

Service Manual

High Definition Video Camera

AVCHD™
Progressive

HDMI

SD
XC

VIERA Link™

DOLBY
DIGITAL
STEREO CREATOR

Model No. **HC-V500MP**

HC-V500MPC

HC-V500MPU

HC-V500MEB

HC-V500MEC

HC-V500MEE

HC-V500MEG

HC-V500MEP

HC-V500MGA

HC-V500MGC

HC-V500MGK

HC-V500MGN

HC-V500MGT

HC-V500P

HC-V500PC

HC-V500EB

HC-V500EC

HC-V500EE

HC-V500EF

HC-V500EG

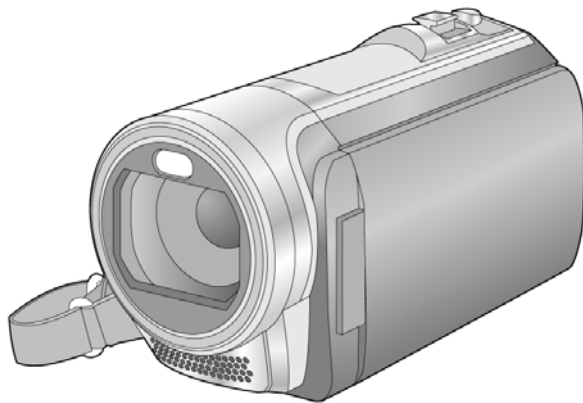
HC-V500EP

HC-V500GA

HC-V500GC

HC-V500GK

HC-V500GN



Panasonic®

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HC-V500GT

Colour

[HC-V500]

(K).....Black Type

(S).....Silver Type (except P/PC/EC/EF/GK/GT)

(R).....Red Type (except P/PC/EB/EE/GN/GT)

[HC-V500M]

(K).....Black Type

(R).....Red Type (only GK)

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

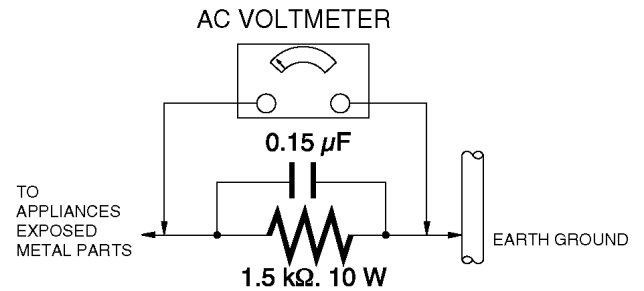


Figure. 1

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.

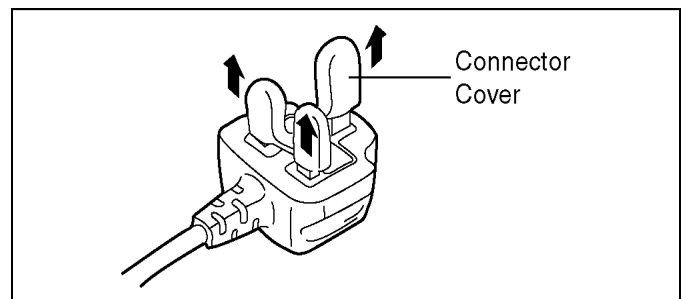
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

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.



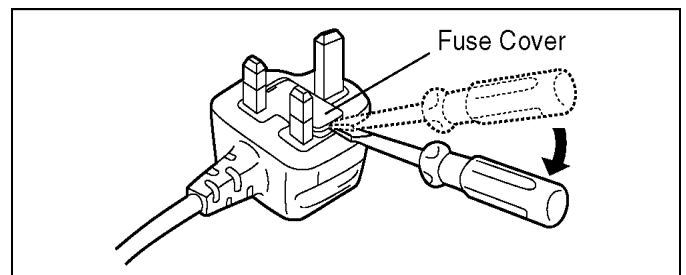
2.3.2.2. Before Use

Remove the Connector Cover as follows.

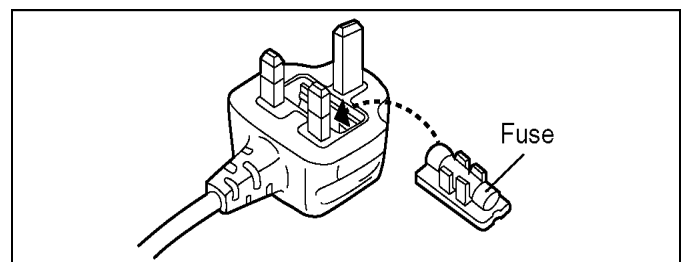


2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



2. Replace the fuse and attach the Fuse cover.



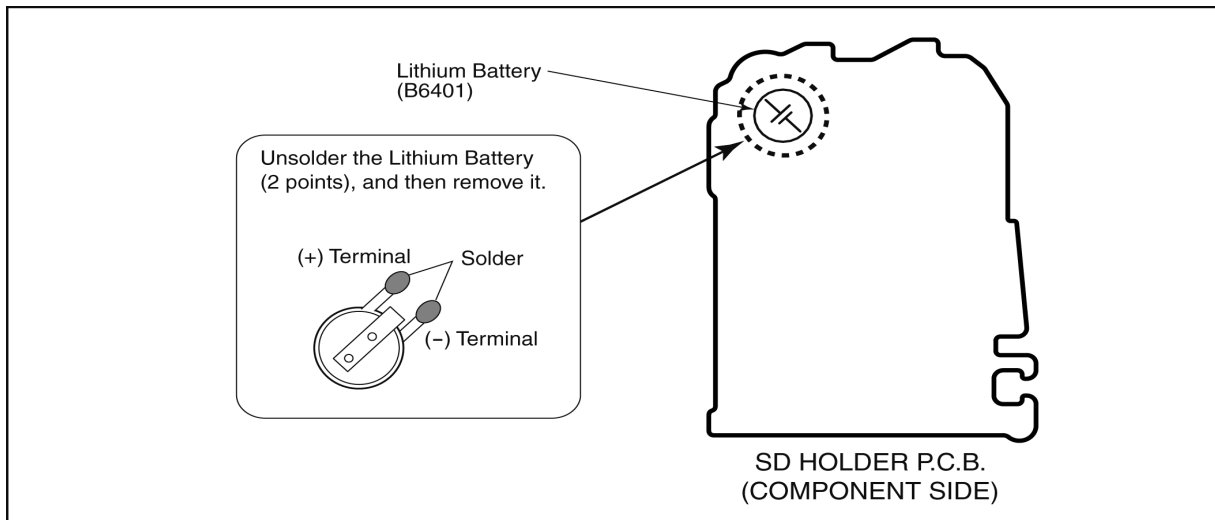
2.4. How to Replace the Lithium Battery

2.4.1. Replacement Procedure

1. Remove the SD HOLDER P.C.B.. (Refer to Disassembly Procedures.)
2. Unsolder the each soldering point of electric lead terminal for Lithium battery (Ref. No. "B6401" at component side of SD HOLDER P.C.B.) and remove the Lithium battery together with electric lead terminal. Then replace it into new one.

NOTE:

The Type No. ML-614S/DK includes electric lead terminals.



NOTE:

This Lithium battery is a critical component.

(Type No.: ML-614S/DN **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 type recommended by the manufacturer.
- When disposing the batteries, please contact your local authorities or dealer and ask for the correct method of disposal.

(For German)

ACHTUNG

- Explosionsgefahr bei falschem Anbringen der Batterie. Ersetzen Sie die Batterie nur durch den vom Hersteller empfohlenen Typ.
- Wenden Sie sich zur Entsorgung der Batterien an die lokalen Behörden oder erfragen Sie die richtige Vorgehensweise zur Entsorgung.

(For French)

ATTENTION

- Il y a un danger d'explosion si la batterie n'est pas remplacée correctement. Remplacez uniquement avec le type recommandé par le fabricant.
- Pour mettre au rebut les batteries, prenez contact avec les autorités locales ou le revendeur et renseignez-vous sur la méthode correcte de la mise au rebut.

NOTE:

Above caution is applicable for a battery pack which is for HC-V500/V500M series, as well.

1. Battery Pack for this model.

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. (VEP03J47A: HC-V500MP/PC/PU/EB/EC/EE/EG/EP/GA/GC/GK/GN/GT)
 - MAIN P.C.B. (VEP03J47C: HC-V500P/PC/EB/EC/EE/EF/EG/EP/GA/GC/GK/GN/GT)

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

There are seven kinds of HC-V500/V500M.

- a) HC-V500P, V500MP
- b) HC-V500PC, V500MPC
- c) HC-V500EB/EC/EF/EG/EP/GN, V500MEB/EC/EG/EP/GN
- d) HC-V500EE, V500MEE
- e) HC-V500GK, V500MGK
- f) HC-V500GT, V500MGT
- g) HC-V500GA/GC, V500MPU/GA/GC

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 and caution label which are putted on the Unit.

a) HC-V500P, V500MP

The nameplate for these models show the following Safety registration mark.



b) HC-V500PC, V500MPC

The nameplate for these models show the following Safety registration mark.



c) HC-V500EB/EC/EF/EG/EP/GN, V500MEB/EC/EG/EP/GN

The nameplate for these models show the following Safety registration mark.



d) HC-V500EE, V500MEE

The nameplate for these models show the following Safety registration mark.



e) HC-V500GK, V500MGK

The nameplate for these models show the following Safety registration mark.



f) HC-V500GT, V500MGT

The nameplate for these models show the following Safety registration mark.



h) HC-V500GA/GC, V500MPU/GA/GC

The nameplate for these models do not show any above Safety registration mark.

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

HC-V500

[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.

HC-V500M

[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.

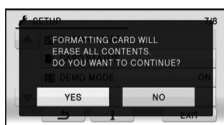
Do not format an SD card using any other equipment such as a PC. The card may not be used on this unit.

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.

[HC-V500]

To physically format the SD card, connect the unit via the AC adaptor, select [SETUP] → [FORMAT CARD] → [YES] from the menu, and then press and hold the recording start/stop 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.



HC-V500M

To physically format the SD card, connect the unit via the AC adaptor, select [SETUP] → [FORMAT MEDIA] → [SD CARD] from the menu, and then press and hold the recording start/stop 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.

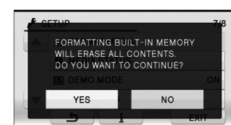
HC-V500M

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 [SETUP] → [FORMAT MEDIA] → [Built-inMemory] from the menu, and then press and hold the recording start/stop 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.



- Please look after the data in your built-in memory carefully. Panasonic will not be held responsible in the unlikely case that private data is divulged.

4 Specifications

High Definition Video Camera

Information for your safety

| | | |
|---------------------------|---|--------------------|
| Power source: | DC 5.0 V (When using AC adaptor) DC 3.6 V (When using battery) | |
| Power consumption: | Recording; 5.7 W | Charging; 7.7 W |

Motion picture recording format:

[AVCHD]; AVCHD format version 2.0 compliant (AVCHD Progressive)

[iFrame]; MPEG-4 AVC file format compliant (.MP4)

Motion picture compression:

MPEG-4 AVC/H.264

Audio compression:

[AVCHD]; Dolby Digital/2 ch

[iFrame], [MP4]; AAC/2 ch

Recording mode and transfer rate:

[1080/60p] (NTSC areas) / [1080/50p] (PAL areas); Maximum 28 Mbps (VBR)

[HA]; Average 17 Mbps (VBR)

[HG]; Average 13 Mbps (VBR)

[HX]; Average 9 Mbps (VBR)

[HE]; Average 5 Mbps (VBR)

[iFrame]; Maximum 28 Mbps (VBR)

For picture size and recordable time of a motion picture, refer to "Recording modes/approximate recordable time".

Still picture recording format:

JPEG (Design rule for Camera File system, based on Exif 2.2 standard)

For picture size of a still picture, and for number of recordable pictures, refer to "Approximate number of recordable pictures".

Recording media:

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 this unit" for details on SD cards usable in this unit.

HC-V500M

Built-in memory; 16 GB

Image sensor:

1/5.8" 1MOS image sensor

Total; 1500 K

Effective pixels;

Motion picture; 1300 K to 1120 K (16:9)

Still picture; 970 K (4:3), 1090 K (3:2), 1300 K to 1120 K (16:9)

Lens:

Auto Iris, 38× Optical Zoom, F1.8 to F4.2

Focal length;

2.35 mm to 89.3 mm

Macro (Full range AF)

35 mm equivalent;

Motion picture; 32.4 mm to 1345 mm (16:9)

Still picture; 40.7 mm to 1547 mm (4:3), 37.3 mm to 1419 mm (3:2),

32.4 mm to 1345 mm (16:9)

Minimum focus distance;

Normal; Approx. 3 cm (1.2") (Wide)/Approx. 1.6 m (5.3 feet) (Tele)

Tele Macro; Approx. 70 cm (28") (Tele)

Intelligent Auto Macro; Approx. 1 cm (0.4") (Wide)/Approx. 70 cm (28") (Tele)

Zoom:

i.Zoom OFF 42×, 50× i.Zoom, 100×/2500× Digital Zoom

(Using image sensor effective area)

Image stabilizer function:

Optical (Hybrid Optical Image Stabilizer, Active Mode (Rotation correction), Optical Image Stabilizer Lock function)

Optical Image Stabilizer Lock function)

Monitor:

3.0" wide LCD monitor (Approx. 230 K dots)

Microphone:

Stereo (with a Zoom 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. 4 lx 1/30 (NTSC areas) / 1/25 (PAL areas) with Low Light Mode in the Scene Mode)

Approx. 1 lx with the Color Night Rec function (NTSC areas) /

the colour night view function (PAL areas)

AV multi connector video output level:

Component video output 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

HDMI mini connector video output level:

HDMI™ (x.v.Color™) 1080p/1080i/480p (NTSC areas)/

HDMI™ (x.v.Colour™) 1080p/1080i/576p (PAL areas)

AV multi connector audio output level (Line):

316 mV, 600 Ω, 2 ch

HDMI mini connector audio output level:

[AVCHD]; Dolby Digital/Linear PCM

[iFrame], [MP4]; Linear PCM

USB:

Reader function

SD card; Read only (No copyright protection support)

HC-V500M

Built-in memory; Read only

Hi-Speed USB (USB 2.0), USB terminal Type Mini AB

USB host function (for DVD burner)

Battery charging function (Charges from USB terminal when the main unit is off)

Photo light:

Available range; Approx. 1.2 m (3.9 feet)

Dimensions:

52.5 mm (W)×65 mm (H)×119.5 mm (D)

[2.067" (W)×2.559" (H)×4.705" (D)] (including projecting parts)

Mass (Weight):

HC-V500

Approx. 227 g (Approx. 0.500 lbs.)

[without battery (supplied) and an SD card (optional)]

HC-V500M

Approx. 228 g (Approx. 0.503 lbs.)

[without battery (supplied)]

Mass (Weight) in operation:

HC-V500

Approx. 271 g (Approx. 0.597 lbs.)

[with battery (supplied) and an SD card (optional)]

HC-V500M

Approx. 270 g (Approx. 0.595 lbs.)

[with battery (supplied)]

Operating temperature:

0 °C to 40 °C (32 °F to 104 °F)

Operating humidity:

10%RH to 80%RH

Battery operation time:

See "Charging and recording time".

AC adaptor

Information for your safety

VSK0780/VSK0781:

| | |
|---------------------------|---------------------------------------|
| Power source: | AC 100 V to 240 V, 50/60 Hz (VSK0780) |
| | AC 110 V to 240 V, 50/60 Hz (VSK0781) |
| Power consumption: | 12 W |
| DC output: | DC 5.0 V, 1.6 A |

Dimensions:

49 mm (W)×24 mm (H)×79 mm (D) [1.93" (W)×0.94" (H)×3.11" (D)]

Mass (Weight):

Approx. 91 g (Approx. 0.20 lbs.)

VSK0711/VSK0712:

| | |
|---------------------------|-----------------------------|
| Power source: | AC 110 V to 240 V, 50/60 Hz |
| Power consumption: | 12 W |
| DC output: | DC 5.0 V, 1.6 A |

Dimensions:

46 mm (W)×25 mm (H)×75.5 mm (D) [1.8" (W)×1.0" (H)×3.0" (D)]

Mass (Weight):

Approx. 115 g (Approx. 0.25 lbs.)

Charging and recording time

■ Charging/Recording time

- Temperature: 25 °C (77 °F)/humidity: 60%RH
- Charging times in parentheses are when charging from the USB terminal.

| NTSC areas | | | | |
|---|-----------------------------|--------------------|------------------------------------|------------------------|
| Battery model number [Voltage/Capacity (minimum)] | Charging time | Recording mode | Maximum continuous recordable time | Actual recordable time |
| Supplied battery/ VW-VBK180 (optional) [3.6 V/1790 mAh] | 2 h 25 min (5 h 45 min) | [1080/60p] | 1 h 45 min | 55 min |
| | | [HA] | 1 h 55 min | |
| | | [HG],[HX], [HE] | 1 h 55 min | 1 h |
| | | [iFrame] | 2 h 5 min | 1 h 5 min |
| VW-VBK360 (optional) [3.6 V/3580 mAh] | 4 h 20 min (10 h 40 min) | [1080/60p] | 3 h 30 min | 1 h 45 min |
| | | [HA] | 3 h 45 min | 1 h 55 min |
| | | [HG] | 3 h 50 min | |
| | | [HX],[HE] | 3 h 50 min | 2 h |
| | | [iFrame] | 4 h 10 min | 2 h 10 min |

| PAL areas | | | | |
|---|-----------------------------|-------------------------|--------------------------------------|------------------------|
| Battery model number [Voltage/Capacity (minimum)] | Charging time | Recording mode | Maximum continuously recordable time | Actual recordable time |
| Supplied battery/ VW-VBK180 (optional) [3.6 V/1790 mAh] | 2 h 25 min (5 h 45 min) | [1080/50p] | 1 h 50 min | 55 min |
| | | [HA],[HG], [HX],[HE] | 2 h | 1 h |
| | | [iFrame] | 2 h 10 min | 1 h 5 min |
| VW-VBK360 (optional) [3.6 V/3580 mAh] | 4 h 20 min (10 h 40 min) | [1080/50p] | 3 h 40 min | 1 h 50 min |
| | | [HA],[HG], [HX],[HE] | 4 h | 2 h 5 min |
| | | [iFrame] | 4 h 20 min | 2 h 15 min |

- 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.

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 |
|------------------|--|
| SD Memory Card | 512 MB/1 GB/2 GB |
| SDHC Memory Card | 4 GB/6 GB/8 GB/12 GB/16 GB/24 GB/32 GB |
| SDXC Memory Card | 48 GB/64 GB |

* SD Speed Class Rating is the speed standard regarding continuous writing. e.g.:



- Operation of the SD Memory Cards 256 MB or less is not guaranteed. Also, the SD Memory Card 32 MB or less cannot be used for the motion picture recording.
- 4 GB or more Memory Cards that do not have the SDHC logo or 48 GB or more Memory Cards that do not have the SDXC logo are not based on SD Memory Card Specifications.
- The operation of Memory Cards exceeding 64 GB cannot be guaranteed.

Recording modes/approximate recordable time

- SD cards are only mentioned with their main memory size. The stated times are the approximate recordable times for continuous recording.

| Recording mode | [1080/60i] (NTSC areas) / [1080/50i] (NTSC areas) | | | | |
|-----------------------------|---|----------------------------|---------------------------|----------------------------|---------------------------|
| | [HA] | [HG] | [HX] | [HE] | |
| Picture size/ frame rate | 1920×1080/60p (NTSC areas) | 1920×1080/60i (NTSC areas) | 1920×1080/50i (PAL areas) | 1920×1080/60i (NTSC areas) | 1920×1080/50i (PAL areas) |
| | 50p (PAL areas) | 50i (PAL areas) | 50i (PAL areas) | 50i (PAL areas) | 50i (PAL areas) |
| SD card | 4 GB | 19 min | 30 min | 40 min | 1 h |
| | 16 GB | 1 h 20 min | 2 h | 2 h 40 min | 4 h 10 min |
| | 64 GB | 5 h 20 min | 8 h 30 min | 11 h | 16 h 50 min |
| HC-V500M Built-in memory | 16 GB | 1 h 20 min | 2 h | 2 h 40 min | 4 h 10 min |

- Ⓐ Favors image quality
- Ⓑ Favors Recording time

| Recording mode | [iFrame] |
|-----------------------------|--------------------------|
| Picture size/ frame rate | 960×540/30p (NTSC areas) |
| | 25p (PAL areas) |
| SD card | 4 GB |
| | 16 GB |
| | 64 GB |
| HC-V500M Built-in memory | 16 GB |

- If recording for long periods, prepare batteries for 3 or 4 times the period you wish to record for.
- The default setting is [HG] Mode.
- Maximum continuously recordable time for one scene: 6 hours
- The recording is paused once when the recording time for one scene exceeds 6 hours, and the recording will automatically resume after a few seconds.
- The recordable time may be reduced if recording with a lot of action is recorded or 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).

Approximate number of recordable pictures

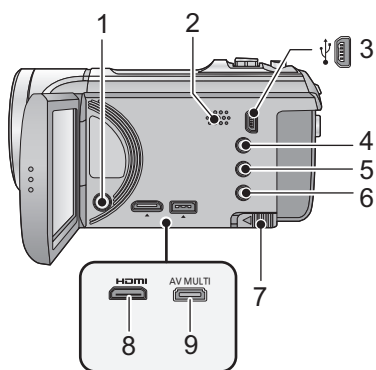
- SD cards are only mentioned with their main memory size. The stated number is the approximate number of recordable pictures.

| Picture size | 7M | 10M | 12.3M |
|--------------------------|-----------|---------|-----------|
| | 1856×1392 | 640×480 | 2064×1376 |
| Aspect ratio | | 4:3 | |
| SD card | 4 GB | 2500 | 28000 |
| | 16 GB | 10500 | 118000 |
| | 64 GB | 43000 | 475000 |
| HC-V500M Built-in memory | 16 GB | 10500 | 118000 |

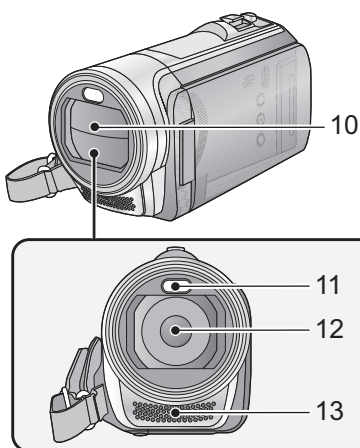
| Picture size | 3M | 21M |
|--------------------------|-----------|-----------|
| | 2304×1296 | 1920×1080 |
| Aspect ratio | | 16:9 |
| SD card | 4 GB | 2300 |
| | 16 GB | 9500 |
| | 64 GB | 39000 |
| HC-V500M Built-in memory | 16 GB | 9500 |

- The number of recordable pictures depends on the subject being recorded.
- Maximum number of recordable pictures that can be displayed is 9999. If the number of recordable pictures exceeds 9999, R 9999+ is displayed. The number will not change when the picture is taken until the number of recordable pictures is 9999 or less.
- 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 that can be used on the unit, a PC etc.

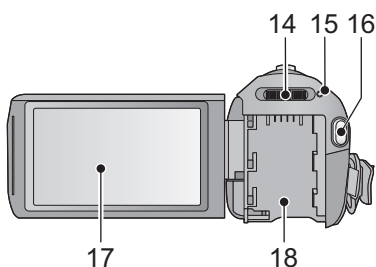
5 Location of Controls and Components



- 1 Power button [⏻/⏺]
 - 2 Speaker
 - 3 USB terminal [⏏]
 - 4 Intelligent auto/Manual button [i/MANUAL]
 - 5 Optical image stabilizer button [((O.I.S.))]
 - 6 1080/60p button [1080/60p] (NTSC areas)
1080/50p button [1080/50p] (PAL areas)
 - 7 Battery release lever [BATT]
 - 8 HDMI mini connector [HDMI]
 - 9 AV multi connector [AV MULTI]
- Use the AV multi cable (only the supplied cable).



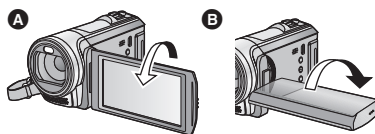
- 10 Lens cover
- The lens cover opens in Motion Picture Recording Mode or Still Picture Recording Mode.
- 11 LED light
- It can be used as a Video light or Photo light.
- 12 Lens
- 13 Internal stereo microphones



- 14 Mode switch
- 15 Status indicator
- 16 Recording start/stop button
- 17 LCD monitor (Touch screen)



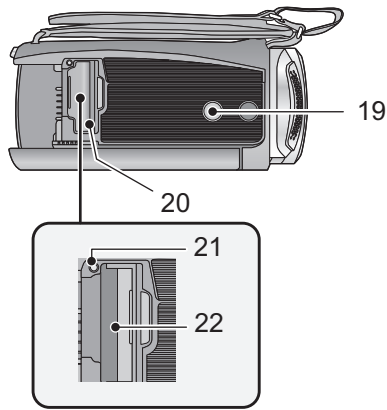
- It can open up to 90°.



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

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.

- 18 Battery holder



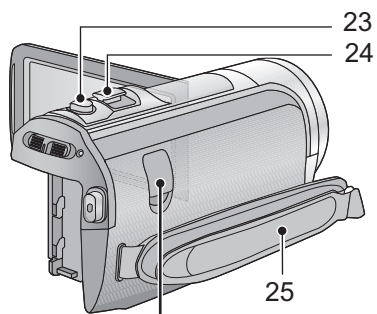
19 Tripod receptacle


- If you attach a tripod which has 5.5 mm (0.22 ") screw or larger, it may damage this unit.

