

Service Manual

High Definition Video Camera



Model No. **HDC-SD700EB**

HDC-SD700EC

HDC-SD700EE

HDC-SD700EF

HDC-SD700EG

HDC-SD700EP

HDC-SD700GC

HDC-SD700GN

HDC-SD707EG

HDC-TM700P

HDC-TM700PC

HDC-TM700PU

HDC-TM700EB

HDC-TM700EC

HDC-TM700EE

HDC-TM700EF

HDC-TM700EG

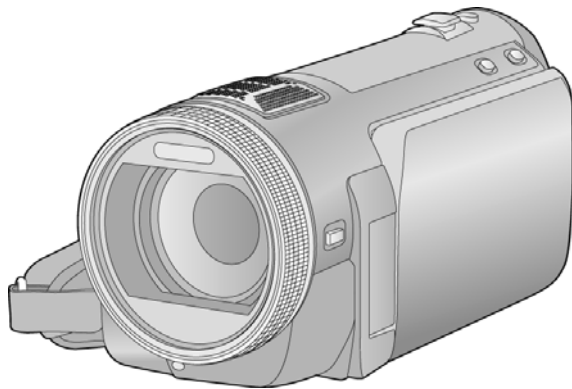
HDC-TM700EP

HDC-TM700GC

HDC-TM700GD

HDC-TM700GK

HDC-TM700GT



Vol. 1

Panasonic®

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Colour
 [HDC-TM700/SD700]
 (K).....Black Type

[HDC-SD707]
 (S).....Silver Type
 (K).....Black Type

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precautions

1.1. General Guidelines

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by

 in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.2. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{ M}\Omega$ and $5.2\text{ M}\Omega$. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. Leakage Current Hot Check (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{ k}\Omega$, 10 W resistor, in parallel with a $0.15\text{ }\mu\text{F}$ capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with $1\text{ k}\Omega/\text{V}$ or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS . A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed $1/2\text{ mA}$. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

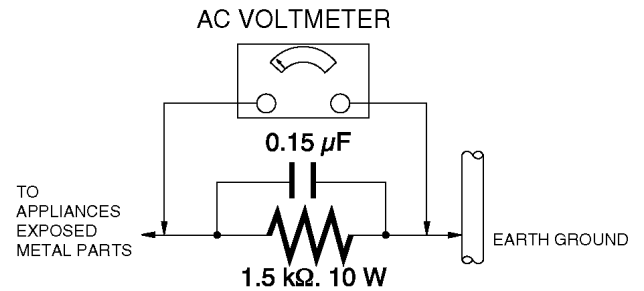


Figure. 1

1.4. How to Discharge the Capacitor on Flash P.C.B.

CAUTION:

1. Be sure to discharge the capacitor on FLASH P.C.B..
2. Be careful of the high voltage circuit on FLASH P.C.B. when servicing.

[Discharging Procedure]

1. Refer to the disassemble procedure and Remove the necessary parts/unit.
2. Put the insulation tube onto the lead part of Resistor (ERG5SJ102:1k Ω /5W).
(an equivalent type of resistor may be used.)
3. Put the resistor between both terminals of capacitor on FLASH P.C.B. for approx. 5 seconds.
4. After discharging confirm that the capacitor voltage is lower than 10V using a voltmeter.

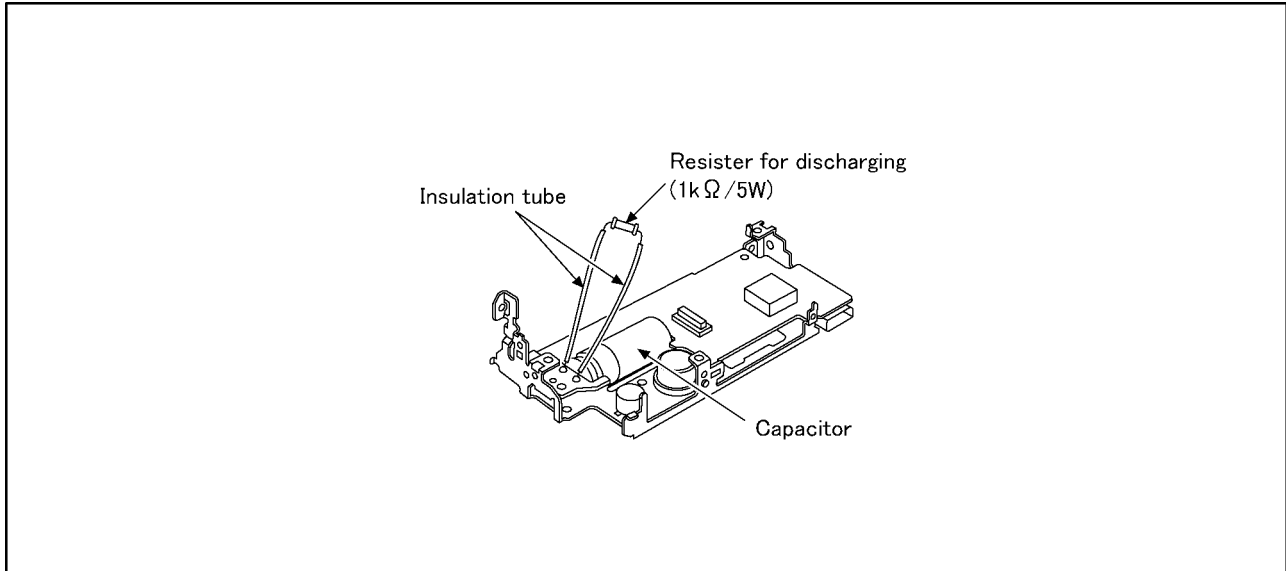


Fig. F1

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION :

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

2.2. How to Recycle the Lithium Ion Battery (U.S. Only)

ENGLISH



A lithium ion/polymer battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

FRANÇAIS



L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion/lithium-polymère. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

2.3. Caution for AC Cord (For EB/GC)

2.3.1. Information for Your Safety

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

To reduce the risk of fire or shock hazard, do not expose this equipment to rain or moisture.

CAUTION

To reduce the risk of fire or shock hazard and annoying interference, use the recommended accessories only.

FOR YOUR SAFETY

DO NOT REMOVE THE OUTER COVER

To prevent electric shock, do not remove the cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

2.3.2. Caution for AC Mains Lead

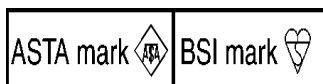
For your safety, please read the following text carefully.

This appliance is supplied with a moulded three-pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amperes and it is approved by ASTA or BSI to BS1362

Check for the ASTA mark or the BSI mark on the body of the fuse.



If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

If the fitted moulded plug is unsuitable for the socket outlet in your home then the fuse should be removed and the plug cut off and disposed of safely.

There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt, please consult a qualified electrician.

2.3.2.1. Important

The wires in this mains lead are coloured in accordance with the following code:

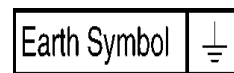
| | |
|-------|---------|
| Blue | Neutral |
| Brown | Live |

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

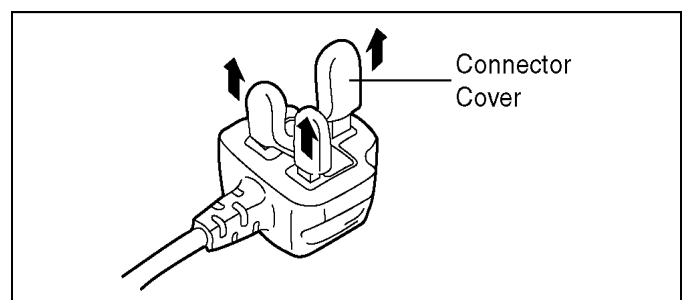
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol.



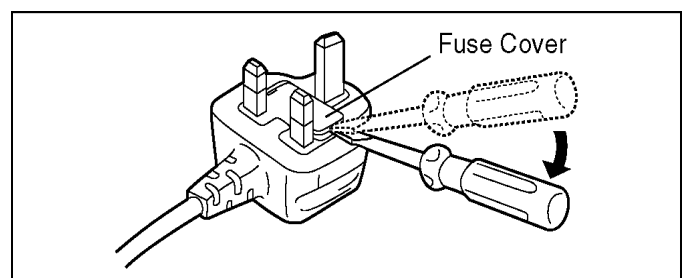
2.3.2.2. Before Use

Remove the Connector Cover as follows.

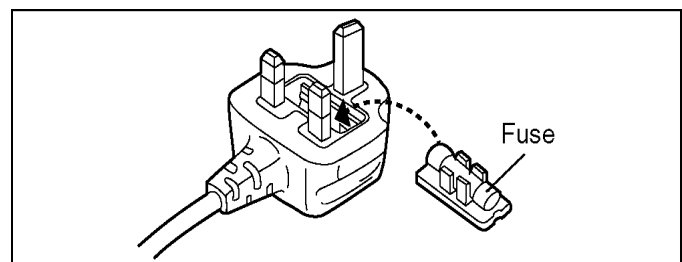


2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



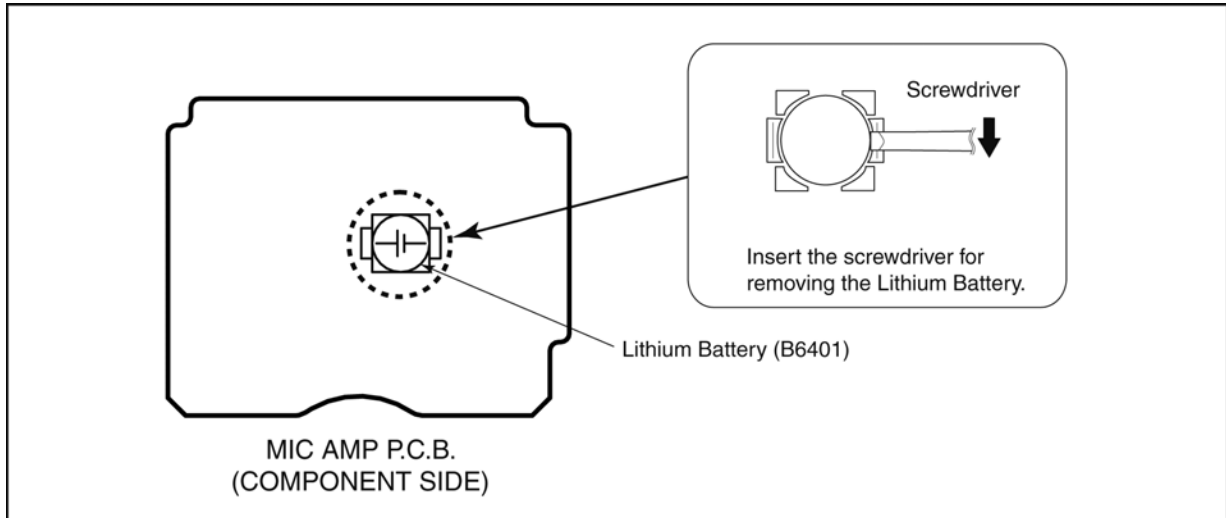
2. Replace the fuse and attach the Fuse cover.



2.4. How to Replace the Lithium Battery

2.4.1. Replacement Procedure

1. Remove the MIC AMP P.C.B.. (Refer to Disassembly Procedures.)
2. Remove the Lithium battery (Ref. No. "B6401" at component side of MIC AMP P.C.B.) and then replace it into new one.



NOTE:

This Lithium battery is a critical component.

(Type No.: ML-614S/ZTK **Manufactured by Energy Company, Panasonic Corporation**)

It must never be subjected to excessive heat or discharge.

It must therefore only be fitted in requirement designed specifically for its use.

Replacement batteries must be of same type and manufacture.

They must be fitted in the same manner and location as the original battery, with the correct polarity contacts observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose.

It should be disposed of in waste products destined for burial rather than incineration.

(For English)

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions.

(For German)

ACHTUNG

Explosionsgefahr bei falschem Anbringen der Batterie. Ersetzen Sie nur mit einem äquivalentem vom Hersteller empfohlenem Typ.

Behandeln Sie gebrauchte Batterien nach den Anweisungen des Herstellers.

(For French)

MISE EN GARDE

Une batterie de remplacement inappropriée peut exploser. Ne remplacez qu'avec une batterie identique ou d'un type recommandé par le fabricant. L'élimination des batteries usées doit être faite conformément aux instructions du fabricant.

NOTE:

Above caution is applicable for a battery pack which is for HDC-TM700/SD700/SD707 series, as well.

1. Battery Pack for this model.
2. Button-type battery for Remote controller (CR2025: Being supplied from Energy Company, Panasonic Corporation).

3 Service Navigation

3.1. Introduction

This service manual contains technical information, which allow service personnel's to understand and service this model.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, the information will be followed by service manual to be controlled with original service manual.

3.2. General Description About Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30°C (86°F) more than that of the normal solder.

Distinction of P.C.B. Lead Free Solder being used

| |
|--|
| The letter of "PbF" is printed either foil side or components side on the P.C.B. using the lead free solder.(See right figure) |
|--|

| |
|-----|
| PbF |
|-----|

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
(Definition: The letter of "PbF" is printed on the P.C.B. using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the P.C.B. cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30°C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
RFKZ03D01KS------(0.3mm 100g Reel)
RFKZ06D01KS------(0.6mm 100g Reel)
RFKZ10D01KS------(1.0mm 100g Reel)

Note

* Ingredient: tin (Sn) 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

3.3. Important Notice 1:(Other than U.S.A. and Canadian Market)

1. The service manual does not contain the following information, because of the impossibility of servicing at component level without concerned equipment/facilities.
 - a. Schematic diagram, Block Diagram and P.C.B. layout of MAIN P.C.B..
 - b. Parts list for individual parts for MAIN P.C.B..

When a part replacement is required for repairing MAIN P.C.B., replace as an assembled parts. (Main P.C.B.)

2. The following category is /are recycle module part. Please send it/them to Central Repair Center.

- MAIN P.C.B. (VEP03H98CN: HDC-TM700P/PC/PU/GD)
- MAIN P.C.B. (VEP03H98CQ: HDC-TM700EE/GC/GK)
- MAIN P.C.B. (VEP03H98CP: HDC-TM700EB/EC/EF/EG/EP)
- MAIN P.C.B. (VEP03H98DP: HDC-SD700EB/EC/EF/EG/EP, SD707EG)
- MAIN P.C.B. (VEP03H98DQ: HDC-SD700EE/GC/GN)

3.4. How to Define the Model Suffix (NTSC or PAL model)









There are nine kinds of HDC-TM700/SD700/SD707.

- a) HDC-TM700 (Japan domestic model)
- b) HDC-TM700P
- c) HDC-TM700PC
- d) HDC-TM700EB/EC/EF/EG/EP, SD700EB/EC/EF/EG/EP/GN, SD707EG
- e) HDC-TM700EE, SD700EE
- f) HDC-TM700GT
- g) HDC-TM700GK
- h) HDC-TM700GD
- i) HDC-TM700PU/GC, SD700GC

What is the difference is that the "INITIAL SETTING" data which is stored in Flash ROM mounted on Main P.C.B..

3.4.1. Defining methods:

To define the model suffix to be serviced, refer to the rating label which is putted on the Unit.

| |
|---|
| <p>a) HDC-TM700 (Japan domestic model) The nameplate for this model show the following Safety registration mark.</p>  |
| <p>b) HDC-TM700P The nameplate for this model show the following Safety registration mark.</p>  |
| <p>c) HDC-TM700PC The nameplate for this model show the following Safety registration mark.</p>  |
| <p>d) HDC-TM700EB/EC/EF/EG/EP, SD700EB/EC/EF/EG/EP/GN, SD707EG The nameplate for these models show the following Safety registration mark.</p>  |
| <p>e) HDC-TM700EE, SD700EE The nameplate for these models show the following Safety registration mark.</p>  |
| <p>f) HDC-TM700GT The nameplate for this model show the following Safety registration mark.</p>  |
| <p>g) HDC-TM700GK The nameplate for this model show the following Safety registration mark.</p>  |
| <p>h) HDC-TM700GD The nameplate for this model show the following Safety registration mark.</p>  |
| <p>i) HDC-TM700PU/GC, SD700GC The nameplate for these models do not show any above Safety registration mark.</p> |

NOTE:

After replacing the MAIN P.C.B., be sure to achieve adjustment.

The adjustment instruction is available at "software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN system", together with Maintenance software.

3.5. Formatting

HDC-SD700/HDC-SD707

[FORMAT CARD]

Please be aware that if a medium is formatted, then all the data recorded on the medium will be erased and cannot be restored. Back up important data on a PC, DVD disc etc.

- When formatting is complete, touch [EXIT] to exit the message screen.
- Perform a physical formatting of the SD card when the SD card is to be disposed/ transferred.

- Do not turn this unit off or remove the SD card, while formatting. Do not expose the unit to vibrations or shock.

Use this unit to format media.

Do not format an SD card using any other equipment such as a PC. The card may not be used on this unit.

HDC-TM700

[FORMAT MEDIA]

Please be aware that if a medium is formatted, then all the data recorded on the medium will be erased and cannot be restored. Back up important data on a PC, DVD disc etc.

1 Touch [FORMAT MEDIA].

2 Touch [SD CARD] or [Built-inMemory].

- When formatting is complete, touch [EXIT] to exit the message screen.
- Perform a physical formatting of the SD card when the SD card is to be disposed/ transferred.
- Perform a physical formatting of the built-in memory when this unit is to be disposed/ transferred.

- Do not turn this unit off or remove the SD card, while formatting. Do not expose the unit to vibrations or shock.

Use this unit to format media.

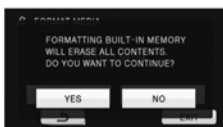
Formatting built-in memory is only available with this unit.

Do not format an SD card using any other equipment such as a PC. The card may not be used on this unit.

HDC-TM700

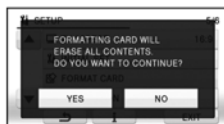
When disposing of or giving away this unit, note that:

- Formatting and deletion simply change the file management information and cannot be used to completely erase the data in built-in memory of this unit. The data can be recovered using commercially available software or the like.
- We recommend that you physically format the built-in memory before disposing of or giving away this unit.
- To physically format the built-in memory, connect the unit via the AC adaptor, select [FORMAT MEDIA] → [Built-inMemory] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the built-in memory data deletion screen appears, select [YES], and then follow the on-screen instructions.



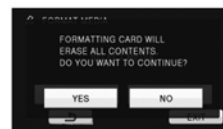
When disposing of or giving away the SD card, note that:

- Formatting and deletion of this unit or computer only changes the file management information and does not completely delete the data in the SD card.
- It is recommended that the SD card is physically destroyed or the SD card is physically formatted using this unit when disposing of or giving away the SD card.
- HDC-SD700/HDC-SD707 To physically format the SD card, connect the unit via the AC adaptor, select [FORMAT CARD] → [YES] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the SD card data deletion screen appears, select [YES], and then follow the on-screen instructions.



- HDC-TM700

To physically format the SD card, connect the unit via the AC adaptor, select [FORMAT MEDIA] → [SD CARD] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the SD card data deletion screen appears, select [YES], and then follow the on-screen instructions.



- The customer is responsible for the management of the data in the SD card.

4 Specifications

High Definition Video Camera Information for your safety

| | |
|---------------------------|---|
| Power source: | DC 9.3 V (When using AC adaptor) DC 7.2 V (When using battery) |
| Power consumption: | Recording: 6.0 W |

| | |
|-------------------------|--|
| Signal system | 1080/60p, 1080/60i (NTSC areas) 1080/50p, 1080/50i (PAL areas) |
| Recording format | 1080/60p: Original format (NTSC areas) 1080/50p: Original format (PAL areas) HA/HG/HX/HE: AVCHD format compliant |
| Image sensor | 1/4.1" 3MOS image sensor Total: 3050 K×3 Effective pixels: Motion picture: 2530 K×3 (16:9) Still picture: 2320 K×3 (4:3), 2630 K×3 (3:2), 2530 K×3 (16:9) |
| Lens | Auto Iris, F1.5 to F2.8 Focal length: 3.45 mm to 41.4 mm Macro (Full range AF) 35 mm equivalent: Motion picture: 35 mm to 420 mm (16:9) Still picture: 38.8 mm to 466 mm (4:3) 35.7 mm to 428 mm (3:2) 35 mm to 420 mm (16:9) Minimum focus distance: Normal: Approx. 4 cm (1.6") (Wide)/Approx. 1.2 m (3.9 feet) (Tele) Tele macro: Approx. 70 cm (28") (Tele) Intelligent auto Macro: Approx. 1 cm (0.4") (Wide)/Approx. 70 cm (28") (Tele) |
| Filter diameter | 46 mm |
| Zoom | 12× Optical Zoom, 18× i.Zoom, 30×/700× Digital Zoom |

| | | |
|---|--|---|
| Monitor | 3" wide LCD monitor (Approx. 230 K dots) | |
| Viewfinder | 0.27" wide EVF (Approx. 123 K dots) | |
| Microphone | 5.1 channel surround microphone (with a zoom microphone/ focus microphone function) | |
| Speaker | 1 round speaker, dynamic type | |
| White balance adjustment | Auto tracking white balance system | |
| Standard illumination | 1,400 lx | |
| Minimum required illumination | Approx. 1.6 lx (1/30 in Low light mode) (NTSC areas) Approx. 1 lx with the Color night rec function (NTSC areas) Approx. 1.6 lx (1/25 in Low light mode) (PAL areas) Approx. 1 lx with the colour night view function (PAL areas) | |
| AV multi connector video output level | Component video out put level: Y: 1.0 Vp-p, 75 Ω Pb: 0.7 Vp-p, 75 Ω Pr: 0.7 Vp-p, 75 Ω AV video output level: 1.0 Vp-p, 75 Ω, NTSC system (NTSC areas) 1.0 Vp-p, 75 Ω, PAL system (PAL areas) | |
| HDMI mini connector video output level | HDMI™ (x.v.Color™) 1080p/1080i/480p (NTSC areas) HDMI™ (V.1.3a with x.v.Colour™) 1080p/1080i/576p (PAL areas) | |
| AV multi connector audio output level (Line) | 316 mV, 600 Ω, 2 ch | |
| Headphone output | 77 mV, 32 Ω (Stereo mini jack) | |
| HDMI mini connector audio output level | Dolby Digital/Linear PCM | |
| MIC input | -70 dBV (Mic sensitivity -50 dB equivalent, 0 dB=1 V/Pa, 1 kHz) (Stereo mini jack) | |
| USB | SD card | Read only (No copyright protection support) (EB/EC/EF/EG/EP areas) Read/Write (No copyright protection support) (Other areas) |
| | Built-in memory | (HDC-TM700) Read only |
| | | Hi-Speed USB (USB 2.0), USB terminal Type Mini AB USB host function (for DVD burner) |
| Flash | Available range: Approx. 1.0 m to 2.5 m (3.3 feet to 8.2 feet) | |

| | |
|-----------------------------------|--|
| Dimensions | 66 mm (W)×69 mm (H)×138 mm (D) [2.59" (W)×2.71" (H)×5.43" (D)] (excluding projecting parts) |
| Mass (Weight) | (HDC-TM700) Approx. 380 g (Approx. 0.84 lbs.) [without battery (supplied)] (HDC-SD700) (HDC-SD707) Approx. 375 g [without battery (supplied) and an SD card (optional)] |
| Mass (Weight) in operation | (HDC-TM700) Approx. 440 g (Approx. 0.97 lbs.) [with battery (supplied)] (HDC-SD700) (HDC-SD707) Approx. 435 g [with battery (supplied) and an SD card (optional)] |
| Operating temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| Operating humidity | 10% to 80% |
| Battery operation time | Refer to "Charging and recording time" |

Motion pictures

| | | |
|---|---|---|
| Recording media | SD card | SD Memory Card (FAT12 and FAT16 system compliant) SDHC Memory Card (FAT32 system compliant) SDXC Memory Card (exFAT system compliant) Refer to "Cards that you can use with this unit" |
| | Built-in memory | (HDC-TM700) 32 GB |
| Compression | MPEG-4 AVC/H.264 | |
| Recording mode and transfer rate | 1080/60p: Approx. 28 Mbps (VBR) (NTSC areas) 1080/50p: Approx. 28 Mbps (VBR) (PAL areas) HA: Approx. 17 Mbps (VBR) HG: Approx. 13 Mbps (VBR) HX: Approx. 9 Mbps (VBR) HE: Approx. 5 Mbps (VBR) Refer to "Recording modes/approximate recordable time" | |
| Picture size | 1080/60p: 1920×1080/60p (NTSC areas) HA/HG/HX/HE: 1920×1080/60i (NTSC areas) 1080/50p: 1920×1080/50p (PAL areas) HA/HG/HX/HE: 1920×1080/50i (PAL areas) | |
| Audio compression | Dolby Digital/5.1 ch (built-in microphone), 2 ch (built-in microphone/external microphone) | |

Still pictures

| | | |
|------------------------|---|---|
| Recording media | SD card | SD Memory Card (FAT12 and FAT16 system compliant) SDHC Memory Card (FAT32 system compliant) SDXC Memory Card (exFAT system compliant) Refer to "Cards that you can use with this unit" |
| | Built-in memory | (HDC-TM700) 32 GB |
| Compression | JPEG (Design rule for Camera File system, based on Exif 2.2 standard), DPOF corresponding | |
| Picture size | Picture aspect [4:3]: 4032×3024/3200×2400/2560×1920/640×480 Picture aspect [3:2]: 4608×3072/3600×2400/2880×1920 Picture aspect [16:9]: 4864×2736/3840×2160/3072×1728/1920×1080 Refer to "Number of recordable pictures" | |

AC adaptor

Information for your safety

| | |
|---------------------------|-------------------------------------|
| Power source: | AC 110 V to 240 V, 50/60 Hz |
| Power consumption: | 19 W |
| DC output: | DC 9.3 V, 1.2 A (Unit operation) |
| | DC 8.4 V, 0.65 A (Battery charging) |

| | |
|----------------------|---|
| Dimensions | 92 mm (W)×33 mm (H)×61 mm (D) [3.6" (W)×1.3" (H)×2.4" (D)] |
| Mass (Weight) | Approx. 115 g (Approx. 0.25 lbs.) |

Specifications may change without prior notice.

Charging and recording time

Charging/Recording time

- Temperature: 25 °C (77 °F)/humidity: 60%

| NTSC areas | | | | |
|---|------------------|-------------------|--|------------------------------|
| Battery model number [Voltage/Capacity (minimum)] | Charging time | Recording mode | Maximum continuous recordable time | Actual recordable time |
| Supplied battery/ VW-VBG130 (optional) [7.2 V/1250 mAh] | 2 h 35 min | 1080/60p | 1 h 35 min | 55 min |
| | | HA, HG, HX, HE | 1 h 40 min | 1 h |
| VW-VBG260 (optional) [7.2 V/2500 mAh] | 4 h 40 min | 1080/60p | 3 h | 1 h 50 min |
| | | HA, HG, HX, HE | 3 h 10 min | 1 h 55 min |
| VW-VBG6 (optional)* [7.2 V/5400 mAh] | 9 h 25 min | 1080/60p | 7 h 30 min | 4 h 40 min |
| | | HA, HG, HX | 7 h 50 min | 4 h 50 min |
| | | HE | 7 h 55 min | 4 h 55 min |

| PAL areas | | | | |
|---|------------------|----------------------------|--|------------------------------|
| Battery model number [Voltage/Capacity (minimum)] | Charging time | Recording mode | Maximum continuously recordable time | Actual recordable time |
| Supplied battery/ VW-VBG130 (optional) [7.2 V/1250 mAh] | 2 h 35 min | 1080/50p, HA, HG, HX | 1 h 40 min | 1 h |
| | | HE | | 1 h 5 min |
| VW-VBG260 (optional) [7.2 V/2500 mAh] | 4 h 40 min | 1080/50p | 3 h 10 min | 1 h 55 min |
| | | HA, HG, HX | 3 h 15 min | 2 h |
| | | HE | 3 h 20 min | |
| VW-VBG6 (optional)* [7.2 V/5400 mAh] | 9 h 25 min | 1080/50p | 7 h 50 min | 4 h 50 min |
| | | HA | 8 h 5 min | 5 h |
| | | HG, HX | 8 h 10 min | |
| | | HE | | 5 h 5 min |

* The battery pack holder kit VW-VH04 (optional) is necessary.

● These times are approximations.

● The indicated charging time is for when the battery has been discharged completely. Charging time and recordable time vary depending on the usage conditions such as high/low temperature.

● The actual recordable time refers to the recordable time when repeatedly starting/stopping recording, turning the unit on/off, moving the zoom lever etc.

● The batteries heat up after use or charging. This is not a malfunction.

Cards that you can use with this unit

Use SD cards conforming to Class 4 or higher of the SD Speed Class Rating* for motion picture recording.

| Card type | Capacity | Motion picture recording | Still picture recording |
|------------------|--|--|-------------------------|
| SD Memory Card | 8 MB/16 MB | Cannot be used. | Can be used. |
| | 32 MB/64 MB/ 128 MB/256 MB | Cannot be guaranteed in operation. The recording may suddenly stop during motion picture recording depending on the SD card you use. | |
| | 512 MB/1 GB/ 2 GB | Can be used. | |
| SDHC Memory Card | 4 GB/6 GB/8 GB/ 12 GB/16 GB/ 24 GB/32 GB | | |
| SDXC Memory Card | 48 GB/64 GB | | |

* The SD Speed Class Rating is the speed standard for successive writes.

Recording modes/approximate recordable time

- SD cards are only mentioned with their main memory size.

| Recording mode (NTSC areas) | 1080/60p | HA | HG | HX | HE | |
|--------------------------------|------------|------------|------------|-------------|-------------|-------------|
| | PAL areas | | | | | |
| Picture size | 1920×1080 | 1920×1080 | 1920×1080 | 1920×1080 | 1920×1080 | |
| SD card | 4 GB | 19 min | 30 min | 40 min | 1 h | 1 h 30 min |
| | 8 GB | 40 min | 1 h | 1 h 20 min | 2 h | 3 h 20 min |
| | 16 GB | 1 h 20 min | 2 h | 2 h 40 min | 4 h 10 min | 6 h 40 min |
| | 32 GB | 2 h 40 min | 4 h 10 min | 5 h 30 min | 8 h 20 min | 13 h 40 min |
| | 48 GB | 4 h | 6 h 20 min | 8 h 10 min | 12 h 30 min | 20 h 20 min |
| 64 GB | 5 h 20 min | 8 h 30 min | 11 h | 16 h 50 min | 27 h 30 min | |
| HDC-TM700 Built-in memory | 32 GB | 2 h 40 min | 4 h 10 min | 5 h 30 min | 8 h 20 min | 13 h 40 min |

Ⓐ Favors image quality

Ⓑ Favors recording time

● The default setting is HG Mode.

● Maximum continuously recordable time for one scene: 12 hours

● The recording is paused once when the recording time for one scene exceeds 12 hours, and the recording will automatically resume after a few seconds.

● If a recording with a lot of action is recorded, the recording time is reduced.

● The recordable time may be reduced if recording of short scene is repeated.

● Use time in the row of 4 GB in above table as a guideline for the time that can be copied onto one DVD disc (4.7 GB).

Number of recordable pictures

- SD cards are only mentioned with their main memory size.
(In Still Picture Recording Mode)



| Aspect ratio | | 4:3 | | | | | | | |
|--------------------------------|--------|-------|-------|-------|-------|-------|-------|--------|--------|
| Picture size | | 4:3 | | 4:3 | | 4:3 | | 4:3 | |
| Picture quality | | 4:3 | | 4:3 | | 4:3 | | 4:3 | |
| SD card | 512 MB | 70 | 110 | 110 | 180 | 180 | 290 | 3600 | 6100 |
| | 1 GB | 140 | 220 | 220 | 360 | 360 | 580 | 7400 | 12000 |
| | 2 GB | 300 | 450 | 450 | 740 | 740 | 1200 | 15000 | 25000 |
| | 4 GB | 610 | 940 | 940 | 1500 | 1500 | 2400 | 30000 | 50000 |
| | 8 GB | 1200 | 1900 | 1900 | 3000 | 3000 | 4800 | 60500 | 102000 |
| | 16 GB | 2500 | 3900 | 3900 | 6200 | 6200 | 9700 | 122000 | 205000 |
| | 24 GB | 3600 | 5800 | 5800 | 9100 | 9100 | 14000 | 179000 | 301000 |
| | 32 GB | 5000 | 7900 | 7900 | 12500 | 12500 | 19500 | 246000 | 414000 |
| | 48 GB | 7200 | 11000 | 11000 | 18000 | 18000 | 28000 | 364000 | 613000 |
| | 64 GB | 10000 | 15800 | 15800 | 25000 | 25000 | 39000 | 492000 | 829000 |
| (HDC-TM700) Built-in memory | 32 GB | 5000 | 7900 | 7900 | 12500 | 12500 | 19500 | 246000 | 414000 |

| Aspect ratio | | 16:9 | | | | | |
|--------------------------------|--------|------|-------|-------|-------|-------|-------|
| Picture size | | 4:3 | | 4:3 | | 4:3 | |
| Picture quality | | 4:3 | | 4:3 | | 4:3 | |
| SD card | 512 MB | 65 | 100 | 100 | 160 | 160 | 270 |
| | 1 GB | 130 | 200 | 200 | 320 | 320 | 540 |
| | 2 GB | 270 | 400 | 400 | 700 | 700 | 1100 |
| | 4 GB | 550 | 850 | 850 | 1420 | 1420 | 2200 |
| | 8 GB | 1100 | 1700 | 1700 | 2800 | 2800 | 4500 |
| | 16 GB | 2200 | 3400 | 3400 | 5600 | 5600 | 9000 |
| | 24 GB | 3300 | 5100 | 5100 | 8400 | 8400 | 13000 |
| | 32 GB | 4500 | 7000 | 7000 | 11500 | 11500 | 18200 |
| | 48 GB | 6600 | 10000 | 10000 | 17000 | 17000 | 26000 |
| | 64 GB | 9000 | 14000 | 14000 | 23000 | 23000 | 36400 |
| (HDC-TM700) Built-in memory | 32 GB | 4500 | 7000 | 7000 | 11500 | 11500 | 18200 |

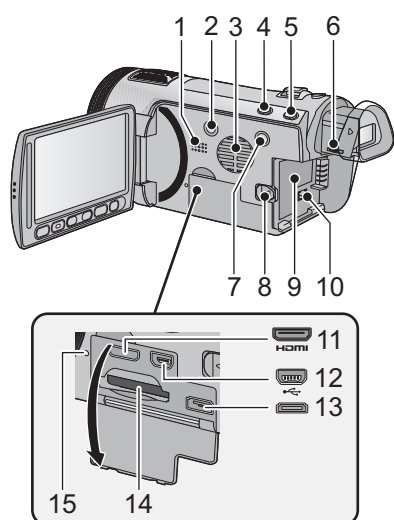
| Aspect ratio | | 3:2 | | | | | |
|--------------------------------|--------|------|-------|-------|-------|-------|-------|
| Picture size | | 4:3 | | 4:3 | | 4:3 | |
| Picture quality | | 4:3 | | 4:3 | | 4:3 | |
| SD card | 512 MB | 60 | 90 | 100 | 160 | 160 | 250 |
| | 1 GB | 120 | 180 | 200 | 320 | 320 | 500 |
| | 2 GB | 240 | 390 | 400 | 650 | 650 | 1000 |
| | 4 GB | 500 | 800 | 850 | 1300 | 1300 | 2000 |
| | 8 GB | 1000 | 1600 | 1700 | 2700 | 2700 | 4200 |
| | 16 GB | 2100 | 3300 | 3400 | 5500 | 5500 | 8500 |
| | 24 GB | 3100 | 4900 | 5100 | 8100 | 8100 | 12700 |
| | 32 GB | 4200 | 6700 | 7000 | 11000 | 11000 | 17500 |
| | 48 GB | 6200 | 9800 | 10000 | 16000 | 16000 | 25000 |
| | 64 GB | 8400 | 13400 | 14000 | 22000 | 22000 | 35000 |
| (HDC-TM700) Built-in memory | 32 GB | 4200 | 6700 | 7000 | 11000 | 11000 | 17500 |

(In Motion Picture Recording Mode)

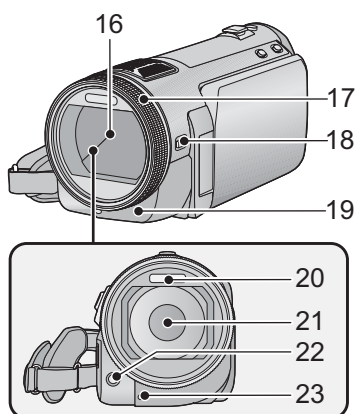
| Aspect ratio | | 16:9 | | | | | |
|--------------------------------|--------|------|-------|-------|-------|-------|-------|
| Picture size | | 4:3 | | 4:3 | | 4:3 | |
| Picture quality | | 4:3 | | 4:3 | | 4:3 | |
| SD card | 512 MB | 65 | 100 | 100 | 160 | 160 | 270 |
| | 1 GB | 130 | 200 | 200 | 320 | 320 | 540 |
| | 2 GB | 270 | 400 | 400 | 700 | 700 | 1100 |
| | 4 GB | 550 | 850 | 850 | 1420 | 1420 | 2200 |
| | 8 GB | 1100 | 1700 | 1700 | 2800 | 2800 | 4500 |
| | 16 GB | 2200 | 3400 | 3400 | 5600 | 5600 | 9000 |
| | 24 GB | 3300 | 5100 | 5100 | 8400 | 8400 | 13000 |
| | 32 GB | 4500 | 7000 | 7000 | 11500 | 11500 | 18200 |
| | 48 GB | 6600 | 10000 | 10000 | 17000 | 17000 | 26000 |
| | 64 GB | 9000 | 14000 | 14000 | 23000 | 23000 | 36400 |
| (HDC-TM700) Built-in memory | 32 GB | 4500 | 7000 | 7000 | 11500 | 11500 | 18200 |

- The numbers shown in the table are approximations.
- The number of recordable pictures depends on whether  and  are used together and on the subject being recorded.
- Maximum number of recordable pictures that can be displayed is 99999.
If the number of recordable pictures exceeds 99999, the number will not change when the picture is taken until the number of recordable pictures gets less than 99999.
- The memory capacity indicated on the label of an SD card is the total of the capacity for copyright protection and management and the capacity which can be used on the unit, a PC etc.

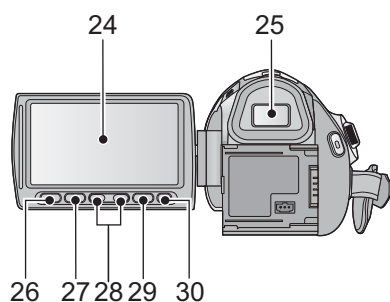
5 Location of Controls and Components



- 1 Speaker
 - 2 Power button [ψ /I]
 - 3 Inlet (cooling fan)
 - 4 Intelligent auto/Manual button [iA/MANUAL]
 - 5 Optical image stabilizer button [$\left(\left(\left(\right)\right)\right)$ /O.I.S.]
 - 6 Eyepiece corrector dial
 - 7 1080/60p button [1080/60p] (NTSC areas)
1080/50p button [1080/50p] (PAL areas)
 - 8 Battery release lever [BATT]
 - 9 Battery holder
 - 10 DC input terminal [DC IN]
- Always use the supplied AC adaptor or a genuine Panasonic AC adaptor.
- 11 HDMI mini connector [HDMI]
 - 12 USB terminal [$\left(\left(\left(\right)\right)\right)$]
 - 13 AV multi connector
 - Use the AV multi cable (only the supplied cable).
 - 14 Card slot
 - 15 Access lamp [ACCESS]



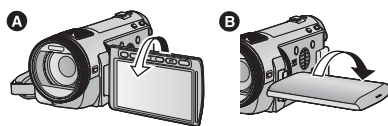
- 16 Lens cover
- The lens cover opens in Motion Picture Recording Mode or Still Picture Recording Mode.
- 17 Multi manual ring
- 18 Camera function button [CAMERA FUNCTION]
- 19 Remote control sensor
- 20 Built-in flash
- 21 Lens (LEICA DICOMAR)
- 22 AF assist lamp
- 23 Recording lamp



24 LCD monitor (Touch screen)



- It can open up to 90°.



- It can rotate up to 180° **A** towards the lens or 90° **B** towards the viewfinder.

Due to limitations in LCD production technology, there may be some tiny bright or dark spots on the LCD monitor screen. However, this is not a malfunction and does not affect the recorded picture.

25 Viewfinder

Due to limitations in LCD production technology, there may be some tiny bright or dark spots on the viewfinder screen. However, this is not a malfunction and does not affect the recorded picture.

26 Quick menu button [Q.MENU]

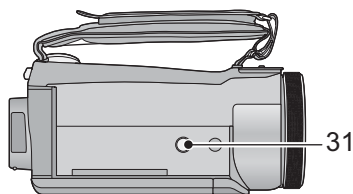
27 Sub recording start/stop button

- This button functions in the same manner as the recording start/stop button.

