

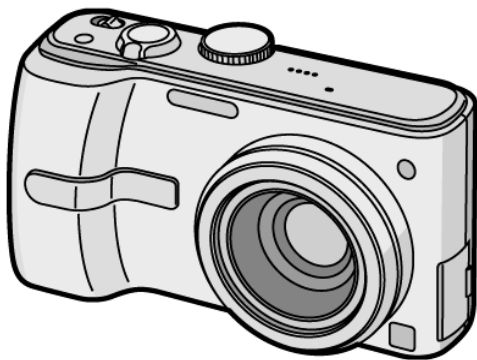
# Service Manual

Digital Camera

LUMIX



LEICA  
DC VARIO-ELMARIT



DMC-TZ1PP  
DMC-TZ1PL  
DMC-TZ1EB  
DMC-TZ1EE  
DMC-TZ1EF  
DMC-TZ1EG  
DMC-TZ1EGM  
DMC-TZ1GC  
DMC-TZ1GK  
DMC-TZ1GN  
DMC-TZ1GT  
DMC-TZ1SG

Vol. 1

Colour

(S).....Silver Type

(K).....Black Type

(A).....Blue Type (except PL/GN/GT)

## 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.

**Panasonic**<sup>®</sup>

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# 1 Safety Precaution

## 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  $1.5\text{ k}\Omega$ ,  $10\text{ W}$  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  $0.75\text{ V RMS}$ . A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed  $1/2\text{ mA}$ . In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

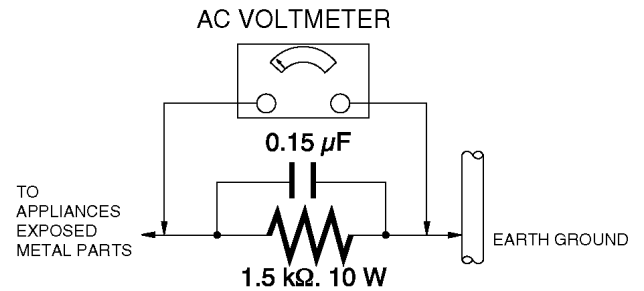


Figure. 1

## 1.4. How to Discharge the Capacitor on Power/Top PCB

### CAUTION:

1. Be sure to discharge the capacitor on POWER/TOP PCB.
2. Be careful of the high voltage circuit on POWER/TOP PCB when servicing.

### [Discharging Procedure]

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

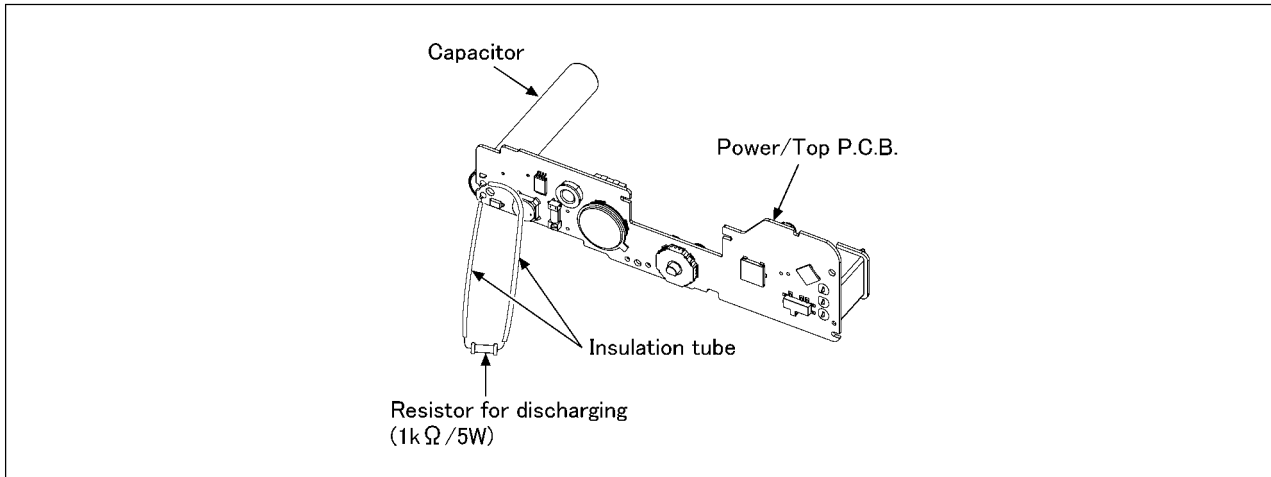


Fig. F1

## 2 Warning

### 2.1. Prevention of Electro Static 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 CCD image sensor, IC (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 electro static 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/polymère recyclable. 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/SG)

### 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 ASRA 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.

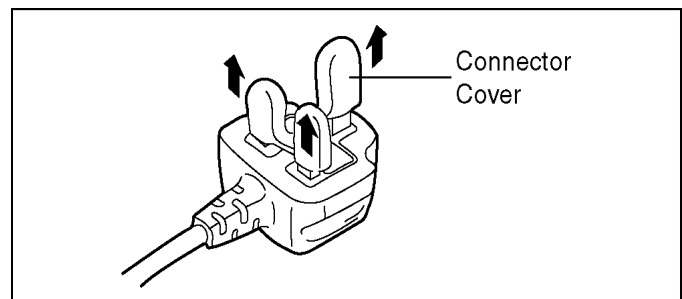
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

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.



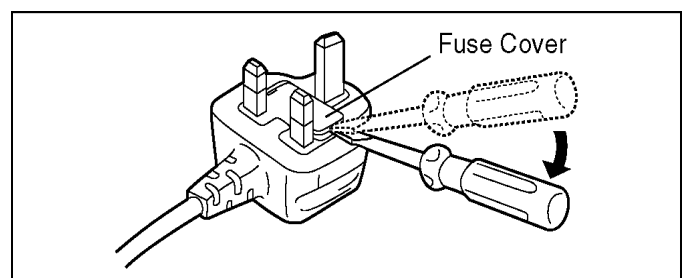
### 2.3.2.2. Before Use

Remove the Connector Cover as follows.

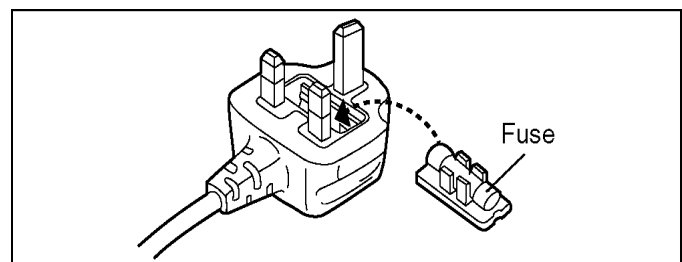


### 2.3.2.3. How to Replace the Fuse

1. Remove the Fuse Cover with a screwdriver.



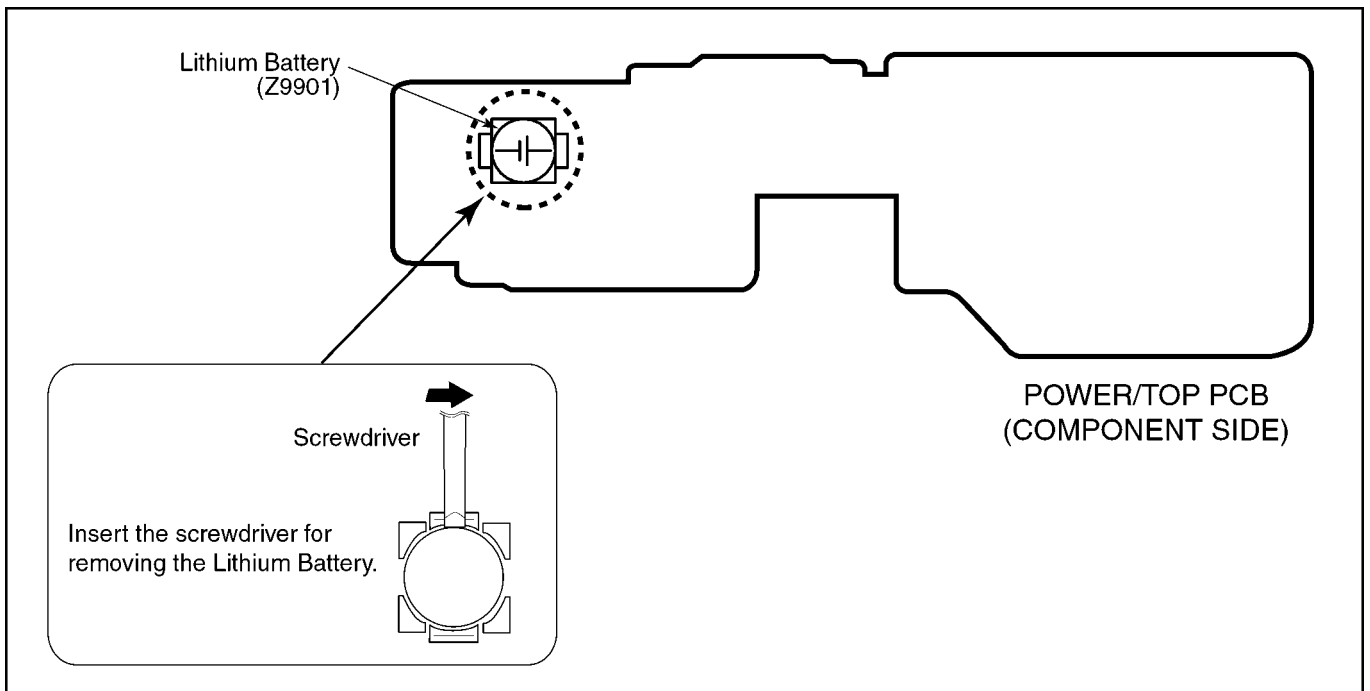
2. Replace the fuse and attach the Fuse cover.



## 2.4. How to Replace the Lithium Battery

### 2.4.1. Replacement Procedure

1. Remove the POWER/TOP PCB. (Refer to Disassembly Procedures.)
2. Remove the Lithium battery (Ref. No. "Z9901" at component side of POWER/TOP PCB) and then replace it into new one.



#### NOTE:

This Lithium battery is a critical component.

(Type No.: ML-421S/ZT **Manufactured by Matsushita Battery Industrial Co.,Ltd.**)

It must never be subjected to excessive heat or discharge.

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

Replacement batteries must be of same type and manufacture.

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

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

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

(For English)

### **CAUTION**

Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type recommended by the manufacturer.  
Dispose of used batteries according to the manufacturer's instructions.

(For French)

### **PRECAUTION**

Le fait de remplacer incorrectement la pile peut présenter des risques d'explosion.  
Remplacer la pile uniquement par une pile identique ou de type équivalent recommandée par le fabricant. Se débarrasser des piles usagées conformément aux instructions du fabricant.

(For German)

### **VORSICHT**

Bei einer falsch eingesetzten Batterie besteht Explosionsgefahr. Nur mit einer vom Hersteller empfohlenen Batterie vom gleichen Typ ersetzen.  
Verbrauchte Batterien beim Fachhändler oder einer Sammelstelle für Sonderstoffe abliefern.

(For Swedish)

### **VARNING**

Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparatillverkaren.  
Kassera använt batteri enligt fabrikantens instruktion.

(For Norwegian)

### **ADVARSEL!**

Lithiumbatteri-Eksplosionsfare ved fejløst håndtering.  
Udskiftning må kun ske med batteri af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandøren.

(For Finnish)

### **VAROITUS**

Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.  
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

#### **NOTE:**

Above caution is applicable for a battery pack which is for DMC-TZ1 series, as well.



# 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 PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB 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 PCB 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 PCB 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.
  - RFKZ03D01K----- (0.3mm 100g Reel)
  - RFKZ06D01K----- (0.6mm 100g Reel)
  - RFKZ10D01K----- (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 PCB layout of MAIN PCB and SD/AFE PCB.
  - b. Parts list for individual parts for MAIN PCB and SD/AFE PCB.When a part replacement is required for repairing MAIN PCB and/or SD/AFE PCB, replace as an assembled parts. (MAIN PCB, SD/AFE PCB)
2. The following category is/are recycle module part. please send it/them to Central Repair Center.
  - MAIN PCB (VEP56033A)
  - SD/AFE PCB (VEP53030A)

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

There are six kinds of DMC-TZ1, regardless of the colours.






- a) DMC-TZ1S
- b) DMC-TZ1PP
- c) DMC-TZ1EB/EF/EG/EGM/GN
- d) DMC-TZ1EE
- e) DMC-TZ1GT
- g) DMC-TZ1PL/GC/GK/SG

(DMC-TZ1S is exclusively Japan domestic model.)

What is the difference is that the "INITIAL SETTINGS" data which is stored in Flash ROM mounted on Main PCB.

#### 3.4.1. Defining methods:

To define the model suffix to be serviced, refer to the nameplate which is putted on the bottom side of the Unit.

<p><b>a) DMC-TZ1S</b> DMC-TZ1S is exclusively Japan domestic model.</p> <p><b>b) DMC-TZ1PP</b> The nameplate for this model show the following Safty registration mark.</p> 	 <p>Safty registration mark</p>
<p><b>c) DMC-TZ1EB/EF/EG/EGM/GN</b> The nameplate for these models show the following Safty registration mark.</p> 	
<p><b>d) DMC-TZ1EE</b> The nameplate for this model show the following Safty registration mark.</p> 	
<p><b>e) DMC-TZ1GT</b> The nameplate for this model show the following Safty registration mark.</p> 	
<p><b>f) DMC-TZ1PL/GC/GK/SG</b> The nameplate for these models do not show any above Safty registration mark.</p>	

**NOTE:**

After replacing the MAIN PCB, be sure to achieve adjustment.

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

### 3.4.2. INITIAL SETTINGS:

**CAUTION:**

The unit employs "Built-in Memory" for picture image data recording. (Approx.13.4MB)  
 Be sure to make picture data back up (i.e., Copying to SD memory card), before proceeding "INITIAL SETTINGS".  
 Once "INITIAL SETTINGS" has been carried out, all image data belong to "Built-in Memory" shall be erased.

**CAUTION:**

NEVER select "NONE(JAPAN)" if the unit is other than "JAPAN" model.  
 Other-wise, it can not be reset to the others.

When you replace the Main PCB be sure to perform the initial settings after achieving the Adjustment, by ordering the following procedure in accordance with model suffix.

• **Step 1. The temporary cancellation of factory setting:**

Set the mode dial to "[ Normal picture mode ] (Red camera mark)".

While keep pressing [ Optical Image Stabilizer ] and "[ UP ] of Cross key" simultaneously, turn the Power on.

• **Step 2. The cancellation of factory setting:**

Set the mode dial to "[ Playback ]".

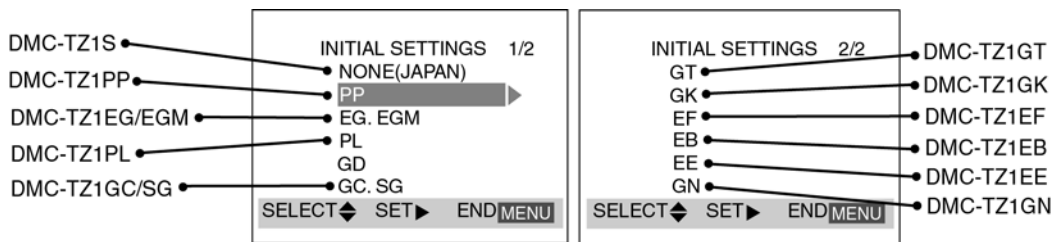
Press [ Optical Image Stabilizer ] and "[ UP ] of Cross key" simultaneously, then turn the Power off.

• **Step 3. Turn the Power on:**

Set the mode dial to "[ Normal picture mode ] (Red camera mark)", and then turn the Power on.

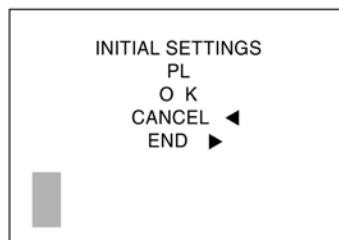
• **Step 4. Display the INITIAL SETTING:**

While keep pressing [ MENU ] and "[ RIGHT ] of Cross key" simultaneously, turn the Power off.



• **Step 5. Set the INITIAL SETTING:**

Select the area with pressing "[ UP ] / [ DOWN ] of Cross key", and then press the "[ RIGHT ] of Cross key".



The only set area is displayed, and then press the "[ RIGHT ] of Cross key" after confirmation.  
 (The unit is powered off automatically.)

Confirm the display of "PLEASE SET THE CLOCK" in English when the unit is turned on again.

• **Step 6. CONFIRMATION:**

The display shows "PLEASE SET THE CLOCK" when turn the Power on again.

When the unit is connected to PC with USB cable, it is detected as removable media.

(When the "GT" or "GK" model suffix is selected, the display shows "PLEASE SET THE CLOCK" in Chinese.)

1) As for your reference Default setting condition is given in the following table.

• **Default setting (After "INITIAL SETTINGS")**

	MODEL	VIDEO OUTPUT	LANGUAGE	DATE	REMARKS
a)	DMC-TZ1S	NTSC	Japanese	Year/Month/Date	
b)	DMC-TZ1PP/PL	NTSC	English	Month/Date/Year	
c)	DMC-TZ1EB/EE/EF/EG/EGM/GC/GN/SG	PAL	English	Date/Month/Year	
d)	DMC-TZ1GK	PAL	Chinese (simplified)	Year/Month/Date	
e)	DMC-TZ1GT	NTSC	Chinese (traditional)	Year/Month/Date	

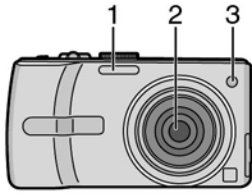
# 4 Specifications

<b>Digital Camera:</b>	Information for your safety
<b>Power Source:</b>	DC 5.1 V
<b>Power Consumption:</b>	1.6 W (When recording) 0.8 W (When playing back)
<b>Camera effective pixels:</b>	5,000,000 pixels
<b>Image sensor:</b>	1/2.5" CCD, total pixel number 6,370,000 pixels, Primary color filter
<b>Lens:</b>	Optical 10× zoom, f=5.2 mm to 52 mm (35 mm film camera equivalent: 35 mm to 350 mm)/F2.8 to F4.2
<b>Digital zoom:</b>	Max. 4×
<b>Extra optical zoom:</b>	Max. 12.5× (Except for the maximum picture size for each aspect ratio)
<b>Focus:</b>	Normal/Macro, 9-area-focusing/3-area-focusing (High speed)/1-area-focusing (High speed)/1-area-focusing/Spot-focusing
<b>Focus range:</b>	Normal: 40 cm (1.31 feet) (Wide)/ 2 m (6.56 feet) (Tele) to ∞ Macro/Simple/Motion picture: 5 cm (0.16 feet) (Wide)/ 1 m (3.28 feet) (Tele) to ∞
<b>Shutter system:</b>	Electronic shutter+Mechanical shutter
<b>Burst recording</b>	
<b>Burst speed:</b>	3 frames/second (High speed), 2 frames/second (Low speed), Approx. 2 frames/second (Unlimited)
<b>Number of recordable pictures:</b>	Max. 5 frames (Standard), max. 3 frames (Fine), Depends on the remaining capacity of the built-in memory or the card (Unlimited). (Performance in burst recording is only with SD Memory Card. MultiMediaCard performance will be less.)
<b>Motion picture recording:</b>	848×480 pixels (Only when using an SD Memory Card)/ 640×480 pixels (Only when using an SD Memory Card)/ 320×240 pixels (30 or 10 frames/second with audio. The maximum recording time depends on the capacity of the built-in memory or the card.)
<b>ISO sensitivity:</b>	AUTO/80/100/200/400/800 [HIGH SENS.] mode: 800 to 1600
<b>Shutter speed:</b>	8 to 1/2000th [STARRY SKY] mode: 15 seconds, 30 seconds, 60 seconds Motion picture mode: 1/30th to 1/20000th
<b>White balance:</b>	AUTO/Daylight/Cloudy/Halogen/White set
<b>Exposure (AE):</b>	AUTO (Program AE) Exposure compensation (1/3 EV Step, -2 EV to +2 EV)
<b>Metering mode:</b>	Multiple/Center weighted/Spot
<b>LCD monitor:</b>	2.5" low-temperature polycrystalline TFT LCD (Approx. 207,000 pixels) (field of view ratio about 100%)
<b>Flash:</b>	Flash range: (ISO AUTO) Approx. 30 cm (0.98 feet) to 3.7 m (12.1 feet) (Wide) AUTO, AUTO/Red-eye reduction, Forced ON (Forced ON/Red-eye reduction), Slow sync./Red-eye reduction, Forced OFF
<b>Microphone:</b>	Monaural
<b>Speaker:</b>	Monaural

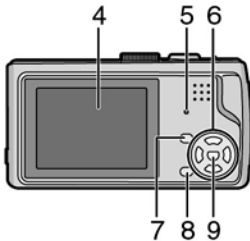
<b>Recording media:</b>	Built-in Memory (Approx. 13.4 MB)/SD Memory Card/ MultiMediaCard (Still pictures only)
<b>Picture size</b>	
<b>Still picture:</b>	When the aspect ratio setting is [4:3] 2560×1920 pixels, 2048×1536 pixels, 1600×1200 pixels, 1280×960 pixels, 640×480 pixels When the aspect ratio setting is [3:2] 2560×1712 pixels, 2048×1360 pixels When the aspect ratio setting is [16:9] 2560×1440 pixels, 1920×1080 pixels
<b>Motion pictures:</b>	When the aspect ratio setting is [4:3] 640×480 pixels (Only when using an SD Memory Card), 320×240 pixels When the aspect ratio setting is [16:9] 848×480 pixels (Only when using an SD Memory Card) Fine/Standard
<b>Quality:</b>	
<b>Recording file format</b>	
<b>Still Picture:</b>	JPEG (based on Design rule for Camera File system, based on Exif 2.2 standard)/DPOF corresponding
<b>Picture with audio:</b>	JPEG (based on Design rule for Camera File system, based on Exif 2.2 standard)+QuickTime (picture with audio)
<b>Motion pictures:</b>	QuickTime Motion JPEG (motion pictures with audio)
<b>Interface</b>	
<b>Digital:</b>	USB 2.0 (Full Speed)
<b>Analog video/audio:</b>	NTSC/PAL Composite (Switched by menu), Audio line output (monaural)
<b>Terminal</b>	
<b>DIGITAL/AV OUT:</b>	Dedicated jack (8 pin)
<b>DC IN:</b>	Dedicated jack (2 pin)
<b>Dimensions:</b>	Approx. 112 mm (W)×58.1 mm (H)×40.2 mm (D) [4 13/32" (W)×2 9/32" (H)×1 19/32" (D)] (excluding the projection part)
<b>Mass:</b>	Approx. 234 g/8.25 oz (excluding card and battery), Approx. 262 g/9.24 oz (with card and battery)
<b>Operating temperature:</b>	0 °C to 40 °C (32 °F to 104 °F)
<b>Operating humidity:</b>	10% to 80%
<b>Battery Charger (Panasonic DE-A25B):</b>	Information for your safety
<b>Input:</b>	110 V to 240 V ~ 50/60 Hz, 0.2 A
<b>Output:</b>	CHARGE 4.2 V --- 0.5 A
<b>Equipment mobility:</b>	Movable
<b>Battery Pack (lithium-ion) (Panasonic CGA-S007A):</b>	Information for your safety
<b>Voltage/capacity:</b>	3.7 V, 1000 mAh

# 5 Location of Controls and Components

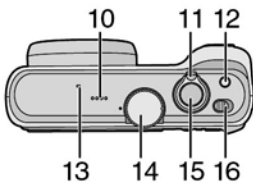
## Names of the Components



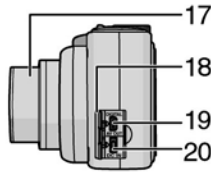
- 1 Flash
- 2 Lens
- 3 Self-timer indicator  
AF assist lamp



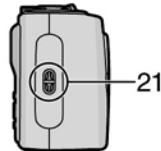
- 4 LCD monitor
- 5 Status indicator
- 6 Cursor buttons
  - ◀/Self-timer button
  - ▼/[REV] button
  - ▶/Flash setting button
  - ▲/Exposure compensation/Auto bracket/White balance fine adjustment/Backlight compensation in simple mode button
- 7 [DISPLAY/LCD MODE] button
- 8 Single or burst mode / Delete button
- 9 [MENU/SET] button



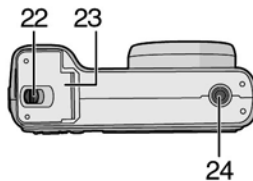
- 10 Speaker
- 11 Zoom lever
- 12 Optical image stabilizer button
- 13 Microphone
- 14 Mode dial
- 15 Shutter button
- 16 Camera ON/OFF switch



- 17 Lens barrel
- 18 Terminal door
- 19 [DIGITAL/AV OUT] Socket
- 20 [DC IN] Socket
  - Always use a genuine Panasonic AC adaptor (DMW-AC5; optional).
  - This camera cannot charge the battery even though the AC adaptor (DMW-AC5; optional) is connected to it.



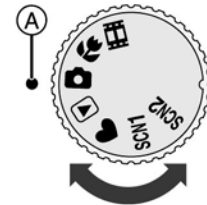
- 21 Lens cap/Strap eyelet



- 22 Release lever
- 23 Card/Battery door
- 24 Tripod receptacle
  - When you use a tripod, make sure the tripod is stable when the camera is attached to it.

## About The Mode Dial

Adjust part ④ to the desired mode. The mode dial can be rotated 360°. Rotate it slowly and surely to adjust to each mode. (Do not adjust it to parts where there is no mode.)



: **Normal picture mode**  
Use this mode for normal recording.

: **Macro mode**  
This mode allows you to take a close-up picture of a subject.

: **Motion picture mode**  
This mode allows you to record motion pictures.

**SCN1 : Scene mode 1**  
**SCN2 : Scene mode 2**  
This mode allows you to match the picture to the scene being recorded. Two frequently used scenes can be set to the mode dials [SCN1] and [SCN2].

: **Simple mode**  
This mode is recommended for beginners.

: **Playback mode**  
This mode allows you to play back recorded pictures.

# 6 Service Mode

## 6.1. Error Code Memory Function

### 1. General description

This unit is equipped with history of error code memory function, and can be memorized 32 error codes in sequence from the latest. When the error is occurred more than 32, the oldest error is overwritten in sequence.

The error code is not memorized when the power supply is shut down forcibly (when the unit is powered on by the battery, the battery is pulled out) because the error code is memorized to FLASH ROM when the unit is powered off.