20 SD card cover



21 Access lamp [ACCESS]

22 Card slot



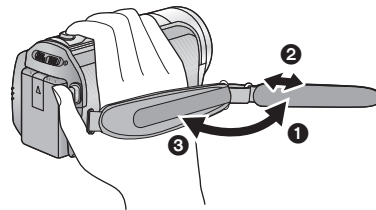
23 Photoshot button []

24 Zoom lever [W/T] (In Motion Picture Recording Mode or Still Picture Recording Mode)

Thumbnail display switch [ / ] / Volume lever [-VOL+] (In Playback Mode)

25 Grip belt

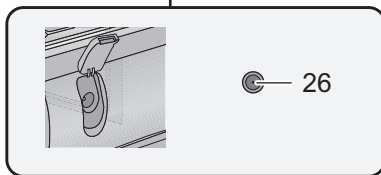
Adjust the length of the grip belt so that it fits your hand.



❶ Flip the belt.

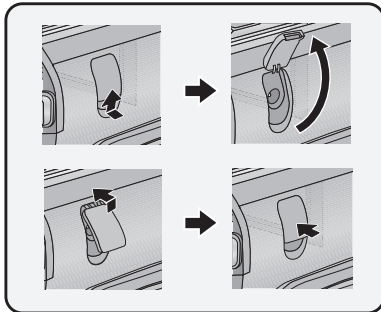
❷ Adjust the length.

❸ Replace the belt.





26 DC input terminal [DC IN]

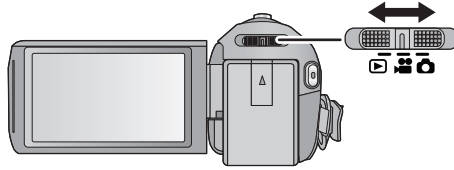
- Do not use any other AC adaptors except the supplied one.






Selecting a mode

Change the mode to recording or playback.

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



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

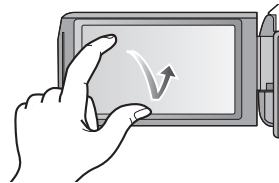
How to use the touch screen

You can operate by directly touching the LCD monitor (touch screen) with your finger.

■ Touch

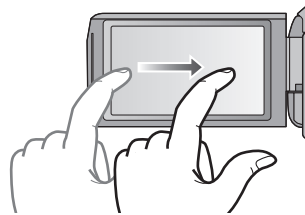
Touch and release the touch screen to select icon or picture.

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



■ Slide while touching

Move your finger while pressing on 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.

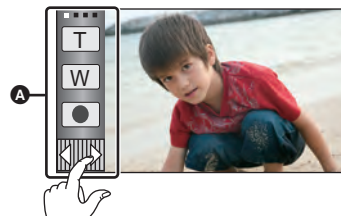


About the Touch Menu

Touch ◀ (left side)/▶ (right side) of  on the Touch Menu to switch the operation icons.

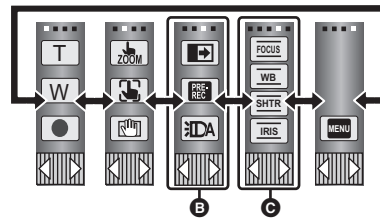
Touch ◀ (left side)/▶ (right side) of  on the Touch Menu.

- It is also possible to switch the operation icons by sliding the Touch Menu right or left while touching it.

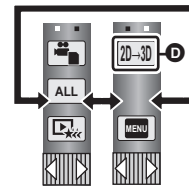


A Touch Menu

Recording Mode




Playback Mode



- B** You can change the operation icons to display.
- C** Displayed only during the Manual Mode.
- D** Displayed only when connected to a TV.

■ To display the Touch Menu



Display of the Touch Menu will disappear when no touch operation is performed for a specific period of time. To display it again, touch .

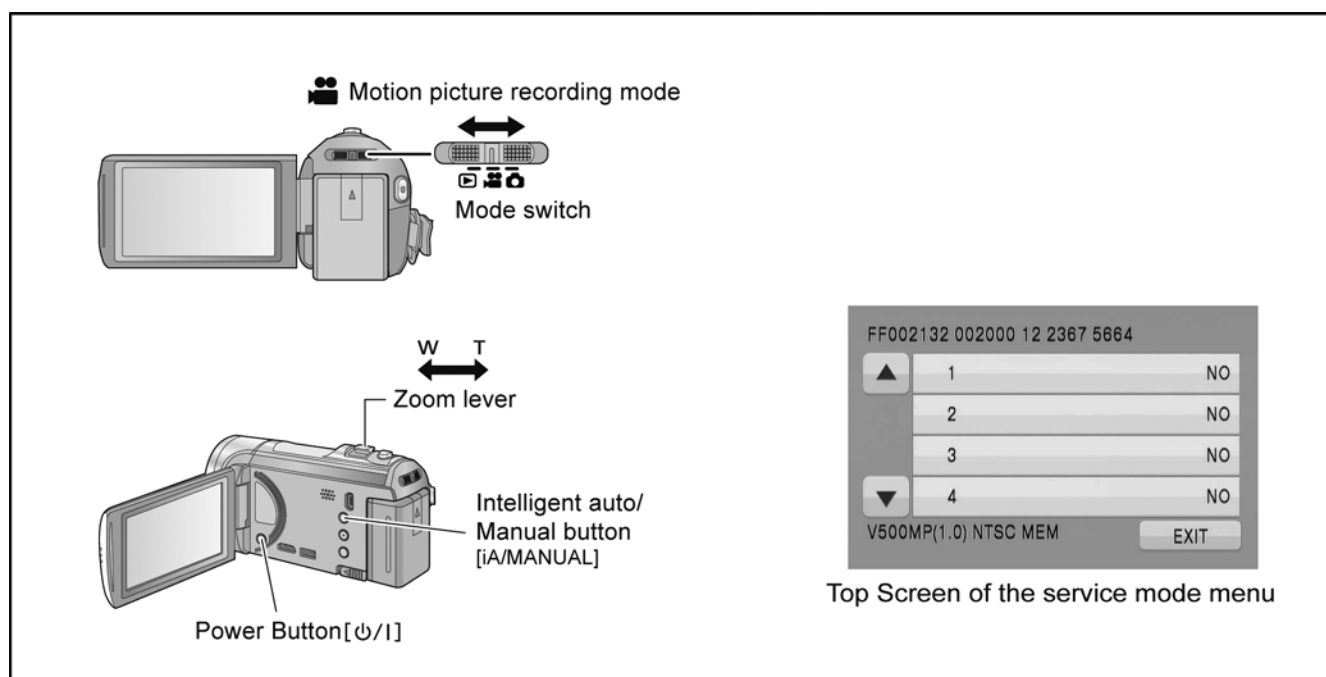
- Do not touch on the LCD monitor with hard pointed tips, such as ball point pens.

6 Service Mode

1. Indication method of the service menu

Set the mode switch “Motion Picture Recording” mode.

- While the power is turned OFF, keep pressing the “Power” button, “Zoom lever” to W side and “intelligent auto/Manual” 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 (HC-V500M 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 |
| 10 | Erasing the lock histories | Erasing the error histories (working time is not erased) |
| 12 | Camera data indications while the video playback | Display the camera informations (Shutter speed, Iris value, White balance and focal length) while playing recorded video |

NOTE:

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

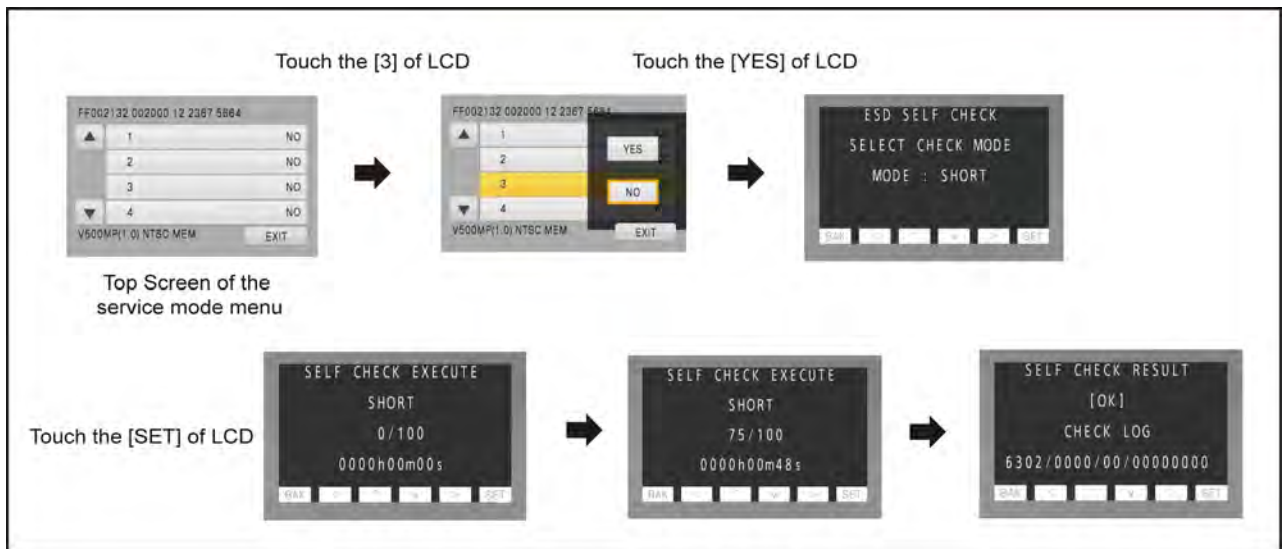
3. End method of the top screen of the service mode menu

Touch the [EXIT] of LCD to end the service mode, and then POWER OFF.

6.1. Built-in Memory Self Check Execution (HC-V500M only)

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

Operation specifications



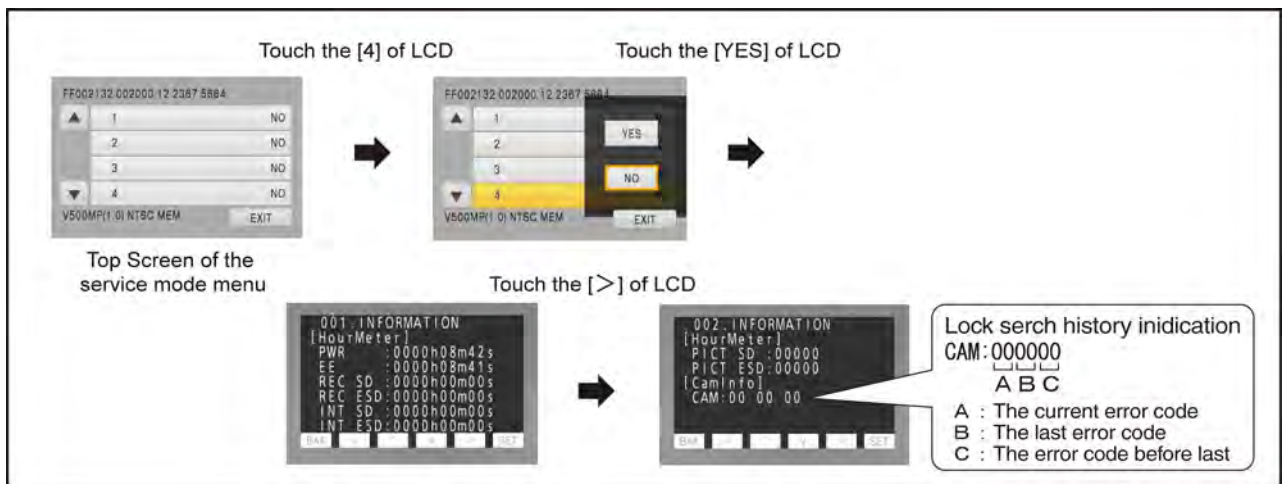
Indication contents

- 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.
 Touch the [BAK] of LCD 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

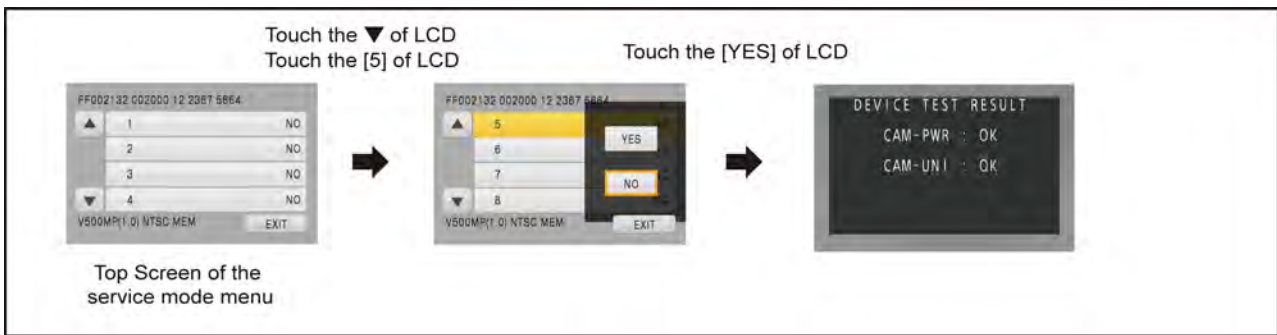
| Error code | Function |
|------------|-----------------------------------|
| 51 | Focus control is abnormal |
| 52 | Zoom control is abnormal |
| 53 | OIS lens control is abnormal |
| 71 | Lens cover open/close is abnormal |
| 73 | High temperature is abnormal |

Touch the [BAK] of LCD 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 : communication test between IC3401 and IC1503
- CAM-UNI : Internal communication test of IC3401

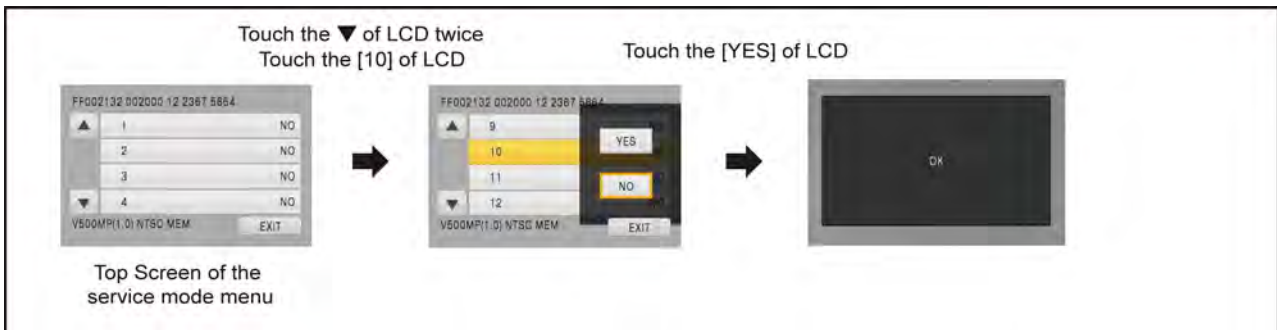
Display other than "OK" are abnormalities of each lines.

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

6.4. Erasing the lock histories

Touch the [10] of LCD, select erasing the lock histories execution.

Operation specifications



Indication contents

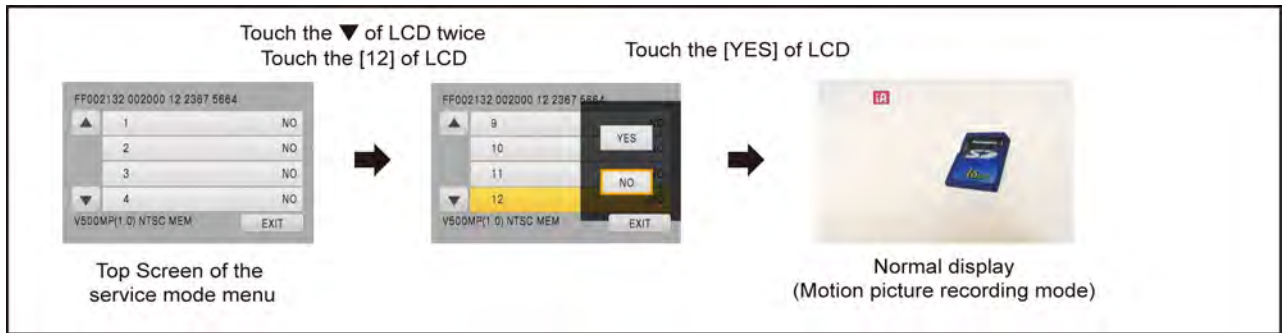
- Erasing the error histories stored in EEPROM. (working time is not erased)

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

6.5. Camera data indications while the video playback

Touch the [12] of LCD, select indicating the camera informations while playing back the recorded video.

Operation specifications



Indication contents

- While playing back the recorded videos, the camera informations (Shutter speed, Iris value, White balance and focal length) are superimposed on the LCD screen.



Press the power button and turn off.

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.

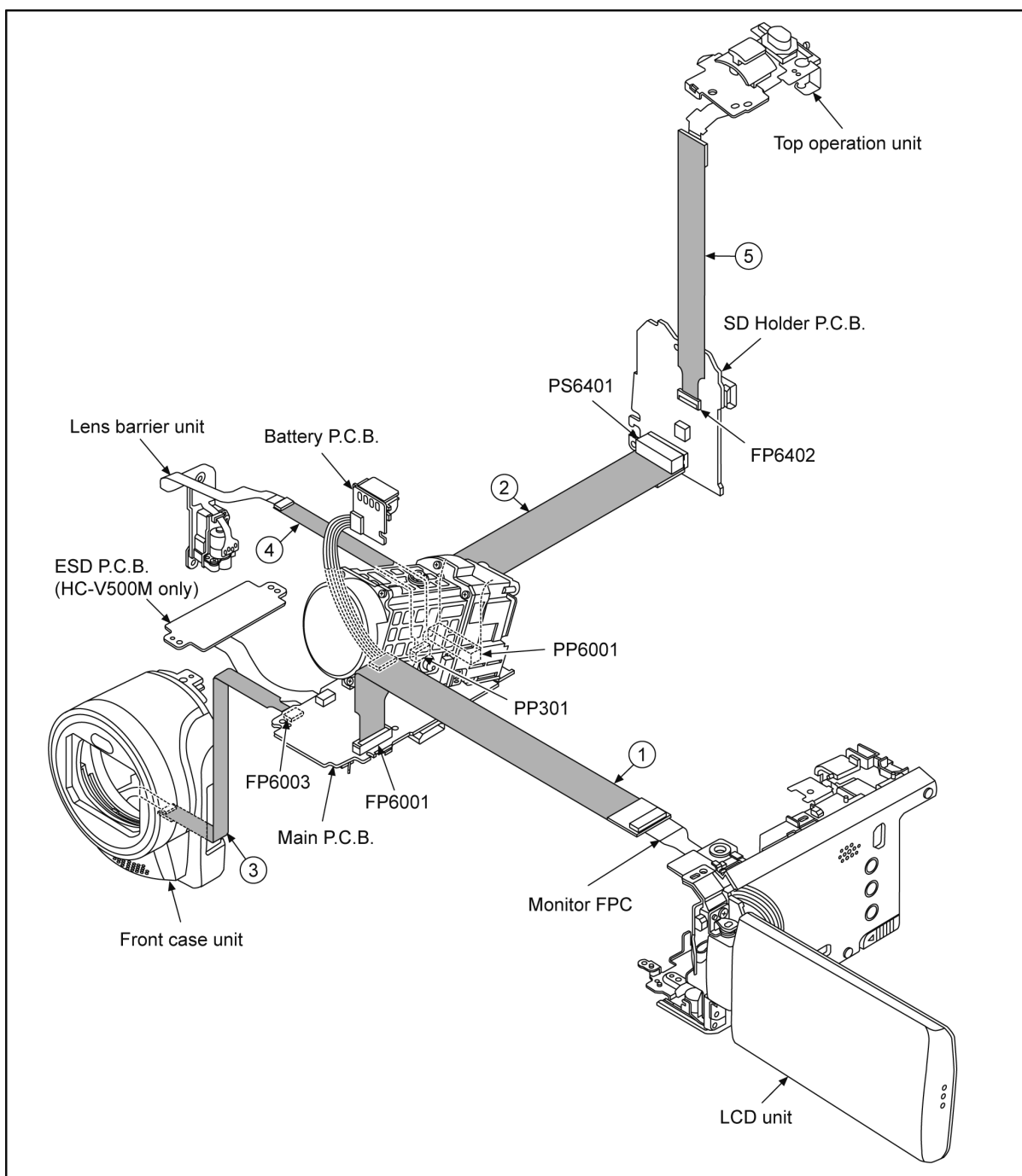
The adjustment instruction is available at "software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN system", together with Maintenance software.

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 | RFKZ0448 | FP6001(MAIN) - MONITOR FPC | 33PIN 0.3 FFC |
| 2 | RFKZ0444 | PP6001(MAIN) - PS6401(SD HOLDER) | 50PIN 0.5 B to B |
| 3 | VFK1480 | FP6003(MAIN) - ECM FPC(FRONT CASE UNIT) | 6PIN 0.5 FFC |
| 4 | VFK1441 | FP6004(MAIN) - LENS BARRIER UNIT | 8PIN 0.5 FFC |
| 5 | VFK1440 | FP6402(SD HOLDER) - OPERATION SW UNIT(TOP CASE UNIT) | 10PIN 0.5 FFC |

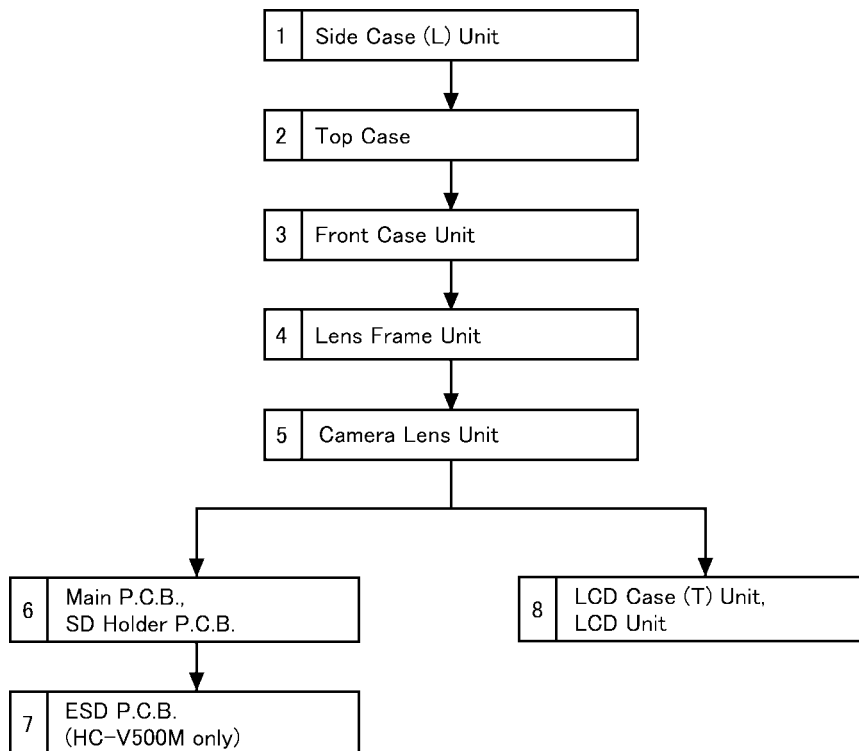


8 Disassembly and Assembly Instructions

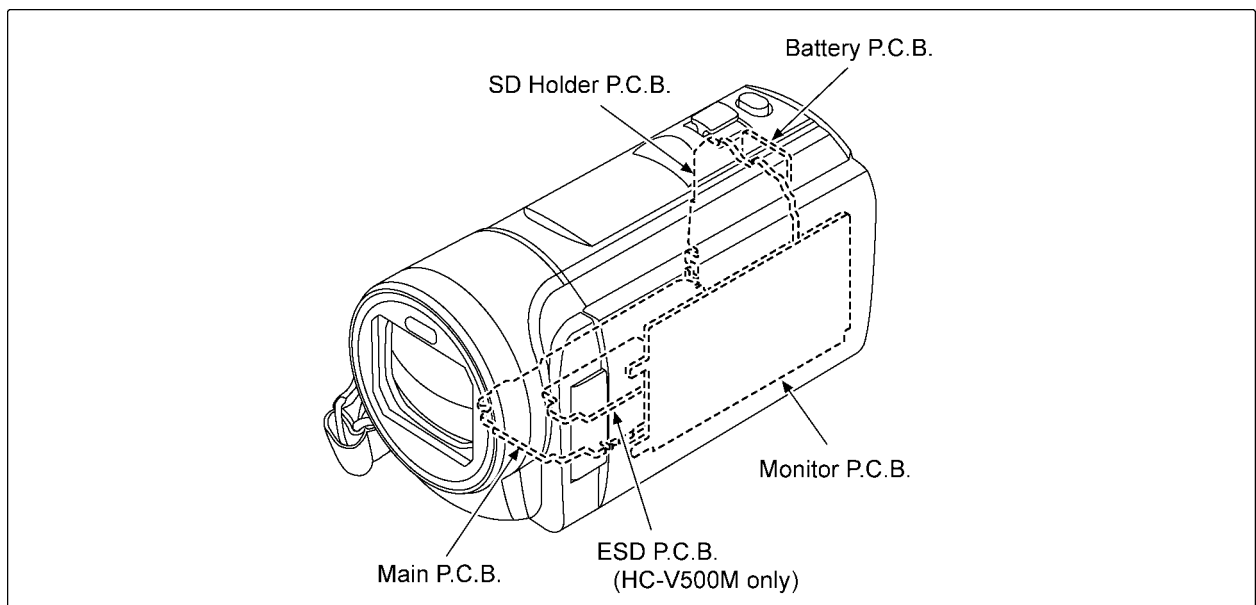
8.1. Disassembly Flow Chart for the Unit

This is a disassembling chart.

