SONY

SOLID-STATE MEMORY CAMCORDER

HXR-NX80
HXR-MC88

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NXCAM

XAVC S AVCHD Progressive InfoLITHIUM V SERIES

MEMORY STICK ™ SDXC HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE NFC

SERVICE MANUAL

1st Edition (Revised 1)

⚠ 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.
HXR-NX80(UC)	100001 and Higher
HXR-NX80(J)	300001 and Higher
HXR-NX80(CEE)	400001 and Higher
HXR-NX80(CN)	500001 and Higher
HXR-MC88(CN)	5000001 and Higher
HXR-MC88(UC)	1000001 and Higher
HXR-MC88(UL)	1500001 and Higher
HXR-MC88(CEE)	4000001 and Higher

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.

Note:
Be sure to keep your PC used for service and checking of this unit always updated with the latest version of your anti-virus software. In case a virus affected unit was found during service, contact your Service Headquarters.

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。

注意：
修理時に使用するパソコンは，ウィルス検出ソフトが常にアップデートを行っているパソコンを使用してください。もし，修理を行うセット，もしくはパソコンがウィルスに感染している事が判明した場合は，ソニーグループ内は社内技術相談窓口に，特約店様は特約店様専用電話窓口（修理窓口）にご相談ください。

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Set the soldering iron tip temperature to 350 °C approximately.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

UNLEADED SOLDER

This unit uses unleaded solder.
Boards requiring use of unleaded solder are printed with the lead free mark (LF) indicating the solder contains no lead.
(**Caution:** Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Be careful to the following points to solder or unsolder.

- Set the soldering iron tip temperature to 350 °C approximately.
  If cannot control temperature, solder/unsolder at high temperature for a short time.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Be sure to control soldering iron tips used for unleaded solder and those for leaded solder so they are managed separately. Mixing unleaded solder and leaded solder will cause detachment phenomenon.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

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1. Service Overview

2. Troubleshooting

3. Replacement of Main Parts

4. Electrical Adjustment

5. Circuit Description

6. Spare Parts

7. Diagrams

Revision History

Manual Structure

Purpose of this manual

This manual is intended for the use of the system engineers and the service engineers, and provides the limited information for block service and the information related to maintenance of the unit, service overview, troubleshooting, replacement of main parts, electrical alignment, circuit description, spare parts, block diagram, and frame wiring.

Related manuals

The following manual is provided for this unit in addition to this “Service Manual”.

- Operating Guide (Supplied with this unit)
  This manual is necessary for application and operation of the unit.
- Help Guide (Web manual)
  Help Guide is an on-line manual.
  Refer to it for in-depth instructions on the many functions of the camcorder.
- Adjust Manual (Available on request)
  The adjustment software is necessary for adjustment and various checking of this unit for the service.
- Factory Service Manual (available on request)
  This manual describes the information on the premise the service based on the components parts of this unit.

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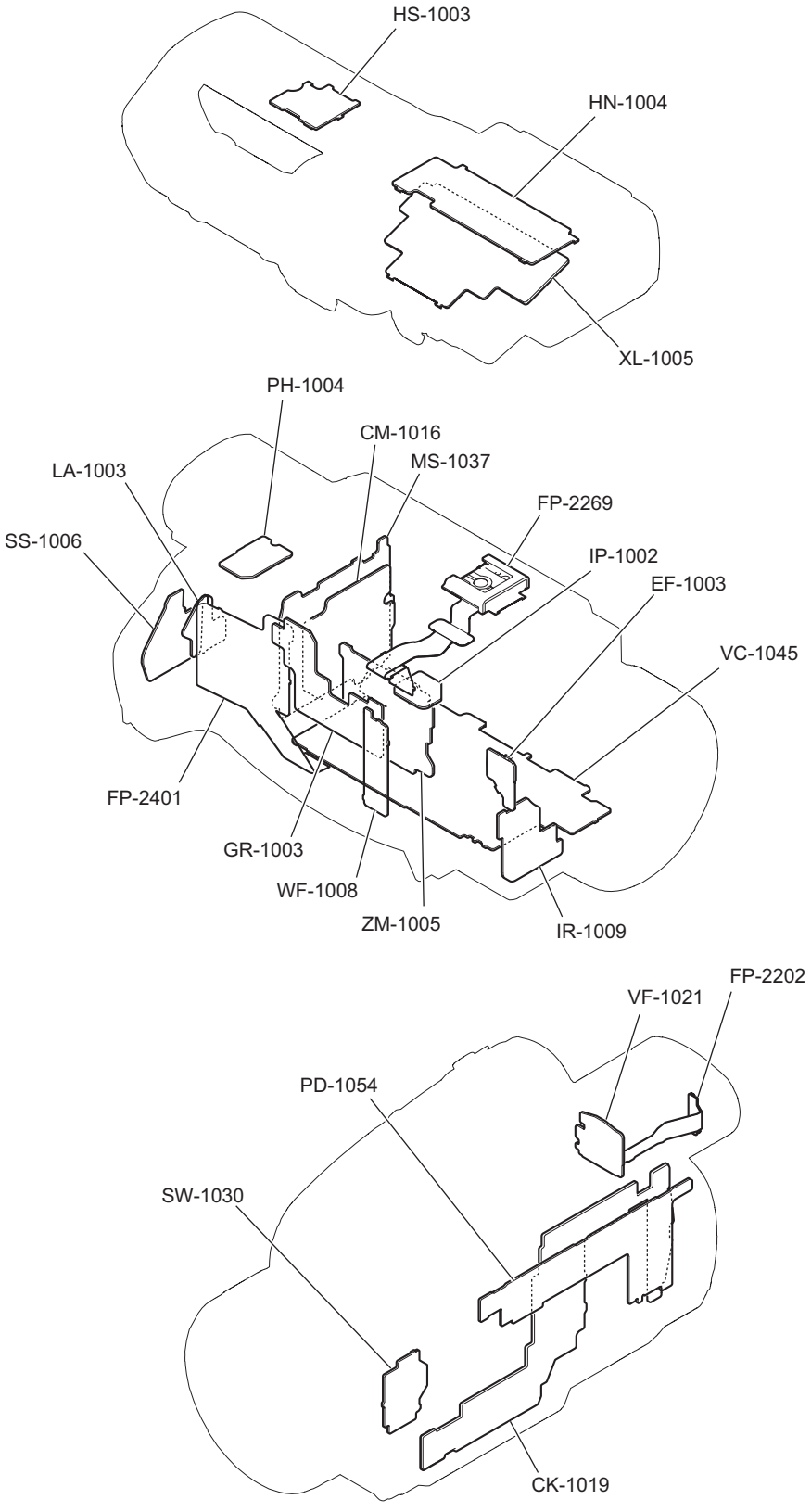
Section 1
Service Overview

1-1. Location of Boards



1-2. Service Tools

Part No.	Name	Usage/Note
J-6325-110-A	Torque screwdriver bit (M1.4/M1.7)	Tightening screws
J-6325-380-A	Torque screwdriver bit (M2)	
J-6323-420-A	Torque screwdriver bit (M2.6)	
J-6325-400-A	Torque driver (3 kg・cm) (0.3 N・m)	
J-6252-510-A	Torque driver (6 kg・cm) (0.6 N・m)	

1-3. Notes on Replacing the Part and Printed Wiring Board

1-3-1. Power Supply during Repairs

AC power adaptor

Use the AC power adaptor.

1-3-2. Precaution on Replacing the VC-1045 Board

The board for repair is not recorded the information unique to a model. Therefore the following data are needed to write.

Note

The [LOAD AND WRITE] function in “ADJUSTMENT DATA BACKUP” on the DATA tab in the Adjust Manual overwrites all data of the unit. Therefore execute the [LOAD AND WRITE] before performing the following operation.

Destination Data

The destination data stored in the repairing board is different from the destination setting stored in the board before replacement in some cases.
When the board has been replaced with a repairing board, be sure to set the destination.

Method of the destination data write:

Start the Adjust Manual in the Adjust Station and execute the “Destination data write” on the ADJUST tab.

Restore Data

Before replacing the board with a repairing board, be sure to extract the data from the former one.

Method of the data extracting:

Start the Adjust Manual in the Adjust Station and execute the “RESTORE DATA” on the DATA tab.

USB Serial No. and Product ID

The unit is shipped after an ID (USB Serial No.) unique to each unit and an ID (Product ID) unique to each model have been written.
These IDs have not been written in a new repairing board. Therefore, after the board has been replaced, be sure to write these IDs to a new repairing board.

Method of the ID writing:

Start the Adjust Manual in the Adjust Station and execute the “PRODUCT ID & USB SERIAL No. INPUT” on the ADJUST tab.

Update of MAC Address

When a board that contains Wi-Fi has been replaced or when replacing a board that contains the main IC (CPU), the IC’s unique number (MAC address) must be reloaded.

Procedure of the MAC address update:

Note

Perform the below operations after all work has been done.

1. Start the Adjust Manual in the Adjust Station and execute the “Wireless LAN Setting (MAC Address)” on the ADJUST tab.
2. Operate the unit to initialize of SSID/PW.

Applicable parts:

- VC-1045 BOARD, COMPLETE (SERVICE)
- WF-1008 BOARD, COMPLETE

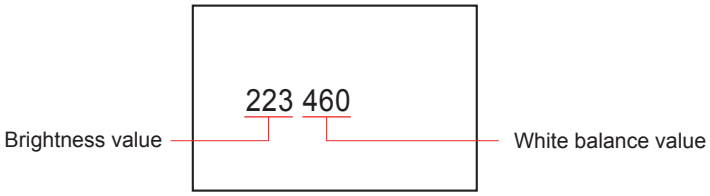
Note

After the replacement and repair, the MAC address is changed, and thus the re-setting for connection devices is required. Accordingly, download the Flyer of WLAN Reset (Flyer of WLAN Reset_9834752[][].pdf) and print out it, and attach it to the set when returning the set to customer.

1-3-3. Notes for Replacing the EVF Display Device (LCD902)

WB adjustment values of each EVF display device (LCD902) are stored on the VC-1045 board.
Therefore, when the EVF display device (LCD902) or the VC-1045 board has been replaced, write WB adjustment values.

The label which is put on repairing EVF display device:



Procedure of the WB adjustment values writing when the EVF display device (LCD902) is replaced:

1. Check and write down the adjustment values printed on the repairing EVF display device (LCD902) label.
2. After the EVF display device (LCD902) has been replaced, execute “EVF Data Input” on the ADJUST tab by using the Adjust Manual in the Adjust Station to write the adjustment values.

Procedure of the WB adjustment values writing when replacing VC-1045 board (in case adjustment values can be read):

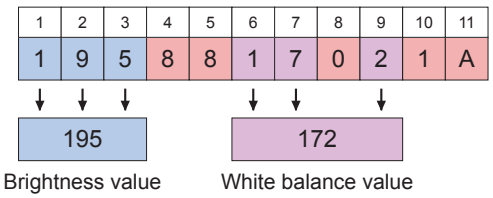
1. Start the Adjust Manual in the Adjust Station before replacing the VC-1045 board, and execute [DATA READ AND SAVE] in the "ADJUSTMENT DATA BACKUP" on the DATA tab to extract WB adjustment values.
2. Start the Adjust Manual in the Adjust Station after the VC-1045 board has been replaced, and execute [DATA LOAD AND WRITE] in the "ADJUSTMENT DATA BACKUP" on the DATA tab to write the extracted WB adjustment values.

When replacing VC-1045 board (in case adjustment values cannot be read):

1. Read the QR code printed in EVF display device (LCD902) using with “QR_Code_Reader_Ver1.0_x64”.

2. Make sure the adjustment value from the read value as shown below, and memorize it.

   Example: In case the read value is “1958817021A”



3. Start the Adjust Manual in the Adjust Station and execute the “EVF Data Input” on the ADJUST tab.

1-3-4. Imager DRA Data

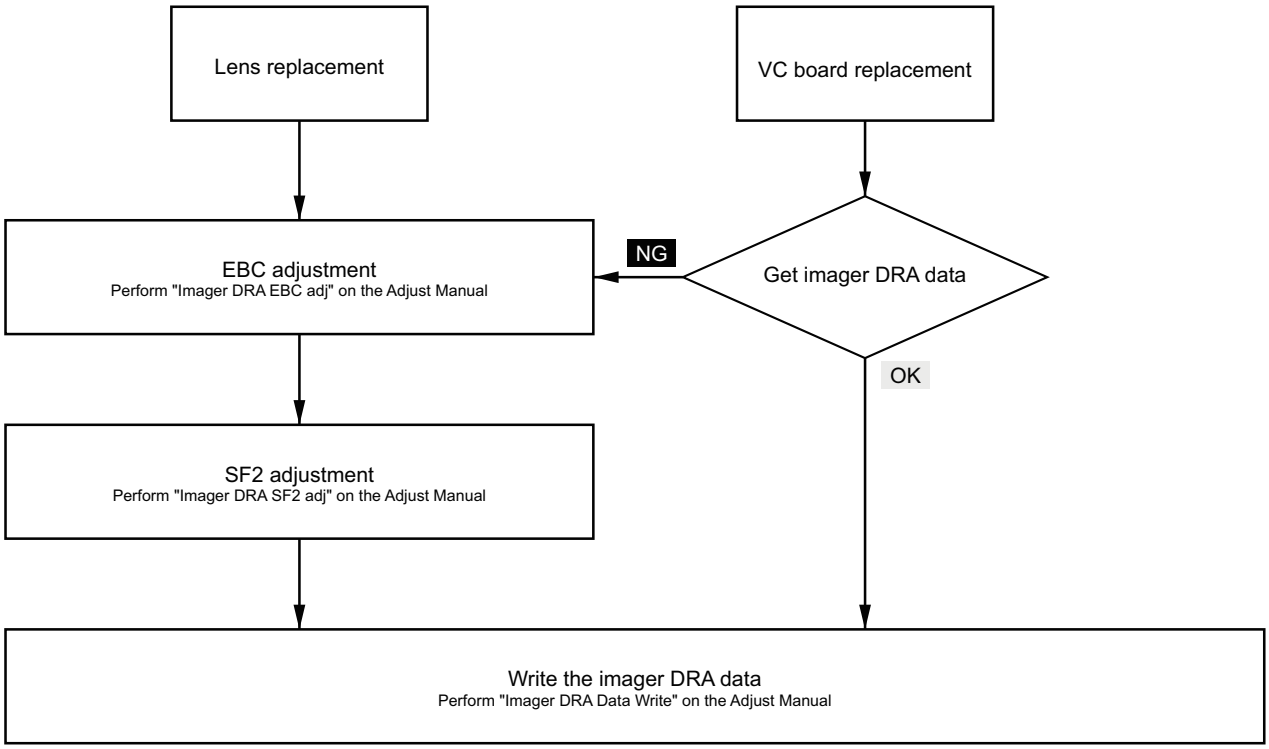
When you replace to the VC repairing board, get the imager DRA data from the former VC board beforehand. After replacing the VC board, perform "Imager DRA Data Write" on the Adjust manual to write the imager DRA data gotten.

Note

In the following cases, perform the “Imager DRA EBC Adj” and “Imager SF2 adj” on the Adjust Manual, and write the imager DRA data.

- When you cannot get the imager DRA data from the unit before replacing the VC board
- When replacing the lens

SF2 adjustment chart (J-6082-856-A) is required in "Imager DRA SF2 adj".



1-3-5. Precaution on Replacing the MS-1037 Board

Angular Velocity Sensor

Before replacing the board with a repairing board, be sure to record the sensitivity indicated on the angular velocity sensor on the repairing board.

The recorded sensitivity indication must be stored in the repairing board.

Method of the angular velocity sensor sensitivity writing:

Start the Adjust Manual in the Adjust Station and execute the “Angular velocity sensor sensitivity adj” on the ADJUST tab.

Note

The sensitivity of the angular velocity sensor is indicated only on the repairing board, but is not indicated on mass production boards.

1-3-6. Checking the Wi-Fi Function

After this unit has been disassembled and reassembled, check the Wi-Fi function.

Required equipment:

Windows PC or smartphone with Wi-Fi interface

Procedure:

1. Turn on the power of the unit and enable the Wi-Fi function.
   (Upon completion of the preparation for Wi-Fi connection, the password for Wi-Fi connection is displayed.)
2. Confirm on the PC or the smartphone that the unit is detected as a connectable wireless network.

1-3-7. Imager DRA Data

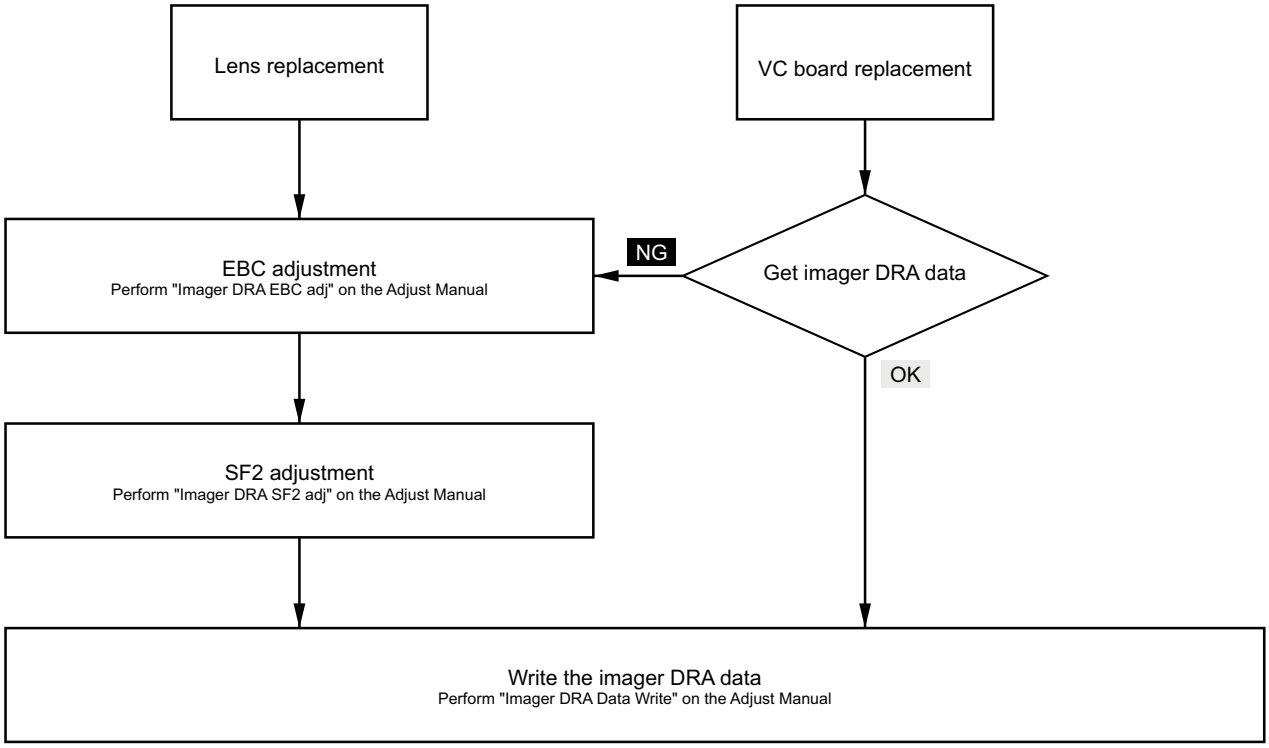
When you replace to the VC repairing board, get the imager DRA data from the former VC board beforehand. After replacing the VC board, perform "Imager DRA Data Write" on the Adjust manual to write the imager DRA data gotten.

Note

In the following cases, perform the “Imager DRA EBC Adj” and “Imager SF2 adj” on the Adjust Manual, and write the imager DRA data.

- When you cannot get the imager DRA data from the unit before replacing the VC board
- When replacing the lens

SF2 adjustment chart (J-6082-856-A) is required in "Imager DRA SF2 adj".


Lens replacement
VC board replacement
EBC adjustment
Perform "Imager DRA EBC adj" on the Adjust Manual
NG
Get imager DRA data
OK
SF2 adjustment
Perform "Imager DRA SF2 adj" on the Adjust Manual
Write the imager DRA data
Perform "Imager DRA Data Write" on the Adjust Manual

1-4. Circuit Protection Parts

1-4-1. Replacing Fuses

WARNING

Fuses are essential parts for safe operation. Be sure to use the parts specified in this manual. Replacing a fuse with an unspecified one may cause fire or electric shock.

CAUTION

If the fuse is replaced while the main power is kept on, this may cause electric shock.
Before replacing any fuse, not only turn off the unit but also remove the battery pack and disconnect the cable that is connected to the DC IN connector.

The unit is equipped with fuses. The fuses blow if overcurrent flows in the unit due to an abnormality, In that case, turn off the main power of the unit once, inspect inside of the unit, and then remove the cause of the overcurrent. After that, replace the defective parts.

Board Name	Ref. No.	Part Name and Rating	Part No.
VC-1045	F0301	FUSE (1608/3.15 A)	⚠ 1-523-393-11
	F0302	FUSE (1608/2.0 A)	⚠ 1-523-390-11
	F0303	FUSE (1608/1.4 A)	⚠ 1-523-389-11
	F0304	FUSE (1608/1.4 A)	⚠ 1-523-389-11
	F0305	FUSE (1608/0.5 A)	⚠ 1-523-385-11
	F4001	FUSE, MICRO	⚠ 1-523-038-31
	F4101	FUSE, MICRO	⚠ 1-523-038-31
	F4102	FUSE, MICRO	⚠ 1-523-038-31

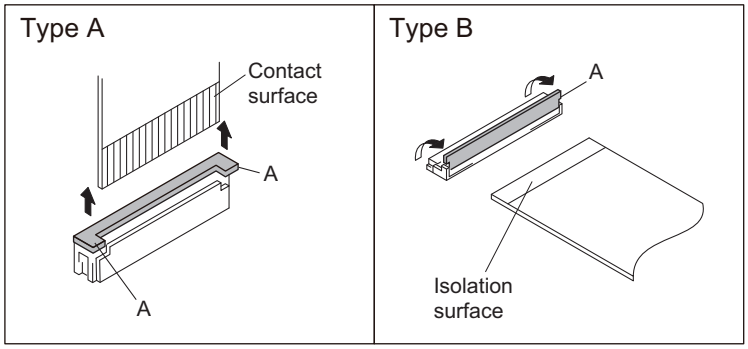
1-5. Flexible Flat Cable, Flexible Board and Coaxial Cable

1-5-1. Connecting/Disconnecting Flexible Flat Cable and Flexible Board

Note

- Be very careful not to fold flexible flat cable and flexible board. Life of flexible flat cable and flexible board will be significantly shortened if they are folded.
- Each flexible flat cable and flexible board has conductor side and insulated side. If the flexible flat cable and flexible board are connected in the wrong orientation of the conductor side and the insulated side, the circuit will not function.
- Insert the flexible flat cable and flexible board straight.
- Check that the conductive surface of the flexible flat cable and flexible board are not contaminated.

Type A to B



Disconnecting

1. Turn off the power.
2. Slide or lift up the portion A in the direction of the arrow to unlock and pull out the flexible flat cable and flexible board.

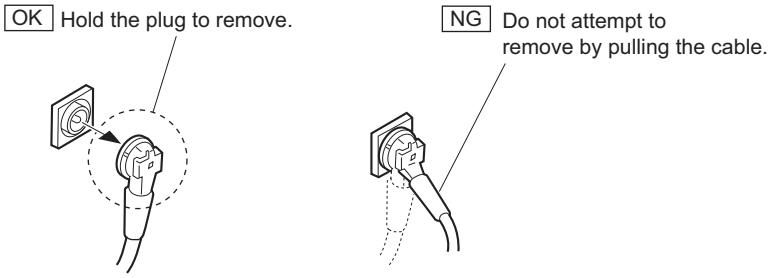
Connecting

1. Insert the flexible flat cable and flexible board firmly as far as them will go with the insulating surface facing upward.
2. Close the latch of the connector in the direction of arrow B to lock the flexible flat cable and flexible board.

1-5-2. Connecting/Disconnecting Coaxial Cable

Type A

Disconnecting

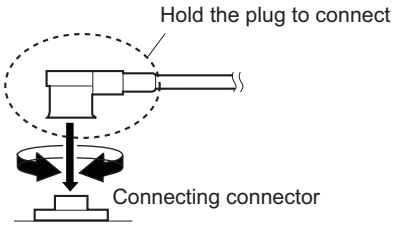


1. Hold the plug of coaxial cable.
2. Pull out the coaxial cable in the direction arrow.

Note

Be sure to hold the plug when disconnecting the coaxial cable. Do not pull the cable.

Connecting



1. Hold the plug of coaxial cable.
2. Connect the coaxial cable perpendicularly to the connector. Push the plug into the connector while turning it clockwise and counterclockwise several times.

Section 2
Troubleshooting

2-1. Self-diagnosis Function

2-1-1. Self-diagnosis Function

If an error occurs in this unit, the self-diagnosis function starts working and a code consisting of one alphabet and a four-digit number appears on the LCD. Classification of persons in charge, classification of faulty blocks, and details of errors can be checked by referring to this indication of five alphanumeric characters in the self-diagnosis code table.
The history of past errors can be checked in “Usage and Diag record” on the DATA tab of the Adjust Manual.
The self-diagnosis function is also described in the operation manual.

2-1-2. Note on the Function of Boards

The boards and functions used in this model are mentioned in the following table.

Board	Function
CK board	Control switch
CM board	Imager
EF board	Control switch
FP-2202 board	Eyepiece sensor
FP-2269 board	Multi interface shoe
FP-2401 board	HDMI terminal
GR board	NFC module, Control switch
HN board	Audio control
HS board	Control switch
IP board	Control switch
IR board	External microphone input, USB terminal, Remote sensor
LA board	Remote jack
MS board	Memory card connector, Lithium battery, PITCH/YAW angular velocity sensor
PD board	LCD control
PH board	Control switch
SS board	POWER/CHG lamp, Control switch
SW board	Control switch
VC board	CPU, Lens control, Wireless LAN module, Power control, Other function
VF board	EVF control
WF board	Wireless LAN antenna
XL board	Analog audio input
ZM board	Manual Ring control

2-1-3. Self-diagnosis Code Table

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	0 4	0 0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	0 6	0 0	The battery pack temperature is high.	Change the battery pack or place it in a cool place.
C	0 6	0 1	The unit temperature is high.	Place this unit in a cool place.
C	1 3	0 1	Memory card is unformatted or memory card is broken.	Format the memory card. Insert a new memory card.
C	1 3	0 2	Access error	Remove the power source. Reconnect it again and operate the unit again.
C	1 3	0 3	Access error (External media)	Turn power off and turn power on again.
C	1 3	0 4	Abnormality of the drive (External media)	Turn power off and turn power on again.
C	3 2	0 1	Trouble with hardware	Turn power off and turn power on again.
C	3 2	6 0	Difficult to adjust focus (Cannot initialize focus)	Turn power off and turn power on again. When this error is not cleared, the focus control signal for the lens block may be faulty. Check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	2 0	0 0	Flash memory data are rewritten.	Make flash memory data correct value. *1
E	3 1	0 0	Abnormality of the drive	Turn power off and turn power on again.
E	4 1	0 0	Abnormality of the wireless LAN module or CPU	The peripheral circuit of between CPU and wireless LAN module may be faulty. Replace the board that contains this peripheral circuit.
E	4 1	0 1	Abnormality of network control device	Turn power off and turn power on again.
E	4 1	1 0 *2	Wired Ethernet device error	The peripheral circuit of between Wired Ethernet device may be faulty. Replace the board that contains this peripheral circuit.
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus)	Turn power off and turn power on again. When this error is not cleared, the focus control signal for the lens block may be faulty. Check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens)	Turn power off and turn power on again. When this error is not cleared, operate the zoom lever and check following items. • When zooming is performed, the zoom control signal for the lens block may be faulty. • When zooming is not performed, the zoom motor drive circuit may be faulty. Check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	6 1	1 1	Focus or zoom fault	Check both C: 32: 60 and E: 61: 10 of the self-diagnosis code.

Continued

*1: Start the Adjust Manual in the Adjust Station and execute the “Destination data write” on the ADJUST tab.
*2: Function of this code is not provided in this unit.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	3 0	Reset position detection error on the stepper iris initializing	Turn the power on to open lens barrier. Disconnect the battery or power cord, and then connect again. And confirm that the iris blades in lens are working. If iris blades do not work, check the iris motor drive circuit in lens drive block. If iris blades work normally, confirm that they are closing completely and confirm following items. • Case of the iris blades do not close normally. Replace the lens block. • Case of "E: 61: 30" is appeared and iris blades closed completely. Confirm that communication with lens block is normal. • Case of LCD is not displayed normally, check that connection between imager board and main board. • Case of LCD is displayed normally, replace the lens block.
E	6 1	3 1	Error in detection of the Reset Position at the time of Stepper IR Filter initialization	Check the signal line connection between the lens block and the lens control circuit. Check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	6 1	4 0*1	CMR initialization error	Turn power off and turn power on again.
E	6 1	4 1*1	Connection error between CMR control IC and CPU.	Turn power off and turn power on again.
E	6 1	4 2*1	Error of thermistor (CMR)	Turn power off and turn power on again.
E	6 1	4 3*1	Abnormality of steadyshot IC (CMR)	Turn power off and turn power on again.
E	6 1	4 4*1	Position detection error of the CMR filter.	Turn power off and turn power on again.
E	6 2	0 0	Steadyshot does not work well. (With PITCH angular velocity sensor output stopped)	The peripheral circuit of the PITCH angular velocity sensor may be faulty. Replace the board that contains this peripheral circuit.
E	6 2	0 1	Steadyshot does not work well. (With YAW angular velocity sensor output stopped)	The peripheral circuit of the YAW angular velocity sensor may be faulty. Replace the board that contains this peripheral circuit.
E	6 2	0 2	Abnormality of IC for steadyshot.	Check signal line connections from CPU through steadyshot IC to PITCH/YAW drive. When there is no problem with the connections, replace the board that contains this peripheral circuit.
E	6 2	0 3	Communication error of steadyshot IC and CPU	The steadyshot circuit may be faulty. Replace the board that contains this peripheral circuit.
E	6 2	0 4	Image vibration correction during steadyshot does not work.	The image vibration angular velocity sensor (ROLL SENSOR) peripheral circuit may be faulty. Replace the board that contains this peripheral circuit.
E	6 2	1 0	Shift lens initializing failure	Replacement of lens block. *2 If an error occurs again, steadyshot circuit may be faulty. Replace the board that contains this peripheral circuit.
E	6 2	1 1	Shift lens overheating (PITCH)	Check signal line connections from CPU through steadyshot IC to PITCH/YAW drive. When there is no problem with the connections, check whether this error is due to the lens or the board. Replace the faulty lens or board.

Continued

*1: Function of this code is not provided in this unit.

*2: When the lens block was replaced, start the Adjust Manual in the Adjust Station and execute the necessary adjustment items. After the adjustment, make sure with the STEADYSHOT turned ON that the steadyshot functions appropriately in the handheld operation.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 2	1 2	Shift lens overheating (YAW)	Check signal line connections from CPU through steady-shot IC to PITCH/YAW drive. When there is no problem with the connections, check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	6 2	2 0	Abnormality of thermistor	Check signal line connections from CPU through steady-shot IC to PITCH/YAW drive. When there is no problem with the connections, check whether this error is due to the lens or the board. Replace the faulty lens or board.
E	6 2	3 0	Abnormal CPU	Turn power off and turn power on again. When this error is not cleared, replace the board that mounts the CPU.
E	9 1	0 1 *1	Abnormality when flash is being charged	Check or replace the LED flash/video light or charging capacitor.
E	9 1	0 2 *1	Abnormality of LED video light	Check or replace the LED flash/video light or charging capacitor.
E	9 1	0 3 *1	Abnormality of LED video light Temperature detection	Check or replace the LED flash/video light or charging capacitor.
E	9 2	0 0	Battery/Dry cell distinction defect	Turn power off and turn power on again.
E	9 2	0 1	Battery current value goes over the max discharge current	Confirm whether or not the symptom is occurred after replacing the battery. If the symptom is still occurred, replace board.
E	9 4	0 0 *1	Fault of writing or erasing the internal memory	Turn power off and turn power on again.
E	9 4	0 1 *1	Abnormality of the internal memory	Turn power off and turn power on again.
E	9 4	0 2	BGM data error	The CPU may be faulty. Replace the board that contains this peripheral circuit.
E	9 5	0 0 *1	GPS hardware error	Check the signal line connection for GPS. When there is no problem with the connections, replace the board that contains this peripheral circuit.
E	9 5	0 1 *1	Acceleration sensor hardware error	The acceleration sensor may be faulty. Replace the board that contains this peripheral circuit.
E	9 5	0 2 *1	Electronic compass hardware error (GPS hardware error)	The peripheral circuit of the electronic compass may be faulty. Replace the board that contains this peripheral circuit.
E	9 6	0 0 *1	Map area mount error	The flash memory may be faulty. Replace the board that contains this peripheral circuit.
E	9 7	0 0 *1	Projector hardware error	The peripheral circuit of the projector may be faulty. Replace the board that contains this peripheral circuit.

*1: Function of this code is not provided in this unit.

2-2. Method of Coping with Shift Lens Error

2-2-1. E:62:02 Abnormality of IC for Steadyshot

Identify the cause of the problem (lens or VC-1045 board), and replace the faulty lens or the VC-1045 board.

2-2-2. E:62:11 Shift Lens Overheating (Pitch)

Start the Adjust Manual in the Adjust Station and execute the “Measure to E:62:11/12” on the SERVICE tab.
Then confirm that the shift lens moves. If it does not move, replace the lens block.
Identify the cause of the problem (lens or VC-1045 board), and replace the faulty lens or the VC-1045 board.

2-2-3. E:62:12 Shift Lens Overheating (Yaw)

Start the Adjust Manual in the Adjust Station and execute the “Measure to E:62:11/12” on the SERVICE tab.
Then confirm that the shift lens moves. If it does not move, replace the lens block.
Identify the cause of the problem (lens or VC-1045 board), and replace the faulty lens or the VC-1045 board.

2-2-4. E:62:20 Abnormality of Thermistor

Check the connection between the lens block and VC-1045 board.
Identify the cause of the problem (lens or VC-1045 board), and replace the faulty lens or the VC-1045 board.

Section 3
Replacement of Main Parts

3-1. Tightening Torque

When tightening screws used in this unit, be sure to use a torque driver and tighten screws to the specified tightening torque.
If the specified tightening torque is described in the figure in this section, tighten screws to the specified tightening torque in the figure.

Tightening torque
Precision screw (P1.4 x 5): 0.10 ±0.02 N·m
Tapping screw (P1.4 x 4): 0.10 ±0.02 N·m
Precision screw (P1.7 x 4) (Except for cabinet G assembly and top ornament installation): 0.12 ±0.02 N·m
Precision screw (P1.7 x 4) (For cabinet G assembly and top ornament installation): 0.14 ±0.02 N·m
Tapping screw (P1.7 x 4) (For REC tally installation): 0.14 ±0.02 N·m
Tapping screw (P1.7 x 4) (Except for REC tally installation): 0.12 ±0.02 N·m
Tapping screw (P1.7 x 5) (Except for cabinet G assembly and eye cup installation): 0.12 ±0.02 N·m
Tapping screw (P1.7 x 5) (For cabinet G assembly): 0.14 ±0.02 N·m
Tapping screw (P1.7 x 5) (For eye cup installation): 0.16 ±0.02 N·m
Precision screw (P1.7 x 2.5): 0.12 ±0.02 N·m
Precision screw (P1.7 x 4): 0.12 ±0.02 N·m
M2.0 x 4: 0.18 ±0.02 N·m
Tapping screw (M2.0 x 5): 0.18 ±0.02 N·m
P2.6 x 5: 0.4±0.04 N·m

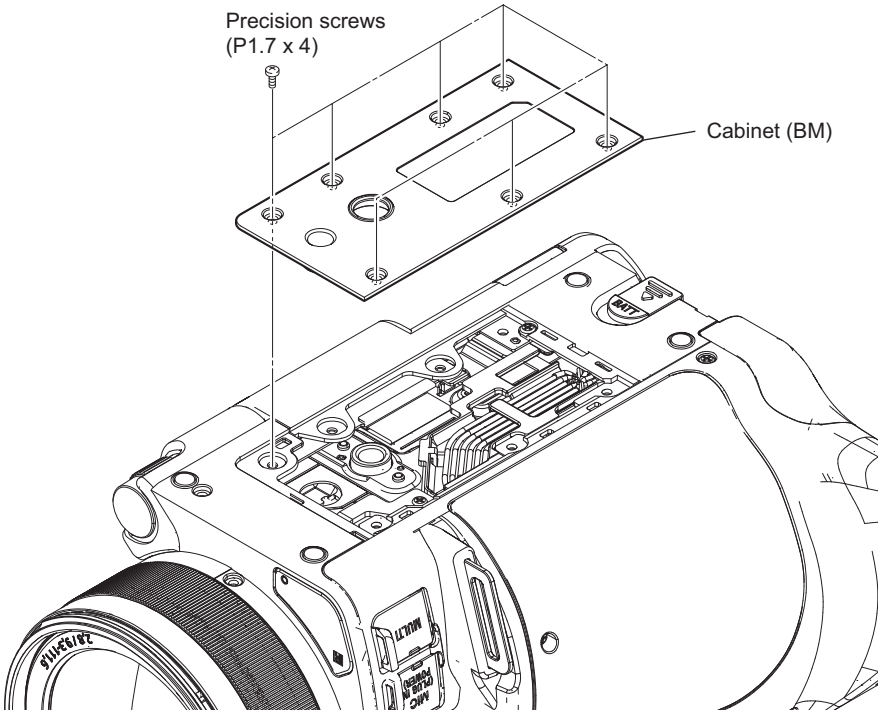
Tip

When using the torque driver with the notation of cN·m, interpret it as follows.
Example: 0.8 N·m = 80 cN·m

3-2. Cabinet (G) Assembly

Procedure

1. Remove the seven screws, and then remove the cabinet (BM).

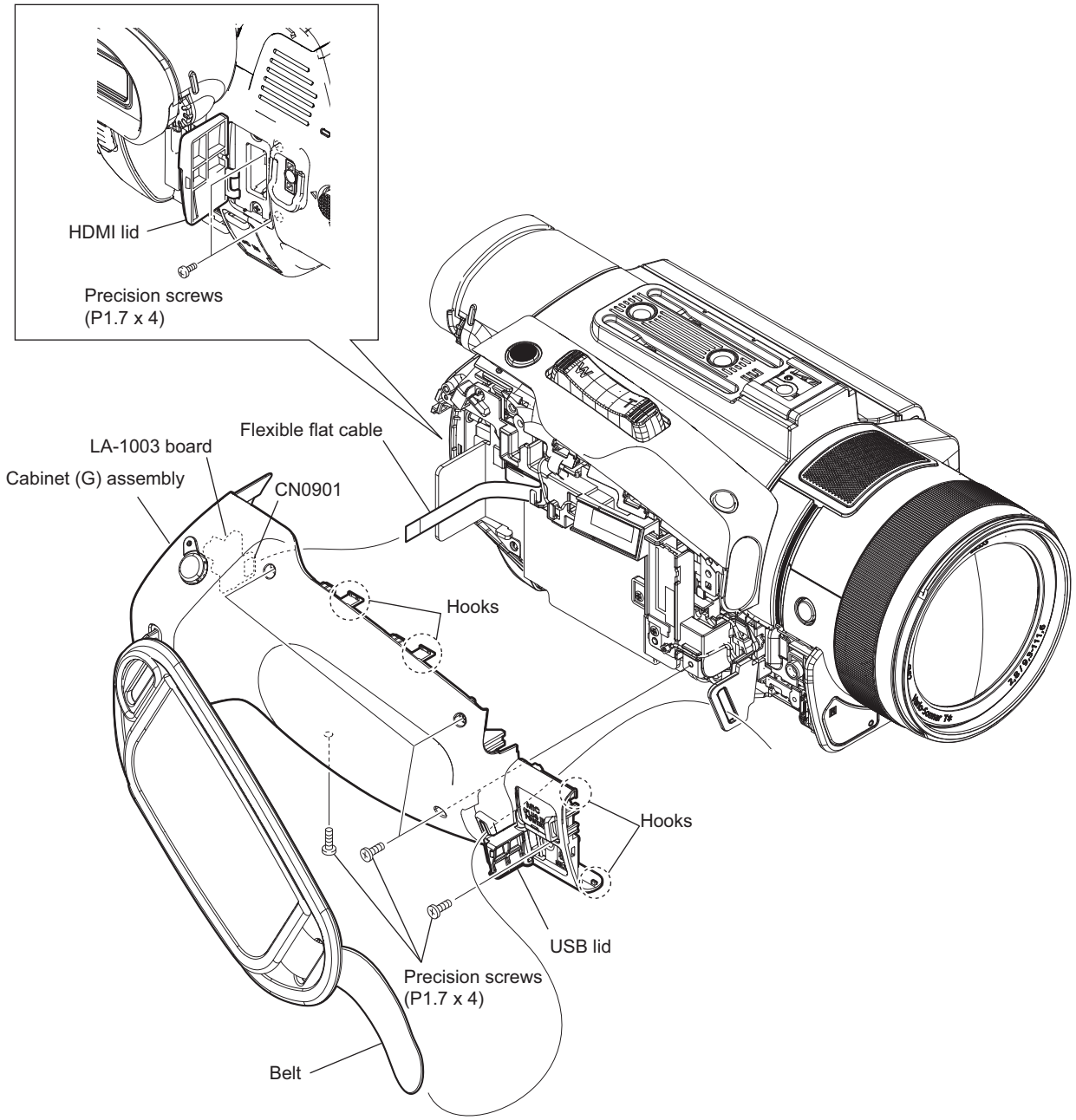


2. Remove the cabinet (G) assembly.
   (1) Release the belt.
   (2) Open the HDMI lid, and then remove the two screws.
   (3) Open the USB lid, and then remove the five screws.
   (4) Release the four hooks, and then draw the cabinet (G) assembly.

   Note

   Be careful not to break the flexible flat cable.

   (5) Disconnect the flexible flat cable from the connector (CN0901) on the LA-1003 board.



3. Install the removed parts by reversing the steps of removal.

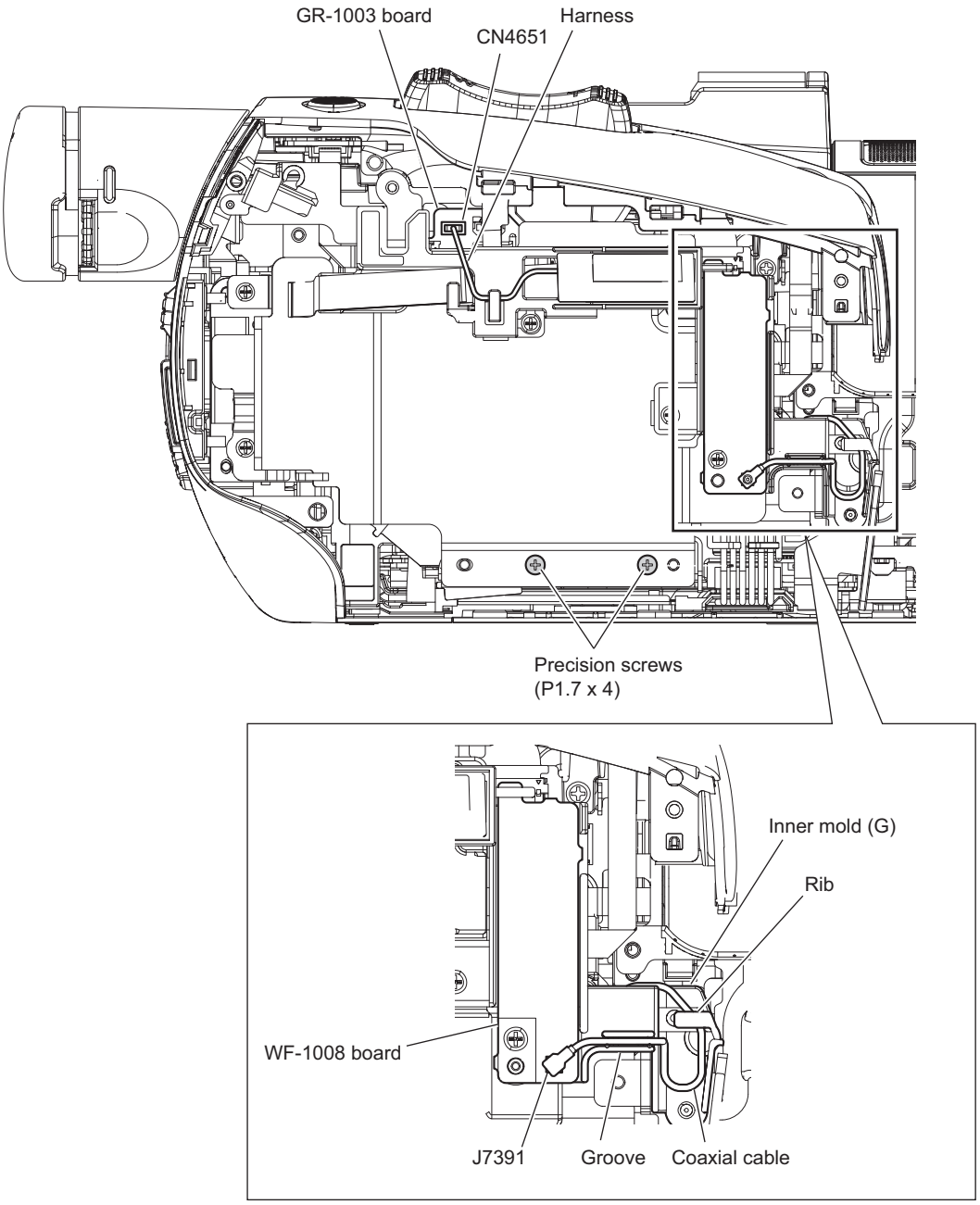
3-3. Heat Sink (GP) Assembly

Preparation

1. Remove the cabinet (G) assembly. (Refer to "3-2. Cabinet (G) Assembly".)

Procedure

1. Disconnect the harness from the connector (CN4651) on the GR-1003 board.
2. Disconnect the coaxial cable from the connector (J7391) on the WF-1008 board.
3. Release the coaxial cable from the groove and rib of the inner mold (G).
4. Remove the two screws.

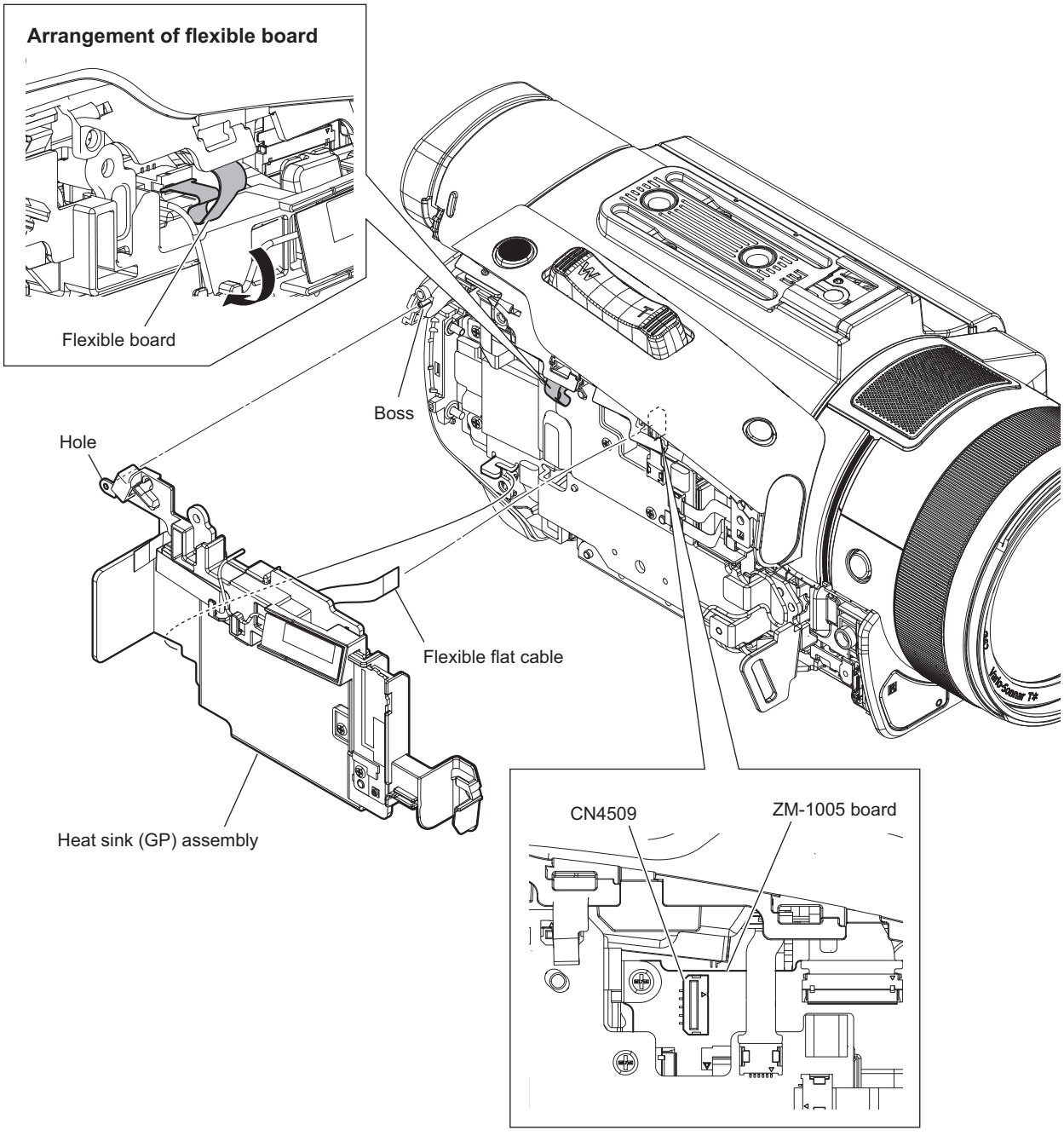


5. Remove the heat sink (GP) assembly.
   (1) Remove the heat sink (GP) assembly.

   Note

   Be careful not to break the flexible flat cable.

   (2) Disconnect the flexible flat cable from the connector (CN4509) on the ZM-1005 board.



   Note

   After installing the heat sink (GP) assembly, push the flexible board as shown in the figure.

6. Install the removed parts by reversing the steps of removal.

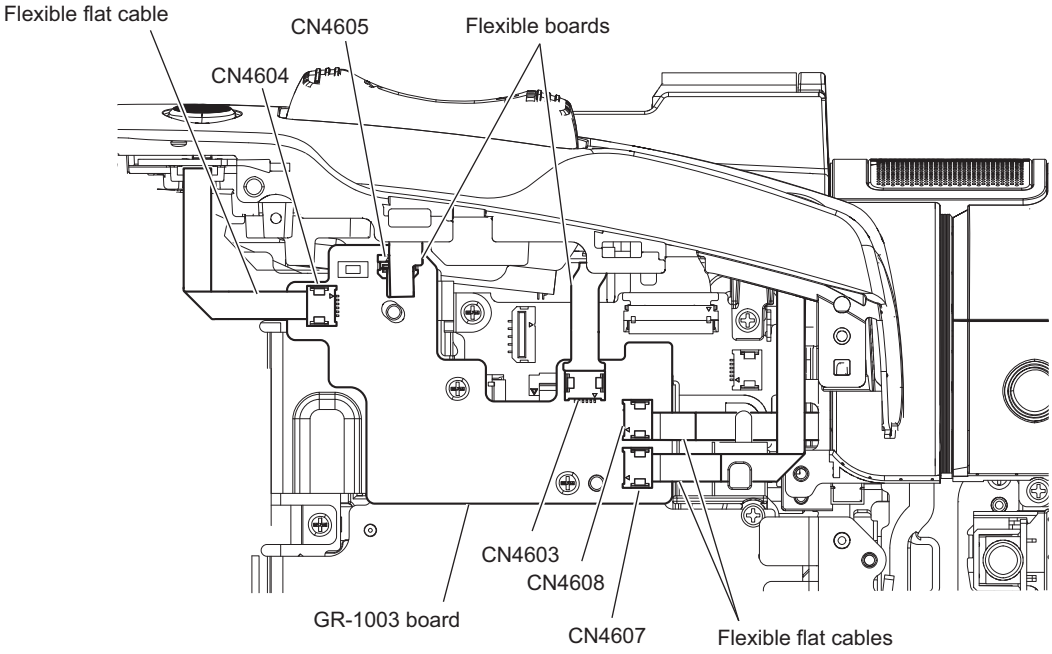
3-4. GR-1003 Board

Preparation

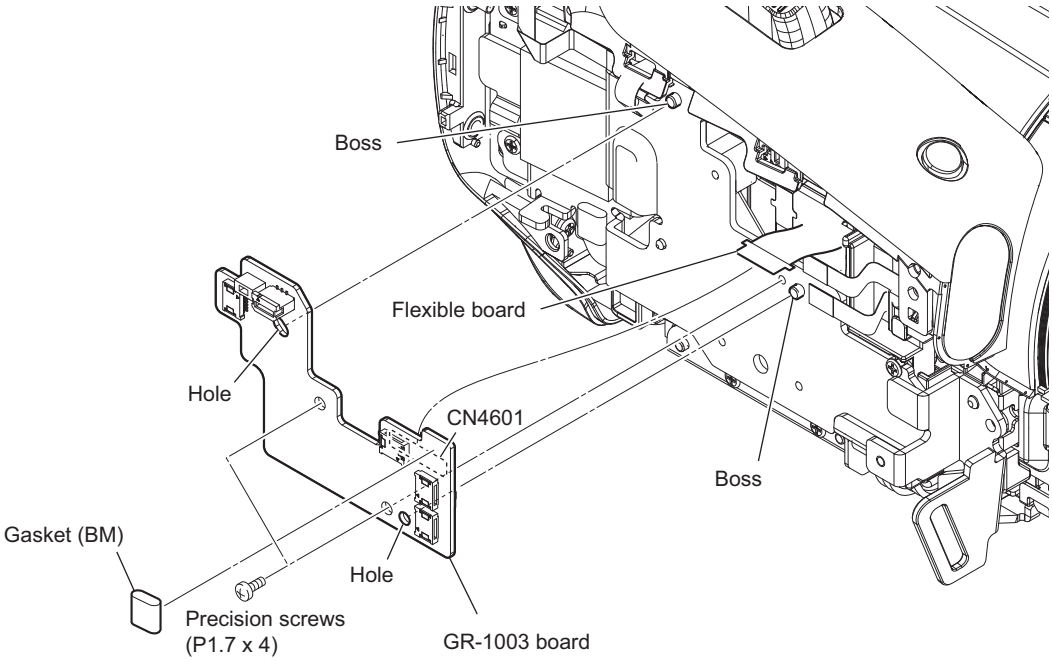
1. Remove the cabinet (G) assembly. (Refer to "3-2. Cabinet (G) Assembly".)
2. Remove the heat sink (GP) assembly. (Refer to "3-3. Heat Sink (GP) Assembly".)

Procedure

1. Disconnect the two flexible boards and three flexible flat cables from the five connectors (CN4603 to CN4605, CN4607, CN4608) on the GR-1003 board.



2. Remove the GR-1003 board.
   (1) Remove the two screws, and then remove the GR-1003 board.
   (2) Disconnect the flexible board from the connector (CN4601) on the GR-1003 board.
   (3) Remove the gasket (BM) from the GR-1003 board.



