SONY

CAMERA CONTROL UNIT

HDCU3100
HDCU3170

OPTICAL FIBER CONNECTOR KIT
HKCU-FB30

SINGLE MODE FIBER CONNECTOR KIT
HKCU-SM30

ST-2110 INTERFACE KIT
HKCU-SFP30

4K/HDR PROCESSOR BOARD
HKCU-UHD30

12G-SDI EXTENSION KIT
HKCU-SDI30

INSTALLATION MANUAL

1st Edition (Revised 3)

⚠ 警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

Model Name	Serial No.
HDCU3100 (SY): LEMO Optical Fiber Connector	10001 and Higher
HDCU3100 (SY): Tajimi Optical Fiber Connector	30001 and Higher
HDCU3170 (SY): Kings Triax Connector	100001 and Higher
HDCU3170 (SY): Fischer Triax Connector	400001 and Higher

安全のために，周辺機器を接続する際は，過大電圧を持つ可能性があるコネクターを以下のポートに接続しないでください。
：LAN 端子
：NETWORK TRUNK 端子
上記のポートについては本書の指示に従ってください。

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following port(s).
: LAN connector
: NETWORK TRUNK connector
Follow the instructions for the above port(s).

For kundene i Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

注意

指定以外の電池に交換すると，破裂する危険があります。
必ず指定の電池に交換してください。
使用済みの電池は，国または地域の法令に従って
処理してください。

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
When you dispose of the battery, you must obey the law in the relative area or country.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Lorsque vous mettez la batterie au rebut, vous devez respecter la législation en vigueur dans le pays ou la région où vous vous trouvez.

VORSICHT

Explosionsgefahr bei Verwendung falscher Batterien.
Batterien nur durch den vom Hersteller empfohlenen oder einen gleichwertigen Typ ersetzen.
Wenn Sie die Batterie entsorgen, müssen Sie die Gesetze der jeweiligen Region und des jeweiligen Landes befolgen.

FÖRSIKTIGHET!

Fara för explosion vid felaktigt placerat batteri.
Byt endast mot samma eller likvärdig typ av batteri, enligt tillverkarens rekommendationer.
När du kasserar batteriet ska du följa rådande lagar för regionen eller landet.

PAS PÅ

Fare for eksplosion, hvis batteriet ikke udskiftes korrekt.
Udskift kun med et batteri af samme eller tilsvarende type, som er anbefalet af fabrikanten.
Når du bortskaffer batteriet, skal du følge lovgivningen i det pågældende område eller land.

HUOMIO

Räjähdysvaara, jos akku vaihdetaan virheellisesti.
Vaihda vain samanlaiseen tai vastaavantyyppiseen, valmistajan suosittelemaan akkuun.
Noudata akun hävittämisessä oman maasi tai alueesi lakeja.

FORSIKTIG

Eksplosjonsfare hvis feil type batteri settes i.
Bytt ut kun med samme type eller tilsvarende anbefalt av produsenten.
Kasser batteriet i henhold til gjeldende avfallsregler.

注意

如果更换的电池不正确，就会有爆炸的危险。
只更换同一类型或制造商推荐的电池型号。
处理电池时，必须遵守相关地区或国家的法律。

本機をラックに設置するとき
熱の適切な排気・発散を得るために，ラックと本機の間には空間を確保してください。

Attention-when the product is installed in Rack:

1. **Prevention against overloading of branch circuit**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. **Providing protective earth**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. **Internal air ambient temperature of the rack**
   When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. **Prevention against achieving hazardous condition due to uneven mechanical loading**
   When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

5. **Install the equipment while taking the operating temperature of the equipment into consideration**
   For the operating temperature of the equipment, refer to the specifications of the Operation Manual.

6. **When performing the installation, keep the space away from walls in order to obtain proper exhaust and radiation of heat.**

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Revision History

Manual Structure

Purpose of this manual

This manual is intended for use by trained system engineers and service engineers, and describes information on installing this unit.

Related manuals

The following manuals are available for this model.
If any of these manuals is required, please contact your local Sony Sales Office/Service Center.

- Operation Guide (supplied with the unit)
  This manual contains information required to operate and use the unit.
- Operation Manual CD-ROM (supplied with the unit)
  This manual contains information required to operate and use the unit.
- Service Manual (available on request)
  This manual provides the limited information for block service and the information related to maintenance of the unit.
- Factory Service Manual (available on request)
  This manual provides the limited information for component service and the information related to maintenance of the unit.

Trademarks

Trademarks and registered trademarks described in this manual are as follows.

- FRAM is a registered trademark of Ramtron International Corporation.
- Internet Explorer is a registered trademark or a trademark of Microsoft Corporation in the United States and other countries.
- Chrome browser and Chrome are trademarks of Google Inc.
- Mozilla and Firefox are registered trademarks of the Mozilla Foundation.

Other system names and product names written in this manual are usually registered trademarks or trademarks of respective development manufacturers.

Section 1
Installation

1-1. Checking the Software Version

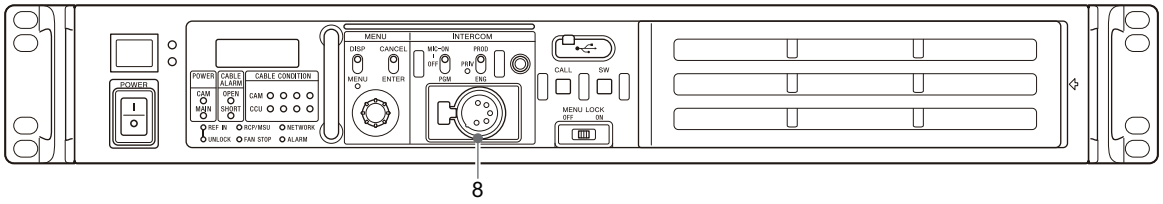
When connecting the peripheral equipment in the list below to this unit, be sure to check that the software version on each peripheral device is corresponding to the unit to be connected.
If the software version is lower than the specified below, be sure to perform upgrading the software.
If upgrading the software are required, contact your local Sony Sales Office/Service Center.

Peripheral equipment	Board name	Software version
HDC4300	AT-189	APP Ver. 1.50 and higher
HDC2500	AT-189	APP Ver. 3.30 and higher
HDC2570	AT-189	APP Ver. 3.30 and higher
BPU4000	AT-189	APP Ver. 4.02 and higher
BPU4800	AT-189L	APP Ver. 1.31 and higher
HSC300RF	AT-189E	APP Ver. 1.23 and higher
HDC-P43	AT-189V	APP Ver. 1.20 and higher
HDC4800	AT-189U	APP Ver. 1.30 and higher
MSU-1000/1500	MPU-150/151	MAIN Ver. 3.20 and higher
RCP-1000/1001	MPU-152	MAIN Ver. 2.50 and higher
RCP-1500/1501	MPU-153	MAIN Ver. 3.20 and higher
RCP1530	MPU-153	MAIN Ver. 3.20 and higher
CNA-1	AT-189A	Ver. 2.00 and higher

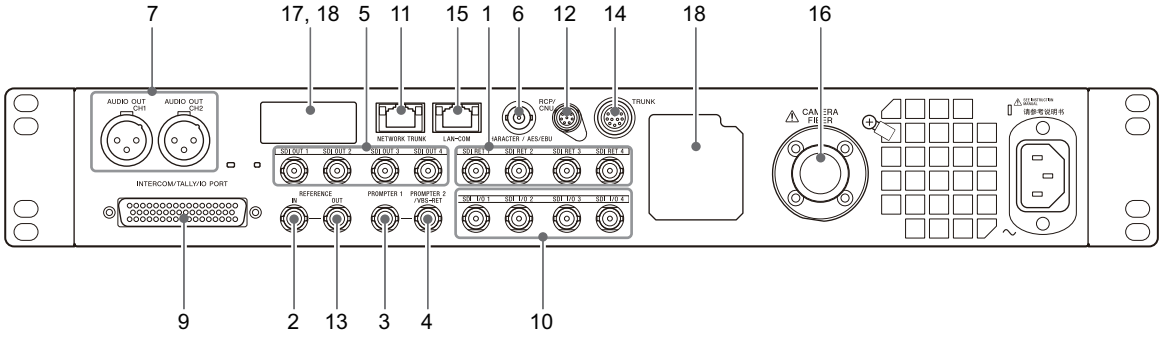
1-2. Connectors and Cables

1-2-1. Connector Specifications

Front Panel



Rear Panel



Input connectors

1. SDI-RET 1 to 4

BNC type

- 3G-SDI: SMPTE ST 424M/425M Level-A/B compliant
  0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps
- HD-SDI: SMPTE ST 292M compliant
  0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
- SD-SDI: SMPTE ST 259M compliant
  0.8 Vp-p, 75 Ω, 270 Mbps

2. REFERENCE (INPUT)

BNC type

- HD: SMPTE ST 274M compliant
  3-level sync, 0.6 Vp-p, 75 Ω
- SD: Black burst
  NTSC: 0.286 Vp-p, 75 Ω
  PAL: 0.3 Vpp, 75 Ω
  or NTSC (10 Field ID)

3. PROMPTER 1 (INPUT)

BNC type

- Analog signal, 1.0 Vp-p, 75Ω

4. PROMPTER 2/VBS-RET (INPUT)

BNC type

- Analog composite signal: 1.0 V p-p, 75 Ω

Output connectors

5. 3G/HD/SD-SDI OUT 1 to 4

BNC type

- 3G-SDI: SMPTE ST 424M/425M Level-A/B compliant
  0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps
- HD-SDI: SMPTE ST 292M compliant
  0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
- SD-SDI: SMPTE ST 259M compliant
  0.8 Vp-p, 75 Ω, 270 Mbps

3G-SDI/HD-SDI/SD-SDI selectable

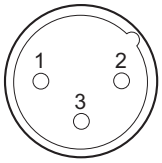
6. CHARACTER / AES/EBU

BNC type

- VBS, 1.0 Vp-p, 75 Ω

7. AUDIO OUT CH1, CH2

XLR 3-pin, Male



- External View -

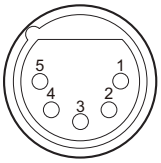
(0 dBu = 0.775 Vrms)

No.	Signal	I/O	Specifications
1	MIC OUT (G)	—	+4 dBu/0 dBu/–20 dBu
2	MIC OUT (X)	O	
3	MIC OUT (Y)	O	

Input/Output connectors

8. INTERCOM

XLR 5-pin, Female



- External View -

(0 dBu = 0.775 V rms)

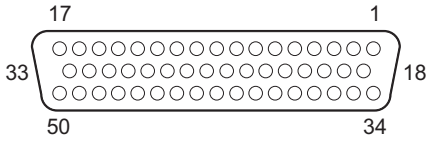
Note

When it is used with UNBALANCE, connect the GND of microphone to the pin 1.

No.	Signal	I/O	Specifications
1	INTERCOM MIC IN (Y)/ (GND)	I	−20 dBu (CARBON) −40 dBu (ECM) −60 dBu (DYNAMIC. BALANCE/UNBALANCE)
2	INTERCOM MIC IN (X)	I	
3	GND	—	GND
4	INTERCOM L OUT	O	—
5	INTERCOM R OUT	O	—

9. INTERCOM/TALLY/IO PORT

D-sub 50-pin, Female



- External View -

No.	Signal	I/O	Specifications
1	+5.0 V_OUT	O	Max. 250 mA
2	G TALLY OUT	O	ON (GND): Max. 30 mA IN
3	R TALLY OUT	O	ON (GND): Max. 30 mA IN
4	TALLY OUT	O	R/G/Y TALLY OUT ON (GND): Max. 30 mA IN
5	GND	—	—
6	GND	—	—
7	GPIO5	I/O	AUX3
8	R_TALLY (X)_ IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
9	G_TALLY (X)_ IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
10	Y_TALLY (X)_ IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
11	ENG (X)_OUT	O	ENG SYSTEM RECEIVE 0 dBu BALANCED
12	ENG (X)_IN	I	ENG SYSTEM TALK 0 dBu BALANCED
13	PROD (X)_OUT	O	PROD SYSTEM RECEIVE 0 dBu BALANCED
14	PROD (X)_IN	I	PROD SYSTEM TALK 0 dBu BALANCED
15	PGM1 (X)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)
16	PGM2 (X)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)
17	PGM3 (X)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)

Continued

No.	Signal	I/O	Specifications
18	LENS EXTENDER OUT	O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
19	CALL OUT	O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
20	GPIO8	I/O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
21	GPIO9	I/O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
22	GPIO10	I/O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
23	GPIO11	I/O	GND/+5 V, OPEN (47 kΩ +5 V PULL UP)
24	R_TALLY (Y)_IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
25	G_TALLY (Y)_IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
26	Y_TALLY (Y)_IN	I	ON: 24 Vdc, TTL (H), SHORT OFF: 0 Vdc, TTL (L), OPEN
27	ENG (Y)_OUT	O	ENG SYSTEM RECEIVE 0 dBu BALANCED
28	ENG (Y)_IN	I	ENG SYSTEM TALK 0 dBu BALANCED
29	PROD (Y)_OUT	O	PROD SYSTEM RECEIVE 0 dBu BALANCED
30	PROD (Y)_IN	I	PROD SYSTEM TALK 0 dBu BALANCED
31	PGM1 (Y)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)
32	PGM2 (Y)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)
33	PGM3 (Y)_IN	I	–20 dBu/0 dBu/+4 dBu BALANCED (Selectable with CCU Menu)
34	GND	—	GND for +5.0 V_OUT
35	PREVIEW_OUT	O	ON (GND): Max. 30 mA IN

Continued

No.	Signal	I/O	Specifications
36	MIC1_GAIN_CTRL2/ RECALL2_G	I/O	Refer to "Specification when MIC-REMOTE is selected" and "Specification when WF-REMOTE is selected".
37	MIC1_GAIN_CTRL1/ RECALL3_B	I/O	
38	MIC1_GAIN_CTRL0/ RECALL1_R	I/O	
39	MIC1_GAIN_ON/RECALL4_SEQ	I/O	
40	MIC2_GAIN_ON/RECALL8_G+B	I/O	
41	ASPECT_REMOTE (MIC2_GAIN_CTRL2)/ RECALL5_ENC	I/O	
42	ASPECT_CTRL1 (MIC2_GAIN_CTRL1)/ RECALL6_R+B	I/O	
43	ASPECT_CTRL2 (MIC2_GAIN_CTRL0)/ RECALL7_R+G/ (CNS MODE)	I/O	
44	ENG (G)	—	GND for ENG
45	GND	—	—
46	PROD (G)	—	GND for PROD
47	GND	—	—
48	PGM1 (G)_IN	—	GND for PGM1
49	PGM2 (G)_IN	—	GND for PGM2
50	PGM3 (G)_IN	—	GND for PGM3

"MIC REMOTE" or "WF REMOTE" is selectable from IF SETTING (M01) of the MAINTENANCE menu.

Specification when MIC-REMOTE is selected

When MIC REMOTE is set by MODE (S07) of the Service menu, functions of No. 36 to 43 pins are allocated as follows. (For the Service menu, refer to the service manual.)

No.	Setting value		
	MIC1&2	MIC1, 2	MIC+ NETWORK
36	MIC1/2 GAIN	MIC1 GAIN	MIC1/2 GAIN
37			
38			
41	ASPECT CONT	MIC2 GAIN	—
42			
43			CNS MODE

- When MIC1&2 is selected
  MIC can be selected by combinations of No. 39 and 40 pins. Furthermore, CHU MIC GAIN can be set by combinations of No. 36 to 38 pins.

MIC select

No.	Specifications			
	MIC1/2	MIC1 only	MIC2 only	INTER-NAL SET
39 (MIC1)	L	L	H	H
40 (MIC2)	L	H	L	H

CHU MIC GAIN select

No.	Specifications				
	60 dB	50 dB	40 dB	30 dB	20 dB
36 (CONT 2)	H	H	H	H	L
37 (CONT 1)	H	H	L	L	H
38 (CONT 0)	H	L	H	L	H

The SD output video signal ASPECT can be set by combinations of No. 41 to 43 pins.

ASPECT control

No.	Specifications				
	OFF	SQ	EC	INT	LB
41 (AS-PECT)	H	L	L	L	L
42 (CONT1)	—	L	H	L	H
43 (CONT2)	—	H	H	L	L

- When MIC1, 2 is selected
  MIC can be selected by combinations of No. 39 and 40 pins. Furthermore, MIC1 can be set by combinations of No. 36 to 38 pins, and CHU MIC GAIN can be set by combinations of No. 41 to 43 pins.

MIC select

No.	Specifications			
	MIC1/2	MIC1 only	MIC2 only	INTER-NAL SET
39 (MIC1)	L	L	H	H
40 (MIC2)	L	H	L	H

CHU MIC GAIN select (MIC1)

No.	Specifications				
	60 dB	50 dB	40 dB	30 dB	20 dB
36 (CONT 2)	H	H	H	H	L
37 (CONT 1)	H	H	L	L	H
38 (CONT 0)	H	L	H	L	H

CHU MIC GAIN select (MIC2)

No.	Specifications				
	60 dB	50 dB	40 dB	30 dB	20 dB
41 (CONT 2)	H	H	H	H	L
42 (CONT 1)	H	H	L	L	H
43 (CONT 0)	H	L	H	L	H

- When MIC+NETWORK is selected
  MIC can be selected by combinations of No. 39 and 40 pins. Furthermore, CHU MIC GAIN can be set by combinations of No. 36 to 38 pins.

MIC select

No.	Specifications			
	MIC1/2	MIC1 only	MIC2 only	INTER-NAL SET
39 (MIC1)	L	L	H	H
40 (MIC2)	L	H	L	H

CHU MIC GAIN select

No.	Specifications				
	60 dB	50 dB	40 dB	30 dB	20 dB
36 (CONT 2)	H	H	H	H	L
37 (CONT 1)	H	H	L	L	H
38 (CONT 0)	H	L	H	L	H

CNS MODE can be set by the No. 43 pin level.

CNS mode select

No. 43	CONT
H	INTERNAL SET (MCS or BRIDGE or LEGACY selectable)
L	Forcibly legacy

Specification when WF-REMOTE is selected

No.	Signal	I/O	Specifications
36	RECALL2_G	O	LOW ACTIVE
37	RECALL3_B	O	
38	RECALL1_R	O	
39	RECALL4_ SEQ	O	
40	RECALL8_G +B	O	
41	RECALL5_ ENC	O	
42	RECALL6_R +B	O	
43	RECALL7_R +G	O	

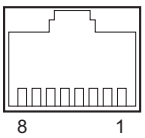
10. 3G/HD/SD- SDI I/O 1 ~ 4 (INPUT/OUTPUT)

BNC type

- 3G-SDI: SMPTE ST 424M/425M Level-A/B compliant
  0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps
- HD-SDI: SMPTE ST 292M compliant
  0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
- SD-SDI: SMPTE ST 259M compliant
  0.8 Vp-p, 75 Ω, 270 Mbps

11. NETWORK TRUNK

8-pin, RJ-45, 10Base-T/100Base-TX/1000Base-TX



- External View -

No.	Signal	I/O	Specifications
1	TRD 0 (+)	I/O	Transmitted/Received Data 0 (+)
2	TRD 0 (–)	I/O	Transmitted/Received Data 0 (–)
3	TRD 1 (+)	I/O	Transmitted/Received Data 1 (+)
4	TRD 2 (+)	I/O	Transmitted/Received Data 2 (+)
5	TRD 2 (–)	I/O	Transmitted/Received Data 2 (–)
6	TRD 1 (–)	I/O	Transmitted/Received Data 1 (–)
7	TRD 3 (+)	I/O	Transmitted/Received Data 3 (+)
8	TRD 3 (–)	I/O	Transmitted/Received Data 3 (–)

12. RCP/CNU

8-pin, Female

- External View -

No.	Signal	I/O	Specifications
1	TX (+)	O	SERIAL DATA OUT
2	TX (–)	O	
3	RX (+)	I	SERIAL DATA IN
4	RX (–)	I	
5	TX GND	—	GND for TX
6	POWER (+) OUT	O	RCP POWER, +30 V

Continued

No.	Signal	I/O	Specifications
7	POWER (–) OUT	O	GND for POWER
8	VIDEO (X)	O	75 Ω, 1.0 V p-p

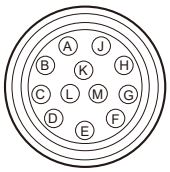
13. REFERENCE OUT (SYNC OUT)

BNC type

- HD SYNC: BTA-S001 compliant
  3-level sync, 0.6 Vp-p, 75 Ω
- SD SYNC: Composite sync, 0.3 Vp-p, 75 Ω
- HD SYNC/SD SYNC selectable

14. TRUNK

12-pin, Female

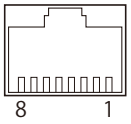


- External View -

No.	RS422A		RS232C		Specifications
	Signal	I/O	Signal	I/O	
A	TX1 (–)	O	—	—	TRUNK Data out
B	TX1 (+)	O	—	—	
C	NC	—	NC	—	No connection
D	TX0 (+)	O	TX1	O	TRUNK Data out
E	TX0 (–)	O	TX0	O	
F	RX0 (–)	I	RX0	I	TRUNK Data in
G	RX0 (+)	I	RX1	I	
H	RX1 (+)	I	—	—	
J	RX1 (–)	I	—	—	
K	GND	—	GND	—	GND for command
L	NC	—	NC	—	No connection
M	NC	—	NC	—	No connection

15. LAN-COM

8-pin, RJ-45, 10Base-T/100Base-TX



- External View -

No.	Signal	I/O	Specifications
1	TXD (+)	O	Transmitted Data (+)
2	TXD (–)	O	Transmitted Data (–)
3	RXD (+)	I	Received Data (+)
4	NC	—	No connection
5	NC	—	No connection
6	RXD (–)	I	Received Data (–)
7	NC	—	No connection
8	NC	—	No connection

16. CAMERA

- Optical fiber connector
- VIDEO
- RET VIDEO
- INTERCOM: 2ch
- MIC: 2ch
- DIGITAL AUDIO (AES/EBU)
- CAMERA COMMAND
- PROMPTER: 2ch
- HD PROMPTER
- HD TRUNK
- NETWORK TRUNK

17. UHD SDI (HKCU-SDI30)

BNC type

- 12G-SDI: SMPTE ST 2082 compliant
  0.8 Vp-p, 75 Ω, 11.880 Gbps/11.868 Gbps
- 3G-SDI: SMPTE ST 424/ST 425 Level-A/B compliant
  0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps
- HD-SDI: SMPTE ST 292 compliant
  0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps

12G-SDI/3G-SDI/HD-SDI selectable

18. CAMERA SMF (HKCU-SM30)

ST connector for single-mode fiber cables

Transmission signal: IN (CAMERA → CCU)

- Camera Video
- Audio (MIC)
- HD-TRUNK
- NETWORK TRUNK
- RS422A/RS232C

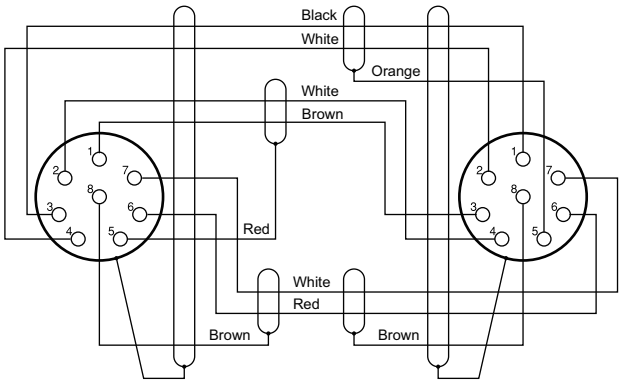
Transmission signal: OUT (CCU → CAMERA)

- Return Video
- Prompter Video
- Audio (PGM)
- NETWORK TRUNK
- RS422A/RS232C

Continued

1-2-2. Wiring Diagrams for Cables

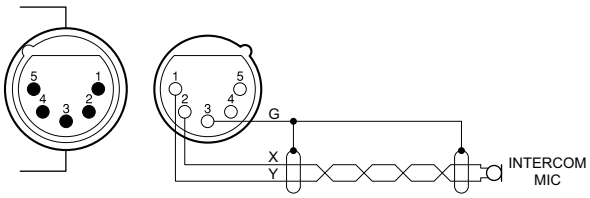
CCA-5 Cable (for RCP/CNU connector)



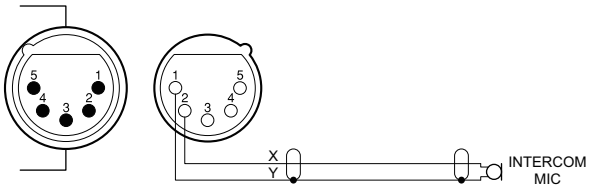
— 8P CONNECTOR (MALE) —
(WIRING SIDE)

INTERCOM MIC Cable

1. Balance (BALANCE in MIC TYPE menu)



2. Unbalance (UNBALANCE in MIC TYPE menu)



1-2-3. Connectors and Cables

Connection made with the connector panels during installation or service, should be made with the connectors/complete cable assemblies specified in the following list, or equivalent parts.

Connector Name	Connectors and Cables
CAMERA (LEMO)	LEMO PUW. 3K. 93C. TLCC96
CAMERA (Tajimi Electronics Co.,Ltd.)	Tajimi Electronics Co.,Ltd. OPS2402-R
• REFERENCE IN (INPUT) • REFERENCE OUT (OUTPUT) • CHARACTER/ AES/EBU (OUTPUT) • PROMPTER 1 (INPUT) • PROMPTER 2/ VBS-RET (INPUT) (BNC type)	1-564-742-11 PLUG, BNC or BB Cable assembly (1.5 m, optional)
• SDI OUT1 to 4 (OUTPUT) • SDI RET1 to 4 (INPUT) • SDI I/O1 to 4 (IN/OUT) (BNC type)	1-569-370-12 PLUG, BNC/5C-FB coaxial cable (Fujikura products recommended)
AUDIO OUT CH1, CH2 (3P, Male)	1-508-083-xx XLR 3P Female or CANNON XLR-3-11C equivalent
INTERCOM (5P, Female)	1-508-370-11 XLR 5P, Male or CANNON XLR-5-12C equivalent
RCP/CNU (8P, Female)	1-766-848-11 PLUG, 8P Male or CCA cable assembly (optional), CCA-5-10 (10 m), CCA-5-3 (3 m)
• LAN-COM • NETWORK TRUNK (8P, RJ-45)	LAN cable (commercially available, shield type, category 5 or higher)
INTERCOM/ TALLY/IO PORT	1-566-358-11 D-SUB 50P, Male or JAE DDU-50PF-F0 equivalent

1-2-4. Note in Connecting CAMERA Connector

It is recommended to clean the optical contact portions mentioned below before connecting this unit to the camera.
For details on a cleaning method, refer to Service Manual.

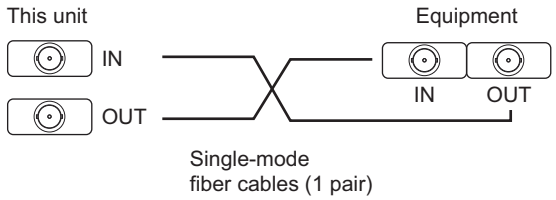
- CAMERA connector of this unit
- CCU connector of the camera
- Optical/Electrical cable

1-2-5. Note in Connecting Single-mode Optical Fiber Cable

- When connecting the cables, turn off the power of the unit and each equipment. Do not connect and disconnect the cables while equipments are turned on.
- If there is dust or other contamination on the connection face for the ST connector, transmission errors will occur. Be sure to protect the connector with the cover when not in use.

Continued

- Connect the single-mode fiber cables as shown below so that connecting destinations cross (IN to OUT, OUT to IN) between this unit and the equipment.



- It is recommendable to clean the optical contact portions of all equipments before connecting this unit to equipments with single-mode fiber cables.
  For details on a cleaning method, refer to the service manual of the unit.

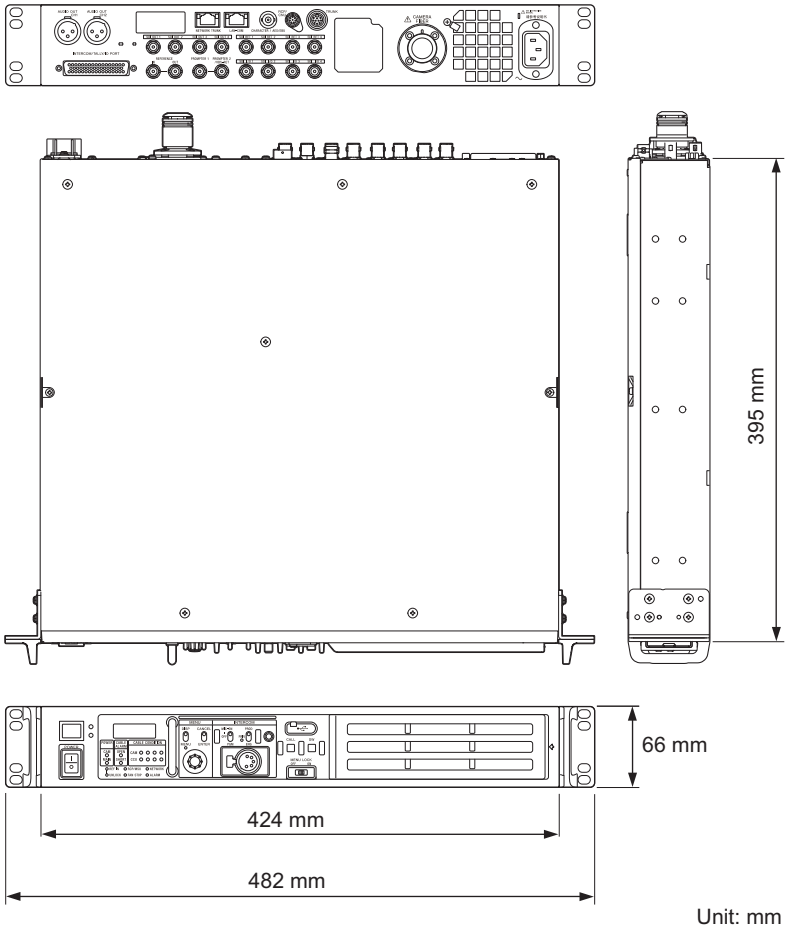
1-3. Power Cord

To get a power cord, please contact your local Sony Sales Office/Service Center.