### 2. How to display

The error code can be displayed by the following procedure:

Before perform the error code memory function, connect the AC adaptor or insert the battery, and insert the SD card.

#### • 1. The temporary cancellation of factory setting:

Set the mode dial to “[ Normal picture mode ] (Red camera mark)”.

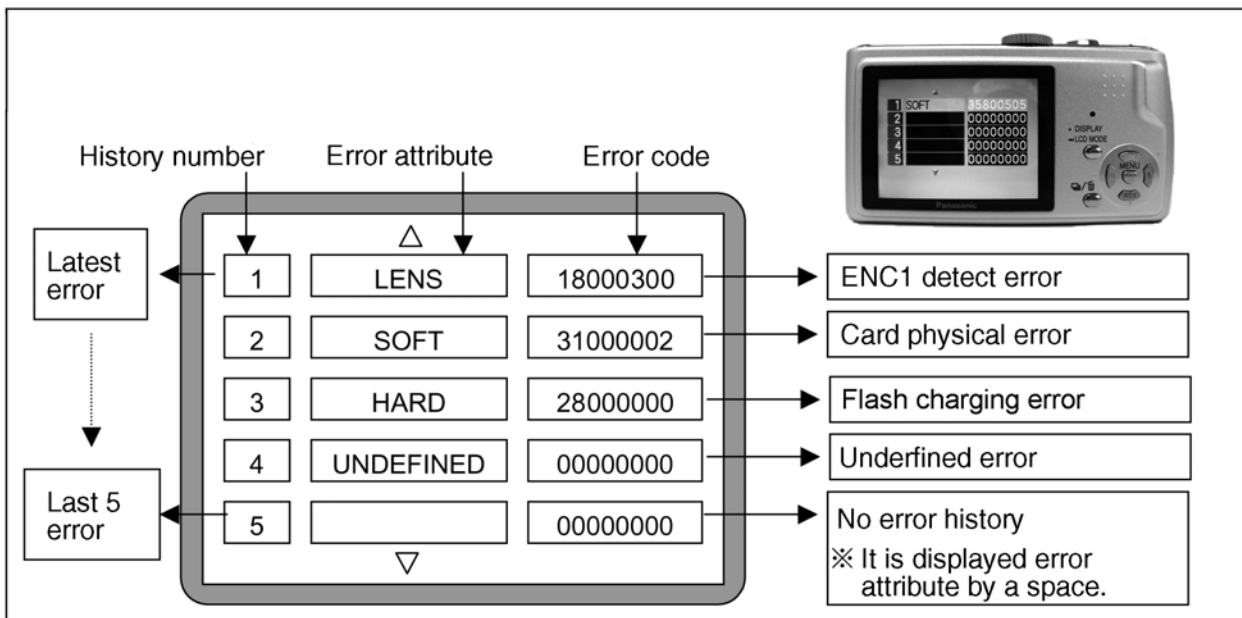
While keep pressing [ Optical Image Stabilizer Button ] and “[ UP ] of Cross key” simultaneously, turn the Power on.

#### • 2. The display of error code:

Press [ Optical Image Stabilizer Button ], [ MENU ] and “[ LEFT ] of Cross key” simultaneously with the step 1 condition.

The display is changed as shown below when the above buttons is pressed simultaneously.

Normal display → Error code display → Operation history display → Normal display → .....



Example of Error Code Display

#### • 3. The change of display:

The error code can be memorized 32 error codes in sequence, however it is displayed 5 errors on the LCD.

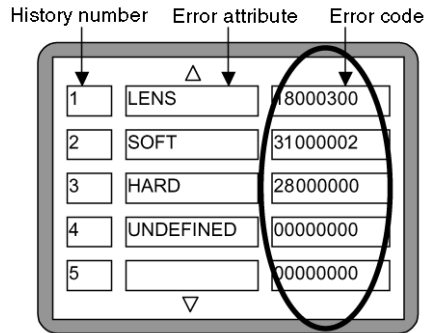
Display can be changed by the following procedure:

“[ UP ] or [ DOWN ] of Cross key” : It can be scroll up or down one.

“[ LEFT ] or [ RIGHT ] of Cross key” : It can be display last 5 error or another 5 error.

• 4. How to read the error code:

One error code is displayed for 8 bit, the contents of error codes is indicated the table as shown below.



Attribute	Main item	Sub item	Error code		Contents (Upper)
			High 4 bits	Low 4 bits	Check point (Lower)
LENS	Lens drive	OIS	1800	1000	PSD (X) error. Hall element (X axis) position detect error in OIS unit. OIS Unit
				2000	PSD (Y) error. Hall element (Y axis) position detect error in OIS unit. OIS Unit
				3000	GYRO (X) error. Gyro (IC7101: X axis) detect error on Main P.C.B.. IC7101 (Gyro element) or IC6001 (VENUS 3)
				4000	GYRO (Y) error. Gyro (IC7101: Y axis) detect error on Main P.C.B.. IC7101 (Gyro element) or IC6001 (VENUS 3)
				5000	MREF error (Reference voltage error). IC7001 (LENS drive) or IC6001 (VENUS 3)
				6000	Drive voltage (X) error. OIS Unit, LENS flex breaks etc.
				7000	Drive voltage (Y) error. OIS Unit, LENS flex breaks etc.
		C.B./Zoom	0100	HP Low detect error (C.B. encoder (full retract) always Low detect). FP9004-(6, 7) signal line or IC6001 (VENUS 3)	
			0200	HP High detect error (C.B. encoder (full retract) always High detect). FP9004-(6, 7) signal line or IC6001 (VENUS 3)	
			0300	ENC1 detect error (C.B. motor encoder detect error). Zoom motor, Motor driver, Zoom pulse encoder 1.	
			0400	ENC2 detect error (C.B. motor encoder detect error). Zoom motor, Motor driver, Zoom pulse encoder 2.	
		Zoom	0010	HP Low detect error (Zoom encoder always Low detect error).	
			0020	HP High detect error (Zoom encoder always High detect error).	
		Focus	0001	HP Low detect error (Focus encoder always Low detect error). FP9004-(6, 7) signal line or IC6001 (VENUS 3)	
			0002	HP High detect error (Focus encoder always High detect error). FP9004-(6, 7) signal line or IC6001 (VENUS 3)	
			0005	Focus lock error (Focus is not possible to drive to a specified position). Obstacle mixing, Focus MR sensor output, Motor driver.	
			0006	Focus comparete sinal (phase A) is irregular. Focus Motor, Focus MR sensor output, Motor driver.	
			0007	Focus comparete sinal (phase B) is irregular. Focus Motor, Focus MR sensor output, Motor driver.	
			0008	Focus reference voltage is irregular. Motor driver.	
		Lens	1801	0000	Power ON time out error. Lens drive system
			1802	0000	Power OFF time out error. Lens drive system

Attribute	Main item	Sub item	Error code		Contents (Upper)	
			High 4 bits	Low 4 bits	Check point (Lower)	
LENS	Adj.History	OIS	1900	2000	OIS adj. Yaw direction amplitude error (small) OIS Unit, LENS flex breaks.	
				3000	OIS adj. Pitch direction amplitude error (small) OIS Unit, LENS flex breaks.	
			4000	OIS adj. Yaw direction amplitude error (large) OIS Unit, LENS flex breaks.		
				OIS adj. Pitch direction amplitude error (large) OIS Unit, LENS flex breaks.		
			6000	OIS adj. MREF error OIS Unit, LENS flex breaks.		
			7000	OIS adj. time out error Zoom motor, Focus motor, LENS flex breaks.		
			8000	OIS adj. Yaw direction off set error OIS Unit.		
			9000	OIS adj. Pitch direction off set error OIS Unit.		
			A000	OIS adj. Yaw direction gain error OIS Unit.		
			B000	OIS adj. Pitch direction gain error OIS Unit.		
			C000	OIS adj. Yaw direction position sensor error OIS Unit, LENS flex breaks.		
			D000	OIS adj. Pitch direction position sensor error OIS Unit, LENS flex breaks.		
			E000	OIS adj. other error OIS Unit, LENS flex breaks.		
			HARD	VENUS A/D	Flash	2800
FLASH ROM (EEPROM Area)	FLASH ROM (EEPROM Area)	2B00		0001	EEPROM read error IC6002 (FLASH ROM)	
				0002	EEPROM write error IC6002 (FLASH ROM)	
SYSTEM	RTC	2C00		0001	SYSTEM IC initialize error Communication between IC6001 (VENUS 3) and IC9101 (SYSTEM)	
SOFT	CPU	Reset	3000	0001   0007	NMI reset Non Mask-able Interrupt (30000001-30000007 are caused by factors)	
	Card	Card	3100	0001	Card logic error SD card data line or IC6001 (VENUS 3)	
				0002	Card physical error SD card data line or IC6001 (VENUS 3)	
				0004	Write error SD card data line or IC6001 (VENUS 3)	
				3900	0005	Format error
	CPU, ASIC hard	Stop	3800	0001	Camera task finish process time out. Communication between Lens system and IC6001 (VENUS 3)	
				0002	Camera task invalid code error. IC6001 (VENUS 3)	
				0100	File time out error in recording motion image IC6001 (VENUS 3)	
				0200	File data send error in recording motion image IC6001 (VENUS 3)	
	Operation	Power on	3B00	0000	FLASHROM processing early period of camera during movement.	
	Zoom	Zoom	3C00	0000	I do not complete zoom lens processing	
				3500	0000	I jumped into dummy processing (0-7bit : command, 8-15bit : Status)
				3501	0000	Though record preprocessing is necessary, it is not called.
				3502	0000	Though record preprocessing is necessary, it is not completed.

• 5. How to returned to Normal Display:

Turn the power off and on, to exit from Error code display mode.

**NOTE:**

The error code can not be initialized.



## 6.2. Confirmation of Firmware Version

The Firmware version can be confirmed by ordering the following steps:

- **Step 1. The temporary cancellation of factory setting:**

Set the mode dial to “[ Normal picture mode ] (Red camera mark)”.

Insert the SD memory card which has a few photo data.

While keep pressing [ Optical Image Stabilizer ] and “[ UP ] of Cross key” simultaneously, then turn the power on.

- **Step 2. Confirm the version:**

Set the mode dial to “[ Playback ]” and then press [ DISPLAY ] to switch to LCD with indication. (Fig. A)

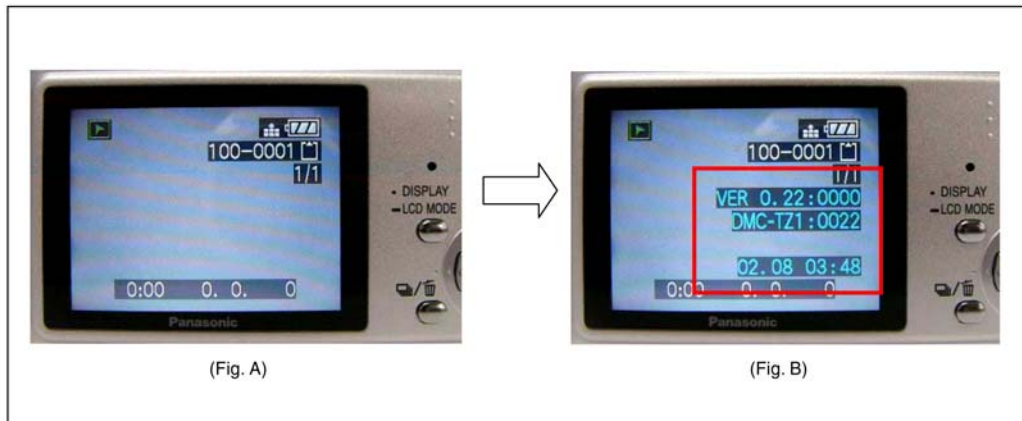
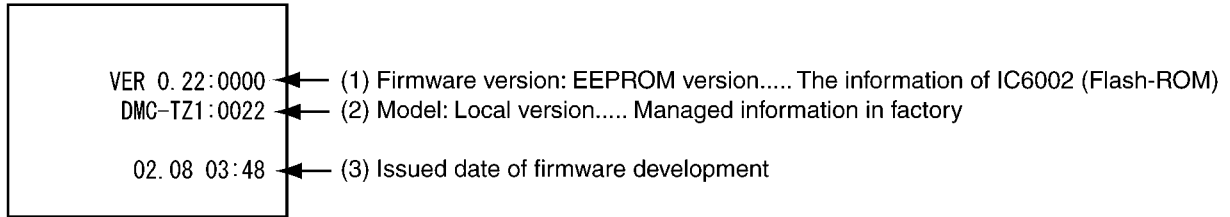
Press [ Optical Image Stabilizer ] and “[ DOWN ] of Cross key” simultaneously. (No need to keep pressing.)

(The version information is displayed on the LCD with light blue colour letters.) (Fig. B)

**CAUTION:**

The version information does not display if the LCD has switched to LCD with indication already.

In this case, press [ DISPLAY ] to switch to LCD with indication.



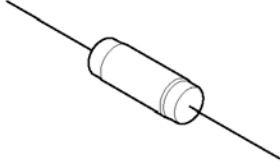
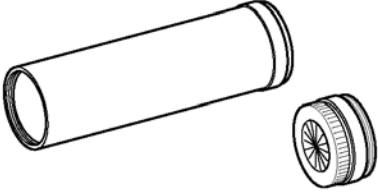
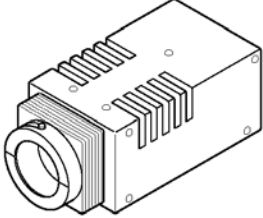
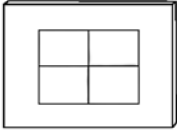





**<Point>**

- The firmware version and EEPROM version can be confirmed with the information (1).
- The information (2), (3) are just reference.

# 7 Service Fixture & Tools

## 7.1. Service Fixture and Tools

The following Service Fixture and tools are used for checking and servicing this unit.

<b>Resistor for Discharging</b> <b>ERG5SJ102</b>	<b>Infinity Lens (with Focus Chart)</b> <b>VFK1164TCM02</b>	<b>LIGHT BOX</b> <b>VFK1164TDVLB</b>
 <b>An equivalent type of Resistor may be used.</b>		 <b>※ with DC Cable</b>
<b>TR Chart</b> <b>VFK1975</b>	<b>Lens Cleaning Kit (BK)</b> <b>VFK1900BK</b>	<b>Grease (for lens)</b> <b>VFK1829</b>
	 <b>* Only supplied as 10 set/box.</b>	
<b>Furoyl grease (for focus motor)</b> <b>VFK1850</b>	<b>ND Filter</b> <b>ND0.1 Type VFK1164ND03</b>	<b>Phase Adj. Pin</b> <b>VMS7673</b>
	 <b>An equivalent type of Filter may be used.</b>	 <b>An equivalent type of pin may be used.</b> [φ 1.2mm]

## 7.2. When Replacing the Main PCB

After replacing the MAIN PCB, be sure to achieve adjustment.

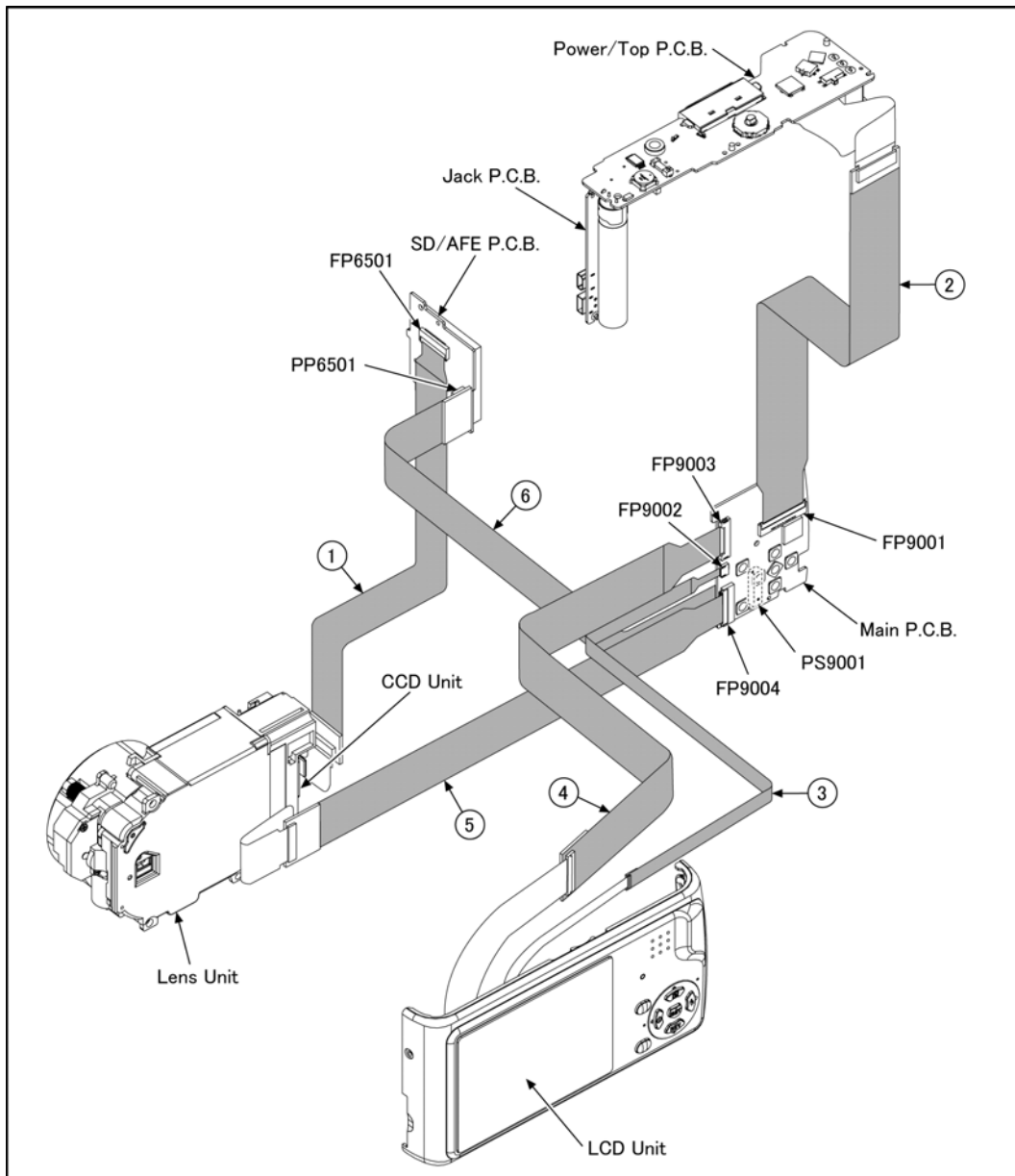
The adjustment instruction is available at “software download” on the “Support Information from NWBG/VDBG-PAVC” web-site in “TSN system”, together with Maintenance software.

## 7.3. 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	VFK1950	FP6501 (SD/AFE) - CCD UNIT	33PIN 0.3 FFC
2	VFK1575C5125	FP9001 (MAIN) - POWER/TOP FPC	51PIN 0.3 FFC
3	VFK1974	FP9002 (MAIN) - LCD UNIT	4PIN 0.5 FFC
4	RFKZ0378	FP9003 (MAIN) - LCD UNIT	19PIN 0.5 FFC
5	VFK1951	FP9004 (MAIN) - BASE SU	39PIN 0.3 FFC
6	RFKZ0379	PP6501 (SD/AFE) - PS9001 (MAIN)	40PIN B to B

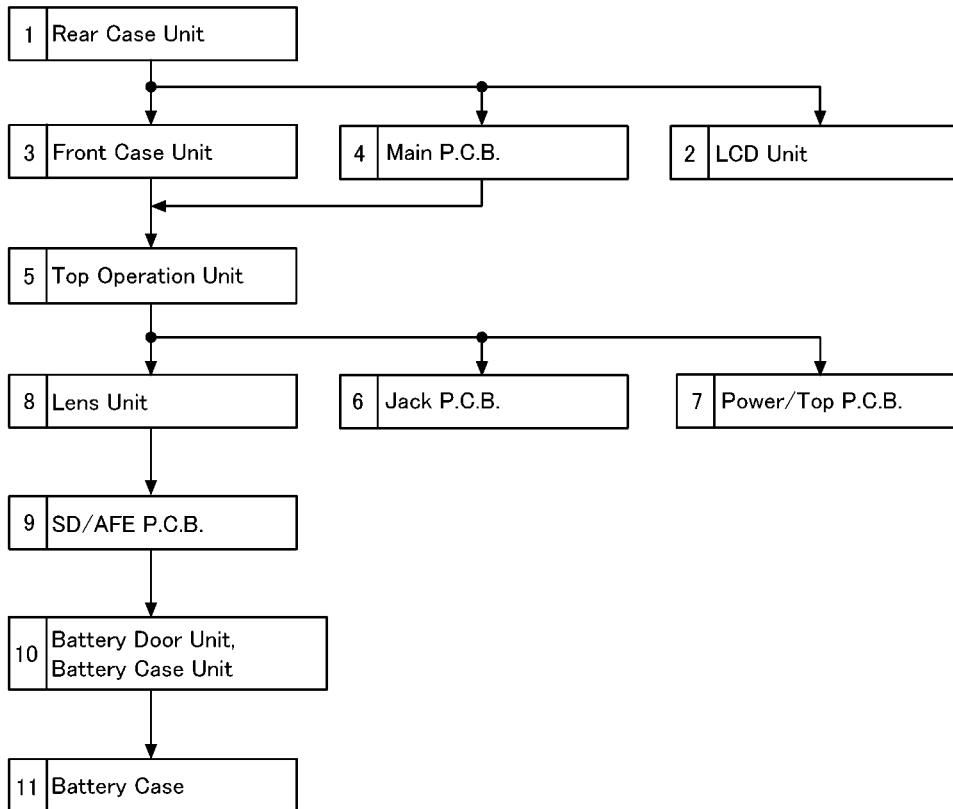


### CAUTION-1. (When servicing POWER/TOP PCB)

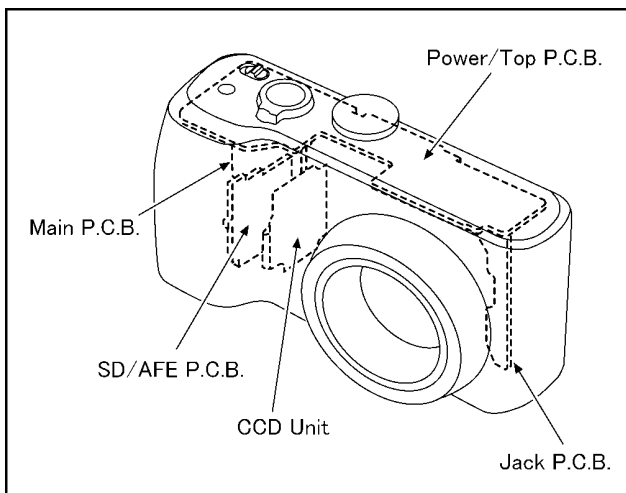
1. Be sure to discharge the capacitor on POWER/TOP PCB.  
Refer to “HOW TO DISCHARGE THE CAPACITOR ON POWER/TOP PCB”.  
The capacitor voltage is not lowered soon even if the AC Cord is unplugged or the battery is removed.
2. Be careful of the high voltage circuit on POWER/TOP PCB.
3. DO NOT allow other parts to touch the high voltage circuit on POWER/TOP PCB.

# 8 Disassembly and Assembly Instructions

## 8.1. Disassembly Flow Chart



## 8.2. PCB Location



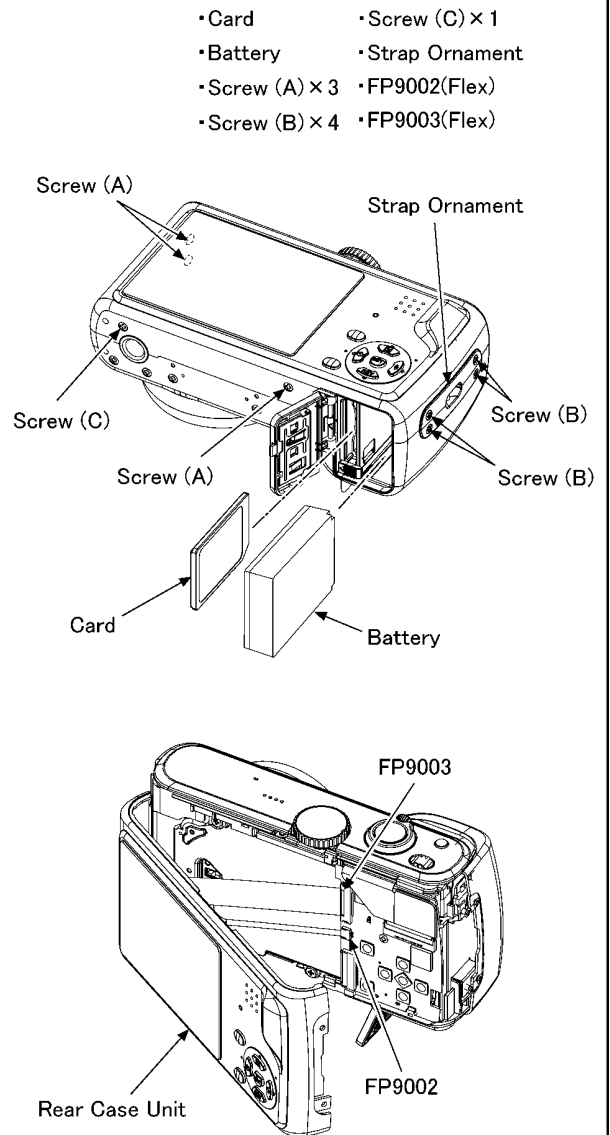
## 8.3. Disassembly Procedure

No.	Item	Fig	Removal
1	Rear Case Unit	Fig. D1	Card
			Battery
			3 Screws (A)
			4 Screws (B)
			1 Screw (C)
			Strap Ornament
			FP9002(Flex)
			FP9003(Flex)
			Rear Case Unit
			Fig. D2
		2	LCD Unit
3	Front Case Unit	Fig. D4	3 Screws (D)
			2 Screws (E)
			1 Screw (F)
			Front Case Unit
4	Main P.C.B.	Fig. D5	1 Screw (G)
			FP9001(Flex)
			FP9004(Flex)
			PS9001(Connector)
			Main P.C.B.
		Fig. D6	About the connector
5	Top Operation Unit	Fig. D7	1 Locking tab
			Top Operation Unit
6	Jack P.C.B.	Fig. D8	PP2001(Connector)
			1 Screw (H)
			Jack P.C.B.
7	Power/Top P.C.B.	Fig. D9	2 Screws (I)
			1 Locking tab
			Top Ornament Unit
		Fig. D10	5 Locking tabs
			Top Cover Unit
			Power/Top P.C.B.
8	Lens Unit	Fig. D12	NOTE: (When installing)
			FP9501(Flex)
		Fig. D13	About the connector
9	SD/AFE P.C.B.	Fig. D14	1 Screw (J)
			SD/AFE P.C.B.
10	Battery Door Unit Battery Case Unit	Fig. D15	Battery Door Shaft
			Battery Door Spring
			Battery Door Unit
			Battery Case Unit
11	Battery Case	Fig. D16	2 Locking tabs
			Battery Case Upper
			Battery Terminal Spring
			Battery Case

### 8.3.1. Removal of the Rear Case Unit

#### NOTE:

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



#### CAUTION

Take care to handle the connector (FP9002) because it is easy to be damaged.  
 (Refer to "About the connector (FP9002)".)