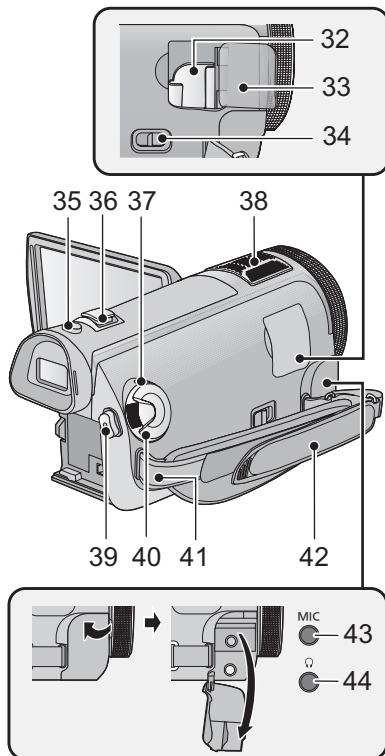
28 Adjust zoom buttons


29 Menu button [MENU]

30 Delete button [$\left(\left(\left(\right)\right)\right)$]

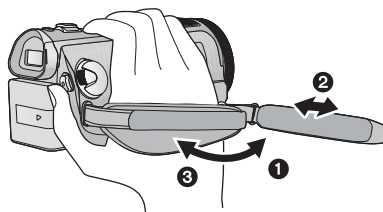


31 Tripod receptacle




- 32 Shoe adaptor mount
- 33 Shoe adaptor cover
- 34 Shoe adaptor release lever [SHOE ADAPTOR RELEASE]
- 35 Photoshot button []
- 36 Zoom lever [W/T] (In Motion Picture Recording Mode or Still Picture Recording Mode)
- 37 Status indicator
- 38 Internal microphones
- 39 Recording start/stop button
- 40 Mode dial
- 41 Shoulder strap fixture
- 42 Grip belt

Adjust the length of the grip belt so that it fits your hand.



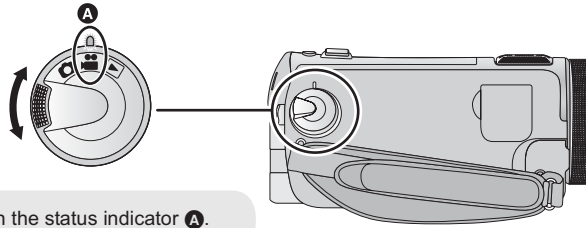
- 1 Flip the belt.
- 2 Adjust the length.
- 3 Replace the belt.

- 43 **Microphone terminal [MIC]**
 - A compatible plug-in powered microphone can be used as an external microphone.
 - Audio will be stereo (2 ch) with the external microphone input.
 - When the unit is connected with the AC adaptor, sometimes noise may be heard depending on the microphone type. In this case, please switch to the battery for the power supply and the noise will stop.
- 44 **Headphone terminal []**




Selecting a mode

Change the mode to recording or playback.

Operate the mode dial to change the mode to ,  or .



- Align with the status indicator **A**.

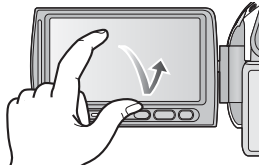
| | |
|---|-------------------------------|
|  | Motion Picture Recording Mode |
|  | Still Picture Recording Mode |
|  | Playback Mode |

How to use the touch screen

You can operate by directly touching the LCD monitor (touch screen) with your finger. It is easier to use the stylus pen (supplied) for detailed operation or if it is hard to operate with your fingers.

■ Touch

Touch and release the touch screen to select icon or picture.



- Touch the center of the icon.
- Touching the touch screen will not operate while you are touching another part of the touch screen.

■ About the operation icons

 /  /  /  :

These icons are used to switch the menu and thumbnail display page, for item selection and setting etc.

 :

Touch to return to the previous screen such as when setting menus.

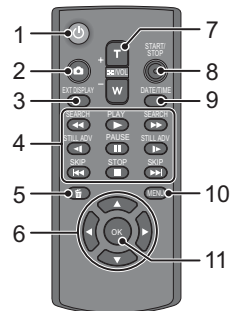


- Do not touch on the LCD monitor with hard pointed tips, such as ball point pens.
- Perform the touch screen calibration when the touch is not recognized or wrong location is recognized.

Using with the remote control

Select the menu.

[MENU] : **[SETUP]** →
[REMOTE CONTROL] → **[ON]**



1 Power on/off button []

Power can be turned on/off when the LCD monitor is opened or the viewfinder is extended.

- Power cannot be turned on by the power on/off button when 36 hours have passed after the power is turned off. Press the power button on the unit and turn the power back on.
- Power cannot be turned off when it is connected to the PC or the DVD burner.

2 Photoshot button []

3 On-screen display button [EXT DISPLAY]

4 Playback operation buttons

These buttons function in the same manner as the corresponding playback operation icon being displayed on screen. [Excluding skip playback.]

5 Delete button []*

6 Direction buttons [, , ,]

7 Zoom/volume/thumbnail display switch buttons [T, W, /VOL]*

8 Recording start/stop button [START/STOP]*

9 Date/time button [DATE/TIME]

10 Menu button [MENU]*

11 OK button [OK]

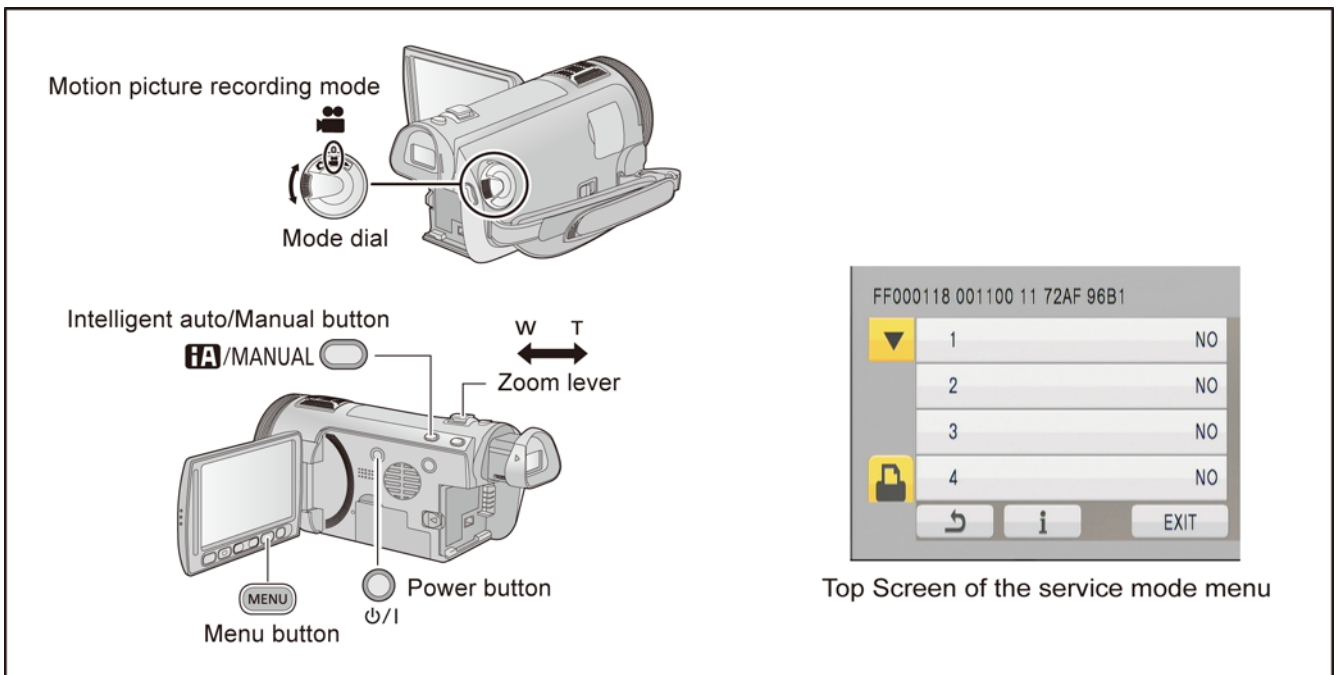
* means that these buttons function in the same manner as the corresponding buttons on the unit.

6 Service Mode

1. Indication method of the service menu

Set the mode dial "Motion Picture Recording" mode.

- Turn the power on, and then while keep pressing the "Zoom lever" to W side, "Intelligent auto/Manual" button and "Menu" button for more than 3 seconds until the top screen of the Service Mode Menu being displayed.



Service mode menu

| Screen display | Contents | Function |
|----------------|---|---|
| 1 | Factory settings | Function to throw a product up in a factory shipment state (When recorded data in Built-in memory, "error display" is done) |
| 3 | Built-in memory self check execution (HDC-TM700 only) | Function to check self as for the state of Built-in memory |
| 4 | Lock search history indication | Display the camera system error cord for three histories saved in EEPROM |
| 5 | Power ON self check result display | Power ON self check (function to diagnose correct function of the device and interface between devices) result display |

NOTE:

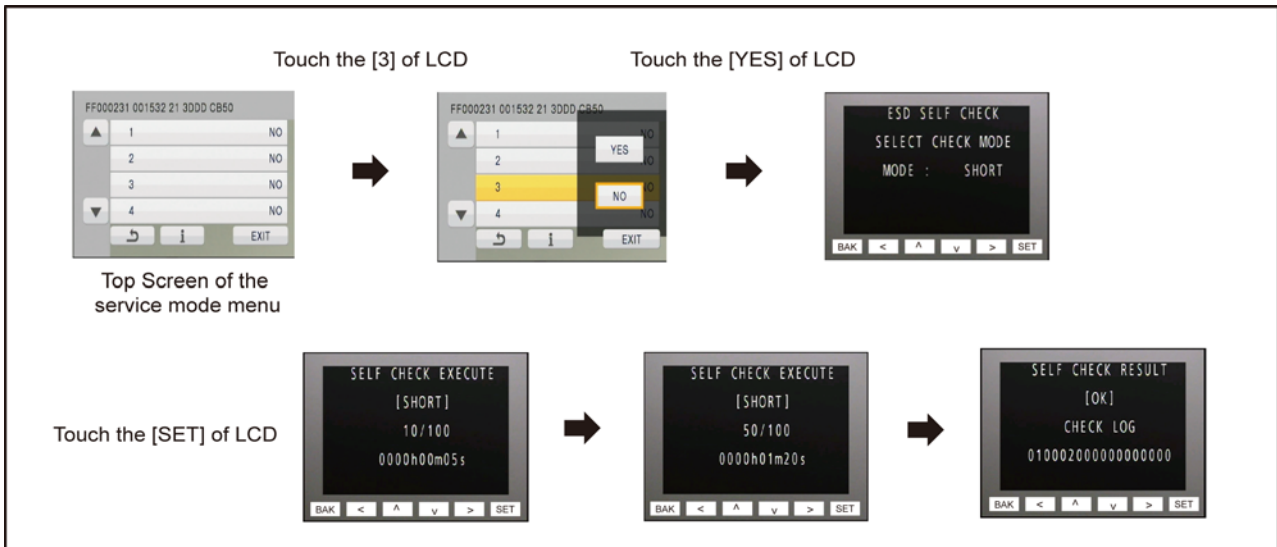
Do not using service mode except above table of Service mode menu.

- End method of the top screen of the service mode menu
Push the "Menu" button to end the service mode, and then POWER OFF.

6.1. Built-in Memory Self Check Execution (HDC-TM700 only)

Touch the [3] of LCD, select Built-in memory self check execution.

Operation specifications



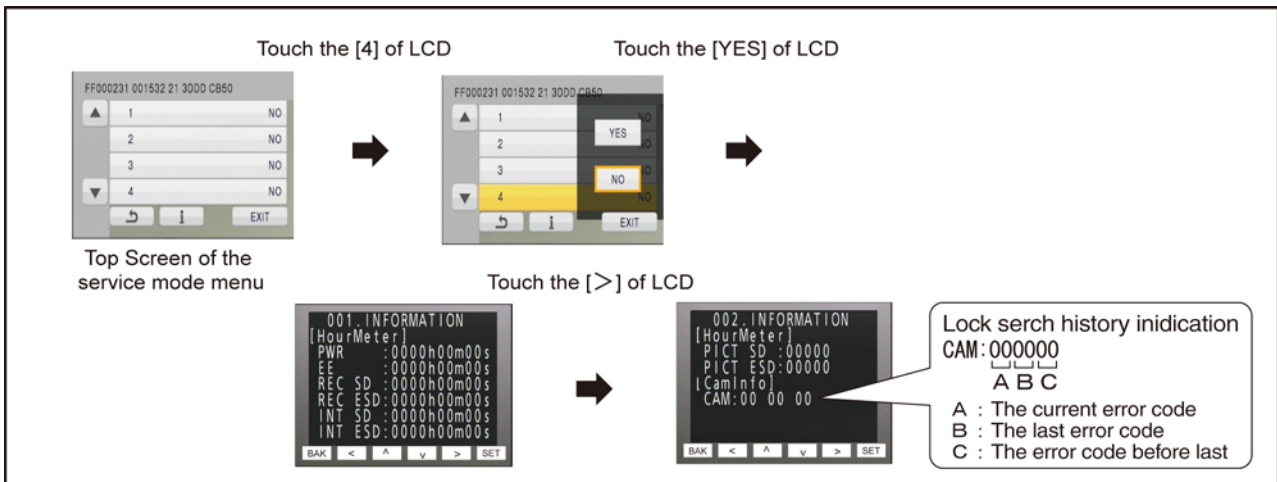
Indication contents

- Built-in memory self check result display
Display the Built-in memory self check execution.
Displays other than "OK" are abnormalities of Built-in memory.
Push the "Menu" button to end the service mode, and then POWER OFF.

6.2. Lock Search History Indication

Touch the [4] of LCD, select Lock search history indication.

Operation specifications



Indication contents

- Lock search history indication
Display the camera system error cord for three histories saved in EEPROM.
- The error cord contents which are displayed

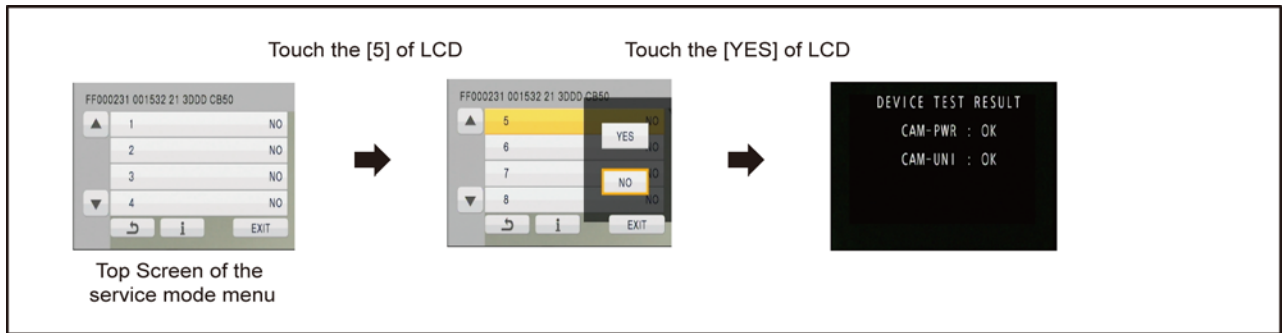
| Error code | Function |
|------------|---|
| 51 | Focus control is abnormal |
| 52 | Zoom control is abnormal |
| 53 | OIS lens control is abnormal |
| 71 | Lens cover open/close is abnormal |
| 72 | Cooling fan is abnormal |
| 73 | High temperature is abnormal |
| 33 | Communication between camera to ARM is abnormal |

Push the "Menu" button to end the service mode, and then POWER OFF.

6.3. Power ON Self Check Result Display

Touch the [5] of LCD, select Power ON self check result display.

Operation specifications



Indication contents

- Power ON self check result display

Function to diagnose correct function of the device and interface between devices result display.

Display the following communication test result.

- CAM-PWR : Commnucation test between IC2006 to IC301
- CAM-UNI : Commnucation test between IC3401 to IC301

Display other than "OK" are abnormalities of each lines.

Cutting of battery connection or AC power supply connection to end the service mode.

7 Service Fixture & Tools

7.1. When Replacing the Main P.C.B.

After replacing the MAIN P.C.B., be sure to achieve adjustment.

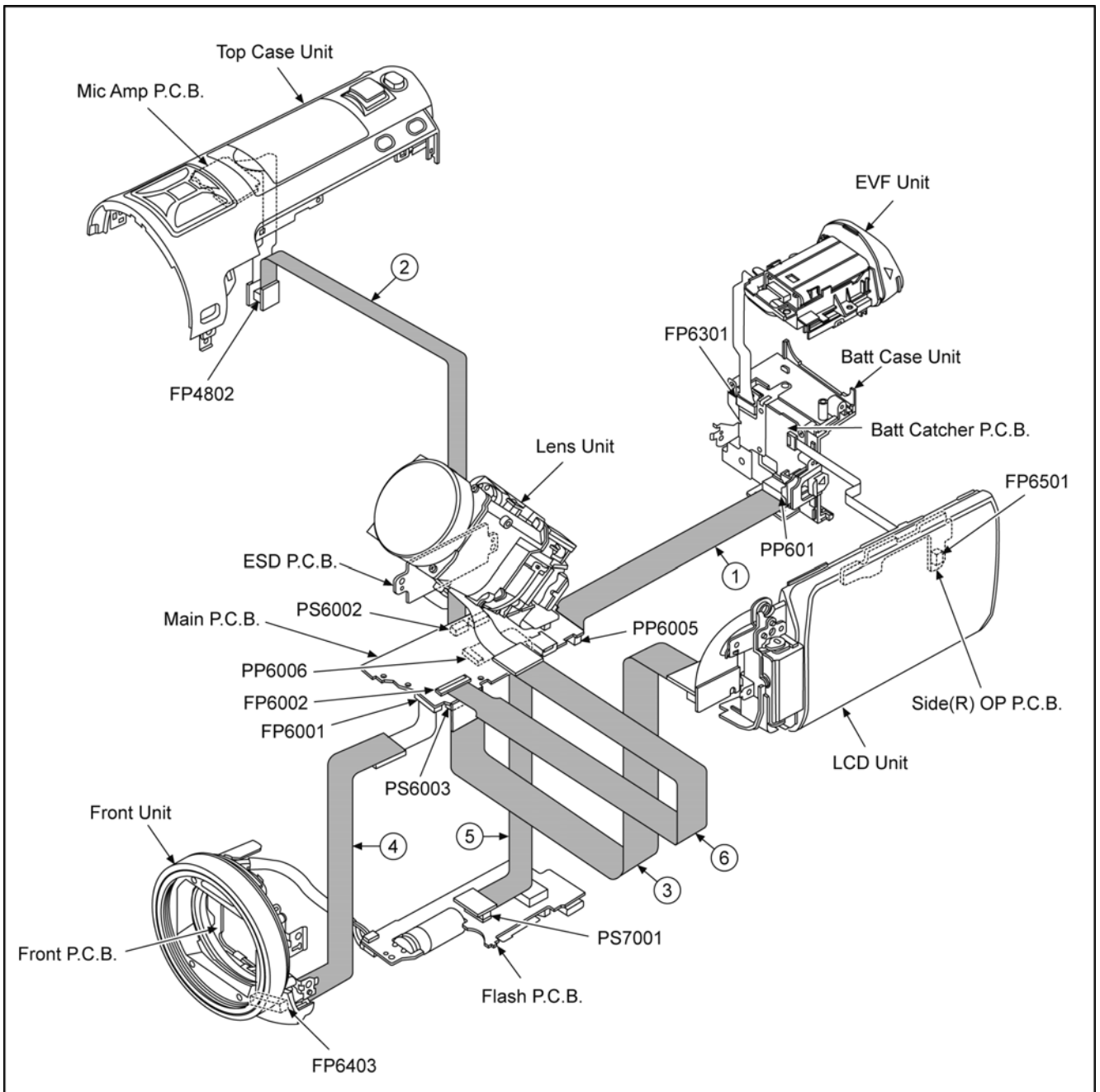
The adjustment instruction is available at "software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN system", together with Maintenance software.

7.2. Service Position

This Service Position is used for checking and replacing parts. Use the following Extension cables for servicing.

Table S1 Extension Cable List

| No. | Parts No. | Connection | Form |
|-----|-----------|------------------------------------|------------------|
| 1 | RFKZ0444 | PP6005(MAIN) - PP601(BATT CATCHER) | 50PIN 0.5 B to B |
| 2 | RFKZ0342 | PS6002(MAIN) - FP4802(MIC AMP) | 20PIN 0.5 B to B |
| 3 | VFK1933 | PS6003(MAIN) - MONITOR FPC | 34PIN 0.5 B to B |
| 4 | VFK1950 | FP6001(MAIN) - FP6403(FRONT) | 33PIN 0.3 FFC |
| 5 | RFKZ0343 | PP6006(MAIN) - PS7001(FLASH) | 30PIN 0.5 B to B |
| 6 | RFKZ0416 | FP6002(MAIN) - LENS UNIT | 41PIN 0.3 FFC |



CAUTION-1. (When servicing FLASH P.C.B.)

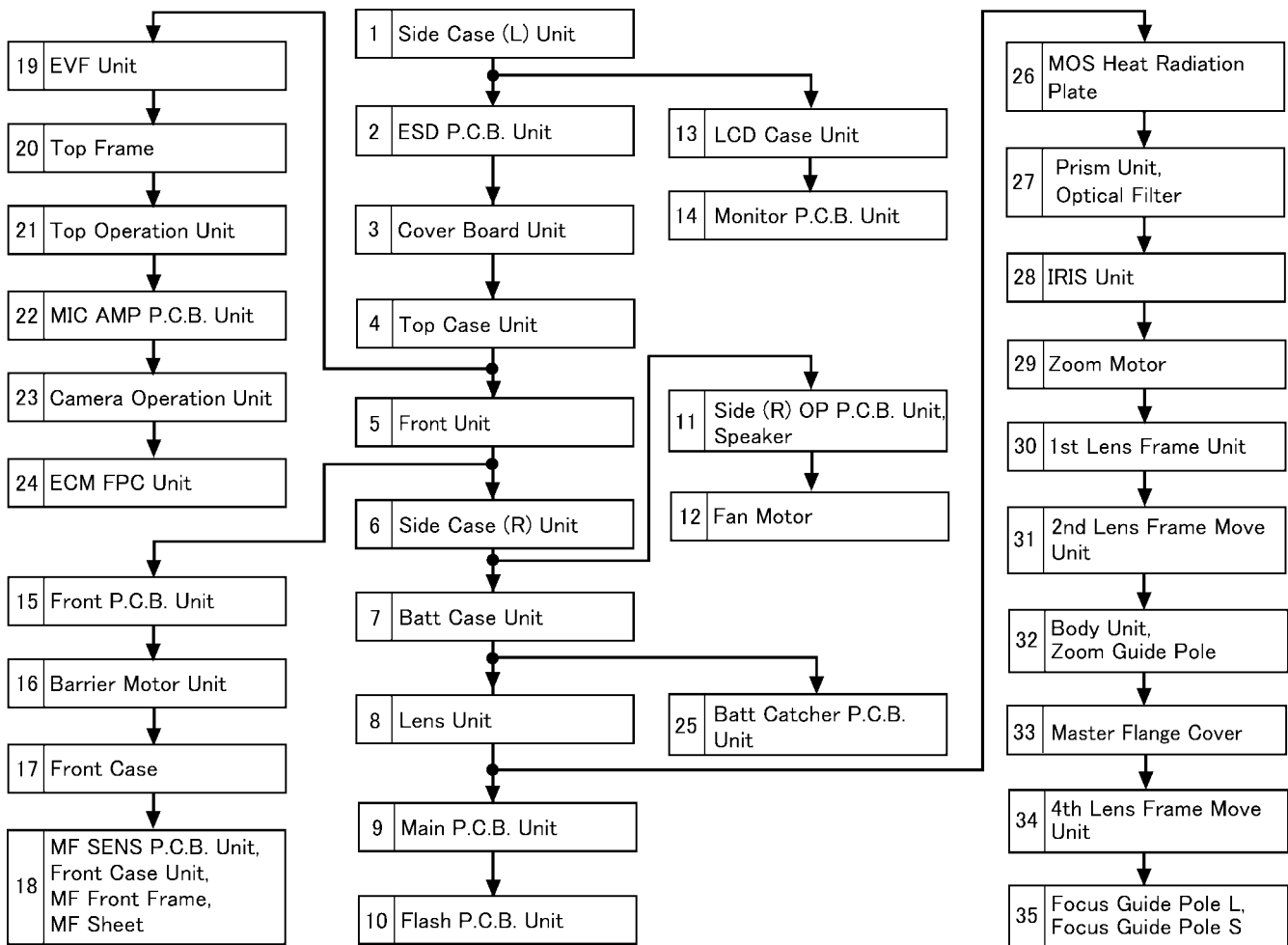
1. Be sure to discharge the capacitor on FLASH P.C.B..
Refer to "HOW TO DISCHARGE THE CAPACITOR ON FLASH P.C.B.".
The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on FLASH P.C.B..
3. DO NOT allow other parts to touch the high voltage circuit on FLASH P.C.B..

8 Disassembly and Assembly Instructions

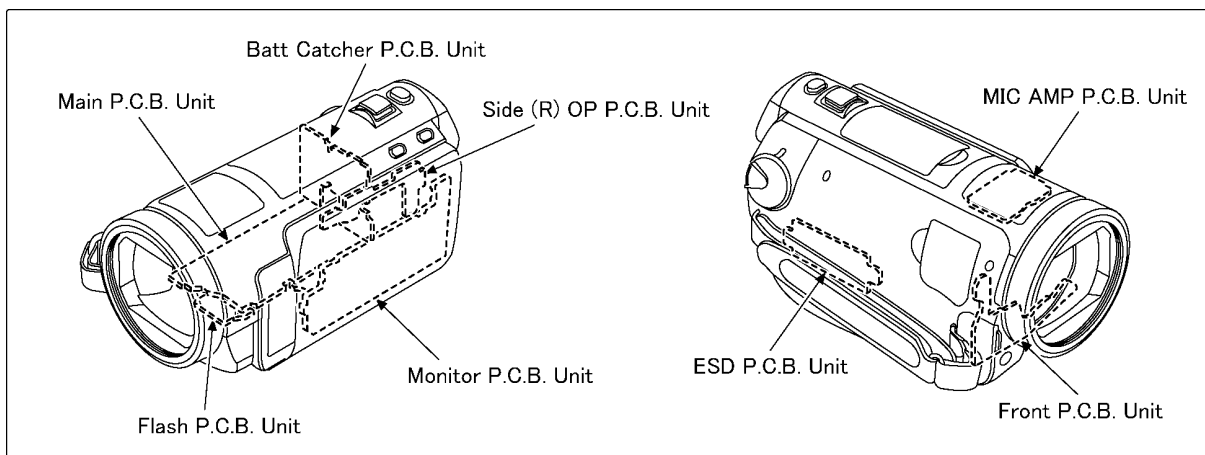
8.1. Disassembly Flow Chart

This is a disassembling chart.

When assembling, perform this chart conversely.



8.2. PCB Location

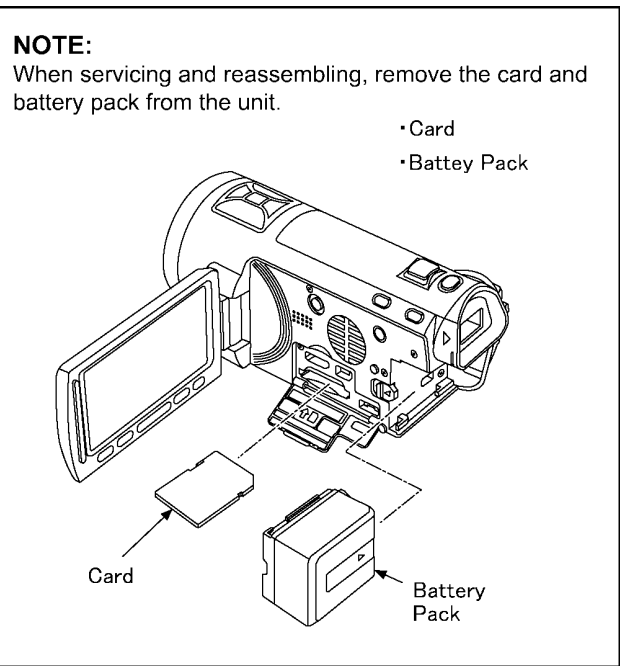


8.3. Disassembly Procedure

| No. | Item | Fig | Removal |
|-----|--------------------|---------|---------------------------|
| 1 | Side Case (L) Unit | Fig.D1 | 2 Screws (A) |
| | | | 4 Screws (B) |
| | | Fig.D2 | 2 Locking tabs |
| | | | Sensor Cover Unit |
| | | | 4 Screws (C) |
| 2 | ESD P.C.B. Unit | Fig.D3 | 3 Locking tabs |
| | | | Side Case (L) Unit |
| | | | FP3201 (Flex) |
| 3 | Cover Board Unit | Fig.D4 | 2 Screws (D) |
| | | | ESD P.C.B. Unit |
| | | | 1 Screw (E) |
| 4 | Top Case Unit | Fig.D5 | 2 Screws (F) |
| | | | 1 Rib |
| | | | Cover Board Unit |
| | | | 2 Screws (G) |
| | | | 1 Screw (H) |
| | | Fig.D6 | 1 Screw (I) |
| | | | 1 Screw (J) |
| | | | 2 Locking tabs |
| | | | 1 Rib |
| | | | SR Cover |
| 5 | Front Unit | Fig.D7 | PS6002 (Connector) |
| | | | 1 Rib |
| | | | 1 Locking tab |
| | | | FP6301 (Flex) |
| | | | Top Case Unit |
| | | | P7001 (Connector) |
| | | | P7002 (Connector) |
| 6 | Side Case (R) Unit | Fig.D8 | 1 Screw (K) |
| | | | 1 Rib |
| | | | 1 Locking tab |
| | | | FP6403 (Flex) |
| | | | Front Unit |
| 7 | Batt Case Unit | Fig.D9 | 4 Screws (L) |
| | | | 1 Screw (M) |
| | | | PS6005 (Connector) |
| | | | FP6501 (Flex) |
| | | | Side Case (R) Unit |
| 8 | Lens Unit | Fig.D10 | 1 Screw (N) |
| | | | 1 Screw (O) |
| | | | 2 Ribs |
| | | Fig.D11 | PP6005 (Connector) |
| | | | Batt Case Unit |
| | | | 2 Screws (P) |
| | | | 1 Rib |
| 9 | Main P.C.B. Unit | Fig.D12 | 2 Projection parts |
| | | | Main Heat Radiation Plate |
| | | | 2 Ribs |
| | | Fig.D13 | PP6004 (Connector) |
| | | | PP6007 (Connector) |
| | | | FP6002 (Flex) |
| | | | 1 Screw (Q) |
| | | | Lens Frame Unit |
| | | | Lens Unit |
| | | | 3 Screws (R) |
| 10 | Flash P.C.B. Unit | Fig.D14 | 1 Projection part |
| | | | 2 Screws (S) |
| | | | 1 Projection part |

| No. | Item | Fig | Removal |
|-----|--|-------------------|-------------------------|
| 11 | Side (R) OP P.C.B. Unit Speaker | Fig.D15 | 2 Screws (T) |
| | | Fig.D16 | SP Angle |
| 12 | Fan Motor | | Fig.D17 |
| | | P6501 (Connector) | |
| | | Speaker | |
| 13 | LCD Case Unit | Fig.D18 | Side (R) OP P.C.B. Unit |
| | | | NOTE: (When Installing) |
| | | | 3 Convexes |
| 14 | Monitor P.C.B. Unit | Fig.D19 | Fan Damper |
| | | | Fan Motor |
| | | | 2 Screws (U) |
| | | | Holder |
| | | | Switch Unit |
| | | Fig.D20 | 3 Locking tabs |
| | | | Earth Plate |
| | | | Sheet |
| | | | Light Guide Plate |
| | | | 3 Ribs |
| 15 | Front P.C.B. Unit | Fig.D21 | LCD Case Unit |
| | | | FP904 (Flex) |
| | | | FP905 (Flex) |
| | | | 2 Ribs |
| | | | 2 Convexes |
| | | Fig.D22 | LCD Frame |
| | | | FP903 (Flex) |
| | | | 4 Locking tabs |
| | | | Monitor P.C.B. Unit |
| | | | 1 Locking tab |
| 16 | Barrier Motor Unit | Fig.D23 | Reflection Sheet |
| | | | Light Guide Plate |
| | | | Diffusion Sheet |
| | | | Prism Sheet B |
| | | | Prism Sheet A |
| 17 | Front Case | Fig.D24 | Lighting Plate Holder |
| | | | Monitor P.C.B. Unit |
| | | | 1 Screw (V) |
| | | | 1 Screw (W) |
| | | | FP6400 (Flex) |
| 18 | MF SENS P.C.B. Unit Front Case Unit MF Front Frame MF Sheet | Fig.D25 | FP6402 (Flex) |
| | | | Front P.C.B. Unit |
| | | | 1 Screw (X) |
| | | | Barrier Motor Unit |
| | | | NOTE: (When Installing) |
| 19 | EVF Unit | Fig.D26 | NOTE: (When Replacing) |
| | | | 2 Screws (a) |
| | | | 1 Screw (b) |
| | | | EVF Unit |
| | | | 4 Screws (c) |
| 20 | Top Frame | Fig.D27 | 1 Locking tab |
| | | | Top Frame |
| | | | 4 Screws (e) |
| 21 | Top Operation Unit | Fig.D28 | FP4803 (Flex) |
| | | | 2 Ribs |
| | | | Top Operation Unit |
| | | | 1 Projection part |

| No. | Item | Fig | Removal |
|-----|--|---------|--------------------------|
| 22 | MIC AMP P.C.B. Unit | Fig.D33 | FP4801 (Flex) |
| | | | FP4804 (Flex) |
| | | | 2 Hooks |
| | | | MIC AMP P.C.B. Unit |
| 23 | Camera Operation Unit | Fig.D34 | 2 Locking tabs |
| | | | Camera Operation Unit |
| 24 | ECM FPC Unit | Fig.D35 | 4 Locking tabs |
| | | | MIC Sheet |
| | | | MIC Unit |
| | | Fig.D36 | MIC Cushion (A) |
| | | | MIC Cushion (B) |
| | | | MIC Cushion (C) |
| | | | MIC Case |
| | | | ECM FPC Unit |
| 25 | Batt Catcher P.C.B. Unit | Fig.D37 | 2 Screws (f) |
| | | | 2 Locking tabs |
| | | | Rear Frame |
| | | | 2 Locking tabs |
| | | | Batt Catcher P.C.B. Unit |
| | | | |
| 26 | MOS Heat Radiation Plate | Fig.D38 | 1 Screw (g) |
| | | | MOS Heat Radiation Plate |
| 27 | Prism Unit Optical Filter | Fig.D39 | 2 Screws (h) |
| | | | Prism Unit |
| | | | Optical Filter |
| 28 | IRIS Unit | Fig.D40 | 18 Solders |
| | | | 3 Screws (i) |
| | | | 3 Ribs |
| | | | IRIS Unit |
| | | | |
| 29 | Zoom Motor | Fig.D41 | 2 Screws (j) |
| | | | Zoom Motor |
| 30 | 1st Lens Frame Unit | Fig.D42 | 3 Screws (k) |
| | | | 1st Lens Frame Unit |
| 31 | 2nd Lens Frame Move Unit | Fig.D43 | 2nd Lens Frame Move Unit |
| | | | Spring |
| | | | 2nd Lens Frame Move Unit |
| 32 | Body Unit Zoom Guide Pole | Fig.D44 | 3 Screws (l) |
| | | | Body Unit |
| | | | 2 Zoom Guide Poles |
| 33 | Master Flange Cover | Fig.D45 | 2 Screws (m) |
| | | | Master Flange Cover |
| 34 | 4th Lens Frame Move Unit | Fig.D46 | 2 Side Yorks |
| | | | Fig.D47 |
| | | Fig.D48 | |
| | Focus Guide Pole L | | |
| 35 | Focus Guide Pole L Focus Guide Pole S | Fig.D48 | Focus Guide Pole S |
| | | | |