WARNING

- Use the approved Power Cord (3-core mains lead)/Appliance Connector/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
- Use the Power Cord (3-core mains lead)/Appliance Connector/Plug conforming to the proper ratings (Voltage, Ampere).
- Never use an damaged power cord.

1-4. Outside Dimensions



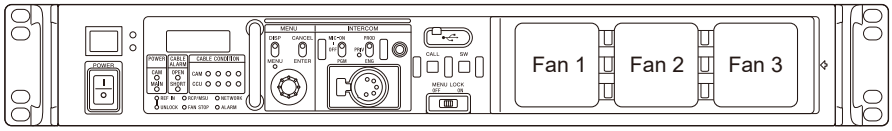
Unit: mm

1-5. Installing Each Option Kit in HDCU3100

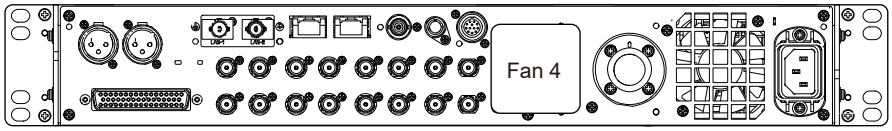
One DC fan is installed in HDCU3100. The number of DC fans varies depending on installing an option kit.
Each option kit and DC fans are combined as shown in the table below.

HKCU-SFP30	HKCU-SM30	HKCU-UHD30	HKCU-SDI30	Fan
○	—	—	—	Fan 1, Fan 3
—	○	—	—	Fan 1
—	—	○	—	Fan 1, Fan 2
—	—	○	○	Fan 1, Fan 2
○	—	○	—	Fan 1, Fan 2, Fan 3, Fan 4

Front



Rear



1-5-1. HKCU-SFP30

Note

The removed screws cannot be reused. Use supplied screws.

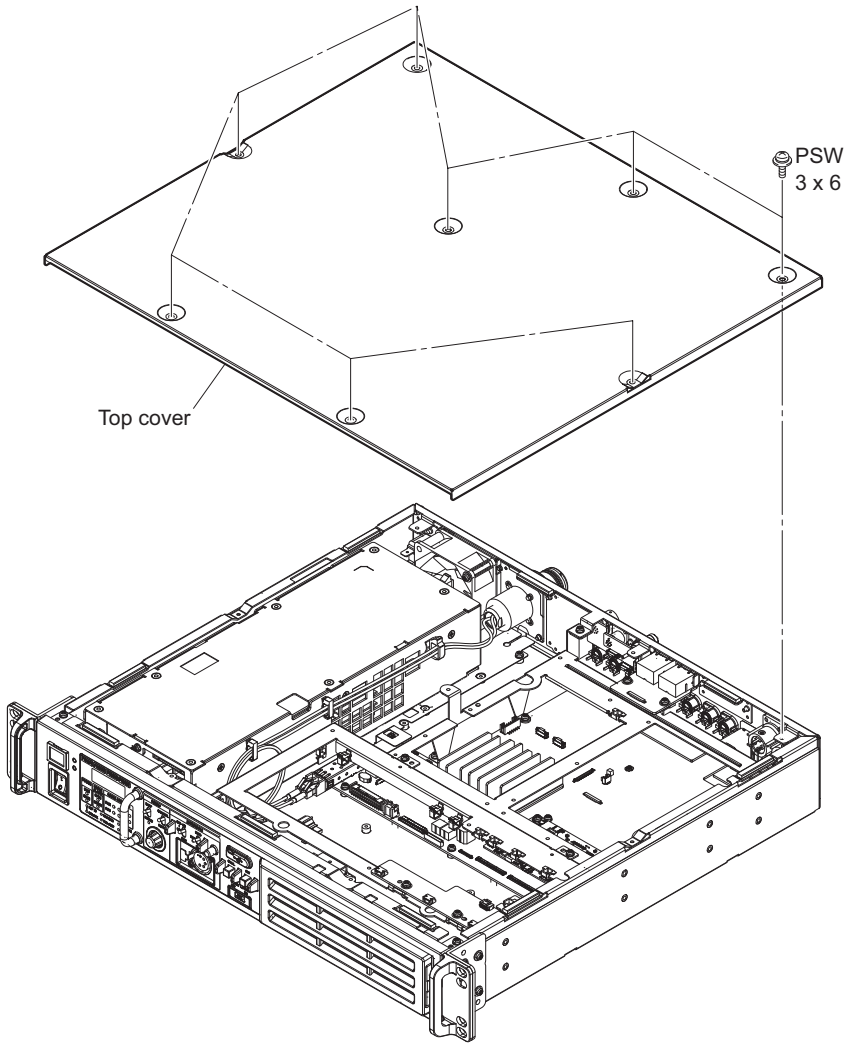
- Screw (P2.6 x 5): 2 pcs

Parts packed in HKCU-SFP30

- NET-37 board assembly: 1 pc
- Fan assembly: 1 pc
- NET bracket: 1 pc
- DC fan: 1 pc
- Fan holder: 1 pc
- Clamper: 1 pc
- Fine-wire coaxial cable (SS20-80-11): 1 pc
- Fine-wire coaxial cable (CA60-155-11): 2 pcs
- Harness (SLOT POWER): 1 pc
- Extention harness (3P J-M): 1 pc
- Screw (P2.6 x 5): 2 pcs
- Screw (PSW3 x 6): 7 pcs
- Screw (PSW3 x 25): 2 pcs

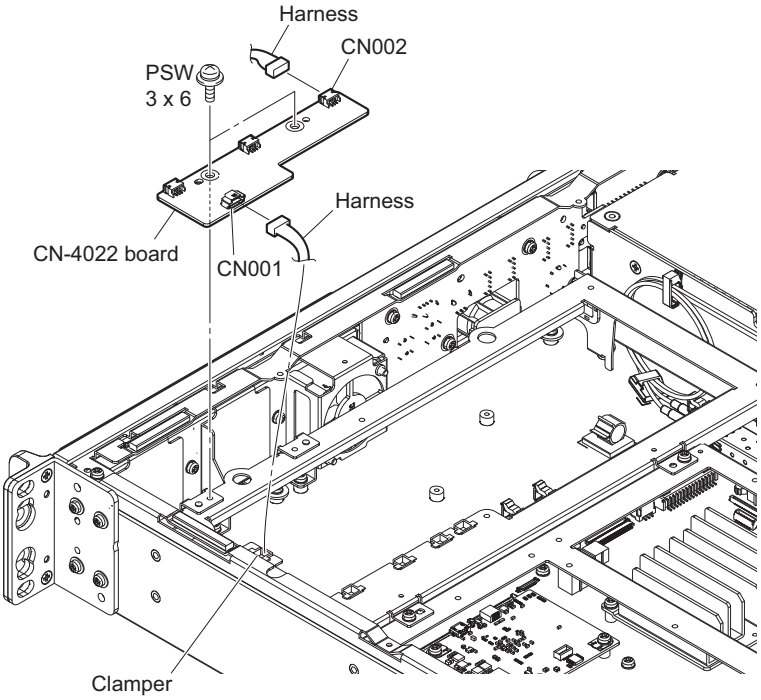
Procedure

1. Remove the eight screws, then remove the top cover.

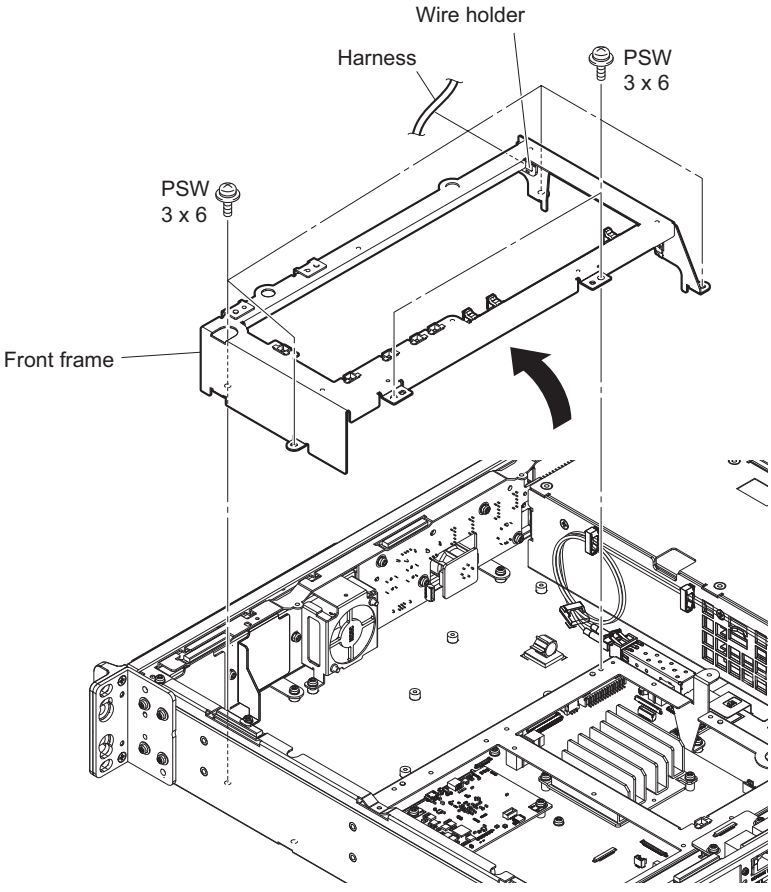


2. Disconnect the two harnesses from the two connectors (CN001 and CN002) on the CN-4022 board.
3. Open the clamper and disconnect one harness.

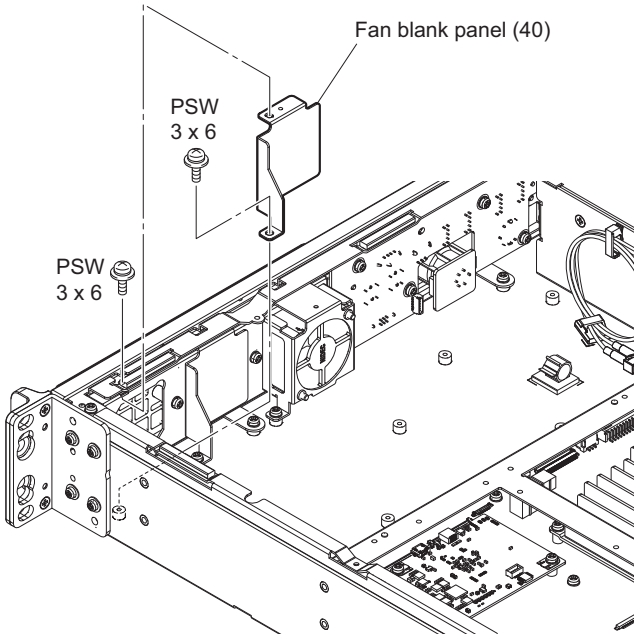
4. Remove the two screws, then remove the CN-4022 board.



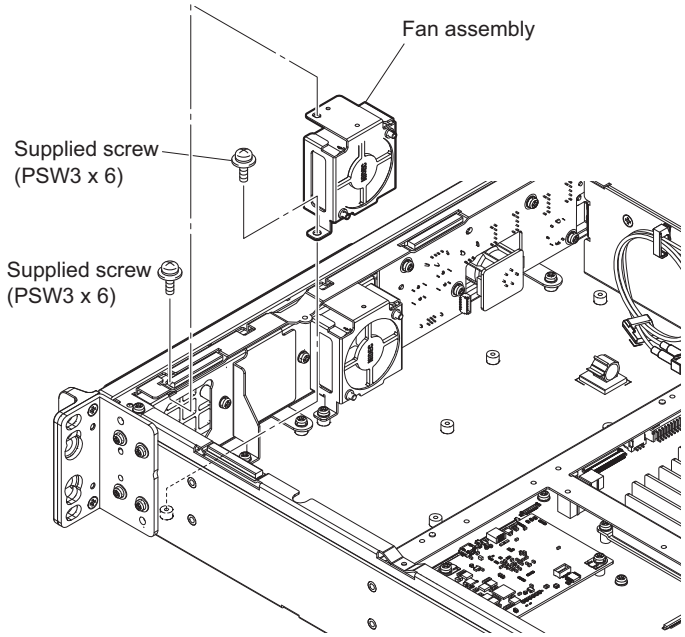
5. Open the wire holder and disconnect the harness.
6. Remove the six screws, then remove the front frame in the direction of the arrow.



7. Remove the two screws, then remove the fan blank panel (40).



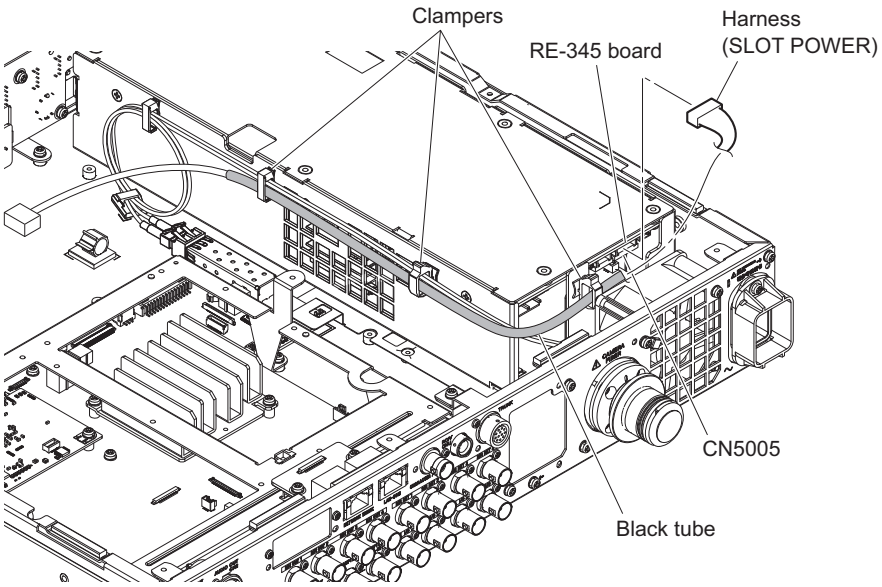
8. Attach the fan assembly with the supplied two screws.



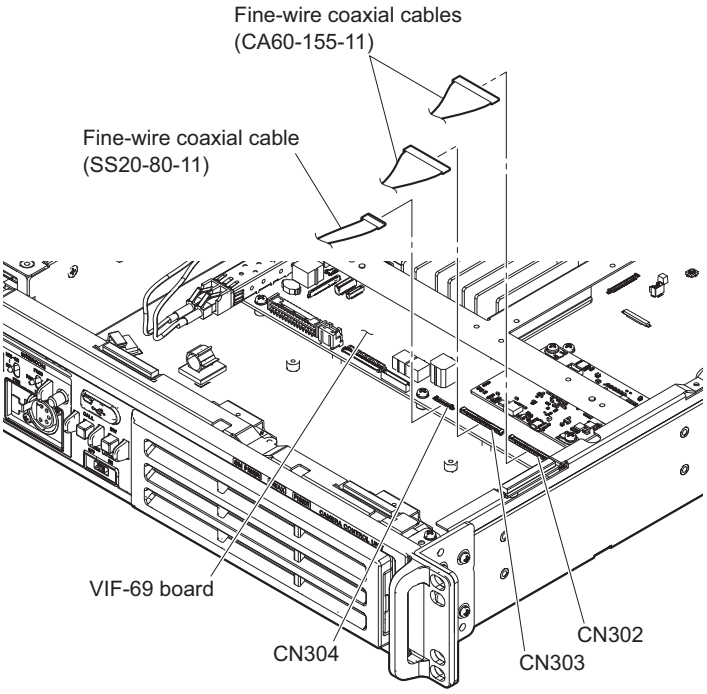
9. Connect the harness (SLOT POWER) to the connector (CN5005) on the RE-345 board and fix it using three clampers.

Tip

Connect the harness covered with a black tube to the side of connector (CN5005) on the RE-345 board.

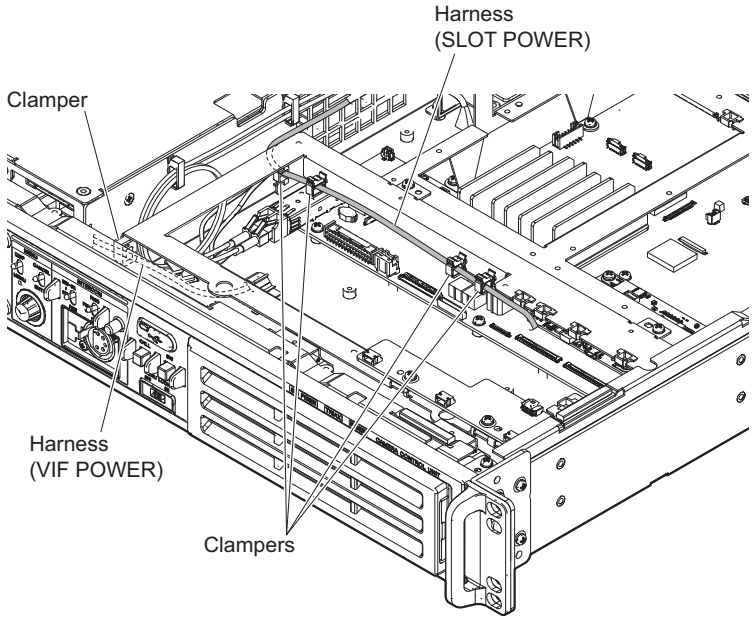


10. Connect the two fine-wire coaxial cables (CA60-155-11) to the connectors (CN302 and CN303) on the VIF-69 board.
11. Connect the fine-wire coaxial cable (SS20-80-11) to the connector (CN304) on the VIF-69 board.

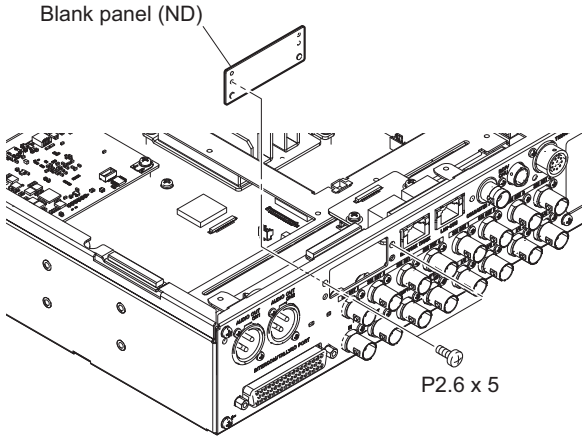


12. Attach the front frame. (Refer to step 5, 6.)
13. Fix the harness (SLOT POWER) using four clampers.

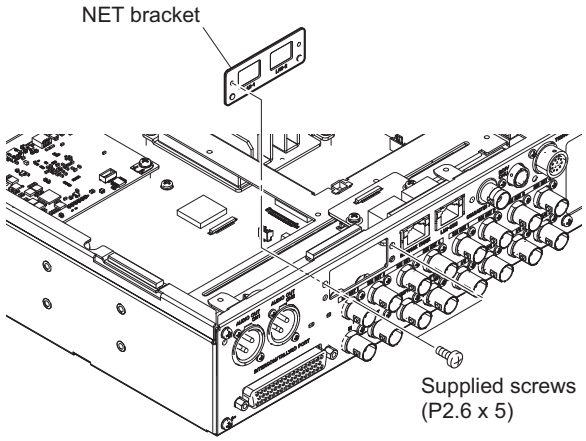
14. Fix the harness (VIF POWER) using one clamper.



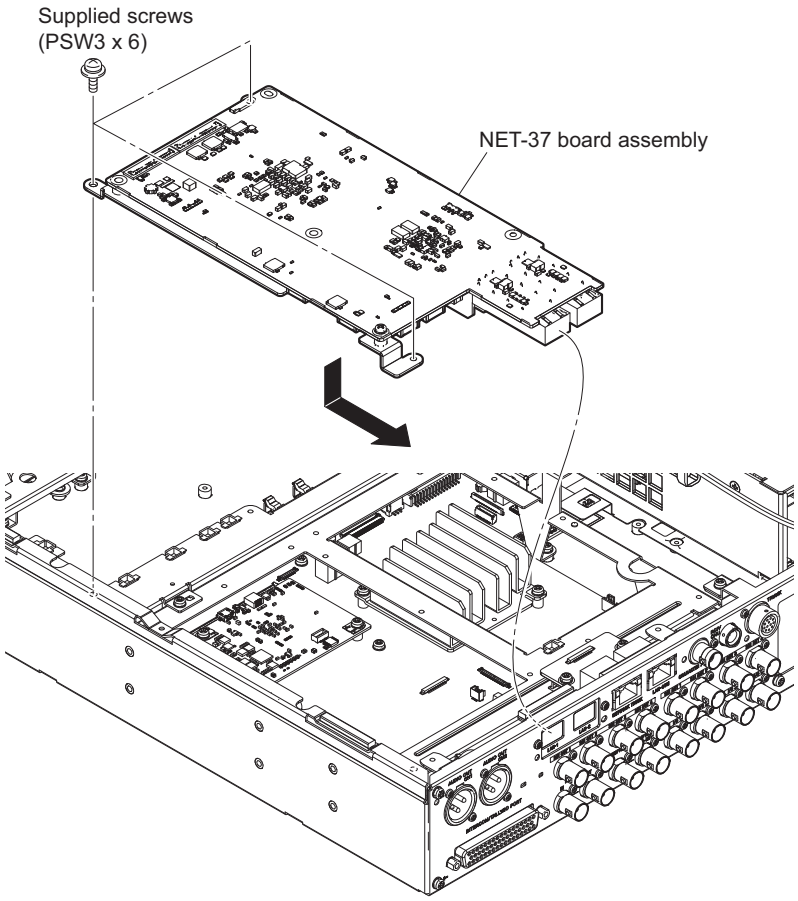
15. Remove the two screws, then remove the blank panel (ND).



16. Attach the NET bracket with the supplied two screws.

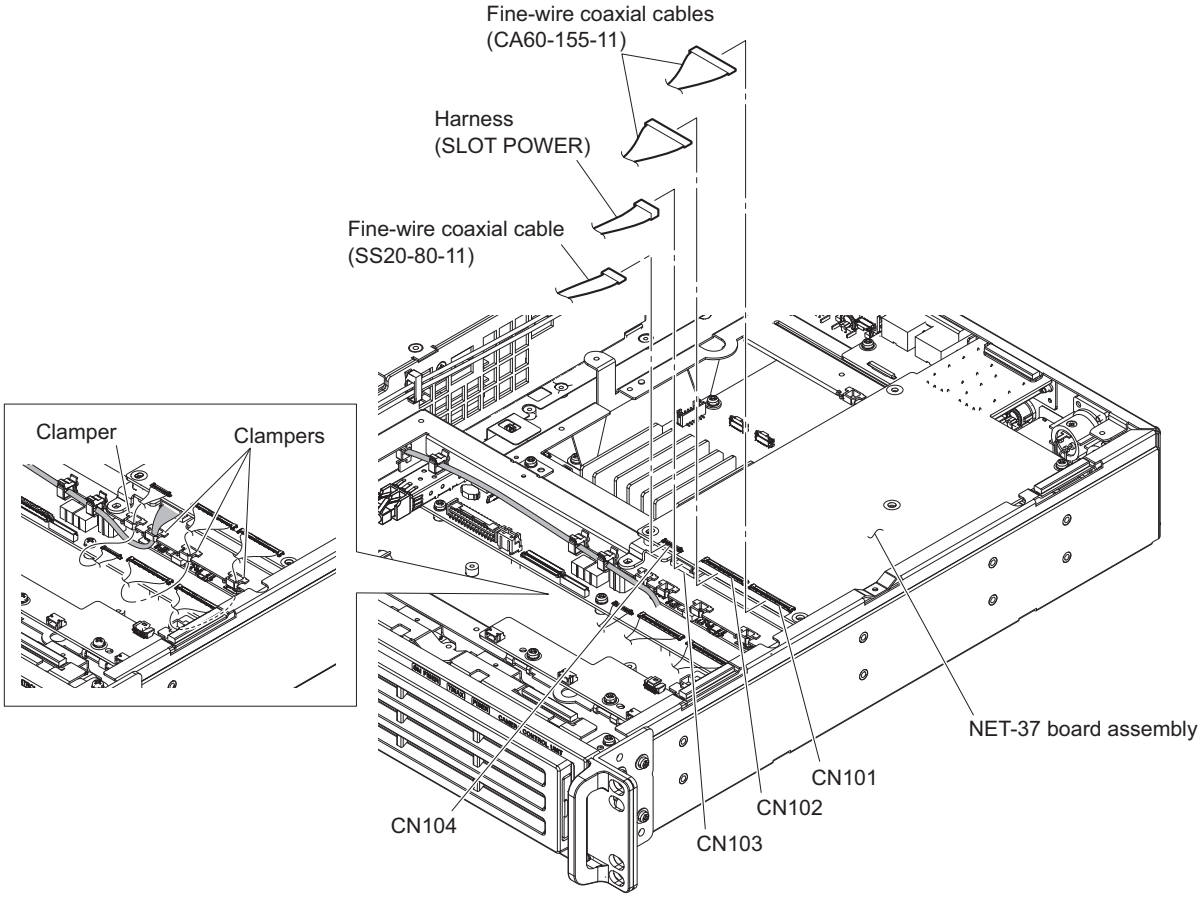


17. Install the NET-37 board assembly in the direction of the arrow and fix it with the supplied three screws (PSW3 x 6).

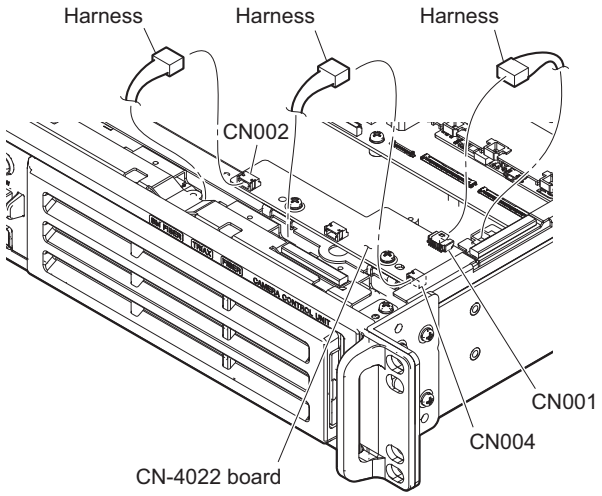


18. Connect the two fine-wire coaxial cables (CA60-155-11) to the connectors (CN101 and CN102) on the NET-37 board assembly.
19. Connect the harness (SLOT POWER) to the connector (CN103) on the NET-37 board assembly.
20. Connect the fine-wire coaxial cable (SS20-80-11) to the connector (CN104) on the NET-37 board assembly.

21. Fix the three fine-wire coaxial cables and one harness using clampers.



22. Install the CN-4022 board. (Refer to step 3, 4.)
23. Connect the three harnesses to the connectors (CN001, CN002, and CN004) on the CN-4022 board.



24. Assemble this unit.

1-5-2. HKCU-SM30

Parts packed in HKCU-SM30

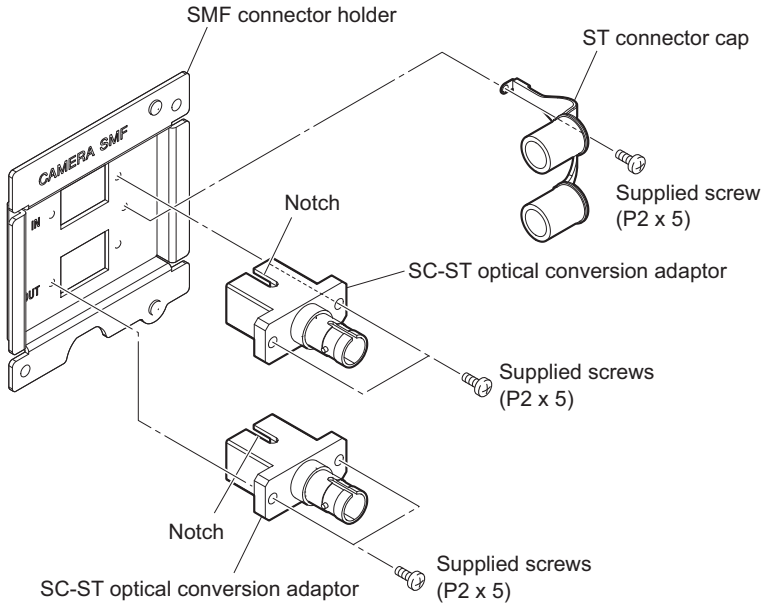
- CN-4036 board assembly: 1 pc
- SC-ST optical conversion adaptor: 2 pcs
- SC-LC optical fiber cable: 1 pc
- Harness (coaxial cable): 1 pc
- Harness (VIF-SMF): 1 pc
- SMF connector holder: 1 pc
- ST connecter cap: 1 pc
- Screw (P2 x 5): 5 pcs
- Screw (PSW3 x 6): 5 pcs

Preparation

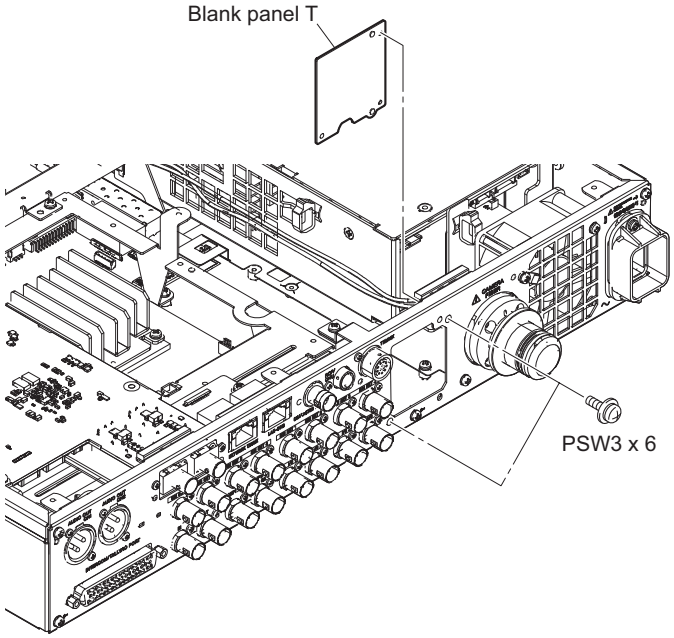
1. Remove the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

Procedure

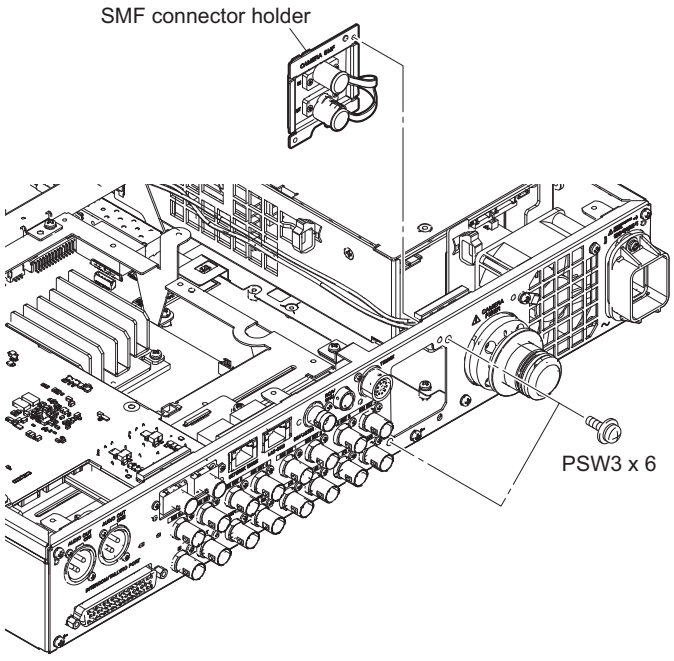
1. Attach the two SC-ST optical conversion adaptors in the SMF connector holder with supplied four screws.
2. Attach the ST connector cap with supplied one screw.