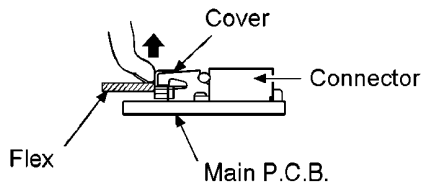
Screw (A)	Screw (B)	Screw (C)
 3mm	 5.3mm	 5mm
(S) : SILVER	(S) : SILVER	(S) : SILVER
(K, A) : BLACK	(K, A) : BLACK	(K, A) : BLACK

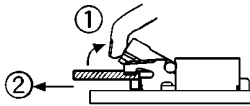
Fig. D1

### About the connector (FP9002)

1. Lift the center of cover in the indicated by arrow.



2. Release the lock of cover, and then pull out the flex.



※ It is released the lock to turn the cover until an angle of 40.

**NOTE:** Do not push the cover over an angle of 135. It is full opened condition. (Refer to the figure as shown below.)

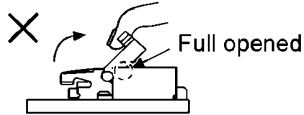
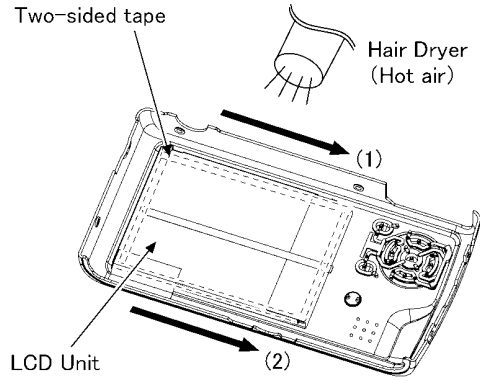


Fig. D2

### 8.3.2. Removal of the LCD Unit



#### NOTE:(When Replacing)

- LCD unit is taped to rear case by two-sided tape.
- It can be easy to remove the two-sided tape with sending hot air by hair dryer.
- Insert the flathead screwdriver between LCD unit and rear case unit, and then remove the two-sided tape in the direction of arrow. (Removing order : (1) → (2) )
- Note that neither garbage nor the fingerprint adhere surface of LCD and rear case panel inside.

#### NOTE:(When installing)

- Install the LCD unit to the indicated position of rear case as shown below with confirming the surface of LCD.

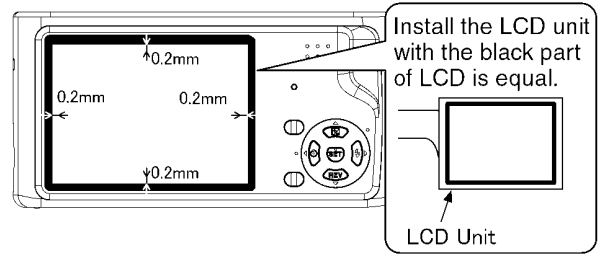


Fig. D3

### 8.3.3. Removal of the Front Case Unit

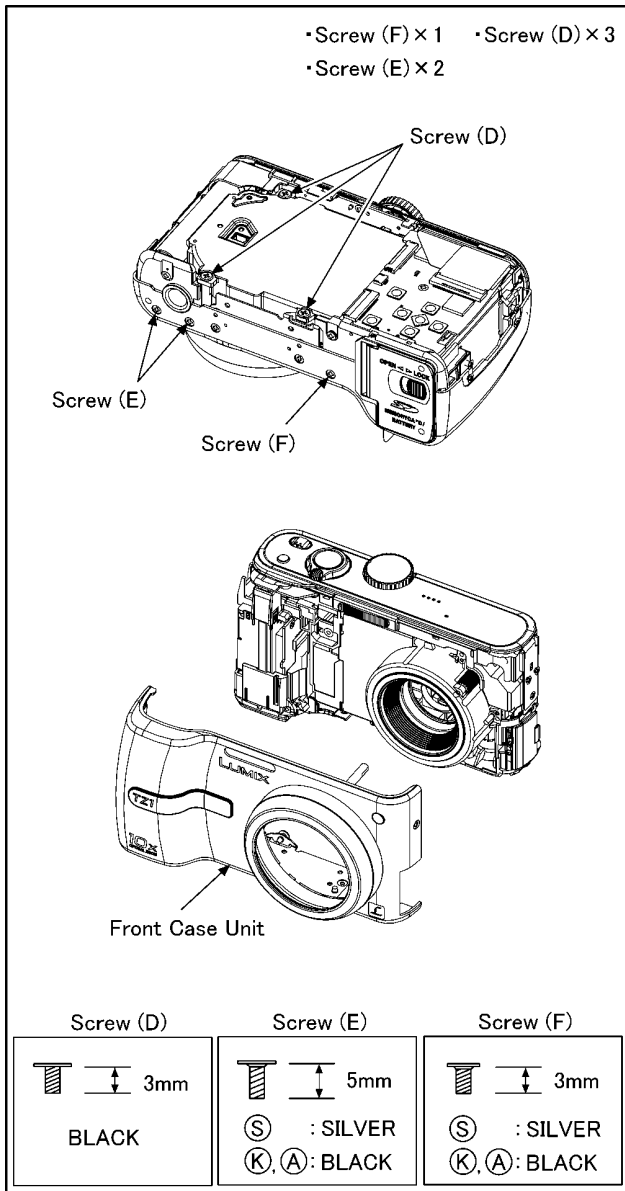


Fig. D4

### 8.3.4. Removal of the Main P.C.B.

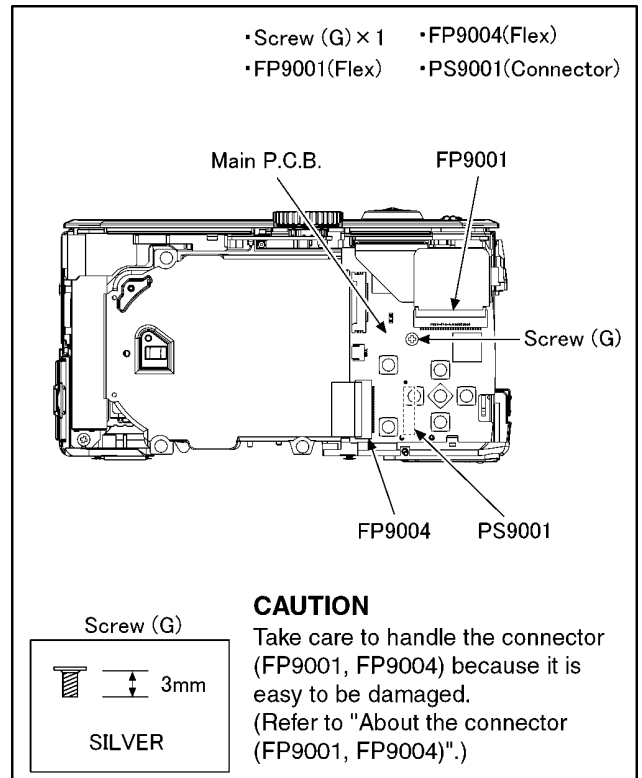
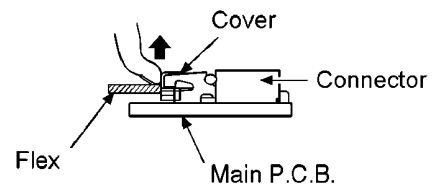


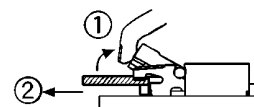
Fig. D5

#### About the connector (FP9001, FP9004)

1. Lift the center of cover in the indicated by arrow.



2. Release the lock of cover, and then pull out the flex.



※ It is released the lock to turn the cover until an angle of 40.

**NOTE:** Do not push the cover over an angle of 135. It is full opened condition. (Refer to the figure as shown below.)

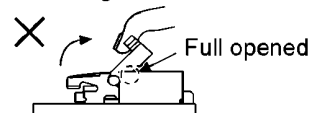


Fig. D6

### 8.3.5. Removal of the Top Operation Unit

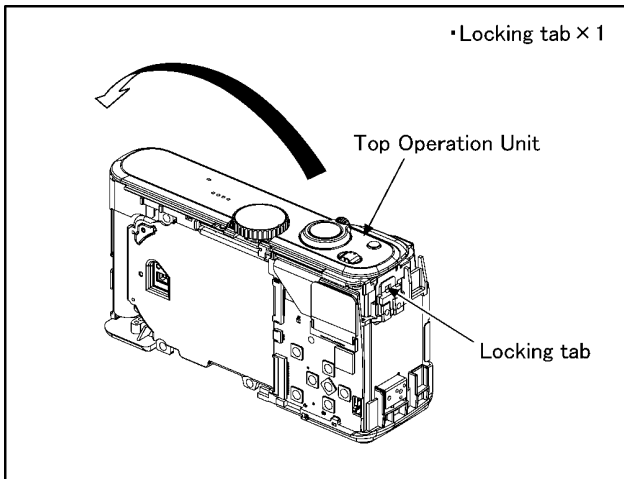


Fig. D7

### 8.3.6. Removal of the Jack P.C.B.

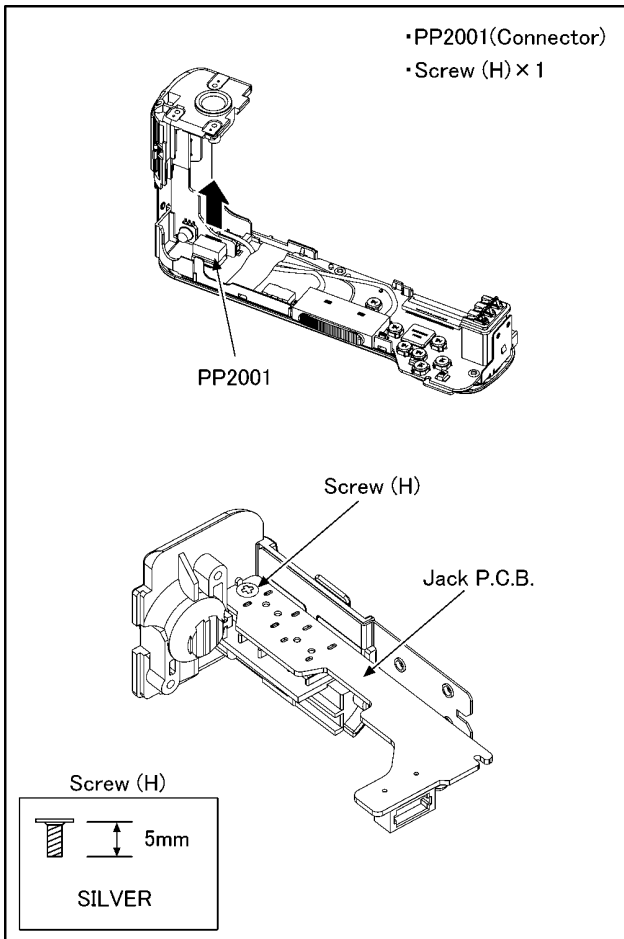


Fig. D8

### 8.3.7. Removal of the Power/Top P.C.B.

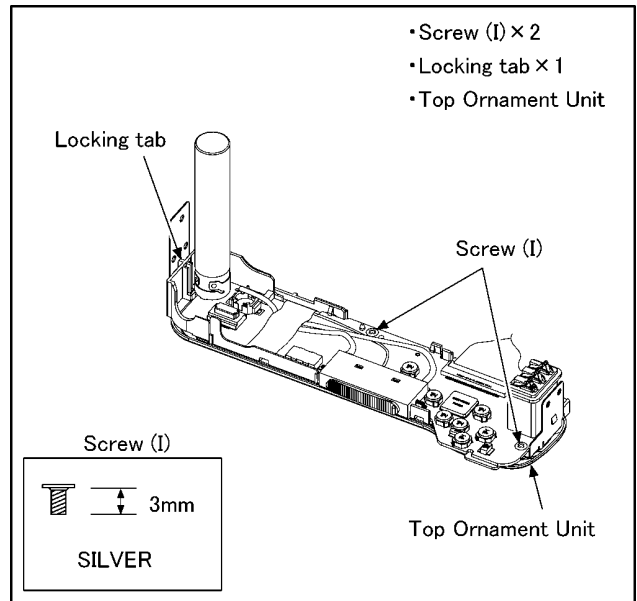


Fig. D9



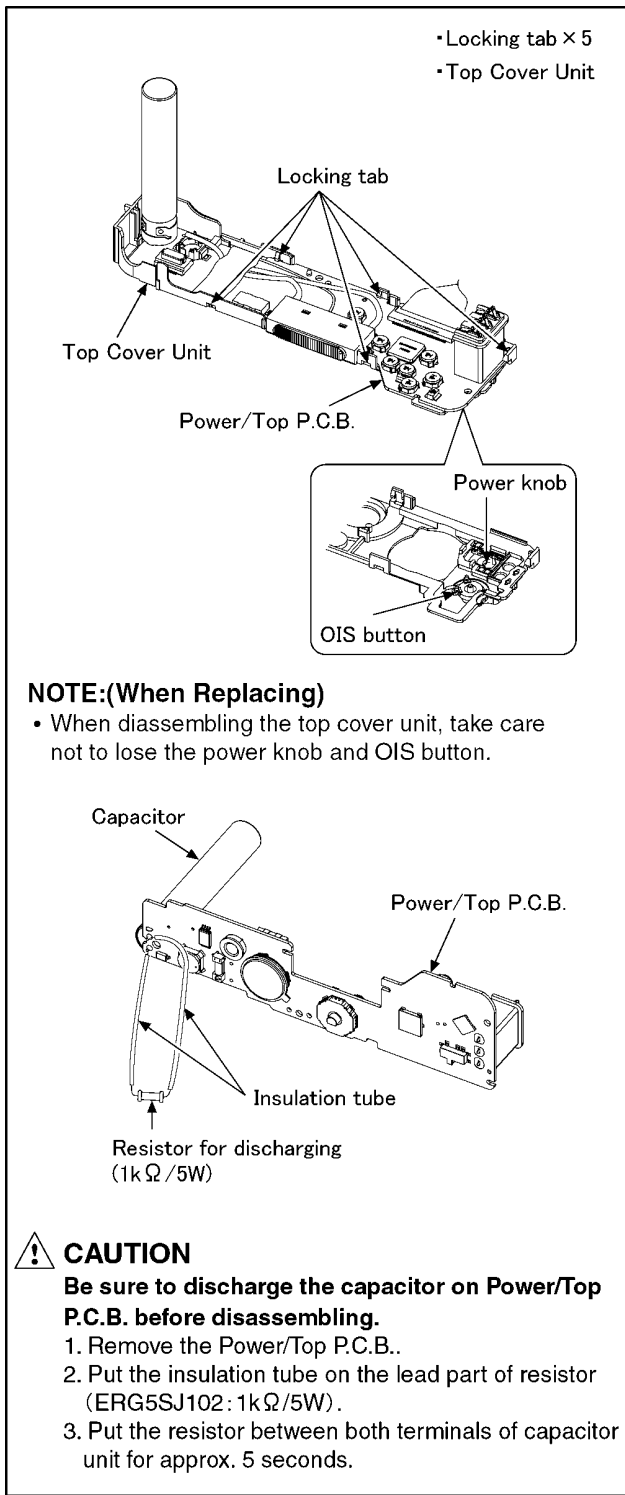


Fig. D10

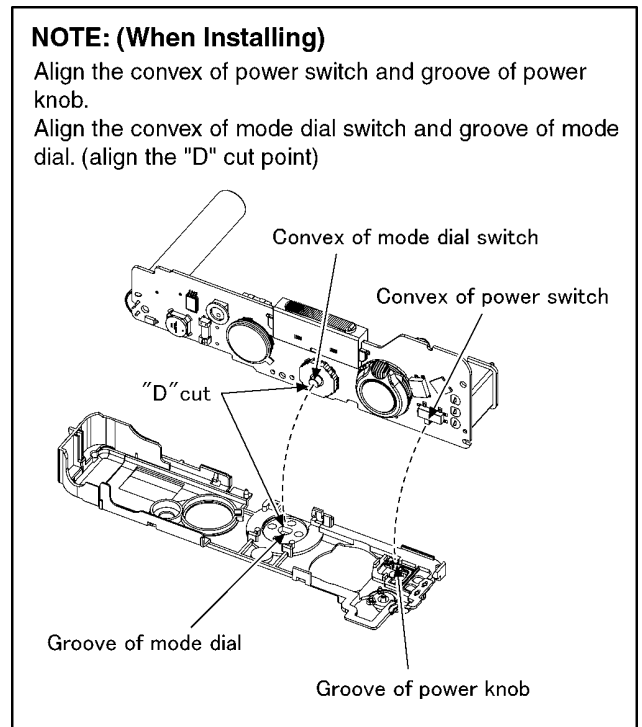


Fig. D11

### 8.3.8. Removal of the Lens Unit

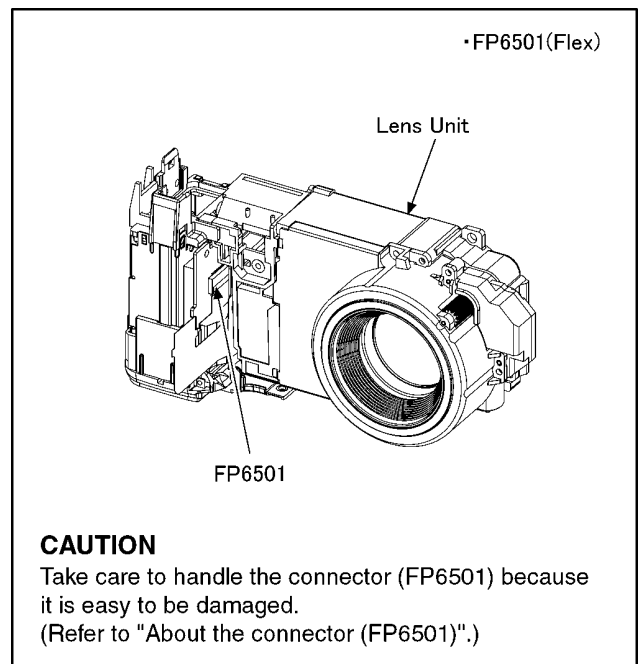
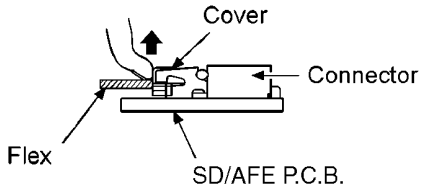


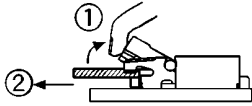
Fig. D12

### About the connector (FP6501)

1. Lift the center of cover in the indicated by arrow.



2. Release the lock of cover, and then pull out the flex.



※ It is released the lock to turn the cover until an angle of 40.

**NOTE:** Do not push the cover over an angle of 135. It is full opened condition. (Refer to the figure as shown below.)

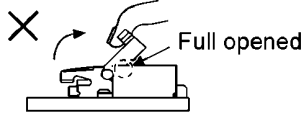


Fig. D13

### 8.3.9. Removal of the SD/AFE P.C.B.

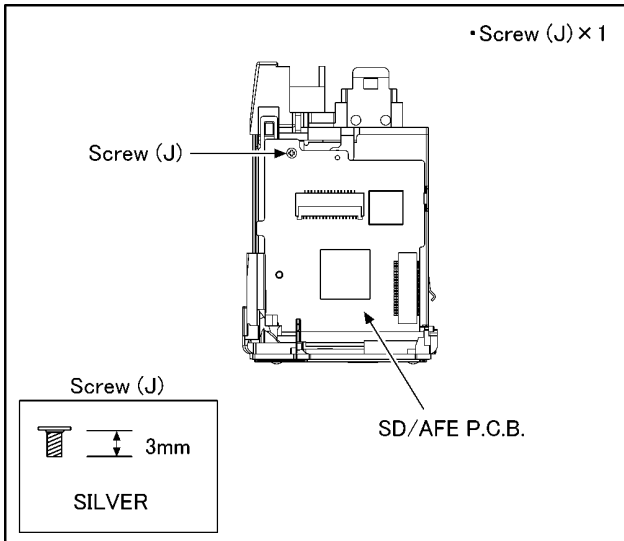


Fig. D14

### 8.3.10. Removal of the Battery Door Unit and Battery Case Unit

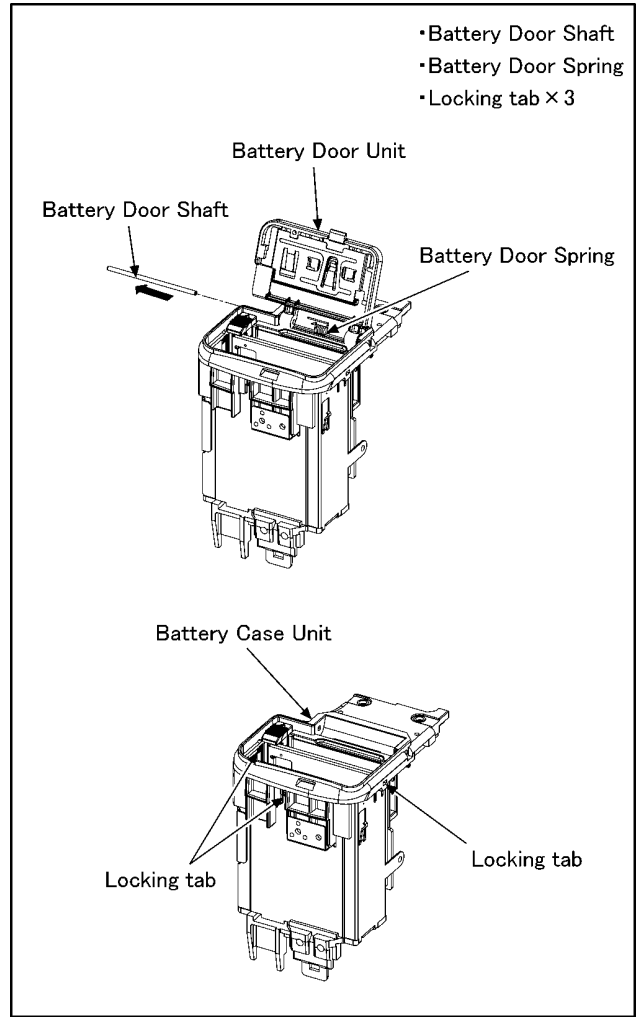


Fig. D15

### 8.3.11. Removal of the Battery Case

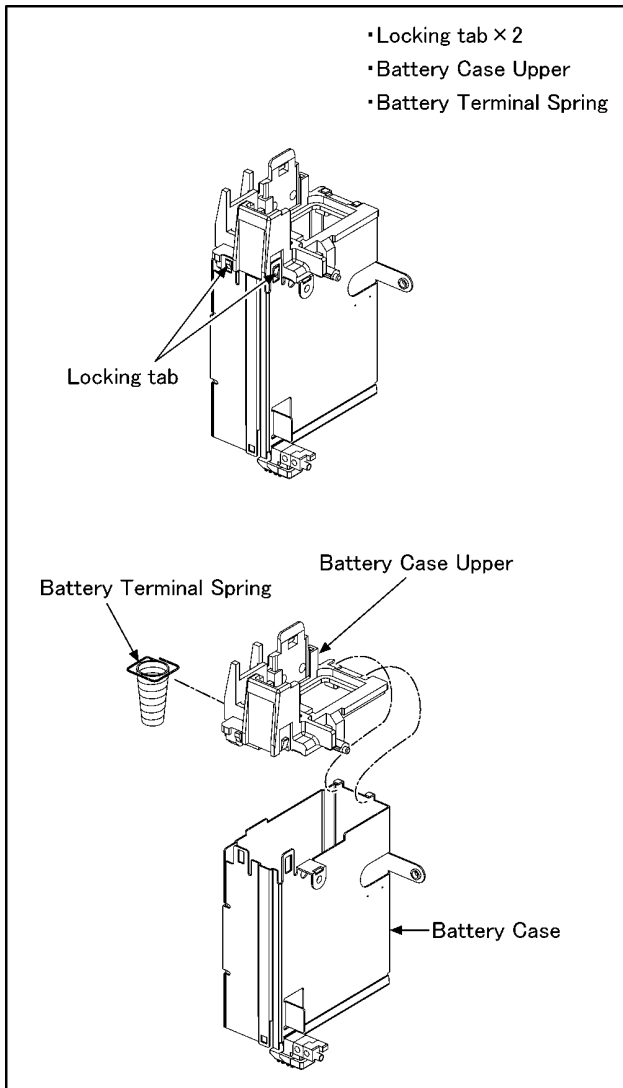


Fig. D16

#### NOTE: (When Assembling)

Be sure to confirm the following points when assembling.

- The Screw is tightened enough.
- Assembling conditions are fine. (No distortion, no illegal-space.)
- No dust and/or dirt on every Lens surfaces.
- LCD image is fine. (No dust and dirt on it, and no gradient images.)