3. Install the removed parts by reversing the steps of removal.

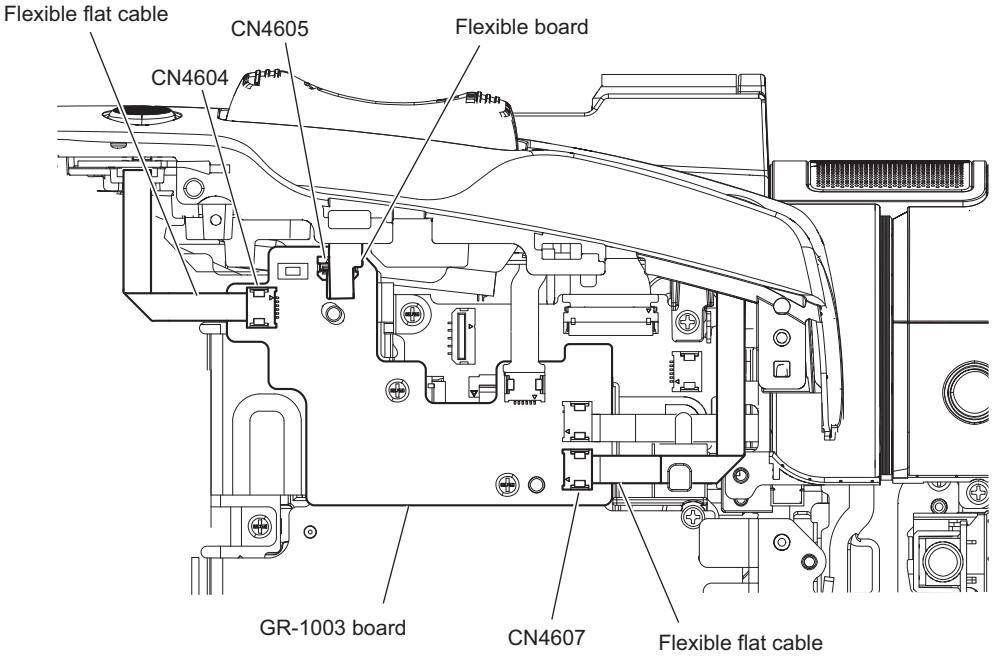
3-5. Top Cabinet Assembly

Preparation

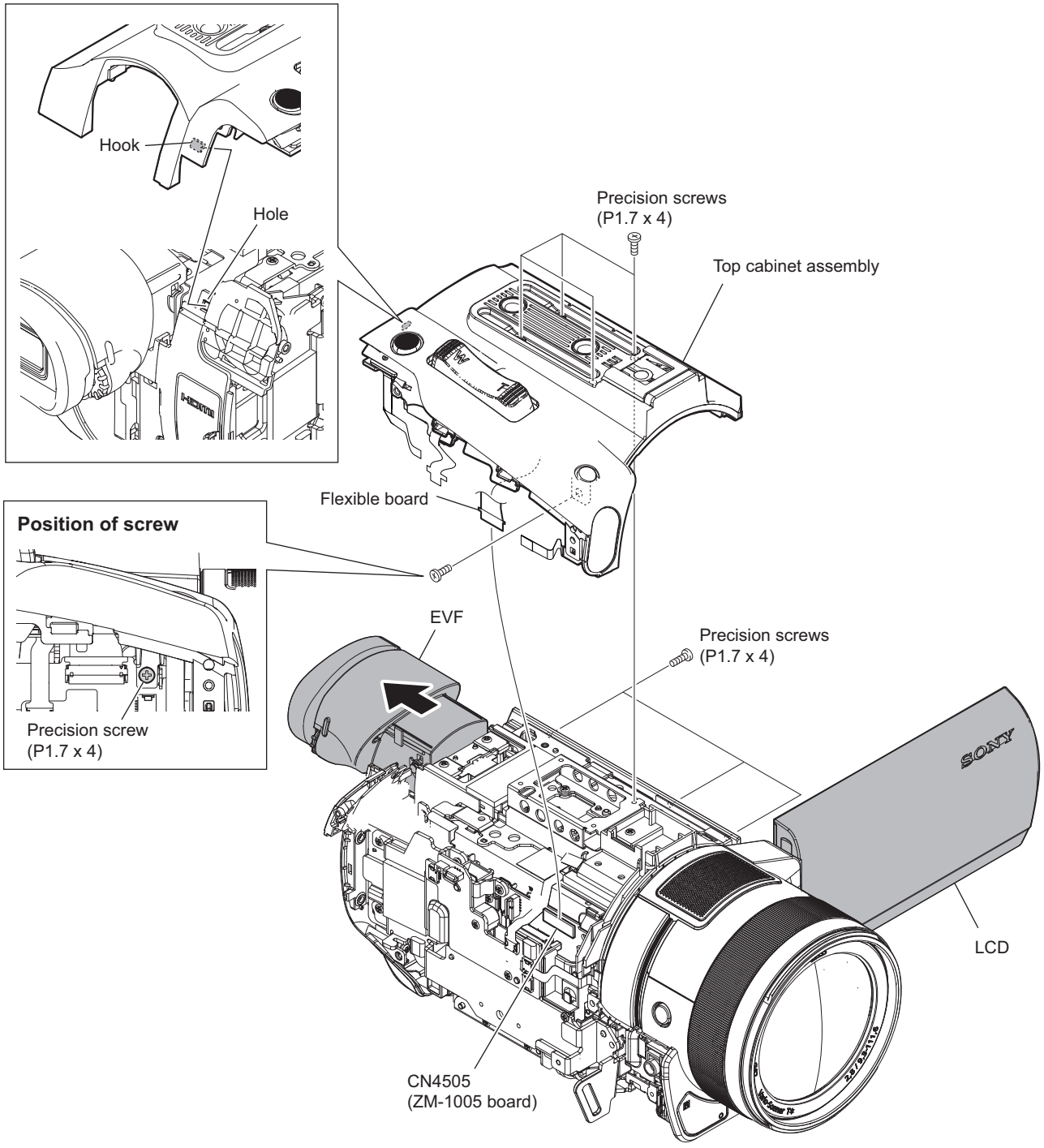
1. Remove the cabinet (G) assembly. (Refer to "3-2. Cabinet (G) Assembly".)
2. Remove the heat sink (GP) assembly. (Refer to "3-3. Heat Sink (GP) Assembly".)

Procedure

1. Disconnect the flexible board and two flexible flat cables from the three connectors (CN4604, CN4605, CN4607) on the GR-1003 board.



2. Remove the top cabinet assembly.
   (1) Open the LCD, and then remove the eight screws.
   (2) Slide the EVF.
   (3) Release the hook, and then remove top cabinet assembly.
   (4) Disconnect the flexible board from the connector (CN4505) on the ZM-1005 board.



3. Install the removed parts by reversing the steps of removal.

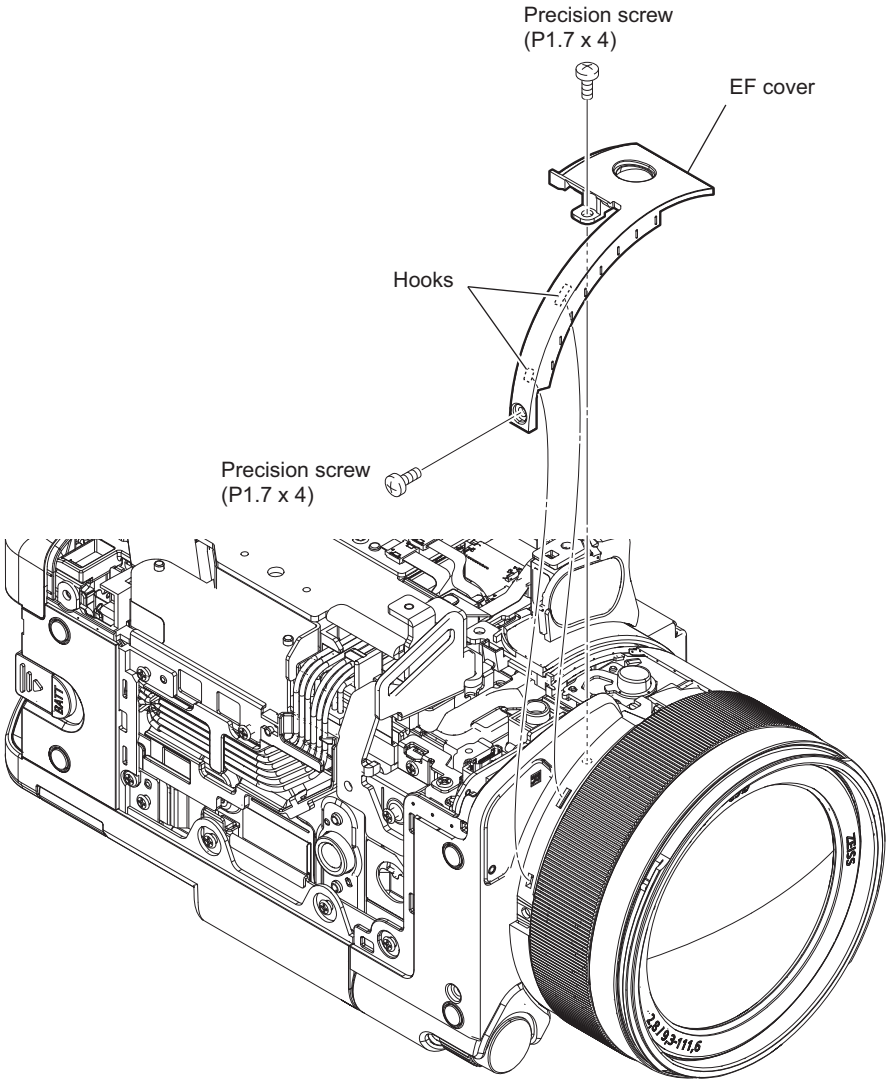
3-6. EF-1003 Board

Preparation

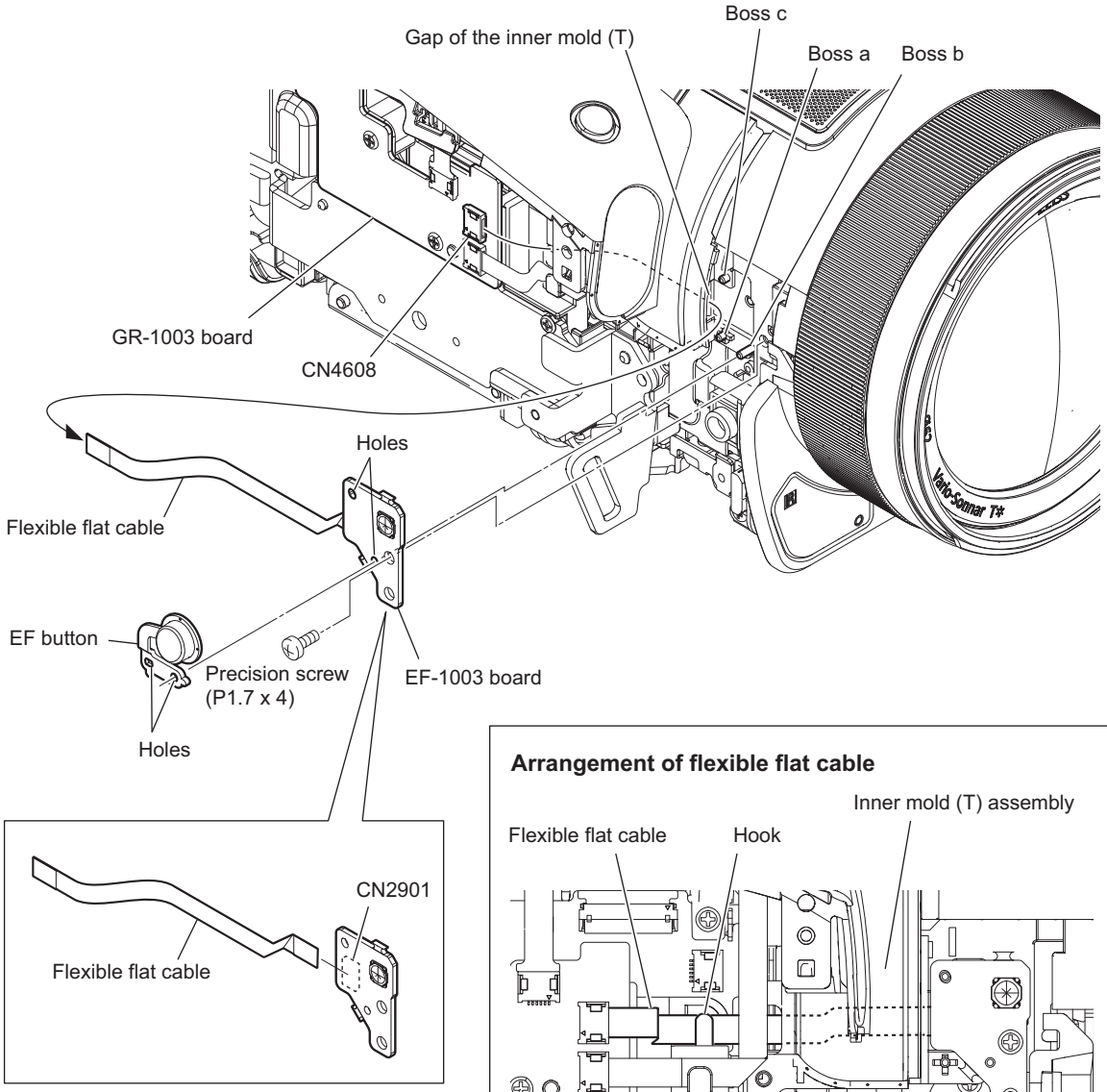
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)

Procedure

1. Remove the EF cover.
   (1) Remove the two screws.
   (2) Release the two hooks, and then remove the EF cover.



2. Remove the EF-1003 board.
   (1) Release the boss a, boss b from the two holes, and then remove the EF button.
   (2) Disconnect the flexible flat cable from the connector (CN4608) on the GR-1003 board.
   (3) Remove the screw.
   (4) Release the boss a, boss c from the two holes, and then remove the EF-1003 board.
   (5) Pull the flexible flat cable through the gap of the inner mold (T) assembly.
   (6) Disconnect the flexible flat cable from the connector (CN2901) on the EF-1003 board.



Note

When installing the EF-1003 board, pass the flexible flat cable through the gap of the inner mold (T) assembly as shown in the figure, and then hook it on the hook.

3. Install the removed parts by reversing the steps of removal.

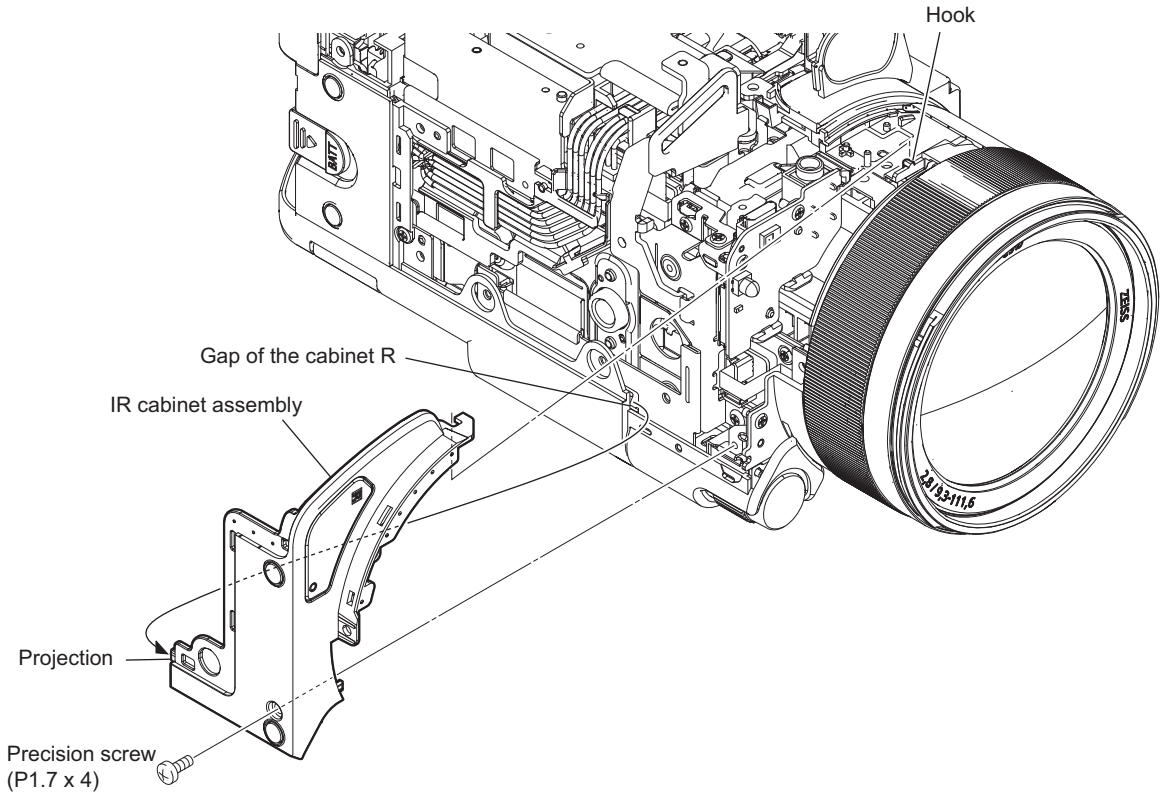
3-7. IR-1009 Board

Preparation

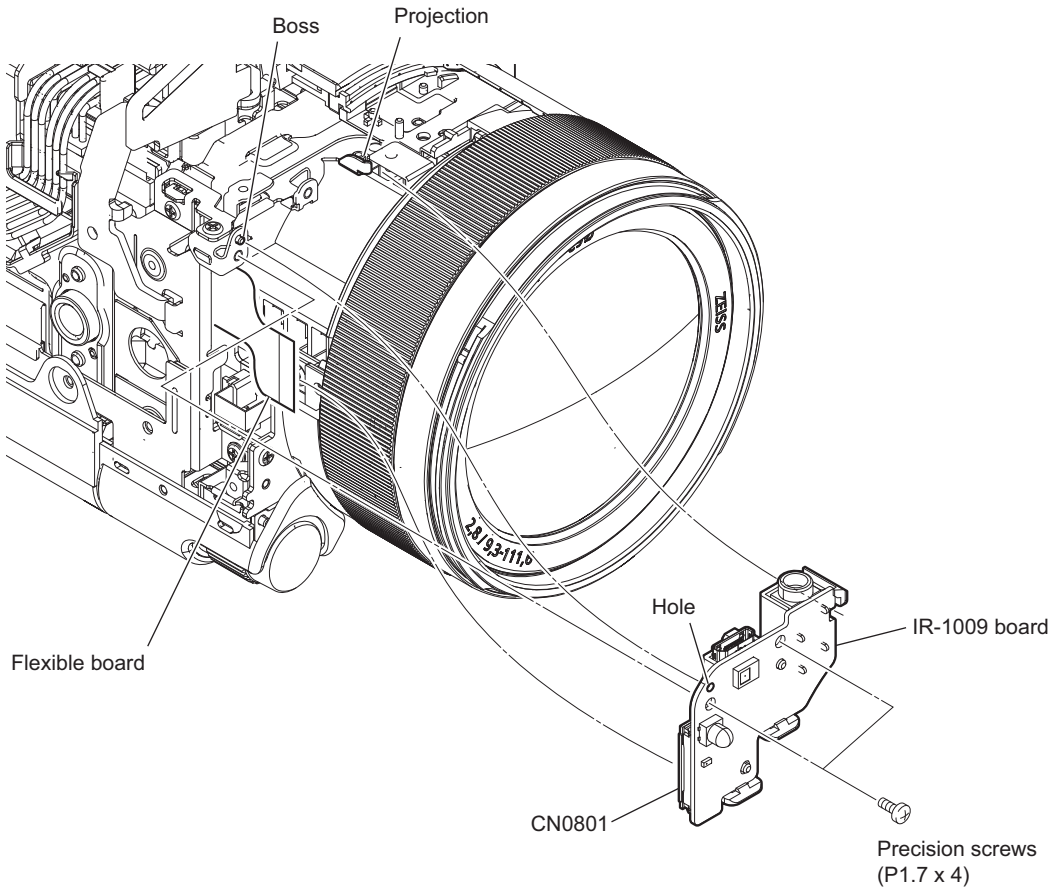
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)

Procedure

1. Remove the IR cabinet assembly.
   (1) Remove the screw.
   (2) Release the hook, and then release the projection of the IR cabinet assembly from the gap of the cabinet R.



2. Remove the IR-1009 board.
   (1) Remove the two screws, and then remove the IR-1009 board.
   (2) Disconnect the flexible board from the connector (CN0801) on the IR-1009 board.



3. Install the removed parts by reversing the steps of removal.

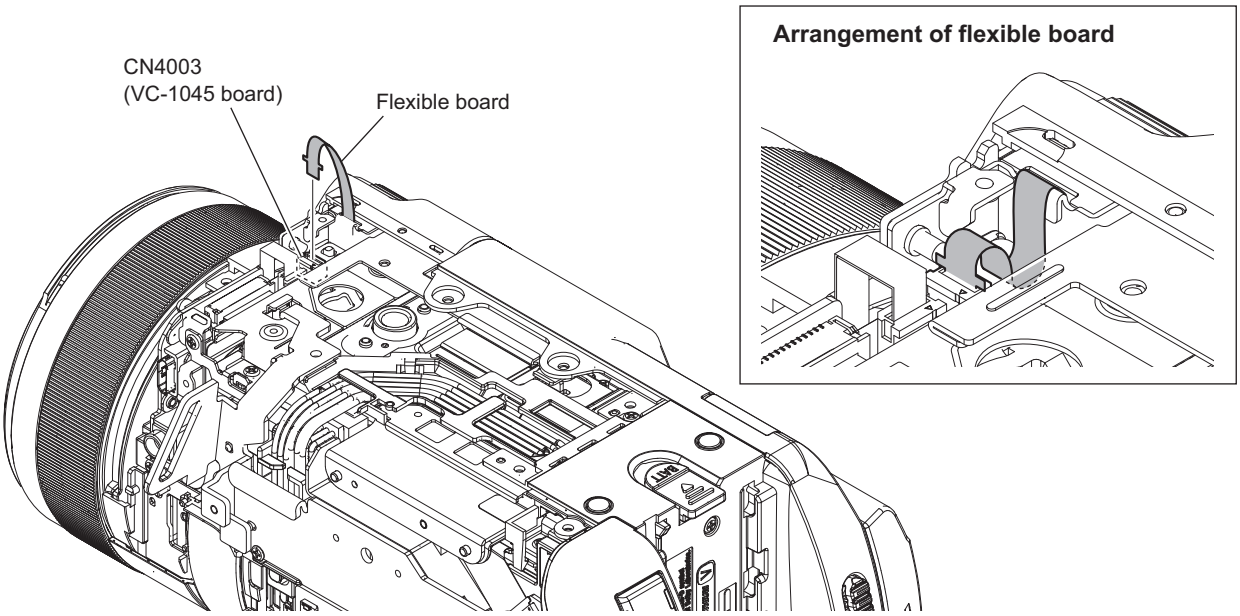
3-8. Inner Mold (T) Assembly

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)

Procedure

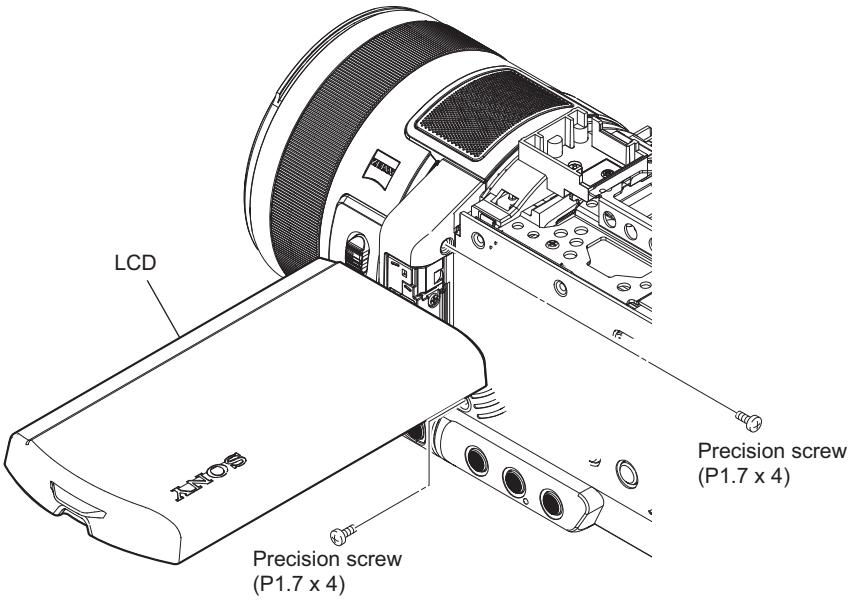
1. Disconnect the flexible board from the connector (CN4003) on the VC-1045 board.



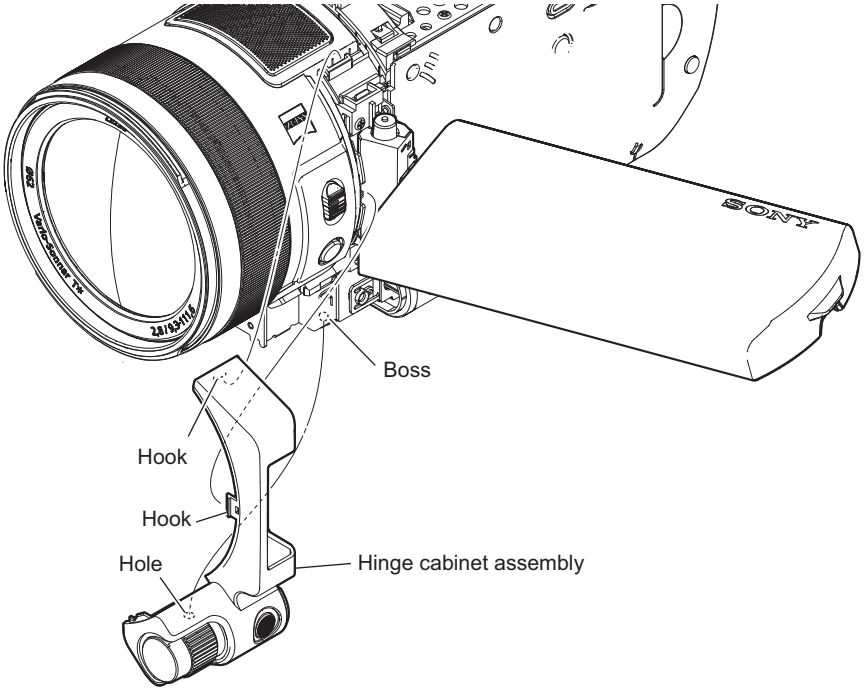
Note

When connecting the flexible board, push the flexible board as shown in the figure.

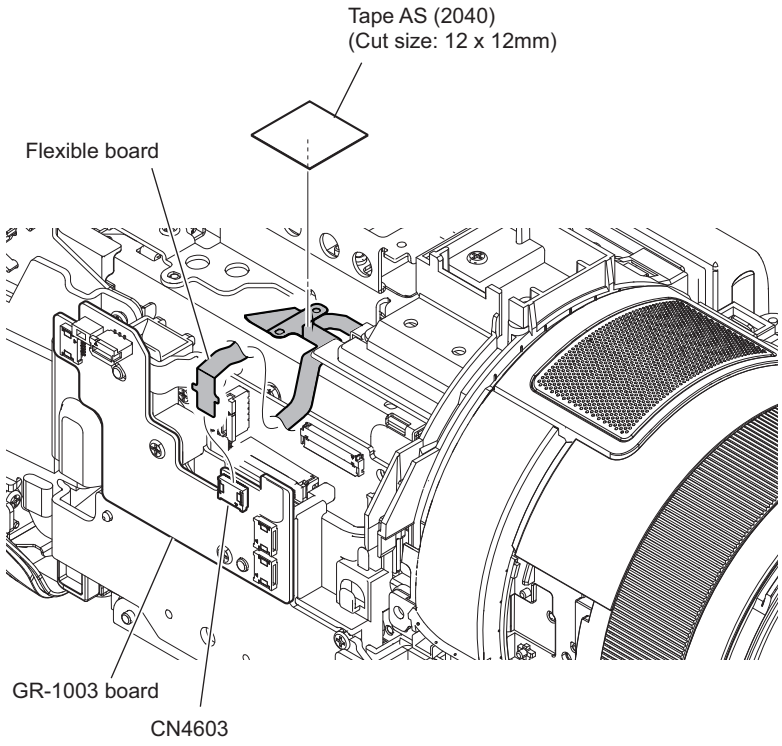
2. Remove the hinge cabinet assembly.
   (1) Open the LCD, and then rotate it as shown in the figure.
   (2) Remove the two screws.



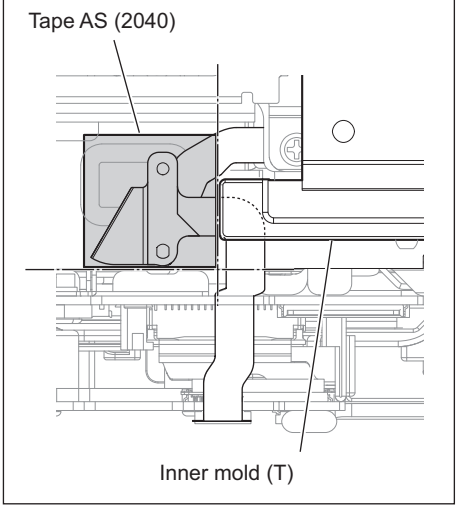
3. Turn the LCD as shown in the figure.
4. Release the boss and two hooks, and then remove the hinge cabinet assembly.



5. Disconnect the flexible board.
   (1) Peel off the tape AS (2040).
   (2) Disconnect the flexible board from the connector (CN4603) on the GR-1003.



Position of tape AS (2040)

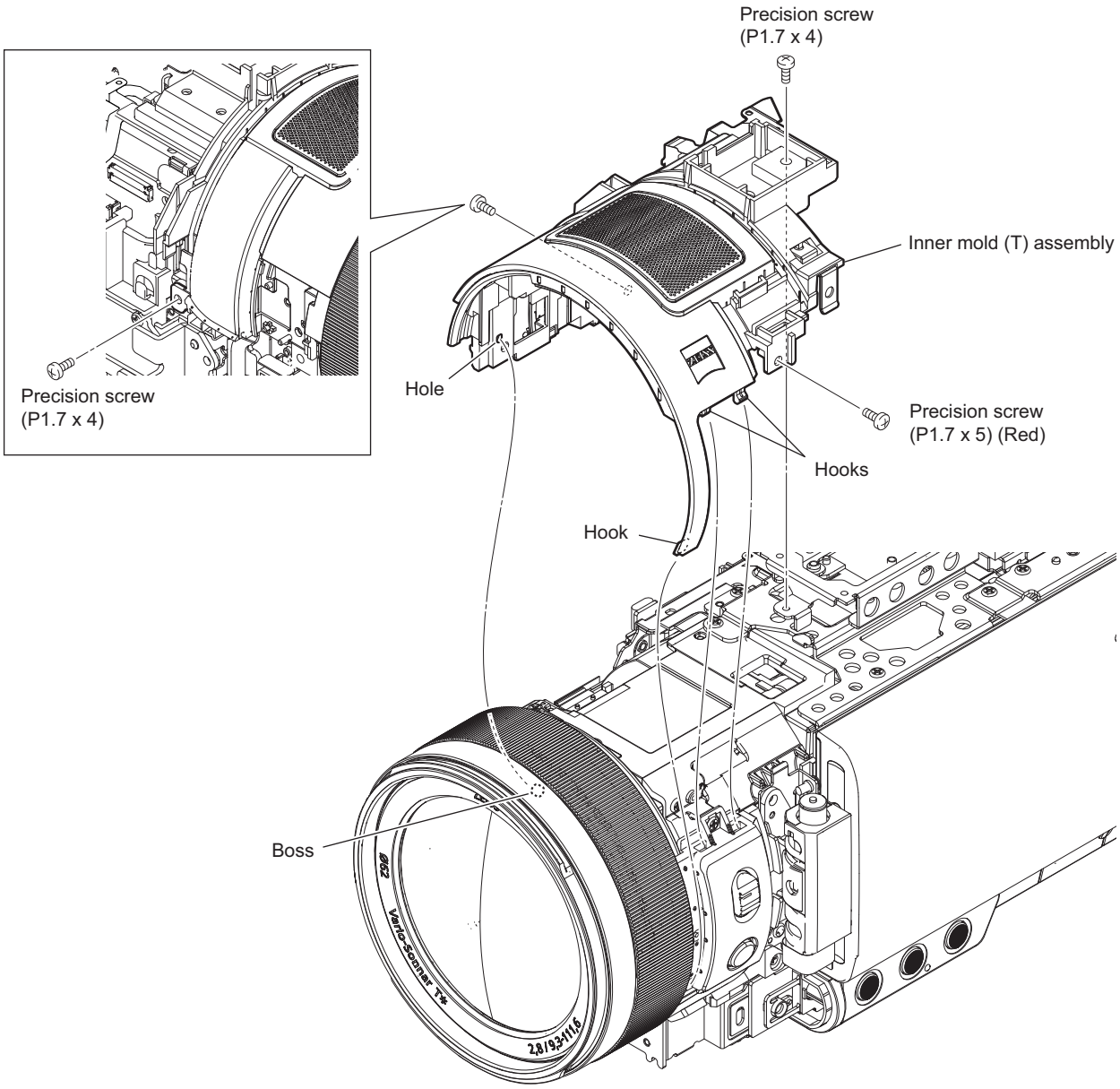


Note

When connecting the flexible board, observe the following instructions.

- Check that the flexible board passes under the inner mold (T).
- Attach the tape AS (2040) to the position shown in the figure.
- When using the new tape AS (2040), cut it to the designated size.

6. Remove the inner mold (T) assembly.
   (1) Remove the two screws (precision screw (P1.7 x 4)) and screw (precision screw (P1.7 x 5) (red)).
   (2) Release the boss and three hooks, and then remove the inner mold (T) assembly.



7. Install the removed parts by reversing the steps of removal.

3-9. Cabinet (R) Section

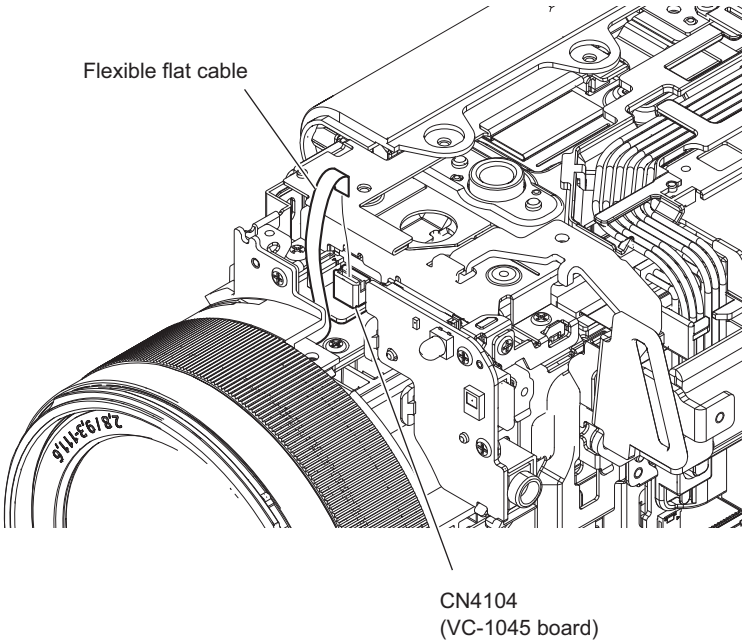
3-9-1. Cabinet (R) Assembly

Preparation

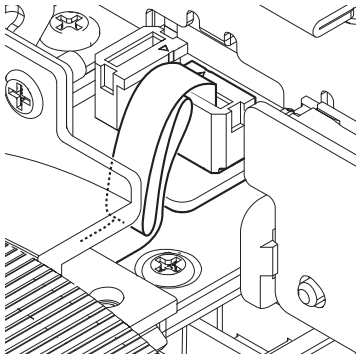
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)

Procedure

1. Disconnect the flexible flat cable from the connector (CN4104) on the VC-1045 board.



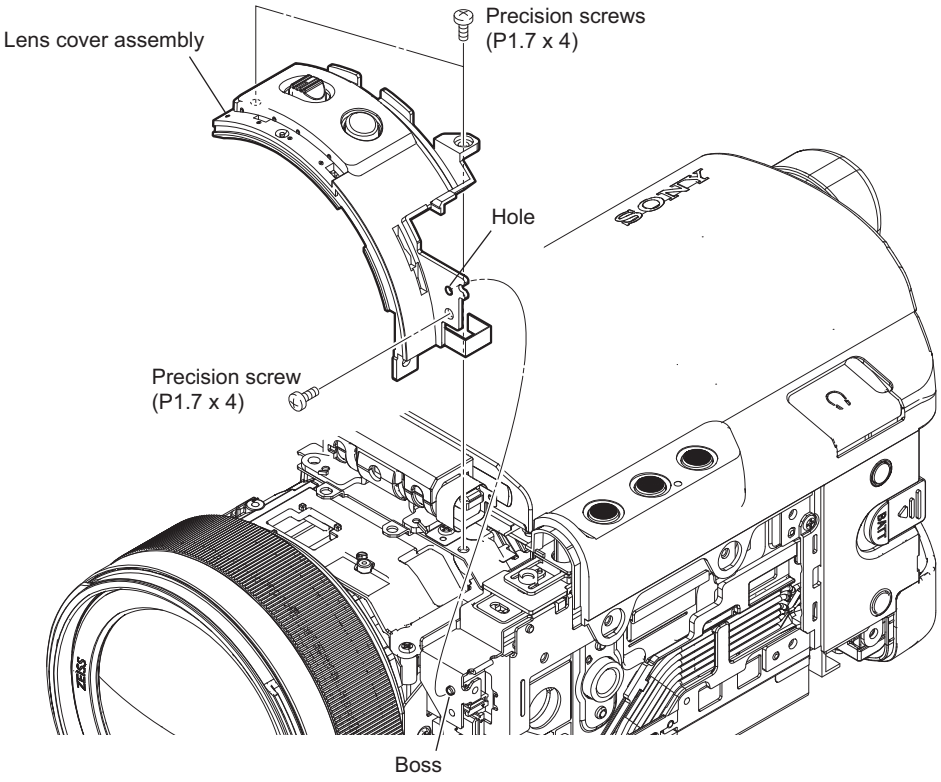
Arrangement of flexible flat cable



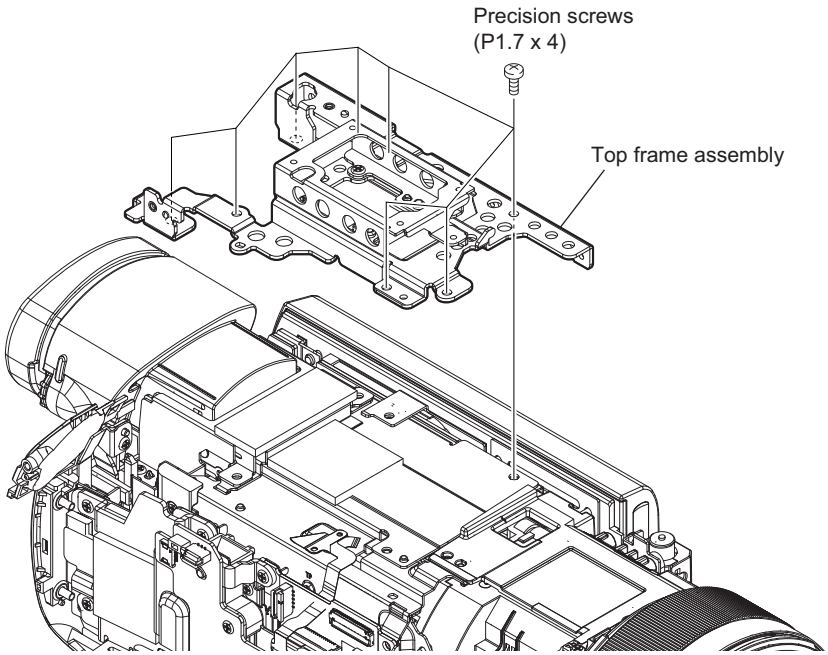
Note

When installing the lens cover assembly, arrange the flexible flat cable as shown in the figure.

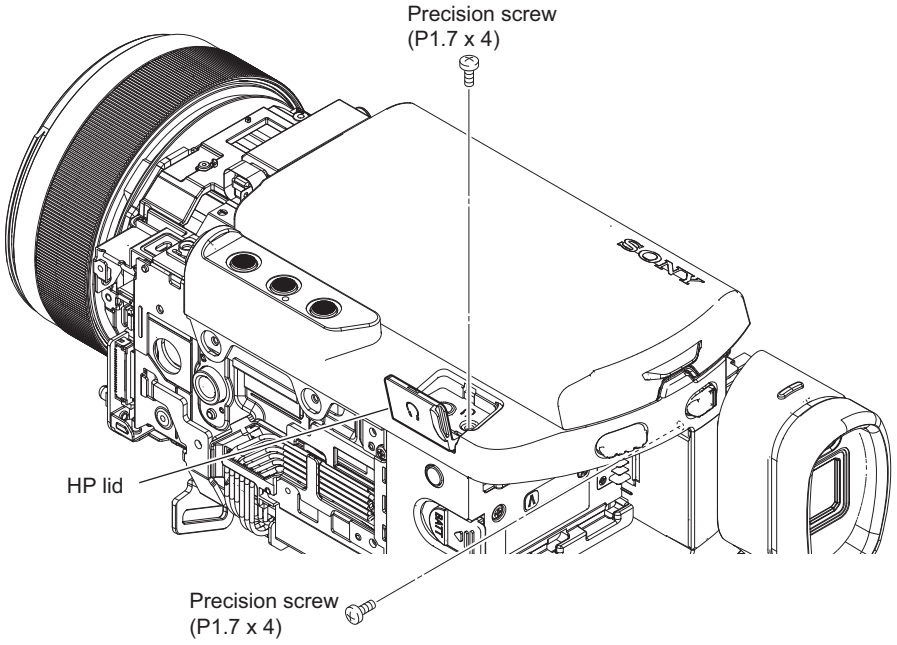
2. Remove the lens cover assembly.
   (1) Remove the three screws.
   (2) Release the boss, and then remove the lens cover assembly.



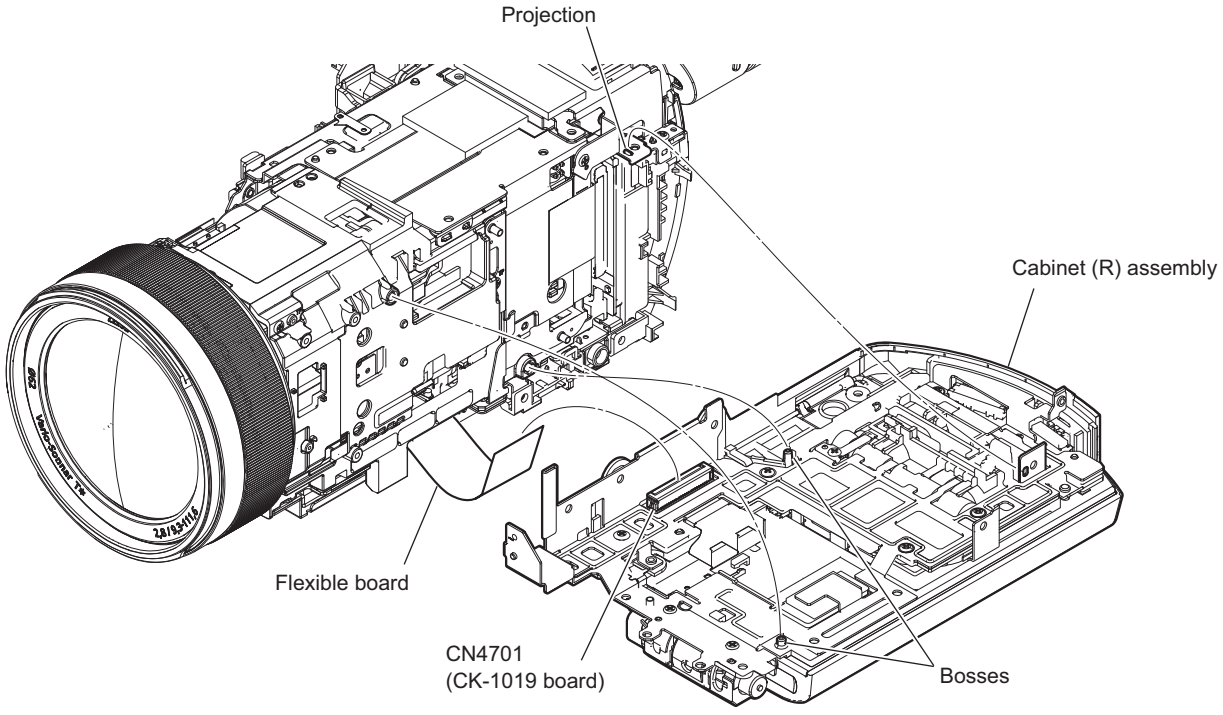
3. Remove the eight screws, and then top frame assembly.



4. Remove the cabinet (R) assembly.
   (1) Open the HP lid, and then remove the two screws.



   (2) Release the two bosses and projection, and then open the cabinet (R) assembly.
   (3) Disconnect the flexible board from the connector (CN4701) on the CK-1019 board.



5. Install the removed parts by reversing the steps of removal.

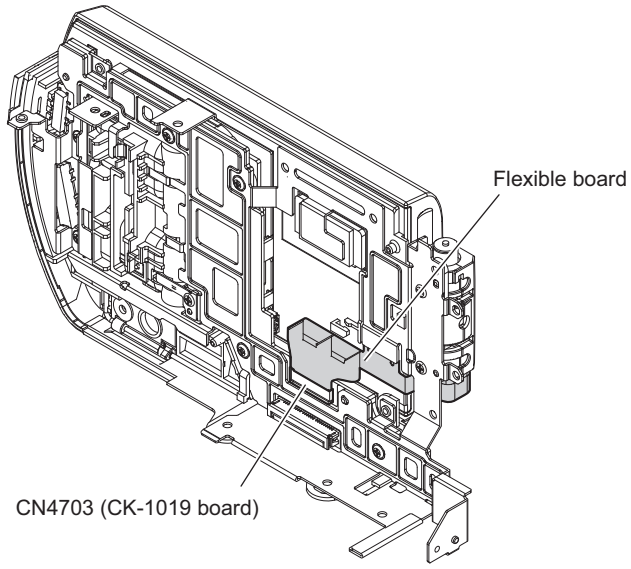
3-9-2. CK-1019 Board

Preparation

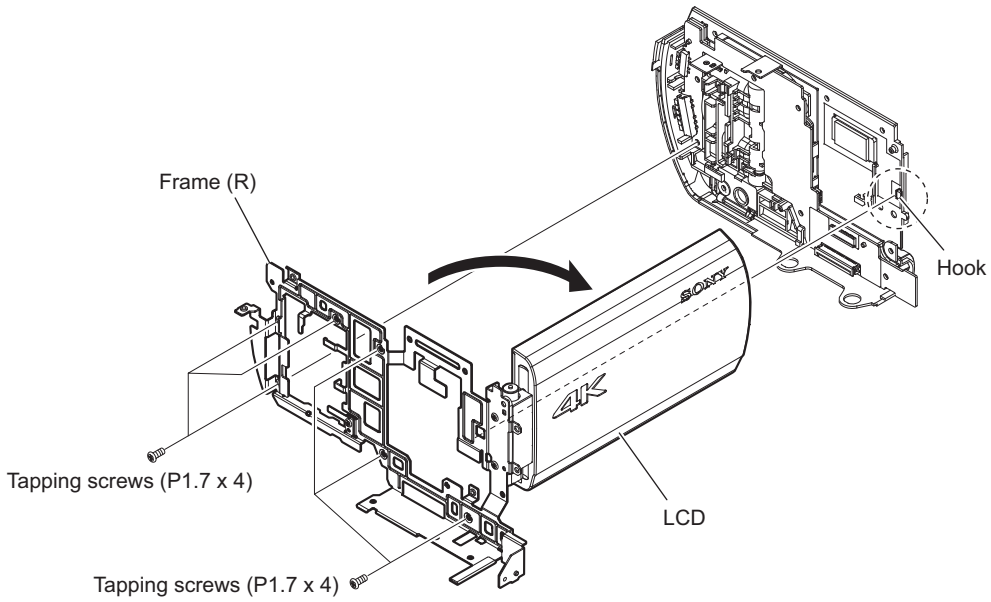
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)

Procedure

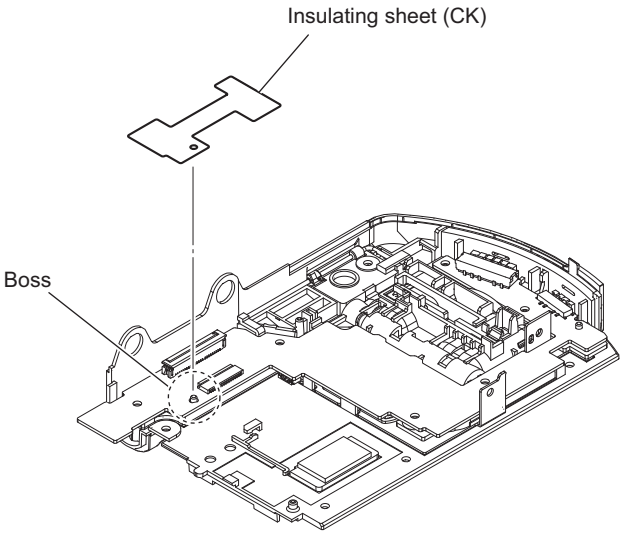
1. Disconnect the flexible board from the connector (CN4703) on the CK-1019 board.



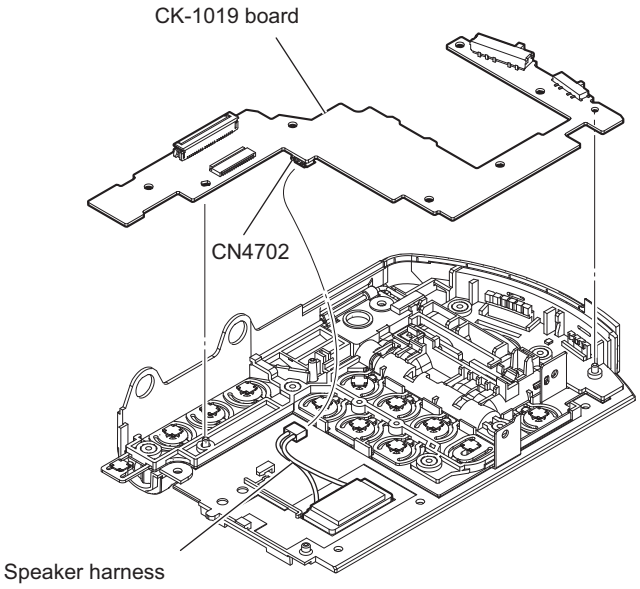
2. Remove the six screws and open the LCD, and then remove the frame (R).



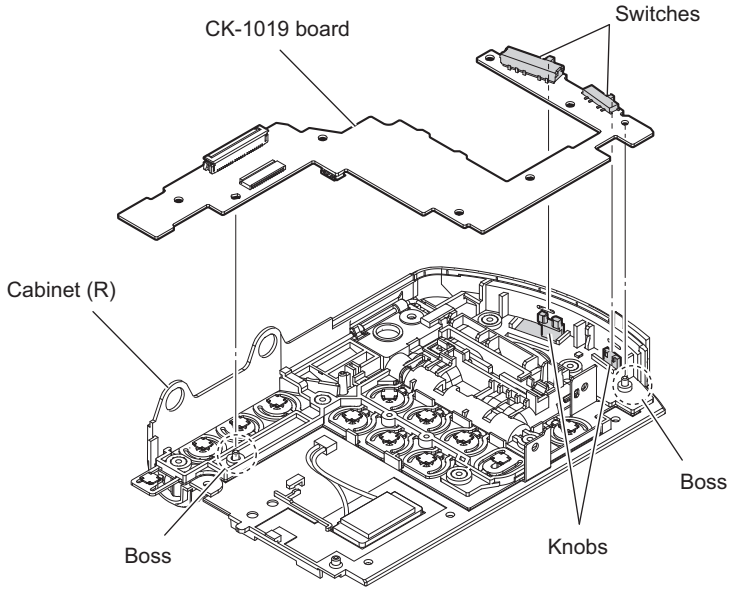
3. Peel off the insulating sheet (CK).



4. Remove the CK-1019 board.
   (1) Disconnect the speaker harness from the connector (CN4702) on the CK-1019 board.
   (2) Remove the CK-1019 board.



5. Align the two switches on the new CK-1019 board with the two knob positions on the cabinet (R) and install it.



6. Install in the reverse procedure of steps 1 to 4 in procedure.

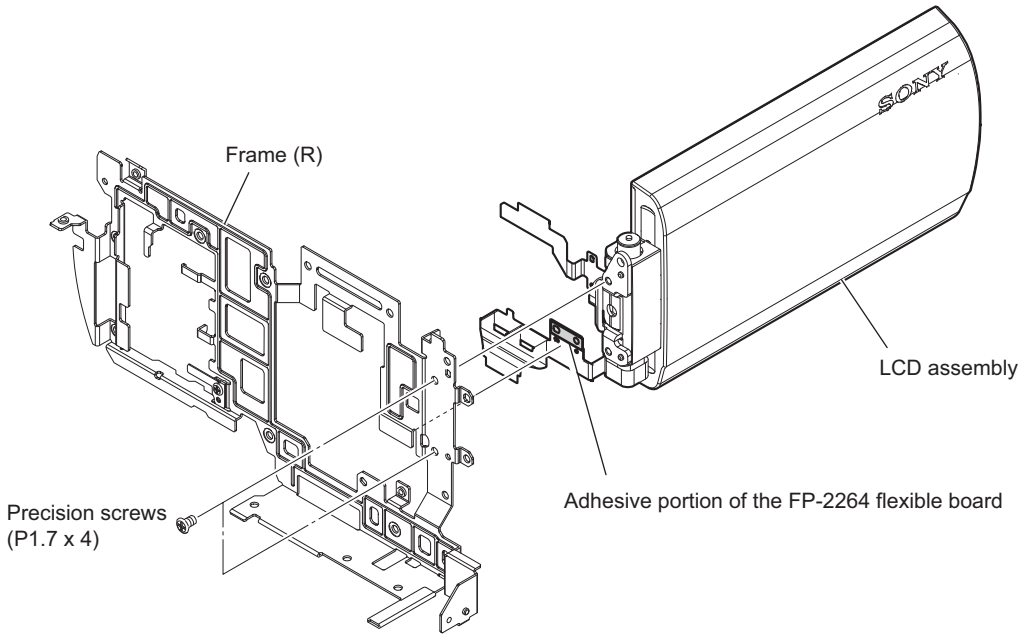
3-9-3. PD-1054 Board

Preparation

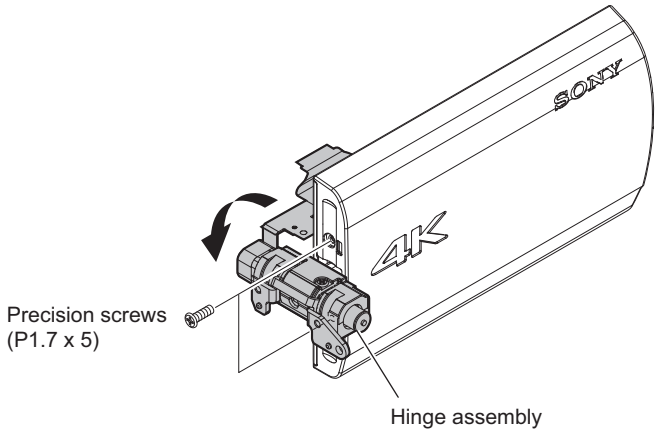
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the frame (R). (Refer to “3-9-2. CK-1019 Board”.)

Procedure

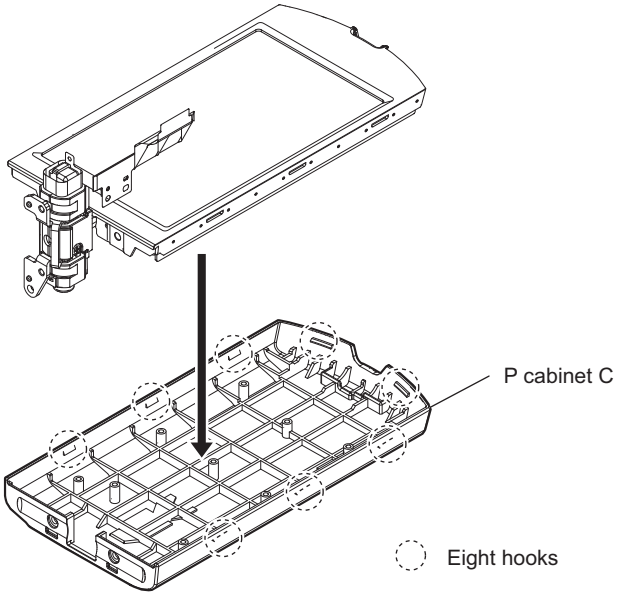
1. Remove the LCD assembly.
   (1) Remove the two screws.
   (2) Peel off the adhesive portion of the FP-2264 flexible board, and then remove the LCD assembly.



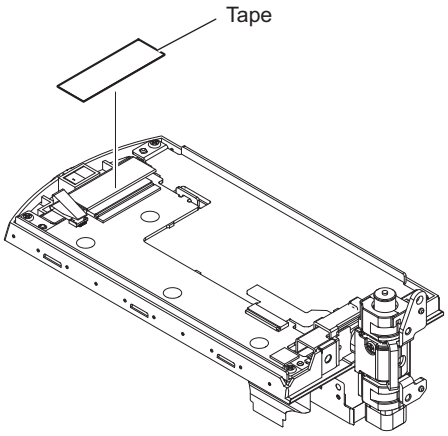
2. Rotate the hinge assembly in the direction of the arrow, and then remove the two screws.



