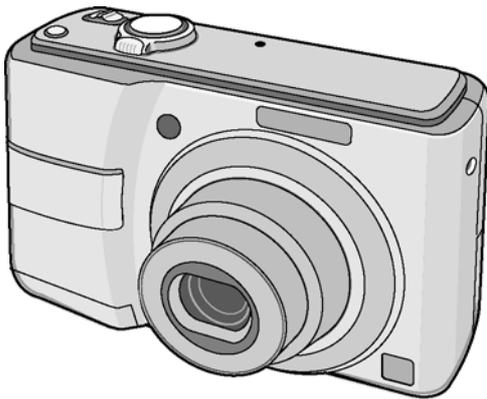


Service Manual

Digital Camera

LUMIX



Model No. **DMC-LS80P**
DMC-LS80PC
DMC-LS80PL
DMC-LS80E
DMC-LS80EB
DMC-LS80EE
DMC-LS80EF
DMC-LS80EG
DMC-LS80GC
DMC-LS80GK
DMC-LS80GN

Vol. 2

Colour

(S).....Silver Type (except DMC-LS80EF)

(K).....Black Type (except DMC-LS80EB/GK/GN)

(P).....Pink Type (except DMC-LS80EF/PC/GC/GN)

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[®]

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

Hot-Check Circuit

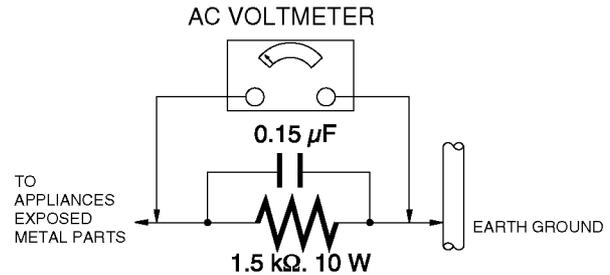


Figure. 1

1.4. How to Discharge the Capacitor on Flash Top PCB

CAUTION:

1. Be sure to discharge the capacitor on FLASH TOP PCB.
2. Be careful of the high voltage circuit on FLASH 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 Ω /5W).
(an equivalent type of resistor may be used.)
3. Put the resistor between both terminals of capacitor on FLASH TOP PCB for approx. 5 seconds.
4. After discharging confirm that the capacitor voltage is lower than 10V using a voltmeter.

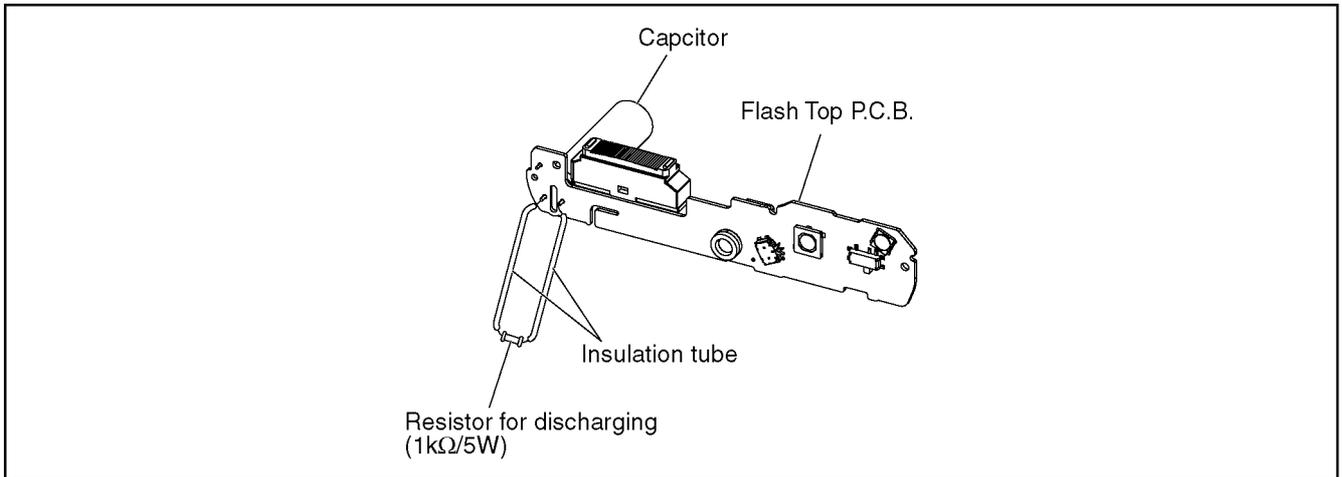


Fig. F1

2 Warning

2.1. Prevention of 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 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 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).

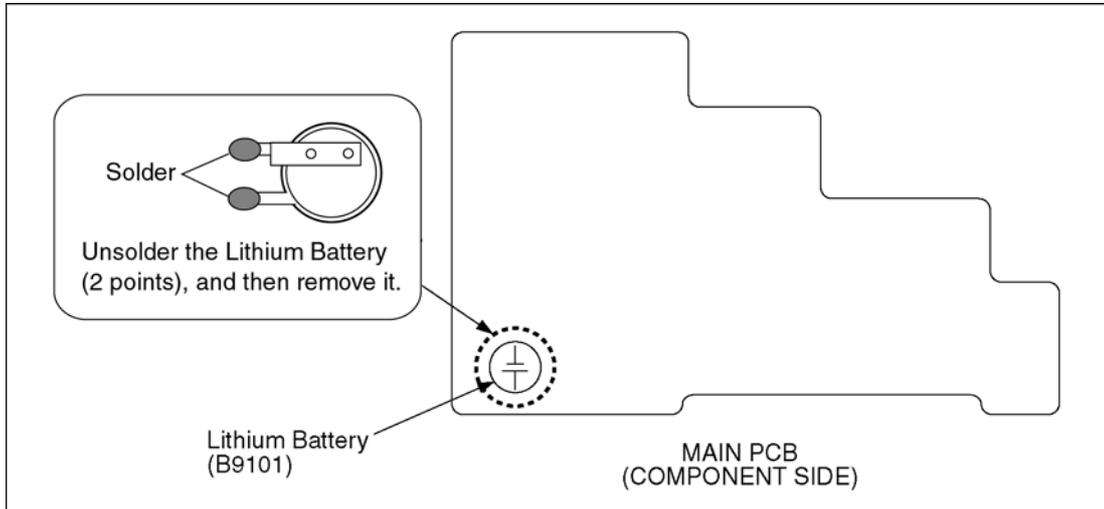
2.2. How to Replace the Lithium Battery

2.2.1. Replacement Procedure

1. Remove the Main PCB. (Refer to Disassembly Procedures.)
2. Unsolder the each soldering point of electric lead terminal for Lithium battery (Ref. No. "B9101" at component side of Main PCB) and remove the Lithium battery together with electric lead terminal. Then replace it into new one.

NOTE:

The Type No. ML614S/F9FE includes electric lead terminals.



NOTE:

This Lithium battery is a critical component.

(Type No.: ML614S/F9FE **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 German)

ACHTUNG

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

Behandeln Sie gebrauchte Batterien nach den Anweisungen des Herstellers.

(For French)

MISE EN GARDE

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

NOTE:

Above caution are also applicable for below batteries which is for DMC-LS80 all series, as well.

1. AA Oxryde batteries
2. AA Alkaline batteries
3. AA Rechargeable Ni-MH (nickel-metal hydride) batteries

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

There are five kinds of DMC-LS80, regardless of the colours.

- a) DMC-LS80S
- b) DMC-LS80P, LS80PC
- c) DMC-LS80EB/EG/E/GN, LS80EF
- d) DMC-LS80EE
- e) DMC-LS80PL/GC/GK

(DMC-LS80S 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.

3.3.1. 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>a) DMC-LS80S DMC-LS80S is exclusively Japan domestic model.</p> <p>b) DMC-LS80P, LS80PC The nameplate for these models show the following Safty registration mark.</p> <div data-bbox="325 745 695 842"></div> <p>c) DMC-LS80EB/EG/E/GN/EF The nameplate for these models show the following Safty registration mark.</p> <div data-bbox="328 1003 692 1099"></div> <p>d) DMC-LS80EE The nameplate for these models show the following Safty registration mark.</p> <div data-bbox="331 1229 695 1326"></div> <p>e) DMC-LS80PL/GC/GK The nameplate for these models do not show any above Safty registration mark.</p>	<div data-bbox="944 678 1388 1068"><p>Safty registration mark</p></div>
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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.

3.3.2. INITIAL SETTINGS:

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 of the unit.

1. IMPORTANT NOTICE:

Before proceeding Initial settings, be sure to read the following CAUTIONS.

CAUTION 1 (Initial Settings)

DO NOT select NONE(JAPAN)" or "P" (North America) if need to select "EG/E/PL/GC/GK/EF/EB/EE/GN and PC".

Otherwise,once "NONE(JAPAN)" or "P" (North America) are selected, "EG/E/PL/GC/GK/EF/EB/EE/GN and PC" will not displayed, thus, RE-Settings (changing area) can not be made.

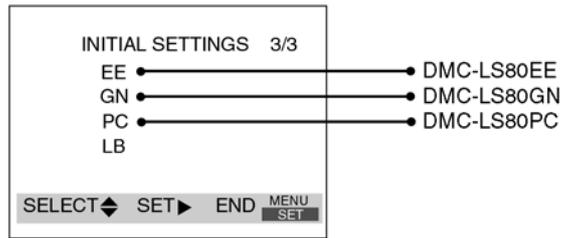
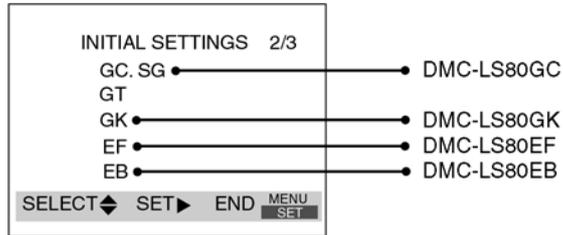
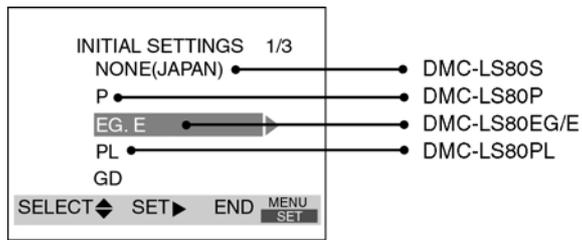
CAUTION 2 (Picture back up from "Built-in Memory")

This unit employs "Built-in Memory" for picture image data recording.(Approx.24MB) 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 stored at "Built-in Memory" is erased.

2. PROCEDURES:

- Precautions: Proceed the picture back up from the unit (Refer to above "CAUTION 2")
- **Preparation. Set the Recording mode to "Normal Picture Mode".**
Set the Recording/playback switch to "[Recording mode] (camera mark  (UP))".
Turn on the power and then press the [MODE] button.
Select the "NORMAL PICTURE MODE" using "[UP] ▲ / [DOWN] ▼ of Cursor button".
Press [MENU/SET] button, then turn the power off.
- **Step 1. The temporary cancellation of initial setting:**
Set the Recording/playback switch to "[Recording mode] (camera mark  (UP))".
While keep pressing [E.ZOOM], [MENU] and "[UP] ▲ of Cursor button" simultaneously, turn the Power on.
- **Step 2. The cancellation of initial setting:**
Set the Recording/playback switch to "[Playback (Down)]".
Press [E.ZOOM], [MENU] and "[UP] ▲ of Cursor button" simultaneously, then turn the Power off.
- **Step 3. Turn the Power on:**
Set the Recording/playback switch to "[Recording mode] (camera mark  (UP))", and then turn the Power on.
- **Step 4. Display the INITIAL SETTING:**
While keep pressing [MENU] and "[RIGHT] ► of Cursor button" simultaneously, turn the Power off.



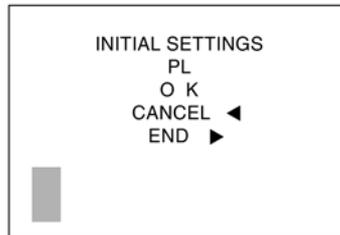
• **Step 5. Set the INITIAL SETTING: (Refer to “CAUTION 1”)**

[Caution for before settings]

Once "NONE(JAPAN)" (Area for Japan) or "P" (Area for North America) is selected with "INITIAL SETTINGS", other areas will not be displayed even if "INITIAL SETTINGS" menu is displayed again, thus, the area can not be changed.