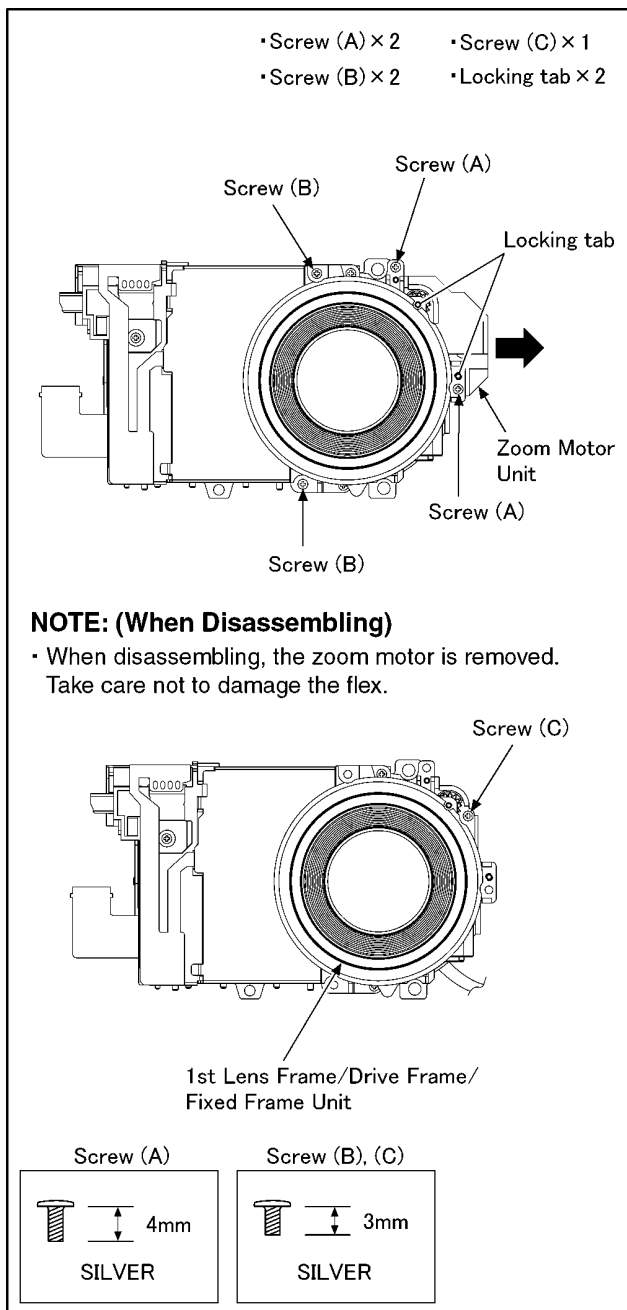
### 8.4. Disassembly Procedure for the Lens

#### NOTE: When Disassembling and Assembling for the Lens

1. To minimize the possibility of the CCD being dirt, perform disassemble and/or assemble under the condition of the CCD is being mounted.  
Disassembling procedures for the CCD unit, refer to item 8.6.
2. Take care that the dust and dirt are not entered into the lens.  
In case of the dust is putted on the lens, blow off them by airbrush.
3. Do not touch the surface of lens.
4. Use lens cleaning KIT (BK)(VFK1900BK).

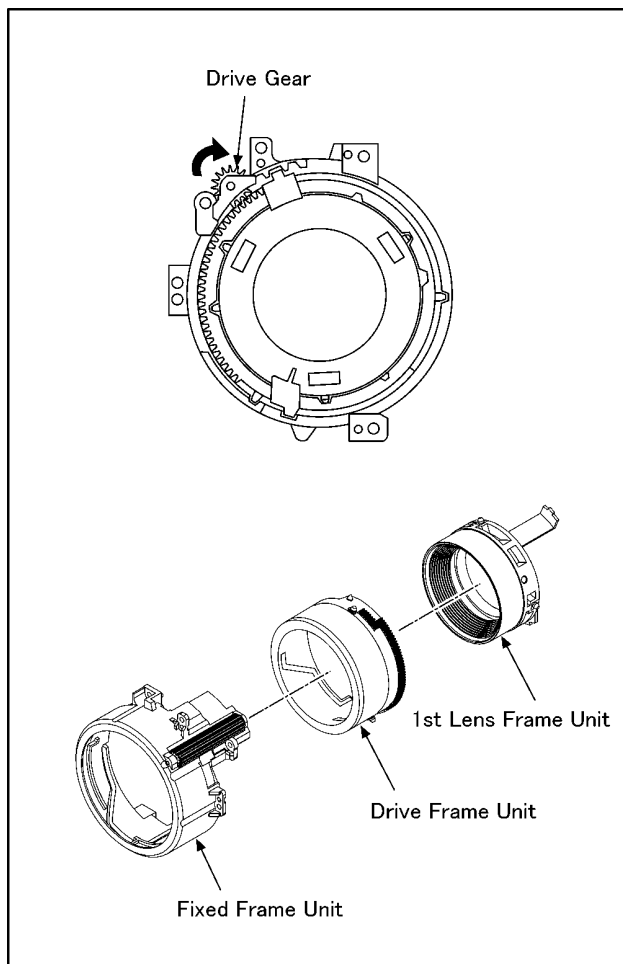
### 8.4.1. Removal of the 1st Lens Frame/ Drive Frame/Fixed Frame Unit

1. Unscrew the 2 screws (A).
2. Depress the zoom motor unit to release the locking tabs (2 pcs), and then remove to the indicated by arrow.
3. Unscrew the 2 screws (B).
4. Unscrew the 1 screw (C).
5. Remove the 1st lens frame/drive frame/fixed frame unit.



### 8.4.2. Removal of the 1st Lens Frame Unit and Drive Frame Unit

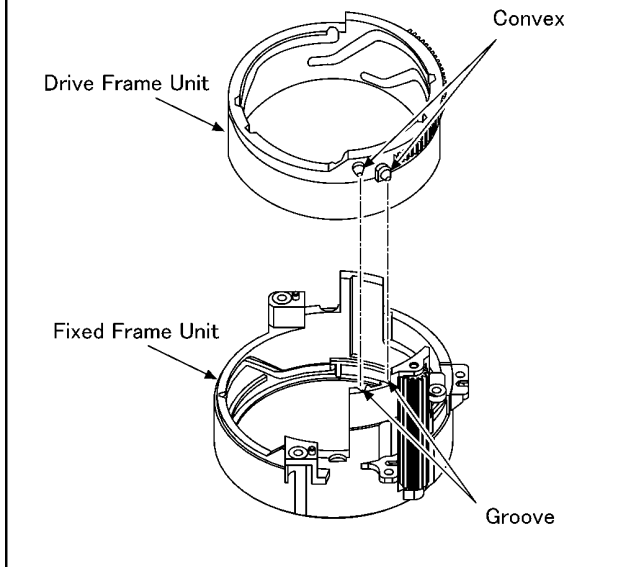
- Turn the drive gear to the indicated by arrow fully, and then remove the 1st lens frame unit and drive frame unit.



## 8.5. Assembly Procedure for the Lens

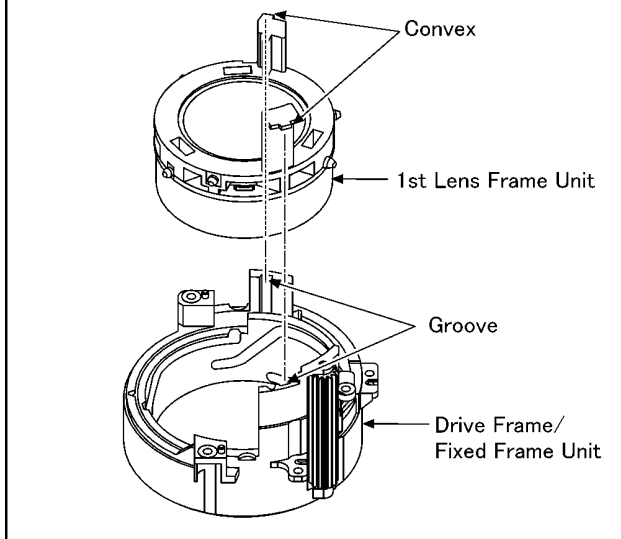
### 8.5.1. Phase alignment of the Drive Frame Unit and Fixed Frame Unit

- Align the convex of drive frame unit (2 points) and groove of fixed frame unit, and then insert the drive frame unit to the fixed frame unit.



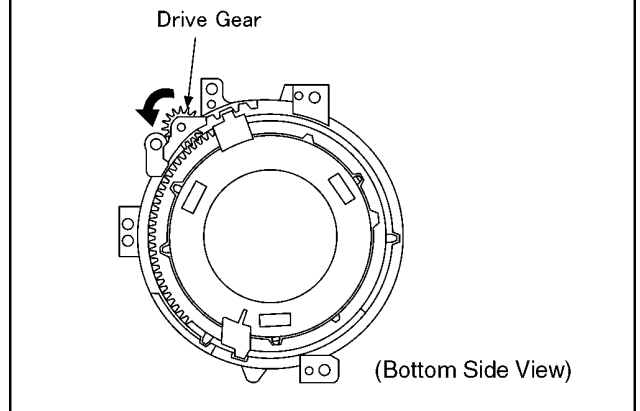
### 8.5.2. Phase alignment of the 1st Lens Frame Unit and Drive Frame/Fixed Frame Unit

- Align the convex of 1st lens frame unit (2 points) and groove of fixed frame unit, and then insert the 1st lens frame unit to the drive frame/fixed frame unit.



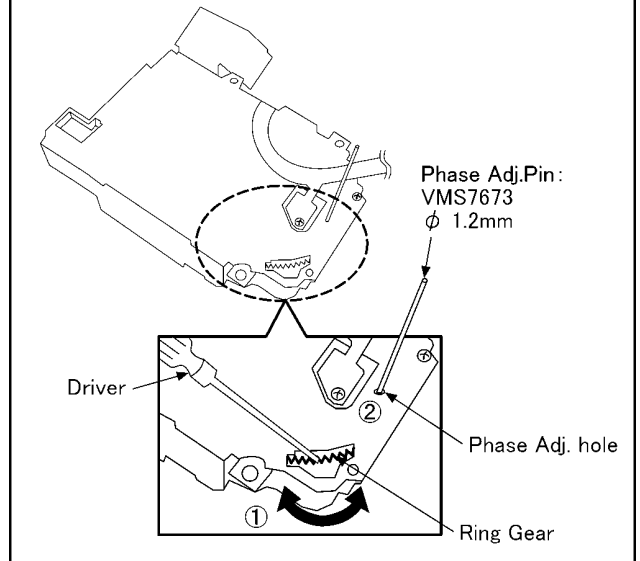
### 8.5.3. Phase alignment of the 1st Lens Frame/Drive Frame/Fixed Frame Unit and Lens Base Unit

- Rotate the Drive Gear fully counter-clockwise (in the direction of an arrow) to make fully TELE condition.

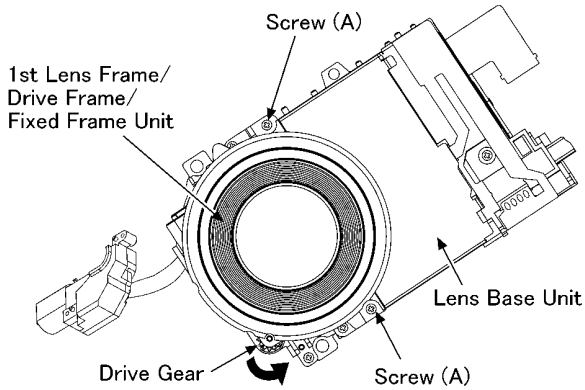


- Slightly rotate the Ring Gear with a driver to meet Adjustment hole and hole on the Ring Gear. (See ①).
- Insert the Phase Adj. Pin (VMS7673) to the Phase Adj. hole. (See ②).

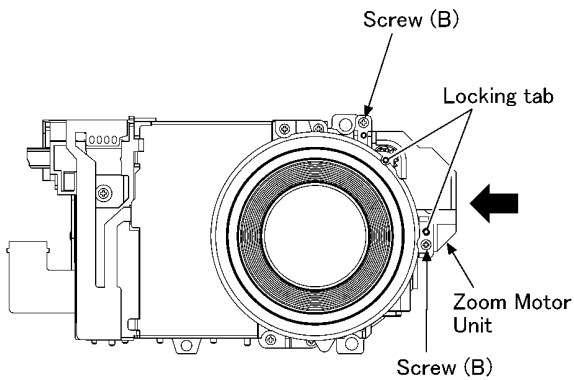
<<Lens Base Unit (Bottom Side View)>>



- Inert the 1st Lens Frame/Drive Frame/Fixed Frame Unit onto Lens Base Unit, then tighten 2 screws(A).
- Remove the Phase Adj. Pin (VMS7673).
- Rotate the Drive Gear fully counter-clockwise (in the direction of an arrow) to make fully retract condition.



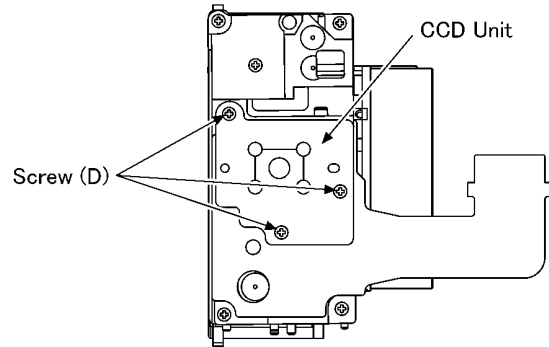
- Set the Zoom Motor Unit onto the 2 Locking tabs, then tighten 2 screws(B).



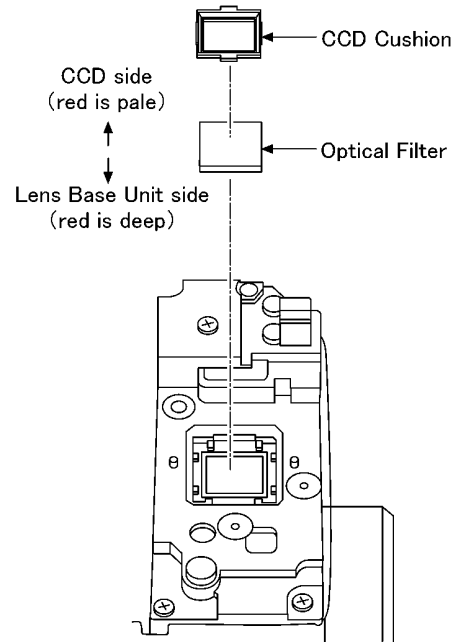
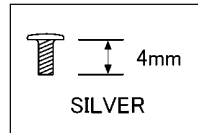
## 8.6. Removal of the CCD Unit

To prevent the CCD unit from catching the dust and dirt, do not remove the CCD unit except for replacing.

- Screw (D) × 3
- CCD Cushion × 1
- Optical Filter × 1



Screw (D)



### NOTE: (When Installing the CCD Unit)

Definitions of mount side of Optical filter.

\*Set the optical filter under the condition of reflecting the fluorescent lamp can be seen by your eyes.

\*Although depth of the red color may be changed in accordance with seeing angle, compare the deepest red color in both sides to define each side.

Lens Base Unit side:

red color is deeper than the other side.

CCD side: red color is paler than the other side.

It can be easy to confirm the red color density on the blue paper.

# 9 Measurements and Adjustments

## 9.1. Matrix Chart for Replaced Part and Necessary Adjustment

The relation between Replaced part and Necessary Adjustment is shown in the following table.

When concerned part is replaced, be sure to achieve the necessary adjustment(s).

As for Adjustment condition/procedure, consult the "Adjustment Manual" which is available in Adjustment software.

The Adjustment software is available at "TSN Website", therefore, access to "TSN Website" at "Support Information from NWBG/VDBG-PAVC".

**NOTE:**

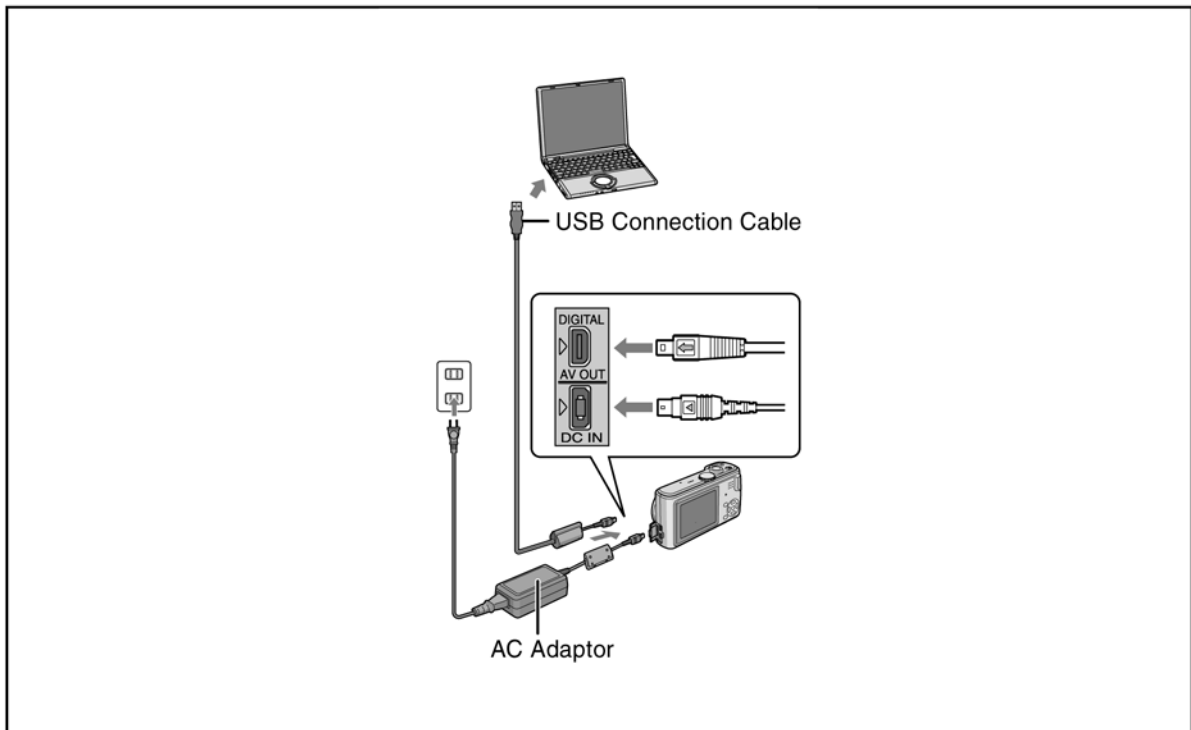
After adjustments have been terminated, make sure to achieve "INITIAL SETTINGS".

Adjustment Item		Replaced Part				
		Main P.C.B.	VENUS (IC6001)	Flash-ROM (IC6002)	Lens Part (Excluding CCD)	CCD Unit
Camera Section	OIS hall element adjustment (OIS)	○	○	○	○	
	Back focus adjustment (BF)	○	○	○	○	
	Shutter adjustment (SHT)	○	○	○	○	○
	ISO sensitivity adjustment (ISO)	○	○	○	○	○
	AWB adjustment High brightness coloration inspection (WBL)	○	○	○	○	○
	CCD white scratch compensation (WKI)	○	○	○		○

**NOTE:**

\*There is no LCD adjustment in this model.

\*There is no CCD Black scratch compensation adjustment (BKI) in this model.



# 10 Maintenance

## 10.1. Cleaning Lens and LCD Panel

Do not touch the surface of lens and LCD Panel with your hand.

When cleaning the lens, use air-Blower to blow off the dust.

When cleaning the LCD Panel, dampen the lens cleaning paper with lens cleaner, and the gently wipe the their surface.

**Note:**

The Lens Cleaning KIT ; VFK1900BK (Only supplied as 10 set/Box) is available as Service Aid.



# Service Manual

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## Diagrams and Replacement Parts List

### Digital Camera

- |           |            |           |
|-----------|------------|-----------|
| DMC-TZ1PP | DMC-TZ1EG  | DMC-TZ1GT |
| DMC-TZ1PL | DMC-TZ1EGM | DMC-TZ1SG |
| DMC-TZ1EB | DMC-TZ1GC  |           |
| DMC-TZ1EE | DMC-TZ1GK  |           |
| DMC-TZ1EF | DMC-TZ1GN  |           |

- Vol. 1  
 Colour  
 (S).....Silver Type  
 (K).....Black Type  
 (A).....Blue Type (Except PL/GN/GT)

### Table of contents

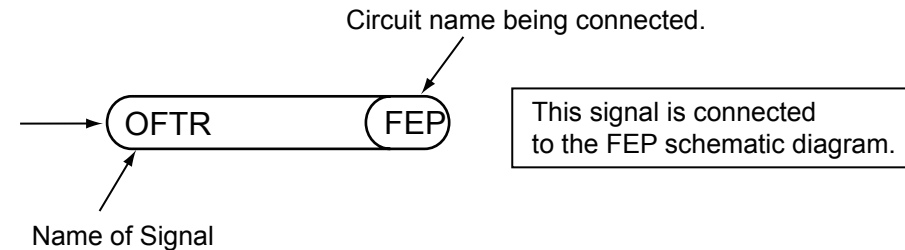
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## S1. About Indication of The Schematic Diagram

### S1.1. Important Safety Notice

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

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



## S2. Voltage Chart

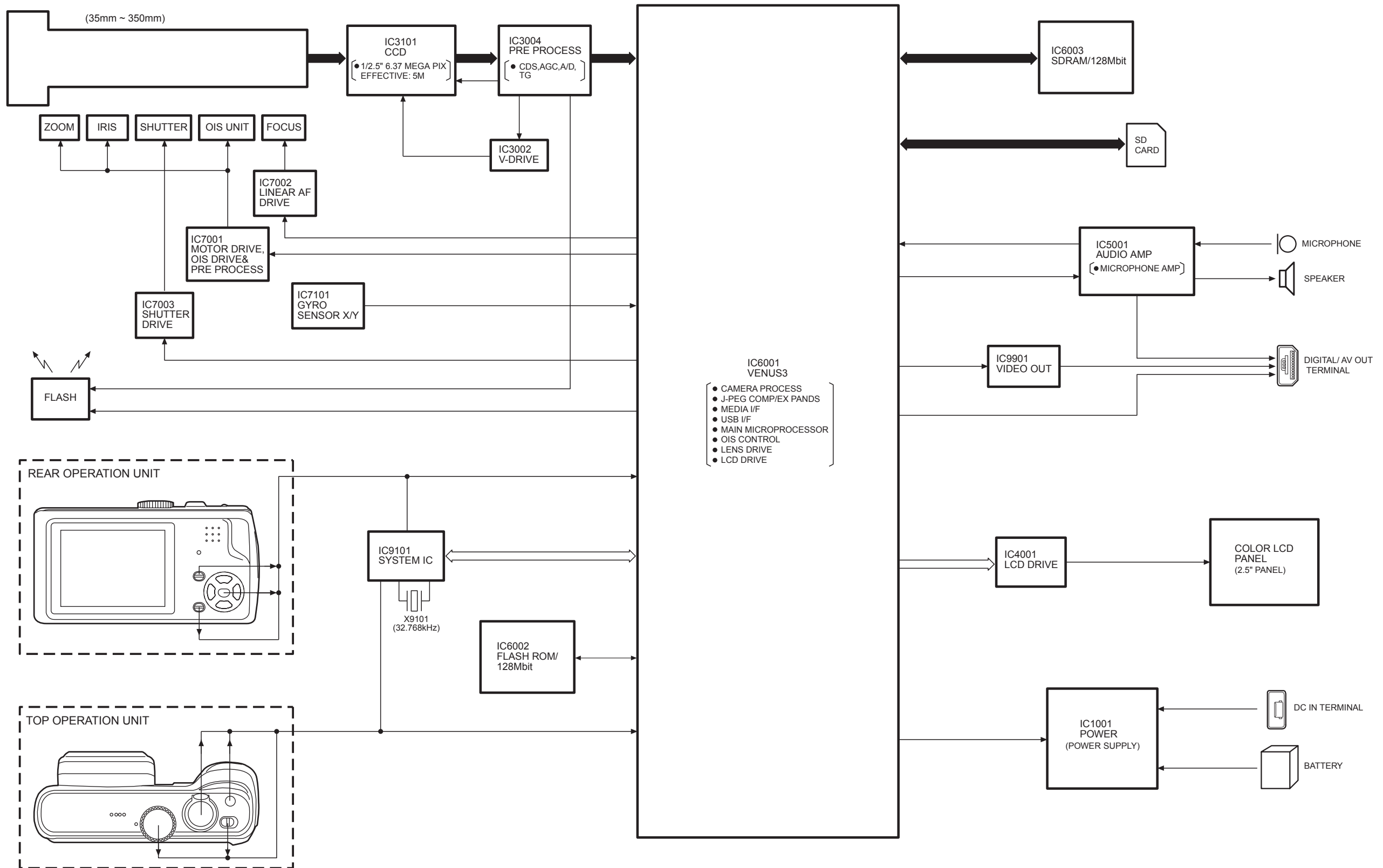
Note) Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.  
Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

