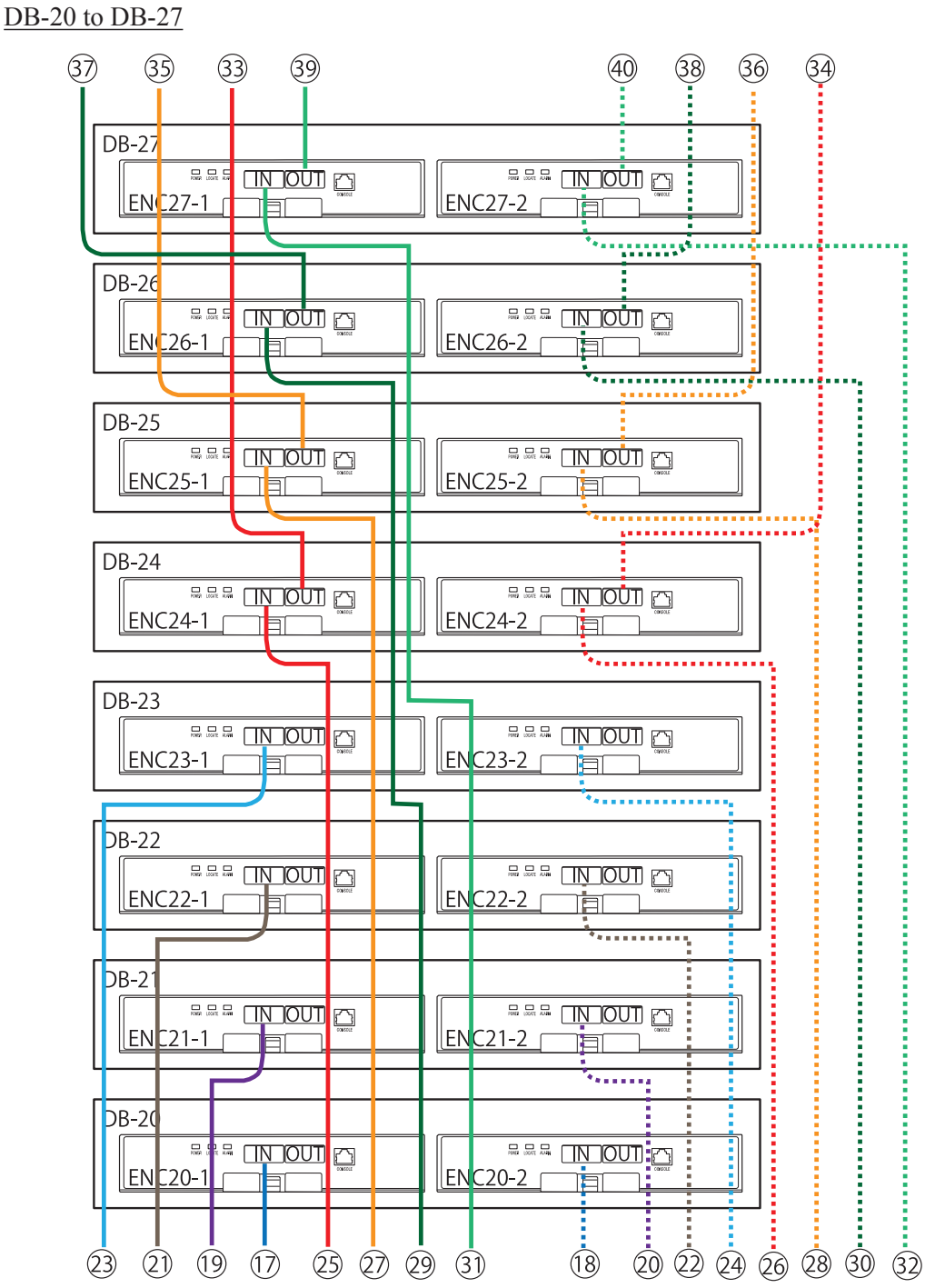
Figure 5-12 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)

DB-12 to DB-19



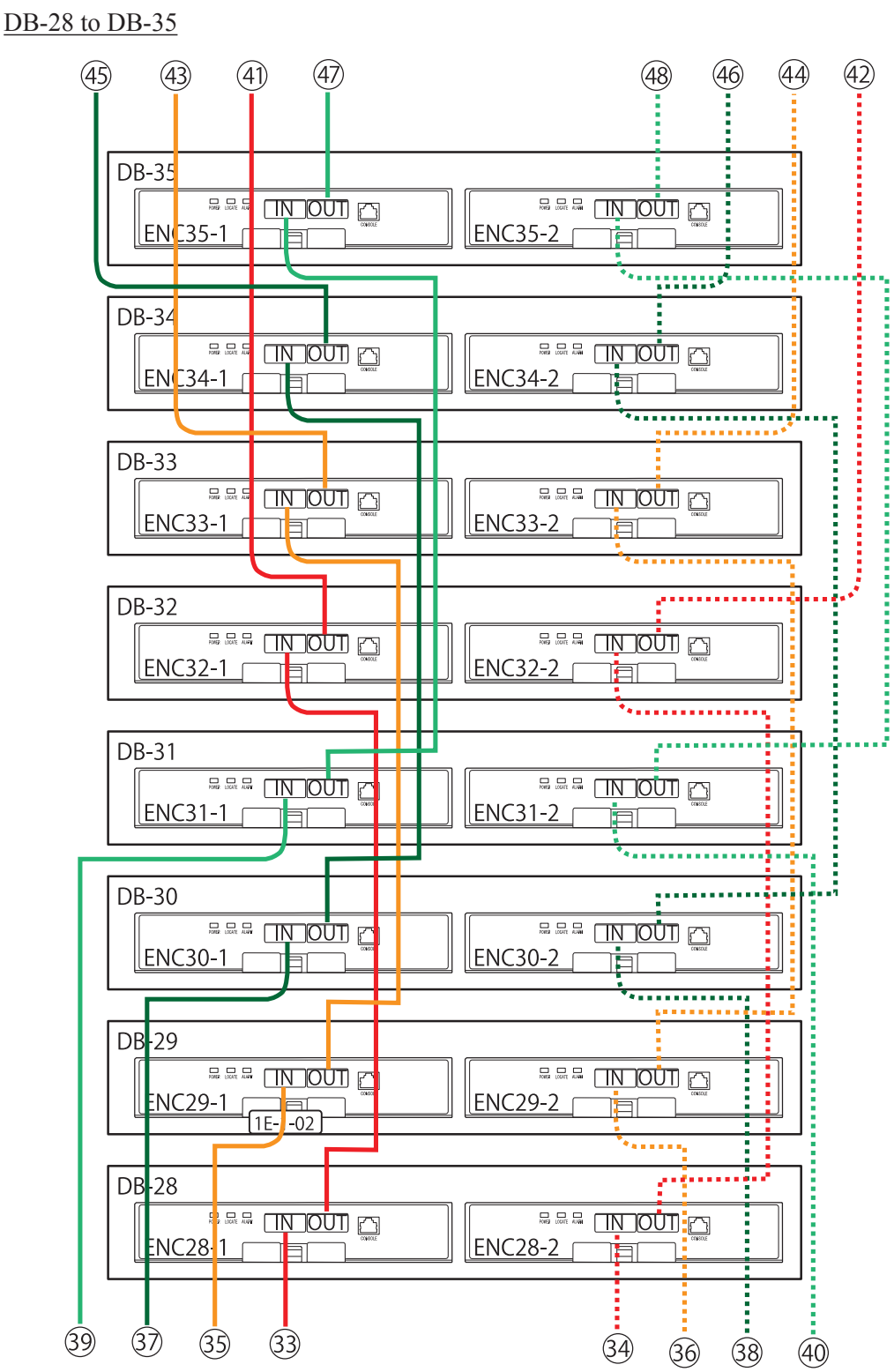
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Figure 5-13 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)