Select the area carefully.

Select the area with pressing “[UP] ▲ / [DOWN] ▼ of Cursor button”, and then press the “[RIGHT] ► of Cursor button”.



The only set area is displayed, and then press the “[RIGHT] ► of Cursor button” 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 “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-LS80S	NTSC	Japanese	Year/Month/Date	
b)	DMC-LS80P, DMC-LS80PC/PL	NTSC	English	Month/Date/Year	
c)	DMC-LS80EB/EG/E/GC/GN	PAL	English	Date/Month/Year	
d)	DMC-LS80EF	PAL	French	Date/Month/Year	
e)	DMC-LS80EE	PAL	Russian	Date/Month/Year	
f)	DMC-LS80GK	PAL	Chinese (simplified)	Year/Month/Date	

4 Specifications

Digital Camera: Information for your safety

Power Source:	DC 3 V
Power Consumption:	1.5 W (When recording) 0.6 W (When playing back)

Camera Effective pixels: 8,100,000 pixels
Image sensor: 1/2.5" CCD
Total pixels: 8,320,000 pixels
 Primary color filter

Lens: Optical 3 × zoom, f=5.5 to 16.5 mm [35 mm film camera equivalent: 33 to 100 mm] / F2.8 to F5.1

Digital zoom: Max. 4 ×
Extended optical zoom: Max. 4.8 ×

Focus: Normal / Macro
 5-area-focusing / 1-area-focusing (high speed) / 1-area-focusing

Focus range: Normal :
 50 cm (1.64 feet) to ∞
 Macro / Intelligent:
 5 cm (0.16 feet) (Wide) / 30 cm (0.98 feet) (Tele) to ∞
 Scene mode: settings may be different to those shown above

Shutter system: Electronic shutter+Mechanical shutter
Motion picture recording: Aspect ratio [4:3]:
 640 × 480 pixels (30 frames/second, 10 frames/second) (When a card is used.) / 320 × 240 pixels (30 frames/second, 10 frames/second)
 Aspect ratio [16:9]:
 848 × 480 pixels (30 frames/second, 10 frames/second) (When a card is used.)
 With audio

Burst recording
Burst speed: Approx. 2.5 pictures/second (NORMAL), Approx. 2 pictures/second (Unlimited)

Number of recordable pictures: Max. 7 pictures (Standard), max. 4 pictures (Fine), Depends on the remaining capacity of the built-in memory or the card (Unlimited).

Hi-speed burst
Burst speed: Approx. 5.5 pictures/second
Picture size: [2M] (4:3), [2.5M] (3:2), [2M] (16:9)

ISO sensitivity: AUTO / 100 / 200 / 400 / 800 / 1600
 [HIGH SENS.] mode: 1600 to 6400

Shutter speed: 8 seconds to 1/2,000th of a second
 [STARRY SKY] mode: 15 seconds, 30 seconds, 60 seconds

White balance: Auto white balance / Daylight / Cloudy / Shade / Halogen / White set

Exposure (AE): Program AE
 Exposure compensation (1/3 EV Step, -2 EV to +2 EV)

Metering mode: Multiple

LCD monitor: TFT LCD 2.5" (Approx. 230,000 dots) (field of view ratio about 100%)

Flash: Flash range:
 Approx. 30 cm (0.98 feet) to 5.9 m (15.42 feet) (Wide [ISO AUTO] mode)
 AUTO, AUTO / Red-eye reduction, Forced ON (Forced ON / Red-eye reduction), (Slow sync. / Red-eye reduction), Forced OFF

Microphone: Monaural

Recording media: Built-in Memory (Approx. 24 MB) / SD Memory Card / SDHC Memory Card/MultiMediaCard (Still pictures only)

Picture size:
Still picture: Aspect ratio [4:3]:
 3264 × 2448 pixels, 2560 × 1920 pixels, 2048 × 1536 pixels, 1600 × 1200 pixels, 640 × 480 pixels
 Aspect ratio [3:2]:
 3264 × 2176 pixels, 2560 × 1712 pixels, 2048 × 1360 pixels
 Aspect ratio [16:9]:
 3264 × 1840 pixels, 2560 × 1440 pixels, 1920 × 1080 pixels

Motion picture: Aspect ratio [4:3]:
 640 × 480 pixels (Only when using an SD Memory card / SDHC Memory Card), 320 × 240 pixels
 Aspect ratio [16:9]:
 848 × 480 pixels (Only when using an SD Memory card / SDHC Memory Card)

Quality: Fine / Standard

Recording file format
Still Picture: JPEG (Design rule for Camera File system, based on Exif 2.21 standard), DPOF corresponding

Motion pictures: "QuickTime Motion JPEG" (motion pictures with audio)

Interface
Digital: USB 2.0 (Full Speed)
Analog video / audio: NTSC / PAL Composite (Switched by menu), Audio line output (monaural)

Terminal
DIGITAL/AV OUT: Dedicated jack (8 pin)
DC IN: Type1 jack (Only when using DC coupler)

Dimensions: 3.77" (W) × 2.44" (H) × 1.23" (D)
 (95.7 mm (W) × 62.0 mm (H) × 31.2 mm (D)) (excluding the projection part)

Mass (Weight): Approx. 0.28 lb/129 g (excluding Memory Card and battery)
 Approx. 0.39 lb/177 g (with Memory Card and battery)

Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity: 10 % to 80 %

5 Service Fixture & Tools

5.1. When Replacing the Main PCB

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

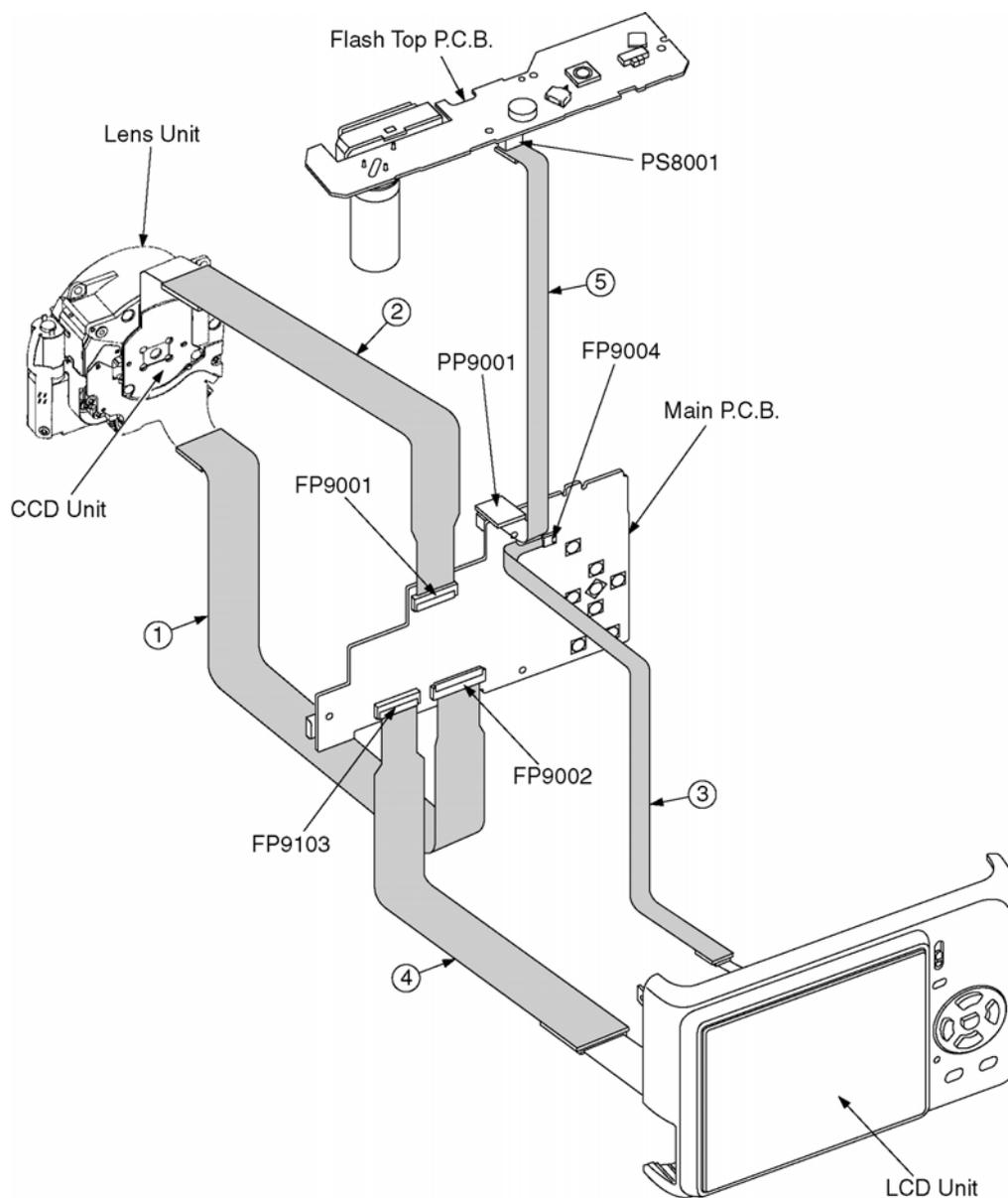
The adjustment instruction is available at "software download" on the "Support Information from NWBG/VDBG-PAVC" web-site in "TSN system", together with Maintenance software.

5.2. 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	VFK1951	FP9002 (MAIN) - LENS UNIT	39PIN 0.3 FFC
2	VFK1951	FP9001 (MAIN) - CCD UNIT	39PIN 0.3 FFC
3	VFK1974	FP9004 (MAIN) - LCD UNIT	4PIN 0.3 FFC
4	RFKZ0354	FP9103 (MAIN) - LCD UNIT	37PIN 0.5 FFC
5	VFK1906	PP9001 (MAIN) - PS8001 (FLASH TOP)	20PIN B to B



CAUTION-1. (When servicing FLASH TOP PCB)

1. Be sure to discharge the capacitor on FLASH TOP PCB.

Refer to "HOW TO DISCHARGE THE CAPACITOR ON FLASH 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 FLASH TOP PCB.
3. DO NOT allow other parts to touch the high voltage circuit on FLASH TOP PCB.

6 Maintenance

6.1. 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

Diagrams and Replacement Parts List

Digital Camera

Model No.

DMC-LS80P	DMC-LS80EF
DMC-LS80PC	DMC-LS80EG
DMC-LS80PL	DMC-LS80GC
DMC-LS80E	DMC-LS80GK
DMC-LS80EB	DMC-LS80GN
DMC-LS80EE	

Vol. 2
Colour

(S).....	Silver Type (except EF)
(K).....	Black Type (except EB/GK/GN)
(P).....	Pink Type (except EF/PC/GC/GN)

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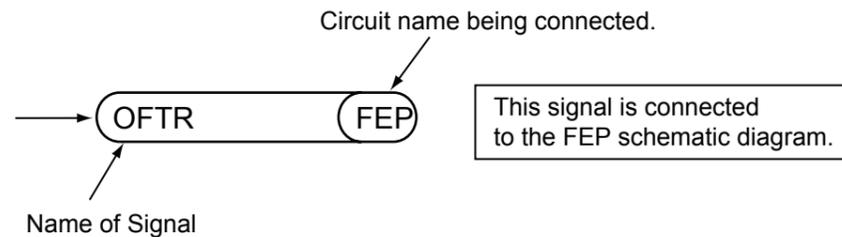
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S1. About Indication of The Schematic Diagram