When assembling, perform this chart conversely.



8.2. PCB Location



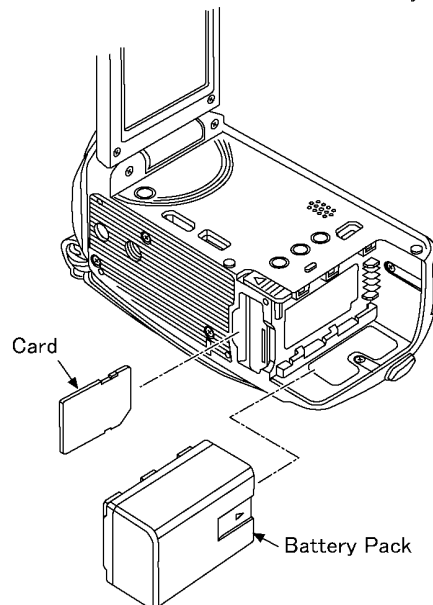
8.3. Disassembly Procedure for the Unit

| No. | Item | Fig | Removal | | |
|------------|----------------------------------|------------|---------------------------|-----------|-------------------|
| 1 | Side Case (L) Unit | (Fig. D1) | 1 Screw (A) | | |
| | | | 2 Screws (B) | | |
| | | (Fig. D2) | 3 Screws (C) | | |
| | | | 3 Locking tabs | | |
| | | | Side Case (L) Unit | | |
| 2 | Top Case | (Fig. D3) | 1 Screw (D) | | |
| | | (Fig. D4) | 3 Locking tabs | | |
| | | | Top Case | | |
| 3 | Front Case Unit | (Fig. D5) | 1 Screw (E) | | |
| | | | 2 Screws (F) | | |
| | | (Fig. D6) | 1 Screw (G) | | |
| | | | P6002 (Connector) | | |
| | | | FP6003 (Flex) | | |
| | | | 3 Ribs | | |
| | | | Front Case Unit | | |
| | | (Fig. D7) | NOTE: (When Installing) | | |
| 4 | Lens Frame Unit | (Fig. D8) | 2 Screws (H) | | |
| | | | 3 Screws (I) | | |
| | | | 2 Locking tabs | | |
| | | | 1 Rib | | |
| | | | FP6004 (Flex) | | |
| | | | Lens Frame Unit | | |
| | | 5 | Camera Lens Unit | (Fig. D9) | FP6008 (Flex) |
| | | | | | 3 Convexes |
| | | | | | PP301 (Connector) |
| | Camera Lens Unit | | | | |
| | | | | | |
| 6 | Main P.C.B. SD Holder P.C.B. | (Fig. D10) | P6003 (Connector) | | |
| | | | 3 Screws (J) | | |
| | | | 1 Screw (K) | | |
| | | (Fig. D11) | Heat Radiation Frame Unit | | |
| | | | 1 Projection part | | |
| | | | Rear Angle | | |
| | | | FP6001 (Flex) | | |
| | | | P6401 (Connector) | | |
| | | | FP6402 (Flex) | | |
| | | | 2 Ribs | | |
| | 1 Hooking part | | | | |
| | FP3201 (Flex) (HC-V500M only) | | | | |
| (Fig. D12) | SD Holder P.C.B. | | | | |
| (Fig. D13) | NOTE: (When Installing) | | | | |
| 7 | ESD P.C.B. (HC-V500M only) | (Fig. D14) | 2 Screws (L) | | |
| | | | ESD P.C.B. | | |
| 8 | LCD Case (T) Unit LCD Unit | (Fig. D15) | 2 Screws (M) | | |
| | | | 2 Screws (N) | | |
| | | (Fig. D16) | 6 Locking tabs | | |
| | | | LCD Case (T) Unit | | |
| | | | FP901 (Flex) | | |
| | 1 Screw (O) | | | | |
| | 1 Hooking part | | | | |
| | LCD Unit | | | | |

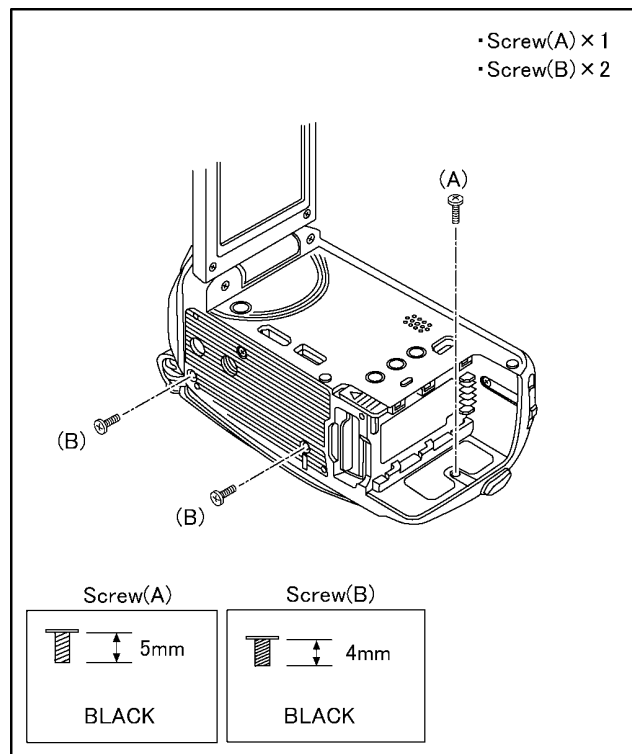
NOTE:

When servicing and reassembling, remove the card and battery pack from the unit.

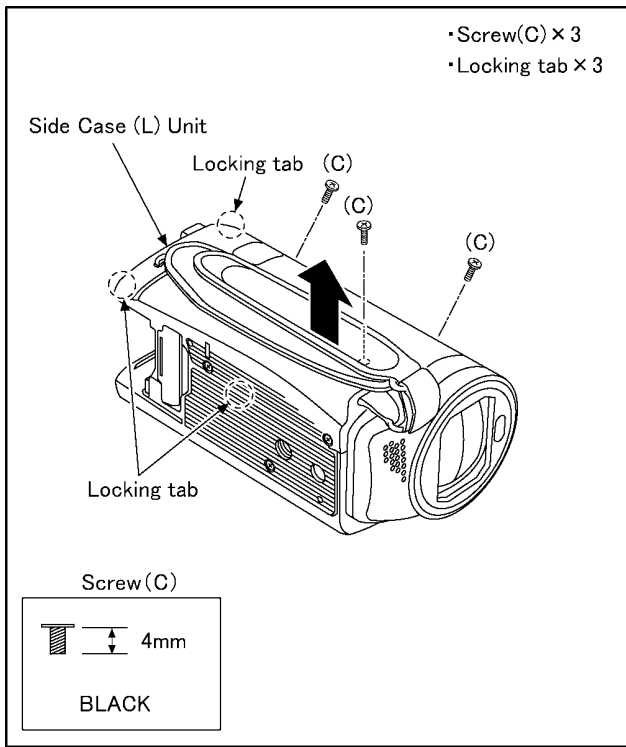
- Card
- Battery Pack



8.3.1. Removal of the Side Case (L) Unit

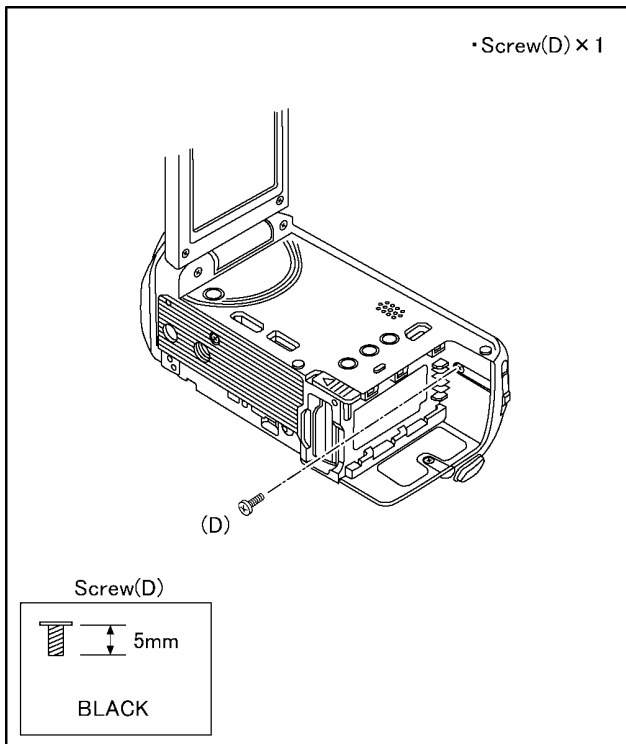


(Fig. D1)

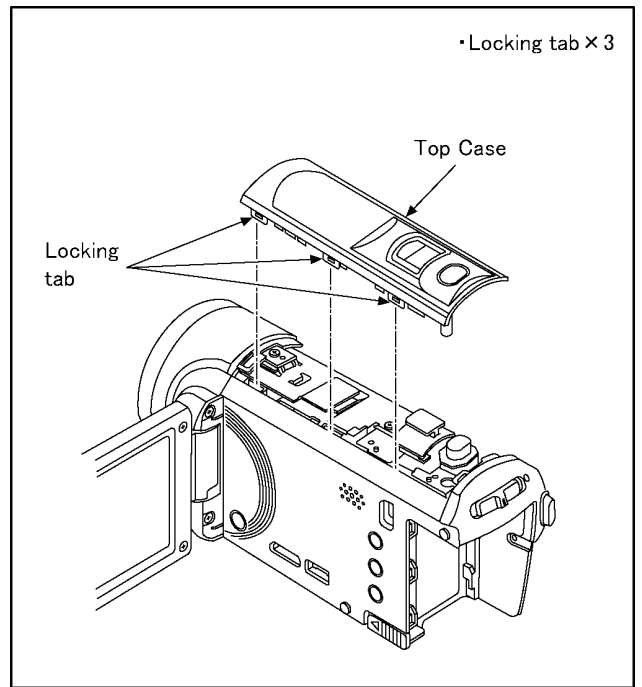


(Fig. D2)

8.3.2. Removal of the Top Case

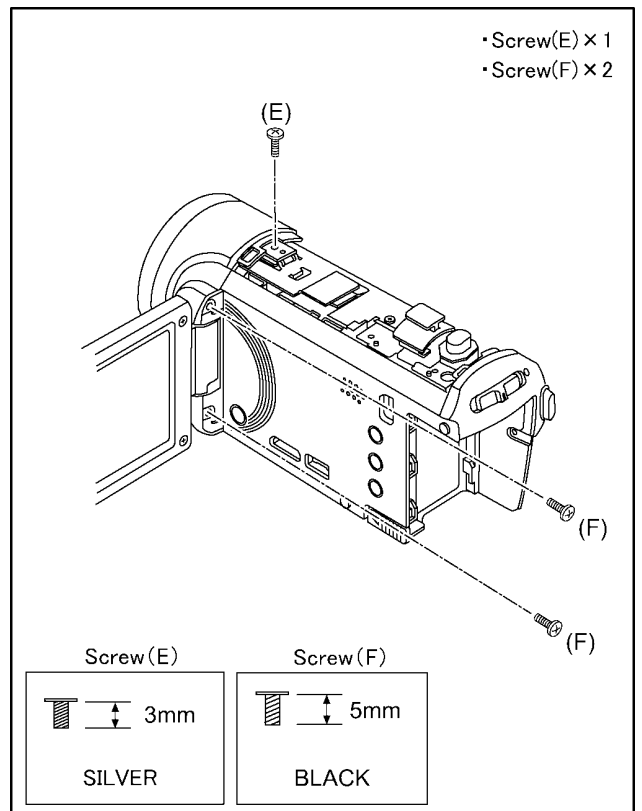


(Fig. D3)

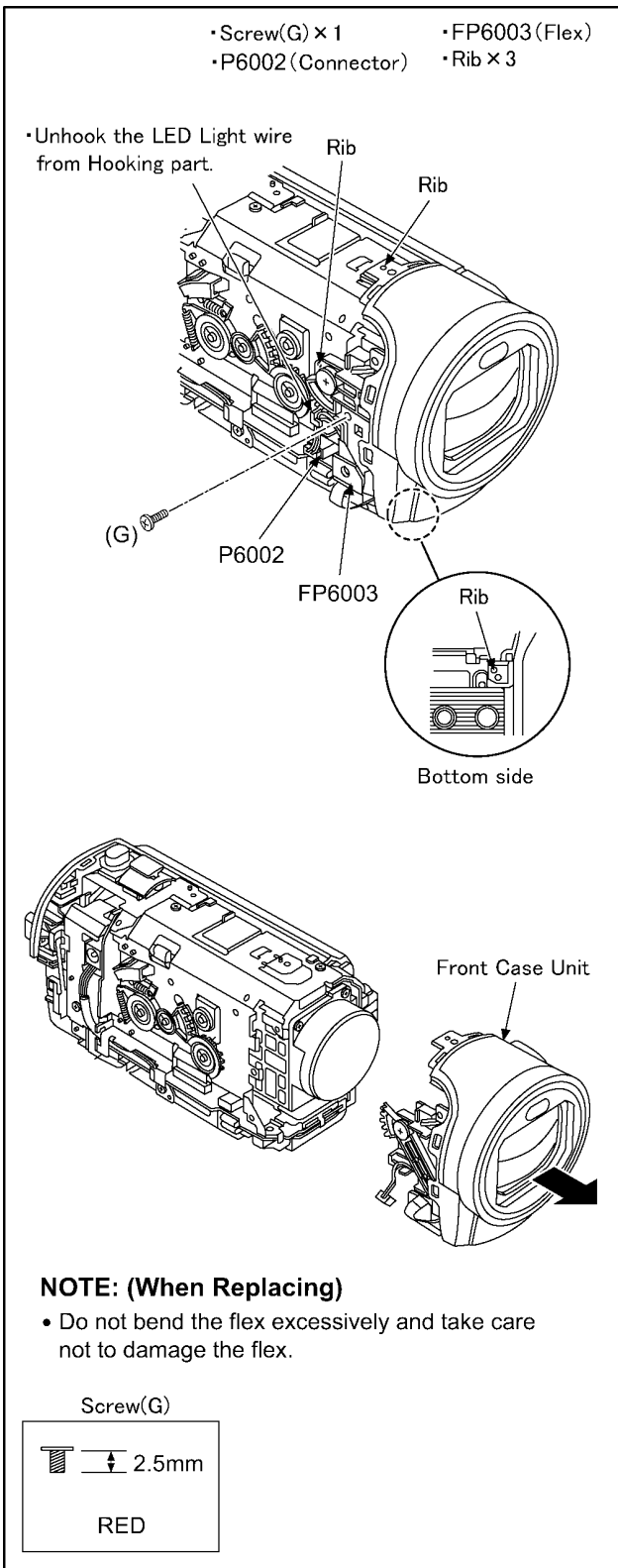


(Fig. D4)

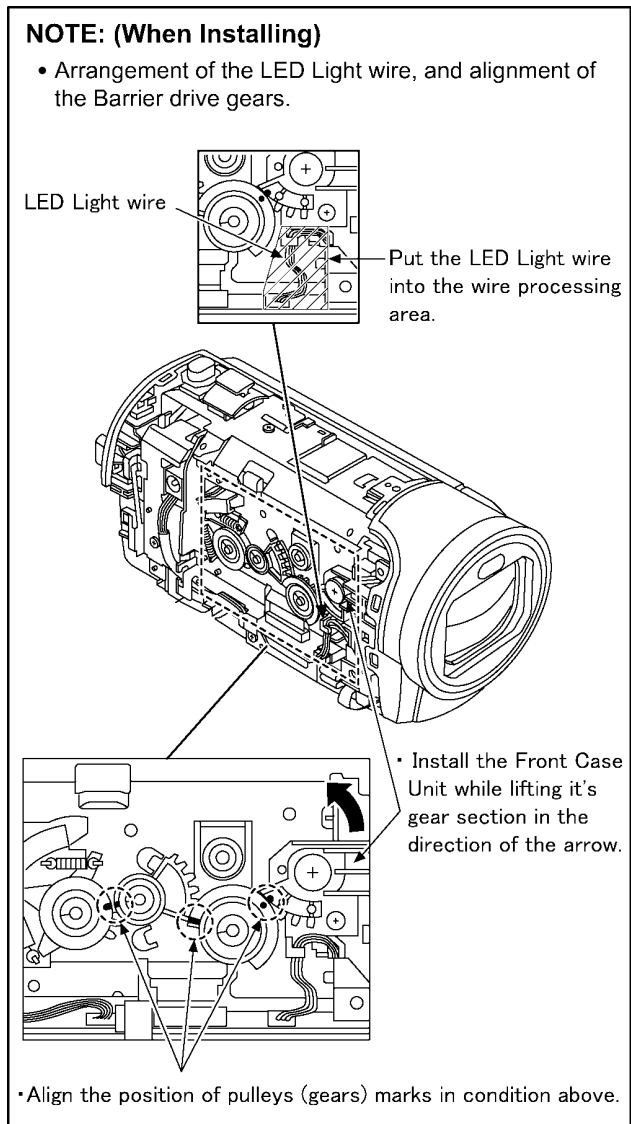
8.3.3. Removal of the Front Case Unit



(Fig. D5)

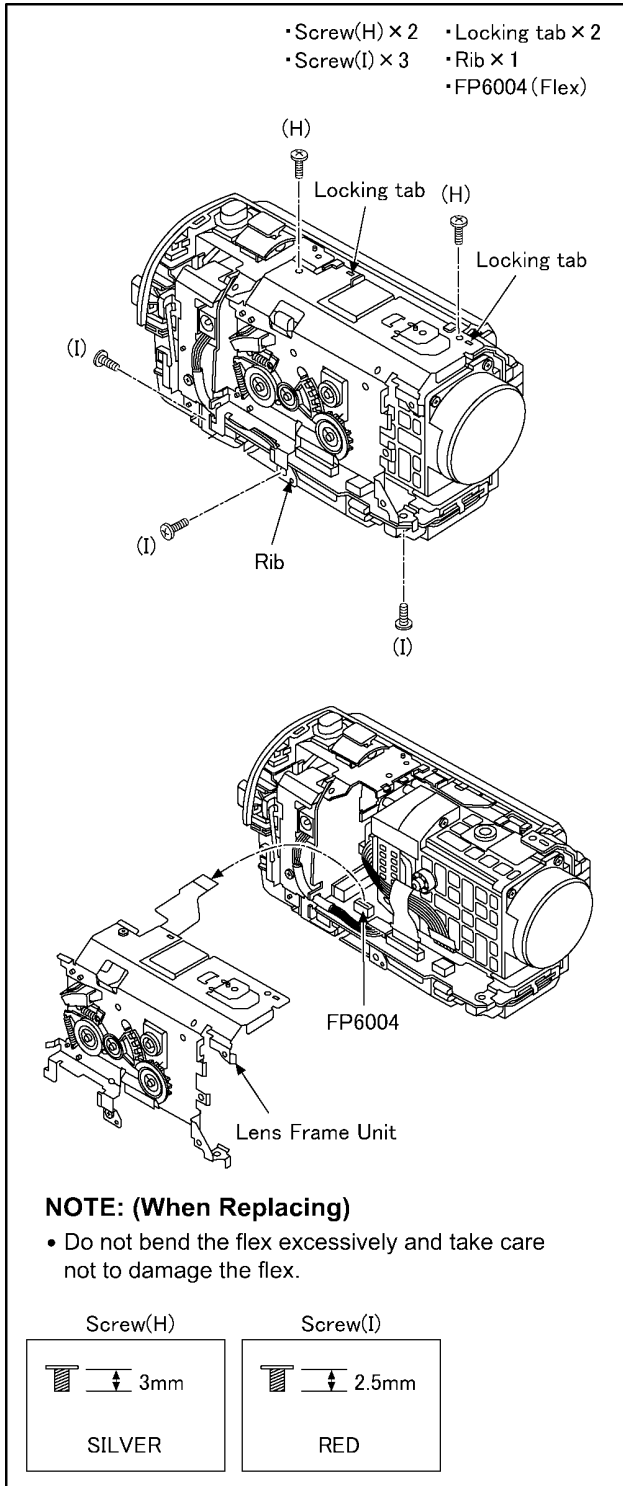


(Fig. D6)



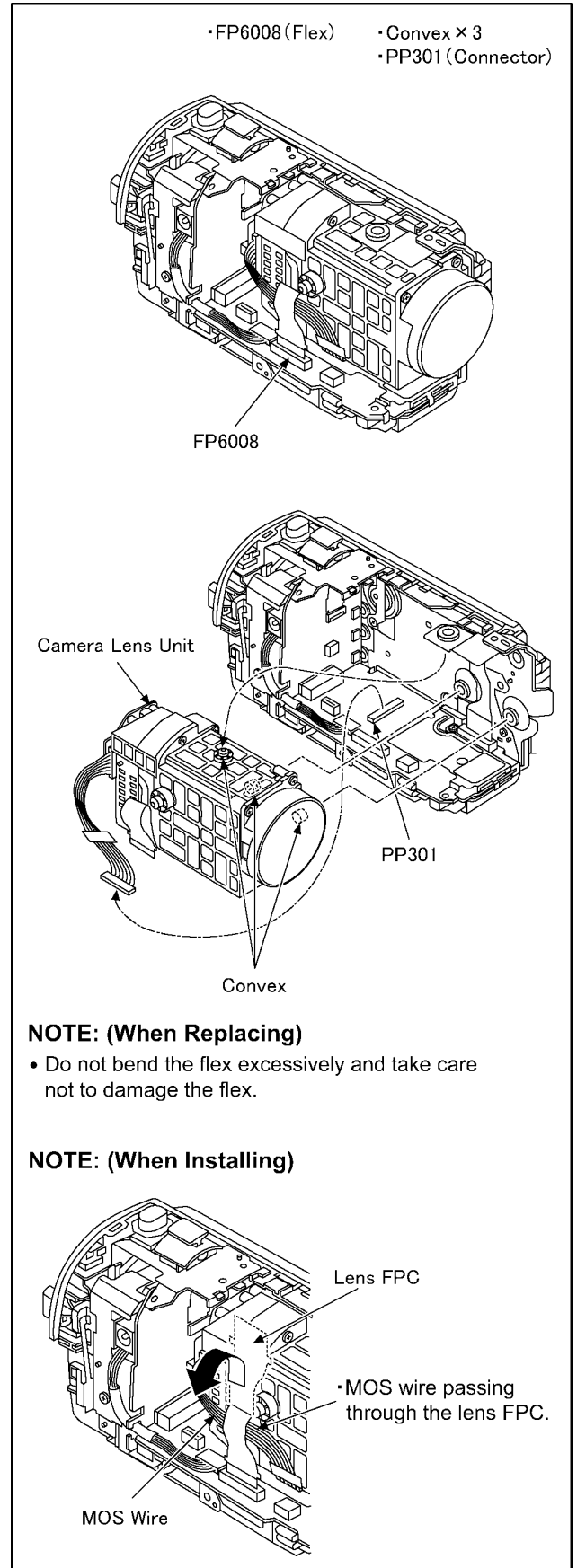
(Fig. D7)

8.3.4. Removal of the Lens Frame Unit



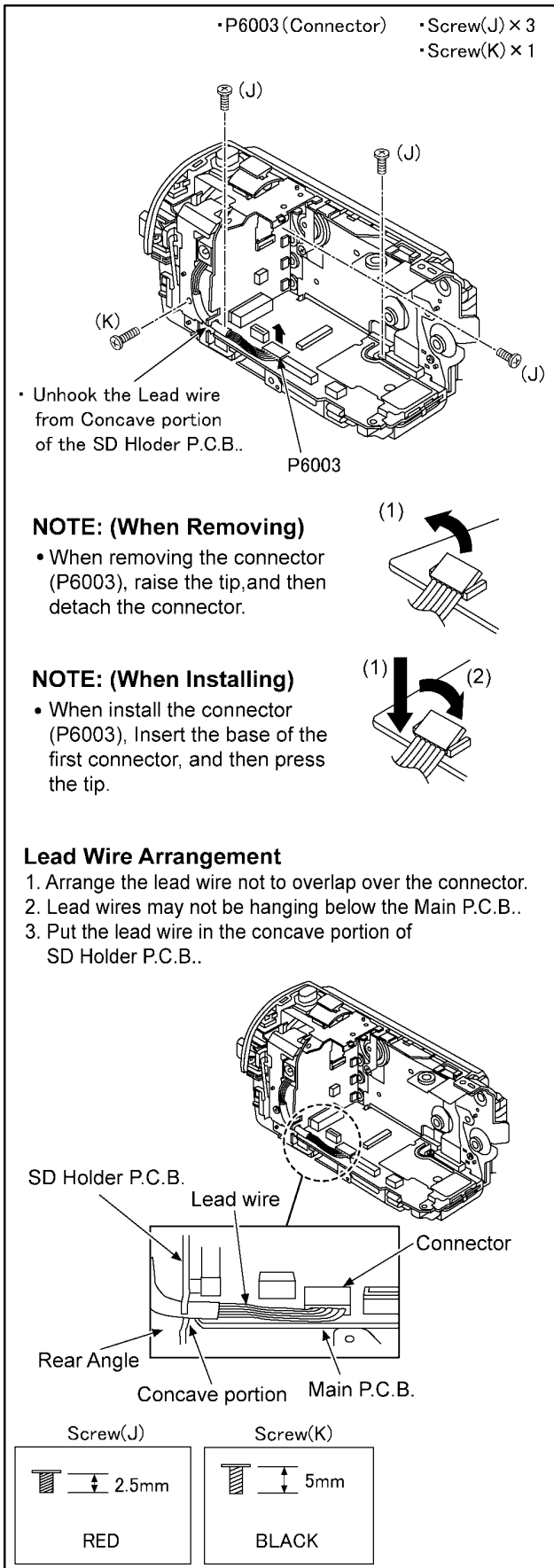
(Fig. D8)