3. Remove the two screws, then remove the blank panel T.

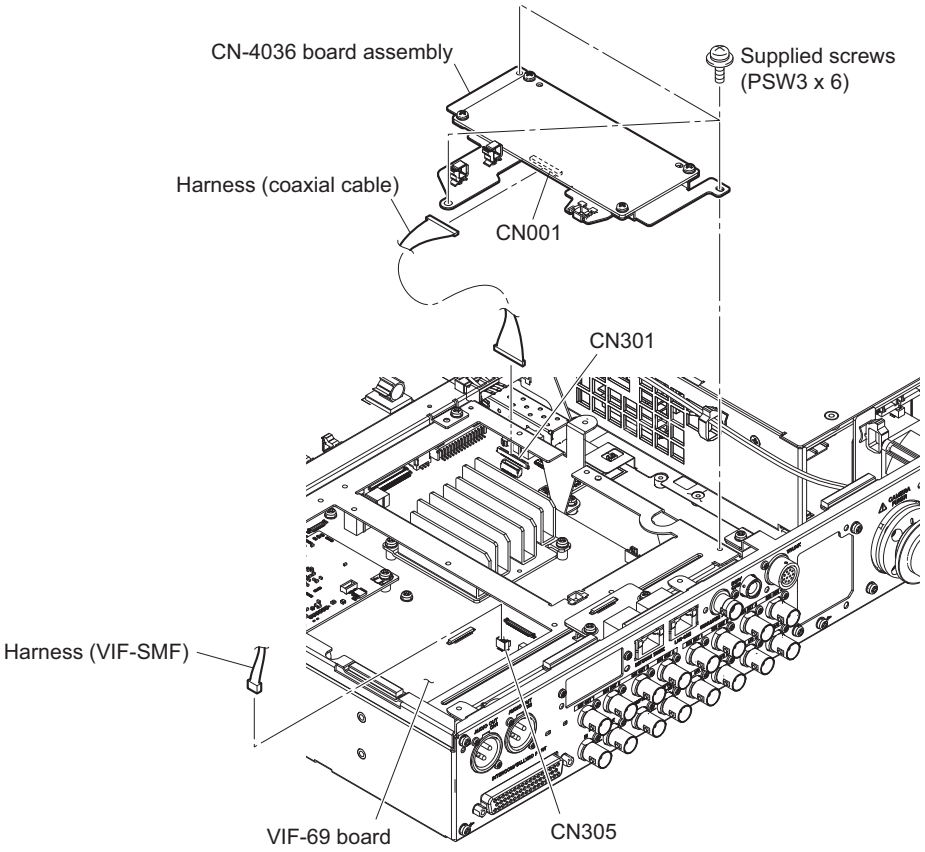


4. Attach the SMF connector holder assembly that was assembled in steps 1 and 2 with the two screws removed in step 3.

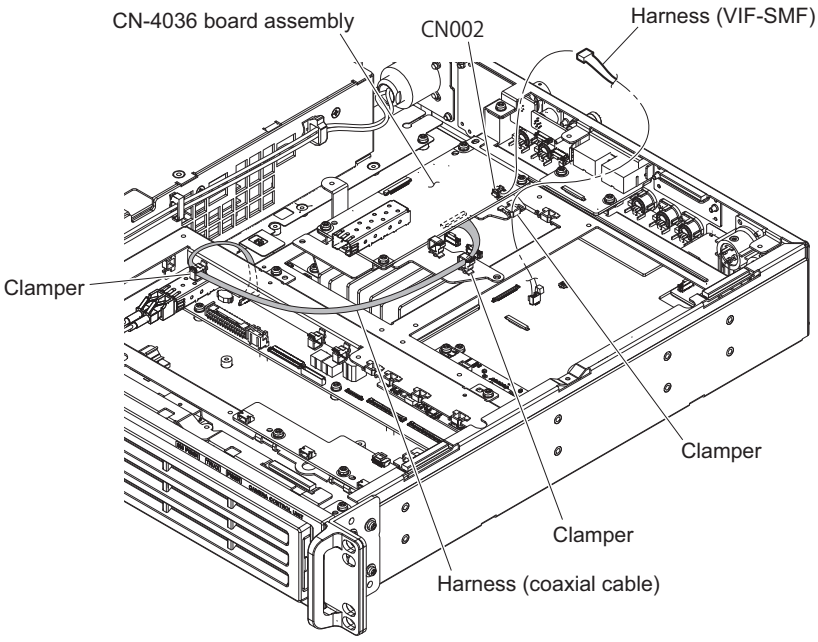


5. Connect the harness (coaxial cable) to the connector (CN001) on the CN-4036 board assembly.
6. Connect the harness (VIF-SMF) to the connector (CN305) on the VIF-69 board.
7. Attach the CN-4036 board assembly with the supplied three screws.

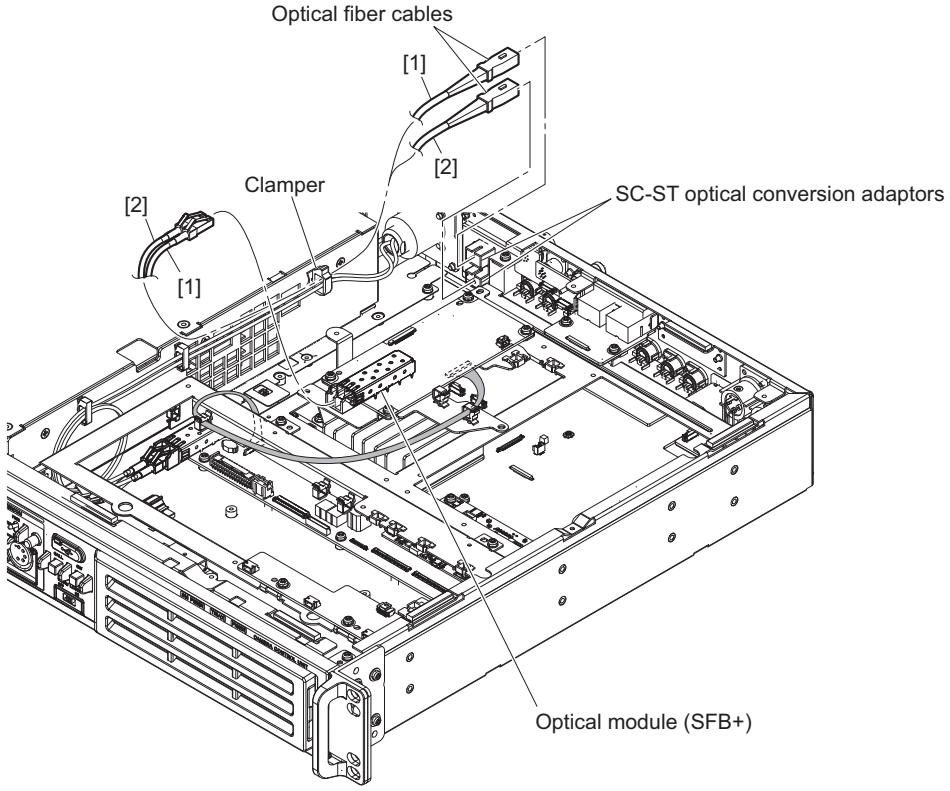
8. Connect the harness (coaxial cable) to the connector (CN301) on the VIF-69 board.



9. Fix the harness (coaxial cable) using two clampers.
10. Connect the harness (VIF-SMF) to the connector (CN002) on the CN-4036 board and fix it using clampers.



11. Connect the two optical fiber cables and fix them using the clamper.



Note

When installing the optical fiber cable, be connect correctly.

12. Attach the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

1-5-3. HKCU-UHD30

Parts packed in HKCU-UHD30

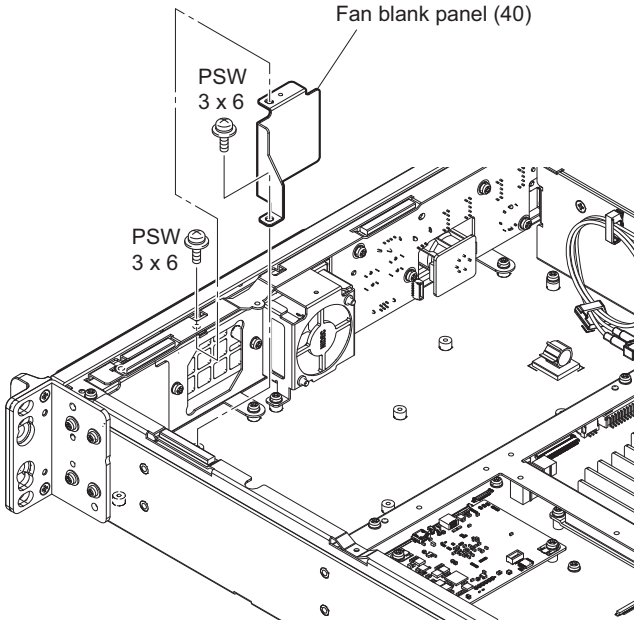
- DPR-388 board assembly: 1 pc
- Fan assembly: 1 pc
- Fine-wire coaxial cable (CA60-155-11): 2 pcs
- Harness (VIF-DPR POWER): 1 pc
- Screw (PSW3 x 12): 2 pcs
- Screw (PSW3 x 6): 6 pcs

Preparation

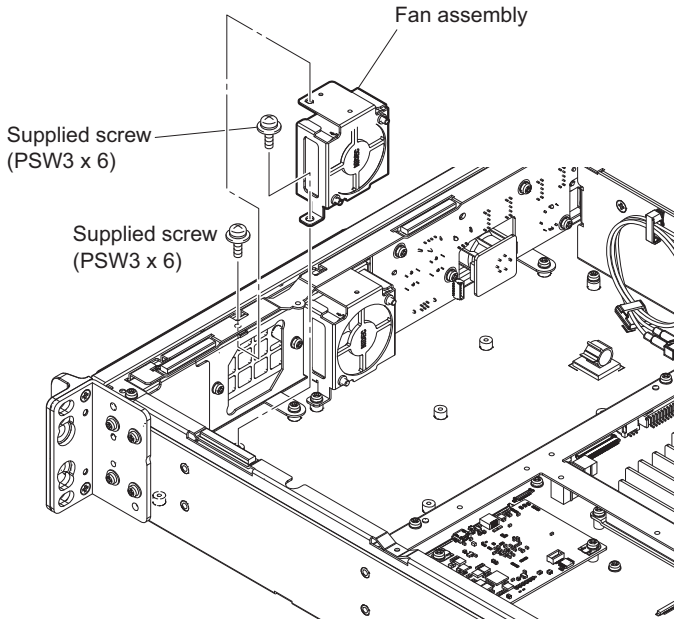
1. Remove the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)
2. Remove the CN-4022 board. (Refer to steps 2 to 4 in "1-5-1. HKCU-SFP30".)
3. Remove the front frame. (Refer to steps 5 and 6 in "1-5-1. HKCU-SFP30".)

Procedure

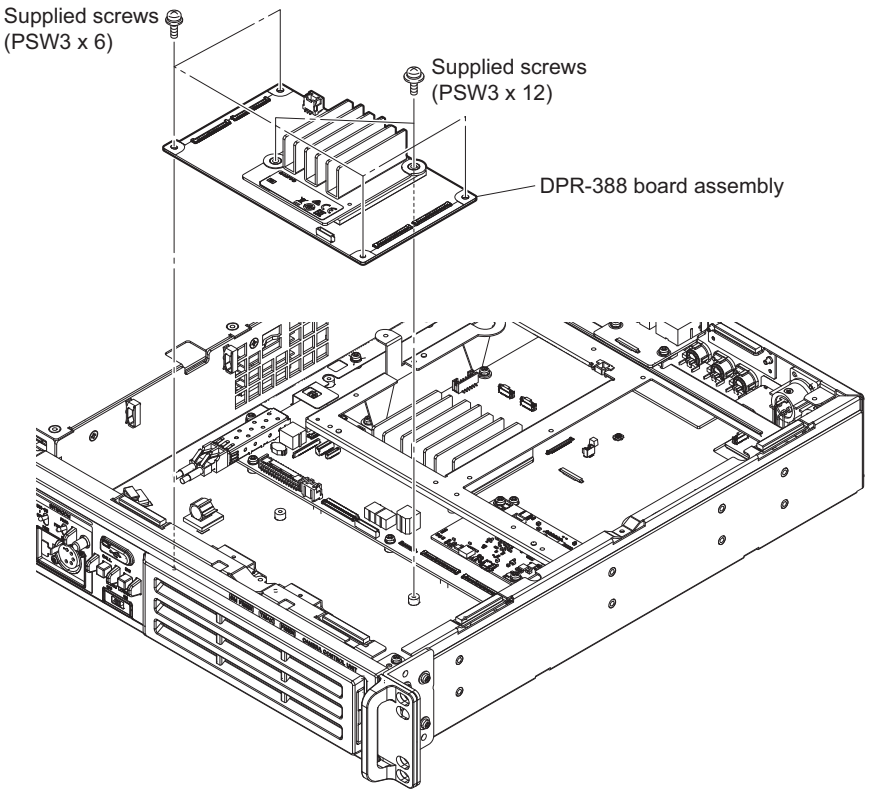
1. Remove the two screws, then remove the fan blank panel (40).



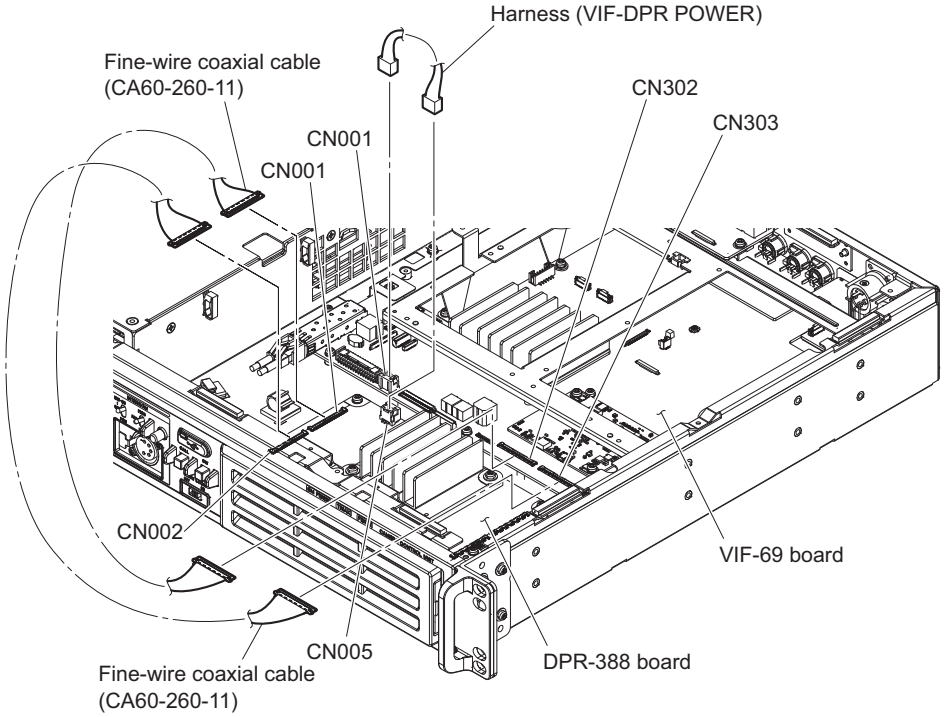
2. Attach the fan assembly with the supplied two screws.



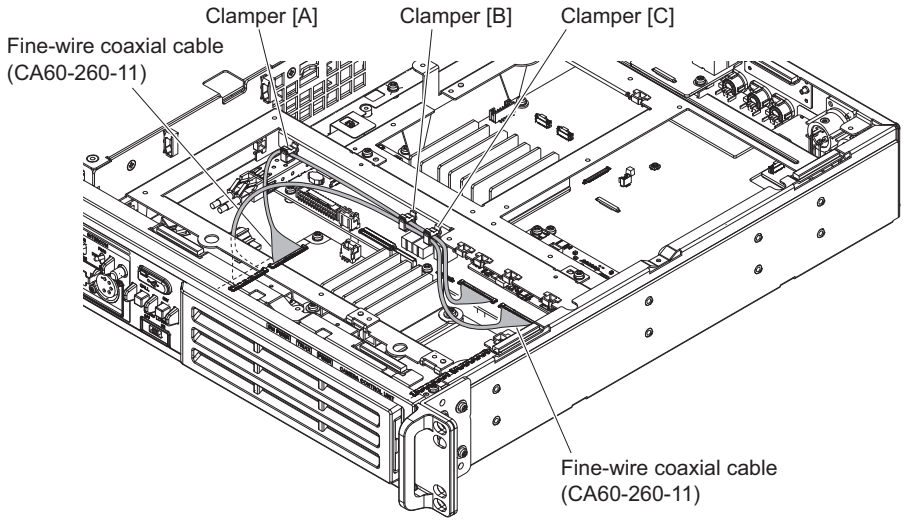
3. Attach the DPR-388 board assembly with the supplied four screws (PSW3 x 6) and the supplied two screws (PSW3 x 12).



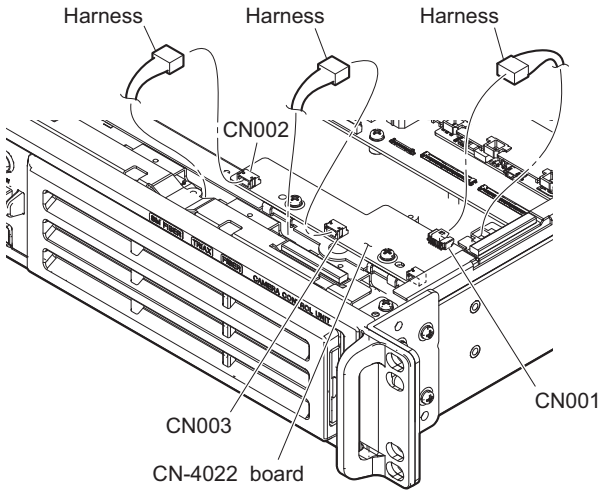
4. Connect the connector (CN005) on the DPR-388 board and the connector (CN001) on the VIF-69 board with the harness (VIF-DPR POWER).
5. Connect the connector (CN001) on the DPR-388 board and the connector (CN302) on the VIF-69 board with the fine-wire coaxial cable (CA60-260-11).
6. Connect the connector (CN002) on the DPR-388 board and the connector (CN303) on the VIF-69 board with the fine-wire coaxial cable (CA60-260-11).



7. Attach the front frame. (Refer to steps 5 and 6 in "1-5-1. HKCU-SFP30".)
8. Fix the fine-wire coaxial cable (CA60-260-11) connected in step 5 with the clampers [A] to [C].
9. Fix the fine-wire coaxial cable (CA60-260-11) connected in step 6 with the clampers [B] and [C].



10. Install the CN-4022 board and connect the harness.



11. Attach the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

1-5-4. HKCU-SDI30

Note

- HKCU-SDI30 cannot be installed by itself. Use it in combination with HKCU-UHD30.
- The removed screws cannot be reused. Use supplied screws.
  - Screw (P2.6 x 5): 2 pcs

Parts packed in HKCU-SDI30

- DIF-264 board assembly: 1 pc
- Fine-wire coaxial cable (CA60-260-11): 2 pcs
- Harness (SLOT POWER): 1 pc
- Screw (P2.6 x 5): 2 pc
- Screw (PSW3 x 6): 4 pcs

Preparation

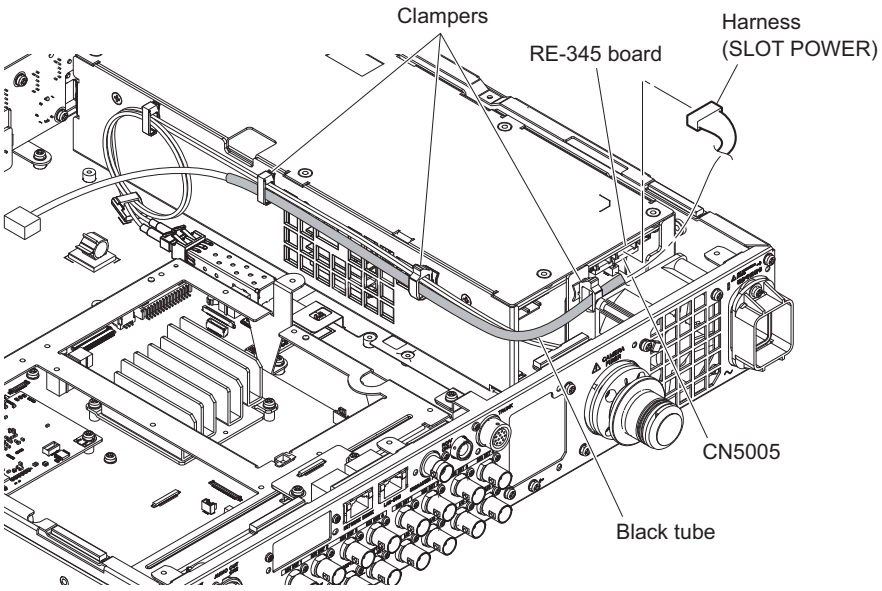
1. Remove the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)
2. Remove the CN-4022 board. (Refer to steps 2 to 4 in "1-5-1. HKCU-SFP30".)
3. Remove the front frame. (Refer to steps 5 and 6 in "1-5-1. HKCU-SFP30".)
4. Remove the fan blank panel (40). (Refer to step 1 in "1-5-3. HKCU-UHD30".)

Procedure

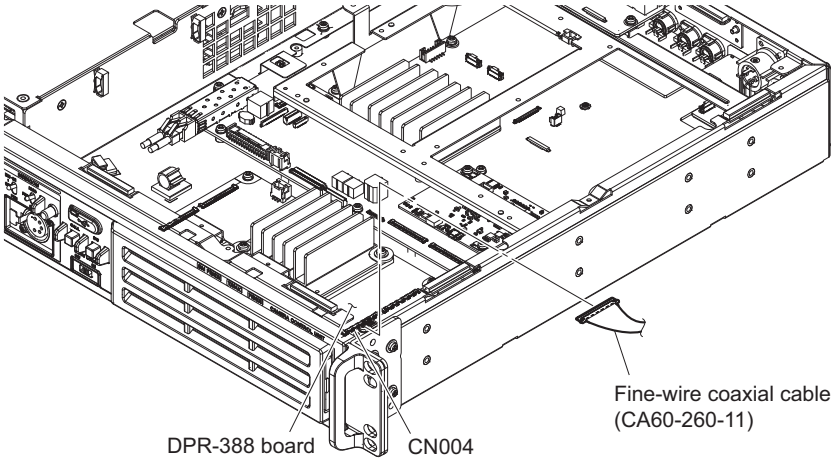
1. Connect the harness (SLOT POWER) to the connector (CN5005) on the RE-345 board and fix it using three clampers.

   Tip

   Connect the harness covered with a black tube to the side of connector (CN5005) on the RE-345 board.

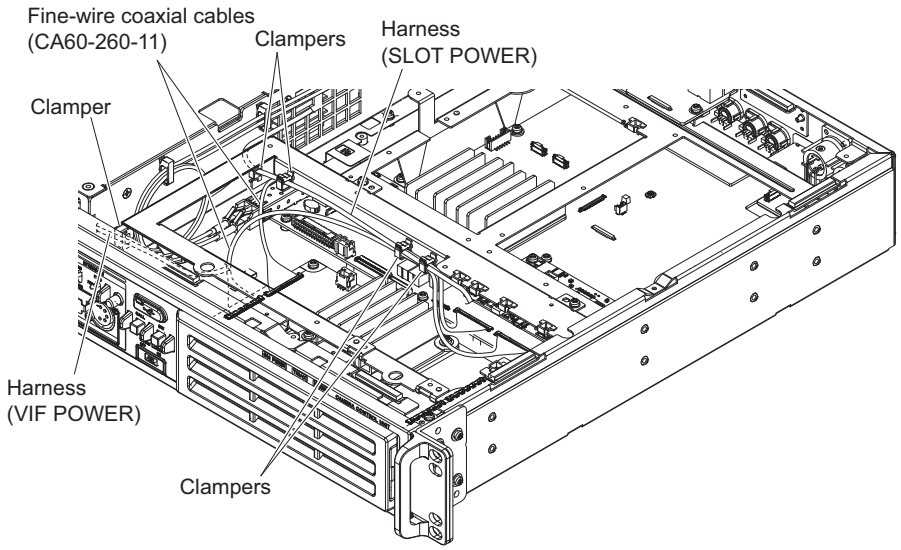


2. Attach the fan assembly. (Refer to step 2 in "1-5-3. HKCU-UHD30".)
3. Install the DPR-388 board of HKCU-UHD30. (Refer to steps 3 to 6 in "1-5-3. HKCU-UHD30".)
4. Connect the fine-wire coaxial cable (CA60-260-11) to the connector (CN004) on the DPR-388 board.

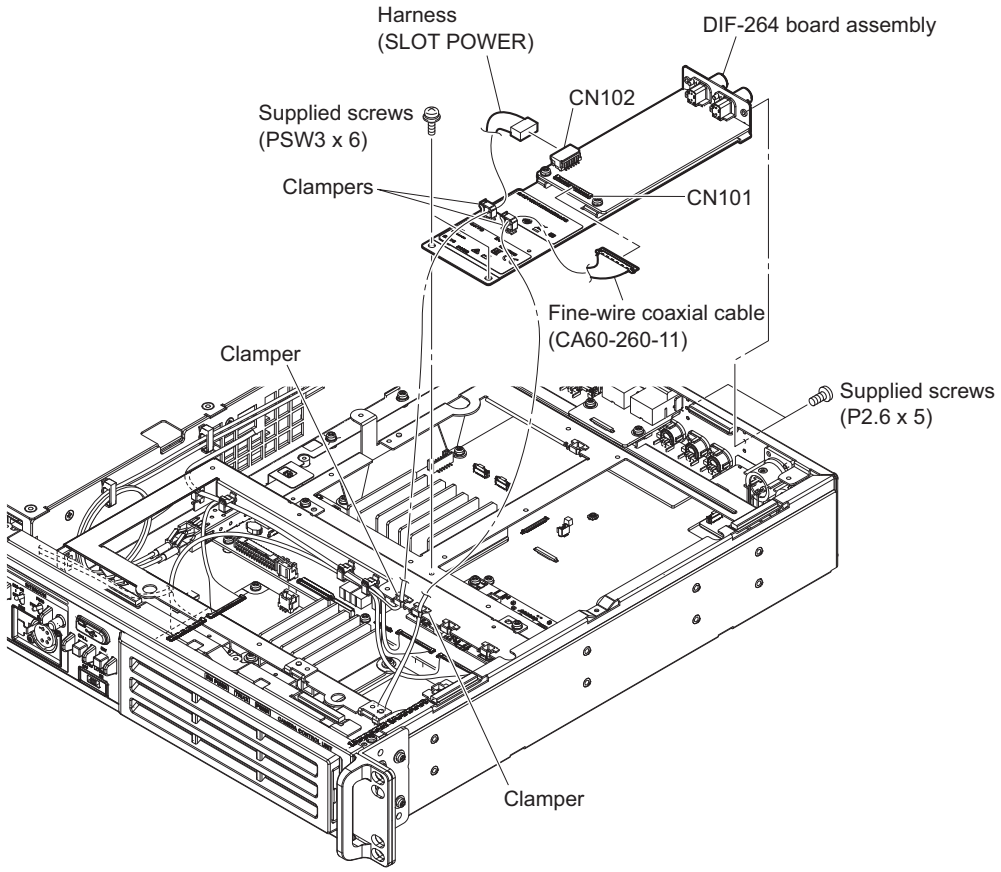


5. Attach the front frame. (Refer to steps 5 and 6 in "1-5-1. HKCU-SFP30".)

6. Fix the harness (SLOT POWER), the harness (VIF POWER) and the two fine-wire coaxial cables (CA60-260-11) as shown in the illustration.