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

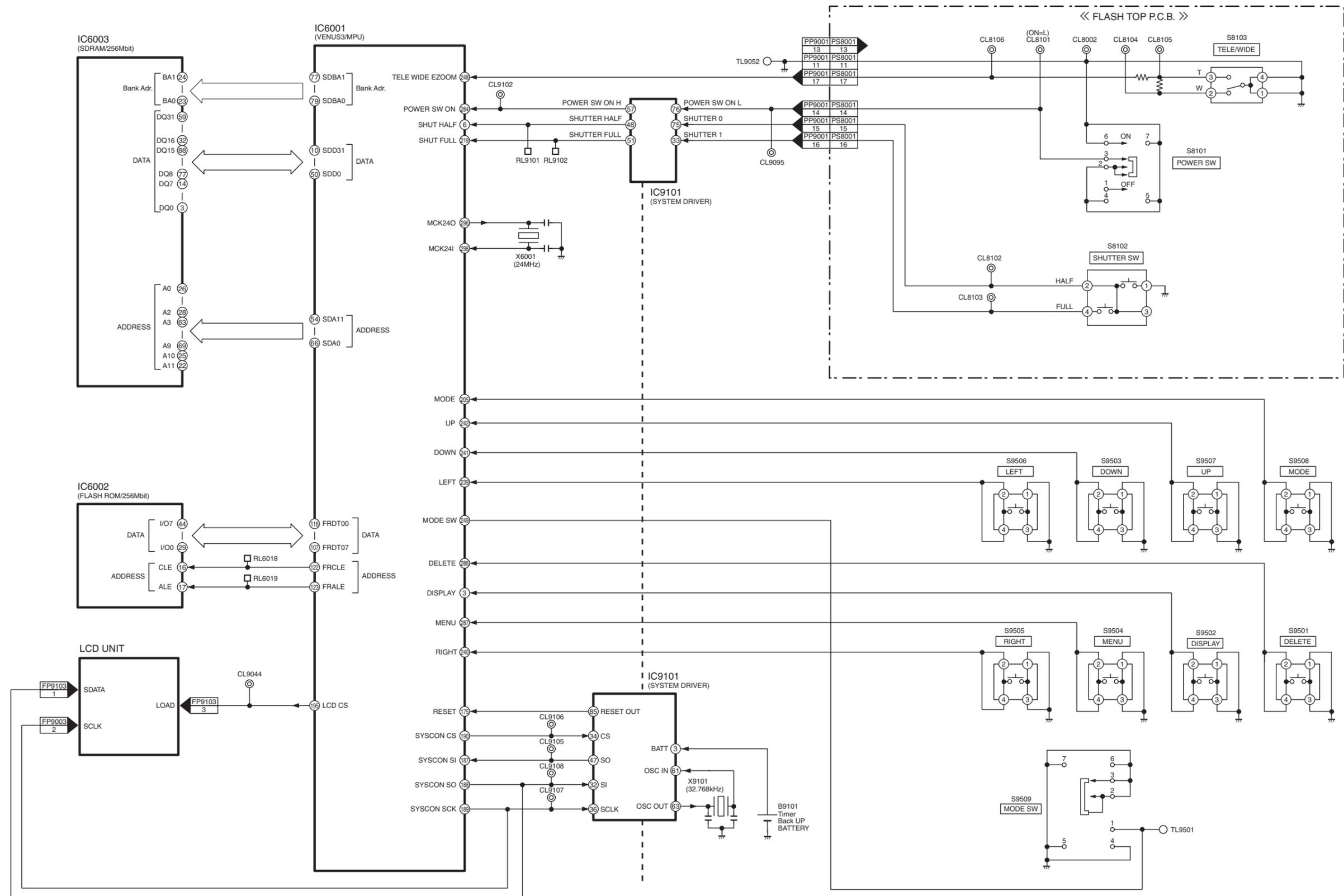
Note) Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard.
Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

S2.1. Main P.C.B.

REF No.	PIN No.	POWER ON
IC1221	1	2.9
IC1221	2	0
IC1221	3	1.3
IC1221	4	3
IC1221	5	3.4
IC2001	1	0
IC2001	2	3
IC2001	3	0
IC2001	4	0
IC2001	5	0
IC2001	6	0
IC2001	7	0
IC2001	8	0
IC7103	1	1.2
IC7103	2	1.3
IC7103	3	1.3
IC7103	4	0
IC7103	5	1.3
IC7103	6	1.3
IC7103	7	1.3
IC7103	8	3
IC7151	1	1.4
IC7151	2	1.3
IC7151	3	1.2
IC7151	4	0
IC7151	5	1.2
IC7151	6	1.3
IC7151	7	1.3
IC7151	8	3
Q1331	E	0
Q1331	C	2.9
Q1331	B	0
Q7102	1	1.3
Q7102	2	0
Q7102	3	1.3
Q7102	4	1.3
Q7102	5	0
Q7102	6	1.3
QR1301	E	0
QR1301	C	0
QR1301	B	2.3
QR2011	E	0
QR2011	C	2.9
QR2011	B	0
QR7101	1	0
QR7101	2	0
QR7101	3	1.1
QR7101	4	0
QR7101	5	0
QR7101	6	3.7