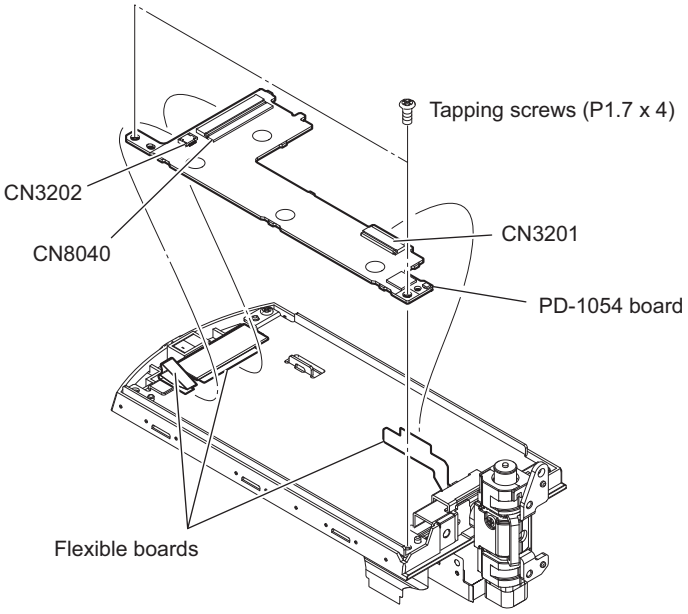
3. Release the eight hooks, and then remove the P cabinet C.



4. Peel off the tape.



5. Remove the PD-1054 board.
   (1) Disconnect the three flexible boards from the three connectors (CN3201, CN3202, CN8040) on the PD-1054 board.
   (2) Remove the two screws, and then remove PD-1054 board.



6. Install the removed parts by reversing the steps of removal.

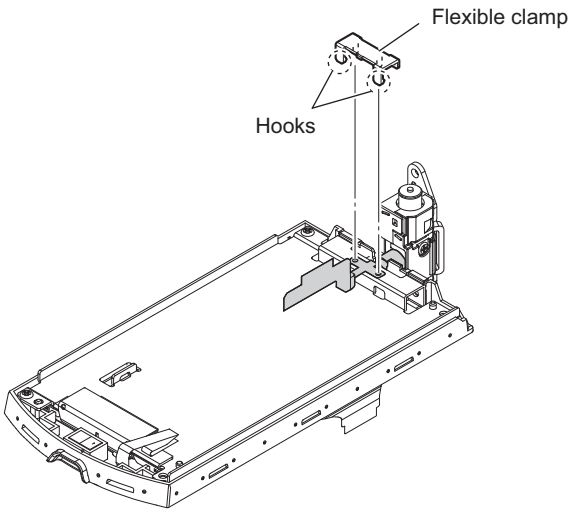
3-9-4. Display Module

Preparation

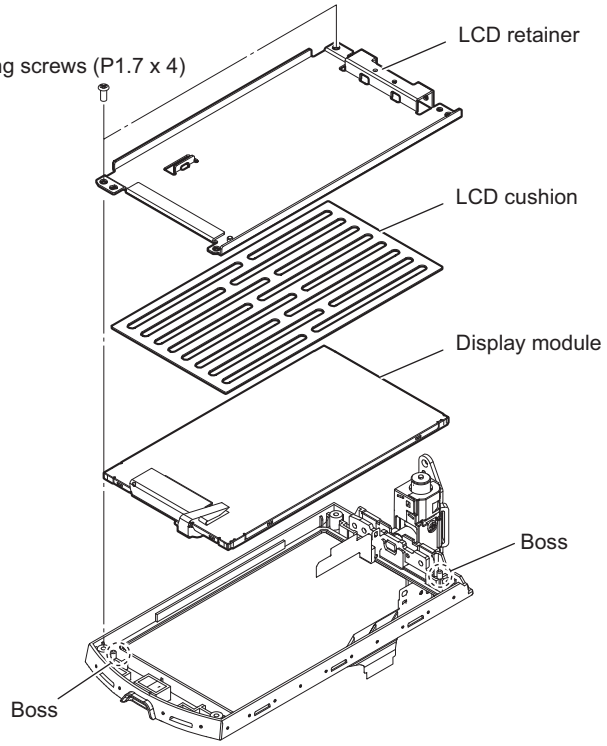
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the frame (R). (Refer to “3-9-2. CK-1019 Board”.)
9. Remove the PD-1054 board. (Refer to “3-9-3. PD-1054 Board”.)

Procedure

1. Release the two hooks, and then remove the flexible clamp.



2. Remove the display module.
   (1) Remove the two screws, and then remove the LCD retainer.
   (2) Remove the LCD cushion and display module.

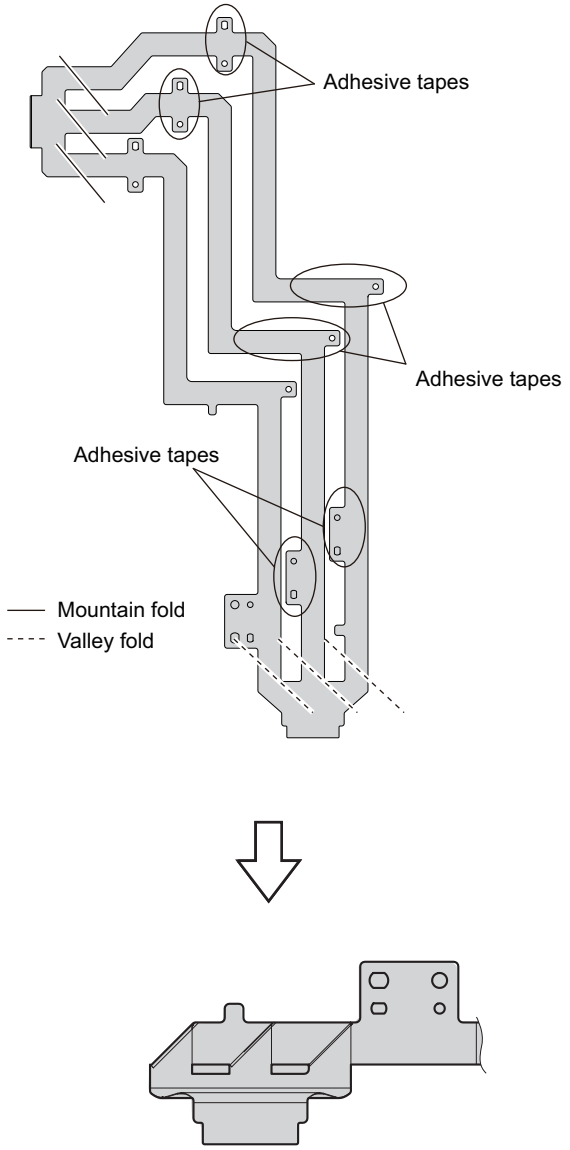


3. Install the removed parts by reversing the steps of removal.

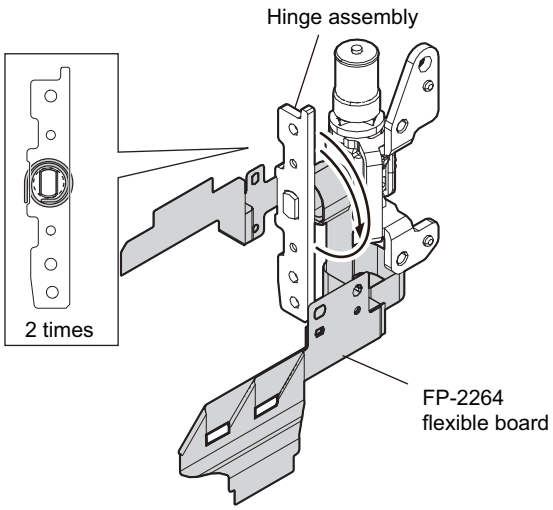
3-9-5. Installation of the FP-2264 Flexible Board and Magnet

When removing the FP-2264 flexible board, install it as follows.

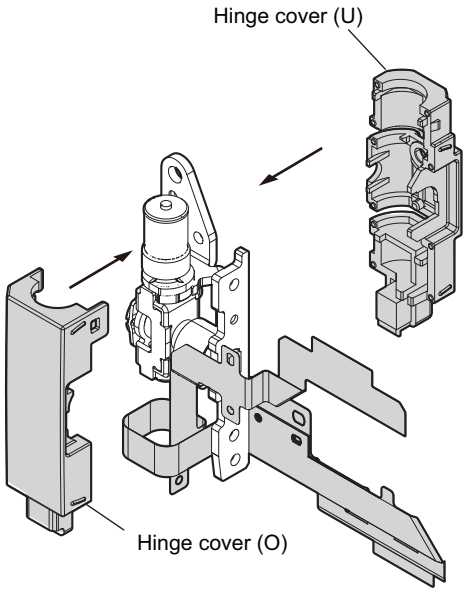
1. Fold dotted line parts of the FP-2264 flexible board as shown in figure.



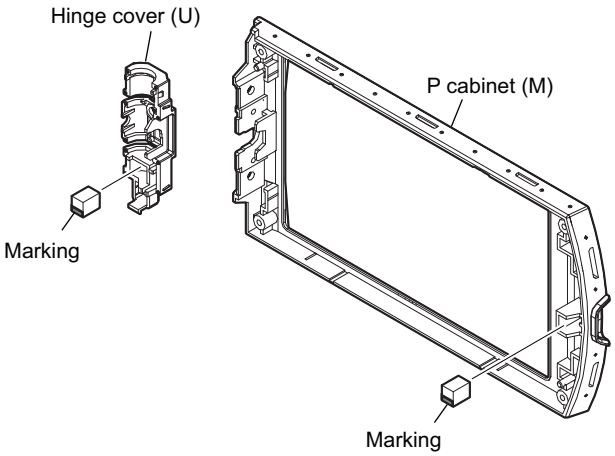
2. Roll the FP-2264 flexible board 2 times in the hinge assembly as shown in figure.



3. Install the hinge cover (U) /hinge cover (O).



When removing the magnets, install them in the direction of the figure below.



3-10. BT Panel Section

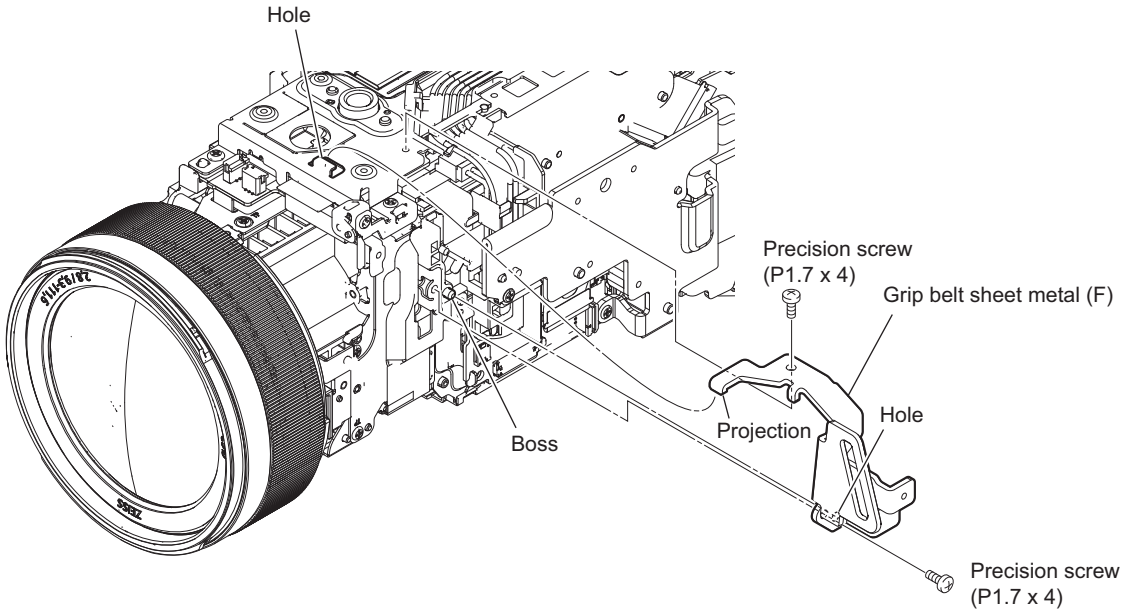
3-10-1. BT Panel Assembly

Preparation

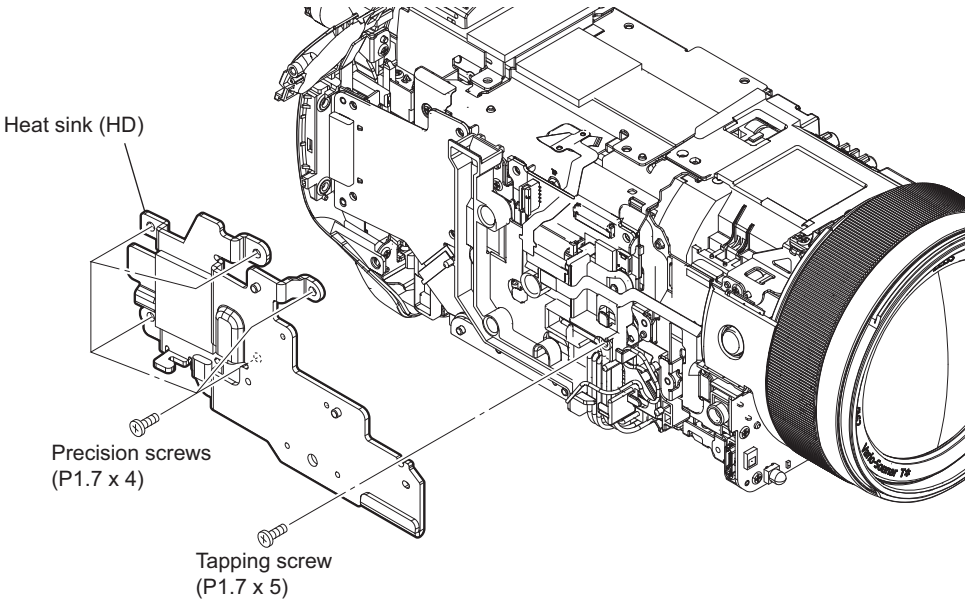
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)

Procedure

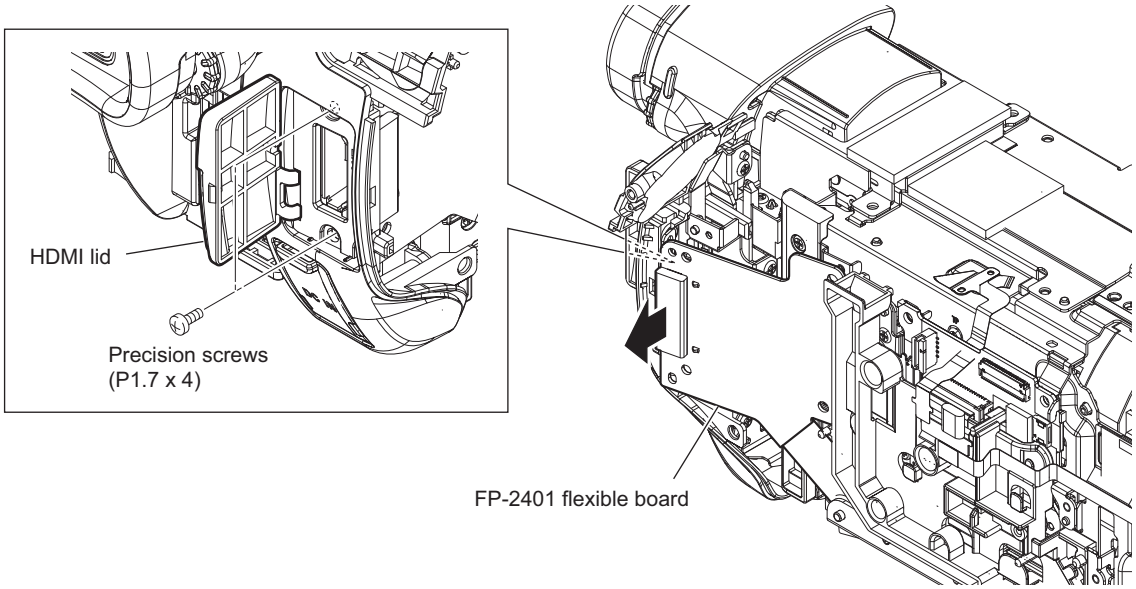
1. Remove the grip belt sheet metal (F).
   (1) Remove the two screws.
   (2) Release the projection and boss, and then remove the grip belt sheet metal (F).



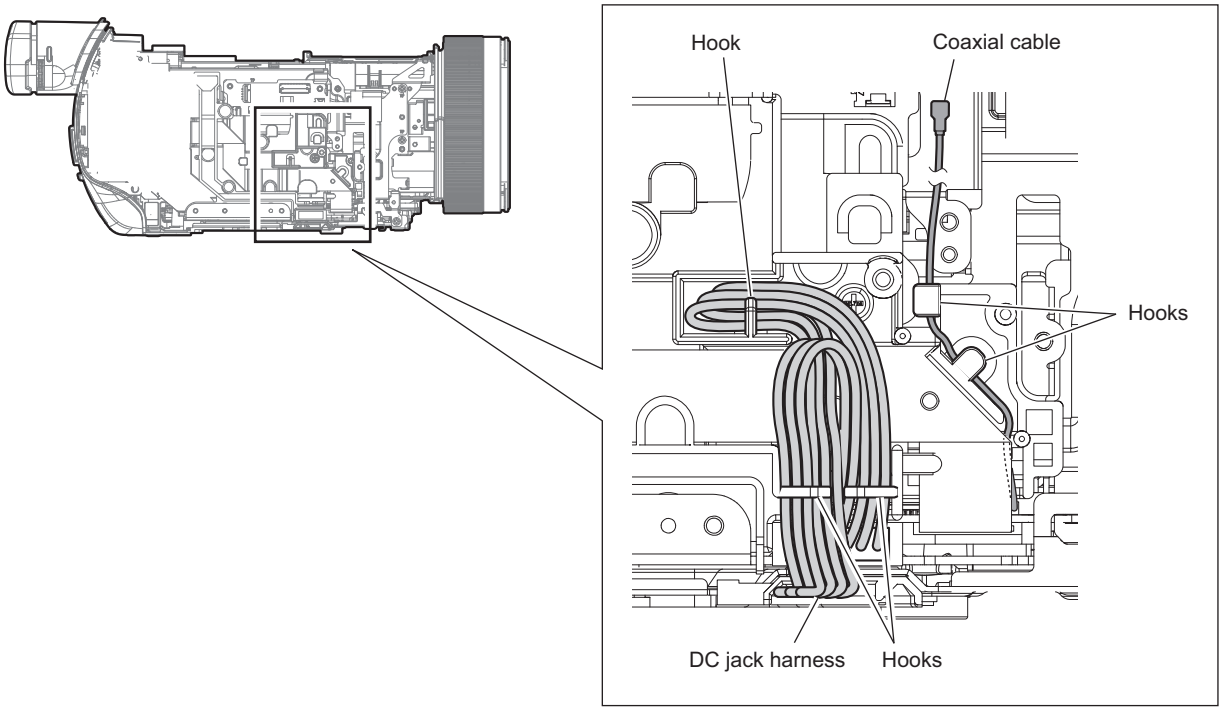
2. Remove the five screws (precision screw (P1.7 x 4)) and screw (tapping screw (P1.7 x 4)), and then remove the heat sink (HD).



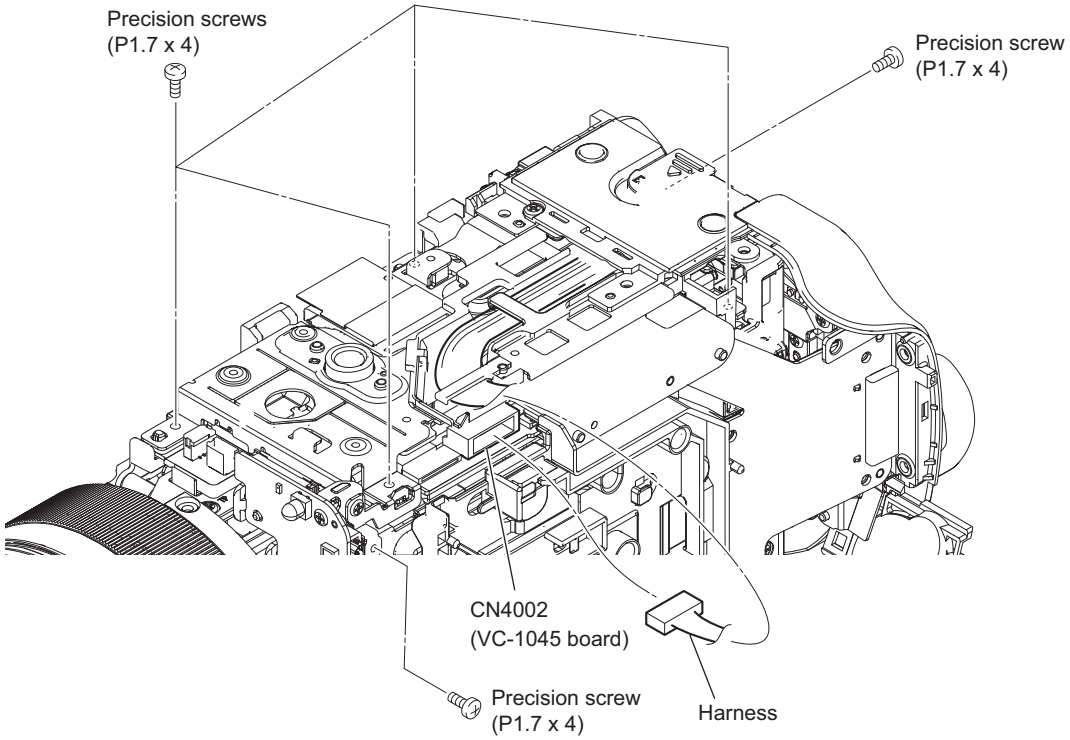
3. Draw the FP-2401 flexible board.
   (1) Open the HDMI lid, and then remove the two screws.
   (2) Draw the FP-2401 flexible board.



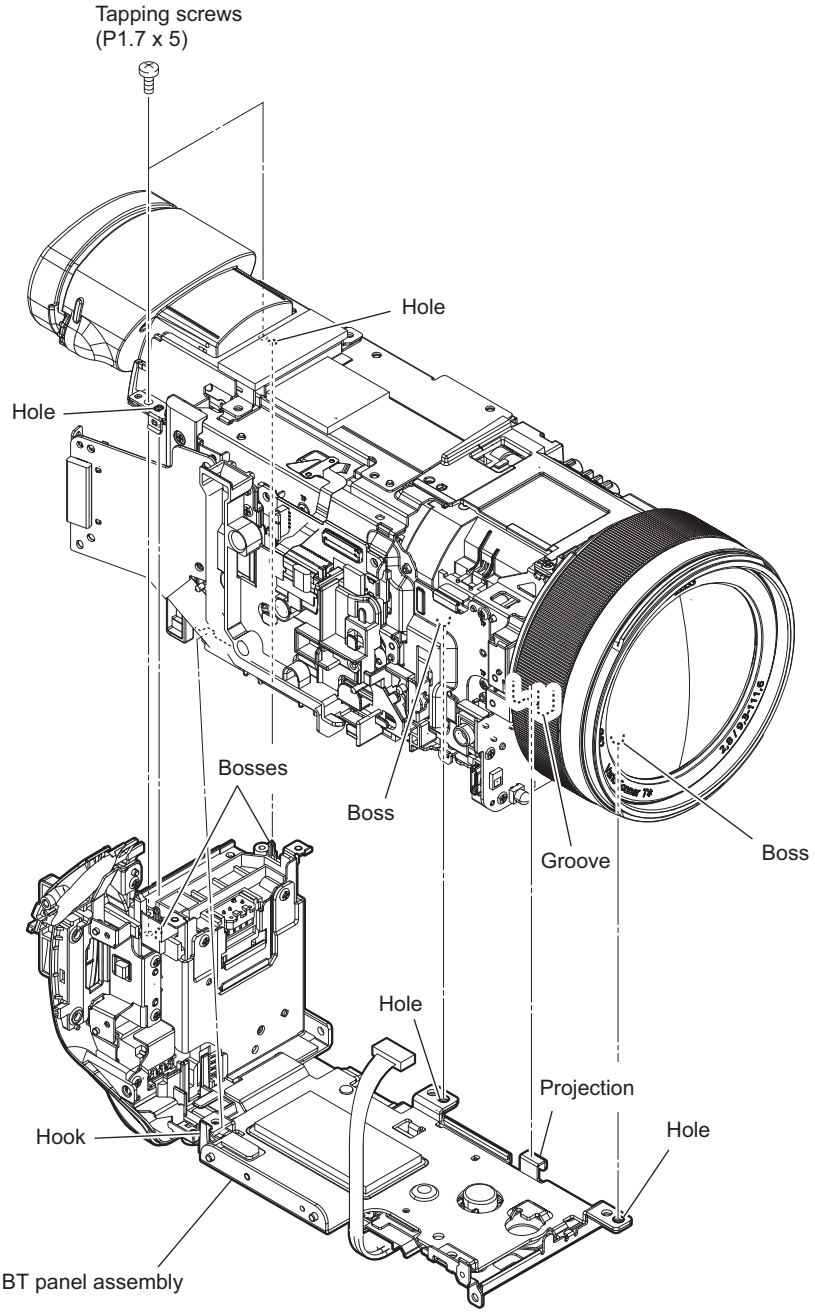
4. Release the coaxial cable and DC jack harness from the five hooks.



5. Disconnect the harness and remove the screws.
   (1) Disconnect the harness from the connector (CN4002) on the VC-1045 board.
   (2) Remove the six screws.



6. Remove the BT panel assembly.
   (1) Remove the two screws.
   (2) Release the hook, four bosses and projection, and then remove the BT panel assembly.



7. Install the removed parts by reversing the steps of removal.

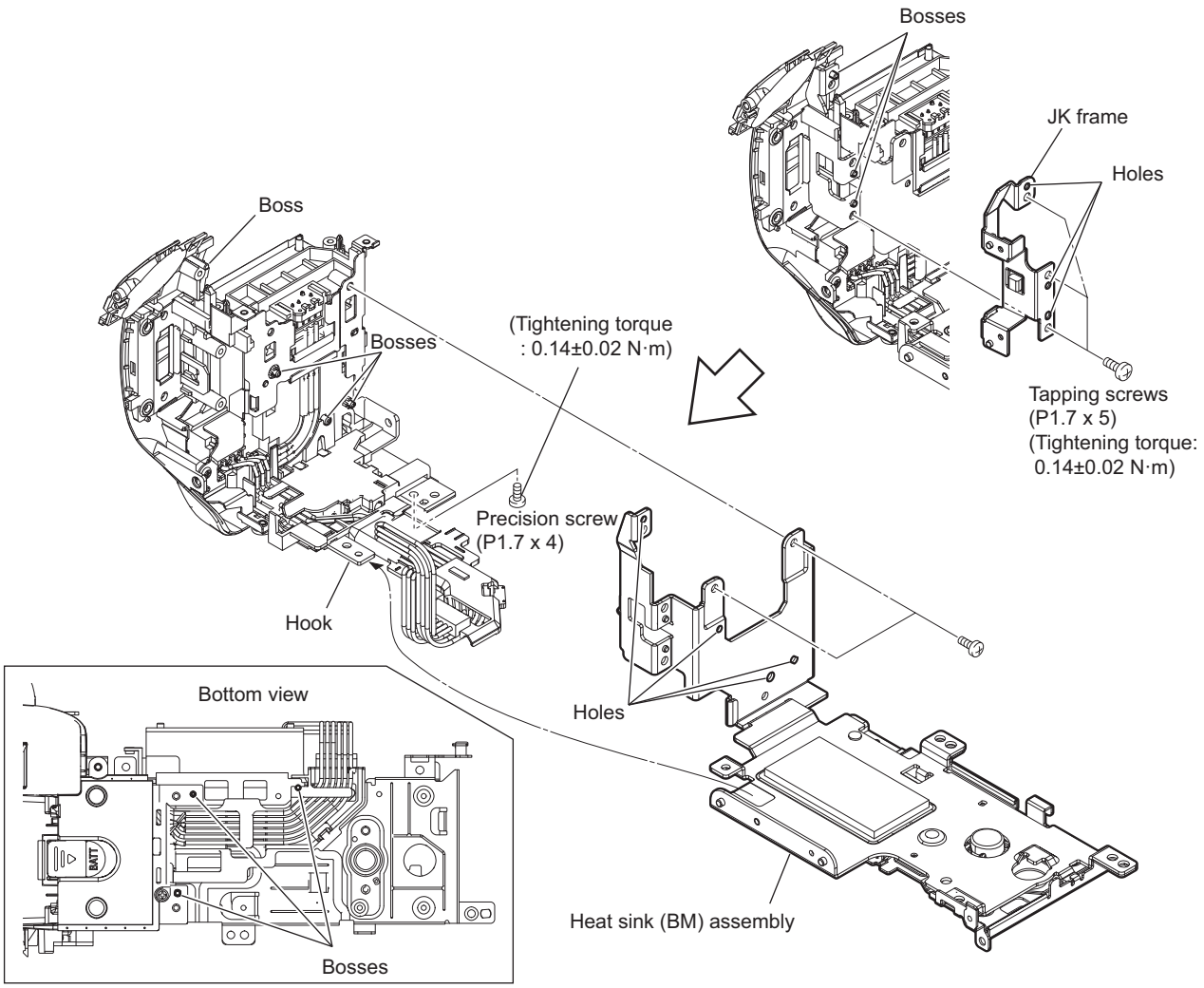
3-10-2. DC Jack

Preparation

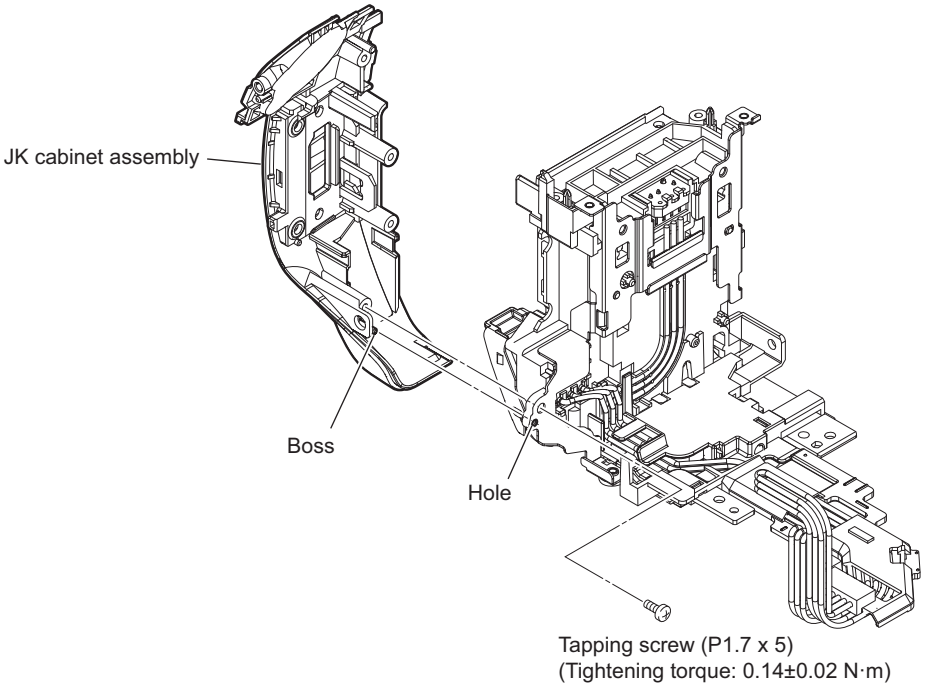
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)

Procedure

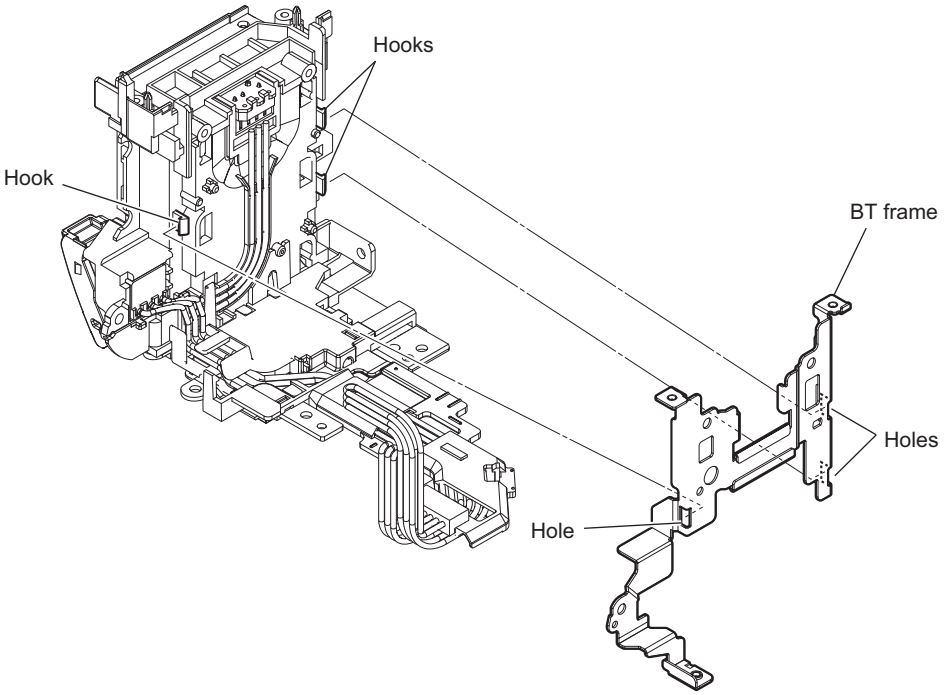
1. Remove the heat sink (BM) assembly.
   (1) Remove the three screws (tapping screw (P1.7 x 5)), and then remove the JK frame.
   (2) Remove the screw (precision screw (P1.7 x 4)) and two screws (tapping screw (P1.7 x 5)).
   (3) Release the seven bosses and hook, and then remove the heat sink (BM) assembly.



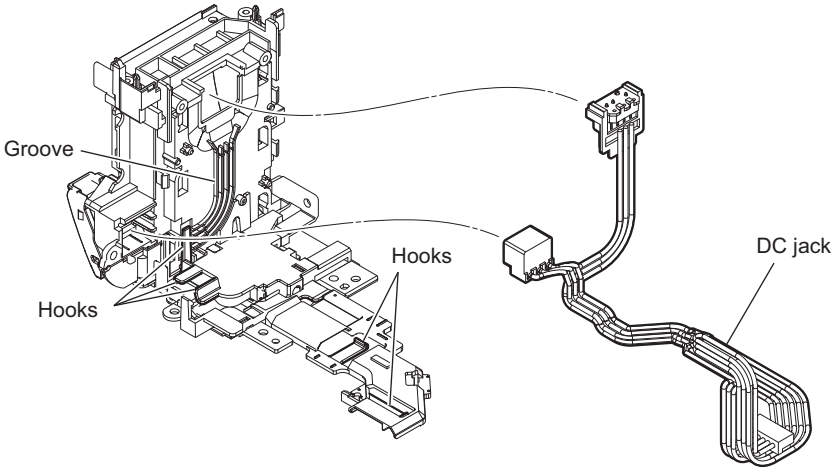
2. Remove the screw, and then remove the JK cabinet assembly.



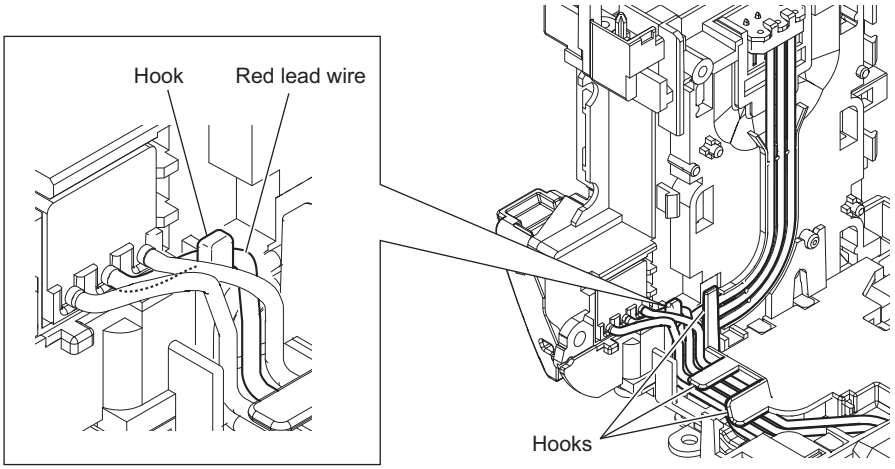
3. Release the three hooks, and then remove the BT frame.



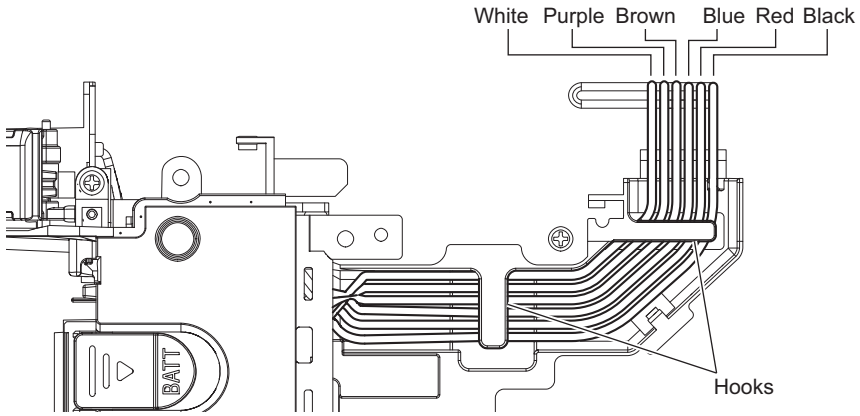
4. Release the harness from the five hooks, and then remove the DC jack.



Arrangement of harness



Placement of lead wires



Bottom view

5. Install the removed parts by reversing the steps of removal.

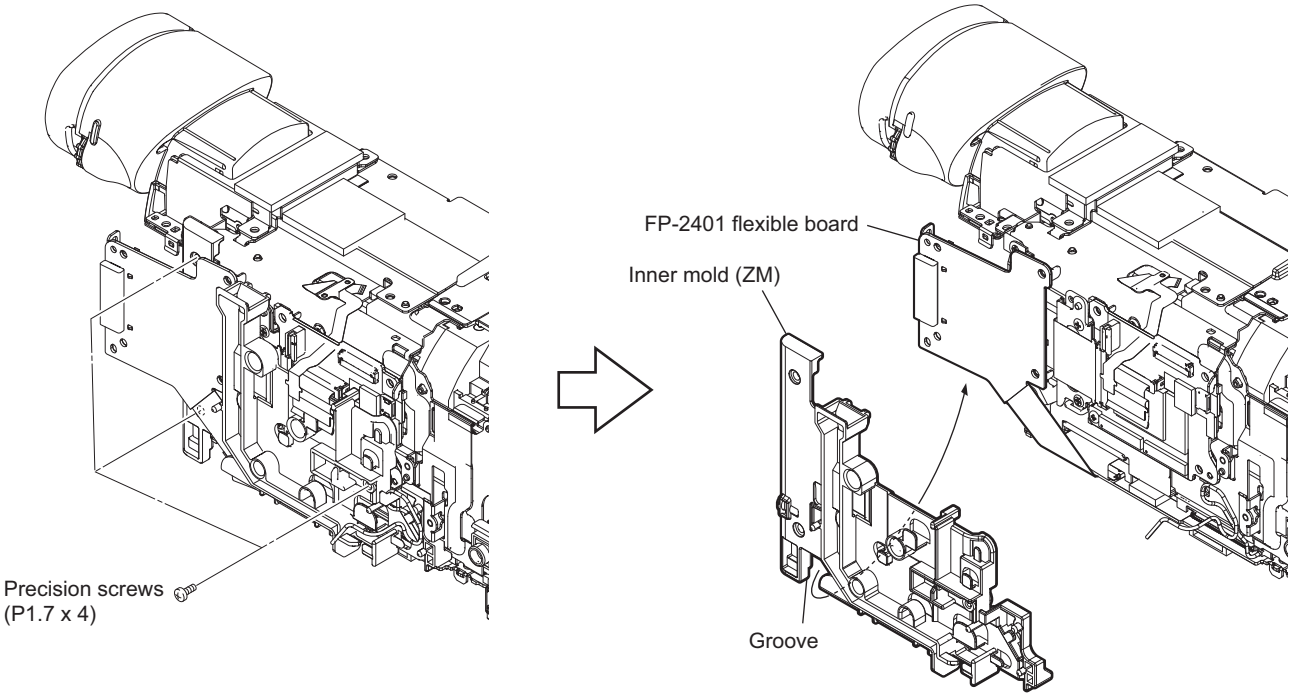
3-11. ZM-1005 Board

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)

Procedure

1. Remove the inner mold (ZM).
   (1) Remove the three screws.
   (2) Avoid the FP-2401 flexible board, and then remove the FP-2401 flexible board.

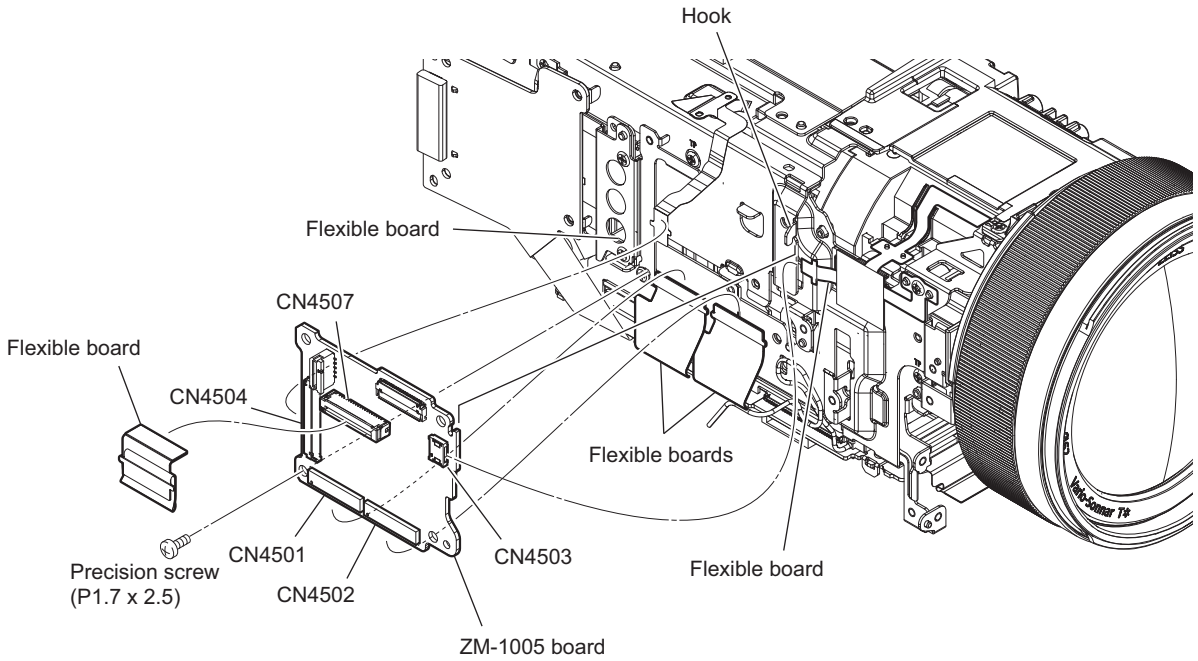


2. Remove the ZM-1005 board.
   (1) Disconnect the five flexible board from the connectors (CN4501 to CN4504, CN4507) on the ZM-1005 board.
   (2) Remove the screw.

   Note

   This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

   (3) Release the hook, and then remove the ZM-1005 board.



3. Install the removed parts by reversing the steps of removal.

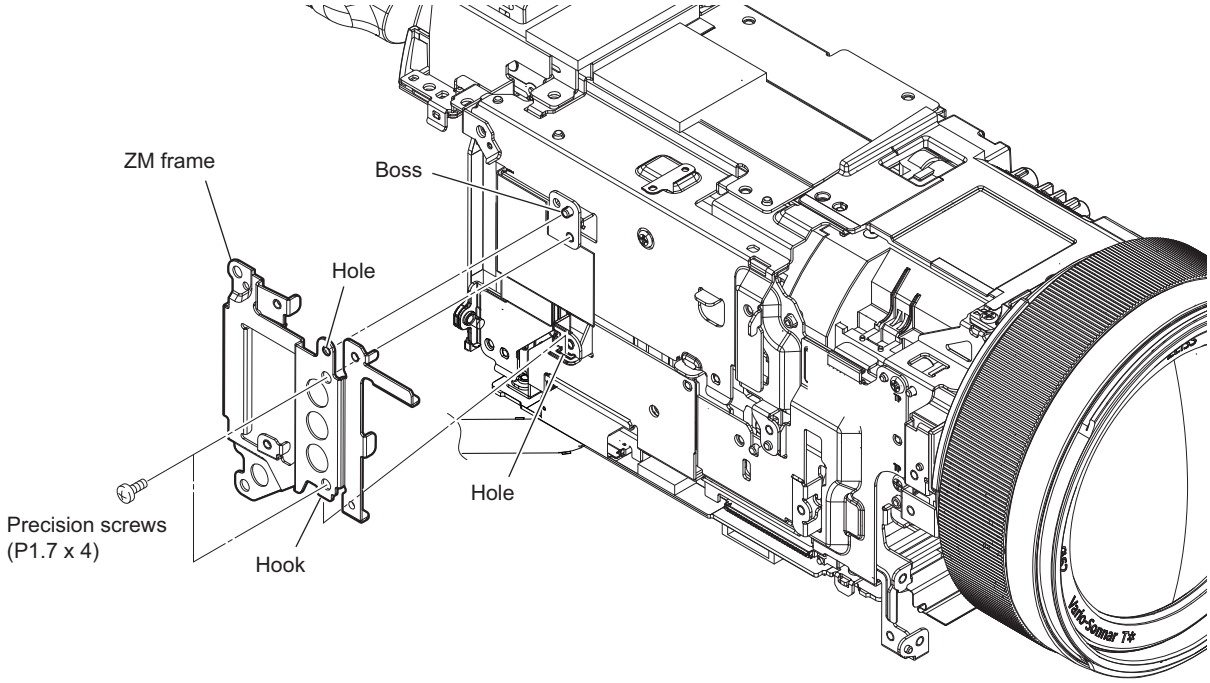
3-12. VF Assembly

Preparation

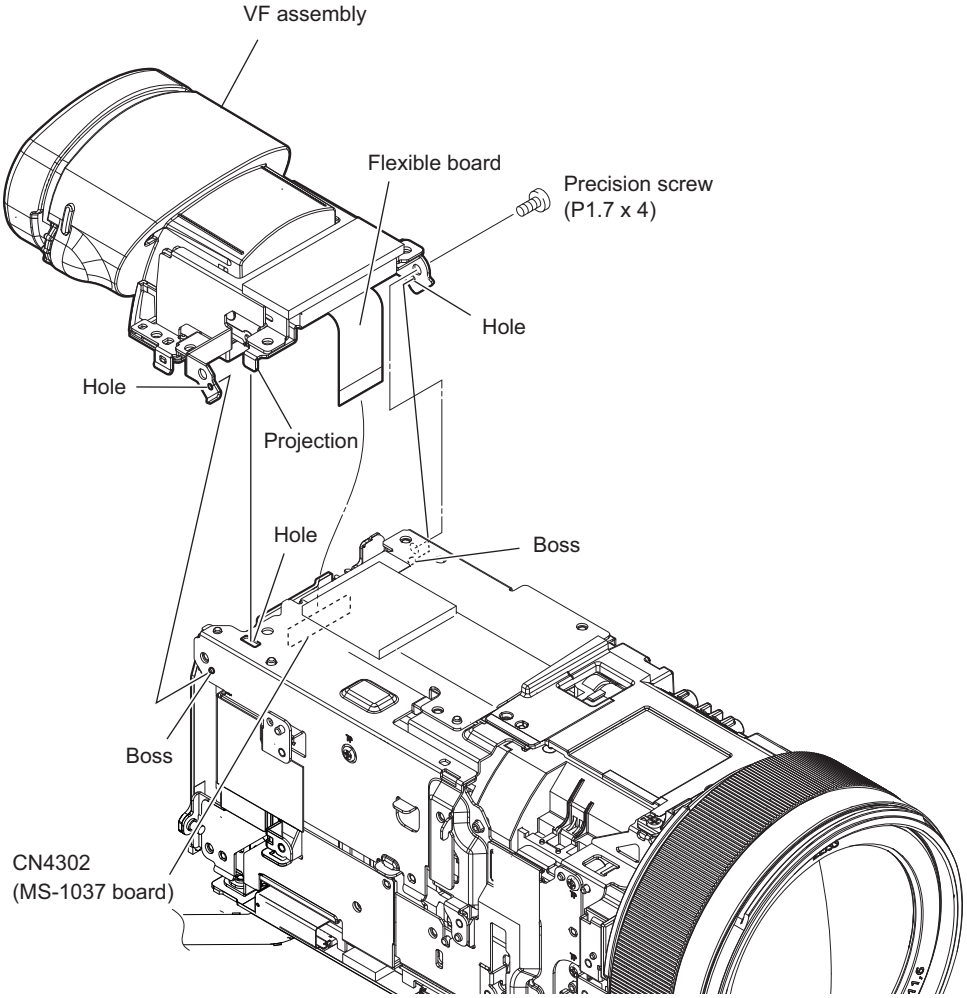
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
9. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)

Procedure

1. Remove the ZM frame.
   (1) Remove the two screws.
   (2) Release the boss and hook, and then remove the ZM frame.



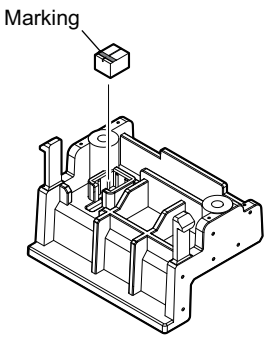
2. Remove the VF assembly.
   (1) Remove the screw.
   (2) Release the two bosses and projection, and then remove the VF assembly.
   (3) Disconnect the flexible board from the connector (CN4302) on the MS-1037 board.



3. Install the removed parts by reversing the steps of removal.

3-12-1. Installation of the Magnet

When removing the magnet, install it in the direction of the figure below.



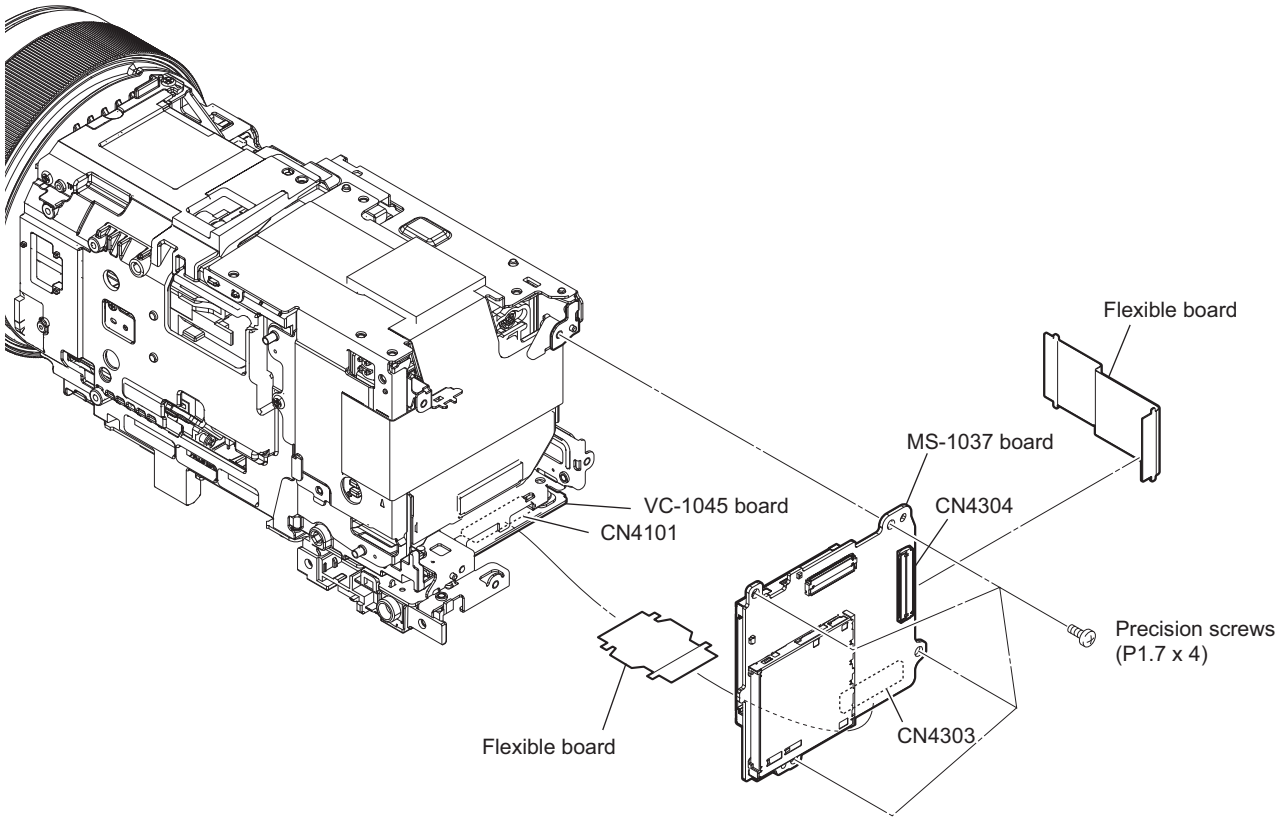
3-13. MS-1037 Board

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
4. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
5. Remove the IR cabinet assembly. (Refer to “3-7. IR-1009 Board”.)
6. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
7. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
8. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
9. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
10. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)

Procedure

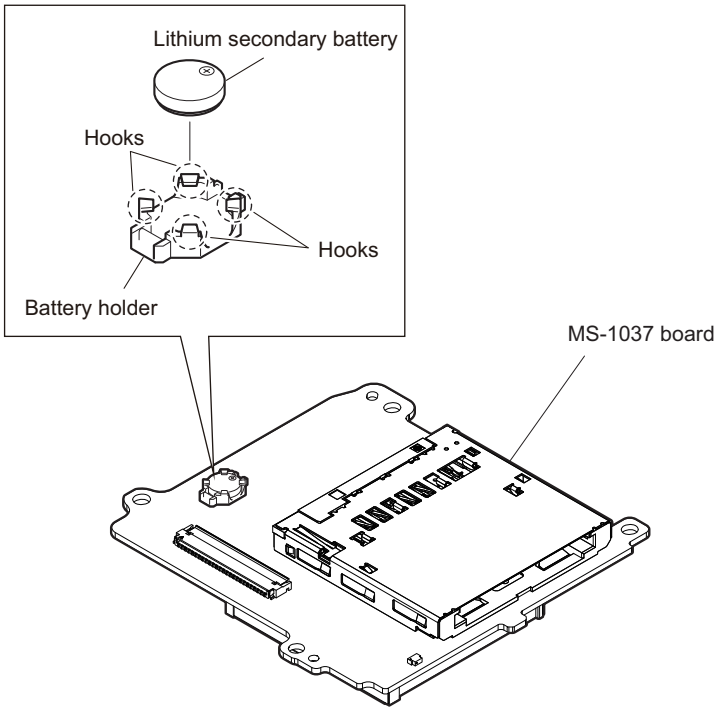
1. Remove the MS-1037 board.
   (1) Disconnect the flexible board from the connector (CN4101) on the VC-1045 board.
   (2) Remove the four screws.
   (3) Disconnect the two flexible boards from the two connectors (CN4303, CN4304) on the MS-1037 board.



2. Remove the lithium secondary battery.

Note

Replace the battery holder together when replacing the lithium secondary battery. (The battery holder removed once cannot be used again.)