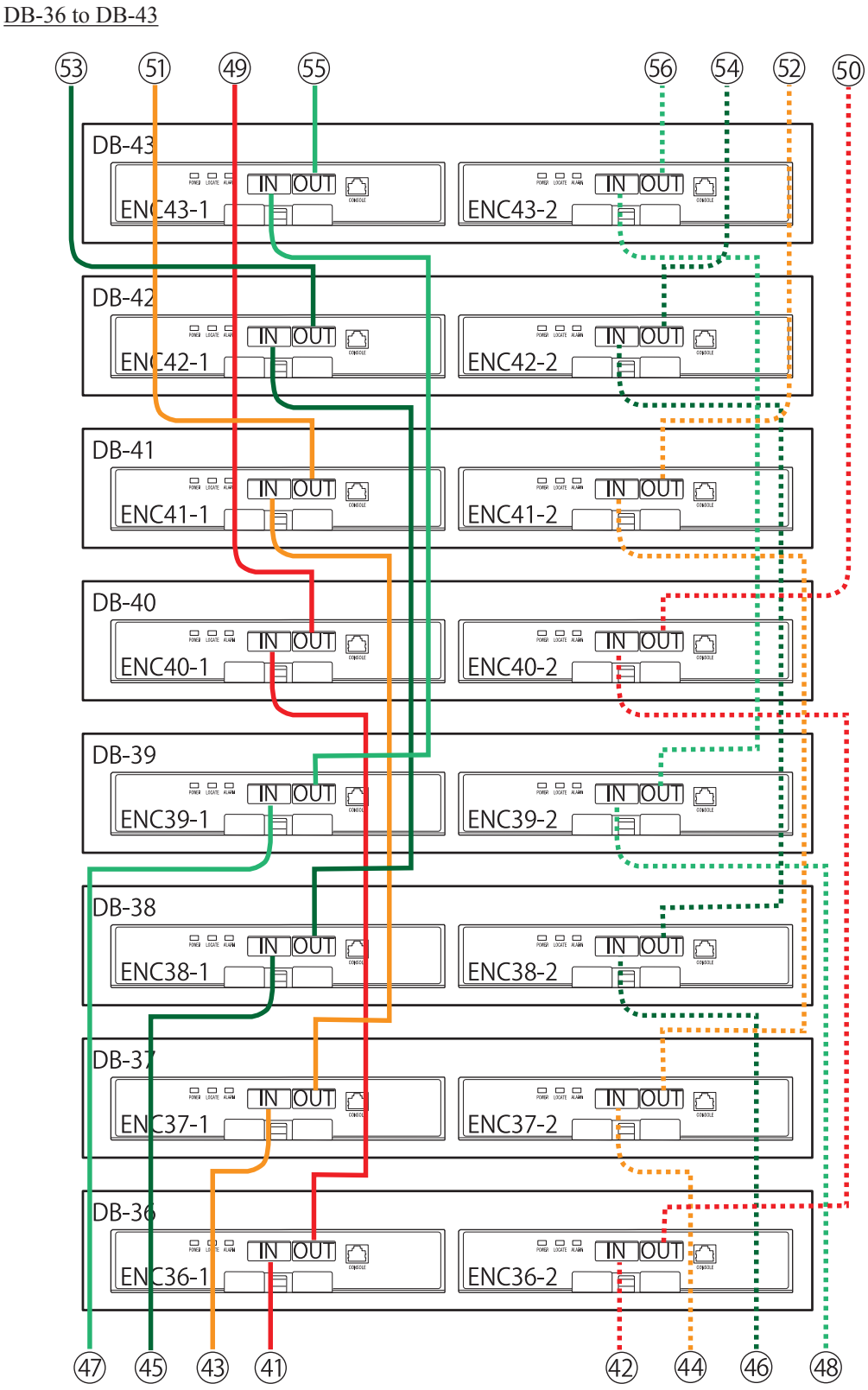
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Figure 5-14 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)



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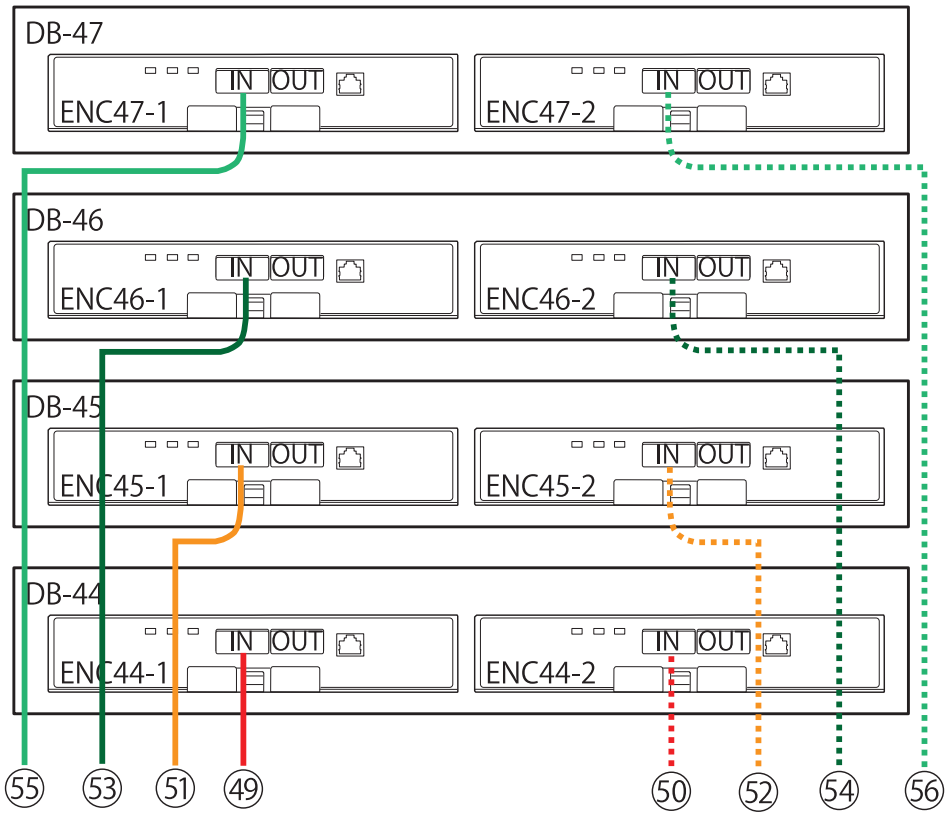
Figure 5-15 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)



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Figure 5-16 SAS Cable Diagram (CBLH (DKBx8)+DBS/DBL/DBFx48)