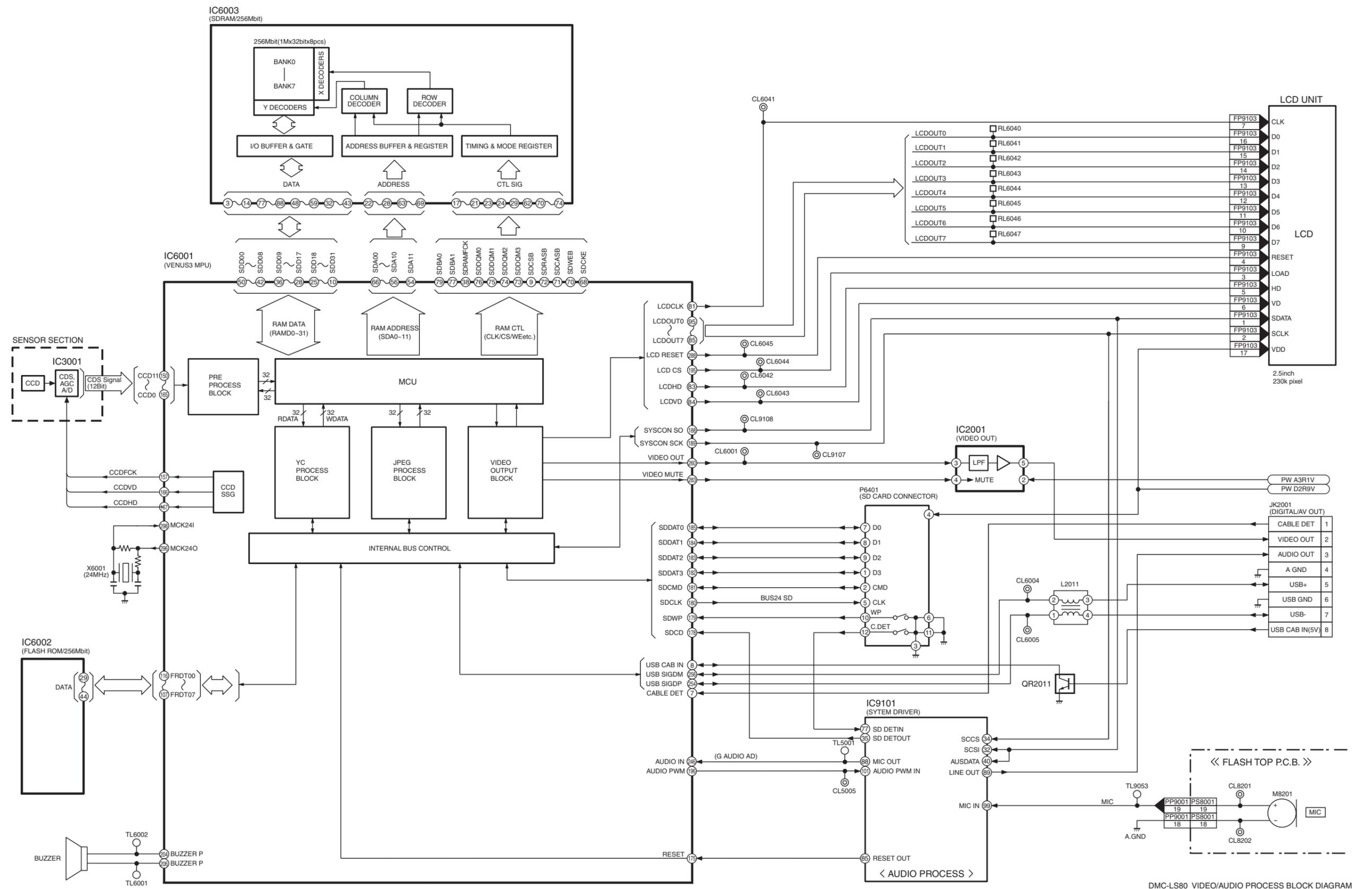
S3. Block Diagram

S3.1. System Control Block Diagram



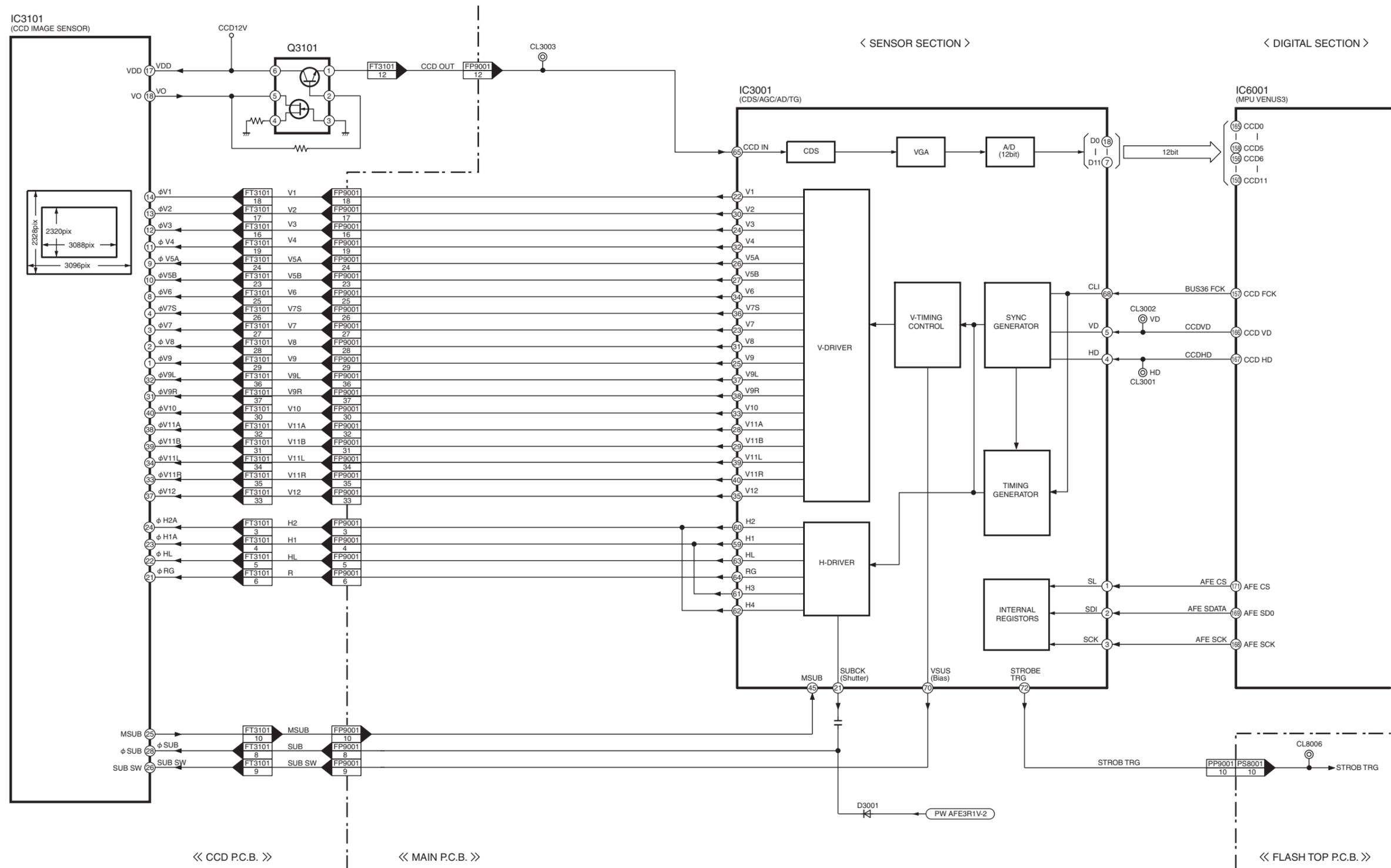
DMC-LS80 SYSTEM CONTROL BLOCK DIAGRAM

S3.2. Video/Audio Process Block Diagram

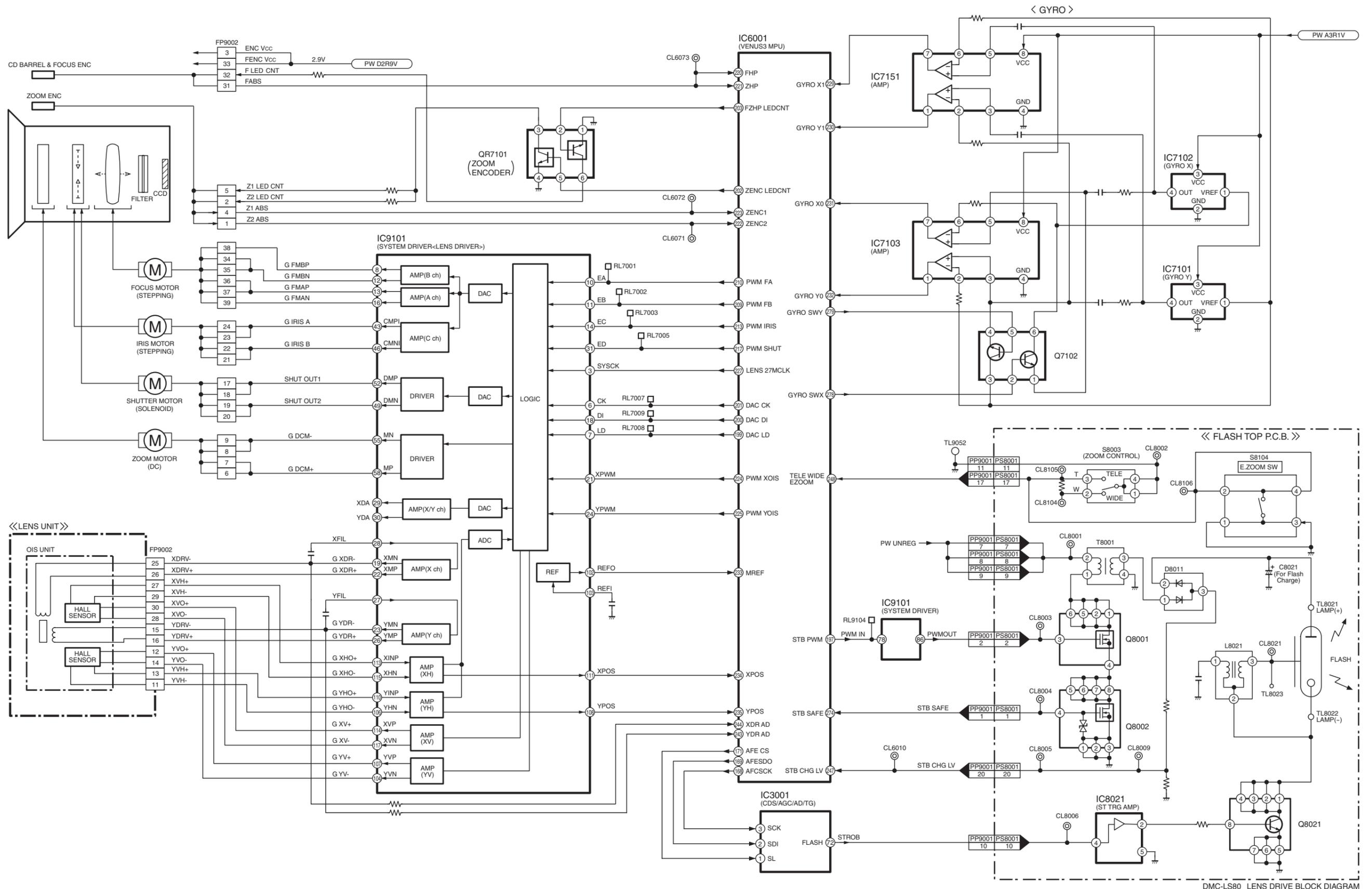


DMC-LS80 VIDEO/AUDIO PROCESS BLOCK DIAGRAM

S3.3. Sensor Block Diagram

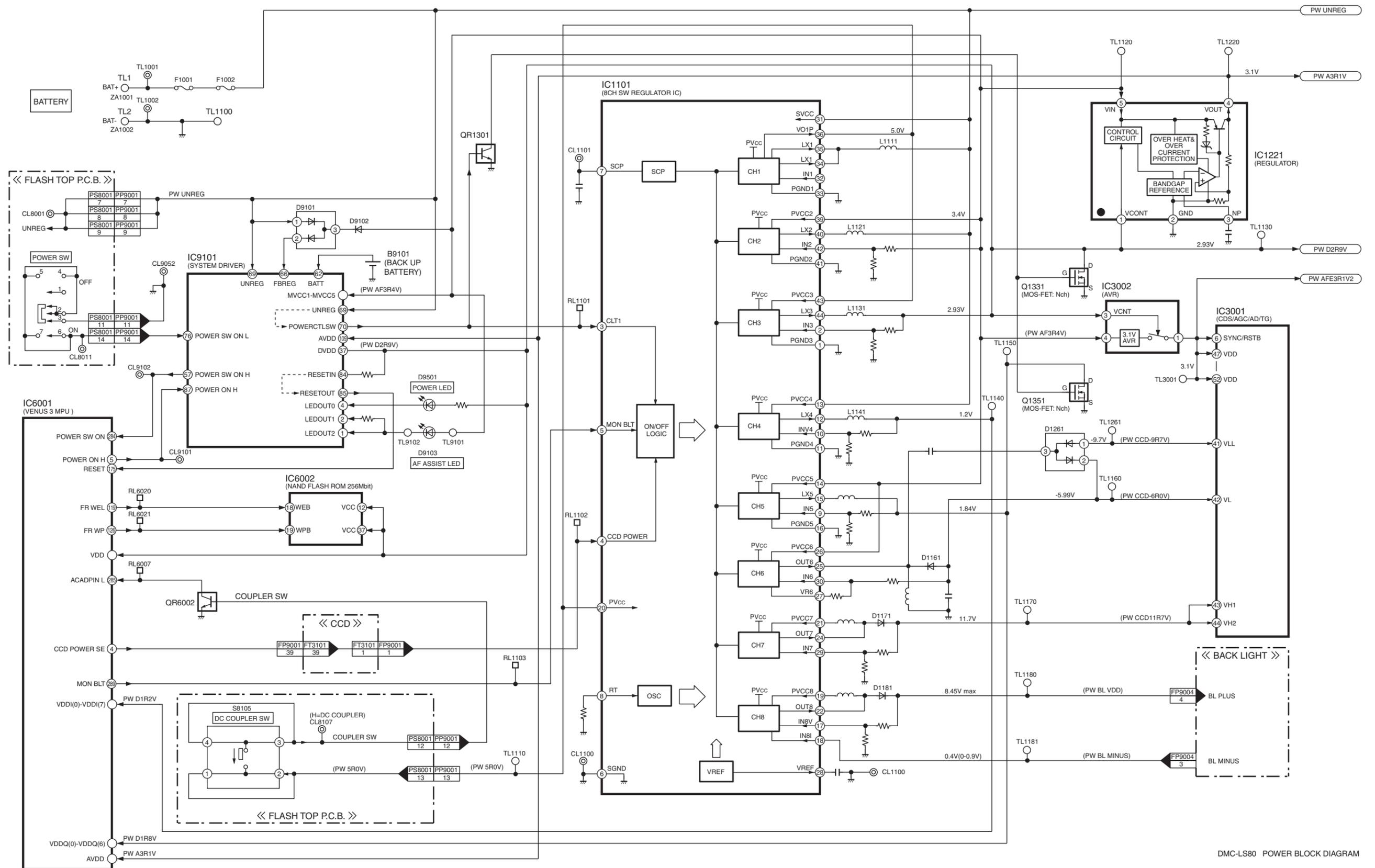