7. Remove the blank panel (ND). (Refer to step 15 in "1-5-1. HKCU-SFP30".)
8. Attach the DIF-264 board assembly with the supplied two screws (P2.6 x 5) and the supplied two screws (PSW3 x 6).
9. Connect the harness (SLOT POWER) and the fine-wire coaxial cable (CA60-260-11) to the connectors (CN101 and CN102) on the DIF-264 board assembly.
10. Fix the harness (SLOT POWER) using clampers.
11. Fix the fine-wire coaxial cable (CA60-260-11) using clampers.



12. Install the CN-4022 board and connect the harness. (Refer to step 10 in "1-5-3. HKCU-UHD30".)

13. Attach the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)

1-5-5. HKCU-UHD30/SFP30

The connection method and the number of fans to be installed differ between two cases: (1) HKCU-UHD30 or HKCU-SFP30 is installed independently, and (2) HKCU-UHD30 and HKCU-SFP30 are installed together. Install HKCU-UHD30 and HKCU-SFP30 according to the instructions in this section.

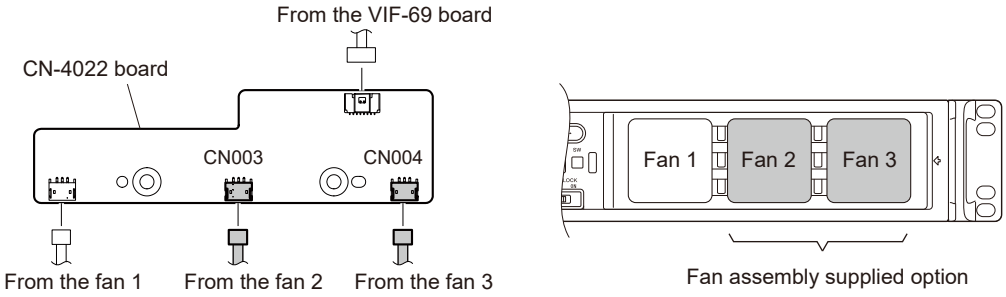
For the installation to each model by itself, refer to the following.

- “1-5-1. HKCU-SFP30”
- “1-5-3. HKCU-UHD30”

Connection Method of the Front Fan Assembly

Install a total of two fan assemblies supplied with the HKCU-UHD30 and HKCU-SFP30 in the front part.

Connect two fan harnesses to the two connectors (CN003 and CN004) on the CN-4022 board. (Refer to step 23 in “1-5-1. HKCU-SFP30”, refer to step 10 in “1-5-3. HKCU-UHD30”.)



One of the fan assemblies supplied with the HKCU-SFP30 must be installed in the rear part. (Refer to “Installing the Rear Fan Assembly”.)

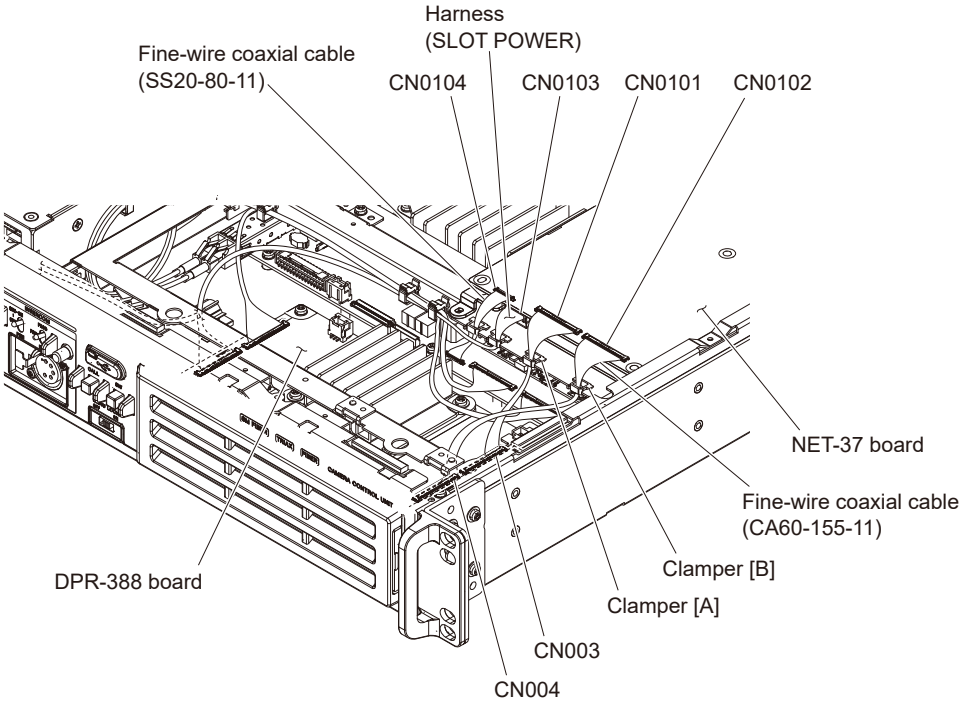
Procedure

1. Install the HKCU-UHD30. (Refer to "1-5-3. HKCU-UHD30".)
2. Connect the two fine-wire coaxial cables (CA60-155-11) to the connectors (CN003, CN004) on the DPR-388 board.
3. Install the HKCU-SFP30. (Refer to "1-5-1. HKCU-SFP30".)

   Tip

   Two fine-wire coaxial cables (CA60-155-11) are connected to the connectors (CN302, CN303) on the VIF-69 board in step 10 in "1-5-1. HKCU-SFP30". (This step is not required because fine-wire coaxial cables have already been connected to the DPR-388 board in step 2 in this procedure.)

4. Connect the connector (CN003) on the DPR-388 board and the connector (CN0101) on the NET-37 board with the fine-wire coaxial cable (CA60-155-11), then secure it with the clamper [A].
5. Connect the connector (CN004) on the DPR-388 board and the connector (CN0102) on the NET-37 board with the fine-wire coaxial cable (CA60-155-11), then secure it with the clamper [B].



6. Install the fan assembly supplied with the HKCU-SFP30 in the rear part. (Refer to "Installing the Rear Fan Assembly".)

Installing the Rear Fan Assembly

Note

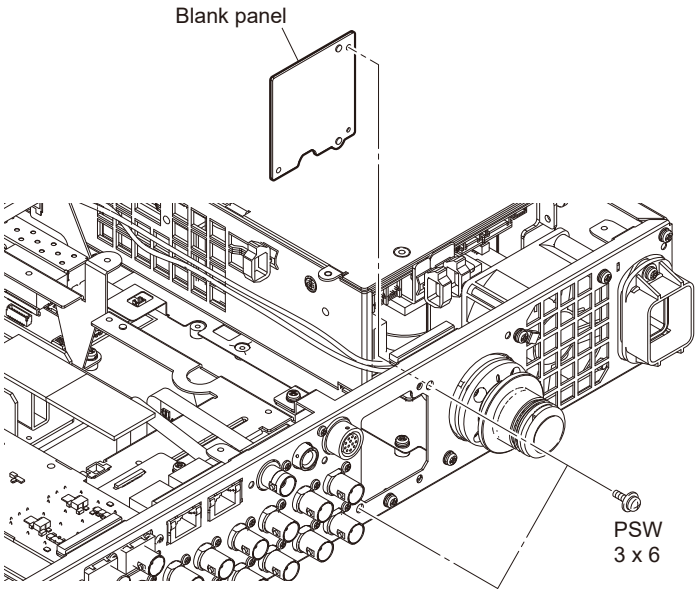
The removed screws cannot be reused. Use supplied screws.

- Screw (PSW3 x 6): 2 pcs

Parts packed (Supplied with the HKCU-SFP30)

- DC fan: 1 pc
- Fan holder: 1 pc
- Extention harness (3P J-M): 1 pc
- Screw (PSW3 x 6): 2 pcs
- Screw (PSW3 x 25): 2 pcs
- Clamper: 1 pc

1. Remove the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)
2. Remove the two screws, then remove the blank panel.

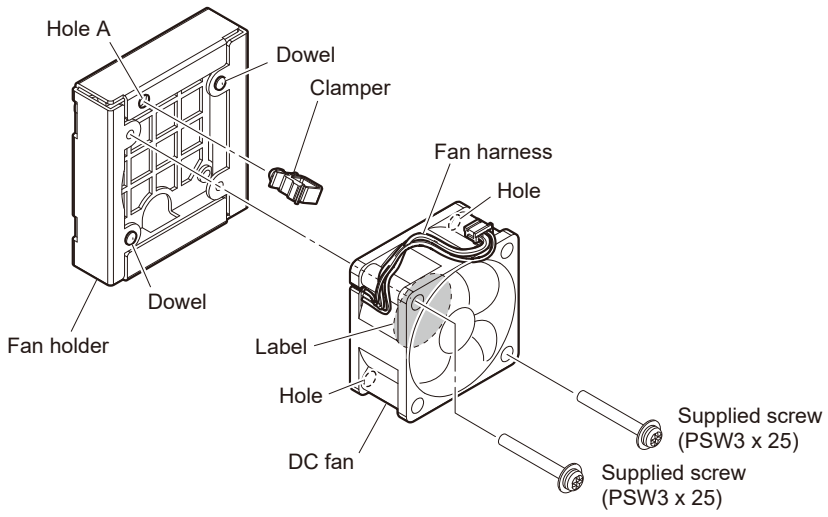


3. Align the two dowels with two holes and install the DC fan to the fan holder, then fix it with the supplied two screws.

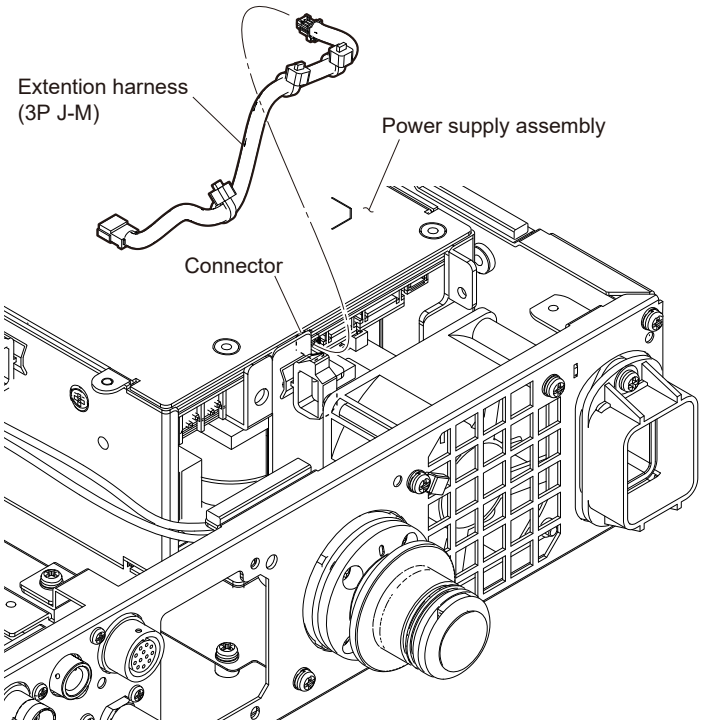
   Note

   Carefully paying attention to the label side of the DC fan and the harness position.

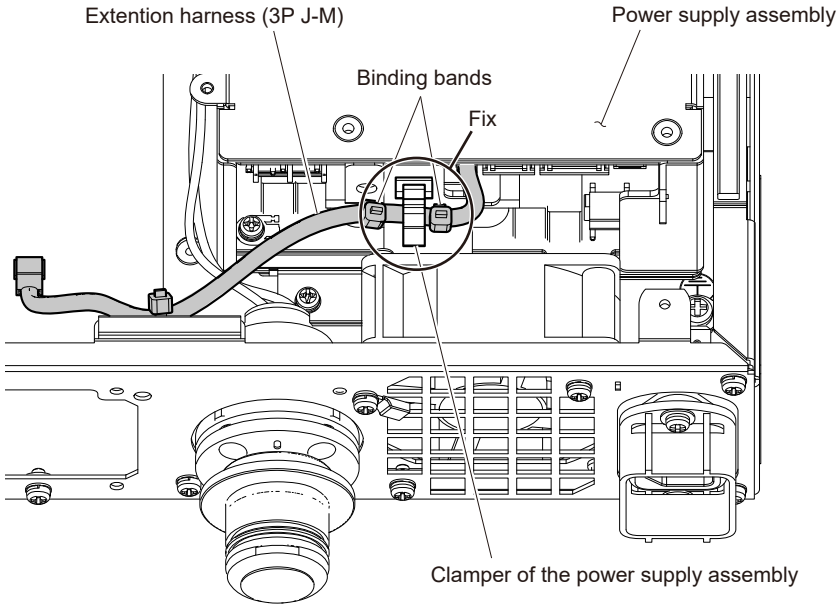
4. Attach the clamper to the hole A of the fan holder.



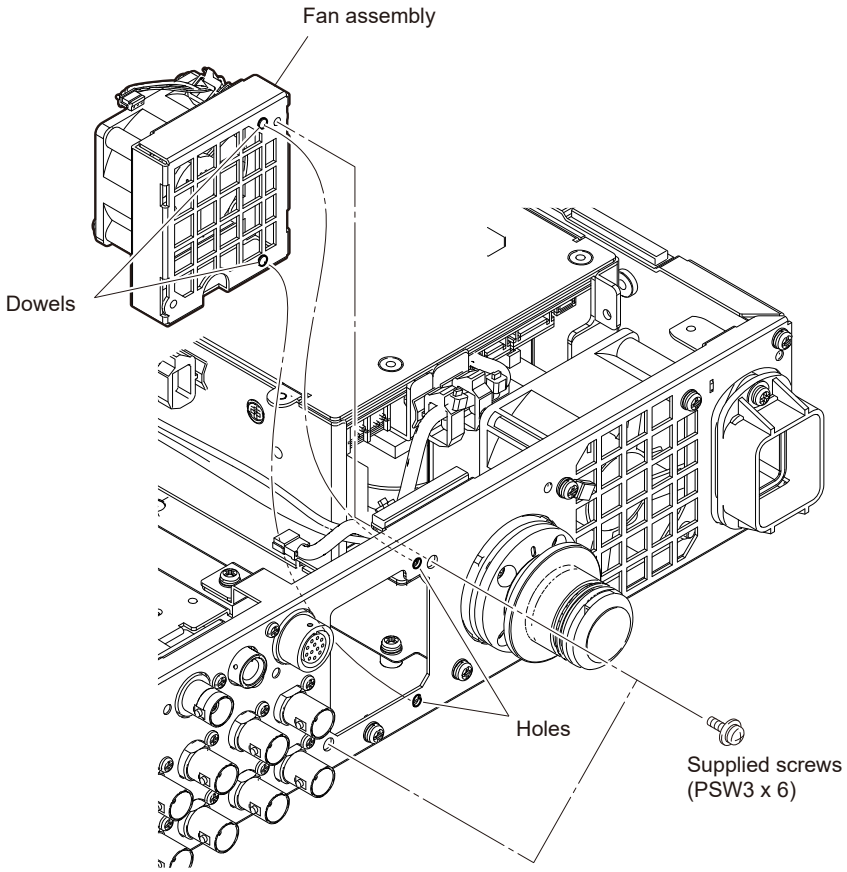
5. Connect the extention harness (3P J-M) to the connector of the power supply assembly.



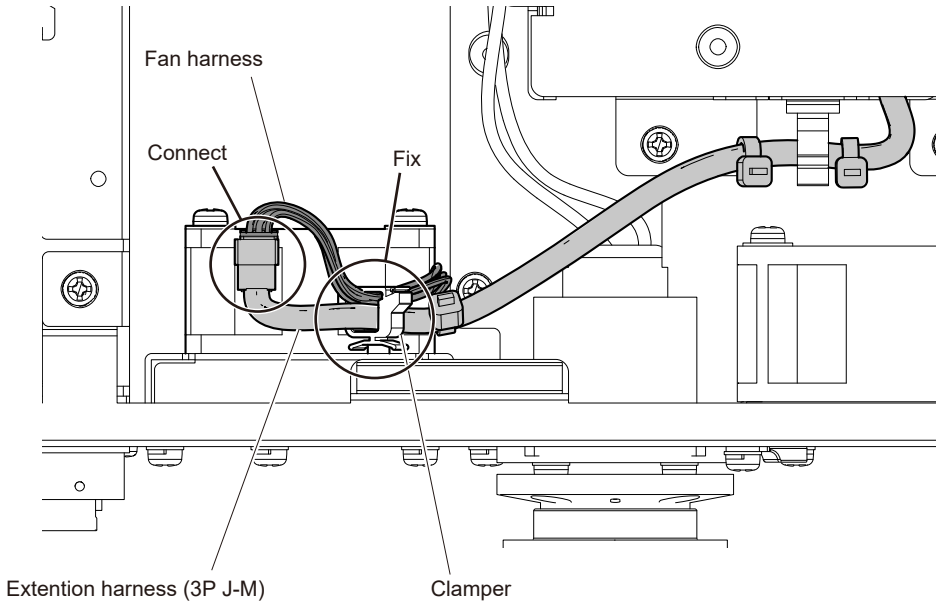
6. Clamp the extension harness (3P J-M) with the clamper of the power supply assembly between the binding bands.



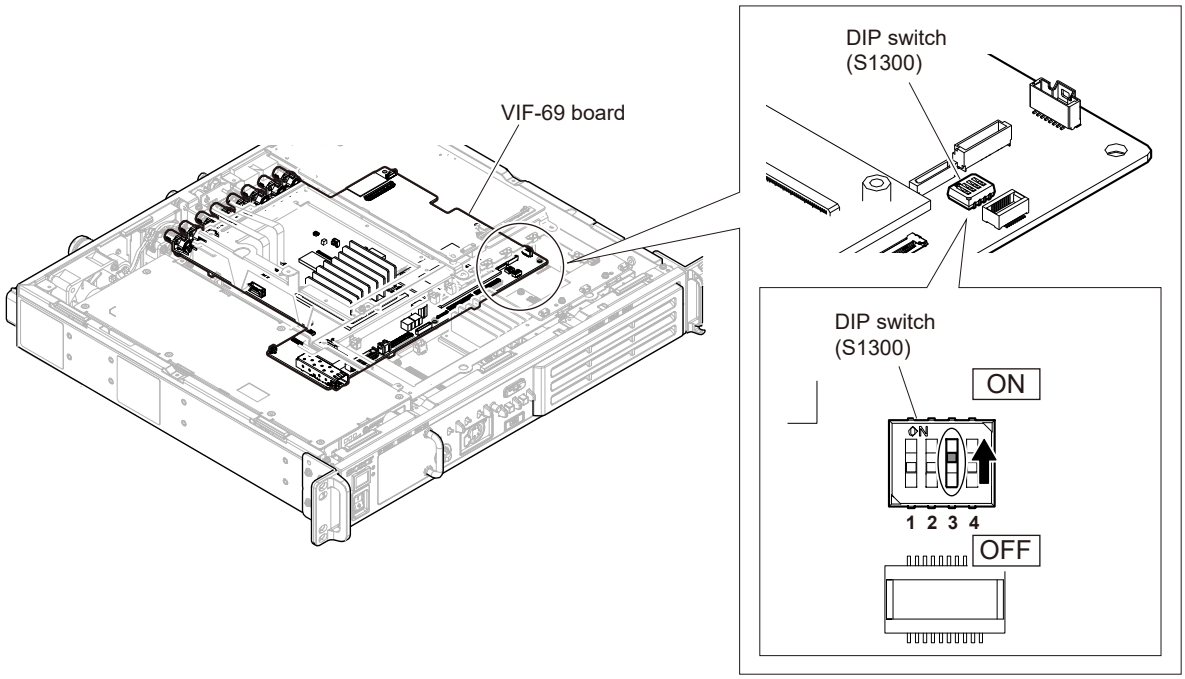
7. Align the two dowels with two holes and install the fan assembly to the main unit, then fix it with the supplied two screws.



8. Connect the fan harness to the extention harness (3P J-M).
9. Fix the fan harness and the extention harness (3P J-M) to the clamper.



10. Set 3 of the DIP switch (S1300) on the VIF-69 board to ON.

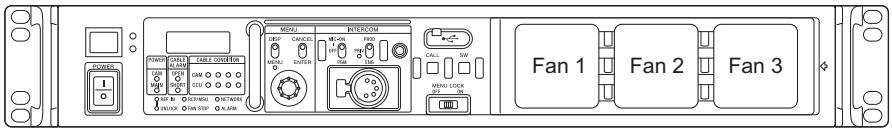


11. Attach the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

1-6. Installing Each Option Kit in HDCU3170

Two DC fans are installed in HDCU3170. The number of DC fans varies depending on installing an option kit. Each option kit and DC fans are combined as shown in the table below.

HKCU-SFP30	HKCU-SM30	HKCU-UHD30	HKCU-SDI30	HKCU-FB30	Fan
○	—	—	—	—	Fan 1, Fan 2, Fan 3
—	○	—	—	—	Fan 1, Fan 2
—	—	○	—	—	Fan 1, Fan 2, Fan 3
—	—	○	○	—	Fan 1, Fan 2, Fan 3
○	—	○	—	—	Fan 1, Fan 2, Fan 3
—	—	—	—	○	Fan 1, Fan 2



1-6-1. HKCU-SFP30

Note

The removed screws cannot be reused. Use supplied screws.

- Screw (P2.6 x 5): 2 pcs

Parts packed in HKCU-SFP30

- NET-37 board assembly: 1 pc
- Fan assembly: 1 pc
- NET bracket: 1 pc
- Fine-wire coaxial cable (SS20-80-11): 1 pc
- Fine-wire coaxial cable (CA60-155-11): 2 pcs
- Harness (SLOT POWER): 1 pc
- Screw (P2.6 x 5): 2 pcs
- Screw (PSW3 x 6): 5 pcs

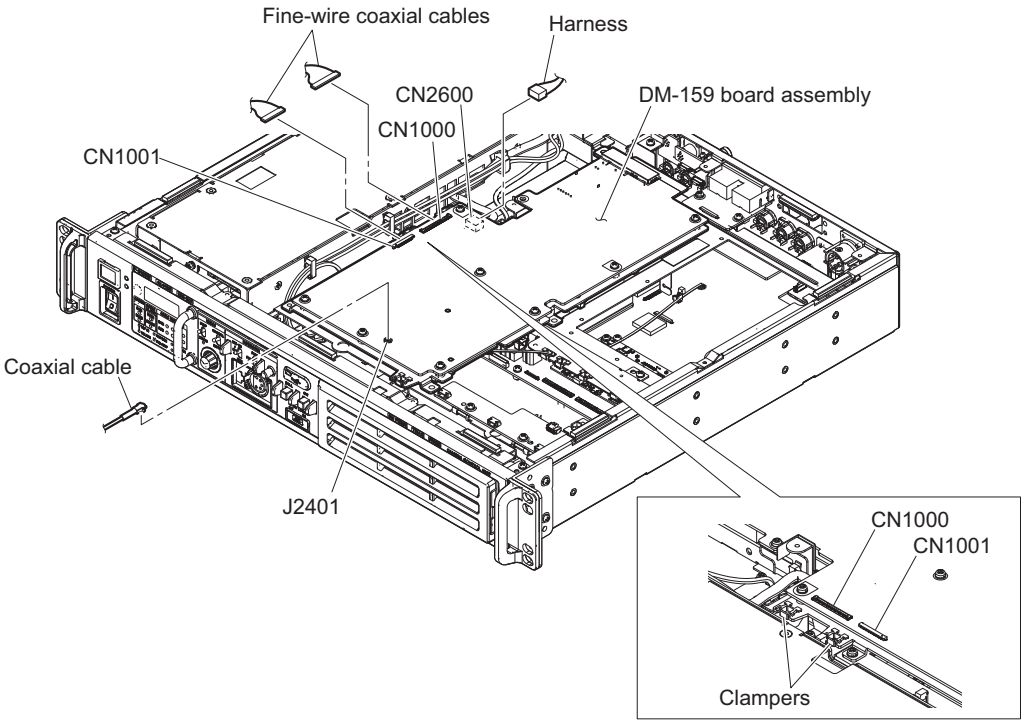
Preparation

1. Remove the top cover. (Refer to “1-5-1. HKCU-SFP30”.)

Procedure

1. Disconnect the two fine-wire coaxial cables from the connectors (CN1000 and CN1001) on the DM-159 board assembly, then disconnect the two fine-wire coaxial cables from the two clampers.
2. Disconnect the coaxial cable from the connector (J2401) on the DM-159 board assembly.

3. Disconnect the harness from the connector (CN2600) on the DM-159 board assembly.

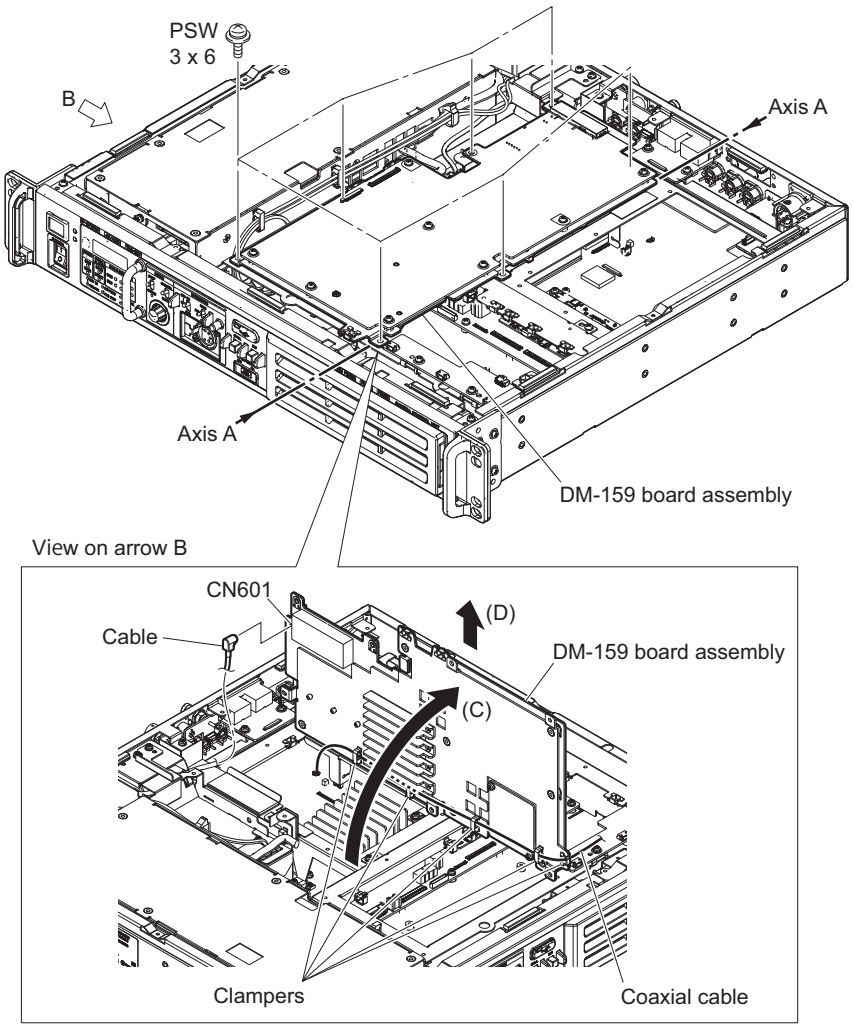


4. Remove the seven screws and open the DM-159 board assembly in the direction of the arrow (C) with axis A in the center.
5. Disconnect the coaxial cable from the five clampers.
6. Disconnect the cable from the connector (CN601) on the DM-159 board assembly.

7. Remove the DM-159 board assembly in the direction of the arrow (D).

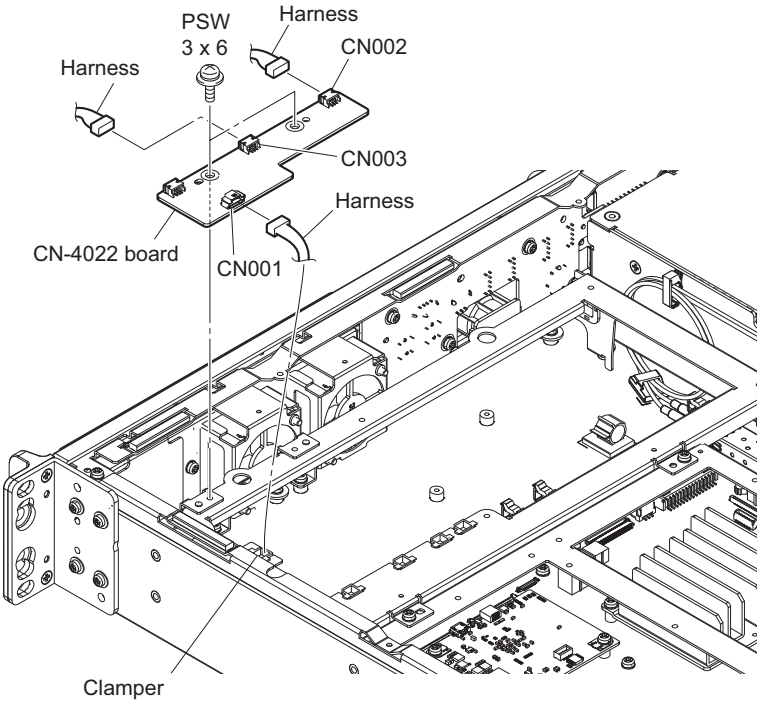
Note

Do not raise it when removing the DM-159 board assembly. If so, this may damage the coaxial cable and coaxial cable with connector.