8.3.5. Removal of the Camera Lens Unit

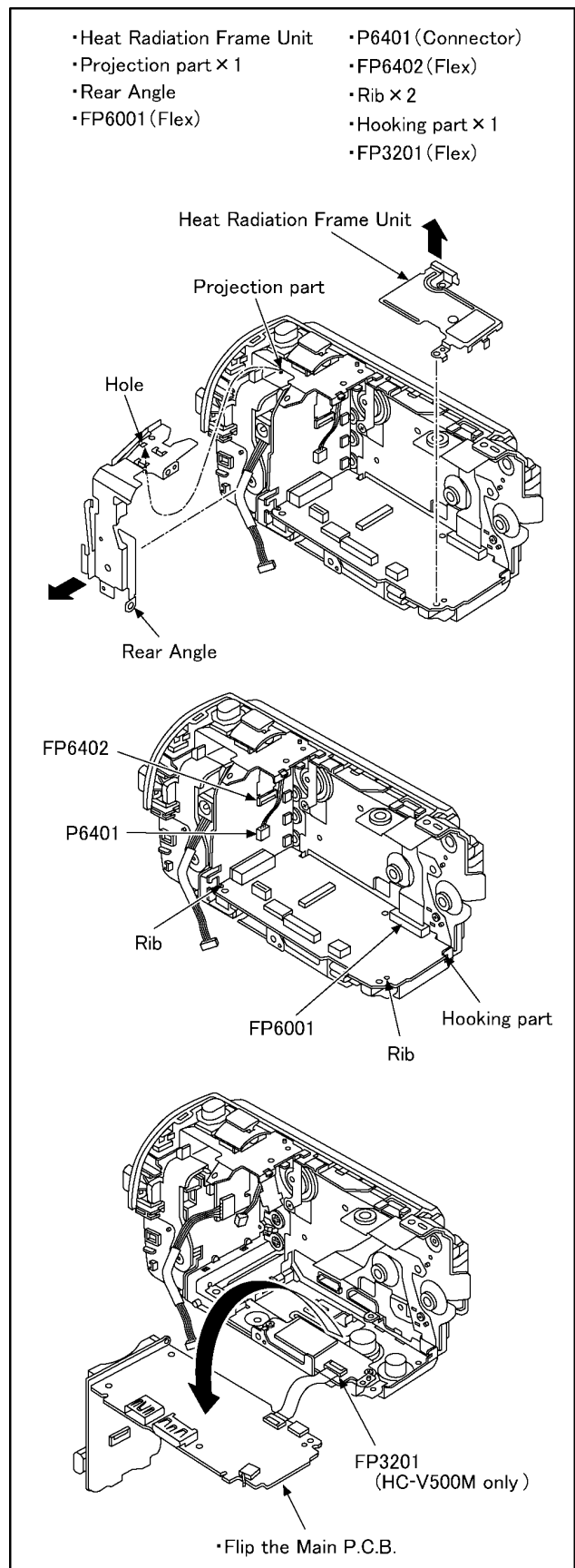


(Fig. D9)

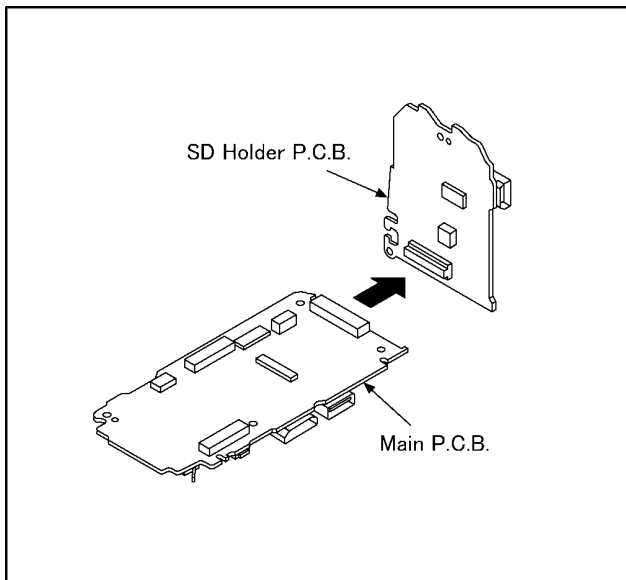
8.3.6. Removal of the Main P.C.B. and SD Holder P.C.B.



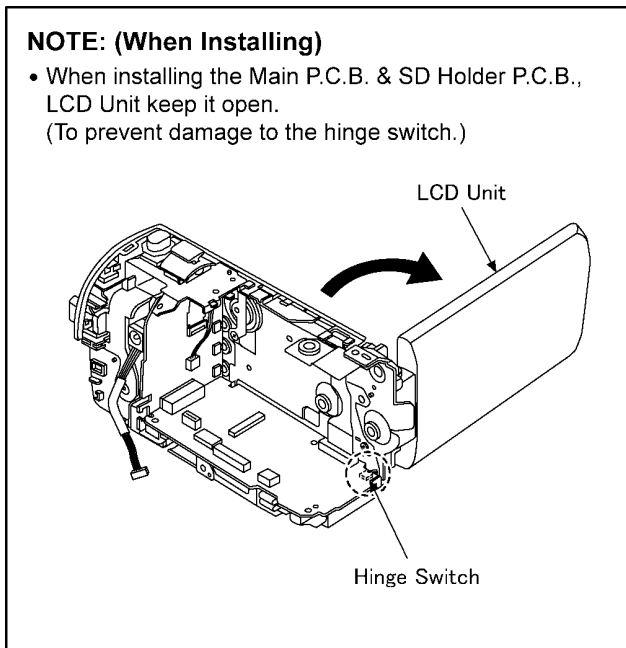
(Fig. D10)



(Fig. D11)

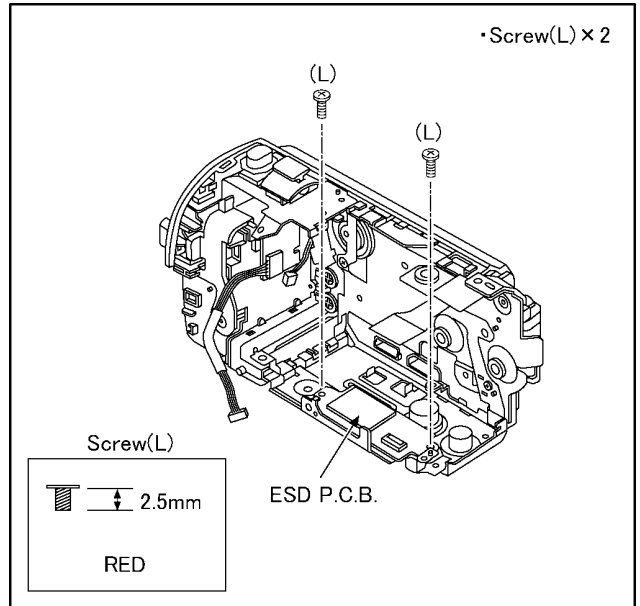


(Fig. D12)



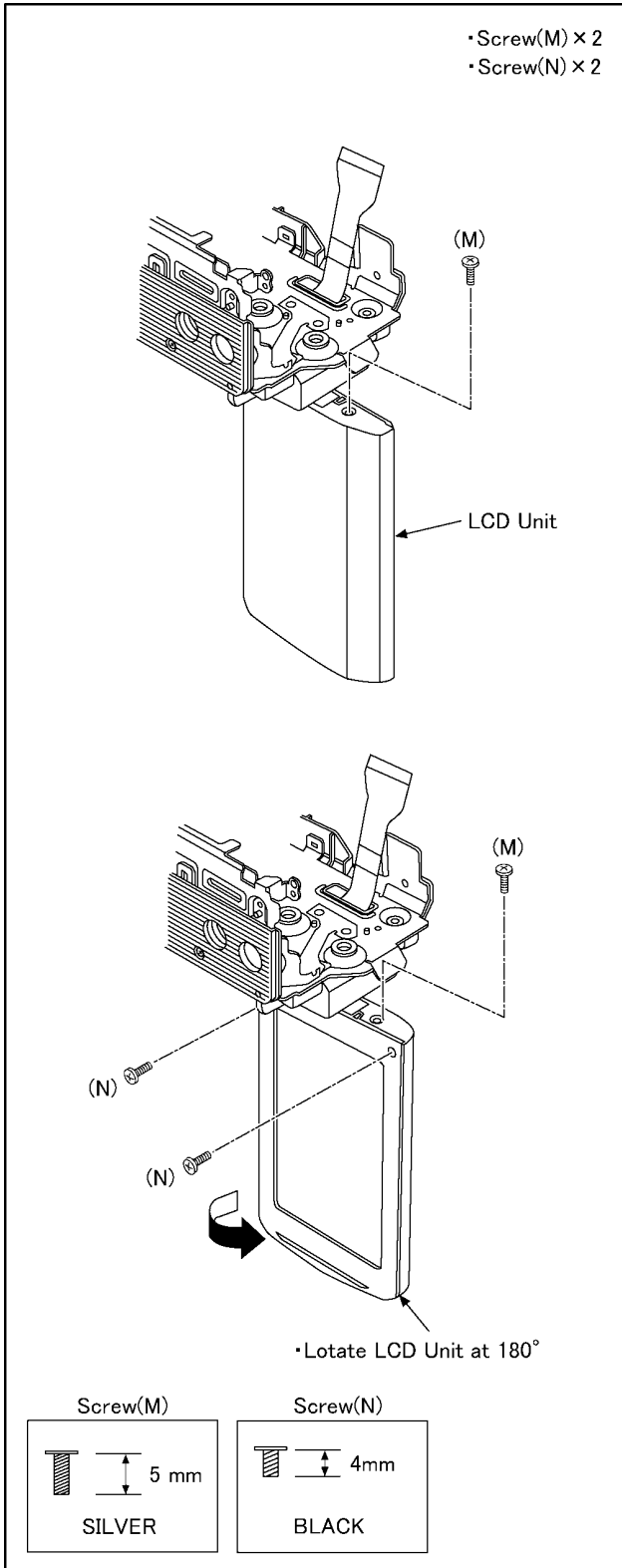
(Fig. D13)

8.3.7. Removal of the ESD P.C.B. (HC-V500M only)

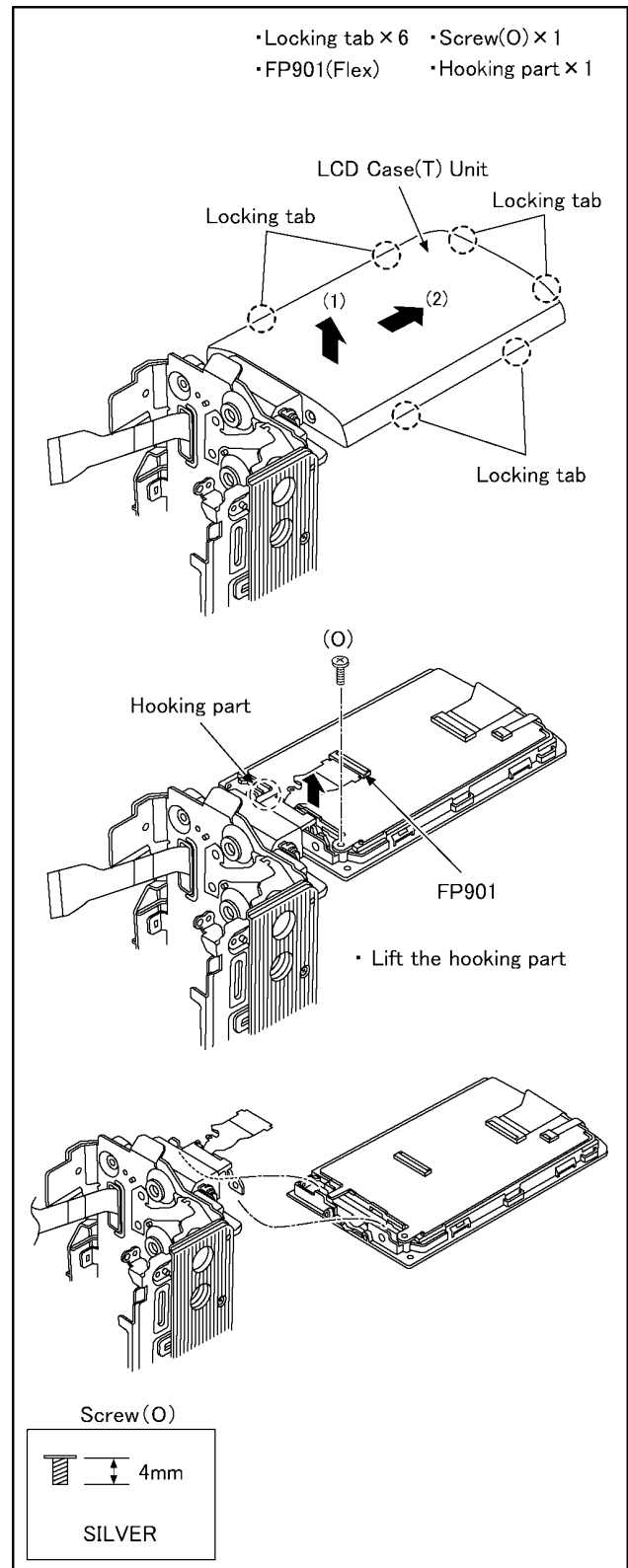


(Fig. D14)

8.3.8. Removal of the LCD Case (T) Unit and LCD Unit



(Fig. D15)



(Fig. D16)

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

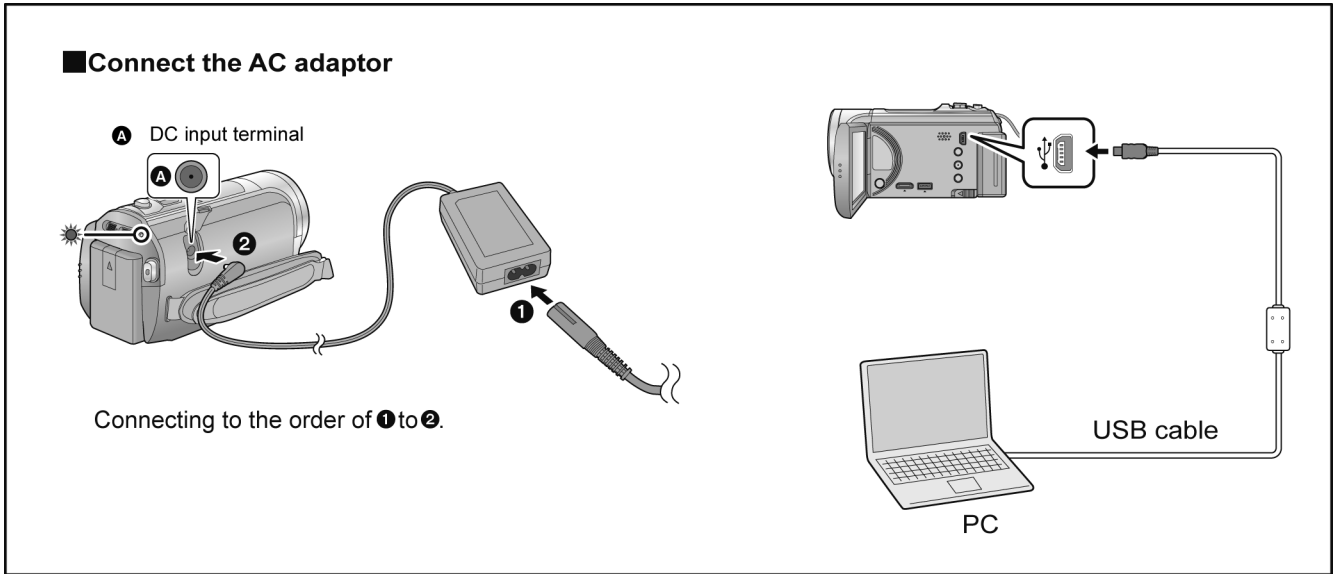
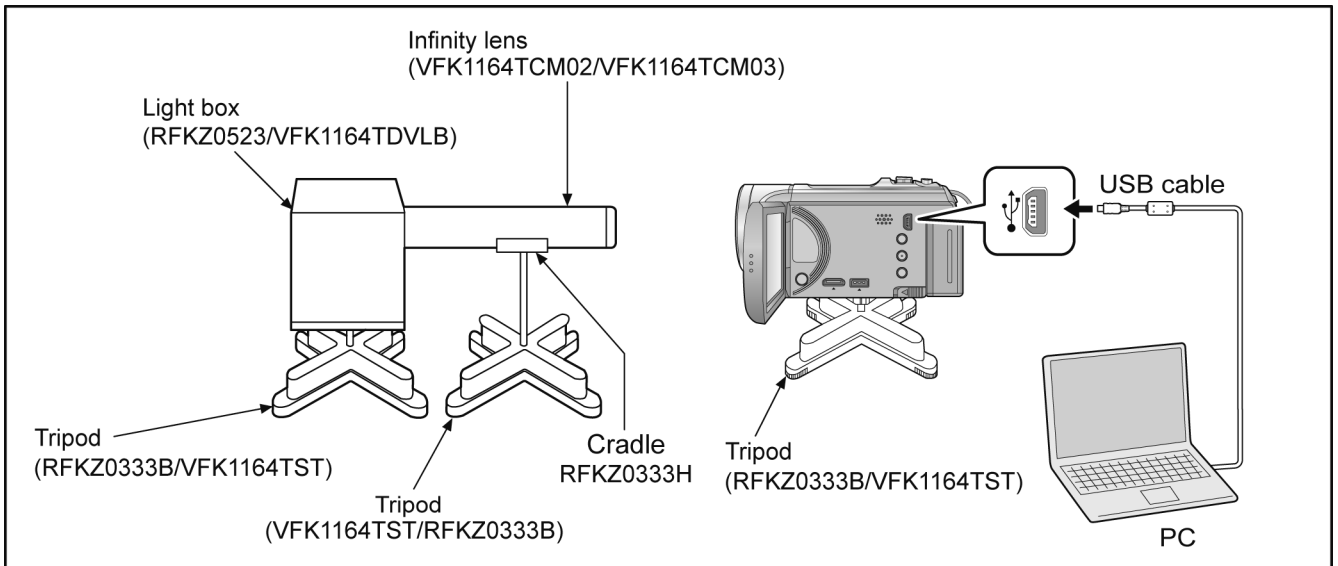


Figure of image when adjustment



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 | Adjustment Software (Tatsujin) | ----- | |
| 5 | C4 Filter | VFK1164LBB4 | The same as C12 Filter (VFK1164LBB12). |
| 6 | C8 Filter | VFK1164LBB8 | |

Adjustment Items

- Adjustment item as follows.

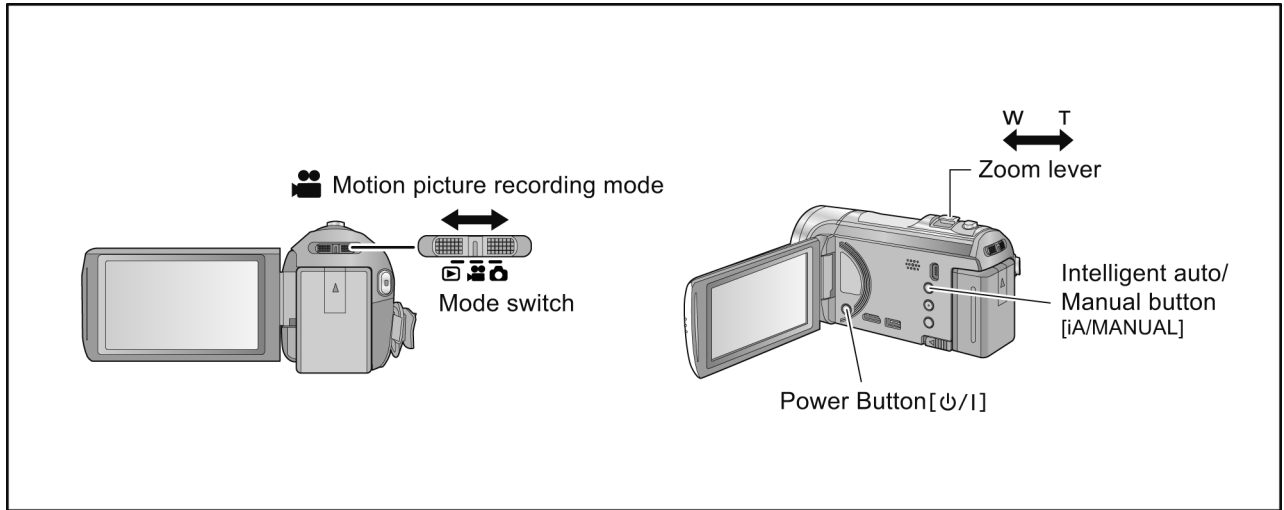
The adjustment instruction is available at "Software download" on the "Support Information from NWBG/VDBG-AVC" web-site in "TSN System".

| | Replacement part Adjustment item | Main P.C.B. | IC3403 (FLASH ROM) | Lens Unit | MOS Unit | IC701 | IC6401, IC751 |
|-------------|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Camera part | ● CAM IRIS | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| | ● CAM OIS G sensor | <input type="radio"/> | <input type="radio"/> | | | | <input type="radio"/> |
| | ● CAM Tracking & De-focus | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| | ● CAM Flaw correction of MOS sensor | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | |
| | ● CAM AWB 3100 | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | |
| | ● CAM AWB 5100 | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | |
| | ● CAM Gain among Channels | <input type="radio"/> | <input type="radio"/> | | <input type="radio"/> | | |

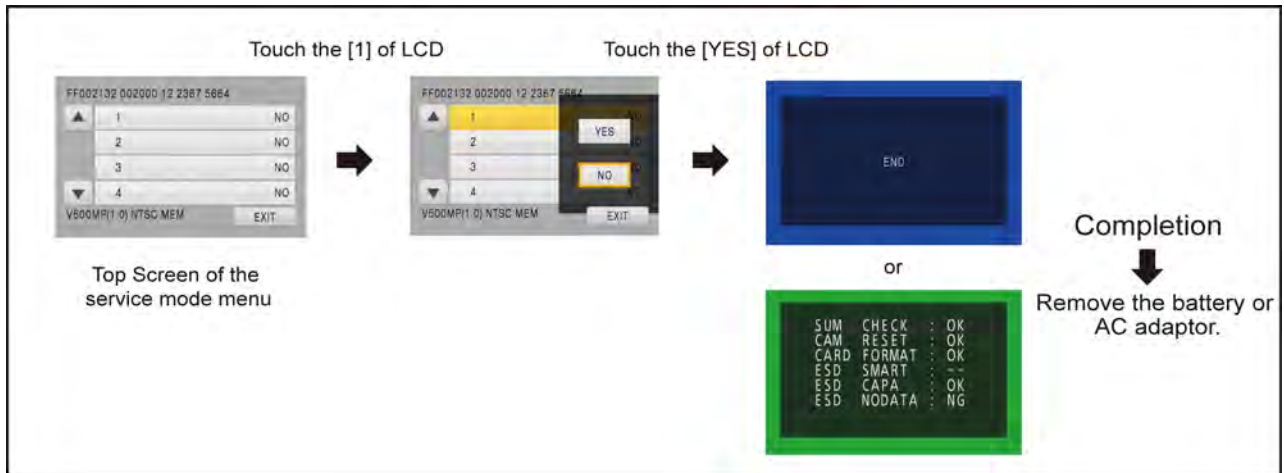
10 Factory Setting

10.1. How To Turn On The Factory Settings?

1. Set the mode switch "Motion Picture Recording" mode.
2. While the power is turned OFF, keep pressing the "Power" button, "Zoom lever" to W side and "intelligent auto/Manual" 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 or "ESD NODATA" as "NG" is displayed on LCD monitor. Cutting of battery connection or AC power supply connection as a completion of the "FACTORY SETTINGS".
(After recording at least once, even if the physical format of the build-in memory will be performed, "ESD NODATA" as "NG" is indicated, but "FACTORY SETTINGS" is completed.)



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.

(HC-V500M)

If the "Factory Settings" is completed, physical format of the build-in memory is not performed, execute physical format according to the following procedure.

To physically format the built-in memory, connect the unit via the AC adaptor, select [SETUP] → [FORMAT MEDIA] → [Built-inMemory] from the menu, and then press and hold the recording start/stop button on the screen below for about 3 seconds. When the built-in memory data deletionscreen appears, select [YES], and then follow the on-screen instructions.