3. Install the removed parts by reversing the steps of removal.

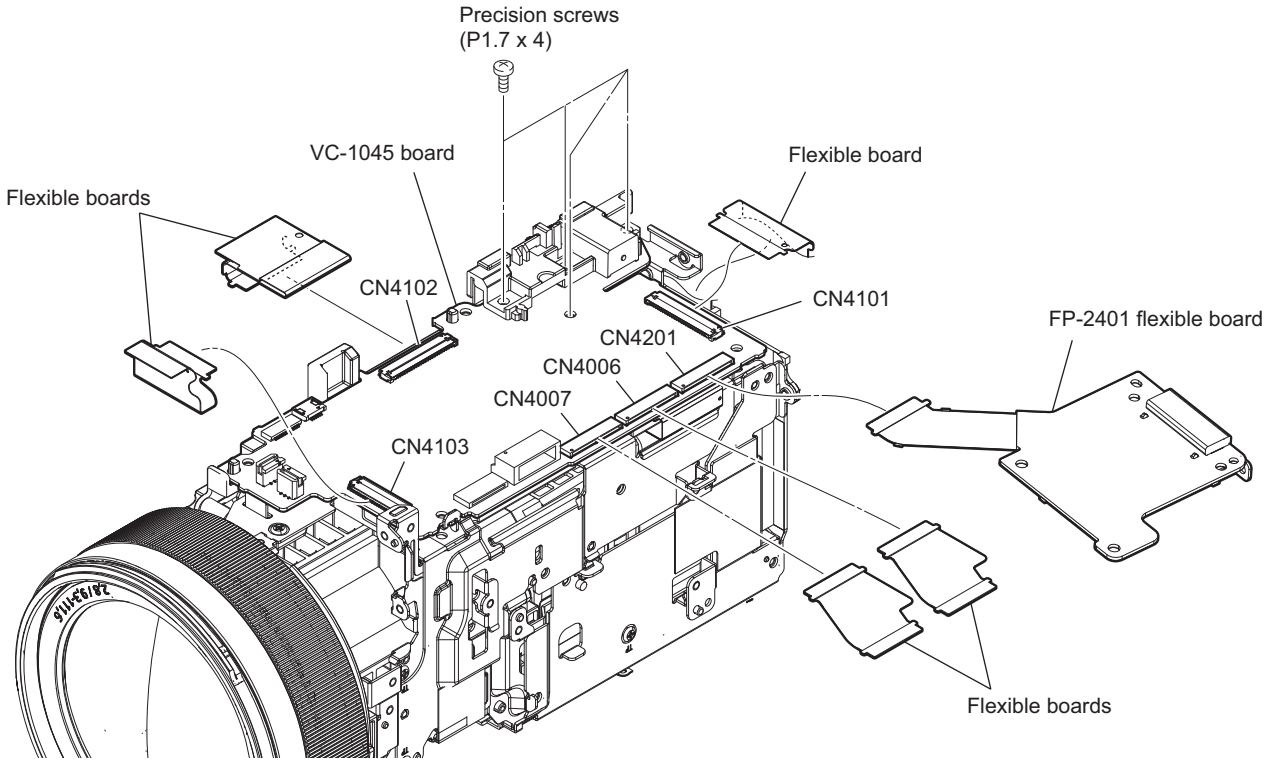
3-14. VC-1045 Board

Preparation

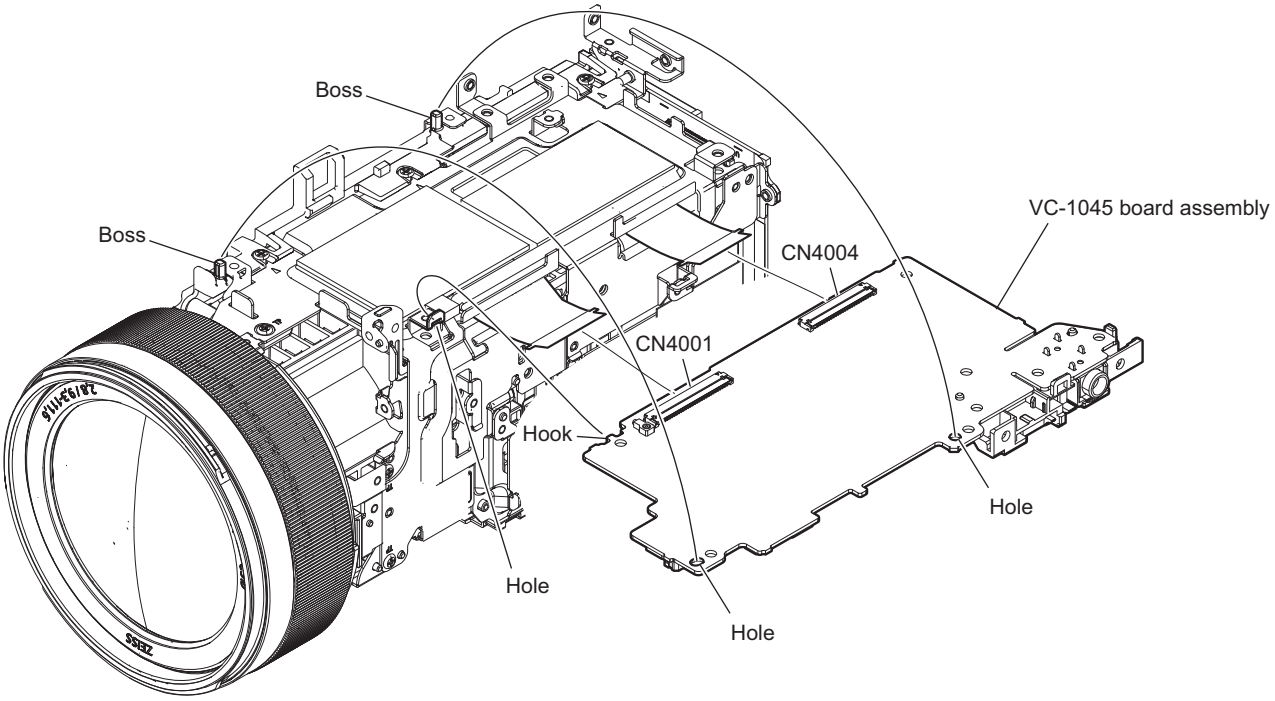
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the GR-1003 board. (Refer to “3-4. GR-1003 Board”.)
4. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
5. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
6. Remove the IR-1009 board. (Refer to “3-7. IR-1009 Board”.)
7. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
8. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
9. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
10. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
11. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)

Procedure

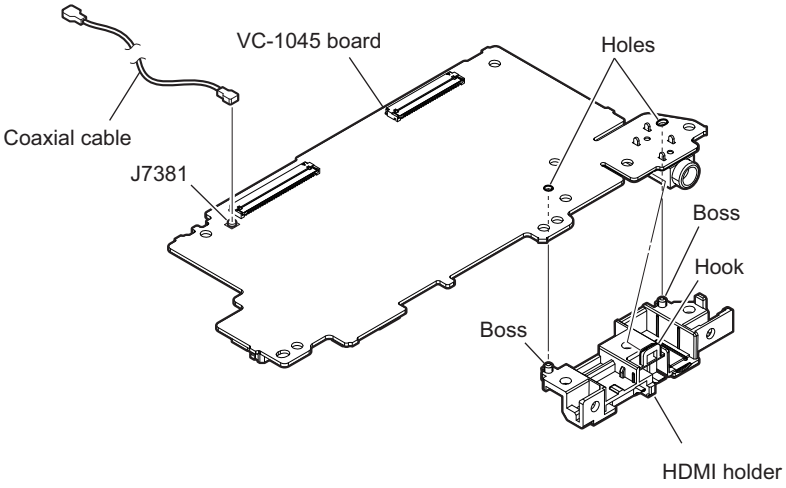
1. Remove the screw, and then remove the flexible board.
   (1) Remove the four screws.
   (2) Disconnect the five flexible boards and FP-2401 flexible board from the six connectors (CN4101 to CN4103, CN4006, CN4007, CN4201) on the VC-1045 board.



2. Remove the VC-1045 board.
   (1) Release the two bosses and hook, and then open the VC-1045 board.
   (2) Disconnect the two flexible boards from the two connectors (CN4001, CN 4004) on the VC-1045 board.



   (3) Disconnect the coaxial cable from the connector (J7381) on the VC-1045 board.
   (4) Release the hook and two bosses, and then remove the HDMI holder from the VC-1045 board.



3. Install the removed parts by reversing the steps of removal.

3-15. Lens Section

3-15-1. Lens Assembly

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the GR-1003 board. (Refer to “3-4. GR-1003 Board”.)
4. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
5. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
6. Remove the IR-1009 board. (Refer to “3-7. IR-1009 Board”.)
7. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
8. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
9. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
10. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
11. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)
12. Remove the MS-1037 board. (Refer to “3-13. MS-1037 Board”.)
13. Remove the VC-1045 board. (Refer to “3-14. VC-1045 Board”.)

Procedure

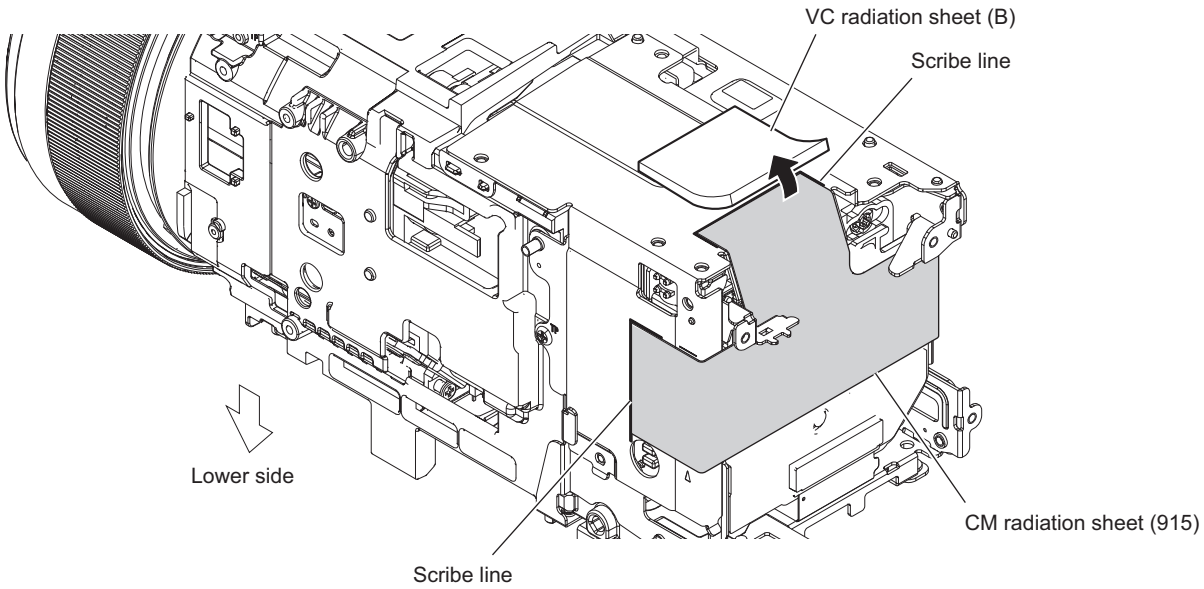
1. Peel off the CM radiation sheet (915).

Note

The CM radiation sheet (915) is not reusable. Prepare new parts in advance.

(1) Turn the the VC radiation sheet (B) as shown in the figure.

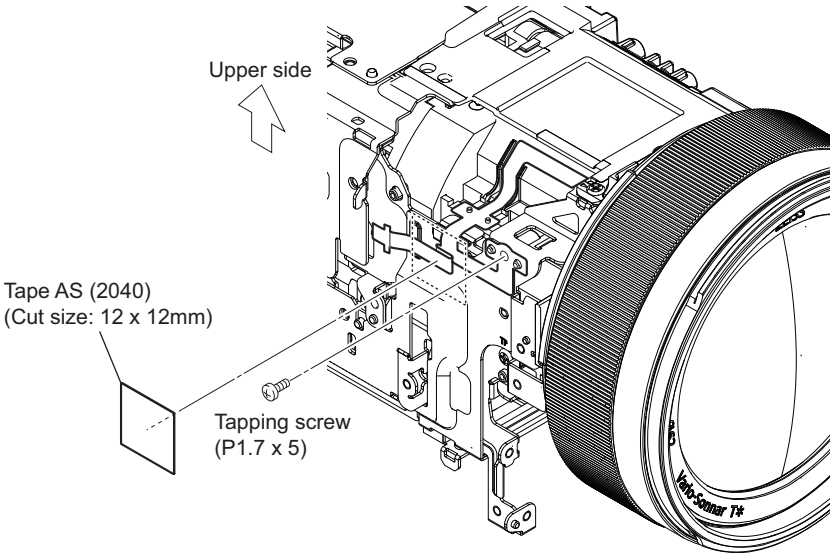
(2) Peel off the CM radiation sheet (915).



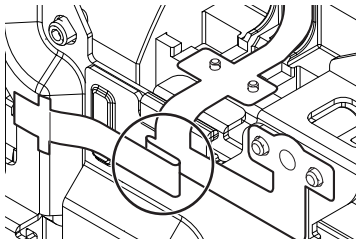
Note

When attaching the CM radiation sheet (915), align it with the scribe lines.

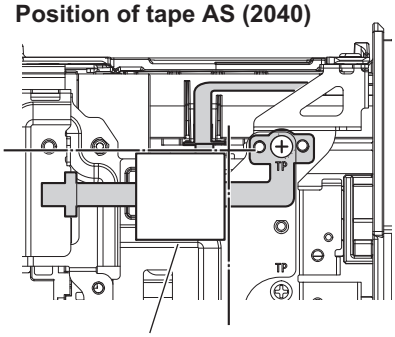
2. Peel off the tape AS (2040), and then remove the screw.



How to fold the flexible board



Position of tape AS (2040)

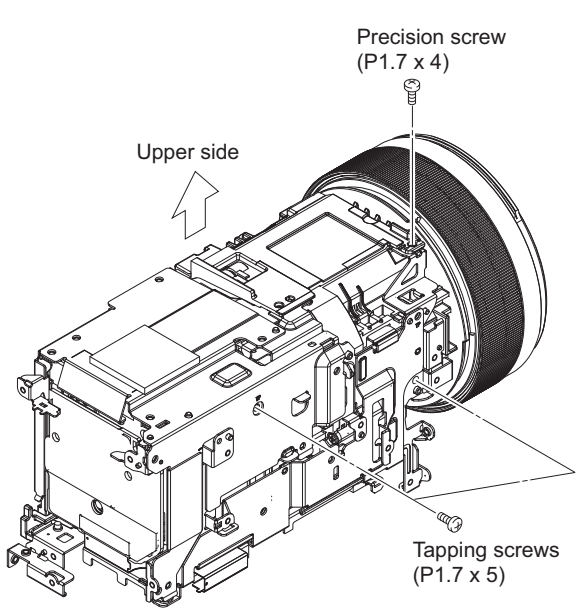


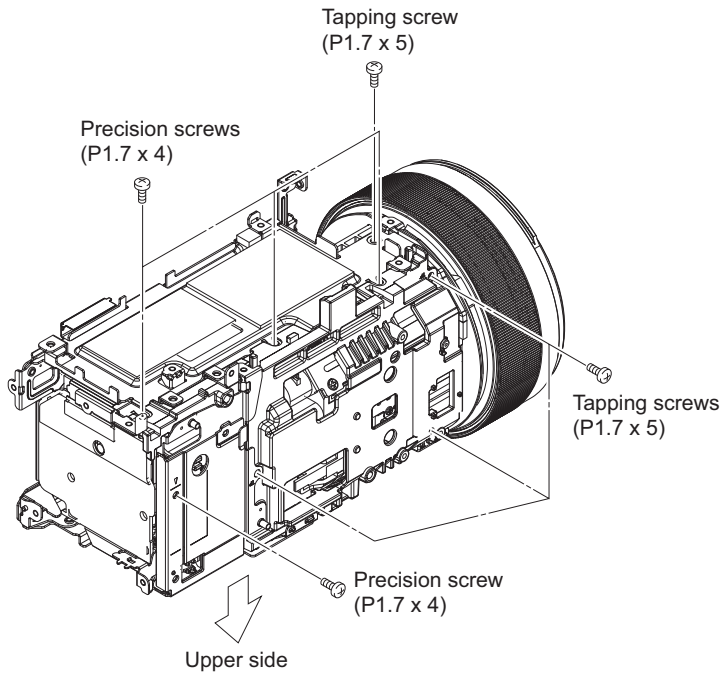
Note

When attaching the tape AS (2040), observe the following instructions.

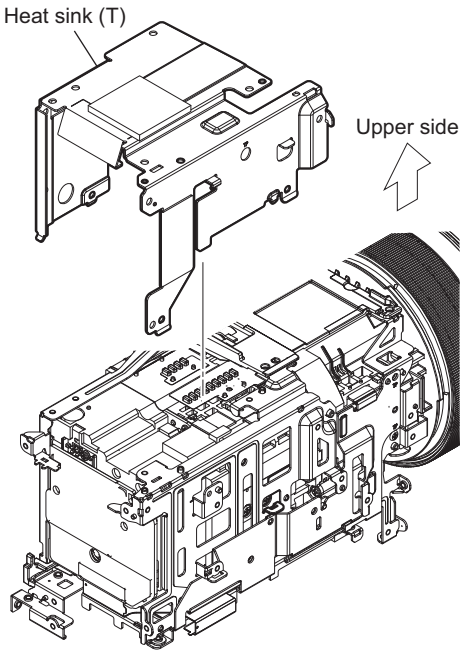
- Attach the tape AS (2040) to the position shown in the figure.
- When using the new tape AS (2040), cut it to the designated size.

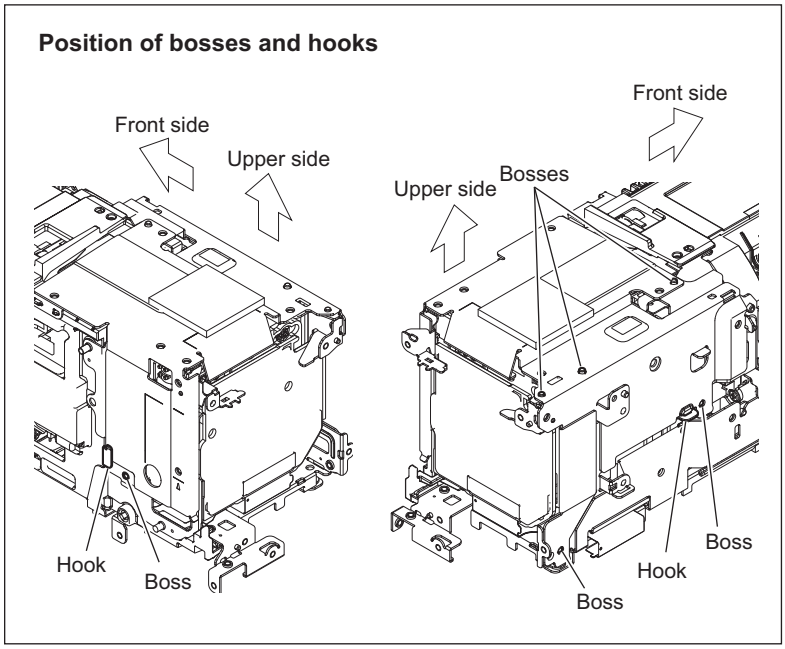
3. Remove the five screws (precision screw (P1.7 x 4)) and six screws (tapping screw (P1.7 x 5)).



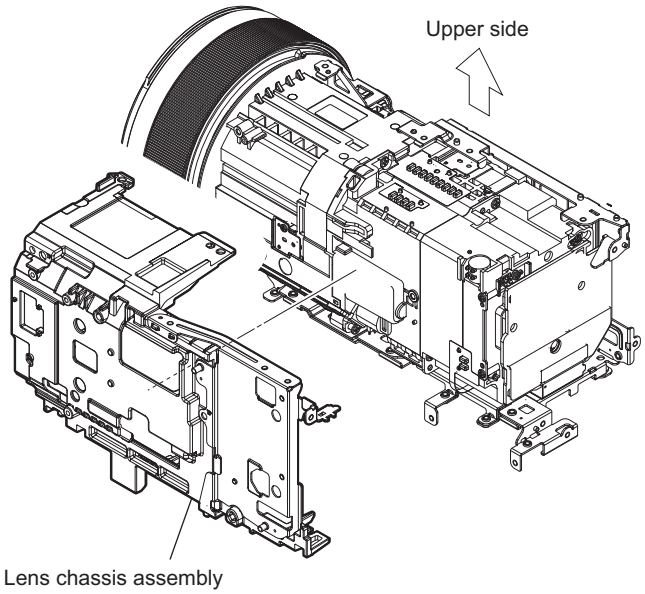


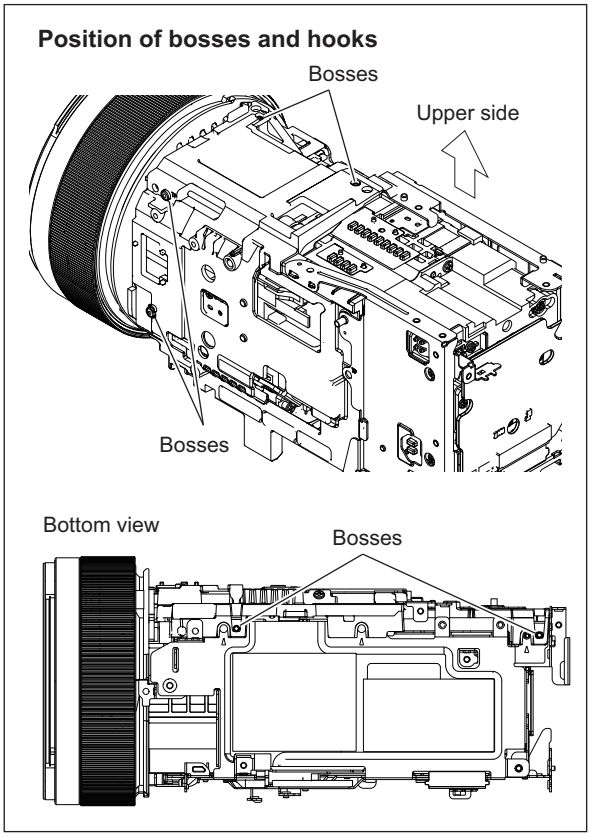
4. Release the six bosses and two hooks, and then remove the heat sink (T).



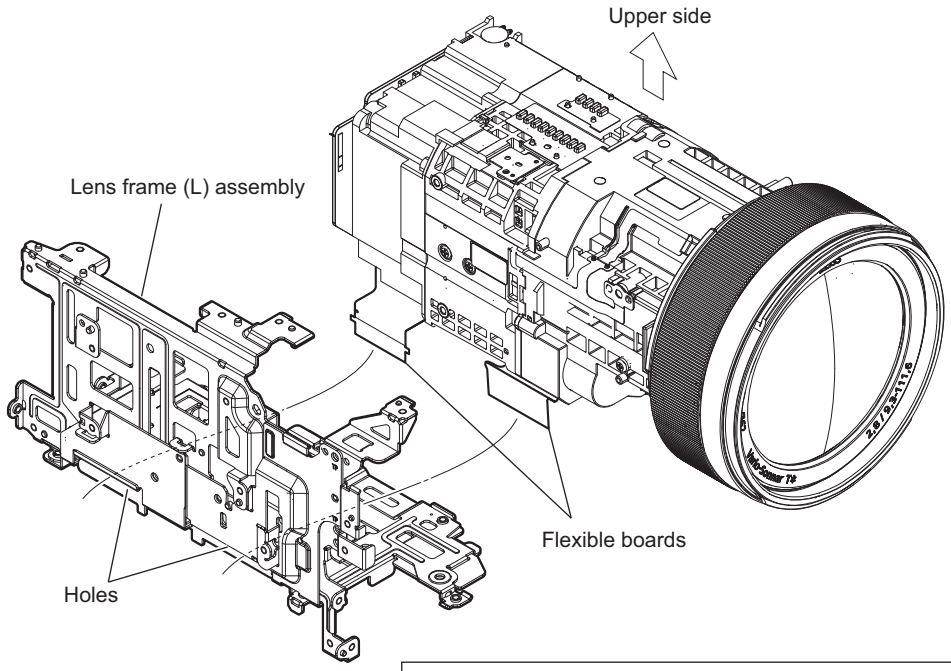


5. Release the six bosses, and then remove the lens chassis assembly.

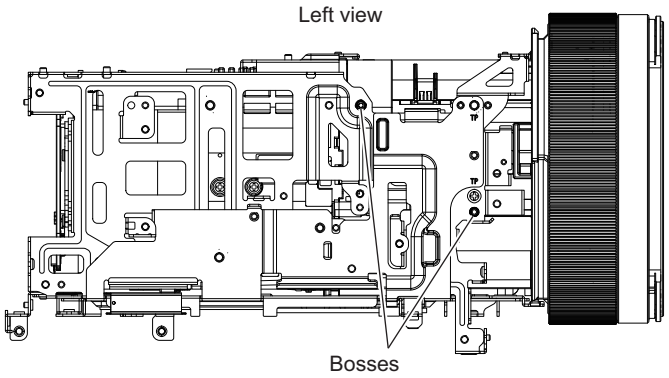




6. Remove the lens frame (L) assembly.
   (1) Release the two bosses.
   (2) Pull the two flexible boards through the holes of the lens frame (L) assembly.



Position of bosses



7. Install the removed parts by reversing the steps of removal.

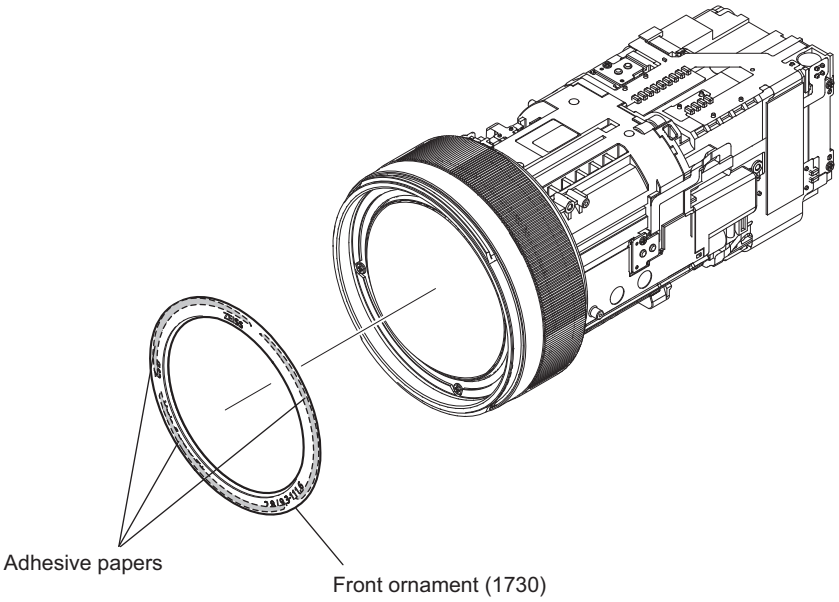
3-15-2. 1 Group Lens Assembly

Preparation

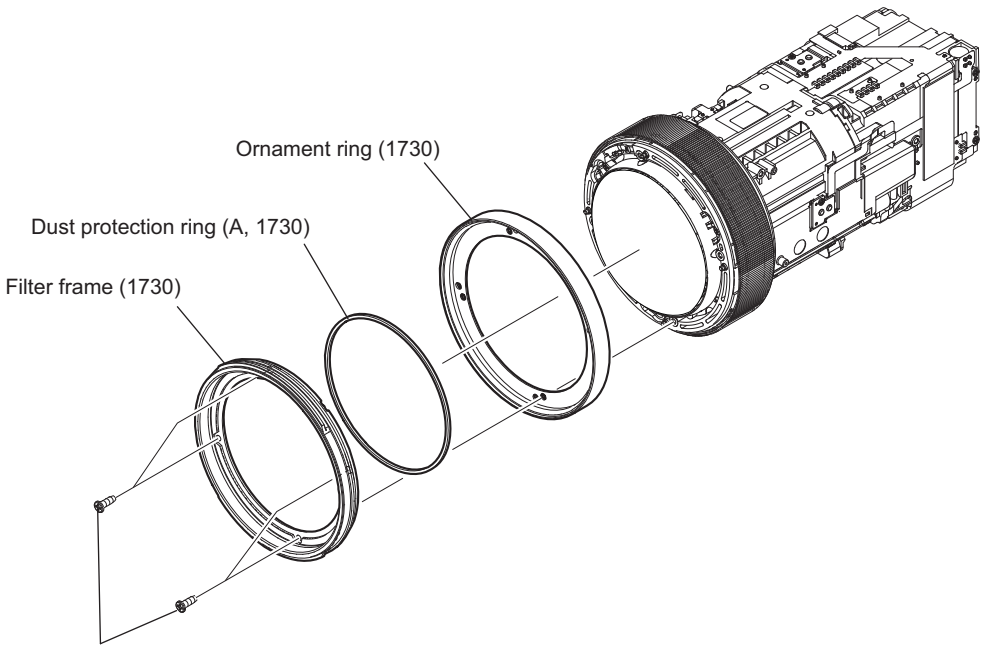
1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the GR-1003 board. (Refer to “3-4. GR-1003 Board”.)
4. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
5. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
6. Remove the IR-1009 board. (Refer to “3-7. IR-1009 Board”.)
7. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
8. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
9. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
10. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
11. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)
12. Remove the MS-1037 board. (Refer to “3-13. MS-1037 Board”.)
13. Remove the VC-1045 board. (Refer to “3-14. VC-1045 Board”.)
14. Remove the lens assembly. (Refer to “3-15-1. Lens Assembly”.)

Procedure

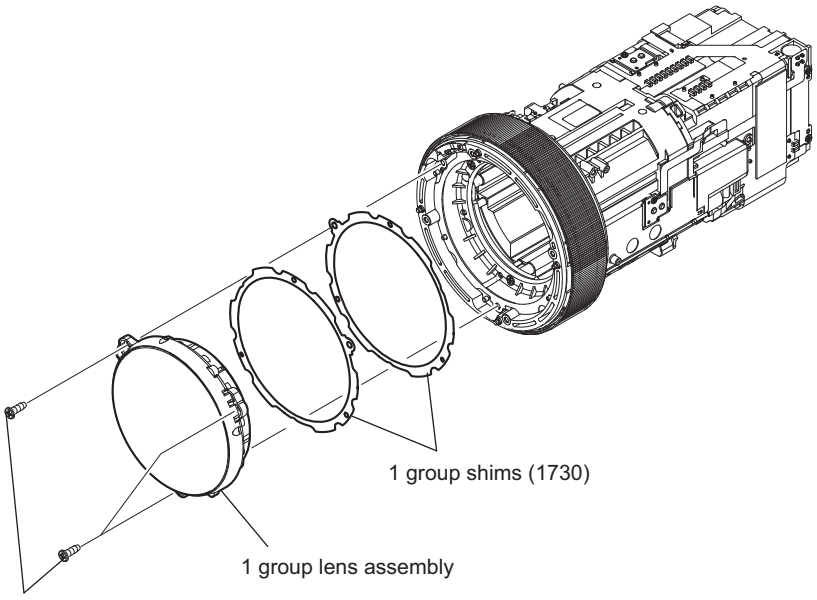
1. Decrease the adhesive strength of the adhesion paper with ethanol, and remove the front ornament (1730).



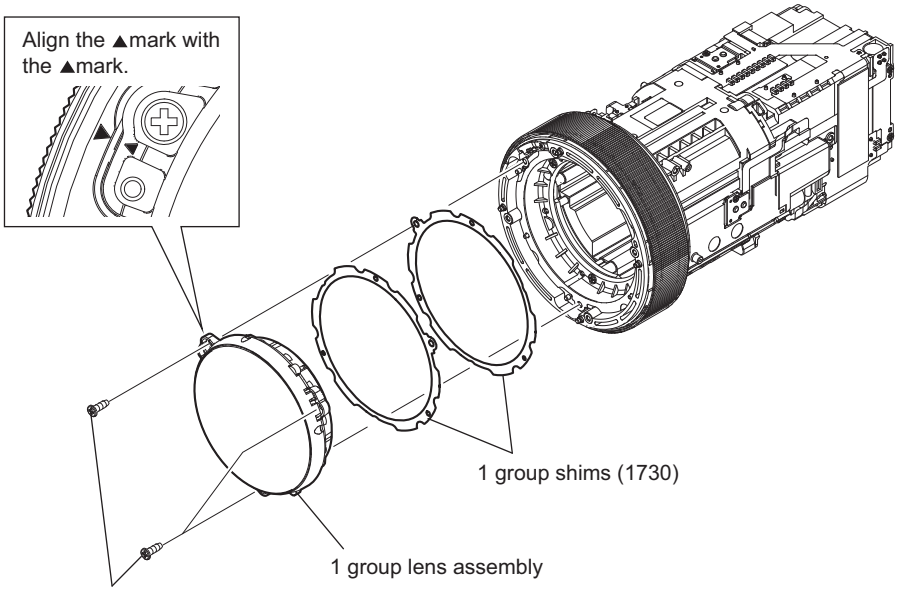
2. Remove the four screws, and then remove the filter frame (1730), dust protection ring (A, 1730), and ornamental ring (1730).



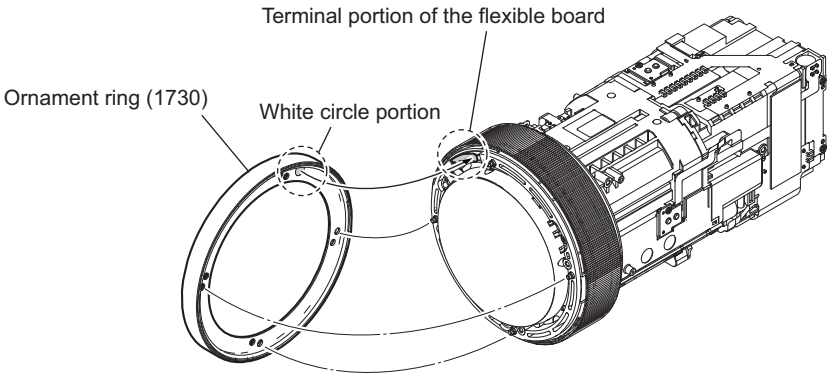
3. Remove the three screws, and then remove the 1 group lens assembly and 1 group shims (1730).



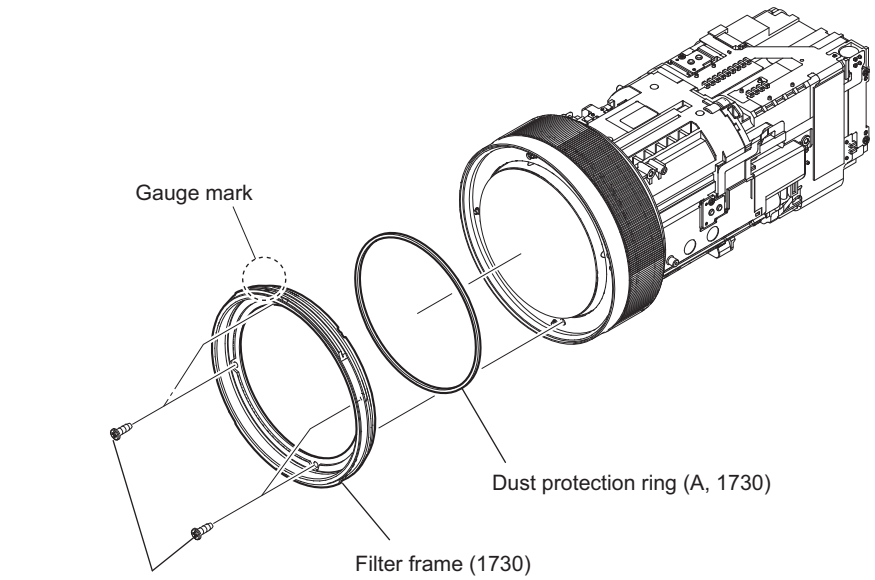
4. Install a new 1 group lens assembly.
   (1) Attach the 1 group shims (1730).
   (2) Align the mark position of the 1st group lens assembly as shown in the figure, and tighten the three screws to attach it.



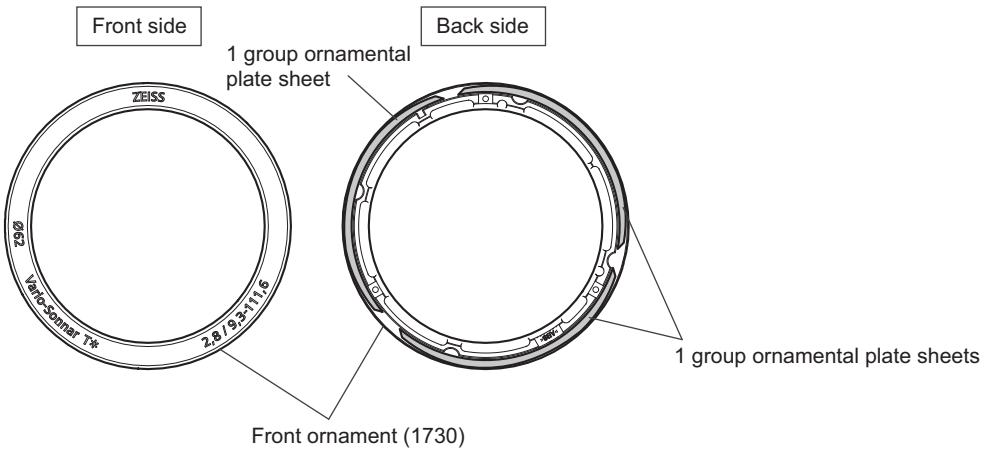
5. Align the white circle portion of the ornamental ring (1730) and the terminal portion of the flexible board of the lens assembly, and install it.



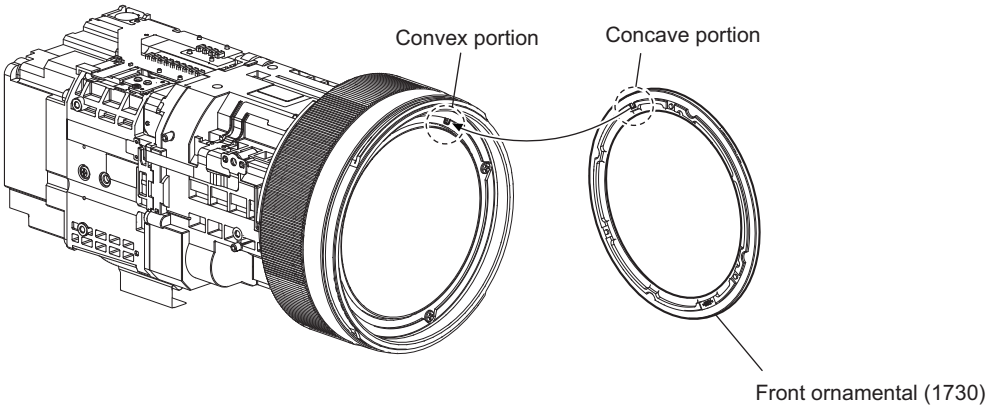
6. Install the filter frame (1730).
   (1) Attach the dust protection ring (A, 1730).
   (2) Tighten the four screws to attach the filter frame (1730) so that the position of the gauge mark is on the upper side.



7. Prepare a new 1 group ornamental tape and replace the old adhesive paper on the front ornament (1730) with new one.



8. Install the front ornamental (1730).



3-15-3. Z Nut (1730)

Note

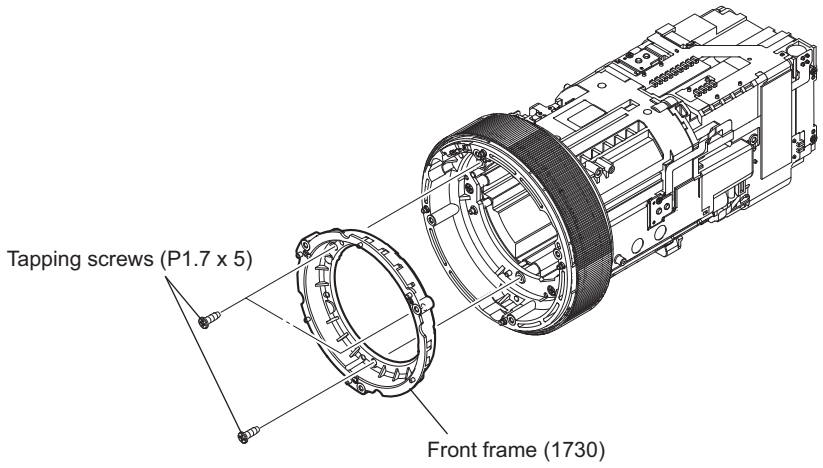
Before disassembling the main unit, be sure to set the zoom to the Tele end and turn off the camera.

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the GR-1003 board. (Refer to “3-4. GR-1003 Board”.)
4. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
5. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
6. Remove the IR-1009 board. (Refer to “3-7. IR-1009 Board”.)
7. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
8. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
9. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
10. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
11. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)
12. Remove the MS-1037 board. (Refer to “3-13. MS-1037 Board”.)
13. Remove the VC-1045 board. (Refer to “3-14. VC-1045 Board”.)
14. Remove the lens assembly. (Refer to “3-15-1. Lens Assembly”.)
15. Remove the 1 group lens assembly. (Refer to “3-15-2. 1 Group Lens Assembly”.)

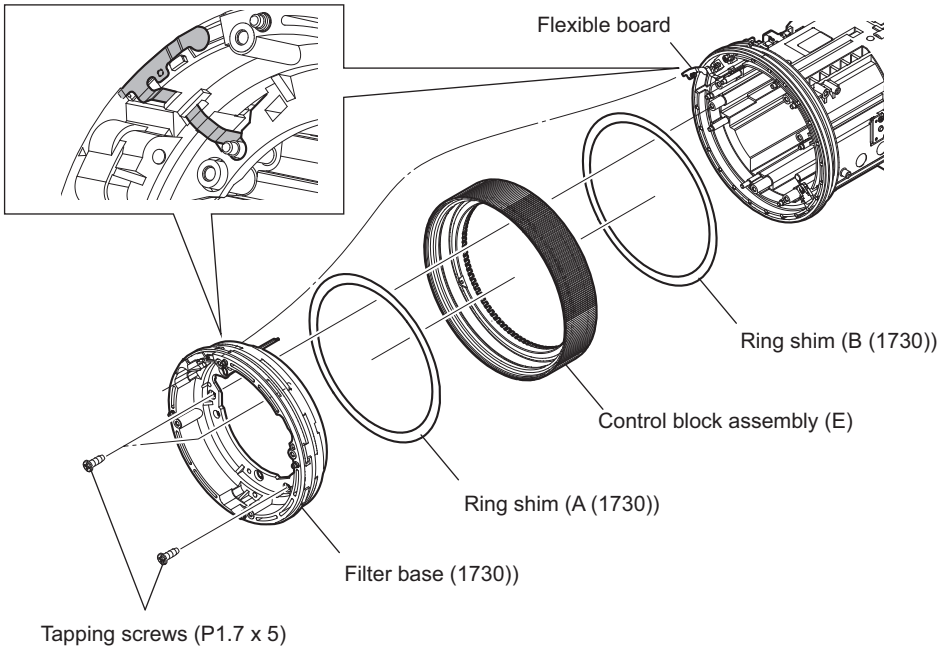
Procedure

1. Remove the three screws, and then remove the front frame (1730).

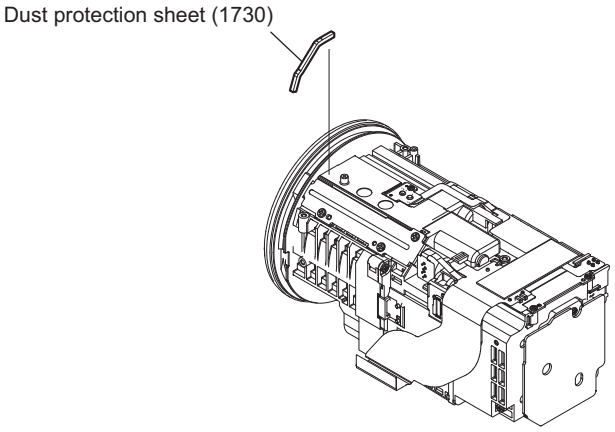


2. Remove the flexible board from the filter base (1730).

3. Remove the three screws, and then remove the filter base (1730), ring shim (A (1730)), control block assembly (E), and ring shim (B (1730)).



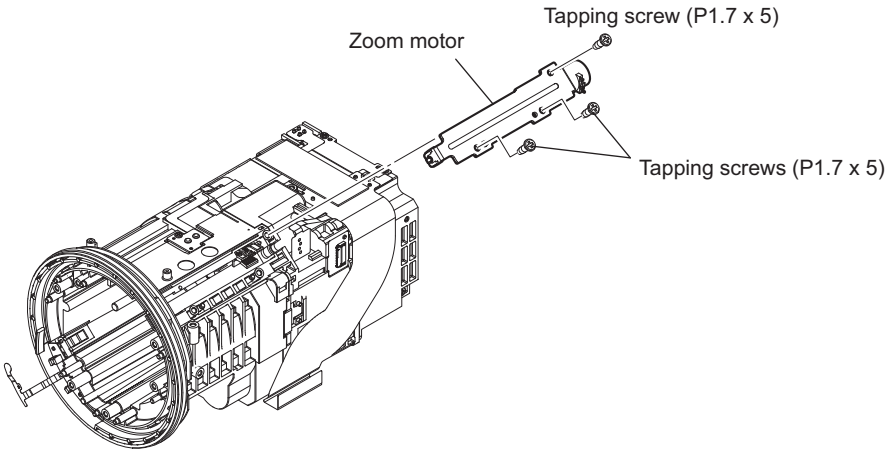
4. Peel off the dust protection sheet (1730).



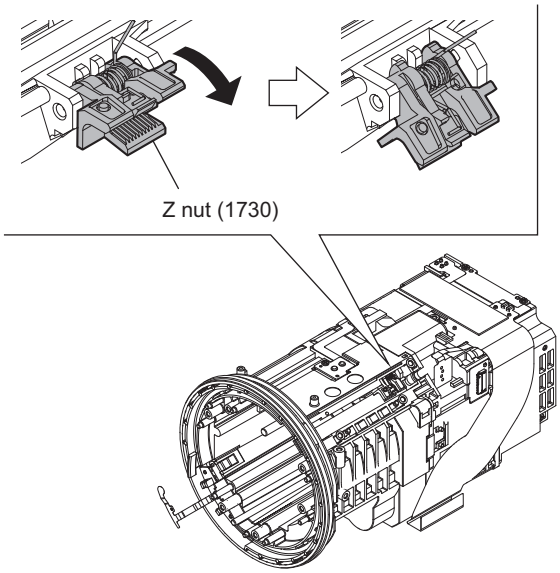
5. Remove the three screws, and then remove the zoom motor.

Note

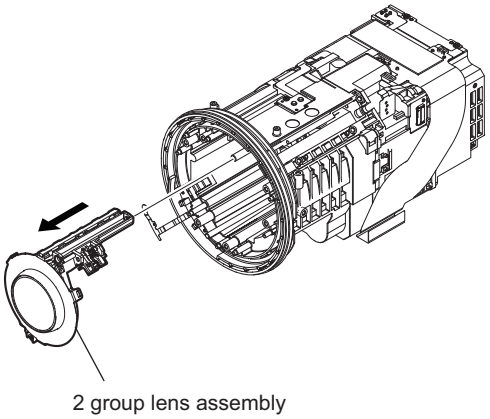
Be careful not to break the flexible board.



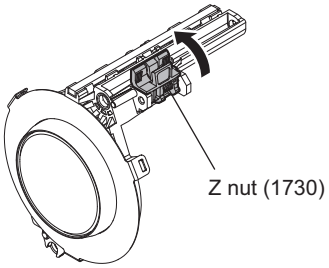
6. Rotate the Z nut (1730) in the direction of the arrow.



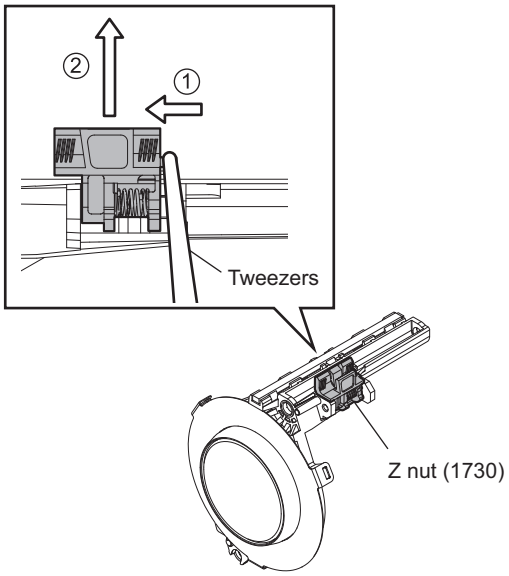
7. Pull out the 2 group lens assembly in the direction of the arrow.



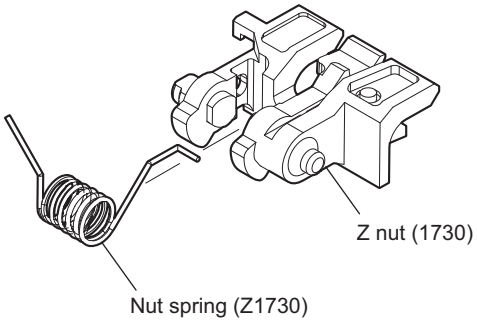
8. Rotate the Z nut (1730) in the direction of the arrow.



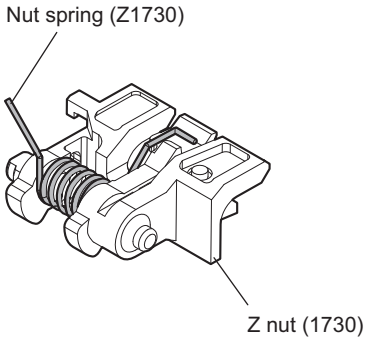
9. Remove the Z nut (1730) in the direction of the arrow using tweezers as shown in the figure.



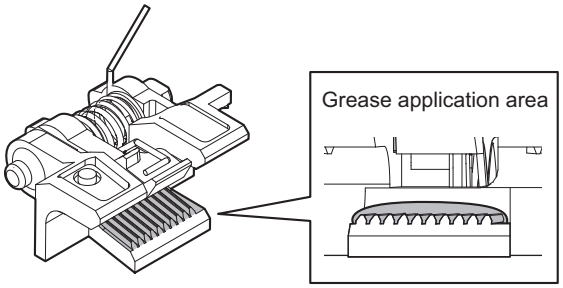
10. Remove the nut spring (Z1730).



11. Install the nut spring (Z1730) to a new Z nut (1730).



12. Apply grease (SG-310) to the screw portion of the Z nut (1730).



13. Install in the reverse procedure of steps 1 to 9 in procedure.
14. Perform the "Flange back adjustment" after the installation is completed.

3-15-4. P Frame Moving Assembly (1730)

Note

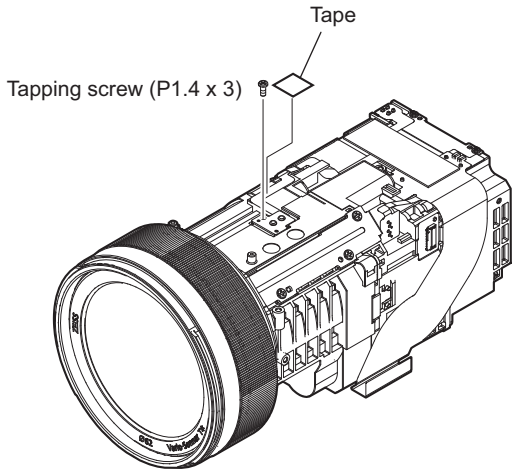
Before disassembling the main unit, be sure to set the zoom to the Tele end and turn off the camera.

Preparation

1. Remove the cabinet (G) assembly. (Refer to “3-2. Cabinet (G) Assembly”.)
2. Remove the heat sink (GP) assembly. (Refer to “3-3. Heat Sink (GP) Assembly”.)
3. Remove the GR-1003 board. (Refer to “3-4. GR-1003 Board”.)
4. Remove the top cabinet assembly. (Refer to “3-5. Top Cabinet Assembly”.)
5. Remove the EF-1003 board. (Refer to “3-6. EF-1003 Board”.)
6. Remove the IR-1009 board. (Refer to “3-7. IR-1009 Board”.)
7. Remove the inner mold (T) assembly. (Refer to “3-8. Inner Mold (T) Assembly”.)
8. Remove the cabinet (R) assembly. (Refer to “3-9-1. Cabinet (R) Assembly”.)
9. Remove the BT panel assembly. (Refer to “3-10-1. BT Panel Assembly”.)
10. Remove the ZM-1005 board. (Refer to “3-11. ZM-1005 Board”.)
11. Remove the VF assembly. (Refer to “3-12. VF Assembly”.)
12. Remove the MS-1037 board. (Refer to “3-13. MS-1037 Board”.)
13. Remove the VC-1045 board. (Refer to “3-14. VC-1045 Board”.)
14. Remove the lens assembly. (Refer to “3-15-1. Lens Assembly”.)

Procedure

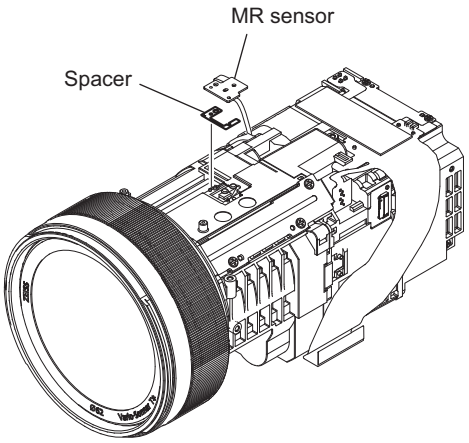
1. Peel off the tape, and then remove the screw.



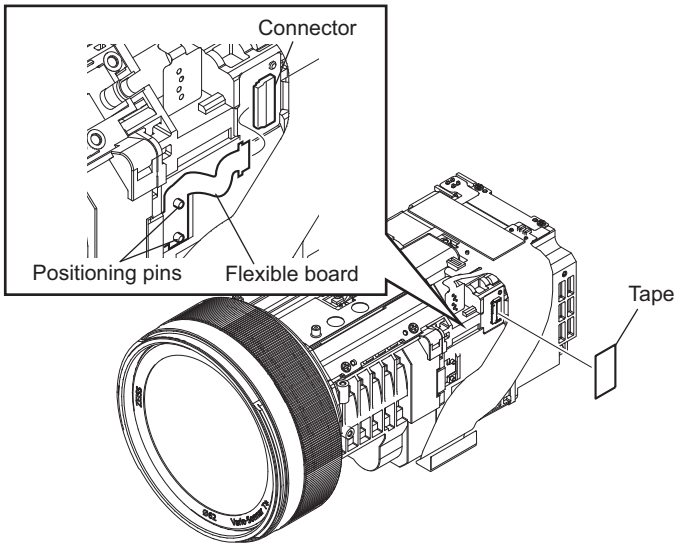
2. Pull up the MR sensor and remove the spacer.

Note

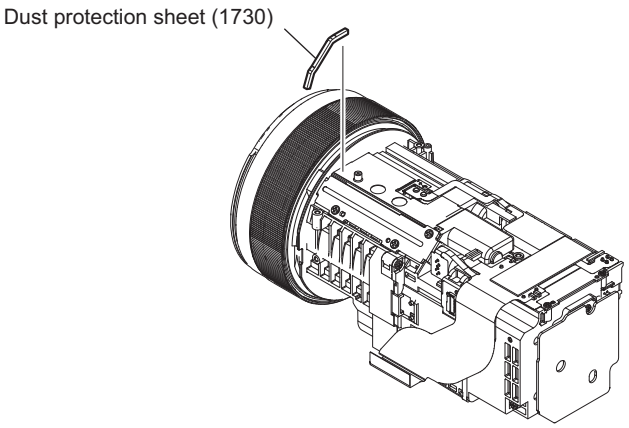
Be careful not to deform the spacer.



3. Peel off the tape, and then disconnect the flexible board from the connector.
4. Release the flexible board from the positioning pins.



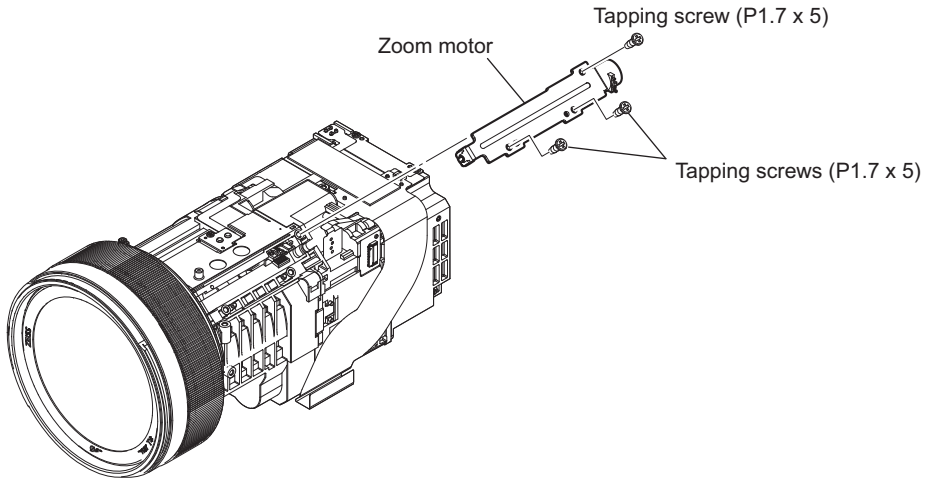
5. Peel off the dust protection sheet (1730).