DB-44 to DB-47

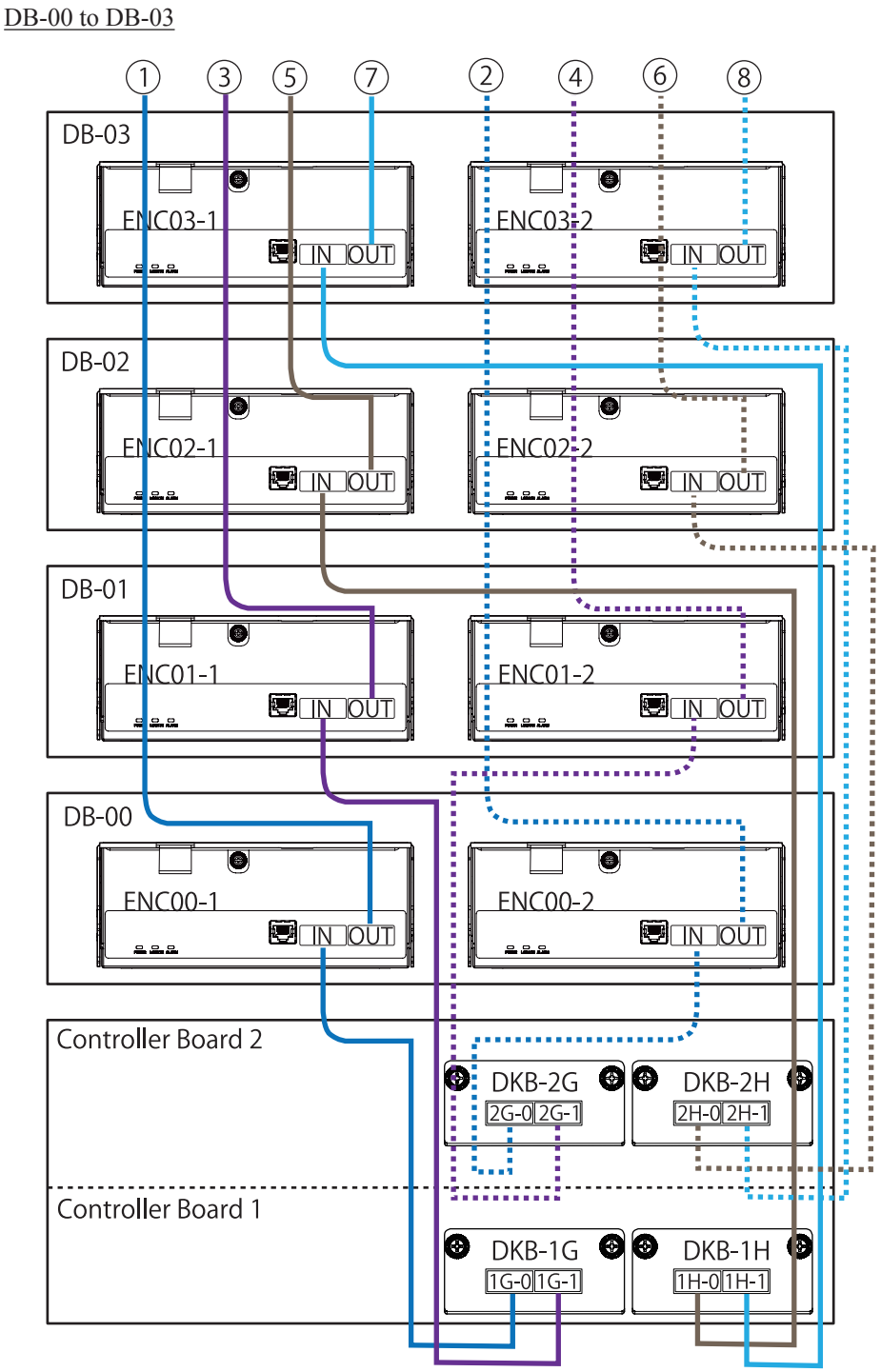


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5.1.6 CBLH (DKB x 4) + DB60 x 24

Figure 5-17 to Figure 5-22 show the SAS cable connection diagrams of CBLH (DKBx4)+DB60x24.

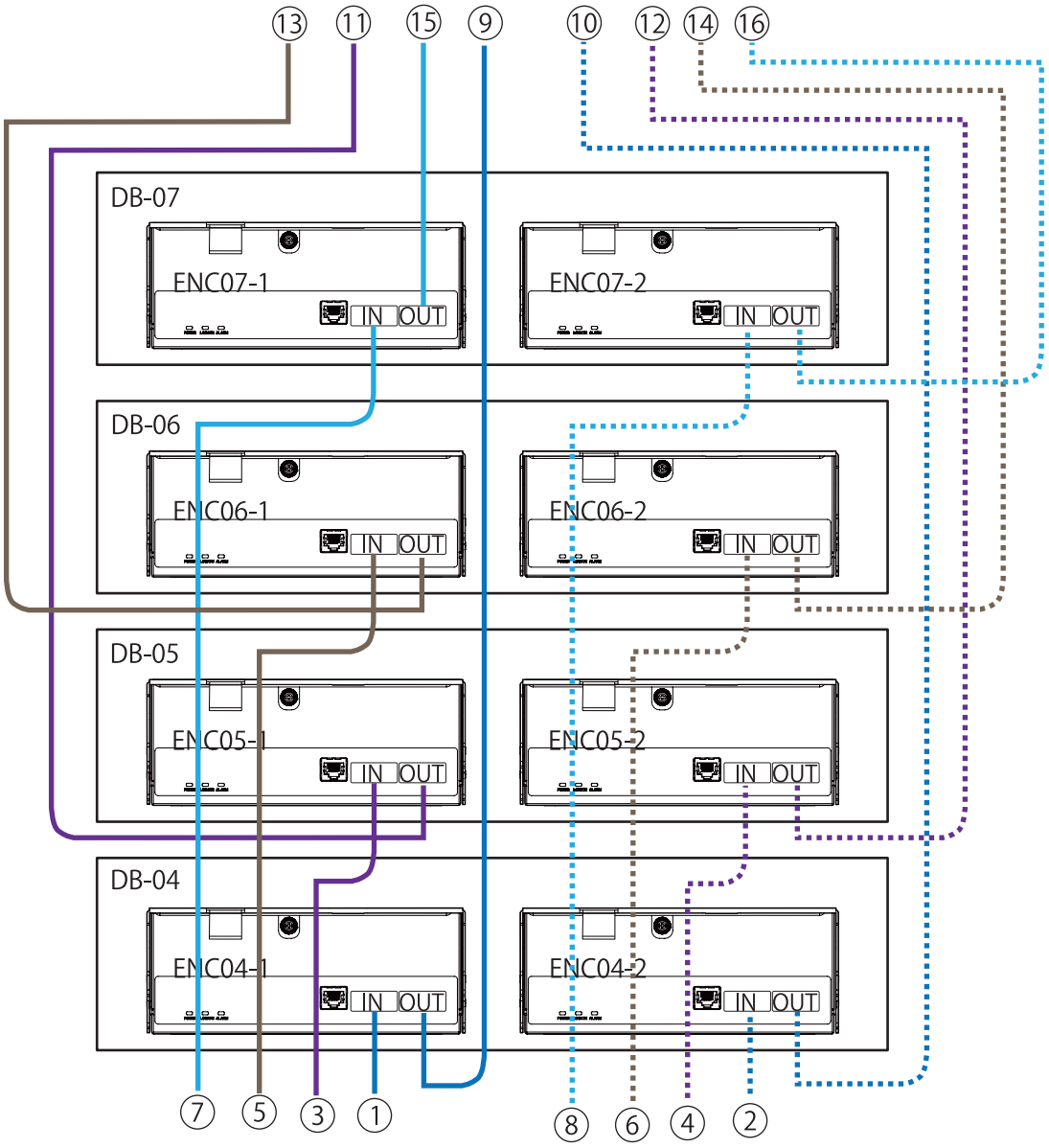
Figure 5-17 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)