S3.4. Lens Drive Block Diagram



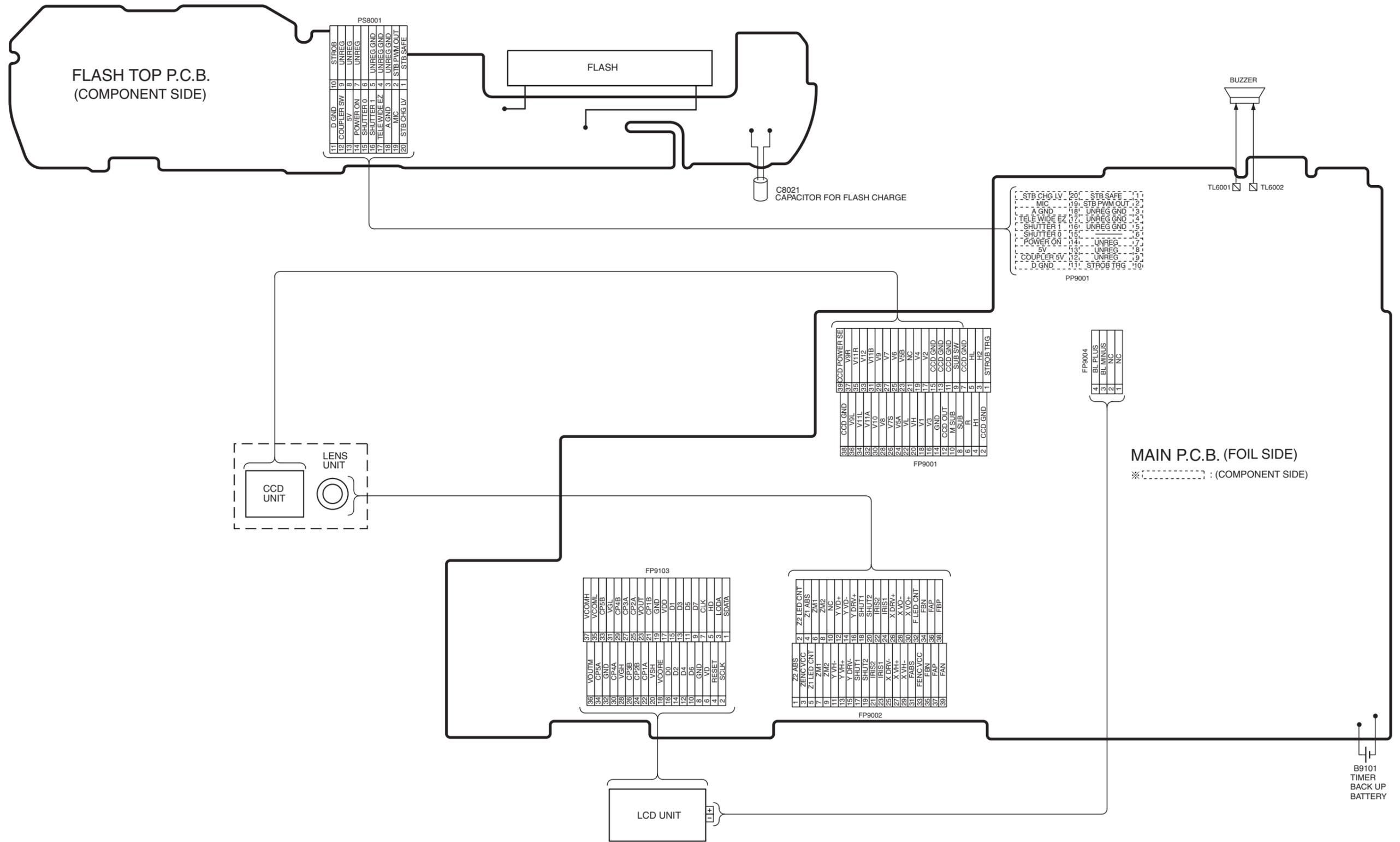
DMC-LS80 LENS DRIVE BLOCK DIAGRAM

S3.5. Power Block Diagram

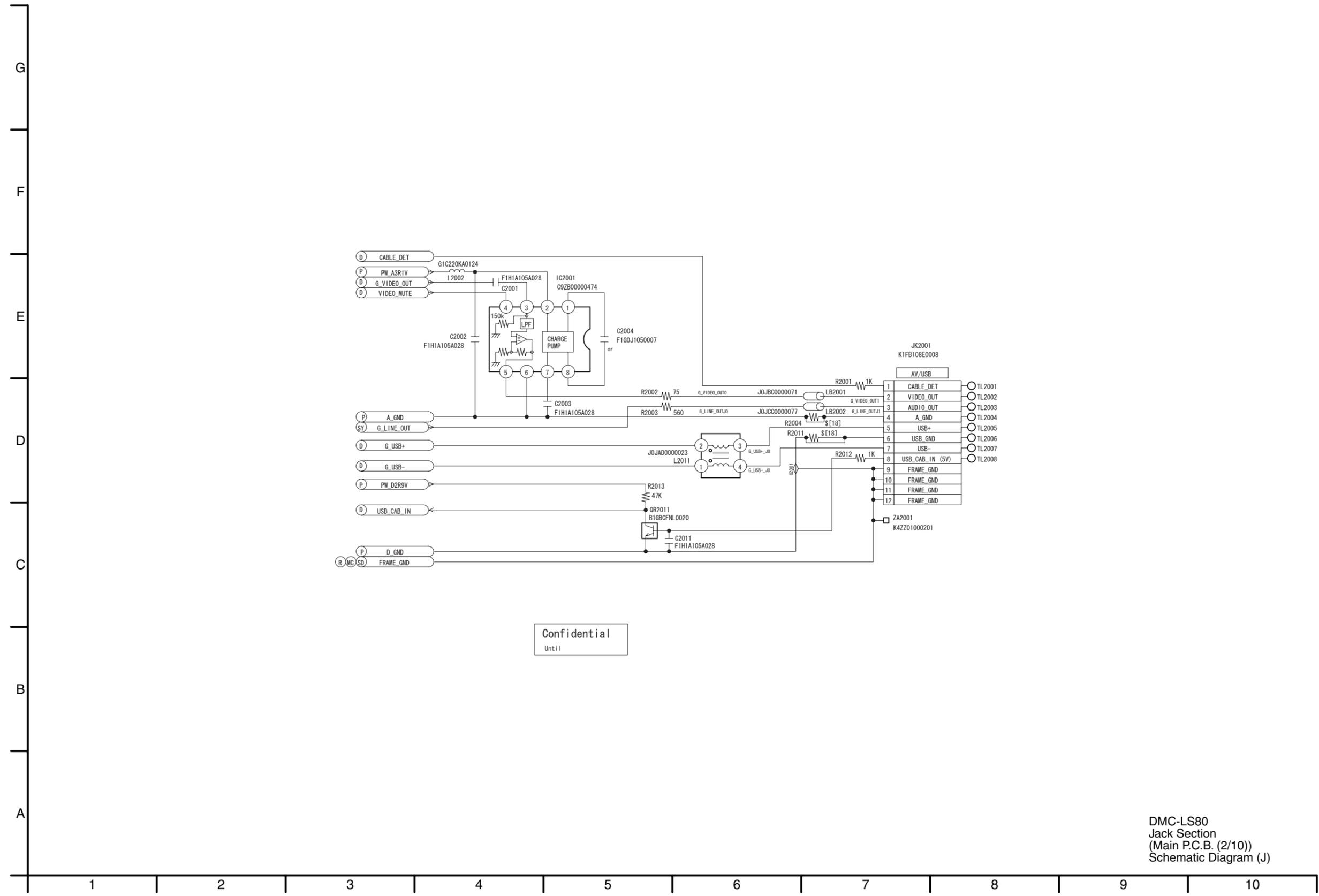


S4. Schematic Diagram

S4.1. Interconnection Diagram



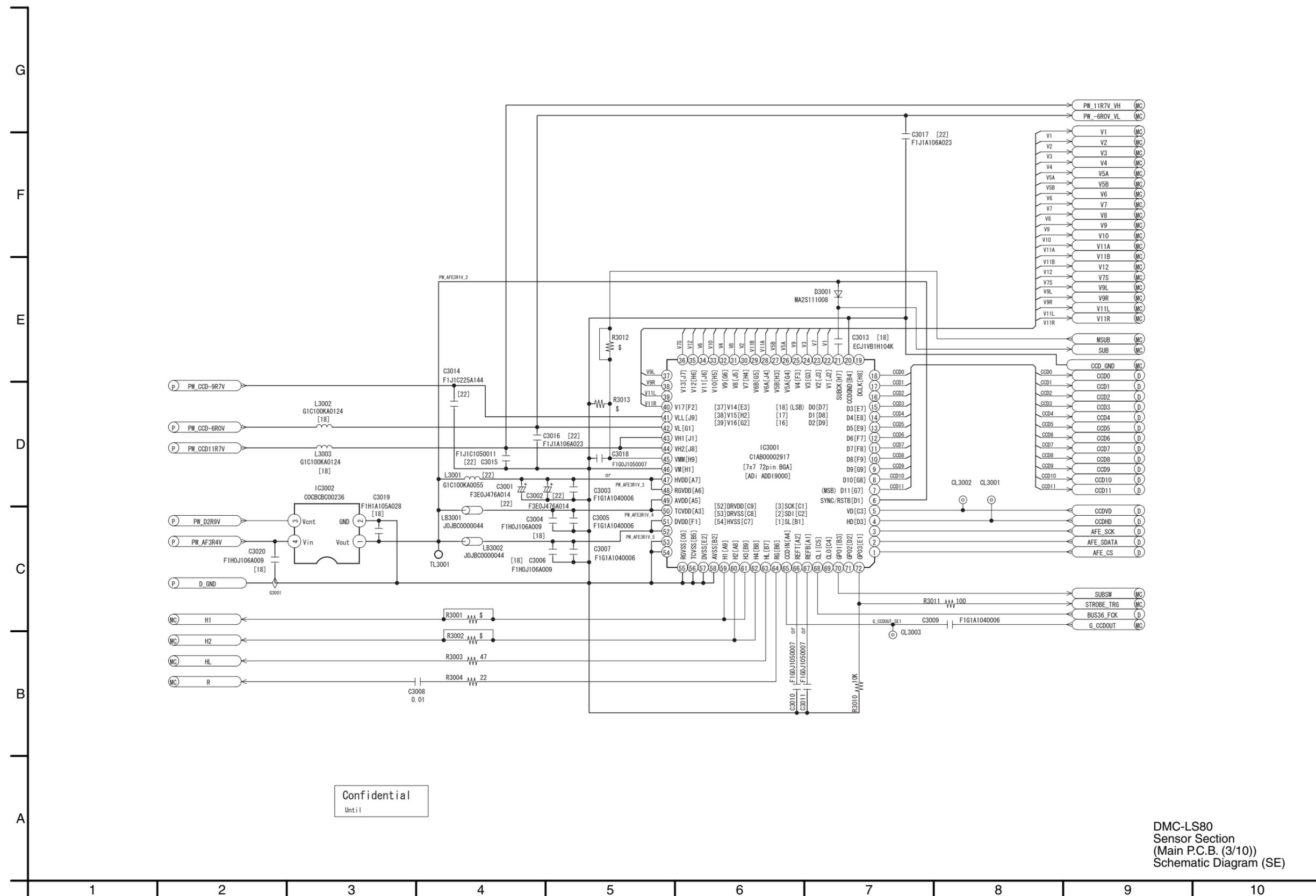
S4.3. Jack (J) Schematic Diagram



Confidential
Until

DMC-LS80
Jack Section
(Main P.C.B. (2/10))
Schematic Diagram (J)