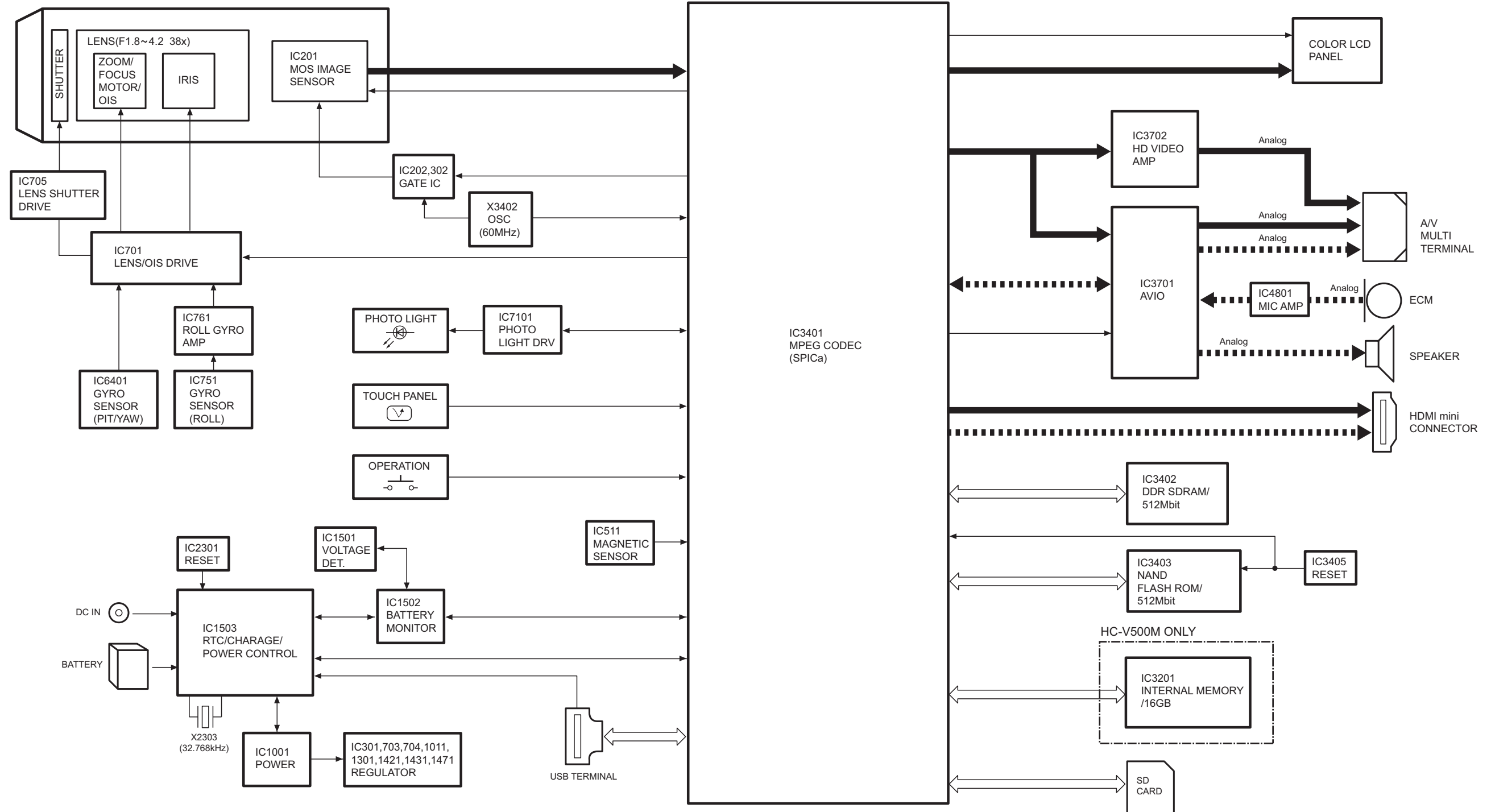
The setting position of factory settings:

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

10 Block Diagram

10.1. Overall Block Diagram

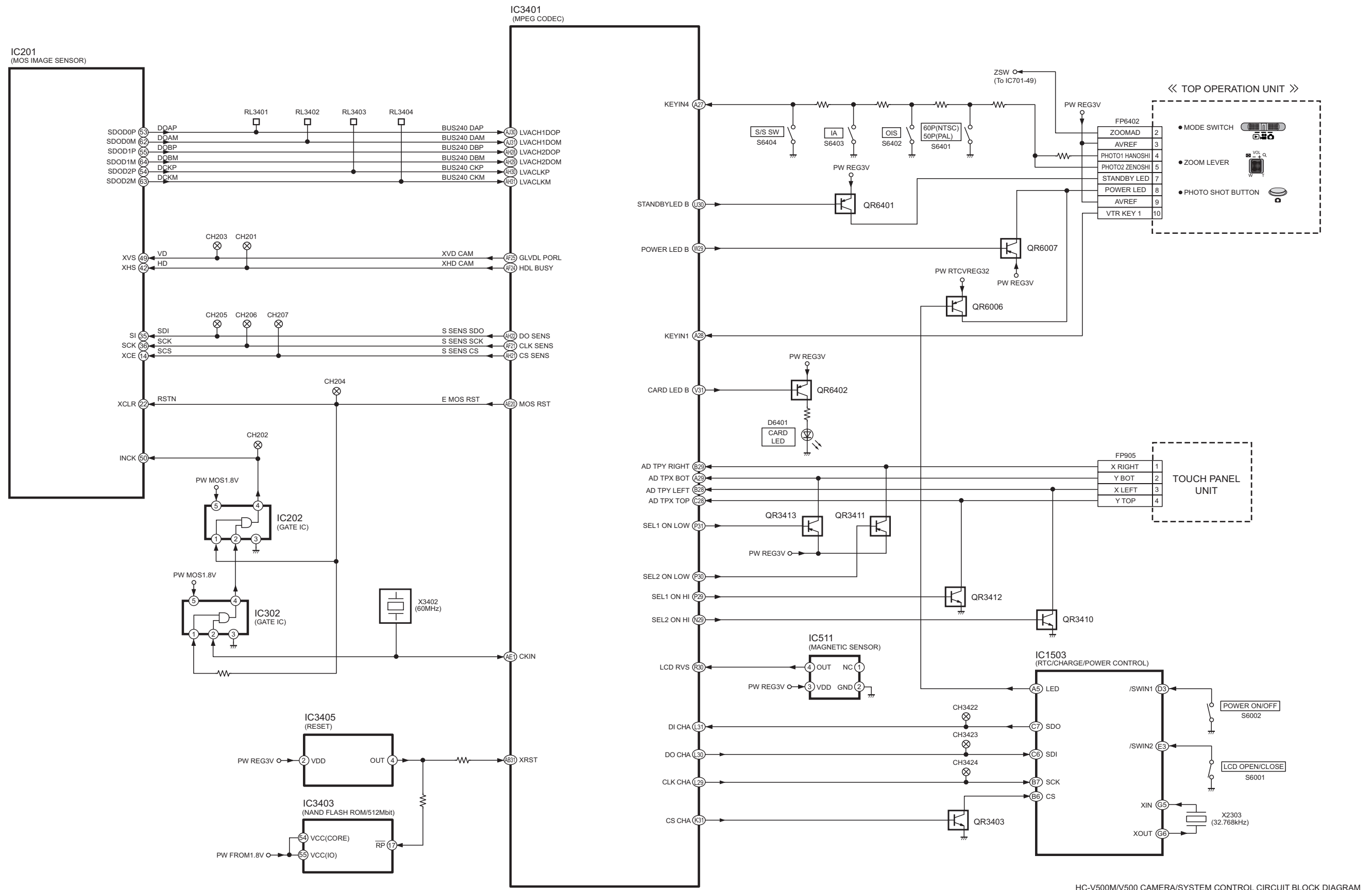
OVERALL BLOCK DIAGRAM



HC-V500M/V500 OVERALL BLOCK DIAGRAM

10.2. Camera/System Control Circuit Block Diagram

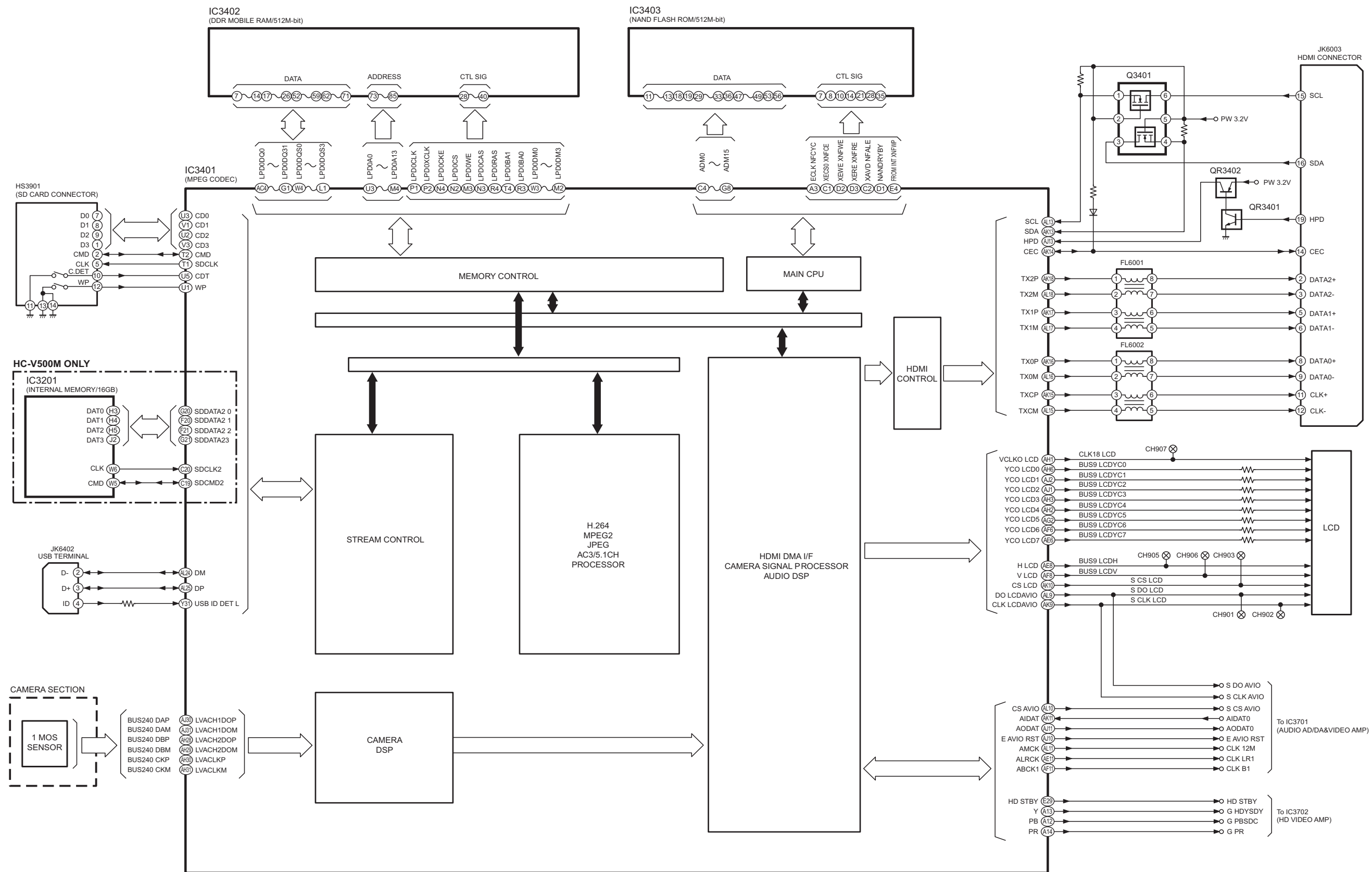
CAMERA/SYSTEM CONTROL CIRCUIT BLOCK DIAGRAM



HC-V500M/V500 CAMERA/SYSTEM CONTROL CIRCUIT BLOCK DIAGRAM

10.3. Video/Audio Signal Process(1) Circuit Block Diagram

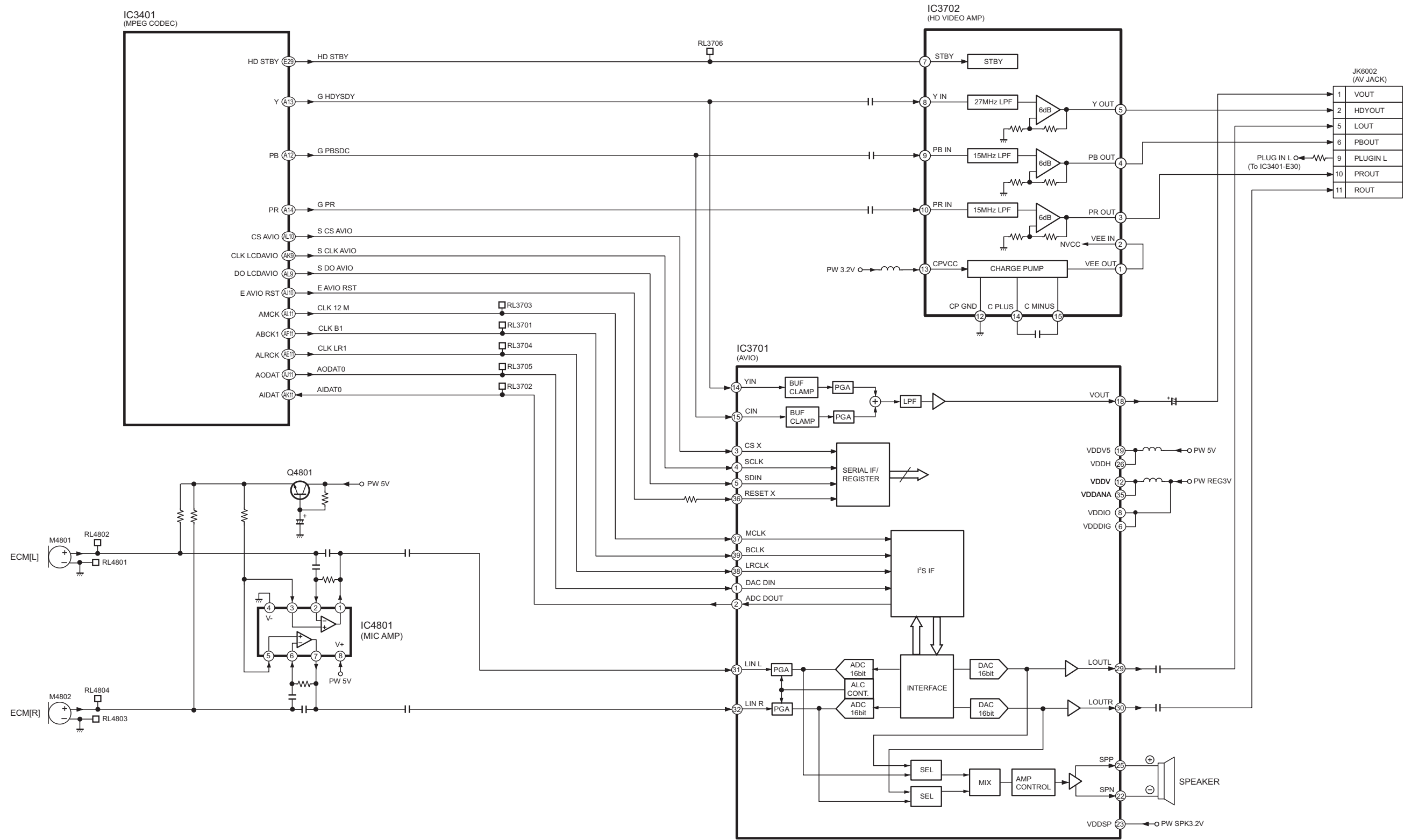
VIDEO/AUDIO SIGNAL PROCESS(1) CIRCUIT BLOCK DIAGRAM



HC-V500M/V500 VIDEO/AUDIO SIGNAL PROCESS(1) CIRCUIT BLOCK DIAGRAM

10.4. Video/Audio Signal Process(2) Circuit Block Diagram

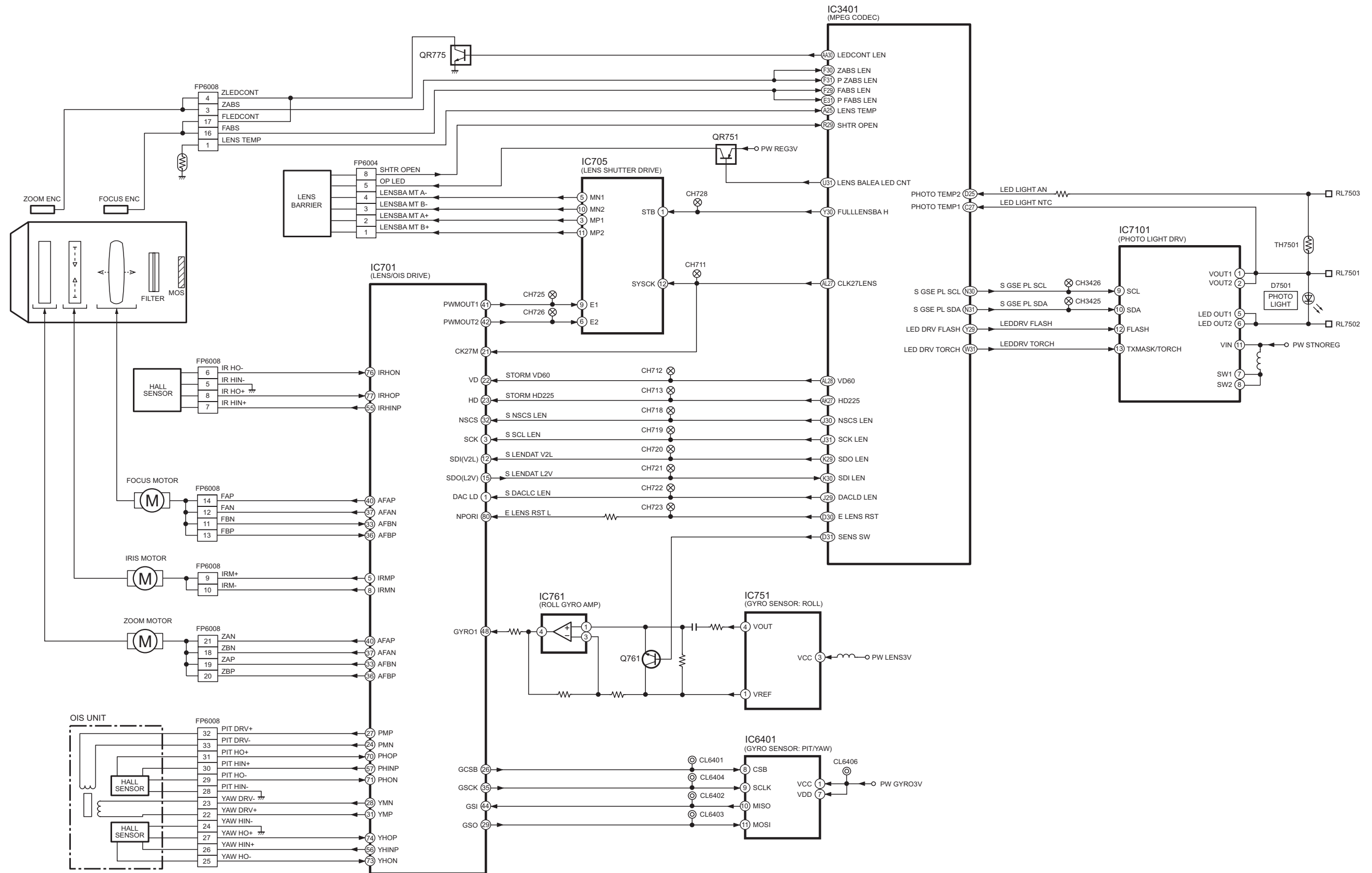
VIDEO/AUDIO SIGNAL PROCESS(2) CIRCUIT BLOCK DIAGRAM



HC-V500M/V500 VIDEO/AUDIO SIGNAL PROCESS(2) CIRCUIT BLOCK DIAGRAM

10.5. Lens Drive Circuit Block Diagram

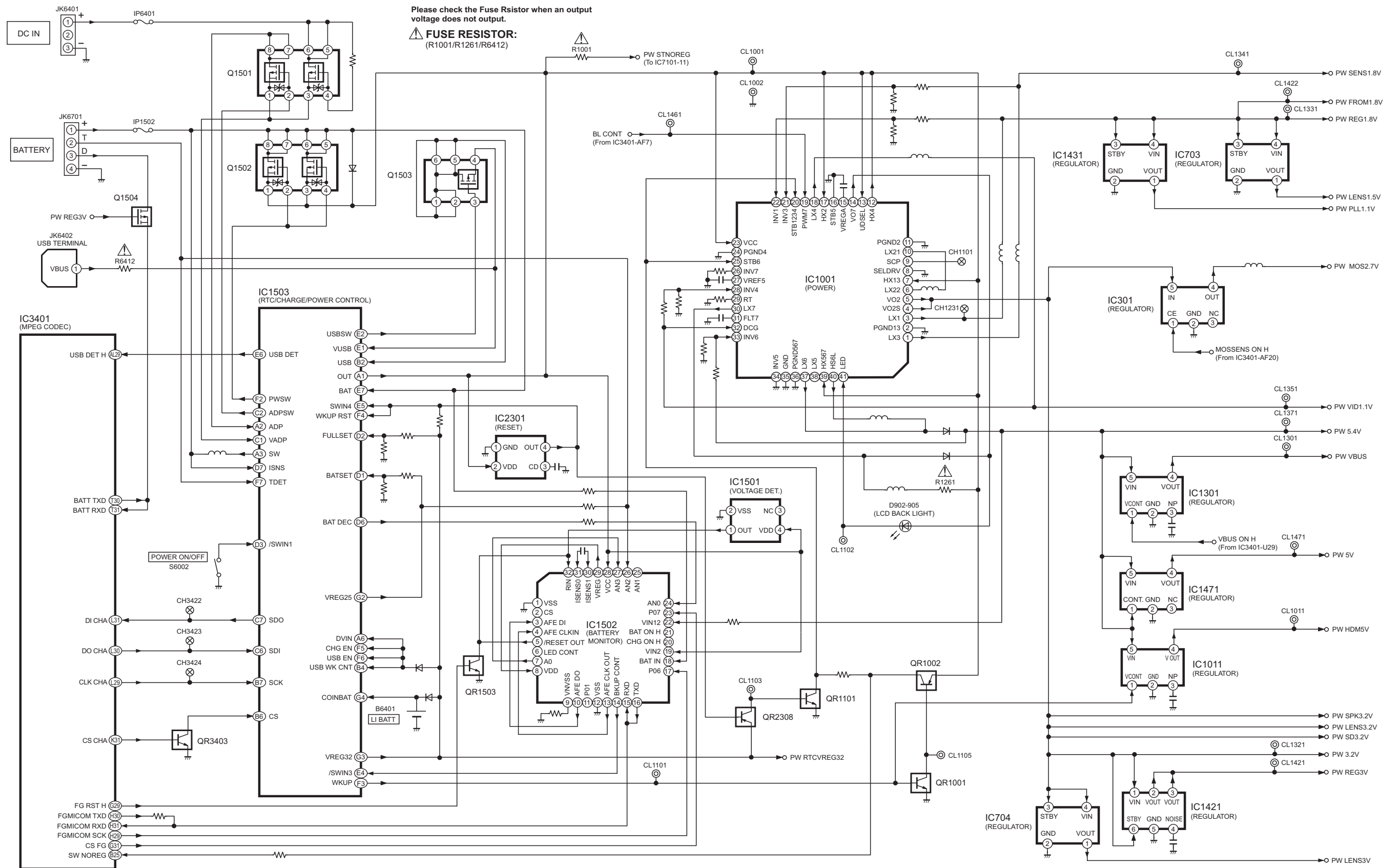
◆ LENS DRIVE CIRCUIT BLOCK DIAGRAM



HC-V500M/V500 LENS DRIVE CIRCUIT BLOCK DIAGRAM

10.6. Power Supply Circuit Block Diagram

POWER SUPPLY CIRCUIT BLOCK DIAGRAM

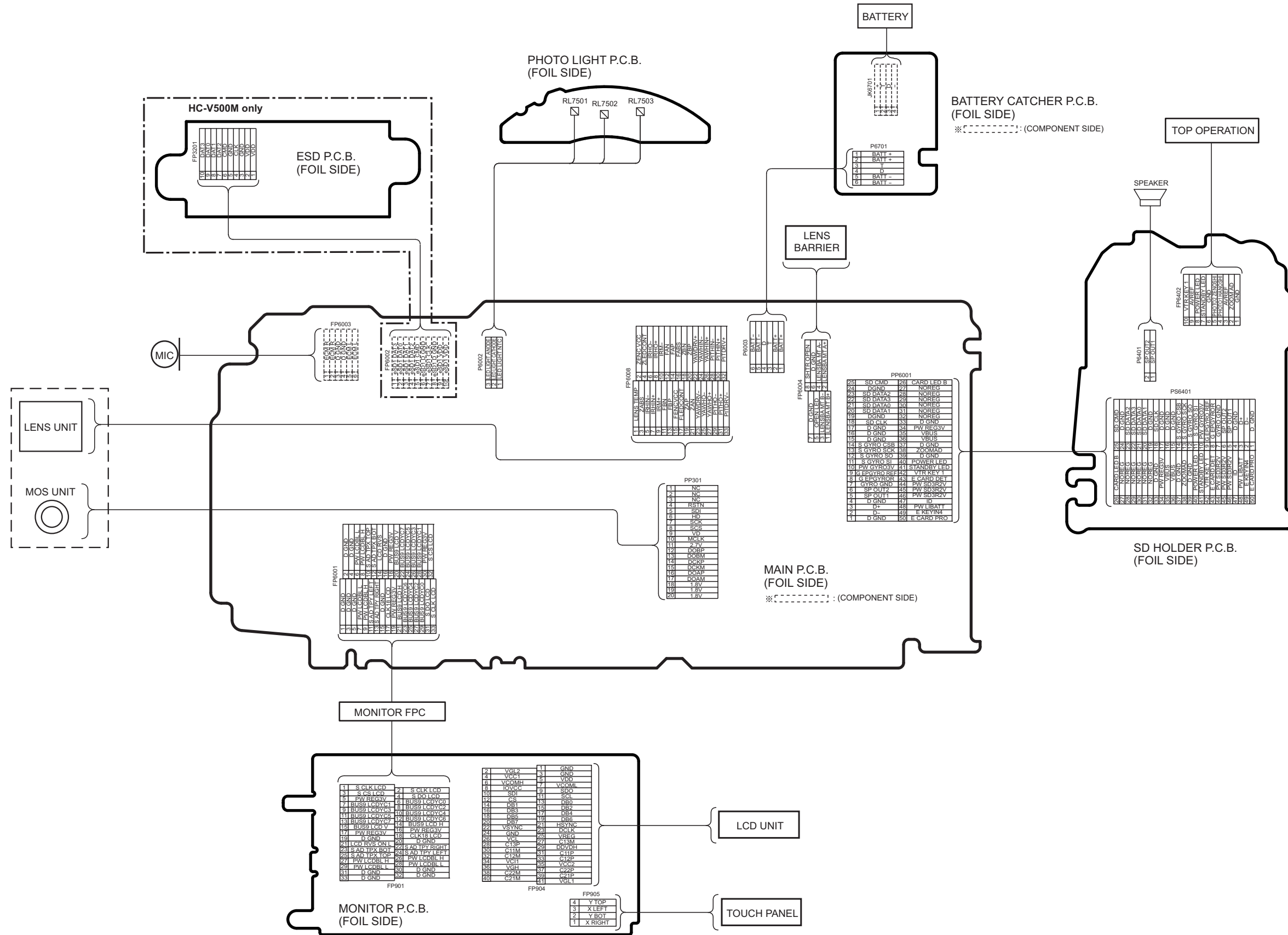


HC-V500M/V500 POWER SUPPLY CIRCUIT BLOCK DIAGRAM

11 Wiring Connection Diagram

11.1. Interconnection Diagram

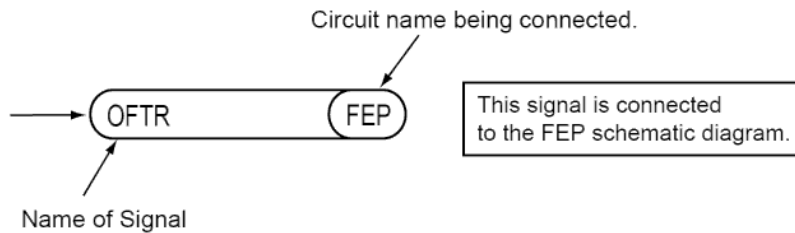
◆ INTERCONNECTION DIAGRAM




IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED WITH THE MARK  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. Use the parts number indicated on the Replacement Parts List .
4. Indication on Schematic diagrams:

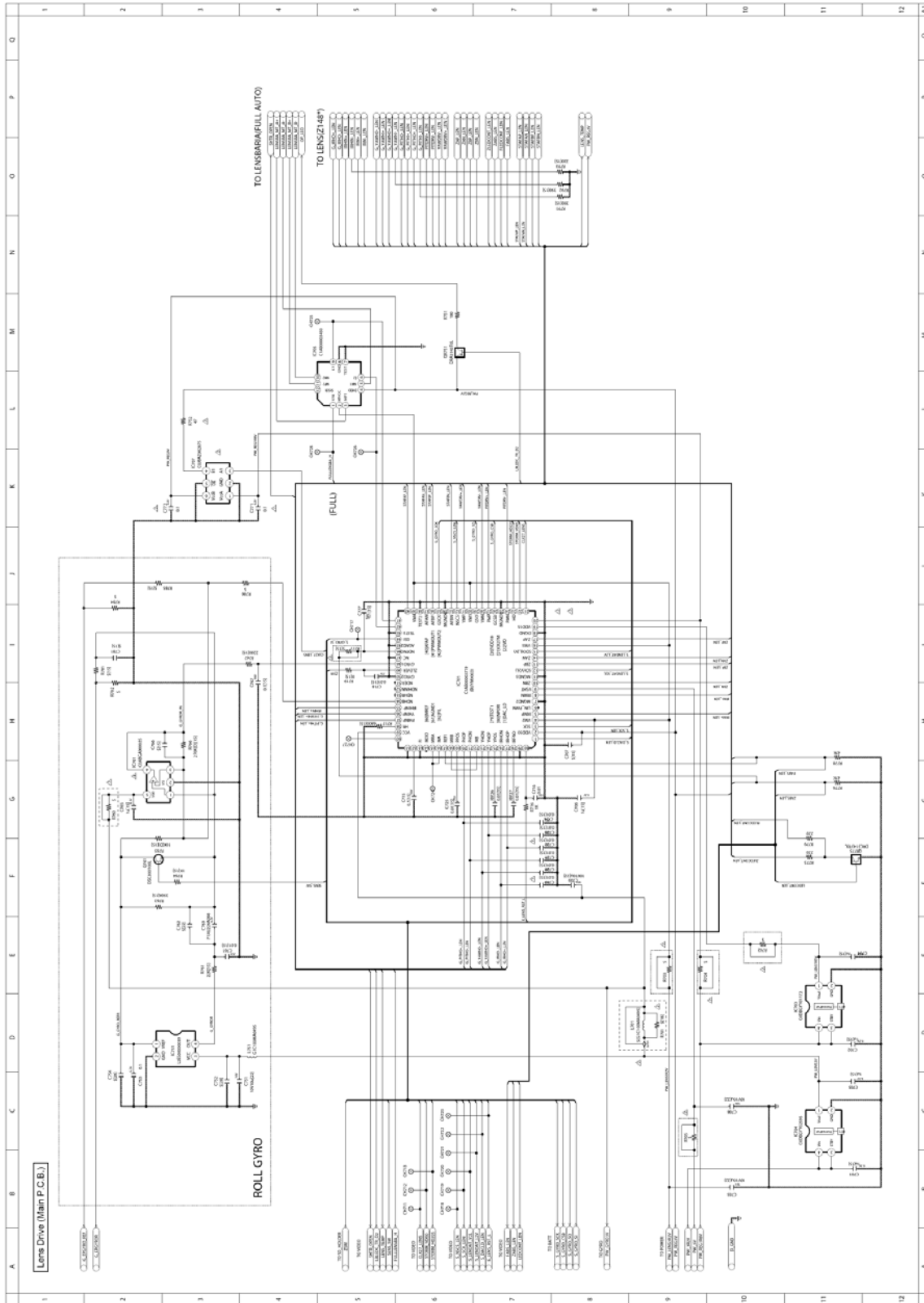


5. It might be taking time for display and/or access of the Schematic Diagrams & P. C. B. having the heavy data volume.

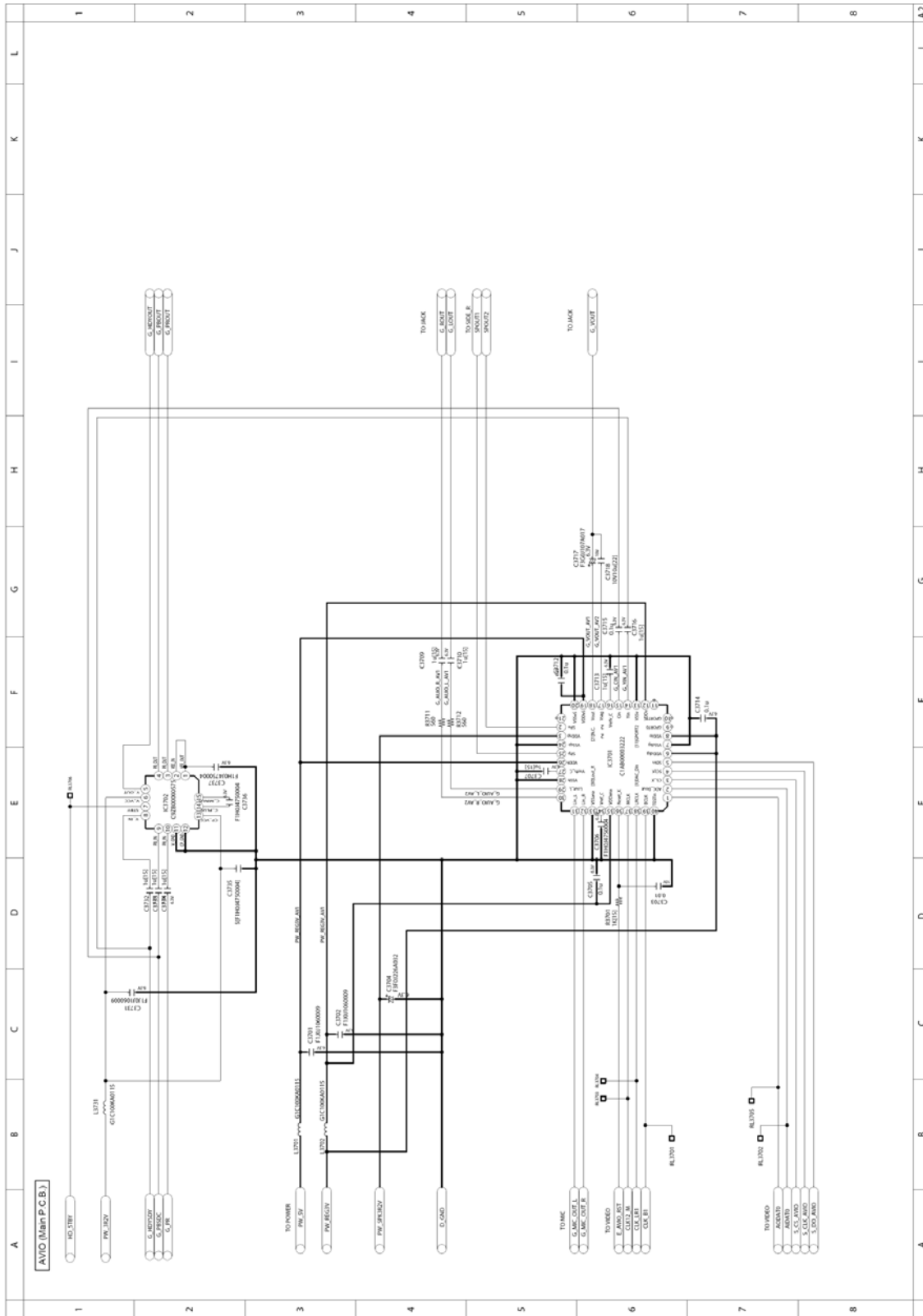
- Note:
- 1.* Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE
Components identified with the mark  have the special characteristics for safety.
When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
All resistors 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.

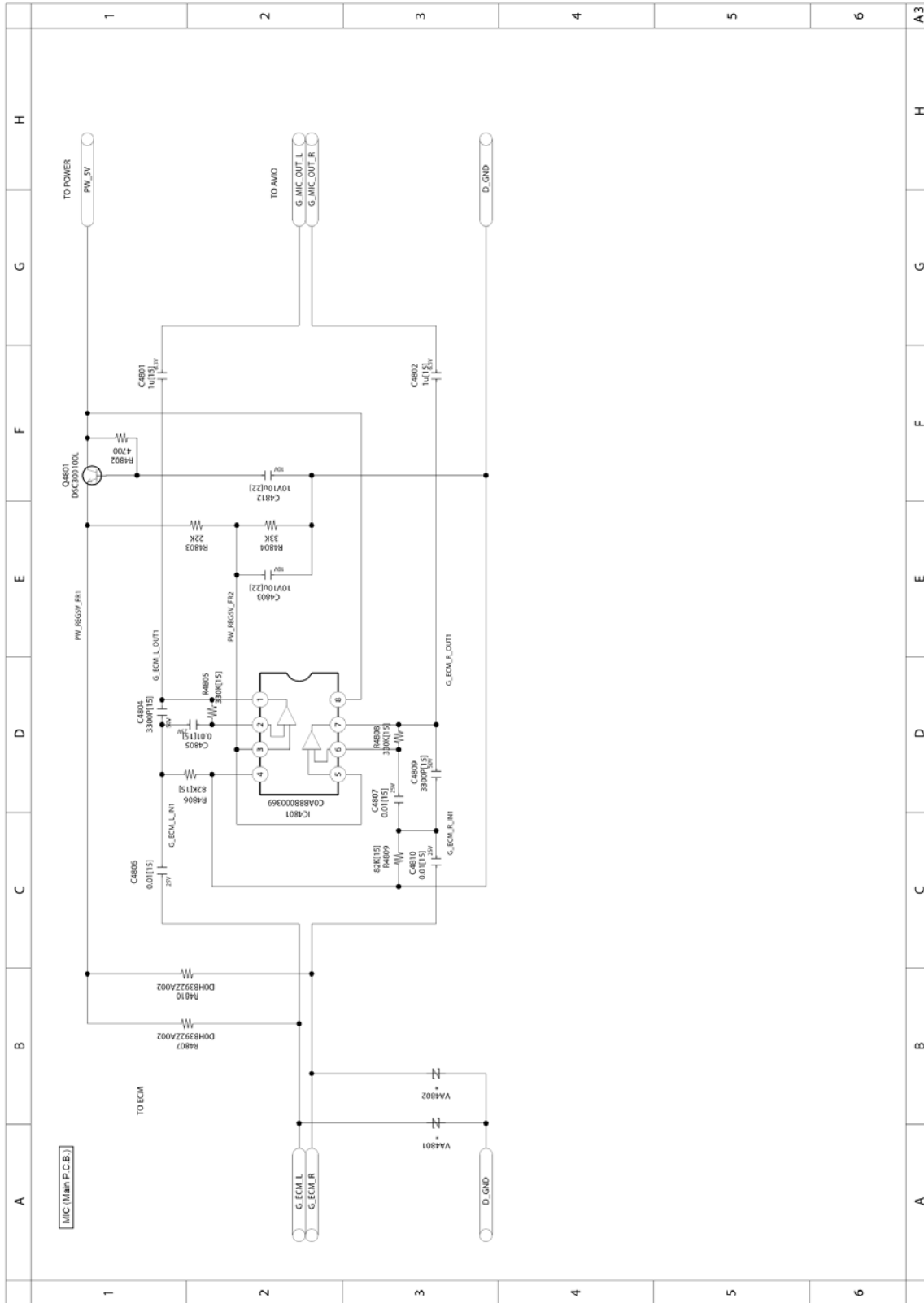
Model No. : HC-V500/V500M Lens Drive (Main P.C.B.)

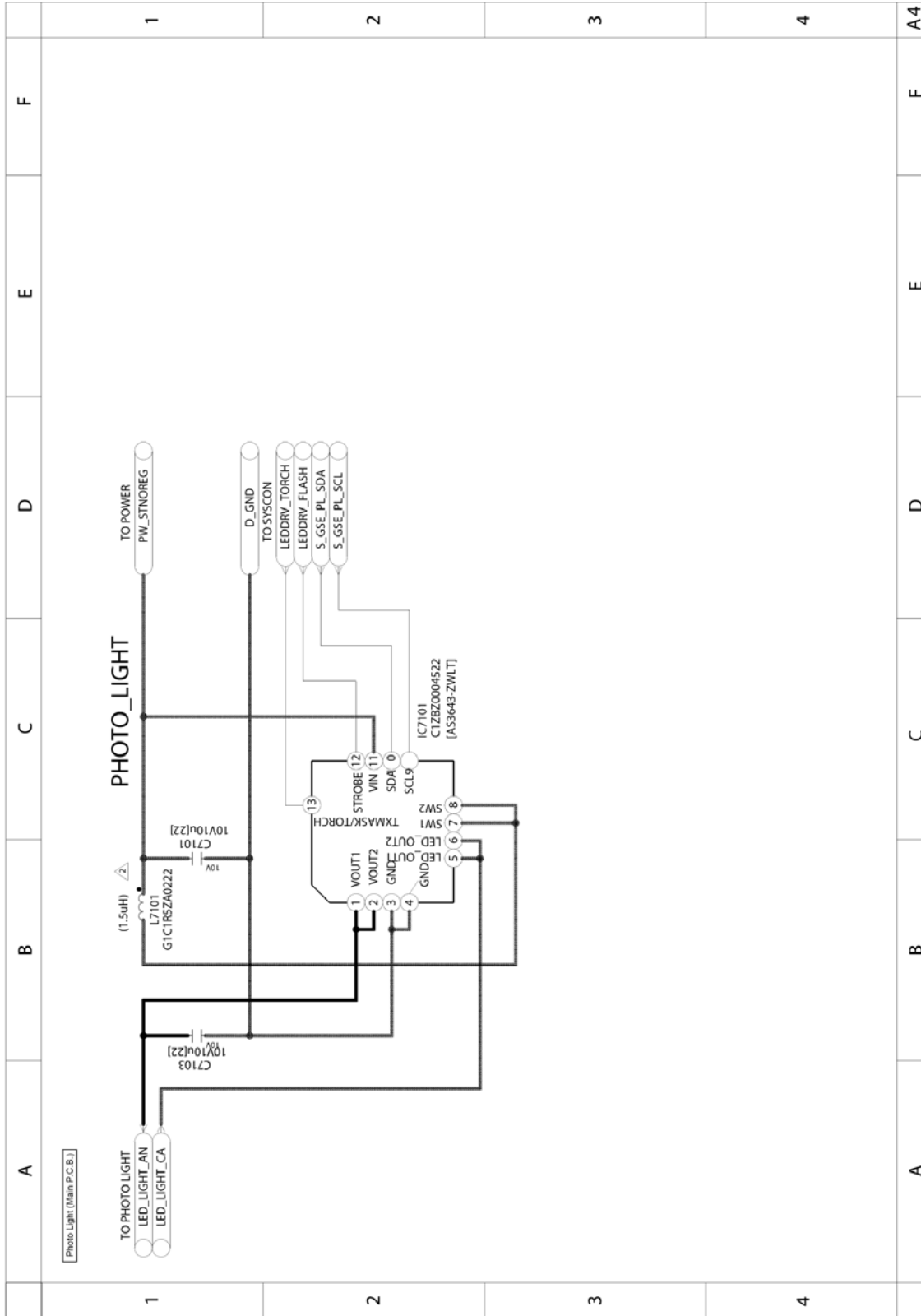


Model No. : HC-V500/V500M AVIO (Main P.C.B.)

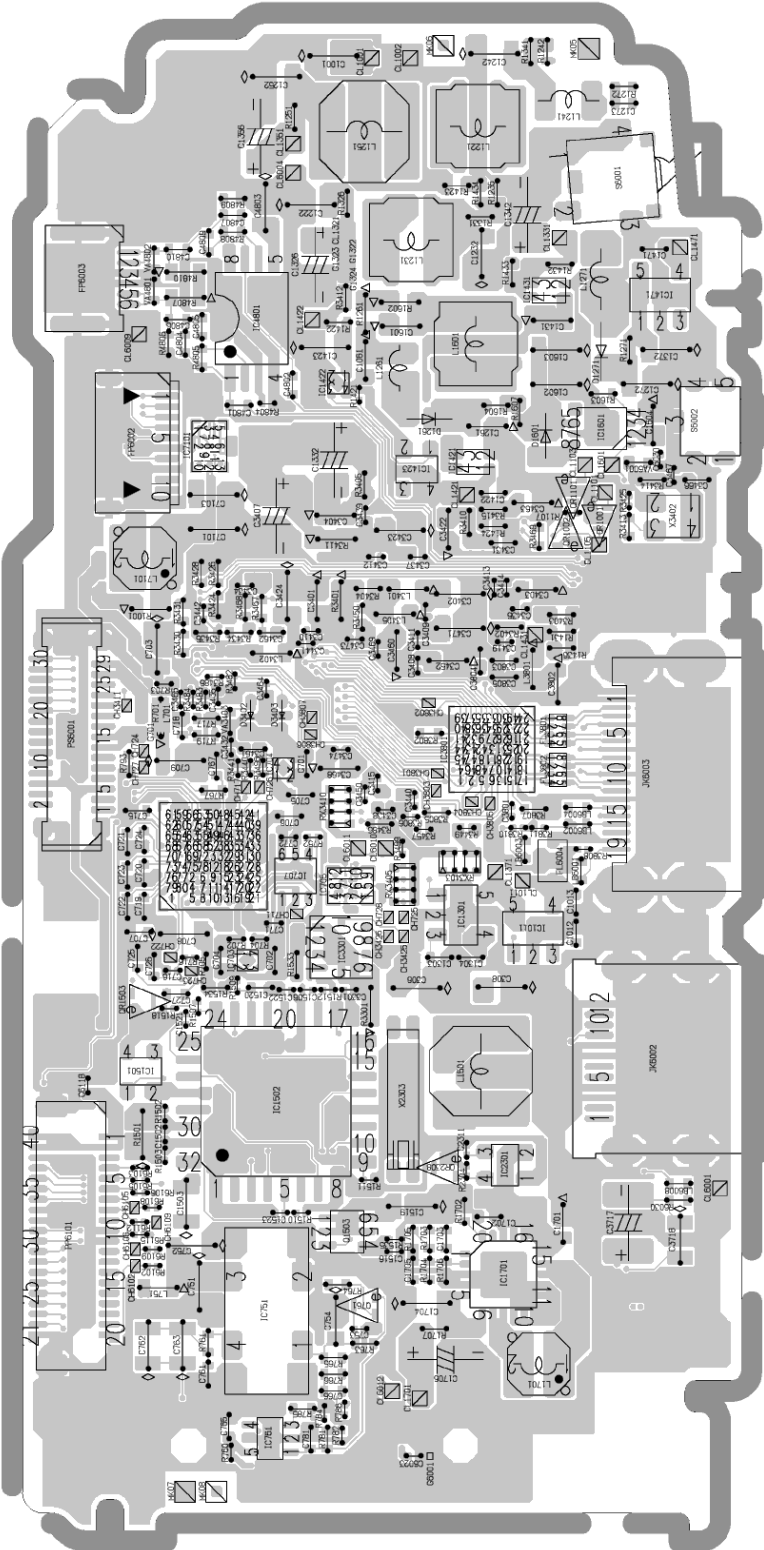


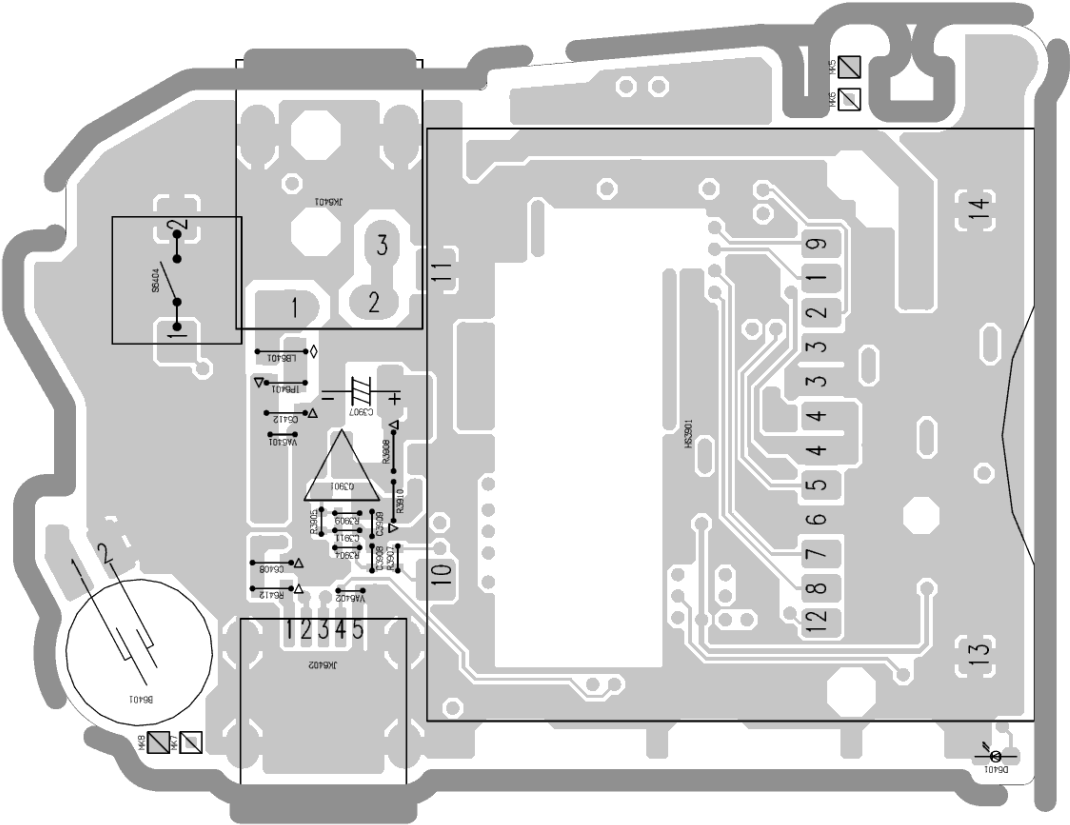
Model No. : HC-V500/V500M MIC (Main P.C.B.)