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Figure 5-18 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)

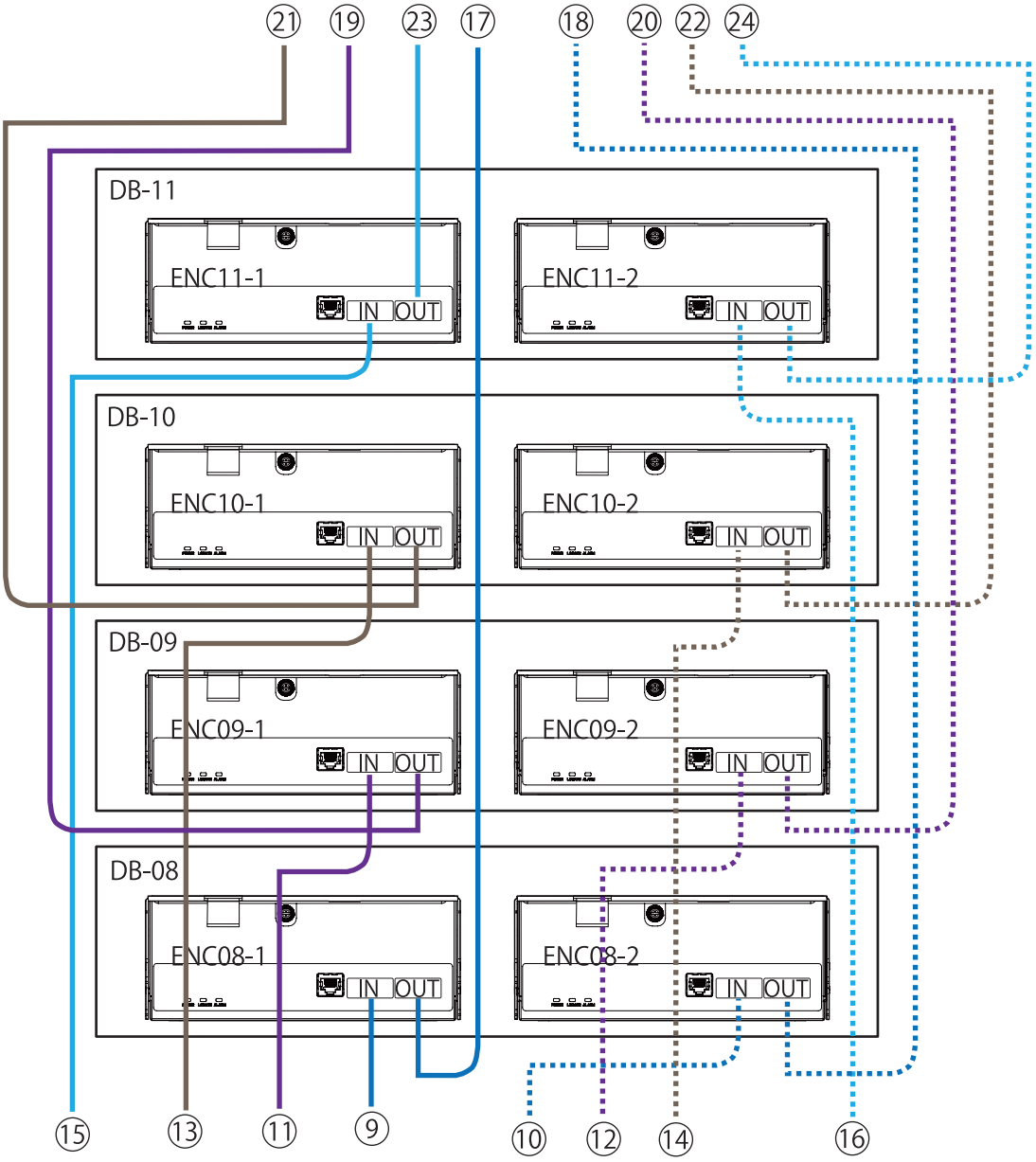
DB-04 to DB-07



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Figure 5-19 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)

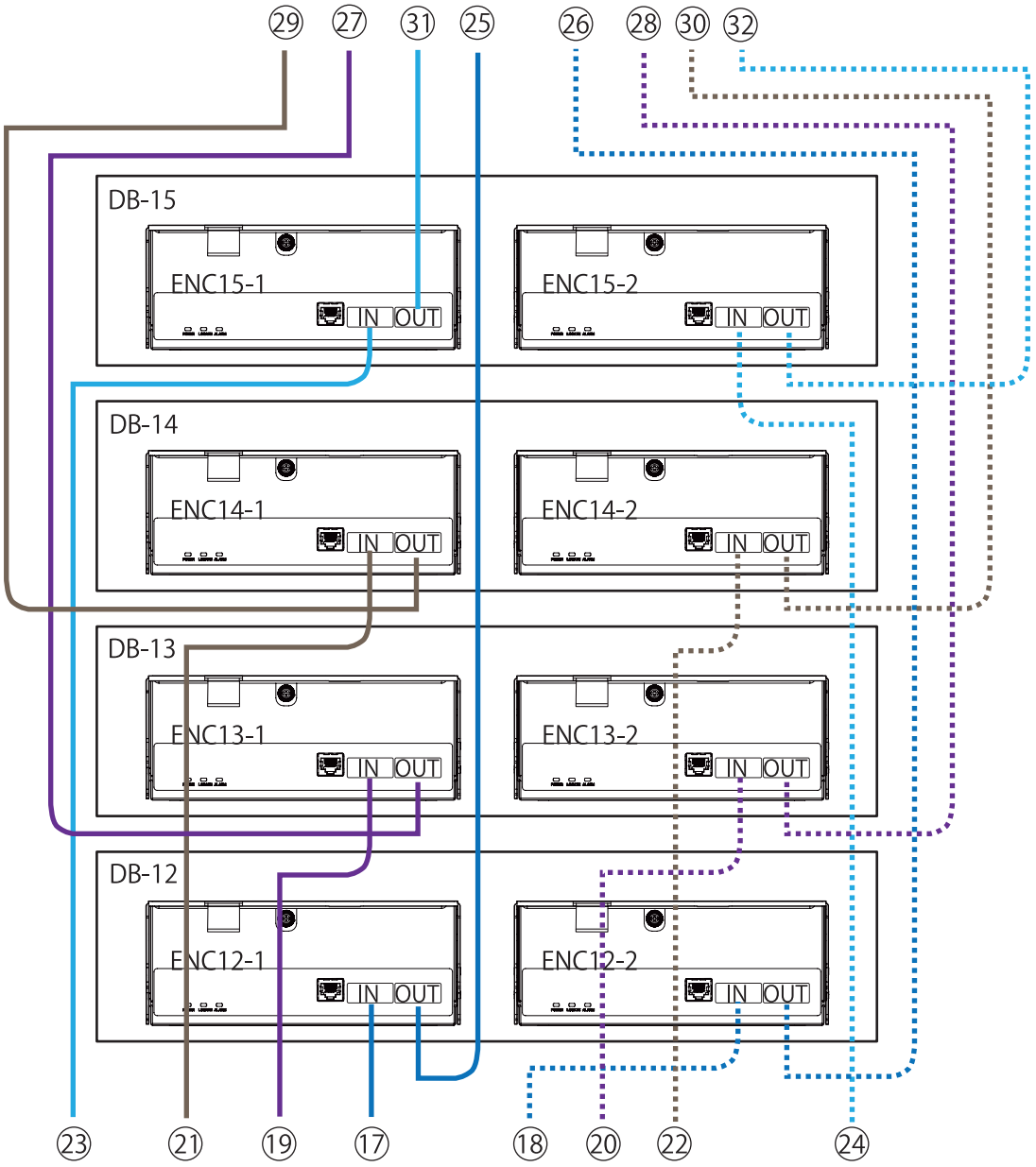
DB-08 to DB-11



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Figure 5-20 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)