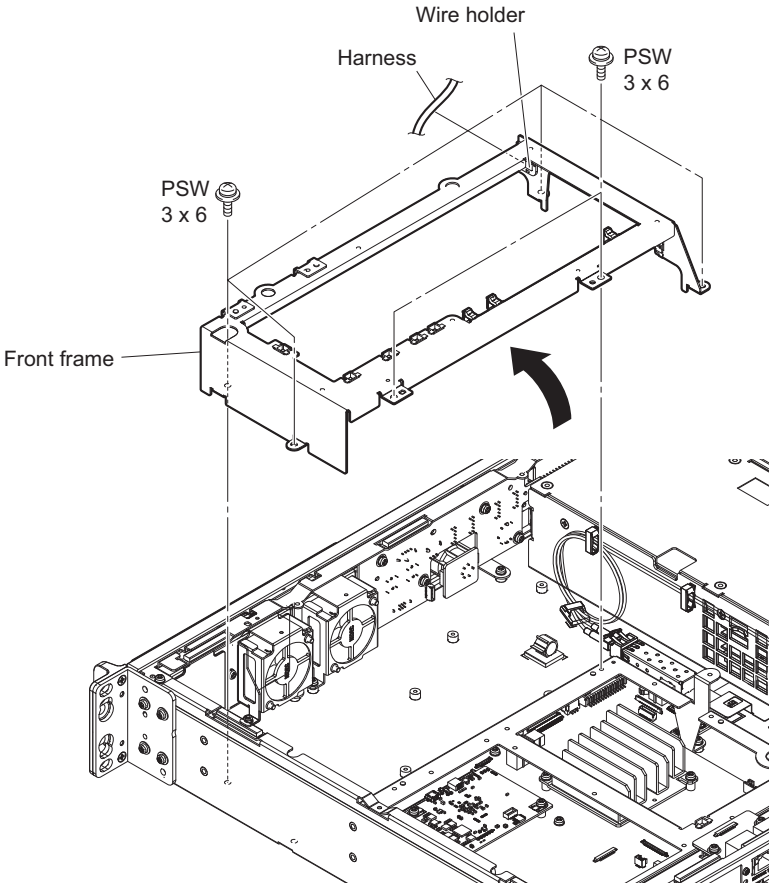


8. Disconnect the three harnesses from the connectors (CN001, CN002 and CN003) on the CN-4022 board.
9. Release the harness from the clamper.

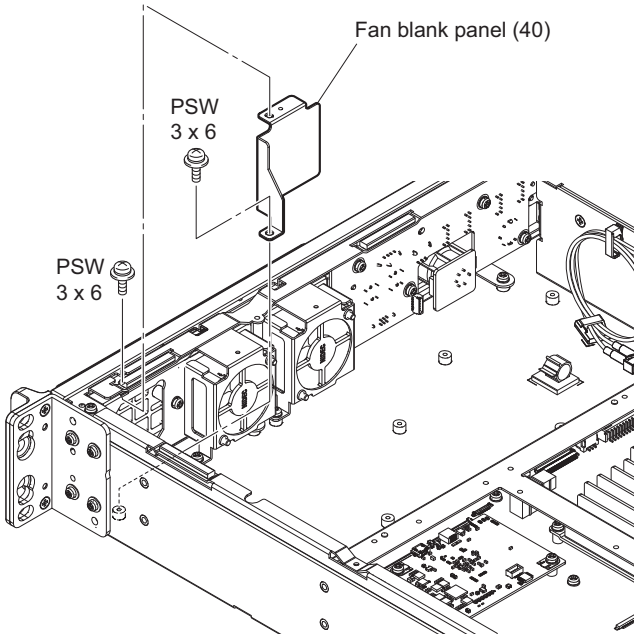
10. Remove the two screws, then remove the CN-4022 board.



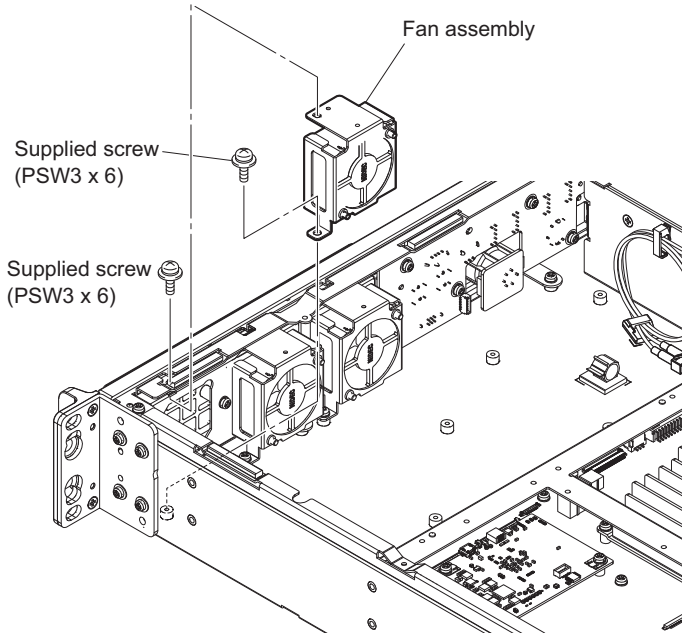
11. Open the wire holder and release the harness.
12. Remove the six screws, then remove the front frame in the direction of by the arrow.



13. Remove the two screws, then remove the fan blank panel (40).



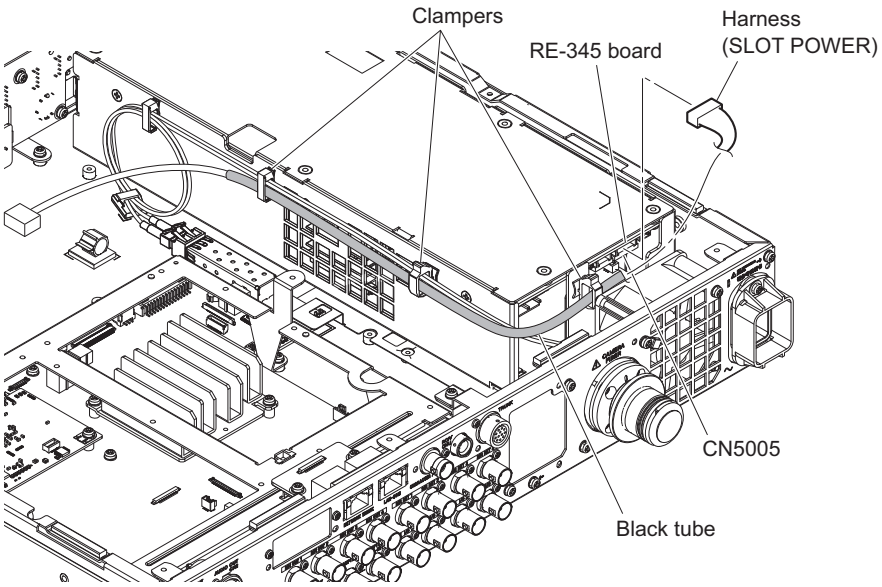
14. Attach the fan assembly with the supplied two screws.



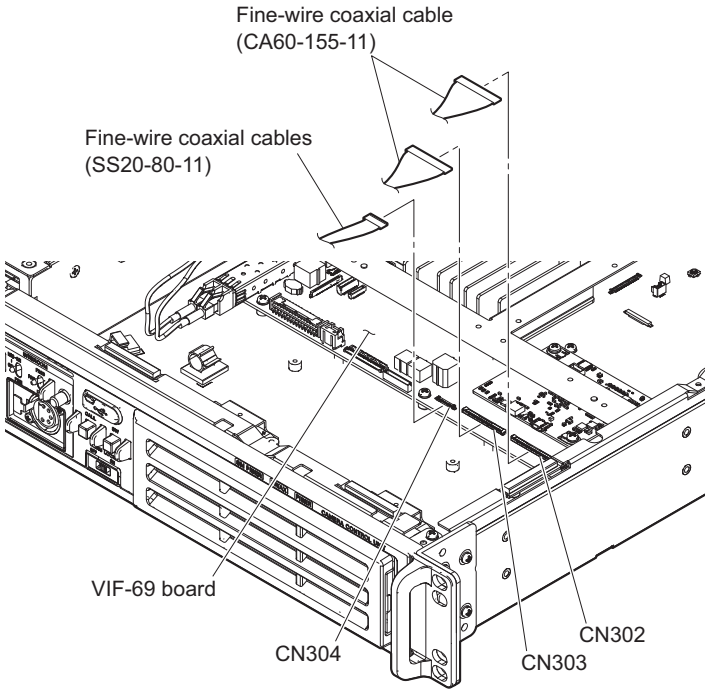
15. Connect the harness (SLOT POWER) to the connector (CN5005) on the RE-345 board and fix it using three clampers.

Tip

Connect the harness covered with a black tube to the side of connector (CN5005) on the RE-345 board.

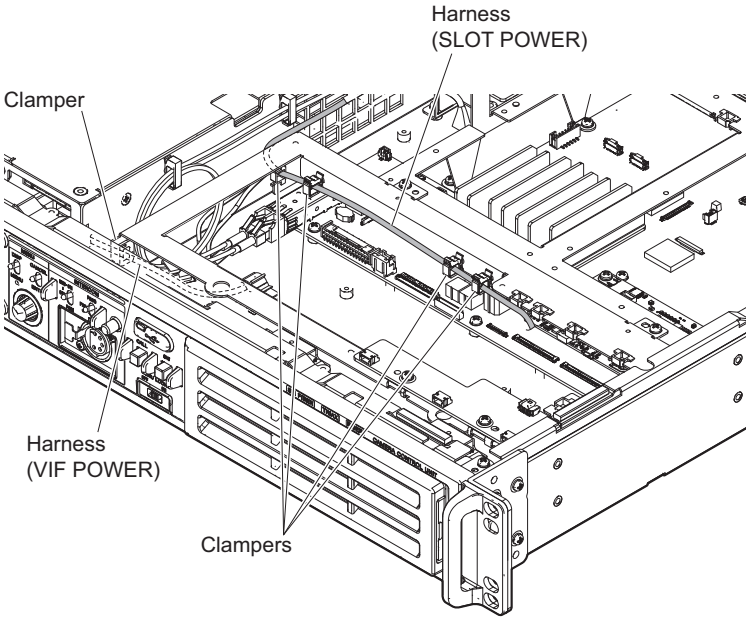


16. Connect the two fine-wire coaxial cables (CA60-155-11) to the connectors (CN302 and CN303) on the VIF-69 board.
17. Connect the fine-wire coaxial cable (SS20-80-11) to the connector (CN304) on the VIF-69 board.



18. Attach the front frame and CN-4022 board. (Refer to steps 9 to 12.)
19. Fix the harness (SLOT POWER) using four clampers.

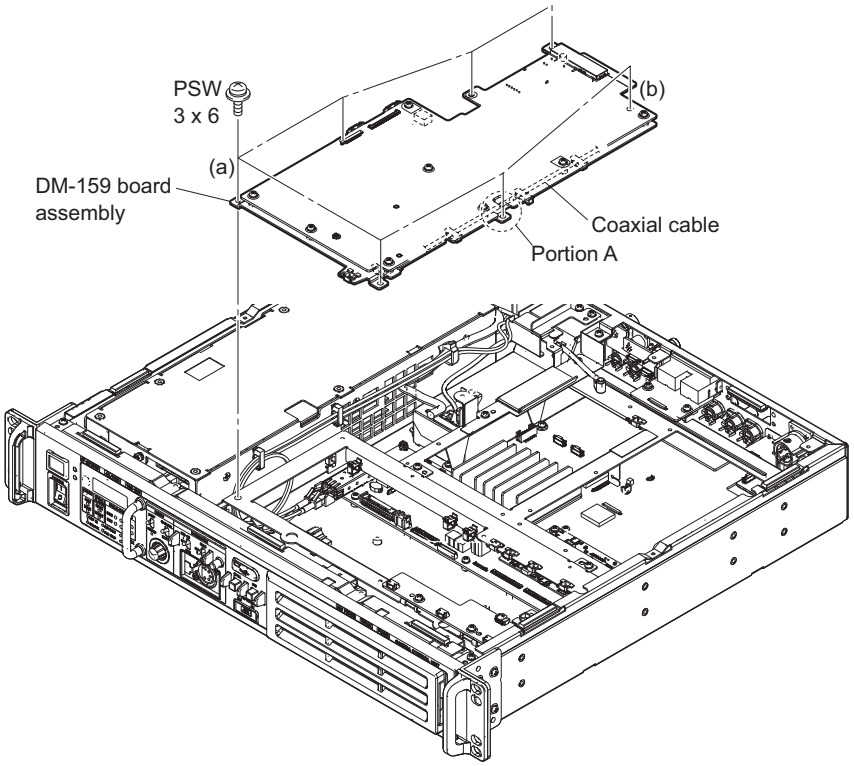
20. Fix the harness (VIF POWER) using the clamper.



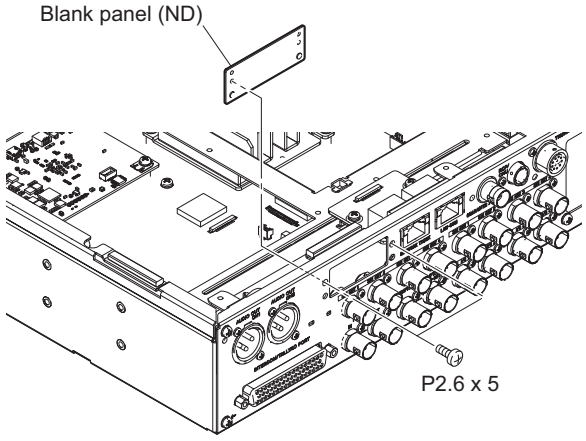
21. Install the DM-159 board assembly. (Refer to steps 1 to 7 in this section.)

Note

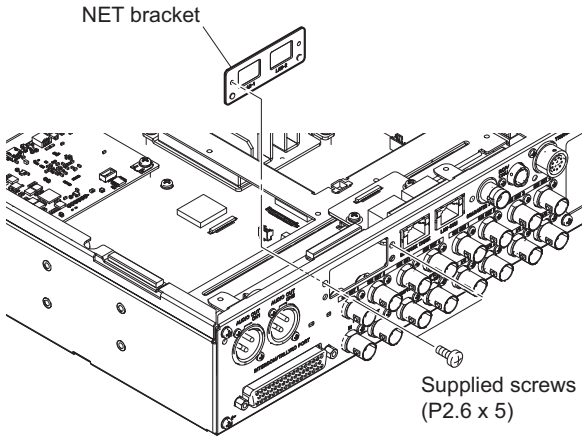
- Be careful not to interpose the coaxial cable into portion A of the DM-159 board assembly.
- Tighten the screws in the order of (a), (b), and other screws when installing the DM-159 board assembly.



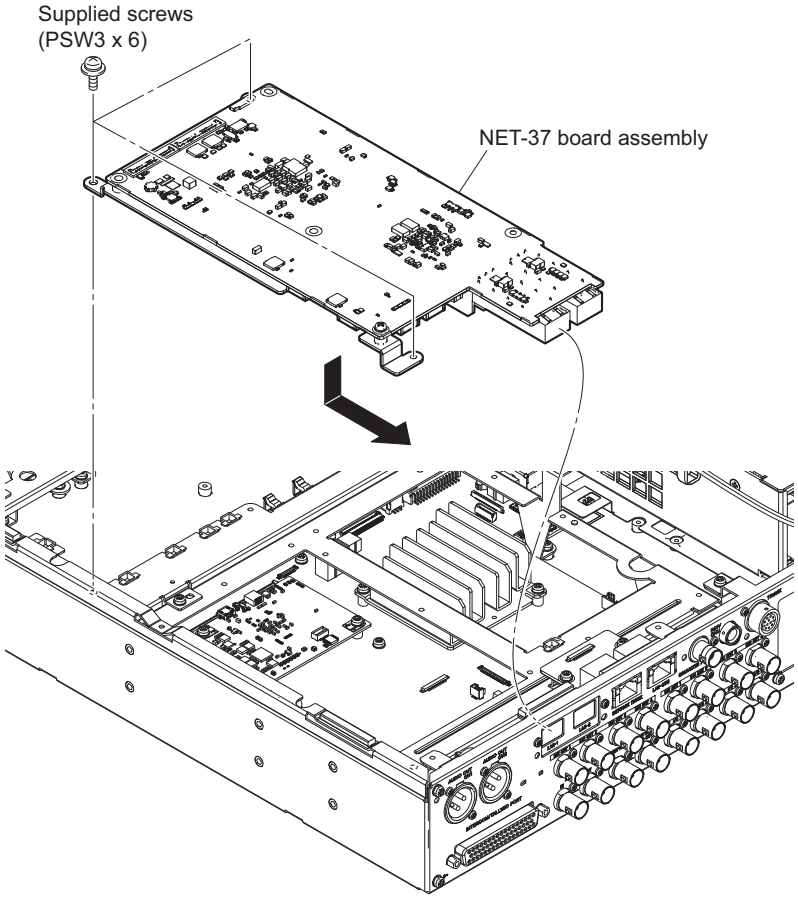
22. Remove the two screws, then remove the blank panel (ND).



23. Attach the NET bracket with the supplied two screws.

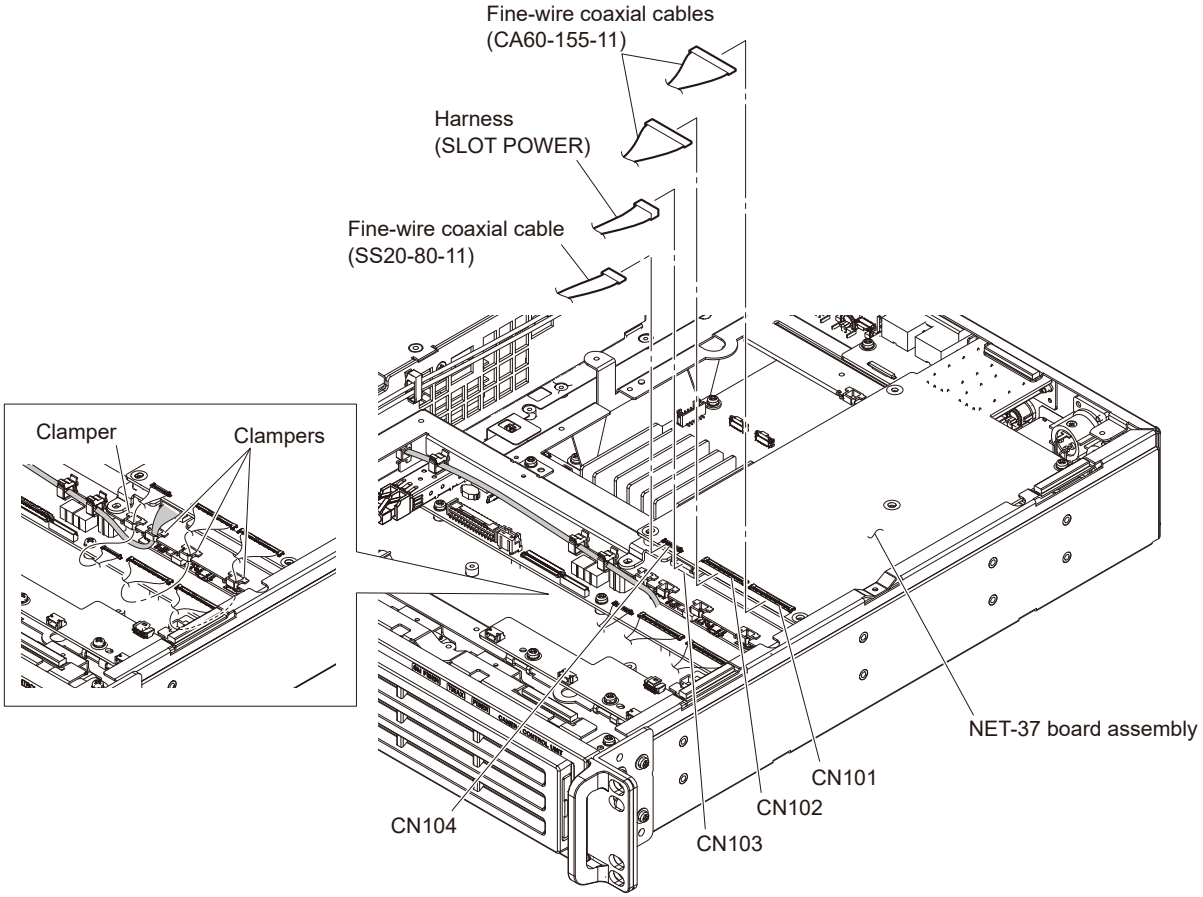


24. Install the NET-37 board assembly in the direction of the arrow and fix it with the supplied three screws (PSW3 x 6).

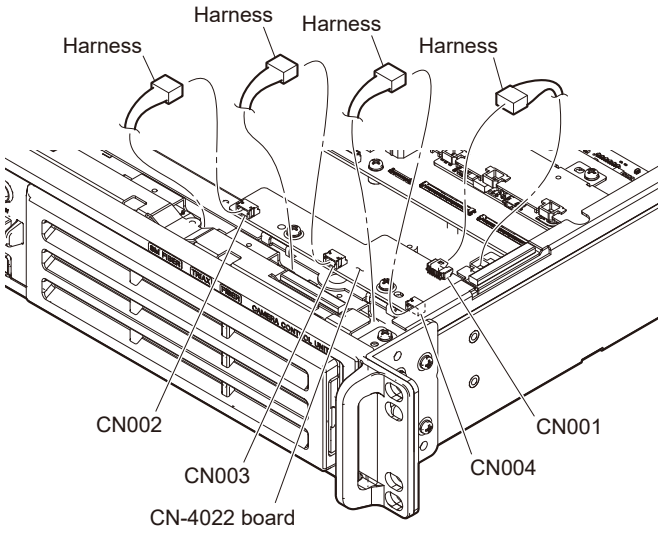


25. Connect the two fine-wire coaxial cables (CA60-155-11) to the connectors (CN101 and CN102) on the NET-37 board assembly.
26. Connect the harness (SLOT POWER) to the connector (CN103) on the NET-37 board assembly.
27. Connect the fine-wire coaxial cable (SS20-80-11) to the connector (CN104) on the NET-37 board assembly.

28. Fix the three fine-wire coaxial cables and one harness using clampers.



29. Connect the four harnesses to the connectors (CN001 to CN004) on the CN-4022 board.



30. Attach the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

1-6-2. HKCU-FB30

Parts packed in HKCU-FB30

- CN-4037 board assembly: 1 pc

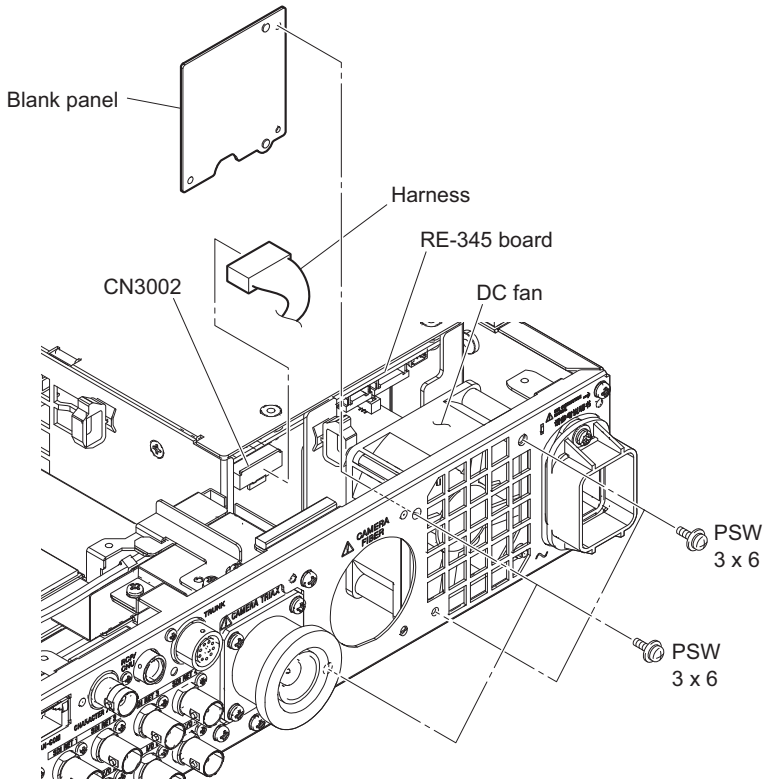
- LEMO connector assembly (FXW): 1 pc
- Optical module (1.8725/3.7G): 1 pc
- Harness (RELAY-PS): 1 pc
- Harness (RELAY-POWER): 1 pc
- Relay holder: 1 pc
- Screw (PSW3 x 8): 4 pcs
- Screw (PSW3 x 6): 7 pcs

Preparation

1. Remove the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)
2. Remove the DM-159 board assembly. (Refer to steps 1 to 7 in "1-6-1. HKCU-SFP30".)
3. Remove the front frame. (Refer to steps 8 to 12 in "1-6-1. HKCU-SFP30".)

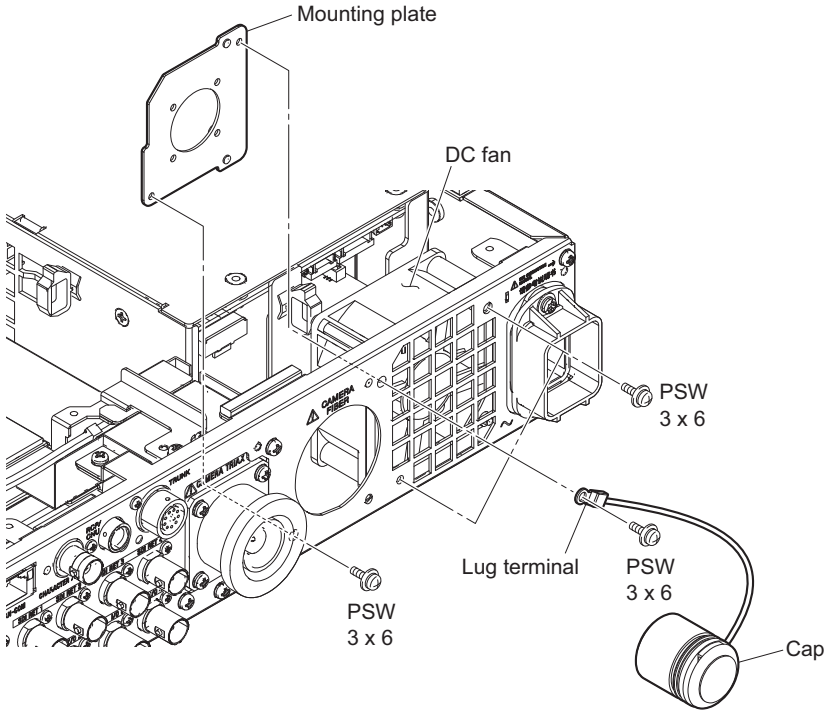
Procedure

1. Disconnect the harness from the connector (CN3002) on the RE-345 board.
2. Remove the two screws fixing the DC fan.
3. Remove the two screws, then remove the blank panel.