6. Remove the three screws, and then remove the zoom motor.

Note

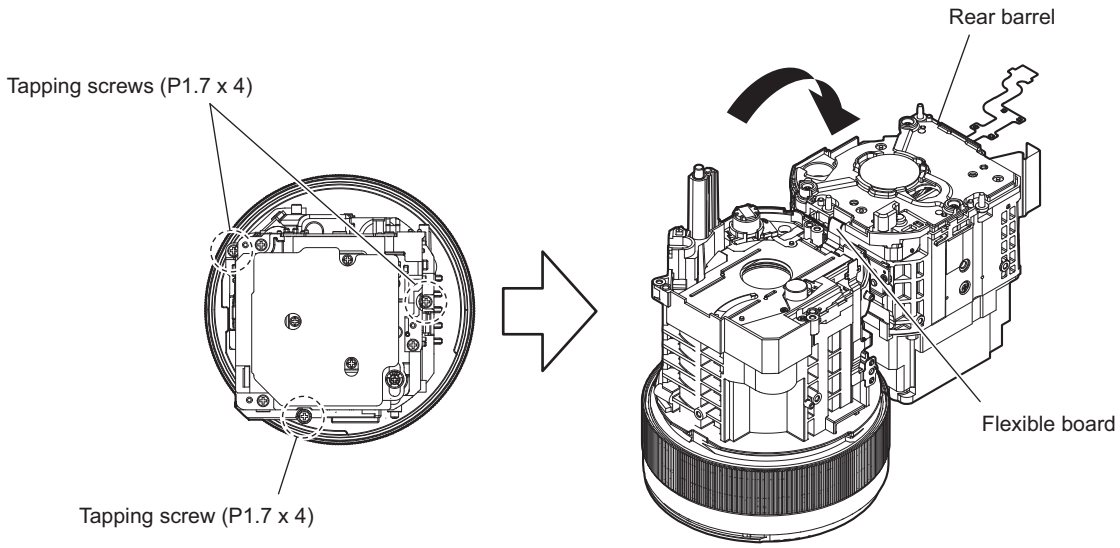
Be careful not to break the flexible board.



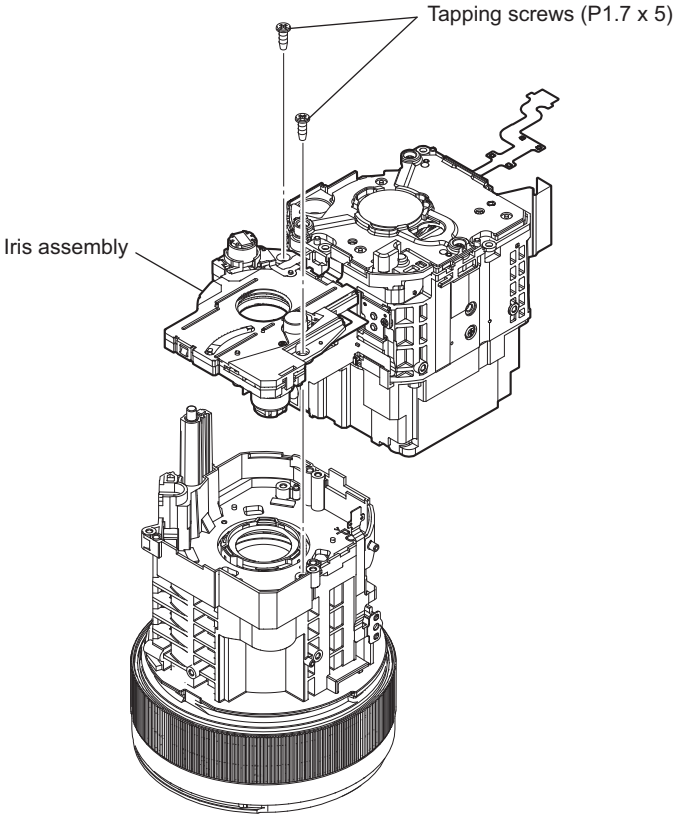
7. Remove the three screws, and open the rear barrel 180 degrees by using the position of the flexible board as a fulcrum.

Note

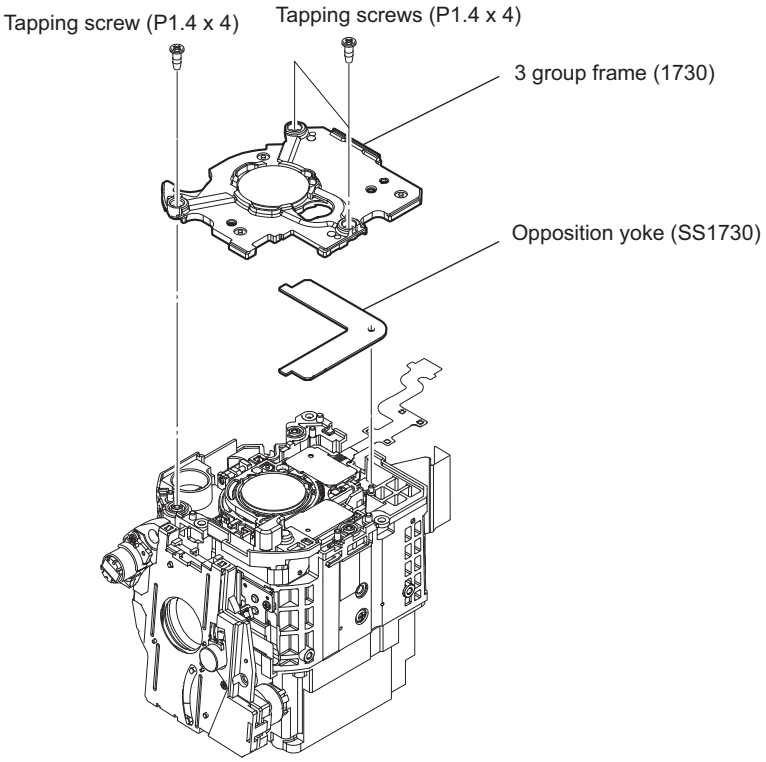
Be careful not to break the flexible board.



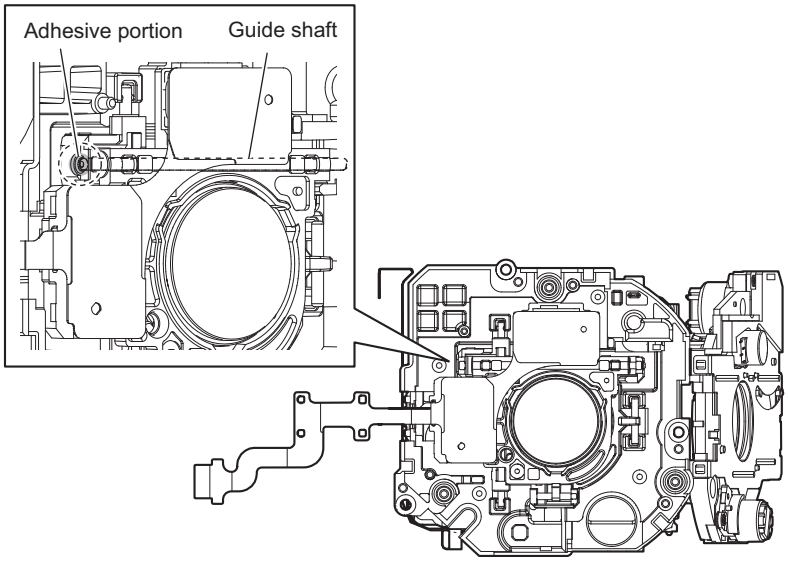
8. Remove the two screws, and then remove the iris assembly.



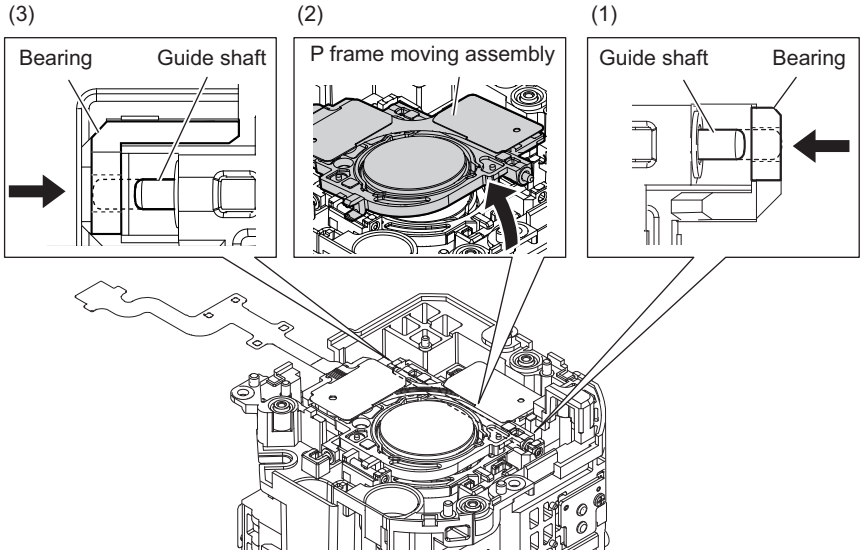
9. Remove the three screws, and then remove the 3 group frame (1730) and opposition yoke (SS1730).



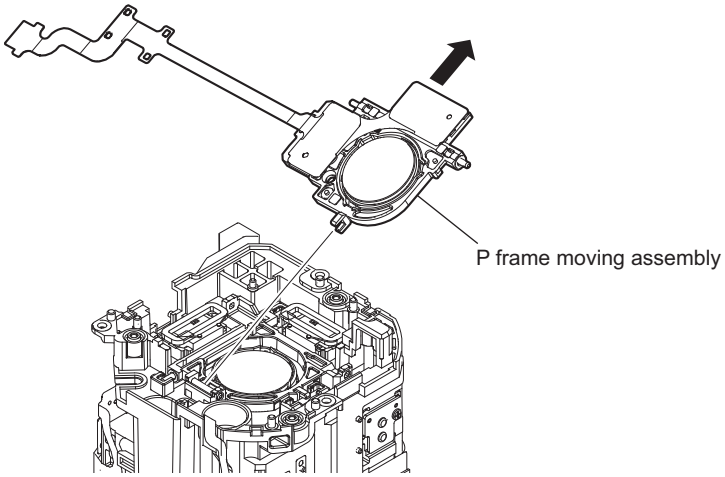
10. Peel off the adhesive at the left end of the guide shaft as shown in the figure.



11. Remove the guide shaft.
    (1) Push the guide shaft in the direction of the arrow until it comes off the bearing.
    (2) Lift the P frame moving assembly as shown in the figure.
    (3) Push the guide shaft in the direction of the arrow until it comes off the bearing.



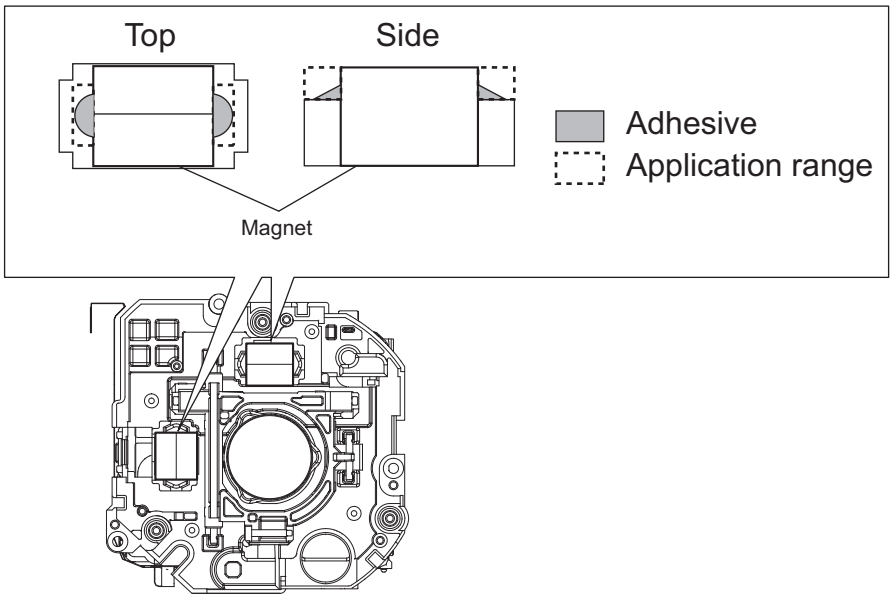
12. Remove the P frame moving assembly in the direction of the arrow.



13. Check that the adhesive fixing portion of the magnet is not peeled off. If peeling can be confirmed, apply adhesive (B-110).

Note

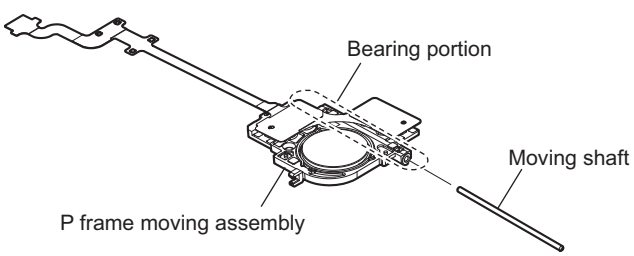
Be careful not to exceed the application range of adhesive.



14. Remove the moving shaft of the new P frame moving assembly and clean the grease adhering to the shaft and the bearing portions with ethanol.

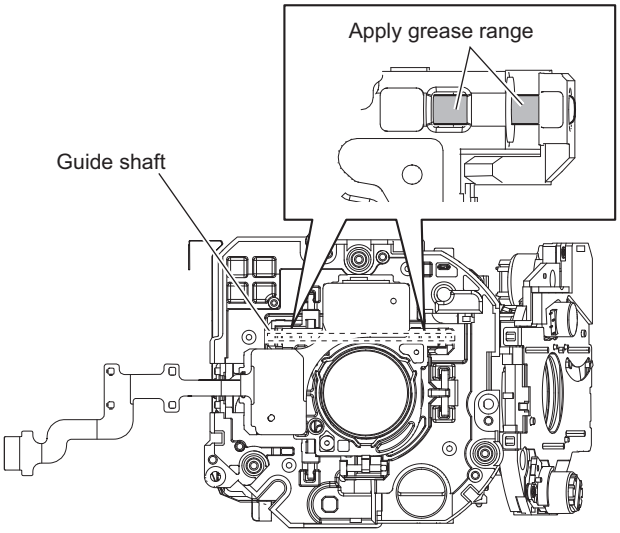
Note

P frame moving assembly and guide shaft are shipped in combination that keeps the clearance of shaft diameter constant. Be sure to use in combination provided.

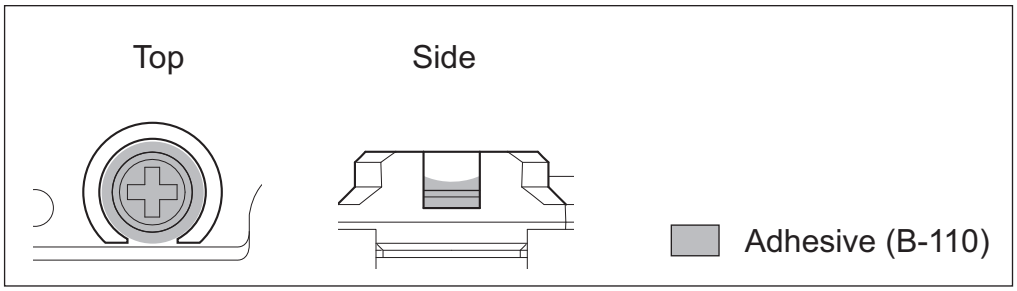


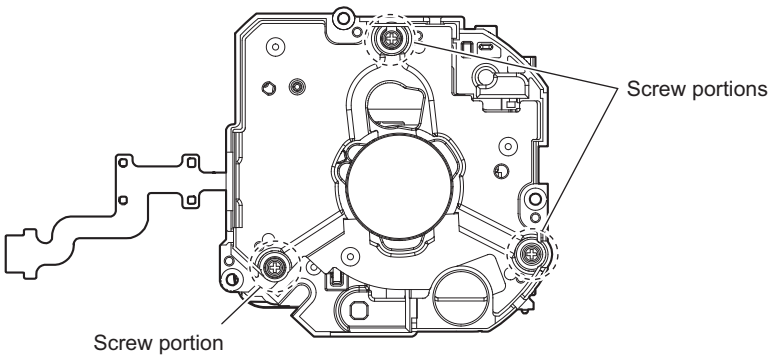
15. Install the P frame moving assembly in the reverse order of steps 9 to 10.

16. Apply grease to the guide shaft and move it right and left 10 times to permeate the grease.

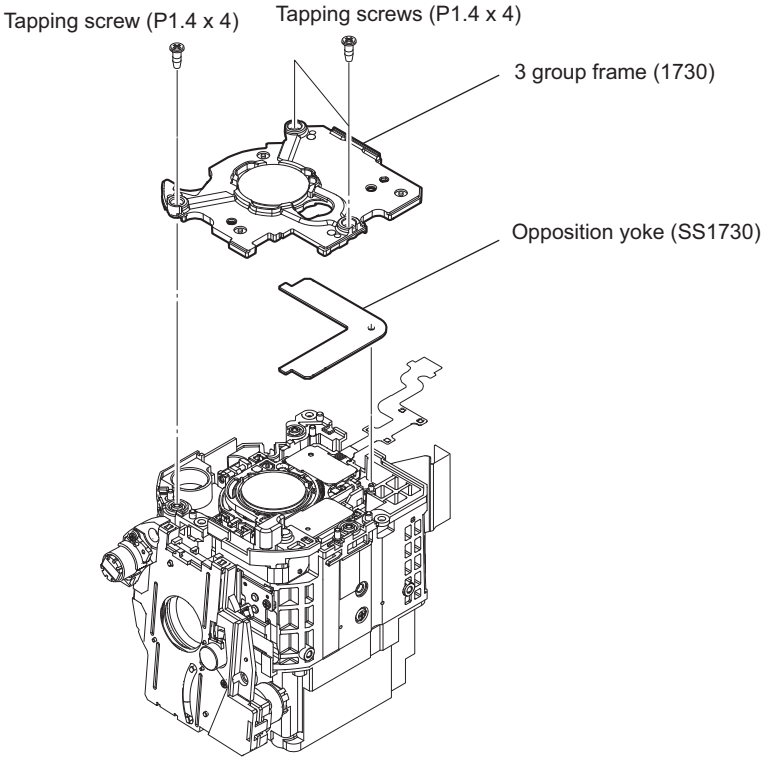


17. Apply the adhesive (B-110) to fix the left end of the guide shaft.

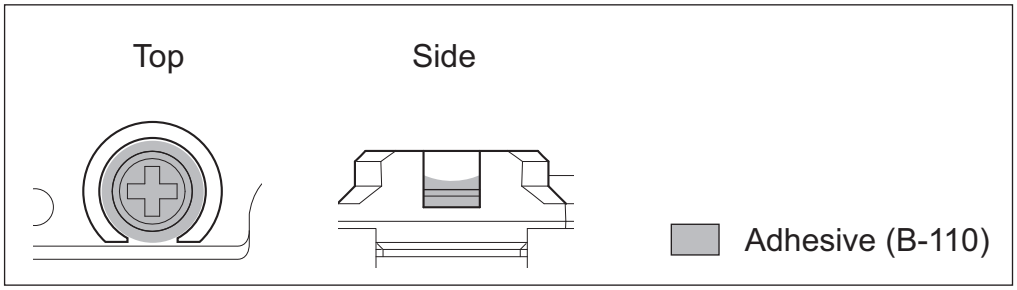


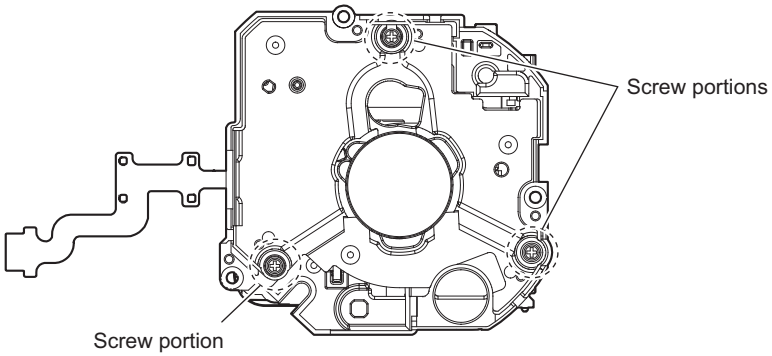


18. Install the equalizer yoke (SS1730), and tighten the three screws to attach the 3 group frame (1730).



19. Apply the adhesive (B-110) to fix the three screws.

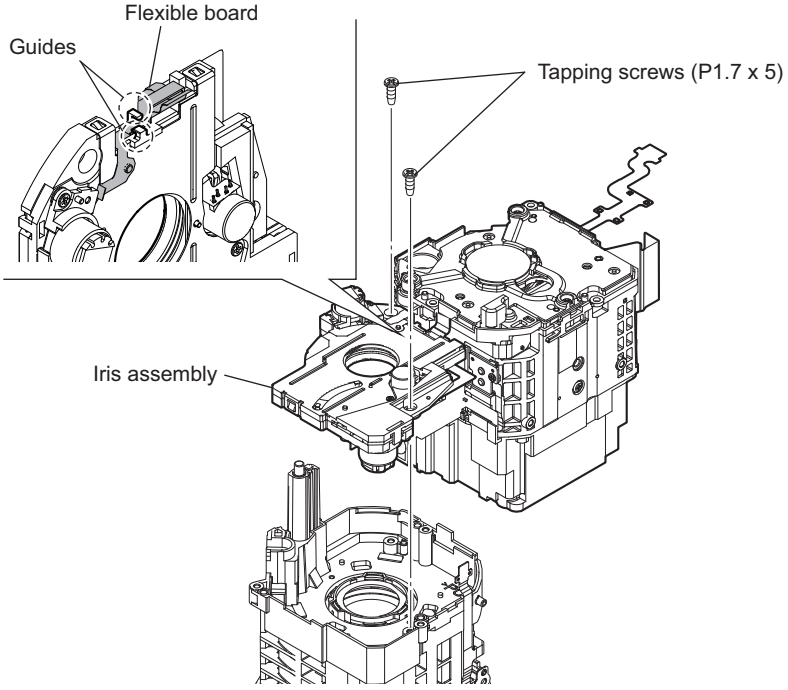




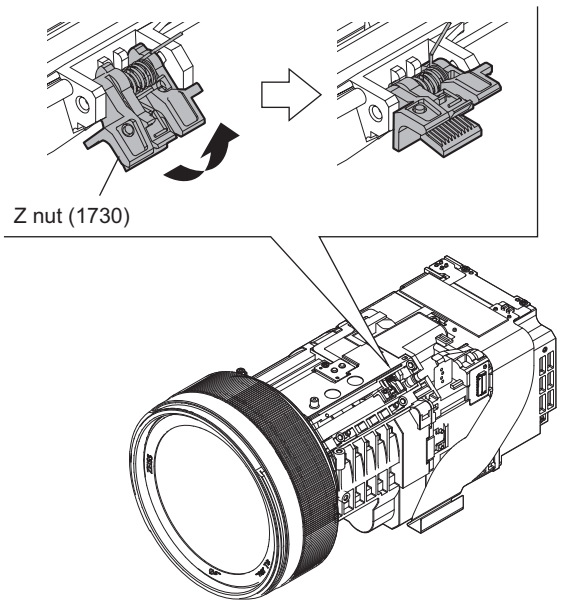
20. Tighten the two screws to attach the iris assembly.

Note

Check that the flexible board is not disengaged from the guide.



21. Install the rear barrel in the reverse order to step 7.
22. Move the Z nut (1730) to the right end and rotate it in the direction of the arrow.



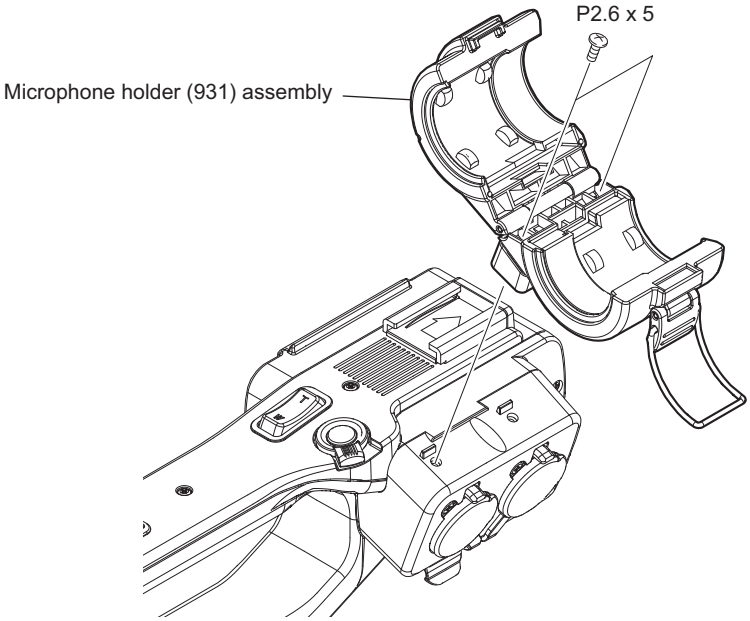
23. Install in the reverse procedure of steps 1 to 6 in procedure.
24. Perform the "Flange back adjustment" after the installation is completed, and check the photographic resolving power.

3-16. Handle Section

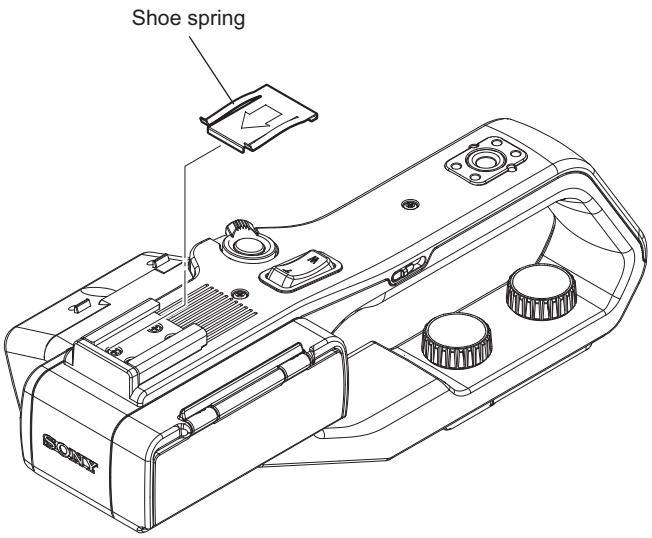
3-16-1. HS-1003 Board

Procedure

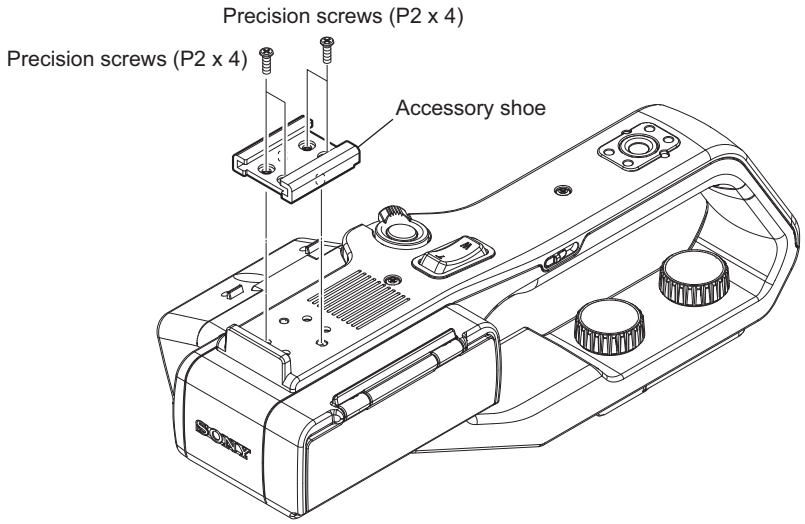
1. Remove the two screws, and then remove the microphone holder (931).



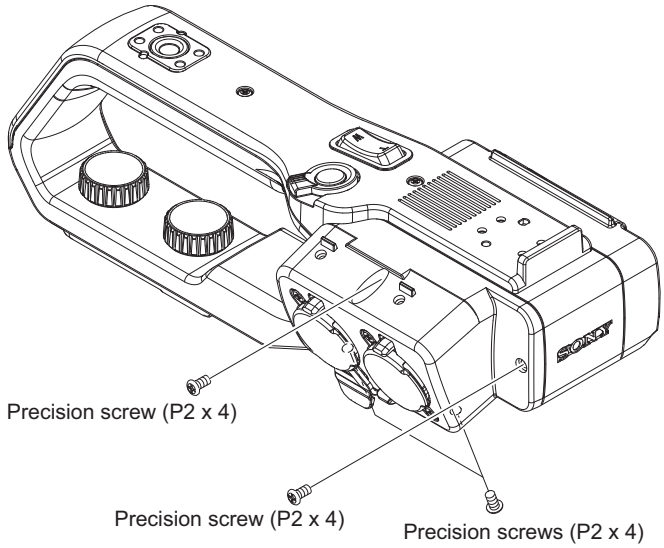
2. Remove the shoe spring.



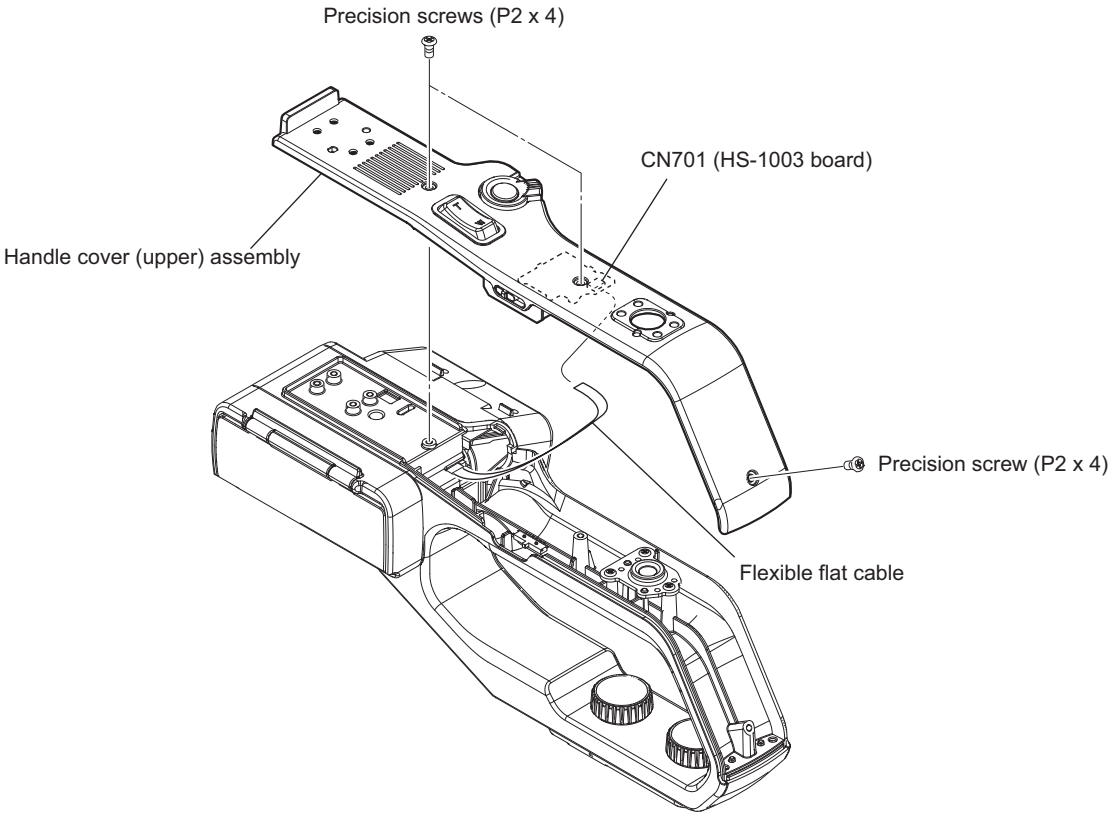
3. Remove the four screws, and then remove the accessory shoe.



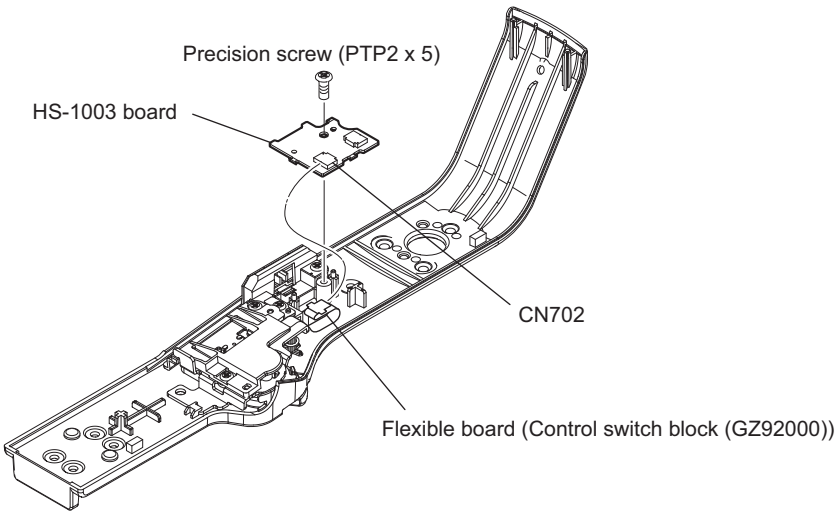
4. Remove the four screws.



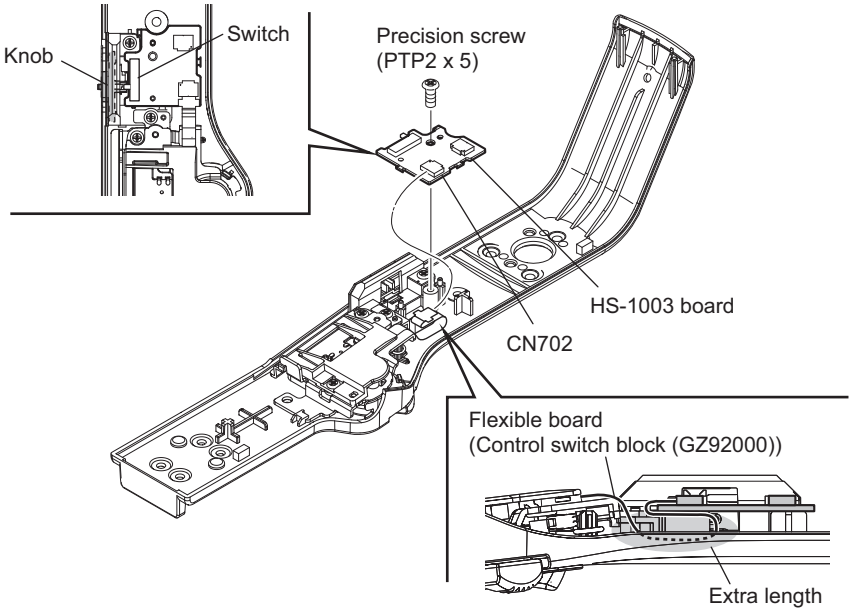
5. Remove the handle cover (upper) assembly.
   (1) Remove the three screws.
   (2) Disconnect the flexible flat cable from the connector (CN701) on the HS-1003 board.



6. Remove the HS-1003 board.
   (1) Disconnect the flexible board (control switch block (GZ92000)) from the connector (CN702) on the HS-1003 board.



7. Install a new HS-1003 board.
   (1) Connect the flexible board (control switch block (GZ92000)) to the connector (CN702) on the HS-1003 board.
   (2) Arrange the extra length of the flexible board (operation switch block (GZ92000)).
   (3) Align the switch with the knob, and then attach the HS-1003 board.
   (4) Tighten the one screw to attach it.



8. Install in the reverse procedure of steps 1 to 5 in procedure.

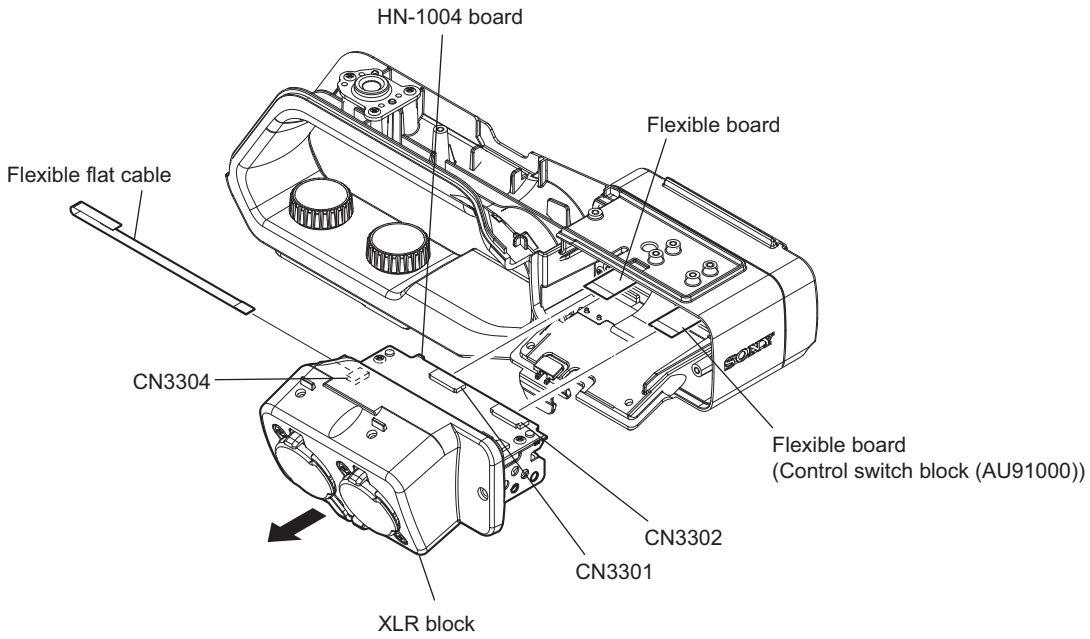
3-16-2. HN-1004 Board

Preparation

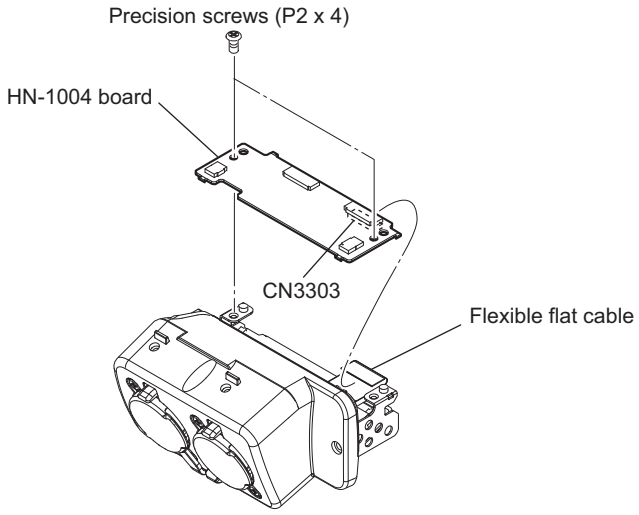
1. Remove the handle cover (upper) assembly. (Refer to "3-16-1. HS-1003 Board".)

Procedure

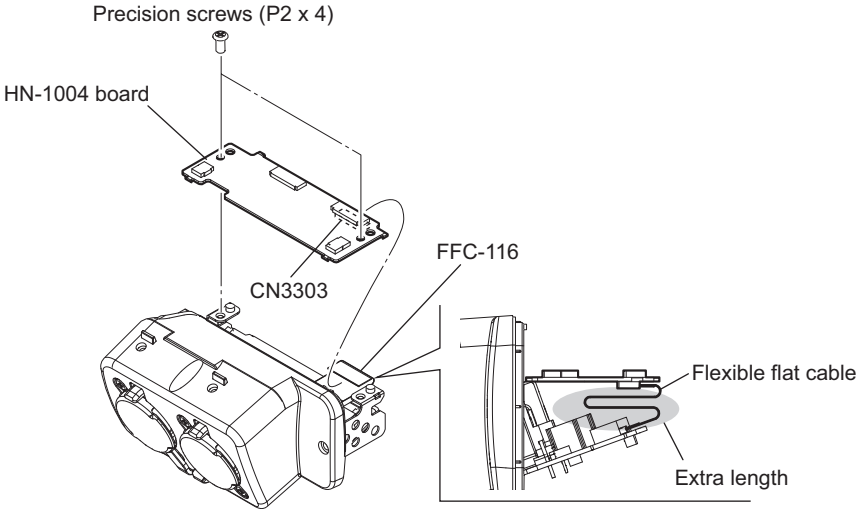
1. Draw the XLR block.
2. Disconnect the two flexible boards and flexible frat cable from the three connectors (CN3301, CN3302, CN3304) on the HN-1004 board.



3. Remove the HN-1004 board.
   (1) Remove the two screws.
   (2) Disconnect the flexible flat cable from the connector (CN3303) on the HN-1004 board.



4. Install a new HN-1004 board.
   (1) Connect the flexible frat cable to the connector (CN3303) on the HN-1004 board.
   (2) Arrange the extra length of the flexible frat cable.
   (3) Install the two screws.



5. Install in the reverse procedure of steps 1 to 2 in procedure.

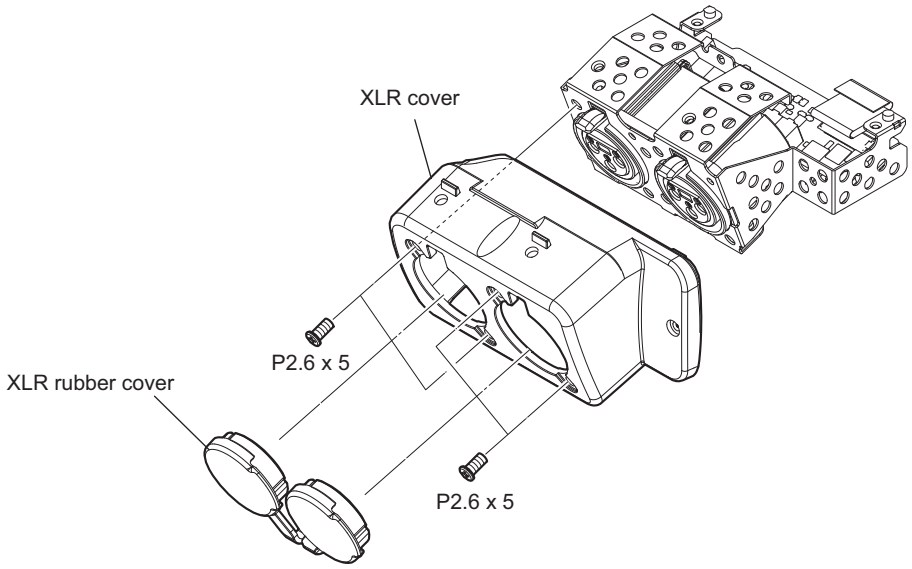
3-16-3. XL-1005 Board

Preparation

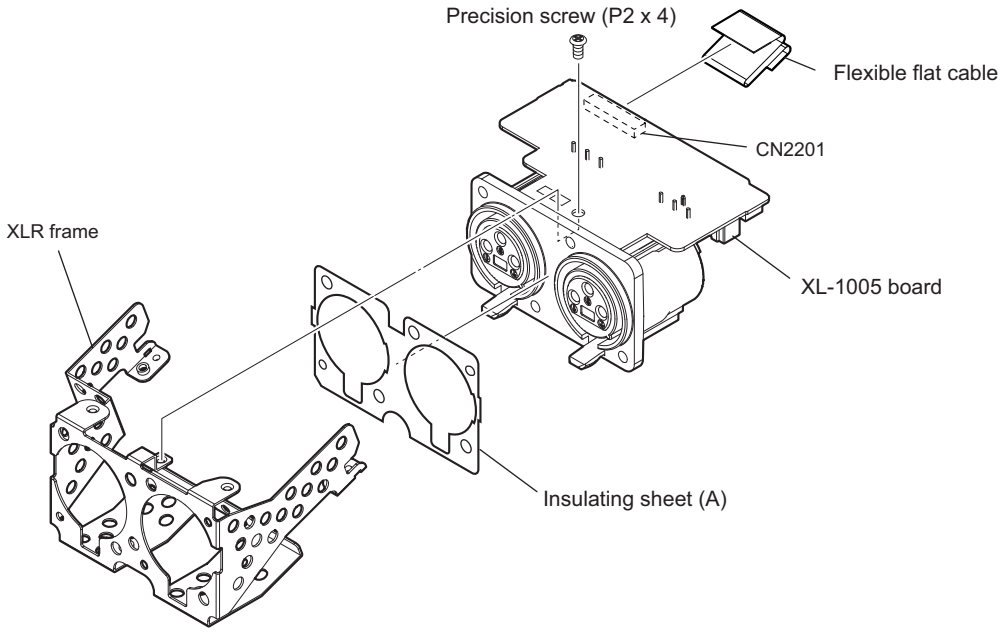
1. Remove the handle cover (upper) assembly. (Refer to “3-16-1. HS-1003 Board”.)
2. Remove the HN-1004 board. (Refer to “3-16-2. HN-1004 Board”.)

Procedure

1. Remove the XLR cover.
   (1) Remove the XLR rubber cover.
   (2) Remove the four screws.



2. Remove the XL-1005 board.
   (1) Remove the screw, and then remove the XLR frame and insulating sheet (A).
   (2) Disconnect the flexible flat cable from the connector (CN2201) on the XL-1005 board.



3. Install the removed parts by reversing the steps of removal.

Section 4
Electrical Adjustment

4-1. Adjustment

For adjusting this unit, the Adjust Station and the Adjust Manual are required.

Adjust Station

It is the software to start up Adjust Manual for each model.
For details, referring to Installation manual supplied with the installer for the Adjust Station.

Adjust Manual

It is the software to adjust and check digital cameras and camcorders for service.
For details, referring to Installation manual supplied with the installer for the Adjust Manual .

Note

Be sure to install Adjust Station first.

Section 5
Circuit Description

5-1. CMOS Block

5-1-1. CM-1016 Board

The CM-1016 board is a 1.0 type stacked CMOS image sensor board.
This board mainly contains a CMOS image sensor (IC1003), a master clock oscillator (X1001), and a 2.9 V constant-voltage regulator (IC1001, IC1002). Power is supplied to this board from the VC-1045 board through the 51-pin connector (CN1001). The CMOS image sensor converts an optical signal to an electrical signal, and its internal A/D converter converts the electrical signal to a 12-bit digital signal. This digital signal is converted to an 8-lane high-speed differential serial signal, and this serial signal is output from the 51-pin connector (CN1001) to the VC-1045 board.

5-2. Multi Interface Shoe Block

5-2-1. FP-2269 Board

The FP-2269 flexible board contains a shoe connector (CN0001) to attach a handle and multi-interface shoe accessory.

5-2-2. ZM-1005 Board

The ZM-1005 board contains a load switch (Q8800, Q8801) and a power rectifier LDO (IC3802) to supply power to the handle and the multi-interface shoe accessory. Only the ZOOM AD power in the handle is supplied through the load switch (Q3801, Q3803). The system processor (IC6000) on the VC-1045 board controls (ON/OFF) both of these load switches.
The operation information of the ZOOM SPEED switch, 2nd ZOOM lever, and 2nd SS button on the handle is transferred to the system processor (IC6000) through the logic switch (IC3801). The system processor (IC6000) also controls (ON/OFF) this logic switch. Signals from the multi-interface shoe are transferred from the 33-pin connector (CN4505) through the ZM-1005 board, and are then output from the 61-pin connector (CN4502) to the VC-1045 board.

5-3. Manual Lens Ring Block

5-3-1. ZM-1005 Board

The PI sensor output of the manual lens ring on the LSV-1730E lens is received by the 6-pin connector (CN4503) on the ZM-1005 board, and this output signal is converted to a digital signal by the comparator IC (IC4501). This digital signal is output from the 61-pin connector (CN4502) to the VC-1045 board.

5-4. Wireless LAN Antenna Block

5-4-1. WF-1008 Board

The WF-1008 board is an antenna board for 2.4 GHz band wireless communication.
The coaxial connector (J7391) on this board is connected to the VC-1045 board through a coaxial harness.

Tip

The HXR-MC88 does not support wireless communication.

5-5. Switch Block

5-5-1. CK-1019 Board

The CK-1019 board contains the following switches and buttons.

- POWER button (S0401)
- SLOT SELECT button (S0413)
- THUMBNAIL button (S0412)
- WHITE BALANCE button (S0405)
- ASSIGN1 button (S0411)
- ASSIGN2 button (S0403)
- ASSIGN3 button (S0407)
- DISPLAY button (S0410)
- MENU button (S0402)
- IRIS button (S0404)
- ISO/GAIN button (S0406)
- SHUTTER SPEED button (S0409)
- AUTO/MANUAL switch (S0414)
- ND FILTER switch (S0408)

The CK-1019 board also contains a panel open/close detection MR sensor (SE4701). This sensor detects the magnetic field of the magnet attached to the main body and outputs a panel open/close detection signal. This signal passes through the inverter (Q4701), and is then output from the 51-pin connector (CN4701) to the VC-1045 board.

5-5-2. EF-1003 Board

The EF-1003 board contains an ASSIGN6 button (S2901). The operation information of this button is output in the following route.
The 6-pin connector (CN2901) → 6-pin connector (CN4608) on the GR-1003 board → 39-pin connector (CN4601) → 39-pin connector (CN4507) on the ZM-1005 board → 61-pin connector (CN4502) → VC-1045 board

5-5-3. SS-1006 Board

The SS-1006 board contains a START/STOP button (CL0601 and CL0602 are activated/deactivated through the conductive rubber button) and an up/down/left/right SET button (S0601). The operation information of these buttons is output in the following route.
The 6-pin connector (CN0601) → 6-pin connector (CN0902) on the LA-1003 board → 10-pin connector (CN0901) → 10-pin connector (CN4509) on the ZM-1005 board → 61-pin connector (CN4502) → VC-1045 board
The SS-1006 board also contains a POWER LED (D0601) and a CHG LED (D0602). The POWER LED (D0601) is controlled by the system processor (IC6000) on the VC-1045 board, and the CHG LED (D0602) is controlled by the power controller (IC5700) on the VC-1045 board.

5-5-4. PH-1004 Board

The PH-1004 board contains an ASSIGN4 button (S4401). The operation information of this button is output in the following route.
The 6-pin connector (CN4401) → 6-pin connector (CN4604) on the GR-1003 board → 39-pin connector (CN4601) → 39-pin connector (CN4507) on the ZM-1005 board → 61-pin connector (CN4501) → VC-1045 board

5-5-5. IP-1002 Board

The IP-1002 board contains an ASSIGN5 button (S4451). The operation information of this button is output in the following route.
The 6-pin connector (CN4451) → 6-pin connector (CN4607) on the GR-1003 board → 39-pin connector (CN4601) → 39-pin connector (CN4507) on the ZM-1005 board → 61-pin connector (CN4501) → VC-1045 board

5-5-6. SW-1030 Board

The SW-1030 board contains a ZOOM/FOCUS switch (S1302) and an AF/MF button (S1301). The operation information of these switch and button is output from the 6-pin connector (CN1301) to the VC-1045 board.

5-5-7. GR-1003 Board

The GR-1003 board receives the operation signal from the zoom lever (PZ96000) on the grip by the 6-pin connector (CN4605), and then outputs this signal from the 39-pin connector (CN4601) through the 39-pin connector (CN4507) and 61-pin connector (CN4501) on the ZM-1005 board to the VC-1045 board.

5-6. User Interface Terminal Block

5-6-1. LA-1003 Board

The LA-1003 board contains a REMOTE connector (J0901). The REMOTE accessory insertion/removal detect signal and the accessory control signal are sent to/received from the power controller (IC5700) and the peripheral IC (IC5200) on the VC-1045 board through the 10-pin connector (CN0901) via the 10-pin connector (CN4509) and 61-pin connector (CN4501) on the ZM-1005 board.

5-6-2. IR-1009 Board

The IR-1009 board contains the following interface devices.

- Remote controller light-receiver (IC0801)
  This IC receives signals from the infrared remote controller (RMT-845).
- Multi/micro USB connector/VIDEO OUT connector (CN0802)
  These connectors are used for connection with accessories such as AV cable (VMC-15MR2) and remote commander (RM-VPR1) and for USB communication with a personal computer.
- MIC connector (J0801)
  This connector is used to connect an external microphone.
- Recording LED (D0801)
  This LED blinks when the remaining capacity of the memory card or the battery level decreases.
- Nightshot light (D0802)
  When the Nightshot light is ON and Nightshot is ON, the infrared light is turned on.

5-6-3. FP-2401 Flexible Board

The FP-2401 flexible board contains an HDMI-A connector (CN9101).
This board also contains a buffer IC (IC9102) for the DDC_SCL signal and the DDC_SDA signal.

5-7. LCD Panel Interface Block

5-7-1. PD-1054 Board

LCD_R/G/B signals generated by the system processor (IC6000) on the VC-1045 board and are converted to SubLVDS signals by the serial interface transmitter (IC8000) are re-converted to LCD_R/G/B signals by the serial-to-parallel receiver (IC3201) on the PD-1054 board, and then these signals are output to the LCD unit through the 61-pin connector (CN8040).
Furthermore, the PD-1054 board contains an MR sensor (SE3201) to detect normal display or inverse display of LCD and a circuit to detect resistance film touch panel operation position (Q3201, Q3202, Q3203, Q3204).

5-8. EVF OLED Interface Block

5-8-1. VF-1021 Board

EVF_R/G/B signals generated by the system processor (IC6000) on the VC-1045 board and are converted to SubLVDS signals by the serial interface transmitter (IC8020) are re-converted to EVF_R/G/B signals by the serial-to-parallel receiver (IC2101) on the VF-1021 board, and then these signals are output to the EVF OLED unit (ECX334AF-1) through the 61-pin connector (CN8060).
Furthermore, the VF-1021 board contains a 10 V power generator circuit (IC4101, etc.) for ECX334AF-1 and a power LDO (IC3101) for the eyepiece detection sensor.

5-8-2. FP-2202 Flexible Board

The FP-2202 flexible board contains an eyepiece detection sensor (SE001).
The signal that is output from this sensor is transferred as follows:
The 8-pin connector (CN3102) on the VF-1021 board → 39-pin connector (CN3101) → 39-pin connector (CN4302) on the MS-1037 board → 51-pin connector (CN4304) → 51-pin connector (CN4504) on the ZM-1005 board → 61-pin connector (CN4501) → VC-1045 board → input to system processor (IC6000)

5-9. Memory Card Interface Block

5-9-1. MS-1037 Board

The MS-1037 board contains the following components.

- Memory card slot A (CN7100) and slot A access LED (D2101)
- Memory card slot B (CN2201) and slot B access LED (D2201)

The interface signals of these memory cards are output from the 51-pin connector (CN4303) to the VC-1045 board.
The MS-1037 board also contains a GMR sensor (SE4301) for detecting electronic viewfinder pull-out and a backup rechargeable lithium coin battery holder (BH4301).

5-10. Shake (PITCH/YAW Direction) Detection Sensor Block

5-10-1. MS-1037 Board

The MS-1037 board also contains a gyro-sensor (SE7701) for detecting shake in the PITCH direction and YAW direction.
The signal from this sensor is output in the following route.
The 51-pin connector (CN4304) → 51-pin connector (CN4504) on the ZM-1005 board → 61-pin connector (CN4501) → VC-1045 board
This signal is input to the vibration-proof control and lens drive IC (IC1802) on the VC-1045 board.

5-11. NFC Interface Block

5-11-1. GR-1003 Board

Signals received from the NFC antenna flexible board are input through the 2-pin connector (CN4651) on the GR-1003 board to the NFC system LSI (IC7401), and are then converted to SPI signals in the NFC system LSI (IC7401). The SPI signals are sent to and received from the system processor (IC6000) on the VC-1045 board through the ZM-1005 board.

Tip

The HXR-MC88 does not support NFC.

5-12. Handle Block

5-12-1. XL-1005 Board

The XL-1005 board contains an input 2-channel XLR-type 3-pin analog audio input connector (CN2202). Audio signal that are input to this board are input to the input/output analog audio signal processor IC (IC3301) on the HN-1004 board.
The XL-1005 board also contains a boost DC-DC converter block for +48 V superimposition.

5-12-2. HN-1004 Board

The HN-1004 board contains an input/output analog audio signal processor IC (IC3301) and an audio control 8-bit microcomputer (IC3304).
The received input analog audio signals received under control from the microcomputer (IC3300) according to the settings of the audio control switch block (AU91000) are processed (gain control, etc.) in IC3301. Then the processed signals are output through the 18-pin connector (CN3301) to the multi-interface shoe connector. The HN-1004 board also contains a circuit to generate voltages +4.6 V, +6 V, +10 V, and -10 V used in the handle block.
The 2nd zoom lever signal, 2nd SS button (GZ92000) signal, and 2nd zoom lever speed change switch (S0701) signal received from the HS-1003 board are also output through the 18-pin connector (CN3301) on the HN-1004 board to the multi-interface shoe connector.