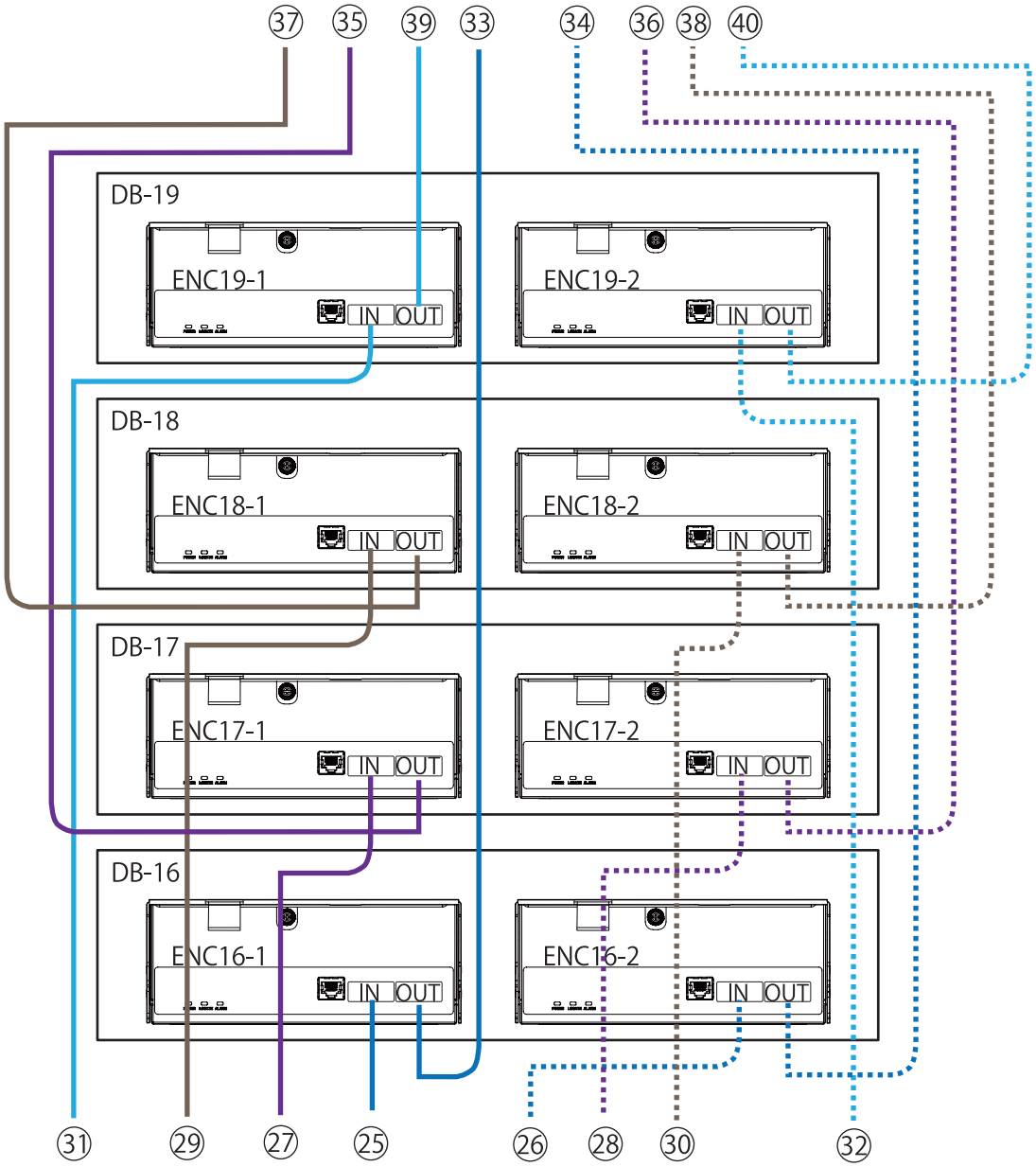
DB-12 to DB-15



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Figure 5-21 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)

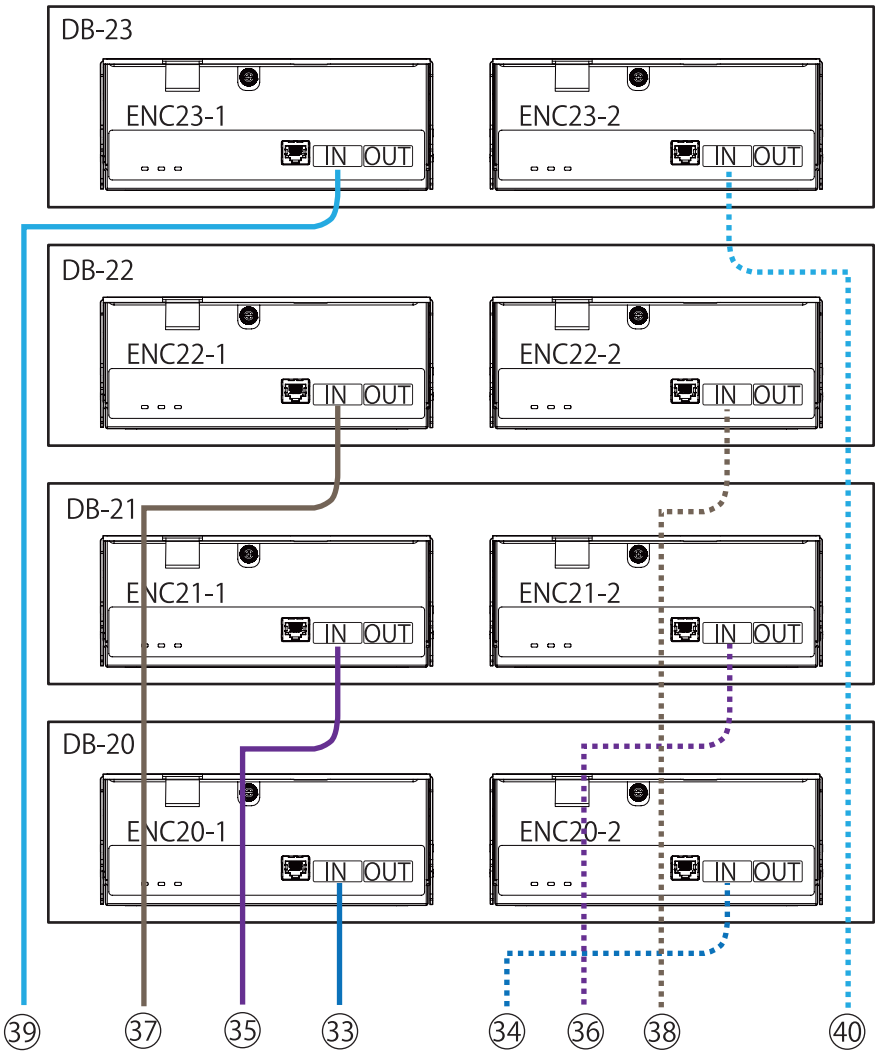
DB-16 to DB-19



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Figure 5-22 SAS Cable Diagram (CBLH (DKBx4)+DB60x24)