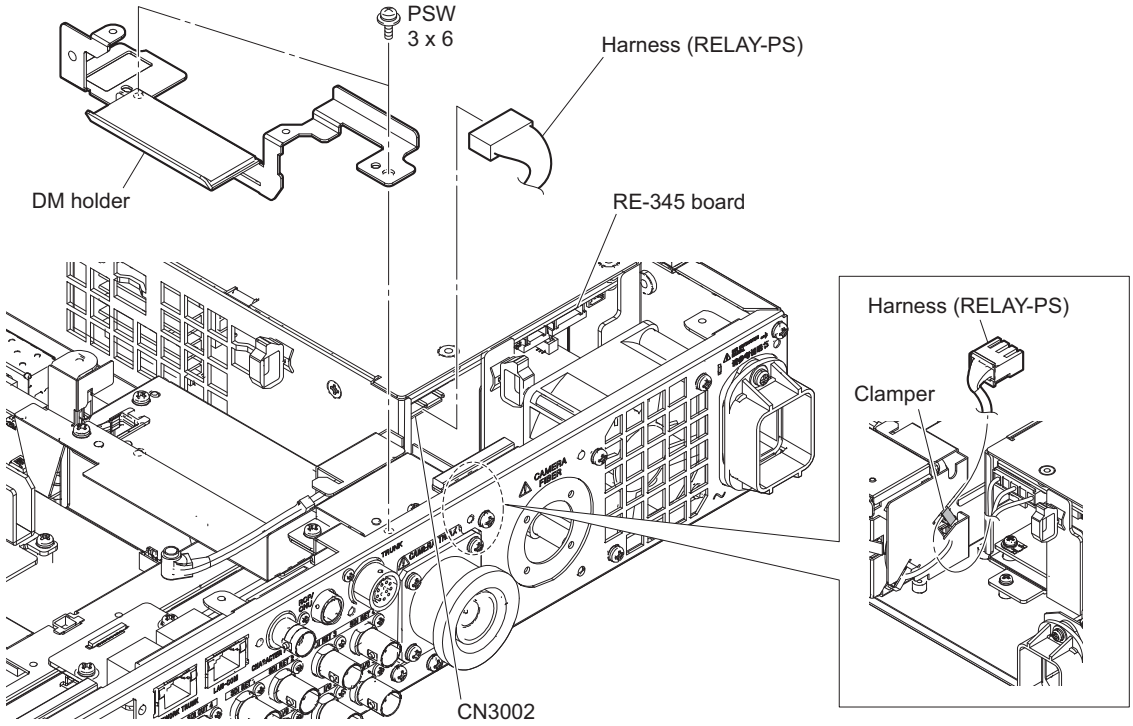


4. Attach the mounting plate with the screw.
5. Attach the cap with the screw.

6. Attach the DC fan with two screws.

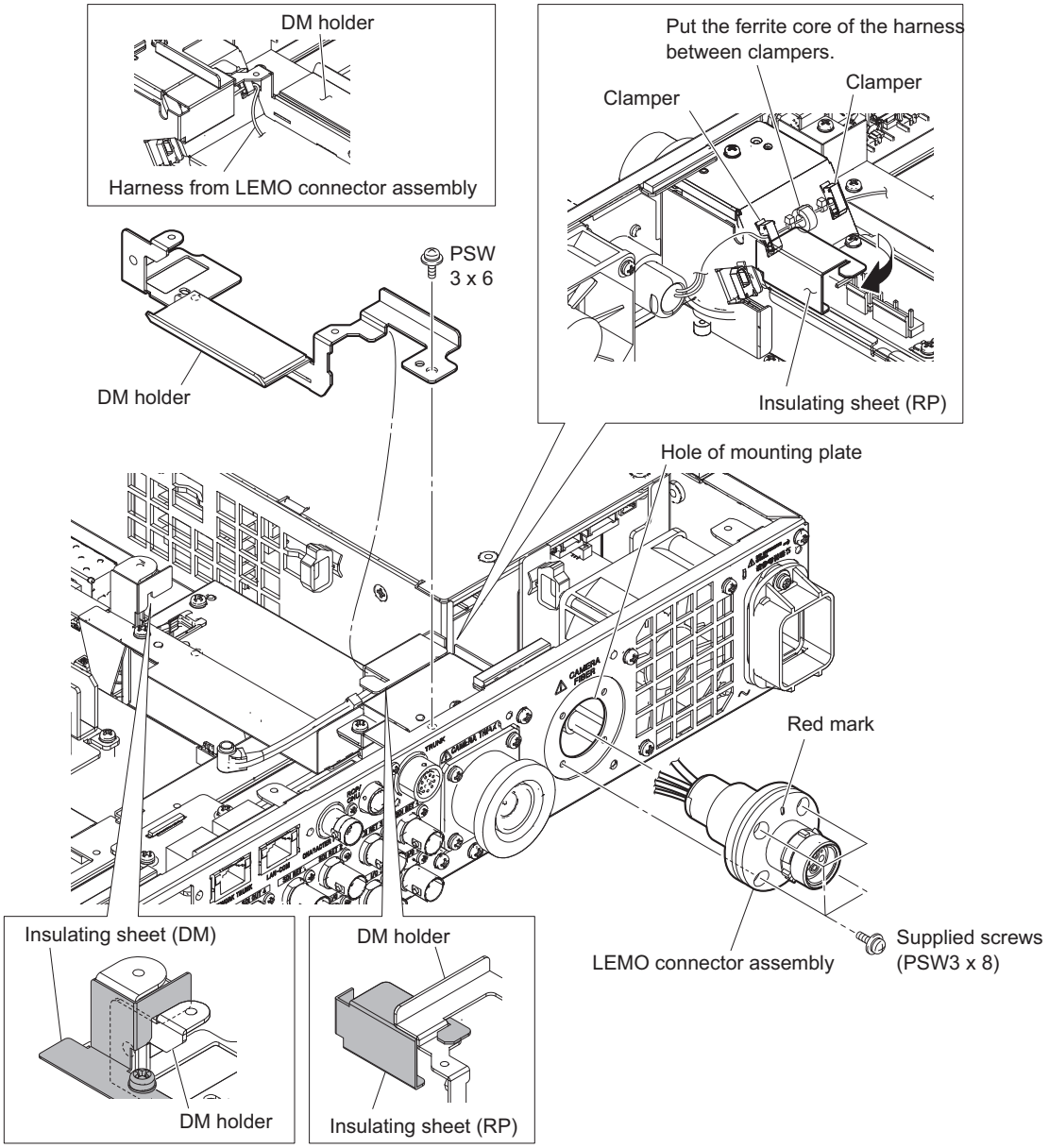


7. Remove the two screws, then remove the DM holder.
8. Connect the harness (RELAY-PS) to the connector (CN3002) on the RE-345 board.
9. Fix the harness using the clamper.



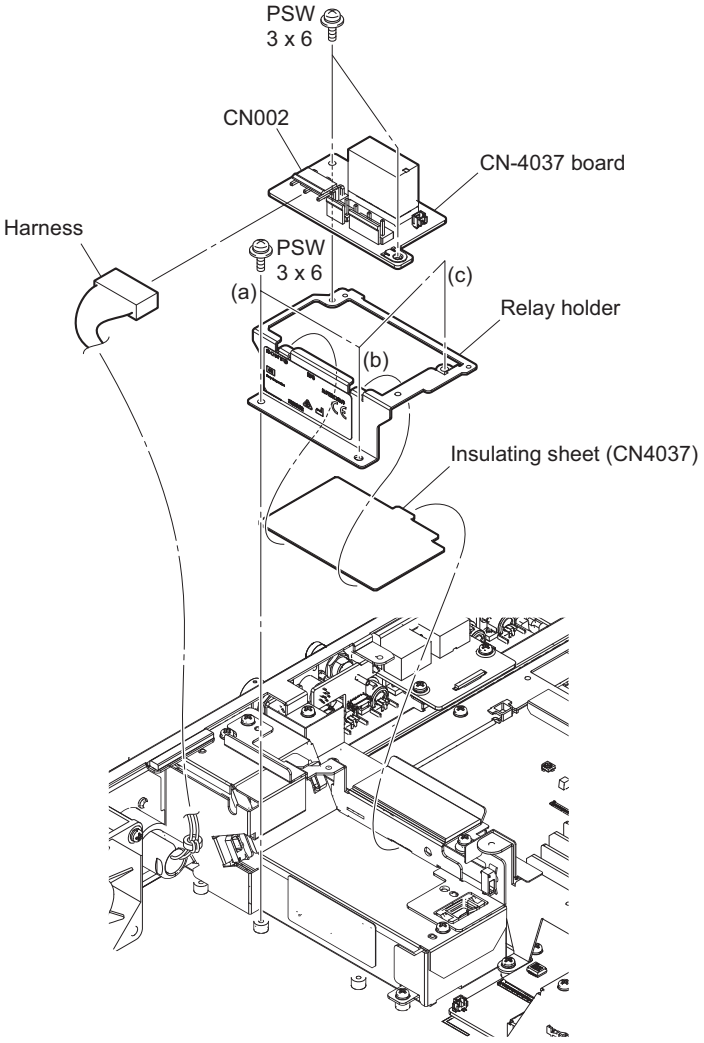
10. Pass the optical cable through the hole of the mounting plate and fix it with the supplied four screws.
11. Open the insulating sheet (RP).
12. Open the two clampers and fix the harness.

13. Attach the DM holder with one screw.



14. Attach the insulating sheet (CN4037).
15. Attach the relay holder with three screws.
16. Connect the harness to the connector (CN002) on the CN-4037 board.

17. Install the CN-4037 board with two screws.



Tip

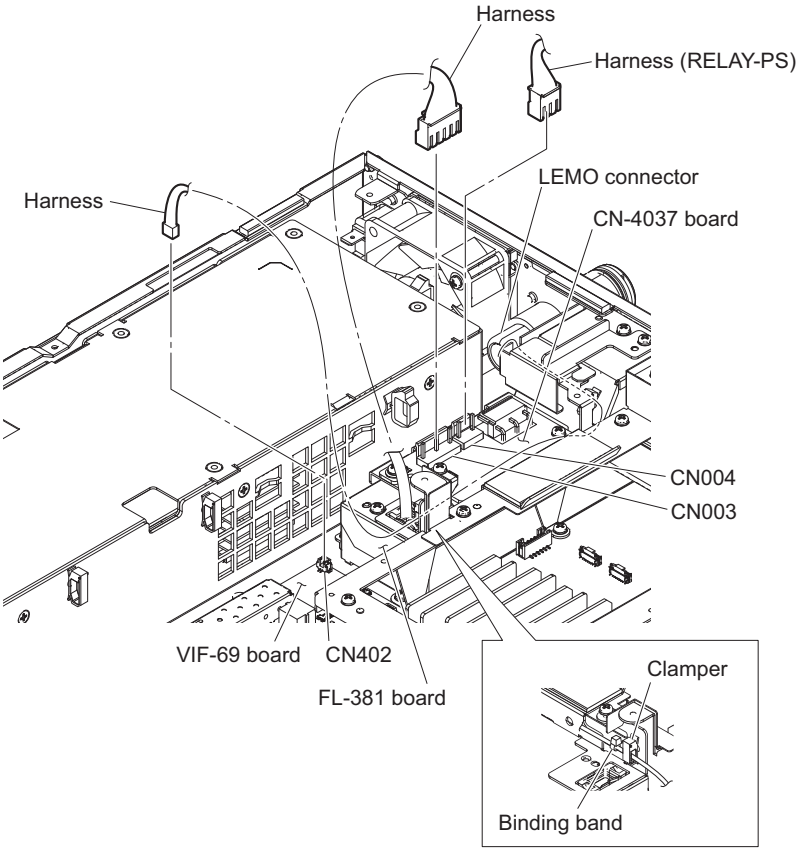
When installing the relay holder, tighten the screws in the order of (a) to (c).

18. Connect the harnesses.
    (1) Connect the harness (RELAY-PS) to the connector (CN004) on the CN-4037 board.
    (2) Connect the harness from the FL-381 board to the connector (CN003) on the CN-4037 board.

    Note

    Push the extra length of the harness between the power supply and relay holder.

    (3) Pass the harness from the LEMO connector through the clamper and connect it to the connector (CN402) on the VIF-69 board.



    (4) Connect the optical module (1.8725/3.7G) to the connector (CN403) on the VIF-69 board.
    (5) Open the wire saddle and two clampers and fix the optical fiber cable.

    Tip

    Clamp so that the optical fiber cable is put on the power cable.

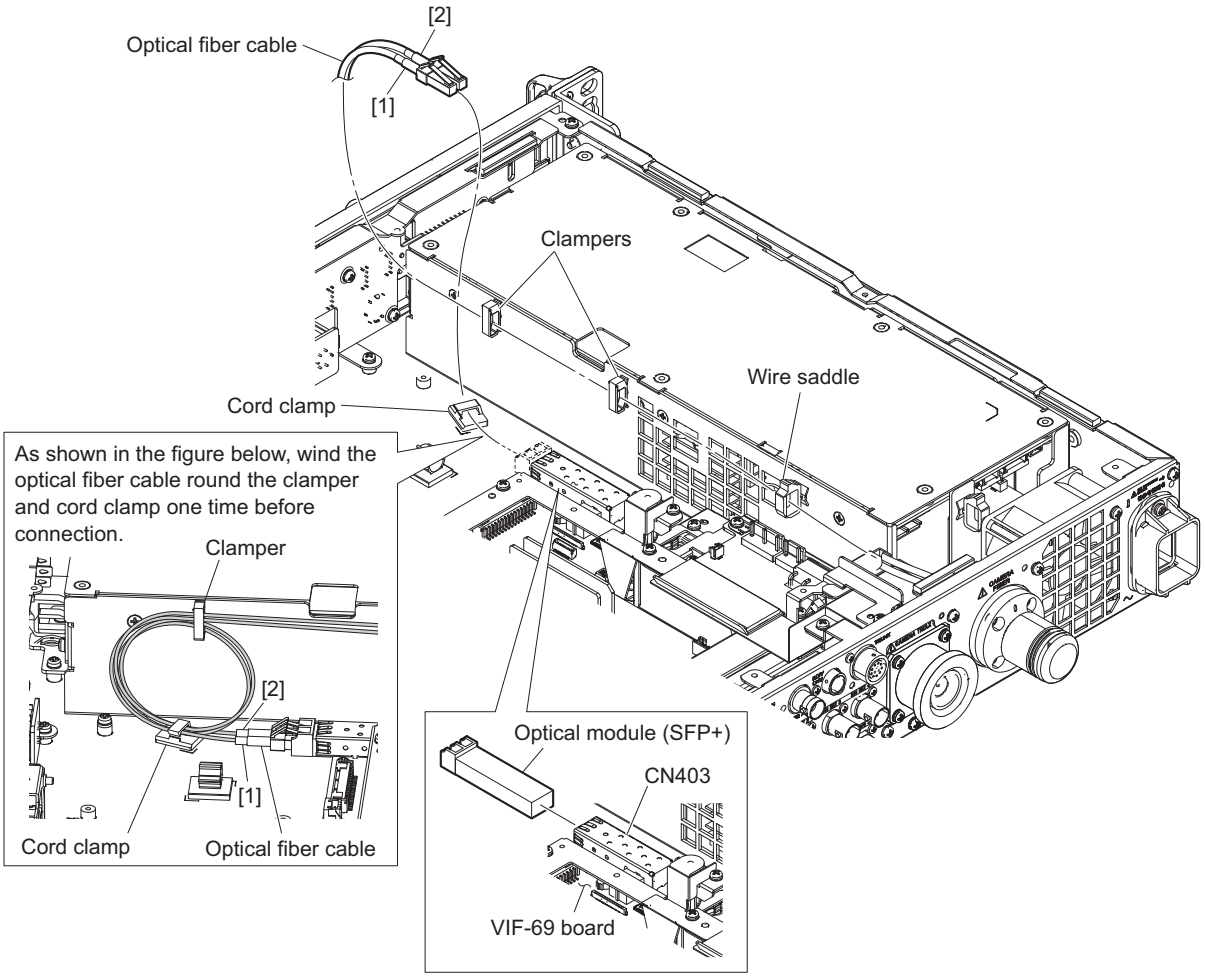
(6) Pass the optical fiber cable through the cord clamp for connection.

Note

When installing the optical fiber cable, be connect correctly.

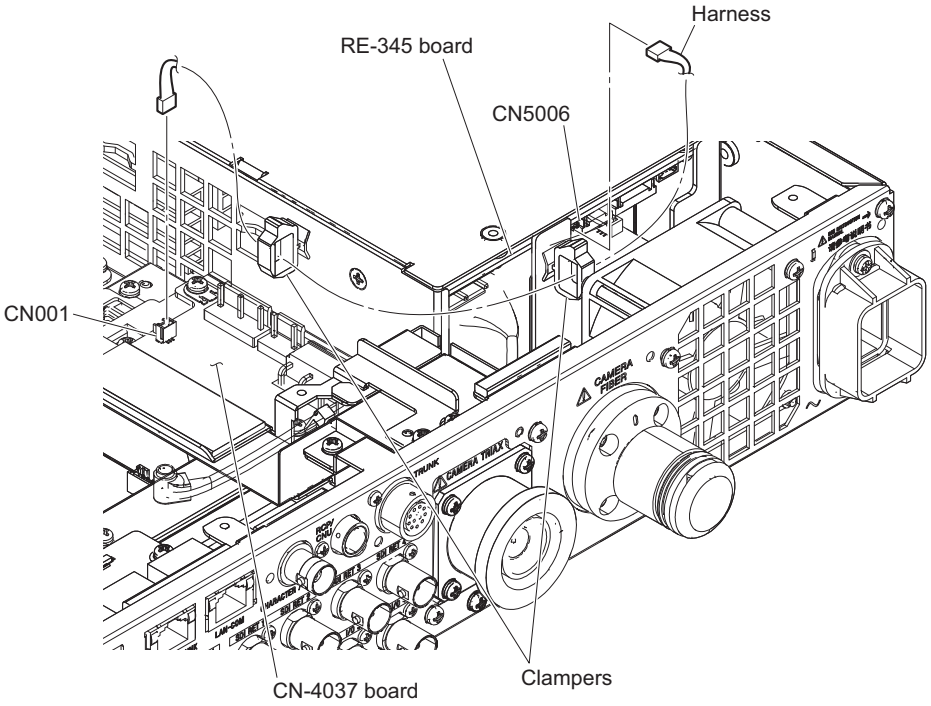
Tip

When installing the optical fiber cable, draw the cable in the position shown in the figure by one turn and fix it using the clamper and cord clamp.



19. Attach the front frame. (Refer to steps 8 to 12 in "1-6-1. HKCU-SFP30".)
20. Connect the harness to the connector (CN5006) on the RE-345 board.

21. Connect the harness to the connector (CN001) on the CN-4037 board and fix it using two clampers.



22. Install the DM-159 board. (Refer to steps 1 to 7 in “1-6-1. HKCU-SFP30”.)
23. Attach the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)

1-6-3. HKCU-SM30

Note

The removed screws cannot be reused. Use supplied screws.

- Screw (P2.6 x 5): 2 pcs

Parts packed in HKCU-SM30

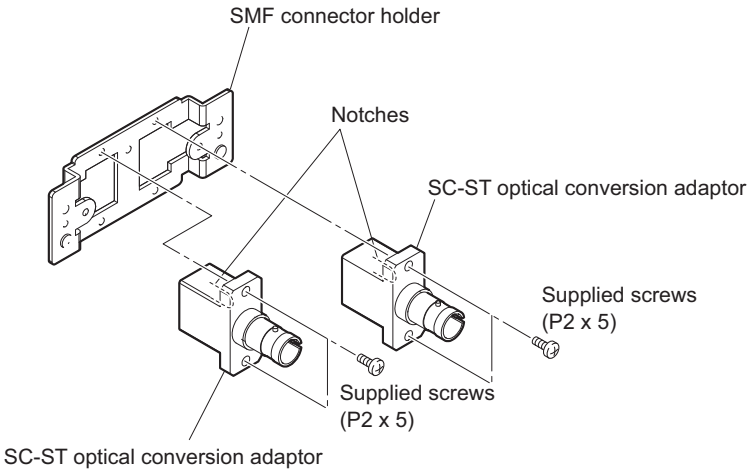
- CN-4036 board assembly: 1 pc
- SC-ST optical conversion adaptor: 2 pcs
- SC-LC optical fiber cable: 1 pc
- Harness (coaxial cable): 2 pcs
- Harness (VIF-SMF): 1 pc
- SMF connector plate (T): 1 pc
- SMF connector holder (T): 1 pc
- ST connecter cap: 1 pc
- Screw (P2.6 x 5): 2 pcs
- Screw (P2 x 5): 7 pcs
- Screw (PSW3 x 6): 5 pcs

Preparation

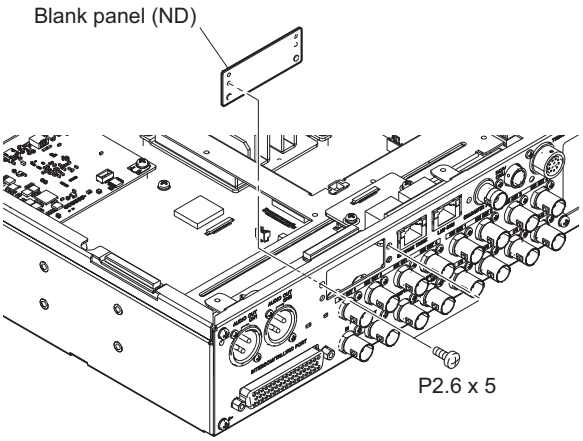
1. Remove the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)
2. Remove the DM-159 board. (Refer to to steps 1 to 7 in “1-6-1. HKCU-SFP30”.)
3. Remove the front frame. (Refer to steps 8 to 12 in “1-6-1. HKCU-SFP30”.)

Procedure

1. Attach the two SC-ST optical conversion adaptors to the SMF connector holder with the supplied four screws.

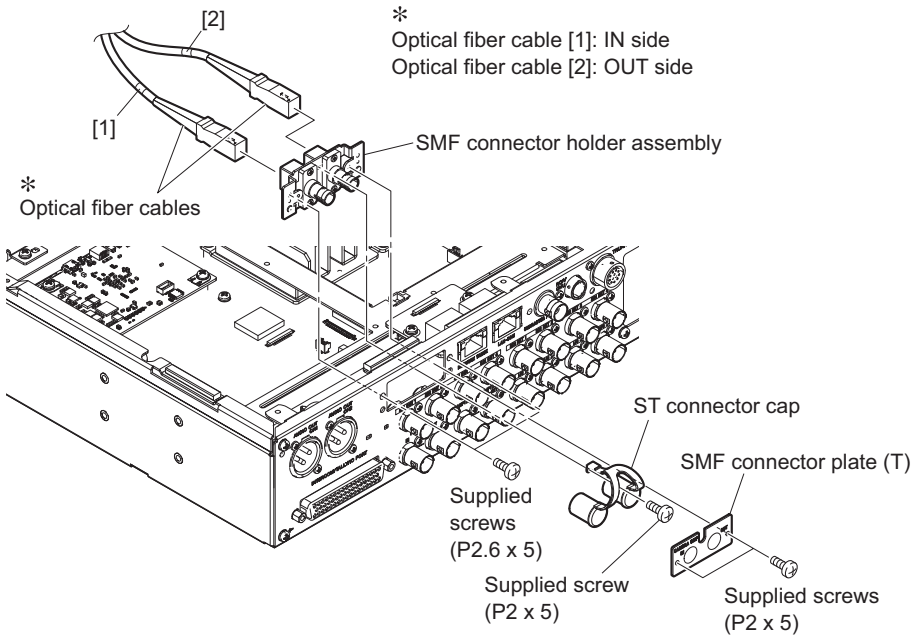


2. Remove the two screws, then remove the blank panel (ND).



3. Attach the SMF connector holder assembly assembled in steps 1, with the supplied two screws (P2.6 x 5).
4. Attach the ST connector cap with the supplied one screw (P2 x 5).
5. Attach the SMF connector plate (T) with the supplied two screws (P2 x 5).

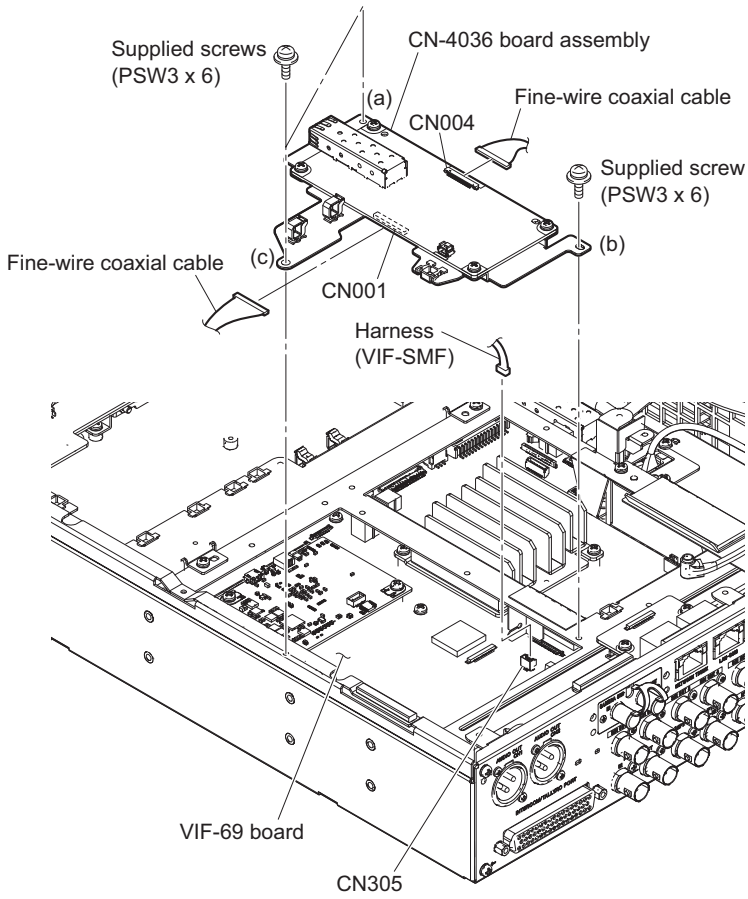
6. Connect the two optical fiber cables.



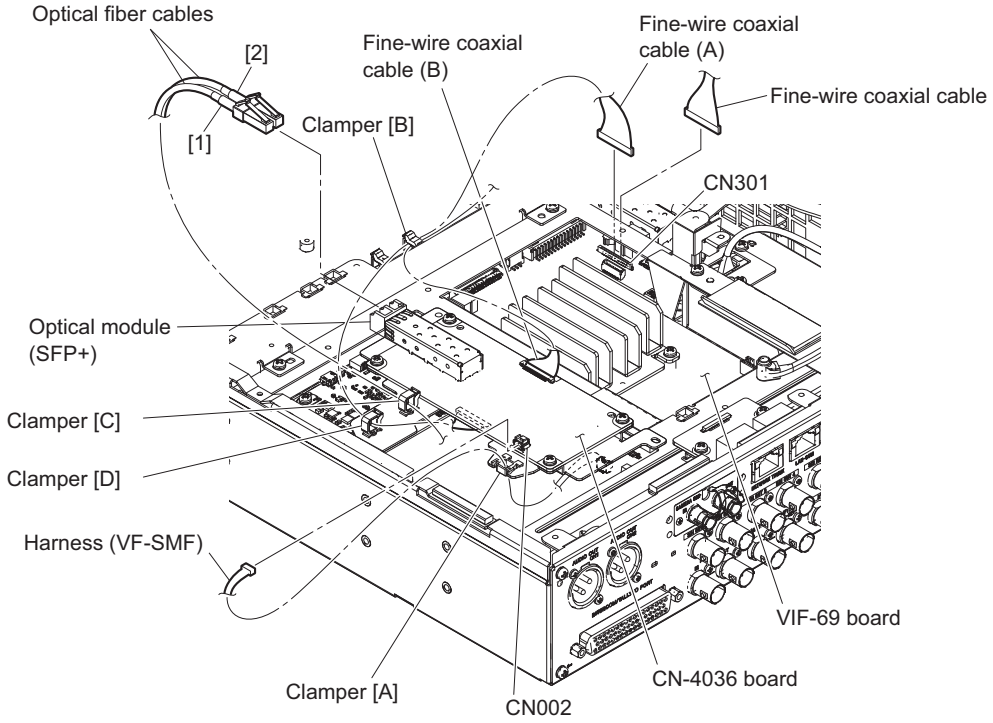
7. Connect the two fine-wire coaxial cables to the connectors (CN001 and CN004) on the CN-4036 board assembly.
8. Connect the harness (VIF-SMF) to the connector (CN305) on the VIF-69 board.
9. Install the CN-4036 board assembly with the supplied three screws.

Tip

Tighten the supplied three screws in the order of (a) to (c).



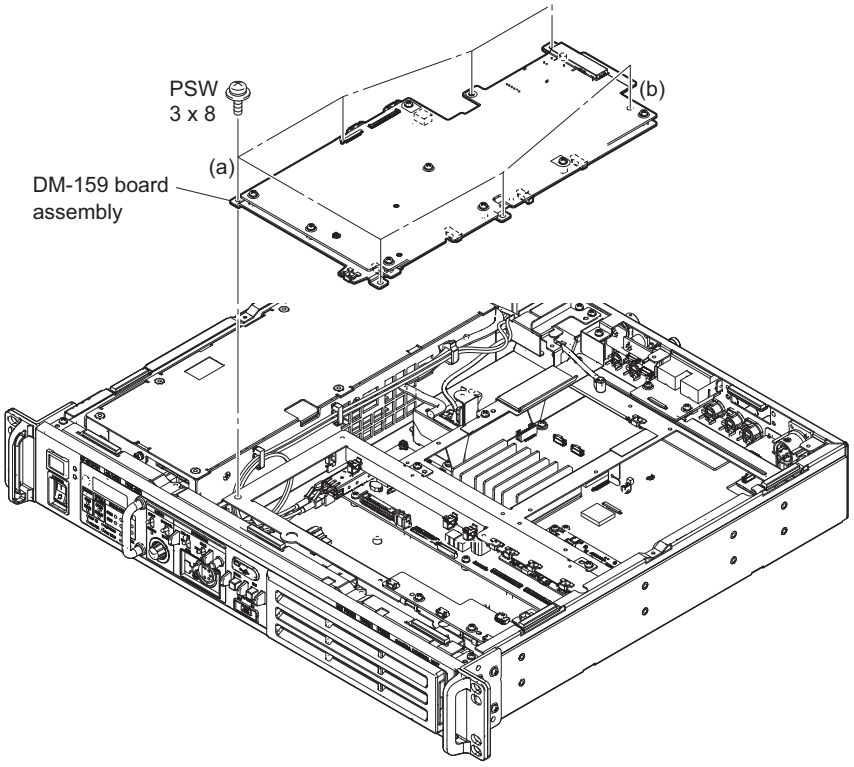
10. Connect the harness (VF-SMF) to the connector (CN002) on the CN-4036 board and fix it using a clamper [A].
11. Disconnect the fine-wire coaxial cable from the connector (CN301) on the VIF-69 board.
12. Connect the fine-wire coaxial cable (A) to the connector (CN301) on the VIF-69 board.
13. Fix the fine-wire coaxial cable (A) using clamper [B].
14. Fix the fine-wire coaxial cable (B) using clamper [B] and clamper [D].
15. Connect the two optical fiber cables to the CN-4036 board and fix it using a clamper [C].



16. Install the DM-159 board assembly. (Refer to steps 1 to 7 in this section.)

Note

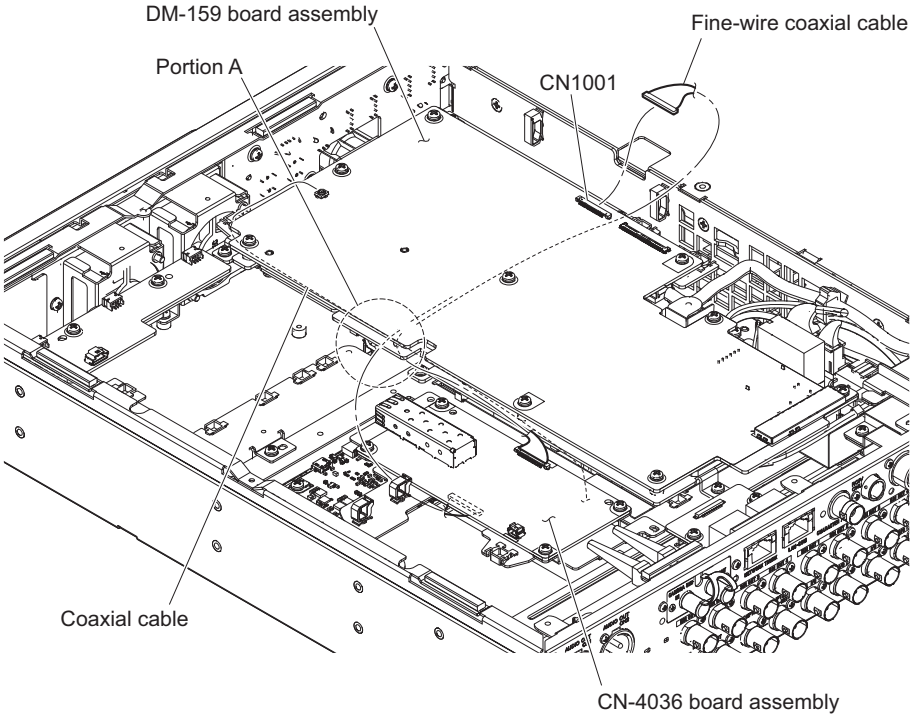
Tighten the screws in the order of (a), (b), and other screws when installing the DM-159 board assembly.