### S2.1. Power Top P.C.B.

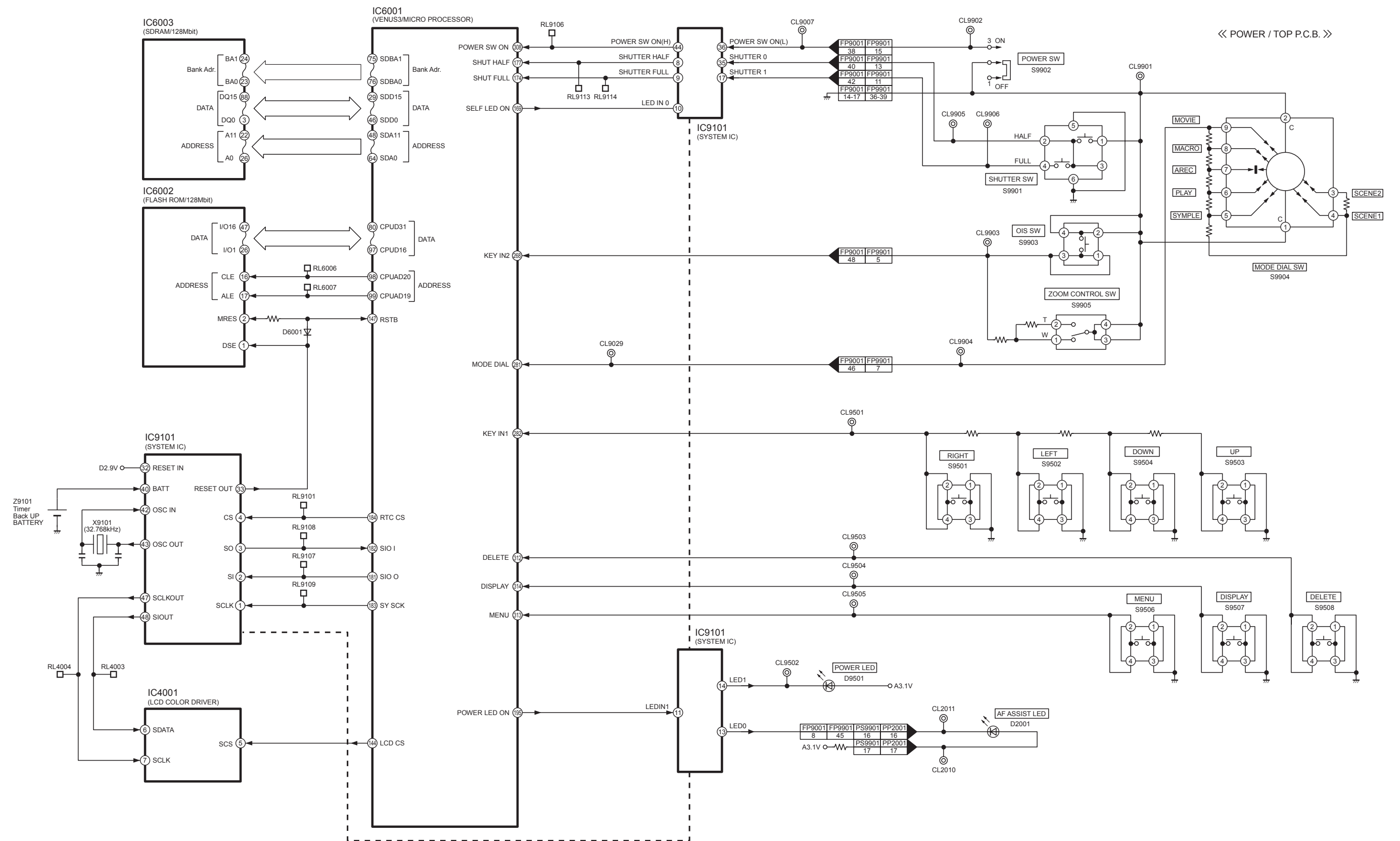
REF No.	PIN No.	REC	REF No.	PIN No.	REC
IC1004	1	2.8	Q1003	4	3.6
IC1004	2	0	Q1003	5	3.6
IC1004	3	1.2	Q1003	6	3.5
IC1004	4	8.4	Q1005	S	0
IC1004	5	0	Q1005	D	2.8
IC1004	6	9.4	Q1005	G	0
IC1005	1	3.3	Q1006	S	0
IC1005	2	0	Q1006	D	1.8
IC1005	3	1.2	Q1006	G	0
IC1005	4	3	Q1050	1	3.6
IC1005	5	0	Q1050	2	3.6
IC1005	6	3.3	Q1050	3	0
IC5001	1	1.4	Q1050	4	0
IC5001	2	0.1	Q1050	5	0
IC5001	3	1	Q1070	1	1.4
IC5001	4	0.7	Q1070	2	0
IC5001	5	1	Q1070	3	3.5
IC5001	6	0	Q1070	4	9.4
IC5001	7	2.8	Q1070	5	3.5
IC5001	8	2.6	Q1072	S	0
IC5001	9	2.6	Q1072	D	0.3
IC5001	10	2.8	Q1072	G	0
IC5001	11	2.8	Q8009	1	3.6
IC5001	12	1.2	Q8009	2	3.6
IC5001	13	1.2	Q8009	3	0
IC5001	14	1.2	Q8009	4	0
IC5001	15	0	Q8009	5	3.6
IC5001	16	1.2	Q8009	6	3.6
IC5001	17	1.2	QR1001	E	0
IC5001	18	1.2	QR1001	C	0
IC5001	19	0	QR1001	B	3.6
IC5001	20	0.2	QR1002	E	0
IC5001	21	0.2	QR1002	C	0.9
IC5001	22	1.2	QR1002	B	0
IC5001	23	1.2	QR1006	E	0
IC5001	24	0	QR1006	C	0
IC5001	25	1.4	QR1006	B	3.6
IC5001	26	3	QR5001	E	0
IC5001	27	0	QR5001	C	2.7
IC5001	28	1.6	QR5001	B	0
IC8001	1	4.9	QR9901	E	2.8
IC8001	2	0	QR9901	C	2.7
IC8001	3	0	QR9901	B	1
IC8001	4	0			
IC8001	5	4.9			
IC9901	1	0			
IC9901	2	2.7			
IC9901	3	0			
IC9901	4	0			
IC9901	5	0			
IC9901	6	0			
IC9901	7	0			
IC9901	8	0			
Q1001	S	0			
Q1001	D	0			
Q1001	G	4.1			
Q1003	1	3.6			
Q1003	2	3.6			
Q1003	3	1.7			