DB-20 to DB-23

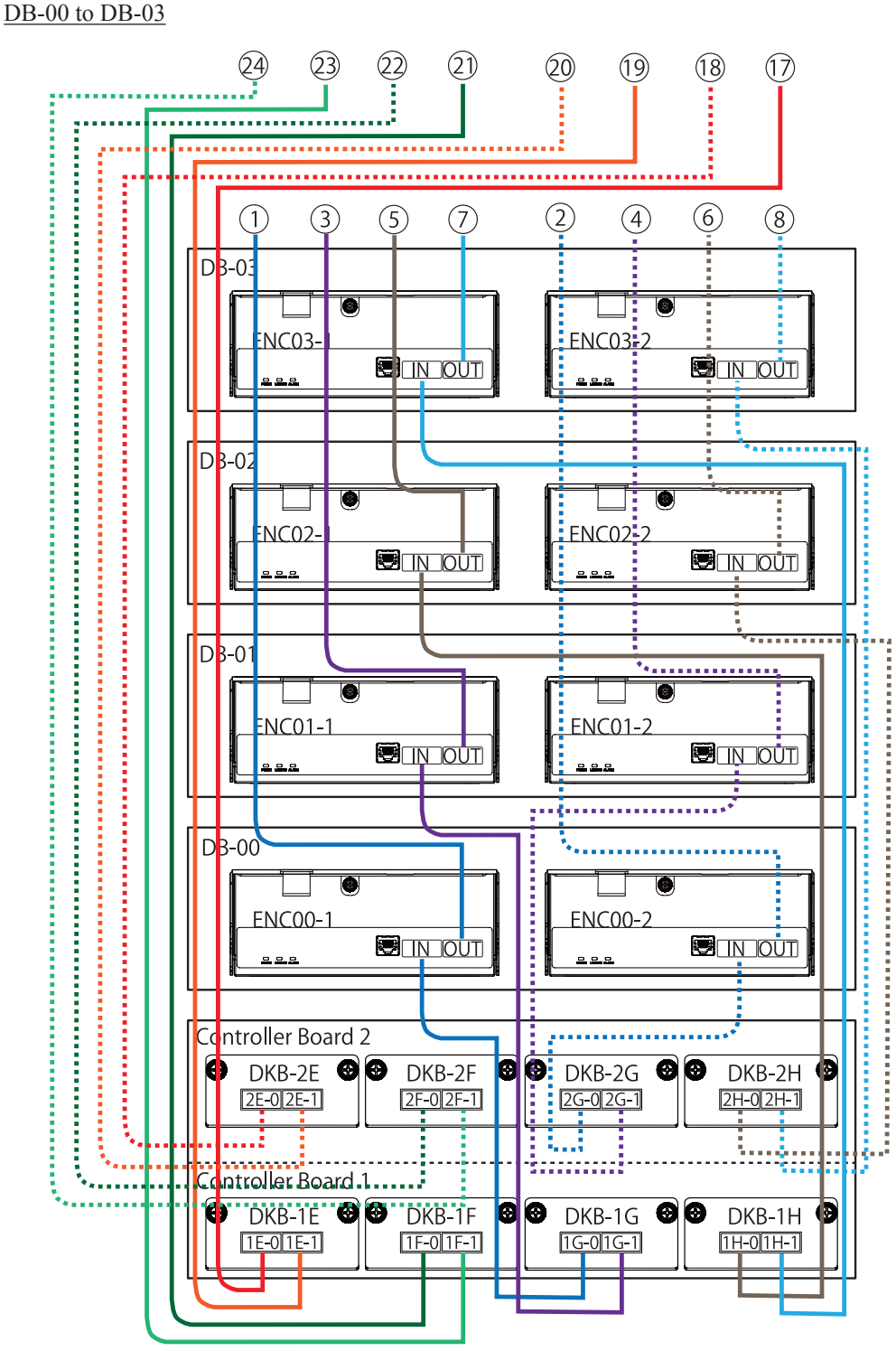


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5.1.7 CBLH (DKB x 8) + DB60 x 24

Figure 5-23 to Figure 5-28 show the SAS cable connection diagrams of CBLH (DKBx8)+DB60x24.

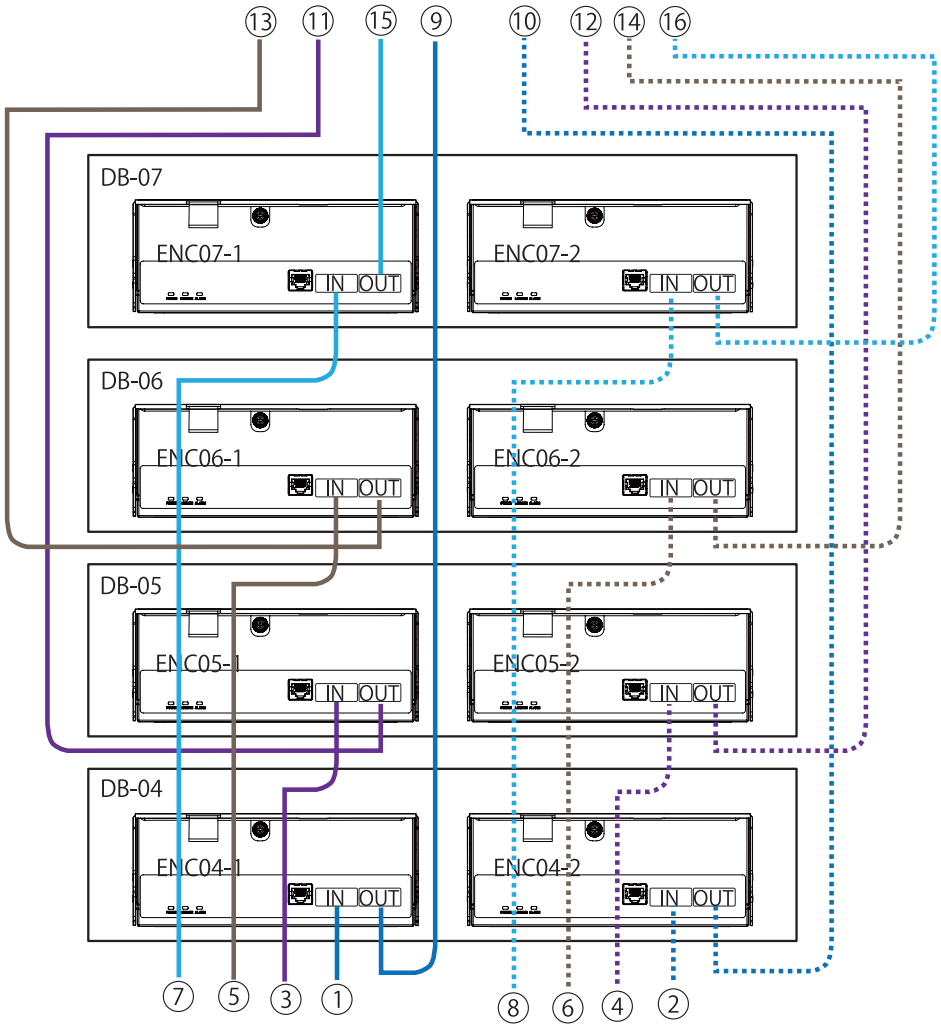
Figure 5-23 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)