5-12-3. HS-1003 Board

The HS-1003 board finally receives the 2nd zoom lever signal and the 2nd SS button (GZ92000) signal. This board also contains a 2nd zoom lever speed change switch (S0701). These signals are sent through the 6-pin connector (CN0701) to the 6-pin connector (CN3304) on the HN-1004 board.

5-13. Main System Block

5-13-1. VC-1045 Board

The VC-1045 board contains all main system component devices.

Power supply control/RTC block

This board collects the following two power input channels and converts input power to voltages required for each DD converter.

- Two input power channels
  AC adapter (AC-L200 D)
  Battery (V battery)

he 2-channel input power voltages are automatically switched by the power management IC (IC5651) according to the following conditions, and the selected voltage is used.

- When the AC adapter and the battery are simultaneously detected, the AC adapter is used preferentially.
- The AC adapter and the battery are switched without power interruption.

The system power IC (IC5100) that incorporates a 6-channel switching regulator controllable through serial communication and a 2-channel LDO generates seven output voltages (1.0 V, 1.2 V, 1.8 V, 3.15 V, 3.3 V, 5 V, and HB_ 1.8 V).
The peripheral IC (IC5200) generates four output voltages (LANC_DC, EVER_3V, HDMI_5V, and MSX_3.3V).
The power controller (IC5700) controls switching of the AC adapter and the battery by IC5651 and the power-up/power-down sequence by IC5100.
The power controller (IC5700) also has a Real Time Clock function. When neither AC adapter nor battery is connected, the clock is counted with the reference clock of the 32.768 kHz oscillation circuit (X5700) by the power supply from the backup rechargeable lithium coin battery.
The PWM control-type boost DC/DC converter (IC0103) controlled by the system processor (IC6000) generates a voltage for the LCD backlight.
The buck-boost converter (IC0102) generates a voltage of 8 V for the multi-interface shoe accessory.
When the Ethernet conversion adapter CBK-NA1R is connected, the camera body functions as a USB host and supplies the 5 V voltage generated by IC5100 to the Ethernet conversion adapter CBK-NA1R through the bus power switch (IC5630).
The step-down converter (IC0603, IC0602) generates voltages 2 V and 3.4 V to be supplied to the SH-1020 board.
The step-down converter (IC0604) generates a voltage of 1.1 V to be supplied to the CM-1016 board. The step-down converter (IC5050) for VID control generates a core voltage (0.9V_ASV) for the system processor (IC6000).
The power LDO (IC0815, IC0816) generates a core voltage (0.9V_NOTASV) for the system processor (IC6000) and an IO voltage (0.9V_NOTASV).
The power LDO (IC0813) generates an analog macro voltage (1.8 V) for the system processor (IC6000). This power voltage is also used as a voltage for the master clock (X6000: 24 MHz, X6360: 72 MHz).
The step-down converter (IC0811) generates a voltage of 1.2 V for the DRAM that is PoP-mounted on the system processor (IC6000).
The load switch (IC0701) functions as a power switch for memory card in the memory card slot A and for the SDIO macro of the system processor (IC6000). When the UHS-I memory card is in use, the SDIO macro power of the system processor (IC6000) changes to 1.8 V supplied from the power LDO (IC0702).
The load switch (IC0705) functions as a power switch for memory card in the memory card slot B and for the SDIO macro of the system processor (IC6000). When the UHS-I memory card is in use, the SDIO macro power of the system processor (IC6000) changes to 1.8 V supplied from the power LDO (IC0706).

Lens control block

The H-BRIDGE IC (IC1741) is used to drive IRIS and is controlled by signals from the BEAR/ETC macro in the system processor (IC6000).
The H-BRIDGE IC (IC1742) is used to drive the second ND filter and is controlled by signals from the BEAR/ETC macro in the system processor (IC6000) and by signals from the TPU macro. The lens control LSI (IC1803) is used to drive the first ND filter drive and the focus lens drive and is controlled by SIO communication from the system processor (IC6000) and the V synchronization signal.
In addition, the IC1803 detects the focus lens position, zoom lens position, and ND filter position.
The vibration-proof control and lens drive IC (IC1802) is used to drive the vibration-proof lens, zoom lens, mechanical shutter, and infrared light cut filter and is controlled by SIO communication from the system processor (IC6000), the V synchronization signal, and the signals form the BEAR/ETC macro.
The IC1802 also detects the vibration-proof lens position and signals from the gyro-sensor (SE7701/MS-1037 board) for detecting shake in the PITCH direction and the YAW direction.

Wireless LAN antenna block

The WLAN module (CP7330) converts data sent from the system processor (IC6000) through SDIO communication to RF signals conforming to IEEE802.11, and the RF signals are output from the coaxial connector (J7381) through the coaxial harness to the WLAN antenna on the WF-1008 board.

Tip

The HXR-MC88 does not support wireless communication.

Shake (ROLL direction) detection sensor block

The signal from the gyro-sensor (SE7711) for detecting shake in the ROLL direction is amplified by the angular velocity sensor amplifier (IC7711), and is then input to the A/D conversion macro in the system processor (IC6000).

LCD_R/G/B signal conversion block

Parallel LCD_R/G/B signals that are output from the system processor (IC6000) are converted to the SubLVDS signal by the serial interface transmitter (IC8000).

EVF_R/G/B signal conversion block

Parallel EVF_R/G/B signals that are output from the system processor (IC6000) are converted to the SubLVDS signal by the serial interface transmitter (IC8020).
Furthermore, the voltage level of the SIO signal level shared with the other 3 V interface device is converted to 1.8 V interface for ECX334AF-1 using the level shifter (IC3201).

AUDIO block

Audio signals captured from the external microphone (J0801/IR-1009 board), internal 2-channel microphone (CN4603/GR-1003 board), and multi-interface shoe microphone (CN0001/FP-2269 flexible board) are processed (including A/D conversion, gain setting, and AGC) in the audio signal processor IC (IC8500). Then processed signals are sent to the system processor (IC6000) through I2S communication.

In the playback mode, audio signals sent from the system processor (IC6000) through I2S communication are converted to analog signals in the audio signal processor IC (IC8500). The converted analog signals are output from the line/headphone/speaker output amplifier in the IC, and are finally output through the line output connector (CN0802/IR-1009 board), headphone connector (J4001), and speaker connector (CN4702/CK-1019 board) to the external as sound. Furthermore, beep sound generated by the system processor (IC6000) is output from the headphone or speaker in the same way.

Composite VIDEO block

Composite video signals that are output from the VDAC macro in the system processor (IC6000) are amplified in the Video AMP IC (IC1101), and are then output through the line output connector (CN0802/IR-1009 board) to the external monitor.

Manual dial block

Manual dial (AD47100) operation signals are input through the 6-pin connector (CN4003) to the TPU macro in the system processor (IC6000).

eMMC block

Programs for the system processor (IC6000) are stored in the eMMC IC (IC6280).

Front-end block

The front-end IC (IC6300) receives video signals from the 1.0 type stacked CMOS image sensor and sends them to the system processor (IC6000) with the MIPI interface.
The front-end IC (IC6300) is also able to perform processing (including digital clamp processing, NR processing, image plane phase difference pixel correction processing, and data buffering when reading the image sensor high frame rate using the PoP-mounted DRAM).

System control block

The system processor (IC6000) contains ARM Cortex-A5 MPCore for controlling peripheral devices. This processor also contains an image processing engine and an HEVC/AVC Codec engine.
In addition, this processor contains interface macros for peripheral devices such as MIPI interface, VDAC, HDMI interface, Digital Panel interface (for both LCD and EVF), BEEP AUDIO, I2S interface, USB interface, UART interface, SIO interface, SPI interface (NFC interface), eMMC interface, MS interface, SD interface, WLAN interface (SD interface), 12-bit A/D converter, I2C interface, GPIO interface, SIRCS interface, and lens driver control interface.

Section 6
Spare Parts

6-1. Note on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

3. Stock of Parts

Parts marked with “o” at SP (Supply Code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Harness

Harnesses with no part number are not registered as spare parts.

1. 安全重要部品

⚠警告

⚠印のついた部品は安全性を維持するために重要な部品です。したがって，交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は，セットに使われているものと異なることがあります。
これは部品の共通化，改良等によるものです。

3. 部品の在庫

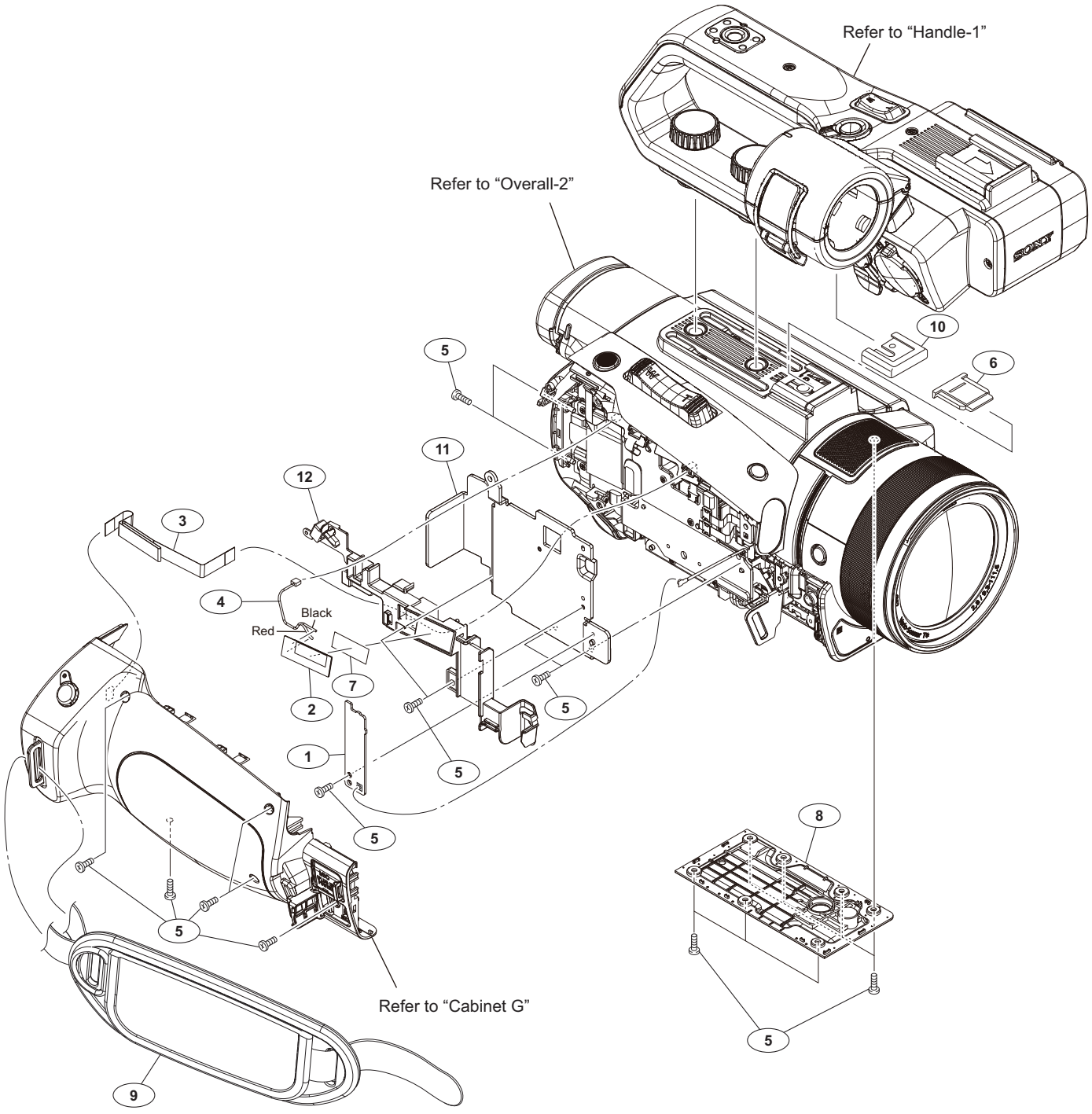
部品表の SP（Supply code）欄に “o” で示される部品は在庫していないことがあり，納期が長くなることがあります。

4. ハーネス

部品番号の記載されていないハーネスは，サービス部品として登録されていません。

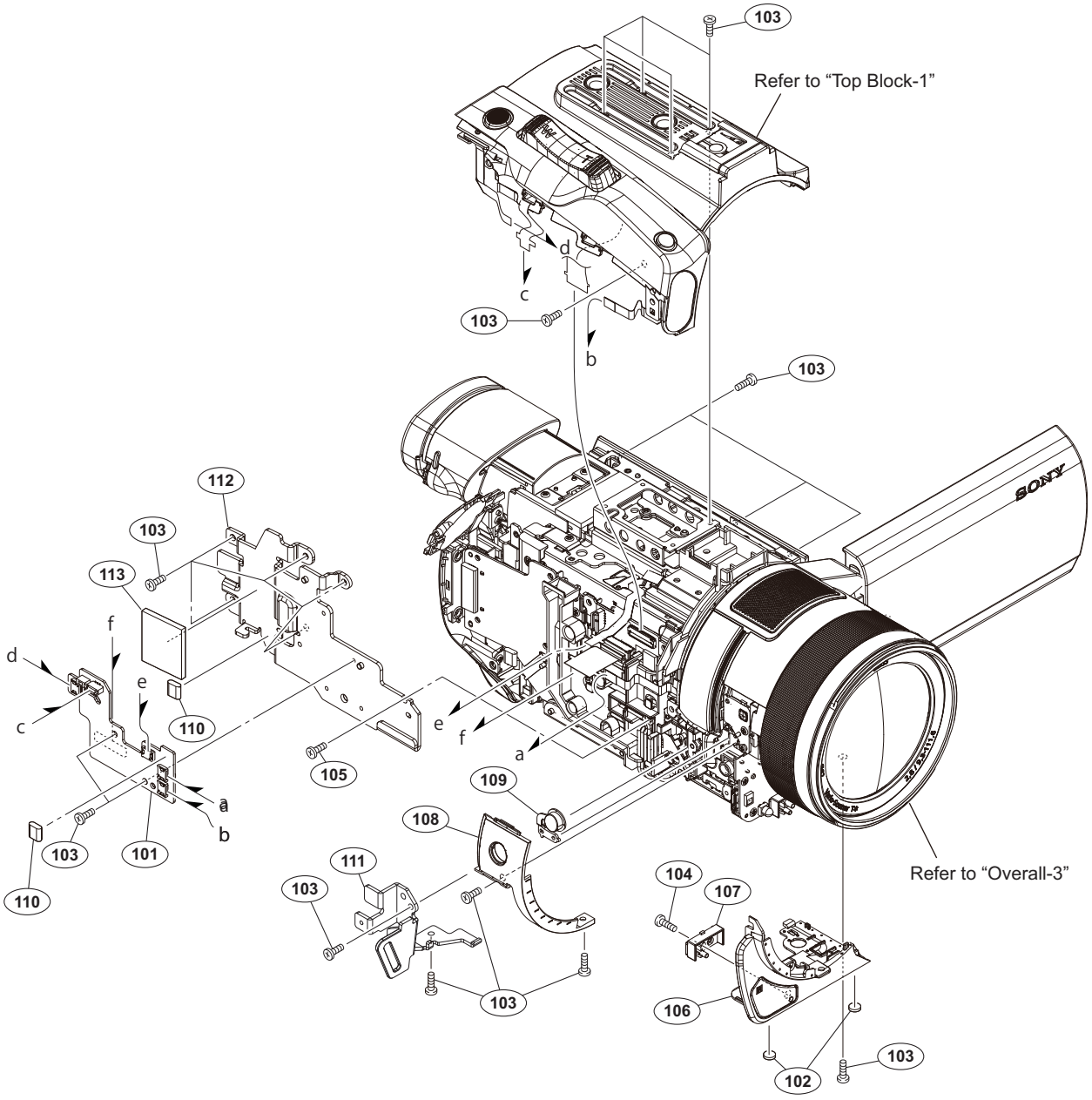
6-2. Exploded Views

Overall-1



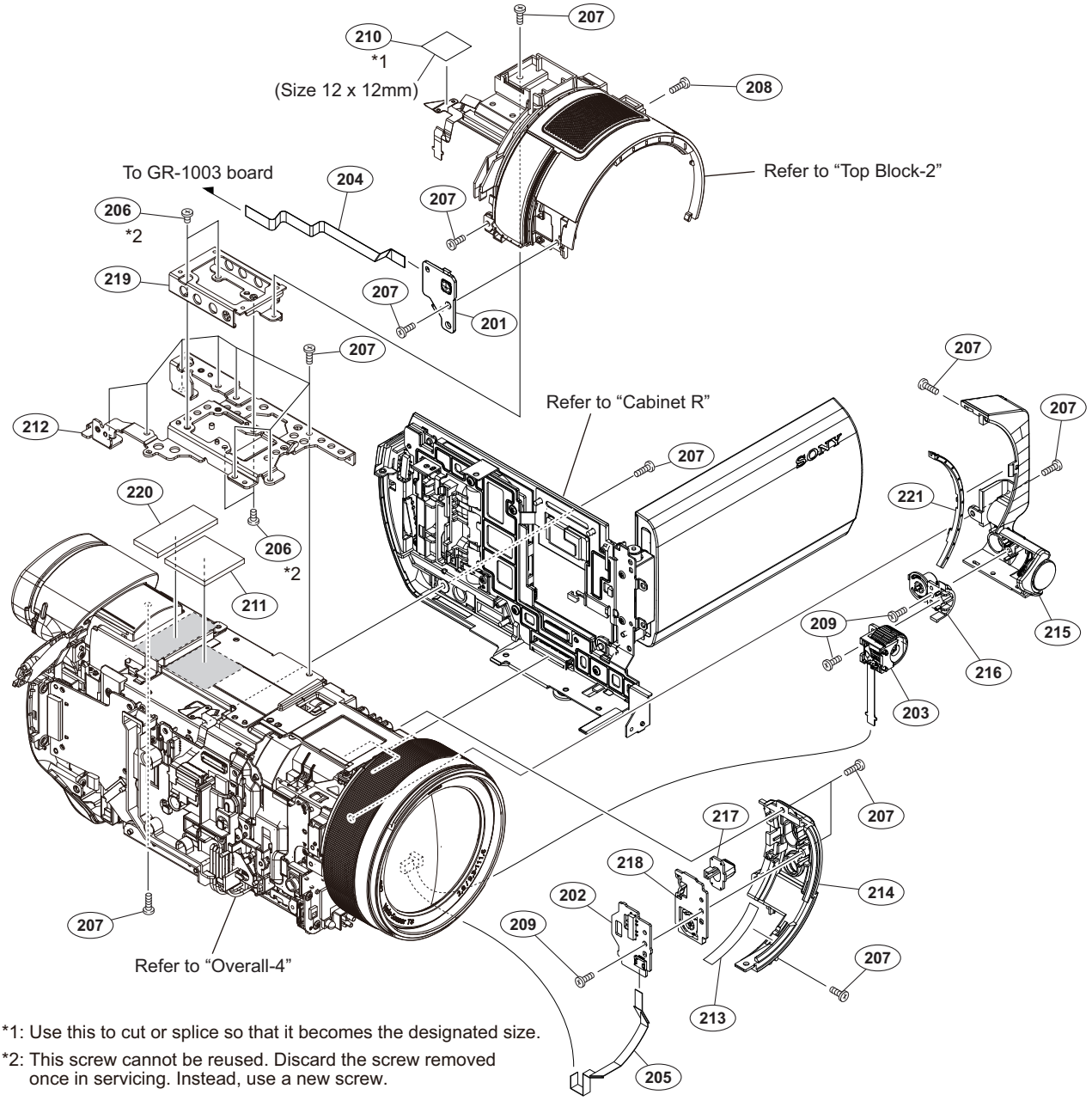
No.	Part No.	SP	Description
1	A-2189-103-A	s	MOUNT, WF-1008
2	1-754-972-12	s	NFC ANTENNA
3	1-835-004-12	s	FLEXIBLE FLAT CABLE (FFC-122)
4	1-846-787-31	s	CABLE
5	2-635-562-71	s	SCREW(M1.7)
6	4-438-734-12	s	SHOE CAP (875)
7	4-489-010-01	s	SHEET (ANT), ADHESIVE
8	4-533-029-01	s	CABINET (BM)
9	4-541-719-01	s	BELT (913), GRIP
10	4-546-448-01	s	CAP (913), HANDLE SHOE
11	4-697-325-01	s	HEAT SINK (GP)
12	4-697-326-01	s	MOLD (G), INNER

Overall-2



No.	Part No.	SP	Description
101	A-2189-095-A	s	MOUNT, GR-1003
102	2-589-376-11	s	FOOT (395), RUBBER
103	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
104	3-078-890-11	s	SCREW, TAPPING [P1.7 x 4]
105	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
106	4-533-037-11	s	CABINET, IR
107	4-533-038-01	s	TALLY, REC
108	4-533-052-21	s	COVER, EF
109	4-533-053-12	s	BUTTON, EF
110	4-534-480-01	s	BM, GASKET
111	4-544-474-01	s	SHEET METAL (F), GRIP BELT
112	4-697-322-01	s	HEAT SINK (HD)
113	4-697-333-01	s	SHEET (GP), RADIATION

Overall-3

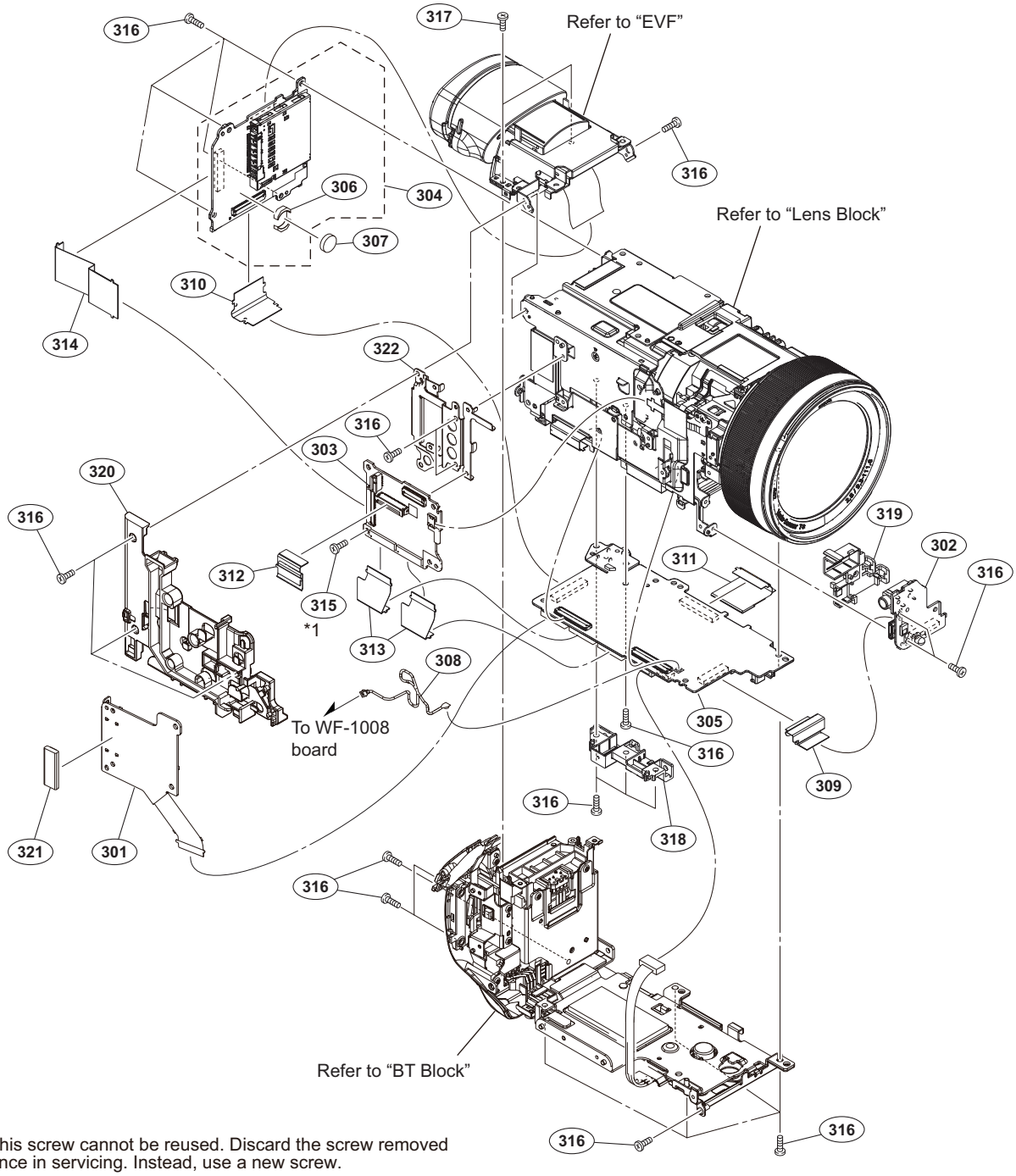


*1: Use this to cut or splice so that it becomes the designated size.

*2: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

No.	Part No.	SP	Description
201	A-2189-089-A	s	MOUNT, EF-1003
202	A-2189-090-A	s	MOUNT, SW-1030
203	1-492-624-11	s	SWITCH BLOCK, CONTROL(AD47100)
204	1-834-806-12	s	CABLE, FLEXIBLE FLAT (FFC-335)
205	1-834-810-12	s	CABLE, FLEXIBLE FLAT (FFC-339)
206	2-187-345-21	s	SCREW(M1.7),P2 [P1.7 x 2.5]
207	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
208	2-660-401-51	s	SCREW(M1.7),NEW TRU-STAR,P2 [P1.7 x 5]
209	3-078-890-11	s	SCREW, TAPPING [P1.7 x 4]
210	4-446-014-01	s	TAPE AS (2040))
211	4-532-960-01	s	SHEET (B), VC RADIATION
212	4-533-028-11	s	FRAME, TOP
213	4-533-045-01	s	SHEET (LC), ADHESIVE
214	4-533-046-12	s	COVER, LENS
215	4-533-048-11	s	CABINET, HINGE
216	4-533-049-01	s	BUTTON, MANUAL
217	4-533-050-01	s	SELECTION (SW), ZOOM
218	4-533-051-01	s	BUTTON, FOCUS
219	4-544-471-01	s	FRAME (HN), TOP
220	4-544-481-01	s	SHEET (VF), CM RADIATION
221	4-697-919-01	s	RING, HINGE COVER

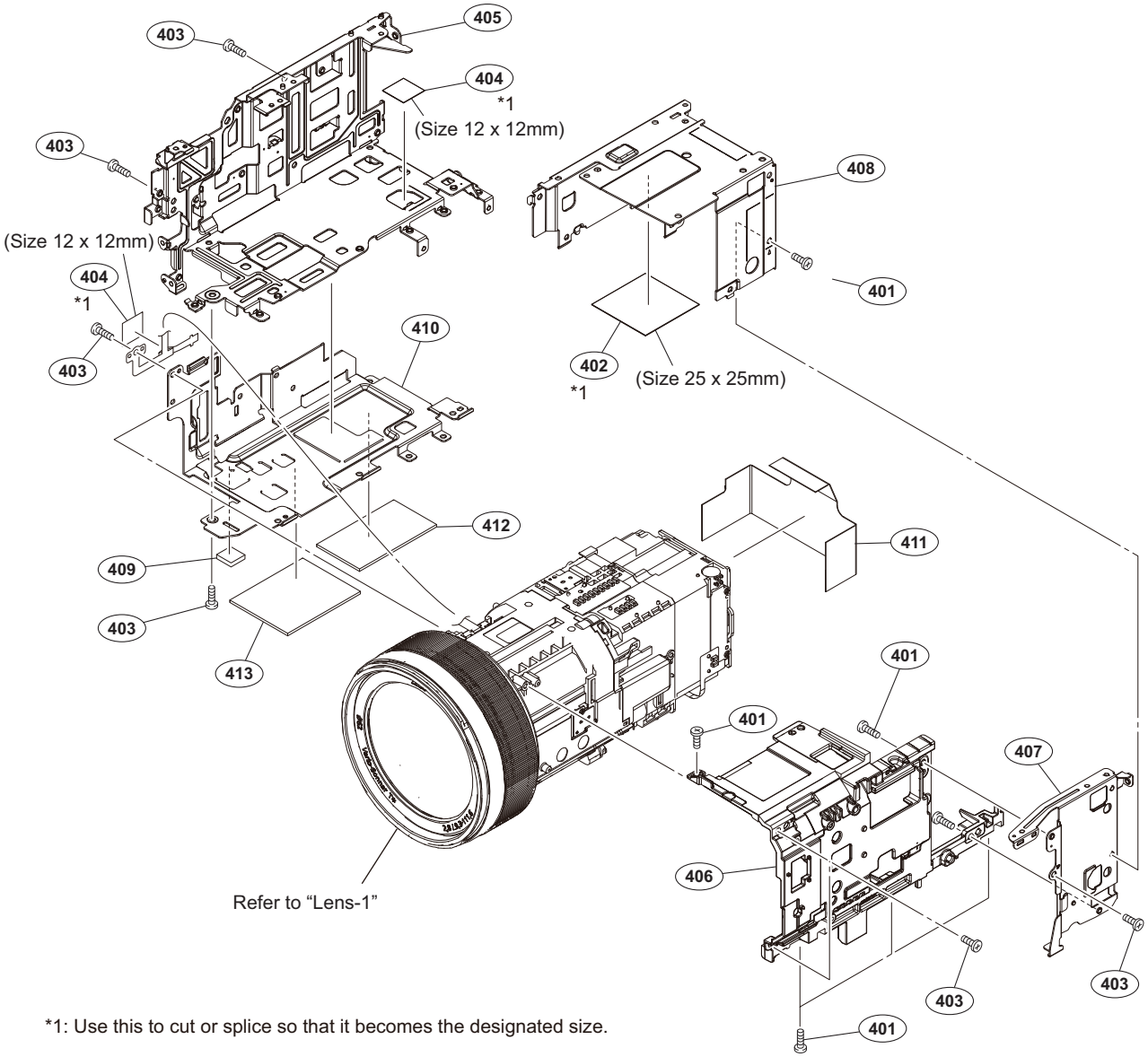
Overall-4



*1: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

No.	Part No.	SP	Description
301	A-2189-093-A	s	MOUNT, FP-2401
302	A-2189-096-A	s	MOUNT, IR-1009
303	A-2189-104-A	s	MOUNT, ZM-1005
304	A-2197-988-A	s	MOUNT (SERVICE), MS-1037
305	A-2198-729-A	s	COMPLETE PC BOARD (SERVICE) [VC-1045 board] [For HXR-NX80]
	A-2198-732-C	s	COMPLETE PC BOARD (SERVICE) [VC-1045 board] [For HXR-MC88]
306	⚠ 1-853-022-11	s	HOLDER, BATTERY
307	⚠ 1-528-900-33	s	BATTERY, LITHIUM SECONDARY
308	1-846-474-21	s	CABLE, COAXIAL (85MM)
309	1-889-280-11	s	PWB, FP-2207 FLEXIBLE
310	1-889-282-11	s	PWB, FP-2209 FLEXIBLE
311	1-893-401-11	s	FP-2263 FLEXIBLE PWB
312	1-893-404-11	s	FP-2266 FLEXIBLE PWB
313	1-981-945-11	s	FP-2396 FLEXIBLE PWB
314	1-981-946-11	s	FP-2397 FLEXIBLE PWB
315	2-187-345-21	s	SCREW(M1.7),P2 [P1.7 x 2.5]
316	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
317	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
318	4-533-035-01	s	HOLDER, HDMI
319	4-533-036-01	s	HOLDER, USB
320	4-697-321-01	s	MOLD (ZM), INNER
321	4-697-334-01	s	GASKET (2X6 (17)), SOFT
322	4-697-335-01	s	FRAME, ZM

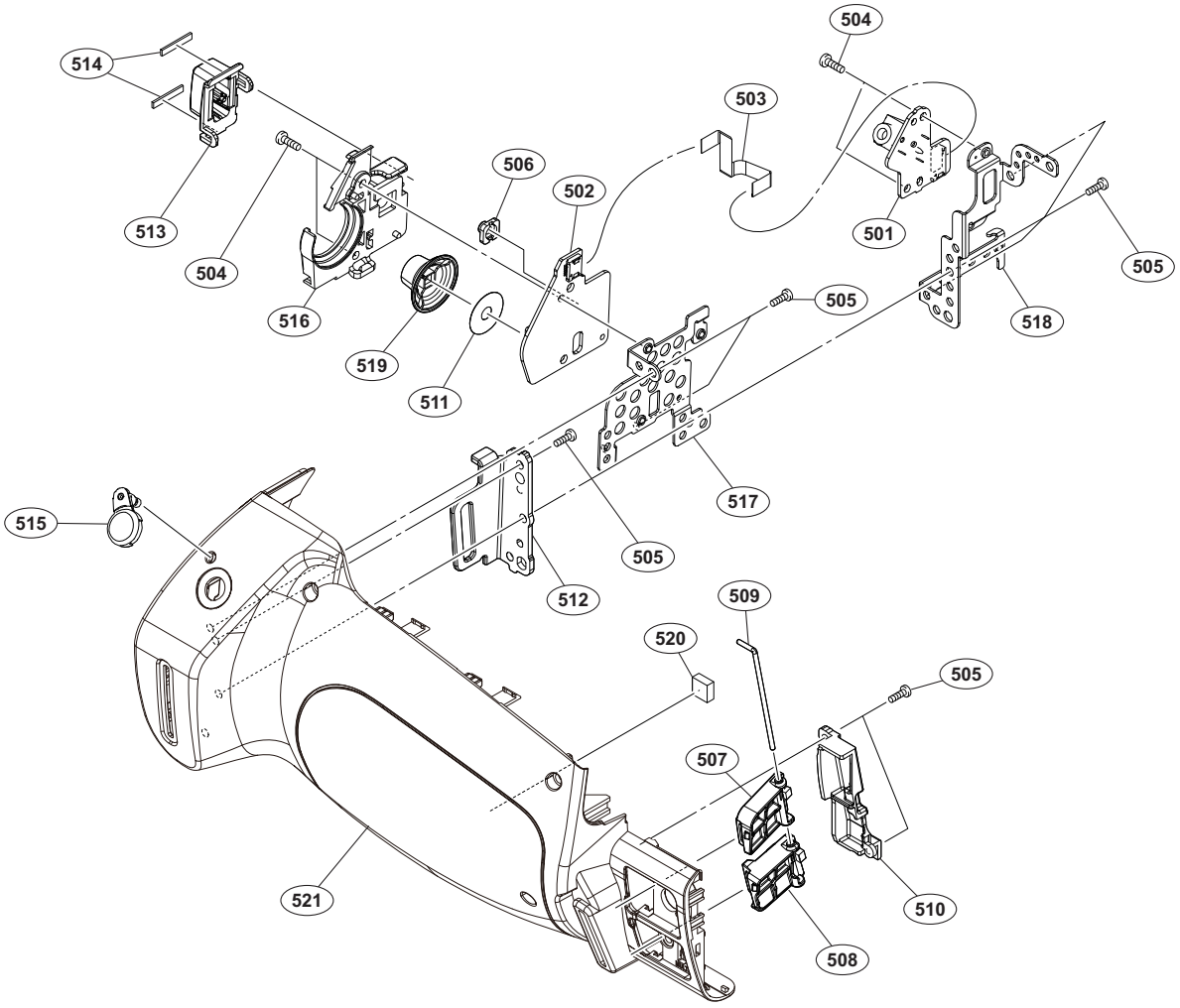
Lens Block



*1: Use this to cut or splice so that it becomes the designated size.

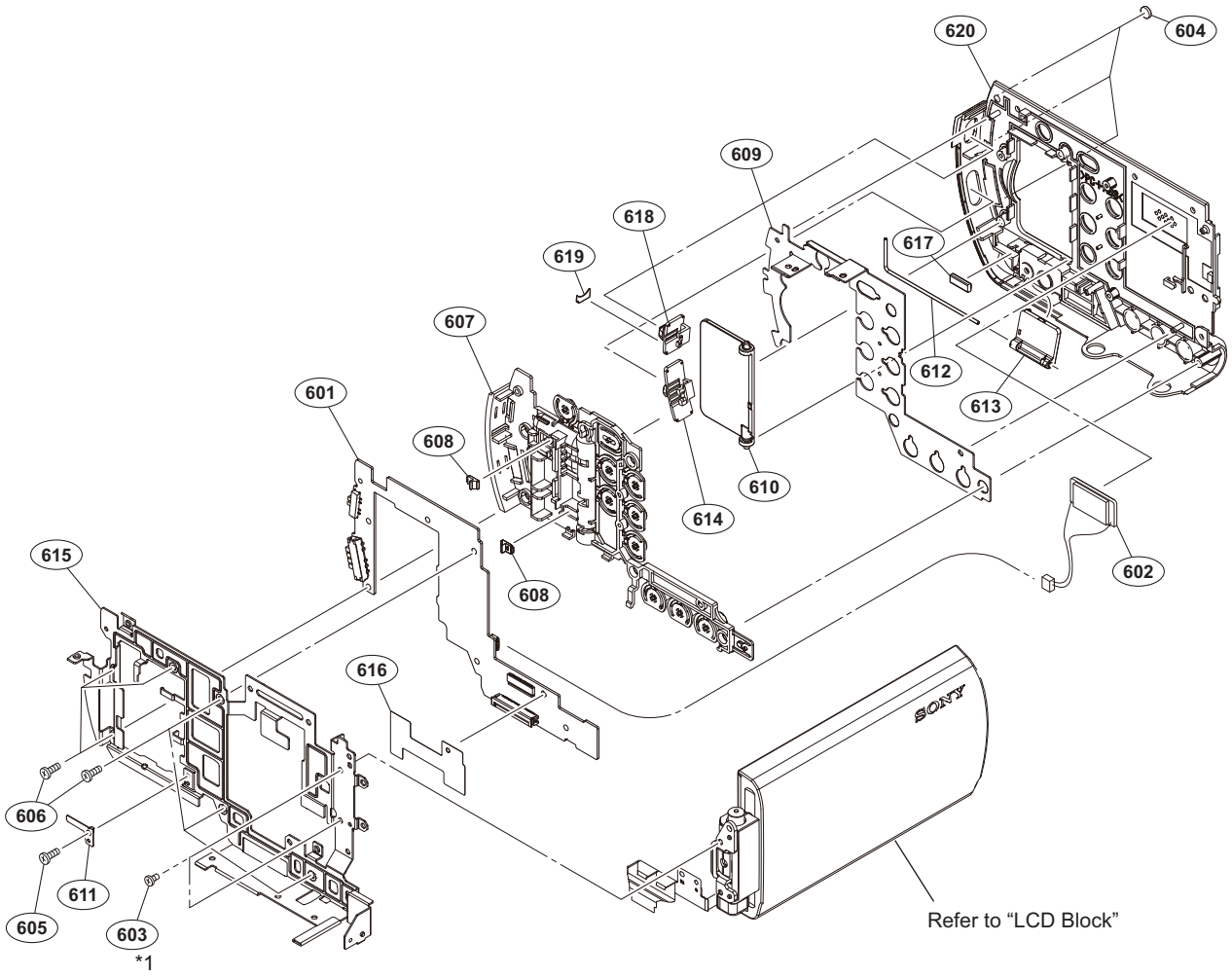
No.	Part No.	SP	Description
401	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
402	3-079-115-01	s	TAPE AS
403	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
404	4-446-014-01	s	TAPE AS (2040))
405	4-533-030-01	s	FRAME (L), LENS
406	4-533-032-02	s	CHASSIS, LENS
407	4-533-033-01	s	FRAME (R), LENS
408	4-533-034-01	s	HEAT SINK (T)
409	4-697-318-01	s	CUSHION, WF
410	4-697-320-01	s	VC HEAT SINK (A)
411	4-697-329-01	s	SHEET (915), CM RADIATION
412	4-697-331-01	s	BACK, VC RADIATION SHEET
413	4-697-330-01	s	FRONT, VC RADIATION SHEET

Cabinet G



No.	Part No.	SP	Description
501	A-2189-097-A	s	MOUNT, LA-1003
502	A-2189-100-A	s	MOUNT, SS-1006
503	1-836-006-12	s	FLEXIBLE FLAT CABLE (FFC-172)
504	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
505	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
506	4-299-985-01	s	RUBBER, SS
507	4-533-023-11	s	LID, MIC
508	4-533-024-11	s	LID, USB
509	4-533-025-01	s	SHAFT, USB LID
510	4-533-026-01	s	RETAINER, USB LID
511	4-541-676-01	s	SHEET (G), MUFFLE
512	4-544-475-01	s	SHEET METAL (R), GRIP BELT
513	4-544-477-01	s	BUTTON (SS)
514	4-547-616-01	s	SHEET (SS), MUFFLE
515	4-599-767-01	s	COVER (LANC), JACK
516	4-697-314-01	s	BASE, SS
517	4-697-315-01	s	FRAME, SS
518	4-697-316-01	s	FRAME, LA
519	4-697-317-01	s	JOYSTICK
520	4-697-318-01	s	CUSHION, WF
521	4-697-313-01	s	CABINET (G) [For HXR-NX80]
	4-697-313-11	s	CABINET (G) [For HXR-MC88]

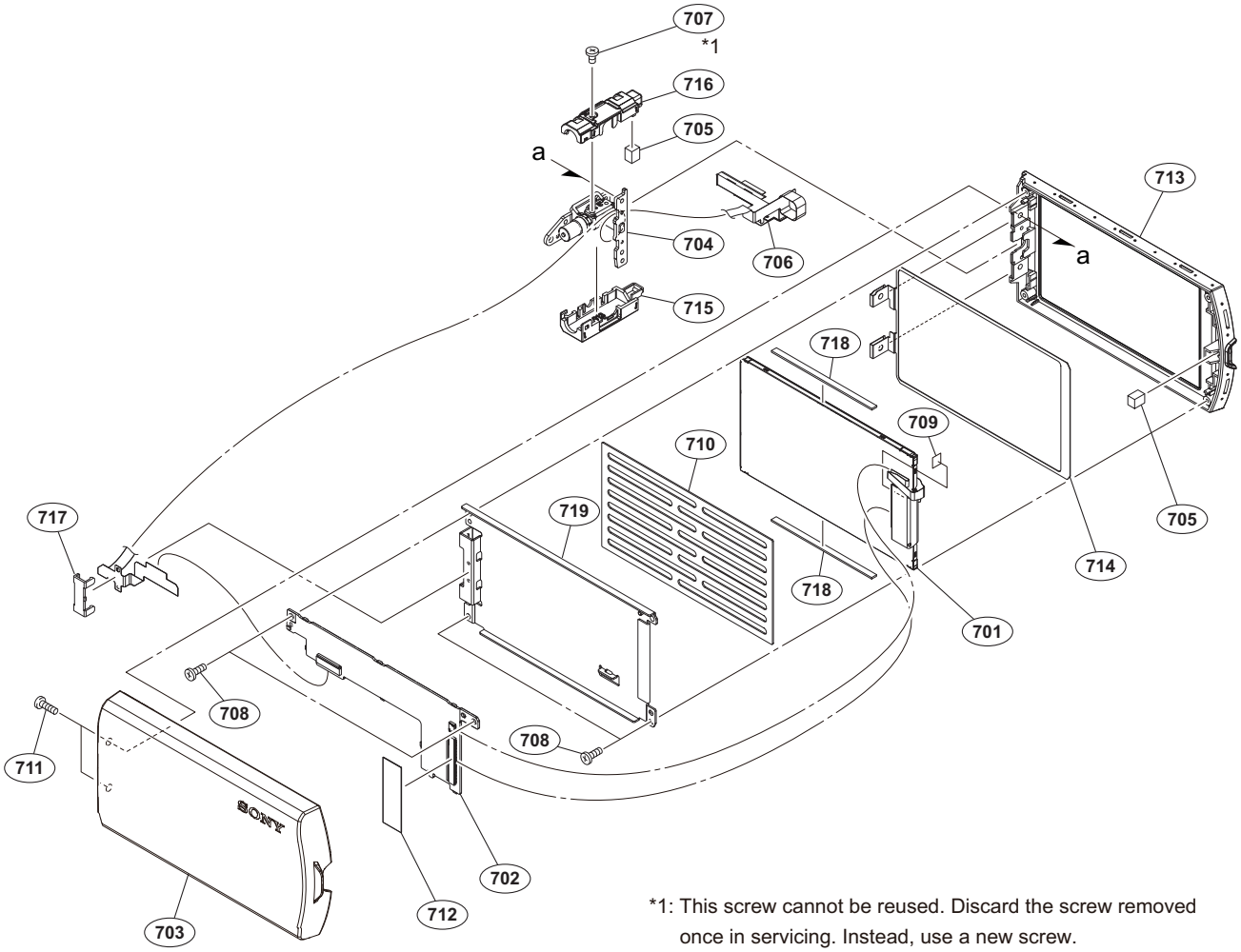
Cabinet R



*1: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

No.	Part No.	SP	Description
601	A-2189-088-A	s	MOUNT, CK-1019
602	1-858-528-71	s	SPEAKER(2-1CM)
603	2-187-345-21	s	SCREW(M1.7),P2 [P1.7 x 2.5]
604	2-589-376-11	s	FOOT (395), RUBBER
605	2-599-475-01	s	SCREW(M1.7) [P1.7 x 2]
606	3-078-890-11	s	SCREW, TAPPING [P1.7 x 4]
607	4-532-974-11	s	HOLDER, MS
608	4-532-975-11	s	LIGHT, MS GUIDE,
609	4-532-976-01	s	HEAT SINK (R)
610	4-532-977-12	s	LID, MS
611	4-532-978-01	s	SPRING, MS LID
612	4-532-980-01	s	SHAFT, HDMI
613	4-532-981-11	s	LID, HP
614	4-532-983-11	s	SELECTION (SW LOWER), ND
615	4-532-984-01	s	FRAME, R
616	4-532-985-01	s	INSULATING SHEET (CK)
617	4-537-511-01	s	GASKET (R)
618	4-541-715-01	s	SELECTION (SW UPPER) (913)
619	4-541-716-01	s	SHEET, SW
620	4-544-442-21	s	CABINET (R) [For HXR-NX80]
	4-544-442-31	s	CABINET (R) [For HXR-MC88]

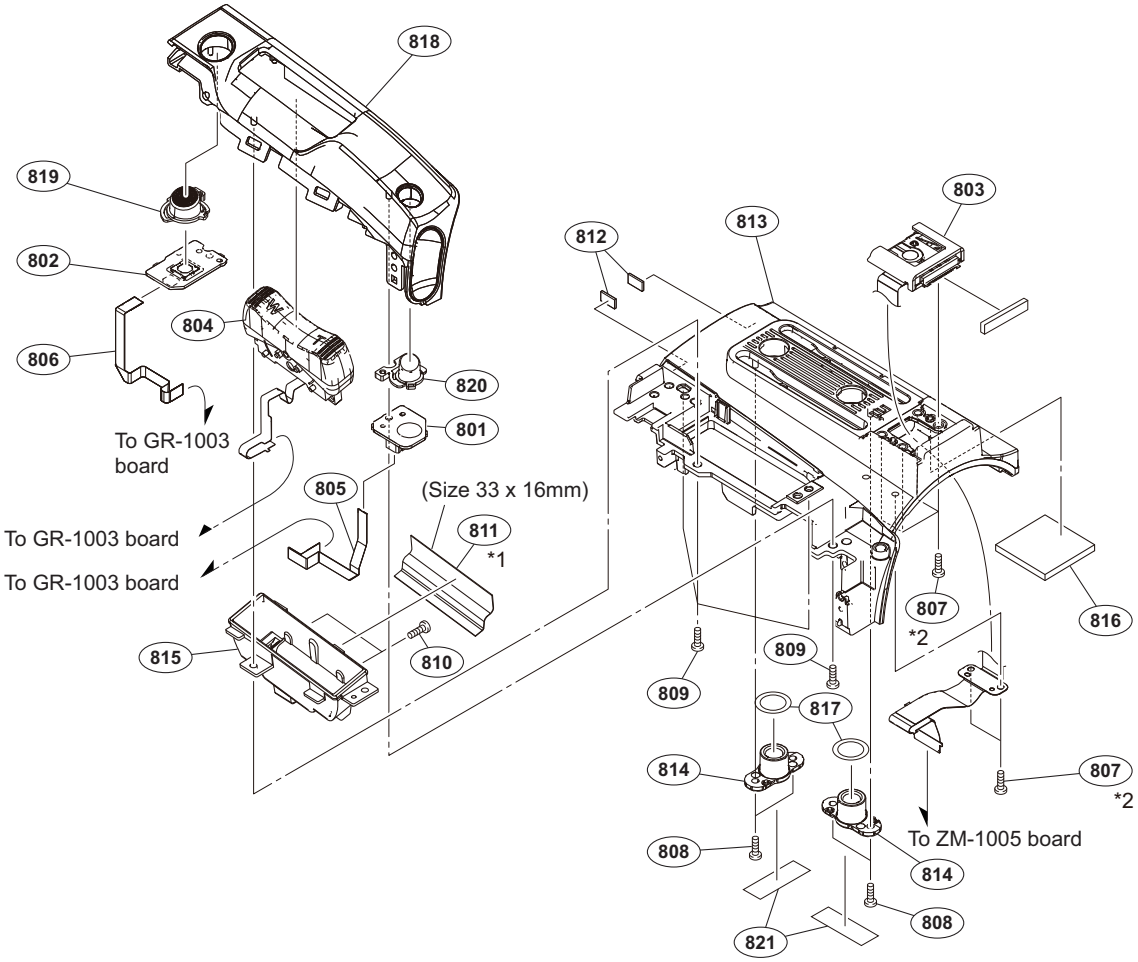
LCD Block



*1: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

No.	Part No.	SP	Description
701	A-2047-015-A	s	DISPLAY MODULE(MH2-WDJDD)
702	A-2189-085-A	s	MOUNT, PD-1054
703	A-2199-367-A	s	SERVICE, P CABINET C (914) [For HXR-NX80]
	A-2199-368-A	s	SERVICE, P CABINET (C (916)) [For HXR-MC88]
704	X-2592-272-1	s	HINGE (S (A)) ASSY, T TYPE
705	1-471-573-21	s	MAGNET
706	1-893-402-11	s	FP-2264 FLEXIBLE PWB
707	2-187-345-21	s	SCREW(M1.7),P2 [P1.7 x 2.5]
708	3-078-890-11	s	SCREW, TAPPING [P1.7 x 4]
709	4-136-717-21	s	SHEET (K)
710	4-283-280-11	s	CUSHION (91000), LCD
711	4-287-436-31	s	SCREW (M1.7) [P1.7 x 5]
712	4-431-734-01	s	TAPE AS
713	4-532-965-11	s	CABINET (M), P
714	4-532-967-02	s	PLATE (P), ELECTROSTATIC
715	4-532-969-02	s	COVER (O), HINGE
716	4-532-970-01	s	COVER (U), HINGE
717	4-532-971-01	s	CLAMP, FLEXIBLE
718	4-544-433-01	s	SPACER, LCD
719	4-544-441-01	s	RETAINER, LCD

Top Block-1

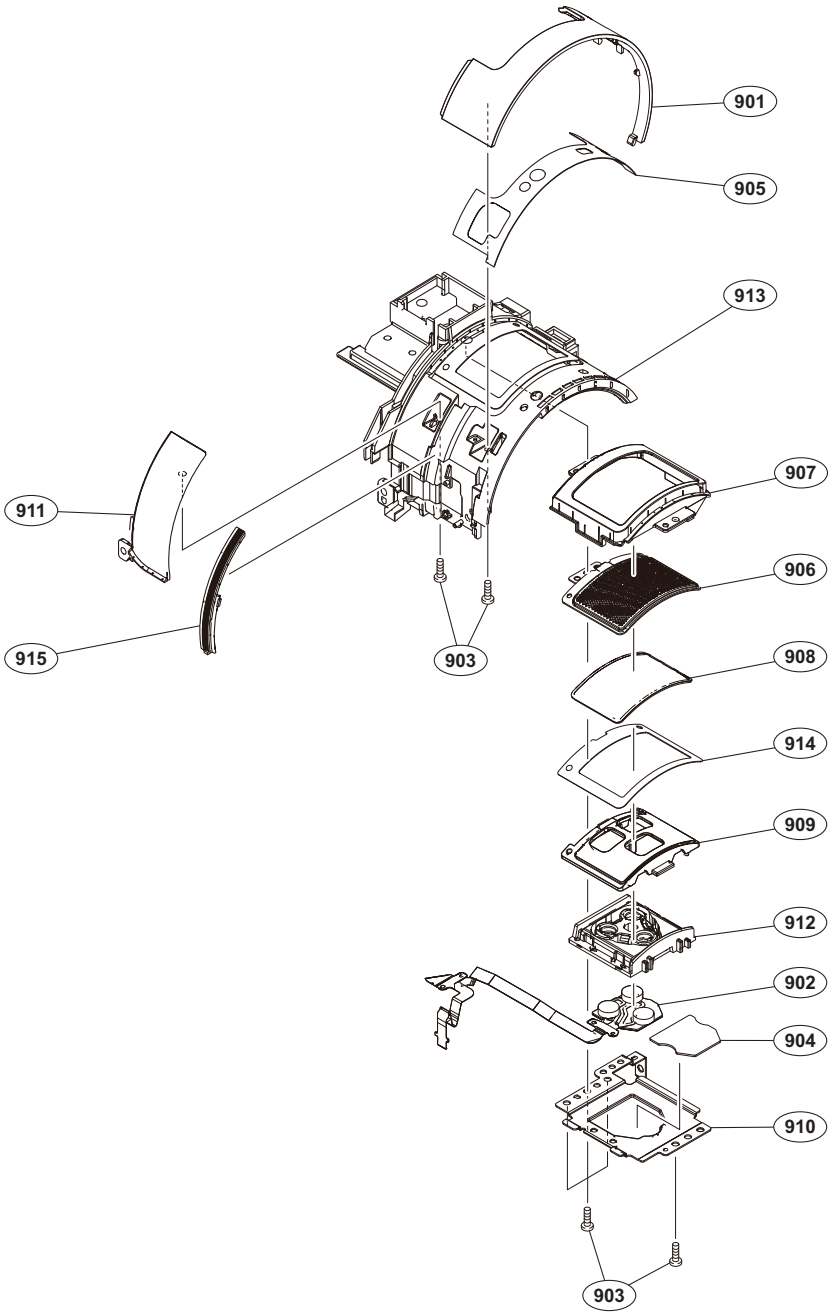


*1: Use this to cut or splice so that it becomes the designated size.