8.3.1. Removal of the Side Case (L) Unit

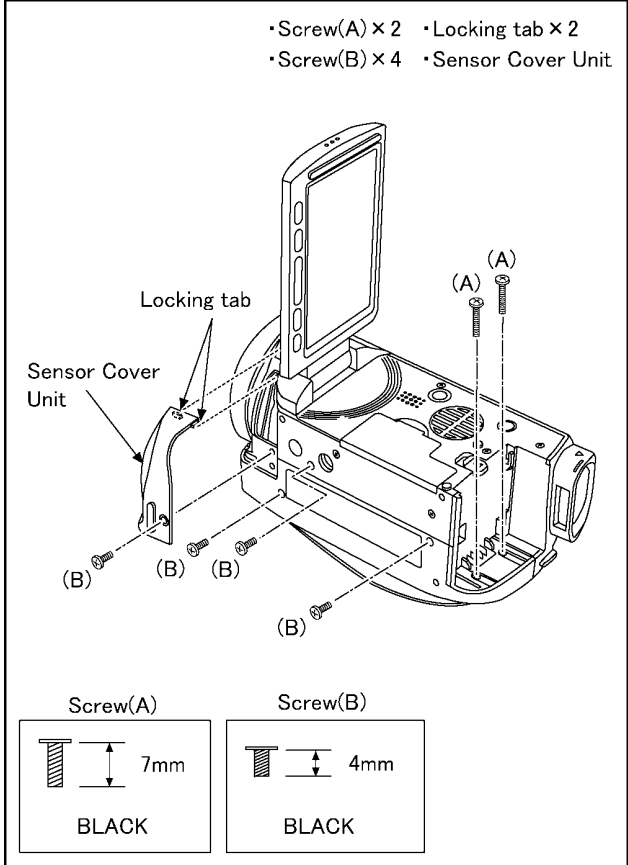


Fig.D1

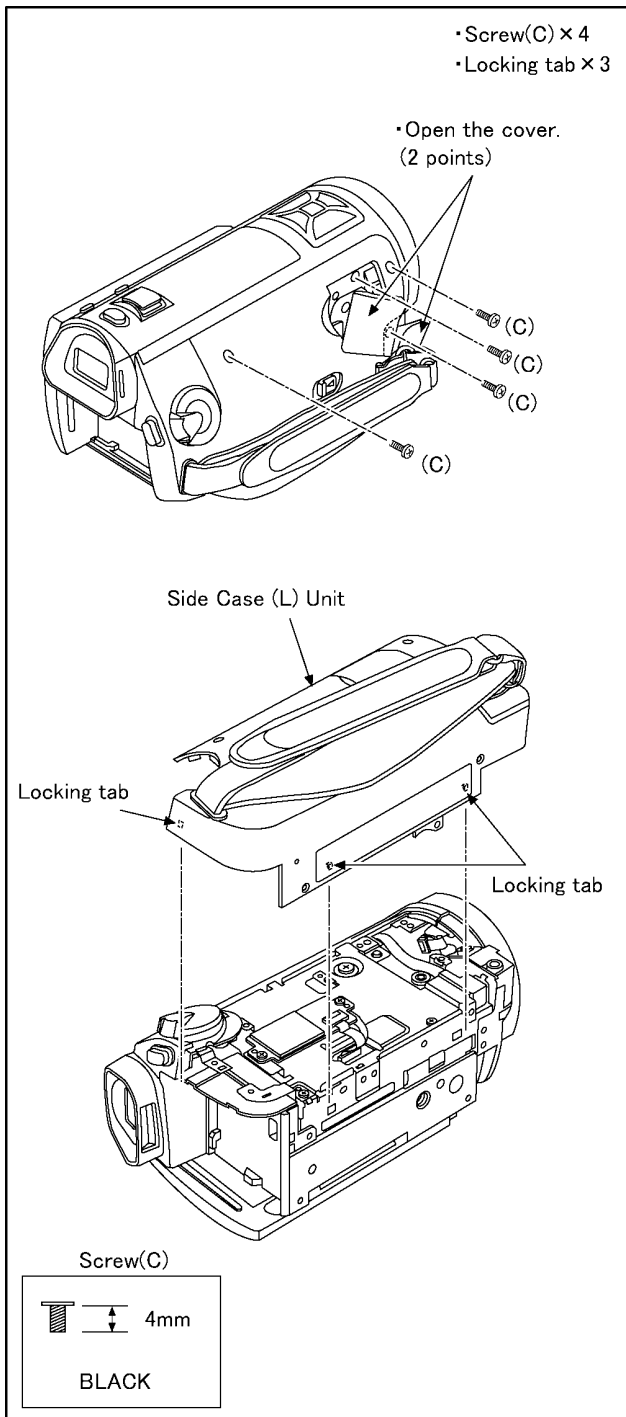


Fig.D2

8.3.2. Removal of the ESD P.C.B. Unit

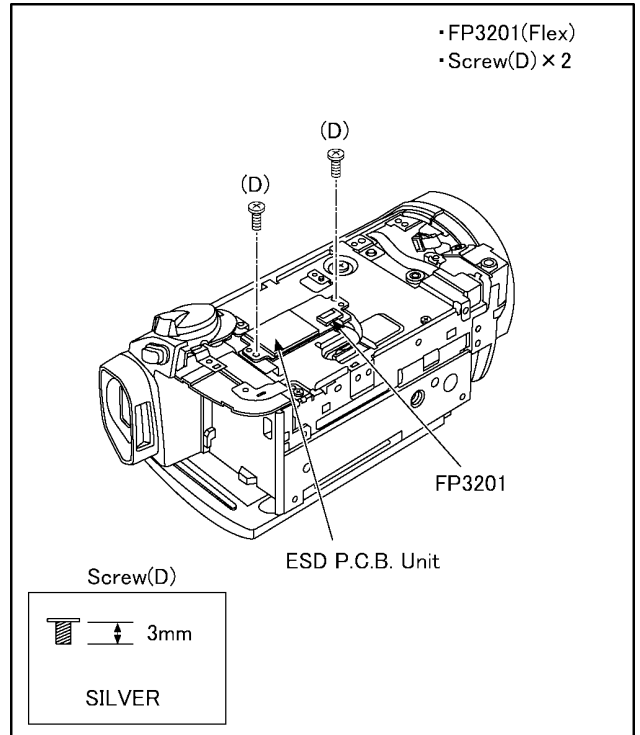


Fig.D3

8.3.3. Removal of the Cover Board Unit

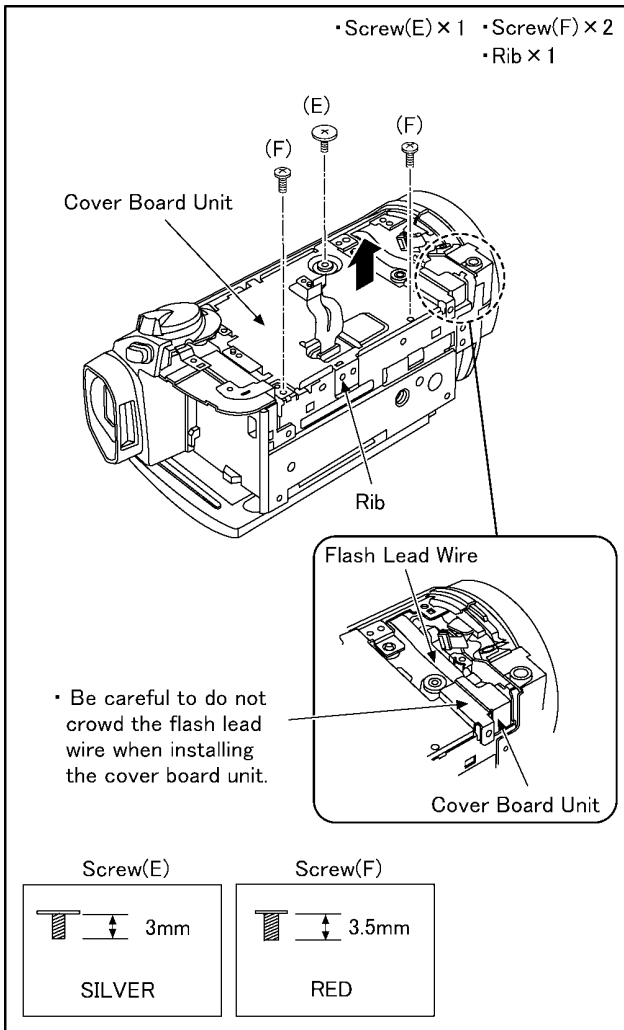


Fig.D4

8.3.4. Removal of the Top Case Unit

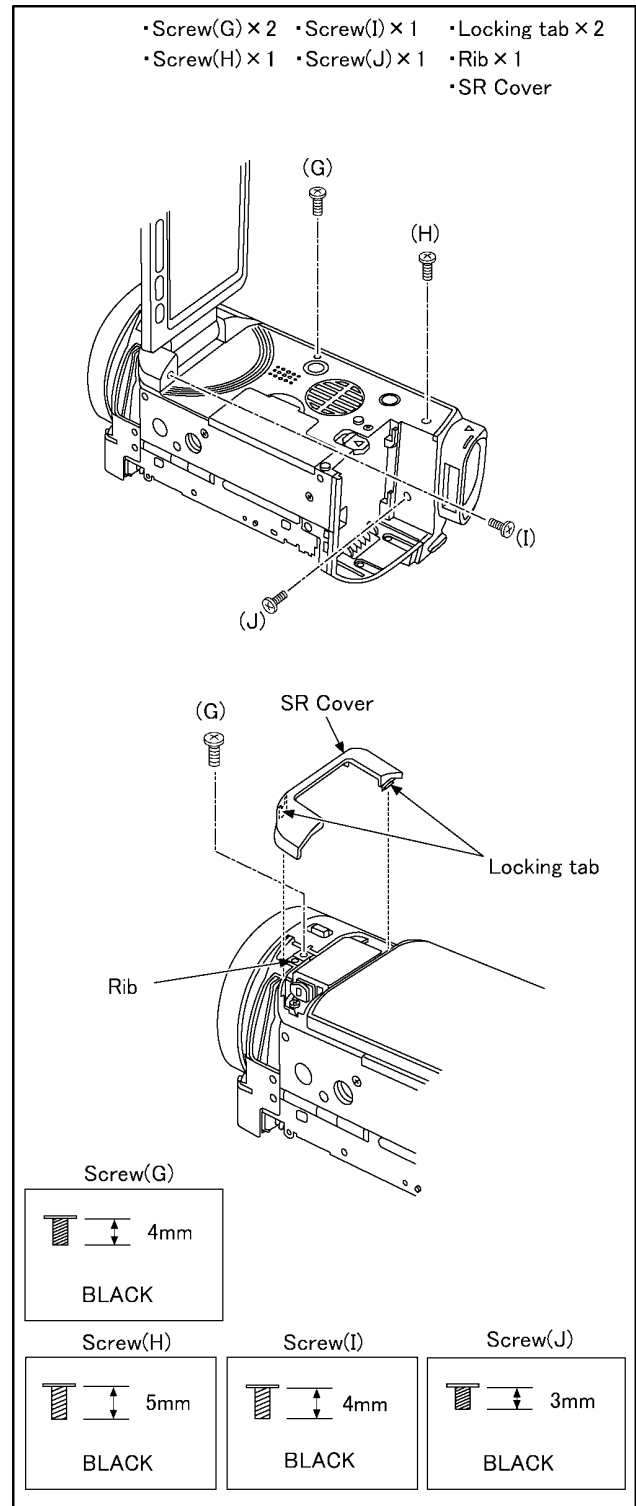


Fig.D5

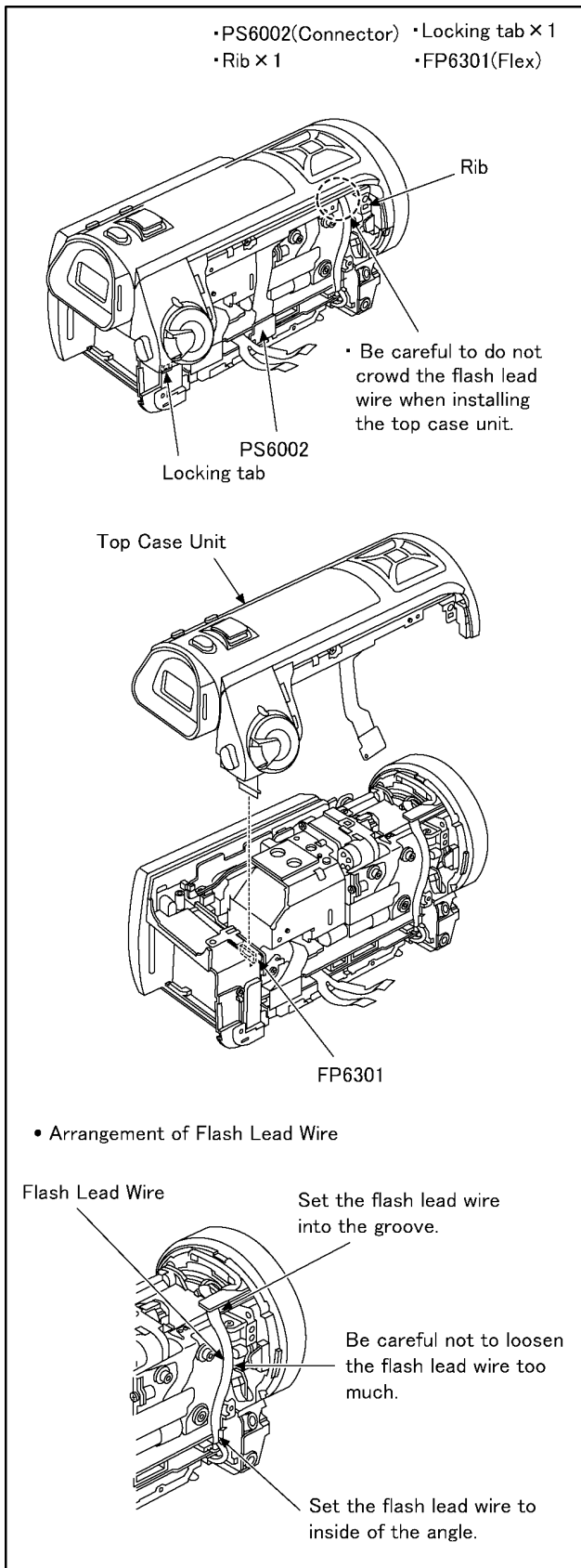


Fig.D6

8.3.5. Removal of the Front Unit

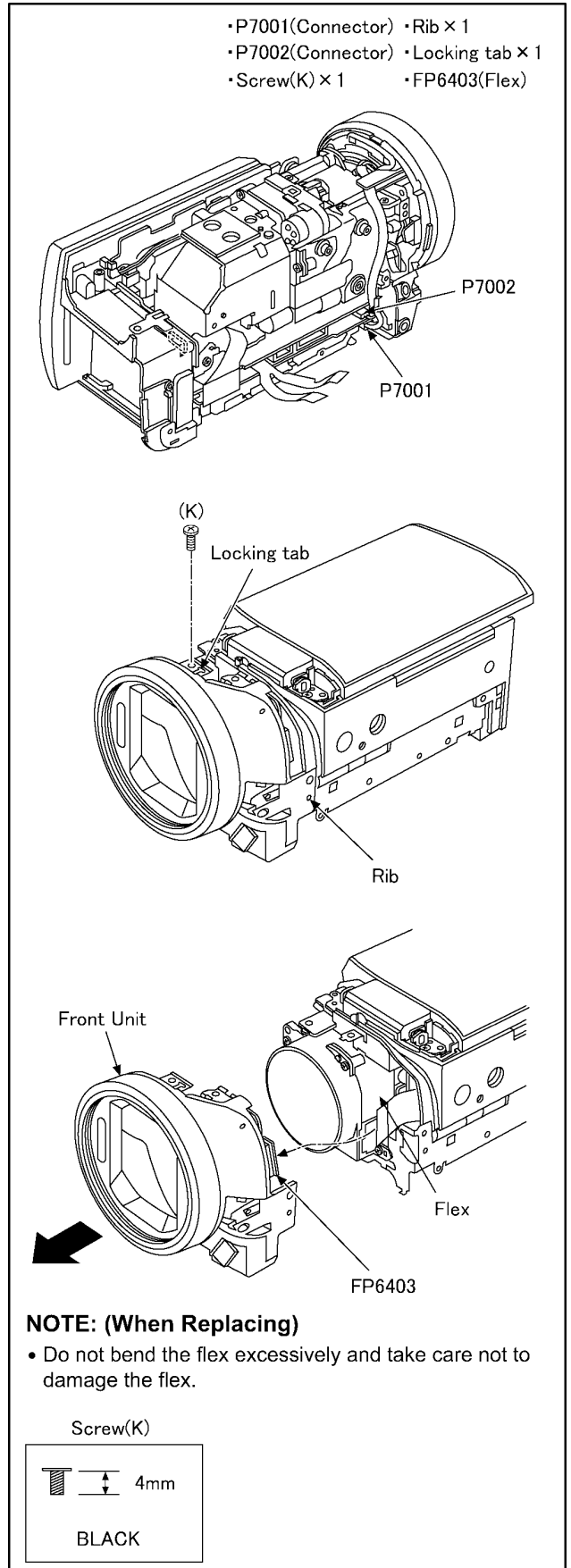


Fig.D7

8.3.6. Removal of the Side Case (R) Unit

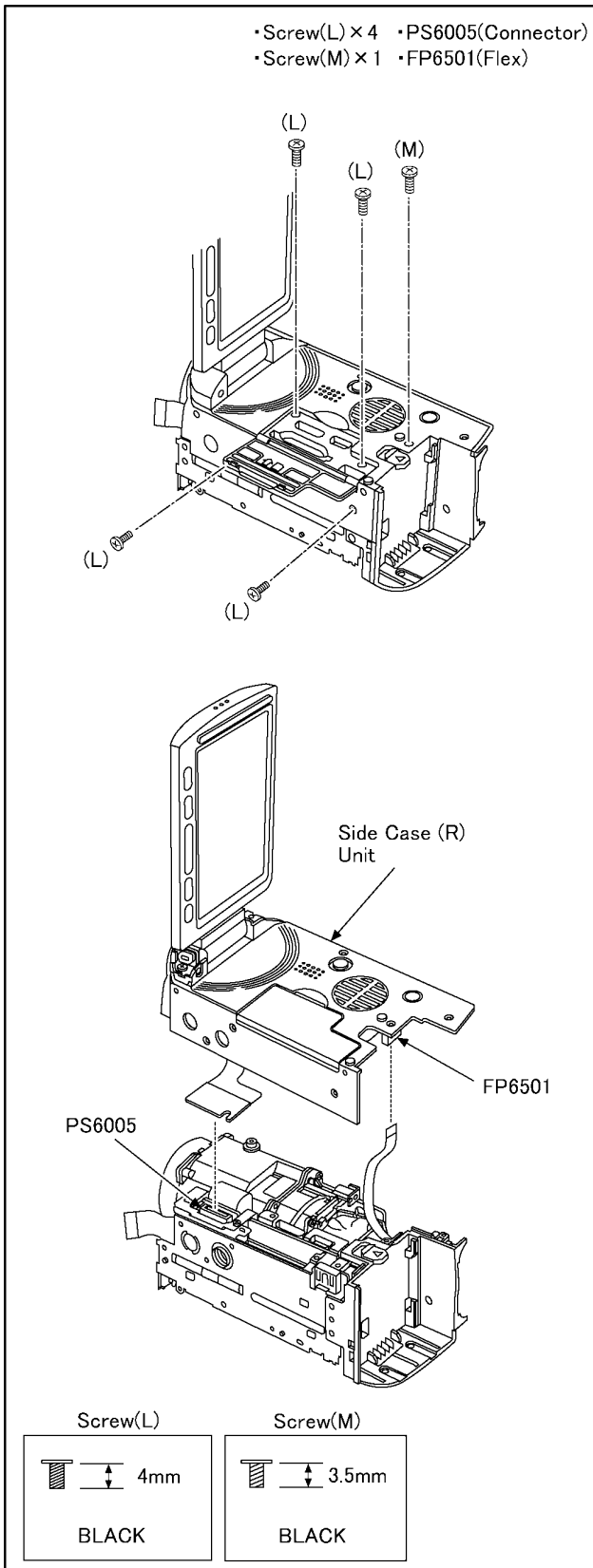


Fig.D8

8.3.7. Removal of the Batt Case Unit

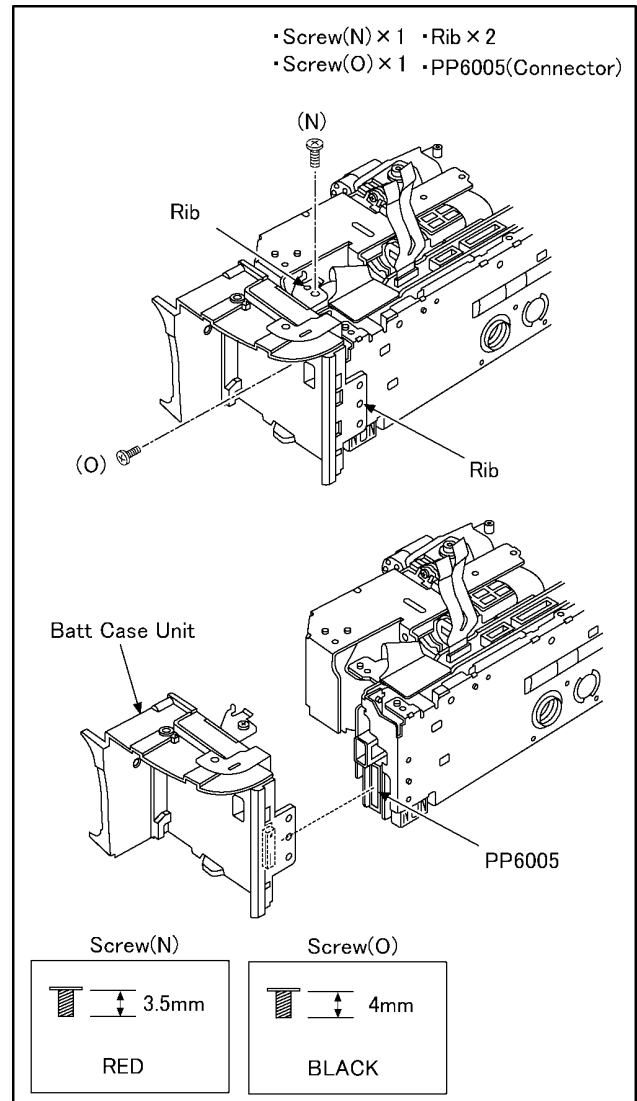


Fig.D9

8.3.8. Removal of the Lens Unit

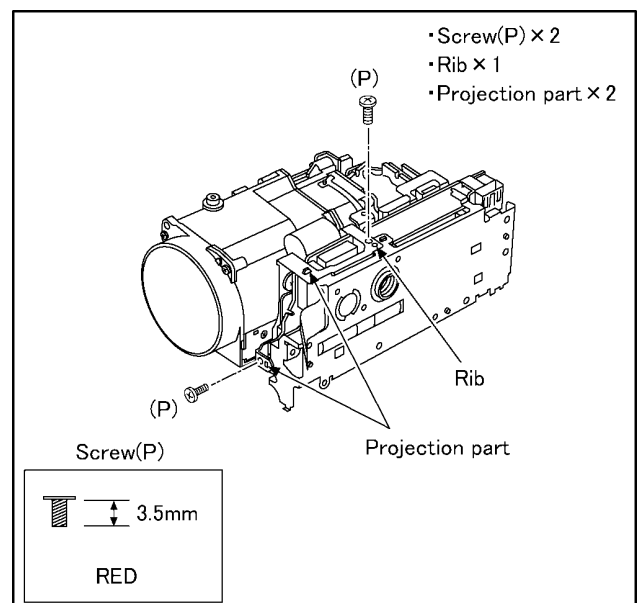


Fig.D10

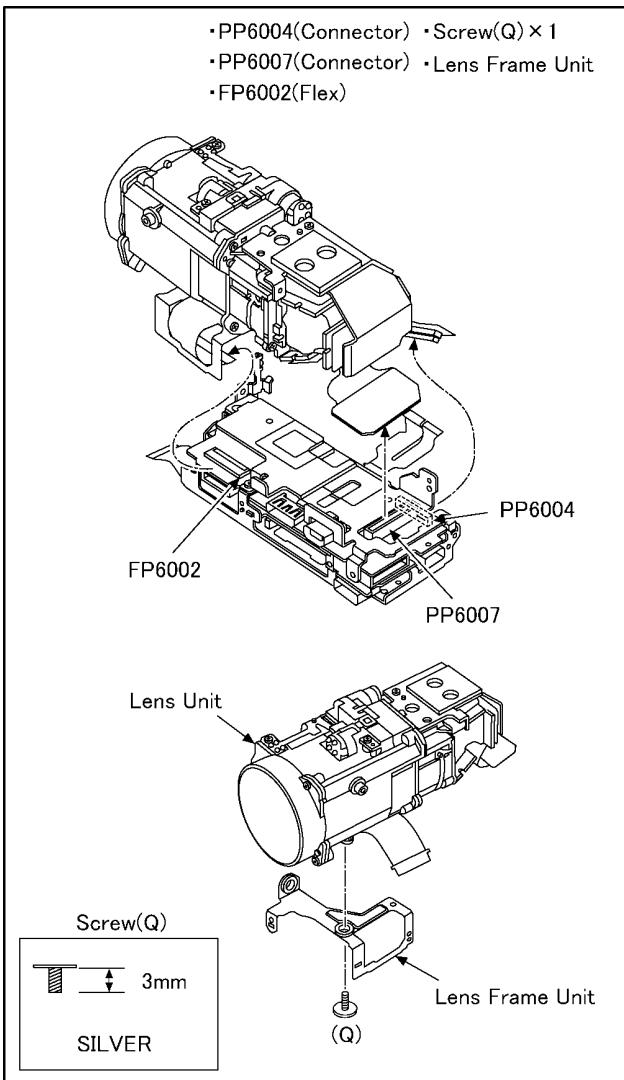


Fig.D11

8.3.9. Removal of the Main P.C.B. Unit

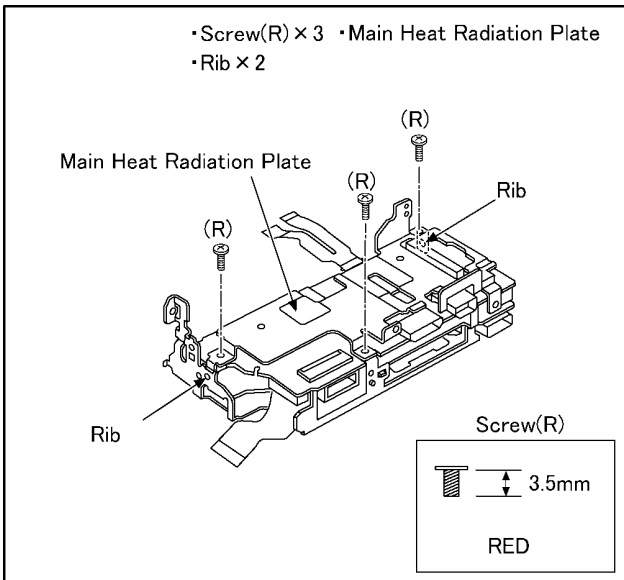


Fig.D12

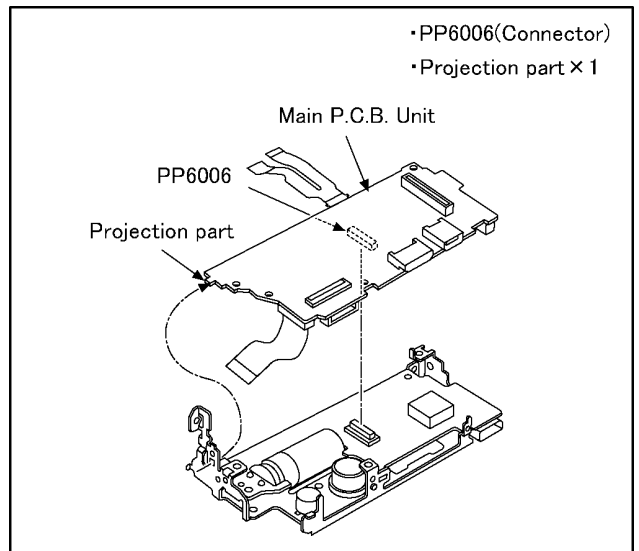


Fig.D13

8.3.10. Removal of the Flash P.C.B. Unit

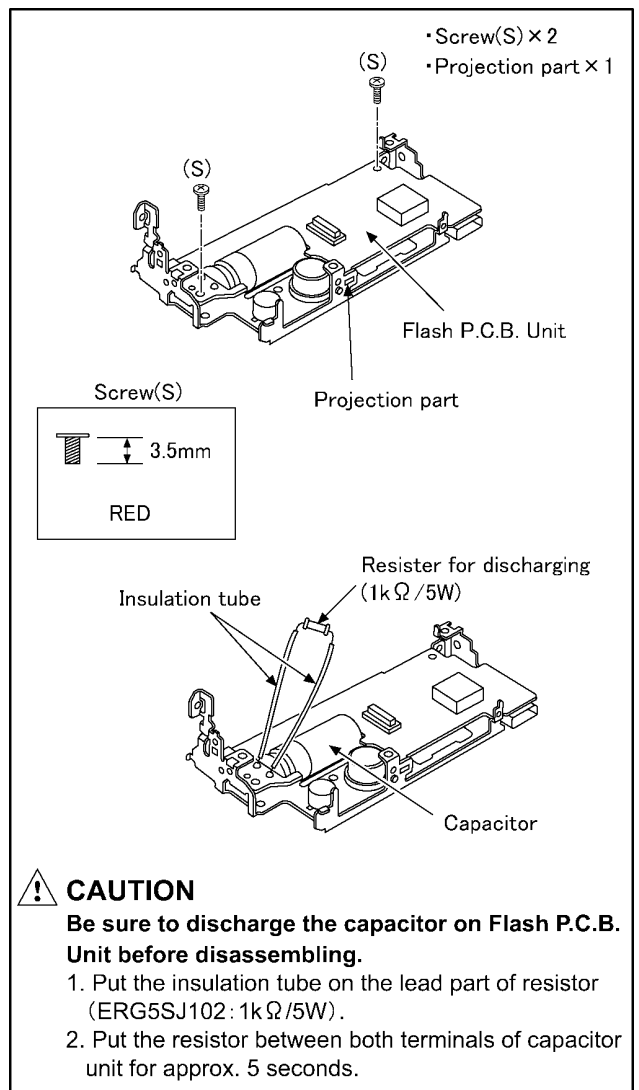


Fig.D14

8.3.11. Removal of the Side (R) OP P.C.B. Unit and Speaker

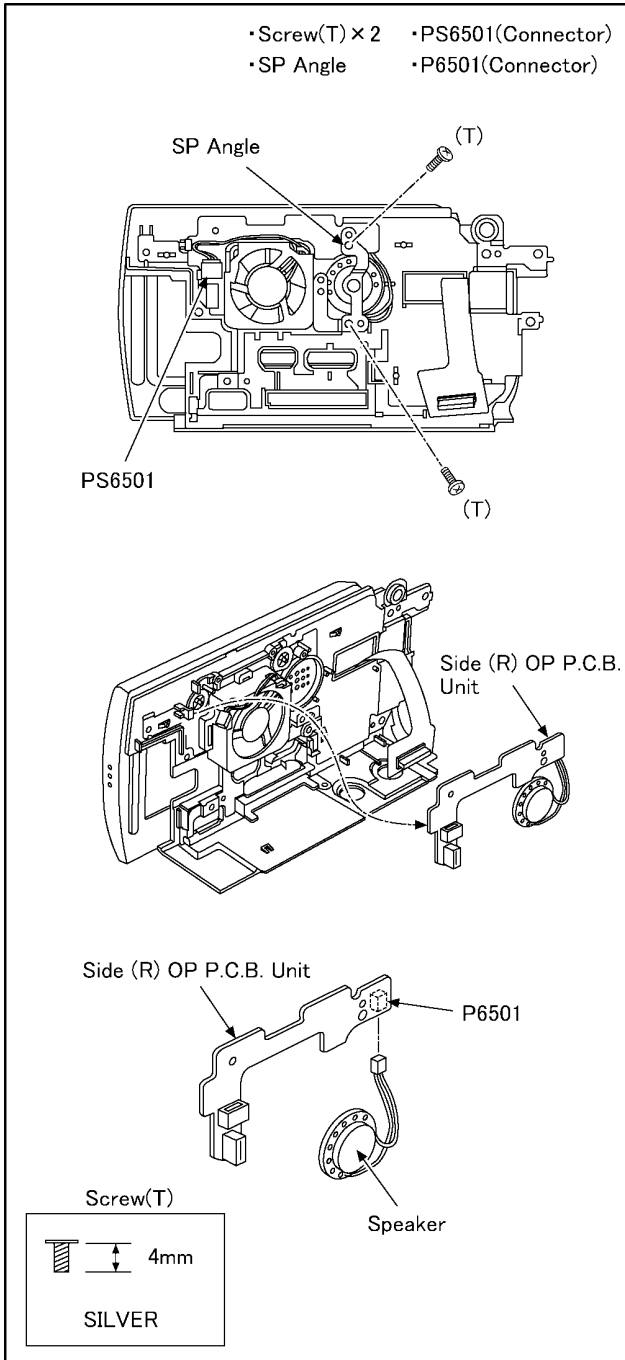


Fig.D15

NOTE: (When Installing)

1. Install the speaker lead wire to between convexes.
2. Be careful to that the solder part of speaker don't touch the SP Angle.

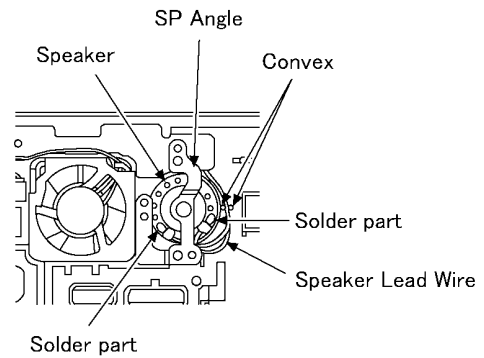


Fig.D16

8.3.12. Removal of the Fan Motor

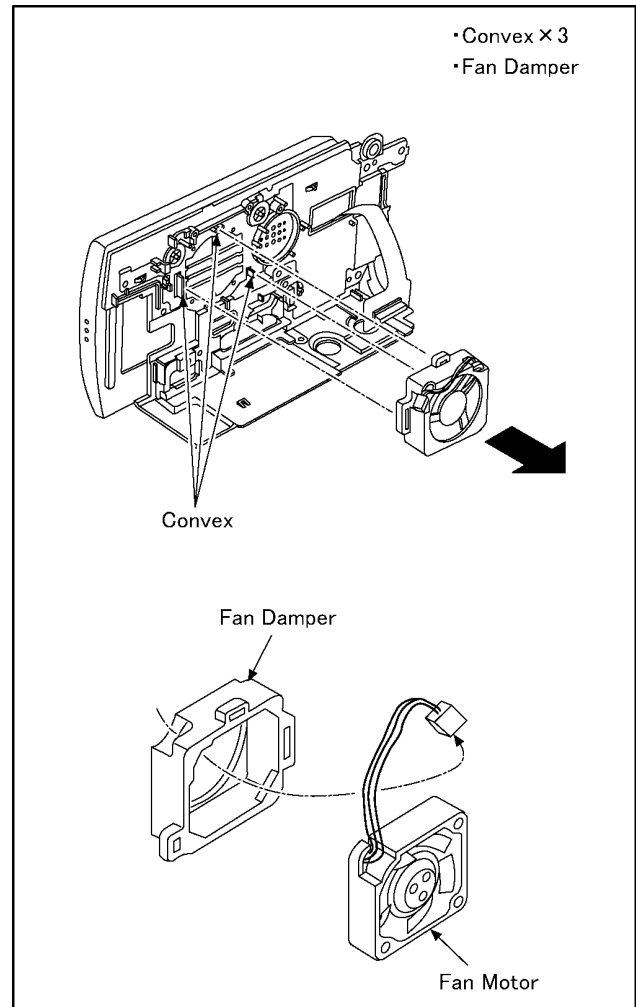


Fig.D17

8.3.13. Removal of the LCD Case Unit

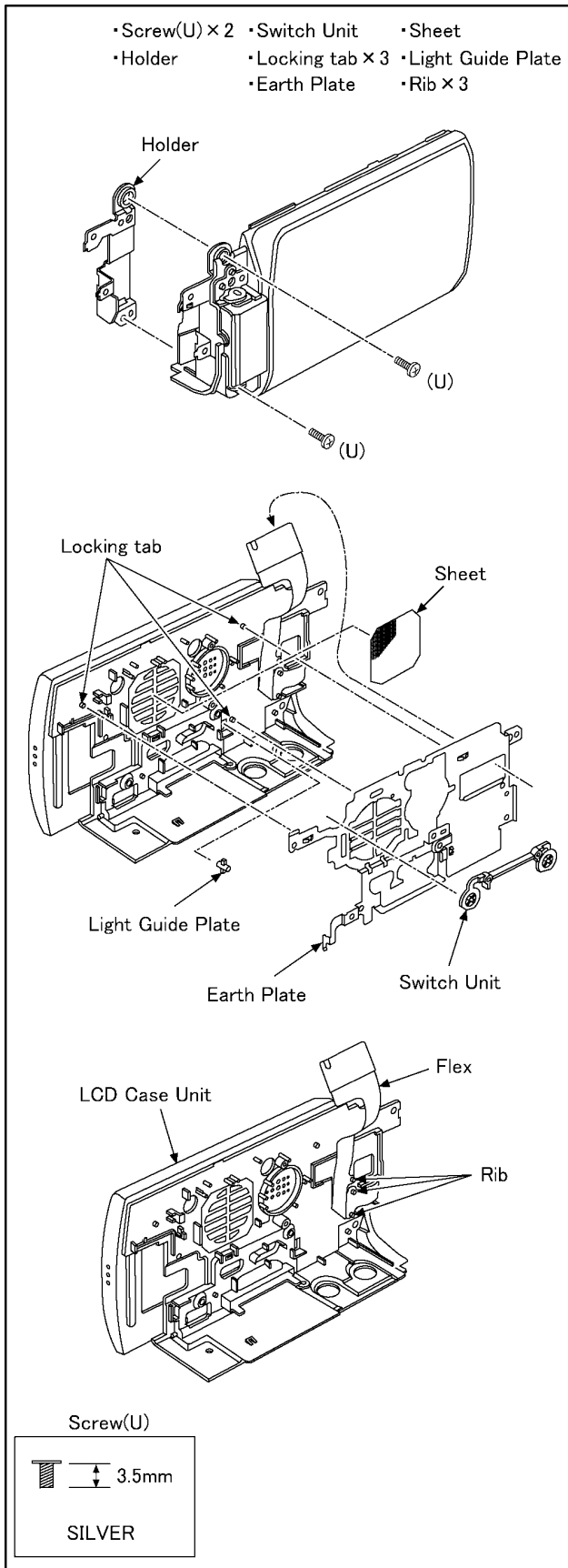


Fig.D18

8.3.14. Removal of the Monitor P.C.B. Unit

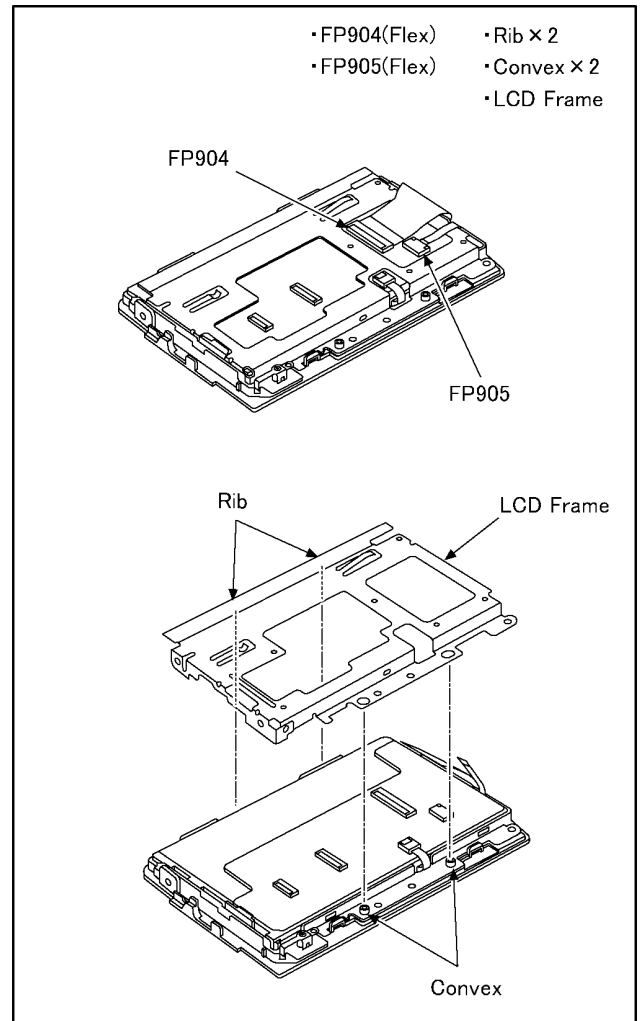


Fig.D19

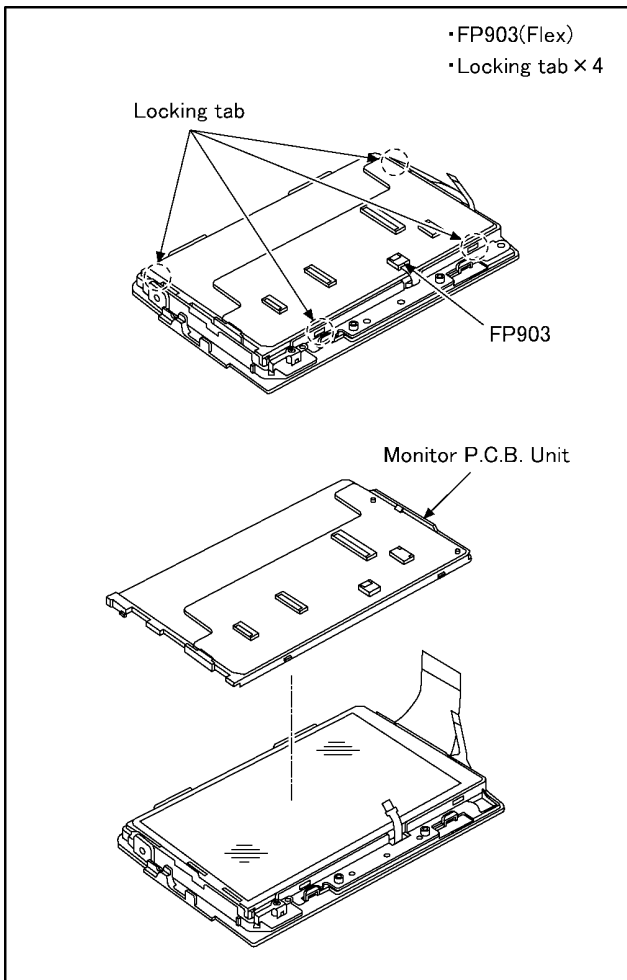


Fig.D20

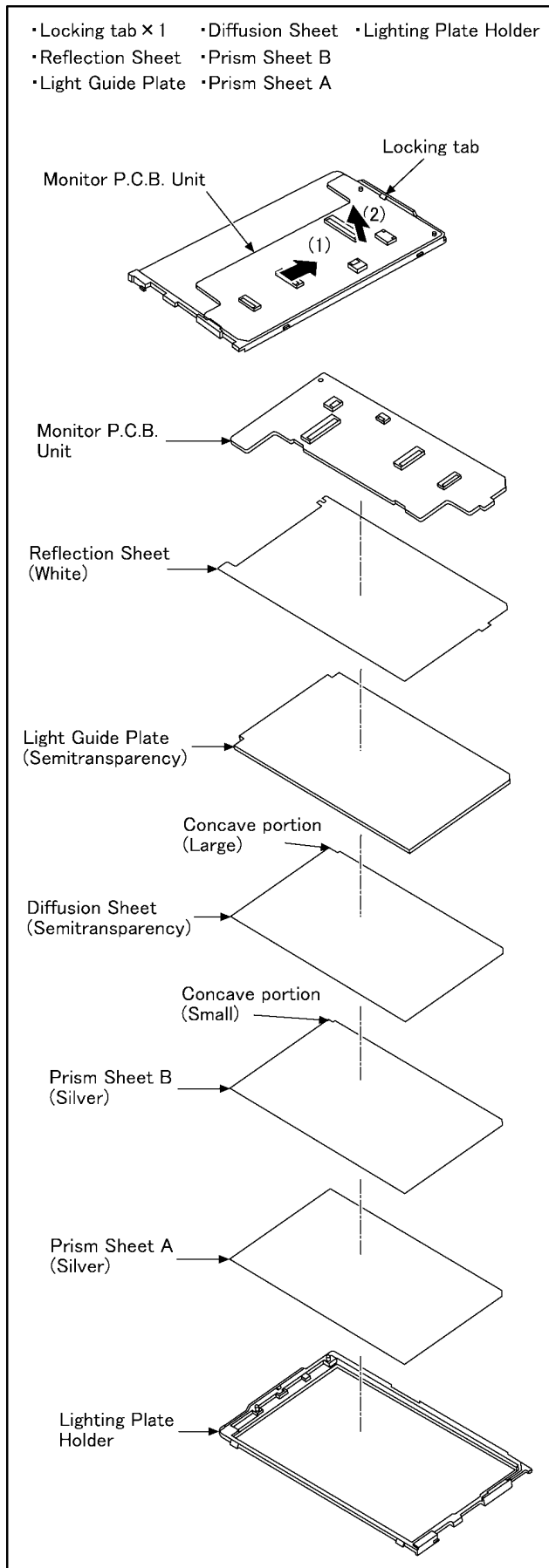


Fig.D21

8.3.15. Removal of the Front P.C.B. Unit

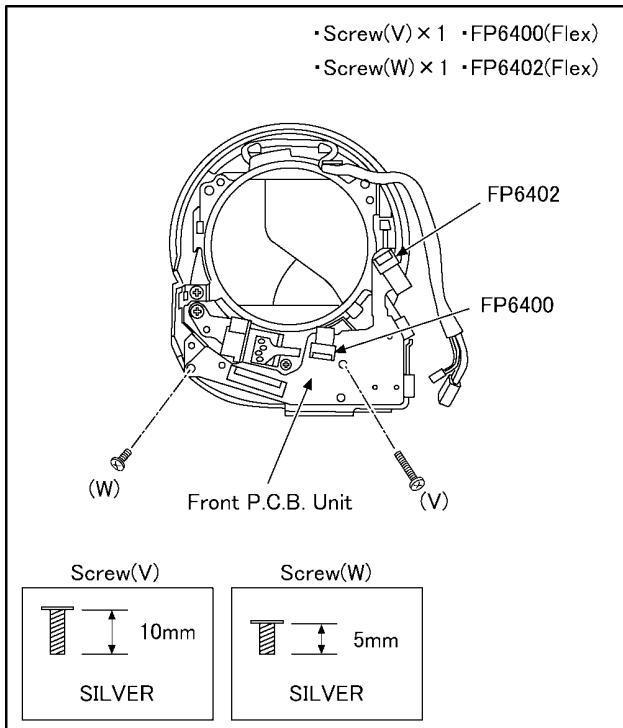


Fig.D22

8.3.16. Removal of the Barrier Motor Unit

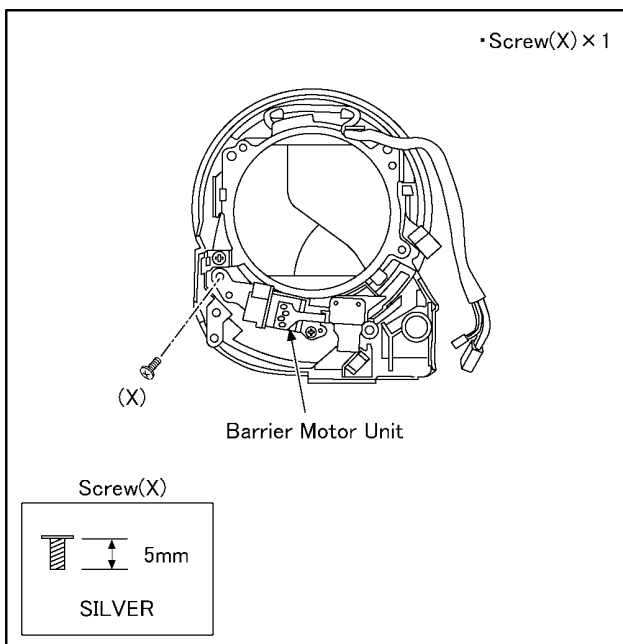


Fig.D23

NOTE: (When Installing)

- When install the barrier motor unit, align the projection part of the barrier motor unit between ribs of the barrier change lever.