# S3. Block Diagram

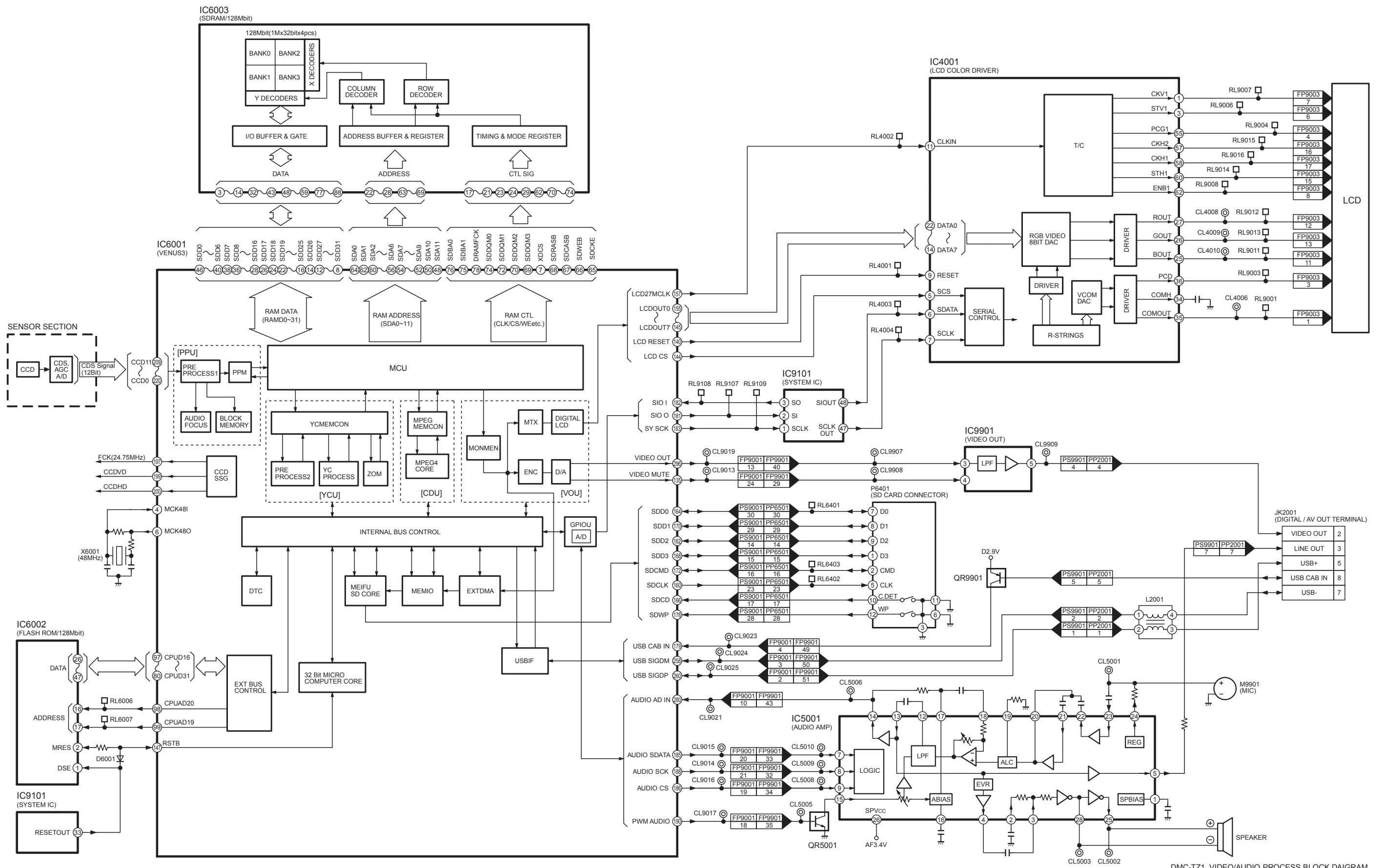
## S3.1. Overall Block Diagram



### S3.2. System Control Block Diagram

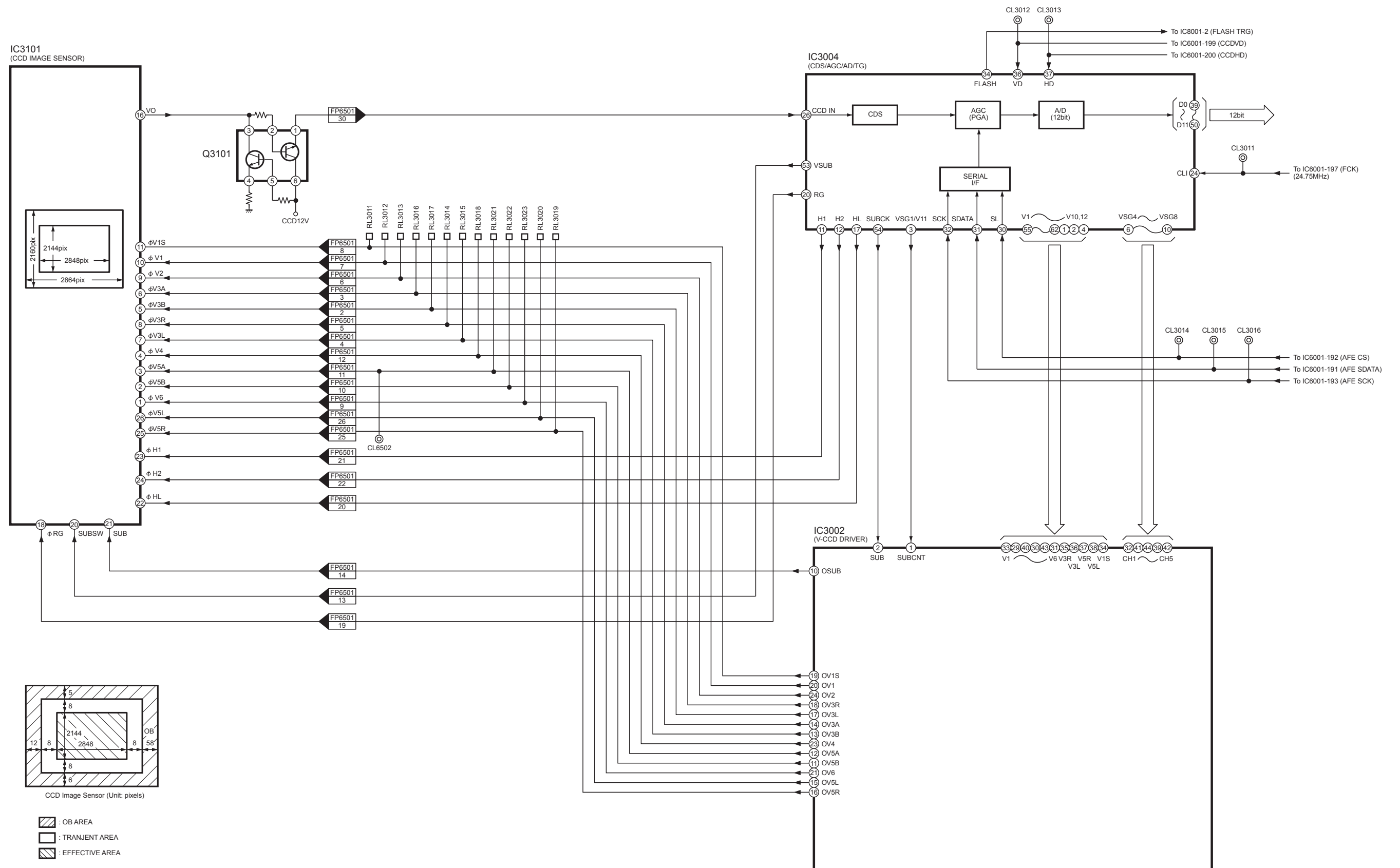


### S3.3. Video/Audio Process Block Diagram

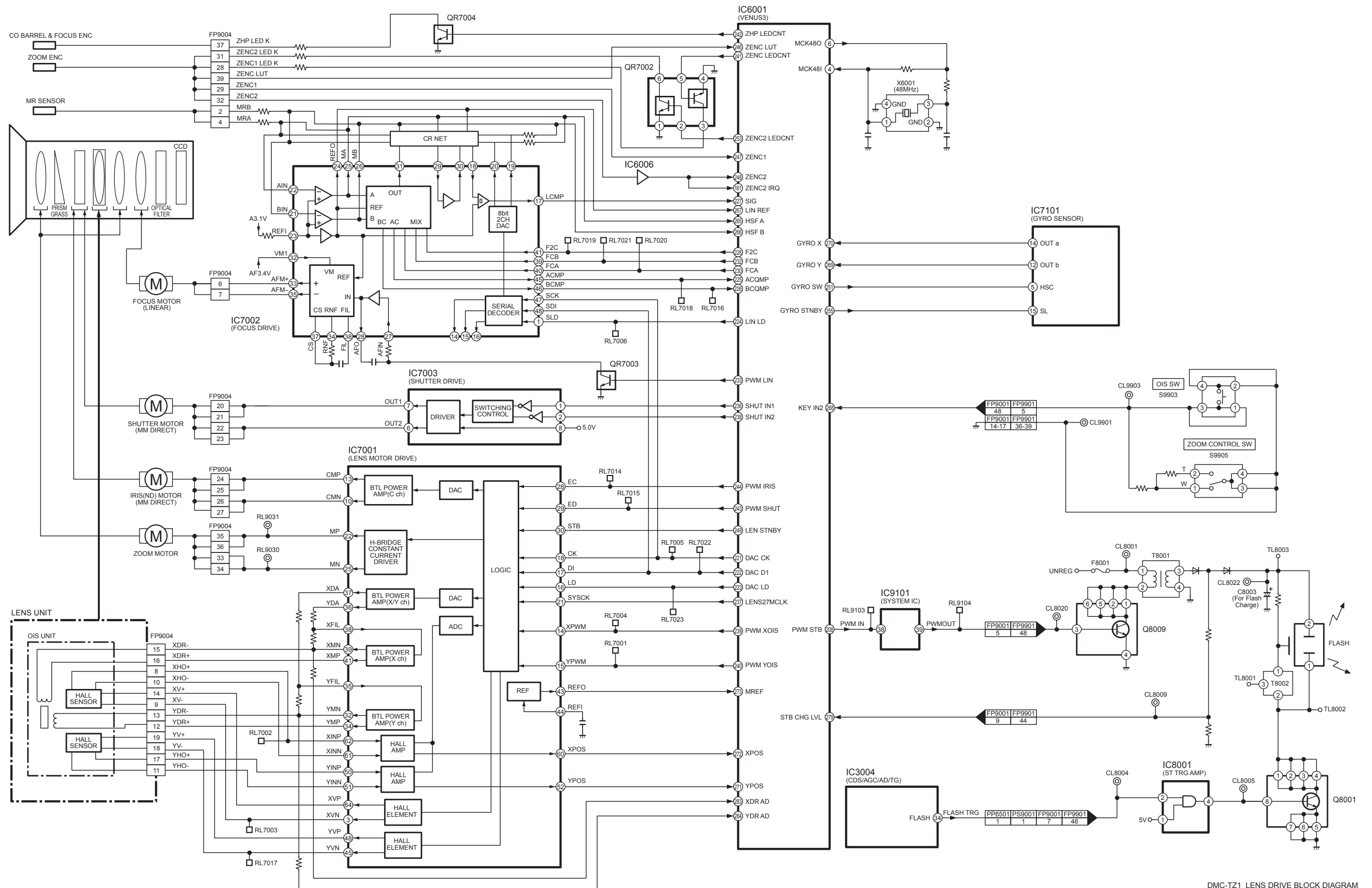


DMC-TZ1 VIDEO/AUDIO PROCESS BLOCK DAIGRAM

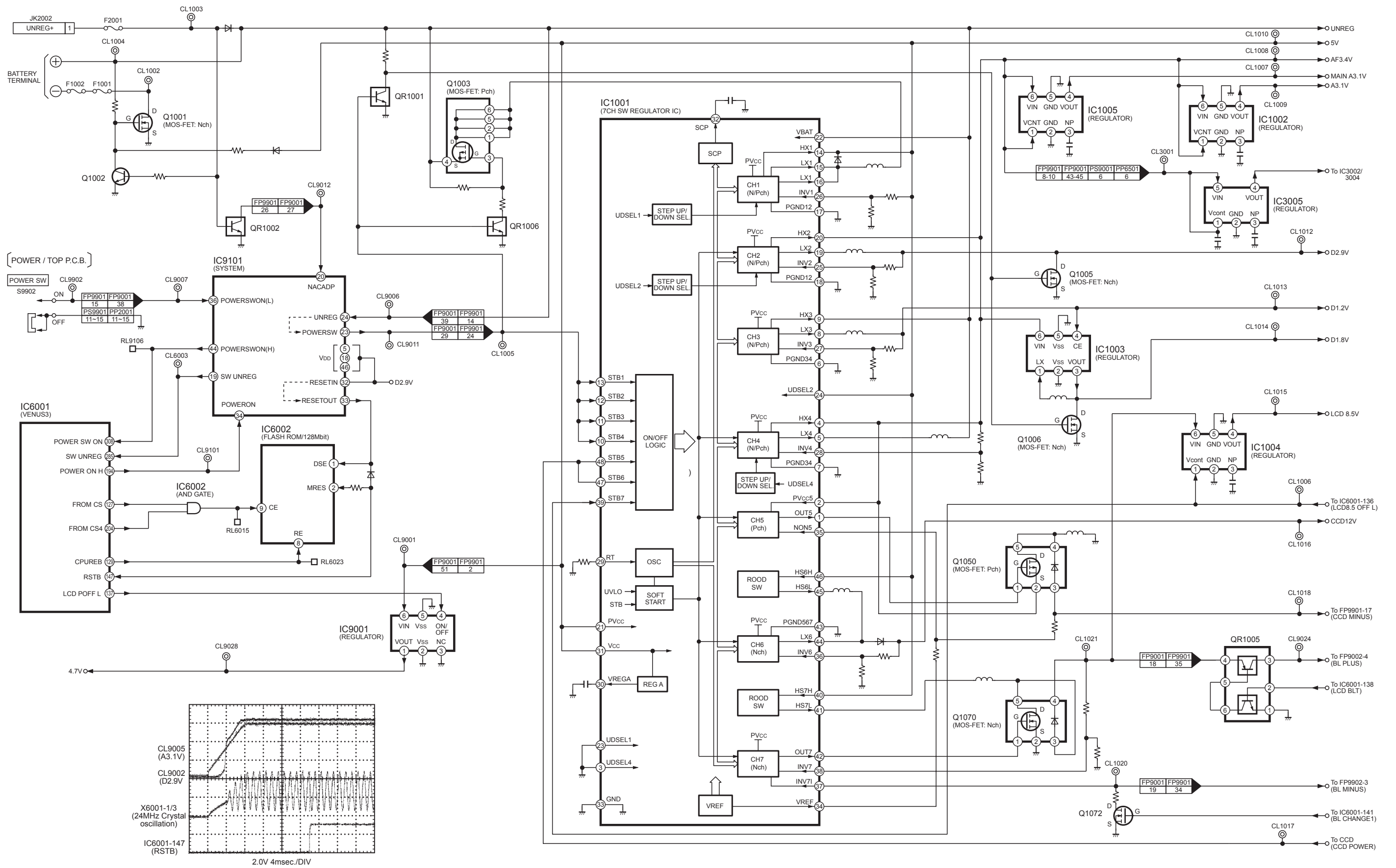
### S3.4. Sensor Block Diagram



# S3.5. Lens Drive Block Diagram



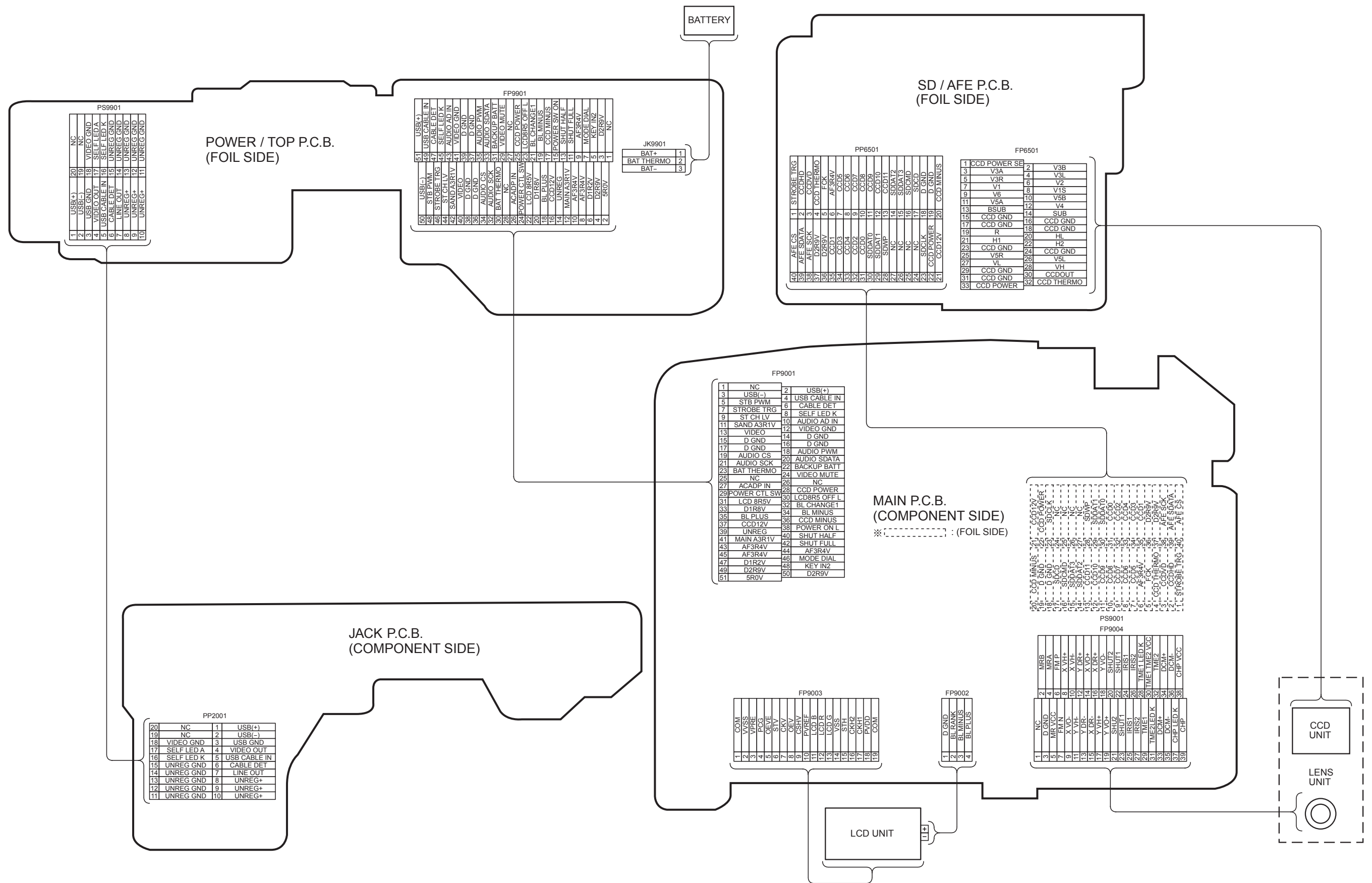
# S3.6. Power Block Diagram





# S4. Schematic Diagram

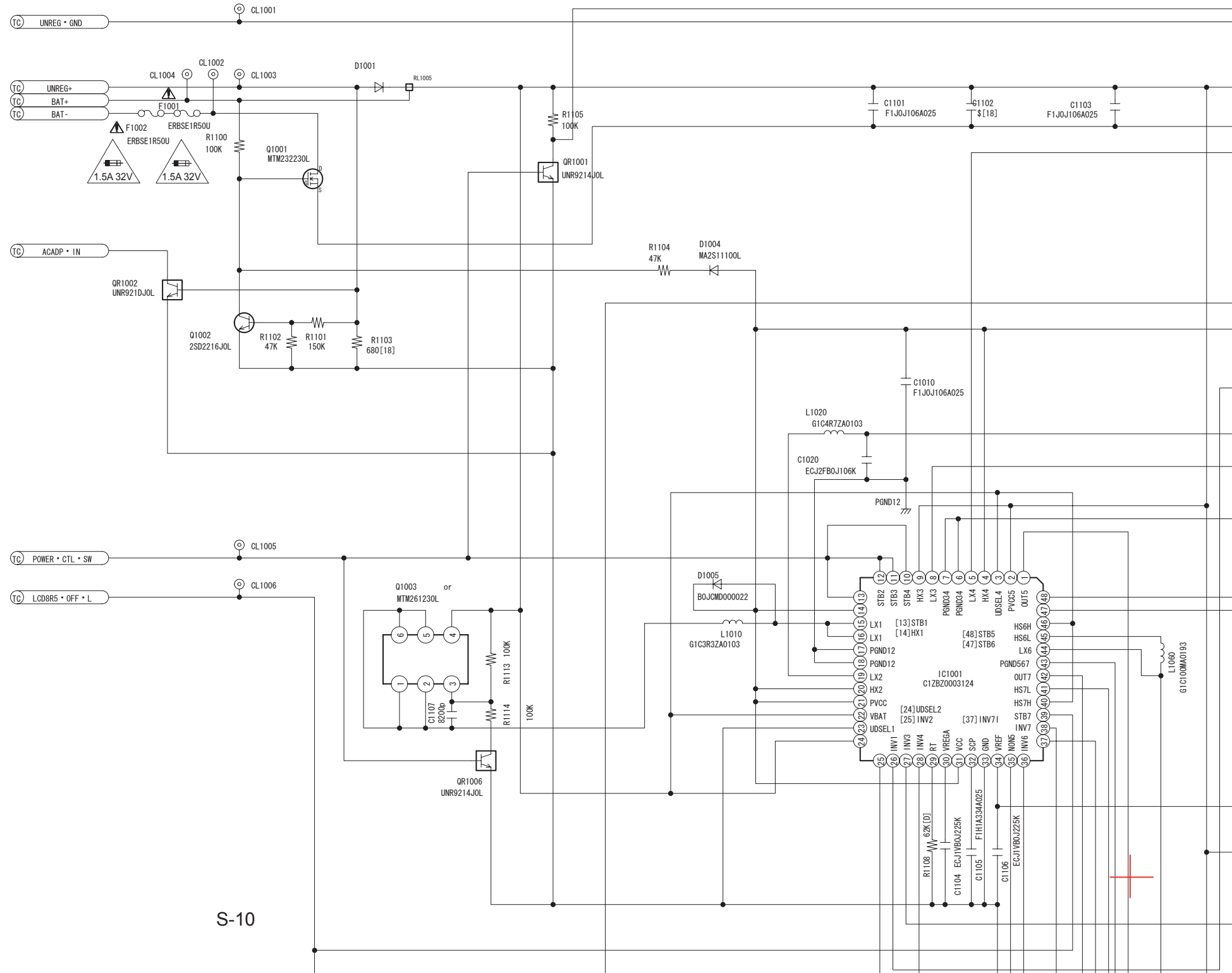
## S4.1. Interconnection Diagram

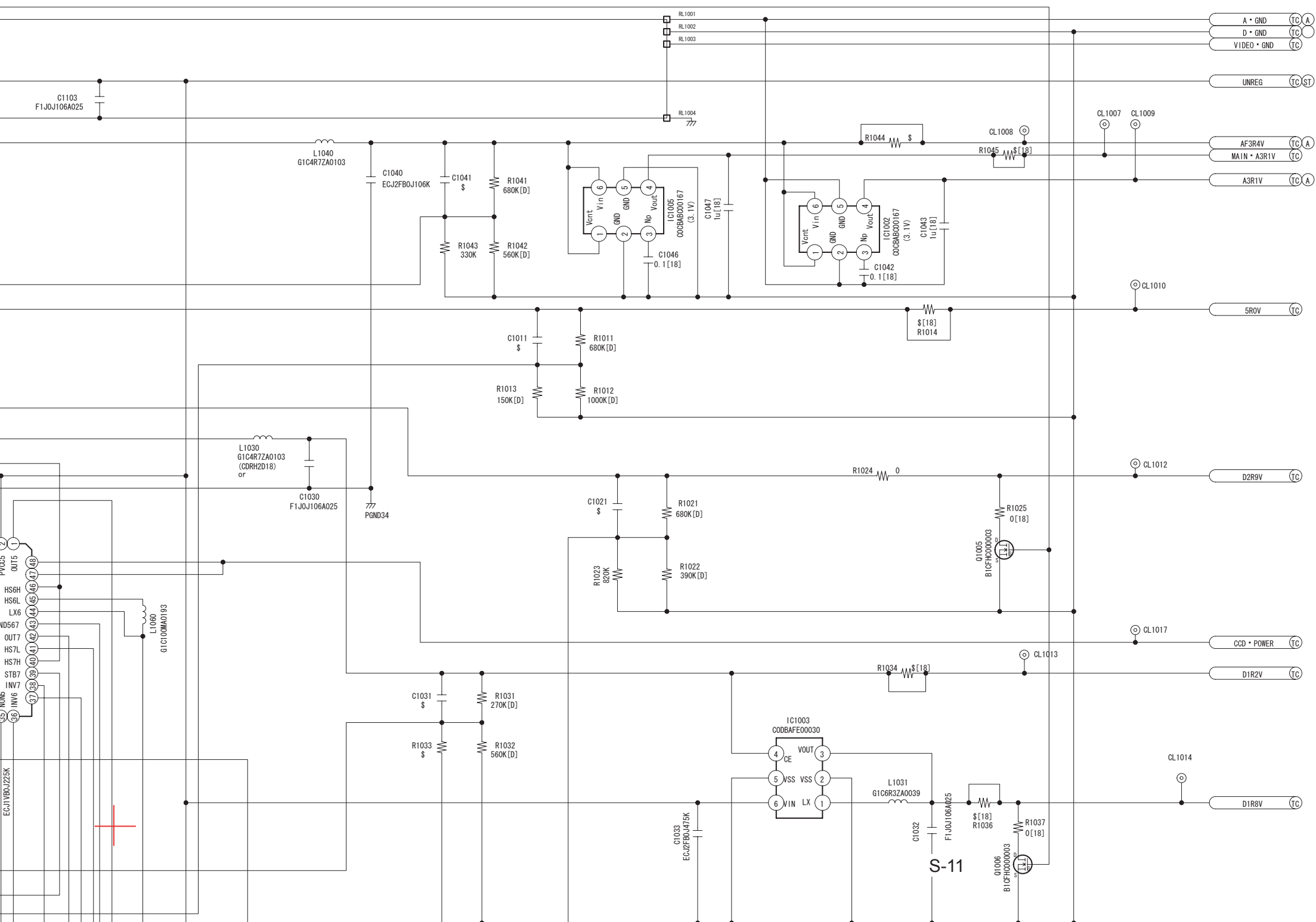


# S4.2. Power (P) Schematic Diagram

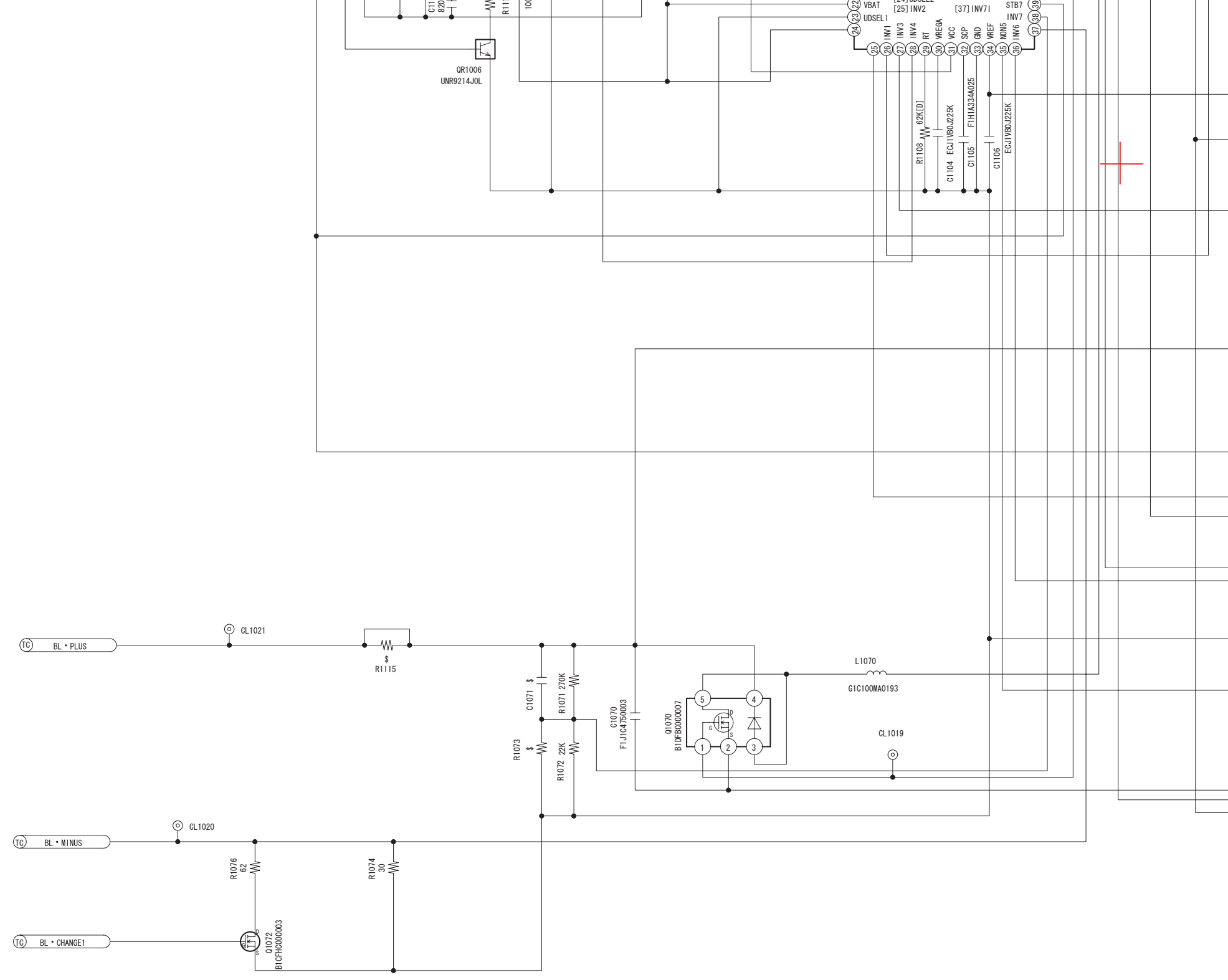
1/4 DMC-TZ1  
Power Section  
(Power Top P.C.B. (1/4))  
Schematic Diagram (P)

**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REPLACE ONLY WITH THE SAME TYPE 1.5A 32V FUSE.**  
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES  
D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MÊME TYPE 1.5A 32V.**

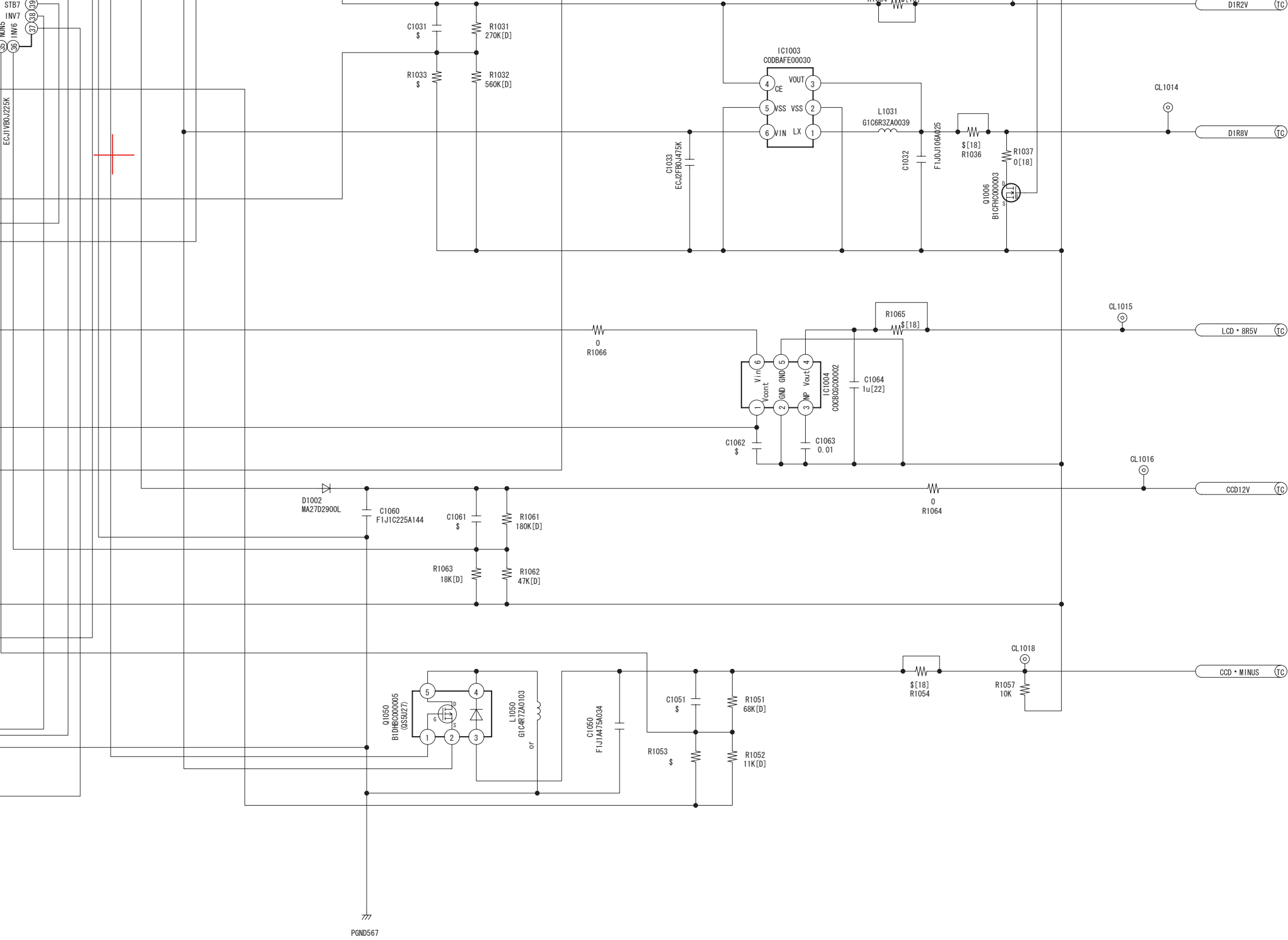




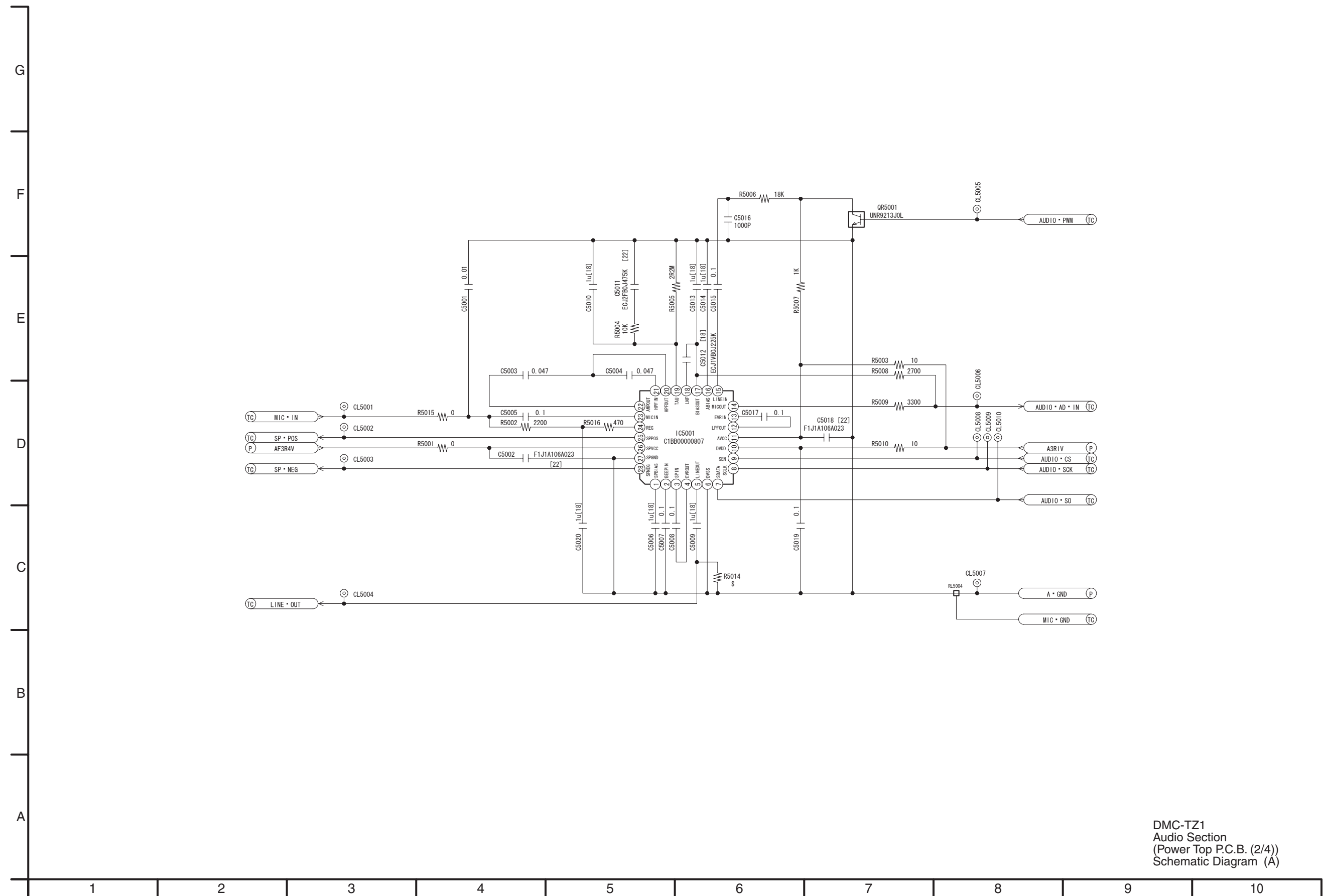
H  
G  
F  
E  
D  
C  
B  
A



		DMC-TZ1 Power Section (Power Top P.C.B. (1/4)) Schematic Diagram (P)
3/4		

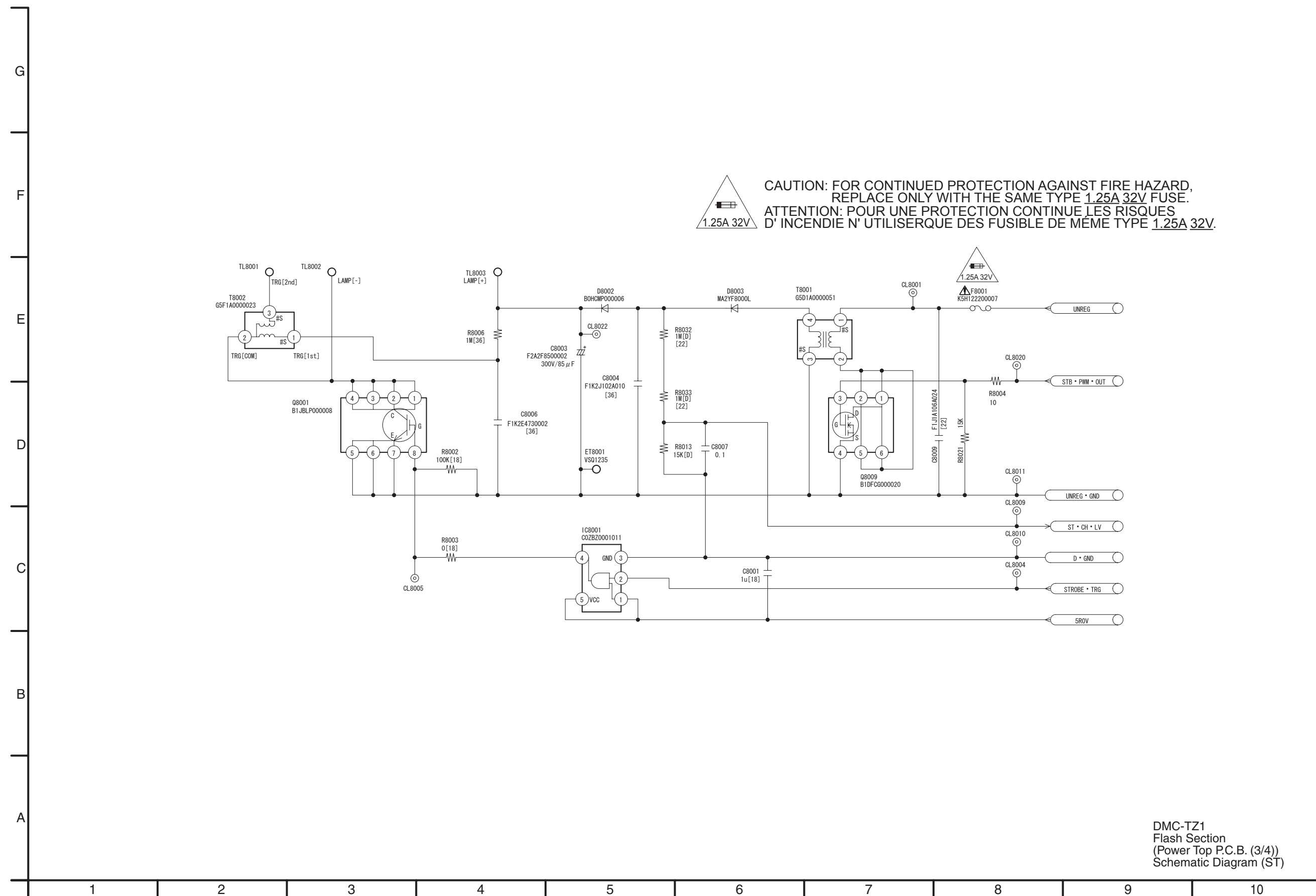


### S4.3. Audio (A) Schematic Diagram



DMC-TZ1  
Audio Section  
(Power Top P.C.B. (2/4))  
Schematic Diagram (A)

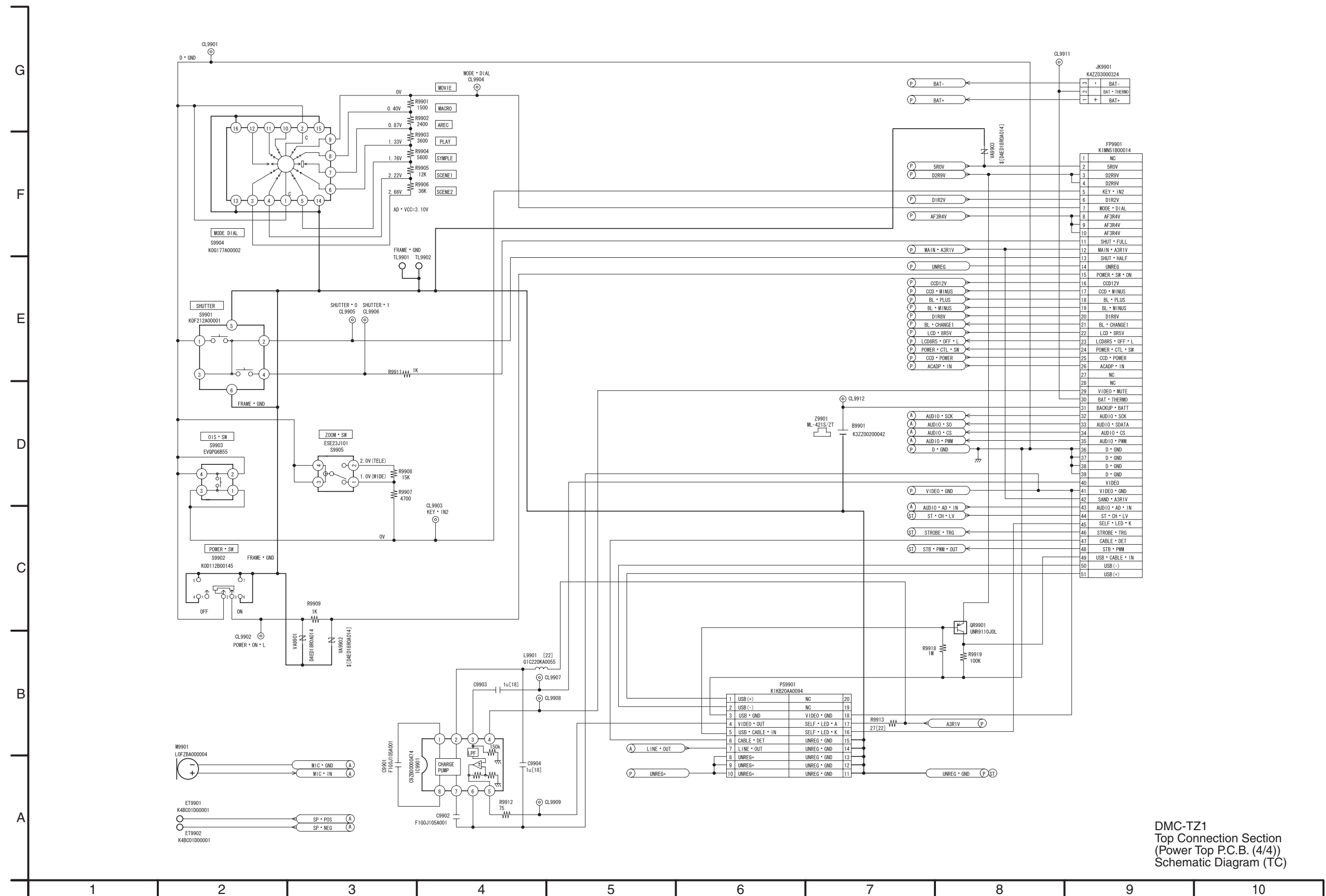
### S4.4. Flash (ST) Schematic Diagram



**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 1.25A 32V FUSE.**  
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 1.25A 32V.**

DMC-TZ1  
Flash Section  
(Power Top P.C.B. (3/4))  
Schematic Diagram (ST)

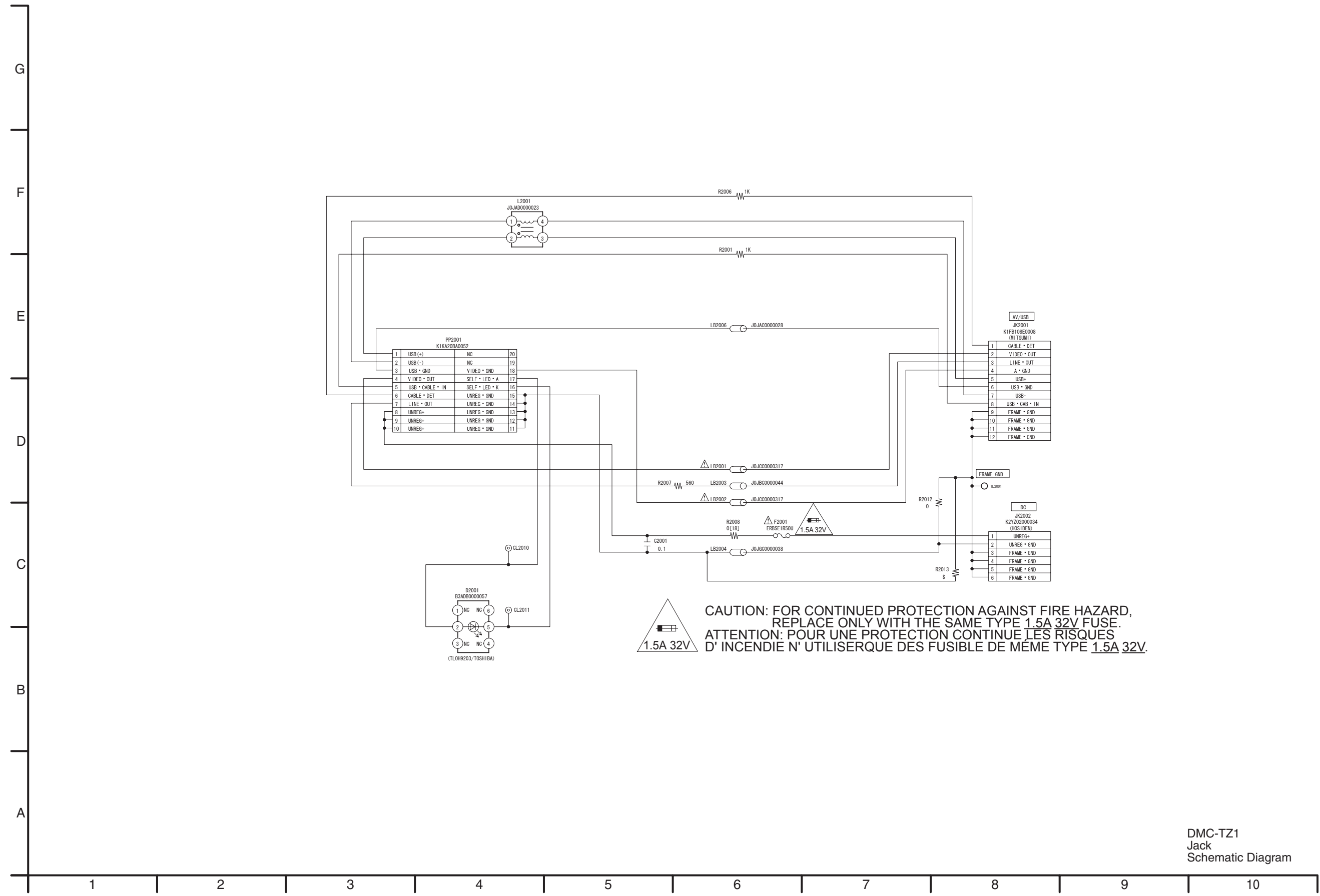
# S4.5. Top Connection (TC) Schematic Diagram