*2: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

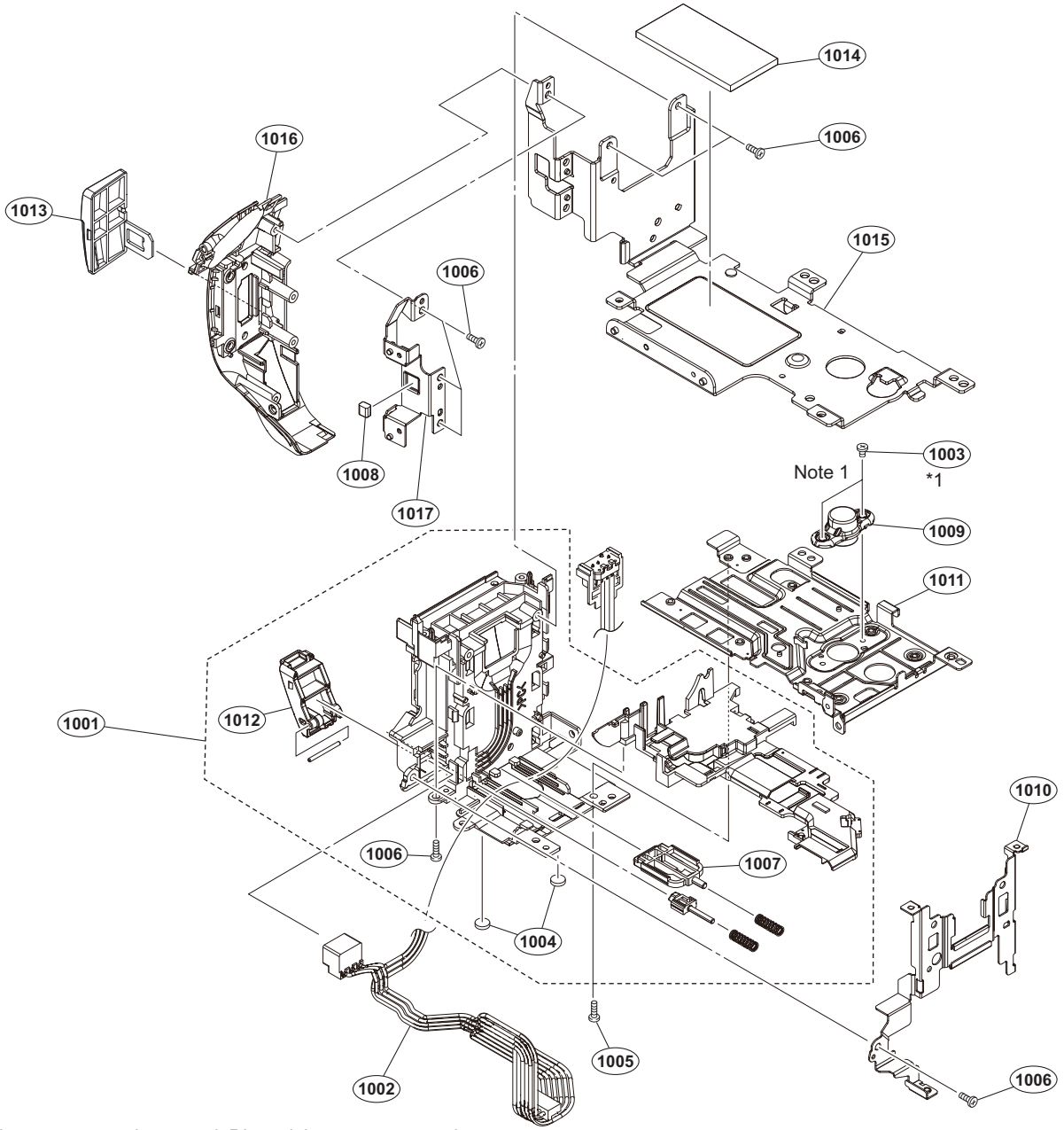
No.	Part No.	SP	Description
801	A-2189-086-A	s	MOUNT, IP-1002
802	A-2189-087-A	s	MOUNT, PH-1004
803	A-2197-550-A	s	MOUNT (TL), FP2269
804	1-490-411-12	s	SWITCH BLOCK,CONTROL(PZ96000)
805	1-834-806-12	s	CABLE, FLEXIBLE FLAT (FFC-335)
806	1-846-258-11	s	FLEXIBLE FLAT CABLE(FFC-1030)
807	2-187-345-21	s	SCREW(M1.7),P2 [P1.7 x 2.5]
808	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]
809	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
810	3-080-206-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
811	4-446-014-01	s	TAPE AS (2040))
812	4-534-483-01	s	SHEET, VF SLIDER (UPPER)
813	4-544-443-11	s	CABINET (TOP) [For HXR-NX80]
	4-544-443-21	s	CABINET (TOP) [For HXR-MC88]
814	4-544-444-01	s	SCREW (913), TRIPOD
815	4-544-446-01	s	HOLDER, PZ
816	4-544-449-01	s	CUSHION (LOWER), SHOE
817	4-558-150-01	s	SHEET (913), TRIPOD
818	4-697-302-11	s	CABINET (PZ)
819	4-697-311-01	s	BUTTON (PH)
820	4-697-312-01	s	BUTTON (IP)
821	4-431-734-01	s	TAPE AS

Top Block-2



No.	Part No.	SP	Description
901	A-2063-660-A	s	SERVICE, TOP ORNAMENT ASSY [For HXR-MC88]
	A-2197-982-A	s	SERVICE, ORNAMENT BLOCK ASSY [For HXR-NX80]
902	1-542-950-13	s	MICROPHONE UNIT
903	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
904	4-451-056-01	s	CUSHION, MICROPHONE
905	4-532-996-01	s	SHEET, LENS RING ADHESIVE
906	4-532-997-11	s	GRILLE, MICROPHONE
907	4-532-998-11	s	ORNAMENT, MICROPHONE
908	4-532-999-01	s	SCREEN, WIND
909	4-533-000-01	s	MOLD, MICROPHONE INNER
910	4-533-001-01	s	FRAME, MICROPHONE
911	4-533-008-21	s	CABINET (R32)
912	4-534-920-01	s	INSULATOR (470), MICROPHONE
913	4-544-472-01	s	MOLD (T), INNER
914	4-546-512-01	s	SHEET, MIC
915	4-697-918-01	s	RING, L ORNAMENTAL

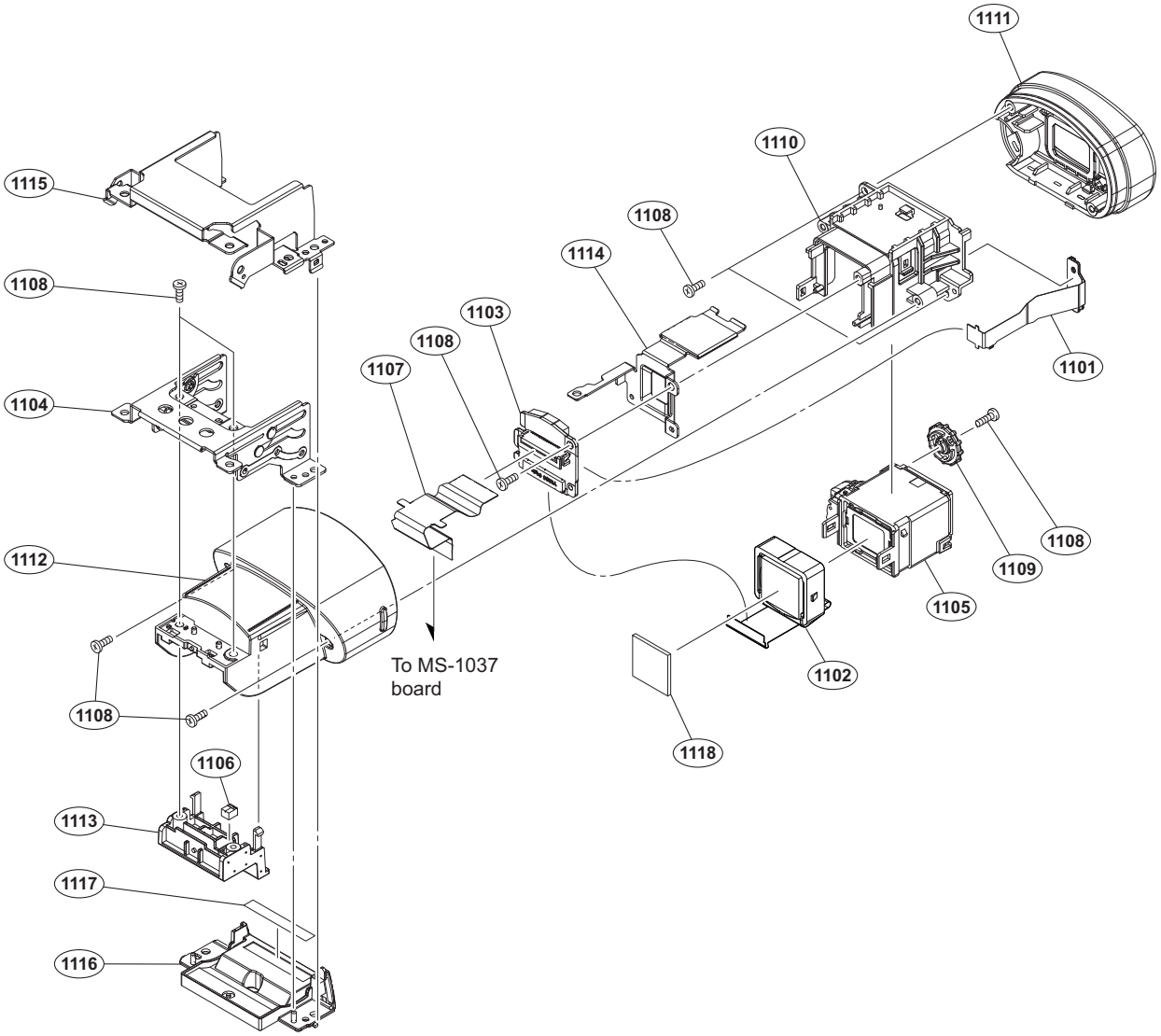
BT Block



*1: This screw cannot be reused. Discard the screw removed once in servicing. Instead, use a new screw.

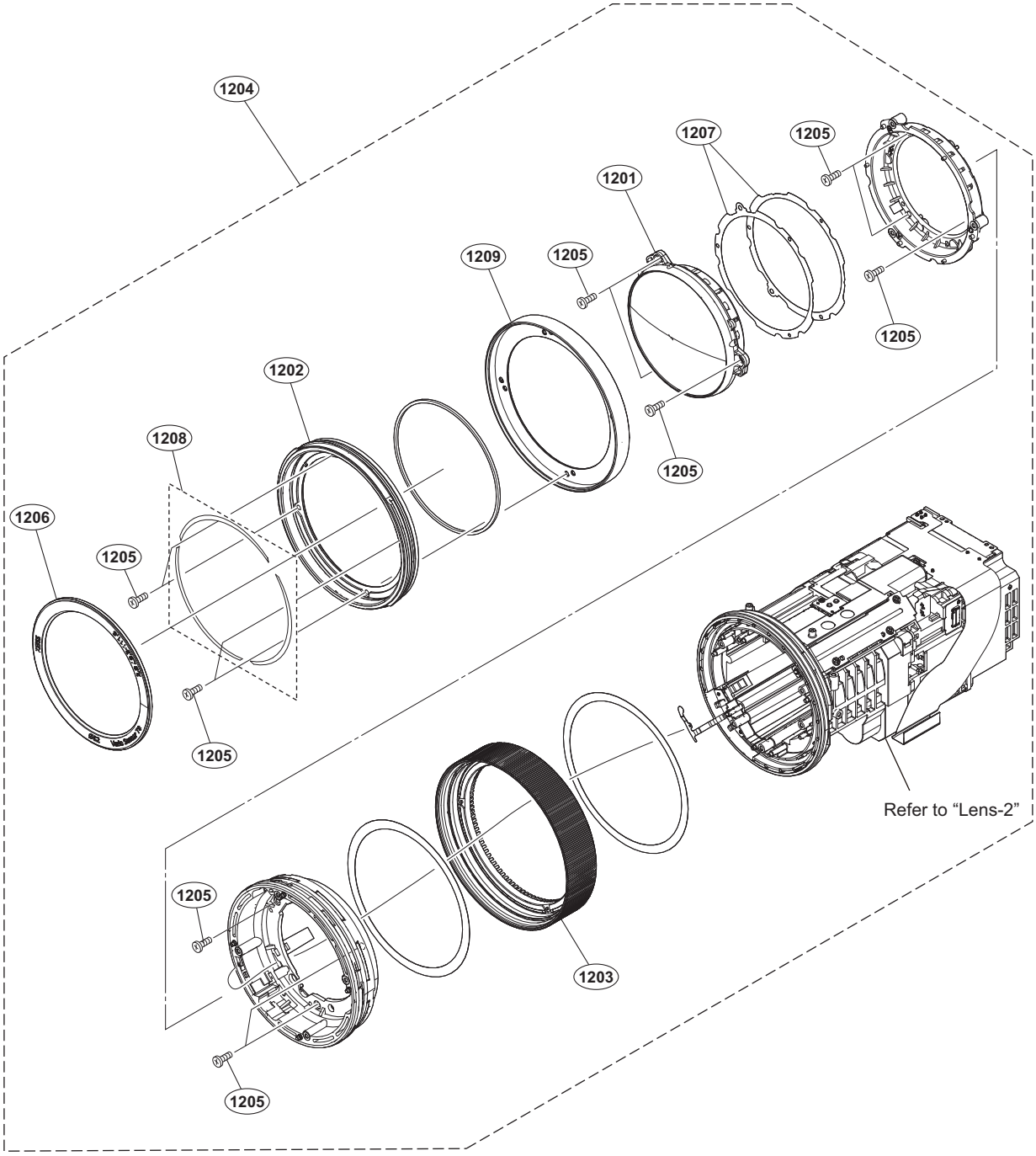
No.	Part No.	SP	Description	No.	Part No.	SP	Description
1001	A-2063-657-A	s	SERVICE, BT PANEL BLOCK ASSY	1017	4-697-294-01	s	FRAME, JK
1002	⚠ 1-842-658-51	s	JACK, DC				
1003	2-187-345-21	s	SCREW(M1.7),P2				
1004	2-589-376-11	s	FOOT (395), RUBBER				
1005	2-635-562-71	s	SCREW(M1.7) [P1.7 x 4]				
1006	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]				
1007	4-154-463-01	s	LOCK, BT				
1008	4-272-357-01	s	GASKET (P(389))				
1009	4-478-904-11	s	SCREW, TRIPOD				
1010	4-532-952-01	s	FRAME, BT				
1011	4-532-953-01	s	FRAME, BM				
1012	4-544-434-02	s	LID, DC				
1013	4-544-437-01	s	LID, HDMI				
1014	4-697-289-01	s	SHEET (BTM), VC RADIATION				
1015	4-697-290-01	s	HEAT SINK (BM)				
1016	4-697-291-01	s	CABINET, JK				

EVF



No.	Part No.	SP	Description
1101	A-2035-841-A	s	FP-2202 MOUNT
1102	A-2165-562-A	s	VF PANEL ASSY EP3N
1103	A-2189-102-A	s	MOUNT, VF-1021
1104	X-2589-351-1	s	FRAME ASSY, VF
1105	X-2593-720-2	s	VF UNIT ASSY EP3N
1106	1-471-577-11	s	MAGNET (HOLE SENSOR)
1107	1-981-949-11	s	FP-2400 FLEXIBLE PWB
1108	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
1109	4-533-011-01	s	DIAL, DIOPTER
1110	4-533-012-01	s	HOLDER, VF
1111	4-533-013-02	s	EYE CUP
1112	4-533-014-01	s	CABINET, VF
1113	4-533-015-01	s	HOLDER, MAGNET
1114	4-533-016-01	s	HEAT SINK, VF
1115	4-533-018-01	s	HEAT SINK (HINGE), VF
1116	4-533-019-01	s	LOWER, VF CABINET
1117	4-534-484-01	s	SHEET, VF SLIDER (LOWER)
1118	4-585-386-01	s	SHEET (RE (64000)), RADIATION

Lens-1



No.	Part No.	SP	Description
1201	A-1976-000-A	s	LENS ASSY, 1 GROUP
1202	A-2049-849-A	s	SERVICE, FILTER FRAME (1730)
1203	A-2189-226-A	s	CONTROL BLOCK ASSY(E)
1204	A-2194-656-A	s	SERVICE, LSV-1730E
1205	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
1206	4-469-274-01	s	ORNAMENT (1730), FRONT
1207	Selection-Parts	s	SHIM (1730), 1 GROUP
1208	4-470-409-11	s	TAPE, 1 GROUP ORNAMENTAL PLATE
1209	4-473-105-01	s	RING (1730), ORNAMENTAL

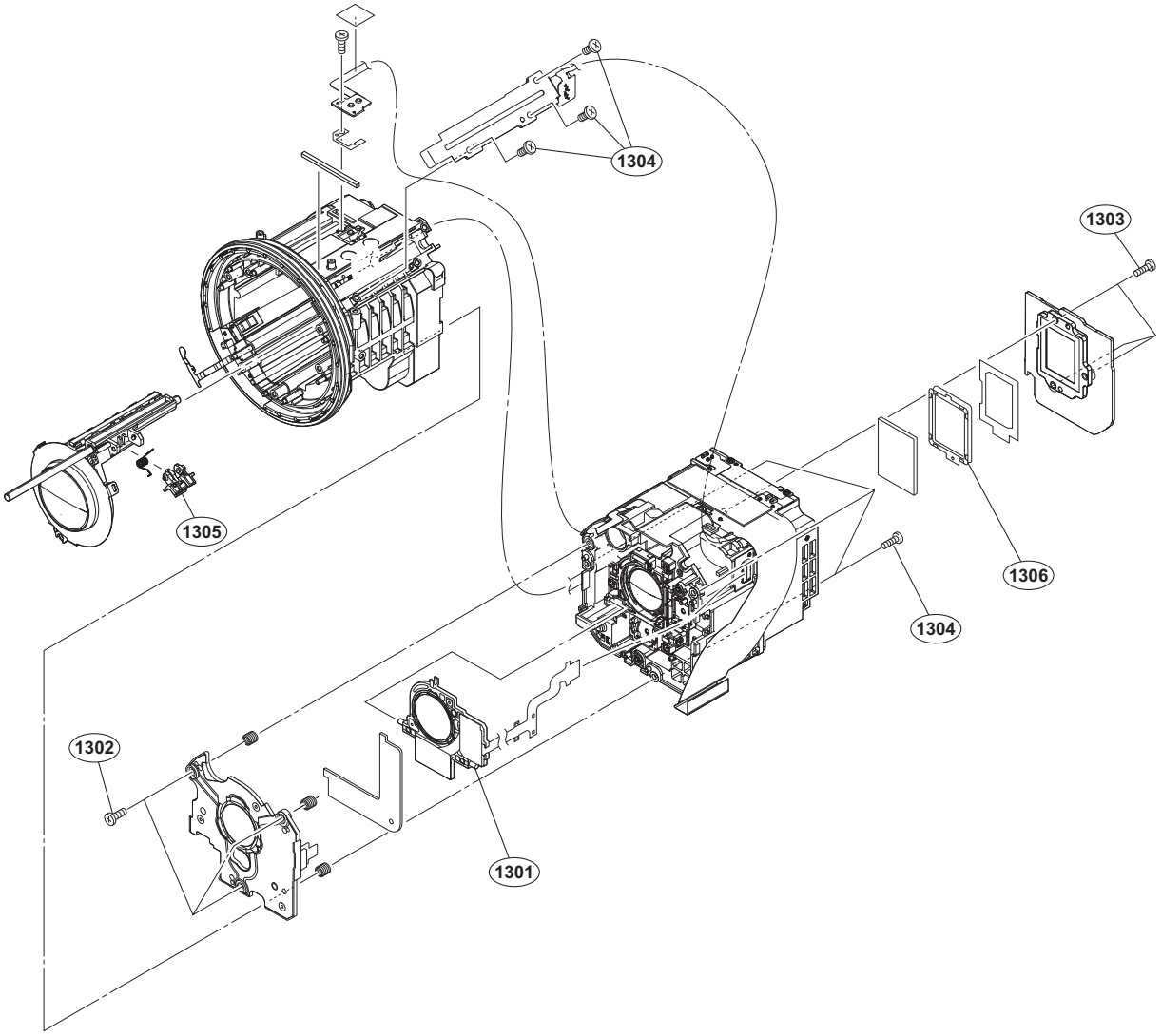
Selection Parts

Ref. No.1207

Select the optimum thickness of washer.

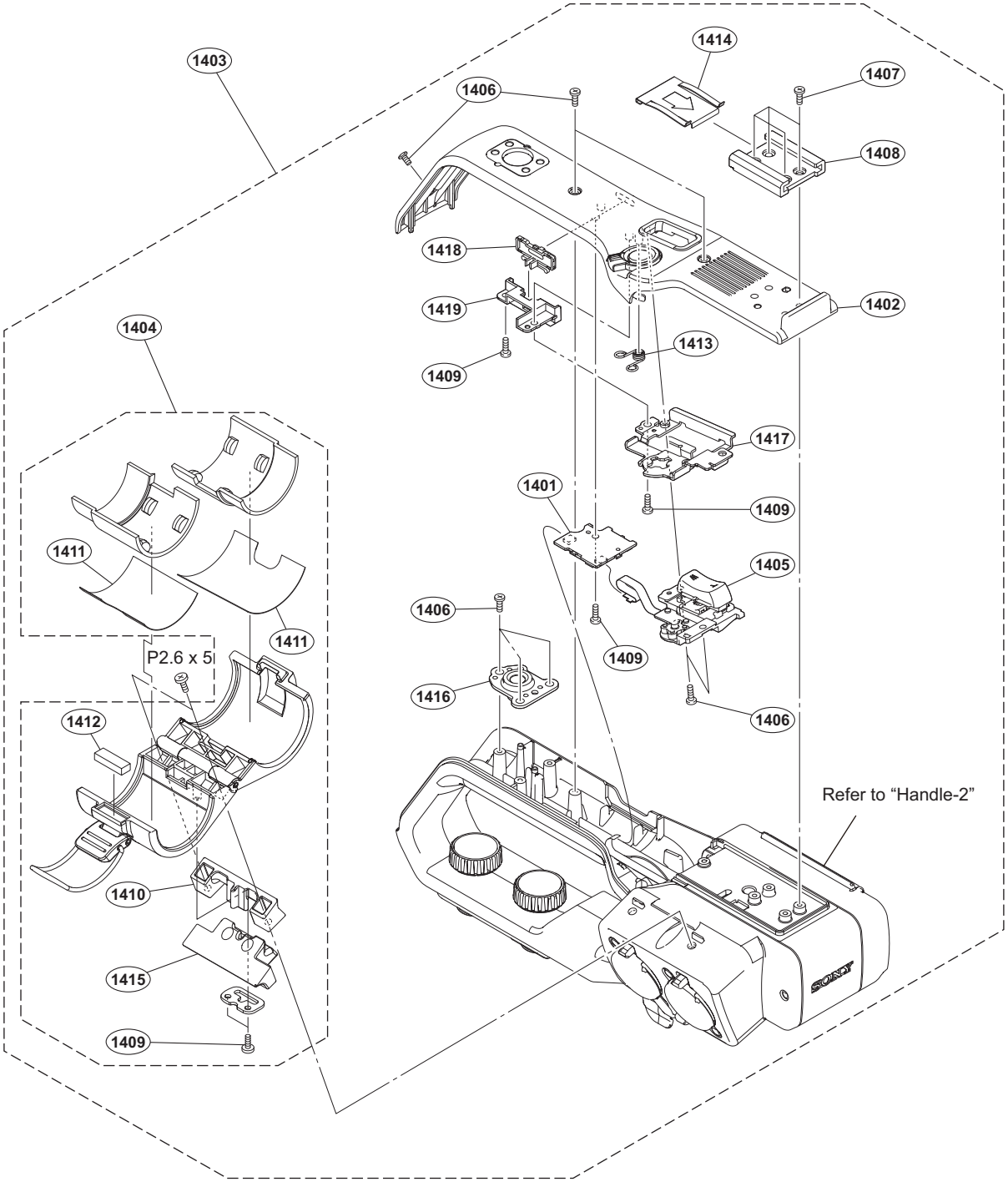
No.	Part No.	SP	Description
	4-469-282-01		SHIM (1730), 1 GROUP (t=0.023)
	4-469-282-11		SHIM (1730), 1 GROUP (t=0.050)
	4-469-282-21		SHIM (1730), 1 GROUP (t=0.090)
	4-469-282-31		SHIM (1730), 1 GROUP (t=0.125)

Lens-2



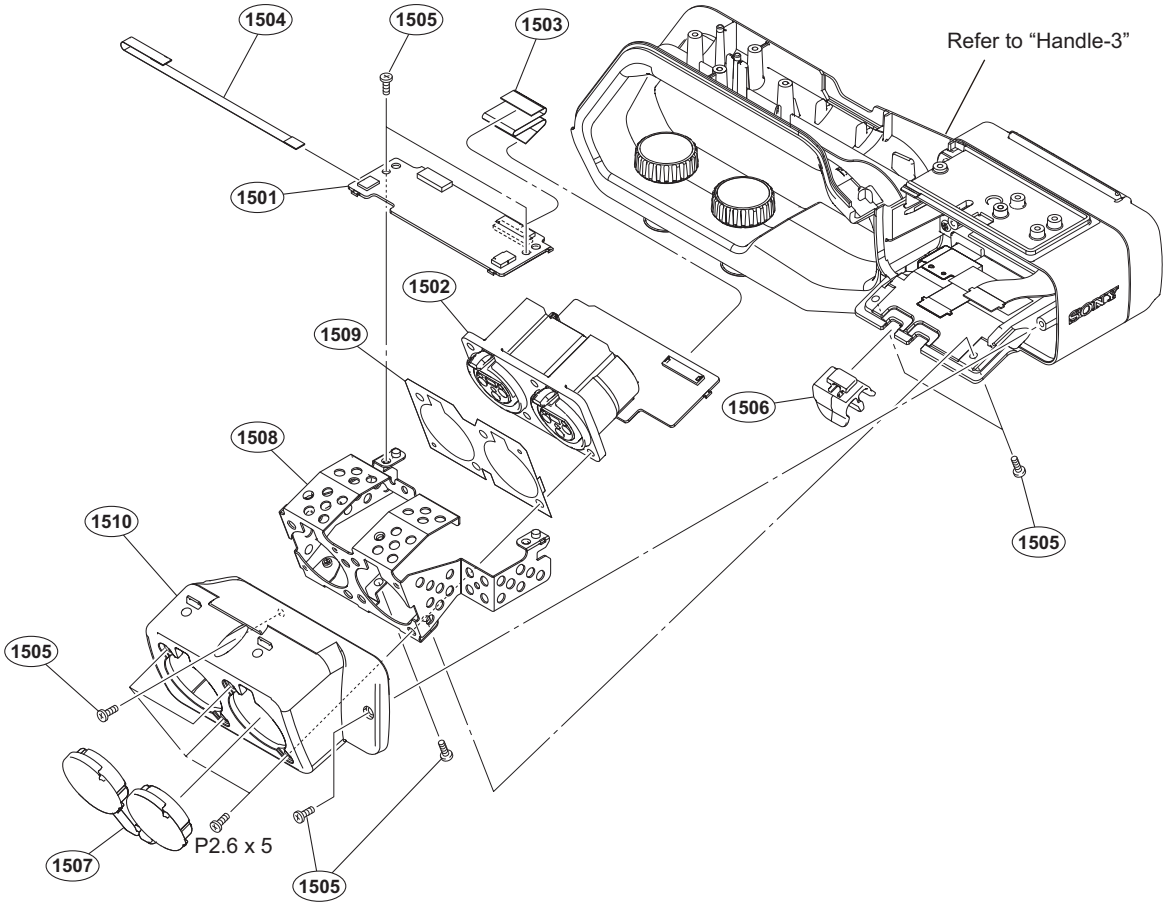
No.	Part No.	SP	Description
1301	A-2178-590-A	s	FRAME ASSY (1730),P SERVICE
1302	2-178-410-11	s	TITE (UB TITE) 1.4 [P1.4 x 5]
1303	2-178-410-41	s	TITE (UB TITE) 1.4 [P1.4 x 4]
1304	3-080-204-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
1305	4-469-269-02	s	NUT (1730), Z
1306	4-470-413-01	s	RUBBER, SEAL

Handle-1



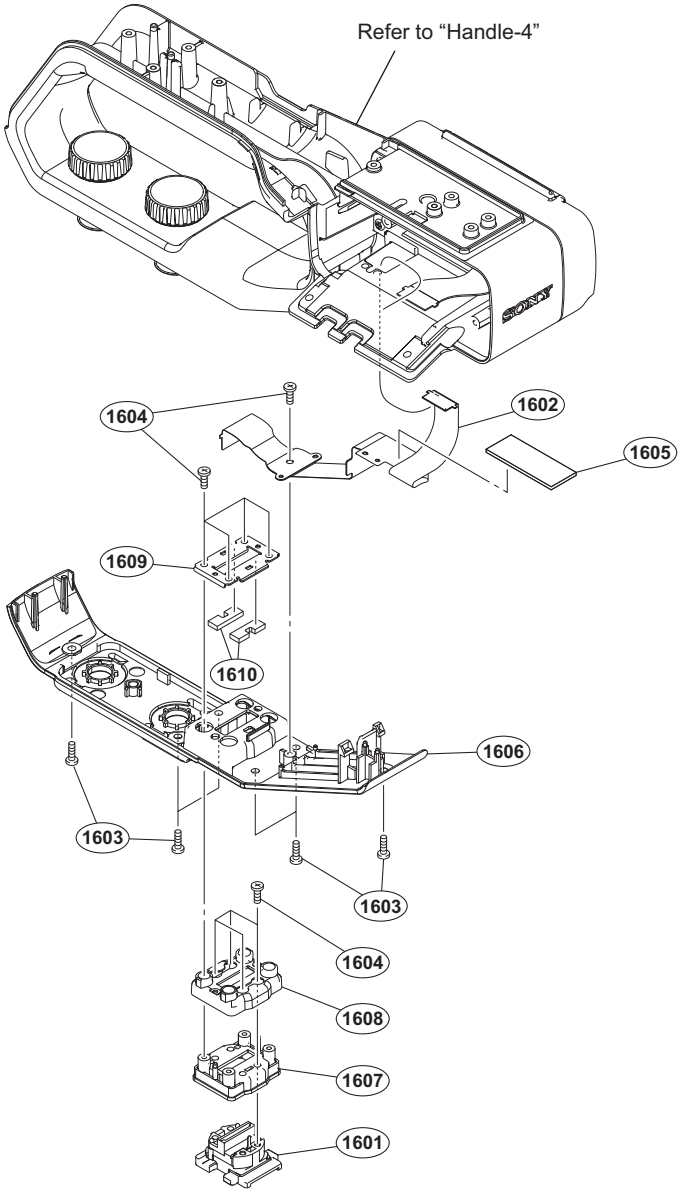
No.	Part No.	SP	Description
1401	A-2060-136-A	s	HS1003_ MOUNT
1402	A-2063-661-A	s	SERVICE, COVER (UPPER) ASSY
1403	A-2197-634-A	s	HANDLE BLOCK ASSY
1404	X-2592-389-1	s	HOLDER (931) ASSY, MICROPHONE
1405	1-480-298-11	s	SWITCH BLOCK, CONTROL(GZ92000)
1406	2-630-005-31	s	SCREW(M2),NEW TRUSTER,P2 [M2 x 4]
1407	2-630-005-41	s	SCREW(M2),NEW TRUSTER,P2 [M2 x 6]
1408	3-069-286-04	s	SHOE, ACCESSORY
1409	3-080-206-21	s	SCREW, TAPPING, P2 [M2 x 5]
1410	3-284-075-03	s	COVER,MICROPHONE HOLDER RUBBER
1411	3-284-081-11	s	SHEET, RUBBER ADHESIVE
1412	3-284-621-11	s	CUSHION, MICROPHONE HOLDER
1413	3-288-483-01	s	SPRING, SS LOCK
1414	3-288-615-03	s	SPRING, SHOE
1415	4-119-861-01	s	RUBBER (93000), HOLDER
1416	4-269-035-01	s	PLATE, SHOE TRIPOD
1417	4-544-458-01	s	HANDLE (UPPER), GROUND PLATE
1418	4-544-459-01	s	SWITCH, HN-ZOOM SLIDE
1419	4-544-460-01	s	BASE, HN-ZOOM SLIDE
	7-627-556-58	s	SCREW +P 2.6X5

Handle-2



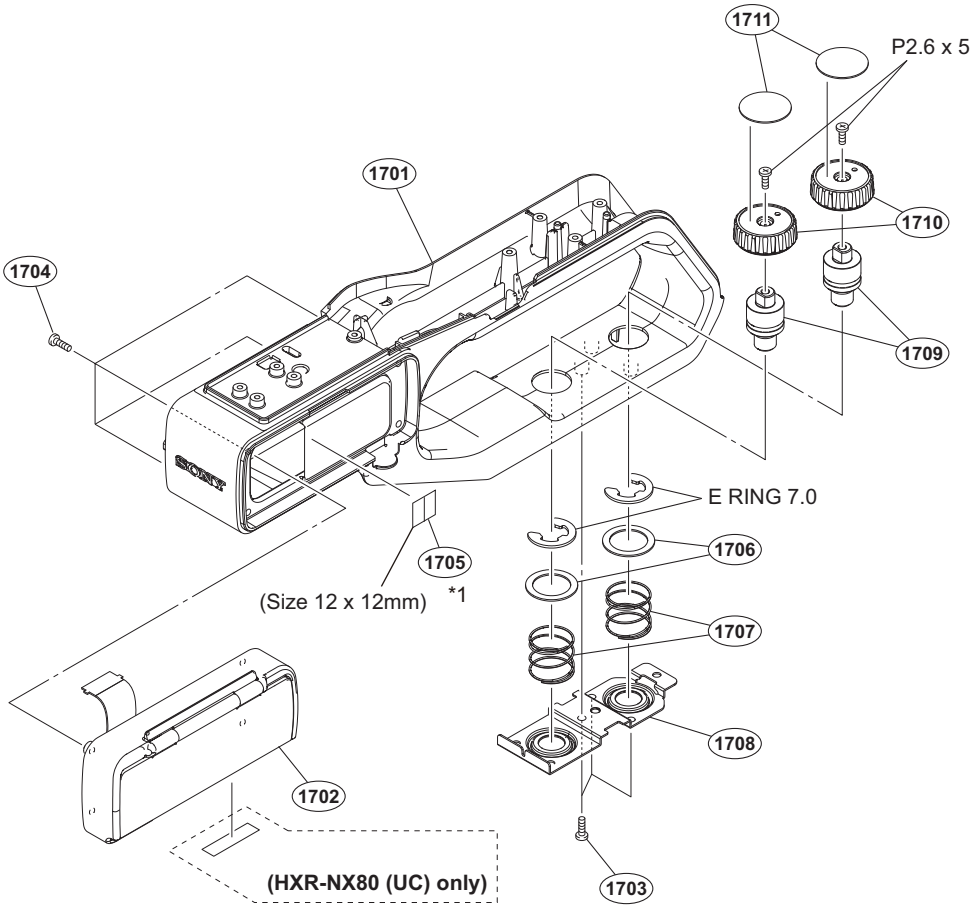
No.	Part No.	SP	Description
1501	A-2060-147-A	s	HN1004_ MOUNT
1502	A-2197-549-A	s	MOUNT (TL), XL-1005
1503	1-834-244-12	s	FLEXIBLE FLAT CABLE (FFC-116)
1504	1-834-810-12	s	CABLE, FLEXIBLE FLAT (FFC-339)
1505	2-630-005-31	s	SCREW(M2),NEW TRUSTER,P2 [M2 x 4]
1506	2-892-095-01	s	CLAMP, CABLE
1507	4-165-285-02	s	COVER, XLR RUBBER
1508	4-282-421-01	s	FRAME, XLR
1509	4-446-836-11	s	INSULATING SHEET (A)
1510	4-544-457-01	s	COVER, XLR
	7-627-556-58	s	SCREW +P 2.6X5

Handle-3



No.	Part No.	SP	Description
1601	1-843-477-21	s	SHOE CONNECTOR (21P)
1602	1-893-405-11	s	FP-2267 FLEXIBLE PWB
1603	2-630-005-31	s	SCREW(M2),NEW TRUSTER,P2 [M2 x 4]
1604	3-078-890-11	s	SCREW, TAPPING [P1.7 x 4]
1605	4-431-734-01	s	TAPE AS
1606	4-544-452-01	s	COVER (LOWER), HANDLE
1607	4-544-453-01	s	BASE, HN SHOE
1608	4-544-454-01	s	CUSHION (LOWER), HN SHOE
1609	4-544-455-01	s	RETAINER, HN SHOE
1610	4-544-456-01	s	CUSHION (UPPER), HN SHOE

Handle-4



*1: Use this to cut or splice so that it becomes the designated size.

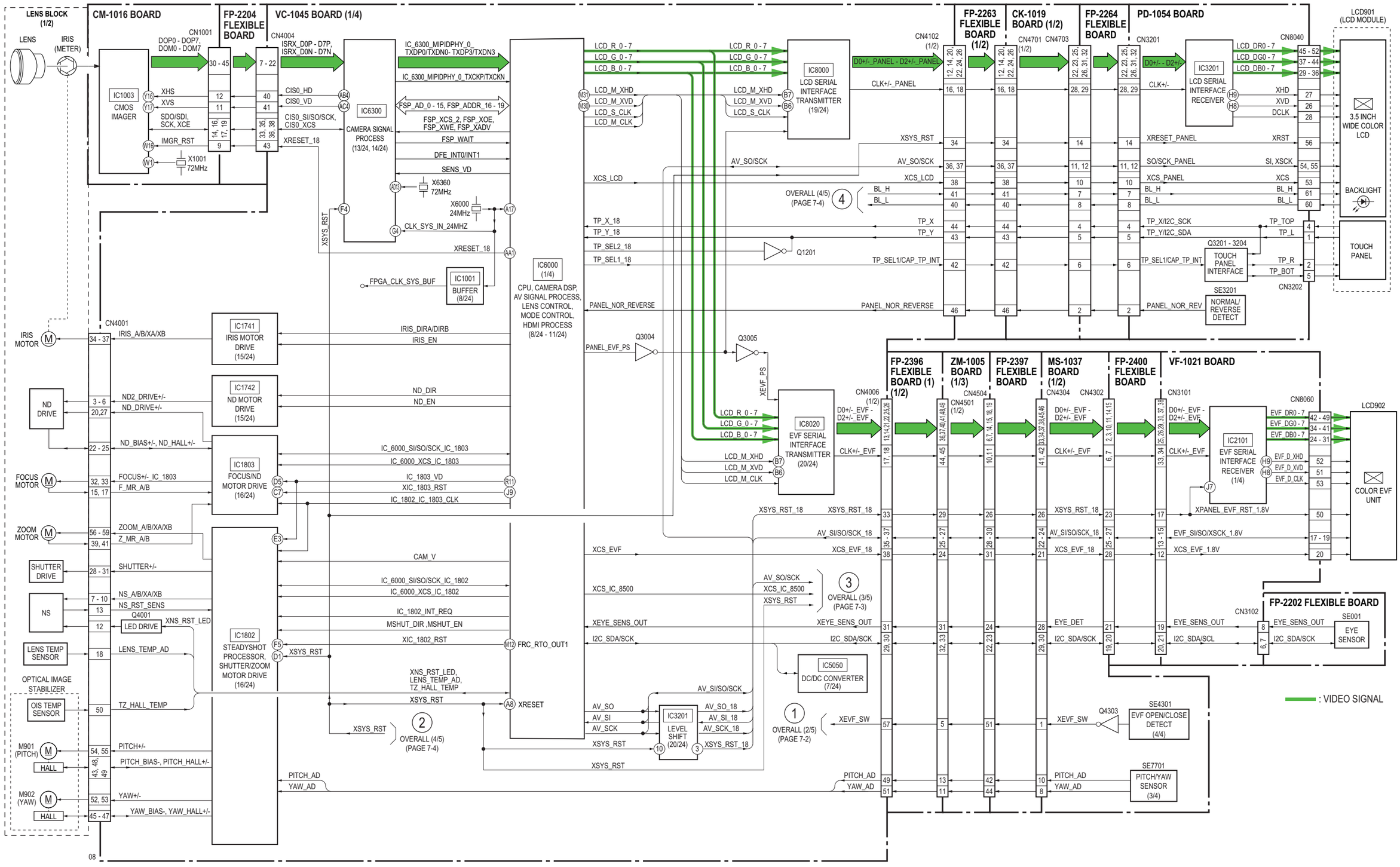
No.	Part No.	SP	Description
1701	A-2063-662-B	s	SERVICE, HANDLE ASSY
1702	1-489-370-21	s	SWITCH BLOCK, CONTROL(AU91000)
1703	2-630-005-31	s	SCREW(M2),NEW TRUSTER,P2 [M2 x 4]
1704	3-080-206-21	s	SCREW, TAPPING, P2 [P1.7 x 5]
1705	4-446-014-01	s	TAPE AS (2040))
1706	4-544-461-01	s	PLATE, HANDLE SHAFT FIXED
1707	4-544-462-01	s	SPRING, HANDLE SHAFT
1708	4-544-463-01	s	PLATE (LOWER), HN
1709	4-544-464-01	s	SHAFT, HANDLE
1710	4-544-465-01	s	KNOB, HANDLE SHAFT
1711	4-544-466-01	s	SHEET, HANDLE SHAFT
	7-624-111-04	s	STOP RING 7.0, TYPE -E
	7-627-556-58	s	SCREW +P 2.6X5

6-3. Supplied Accessories

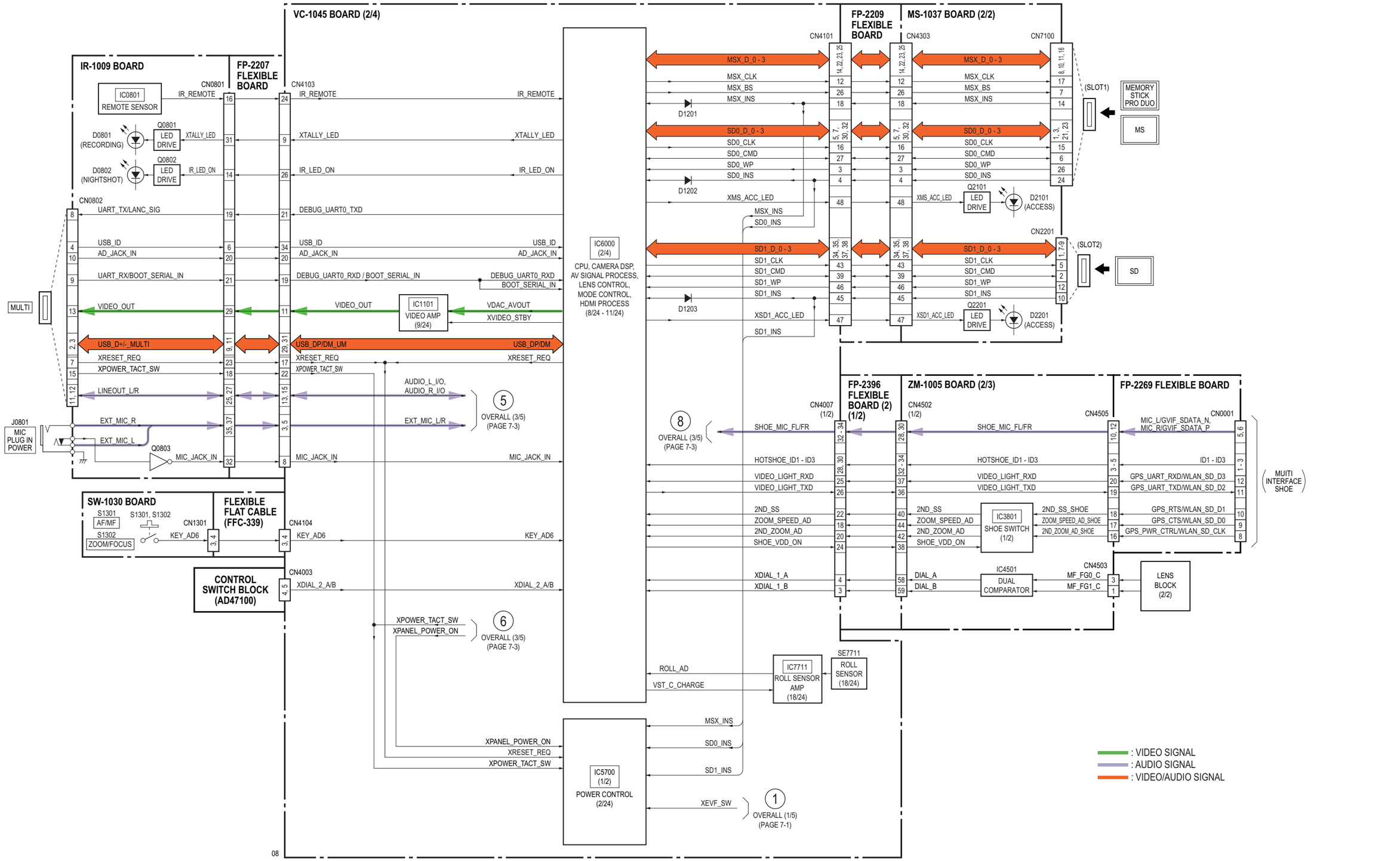
Q'ty	Part No.	SP	Description
1pc	1-487-540-14	s	COMMANDER, STANDARD [For HXR-NX80]
1pc	⚠ 1-490-430-46	s	ADAPTOR, AC
1pc	⚠ 1-846-425-33	s	CORD SET, POWER-SUPPLY [For UC, UL]
1pc	⚠ 1-836-110-11	s	CORD SET, POWER-SUPPLY [For J]
1pc	⚠ 1-846-428-34	s	CORD SET, POWER-SUPPLY [For CEE]
1pc	⚠ 1-846-103-42	s	CORD SET, POWER-SUPPLY [For CN]
1pc	⚠ 1-846-615-12	s	CABLE, CONNECTION (USB) [For HXR-NX80]
1pc	4-438-734-12	s	SHOE CAP (875)
1pc	4-546-448-01	s	CAP (913), HANDLE SHOE
1pc	X-2589-702-1	s	HOOD (470) ASSY
1pc	X-2590-187-1	s	EYE CUP (LARGE (913)) ASSY [For HXR-NX80]
1pc	X-2588-286-3	s	LENS CAP ASSY
1pc	4-731-569-02	s	CD-ROM(MANUAL, INSTRUCTION) [For HXR-NX80]
1pc	5-008-707-01	s	CD-ROM(MANUAL, INSTRUCTION) [For HXR-MC88: UC, UL, CEE]

Section 7
Diagrams

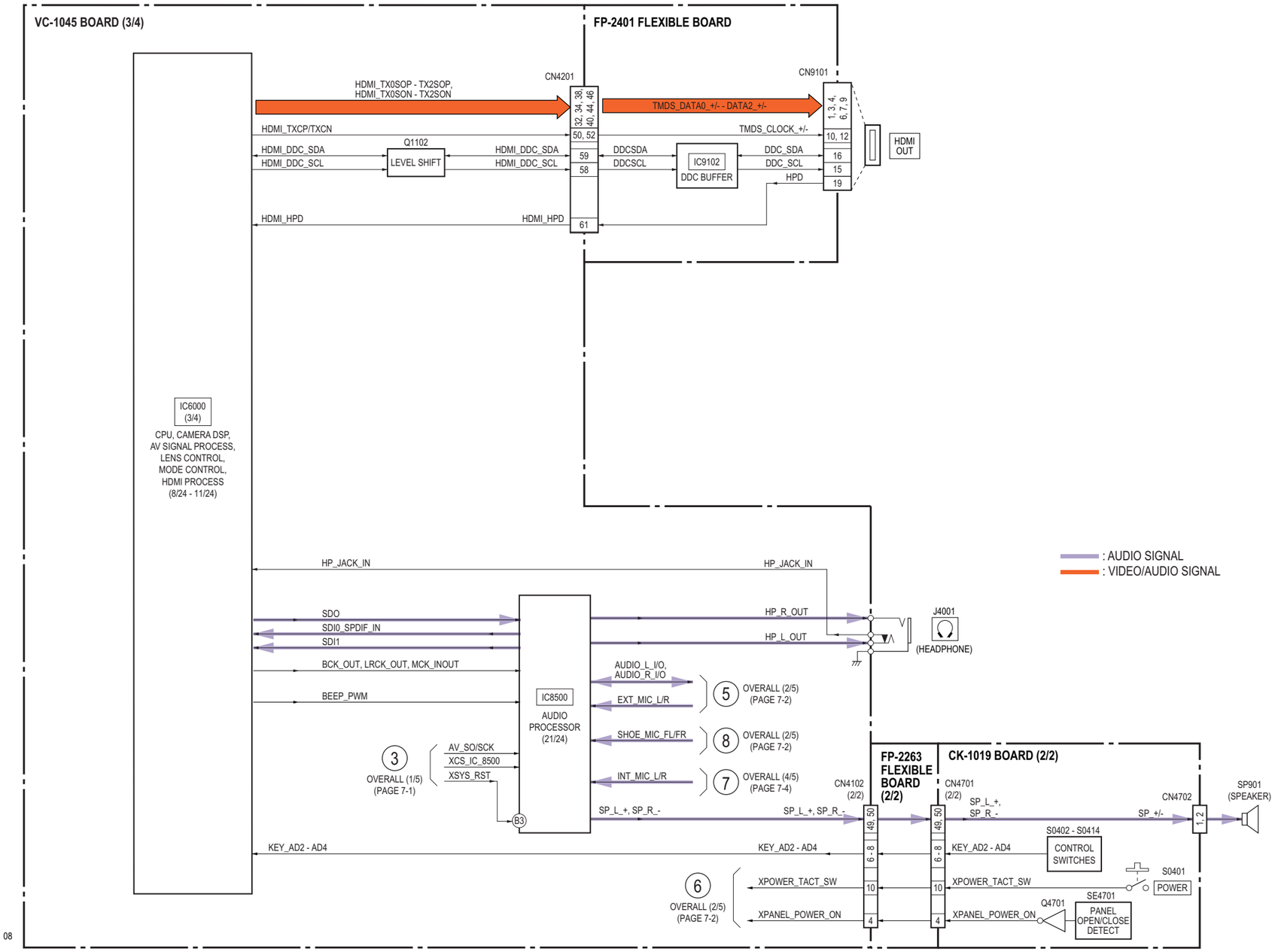
Overall (1/5)



Overall (2/5)

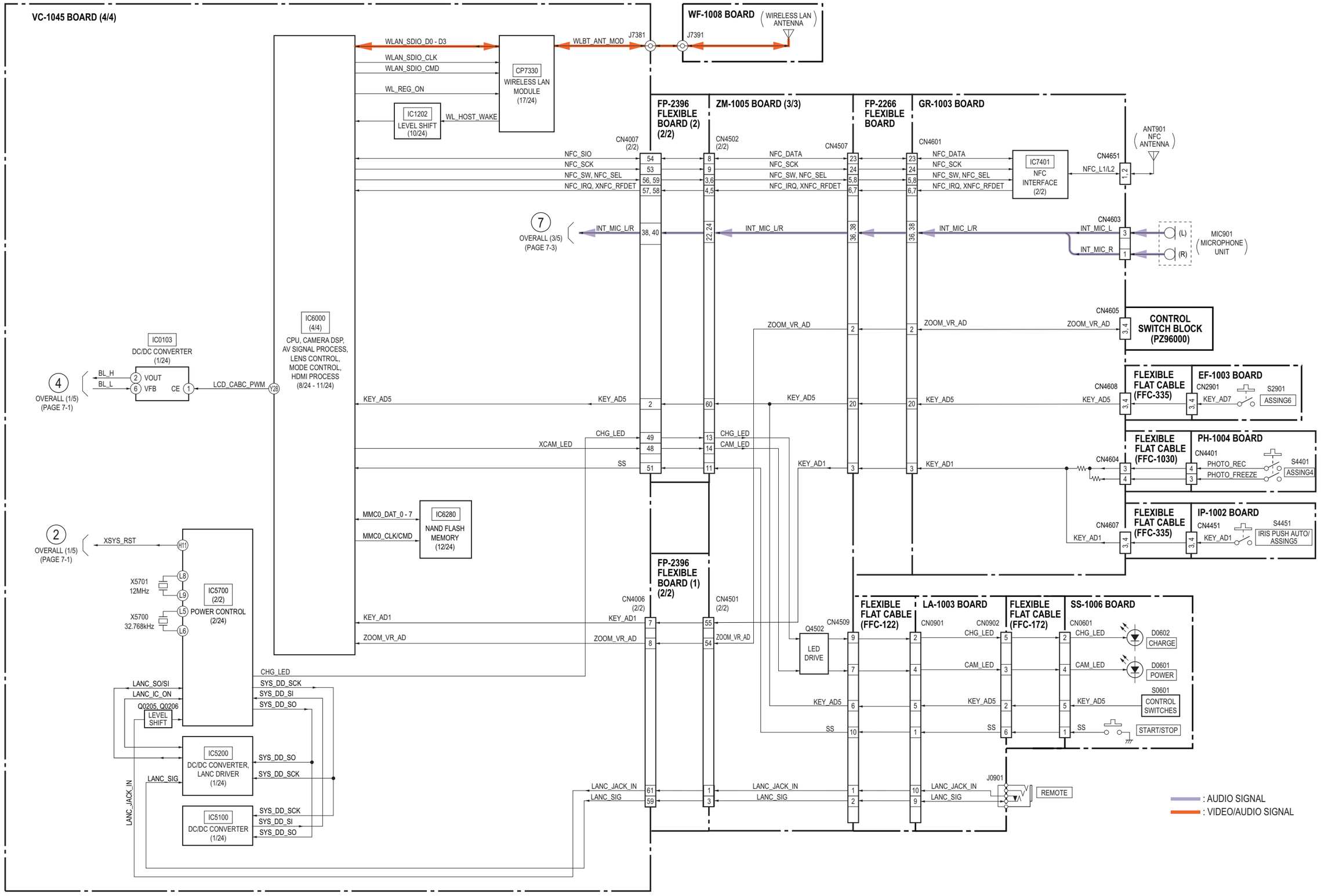

VC-1045 BOARD (2/4)
IR-1009 BOARD
FP-2207 FLEXIBLE BOARD
FP-2209 FLEXIBLE BOARD
MS-1037 BOARD (2/2)
IC0801 REMOTE SENSOR
D0801 (RECORDING)
D0802 (NIGHTSHOT)
Q0801 LED DRIVE
Q0802 LED DRIVE
Q0803
J0801 MIC PLUG IN POWER
MULTI
IC6000 (2/4) CPU, CAMERA DSP, AV SIGNAL PROCESS, LENS CONTROL, MODE CONTROL, HDMI PROCESS (8/24 - 11/24)
IC1101 VIDEO AMP (9/24)
D1201
D1202
D1203
Q2101 LED DRIVE
D2101 (ACCESS)
Q2201 LED DRIVE
D2201 (ACCESS)
(SLOT1)
MEMORY STICK PRO DUO
MS
(SLOT2)
SD
IR_REMOTE
XTALLY_LED
IR_LED_ON
UART_TX/LANC_SIG
USB_ID
AD_JACK_IN
UART_RX/BOOT_SERIAL_IN
VIDEO_OUT
USB_D+/-_MULTI
XRESET_REQ
XPOWER_TACT_SW
LINEOUT_L/R
EXT_MIC_R
EXT_MIC_L
MIC_JACK_IN
DEBUG_UART0_TXD
DEBUG_UART0_RXD / BOOT_SERIAL_IN
DEBUG_UART0_RXD
BOOT_SERIAL_IN
VDAC_AVOUT
XVIDEO_STBY
USB_DP/DM_UM
USB_DP/DM
AUDIO_L_I/O, AUDIO_R_I/O
EXT_MIC_L/R
MSX_D_0 - 3
MSX_CLK
MSX_BS
MSX_INS
SD0_D_0 - 3
SD0_CLK
SD0_CMD
SD0_WP
SD0_INS
XMS_ACC_LED
SD1_D_0 - 3
SD1_CLK
SD1_CMD
SD1_WP
SD1_INS
XSD1_ACC_LED
CN4101
CN4303
CN7100
CN2201
CN0801
CN0802
CN4103
SW-1030 BOARD
S1301 AF/MF
S1301, S1302
S1302 ZOOM/FOCUS
CN1301
KEY_AD6
FLEXIBLE FLAT CABLE (FFC-339)
CN4104
CONTROL SWITCH BLOCK (AD47100)
CN4003
XDIAL_2_A/B
XPOWER_TACT_SW
XPANEL_POWER_ON
IC5700 (1/2) POWER CONTROL (2/24)
IC7711 ROLL SENSOR AMP (18/24)
SE7711 ROLL SENSOR (18/24)
ROLL_AD
VST_C_CHARGE
XPANEL_POWER_ON
XRESET_REQ
XPOWER_TACT_SW
MSX_INS
SD0_INS
SD1_INS
XEVF_SW
OVERALL (3/5) (PAGE 7-3)
OVERALL (1/5) (PAGE 7-1)
FP-2396 FLEXIBLE BOARD (2) (1/2)
ZM-1005 BOARD (2/3)
FP-2269 FLEXIBLE BOARD
CN4007 (1/2)
CN4502 (1/2)
CN4505
CN0001
SHOE_MIC_FL/FR
HOTSHOE_ID1 - ID3
VIDEO_LIGHT_RXD
VIDEO_LIGHT_TXD
2ND_SS
ZOOM_SPEED_AD
2ND_ZOOM_AD
SHOE_VDD_ON
XDIAL_1_A
XDIAL_1_B
IC3801 SHOE SWITCH (1/2)
2ND_SS_SHOE
ZOOM_SPEED_AD_SHOE
2ND_ZOOM_AD_SHOE
IC4501 DUAL COMPARATOR
DIAL_A
DIAL_B
MF_FG0_C
MF_FG1_C
CN4503
LENS BLOCK (2/2)
MIC_L/GVIF_SDATA_N, MIC_R/GVIF_SDATA_P
ID1 - ID3
GPS_UART_RXD/WLAN_SD_D3
GPS_UART_TXD/WLAN_SD_D2
GPS_RTS/WLAN_SD_D1
GPS_CTS/WLAN_SD_D0
GPS_PWR_CTRL/WLAN_SD_CLK
MUITI INTERFACE SHOE
: VIDEO SIGNAL
: AUDIO SIGNAL
: VIDEO/AUDIO SIGNAL
08

Overall (3/5)