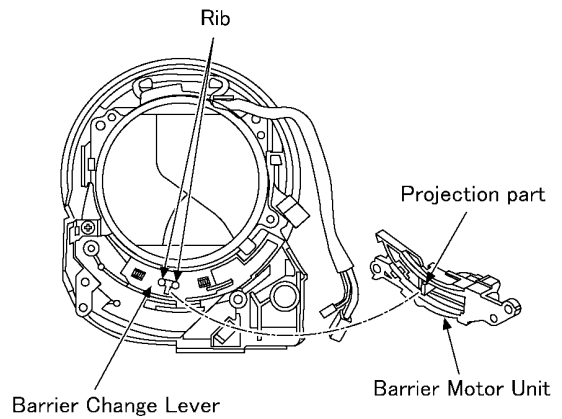
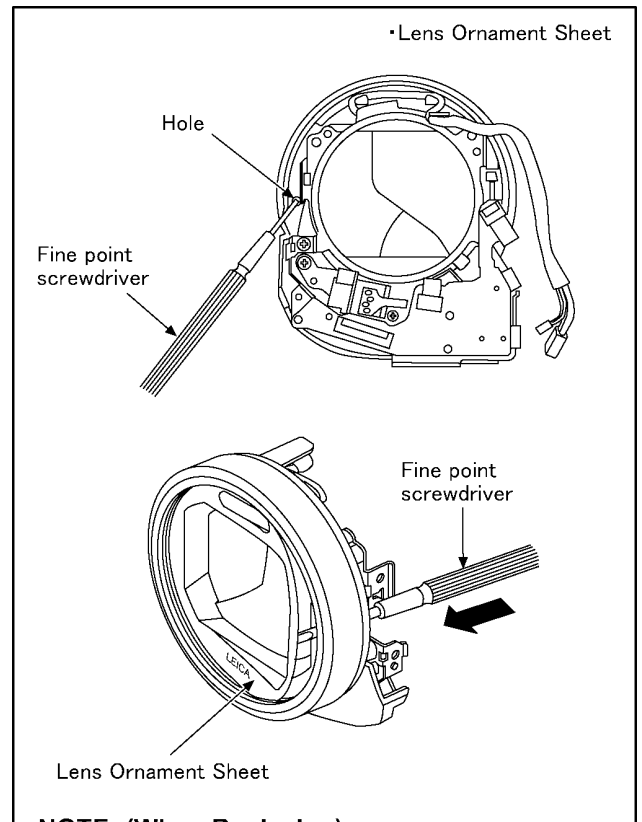


Fig.D24

8.3.17. Removal of the Front Case



NOTE: (When Replacing)

1. Put insert the fine point screwdriver into the hole on the backside of front case.
2. Push the fine point screwdriver to peel the lens ornament sheet.
3. Do not reuse the lens ornament sheet.
4. Remove the lens ornament sheet carefully not to remain the adhesive tape of lens ornament sheet.