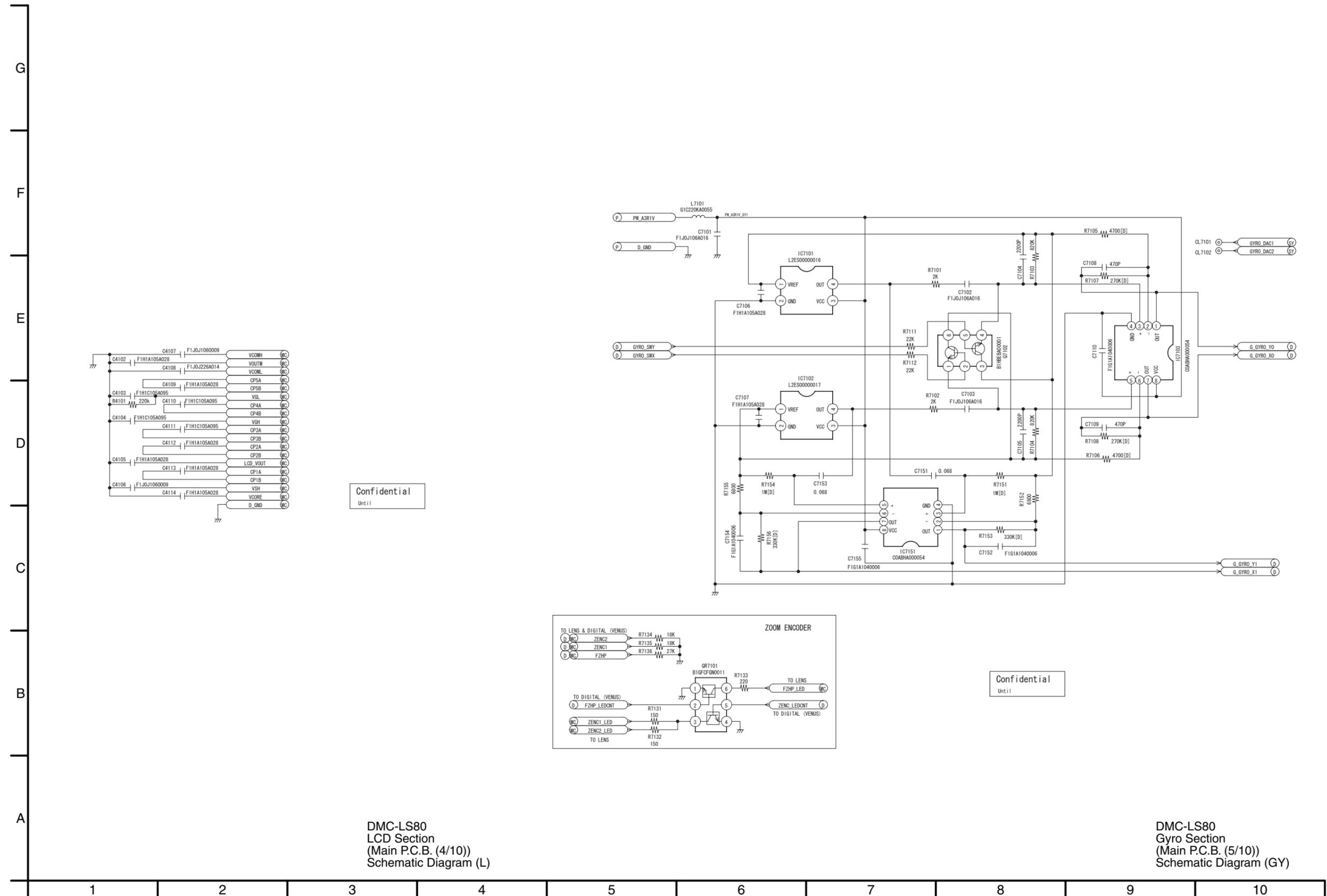
S4.4. Sensor (SE) Schematic Diagram



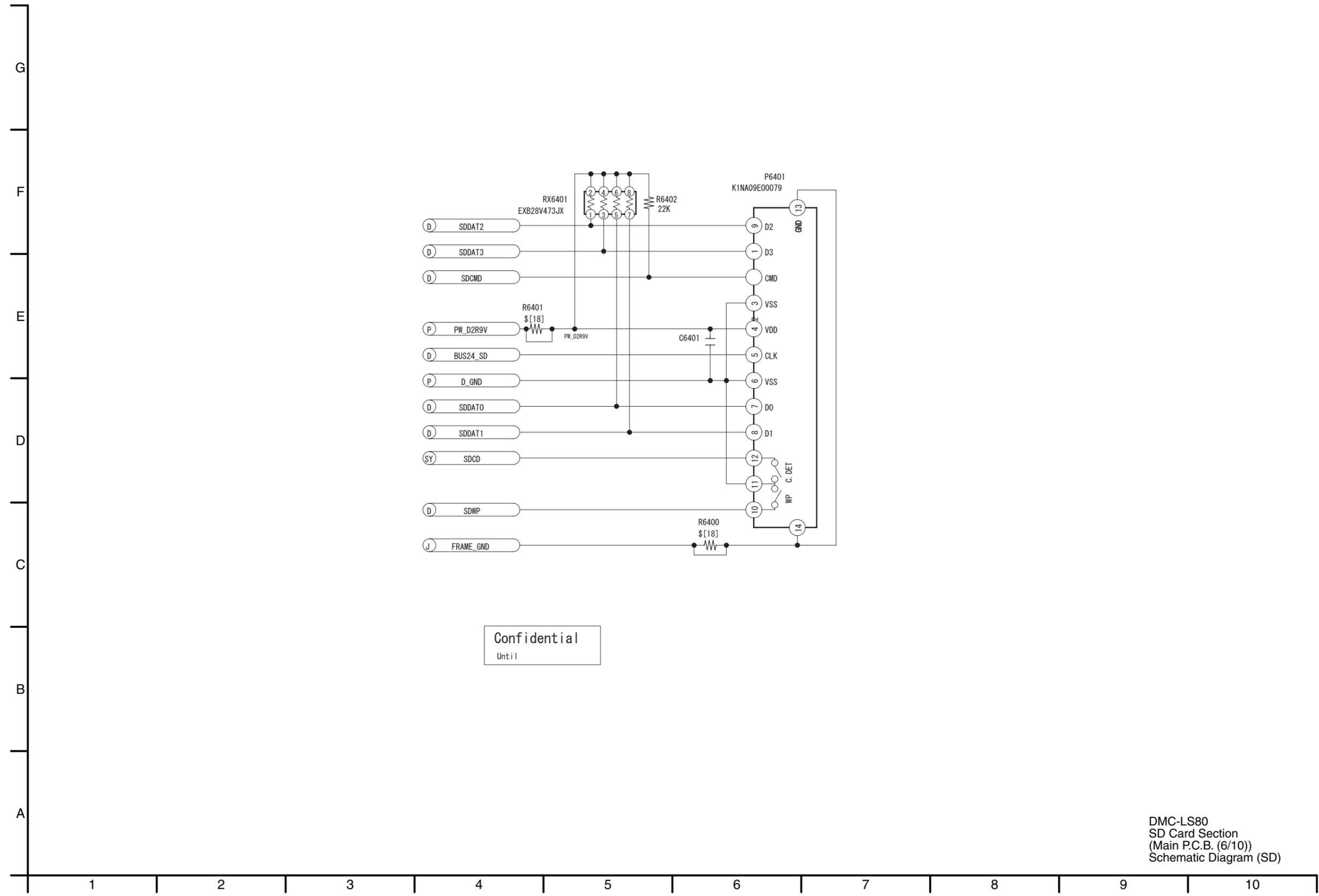
Confidential
Until

DMC-LS80
Sensor Section
(Main P.C.B. (3/10))
Schematic Diagram (SE)

S4.5. LCD (L) Schematic Diagram / S4.6. Gyro (GY) Schematic Diagram



S4.7. SD Card (SD) Schematic Diagram

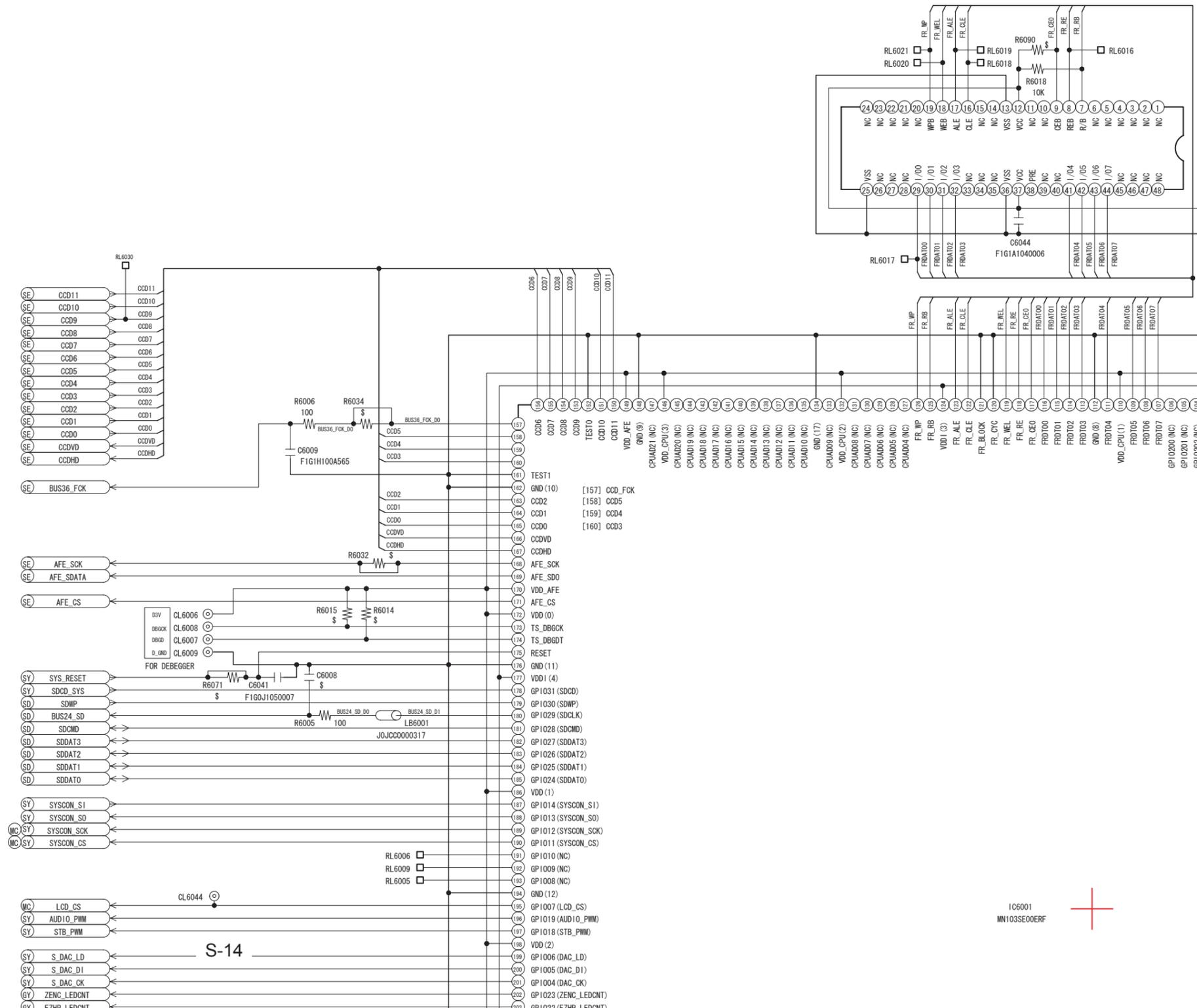


Confidential
Until

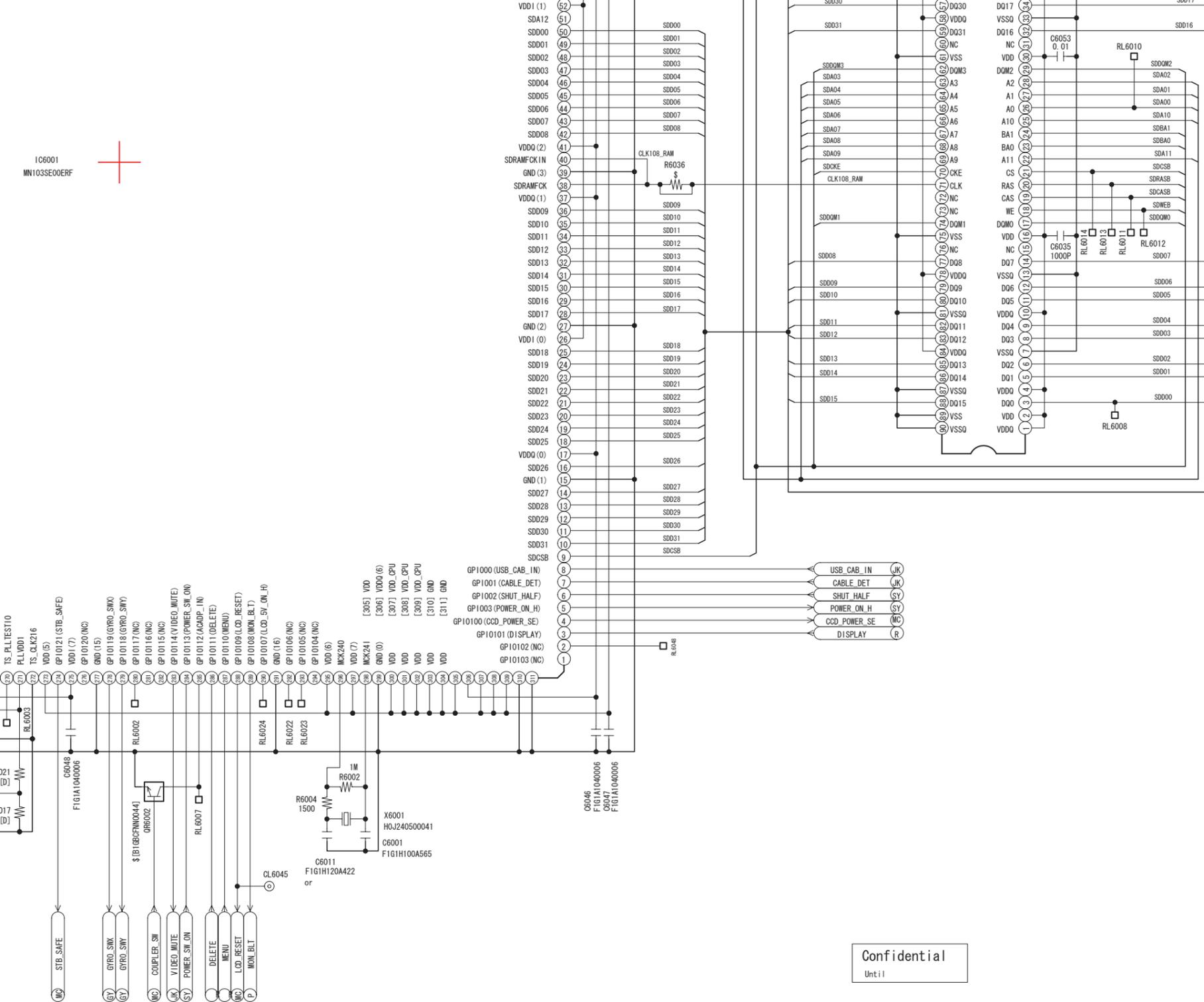
S4.8. Digital (D) Schematic Diagram

1/4 DMC-LS80
Digital Section
(Main P.C.B. (7/10))
Schematic Diagram (D)