17. Connect the fine-wire coaxial cable to the connector (CN1001) on the DM-159 board.

Note

Be careful not to interpose the coaxial cable and fine-wire coaxial cable into portion A of the DM-159 board assembly.



18. Assemble this unit.

1-6-4. HKCU-UHD30

Parts packed in HKCU-UHD30

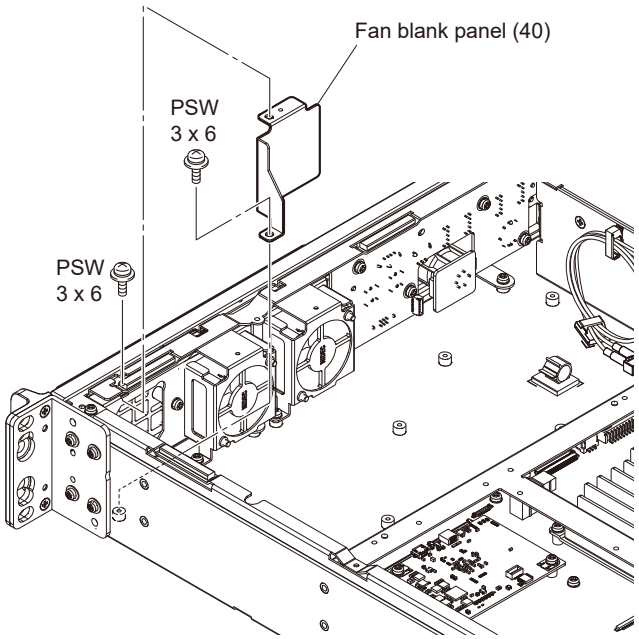
- DPR-388 board assembly: 1 pc
- Fan assembly: 1 pc
- Fine-wire coaxial cable (CA60-155-11): 2 pcs
- Harness (VIF-DPR POWER): 1 pc
- Screw (PSW3 x 12): 2 pcs
- Screw (PSW3 x 6): 6 pcs

Preparation

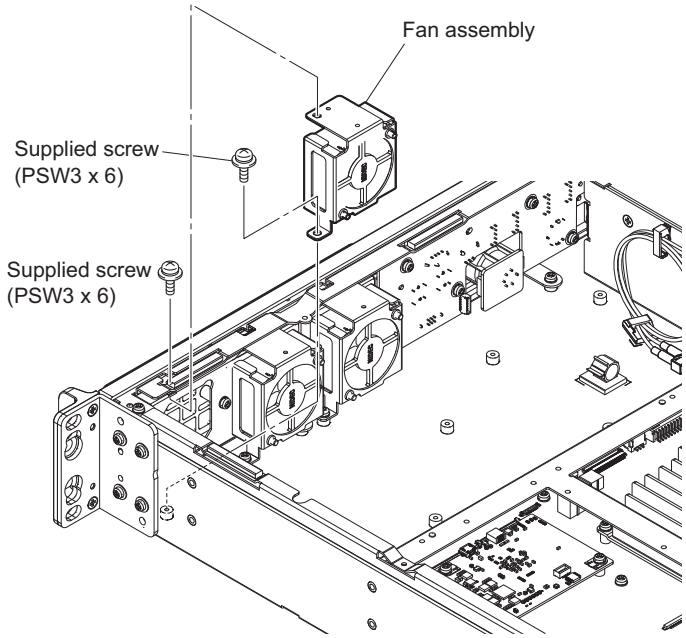
1. Remove the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)
2. Remove the DM-159 board. (Refer to steps 1 to 7 in “1-6-1. HKCU-SFP30”.)
3. Remove the CN-4022 board. (Refer to steps 8 to 10 in “1-6-1. HKCU-SFP30”.)
4. Remove the front frame. (Refer to steps 11 and 12 in “1-6-1. HKCU-SFP30”.)

Procedure

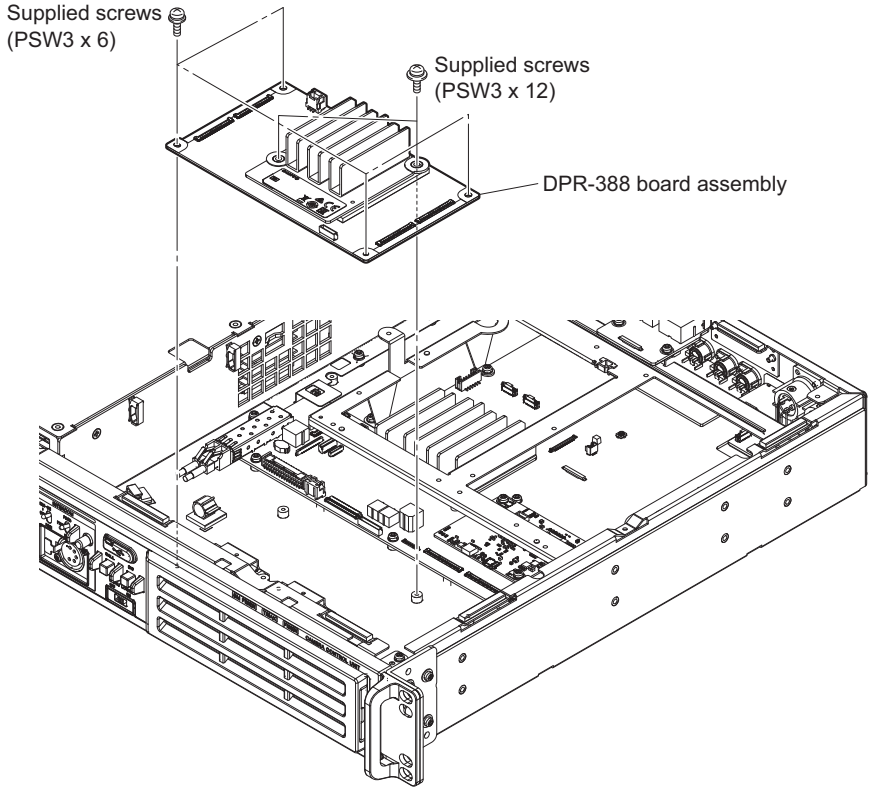
1. Remove the two screws, then remove the fan blank panel (40).



2. Attach the fan assembly with the supplied two screws.

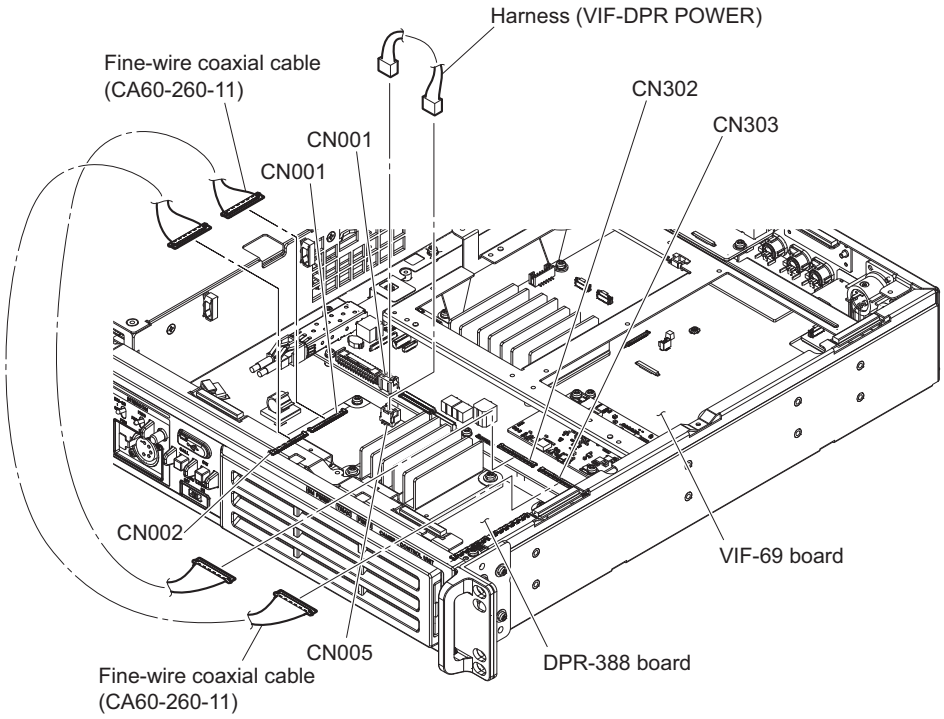


3. Attach the DPR-388 board assembly with the supplied four screws (PSW3 x 6) and the supplied two screws (PSW3 x 12).

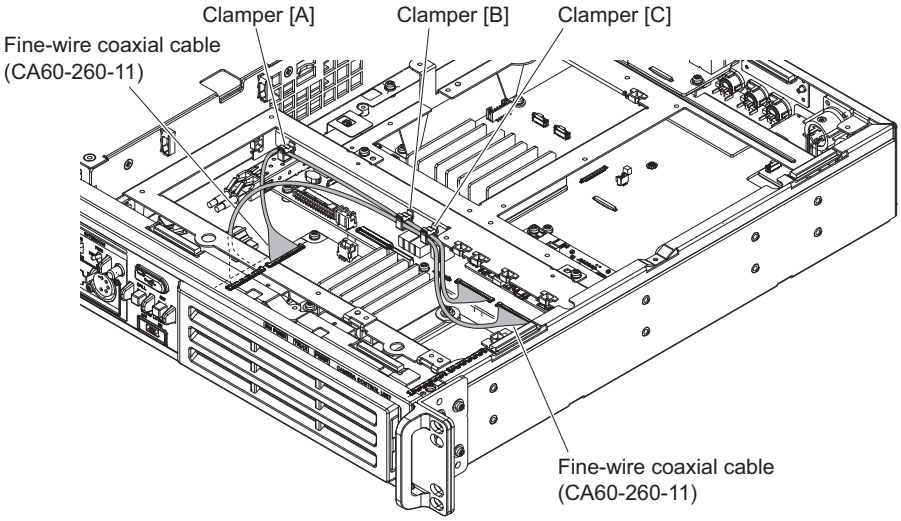


4. Connect the connector (CN005) on the DPR-388 board and the connector (CN001) on the VIF-69 board with the harness (VIF-DPR POWER).
5. Connect the connector (CN001) on the DPR-388 board and the connector (CN302) on the VIF-69 board with the fine-wire coaxial cable (CA60-260-11).

6. Connect the connector (CN002) on the DPR-388 board and the connector (CN303) on the VIF-69 board with the fine-wire coaxial cable (CA60-260-11).

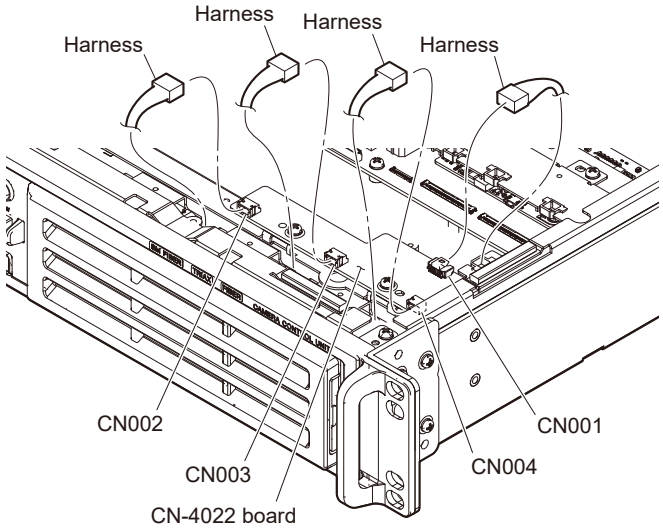


7. Attach the front frame. (Refer to to steps 11 and 12 in "1-6-1. HKCU-SFP30".)
8. Fix the fine-wire coaxial cable (CA60-260-11) connected in step 4 with the clampers [A] to [C].
9. Fix the fine-wire coaxial cable (CA60-260-11) connected in step 5 with the clampers [B] and [C].



10. Attach the CN-4022 board. (Refer to step 10 in "1-6-1. HKCU-SFP30".)

11. Connect the four harnesses to the connectors (CN001 to CN004) on the CN-4022 board.



12. Install the DM-159 board. (Refer to steps 1 to 7 in “1-6-1. HKCU-SFP30”.)
13. Attach the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)

1-6-5. HKCU-SDI30

Note

- HKCU-SDI30 cannot be installed by itself. Use it in combination with HKCU-UHD30.
- The removed screws cannot be reused. Use supplied screws.
  - Screw (P2.6 x 5): 2 pcs

Parts packed in HKCU-SDI30

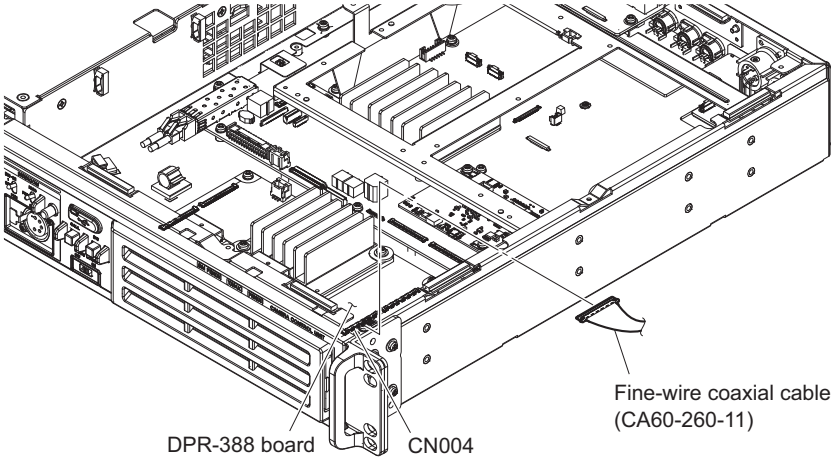
- DIF-264 board assembly: 1 pc
- Fine-wire coaxial cable (CA60-260-11): 2 pcs
- Harness (SLOT POWER): 1 pc
- Screw (P2.6 x 5): 2 pcs
- Screw (PSW3 x 6): 4 pcs

Preparation

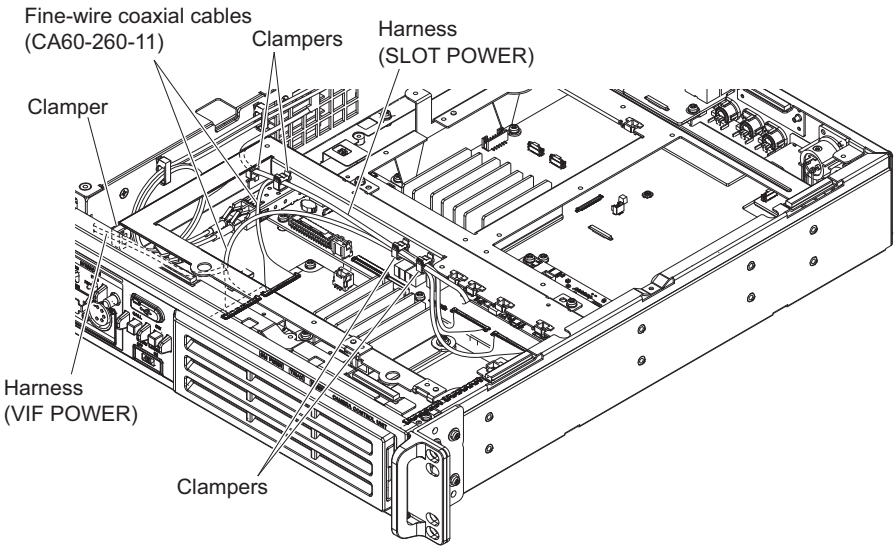
1. Remove the top cover. (Refer to step 1 in “1-5-1. HKCU-SFP30”.)
2. Remove the DM-159 board. (Refer to steps 1 to 7 in “1-6-1. HKCU-SFP30”.)
3. Remove the CN-4022 board. (Refer to steps 8 to 10 in “1-6-1. HKCU-SFP30”.)
4. Remove the front frame. (Refer to steps 11 and 12 in “1-6-1. HKCU-SFP30” .)
5. Remove the fan blank panel (40). (Refer to step 13 in “1-6-1. HKCU-SFP30”.)
6. Remove the fan assembly. (Refer to step 14 in “1-6-1. HKCU-SFP30”.)
7. Connect the harness (SLOT POWER). (Refer to step 15 in “1-6-1. HKCU-SFP30”.)
8. Remove the DPR-388 board. (Refer to steps 3 to 6 in “1-6-4. HKCU-UHD30”.)

Procedure

1. Connect the fine-wire coaxial cable (CA60-260-11) to the connector (CN004) on the DPR-388 board.

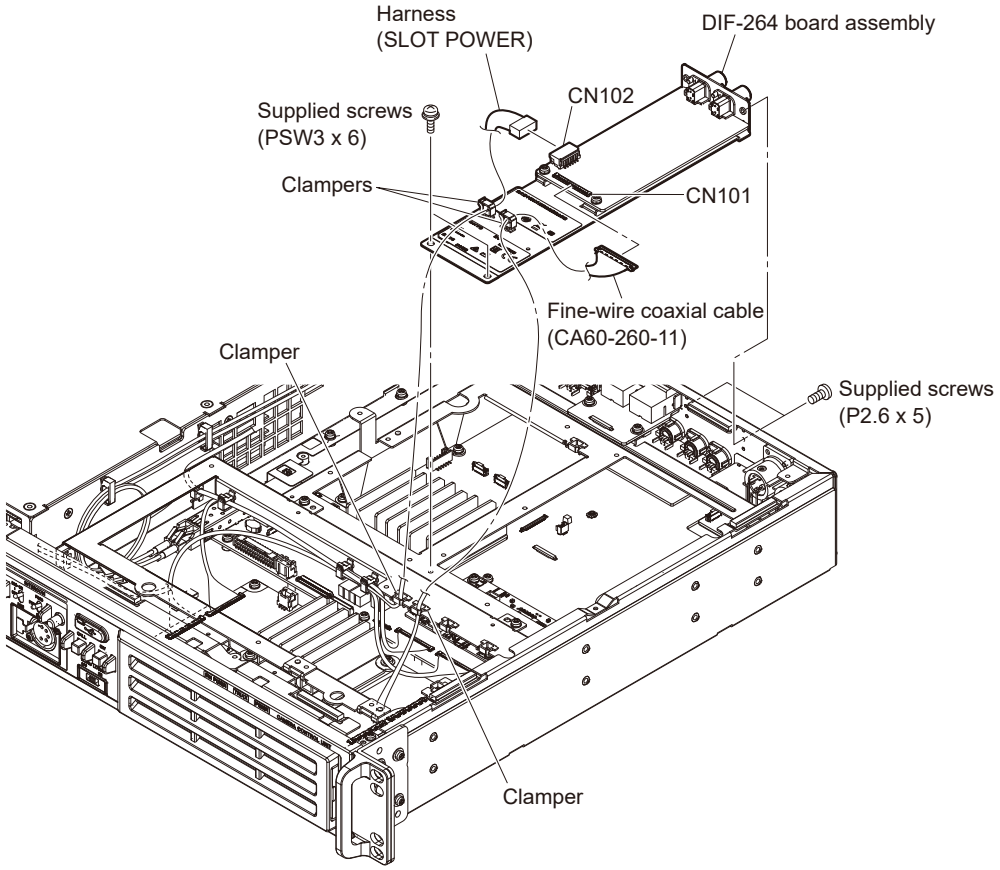


2. Attach the front frame. (Refer to steps 11 and 12 in "1-6-1. HKCU-SFP30".)
3. Fix the harness (SLOT POWER), the harness (VIF POWER) and the two fine-wire coaxial cables (CA60-260-11) as shown in the illustration.



4. Remove the blank panel (ND). (Refer to step 15 in "1-5-1. HKCU-SFP30".)
5. Install the DIF-264 board assembly with the supplied two screws (P2.6 x 5) and the supplied two screws (PSW3 x 6).
6. Connect the harness (SLOT POWER) and the fine-wire coaxial cable (CA60-260-11) to the connectors (CN101 and CN102) on the DIF-264 board assembly.
7. Fix the harness (SLOT POWER) with the clamper.

8. Fix the fine-wire coaxial cable (CA60-260-11) with the clamper.



9. Install the CN-4022 board. (Refer to step 10 in "1-6-1. HKCU-SFP30".)
10. Connect the four harnesses to the CN-4022 board. (Refer to step 29 in "1-6-1. HKCU-SFP30".)
11. Install the DM-159 board. (Refer to steps 1 to 7 in "1-6-1. HKCU-SFP30".)
12. Attach the top cover. (Refer to step 1 in "1-5-1. HKCU-SFP30".)

1-6-6. HKCU-UHD30/SFP30

The connection method and the number of fans to be installed differ between two cases: (1) HKCU-UHD30 or HKCU-SFP30 is installed independently, and (2) HKCU-UHD30 and HKCU-SFP30 are installed together.
Install HKCU-UHD30 and HKCU-SFP30 according to the instructions in this section.
(Refer to "1-5-5. HKCU-UHD30/SFP30".)
When installing HKCU-UHD30 and HKCU-SFP30 in combination, attach either one of the fans, supplied respectively with HKCU-UHD30 and HKCU-SFP30, to the fan 3 position.
For the installation to each model by itself, refer to the following.

- "1-6-1. HKCU-SFP30"
- "1-6-4. HKCU-UHD30"

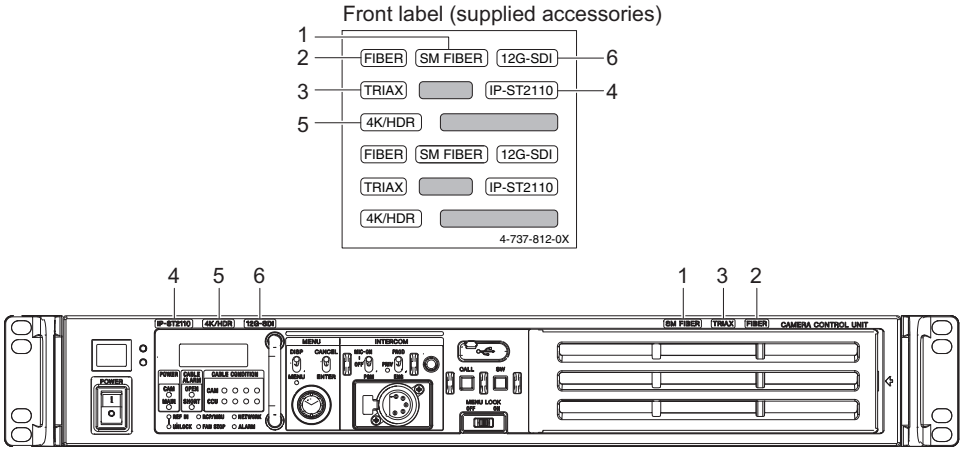
Note

In HDCU3100, the supplied fan is also added to the rear block, but no fan needs to be added for HDCU3170.

1-7. Location to Attach Label

The front label is supplied for this unit. Attach the label to the top of a front panel according to the model used and the installed option kit.

Model	HKU-SFP30	HKCU-SM30	HKCU-UHD30	HKCU-SDI30	HKCU-FB30
HDCU3100	○	○	○	○	—
HDCU3170	○	○	○	○	○



1-8. Mounting the Unit in a 19-Inch Rack

This unit can be mounted in a 19-inch EIA standard rack (height: 1.5U).

WARNING

- Secure the rack to the floor.
  If the rack falls due to the weight of equipment, it may result in death or serious injury.
  Secure the rack to the floor without fail to prevent it from falling or moving.
- Do not mount the unit at a floor height of more than 1 m.
  Fall of the rack may result in death or serious injury.
  Mount the unit in the rack that is secured to the floor at a floor height within about 1 m.

PREPARATIONS

CAUTION

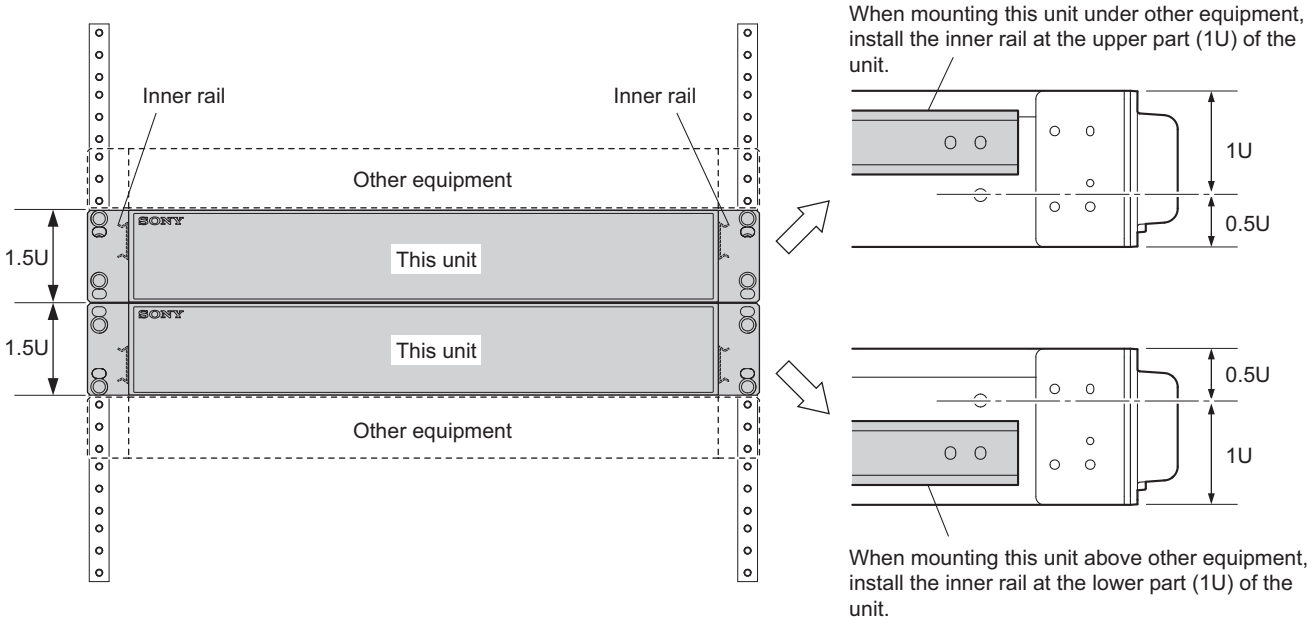
Be sure to use specified rack-mount rails.
If unspecified rack-mount rails are used, the equipment in the rack may fall due to insufficient strength, which may result in injury.

Manufacturer: Accuride Japan

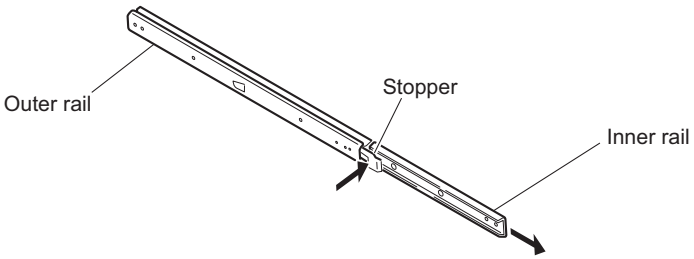
- Slide rail: 1 set
  Accuride Japan Model 305A-18 (457 mm)
- Front bracket: 2
  Sony Part No.: 2-142-214-01
- Rear bracket: 2
  Sony Part No.: 2-142-215-01
- Screw (B4 x 8) : 14
- Screw (B5 x 8) : 8
- Screw (PWH4 x 20) : 2
- Nut: 2
- Plate nut: 2
  Sony Part No.: 3-651-812-00
- Rack mount rail screw (PSW5 x 25): 4

1-8-1. Mounting the Unit in the Rack

This unit is mounted in the rack by attaching the inner rails at the upper or lower part 1U of height 1.5U.
The rail attaching position varies depending on the unit mounting height in the rack.



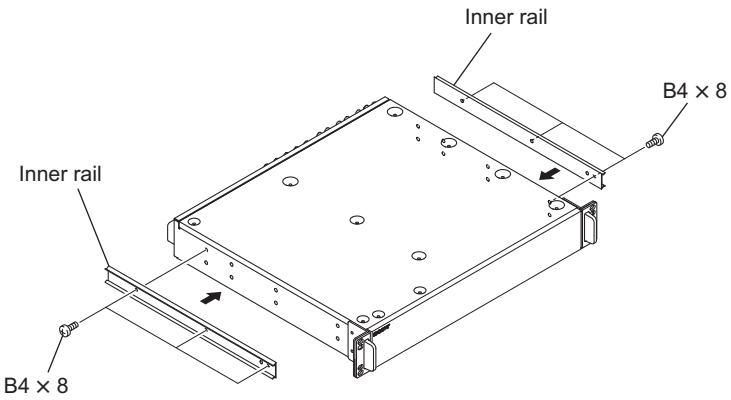
1. Pull out the inner rail while pressing the rail stopper.