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Figure 5-24 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)

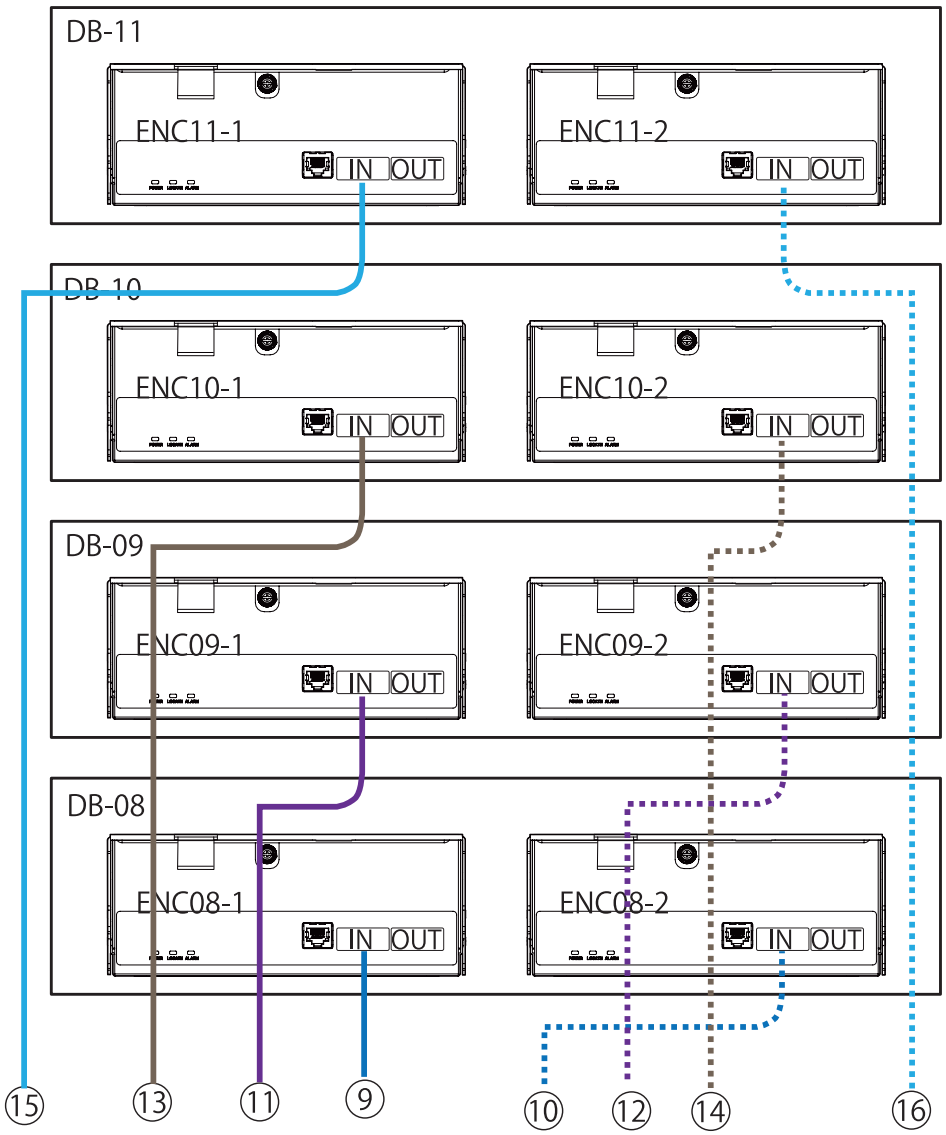
DB-04 to DB-07



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Figure 5-25 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)

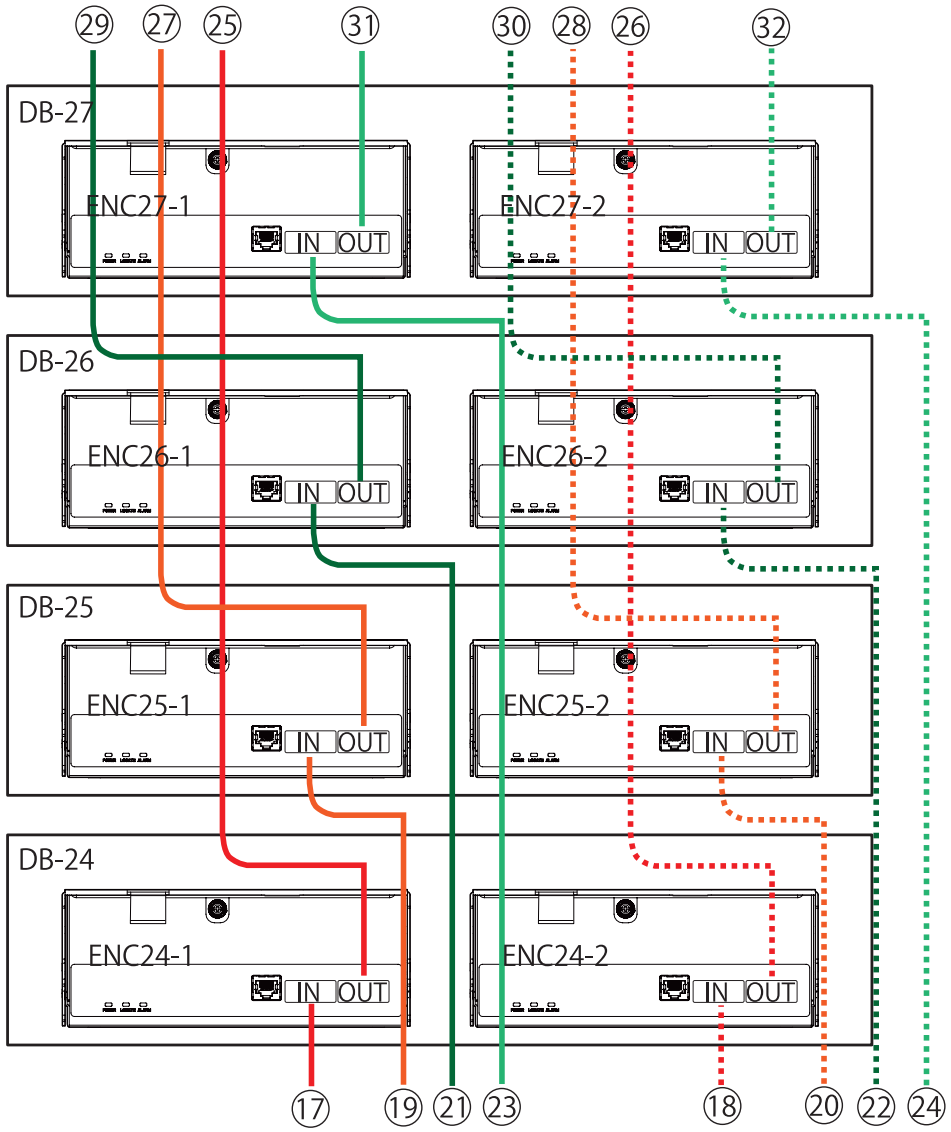
DB-08 to DB-11



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Figure 5-26 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)