Fig.D25

8.3.18. Removal of the MF SENS P.C.B. Unit, Front Case Unit, MF Front Frame and MF Sheet

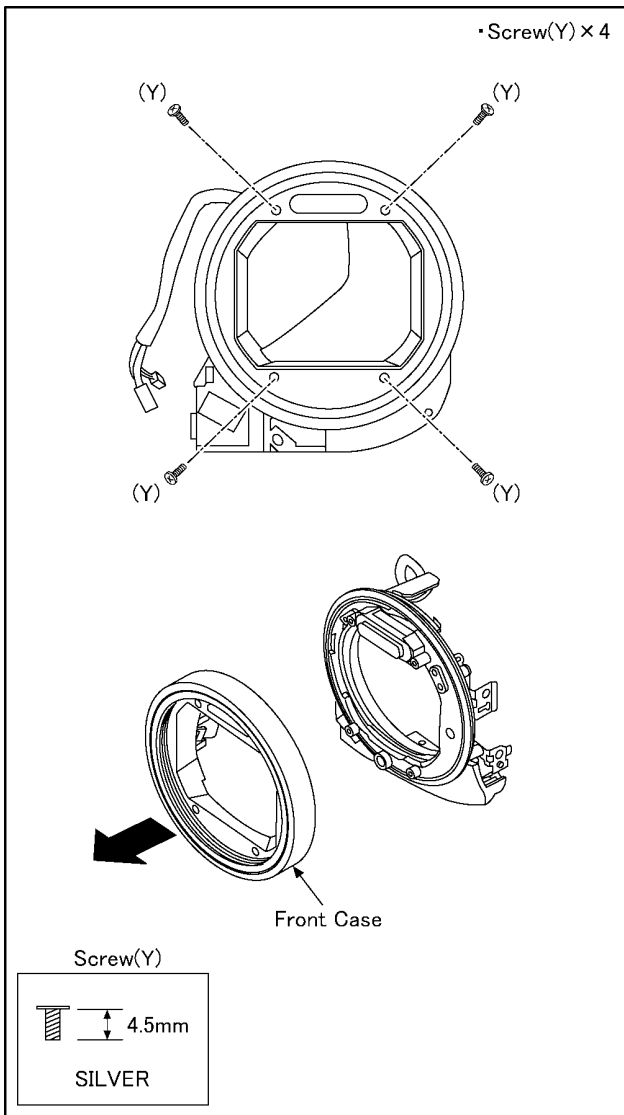


Fig.D26

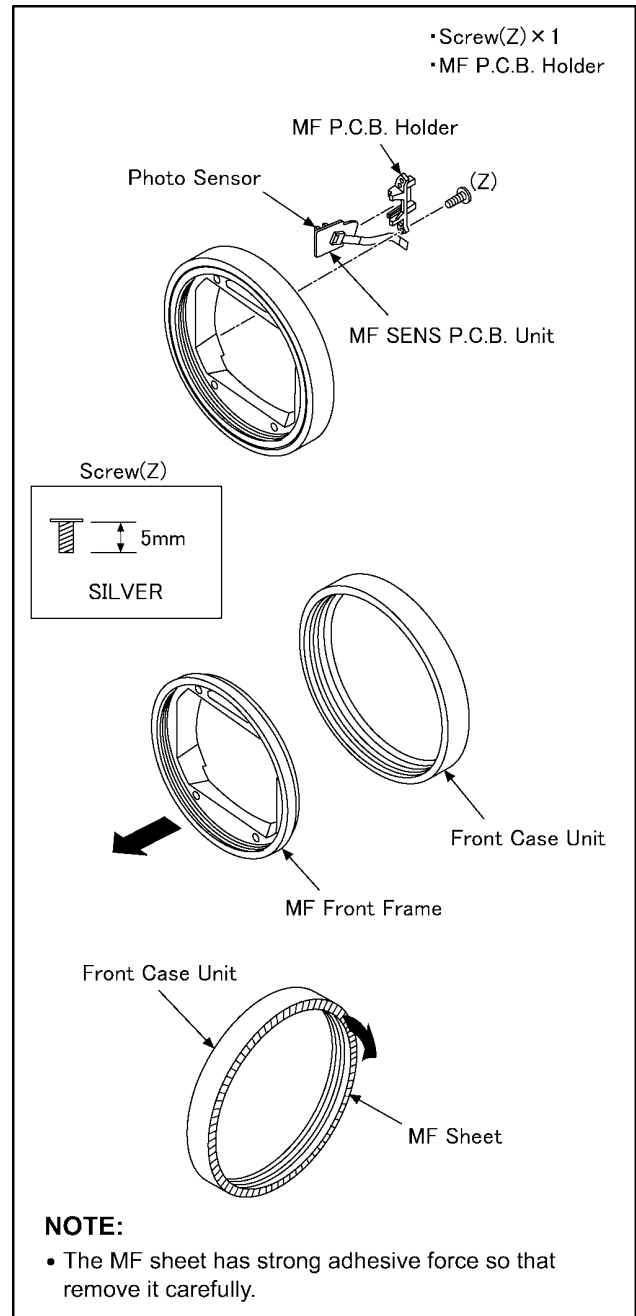


Fig.D27

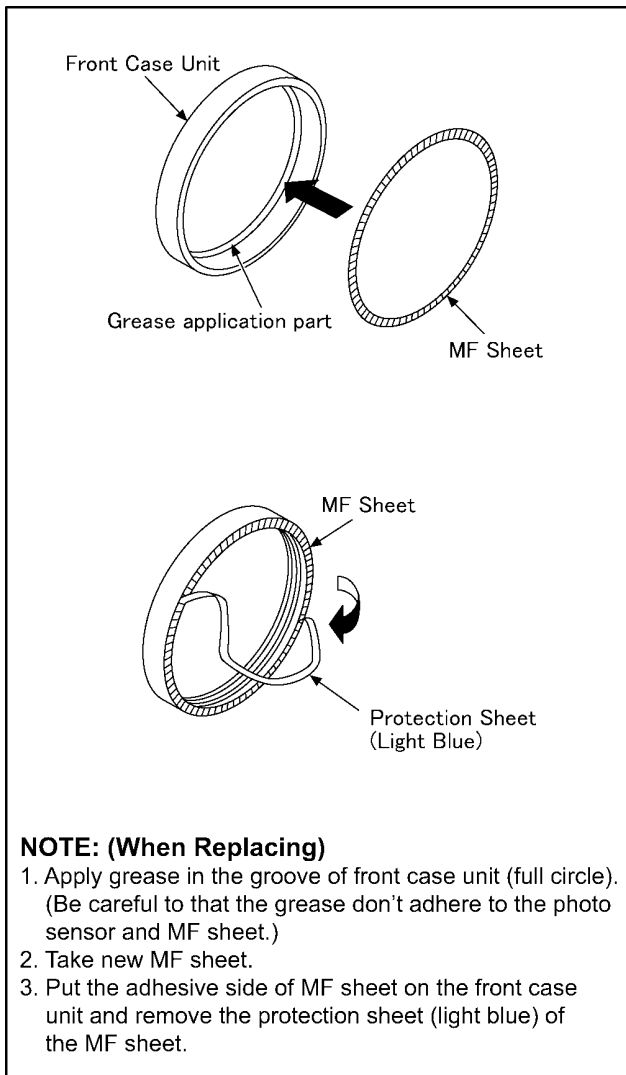


Fig.D28

8.3.19. Removal of the EVF Unit

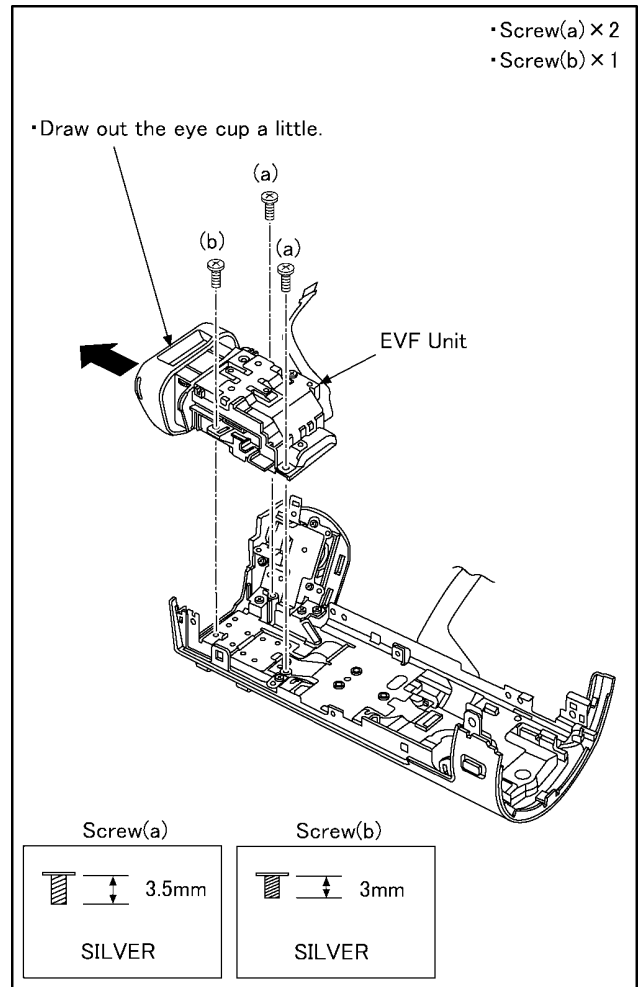


Fig.D29

8.3.20. Removal of the Top Frame

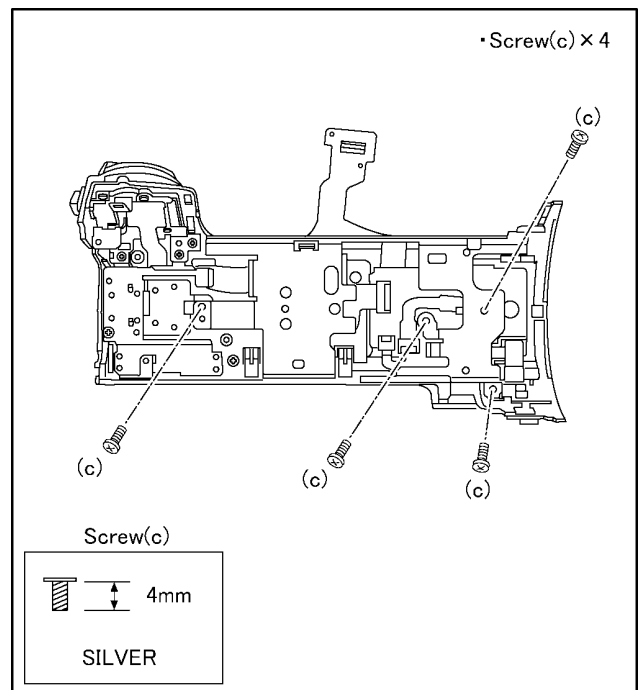


Fig.D30

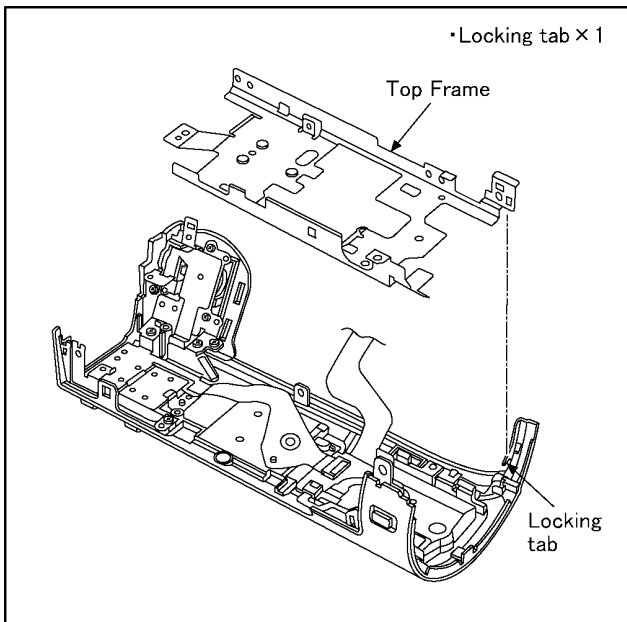


Fig.D31

8.3.21. Removal of the Top Operation Unit

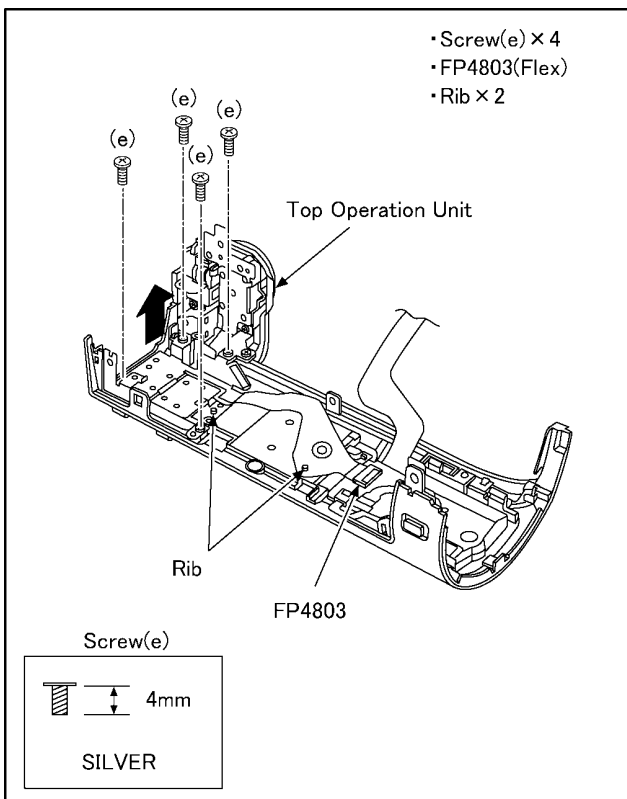


Fig.D32

8.3.22. Removal of the MIC AMP P.C.B. Unit

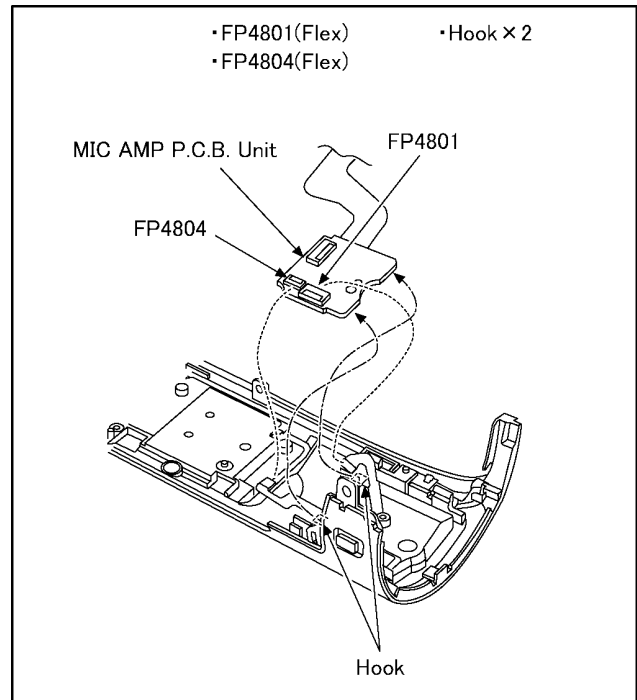


Fig.D33

8.3.23. Removal of the Camera Operation Unit

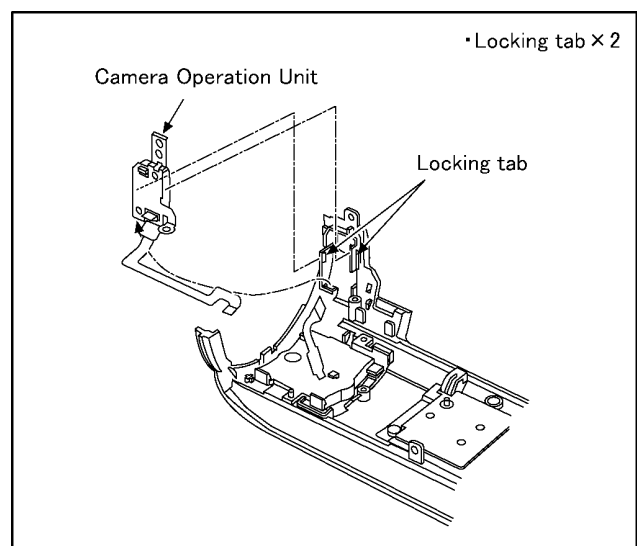


Fig.D34

8.3.24. Removal of the ECM FPC Unit

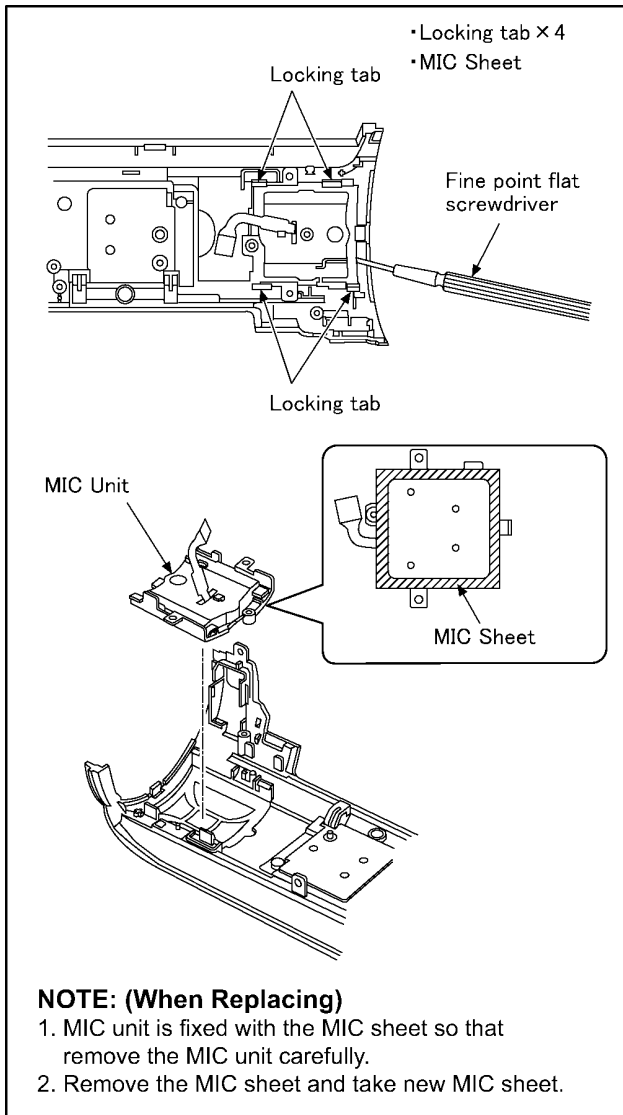


Fig.D35

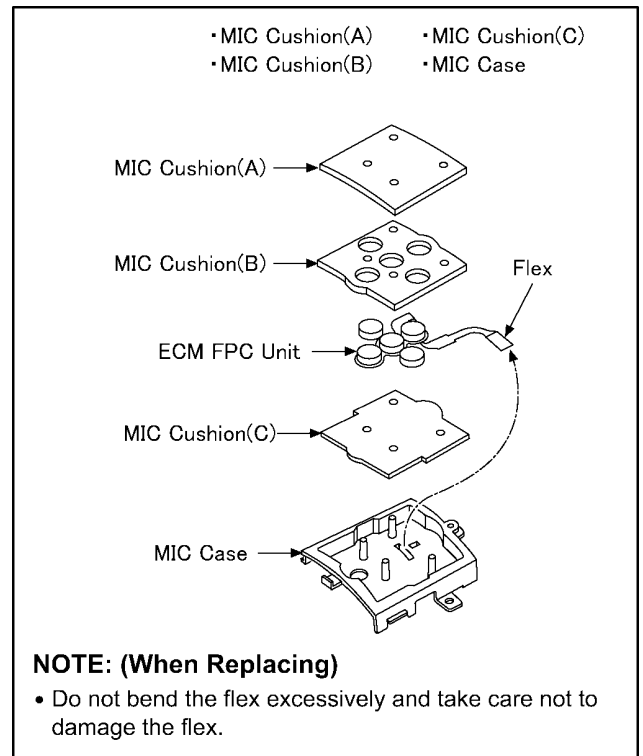


Fig.D36

8.3.25. Removal of the Batt Catcher P.C.B. Unit

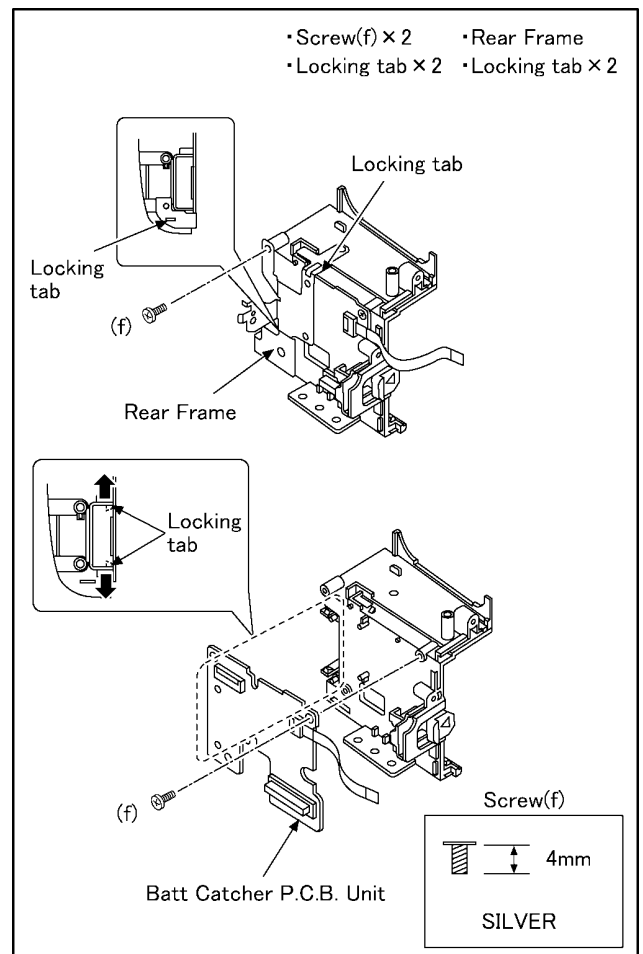


Fig.D37

8.3.26. Removal of the MOS Heat Radiation Plate

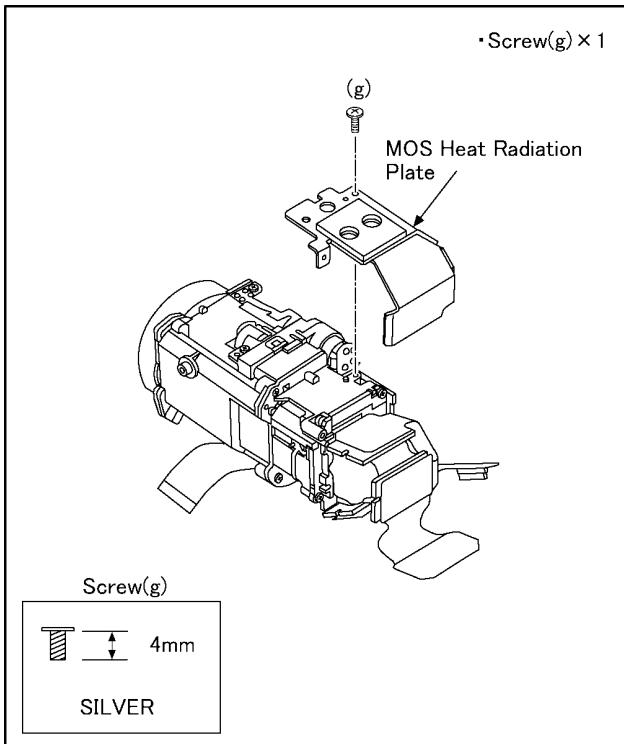


Fig.D38

8.3.27. Removal of the Prism Unit and Optical Filter

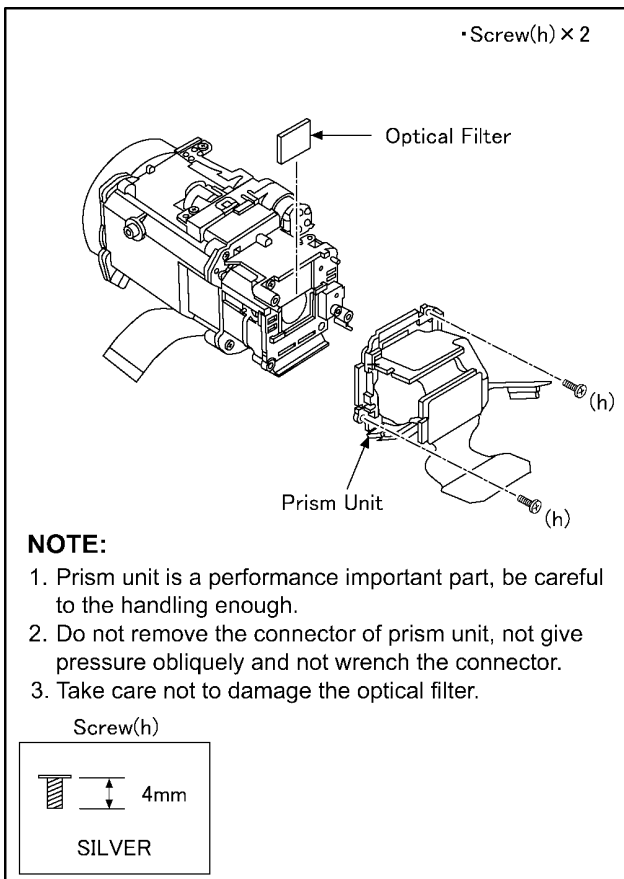


Fig.D39

8.3.28. Removal of the IRIS Unit

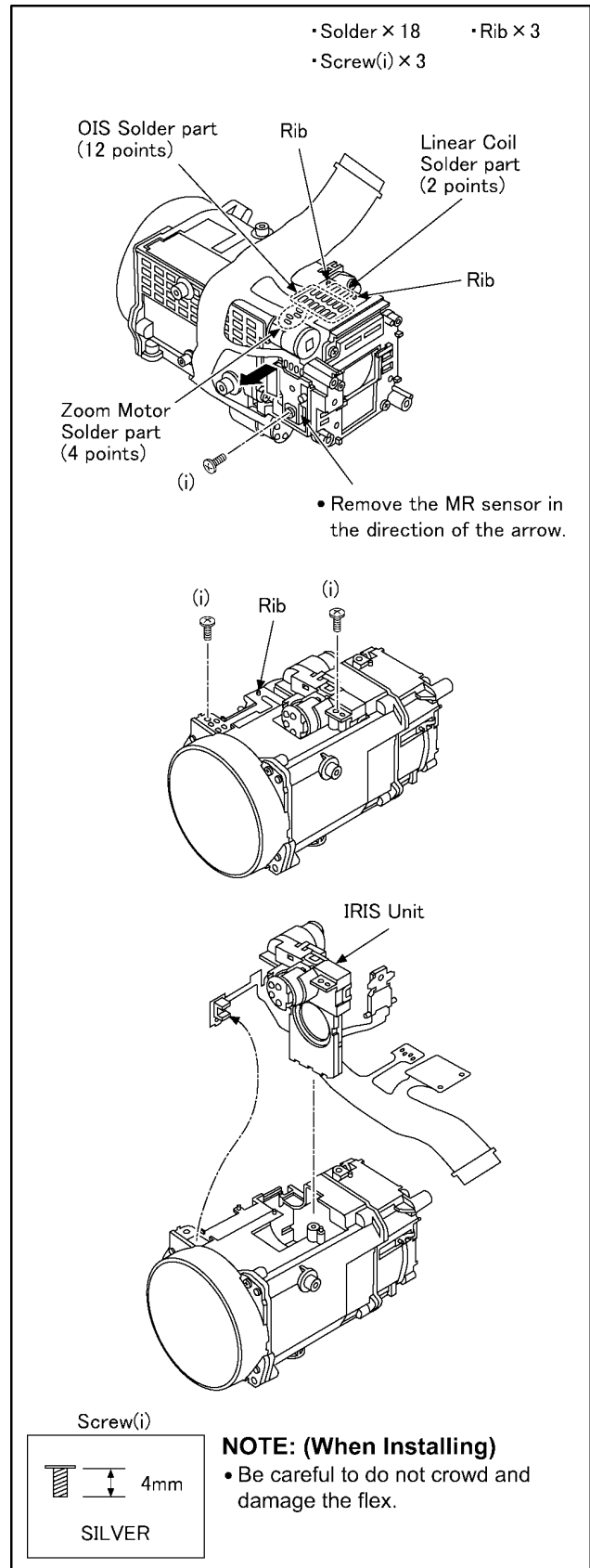


Fig.D40

8.3.29. Removal of the Zoom Motor

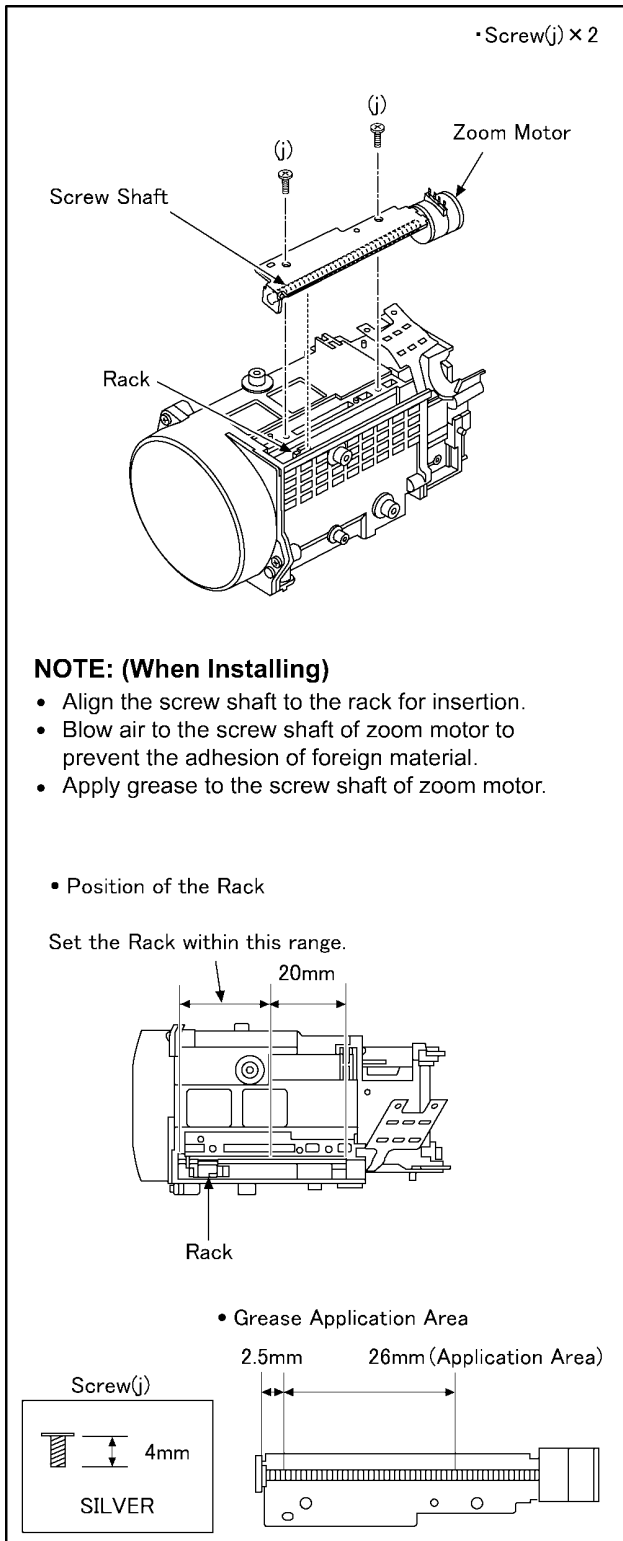


Fig.D41

8.3.30. Removal of the 1st Lens Frame Unit

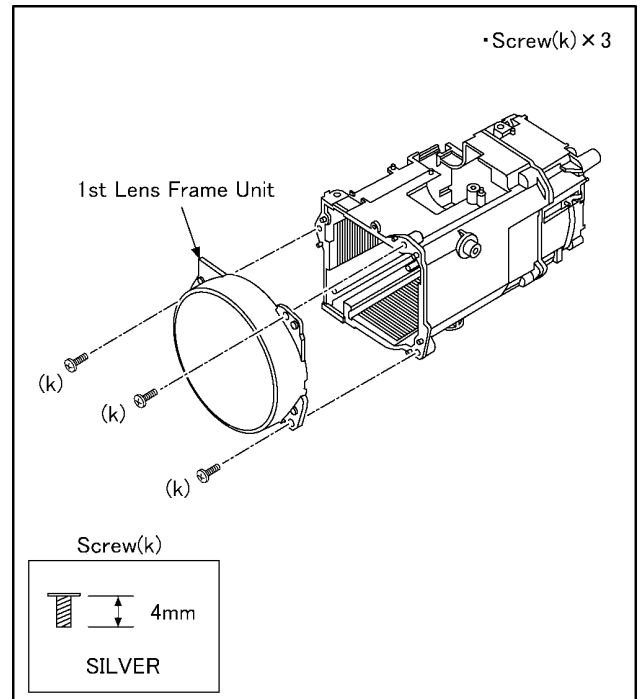


Fig.D42

8.3.31. Removal of the 2nd Lens Frame Move Unit

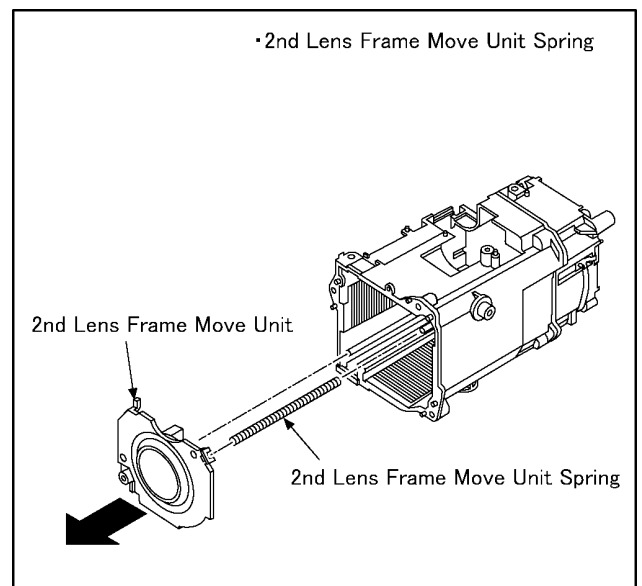


Fig.D43

8.3.32. Removal of the Body Unit and the Zoom Guide Pole

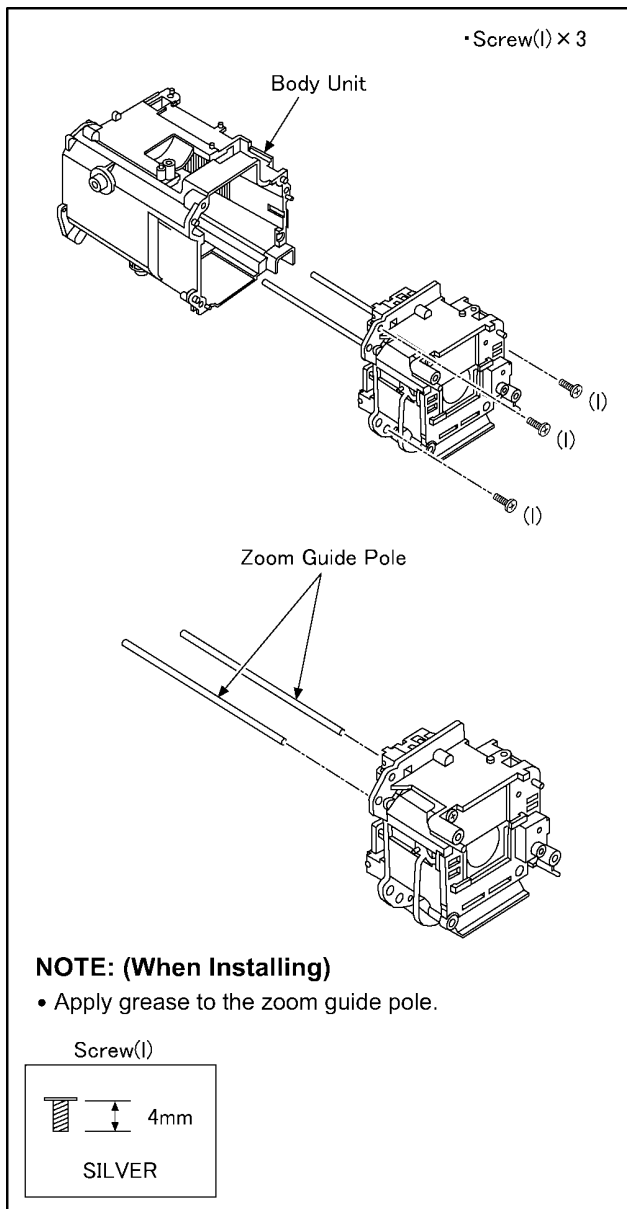


Fig.D44

8.3.33. Removal of the Master Flange Cover

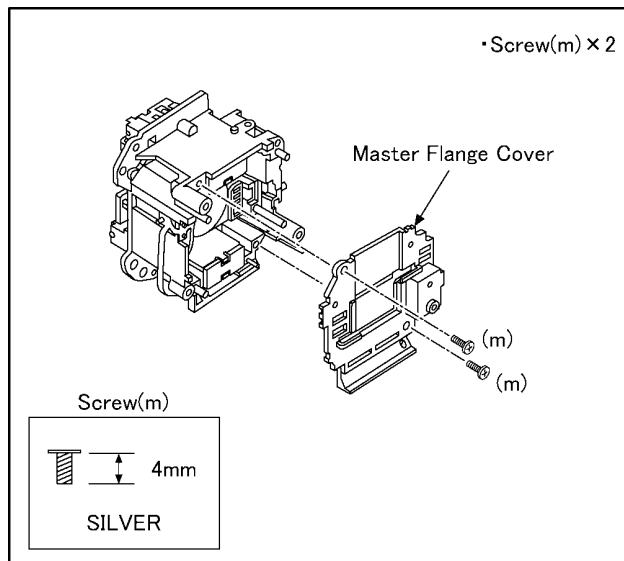


Fig.D45

8.3.34. Removal of the 4th Lens Frame Move Unit

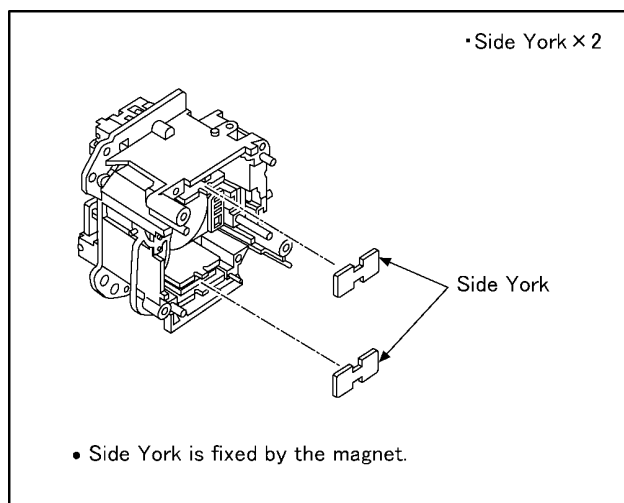


Fig.D46

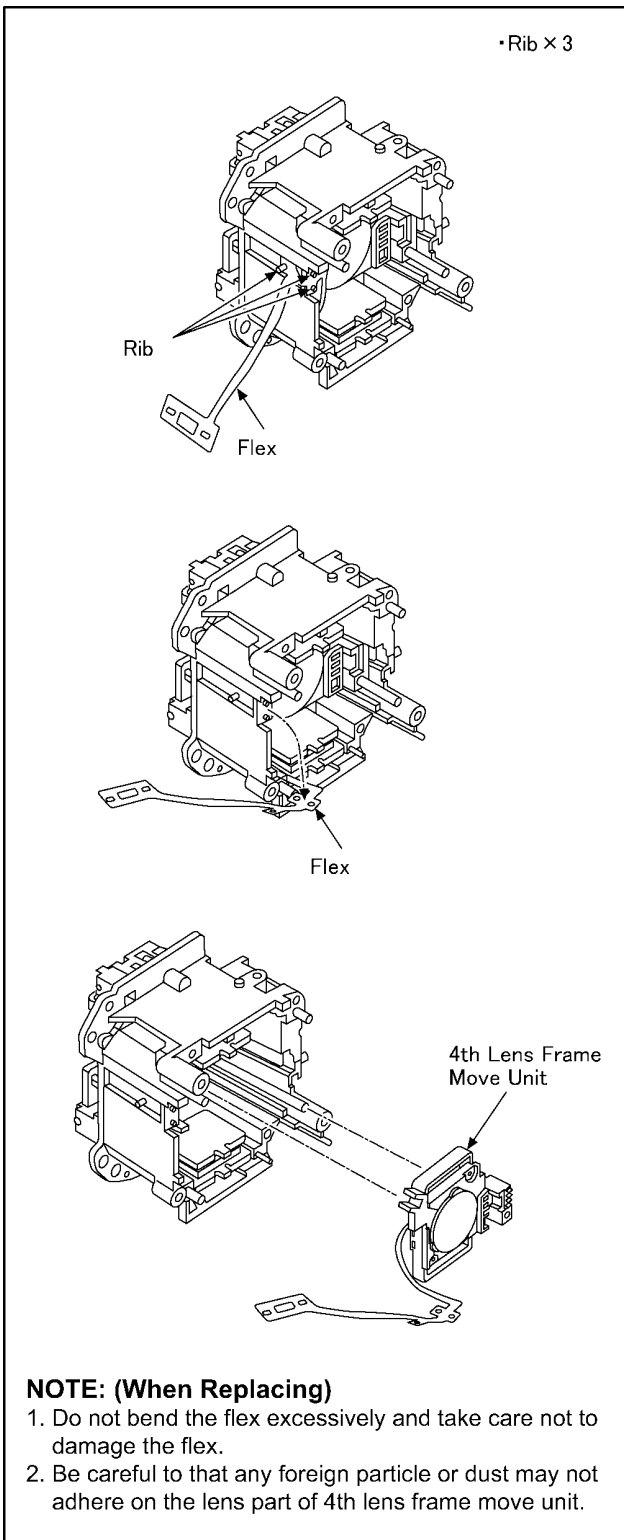


Fig.D47

8.3.35. Removal of the Focus Guide Pole L and Focus Guide Pole S

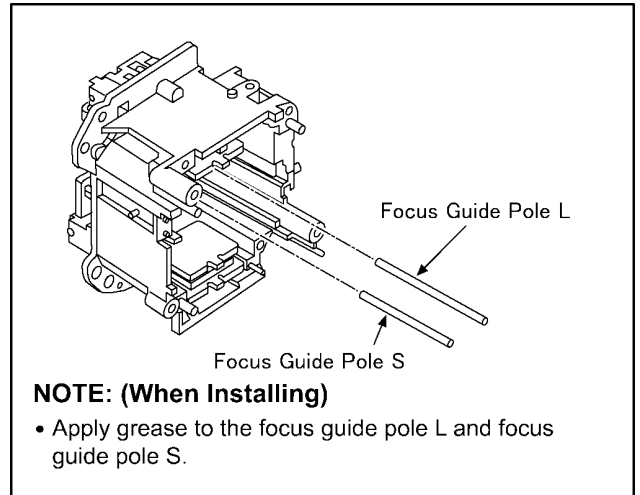


Fig.D48

9 Measurements and Adjustments

9.1. Electric Adjustment

- Adjustment method is different from a conventional High definition video camera.
- An exclusive jig and PC (including software for adjustment "Tatsujin") are necessary for electric adjustment.
- A USB driver for service is necessary to communication with PC.
- Connection method of the main unit and an exclusive adjustment jig as follows

9.1.1. Adjustment Procedure

- Connect the main unit to PC with USB.
The adjustment instruction is available at "Software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN System".

Figure of connection

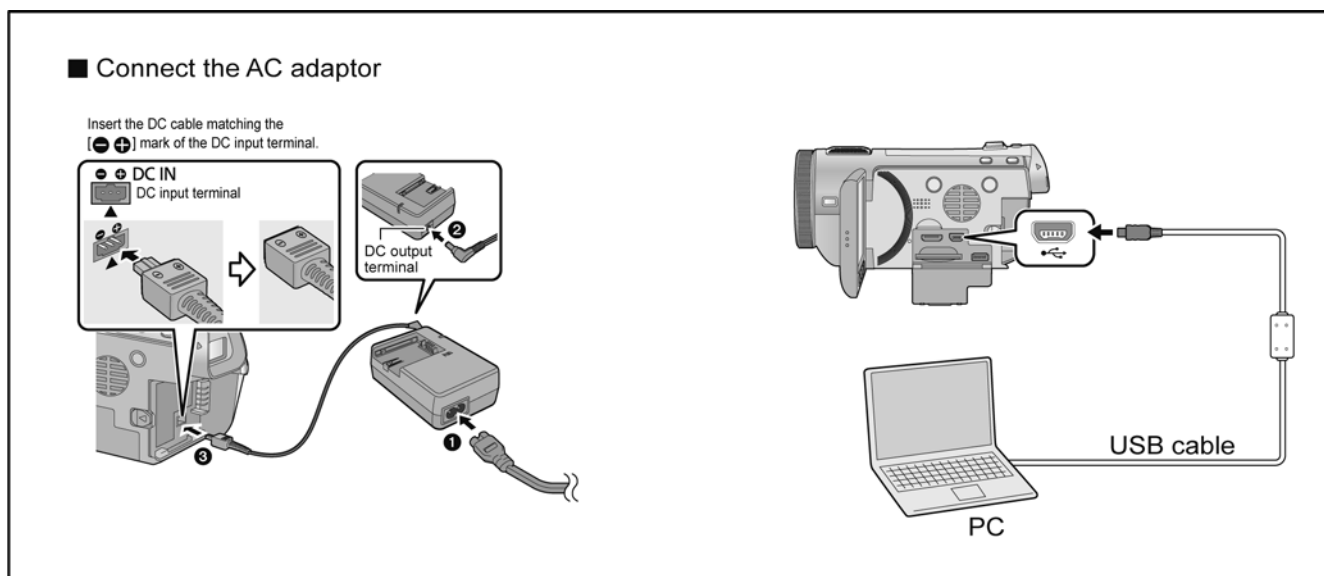
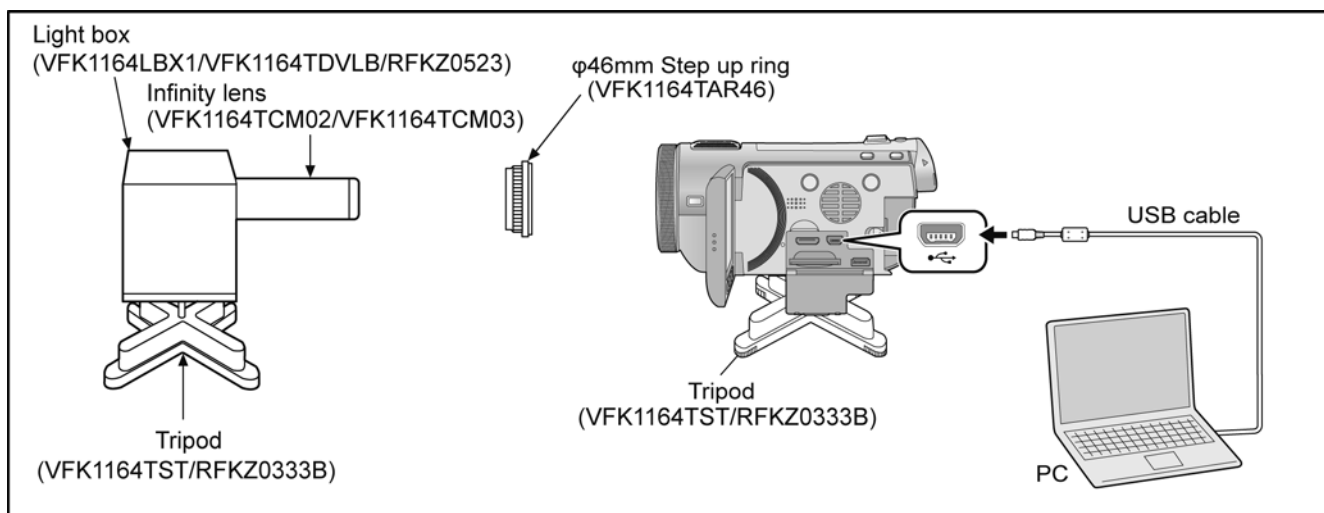


Figure of image when adjustment



Part Number of jig

- Only a necessary jig mentions it in setup of electric adjustment.

| No. | Part Name | Part Number | Remarks |
|-----|--------------------------------|--------------|---------|
| 1 | PC | ----- | |
| 2 | AC Adaptor | ----- | |
| 3 | USB Cable | ----- | |
| 4 | 46mm Step Up Ring | VFK1164TAR46 | |
| 5 | Adjustment Software (Tatsujin) | ----- | |

Adjustment Items

- Adjustment item as follows.

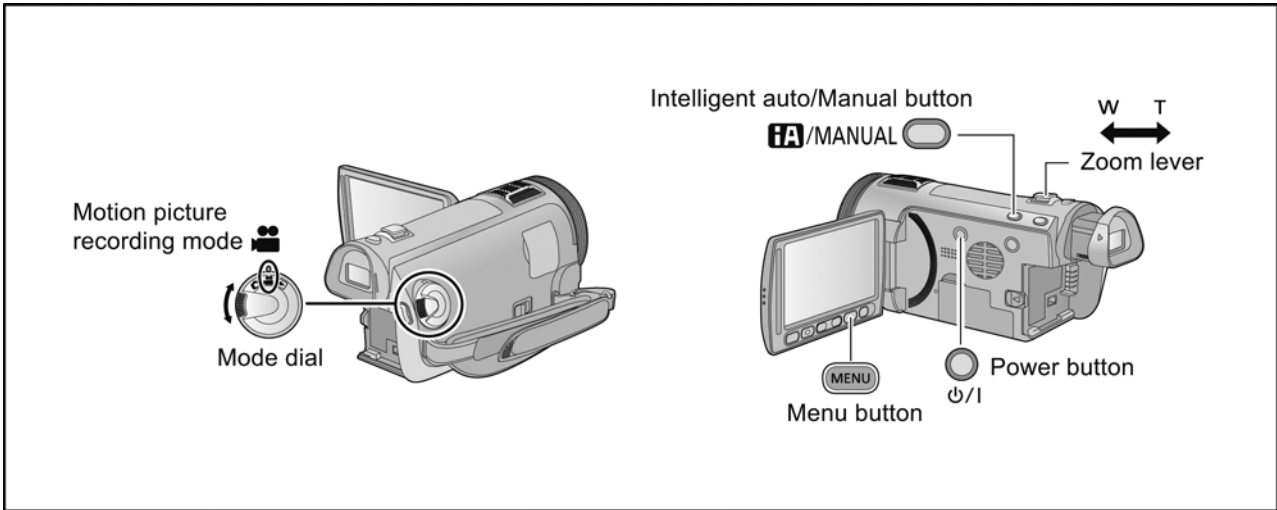
The adjustment instruction is available at "Software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN System".

| | Replacement part | | Main P.C.B. | IC2002(EEPROM) | Lens Unit | Prism Unit | IC3701 | IC3401, IC3402 | IC701 | OIS sensor |
|-------------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Adjustment item | | | | | | | | | |
| Camera Part | ● Hall amplifire/PWM bias/ OIS Hall amplifire adjustment (automatic) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | <input type="radio"/> | <input type="radio"/> |
| | ● OIS Sensor Offset adjustment (automatic) | <input type="radio"/> | <input type="radio"/> | | | | | | | <input type="radio"/> |
| | ● Zoom tracking adjustment (automatic) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | <input type="radio"/> | |
| | ● Address wound revision (automatic) | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | | | | |
| | ● White balance adjustment (automatic) | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | | | | |
| | ● Gain adjustment between channels (automatic) | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | | | | |
| Video Part | ● Brightness level adjustment (automatic) | <input type="radio"/> | <input type="radio"/> | | | | <input type="radio"/> | | | |
| | ● UniPhier DDR revision (automatic) | <input type="radio"/> | <input type="radio"/> | | | | | <input type="radio"/> | | |

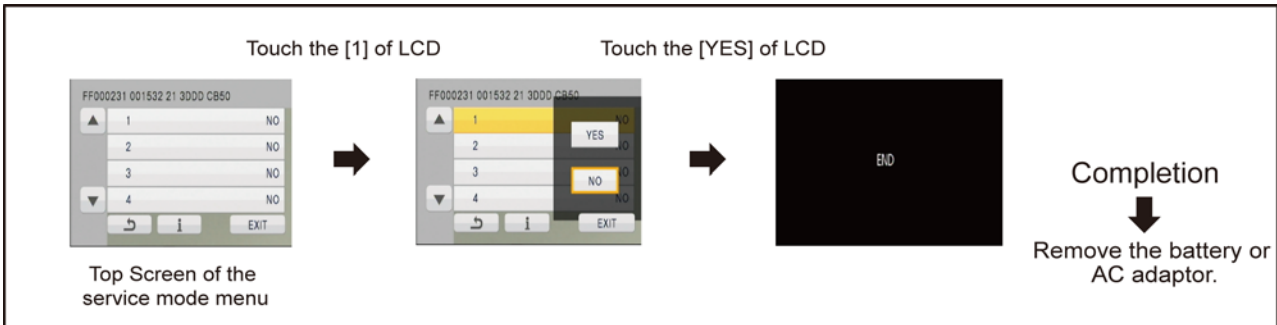
10 Factory Setting

10.1. How To Turn On The Factory Settings?

1. Set the mode dial "Motion Picture Recording" mode.
2. Turn the power on, and then while keep pressing the "Zoom lever" to W side, "Intelligent auto/Manual" button and "Menu" button for more than 3 seconds until the top screen of the Service Mode Menu being displayed.



3. Touch the [1] of LCD.
4. Touch the [YES] of LCD.
5. After few seconds "END" is displayed on LCD monitor. Cutting of battery connection or AC power supply connection as a completion of the "FACTORY SETTINGS".

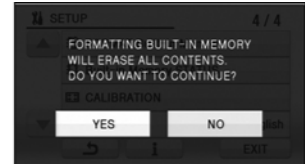


10.2. What Is The Factory Settings?

The factory settings clean up and/or refresh the following settings.

1. MENU, MODE, ADJUSTMENT VALUE.
2. SD card format.
3. Reset the folder number and file number of still pictures.
(Setting the folder number is 100, and file number is 0.)
4. Clear the mechanism lock information.
5. Clear the service mode information contents.
6. Close the lens cover
7. Initialize the VIERA Link Physical Address.
8. Confirm the data of Built-in memory is cleared. (only HDC-TM700)
 - When recorded data in Built-in memory, "error display" is done
If "error display" is done, execute physical format according to the following procedure.

To physically format the built-in memory, connect the unit via the AC adaptor, select [FORMAT Built-in Memory] → [YES] from the menu, and then press and hold the delete button on the screen below for about 3 seconds. When the built-in memory data deletion screen appears, select [YES], and then follow the on-screen instructions.



The setting position of factory settings:

| Name | Setting position |
|-----------|-------------------------------|
| Mode dial | Motion picture recording mode |

Service Manual

Diagrams and Replacement Parts List

High Definition Video Camera

Model No.

| | | |
|-------------|-------------|-------------|
| HDC-TM700P | HDC-TM700EP | HDC-SD700EF |
| HDC-TM700PC | HDC-TM700GC | HDC-SD700EG |
| HDC-TM700PU | HDC-TM700GD | HDC-SD700EP |
| HDC-TM700EB | HDC-TM700GK | HDC-SD700GC |
| HDC-TM700EC | HDC-TM700GT | HDC-SD700GN |
| HDC-TM700EE | HDC-SD700EB | HDC-SD707EG |
| HDC-TM700EF | HDC-SD700EC | |
| HDC-TM700EG | HDC-SD700EE | |

Vol. 1
 Colour
 [HDC-TM700/SD700]
 (K).....Black Type
 [HDC-SD707]
 (S).....Silver Type
 (K).....Black Type

Table of contents

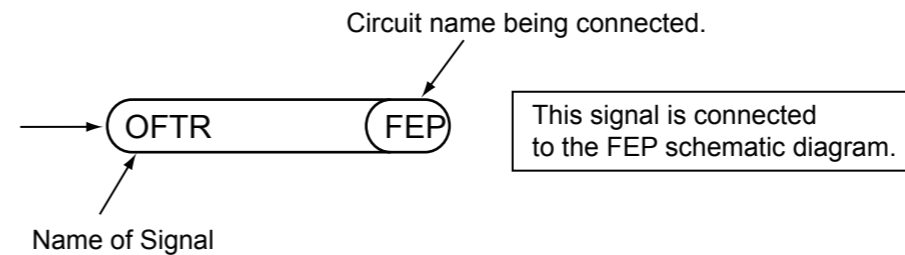
| | | |
|--|---|---|
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| S2. Voltage Chart S-2 | S4.10. CAM FUNC FPC Schematic Diagram..... S-13 | S7.1. Frame and Casing Section (1) S-33 |
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S1. About Indication of The Schematic Diagram

S1.1. Important Safety Notice

COMPONENTS IDENTIFIED WITH THE MARK \triangle HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

1. Although reference number of the parts is indicated on the P.C.B. drawing and/or schematic diagrams, it is NOT mounted on the P.C.B. when it is displayed with "\$" mark.
2. It is only the "Test Round" and no terminal (Pin) is available on the P.C.B. when the TP (Test Point) indicated as "●" mark.
3. The voltage being indicated on the schematic diagram is measured in "Standard-Playback" mode when there is no specify mode is mentioned.
4. Although the voltage and waveform available on here is measured with standard frame, it may be differ from actual measurement due to modification of circuit and so on.
5. The voltage being indicated here may be include observational-error (deviation) due to internal-resistance and/or reactance of equipment. Therefore, handle the value indicated on here as reference.
6. Use the parts number indicated on the Replacement Parts List .
7. Indication on Schematic diagrams:



S2. Voltage Chart

Note) Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

S2.1. Strobe P.C.B.

| REF No. | PIN No. | POWER ON |
|---------|---------|----------|
| IC7001 | 1 | 0 |
| IC7001 | 2 | 0 |
| IC7001 | 3 | 0 |
| IC7001 | 4 | 0 |
| IC7001 | 5 | 3.3 |
| IC7001 | 6 | 0 |
| IC7001 | 7 | 0 |
| IC7001 | 8 | 0 |
| IC7001 | 9 | 2.9 |
| IC7001 | 10 | 8.3 |
| Q3901 | E | 3.3 |
| Q3901 | C | 3.3 |
| Q3901 | B | 3.3 |

S2.2. Front P.C.B.

| REF No. | PIN No. | POWER ON |
|---------|---------|----------|
| Q4901 | E | 0.5 |
| Q4901 | C | 3.9 |
| Q4901 | B | 1 |
| Q4902 | E | 4.5 |
| Q4902 | C | 2.9 |
| Q4902 | B | 3.9 |
| Q4903 | E | 0.5 |
| Q4903 | C | 3.9 |
| Q4903 | B | 1 |
| Q4904 | E | 4.5 |
| Q4904 | C | 2.9 |
| Q4904 | B | 3.9 |
| Q4907 | E | 4.5 |
| Q4907 | C | 5.1 |
| Q4907 | B | 5.1 |
| Q4908 | E | 2.8 |
| Q4908 | C | 4.5 |
| Q4908 | B | 3.4 |
| Q6401 | E | 5.1 |
| Q6401 | C | -0.4 |
| Q6401 | B | 5.1 |
| QR6401 | E | 0 |
| QR6401 | C | 4.8 |
| QR6401 | B | 0 |

S2.3. MIC AMP P.C.B.

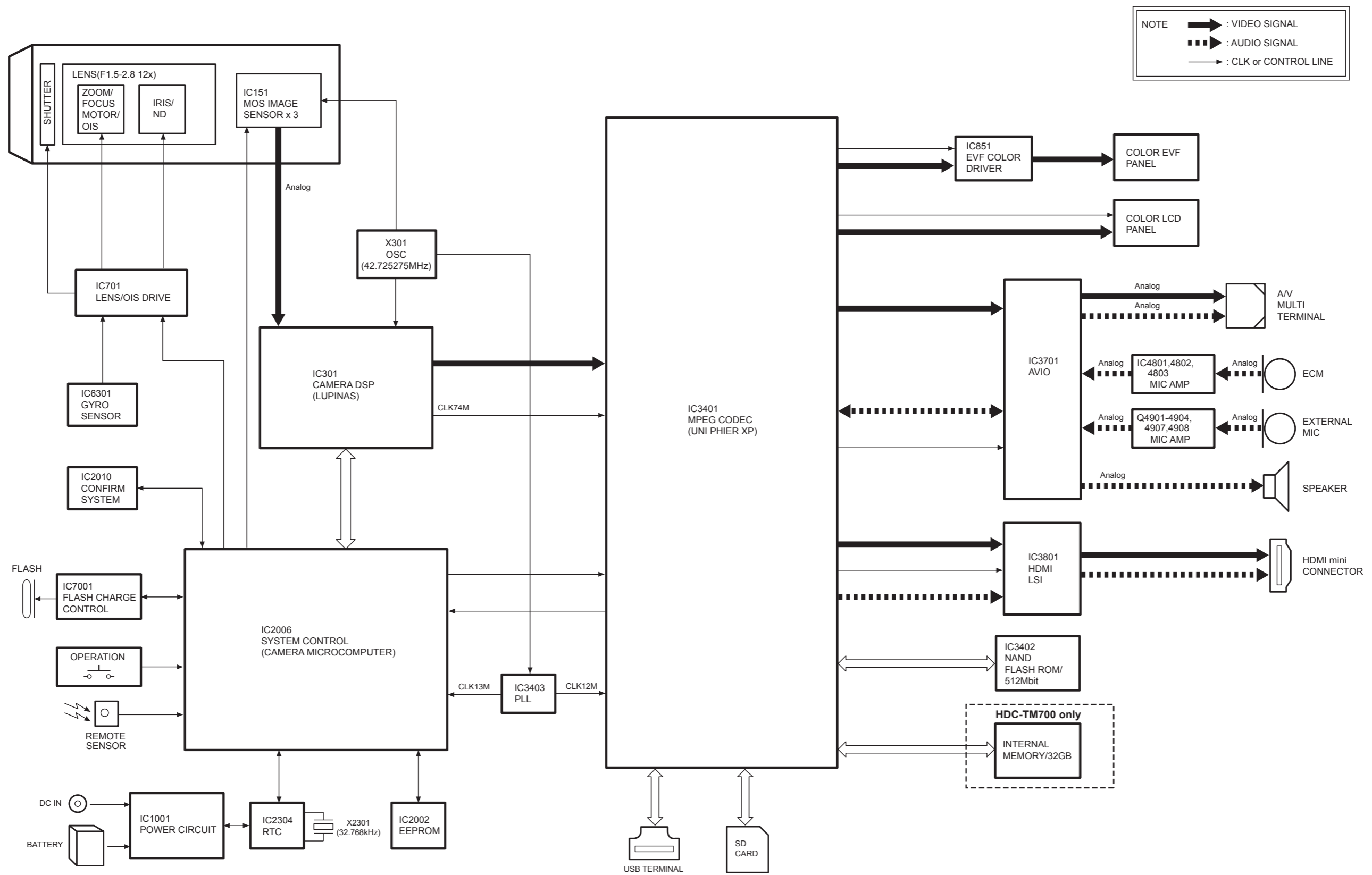
| REF No. | PIN No. | POWER ON |
|---------|---------|----------|
| IC4801 | 1 | 2.5 |
| IC4801 | 2 | 2.5 |
| IC4801 | 3 | 2.5 |
| IC4801 | 4 | 0 |
| IC4801 | 5 | 2.5 |
| IC4801 | 6 | 2.5 |
| IC4801 | 7 | 2.5 |
| IC4801 | 8 | 4.8 |
| IC4802 | 1 | 2.5 |
| IC4802 | 2 | 2.5 |
| IC4802 | 3 | 2.5 |
| IC4802 | 4 | 0 |
| IC4802 | 5 | 2.5 |
| IC4802 | 6 | 2.5 |
| IC4802 | 7 | 2.5 |
| IC4802 | 8 | 4.8 |
| IC4803 | 1 | 2.5 |
| IC4803 | 2 | 2.5 |
| IC4803 | 3 | 2.5 |
| IC4803 | 4 | 0 |
| IC4803 | 5 | 2.5 |
| IC4803 | 6 | 2.5 |
| IC4803 | 7 | 2.5 |
| IC4803 | 8 | 4.8 |
| Q4801 | E | 4.1 |
| Q4801 | C | 4.8 |
| Q4801 | B | 4.8 |

S2.4. BATT_Catcher P.C.B.

| REF No. | PIN No. | POWER ON | REF No. | PIN No. | POWER ON |
|---------|---------|----------|---------|---------|----------|
| IC6302 | 1 | 3.2 | IC851 | 62 | 0 |
| IC6302 | 2 | 0 | IC851 | 63 | 0 |
| IC6302 | 3 | 0 | IC851 | 64 | 0 |
| IC6302 | 4 | 2.9 | | | |
| IC6302 | 5 | 3.2 | | | |
| IC851 | 1 | 0 | | | |
| IC851 | 2 | 0 | | | |
| IC851 | 3 | 0 | | | |
| IC851 | 4 | 0 | | | |
| IC851 | 5 | 0 | | | |
| IC851 | 6 | 0 | | | |
| IC851 | 7 | 0 | | | |
| IC851 | 8 | 0 | | | |
| IC851 | 9 | 0 | | | |
| IC851 | 10 | 0 | | | |
| IC851 | 11 | 0 | | | |
| IC851 | 12 | 0.7 | | | |
| IC851 | 13 | 0.7 | | | |
| IC851 | 14 | 0 | | | |
| IC851 | 15 | 0 | | | |
| IC851 | 16 | 0 | | | |
| IC851 | 17 | 0 | | | |
| IC851 | 18 | 0 | | | |
| IC851 | 19 | 0 | | | |
| IC851 | 20 | 0 | | | |
| IC851 | 21 | 0 | | | |
| IC851 | 22 | 0 | | | |
| IC851 | 23 | 0 | | | |
| IC851 | 24 | 0.2 | | | |
| IC851 | 25 | 0 | | | |
| IC851 | 26 | 0 | | | |
| IC851 | 27 | 0 | | | |
| IC851 | 28 | 0 | | | |
| IC851 | 29 | 0 | | | |
| IC851 | 30 | 0 | | | |
| IC851 | 31 | 0 | | | |
| IC851 | 32 | 0 | | | |
| IC851 | 33 | 0.1 | | | |
| IC851 | 34 | 0 | | | |
| IC851 | 35 | 0 | | | |
| IC851 | 36 | 0 | | | |
| IC851 | 37 | 0 | | | |
| IC851 | 38 | 0 | | | |
| IC851 | 39 | 0 | | | |
| IC851 | 40 | 0 | | | |
| IC851 | 41 | 0 | | | |
| IC851 | 42 | 0 | | | |
| IC851 | 43 | 0 | | | |
| IC851 | 44 | 0 | | | |
| IC851 | 45 | 0 | | | |
| IC851 | 46 | 0 | | | |
| IC851 | 47 | 0 | | | |
| IC851 | 48 | 0 | | | |
| IC851 | 49 | 0 | | | |
| IC851 | 50 | 0 | | | |
| IC851 | 51 | 0 | | | |
| IC851 | 52 | 0 | | | |
| IC851 | 53 | 0 | | | |
| IC851 | 54 | 0 | | | |
| IC851 | 55 | 0 | | | |
| IC851 | 56 | 0 | | | |
| IC851 | 57 | 0 | | | |
| IC851 | 58 | 0 | | | |
| IC851 | 59 | 0 | | | |
| IC851 | 60 | 0 | | | |
| IC851 | 61 | 0 | | | |

S3. Block Diagram

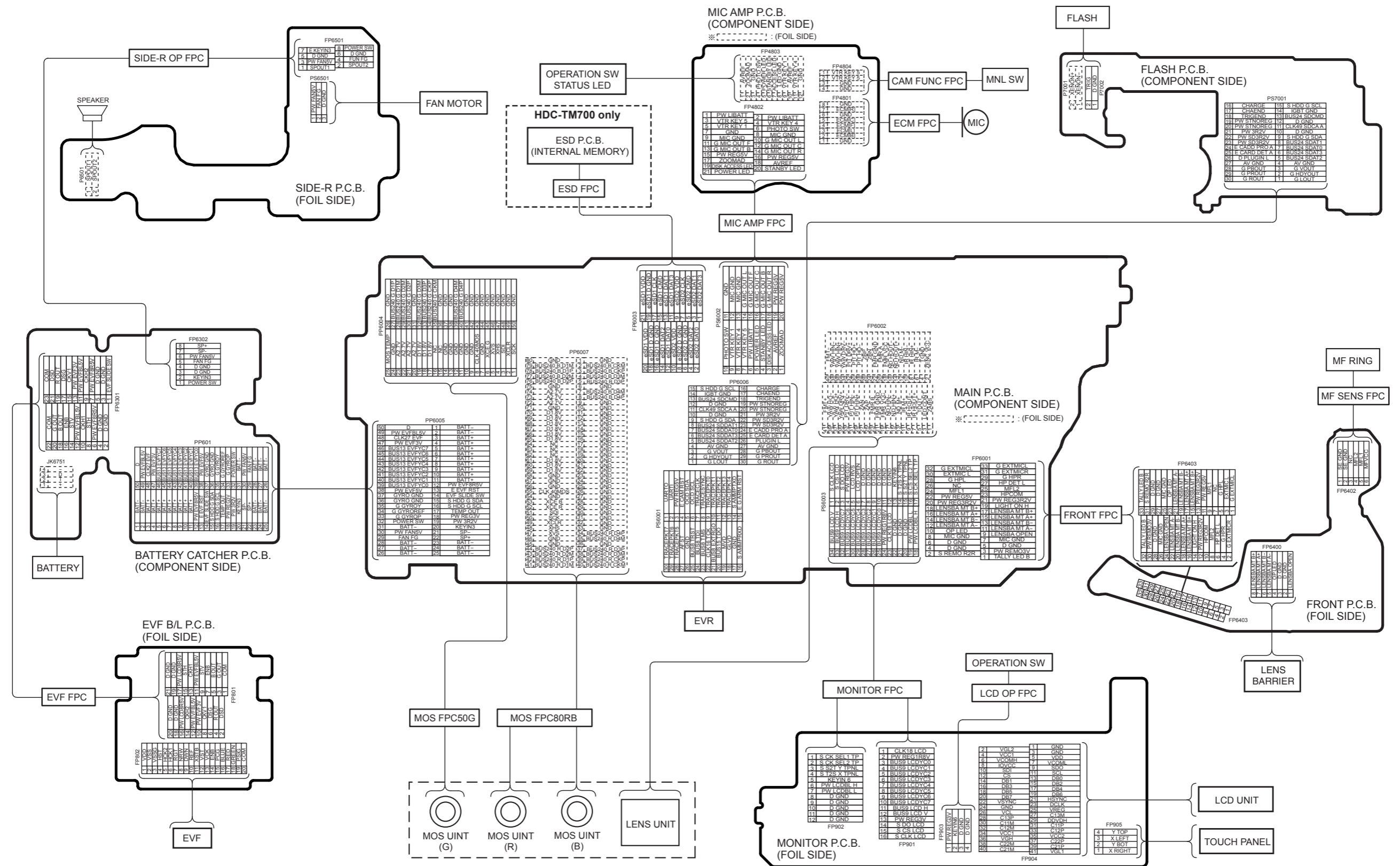
S3.1. Overall Block Diagram



HDC-TM700/SD700/SD707 OVERALL BLOCK DIAGRAM

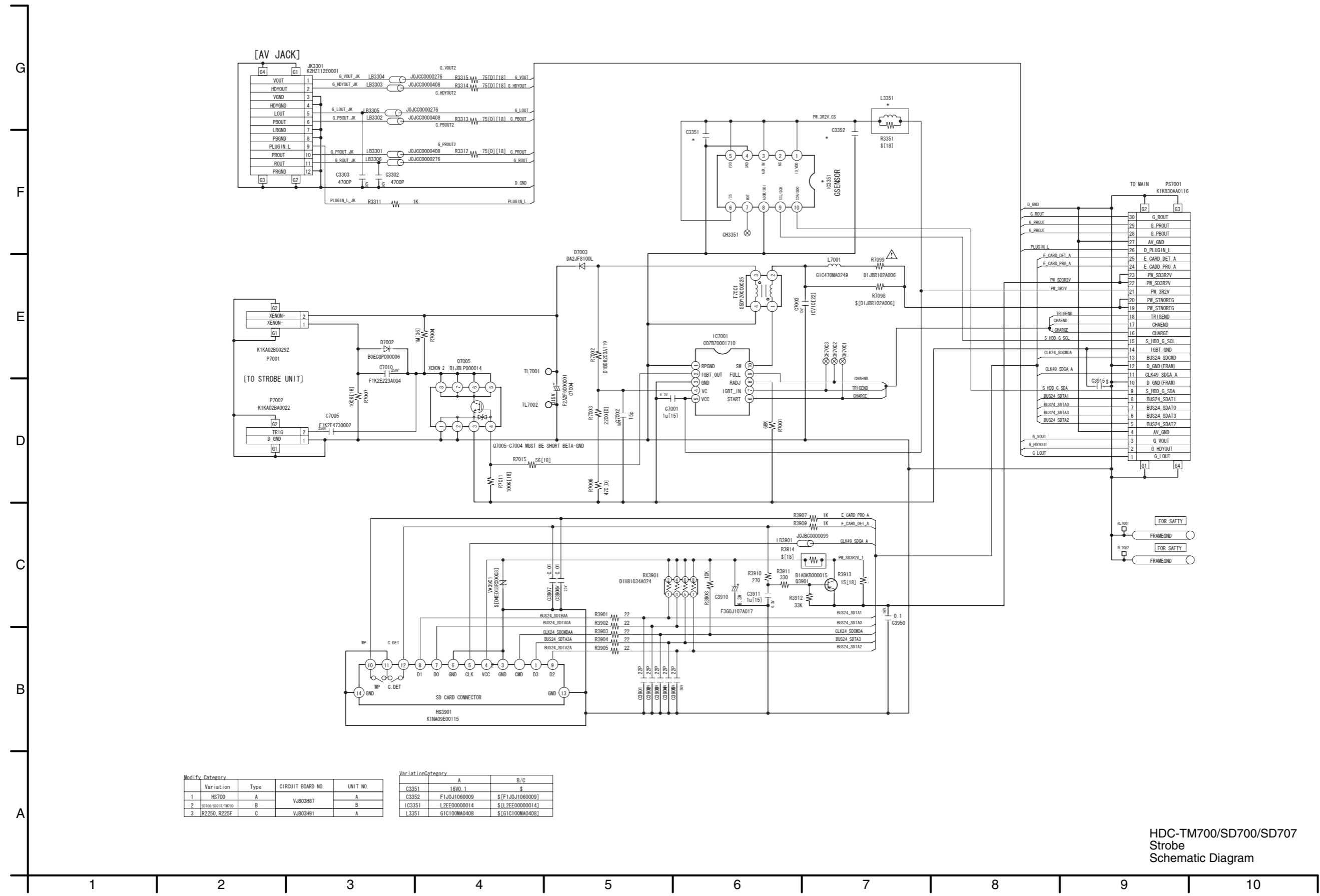
S4. Schematic Diagram

S4.1. Interconnection Diagram



HDC-TM700/SD700/SD707 INTERCONNECTION DIAGRAM

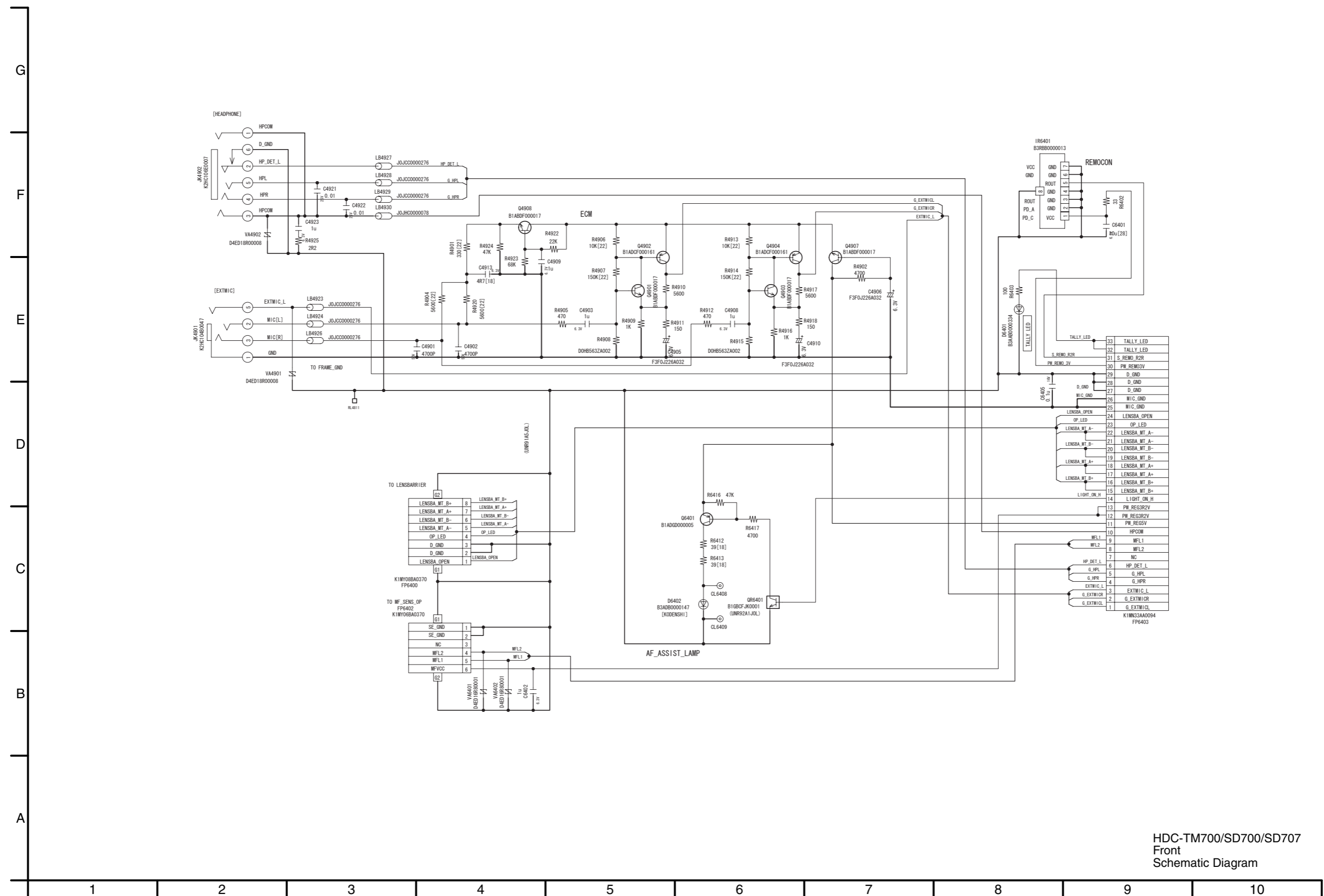
S4.2. Strobe Schematic Diagram



| Modify Category | | | | Variation Category | |
|-----------------|---------------|-------------------|----------|--------------------|--------------|
| Variation | Type | CIRCUIT BOARD NO. | UNIT NO. | A | B/C |
| 1 | HS700 | A | V.B03887 | A | |
| 2 | HS700, HS700P | B | V.B03887 | B | |
| 3 | R2250, R225F | C | V.B03891 | A | |
| | | | | C3351 | I690_1 |
| | | | | C3352 | F1J0J1060009 |
| | | | | LC3351 | L2EE0000014 |
| | | | | L3351 | G1C100MA0408 |