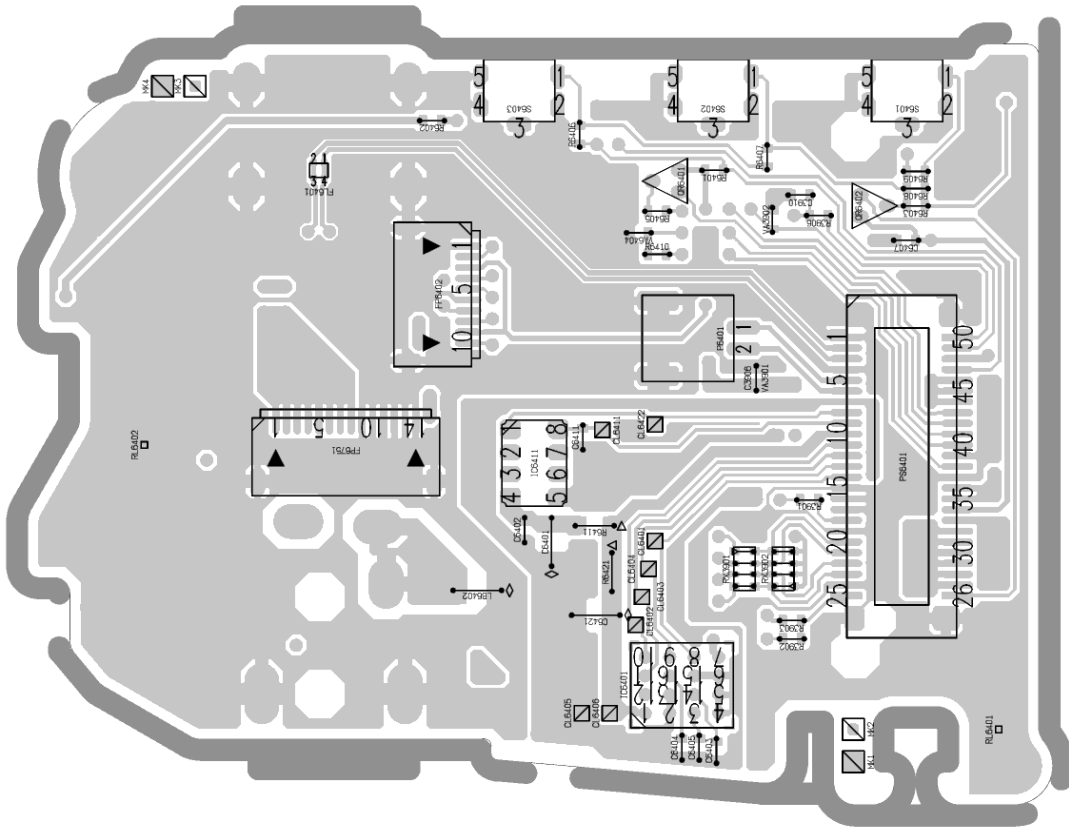





[Photo Light (Main P.C.B.)]







Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--|----------|--------------|--------------------------|------|---------|
|  | B6401 | ML-614S/DK | BATTERY | 1 | |
| | C302 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C303 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C304 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C305 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C309 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C701 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C702 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C703 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C704 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C705 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C706 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C708 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C709 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C715 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C716 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C718 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C719 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C720 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C721 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C722 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C723 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C724 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C725 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C726 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C727 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C751 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C753 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C761 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C763 | F1J0J226A088 | C.CAPACITOR CH 6.3V 22U | 1 | |
| | C765 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C767 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C771 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C772 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C777 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C1001 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1012 | F1G1H102A640 | C.CAPACITOR CH 50V 1000P | 1 | |
| | C1013 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1061 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C1101 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1102 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C1103 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1161 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1221 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1222 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1231 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1232 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1242 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1251 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1252 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1261 | F1H1E105A116 | C.CAPACITOR CH 25V 1U | 1 | |
| | C1271 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1272 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1273 | F1G1H220A644 | C.CAPACITOR CH 50V 22P | 1 | |
| | C1303 | F1G1H102A640 | C.CAPACITOR CH 50V 1000P | 1 | |
| | C1304 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1342 | F3F0G4760004 | E.CAPACITOR CH 4V 47U | 1 | |
| | C1356 | F3F0G4760004 | E.CAPACITOR CH 4V 47U | 1 | |
| | C1422 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1431 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C1471 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C1501 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |

Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|--------------------------|------|---------|
| | C1502 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1503 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1506 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C1507 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1508 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1511 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1512 | F1H1E105A116 | C.CAPACITOR CH 25V 1U | 1 | |
| | C1515 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1516 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1518 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1519 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C1520 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C1521 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1522 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C1523 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C2301 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C2304 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C2305 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C2310 | F1G1H8R0A642 | CAPACITOR | 1 | |
| | C2311 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3401 | F1H0J106A009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3402 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3403 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C3406 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3407 | F3G0J107A011 | C.CAPACITOR CH 6.3V 100U | 1 | |
| | C3408 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3409 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3410 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3411 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3412 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3413 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3414 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3415 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3416 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3417 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3418 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3419 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3420 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3421 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3423 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3424 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3425 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3426 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3427 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3428 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3429 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3430 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3431 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3432 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3433 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3434 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3435 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3436 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3437 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3438 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3439 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3440 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3441 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3442 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3443 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3444 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3445 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |



Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|--------------------------|------|--|
| | C3446 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3447 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3449 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3450 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3451 | F1G1H472A571 | C.CAPACITOR CH 50V 4700P | 1 | |
| | C3452 | F1H0J106A009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3453 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3454 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3455 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3456 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3457 | F1G1H102A640 | C.CAPACITOR CH 50V 1000P | 1 | |
| | C3459 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3460 | F1H0J106A009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3461 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3462 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3464 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3465 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3466 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3468 | F1H0J106A009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3469 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3470 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3471 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3472 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3473 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3474 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3701 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3702 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3703 | F1L1A103A016 | C.CAPACITOR CH 10V 0.01U | 1 | |
| | C3704 | F3F0J226A016 | T.CAPACITOR CH 6.3V 22U | 1 | |
| | C3705 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3706 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C3707 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3709 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3710 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3712 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3713 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3714 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3715 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C3716 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3717 | F3G0J107A011 | C.CAPACITOR CH 6.3V 100U | 1 | |
| | C3718 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C3731 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C3732 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3733 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3734 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3736 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C3737 | F1H0J4750004 | C.CAPACITOR CH 6.3V 4.7U | 1 | |
| | C3906 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3907 | F3G0J107A011 | C.CAPACITOR CH 6.3V 100U | 1 | |
| | C3908 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C3909 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C3910 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C3911 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C3956 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | C4801 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C4802 | F1G0J1050007 | C.CAPACITOR CH 6.3V 1U | 1 | |
| | C4803 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C4804 | F1G1H332A640 | C.CAPACITOR CH 50V 3300P | 1 | |
| | C4805 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C4806 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C4807 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |



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| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|--------------------------|------|--|
| | C4809 | F1G1H332A640 | C.CAPACITOR CH 50V 3300P | 1 | |
| | C4810 | F1G1E1030005 | C.CAPACITOR CH 25V 0.01U | 1 | |
| | C4812 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C6003 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C6004 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C6005 | F1G1H472A571 | C.CAPACITOR CH 50V 4700P | 1 | |
| | C6006 | F1G1H472A571 | C.CAPACITOR CH 50V 4700P | 1 | |
| | C6008 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6009 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6010 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6011 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6012 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6013 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6014 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6015 | F1G1H680A644 | C.CAPACITOR CH 50V 68P | 1 | |
| | C6018 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C6022 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C6023 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C6030 | F1L0J1040001 | C.CAPACITOR CH 6.3V 0.1U | 1 | |
| | C6403 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C6404 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C6405 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C6407 | F1G1C104A077 | C.CAPACITOR CH 16V 0.1U | 1 | |
| | C6408 | ECJ1VB1A105K | C.CAPACITOR CH 10V 1U | 1 | |
| | C6412 | F1H1E105A116 | C.CAPACITOR CH 25V 1U | 1 | |
| | C6421 | F1J0J1060009 | C.CAPACITOR CH 6.3V 10U | 1 | |
| | C7101 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | C7103 | F1J1A106A043 | C.CAPACITOR CH 10V 10U | 1 | |
| | D1261 | B0JCMD000077 | DIODE | 1 | E.S.D. |
| | D1271 | B0JCGD000016 | DIODE | 1 | E.S.D. |
| | D1503 | B0JCMC000019 | DIODE | 1 | E.S.D. |
| | D1505 | DB2S31100L | DIODE | 1 | E.S.D. |
| | D2301 | DB2S31100L | DIODE | 1 | E.S.D. |
| | D3401 | DB2S31100L | DIODE | 1 | E.S.D. |
| | D3402 | DB2S31100L | DIODE | 1 | E.S.D. |
| | D3403 | DB2S31100L | DIODE | 1 | E.S.D. |
| | D6401 | B3AAB0000343 | LED | 1 | E.S.D. |
| | FL3401 | F1H0J105A037 | FILTER | 1 | |
| | FL6001 | JOZZB0000122 | FILTER | 1 | |
| | FL6002 | JOZZB0000122 | FILTER | 1 | |
| | FL6004 | F1H0J105A037 | FILTER | 1 | |
| | FP6001 | K1MY33AA0199 | CONNECTOR 33P | 1 | |
| | FP6002 | K1MY10BA0370 | CONNECTOR 10P | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | FP6004 | K1MN08A00072 | CONNECTOR 8P | 1 | |
| | FP6008 | K1MY33AA0199 | CONNECTOR 33P | 1 | |
| | FP6402 | K1MY10BA0370 | CONNECTOR 10P | 1 | |
| | HS3901 | K1NA09E00098 | SD CARD CONNECTOR | 1 | |
| | IC301 | C0DBGYY02227 | IC | 1 | E.S.D. |
| | IC302 | C0JBAA000582 | IC | 1 | E.S.D. |
| | IC701 | C1AB00003719 | IC | 1 | E.S.D. |
| | IC703 | C0DBGYY01172 | IC | 1 | E.S.D. |
| | IC704 | C0DBGYY02595 | IC | 1 | E.S.D. |
| | IC705 | C1AB00003450 | IC | 1 | E.S.D. |
| | IC707 | C0JBAZ002875 | IC | 1 | E.S.D. |
| | IC751 | L2ES00000039 | IC | 1 | E.S.D. |
| | IC761 | C0ABGA000035 | IC | 1 | E.S.D. |
| | IC1001 | C1ZBZ0004347 | IC | 1 | E.S.D. |
| | IC1011 | C0CBCDC00073 | IC | 1 | E.S.D. |
| | IC1301 | C0CBCCC00157 | IC | 1 | E.S.D. |
| | IC1421 | C0CBCYY00078 | IC | 1 | E.S.D. |
| | IC1431 | C0DBGYY00534 | IC | 1 | E.S.D. |

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| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--|----------|--------------|-------------------------|------|--|
| | IC1471 | C0DBGHD00008 | IC | 1 | E.S.D. |
| | IC1501 | C0EBY0001291 | IC | 1 | E.S.D. |
| | IC1502 | C1ZBZ0004145 | IC | 1 | E.S.D. |
| | IC1503 | C0DBDYY00042 | IC | 1 | E.S.D. |
| | IC2301 | C0EBY0000661 | IC | 1 | E.S.D. |
| | IC3401 | C1AB00003898 | IC | 1 | E.S.D. |
| | IC3402 | C3ABSY000096 | IC | 1 | E.S.D. |
| | IC3403 | TC58RYM9B12A | IC | 1 | E.S.D. |
| | IC3405 | C0EBY0000906 | IC | 1 | E.S.D. |
| | IC3701 | VUEALLPT032 | IC | 1 | E.S.D. |
| | IC3702 | C9ZB00000575 | IC | 1 | E.S.D. |
| | IC4801 | C0ABBB000369 | IC | 1 | E.S.D. |
| | IC6401 | EWTS9PSL1A | IC | 1 | E.S.D. |
| | IC7101 | C1ZBZ0004522 | IC | 1 | E.S.D. |
|  | IP1502 | K5H402YA0080 | IC PROTECTOR | 1 | |
|  | IP6401 | K5H402YA0080 | IC PROTECTOR | 1 | |
| | JK6002 | K2HZ112E0002 | JACK, AV MULTI | 1 | |
| | JK6003 | K1FA119E0020 | JACK, HDMI | 1 | |
| | JK6401 | K2EBYB000003 | JACK, DC IN | 1 | |
| | JK6402 | K2HZ105E0013 | JACK, USB | 1 | |
| | L301 | G1C100KA0115 | CHIP INDUCTOR 10UH | 1 | |
| | L302 | G1C100KA0115 | CHIP INDUCTOR 10UH | 1 | |
| | L751 | G1C100MA0495 | CHIP INDUCTOR 10UH | 1 | |
| | L1221 | G1C3R3MA0249 | CHIP INDUCTOR 3.3UH | 1 | |
| | L1231 | G1C100MA0249 | CHIP INDUCTOR 10UH | 1 | |
| | L1241 | G1C3R3MA0478 | CHIP INDUCTOR 3.3UH | 1 | |
| | L1251 | G1C4R7ZA0240 | CHIP INDUCTOR 4.7UH | 1 | |
| | L1261 | G1C6R8MA0061 | CHIP INDUCTOR 6.8UH | 1 | |
| | L1271 | G1C6R8MA0478 | CHIP INDUCTOR 6.8UH | 1 | |
| | L1501 | G1C4R7ZA0240 | CHIP INDUCTOR 4.7UH | 1 | |
| | L3401 | G1C100MA0495 | CHIP INDUCTOR 10UH | 1 | |
| | L3402 | G1C100MA0408 | CHIP INDUCTOR 10UH | 1 | |
| | L3404 | G1C100MA0495 | CHIP INDUCTOR 10UH | 1 | |
| | L3405 | G1C100MA0495 | CHIP INDUCTOR 10UH | 1 | |
| | L3701 | G1C100KA0115 | CHIP INDUCTOR 10UH | 1 | |
| | L3702 | G1C100KA0115 | CHIP INDUCTOR 10UH | 1 | |
| | L3731 | G1C100KA0115 | CHIP INDUCTOR 10UH | 1 | |
| | L7101 | G1C1R5ZA0222 | CHIP INDUCTOR 1.5UH | 1 | |
| | LB301 | J0JBC0000099 | FILTER | 1 | |
| | LB3401 | J0JBC0000099 | FILTER | 1 | |
| | LB3402 | J0JBC0000099 | FILTER | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | LB3951 | J0JGC0000059 | FILTER | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | LB6001 | J0JCC0000276 | FILTER | 1 | |
| | LB6002 | J0JCC0000276 | FILTER | 1 | |
| | LB6003 | J0JCC0000276 | FILTER | 1 | |
| | LB6004 | J0JCC0000276 | FILTER | 1 | |
| | LB6005 | J0JBC0000115 | FILTER | 1 | |
| | LB6006 | J0JCC0000408 | FILTER | 1 | |
| | LB6007 | J0JCC0000408 | FILTER | 1 | |
| | LB6008 | J0JCC0000276 | FILTER | 1 | |
| | LB6009 | J0JCC0000276 | FILTER | 1 | |
| | LB6010 | J0JCC0000276 | FILTER | 1 | |
| | LB6011 | J0JCC0000408 | FILTER | 1 | |
| | LB6401 | J0JJC0000015 | FILTER | 1 | |
| | LB6402 | J0JJC0000015 | FILTER | 1 | |
| | P6002 | K1KA03BA0014 | CONNECTOR 3P | 1 | |
| | P6401 | K1KA02BA0014 | CONNECTOR 2P | 1 | |
| | PP301 | K1KY20AA0805 | CONNECTOR 20P | 1 | |
| | PP6001 | K1KY50BA0082 | CONNECTOR 50P | 1 | |
| | PS6401 | K1KB50AA0094 | CONNECTOR 50P | 1 | |

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| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--|----------|--------------|--------------------------|------|---------|
| | Q761 | DSC300100L | TRANSISTOR | 1 | E.S.D. |
| | Q1501 | BLMBDDA00024 | TRANSISTOR | 1 | E.S.D. |
| | Q1502 | MTM684110LBF | TRANSISTOR | 1 | E.S.D. |
| | Q1503 | BLCHQC000007 | TRANSISTOR | 1 | E.S.D. |
| | Q1504 | FK3303010L | TRANSISTOR | 1 | E.S.D. |
| | Q3401 | BLCFGD000003 | TRANSISTOR | 1 | E.S.D. |
| | Q3901 | BLADKB000015 | TRANSISTOR | 1 | E.S.D. |
| | Q4801 | DSC300100L | TRANSISTOR | 1 | E.S.D. |
| | QR751 | DRA3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR775 | DRC3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR1001 | DRC3143E0L | TRANSISTOR | 1 | E.S.D. |
| | QR1002 | DRA3124X0L | TRANSISTOR | 1 | E.S.D. |
| | QR1101 | DRC3114E0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR1503 | DRC3144E0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR2308 | DRA3144E0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3401 | DRC3144W0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3402 | DRA3144E0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3403 | DRC3114T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3410 | DRC3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3411 | DRA3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3412 | DRC3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR3413 | DRA3143T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR6006 | DRA3124X0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR6007 | DRA3124X0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR6008 | DRC3114E0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR6401 | DRA9114T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | QR6402 | DRA9114T0L | TRANSISTOR-RESISTOR | 1 | E.S.D. |
| | R302 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R304 | ERJ1GEJ272 | M.RESISTOR CH 1/20W 2.7K | 1 | |
| | R305 | ERJ2GEJ390 | M.RESISTOR CH 1/16W 39 | 1 | |
| | R716 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R717 | ERJ2RHD682X | M.RESISTOR CH 1/10W 6.8K | 1 | |
| | R719 | D0YAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R751 | ERJ1GEJ181 | M.RESISTOR CH 1/20W 180 | 1 | |
| | R752 | ERJ1GEJ470 | M.RESISTOR CH 1/20W 47 | 1 | |
| | R761 | ERJ2GEJ223 | M.RESISTOR CH 1/16W 22K | 1 | |
| | R763 | ERJ2GEJ394 | M.RESISTOR CH 1/16W 390K | 1 | |
| | R764 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R765 | ERJ2RHD103 | M.RESISTOR CH 1/16W 10K | 1 | |
| | R766 | ERJ2RKD274 | M.RESISTOR CH 1/16W 270K | 1 | |
| | R767 | ERJ2GEJ222 | M.RESISTOR CH 1/10W 2.2K | 1 | |
| | R775 | ERJ1GEJ221 | M.RESISTOR CH 1/20W 220 | 1 | |
| | R776 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R778 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R779 | ERJ1GEJ221 | M.RESISTOR CH 1/20W 220 | 1 | |
| | R791 | ERJ2GEJ391 | M.RESISTOR CH 1/16W 390 | 1 | |
| | R792 | ERJ2GEJ391 | M.RESISTOR CH 1/16W 390 | 1 | |
| | R793 | ERJ2GEJ221 | M.RESISTOR CH 1/16W 220 | 1 | |
|  | R1001 | DLJBR021A007 | FUSE RESISTOR | 1 | |
| | R1101 | ERJ2RKD124 | M.RESISTOR CH 1/16W 120K | 1 | |
| | R1107 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R1161 | ERJ2GEJ200 | M.RESISTOR CH 1/10W 20 | 1 | |
| | R1232 | ERJ2RKD474X | M.RESISTOR CH 1/16W 470K | 1 | |
| | R1233 | ERJ2RHD223 | M.RESISTOR CH 1/16W 22K | 1 | |
| | R1234 | ERJ2RKD394 | M.RESISTOR CH 1/16W 390K | 1 | |
| | R1242 | ERJ2RKD474X | M.RESISTOR CH 1/16W 470K | 1 | |
| | R1243 | ERJ2RHD433 | M.RESISTOR CH 1/16W 43K | 1 | |
| | R1244 | ERJ2RKD394 | M.RESISTOR CH 1/16W 390K | 1 | |
| | R1252 | ERJ2RKD364 | M.RESISTOR CH 1/16W 360K | 1 | |
| | R1253 | ERJ2RHD363 | M.RESISTOR CH 1/16W 36K | 1 | |
| | R1254 | ERJ2RKD105 | M.RESISTOR CH 1/16W 1M | 1 | |
|  | R1261 | DLJBR095A023 | FUSE RESISTOR | 1 | |


Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|--------------------------|------|--|
| | R1272 | ERJ2RKD304 | M.RESISTOR CH 1/16W 300K | 1 | |
| | R1273 | ERJ2RHD182 | M.RESISTOR CH 1/16W 1.8K | 1 | |
| | R1274 | ERJ2RHD513 | M.RESISTOR CH 1/16W 51K | 1 | |
| | R1275 | ERJ2GEJ105 | M.RESISTOR CH 1/10W 1M | 1 | |
| | R1276 | ERJ2GEJ103 | M.RESISTOR CH 1/10W 10K | 1 | |
| | R1423 | ERJ2GEJ472 | M.RESISTOR CH 1/10W 4.7K | 1 | |
| | R1424 | ERJ2RHD272 | M.RESISTOR CH 1/16W 2.7K | 1 | |
| | R1434 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R1436 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R1501 | D1BDR020A099 | RESISTOR | 1 | |
| | R1502 | ERJ1GEJ101 | M.RESISTOR CH 1/20W 100 | 1 | |
| | R1503 | ERJ1GEJ101 | M.RESISTOR CH 1/20W 100 | 1 | |
| | R1507 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R1509 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R1510 | ERJ1GEJ474 | M.RESISTOR CH 1/20W 470K | 1 | |
| | R1511 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R1512 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R1513 | ERJ2RKD154 | M.RESISTOR CH 1/16W 150K | 1 | |
| | R1515 | ERJ2RKD124 | M.RESISTOR CH 1/16W 120K | 1 | |
| | R1516 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R1517 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R1518 | ERJ1GEJ104 | M.RESISTOR CH 1/20W 100K | 1 | |
| | R1522 | ERJ2RKD124 | M.RESISTOR CH 1/16W 120K | 1 | |
| | R1523 | ERJ2RKD184 | M.RESISTOR CH 1/16W 180K | 1 | |
| | R1524 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R1525 | ERJ2RHD223 | M.RESISTOR CH 1/16W 22K | 1 | |
| | R1526 | D1BDR100A111 | RESISTOR | 1 | |
| | R1529 | ERJ2GEJ101 | M.RESISTOR CH 1/10W 100 | 1 | |
| | R1535 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R1601 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R1604 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R1608 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R2304 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R2312 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R3403 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R3407 | ERJ1GEJ182 | M.RESISTOR CH 1/20W 1.8K | 1 | |
| | R3408 | ERJ1GE0R00C | M.RESISTOR CH 1/20W 0 | 1 | |
| | R3416 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R3424 | ERJ2RHD101 | M.RESISTOR CH 1/16W 100 | 1 | |
| | R3426 | ERJ2RHD101 | M.RESISTOR CH 1/16W 100 | 1 | |
| | R3427 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3428 | ERJ2RHD101 | M.RESISTOR CH 1/16W 100 | 1 | |
| | R3429 | ERJ1GEJ273 | M.RESISTOR CH 1/20W 27K | 1 | |
| | R3430 | ERJ2RHD431 | M.RESISTOR CH 1/16W 430 | 1 | |
| | R3431 | ERJ2RHD272 | M.RESISTOR CH 1/16W 2.7K | 1 | |
| | R3432 | ERJ2RHD512 | M.RESISTOR CH 1/16W 5.1K | 1 | |
| | R3433 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R3434 | ERJ2RHD243 | M.RESISTOR CH 1/16W 24K | 1 | |
| | R3435 | ERJ2RHD183 | M.RESISTOR CH 1/16W 18K | 1 | |
| | R3436 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R3437 | ERJ1GEJ182 | M.RESISTOR CH 1/20W 1.8K | 1 | |
| | R3438 | ERJ1GEJ182 | M.RESISTOR CH 1/20W 1.8K | 1 | |
| | R3439 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3442 | ERJ2GEJ470 | M.RESISTOR CH 1/16W 47 | 1 | |
| | R3443 | ERJ2GEJ270 | M.RESISTOR CH 1/10W 27 | 1 | |
| | R3444 | ERJ2RHD123X | M.RESISTOR CH 1/16W 12K | 1 | |
| | R3445 | ERJ2GEJ470 | M.RESISTOR CH 1/16W 47 | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | R3446 | ERJ2GEJ560X | M.RESISTOR CH 1/10W 56 | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | R3447 | DOYAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R3449 | ERJ1GEJ182 | M.RESISTOR CH 1/20W 1.8K | 1 | |