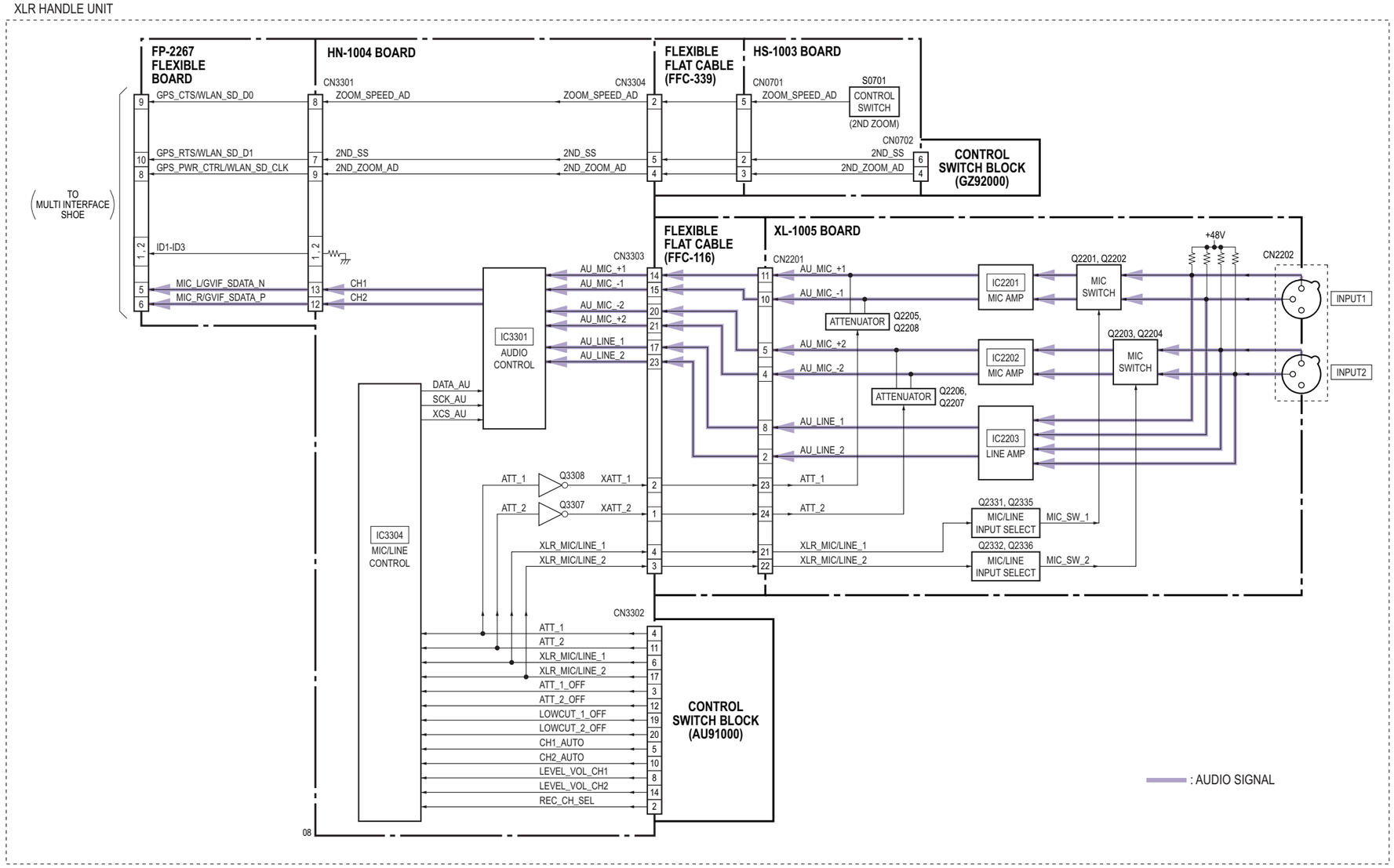


08

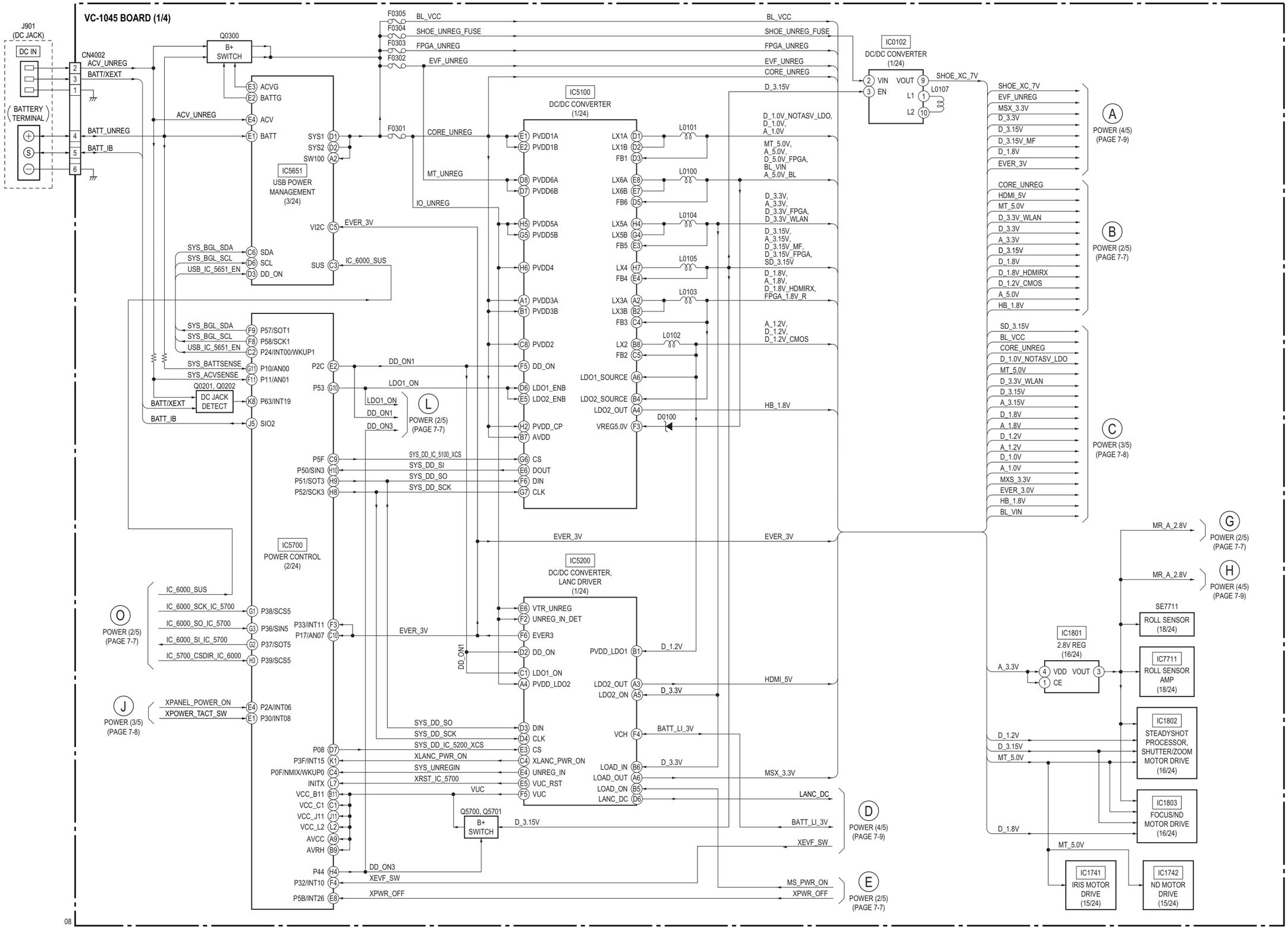
Overall (4/5)


VC-1045 BOARD (4/4)
WF-1008 BOARD
WIRELESS LAN ANTENNA
J7391
J7381
WLAN_SDIO_D0 - D3
WLAN_SDIO_CLK
WLAN_SDIO_CMD
WL_REG_ON
WLBT_ANT_MOD
CP7330
WIRELESS LAN MODULE (17/24)
IC1202
LEVEL SHIFT (10/24)
WL_HOST_WAKE
FP-2396 FLEXIBLE BOARD (2) (2/2)
ZM-1005 BOARD (3/3)
FP-2266 FLEXIBLE BOARD
GR-1003 BOARD
CN4007 (2/2)
CN4502 (2/2)
CN4507
CN4601
NFC_SIO
NFC_SCK
NFC_SW, NFC_SEL
NFC_IRQ, XNFC_RFDET
NFC_DATA
IC7401
NFC INTERFACE (2/2)
CN4651
NFC_L1/L2
ANT901
NFC ANTENNA
7
OVERALL (3/5) (PAGE 7-3)
INT_MIC_L/R
CN4603
INT_MIC_L
INT_MIC_R
MIC901
MICROPHONE UNIT
CN4605
CONTROL SWITCH BLOCK (PZ96000)
ZOOM_VR_AD
IC0103
DC/DC CONVERTER (1/24)
4
OVERALL (1/5) (PAGE 7-1)
BL_H
BL_L
VOUT
VFB
CE
LCD_CABC_PWM
IC6000 (4/4)
CPU, CAMERA DSP, AV SIGNAL PROCESS, LENS CONTROL, MODE CONTROL, HDMI PROCESS (8/24 - 11/24)
KEY_AD5
CN4608
FLEXIBLE FLAT CABLE (FFC-335)
EF-1003 BOARD
CN2901
KEY_AD7
S2901
ASSING6
CHG_LED
XCAM_LED
CAM_LED
SS
FLEXIBLE FLAT CABLE (FFC-1030)
PH-1004 BOARD
CN4401
PHOTO_REC
PHOTO_FREEZE
S4401
ASSING4
CN4604
KEY_AD1
MMC0_DAT_0 - 7
MMC0_CLK/CMD
IC6280
NAND FLASH MEMORY (12/24)
2
OVERALL (1/5) (PAGE 7-1)
XSYS_RST
FP-2396 FLEXIBLE BOARD (1) (2/2)
CN4607
FLEXIBLE FLAT CABLE (FFC-335)
IP-1002 BOARD
CN4451
IRIS PUSH AUTO/ ASSING5
S4451
X5701
12MHz
X5700
32.768kHz
IC5700 (2/2)
POWER CONTROL (2/24)
CN4006 (2/2)
CN4501 (2/2)
CN4509
Q4502
LED DRIVE
FLEXIBLE FLAT CABLE (FFC-122)
LA-1003 BOARD
CN0901
CN0902
FLEXIBLE FLAT CABLE (FFC-172)
SS-1006 BOARD
CN0601
D0602
CHARGE
D0601
POWER
S0601
CONTROL SWITCHES
START/STOP
LANC_SO/SI
LANC_IC_ON
Q0205, Q0206
LEVEL SHIFT
IC5200
DC/DC CONVERTER, LANC DRIVER (1/24)
IC5100
DC/DC CONVERTER (1/24)
LANC_SIG
LANC_JACK_IN
J0901
REMOTE
: AUDIO SIGNAL
: VIDEO/AUDIO SIGNAL

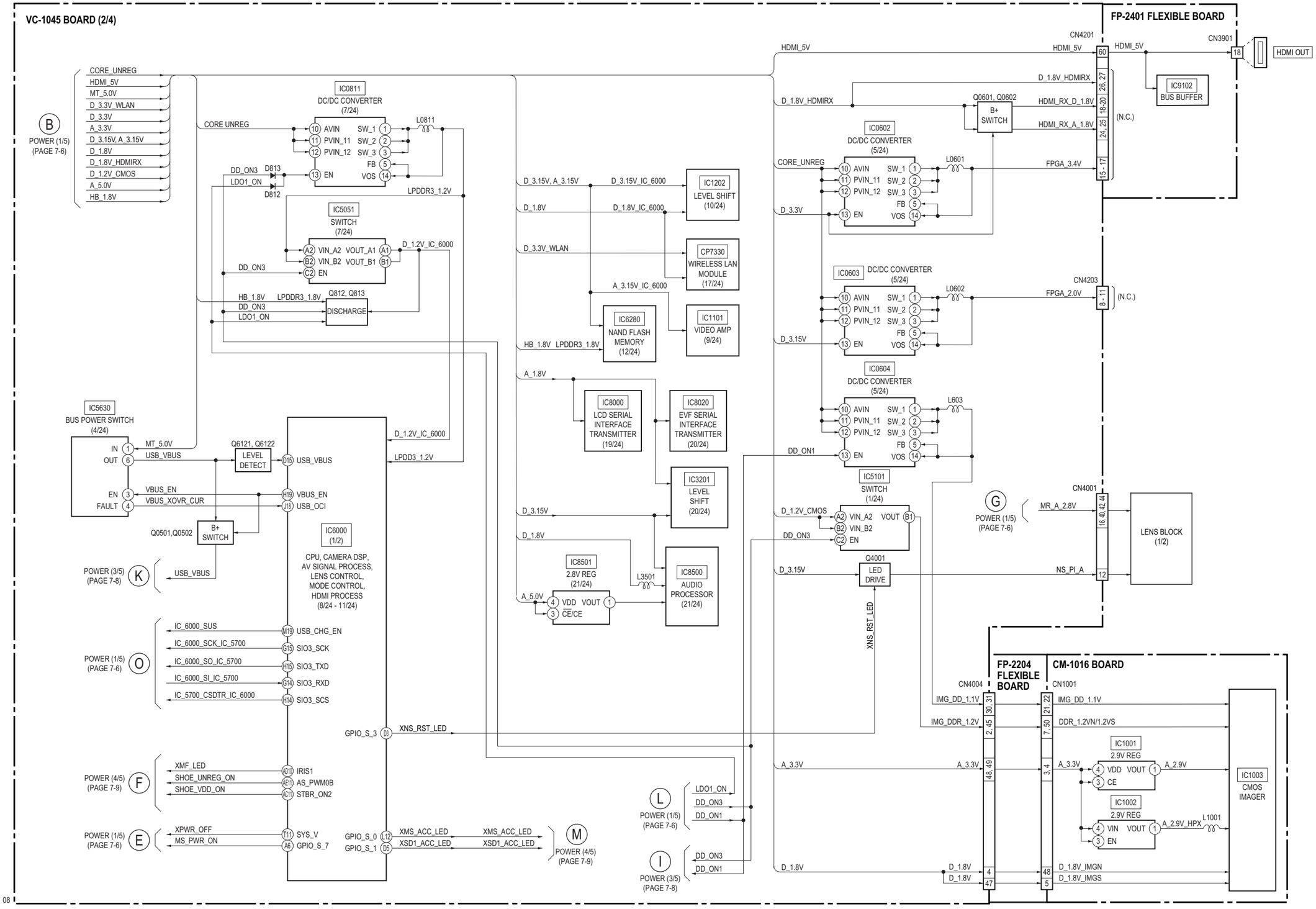
Overall (5/5)


XLR HANDLE UNIT
FP-2267 FLEXIBLE BOARD
HN-1004 BOARD
FLEXIBLE FLAT CABLE (FFC-339)
HS-1003 BOARD
CONTROL SWITCH BLOCK (GZ92000)
TO MULTI INTERFACE SHOE
GPS_CTS/WLAN_SD_D0
GPS_RTS/WLAN_SD_D1
GPS_PWR_CTRL/WLAN_SD_CLK
ID1-ID3
MIC_L/GVIF_SDATA_N
MIC_R/GVIF_SDATA_P
CN3301
CN3304
CN0701
CN0702
ZOOM_SPEED_AD
2ND_SS
2ND_ZOOM_AD
S0701
CONTROL SWITCH
(2ND ZOOM)
CH1
CH2
CN3303
IC3301
AUDIO CONTROL
DATA_AU
SCK_AU
XCS_AU
AU_MIC_+1
AU_MIC_-1
AU_MIC_-2
AU_MIC_+2
AU_LINE_1
AU_LINE_2
FLEXIBLE FLAT CABLE (FFC-116)
XL-1005 BOARD
CN2201
IC2201 MIC AMP
IC2202 MIC AMP
IC2203 LINE AMP
ATTENUATOR
Q2205, Q2208
Q2206, Q2207
Q2201, Q2202
MIC SWITCH
Q2203, Q2204
+48V
CN2202
INPUT1
INPUT2
IC3304
MIC/LINE CONTROL
ATT_1
ATT_2
Q3308
Q3307
XATT_1
XATT_2
XLR_MIC/LINE_1
XLR_MIC/LINE_2
Q2331, Q2335
MIC/LINE INPUT SELECT
MIC_SW_1
Q2332, Q2336
MIC_SW_2
CN3302
ATT_1_OFF
ATT_2_OFF
LOWCUT_1_OFF
LOWCUT_2_OFF
CH1_AUTO
CH2_AUTO
LEVEL_VOL_CH1
LEVEL_VOL_CH2
REC_CH_SEL
CONTROL SWITCH BLOCK (AU91000)
08
: AUDIO SIGNAL

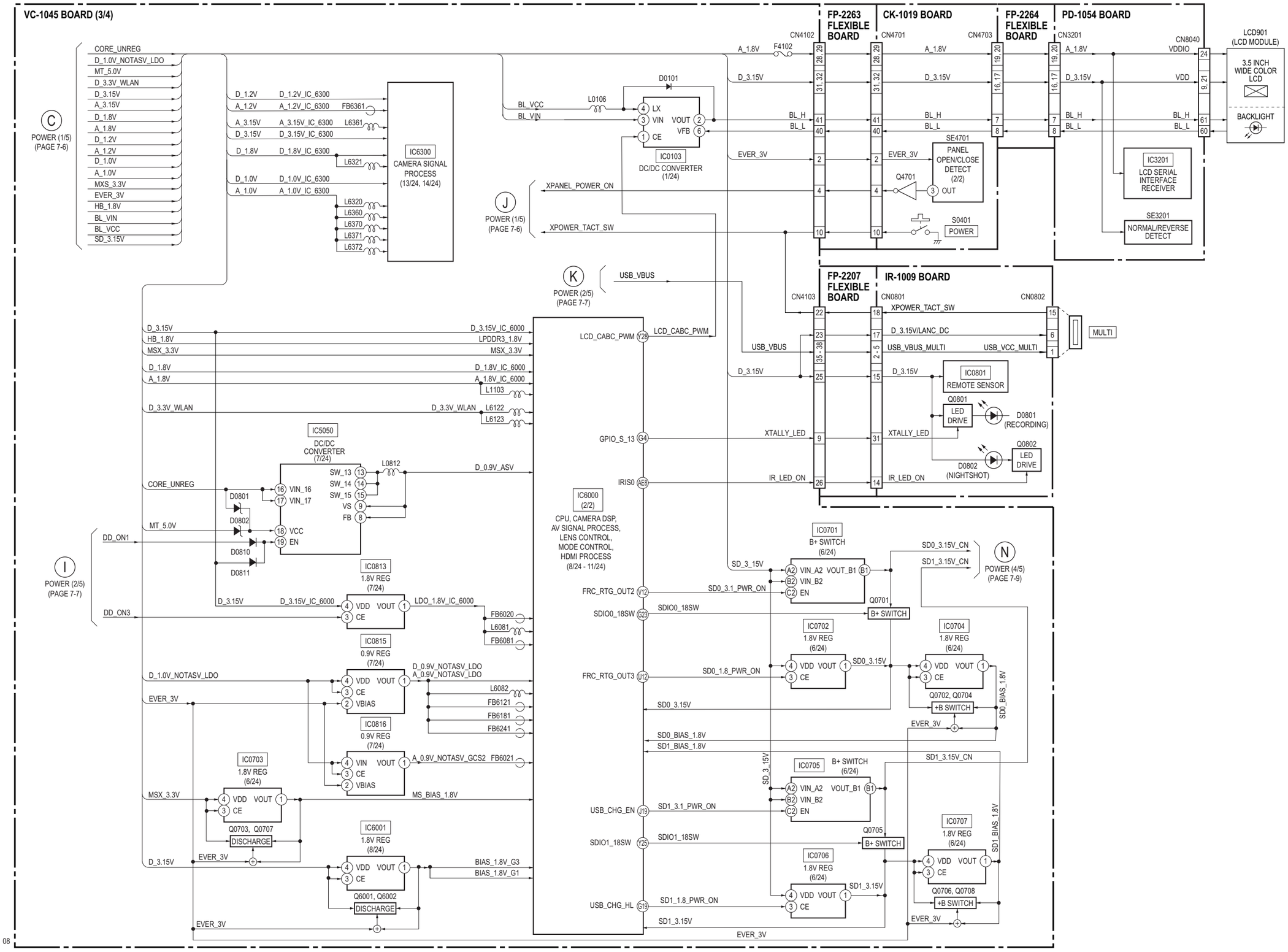
Power (1/5)


VC-1045 BOARD (1/4)
J901
(DC JACK)
DC IN
BATTERY TERMINAL
CN4002
ACV_UNREG
BATT/XEXT
BATT_UNREG
BATT_IB
Q0300
B+ SWITCH
ACVG
BATTG
ACV
BATT
ACV_UNREG
BATT_UNREG
BATT_IB
IC5651
USB POWER MANAGEMENT (3/24)
SYS1
SYS2
SW100
VI2C
SUS
EVER_3V
IC_6000_SUS
SYS_BGL_SDA
SYS_BGL_SCL
USB_IC_5651_EN
SDA
SCL
DD_ON
P57/SOT1
P58/SCK1
P24/INT00/WKUP1
P10/AN00
P11/AN01
P63/INT19
SIO2
SYS_BATTSENSE
SYS_ACVSENSE
Q0201, Q0202
DC JACK DETECT
BATT/XEXT
BATT_IB
P2C
P53
P5F
P50/SIN3
P51/SOT3
P52/SCK3
DD_ON1
LDO1_ON
DD_ON3
POWER (2/5) (PAGE 7-7)
SYS_DD_IC_5100_XCS
SYS_DD_SI
SYS_DD_SO
SYS_DD_SCK
F0305
F0304
F0303
F0302
F0301
BL_VCC
SHOE_UNREG_FUSE
FPGA_UNREG
EVF_UNREG
CORE_UNREG
MT_UNREG
IO_UNREG
IC5100
DC/DC CONVERTER (1/24)
PVDD1A
PVDD1B
PVDD6A
PVDD6B
PVDD5A
PVDD5B
PVDD4
PVDD3A
PVDD3B
PVDD2
DD_ON
LDO1_ENB
LDO2_ENB
PVDD_CP
AVDD
CS
DOUT
DIN
CLK
LX1A
LX1B
FB1
LX6A
LX6B
FB6
LX5A
LX5B
FB5
LX4
FB4
LX3A
LX3B
FB3
LX2
FB2
LDO1_SOURCE
LDO2_SOURCE
LDO2_OUT
VREG5.0V
L0101
L0100
L0104
L0105
L0103
L0102
D0100
D_1.0V_NOTASV_LDO, D_1.0V, A_1.0V
MT_5.0V, A_5.0V, D_5.0V_FPGA, BL_VIN
A_5.0V_BL
D_3.3V, A_3.3V, D_3.3V_FPGA, D_3.3V_WLAN
D_3.15V, A_3.15V, D_3.15V_MF, D_3.15V_FPGA, SD_3.15V
D_1.8V, A_1.8V, D_1.8V_HDMIRX, FPGA_1.8V_R
A_1.2V, D_1.2V, D_1.2V_CMOS
HB_1.8V
IC102
DC/DC CONVERTER (1/24)
VIN
EN
VOUT
L1
L2
L0107
SHOE_XC_7V
SHOE_XC_7V
EVF_UNREG
MSX_3.3V
D_3.3V
D_3.15V
D_3.15V_MF
D_1.8V
EVER_3V
CORE_UNREG
HDMI_5V
MT_5.0V
D_3.3V_WLAN
A_3.3V
HB_1.8V
SD_3.15V
BL_VCC
D_1.0V_NOTASV_LDO
A_1.2V
D_1.2V
D_1.0V
A_1.0V
MXS_3.3V
EVER_3.0V
BL_VIN
A
POWER (4/5) (PAGE 7-9)
B
POWER (2/5) (PAGE 7-7)
C
POWER (3/5) (PAGE 7-8)
IC5700
POWER CONTROL (2/24)
IC_6000_SUS
IC_6000_SCK_IC_5700
IC_6000_SO_IC_5700
IC_6000_SI_IC_5700
IC_5700_CSDIR_IC_6000
P38/SCS5
P36/SIN5
P37/SOT5
P39/SCS5
P33/INT11
P17/AN07
O
POWER (2/5) (PAGE 7-7)
J
POWER (3/5) (PAGE 7-8)
XPANEL_POWER_ON
XPOWER_TACT_SW
P2A/INT06
P30/INT08
IC5200
DC/DC CONVERTER, LANC DRIVER (1/24)
VTR_UNREG
UNREG_IN_DET
EVER3
DD_ON
LDO1_ON
PVDD_LDO2
PVDD_LDO1
LDO2_OUT
LDO2_ON
VCH
LOAD_IN
LOAD_OUT
LOAD_ON
LANC_DC
D_1.2V
D_3.3V
BATT_LI_3V
SYS_DD_SO
SYS_DD_SCK
SYS_DD_IC_5200_XCS
XLANC_PWR_ON
SYS_UNREGIN
XRST_IC_5700
VUC
P08
P3F/INT15
P0F/NMIX/WKUP0
INITX
VCC_B11
VCC_C1
VCC_J11
VCC_L2
AVCC
AVRH
Q5700, Q5701
B+ SWITCH
D_3.15V
P44
P32/INT10
P5B/INT26
DD_ON3
XEVF_SW
XPWR_OFF
MS_PWR_ON
LANC_DC
BATT_LI_3V
XEVF_SW
D
POWER (4/5) (PAGE 7-9)
E
POWER (2/5) (PAGE 7-7)
MR_A_2.8V
G
POWER (2/5) (PAGE 7-7)
H
POWER (4/5) (PAGE 7-9)
SE7711
ROLL SENSOR (18/24)
IC1801
2.8V REG (16/24)
A_3.3V
VDD
VOUT
CE
IC7711
ROLL SENSOR AMP (18/24)
IC1802
STEADYSHOT PROCESSOR, SHUTTER/ZOOM MOTOR DRIVE (16/24)
IC1803
FOCUS/ND MOTOR DRIVE (16/24)
IC1741
IRIS MOTOR DRIVE (15/24)
IC1742
ND MOTOR DRIVE (15/24)
08

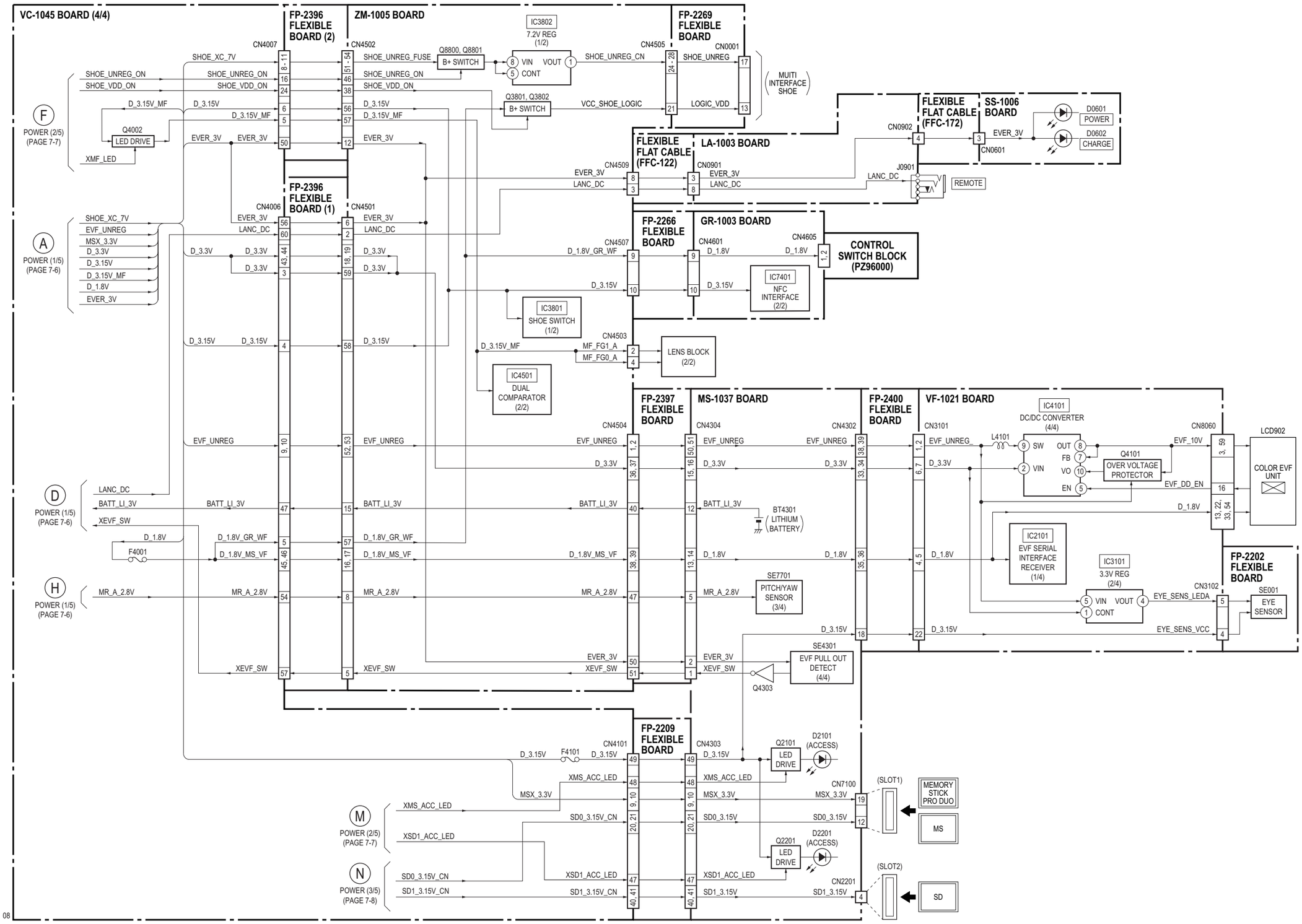
Power (2/5)


VC-1045 BOARD (2/4)
FP-2401 FLEXIBLE BOARD
CORE_UNREG
HDMI_5V
MT_5.0V
D_3.3V_WLAN
D_3.3V
A_3.3V
D_3.15V, A_3.15V
D_1.8V
D_1.8V_HDMIRX
D_1.2V_CMOS
A_5.0V
HB_1.8V
POWER (1/5) (PAGE 7-6)
IC0811 DC/DC CONVERTER (7/24)
L0811
D813
D812
DD_ON3
LDO1_ON
LPDDR3_1.2V
IC5051 SWITCH (7/24)
D_1.2V_IC_6000
Q812, Q813 DISCHARGE
HB_1.8V
LPDDR3_1.8V
IC1202 LEVEL SHIFT (10/24)
D_3.15V_IC_6000
D_1.8V_IC_6000
CP7330 WIRELESS LAN MODULE (17/24)
A_3.15V_IC_6000
IC6280 NAND FLASH MEMORY (12/24)
IC1101 VIDEO AMP (9/24)
IC8000 LCD SERIAL INTERFACE TRANSMITTER (19/24)
IC8020 EVF SERIAL INTERFACE TRANSMITTER (20/24)
IC3201 LEVEL SHIFT (20/24)
IC8501 2.8V REG (21/24)
L3501
IC8500 AUDIO PROCESSOR (21/24)
IC5630 BUS POWER SWITCH (4/24)
Q6121, Q6122 LEVEL DETECT
USB_VBUS
VBUS_EN
VBUS_XOVR_CUR
VBUS_EN
USB_OCI
Q0501,Q0502 B+ SWITCH
IC6000 (1/2) CPU, CAMERA DSP, AV SIGNAL PROCESS, LENS CONTROL, MODE CONTROL, HDMI PROCESS (8/24 - 11/24)
POWER (3/5) (PAGE 7-8)
IC_6000_SUS
IC_6000_SCK_IC_5700
IC_6000_SO_IC_5700
IC_6000_SI_IC_5700
IC_5700_CSDTR_IC_6000
USB_CHG_EN
SIO3_SCK
SIO3_TXD
SIO3_RXD
SIO3_SCS
POWER (1/5) (PAGE 7-6)
XMF_LED
SHOE_UNREG_ON
SHOE_VDD_ON
IRIS1
AS_PWM0B
STBR_ON2
POWER (4/5) (PAGE 7-9)
XPWR_OFF
MS_PWR_ON
SYS_V
GPIO_S_7
GPIO_S_3
XNS_RST_LED
GPIO_S_0
GPIO_S_1
XMS_ACC_LED
XSD1_ACC_LED
POWER (4/5) (PAGE 7-9)
POWER (1/5) (PAGE 7-6)
POWER (3/5) (PAGE 7-8)
LDO1_ON
DD_ON3
DD_ON1
CN4201
HDMI_5V
D_1.8V_HDMIRX
HDMI_RX_D_1.8V
HDMI_RX_A_1.8V
FPGA_3.4V
(N.C.)
Q0601, Q0602 B+ SWITCH
IC0602 DC/DC CONVERTER (5/24)
L0601
IC0603 DC/DC CONVERTER (5/24)
L0602
CN4203
FPGA_2.0V
(N.C.)
IC0604 DC/DC CONVERTER (5/24)
L603
IC5101 SWITCH (1/24)
D_1.2V_CMOS
DD_ON3
Q4001 LED DRIVE
XNS_RST_LED
CN3901
HDMI_5V
HDMI OUT
IC9102 BUS BUFFER
CN4001
MR_A_2.8V
NS_PI_A
LENS BLOCK (1/2)
POWER (1/5) (PAGE 7-6)
FP-2204 FLEXIBLE BOARD
CM-1016 BOARD
CN4004
CN1001
IMG_DD_1.1V
IMG_DDR_1.2V
A_3.3V
D_1.8V
DDR_1.2VN/1.2VS
D_1.8V_IMGN
D_1.8V_IMGS
IC1001 2.9V REG
IC1002 2.9V REG
A_2.9V
A_2.9V_HPX
L1001
IC1003 CMOS IMAGER

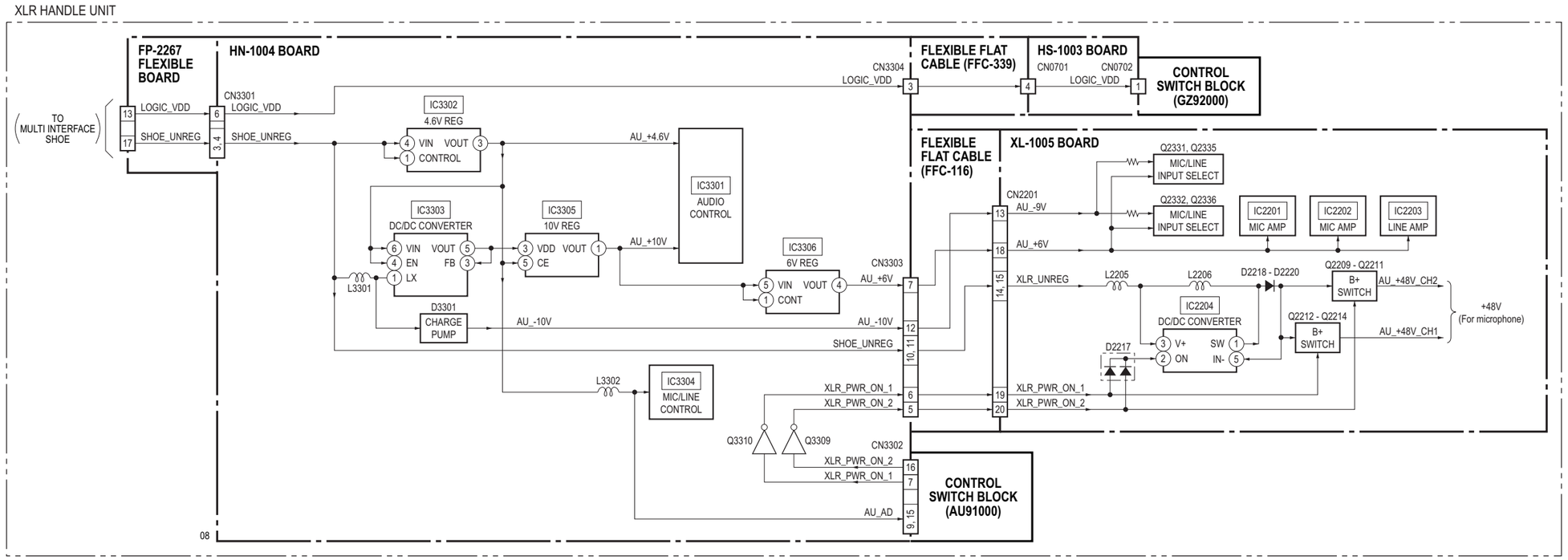
Power (3/5)


VC-1045 BOARD (3/4)
FP-2263 FLEXIBLE BOARD
CK-1019 BOARD
FP-2264 FLEXIBLE BOARD
PD-1054 BOARD
FP-2207 FLEXIBLE BOARD
IR-1009 BOARD
CN4102
CN4701
CN4703
CN3201
CN8040
LCD901 (LCD MODULE)
3.5 INCH WIDE COLOR LCD
BACKLIGHT
CORE_UNREG
D_1.0V_NOTASV_LDO
MT_5.0V
D_3.3V_WLAN
D_3.15V
A_3.15V
D_1.8V
A_1.8V
D_1.2V
A_1.2V
D_1.0V
A_1.0V
MXS_3.3V
EVER_3V
HB_1.8V
BL_VIN
BL_VCC
SD_3.15V
POWER (1/5) (PAGE 7-6)
IC6300 CAMERA SIGNAL PROCESS (13/24, 14/24)
L6321
L6320
L6360
L6370
L6371
L6372
FB6361
L6361
IC0103 DC/DC CONVERTER (1/24)
D0101
L0106
F4102
SE4701 PANEL OPEN/CLOSE DETECT (2/2)
Q4701
S0401 POWER
IC3201 LCD SERIAL INTERFACE RECEIVER
SE3201 NORMAL/REVERSE DETECT
XPANEL_POWER_ON
XPOWER_TACT_SW
USB_VBUS
POWER (2/5) (PAGE 7-7)
CN4103
CN0801
CN0802
MULTI
XPOWER_TACT_SW
D_3.15V/LANC_DC
USB_VBUS_MULTI
USB_VCC_MULTI
IC0801 REMOTE SENSOR
Q0801 LED DRIVE
D0801 (RECORDING)
Q0802 LED DRIVE
D0802 (NIGHTSHOT)
XTALLY_LED
IR_LED_ON
IRIS0
LCD_CABC_PWM
GPIO_S_13
IC6000 (2/2) CPU, CAMERA DSP, AV SIGNAL PROCESS, LENS CONTROL, MODE CONTROL, HDMI PROCESS (8/24 - 11/24)
IC5050 DC/DC CONVERTER (7/24)
L0812
D0801
D0802
D0810
D0811
IC0813 1.8V REG (7/24)
IC0815 0.9V REG (7/24)
IC0816 0.9V REG (7/24)
IC0703 1.8V REG (6/24)
IC6001 1.8V REG (8/24)
Q0703, Q0707 DISCHARGE
Q6001, Q6002 DISCHARGE
IC0701 B+ SWITCH (6/24)
IC0702 1.8V REG (6/24)
IC0704 1.8V REG (6/24)
IC0705 B+ SWITCH (6/24)
IC0706 1.8V REG (6/24)
IC0707 1.8V REG (6/24)
Q0701 B+ SWITCH
Q0705 B+ SWITCH
Q0702, Q0704 +B SWITCH
Q0706, Q0708 +B SWITCH
SD0_3.15V_CN
SD1_3.15V_CN
SD0_3.1_PWR_ON
SD1_3.1_PWR_ON
SDIO0_18SW
SDIO1_18SW
SD0_1.8_PWR_ON
SD1_1.8_PWR_ON
SD0_BIAS_1.8V
SD1_BIAS_1.8V
FRC_RTG_OUT2
FRC_RTG_OUT3
USB_CHG_EN
USB_CHG_HL
POWER (4/5) (PAGE 7-9)
I POWER (2/5) (PAGE 7-7)
J POWER (1/5) (PAGE 7-6)
K POWER (2/5) (PAGE 7-7)
C POWER (1/5) (PAGE 7-6)
N POWER (4/5) (PAGE 7-9)
08

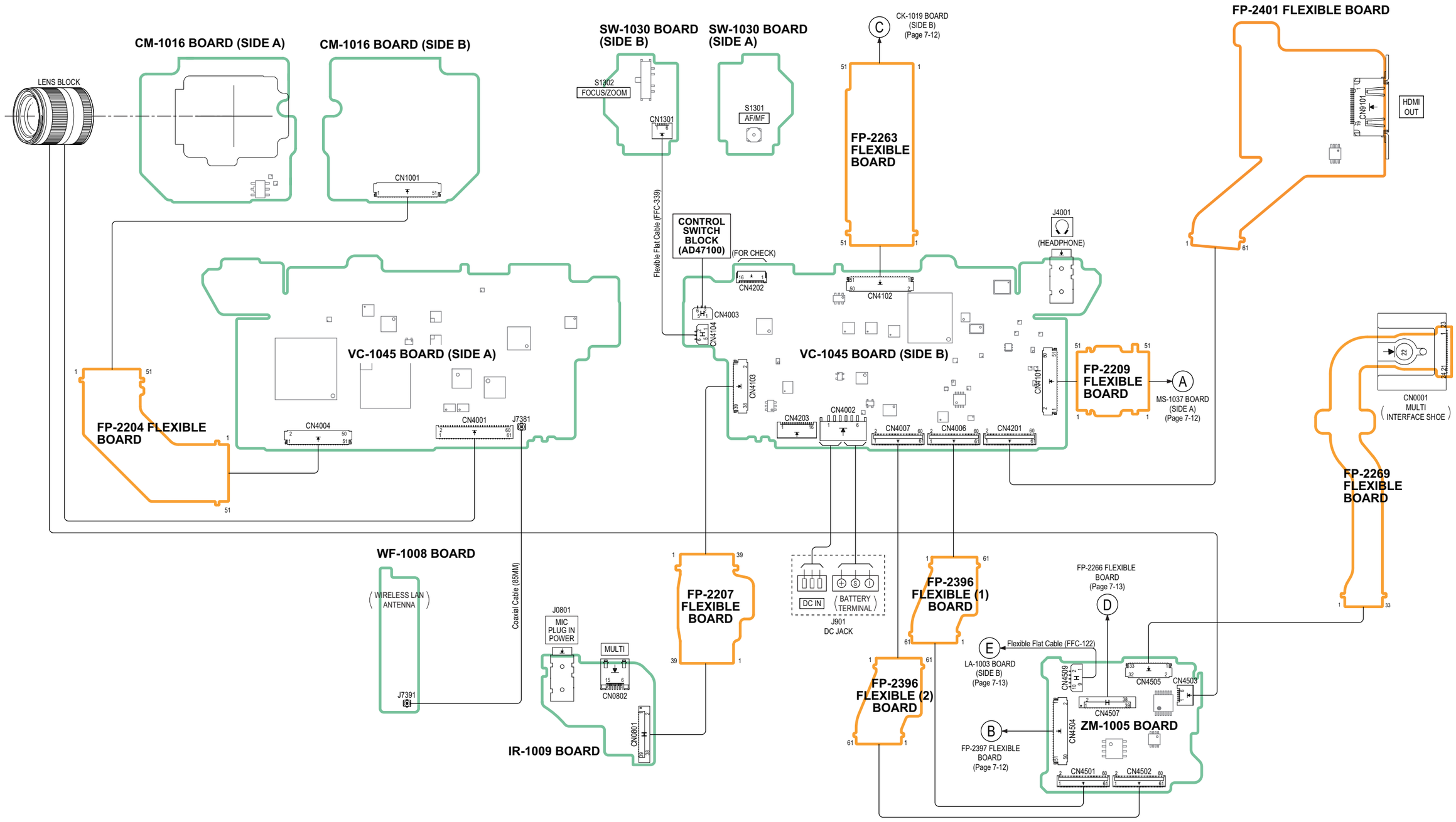
Power (4/5)


VC-1045 BOARD (4/4)
FP-2396 FLEXIBLE BOARD (2)
ZM-1005 BOARD
FP-2269 FLEXIBLE BOARD
FP-2396 FLEXIBLE BOARD (1)
FLEXIBLE FLAT CABLE (FFC-122)
LA-1003 BOARD
FLEXIBLE FLAT CABLE (FFC-172)
SS-1006 BOARD
FP-2266 FLEXIBLE BOARD
GR-1003 BOARD
CONTROL SWITCH BLOCK (PZ96000)
FP-2397 FLEXIBLE BOARD
MS-1037 BOARD
FP-2400 FLEXIBLE BOARD
VF-1021 BOARD
FP-2209 FLEXIBLE BOARD
FP-2202 FLEXIBLE BOARD
IC3802 7.2V REG (1/2)
Q8800, Q8801 B+ SWITCH
Q3801, Q3802 B+ SWITCH
MUITI INTERFACE SHOE
POWER (2/5) (PAGE 7-7)
POWER (1/5) (PAGE 7-6)
LED DRIVE
XMF_LED
REMOTE
D0601 POWER
D0602 CHARGE
IC3801 SHOE SWITCH (1/2)
IC4501 DUAL COMPARATOR (2/2)
IC7401 NFC INTERFACE (2/2)
LENS BLOCK (2/2)
IC4101 DC/DC CONVERTER (4/4)
Q4101 OVER VOLTAGE PROTECTOR
IC2101 EVF SERIAL INTERFACE RECEIVER (1/4)
IC3101 3.3V REG (2/4)
LCD902 COLOR EVF UNIT
SE001 EYE SENSOR
BT4301 LITHIUM BATTERY
SE7701 PITCH/YAW SENSOR (3/4)
SE4301 EVF PULL OUT DETECT (4/4)
Q4303
Q2101 LED DRIVE
Q2201 LED DRIVE
D2101 (ACCESS)
D2201 (ACCESS)
MEMORY STICK PRO DUO
MS
SD
(SLOT1)
(SLOT2)
POWER (3/5) (PAGE 7-8)
POWER (2/5) (PAGE 7-7)
SHOE_XC_7V
SHOE_UNREG_ON
SHOE_VDD_ON
SHOE_UNREG_FUSE
SHOE_UNREG_CN
SHOE_UNREG
VCC_SHOE_LOGIC
LOGIC_VDD
D_3.15V_MF
D_3.15V
D_3.15V_MF
Q4002
LED DRIVE
EVER_3V
XMF_LED
EVF_UNREG
MSX_3.3V
D_3.3V
D_1.8V
LANC_DC
BATT_LI_3V
XEVF_SW
D_1.8V_GR_WF
D_1.8V_MS_VF
F4001
MR_A_2.8V
D_1.8V_GR_WF
XMS_ACC_LED
XSD1_ACC_LED
SD0_3.15V_CN
SD1_3.15V_CN
SD0_3.15V
SD1_3.15V
MF_FG1_A
MF_FG0_A
EVF_10V
EVF_DD_EN
EYE_SENS_LEDA
EYE_SENS_VCC
L4101
CN4007
CN4502
CN4505
CN0001
CN4006
CN4501
CN4509
CN0902
CN0601
J0901
CN4507
CN4601
CN4605
CN4503
CN4504
CN4304
CN4302
CN3101
CN8060
CN3102
CN4101
CN4303
CN7100
CN2201

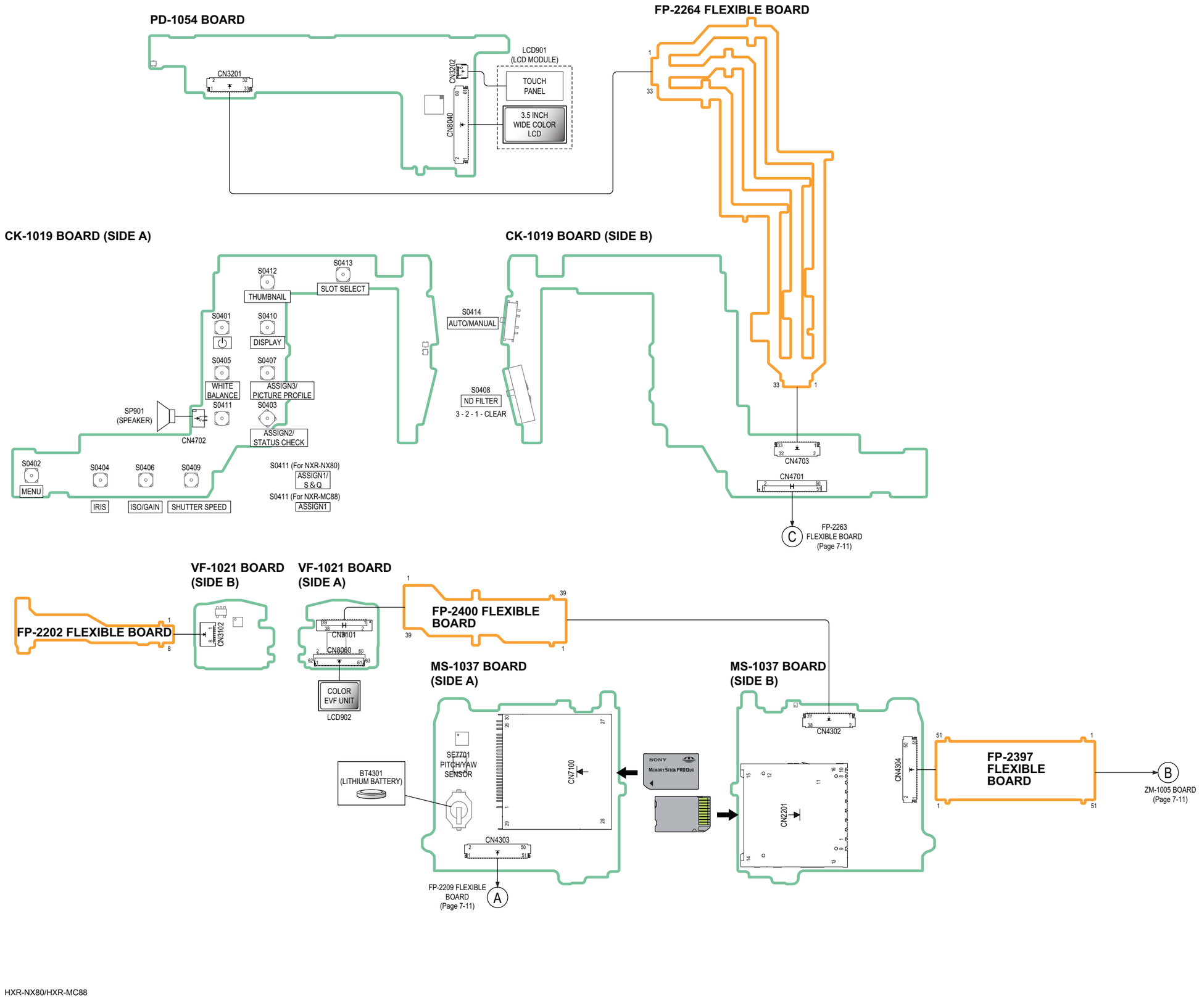
Power (5/5)


XLR HANDLE UNIT
FP-2267 FLEXIBLE BOARD
HN-1004 BOARD
TO MULTI INTERFACE SHOE
13
17
LOGIC_VDD
SHOE_UNREG
CN3301
6
3, 4
IC3302
4.6V REG
VIN VOUT CONTROL
AU_+4.6V
IC3301 AUDIO CONTROL
IC3303 DC/DC CONVERTER
VIN VOUT EN FB LX
L3301
D3301 CHARGE PUMP
AU_-10V
IC3305 10V REG
VDD VOUT CE
AU_+10V
IC3306 6V REG
VIN VOUT CONT
AU_+6V
CN3303
7
12
10, 11
SHOE_UNREG
L3302
IC3304 MIC/LINE CONTROL
XLR_PWR_ON_1
XLR_PWR_ON_2
6
5
Q3310
Q3309
CN3302
16
7
9, 15
AU_AD
CONTROL SWITCH BLOCK (AU91000)
08
CN3304
3
FLEXIBLE FLAT CABLE (FFC-339)
4
HS-1003 BOARD
CN0701
CN0702
1
CONTROL SWITCH BLOCK (GZ92000)
FLEXIBLE FLAT CABLE (FFC-116)
XL-1005 BOARD
CN2201
13
18
14, 15
19
20
AU_-9V
AU_+6V
XLR_UNREG
XLR_PWR_ON_1
XLR_PWR_ON_2
Q2331, Q2335
MIC/LINE INPUT SELECT
Q2332, Q2336
MIC/LINE INPUT SELECT
IC2201 MIC AMP
IC2202 MIC AMP
IC2203 LINE AMP
L2205
L2206
D2218 - D2220
Q2209 - Q2211
B+ SWITCH
AU_+48V_CH2
IC2204 DC/DC CONVERTER
V+ SW ON IN-
D2217
Q2212 - Q2214
B+ SWITCH
AU_+48V_CH1
+48V (For microphone)

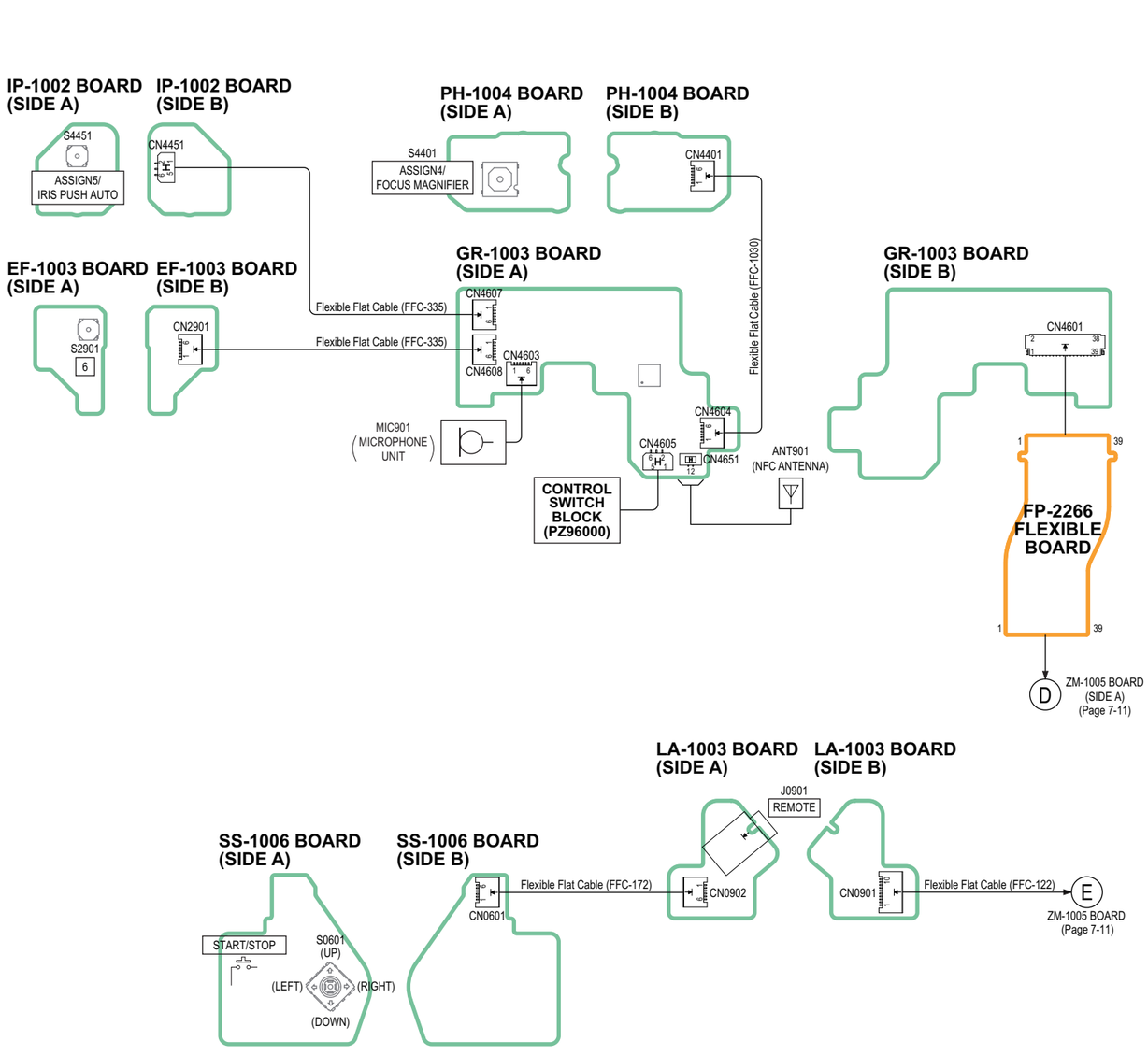
Frame Wiring (1/3)



Frame Wiring (2/3)



Frame Wiring (3/3)



Revision History

Date	History	Contents
2017. 11	1st Edition 9-932-581-01	—
2019. 6	Revised-1 9-932-581-02	Added the models: HXR-MC88 (UC), HXR-MC88 (UL),.HXR-MC88 (CEE) • **Modifications of the exploded view:** Overall-4 • **Modifications of the supplied accessories:** 6-3. Supplied Accessories

HXR-NX80 (UC)
HXR-NX80 (J)
HXR-NX80 (CEE)
HXR-NX80 (CN)
HXR-MC88 (UC)
HXR-MC88 (UL)
HXR-MC88 (CEE)
HXR-MC88 (CN)　J, E
9-932-581-02

Sony Corporation

Printed in Japan
2019. 6 08