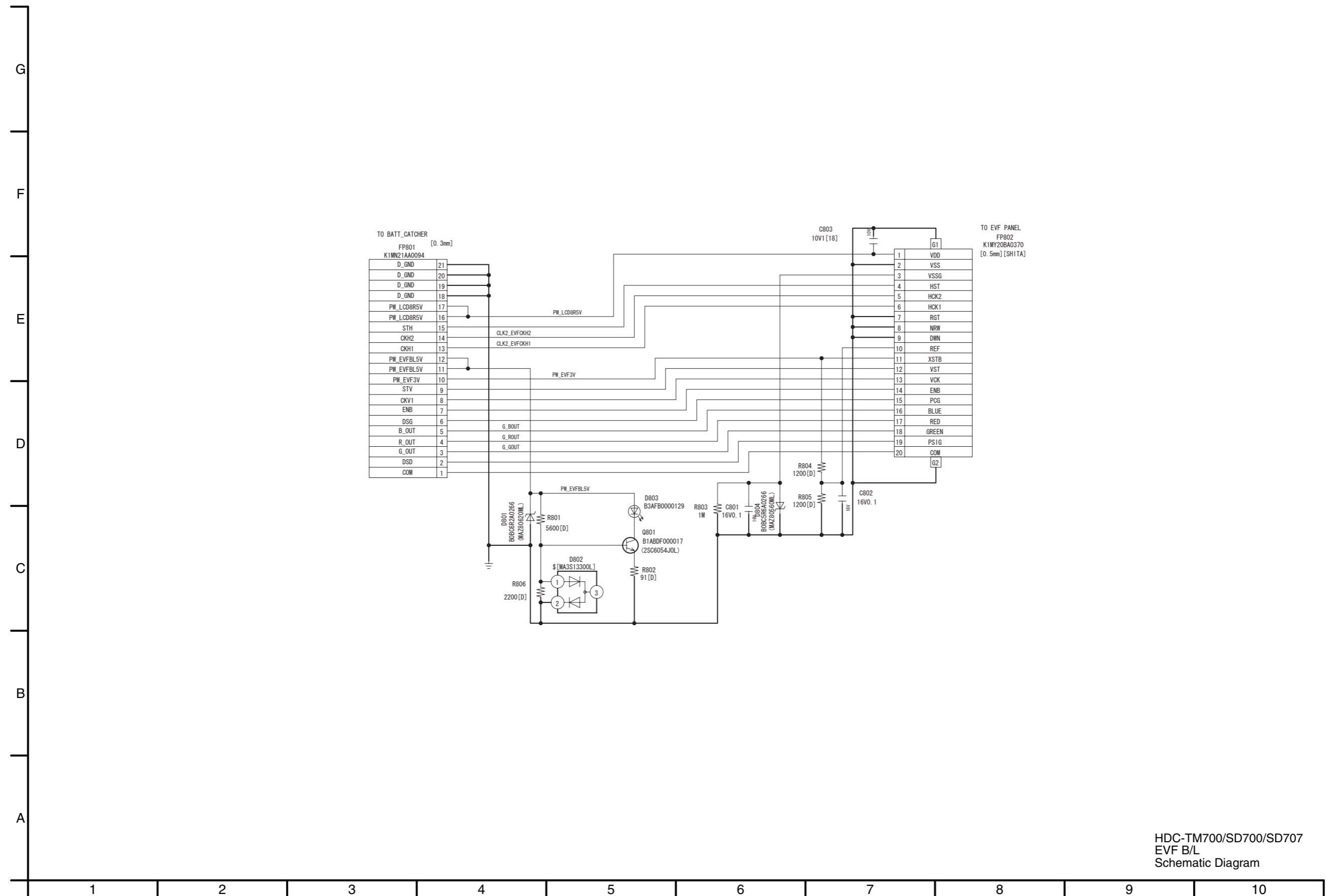
HDC-TM700/SD700/SD707
Strobe
Schematic Diagram

S4.3. Front Schematic Diagram

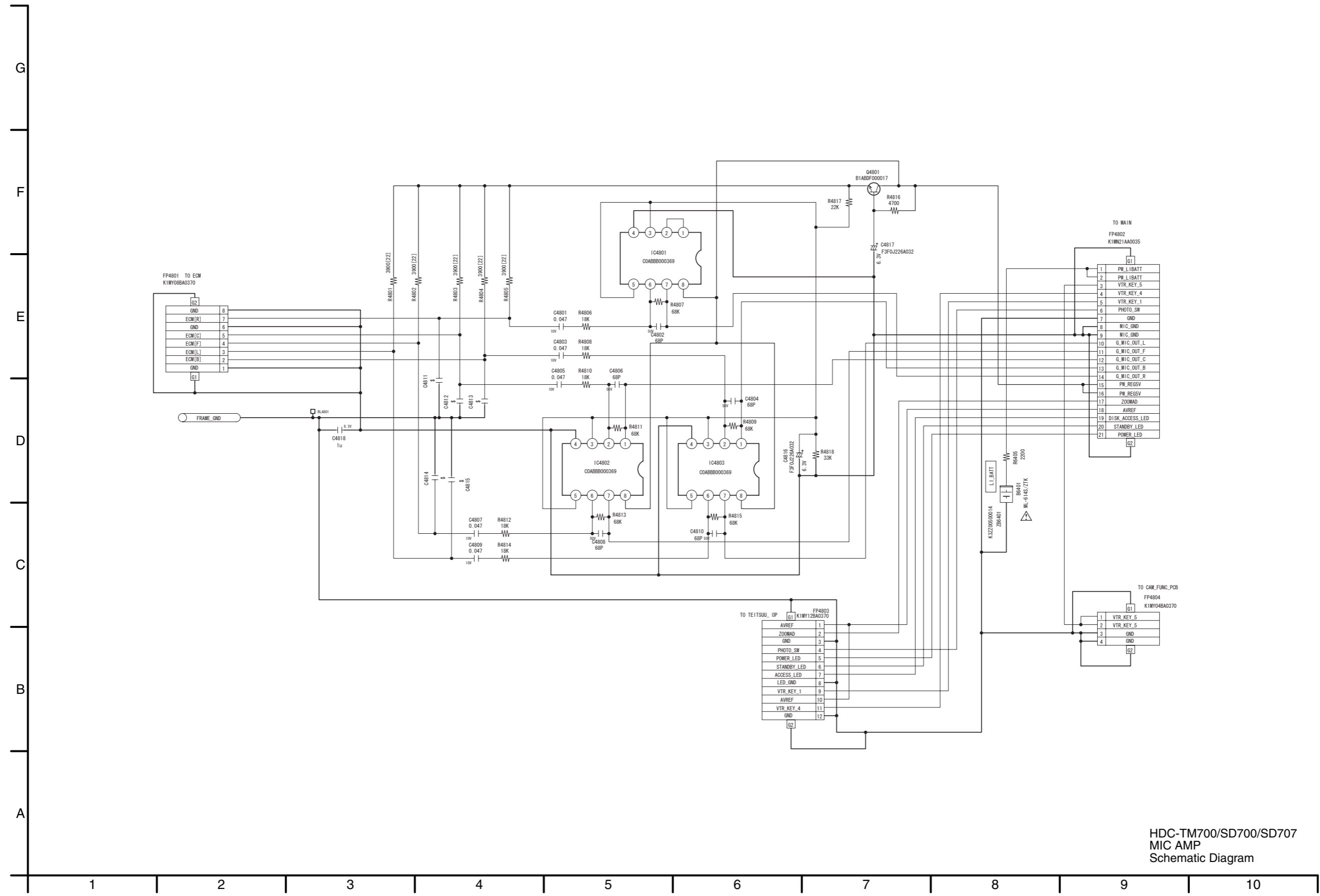


HDC-TM700/SD700/SD707
Front
Schematic Diagram

S4.4. EVF B/L Schematic Diagram

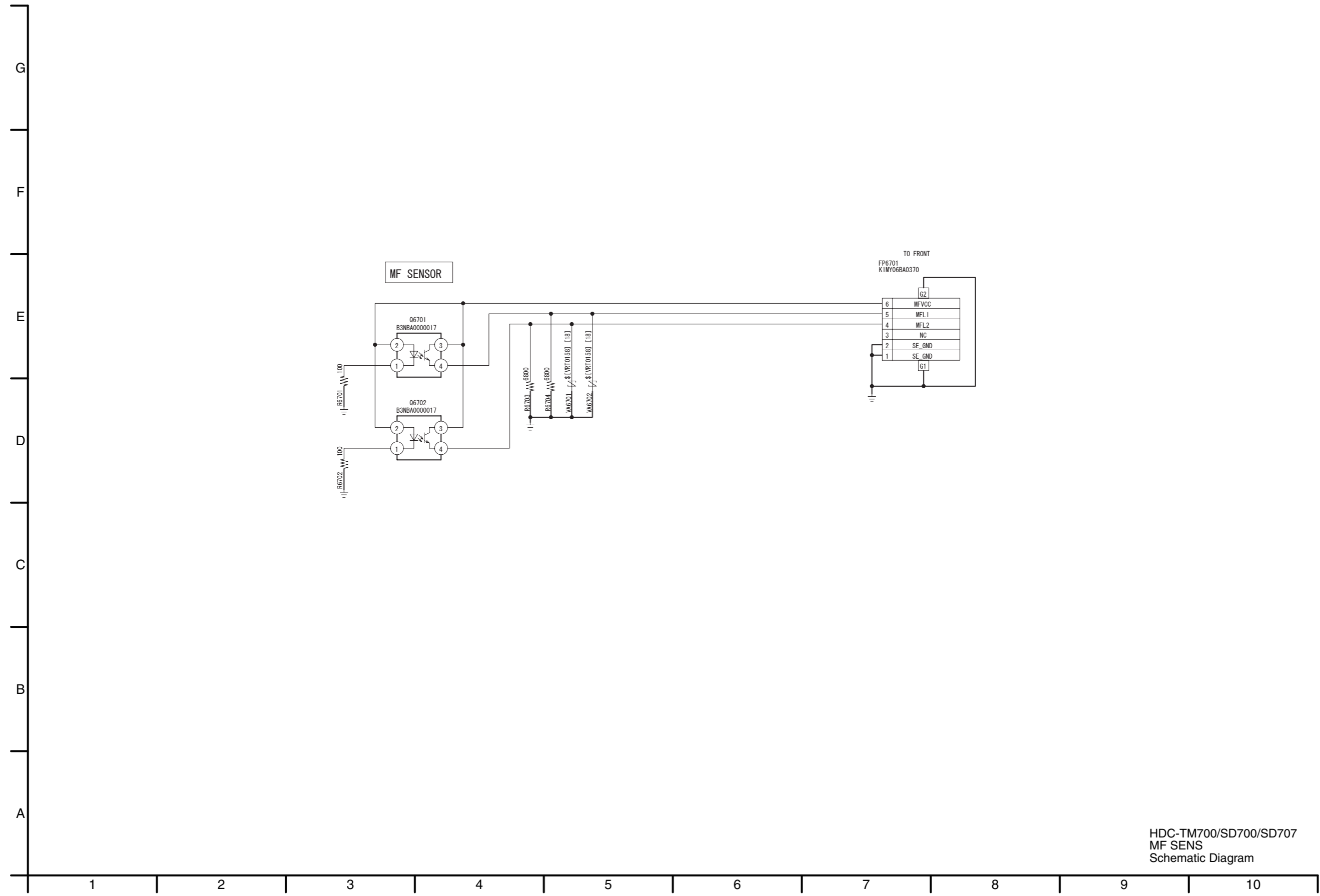


S4.5. MIC AMP Schematic Diagram



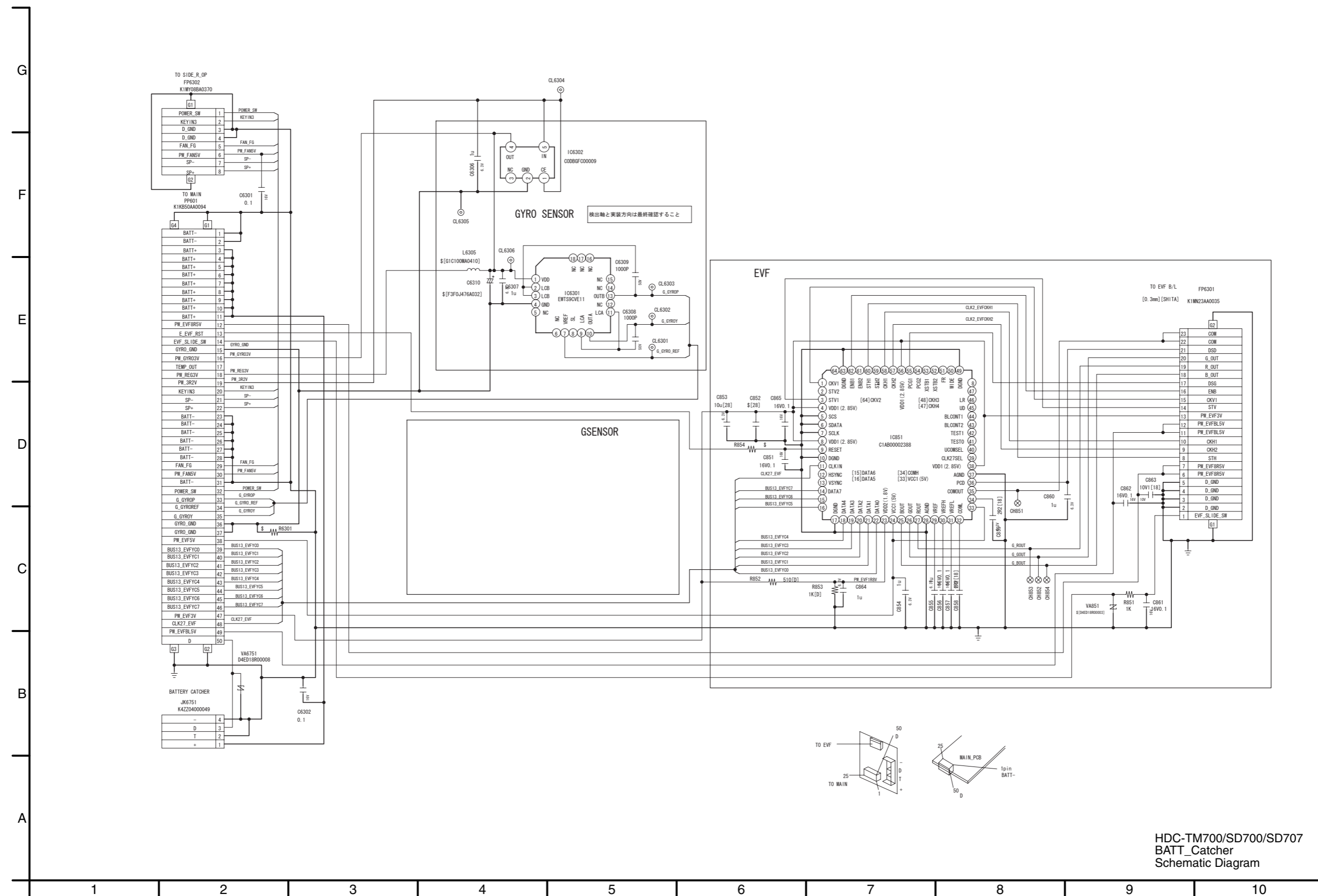
HDC-TM700/SD700/SD707
MIC AMP
Schematic Diagram

S4.6. MF SENS Schematic Diagram



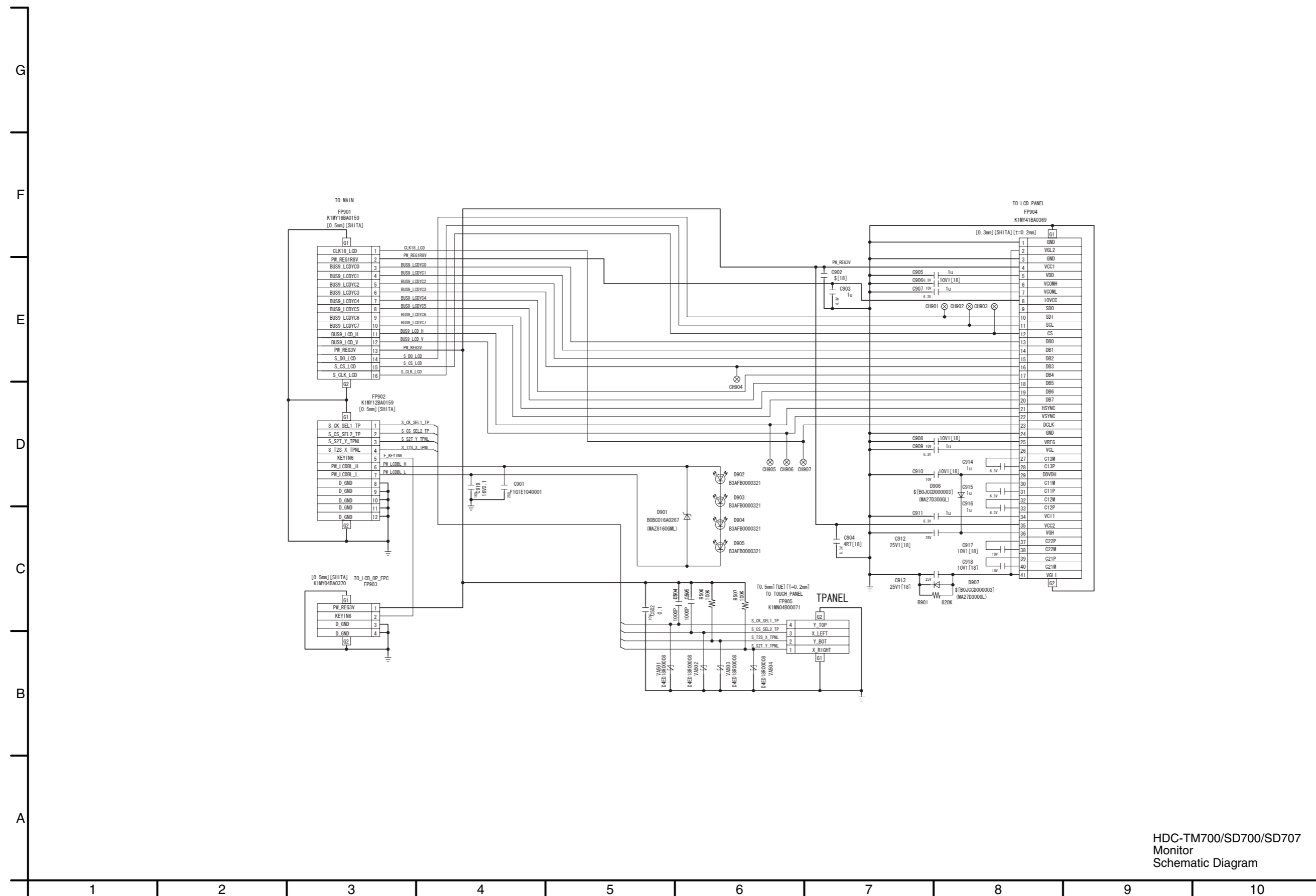
HDC-TM700/SD700/SD707
MF SENS
Schematic Diagram

S4.7. BATT_Catcher Schematic Diagram



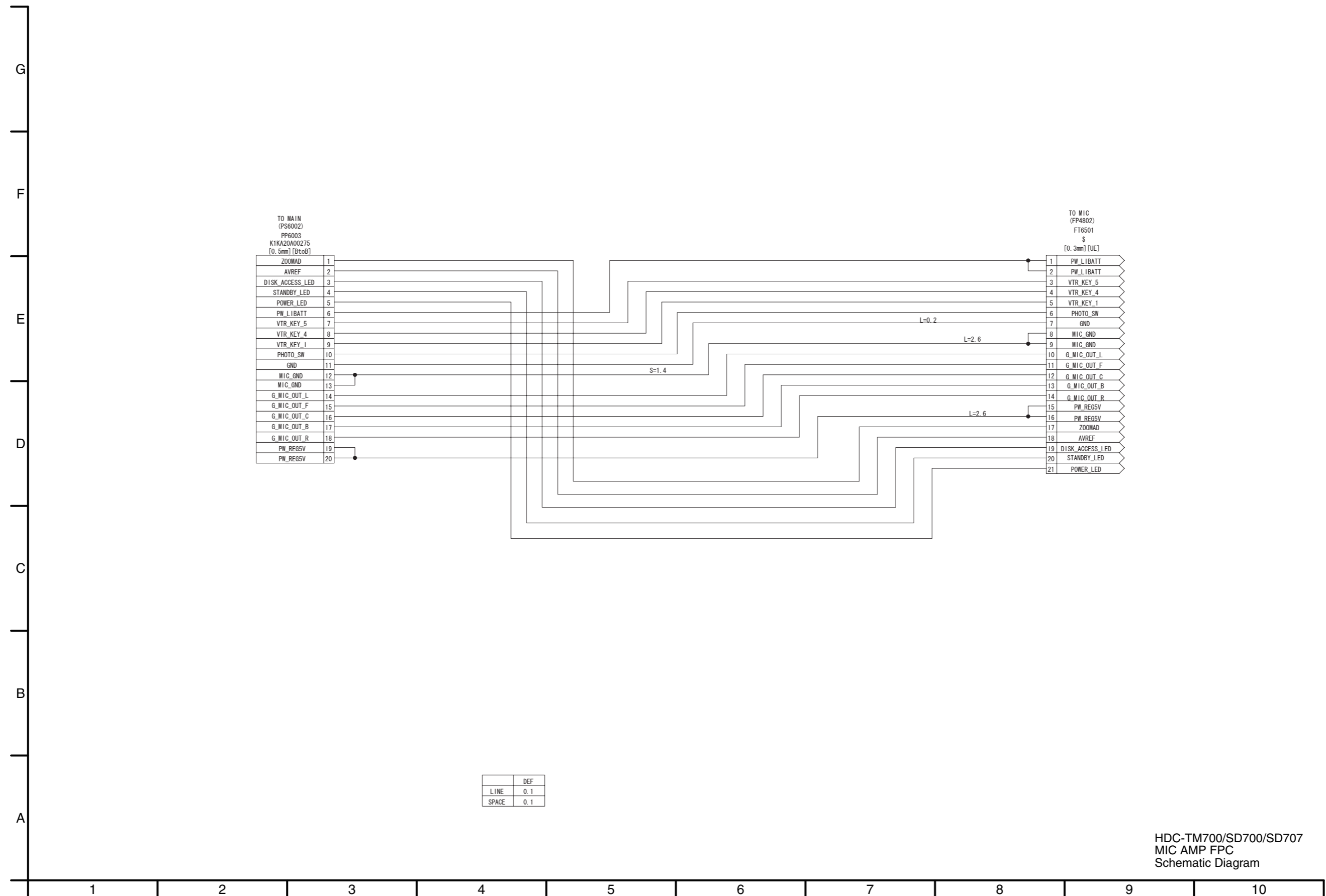
HDC-TM700/SD700/SD707
BATT_Catcher
Schematic Diagram

S4.8. Monitor Schematic Diagram

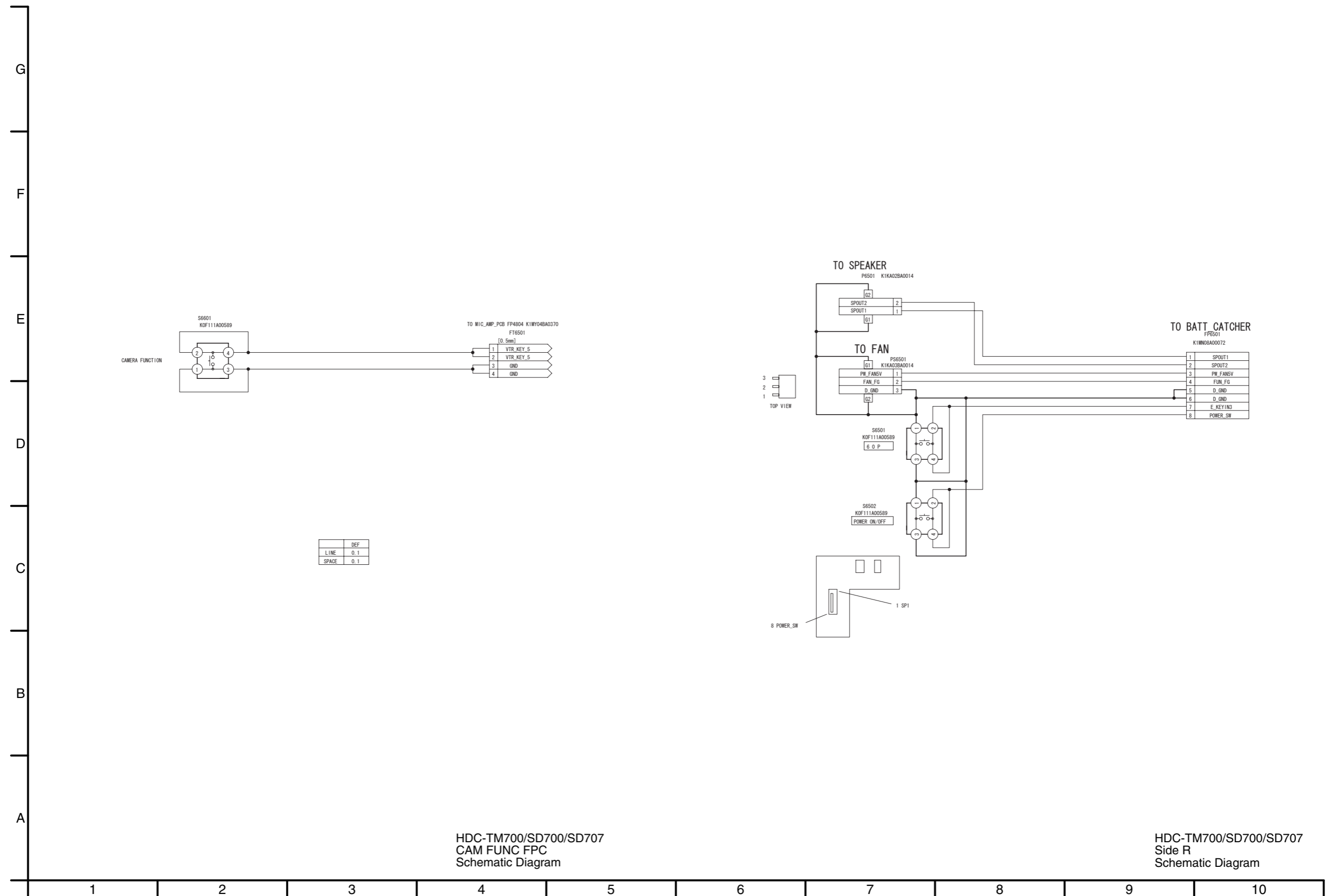


HDC-TM700/SD700/SD707
Monitor
Schematic Diagram

S4.9. MIC AMP FPC Schematic Diagram



S4.10. CAM FUNC FPC Schematic Diagram / S4.11. Side R Schematic Diagram



| | DEF |
|-------|-----|
| LINE | 0.1 |
| SPACE | 0.1 |

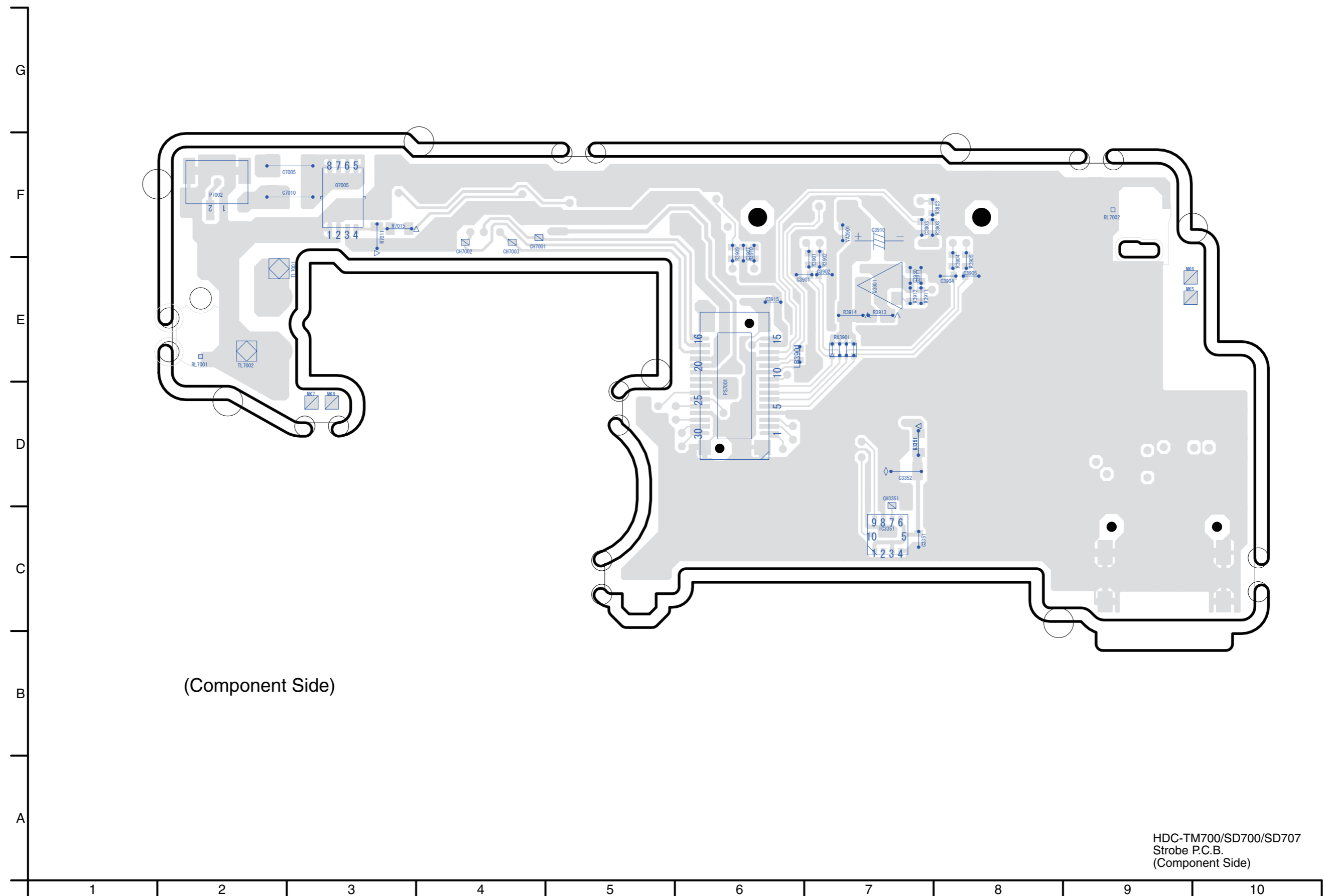
HDC-TM700/SD700/SD707
CAM FUNC FPC
Schematic Diagram

HDC-TM700/SD700/SD707
Side R
Schematic Diagram

S5. Print Circuit Board

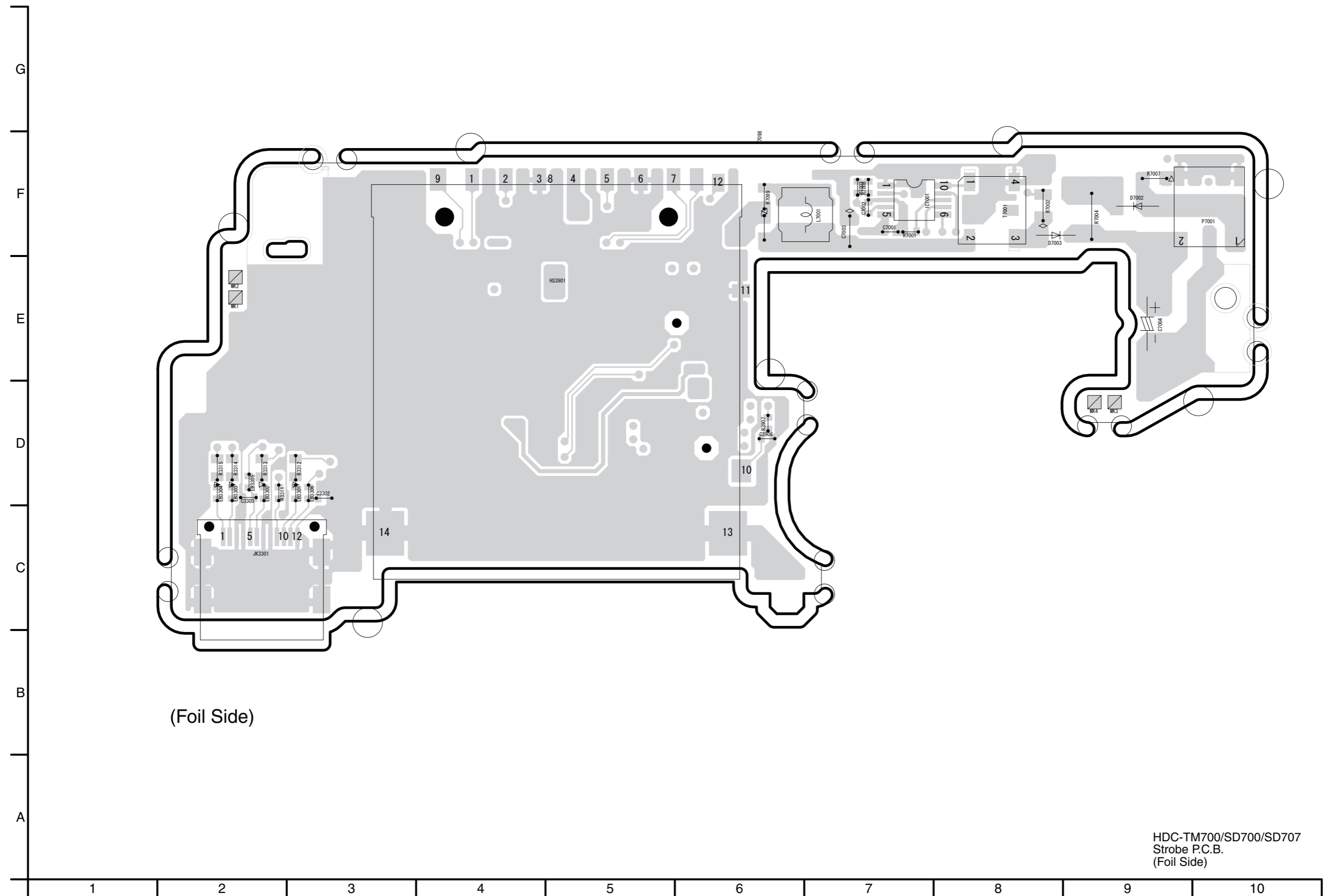
S5.1. Strobe P.C.B.

S5.1.1. Strobe P.C.B. (Component Side)



HDC-TM700/SD700/SD707
Strobe P.C.B.
(Component Side)

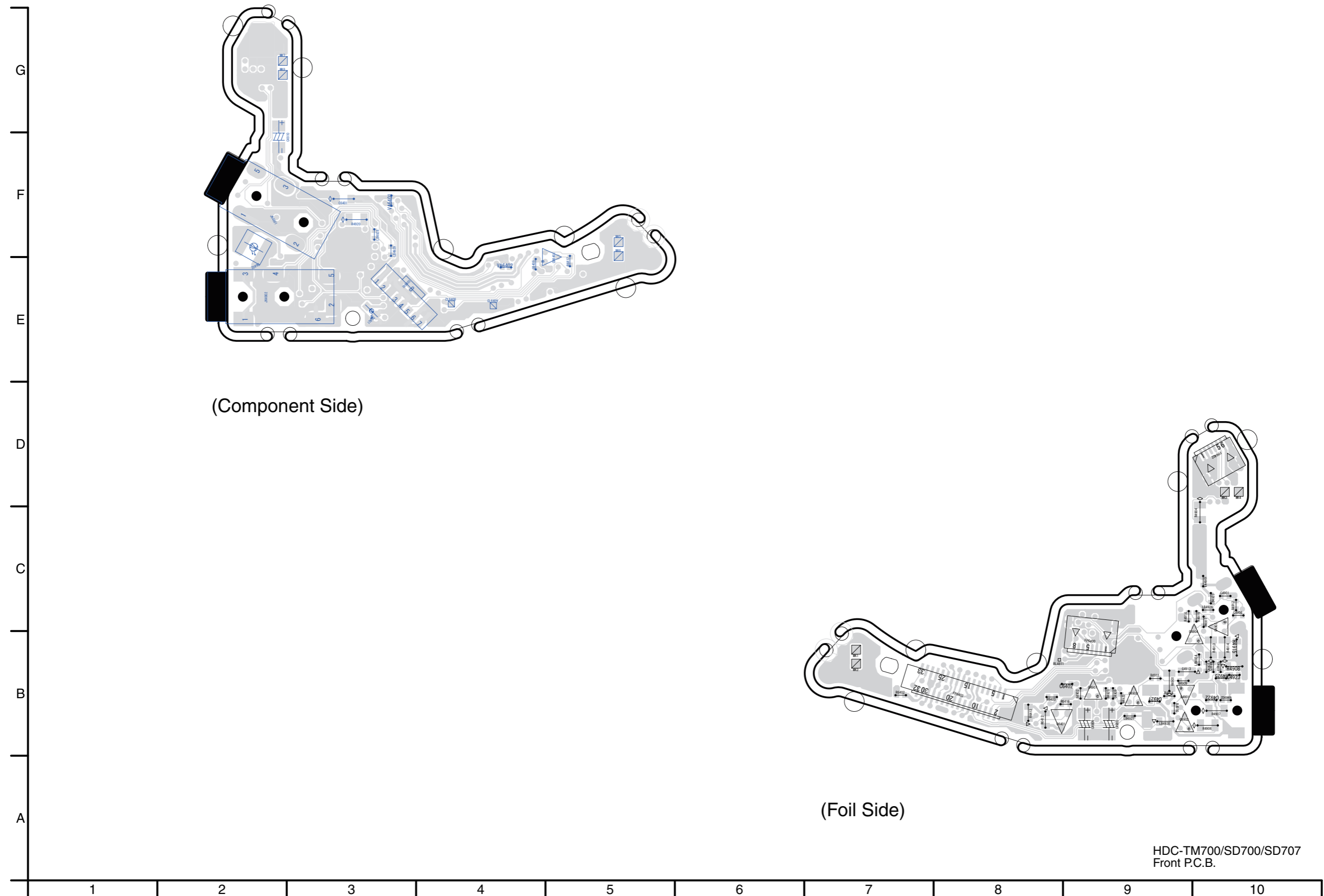
S5.1.2. Strobe P.C.B. (Foil Side)



(Foil Side)

HDC-TM700/SD700/SD707
Strobe P.C.B.
(Foil Side)

S5.2. Front P.C.B.