N
M
L
K
J
I
H
G

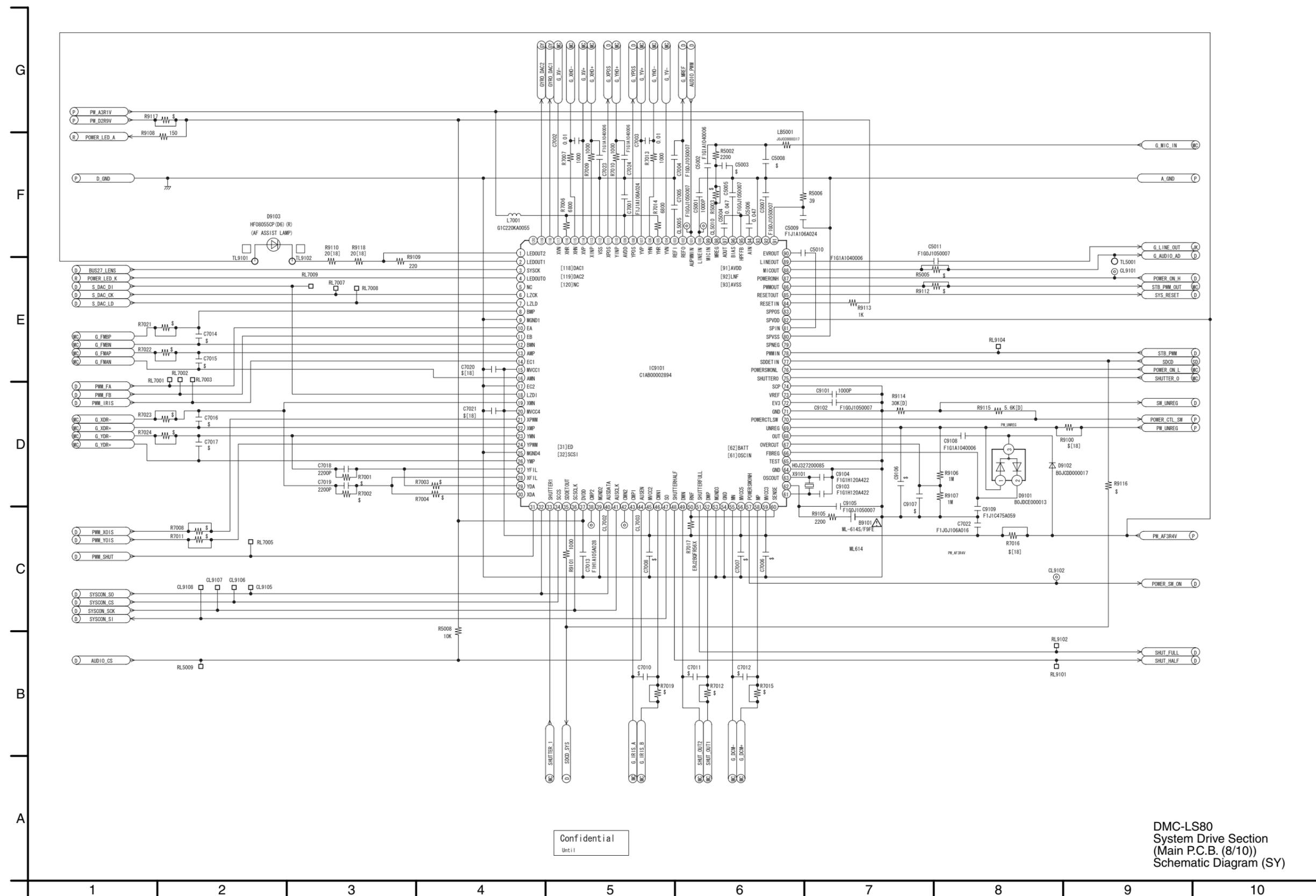


IC6001
MN103SE00ERF



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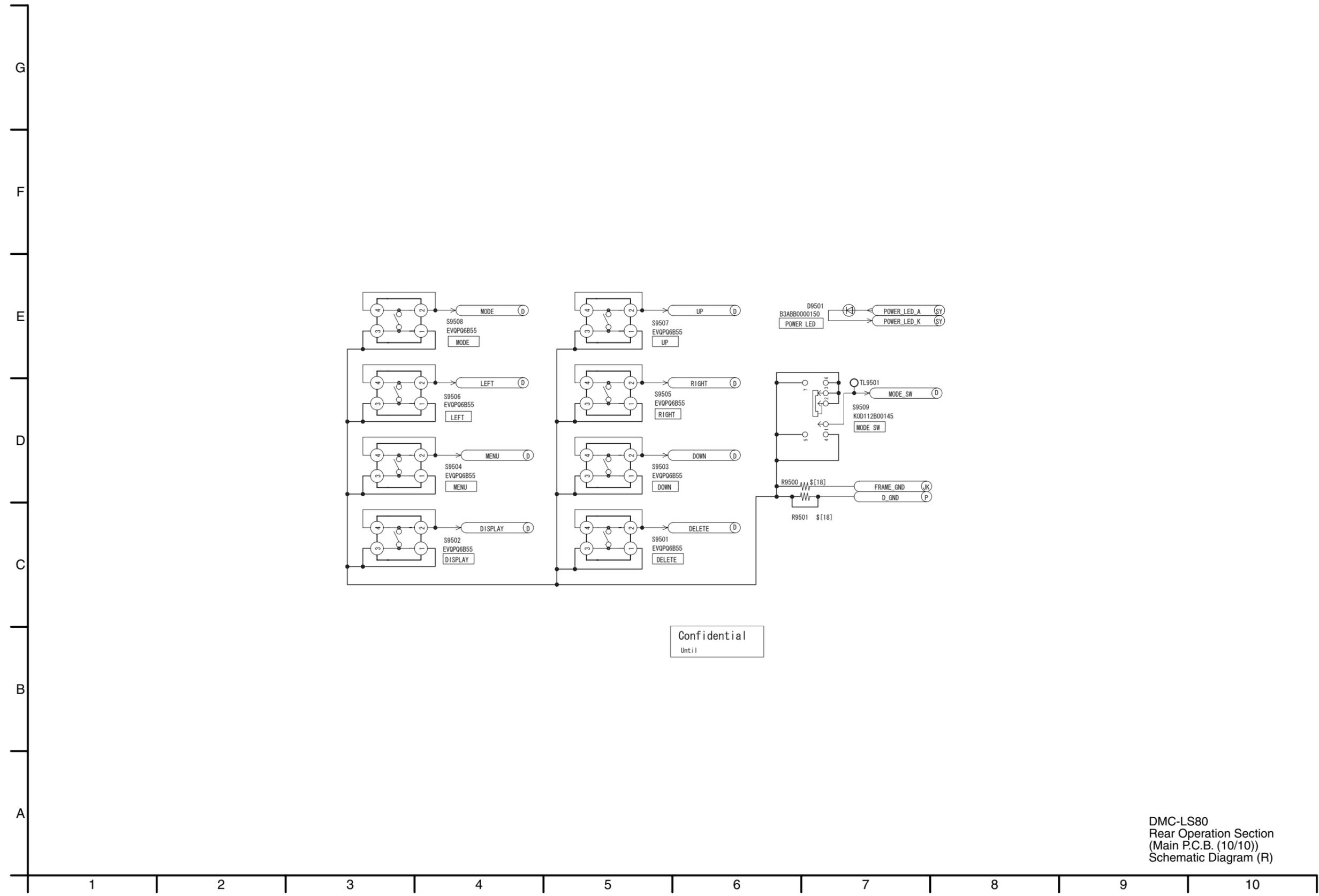
S4.9. System Driver (SY) Schematic Diagram



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Until

DMC-LS80
System Drive Section
(Main P.C.B. (8/10))
Schematic Diagram (SY)

S4.11. Rear Operation (R) Schematic Diagram

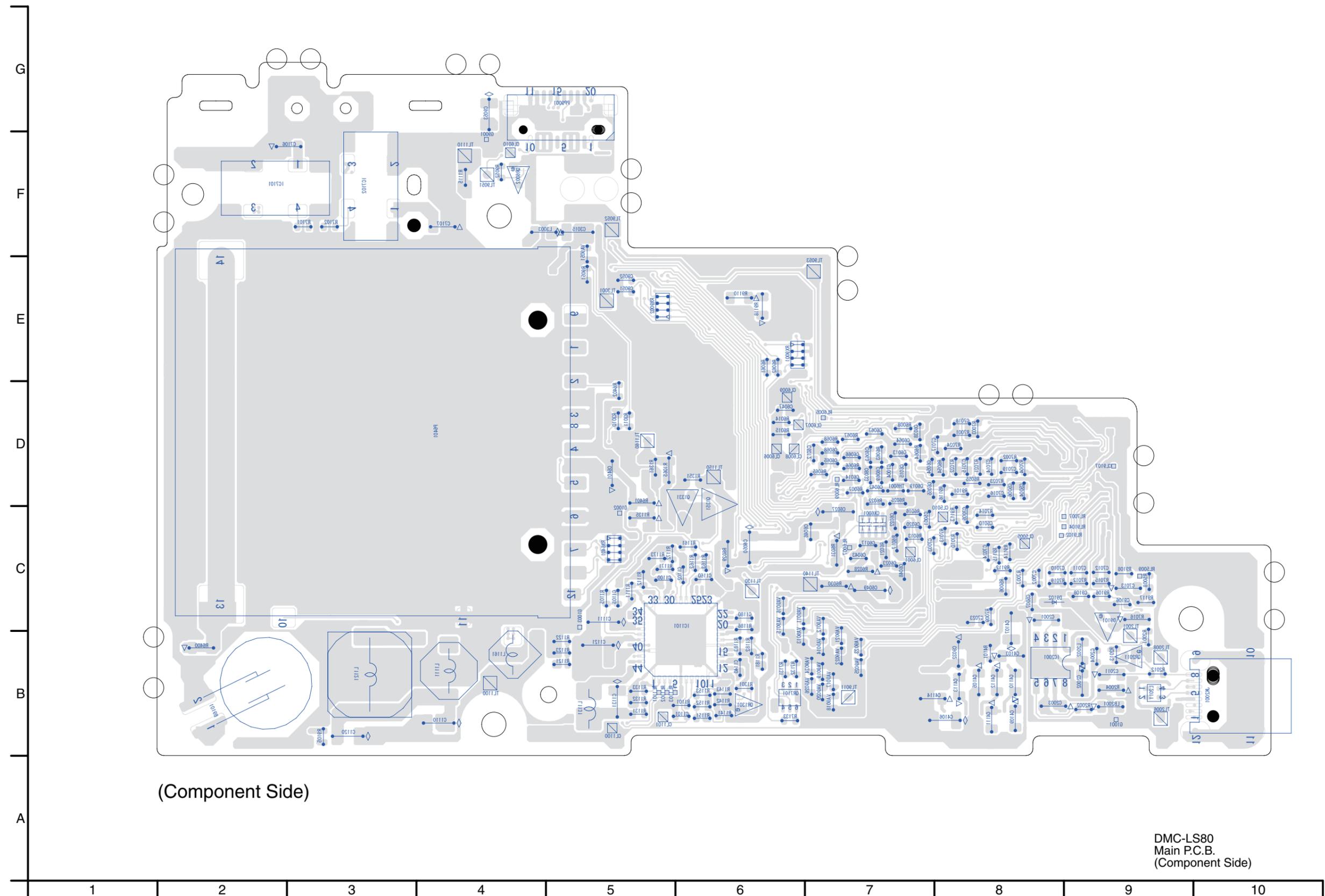


DMC-LS80
Rear Operation Section
(Main P.C.B. (10/10))
Schematic Diagram (R)

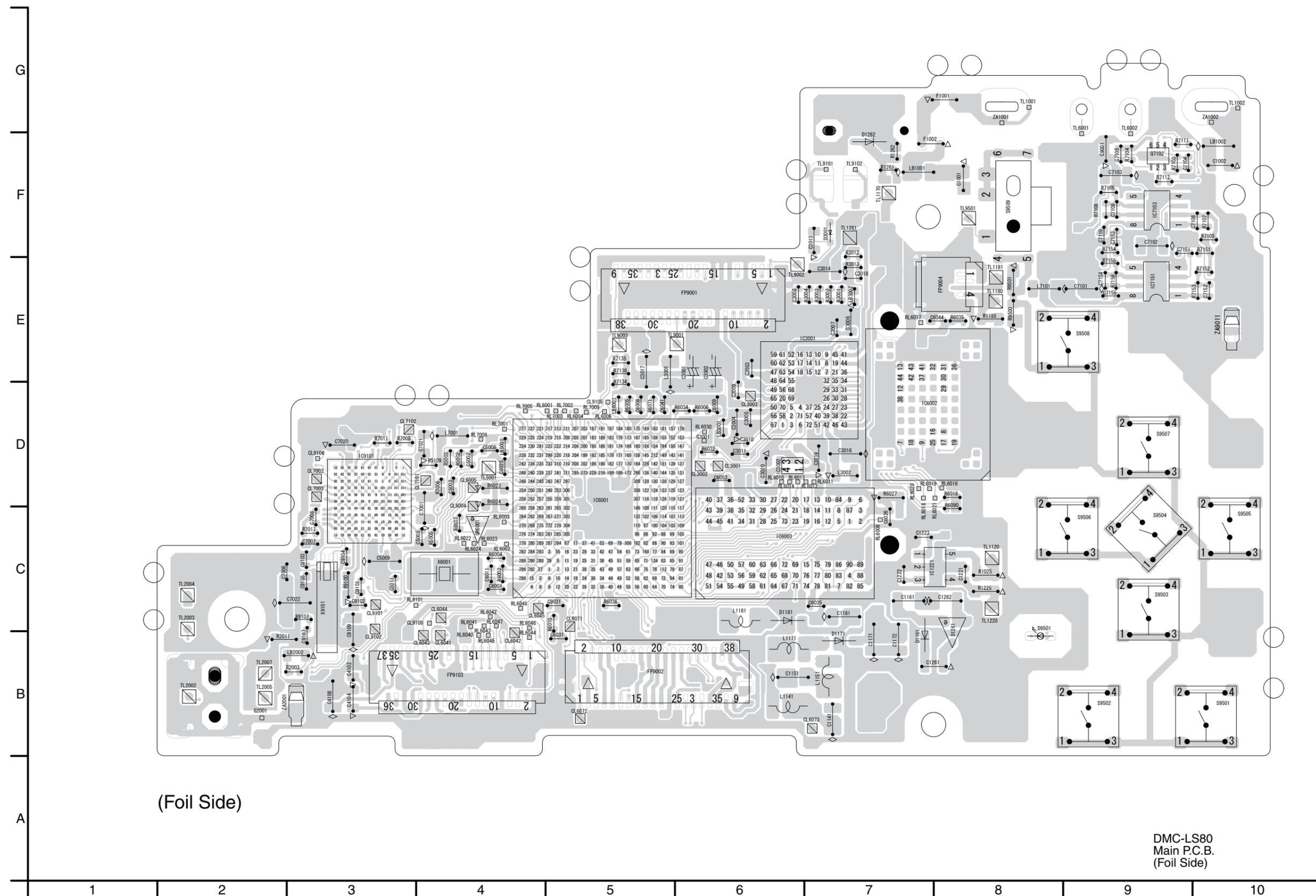
S5. Print Circuit Board

S5.1. Main P.C.B.