DMC-TZ1  
Top Connection Section  
(Power Top P.C.B. (4/4))  
Schematic Diagram (TC)



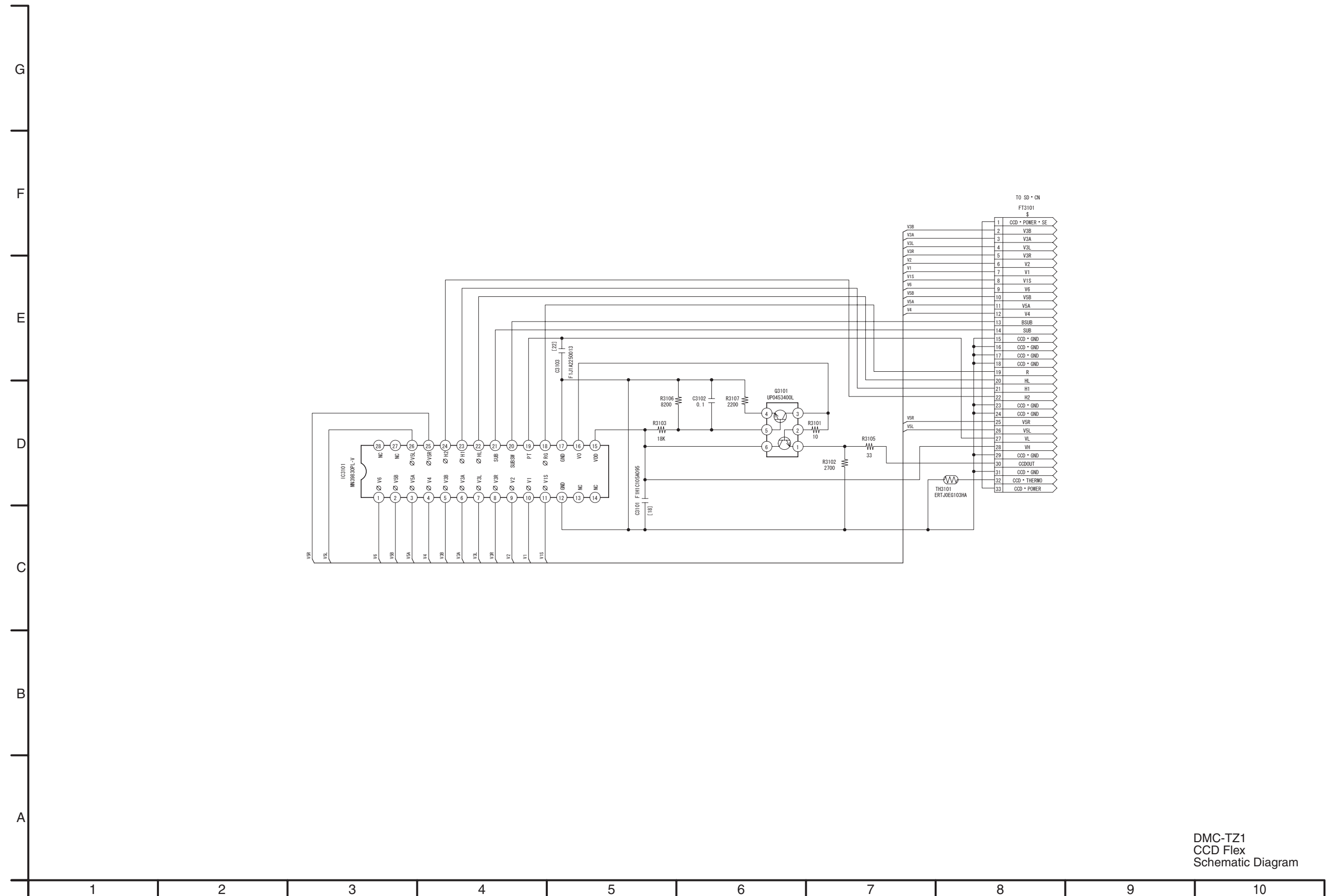
# S4.6. Jack Schematic Diagram



**CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 1.5A 32V FUSE.**  
**ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCENDIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 1.5A 32V.**

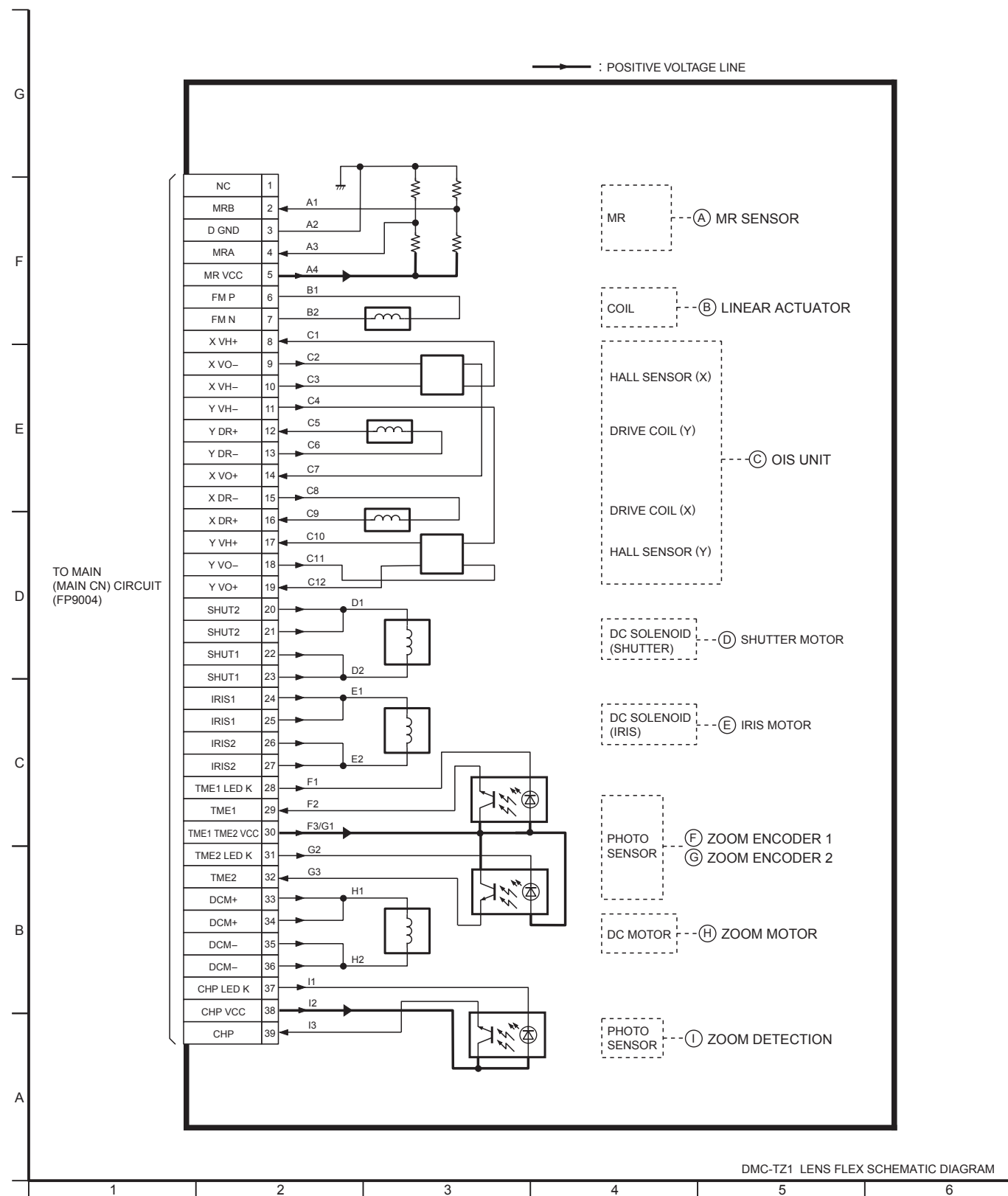
DMC-TZ1  
Jack  
Schematic Diagram

# S4.7. CCD Flex Schematic Diagram



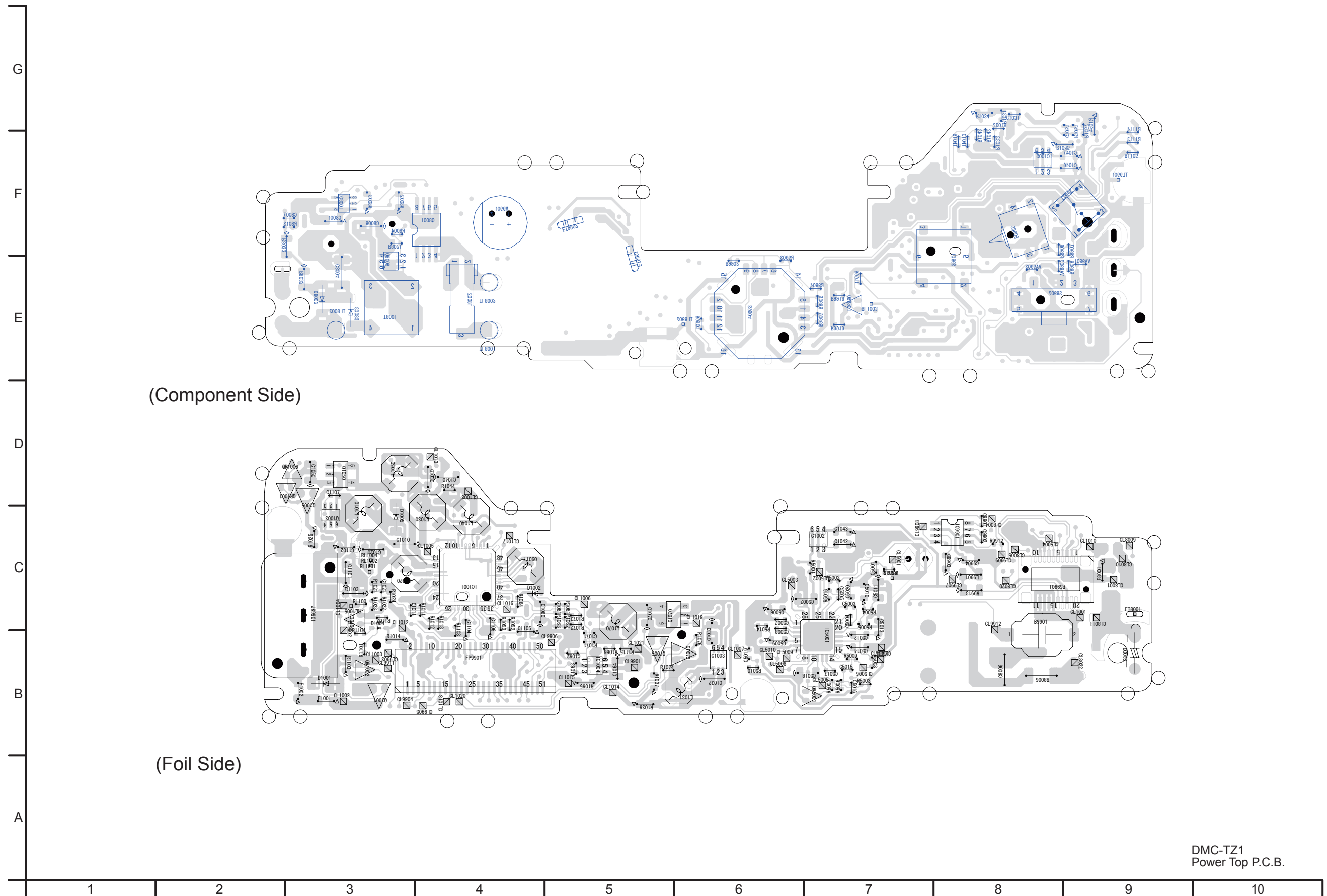
DMC-TZ1  
CCD Flex  
Schematic Diagram

# S4.8. Lens Flex Schematic Diagram



# S5. Print Circuit Board

## S5.1. Power Top P.C.B.



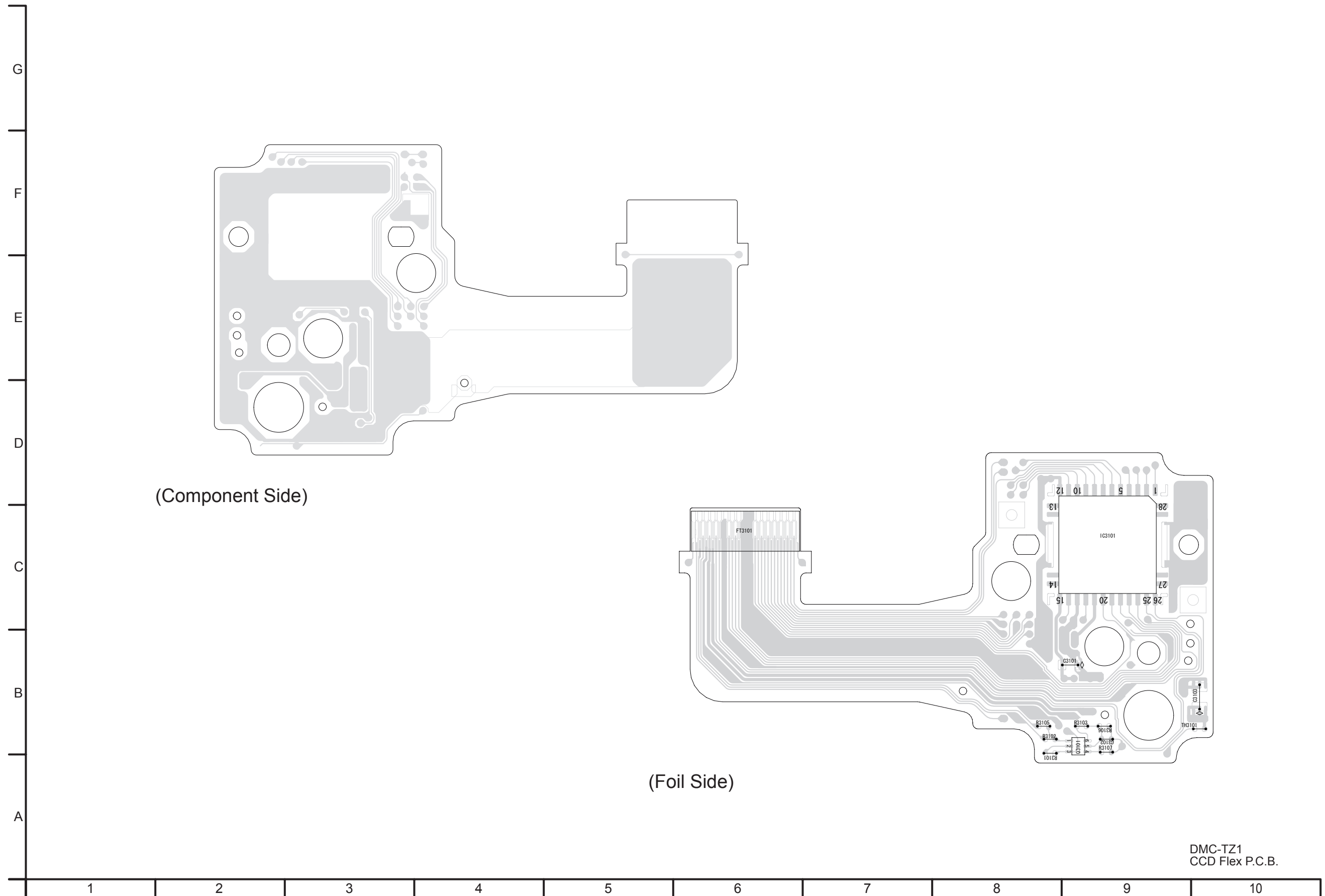
(Component Side)

(Foil Side)

DMC-TZ1  
Power Top P.C.B.

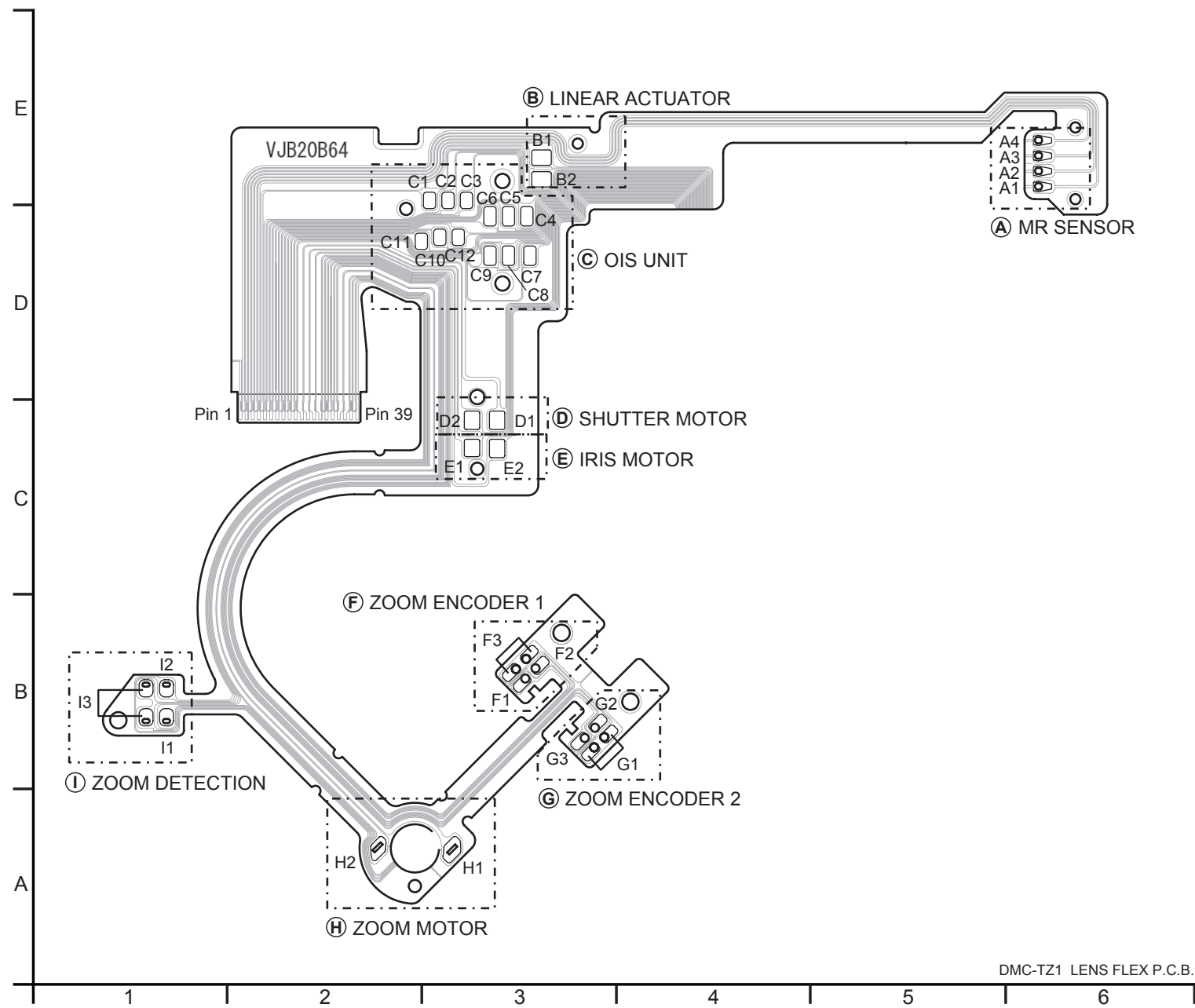


S5.3. CCD Flex P.C.B.



DMC-TZ1  
CCD Flex P.C.B.

S5.4. Lens Flex P.C.B.