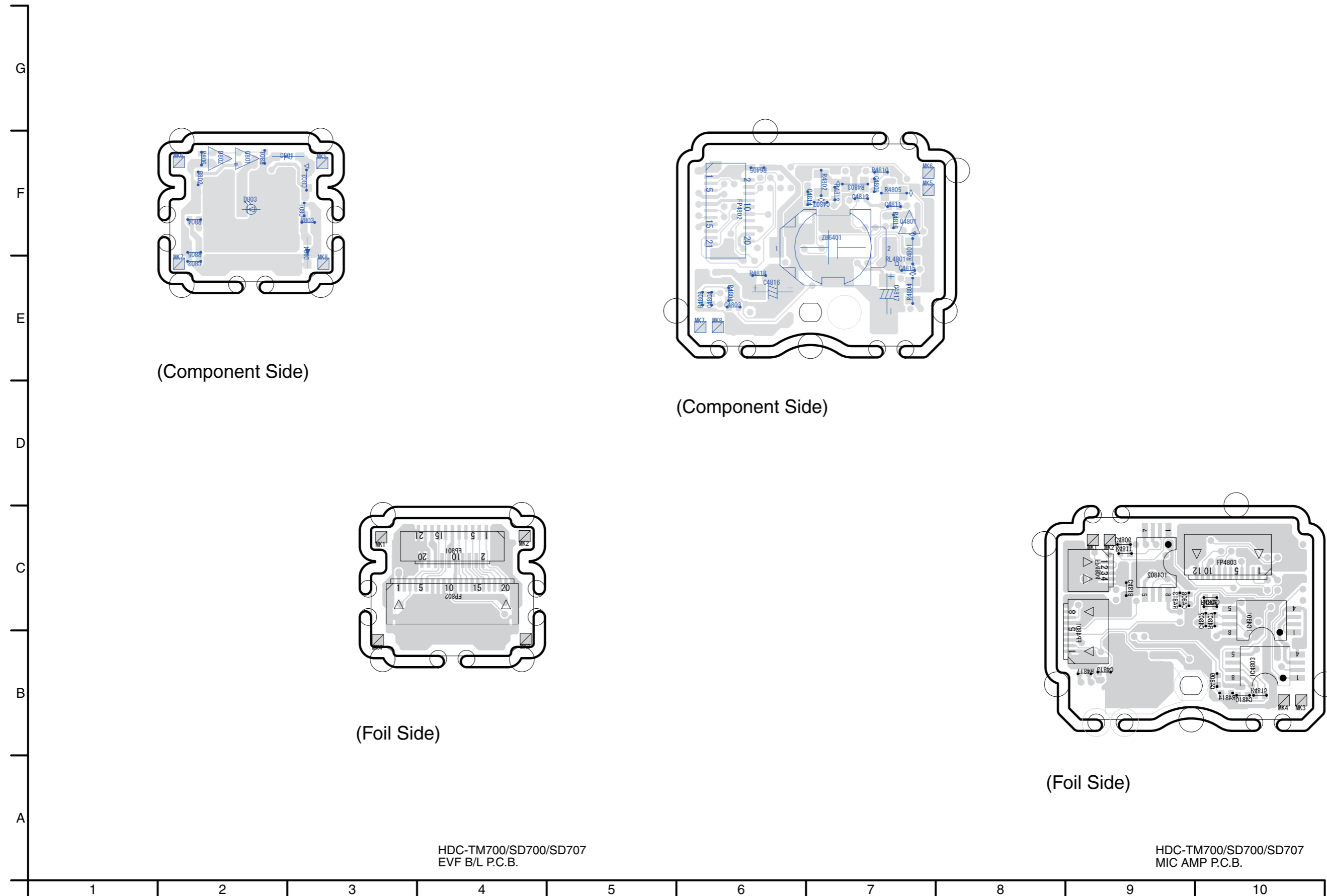


(Component Side)

(Foil Side)

HDC-TM700/SD700/SD707
Front P.C.B.

S5.3. EVF B/L P.C.B. / S5.4. MIC AMP P.C.B.



(Component Side)

(Component Side)

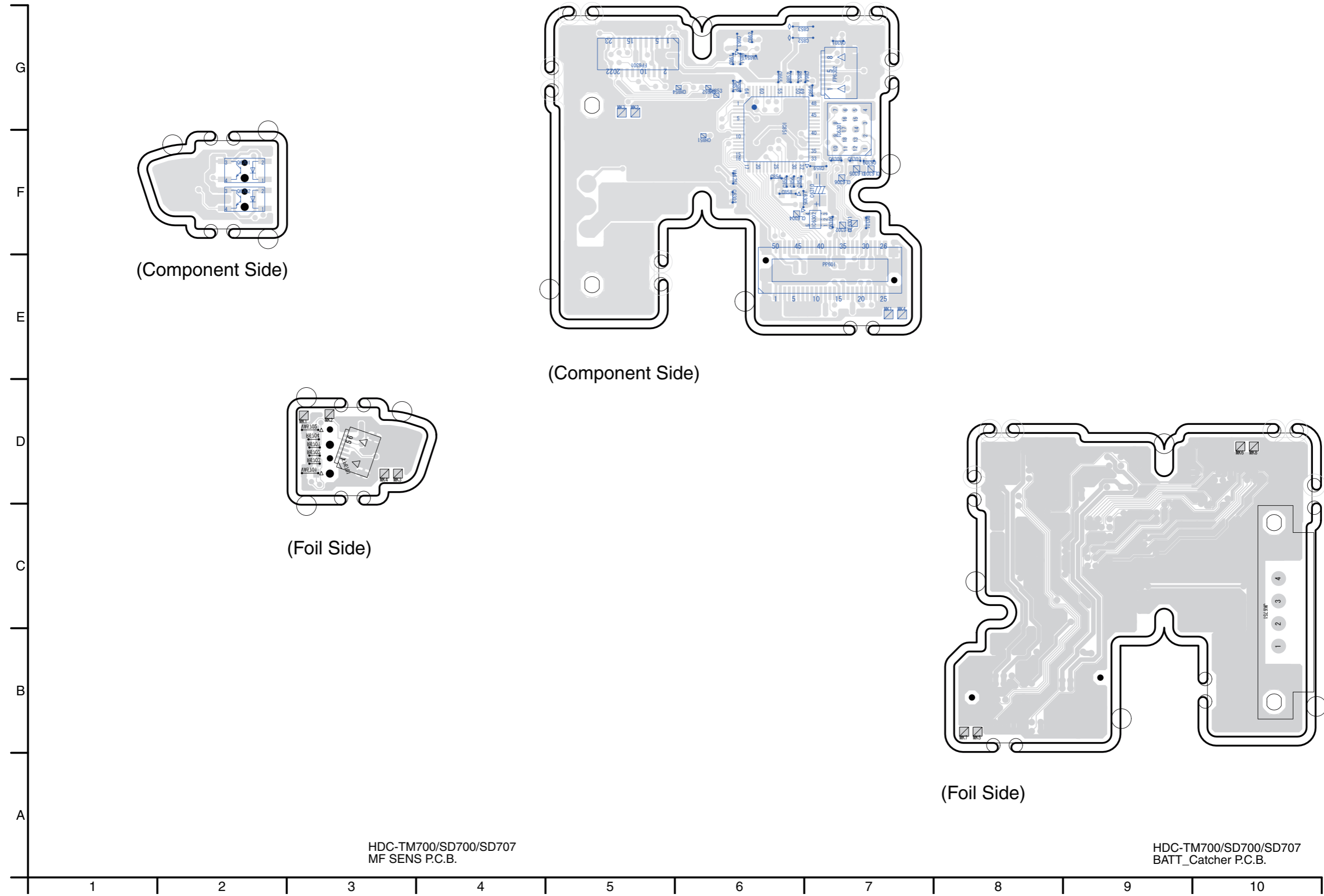
(Foil Side)

(Foil Side)

HDC-TM700/SD700/SD707
EVF B/L P.C.B.

HDC-TM700/SD700/SD707
MIC AMP P.C.B.

S5.5. MF SENS P.C.B. / S5.6. BATT_Catcher P.C.B.

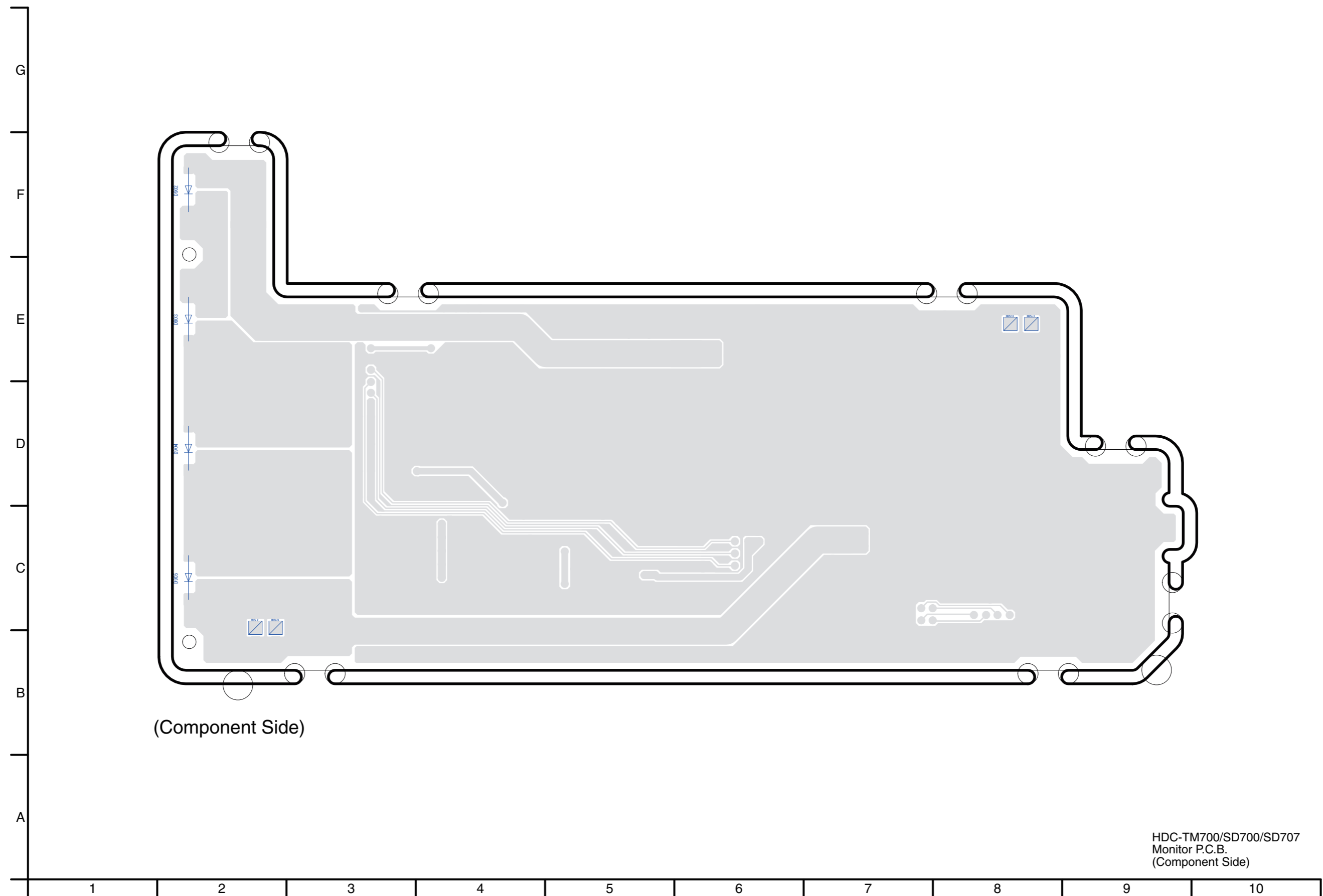


HDC-TM700/SD700/SD707
MF SENS P.C.B.

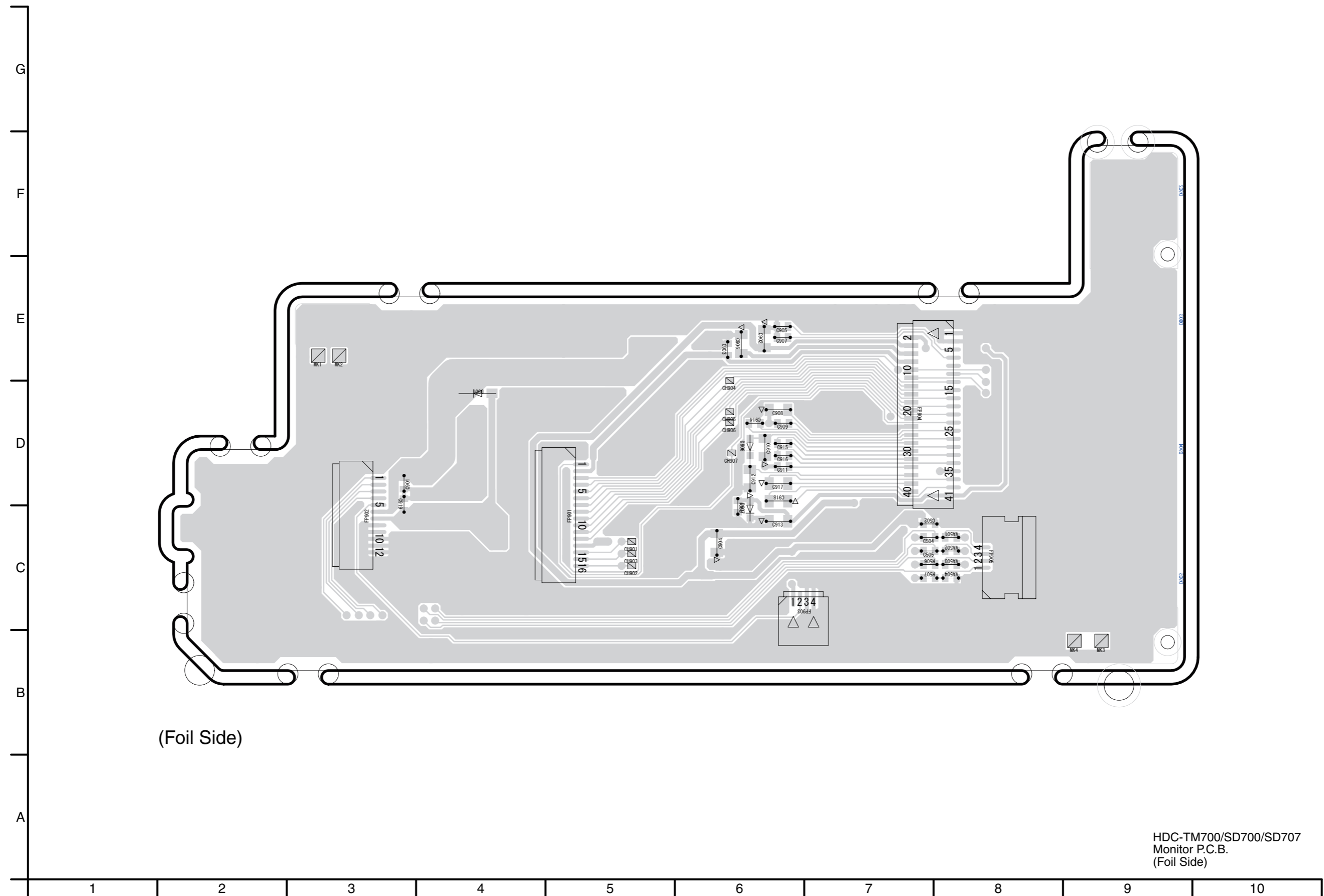
HDC-TM700/SD700/SD707
BATT_Catcher P.C.B.

S5.7. Monitor P.C.B.

S5.7.1. Monitor P.C.B. (Component Side)

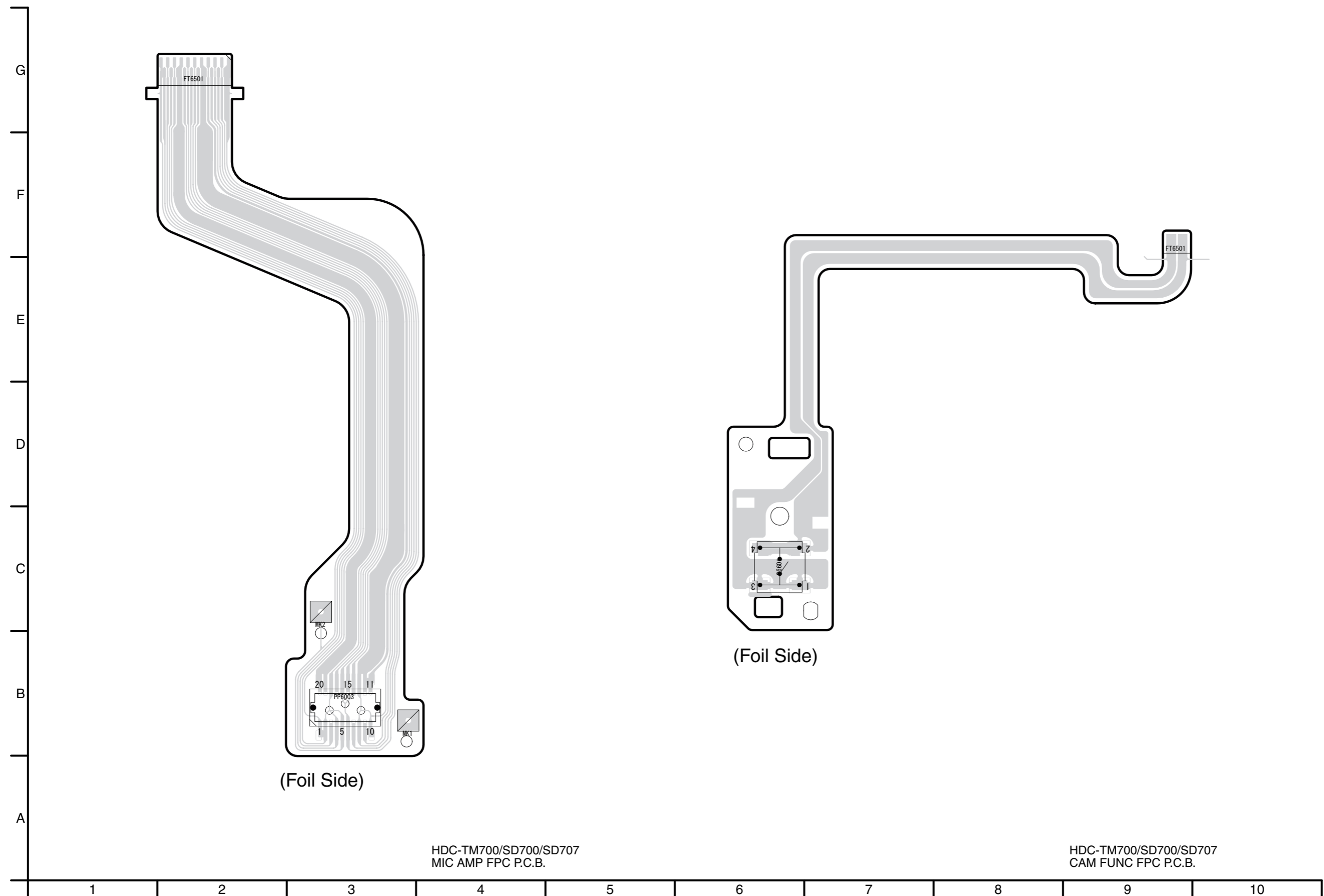


S5.7.2. Monitor P.C.B. (Foil Side)



HDC-TM700/SD700/SD707
Monitor P.C.B.
(Foil Side)

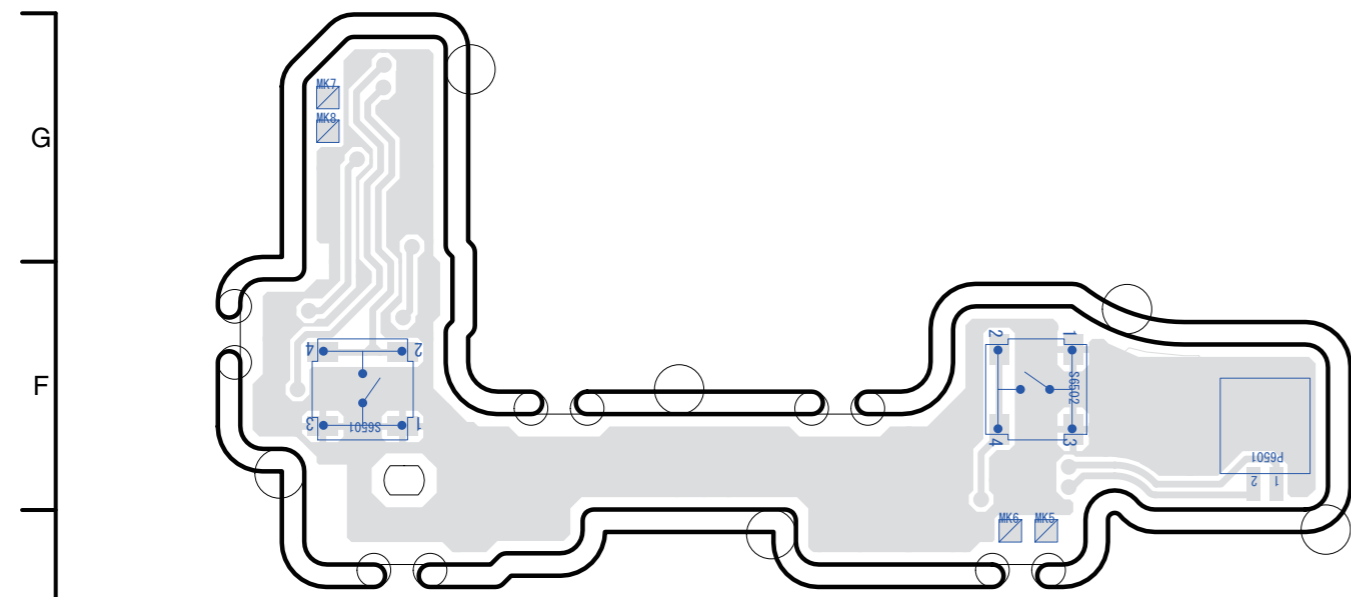
S5.8. MIC AMP FPC P.C.B. / S5.9. CAM FUNC FPC P.C.B.



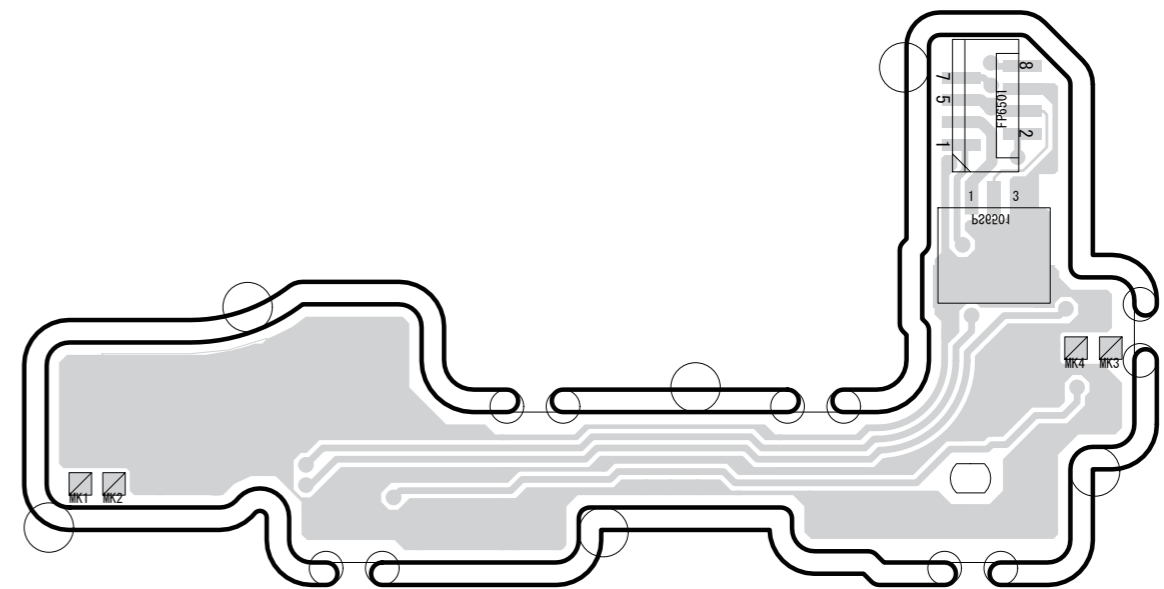
HDC-TM700/SD700/SD707
MIC AMP FPC P.C.B.

HDC-TM700/SD700/SD707
CAM FUNC FPC P.C.B.

S5.10. Side R P.C.B.

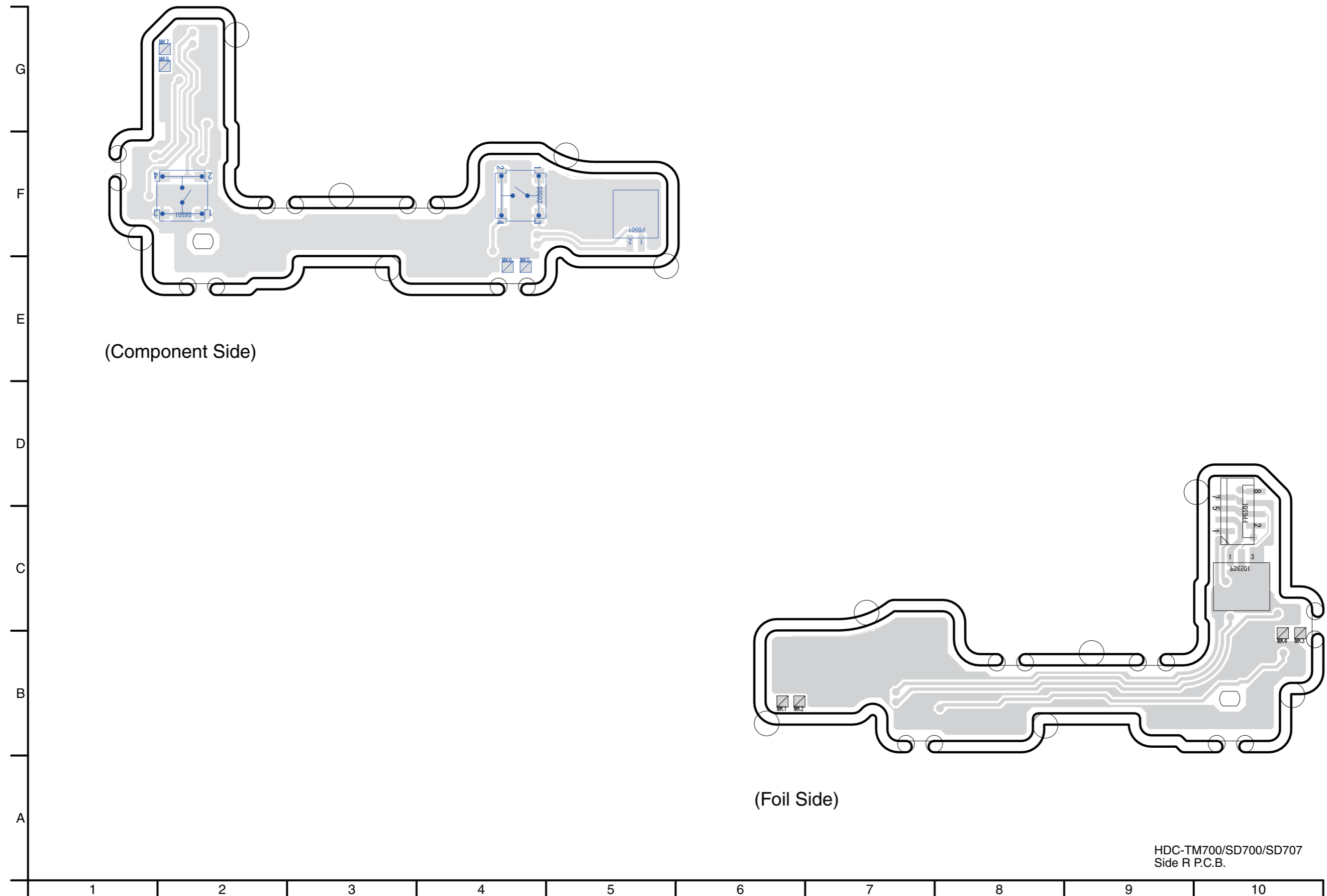


(Component Side)



(Foil Side)

HDC-TM700/SD700/SD707
Side R P.C.B.



S6. Replacement Parts List

- Note: 1.* Be sure to make your orders of replacement parts according to this list.
2. IMPORTANT SAFETY NOTICE
Components identified with the mark \triangle have the special characteristics for safety.
When replacing any of these components, use only the same type.
3. Unless otherwise specified,
All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICRO-FARADS (uf), P=uuF.
4. The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

E.S.D. standards for Electrostatically Sensitive Devices, refer to “PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES” section.

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|---------------------------|-----|--|
| ## | VEP03H98CP | MAIN PCB UNIT | 1 | TM700EG,EP,EF,EB,EC (RTL) E.S.D. |
| ## | VEP03H98CQ | MAIN PCB UNIT | 1 | TM700EE,GC,GK (RTL) E.S.D. |
| ## | VEP03H98CN | MAIN PCB UNIT | 1 | TM700P,PC,PU,GD (RTL) E.S.D. |
| ## | VEP03H98DP | MAIN PCB UNIT | 1 | SD700EG,EP,EF,EB,EC, SD707EG (RTL) E.S.D. |
| ## | VEP03H98DQ | MAIN PCB UNIT | 1 | SD700EE,GC,GN (RTL) E.S.D. |
| ## | VEP03H87B | FLASH PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP20C84A | FRONT PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP29224A | EVF BL PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP04956A | MIC AMP PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP27225A | MF SENS PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP01A32A | BATT CATCHER PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP26330A | MONITOR PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP04957A | MIC AMP FPC UNIT | 1 | (RTL) E.S.D. |
| ## | VEP20C85A | CAM FUNC PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP06G50A | SIDE R OP PCB UNIT | 1 | (RTL) E.S.D. |
| ## | VEP03H87B | FLASH PCB UNIT | 1 | (RTL) E.S.D. |
| C3302 | ECJ0EB1E472K | C.CAPACITOR CH 25V 4700P | 1 | |
| C3303 | ECJ0EB1E472K | C.CAPACITOR CH 25V 4700P | 1 | |
| C3901 | ECJ0EC1H220J | C.CAPACITOR CH 50V 22P | 1 | |
| C3902 | ECJ0EC1H220J | C.CAPACITOR CH 50V 22P | 1 | |
| C3903 | ECJ0EC1H220J | C.CAPACITOR CH 50V 22P | 1 | |
| C3904 | ECJ0EC1H220J | C.CAPACITOR CH 50V 22P | 1 | |
| C3905 | ECJ0EC1H220J | C.CAPACITOR CH 50V 22P | 1 | |
| C3906 | ECJ0EB1C103K | C.CAPACITOR CH 16V 0.01U | 1 | |
| C3907 | ECJ0EB1C103K | C.CAPACITOR CH 16V 0.01U | 1 | |
| C3910 | F3G0J107A017 | C.CAPACITOR CH 6.3V 100U | 1 | |
| C3911 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C3950 | F1G1A104A012 | C.CAPACITOR CH 10V 0.1U | 1 | |
| C7001 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C7002 | ECJ0EC1H150J | C.CAPACITOR CH 50V 15P | 1 | |
| C7003 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| C7004 | F2A2F6000001 | ALUMINUM NON-SOLID ELECTR | 1 | |
| C7005 | F1K2E4730005 | C.CAPACITOR 250V 0.047U | 1 | |
| C7010 | F1K2E223A004 | C.CAPACITOR 250V 0.022U | 1 | |
| D7002 | B0ECGP000006 | DIODE | 1 | E.S.D. |
| D7003 | DA2JF8100L | DIODE | 1 | E.S.D. |
| HS3901 | K1NA09E00115 | SD CARD SLOT | 1 | |
| IC7001 | C0ZBZ0001710 | IC | 1 | E.S.D. |
| JK3301 | K2HZ112E0001 | D-TERMINAL | 1 | |
| L7001 | G1C470MA0249 | CHIP INDUCTOR 47UH | 1 | |
| LB3301 | J0JCC0000408 | FILTER | 1 | |
| LB3302 | J0JCC0000408 | FILTER | 1 | |
| LB3303 | J0JCC0000408 | FILTER | 1 | |
| LB3304 | J0JCC0000276 | FILTER | 1 | |
| LB3305 | J0JCC0000276 | FILTER | 1 | |
| LB3306 | J0JCC0000276 | FILTER | 1 | |
| P7001 | K1KA02B00292 | CONNECTOR 2P | 1 | |
| P7002 | K1KA02BA0022 | CONNECTOR 2P | 1 | |
| PS7001 | K1KB30AA0116 | CONNECTOR 30P | 1 | |
| Q3901 | B1ADKB000015 | TRANSISTOR | 1 | E.S.D. |
| Q7005 | B1JBLP000014 | TRANSISTOR | 1 | E.S.D. |
| R3311 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R3312 | ERJ3RED750V | SURFACE MOUNTING FI & D0 | 1 | |
| R3313 | ERJ3RED750V | SURFACE MOUNTING FI & D0 | 1 | |
| R3314 | ERJ3RED750V | SURFACE MOUNTING FI & D0 | 1 | |
| R3315 | ERJ3RED750V | SURFACE MOUNTING FI & D0 | 1 | |
| R3901 | ERJ2GEJ220 | M.RESISTOR CH 1/16W 22 | 1 | |
| R3902 | ERJ2GEJ220 | M.RESISTOR CH 1/16W 22 | 1 | |
| R3903 | ERJ2GEJ220 | M.RESISTOR CH 1/16W 22 | 1 | |
| R3904 | ERJ2GEJ220 | M.RESISTOR CH 1/16W 22 | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|---------------|---------------------------|-----|--------------|
| R3905 | ERJ2GEJ220 | M.RESISTOR CH 1/16W 22 | 1 | |
| R3906 | D0YAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| R3907 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R3908 | ERJ2GEJ103 | M.RESISTOR CH 1/10W 10K | 1 | |
| R3909 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R3910 | ERJ2GEJ271 | M.RESISTOR CH 1/10W 270 | 1 | |
| R3911 | ERJ2GEJ331 | M.RESISTOR CH 1/16W 330 | 1 | |
| R3912 | ERJ2GEJ333 | M.RESISTOR CH 1/16W 33K | 1 | |
| R3913 | D0GB150JA057 | M.RESISTOR CH 1/10W 15 | 1 | |
| R3914 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R7001 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R7002 | D1BD8203A119 | SURFACE MOUNTING PRECISIO | 1 | |
| R7003 | ERJ2RHD222 | M.RESISTOR CH 1/16W 2.2K | 1 | |
| R7004 | ERJ8GEYJ105V | M.RESISTOR CH 1/4W 1M | 1 | |
| R7006 | ERJ2RHD471X | M.RESISTOR CH 1/16W 470 | 1 | |
| R7007 | ERJ3GEYJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R7011 | ERJ3GEYJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R7015 | ERJ3GEYJ560 | M.RESISTOR CH 1/10W 56 | 1 | |
| △ R7099 | D1JBR102A006 | M.RESISTOR CH 1/16W 1K | 1 | |
| RX3901 | EXB28V103JX | RESISTOR NETWORKS | 1 | |
| T7001 | G5DYZ0000025 | SURFACE MOUNTING SWITCHIN | 1 | |
| ## | VEP20C84A | FRONT PCB UNIT | 1 | (RTL) E.S.D. |
| C4901 | ECJ0EB1E472K | C.CAPACITOR CH 25V 4700P | 1 | |
| C4902 | ECJ0EB1E472K | C.CAPACITOR CH 25V 4700P | 1 | |
| C4903 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C4905 | F3F0J226A032 | T.CAPACITOR CH 6.3V 22U | 1 | |
| C4906 | F3F0J226A032 | T.CAPACITOR CH 6.3V 22U | 1 | |
| C4908 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C4909 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C4910 | F3F0J226A032 | T.CAPACITOR CH 6.3V 22U | 1 | |
| C4913 | F1H0J475A010 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| C4923 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C6401 | F1J0J106A049 | C.CAPACITOR CH 6.3V 10U | 1 | |
| C6405 | F1G1A104A012 | C.CAPACITOR CH 10V 0.1U | 1 | |
| D6401 | B3AAB0000334 | LED | 1 | E.S.D. |
| D6402 | B3ADB0000147 | DIODE | 1 | E.S.D. |
| FP6400 | K1MY08BA0370 | CONNECTOR 8P | 1 | |
| FP6402 | K1MY06BA0370 | CONNECTOR 6P | 1 | |
| FP6403 | K1MN33AA0094 | CONNECTOR 33P | 1 | |
| IR6401 | B3RBB0000013 | REMOTE SENSOR | 1 | |
| JK4901 | K2HC104B0047 | JK, EXT MIC | 1 | |
| JK4902 | K2HC106E0007 | JACK, AV | 1 | |
| LB4923 | J0JCC0000276 | FILTER | 1 | |
| LB4924 | J0JCC0000276 | FILTER | 1 | |
| LB4926 | J0JCC0000276 | FILTER | 1 | |
| LB4927 | J0JCC0000276 | FILTER | 1 | |
| LB4928 | J0JCC0000276 | FILTER | 1 | |
| LB4929 | J0JCC0000276 | FILTER | 1 | |
| LB4930 | J0JHC0000078 | FILTER | 1 | |
| Q4901 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| Q4902 | B1ADCF000161 | TRANSISTOR | 1 | E.S.D. |
| Q4903 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| Q4904 | B1ADCF000161 | TRANSISTOR | 1 | E.S.D. |
| Q4907 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| Q4908 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| Q6401 | B1ADGD000005 | TRANSISTOR | 1 | E.S.D. |
| QR6401 | B1GBCFKJ0001 | TRANSISTOR | 1 | E.S.D. |
| QR6403 | B1GDCFFYY0010 | TRANSISTOR | 1 | E.S.D. |
| R4901 | ERJ6GEYJ331V | M.RESISTOR CH 1/8W 330 | 1 | |
| R4902 | ERJ2GEJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R4904 | ERJ6GEYJ562V | M.RESISTOR CH 1/8W 5.6K | 1 | |
| R4905 | ERJ2GEJ471 | M.RESISTOR CH 1/10W 470 | 1 | |
| R4906 | ERJ6GEYJ103V | M.RESISTOR CH 1/8W 10K | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|---------------------------|-----|-------------------|
| R4907 | ERJ6GEYJ154V | M.RESISTOR CH 1/8W 150K | 1 | |
| R4908 | D0HB563ZA002 | RESISTOR | 1 | |
| R4908 | ERJ6GEYJ563 | M.RESISTOR CH 1/8W 56K | 1 | |
| R4909 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R4910 | ERJ2GEJ562 | M.RESISTOR CH 1/10W 5.6K | 1 | |
| R4911 | ERJ2GEJ151 | M.RESISTOR CH 1/10W 150 | 1 | |
| R4912 | ERJ2GEJ471 | M.RESISTOR CH 1/10W 470 | 1 | |
| R4913 | ERJ6GEYJ103V | M.RESISTOR CH 1/8W 10K | 1 | |
| R4914 | ERJ6GEYJ154V | M.RESISTOR CH 1/8W 150K | 1 | |
| R4915 | D0HB563ZA002 | RESISTOR | 1 | |
| R4915 | ERJ6GEYJ563 | M.RESISTOR CH 1/8W 56K | 1 | |
| R4916 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R4917 | ERJ2GEJ562 | M.RESISTOR CH 1/10W 5.6K | 1 | |
| R4918 | ERJ2GEJ151 | M.RESISTOR CH 1/10W 150 | 1 | |
| R4920 | ERJ6GEYJ562V | M.RESISTOR CH 1/8W 5.6K | 1 | |
| R4922 | ERJ2GEJ223 | M.RESISTOR CH 1/16W 22K | 1 | |
| R4923 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4924 | ERJ2GEJ473Y | M.RESISTOR CH 1/10W 47K | 1 | |
| R4925 | ERJ2GEJ2R2X | M.RESISTOR CH 1/16W 2.2 | 1 | |
| R6402 | ERJ2RKD330 | M.RESISTOR CH 1/16W 33 | 1 | |
| R6403 | ERJ2GEJ101 | M.RESISTOR CH 1/10W 100 | 1 | |
| R6412 | ERJ3GEYJ390 | M.RESISTOR CH 1/10W 39 | 1 | |
| R6413 | ERJ3GEYJ390 | M.RESISTOR CH 1/10W 39 | 1 | |
| R6416 | ERJ2GEJ473Y | M.RESISTOR CH 1/10W 47K | 1 | |
| R6417 | ERJ2GEJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| | | | | |
| VA4901 | D4ED18R00008 | VARISTOR | 1 | |
| VA4902 | D4ED18R00008 | VARISTOR | 1 | |
| | | | | |
| | | | | |
| | | | | |
| ## | VEP29224A | EVF BL PCB UNIT | | (RTL) E.S.D. |
| | | | | |
| C801 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C802 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C803 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| | | | | |
| D801 | B0BC6R2A0266 | DIODE | 1 | E.S.D. |
| D803 | B3AFB0000129 | DIODE | 1 | E.S.D. |
| D804 | B0BC5R6A0266 | DIODE | 1 | E.S.D. |
| | | | | |
| FP801 | K1MN21AA0094 | CONNECTOR 21P | 1 | |
| FP802 | K1MY20BA0370 | CONNECTOR 20P | 1 | |
| | | | | |
| Q801 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| | | | | |
| R801 | ERJ2RHD562 | M.RESISTOR CH 1/16W 5.6K | 1 | |
| R802 | ERJ2RKD910 | M.RESISTOR CH 1/16W 91 | 1 | |
| R803 | ERJ2GEJ105 | M.RESISTOR CH 1/10W 1M | 1 | |
| R804 | ERJ2RHD122 | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R805 | ERJ2RHD122 | M.RESISTOR CH 1/16W 1.2K | 1 | |
| R806 | ERJ2RHD222 | M.RESISTOR CH 1/16W 2.2K | 1 | |
| | | | | |
| | | | | |
| ## | VEP04956A | MIC AMP PCB UNIT | | (RTL) E.S.D. 「電池」 |
| | | | | |
| ▲ B6401 | ML-614S/ZTK | BATTERY | 1 | [ENERGY] |
| | | | | |
| C4801 | ECJ0EB1A473K | C.CAPACITOR CH 10V 0.047U | 1 | |
| C4802 | ECJ0EC1H680J | C.CAPACITOR CH 50V 68P | 1 | |
| C4803 | ECJ0EB1A473K | C.CAPACITOR CH 10V 0.047U | 1 | |
| C4804 | ECJ0EC1H680J | C.CAPACITOR CH 50V 68P | 1 | |
| C4805 | ECJ0EB1A473K | C.CAPACITOR CH 10V 0.047U | 1 | |
| C4806 | ECJ0EC1H680J | C.CAPACITOR CH 50V 68P | 1 | |
| C4807 | ECJ0EB1A473K | C.CAPACITOR CH 10V 0.047U | 1 | |
| C4808 | ECJ0EC1H680J | C.CAPACITOR CH 50V 68P | 1 | |
| C4809 | ECJ0EB1A473K | C.CAPACITOR CH 10V 0.047U | 1 | |
| C4810 | ECJ0EC1H680J | C.CAPACITOR CH 50V 68P | 1 | |
| C4811 | F1G1H4710004 | C.CAPACITOR CH 50V 470P | 1 | |
| C4812 | F1G1H4710004 | C.CAPACITOR CH 50V 470P | 1 | |
| C4813 | F1G1H4710004 | C.CAPACITOR CH 50V 470P | 1 | |
| C4814 | F1G1H4710004 | C.CAPACITOR CH 50V 470P | 1 | |
| C4815 | F1G1H4710004 | C.CAPACITOR CH 50V 470P | 1 | |
| C4816 | F3F0J226A032 | T.CAPACITOR CH 6.3V 22U | 1 | |
| C4817 | F3F0J226A032 | T.CAPACITOR CH 6.3V 22U | 1 | |
| C4818 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|--------------------------|-----|--------------|
| FP4801 | K1MY08BA0370 | CONNECTOR 8P | 1 | |
| FP4802 | K1MN21AA0035 | CONNECTOR 21P | 1 | |
| FP4803 | K1MY12BA0370 | CONNECTOR 12P | 1 | |
| FP4804 | K1MY04BA0370 | CONNECTOR 4P | 1 | |
| | | | | |
| IC4801 | C0ABBB000369 | IC | 1 | E.S.D. |
| IC4802 | C0ABBB000369 | IC | 1 | E.S.D. |
| IC4803 | C0ABBB000369 | IC | 1 | E.S.D. |
| | | | | |
| Q4801 | B1ABDF000017 | TRANSISTOR | 1 | E.S.D. |
| | | | | |
| R4801 | ERJ6GEYG392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4802 | ERJ6GEYG392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4803 | ERJ6GEYG392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4804 | ERJ6GEYG392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4805 | ERJ6GEYG392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| R4806 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| R4807 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4808 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| R4809 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4810 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| R4811 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4812 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| R4813 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4814 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| R4815 | ERJ2GEJ683 | M.RESISTOR CH 1/16W 68K | 1 | |
| R4816 | ERJ2GEJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| R4817 | ERJ2GEJ223 | M.RESISTOR CH 1/16W 22K | 1 | |
| R4818 | ERJ2GEJ333 | M.RESISTOR CH 1/16W 33K | 1 | |
| R6405 | ERJ2GEJ222 | M.RESISTOR CH 1/10W 2.2K | 1 | |
| | | | | |
| ZB6401 | K3ZZ00500014 | BATTERY HOLDER | 1 | |
| | | | | |
| | | | | |
| ## | VEP27225A | MF SENS PCB UNIT | | (RTL) E.S.D. |
| | | | | |
| FP6701 | K1MY06BA0370 | CONNECTOR 6P | 1 | |
| | | | | |
| Q6701 | B3NBA0000017 | TRANSISTOR | 1 | E.S.D. |
| Q6702 | B3NBA0000017 | TRANSISTOR | 1 | E.S.D. |
| | | | | |
| R6701 | ERJ2GEJ101 | M.RESISTOR CH 1/10W 100 | 1 | |
| R6702 | ERJ2GEJ101 | M.RESISTOR CH 1/10W 100 | 1 | |
| R6703 | ERJ2GEJ332 | M.RESISTOR CH 1/16W 3.3K | 1 | |
| R6704 | ERJ2GEJ332 | M.RESISTOR CH 1/16W 3.3K | 1 | |
| | | | | |
| | | | | |
| ## | VEP01A32A | BATT CATCHER PCB UNIT | | (RTL) E.S.D. |
| | | | | |
| C851 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C852 | F1J0J106A049 | C.CAPACITOR CH 6.3V 10U | 1 | |
| C853 | F1J0J106A049 | C.CAPACITOR CH 6.3V 10U | 1 | |
| C854 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C855 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C856 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C857 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C858 | F1H0J225A002 | C.CAPACITOR CH 6.3V 2.2U | 1 | |
| C859 | F1H0J225A002 | C.CAPACITOR CH 6.3V 2.2U | 1 | |
| C860 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C861 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C862 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C863 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C864 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C865 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| C6301 | F1G1A104A012 | C.CAPACITOR CH 10V 0.1U | 1 | |
| C6302 | F1G1A104A012 | C.CAPACITOR CH 10V 0.1U | 1 | |
| C6306 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C6307 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C6308 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C6309 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C6310 | F3F0J476A032 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | | | | |
| FP6301 | K1MN23AA0035 | CONNECTOR 23P | 1 | |
| FP6302 | K1MY08BA0370 | CONNECTOR 8P | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|---------------------------|-----|--------------|
| IC851 | C1AB00002388 | IC | 1 | E.S.D. |
| IC6301 | EWTS9CVE11 | IC | 1 | E.S.D. |
| IC6302 | C0DBGFC00009 | IC | 1 | E.S.D. |
| JK6751 | K4ZZ04000049 | JACK, BATTERY CATCH | 1 | |
| PP601 | K1KB50AA0094 | CONNECTOR 50P | 1 | |
| R851 | ERJ2GEJ102X | M.RESISTOR CH 1/16W 1K | 1 | |
| R852 | ERJ2RHD511 | M.RESISTOR CH 1/16W 510 | 1 | |
| R853 | ERJ2RHD102X | M.RESISTOR CH 1/16W 1K | 1 | |
| VA6751 | D4ED18R00008 | VARISTOR | 1 | |
| ## | VEP26330A | MONITOR PCB UNIT | | (RTL) E.S.D. |
| C502 | F1G1A104A012 | C.CAPACITOR CH 10V 0.1U | 1 | |
| C504 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C505 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C506 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C507 | F1G1H1020008 | C.CAPACITOR CH 50V 1000P | 1 | |
| C901 | F1G1E1040001 | SURFACE MOUNTING MULTILAY | 1 | |
| C902 | F1H0J475A010 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| C903 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C905 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C906 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C907 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C908 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C909 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C910 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C911 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C912 | F1H1E105A116 | C.CAPACITOR CH 25V 1U | 1 | |
| C913 | F1H1E105A116 | C.CAPACITOR CH 25V 1U | 1 | |
| C914 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C915 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C916 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| C917 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C918 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| C919 | F1G1C104A080 | C.CAPACITOR CH 16V 0.1U | 1 | |
| D901 | B0BC016A0267 | DIODE | 1 | E.S.D. |
| D902 | B3AFB0000321 | DIODE | 1 | E.S.D. |
| D903 | B3AFB0000321 | DIODE | 1 | E.S.D. |
| D904 | B3AFB0000321 | DIODE | 1 | E.S.D. |
| D905 | B3AFB0000321 | DIODE | 1 | E.S.D. |
| D906 | B0JCCD000003 | DIODE | 1 | E.S.D. |
| D907 | B0JCCD000003 | DIODE | 1 | E.S.D. |
| FP901 | K1MY16BA0159 | CONNECTOR 16P | 1 | |
| FP902 | K1MY12BA0159 | CONNECTOR 12P | 1 | |
| FP903 | K1MY04BA0370 | CONNECTOR 4P | 1 | |
| FP904 | K1MY41BA0369 | CONNECTOR 41P | 1 | |
| FP905 | K1MN04B00071 | CONNECTOR 4P | 1 | |
| R506 | ERJ2GEJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R507 | ERJ2GEJ104 | M.RESISTOR CH 1/10W 100K | 1 | |
| R901 | ERJ2GEJ824 | M.RESISTOR CH 1/16W 820K | 1 | |
| R902 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| R903 | ERJ3GEY0R00 | M.RESISTOR CH 1/10W 0 | 1 | |
| ## | VEP04957A | MIC AMP FPC UNIT | | (RTL) E.S.D. |
| PP6003 | K1KA20A00275 | CONNECTOR 20P | 1 | |
| ## | VEP20C85A | CAM FUNC PCB UNIT | | (RTL) |
| S6601 | K0F111A00589 | SWITCH | 1 | |