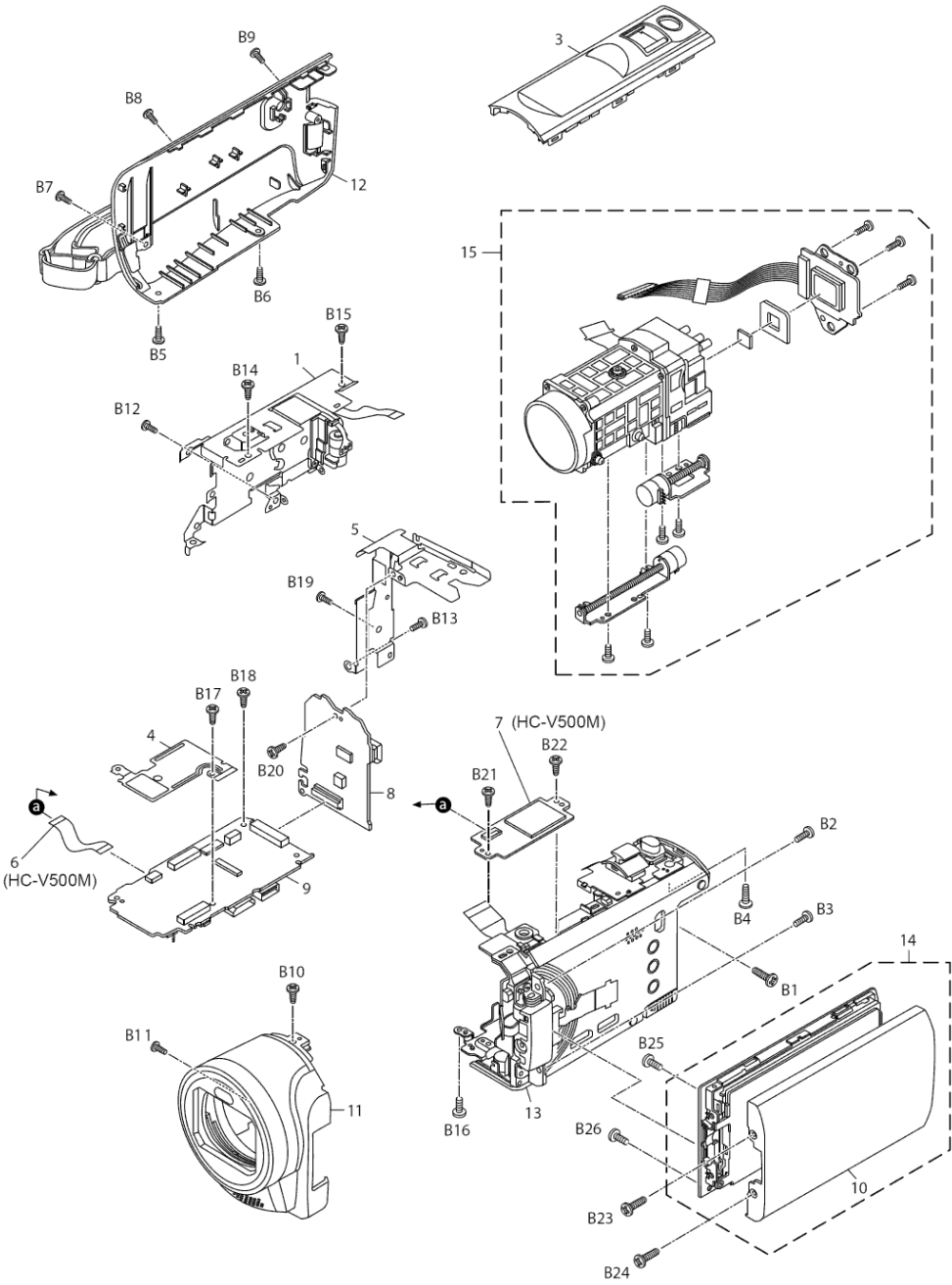
Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|--------------------------|------|--|
| | R3450 | D0YAR0000007 | M.RESISTOR CH 1/10W 0 | 1 | |
| | R3452 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3453 | ERJ2GEJ103 | M.RESISTOR CH 1/10W 10K | 1 | |
| | R3454 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3455 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3456 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R3457 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R3460 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3461 | ERJ1GEJ104 | M.RESISTOR CH 1/20W 100K | 1 | |
| | R3462 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3463 | ERJ1GEJ104 | M.RESISTOR CH 1/20W 100K | 1 | |
| | R3466 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3467 | ERJ2RKD184 | M.RESISTOR CH 1/16W 180K | 1 | |
| | R3468 | ERJ2RKD184 | M.RESISTOR CH 1/16W 180K | 1 | |
| | R3476 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R3477 | ERJ2GEJ183 | M.RESISTOR CH 1/10W 18K | 1 | |
| | R3478 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3479 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3480 | ERJ1GEJ473 | M.RESISTOR CH 1/20W 47K | 1 | |
| | R3481 | ERJ1GEJ152 | M.RESISTOR CH 1/20W 1.5K | 1 | |
| | R3482 | ERJ1GEJ153 | M.RESISTOR CH 1/20W 15K | 1 | |
| | R3483 | ERJ1GEJ153 | M.RESISTOR CH 1/20W 15K | 1 | |
| | R3484 | ERJ1GEJ104 | M.RESISTOR CH 1/20W 100K | 1 | |
| | R3485 | ERJ1GEJ101 | M.RESISTOR CH 1/20W 100 | 1 | |
| | R3486 | ERJ2GEJ473Y | M.RESISTOR CH 1/10W 47K | 1 | |
| | R3489 | ERJ1GEJ101 | M.RESISTOR CH 1/20W 100 | 1 | |
| | R3490 | ERJ1GEJ101 | M.RESISTOR CH 1/20W 100 | 1 | |
| | R3496 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R3499 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | |
| | R3701 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R3711 | ERJ1GEJ561 | M.RESISTOR CH 1/20W 560 | 1 | |
| | R3712 | ERJ1GEJ561 | M.RESISTOR CH 1/20W 560 | 1 | |
| | R3901 | ERJ2GEJ470 | M.RESISTOR CH 1/16W 47 | 1 | |
| | R3902 | ERJ2GEJ560X | M.RESISTOR CH 1/10W 56 | 1 | |
| | R3903 | ERJ2GEJ103 | M.RESISTOR CH 1/10W 10K | 1 | |
| | R3904 | ERJ2GEJ271 | M.RESISTOR CH 1/10W 270 | 1 | |
| | R3905 | ERJ2GEJ331 | M.RESISTOR CH 1/16W 330 | 1 | |
| | R3906 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R3907 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R3909 | ERJ2GEJ333 | M.RESISTOR CH 1/16W 33K | 1 | |
| | R3910 | DOGB150JA057 | M.RESISTOR CH 1/10W 15 | 1 | |
| | R3951 | ERJ2GEJ470 | M.RESISTOR CH 1/16W 47 | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | R3956 | ERJ1GEJ103 | M.RESISTOR CH 1/20W 10K | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | R4802 | ERJ1GEJ472 | M.RESISTOR CH 1/20W 4.7K | 1 | |
| | R4803 | ERJ1GEJ223 | M.RESISTOR CH 1/20W 22K | 1 | |
| | R4804 | ERJ1GEJ333 | M.RESISTOR CH 1/20W 33K | 1 | |
| | R4805 | ERJ2GEJ334 | M.RESISTOR CH 1/16W 330K | 1 | |
| | R4806 | ERJ2GEJ823 | M.RESISTOR CH 1/16W 82K | 1 | |
| | R4807 | VRE0071E392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| | R4808 | ERJ2GEJ334 | M.RESISTOR CH 1/16W 330K | 1 | |
| | R4809 | ERJ2GEJ823 | M.RESISTOR CH 1/16W 82K | 1 | |
| | R4810 | VRE0071E392 | M.RESISTOR CH 1/10W 3.9K | 1 | |
| | R6001 | ERJ2GEJ471 | M.RESISTOR CH 1/10W 470 | 1 | |
| | R6002 | ERJ1GEJ820 | M.RESISTOR CH 1/20W 82 | 1 | |
| | R6006 | ERJ1GEJ102 | M.RESISTOR CH 1/20W 1K | 1 | |
| | R6008 | ERJ1GEJ820 | M.RESISTOR CH 1/20W 82 | 1 | |
| | R6009 | ERJ1GEJ151 | M.RESISTOR CH 1/20W 150 | 1 | |
| | R6027 | ERJ2RKD750 | M.RESISTOR CH 1/16W 75 | 1 | |
| | R6028 | ERJ2RKD750 | M.RESISTOR CH 1/16W 75 | 1 | |
| | R6029 | ERJ2RKD750 | M.RESISTOR CH 1/16W 75 | 1 | |

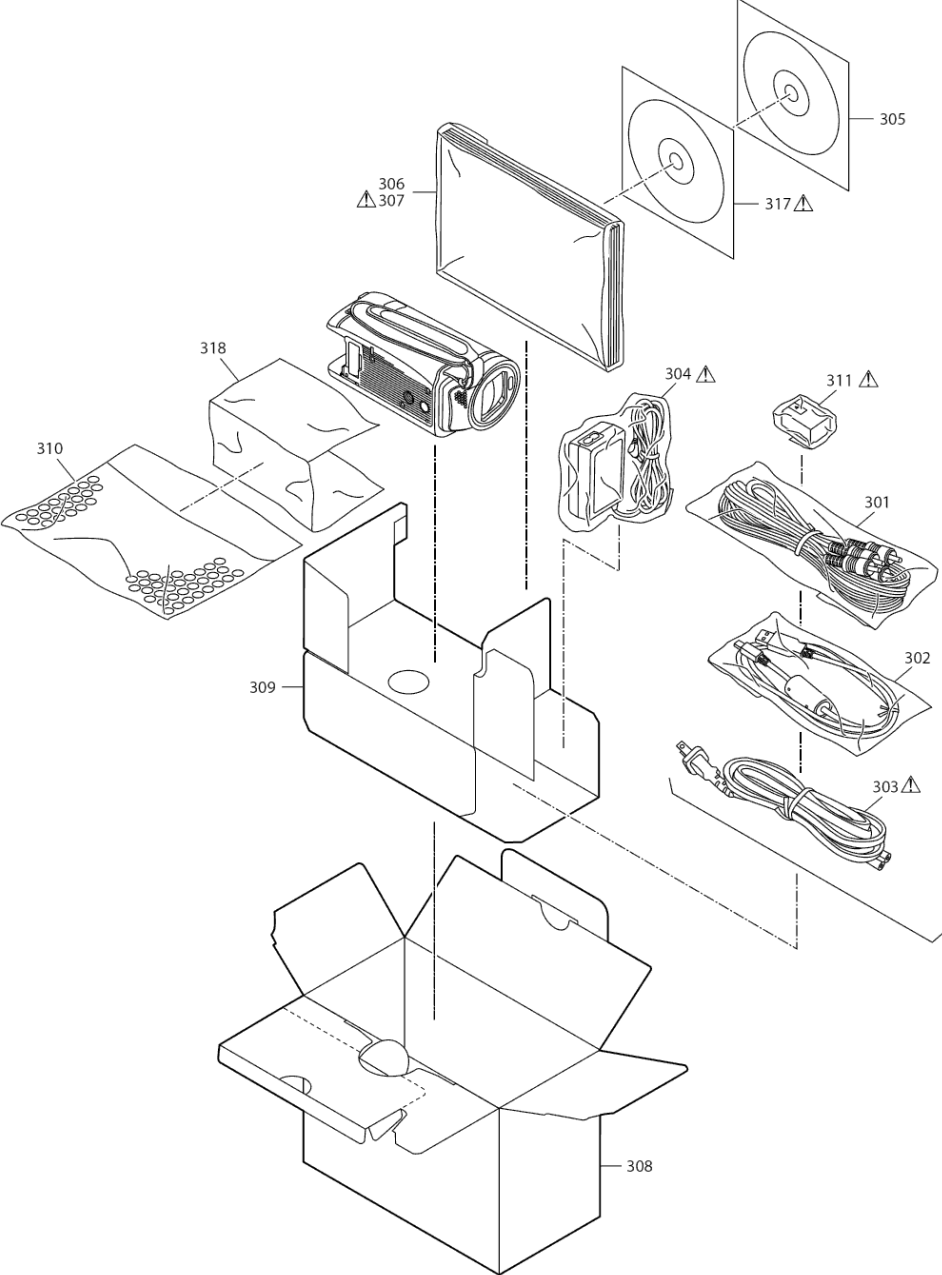
Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--|----------|--------------|--------------------------|------|--|
| | R6030 | ERJ2RKD750 | M.RESISTOR CH 1/16W 75 | 1 | |
| | R6401 | ERJ2RHD103 | M.RESISTOR CH 1/16W 10K | 1 | |
| | R6402 | ERJ2GEJ222 | M.RESISTOR CH 1/10W 2.2K | 1 | |
| | R6403 | ERJ2GEJ102Y | M.RESISTOR CH 1/10W 1K | 1 | |
| | R6405 | ERJ2GEJ101 | M.RESISTOR CH 1/10W 100 | 1 | |
| | R6406 | ERJ2RHD202 | M.RESISTOR CH 1/16W 2K | 1 | |
| | R6407 | ERJ2RHD302 | M.RESISTOR CH 1/16W 3K | 1 | |
| | R6408 | ERJ2RHD512 | M.RESISTOR CH 1/16W 5.1K | 1 | |
| | R6409 | ERJ2RHD103 | M.RESISTOR CH 1/16W 10K | 1 | |
| | R6410 | ERJ2RHD303 | M.RESISTOR CH 1/16W 30K | 1 | |
|  | R6412 | D1JBR084A023 | FUSE RESISTOR | 1 | |
| | RX3401 | D1H82704A024 | RESISTOR NETWORKS | 1 | |
| | RX3402 | D1H85604A024 | RESISTOR NETWORKS | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | RX3403 | D1H84724A024 | RESISTOR NETWORKS | 1 | |
| | RX3404 | D1H84734A024 | RESISTOR NETWORKS | 1 | |
| | RX3405 | EXB28V103JX | RESISTOR NETWORKS | 1 | |
| | RX3406 | EXB28V103JX | RESISTOR NETWORKS | 1 | |
| | RX3410 | EXB28V103JX | RESISTOR NETWORKS | 1 | |
| | RX3901 | D1H85604A024 | RESISTOR NETWORKS | 1 | |
| | RX3902 | EXB28V103JX | RESISTOR NETWORKS | 1 | |
| | RX3951 | D1H86834A024 | RESISTOR NETWORKS | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | RX6001 | EXBN8V100J | RESISTOR NETWORKS | 1 | |
| | RX6002 | EXBN8V100J | RESISTOR NETWORKS | 1 | |
| | S6001 | ESE18L62BFXD | SWITCH | 1 | |
| | S6002 | K0H1BA000580 | SWITCH | 1 | |
| | S6401 | K0H1BA000580 | SWITCH | 1 | |
| | S6402 | K0H1BA000580 | SWITCH | 1 | |
| | S6403 | K0H1BA000580 | SWITCH | 1 | |
| | S6404 | K0F111A00475 | SWITCH | 1 | |
| | VA301 | D4ED16R80001 | VARISTOR | 1 | |
| | VA1501 | D4ED1270A011 | VARISTOR | 1 | |
| | VA1502 | D4ED1270A011 | VARISTOR | 1 | |
| | VA1503 | D4ED18R00008 | VARISTOR | 1 | |
| | VA1504 | D4ED18R00008 | VARISTOR | 1 | |
| | VA3902 | D4EDY1310001 | VARISTOR | 1 | |
| | VA6001 | D4ED18R00008 | VARISTOR | 1 | |
| | VA6404 | D4EDY1310001 | VARISTOR | 1 | |
| | X2303 | H0J327200085 | CRYSTAL OSCILLATOR | 1 | |
| | X3402 | H1A6005B0019 | CRYSTAL OSCILLATOR | 1 | |

Model No. : HC-V500/V500M Frame and Casing Section



Model No. : HC-V500/V500M Packing Parts and Accessories Section







Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|---------------------------|------|---|
| | 1 | VXK1997 | LENS FRAME UNIT | 1 | |
| | 3 | VKM9826 | TOP CASE | 1 | (-K, -R) |
| | 3 | VKM9955 | TOP CASE | 1 | (-S) |
| | 4 | VXK2002 | HEAT RADIATION FRAME UNIT | 1 | |
| | 5 | VMP0C20 | REAR ANGLE | 1 | |
| | 6 | VWJ2260 | RELAY FFC | 1 | MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | 7 | VEP03J60E | ESD P.C.B. UNIT (16GB) | 1 | E.S.D. MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | 8 | VEP03J50A | SD HOLDER P.C.B. UNIT | 1 | (RTL) E.S.D. |
| | 9 | VEP03J47A | MAIN P.C.B. UNIT | 1 | (RTL) E.S.D. MP, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK |
| | 9 | VEP03J47C | MAIN P.C.B. UNIT | 1 | (RTL) E.S.D. PK, PCK, GTK, EG, EF, EC, EP, EB, GC, GA, EE, GN, GK |
| | 10 | VYK5J56 | LCD CASE(T) UNIT | 1 | MPK, MPCK, MPUK, MGTK, MEGK, MECK, MEPK, MEBK, MGCK, MGAK, MEEK, MGNK, MGKK |
| | 10 | VYK5K71 | LCD CASE(T) UNIT | 1 | MGKR |
| | 10 | VYK5K63 | LCD CASE(T) UNIT | 1 | PK, PCK, GTK, EGK, EFK, ECK, EPK, EBK, GCK, GAK, EEK, GNK, GKK |
| | 10 | VYK5K68 | LCD CASE(T) UNIT | 1 | (-S) |
| | 10 | VYK5K72 | LCD CASE(T) UNIT | 1 | EGR, EFR, ECR, EPR, GCR, GAR, GKR |
| | 11 | VYK5J60 | FRONT CASE UNIT | 1 | (-K) |
| | 11 | VYK5K75 | FRONT CASE UNIT | 1 | (-S) |
| | 11 | VYK5K76 | FRONT CASE UNIT | 1 | (-R) |
| | 12 | VYK5J64 | SIDE CASE(L) UNIT | 1 | |
| | 13 | VYK5W47 | SIDE CASE(R) UNIT | 1 | MPK, MPCK, MPUK, MGTK, PK, PCK, GTK |
| | 13 | VYK5W44 | SIDE CASE(R) UNIT | 1 | MEGK, MECK, MEPK, MEBK, MGCK, MGAK, MEEK, MGNK, K, MGKK, EGK, EFK, ECK, EPK, EBK, GCK, GAK, EEK, GNK, GKK |
| | 13 | VYK5W46 | SIDE CASE(R) UNIT | 1 | (-S) |
| | 13 | VYK5W45 | SIDE CASE(R) UNIT | 1 | (-R) |
| | 14 | VYK5V96 | LCD UNIT | 1 | MPK, MPCK, MPUK, MGTK, MEGK, MECK, MEPK, MEBK, MGCK, MGAK, MEEK, MGNK, MGKK |
| | 14 | VYK5V97 | LCD UNIT | 1 | MGKR |
| | 14 | VYK5V93 | LCD UNIT | 1 | PK, PCK, GTK, EGK, EFK, ECK, EPK, EBK, GCK, GAK, EEK, GNK, GKK |
| | 14 | VYK5V95 | LCD UNIT | 1 | (-S) |
| | 14 | VYK5V94 | LCD UNIT | 1 | EGR, EFR, ECR, EPR, GCR, GAR, GKR |
| | 15 | VXW1350 | CAMERA LENS UNIT | 1 | |
| | B1 | XQN16+BJ5FJK | SCREW | 1 | |
| | B2 | XQN16+BJ5FJK | SCREW | 1 | |
| | B3 | XQN16+BJ5FJK | SCREW | 1 | |
| | B4 | XQN16+BJ5FJK | SCREW | 1 | |
| | B5 | XQN16+B4FJK | SCREW | 1 | |
| | B6 | XQN16+B4FJK | SCREW | 1 | |
| | B7 | XQN16+B4FJK | SCREW | 1 | |
| | B8 | XQN16+B4FJK | SCREW | 1 | |
| | B9 | XQN16+B4FJK | SCREW | 1 | |
| | B10 | XQN16+B3FN | SCREW | 1 | |
| | B11 | VHD1919 | SCREW | 1 | |
| | B12 | VHD1919 | SCREW | 1 | |
| | B13 | VHD1919 | SCREW | 1 | |
| | B14 | XQN16+B3FN | SCREW | 1 | |
| | B15 | XQN16+B3FN | SCREW | 1 | |
| | B16 | VHD1919 | SCREW | 1 | |
| | B17 | VHD1919 | SCREW | 1 | |
| | B18 | VHD1919 | SCREW | 1 | |
| | B19 | XQN16+BJ5FJK | SCREW | 1 | |
| | B20 | VHD1919 | SCREW | 1 | |
| | B21 | VHD1919 | SCREW | 1 | |
| | B22 | VHD1919 | SCREW | 1 | |
| | B23 | VHD1688 | SCREW | 1 | |

Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--------|----------|--------------|---|------|--|
| | B24 | VHD1688 | SCREW | 1 | |
| | B25 | XQN16+BJ4FJK | SCREW | 1 | |
| | B26 | XQN16+BJ4FJK | SCREW | 1 | |
| | 301 | K1HY12YY0016 | MULTI D/RCA CABLE | 1 | |
| | 302 | K2KYYYY00201 | USB CABLE | 1 | |
| | 303 | K2CA2CA00025 | AC CORD W/PLUG | 1 | MP, MPC, MPU, P, PC |
| | 303 | K2CA2YY00129 | AC CORD W/PLUG | 1 | MGT, GT |
| | 303 | K2CA2YY00130 | AC CORD W/PLUG | 1 | MGK, GK |
| | 303 | K2CT3YY00034 | AC CORD W/PLUG | 1 | MEB, MGC, MGA, EB, GC, GA |
| | 303 | K2CJ2YY00052 | AC CORD W/PLUG | 1 | MGN, GN |
| | 303 | K2CQ2YY00082 | AC CORD W/PLUG | 1 | MEG, MEC, MEP, MGC, MGA, MEE, EG, EF, EC, EP, GC, GA, EE |
| | 304 | VSK0780 | AC ADAPTOR | 1 | MP, MPC, P, PC |
| | 304 | VSK0781 | AC ADAPTOR | 1 | MPU, MEG, MEC, MEP, MEB, MGC, MGA, MEE, MGN, MGK, EG, EF, EC, EP, EB, GC, GA, EE, GN, GK |
| | 304 | VSK0714 | AC ADAPTOR | 1 | MGT, GT |
| | 305 | VFF0890-S | CD-ROM | 1 | MP, MGC, MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGA, MEE, MGN, P, GC, PC, GT, EG, EF, EC, EP, EB, GA, EE, GN |
| | 305 | VFF0891-S | CD-ROM | 1 | MGK, GK |
| | 306 | VPF1294 | BAG, POLYETHYLENE | 1 | |
| | 307 | VQT4D56 | OPERATING INSTRUCTIONS (ENGLISH) | 1 | P |
| | 307 | VQT3W31 | OPERATING INSTRUCTIONS (ENGLISH) | 1 | MPC, MPU, PC |
| | 307 | VQT3W32 | OPERATING INSTRUCTIONS (CANADIAN FRENCH) | 1 | PC |
| | 307 | VQT3W33 | OPERATING INSTRUCTIONS (SPANISH) | 1 | MPU |
| | 307 | VQT3W45 | OPERATING INSTRUCTIONS (CHINESE (TRADITIONAL)) | 1 | GT |
| | 307 | VQT3W34 | OPERATING INSTRUCTIONS (GERMAN/TURKISH/ITALIAN/DUTCH) | 1 | EG |
| | 307 | VQT3W35 | OPERATING INSTRUCTIONS (FRENCH) | 1 | EG, EF |
| | 307 | VQT3W36 | OPERATING INSTRUCTIONS (SPANISH/PORTUGUESE/SWEDISH/ DANISH) | 1 | EC |
| | 307 | VQT3W37 | OPERATING INSTRUCTIONS (ENGLISH/POLISH/CZECH/HUNGARIAN) | 1 | EP |
| | 307 | VQT3W38 | OPERATING INSTRUCTIONS (ENGLISH) | 1 | EB |
| | 307 | VQT3W39 | OPERATING INSTRUCTIONS (ENGLISH) | 1 | GC |
| | 307 | VQT3W40 | OPERATING INSTRUCTIONS (ARABIC/PERSIAN) | 1 | GC |
| | 307 | VQT3W41 | OPERATING INSTRUCTIONS (ENGLISH) | 1 | GA, GN |
| | 307 | VQT3W42 | OPERATING INSTRUCTIONS (THAI/CHINESE (TRADITIONAL)/HINDI) | 1 | GA |
| | 307 | VQT3W43 | OPERATING INSTRUCTIONS (RUSSIAN/UKRAINIAN) | 1 | EE |
| | 307 | VQT3W44 | OPERATING INSTRUCTIONS (CHINESE (SIMPLIFIED)) | 1 | GK |
| | 308 | VPG3B42 | PACKING CASE | 1 | MPK |
| | 308 | VPG3B61 | PACKING CASE | 1 | MPCK |
| | 308 | VYQ7870 | PACKING CASE UNIT | 1 | MPUK |
| | 308 | VPG3B62 | PACKING CASE | 1 | MGTK, MEGK, MECK, MEPK, MEBK, MGA, MEEK, MGNK |
| | 308 | VPG3B43 | PACKING CASE | 1 | MGCK |
| | 308 | VYQ7239 | PACKING CASE UNIT | 1 | MGKK |
| | 308 | VYQ7737 | PACKING CASE UNIT | 1 | MGKR |
| | 308 | VPG3B44 | PACKING CASE | 1 | PK |
| | 308 | VPG3B64 | PACKING CASE | 1 | PCK |
| | 308 | VPG3B65 | PACKING CASE | 1 | GTK, EGK, EFK, ECK, EPK, EBK, GAK, EEK, GNK |
| | 308 | VYQ7245 | PACKING CASE UNIT | 1 | EGS, EPS, EBS, GAS, EES, GNS |
| | 308 | VYQ7246 | PACKING CASE UNIT | 1 | EGR, EFR, ECR, EPR, GAR |
| | 308 | VPG3B45 | PACKING CASE | 1 | GCK |
| | 308 | VYQ7252 | PACKING CASE UNIT | 1 | GCS |
| | 308 | VYQ7253 | PACKING CASE UNIT | 1 | GCR |
| | 308 | VYQ7243 | PACKING CASE UNIT | 1 | GKK |
| | 308 | VYQ7736 | PACKING CASE UNIT | 1 | GKR |

Model No. : HC-V500/V500M Parts List

| Safety | Ref. No. | Part No. | Part Name & Description | Q'ty | Remarks |
|--|----------|----------|-------------------------|------|---|
| | 309 | VPN7349 | PAD | 1 | |
| | 310 | VPF1447 | PROTECT BAG | 1 | MP, MGC, P, GC |
| | 310 | VPF1388 | PROTECT BAG | 1 | MPC, MPU, MGT, MEG, MEC, MEP, MEB, MGA, MEE, MGN, MGK, PC, GT, EG, EF, EC, EP, EB, GA, EE, GN, GK |
|  | 311 | --- | SMALL SECONDARY BATTERY | 1 | |
|  | 317 | VFF0901 | CD-ROM(O/I) | 1 | MEG, MEC, MEP, EG, EF, EC, EP |
|  | 317 | VFF0996 | CD-ROM(O/I) | 1 | MGC, GC |
|  | 317 | VFF0902 | CD-ROM(O/I) | 1 | MGA, MEE, MGN, GA, EE, GN |
| | 318 | LSMF0623 | SHEET | 1 | EXCEPT MP, MGC, P, GC |