2. Install the inner rail to the unit with six screws (B4 x 8).

Tip

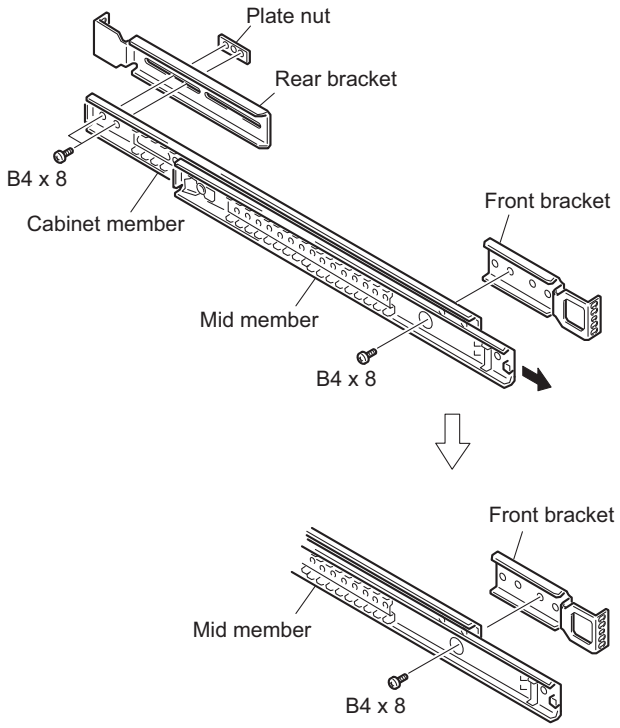
This figure shows attaching the inner rails at the upper part. The same method applies for attaching the inner rails at the lower part.



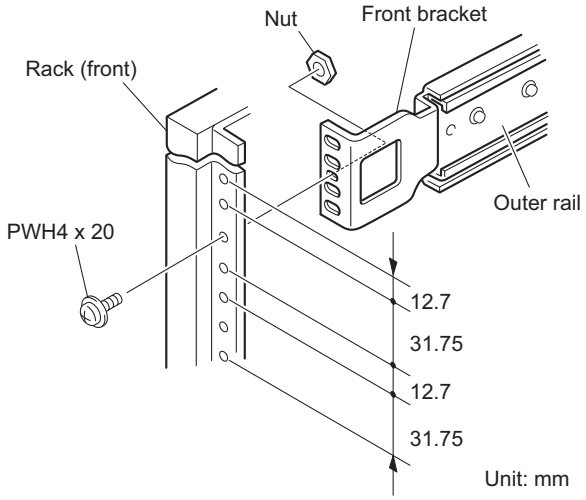
3. Attach the front and rear brackets to the outer rail with eight screws (B4 x 8).

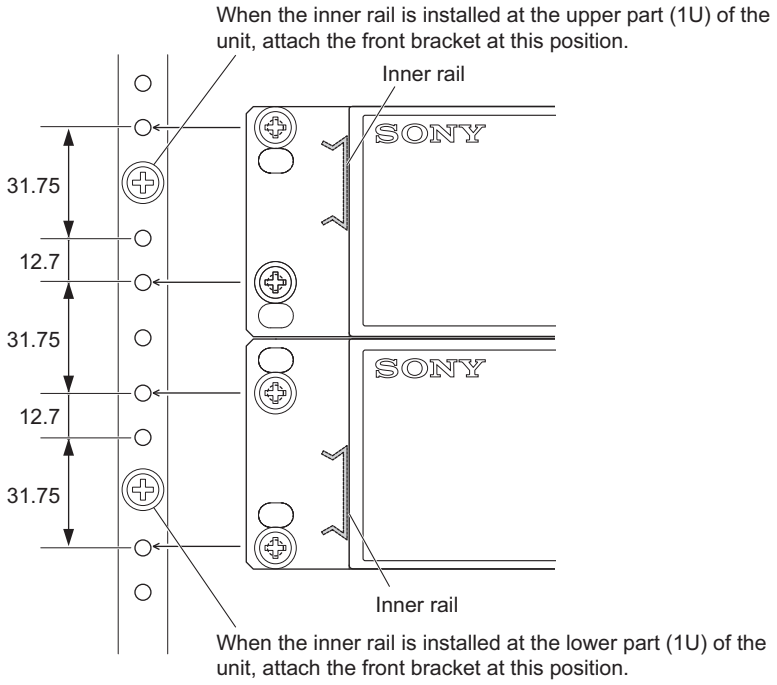
Note

- When attaching the front bracket, slide the middle member to the position where the screw hole in the cabinet member is visible from the hole in the middle member shown in the figure.
- When attaching the rear bracket, adjust the bracket position according to the depth of the rack.

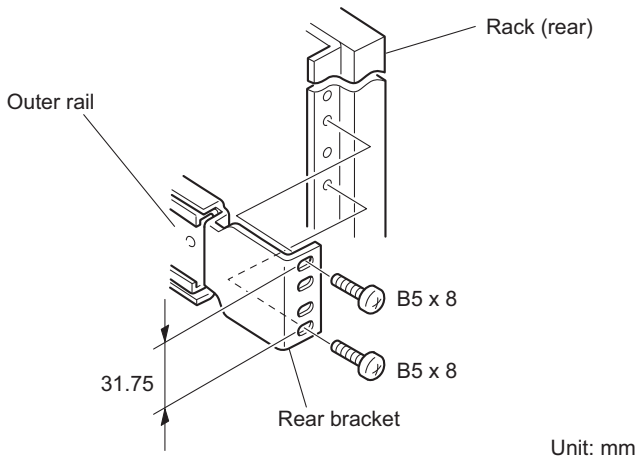


4. Attach the front bracket to the inside of the rack mount position with two screws (PWH4 x 20).





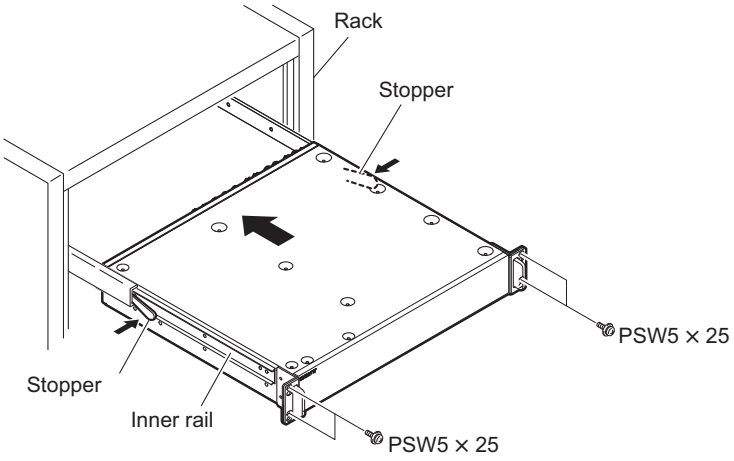
5. Attach the rear bracket to the outside of the rack mount position with four screws (B5 x 8).



6. Set the unit in the rack while pressing the inner rail stopper into the outer rail as far as it will go.

Note

- This rack mounting work must be done by two or more workers so as not to hurt the worker's waist.
- Failure to tighten the rack angle screws may cause the unit to slide and fall from the rack, resulting in injury. After the unit has been mounted, be sure to tighten all the screws.
- When setting and drawing the mounted unit, be careful not to catch your fingers by the rails.
- If balance is lost when mounting and removing the unit, it may fall, resulting in injury. Mount or remove the unit carefully maintaining a stable posture.

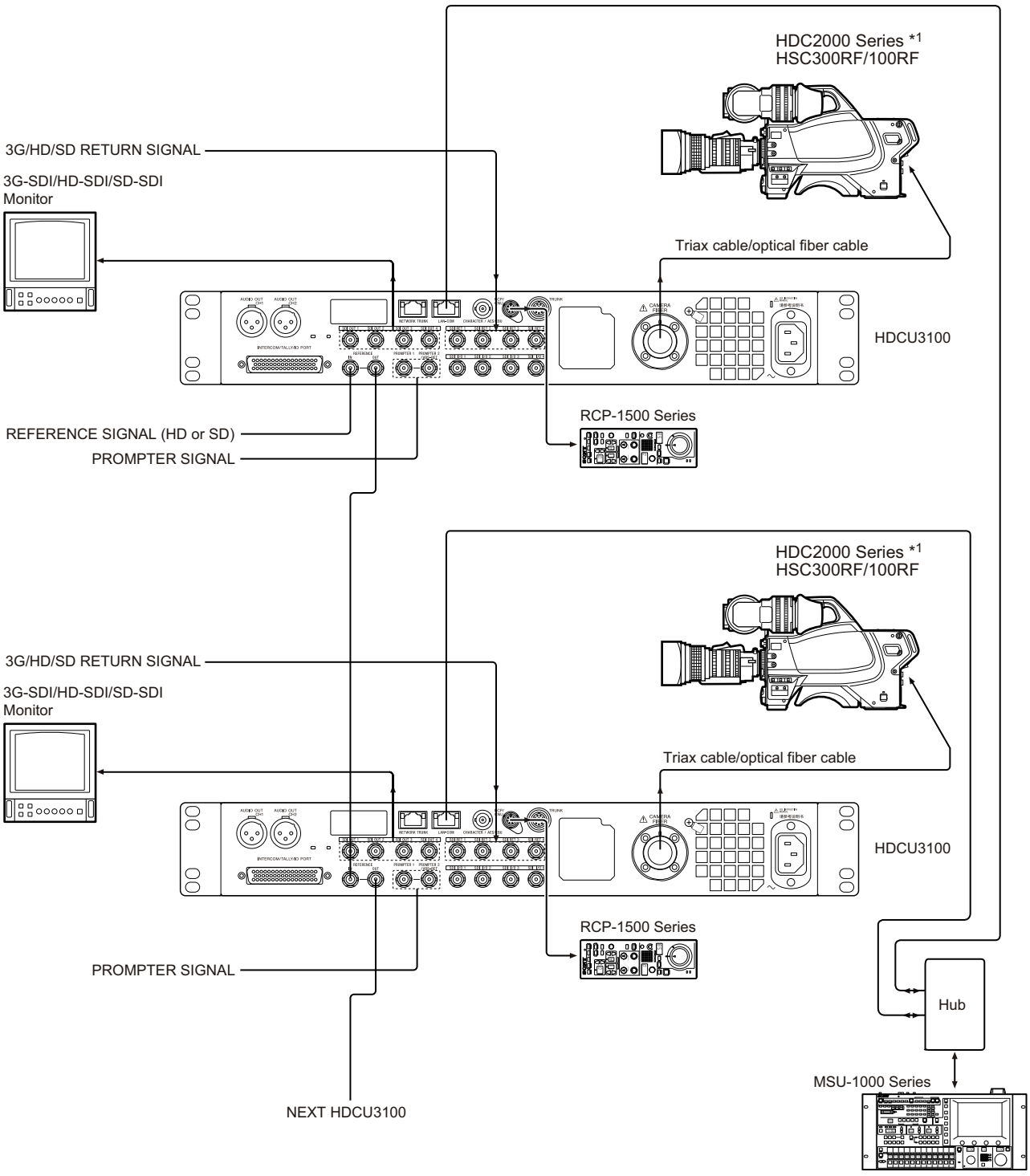


7. After the unit has been set in the rack, secure the unit to the rack with four screws (PSW5 x 25).

Section 2
System Setup

2-1. System Connection

2-1-1. Connection Example



* 1: When the CCU is connected, the local power supply (EXT DC) on the camera side cannot be used. Be sure to use the CCU power supply.

2-2. Setting the System Formats

2-2-1. Setting the Multi-Format

Sets the format of the signal that is output from the unit.
Normally the format is set from the MSU connected outside or from MULTI FORMAT (S05) of the SYSTEM OPERATION menu in this unit.

2-2-2. Setting the Reference Input

Normally the format is set from the MSU connected outside or from GENLOCK PHASE (S04) of the SYSTEM OPERATION menu in this unit.

2-3. Audio System

2-3-1. Setting the Intercom System

Two independent intercom lines (producer line and engineer line) are selectable and available in this unit.
This unit supports 4 WIRE, RTS, and Clear-Com intercom systems. Make settings of the menus according to the system to be used.

Selecting Intercom System

Select an intercom system (4WIRE, RTS or CLEAR COM) for each of the engineer line and producer line according to the system to be used. Then, select the number of intercom line systems (1CH or 2CH).

Note

When SYSTEM INTERFACE in INTERCOM (A03) of the AUDIO/INTERCOM menu is set to RTS/CLEAR COM, be sure to connect the unit to the RTS or Clear-Com system. Failure to do so will cause the output to oscillate and adversely affect the surrounding circuit.

Selecting producer line

AUDIO/INTERCOM menu → INTERCOM (A03) → PRODUCER

Selecting engineer line

AUDIO/INTERCOM menu → INTERCOM (A03) → ENGINEER

Selecting intercom line channel

Connect the intercom line to the producer line of the unit and make the following settings.

Tip

Factory setting: 2CH

- 1CH
  AUDIO/INTERCOM menu → INTERCOM (A03) → INTERCOM CH:1CH

  Tip

  The intercom line is always connected to the producer line regardless of the settings of the INCOM PROD/ENG switch of the and the INTERCOM switch on the front panel of the unit.

- 2CH
  AUDIO/INTERCOM menu → INTERCOM (A03) → INTERCOM CH:2CH

Adjusting RTS Cancellation (RTS/Clear-Com)

When the RTS or Clear-Com system is used, adjust the sidetone cancellation amount using the following procedure.

1. Set the SIDE TONE in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu to 0.
2. Set the INTERCOM switch on the front panel to PROD.
3. While speaking to the headset microphone, adjust SIDE TONE CANCEL in INTERCOM (A03) of the AUDIO/INTERCOM menu so that the voice heard from the headset becomes minimum.
4. Set the INTERCOM switch on the front panel to ENG.
5. While speaking to the headset microphone, adjust SIDE TONE CANCEL in INTERCOM (A03) of the AUDIO/INTERCOM menu so that the voice heard from the headset becomes minimum.
6. Reset the value of SIDE TONE in FRONT INTERCOM (A04) of the CCU CONFIGURATION menu to the previous value.

Setting Headset Microphone

Setting intercom microphone

Set the INTERCOM MIC in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu according to the microphone type of the headset to be connected to the INTERCOM connector on the front panel.

- CARBON:
  When using a carbon microphone (power supplied, 20 dB gain)
- ECM:
  When using a electric condenser microphone (power supplied, 40 dB gain)
- DYNAMIC:
  When using a dynamic microphone (no power supplied, 60 dB gain) (Factory setting)

Adjusting the side tone level

Adjust the sidetone volume of the headset connected to the INTERCOM connector on the front panel with SIDE TONE in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu according to the headset to be used.

Setting PGM Audio Signal Input Level

Set the PGM1 INPUT and PGM2 INPUT in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu to –20 dBu , 0 dBu, or +4 dBu according to each level of audio 1 and 2 of the system.

Tip

Factory setting: 0 dBu

Selecting PGM Audio Signal

Select the PGM audio signal of the headset connected to the INTERCOM connector on the front panel to user's preference level with PGM SELECT in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu.

- PGM 1: To select PGM1 (Factory setting)
- PGM1 + PGM2: To select PGM1 and PGM2 mixed
- PGM2: To select PGM2

Adjusting PGM Audio Signal Mixing Volume

Adjust the PGM audio signal mixing volume of the headset connected to the INTERCOM connector on the front panel to user's preference level with PGM1 LEVEL/PGM2 LEVEL in FRONT INTERCOM (A04) of the AUDIO/INTERCOM menu.

Selecting an Intercom LINE to be Connected to the INTERCOM Connector

Select the intercom line to be connected to the INTERCOM connector on the front panel as follows with the INTERCOM switch.

- When connecting to the producer line:
  Set the INTERCOM switch to PROD.
- When connecting to the engineer line:
  Set the INTERCOM switch to ENG.
- When connecting only a camera:
  Set the INTERCOM switch to PRIV.
  When this position is set, the intercom from outside is cut and the system consists of the intercom and camera.

Note

When INTERCOM CH in INTERCOM (A03) of the AUDIO/INTERCOM menu is set to 1CH, the INTERCOM switch on the front panel of this unit and the camera are fixed to the producer line regardless of the setting.

2-3-2. Microphone Setting

This unit can receive two independent microphone lines (MIC1 and MIC2) from the video camera HDC2000 series and output them.

Remote Controlling Microphone Input Amplifier Gain

Remote control using the menu setting

When the MIC REMOTE connector on the rear panel is open or pins 8 (MIC1) and 15 (MIC2) of the MIC REMOTE connector are at a high level, Adjusting the CAM MIC GAIN with MIC GAIN (A01) of the AUDIO/INTERCOM menu.
Setting values: 20, 30, 40, 50, 60 dB (Factory setting: 60 dB)

Adjusting the microphone input gain using the MIC REMOTE connector

The microphone input amplifier gain control is enabled or disabled by pins 8 and 15 of the MIC REMOTE connector on the rear panel.
Furthermore, the microphone input amplifier gain can be set by pins 5 to 7 and 12 to 14.
When MIC/WF REMOTE in REAR I/F (S04) of the SYSTEM CONFIG menu is set to MIC REMOTE, the MIC1 gain and MIC2 gain can be set by pins 5 to 7 and the microphone input amplifier gain can be set at the same time.

Setting the microphone input control of the video camera

Pin No.		Microphone connector	
8	**15**	**MIC IN CH-1**	**MIC IN CH-2**
L	L	ON	ON
L	H	ON	OFF
H	L	OFF	ON
H	H	Set with CAM MIC GAIN of MIC/AUDIO (C05)	

Setting the microphone input gain of the video camera

Pin No.			Gain
7	**6**	**5**	
H	H	H	60 dB
L	H	H	50 dB
H	L	H	40 dB
L	L	H	30 dB
H	H	L	20 dB

Pin No.			Gain
14	**13**	**12**	
H	H	H	60 dB
L	H	H	50 dB
H	L	H	40 dB
L	L	H	30 dB
H	H	L	20 dB

H: +5 V or open
L: GND
Input resistance: 100 kΩ +5 V pull-up

Adjusting AUDIO Phase

When the AUDIO signal phase is ahead of the video signal phase to be used, adjust the microphone signal phase with DELAY in AUDIO OUT (A02) of the AUDIO/INTERCOM menu.
0 to 3840 FS (Factory setting: 0 Fs)

Setting AUDIO Output Level

Set the AUDIO outputs (AUDIO CH1 and AUDIO CH2) with ANALOG OUT CH1 LEVEL/CH2 LEVEL in AUDIO OUT (A01) of the AUDIO/INTERCOM menu according to each signal level.
–20 dBu, 0 dBu, or +4 dBu (Factory setting: 0 dB)

2-4. System Settings

2-4-1. Tally System Setting

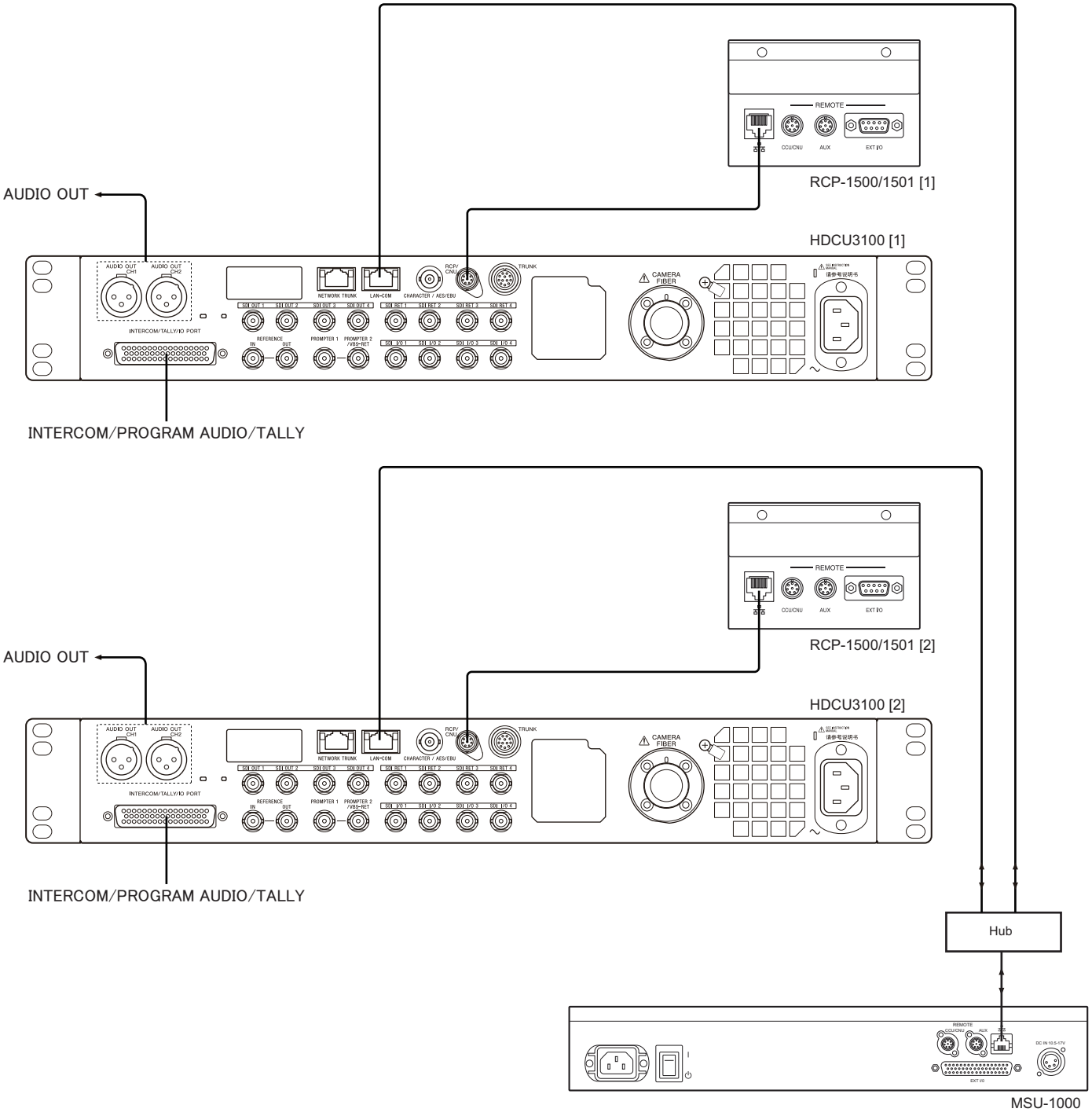
This unit supports red tally, green tally, and yellow tally systems, and also supports contact supply and power voltage supply (24 V/TTL). Set the TALLY INPUT (M04) of the MAINTENANCE menu according to the tally system to be used.

- Contact supply: CONTACT
- 24 V supply: POWER (24V)
- 5 V supply: POWER (TTL)

2-4-2. CCU Number Setting

Set the camera number with CNS SETTING (N02) of the NETWORK menu.

2-4-3. Connecting the Control, Intercom, Tally and Audio Signals



2-5. Video Signal System

Video signals of this unit and the equipment used for the HDC2000 series / HSC300RF/100RF camera system were adjusted to the specified levels in the factory shipping process. .Before starting operation, check the signal levels between equipment and adjust them, if necessary. Some adjustments can be performed using the maintenance menu of the MSU-1000/1500 besides using the control or switches on the board. Perform the basic adjustments on the board and perform the fine adjustments on the maintenance menu.

2-5-1. Input/Output Signal Selection

Select a signal of the input/output terminal signal on the rear panel according to the video system to be implemented.

2-5-2. Signal Phase Adjustment

Adjust signal phases of the unit. Before starting this adjustment, input the following sync signals to the unit and equipment used.

- This unit
  REFERENCE connector
  HD tri-level sync signal: 0.6 Vp-p
  or
  Black burst signal: 40 IRE (0.3 Vp-p)
  (SMPTE318M (10F-BB) is also acceptable.)

Adjusting Sync Signal Phase

Adjust the sync signal phase so that the output signal phase matches the reference signal phase by using the SYSTEM CONFIG menu. The phase can also be adjusted using the maintenance menu of MSU-1000/1500

Adjustment Procedure

Select an external sync signal type from the SYSTEM CONFIG menu.
SYSTEM CONFIG menu → GENLOCK (S04) → GENLOCK
HD: HD tri-level sync
SD: BB (black burst) signal

When HD is selected

1. Make coarse adjustment of the H phase by COARSE of GENLOCK (S04) and make fine adjustment by H STEP.

When SD is selected

1. Make coarse adjustment of the H phase by COARSE of GENLOCK (S04) and make fine adjustment by H STEP.

2-5-3. Aspect Ratio Setting for Down-Conversion

With this unit or MSU-1000/1500, this system enables switching of aspect ratio in accordance with various systems for the HD-SD down-conversion.
Set the aspect ratio with the MIC REMOTE connector on the rear panel or with S05:SD ASPECT of the SYSTEM OPERATION menu. It can also be set using the maintenance menu of MSU-1000/1500.
The following four aspect ratio modes are selectable in this system.

Squeeze	Converts the HD video signal to SD signal with an aspect ratio of 16 : 9 unchanged (16 : 9)
Edge crop	Crops 4 : 3 video part from the HD video signal and converts it to SD signal (4 : 3)
Letterbox	Fits the HD video signal with an aspect ratio of 16 : 9 into a 4 : 3 monitor frame and converts it to SD signal (4 : 3) (Black level is inserted above and below the picture.)

Setting Aspect Ratio with the MIC REMOTE Connector

Note

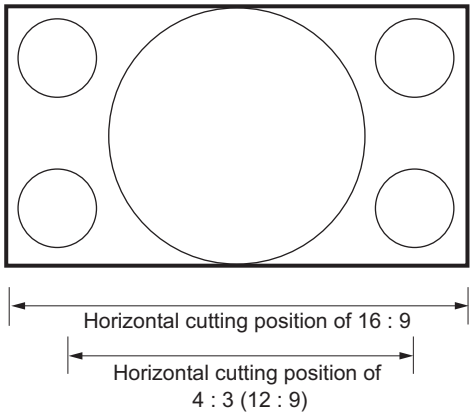
If MIC REMOTE in MODE (S07) of the SERVICE menu is set to MIC1 or MIC2, the ASPECT REMOTE signal from the MIC REMOTE connector is disabled.

1. Set the DSUB-50 in REAR I/F (S03) of the SYSTEM CONFIG menu to WF-REMOTE.
2. Set pin 12 (ASPECT REMOTE ON/OFF) of the MIC REMOTE connector on the rear panel to low level.
3. Set pins 13 (ASPECT CTL CONT1) and 14 (ASPECT CTL CONT2) of the MIC REMOTE connector according to the aspect ratio to be converted.

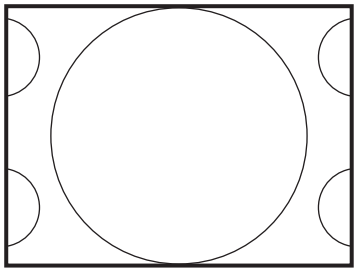
Pin 13 (ASPECT CTL CONT1)	Pin 14 (ASPECT CTL CONT2)	Aspect ratio
L	H	Squeeze (16 : 9)
H	H	Edge crop (4 : 3)
L	L	Set with S05:SD ASPECT of SYSTEM OPERATION menu
H	L	Letterbox (4 : 3)

Examples of Display

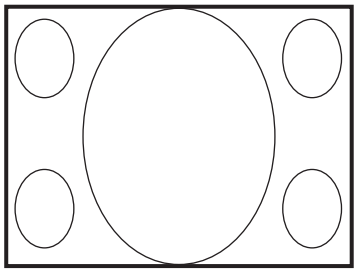
16 : 9 picture (picture from camera)



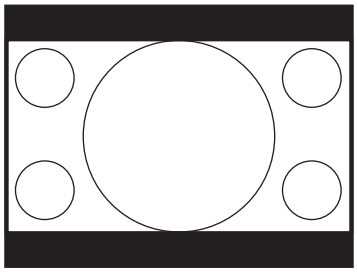
Picture whose aspect ratio is converted (SD output)



Edge-crop
CROP POSITION can be changed.



Squeeze
The 16 : 9 ratio picture is output in the SD format without changing the ratio.



Letter box (16 : 9)
The 16 : 9 ratio picture is inserted into the 4 : 3 ratio picture without changing the ratio and is output in the SD format.

2-5-4. RETURN Input Signal

Set the format of the return signal to be input to the RET1, RET2, RET3 and RET4 connector using the maintenance menu of MSU-1000/1500 or S07: RETURN SETUP in the SYSTEM OPERATION menu of this unit.

Tip

When required, either of the PROMPTER connectors can be assigned for the fourth return video input (RET4), exclusively for analog VBS signals.

Revision History

Date	History	Contents
2018. 4	1st Edition 9-932-611-01	—
2018. 11	Revised-1 9-932-611-02	Added the models: HDCU3170, HKCU-FB30 and HKCU-SFP30. • **Modifications:** 1-2-1. Connector Specifications • **Additions:** 1-5. Installing Each Option Kit in HDCU3100, 1-6. Installing Each Option Kit in HDCU3170, 1-7. Location to Attach Label
2019. 5	Revised-2 9-932-611-03	Added the models: HKCU-SDI30, HKCU-SM30 and HKCU-UHD30. • **Modifications:** 1-2-1. Connector Specifications, 1-5. Installing Each Option Kit in HDCU3100, 1-6. Installing Each Option Kit in HDCU3170, 1-5-1. HKCU-SFP30, 1-6-1. HKCU-SFP30, 1-6-2. HKCU-FB30, 1-7. Location to Attach Label • **Additions:** 1-2-5. Note in Connecting Single-mode Optical Fiber Cable, 1-5-2. HKCU-SM30, 1-5-3. HKCU-UHD30, 1-5-4. HKCU-SDI30, 1-5-5. HKCU-UHD30/SFP30, 1-6-3. HKCU-SM30, 1-6-4. HKCU-UHD30, 1-6-5. HKCU-SDI30, 1-6-6. HKCU-UHD30/SFP30
2021. 10	Revised-3 9-932-611-04	• **Modifications:** 1-5. Installing Each Option Kit in HDCU3100, 1-5-1. HKCU-SFP30, 1-5-5. HKCU-UHD30/SFP30, 1-6-6. HKCU-UHD30/SFP30

HDCU3100 (SY)
HDCU3170 (SY) J, E
9-932-611-04

Sony Corporation

Printed in Japan
2021. 10 08