## S6. Replacement Parts List

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

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

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		----- P.C.B. LIST -----		
##	VEP56033A	MAIN P.C.B.	1	[RTL] E.S.D.
##	VEP51005A	POWER/TOP P.C.B.	1	[RTL] E.S.D.
##	VEP53030A	SD/AFE P.C.B.	1	[RTL] E.S.D.
##	VEP59026A	JACK P.C.B.	1	[RTL] E.S.D.
##	VXW0797	CAMERA LENS UNIT	1	
		--- INDIVIDUAL PARTS ---		
C8003	F2A2F8500002	E.CAPACITOR	1	
ET8001	VSQ1235	EARTH SPRING	1	
JK9901	K4ZZ03000324	BATTERY CATCHER	1	
M9901	L0FZBA000004	MICROPHONE	1	
Z9901	ML-421S/ZT	BATTERY	1	(MBI)
		--- ELEC. COMPONENTS ---		
##	VEP51005A	POWER/TOP P.C.B.		[RTL] E.S.D.
B9901	K3ZZ00200042	BATTERY HOLDER	1	
C1010	F1J0J106A025	C.CAPACITOR CH 6.3V 10U	1	
C1020	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1030	F1J0J106A025	C.CAPACITOR CH 6.3V 10U	1	
C1032	F1J0J106A025	C.CAPACITOR CH 6.3V 10U	1	
C1033	ECJ2FB0J475K	C.CAPACITOR CH 6.3V 4.7U	1	
C1040	ECJ2FB0J106K	C.CAPACITOR CH 6.3V 10U	1	
C1042	ECJ1XB1C104K	C.CAPACITOR CH 16V 0.1U	1	
C1043	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C1046	ECJ1XB1C104K	C.CAPACITOR CH 16V 0.1U	1	
C1047	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C1050	F1J1A475A034	C.CAPACITOR CH 10V 4.7U	1	
C1060	F1J1C225A144	C.CAPACITOR CH 16V 2.2U	1	
C1063	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C1064	ECJ2YB1A105K	C.CAPACITOR CH 10V 1U	1	
C1070	F1J1C4750003	C.CAPACITOR CH 16V 4.7U	1	
C1101	F1J0J106A025	C.CAPACITOR CH 6.3V 10U	1	
C1103	F1J0J106A025	C.CAPACITOR CH 6.3V 10U	1	
C1104	ECJ1VB0J225K	C.CAPACITOR CH 6.3V 2.2U	1	
C1105	ECJ1VB1A334K	C.CAPACITOR CH 10V 0.33U	1	
C1106	ECJ1VB0J225K	C.CAPACITOR CH 6.3V 2.2U	1	
C1107	ECJ0EB1C822K	C.CAPACITOR CH 16V 8200P	1	
C5001	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C5002	F1J1A106A023	C.CAPACITOR CH 10V 10U	1	
C5003	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C5004	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C5005	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5006	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C5007	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5008	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5009	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C5010	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C5011	ECJ2FB0J475K	C.CAPACITOR CH 6.3V 4.7U	1	
C5012	ECJ1VB0J225K	C.CAPACITOR CH 6.3V 2.2U	1	
C5013	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C5014	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C5015	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5016	F1G1H1020008	C.CAPACITOR CH 50V 1000P	1	
C5017	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5018	F1J1A106A023	C.CAPACITOR CH 10V 10U	1	
C5019	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C5020	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C8001	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C8004	F1K2J102A010	C.CAPACITOR 630V 1000P	1	
C8006	F1K2E4730002	C.CAPACITOR 250V 0.047U	1	
C8007	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C8009	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C9901	F1G0J105A001	C.CAPACITOR CH 6.3V 1U	1	
C9902	F1G0J105A001	C.CAPACITOR CH 6.3V 1U	1	
C9903	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
C9904	ECJ1VB0J105K	C.CAPACITOR CH 6.3V 1U	1	
D1001	B0JCMD000022	DIODE	1	E.S.D.
D1002	MA27D2900L	DIODE	1	E.S.D.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D1004	MA2S11100L	DIODE	1	E.S.D.
D1005	B0JCMD000022	DIODE	1	E.S.D.
D8002	B0HCMP000006	DIODE	1	E.S.D.
D8003	MA2YF8000L	DIODE	1	E.S.D.
ET9901	K4BC01D00001	EARTH TERMINAL	1	
ET9902	K4BC01D00001	EARTH TERMINAL	1	
△ F1001	ERBSE1R50U	FUSE 32V 1.5A	1	
△ F1002	ERBSE1R50U	FUSE 32V 1.5A	1	
△ F8001	K5H122200007	FUSE 32V 1.25A	1	
FP9901	K1MN51B00014	CONNECTOR 51P	1	
IC1001	C1ZBZ0003124	IC	1	E.S.D.
IC1002	C0CBABC00167	IC	1	E.S.D.
IC1003	C0DBAFE00030	IC	1	E.S.D.
IC1004	C0CBGCG00002	IC	1	E.S.D.
IC1005	C0CBABC00167	IC	1	E.S.D.
IC5001	C1BB00000807	IC	1	E.S.D.
IC8001	C0ZBZ0001011	IC	1	E.S.D.
IC9901	C9ZB00000474	IC	1	E.S.D.
L1010	G1C3R3ZA0103	SURFACE MOUNTING INDUCTOR	1	
L1020	G1C4R7ZA0103	SURFACE MOUNTING INDUCTOR	1	
L1030	G1C4R7ZA0103	SURFACE MOUNTING INDUCTOR	1	
L1031	G1C6R3ZA0039	CHIP INDUCTOR 6.3UH	1	
L1040	G1C4R7ZA0103	SURFACE MOUNTING INDUCTOR	1	
L1050	G1C4R7ZA0103	SURFACE MOUNTING INDUCTOR	1	
L1060	G1C100MA0193	COIL 10UH	1	
L1070	G1C100MA0193	COIL 10UH	1	
L9901	G1C220KA0055	CHIP INDUCTOR 22UH	1	
PS9901	K1KB20AA0094	CONNECTOR 20P	1	
Q1001	MTM232230L	TRANSISTOR	1	E.S.D.
Q1002	2SD2216J0L	TRANSISTOR	1	E.S.D.
Q1003	MTM261230L	TRANSISTOR	1	E.S.D.
Q1005	B1CFHC000003	TRANSISTOR	1	E.S.D.
Q1006	B1CFHC000003	TRANSISTOR	1	E.S.D.
Q1050	B1DHBC000005	TRANSISTOR	1	E.S.D.
Q1070	B1DFBC000007	TRANSISTOR	1	E.S.D.
Q1072	B1CFHC000003	TRANSISTOR	1	E.S.D.
Q8001	B1JBLP000008	TRANSISTOR	1	E.S.D.
Q8009	B1DFCG000020	TRANSISTOR	1	E.S.D.
QR1001	UN9214JTX	TRANSISTOR-RESISTOR	1	E.S.D.
QR1002	UN921D	TRANSISTOR-RESISTOR	1	E.S.D.
QR1006	UN9214JTX	TRANSISTOR-RESISTOR	1	E.S.D.
QR5001	UNR9213J	TRANSISTOR	1	E.S.D.
QR9901	UN9110TX	TRANSISTOR-RESISTOR	1	UNR911000L E.S.D.
R1011	ERJ2RKD684X	M.RESISTOR CH 1/16W 680K	1	
R1012	ERJ2GED105X	M.RESISTOR CH 1/16W 1M	1	ERJ2RKD105X
R1013	ERJ2RKD154	M.RESISTOR CH 1/16W 150K	1	
R1021	ERJ2RKD134	M.RESISTOR CH 1/16W 130K	1	
R1022	ERJ2RKD124	M.RESISTOR CH 1/16W 120K	1	
R1023	ERJ2RHD823	M.RESISTOR CH 1/16W 82K	1	
R1024	DOYAR0000007	M.RESISTOR CH 1/16W 0	1	
R1025	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1031	ERJ2RKD114	M.RESISTOR CH 1/16W 110K	1	
R1032	ERJ2RKD204	M.RESISTOR CH 1/16W 200K	1	
R1037	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1041	ERJ2RKD134	M.RESISTOR CH 1/16W 130K	1	
R1042	ERJ2RHD623	M.RESISTOR CH 1/16W 62K	1	
R1043	ERJ2RKD114	M.RESISTOR CH 1/16W 110K	1	
R1051	ERJ2RHD683	M.RESISTOR CH 1/16W 68K	1	
R1052	ERJ2RHD113	M.RESISTOR CH 1/16W 11K	1	
R1057	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R1061	ERJ2RKD224	M.RESISTOR CH 1/16W 220K	1	
R1062	ERJ2RHD303	M.RESISTOR CH 1/16W 30K	1	
R1063	ERJ2RHD333X	M.RESISTOR CH 1/16W 33K	1	
R1064	DOYAR0000007	M.RESISTOR CH 1/16W 0	1	
R1066	DOYAR0000007	M.RESISTOR CH 1/16W 0	1	
R1071	ERJ2GEJ304	M.RESISTOR CH 1/16W 300K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1072	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R1074	ERJ2GEJ300	M.RESISTOR CH 1/16W 30	1	
R1076	ERJ2GEJ620	M.RESISTOR CH 1/16W 62	1	
R1100	ERJ2GEJ104	M.RESISTOR CH 1/16W 100K	1	
R1101	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R1102	ERJ2GEJ473	M.RESISTOR CH 1/16W 47K	1	
R1103	ERJ3GEYJ681	M.RESISTOR CH 1/10W 680	1	
R1104	ERJ2GEJ473	M.RESISTOR CH 1/16W 47K	1	
R1105	ERJ2GEJ104	M.RESISTOR CH 1/16W 100K	1	
R1108	ERJ2RHD623	M.RESISTOR CH 1/16W 62K	1	
R1113	ERJ2GEJ104	M.RESISTOR CH 1/16W 100K	1	
R1114	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R5001	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R5002	ERJ2GEJ222	M.RESISTOR CH 1/16W 2.2K	1	
R5003	ERJ2GEJ100	M.RESISTOR CH 1/16W 10	1	
R5004	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R5005	ERJ2GEJ225	M.RESISTOR CH 1/16W 2.2M	1	ERJ2RMJ225X
R5006	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R5007	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	ERJ2RMJ102X
R5008	ERJ2RHD272	M.RESISTOR CH 1/16W 2.7K	1	
R5009	ERJ2GEJ332	M.RESISTOR CH 1/16W 3.3K	1	
R5010	ERJ2GEJ100	M.RESISTOR CH 1/16W 10	1	
R5015	D0YAR0000007	M.RESISTOR CH 1/16W 0	1	
R5016	ERJ2GEJ471	M.RESISTOR CH 1/16W 470	1	
R8002	ERJ3GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R8003	ERJ3GEYOR00	M.RESISTOR CH 1/10W 0	1	
R8004	ERJ2GEJ100	M.RESISTOR CH 1/16W 10	1	
R8006	ERJ8GEYJ105V	M.RESISTOR CH 1/8W 1M	1	
R8013	ERJ2RHD153X	M.RESISTOR CH 1/16W 15K	1	
R8021	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R8032	ERJ6RED105	M.RESISTOR CH 1/16W 1M	1	
R8033	ERJ6RED105	M.RESISTOR CH 1/16W 1M	1	
R9901	ERJ2GEJ152	M.RESISTOR CH 1/16W 1.5K	1	
R9902	ERJ2GEJ242	M.RESISTOR CH 1/16W 2.4K	1	
R9903	ERJ2GEJ362	M.RESISTOR CH 1/16W 3.6K	1	
R9904	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R9905	ERJ2GEJ123	M.RESISTOR CH 1/16W 12K	1	
R9906	ERJ2GEJ363	M.RESISTOR CH 1/16W 36K	1	
R9907	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R9908	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R9909	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	ERJ2RMJ102X
R9911	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	ERJ2RMJ102X
R9912	ERJ2GEJ750	M.RESISTOR CH 1/16W 75	1	
R9913	ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	ERJ6GEYJ270V
R9918	ERJ2GEJ105	M.RESISTOR CH 1/16W 1M	1	
R9919	ERJ2GEJ104	M.RESISTOR CH 1/16W 100K	1	
S9901	K0F212A00001	SWITCH	1	
S9902	K0D112B00145	SWITCH	1	
S9903	EVQPQ6B55	SWITCH	1	
S9904	K0G177A00002	SWITCH	1	
S9905	ESE23J101	SWITCH	1	
T8001	G5D1A0000051	SURFACE MOUNTING SWITCHIN	1	
T8002	G5F1A0000021	TRIGGER COIL	1	
##	VEP59026A	JACK P.C.B.		[RTL] E.S.D.
C2001	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
D2001	B3ADB00000057	DIODE	1	E.S.D.
F2001	ERBSE1R50U	FUSE 32V 1.5A	1	
JK2001	K1FB108E0008	CONNECTOR, DIGITAL/V OUT	1	
JK2002	K2YZ02000034	JACK, DIGITAL AV OUT	1	
L2001	J0JAD00000023	FILTER	1	
LB2001	J0JCC00000317	FILTER	1	
LB2002	J0JCC00000317	FILTER	1	
LB2003	J0JBC00000044	FILTER	1	
LB2004	J0JGC00000038	FILTER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
LB2006	J0JAC00000028	FILTER	1	
PP2001	K1KA20BA00052	CONNECTOR 20P	1	
R2001	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	ERJ2RMJ102X
R2006	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	ERJ2RMJ102X
R2007	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	ERJ2RMJ561X
R2008	ERJ3GEY0R00	M.RESISTOR CH 1/10W 0	1	
R2013	D0YAR00000007	M.RESISTOR CH 1/16W 0	1	
##	VXW0797	CAMERA LENS UNIT		
C3101	ECJ1VB1C105K	C.CAPACITOR CH 16V 1U	1	
C3102	ECJ0EB1A104K	C.CAPACITOR CH 10V 0.1U	1	
C3103	F1J1A2250013	C.CAPACITOR CH 10V 2.2U	1	
Q3101	UP0453400L	TRANSISTOR	1	E.S.D.
R3101	ERJ2GEJ100	M.RESISTOR CH 1/16W 10	1	
R3102	ERJ2GEJ132	M.RESISTOR CH 1/16W 1.3K	1	
R3103	ERJ2GEJ183	M.RESISTOR CH 1/16W 18K	1	
R3105	ERJ2RKD330	M.RESISTOR CH 1/16W 33	1	
R3106	ERJ2GEJ822	M.RESISTOR CH 1/16W 8.2K	1	
R3107	ERJ2GEJ222	M.RESISTOR CH 1/16W 2.2K	1	
TH3101	ERTJ0EG103HA	THERMISTOR	1	

DMC-TZ1PP/PL/EG/EGM/EF/EB/EE/GC/SG/GT/GK/GN/GD vol.1

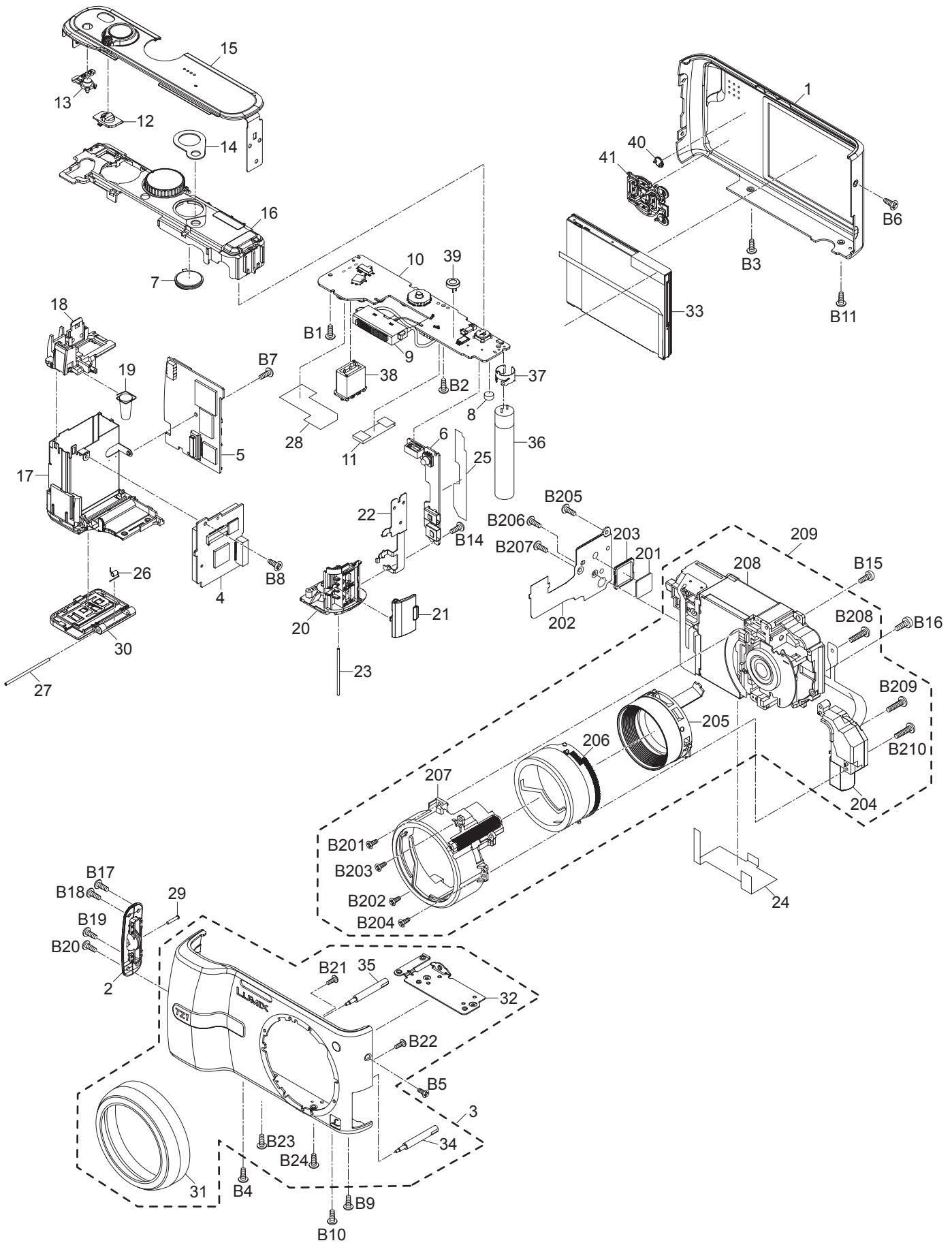
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		-- CASING/LENS SECTION --		
1	VKM6892KIT	REAR CASE UNIT	1	[-S]
1	VKM6894KIT	REAR CASE UNIT	1	[-K]
1	VKM6920KIT	REAR CASE UNIT	1	[-A]
2	VGK3216	STRAP ORNAMENT	1	[-S]
2	VGK3224	STRAP ORNAMENT	1	[-K][-A]
3	VYK1V41	FRONT CASE UNIT	1	[-S]
3	VYK1V44	FRONT CASE UNIT	1	[-K]
3	VYK1V42	FRONT CASE UNIT	1	[-A]
4	VEP53030A	SD/AFE P.C.B.	1	[RTL] E.S.D.
5	VEP56033A	MAIN P.C.B.	1	[RTL] E.S.D.
6	VEP59026A	JACK P.C.B.	1	[RTL] E.S.D.
7	L0AA01A00021	BUZZER	1	
8	ML-421S/ZT	BATTERY	1	(MBI)(Z9901)
9	VEK0J96	FLASH UNIT	1	
10	VEP51005A	POWER/TOP P.C.B.	1	[RTL] E.S.D.
11	VGQ8899	TOP PCB BARRIER	1	
12	VGU9956	POWER KNOB	1	
13	VGU9957	OIS BUTTON	1	
14	VMT1741	SPEAKER CUSHION	1	
15	VYK1V50	TOP ORNAMENT ASSY	1	
16	VYQ3782	TOP COVER ASSY	1	
17	VYQ3783	BATTERY CASE ASSY	1	
18	VKM6895	BATTERY CASE ROOF	1	
19	VMB4024	BATTERY SPRING	1	
20	VGQ8801	JACK BASE	1	
21	VKF4079	JACK DOOR	1	[-S]
21	VKF4080	JACK DOOR	1	[-K]
21	VKF4094	JACK DOOR	1	[-A]
22	VMC1995	JACK SPRING	1	
23	VMS7704	JACK DOOR SHAFT	1	
24	VGQ8930	LENS FPC SHEET	1	
25	VGQ8941	JACK PCB SHEET	1	
26	VMB4022	BATTERY DOOR SPRING	1	
27	VMS7708	BATTERY DOOR SHAFT	1	
28	VWJ1871	MAIN-TOP FPC	1	(EXCEPT EGM-S)
29	VMS7718	STRAP PIN	1	
30	VYF3088	BATTERY DOOR ASSY	1	[-S]
30	VYF3085	BATTERY DOOR ASSY	1	[-K]
30	VYF3086	BATTERY DOOR ASSY	1	[-A]
31	VGQ8804	LENS ORNAMENT	1	
32	VMP8586	LENS PLATE	1	
33	VYK1V57KIT	LCD UNIT	1	
34	VMS7719	STAND SCREW	1	
35	VMS7719	STAND SCREW	1	
36	F2A2F8500002	E.CAPACITOR	1	(C8003)
37	VSQ1235	EARTH SPRING	1	(ET8001)
38	K4ZZ03000324	BATTERY CATCHER	1	(JK9901)
39	L0FZBA000004	MICROPHONE	1	(M9901)
40	VGL1185	REAR PANEL LIGHT	1	
41	VGU9955	CURSOR BUTTON	1	
201	VDL1818	OPTICAL FILTER	1	
202	VEK0J93	CCD UNIT	1	
203	VMX3529	CCD CUSHION RUBBER	1	
204	VEK0J92	ZOOM MOTOR UNIT	1	
205	VXP2593	1ST LENS FRAME UNIT	1	
206	VXP2597	DRIVE FRAME	1	
207	VXP2598	FIX FRAME UNIT	1	
208		LENS BASE UNIT	1	
209	VXW0802	LENS UNIT	1	
B1	VHD1678	SCREW	1	
B2	VHD1678	SCREW	1	
B3	VHD1678	SCREW	1	[-S]
B3	VHD1813	SCREW	1	[-K][-A]
B4	VHD1678	SCREW	1	[-S]
B4	VHD1813	SCREW	1	[-K][-A]
B5	VHD1678	SCREW	1	[-S]
B5	VHD1813	SCREW	1	[-K][-A]
B6	VHD1678	SCREW	1	[-S]
B6	VHD1813	SCREW	1	[-K][-A]
B7	VHD1678	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
B8	VHD1678	SCREW	1	
B9	VHD1693	SCREW	1	[-S]
B9	VHD1853	SCREW	1	[-K][-A]
B10	VHD1693	SCREW	1	[-S]
B10	VHD1853	SCREW	1	[-K][-A]
B11	VHD1693	SCREW	1	[-S]
B11	VHD1853	SCREW	1	[-K][-A]
B14	VHD1857	SCREW	1	
B15	VHD1857	SCREW	1	
B16	VHD1857	SCREW	1	
B17	VHD1874	SCREW	1	[-S]
B17	VHD1875	SCREW	1	[-K][-A]
B18	VHD1874	SCREW	1	[-S]
B18	VHD1875	SCREW	1	[-K][-A]
B19	VHD1874	SCREW	1	[-S]
B19	VHD1875	SCREW	1	[-K][-A]
B20	VHD1874	SCREW	1	[-S]
B20	VHD1875	SCREW	1	[-K][-A]
B21	VHD1678	SCREW	1	
B22	VHD1678	SCREW	1	
B23	VHD1810	SCREW	1	[-S]
B23	VHD1811	SCREW	1	[-K][-A]
B24	VHD1810	SCREW	1	[-S]
B24	VHD1811	SCREW	1	[-K][-A]
B201	XQN14+C3FJ	SCREW	1	
B202	XQN14+C3FJ	SCREW	1	
B203	XQN14+CJ4FJ	SCREW	1	
B204	XQN14+CJ4FJ	SCREW	1	
B205	XQN14+CJ4FJ	SCREW	1	
B206	XQN14+CJ4FJ	SCREW	1	
B207	XQN14+CJ4FJ	SCREW	1	
B208	XQN14+C3FJ	SCREW	1	
B209	XQN14+CJ4FJ	SCREW	1	
B210	XQN14+CJ4FJ	SCREW	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		---- PACKING SECTION ----			△ 315	VQT0V58	INSTRUCTION BOOK (CHINESE(TRADITIONAL))	1	GTS/K
301	VYF3082	LENS CAP U	1		△ 315	VQT0V59	INSTRUCTION BOOK (CHINESE(SIMPLIFIED))	1	GKS/K/A
△ 304	DE-A25BA	BATTERY CHARGER	1	PPS/K/A, PLS/K	△ 315	VQT0V60	INSTRUCTION BOOK (ENGLISH)	1	GNS/K
△ 304	DE-A26AA	BATTERY CHARGER	1	EGS/K/A, EGMS/K/A, EFS/K/A, EBS/K/A, GNS/K	316	VQT0W41	O/I PC CONN. (ENGLISH/SPANISH/ CANADIAN FRENCH)	1	PPS/K/A
△ 304	DE-A26BA	BATTERY CHARGER	1	EES/K/A, GCS/K/A, SGS/K/A, GKS/K/A	316	VQT0W42	O/I PC CONN. (ENGLISH/SPANISH/ PORTUGUESE)	1	PLS/K
△ 304	DE-A26CA	BATTERY CHARGER	1	GTS/K	316	VQT0W43	O/I PC CONN. (GERMAN/FRENCH/ITALIAN/ DUTCH)	1	EGS/K/A
305	K1HA08CD0007	USB CABLE	1		316	VQT0W44	O/I PC CONN. (SPANISH/PORTUGUESE/ SWEDISH/DUTCH)	1	EGMS/K/A
306	K1HA08CD0008	AV CABLE	1		316	VQT0W45	O/I PC CONN. (FRENCH)	1	EFS/K/A
307	VFC4090	HAND STRAP	1		316	VQT0W46	O/I PC CONN. (ENGLISH)	1	EBS/K/A
308	VFC4177	STRING	1		316	VQT0W14	O/I PC CONN. (RUSSIAN/UKRAINIAN)	1	EES/K/A
309	VFF0314-S	CD-ROM	1	PPS/K/A (SEE NOTES)	316	VQT0W47	O/I PC CONN. (ENGLISH/ARABIC/ CHINESE(TRADITIONAL))	1	GCS/K/A, SGS/K/A
309	VFF0315-S	CD-ROM	1	(EXCEPT PP) (SEE NOTES)	316	VQT0W53	O/I PC CONN. (ENGLISH/ARABIC/ CHINESE(TRADITIONAL))	1	GCS/K/A, SGS/K/A
310	VPK3127	PACKING CASE	1	PPS	316	VQT0W48	O/I PC CONN. (CHINESE(TRADITIONAL))	1	GTS/K
310	VPK3130	PACKING CASE	1	PPK	316	VQT0W49	O/I PC CONN. (CHINESE(SIMPLIFIED))	1	GKS/K/A
310	VPK3134	PACKING CASE	1	PPA	316	VQT0W50	O/I PC CONN. (ENGLISH)	1	GNS/K
310	VPK3128	PACKING CASE	1	PLS, EGS, EGMS, EFS, EBS, EES, GCS, SGS, GTS, GNS	317	VQT0X22	O/I SOFTWARE (ENGLISH/CANADIAN FRENCH)	1	PPS/K/A
310	VPK3131	PACKING CASE	1	PLK, EGK, EGMK, EFK, EBK, EEK, GCK, SGK, GTK, GNK	317	VQT0X23	O/I SOFTWARE (ENGLISH/SPANISH/ PORTUGUESE)	1	PLS/K
310	VPK3135	PACKING CASE	1	EGA, EGMA, EFA, EBA, EEA, GCA, SGA	317	VQT0X24	O/I SOFTWARE (GERMAN/FRENCH/ITALIAN/ DUTCH)	1	EGS/K/A
310	VPK3129	PACKING CASE	1	GKS	317	VQT0X25	O/I SOFTWARE (SPANISH/PORTUGUESE)	1	EGMS/K/A
310	VPK3132	PACKING CASE	1	GKK	317	VQT0W13	O/I SOFTWARE (FRENCH)	1	EFS/K/A
310	VPK3136	PACKING CASE	1	GKA	317	VQT0X26	O/I SOFTWARE (ENGLISH)	1	EBS/K/A
311	VPN6413	PAD	1	PPS/K/A	317	VQT0W15	O/I SOFTWARE (RUSSIAN/UKRAINIAN)	1	EES/K/A
311	VPN6414	PAD	1	(EXCEPT PP)	317	VQT0X27	O/I SOFTWARE (CHINESE(TRADITIONAL))	1	GTS/K
313	VPF1100	POLY BAG	1	PPS/K/A, EFS/K/A, EBS/K/A, EES/K/A, GTS/K, GKS/K/A, GNS/K	317	VQT0X28	O/I SOFTWARE (CHINESE(SIMPLIFIED))	1	GKS/K/A
313	VPF1132	POLY BAG	1	PLS/K, EGS/K/A, EGMS/K/A, GCS/K/A, SGS/K/A	317	VQT0X29	O/I SOFTWARE (ENGLISH)	1	GNS/K
△ 315	VQT0V40	INSTRUCTION BOOK (ENGLISH/SPANISH)	1	PPS/K/A	318	VYQ3680	BATTERY CARRYING CASE U	1	
△ 315	VQT0V41	INSTRUCTION BOOK (CANADIAN FRENCH)	1	PPS/K/A	△ 322	K2CQ2CA00006	AC CORD	1	EGS/K/A, EGMS/K/A, EFS/K/A, EES/K/A, GCS/K/A, SGS/K/A
△ 315	VQT0V42	INSTRUCTION BOOK (ENGLISH)	1	PLS/K	△ 323	K2CT3CA00004	AC CORD	1	EBS/K/A, GCS/K/A, SGS/K/A
△ 315	VQT0V44	INSTRUCTION BOOK (PORTUGUESE)	1	PLS/K	△ 324	K2CA2CA00027	AC CORD	1	GTS/K
△ 315	VQT0V43	INSTRUCTION BOOK (SPANISH)	1	PLS/K	△ 324	K2CA2CA00020	AC CORD	1	GKS/K/A
△ 315	VQT0V45	INSTRUCTION BOOK (GERMAN)	1	EGS/K/A	△ 325	K2CJ2DA00008	AC CORD	1	GNS/K
△ 315	VQT0V48	INSTRUCTION BOOK (DUTCH)	1	EGS/K/A					
△ 315	VQT0V47	INSTRUCTION BOOK (ITALIAN)	1	EGS/K/A					
△ 315	VQT0V46	INSTRUCTION BOOK (FRENCH)	1	EGS/K/A, EFS/K/A					
△ 315	VQT0V49	INSTRUCTION BOOK (SPANISH)	1	EGMS/K/A					
△ 315	VQT0V50	INSTRUCTION BOOK (PORTUGUESE)	1	EGMS/K/A					
△ 315	VQT0V52	INSTRUCTION BOOK (DANISH)	1	EGMS/K/A					
△ 315	VQT0V51	INSTRUCTION BOOK (SWEDISH)	1	EGMS/K/A					
△ 315	VQT0V53	INSTRUCTION BOOK (ENGLISH)	1	EBS/K/A					
△ 315	VQT0V56	INSTRUCTION BOOK (RUSSIAN)	1	EES/K/A					
△ 315	VQT0W18	INSTRUCTION BOOK (UKRAINIAN)	1	EES/K/A					
△ 315	VQT0V54	INSTRUCTION BOOK (ENGLISH)	1	GCS/K/A, SGS/K/A					
△ 315	VQT0V55	INSTRUCTION BOOK (CHINESE(TRADITIONAL))	1	GCS/K/A, SGS/K/A					
△ 315	VQT0V57	INSTRUCTION BOOK (ARABIC)	1	GCS/K/A, SGS/K/A					

# S7. Exploded View

## S7.1. Frame and Casing Section



## S7.2. Packing Parts and Accessories Section