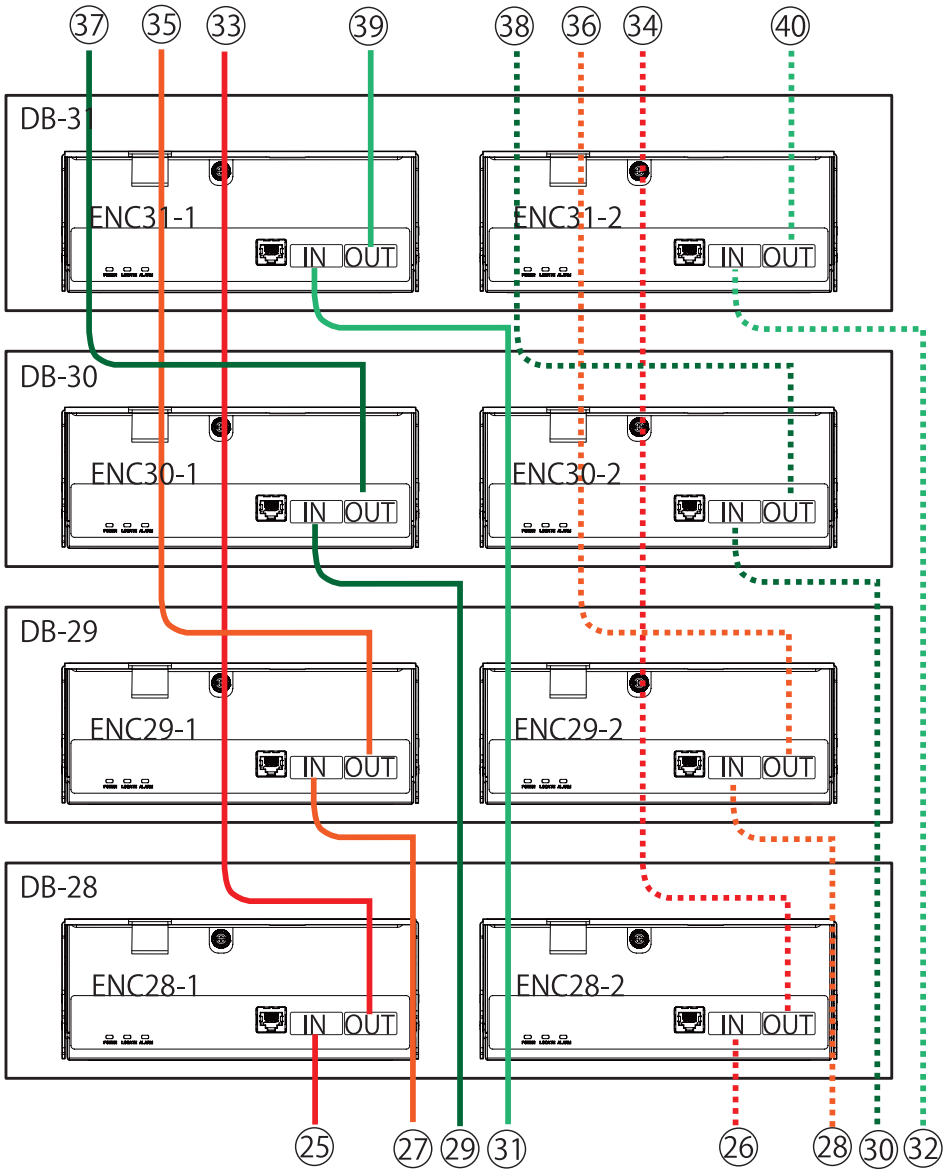
DB-24 to DB-27



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Figure 5-27 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)

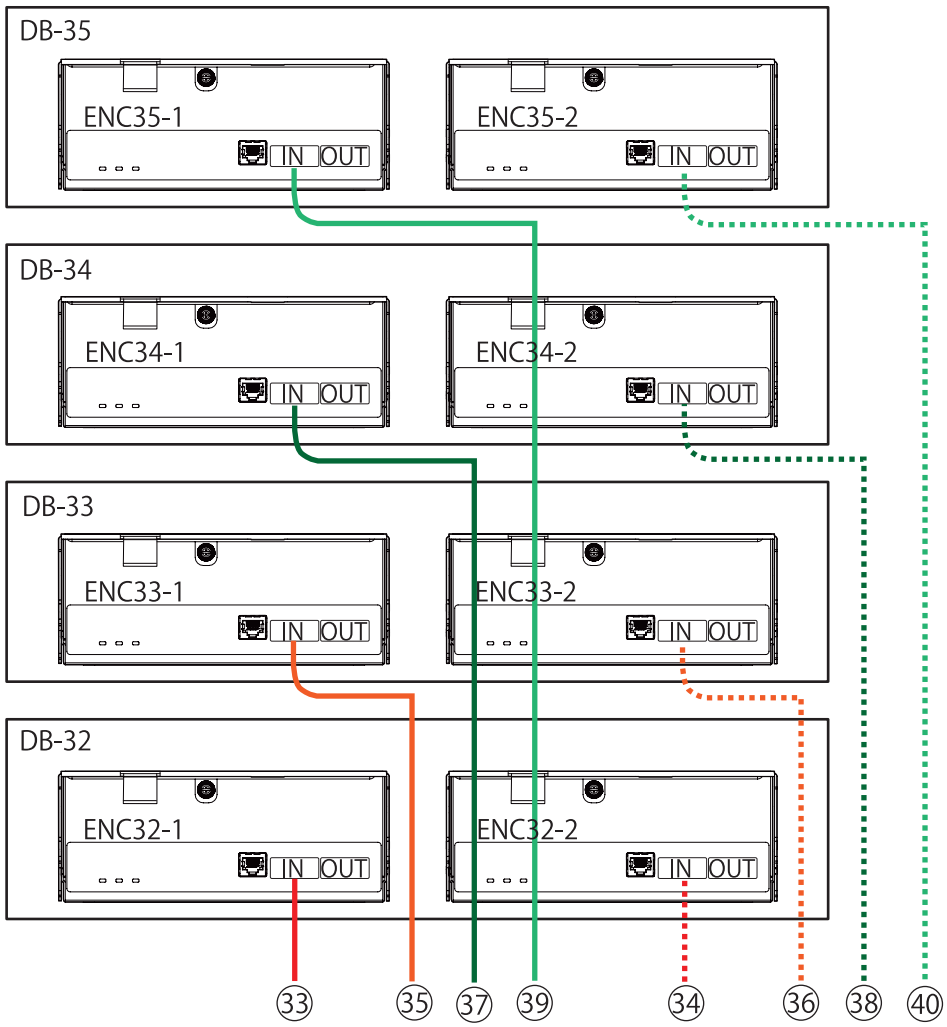
DB-28 to DB-31



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Figure 5-28 SAS Cable Diagram (CBLH (DKBx8)+DB60x24)

DB-32 to DB-35



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