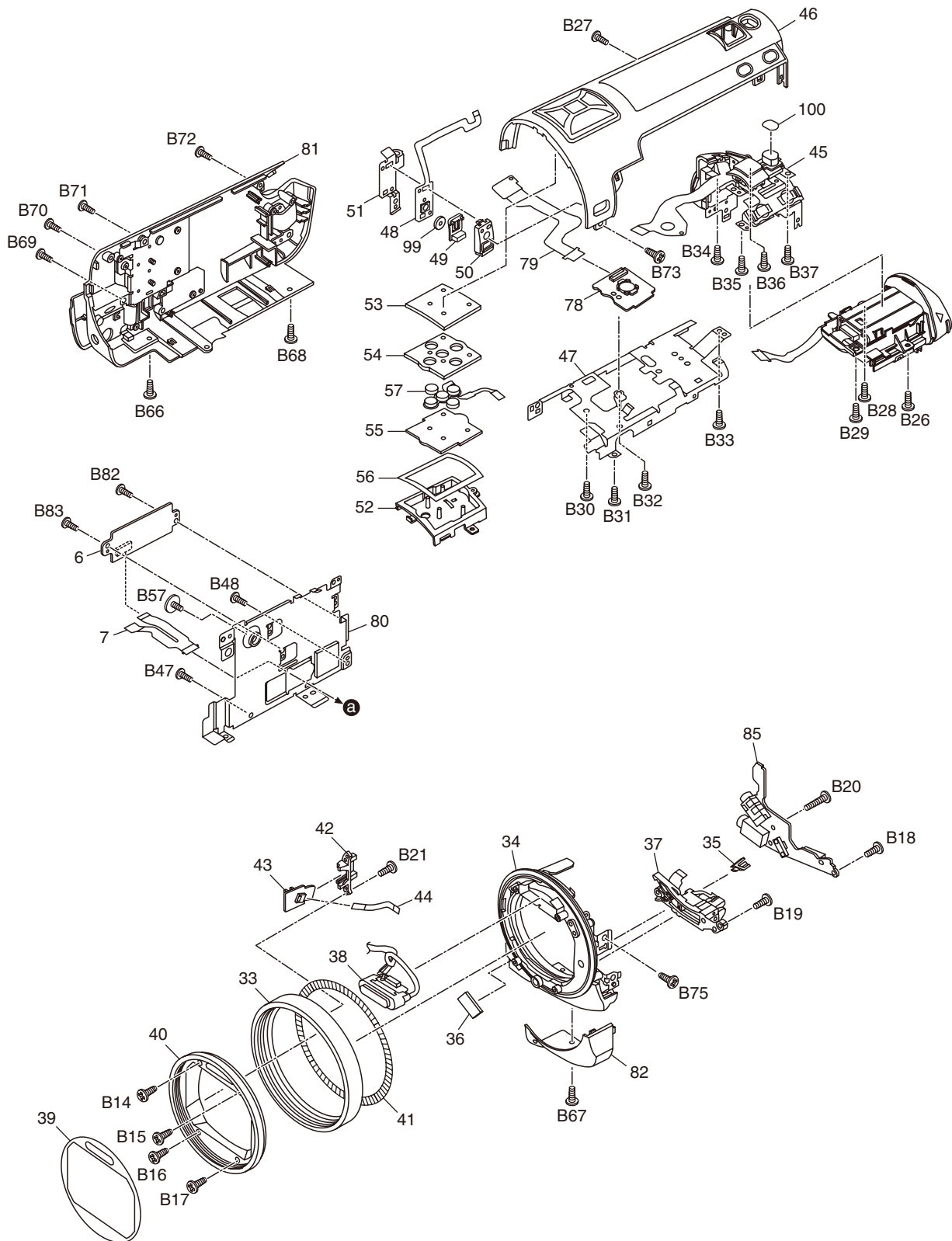
| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|-------------------------|-----|--------------|
| ## | VEP06G50A | SIDE R OP PCB UNIT | | (RTL) E.S.D. |
| FP6501 | K1MN08A00072 | CONNECTOR 8P | 1 | |
| P6501 | K1KA02BA0014 | CONNECTOR 2P | 1 | |
| PS6501 | K1KA03BA0014 | CONNECTOR 3P | 1 | |
| S6501 | K0F111A00589 | SWITCH | 1 | |
| S6502 | K0F111A00589 | SWITCH | 1 | |

| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks | Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|-------------------------|-----|----------------------|---------|----------|-------------------------|-----|---------|
| 6 | VEP03H89D | ESD PCB UNIT | 1 | (TM700) (RTL) E.S.D. | | | | | |
| 7 | VWJ2172 | ESD FPC | 1 | (TM700) | | | | | |
| 33 | VYK3Q67 | FRONT CASE UNIT | 1 | (-K) | | | | | |
| 33 | VYK3Q68 | FRONT CASE UNIT | 1 | (-S) | | | | | |
| 34 | VYK3Q71 | BARIA CASE UNIT | 1 | | | | | | |
| 35 | VGL1326 | TARY PANEL LIGHT | 1 | | | | | | |
| 36 | VGL1309 | AF PANEL LIGHT | 1 | | | | | | |
| 37 | N9ZZ0000415 | BARRIER MOTOR UNIT | 1 | | | | | | |
| 38 | EFN-MVBH7ZC | FLASH | 1 | | | | | | |
| 39 | VGQ0K50 | LENS ORNAMENT SHEET | 1 | | | | | | |
| 40 | VGQ0K49 | MF FRONT FRAME | 1 | | | | | | |
| 41 | VGQ0K51 | MF SHEET | 1 | | | | | | |
| 42 | VGQ0K53 | MF PCB HOLDER | 1 | | | | | | |
| 43 | VEP27225A | MF SENS PCB UNIT | 1 | (RTL) E.S.D. | | | | | |
| 44 | VWJ2134 | MF SENS FPC | 1 | | | | | | |
| 45 | KORE00900046 | OPERATION BUTTON UNIT | 1 | | | | | | |
| 46 | VYK3Q38 | TOP CASE UNIT | 1 | (-K) | | | | | |
| 46 | VYK3Q40 | TOP CASE UNIT | 1 | (-S) | | | | | |
| 47 | VMP9581 | TOP FRAME | 1 | | | | | | |
| 48 | VEP20C85A | CAM FUNC PCB UNIT | 1 | (RTL) | | | | | |
| 49 | VGU0F89 | CAMERA OP BUTTON | 1 | | | | | | |
| 50 | VGQ0K85 | CAMERA OP CASE | 1 | | | | | | |
| 51 | VMP9616 | CAMERA OP ANGLE | 1 | | | | | | |
| 52 | VGQ0K35 | MIC CASE | 1 | | | | | | |
| 53 | VGQ0C85 | MIC CUSHION (A) | 1 | | | | | | |
| 54 | VGQ0C86 | MIC CUSHION (B) | 1 | | | | | | |
| 55 | VGQ0C87 | MIC CUSHION (C) | 1 | | | | | | |
| 56 | VGQ0L66 | MIC SHEET | 1 | | | | | | |
| 57 | VEP24186B | ECM FPC UNIT | 1 | | | | | | |
| 78 | VEP04956A | MIC AMP PCB UNIT | 1 | (RTL) E.S.D. | | | | | |
| 79 | VEP04957A | MIC AMP FPC UNIT | 1 | (RTL) E.S.D. | | | | | |
| 80 | VYK3Q32 | COVER BOARD UNIT | 1 | | | | | | |
| 81 | VYK3Q51 | SIDE CASE (L) UNIT | 1 | | | | | | |
| 82 | VYK3Q31 | SENSOR COVER UNIT | 1 | | | | | | |
| 85 | VEP20C84A | FRONT PCB UNIT | 1 | (RTL) E.S.D. | | | | | |
| 99 | VGQ0M74 | CUSHION | 1 | | | | | | |
| 100 | VGQ0M76 | SHEET | 1 | | | | | | |
| B14 | VHD1814 | SCREW | 1 | | | | | | |
| B15 | VHD1814 | SCREW | 1 | | | | | | |
| B16 | VHD1814 | SCREW | 1 | | | | | | |
| B17 | VHD1814 | SCREW | 1 | | | | | | |
| B18 | XQN16+BJ5FN | SCREW | 1 | | | | | | |
| B19 | XQN16+BJ5FN | SCREW | 1 | | | | | | |
| B20 | XQN16+BJ10FN | SCREW | 1 | | | | | | |
| B21 | XQN14+BJ5FN | SCREW | 1 | | | | | | |
| B26 | XQN16+B3FN | SCREW | 1 | | | | | | |
| B27 | XQN16+B3FN | SCREW | 1 | | | | | | |
| B28 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B29 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B30 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B31 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B32 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B33 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B34 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B35 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B36 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B37 | XQN16+B4FN | SCREW | 1 | | | | | | |
| B47 | VHD1907 | SCREW | 1 | | | | | | |
| B48 | VHD1907 | SCREW | 1 | | | | | | |
| B57 | VHD2189 | SCREW | 1 | | | | | | |
| B66 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B67 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B68 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B69 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B70 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B71 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B72 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B73 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B75 | XQN16+B4FJK | SCREW | 1 | | | | | | |
| B82 | XQN16+B3FN | SCREW | 1 | | | | | | |
| B83 | XQN16+B3FN | SCREW | 1 | | | | | | |

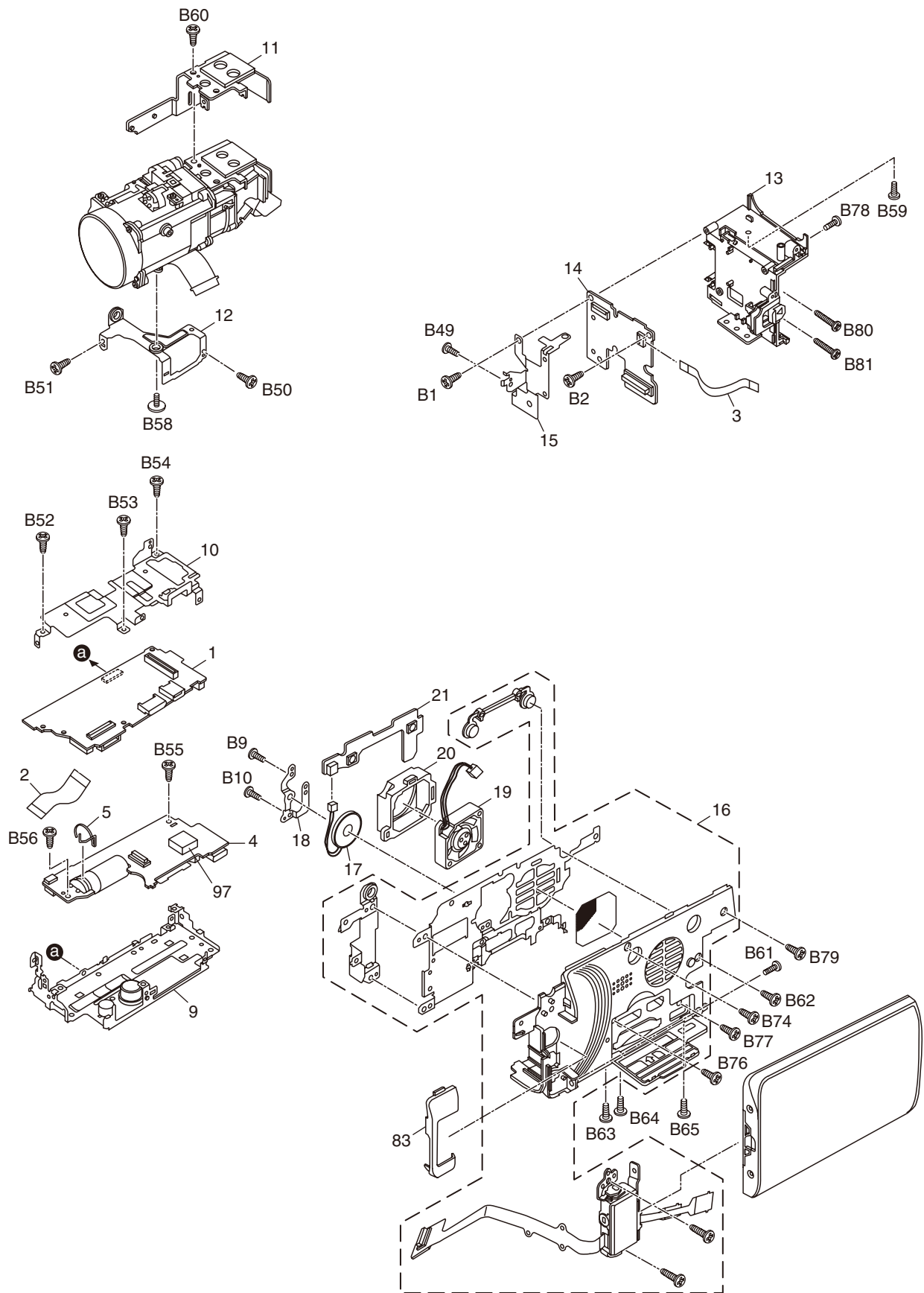
| Ref.No. | Part No. | Part Name & Description | Pcs | Remarks | Ref.No. | Part No. | Part Name & Description | Pcs | Remarks |
|---------|--------------|-------------------------|-----|---|---------|----------|-------------------------|-----|---------|
| 301 | K2GJYDC00004 | DC CABLE | 1 | | | | | | |
| 302 | K1HY12YY0004 | MULTI D/RCA CABLE | 1 | | | | | | |
| 303 | K1HY04YY0032 | USB CABLE | 1 | | | | | | |
| 305 | N2QAC000024 | REMOTE CONTROL UNIT | 1 | | | | | | |
| △ 306 | DE-A51CB | POWER CHARGERS | 1 | TM700EG, EP, EF, EB, EC, EE, PU, GC, GT, GD, SD700EG, EP, EF, EB, EC, EE, GC, GN, SD707EG | | | | | |
| △ 306 | DE-A51BB | AC ADAPTOR | 1 | TM700P, PC | | | | | |
| △ 306 | DE-A51DA | AC ADAPTOR | 1 | TM700GK | | | | | |
| 307 | VG00C14 | TOUCH PEN | 1 | | | | | | |
| 308 | VYC0996 | ATTACHMENT SHOE UNIT | 1 | | | | | | |
| 309 | | CD-ROM | 1 | TM700EG, EP, EF, EB, EC, EE, P, PC, PU, GC, GT, GD, SD700EG, EP, EF, EB, EC, EE, GC, GN, SD707EG | | | | | |
| 310 | VPF1294 | BAG, POLYETHYLENE | 1 | | | | | | |
| △ 311 | VQT2M81 | OPERATING INSTRUCTIONS | 1 | TM700EG, SD700EG, SD707EG | | | | | |
| △ 311 | VQT2M82 | OPERATING INSTRUCTIONS | 1 | TM700EG, SD700EG, SD707EG | | | | | |
| △ 311 | VQT2M83 | OPERATING INSTRUCTIONS | 1 | TM700EG, SD700EG, SD707EG | | | | | |
| △ 311 | VQT2M88 | OPERATING INSTRUCTIONS | 1 | TM700EP, SD700EP | | | | | |
| △ 311 | VQT2M89 | OPERATING INSTRUCTIONS | 1 | TM700EP, SD700EP | | | | | |
| △ 311 | VQT2M84 | OPERATING INSTRUCTIONS | 1 | TM700EF, SD700EF | | | | | |
| | | (FRENCH) | | | | | | | |
| △ 311 | VQT2M90 | OPERATING INSTRUCTIONS | 1 | TM700EB, SD700EB | | | | | |
| | | (ENGLISH) | | | | | | | |
| △ 311 | VQT2M85 | OPERATING INSTRUCTIONS | 1 | TM700EC, SD700EC | | | | | |
| △ 311 | VQT2M86 | OPERATING INSTRUCTIONS | 1 | TM700EC, SD700EC | | | | | |
| △ 311 | VQT2M87 | OPERATING INSTRUCTIONS | 1 | TM700EC, SD700EC | | | | | |
| △ 311 | VQT2M94 | OPERATING INSTRUCTIONS | 1 | TM700EE, SD700EE | | | | | |
| | | (RUSSIAN) | | | | | | | |
| △ 311 | VQT2M95 | OPERATING INSTRUCTIONS | 1 | TM700EE, SD700EE | | | | | |
| | | (UKRAINIAN) | | | | | | | |
| △ 311 | VQT2M75 | OPERATING INSTRUCTIONS | 1 | TM700P, PC | | | | | |
| △ 311 | VQT2M76 | OPERATING INSTRUCTIONS | 1 | TM700PC | | | | | |
| | | (CANADIAN FRENCH) | | | | | | | |
| △ 311 | VQT2M77 | OPERATING INSTRUCTIONS | 1 | TM700PU | | | | | |
| | | (ENGLISH) | | | | | | | |
| △ 311 | VQT2M78 | OPERATING INSTRUCTIONS | 1 | TM700PU | | | | | |
| △ 311 | VQT2M91 | OPERATING INSTRUCTIONS | 1 | TM700GC, SD700GC | | | | | |
| △ 311 | VQT2M92 | OPERATING INSTRUCTIONS | 1 | TM700GC, SD700GC | | | | | |
| △ 311 | VQT2M93 | OPERATING INSTRUCTIONS | 1 | TM700GC, SD700GC | | | | | |
| △ 311 | VQT2M79 | OPERATING INSTRUCTIONS | 1 | TM700GT | | | | | |
| | | (CHINESE (SIMPLIFIED)) | | | | | | | |
| △ 311 | VQT2M97 | OPERATING INSTRUCTIONS | 1 | TM700GK | | | | | |
| | | (CHINESE (TRADITIONAL)) | | | | | | | |
| △ 311 | VQT2M96 | OPERATING INSTRUCTIONS | 1 | SD700GN | | | | | |
| | | (ENGLISH) | | | | | | | |
| △ 311 | VQT2M80 | OPERATING INSTRUCTIONS | 1 | TM700GD | | | | | |
| 312 | VFF0612 | CD-ROM (O/I) | 1 | TM700GC, SD700GC | | | | | |
| 312 | VFF0613 | CD-ROM (O/I) | 1 | TM700EG, EP, EC, SD700EG, EP, EC, SD707EG | | | | | |
| 313 | VP62D65 | PACKING CASE | 1 | TM700EG, EP, EF, EB, EC, EE, PU, GC, GT, GD | | | | | |
| 313 | VP62D64 | PACKING CASE | 1 | TM700P, PC | | | | | |
| 313 | VYQ5243 | PACKING CASE UNIT | 1 | TM700GKK | | | | | |
| 313 | VP62D71 | PACKING CASE | 1 | (SD700) | | | | | |
| 313 | VP62K32 | PACKING CASE | 1 | SD707EGK | | | | | |
| 313 | VYQ5563 | PACKING CASE UNIT | 1 | SD707EGS | | | | | |
| 314 | VPN6971 | PAD | 1 | | | | | | |
| 315 | VPF1377 | PROTECT BAG | 1 | | | | | | |
| △ 316 | K2GT39A00002 | AC CABLE | 1 | TM700EB, GC, SD700EB, GC | | | | | |
| △ 317 | K2GA2CA00025 | AC CABLE | 1 | TM700P, PC, PU | | | | | |
| △ 317 | K2GA29A00021 | AC CABLE | 1 | TM700GT | | | | | |
| △ 317 | K2GA2YY00070 | AC CABLE | 1 | TM700GK | | | | | |
| △ 320 | K2GJ29A00002 | AC CABLE | 1 | SD700GN | | | | | |
| 321 | --- | BATTERY PACK | 1 | | | | | | |
| △ 324 | K2GQ29A00002 | AC CABLE | 1 | TM700EG, EP, EF, EC, EE, GC, SD700EG, EP, EF, EC, EE, GC, SD707EG | | | | | |
| △ 324 | K2CR29A00001 | AC CABLE | 1 | TM700GD | | | | | |

S7. Exploded View

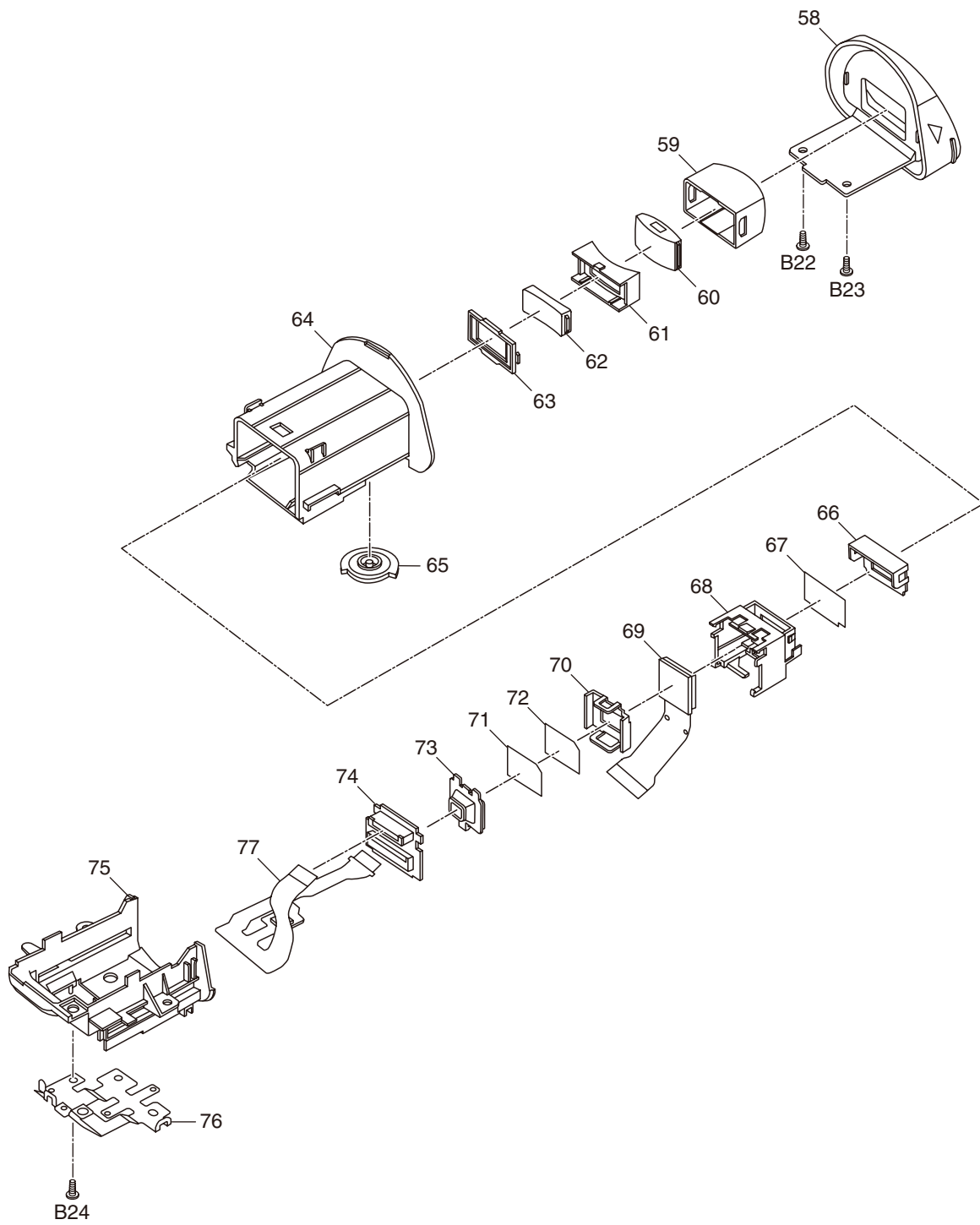
S7.1. Frame and Casing Section (1)



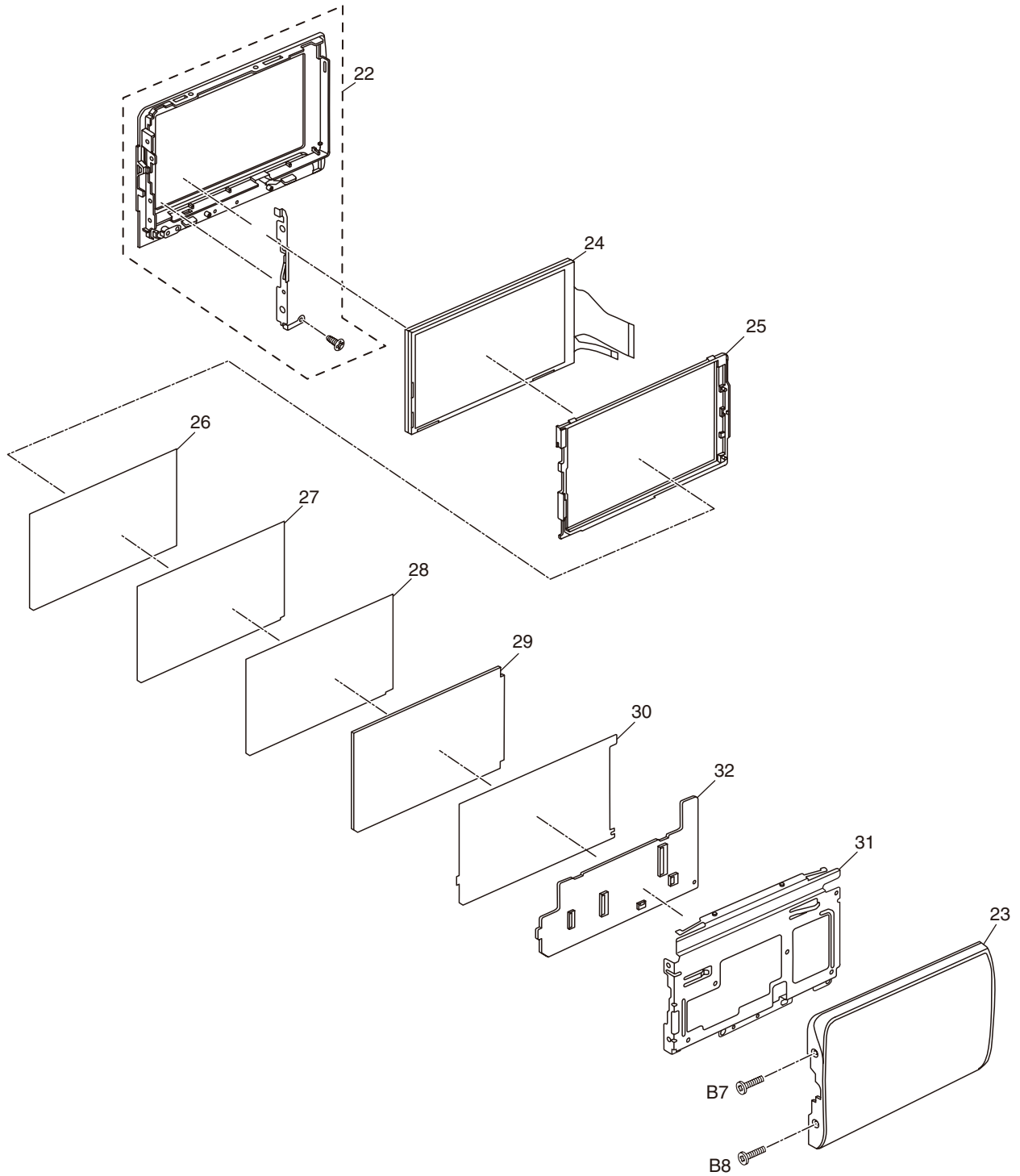
S7.2. Frame and Casing Section (2)



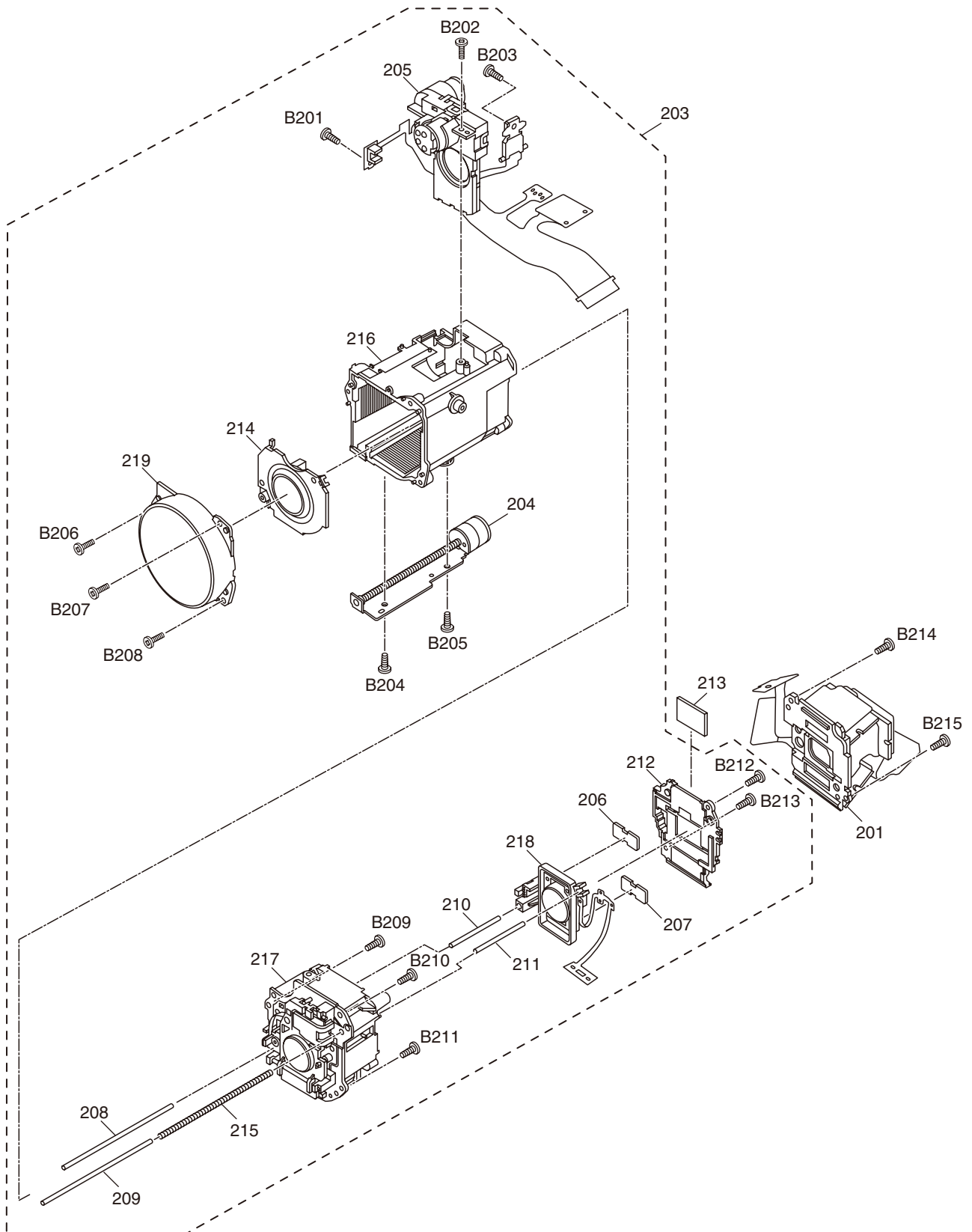
S7.3. EVF Section



S7.4. LCD Section



S7.5. Camera Lens Section



S7.6. Packing Parts and Accessories Section