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



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



(Foil Side)

DMC-LS80
Main P.C.B.
(Foil Side)

S5.1.3. Main P.C.B. Address Information

Main P.C.B.																										
Integrated Circuit			RL6004	D-5	F	TL9003	E-5	F	C1100	C-5	C	C5009	C-3	F	C7103	F-9	F	R2001	B-9	C	R7006	D-4	F	VA9016	C-6	C
IC1101	B-6	C	RL6005	D-7	C	TL9011	B-7	C	C1101	B-6	C	C5010	C-8	C	C7104	F-9	F	R2002	B-9	C	R7007	C-8	C	VA9017	B-7	C
IC1221	C-8	F	RL6006	D-5	F	TL9051	F-4	C	C1102	C-6	C	C5011	C-3	F	C7105	F-9	F	R2003	B-3	F	R7008	D-3	F	VA9018	B-7	C
IC2001	B-8	C	RL6007	C-7	C	TL9052	F-5	C	C1105	C-5	C	C6001	C-4	F	C7106	G-2	C	R2004	B-9	C	R7009	C-8	C	VA9019	B-7	C
IC3001	D-7	F	RL6008	C-7	F	TL9053	E-7	C	C1110	B-4	C	C6008	D-5	F	C7107	F-4	C	R2011	B-2	F	R7010	C-8	C	VA9020	B-7	C
IC3002	D-6	F	RL6009	D-7	C	TL9101	F-7	F	C1111	C-5	C	C6009	D-6	F	C7108	F-10	F	R2012	B-9	C	R7011	D-3	C	VA9021	B-7	C
IC6001	C-5	F	RL6010	D-6	F	TL9102	F-7	F	C1120	B-3	C	C6011	C-4	F	C7109	F-9	F	R2013	B-9	C	R7012	C-9	C	VA9022	B-7	C
IC6002	D-7	F	RL6011	D-7	F	TL9501	F-8	F	C1121	B-5	C	C6012	D-7	C	C7110	F-9	F	R3001	E-7	F	R7013	C-8	C	VA9023	B-7	C
IC6003	C-6	F	RL6012	D-7	F				C1131	B-5	C	C6013	D-7	C	C7151	F-9	F	R3002	E-7	F	R7014	C-8	C	VA9024	B-7	C
IC7101	F-2	C	RL6013	D-6	F	Connector			C1140	B-6	C	C6014	D-7	C	C7152	E-10	F	R3003	E-7	F	R7015	C-9	C	VA9025	B-7	C
IC7102	F-3	C	RL6014	D-6	F	FP9001	E-6	F	C1141	B-7	F	C6015	D-7	C	C7153	F-9	F	R3004	E-7	F	R7016	C-9	C	VA9026	B-7	C
IC7103	F-9	F	RL6016	D-8	F	FP9002	B-5	F	C1151	B-6	F	C6017	C-7	C	C7154	E-9	F	R3010	D-5	C	R7017	C-3	F	VA9051	F-5	C
IC7151	E-9	F	RL6017	E-7	F	FP9004	E-8	F	C1160	C-6	C	C6019	D-7	C	C7155	E-9	F	R3011	D-5	C	R7019	C-8	C			
IC9101	D-3	F	RL6018	D-7	F	FP9103	B-4	F	C1161	C-7	F	C6020	C-7	C	C9001	F-9	F	R3012	E-7	F	R7021	D-8	C	Back up Battery		
			RL6019	D-7	F	JK2001	B-10	C	C1171	B-7	F	C6022	C-7	C	C9031	C-5	F	R3013	E-7	F	R7022	D-8	C	B9101	B-2	C
			RL6020	D-7	F	P6401	D-3	C	C1172	B-7	F	C6023	C-7	C	C9032	B-8	C	R4101	B-8	C	R7023	D-8	C			
			RL6021	D-8	F	PP9001	G-5	C	C1180	C-6	C	C6025	D-4	F	C9051	E-5	C	R5002	D-4	F	R7024	D-8	C	Ground Terminal		
			RL6022	C-4	F				C1221	C-8	F	C6026	C-7	F	C9052	E-5	C	R5003	D-4	F	R7101	F-3	C	G1001	B-9	C
			RL6023	C-4	F	Fuse			C1222	C-7	F	C6031	B-5	F	C9101	C-3	F	R5006	C-8	C	R7103	F-9	F	G1003	C-5	C
			RL6024	C-4	F	F1001	G-8	F	C1223	C-7	F	C6033	D-7	C	C9102	C-3	F	R5008	C-9	C	R7104	F-9	F	G2001	B-2	F
			RL6030	D-6	F	F1002	F-7	F	C1261	B-8	F	C6035	C-7	F	C9103	C-3	F	R6002	C-4	F	R7105	F-10	F	G3001	D-6	F
			RL6040	B-4	F	Diode			C1262	C-8	F	C6038	D-7	C	C9104	C-3	F	R6004	C-4	F	R7106	F-9	F	G9001	G-4	C
			RL6041	C-4	F	D1161	B-7	F	C2001	C-8	C	C6041	D-5	F	C9105	C-3	F	R6005	D-5	F	R7107	F-10	F			
			RL6042	C-4	F	D1171	B-7	F	C2002	B-9	C	C6042	D-7	C	C9106	C-9	C	R6006	D-6	F	R7108	F-9	F			
			RL6043	C-4	F	D1181	C-6	F	C2003	B-8	C	C6043	C-7	C	C9107	B-3	F	R6007	D-7	C	R7111	F-9	F			
			RL6044	B-4	F	D1261	B-8	F	C2004	B-9	C	C6044	E-8	F	C9108	C-9	C	R6008	D-7	C	R7112	F-9	F			
			RL6045	B-4	F	D1262	F-7	F	C2011	B-9	C	C6046	C-7	C	C9109	B-3	F	R6010	C-5	F	R7131	B-6	C	S9501	B-10	F
			RL6046	C-4	F	D3001	F-7	F	C3001	E-6	F	C6047	D-6	C	CX6001	C-7	C	R6013	C-7	C	R7132	B-6	C	S9503	C-9	F
			RL6047	C-4	F	D9101	C-9	C	C3002	E-6	F	C6048	C-7	C				R6014	D-6	C	R7133	B-6	C	S9504	C-9	F
			RL6048	C-4	F	D9102	C-8	C	C3003	E-6	F	C6049	C-7	C	Resistor			R6015	D-6	C	R7134	D-5	F	S9505	C-10	F
			RL7001	D-4	F	D9501	B-8	F	C3004	D-6	F	C6050	C-6	C	R1025	C-8	F	R6016	C-7	C	R7135	E-5	F	S9506	C-9	F
			RL7002	D-5	F				C3005	D-6	F	C6053	D-6	F	R1065	D-5	C	R6017	C-7	C	R7136	E-5	F	S9507	D-9	F
			RL7003	D-5	F	Crystal Oscillator			C3006	E-7	F	C6054	D-7	C	R1101	B-6	C	R6018	D-8	F	R7151	F-10	F	S9508	E-9	F
			RL7005	D-4	F	X6001	C-4	F	C3007	E-7	F	C6055	D-7	C	R1105	C-5	C	R6021	C-7	C	R7152	E-10	F	S9509	F-8	F
			RL7007	C-8	C	X9101	C-3	F	C3008	E-6	F	C6063	D-7	C	R1111	C-5	C	R6022	D-7	C	R7153	E-10	F			
			RL7009	D-5	F	Coil			C3009	D-6	F	C6064	D-7	C	R1112	C-5	C	R6023	D-4	F	R7154	F-9	F			
			RL9101	C-3	F	L1111	B-4	C	C3010	D-6	F	C6065	D-7	C	R1115	F-4	C	R6024	D-4	F	R7155	E-9	F			
			RL9102	C-8	C	L1121	B-3	C	C3011	D-6	F	C6066	D-7	C	R1121	B-5	C	R6025	D-7	C	R7156	E-9	F			
			RL9104	C-8	C	L1131	B-5	C	C3013	F-7	F	C6067	D-7	C	R1122	B-5	C	R6027	D-7	F	R9051	E-5	C			
			TL1001	G-8	F	L1141	B-6	F	C3014	E-7	F	C6068	D-7	C	R1123	B-5	C	R6028	C-7	C	R9052	F-4	C			
			TL1100	B-4	C	L1151	B-7	F	C3015	F-5	C	C6069	D-7	C	R1131	B-5	C	R6029	C-6	C	R9100	C-3	F			
			TL1110	F-4	C	L1161	B-4	C	C3016	D-7	F	C6401	D-5	C	R1132	B-5	C	R6030	C-7	C	R9101	D-8	C			
			TL1120	C-8	F	L1171	B-6	F	C3017	E-5	F	C7001	C-4	F	R1133	B-5	C	R6031	C-7	C	R9105	B-3	C			
			TL1130	C-6	C	L1181	C-6	F	C3018	E-7	F	C7002	C-8	C	R1135	C-5	C	R6032	D-6	F	R9106	C-9	C			
			TL1140	C-7	C	L2002	B-9	C	C3019	D-7	F	C7003	C-7	C	R1141	B-6	C	R6034	D-6	F	R9107	C-3	F			
			TL1150	D-6	C	L2011	B-9	C	C3020	D-6	F	C7004	D-7	C	R1142	B-6	C	R6035	E-8	F	R9108	C-9	C			
			TL1160	D-5	C	L3001	E-5	F	C4102	B-3	F	C7005	C-8	C	R1143	B-6	C	R6036	C-5	F	R9109	D-4	F			
			TL1170	F-7	F	L3002	D-7	F	C4103	B-8	C	C7006	C-3	F	R1151	B-6	C	R6037	C-4	F	R9110	E-6	C			
			TL1180	E-8	F	L3003	F-4	C	C4104	B-3	F	C7007	C-3	F	R1152	B-6	C	R6054	D-8	C	R9112	C-8	C			
			TL1181	E-8	F	L7001	D-4	F	C4105	B-8	C	C7008	C-3	F	R1153	B-6	C	R6055	D-8	C	R9113	C-8	C			
			TL1220	C-8	F	L7101	E-8	F	C4106	B-8	C	C7010	C-8	C	R1161	C-6	C	R6061	E-6	C	R9114	C-8	C			
			TL2261	F-7	F	LB1001	F-7	F	C4107	C-8	C	C7011	C-9	C	R1162	C-6	C	R6062	E-6	C	R9115	C-8	C			
			TL2001	B-9	C	LB1002	F-10	F	C4108	B-3	F	C7012	C-9	C	R1163	C-6	C	R6063	D-7	C	R9116	D-8	C			
			TL2002	B-2	F	LB2001	B-9	C	C4109	B-8	C	C7013	C-9	C	R1171	C-5	C	R6064	D-7	C	R9117	C-9	C			
			TL2003	C-2	F	LB2002	B-3	F	C4110	B-8	C	C7014	D-8	C	R1172	C-5	C	R6065	D-7	C	R9118	E-6	C			
			TL2004	C-2	F	LB3001	D-6	F	C4111	B-8	C	C7015	D-8	C	R1173	C-5	C	R6066	D-7	C	R9500	E-8	F			
			TL2005	B-2	F	LB3002	E-7	F	C4112	B-8	C	C7016	D-8	C	R1181	B-6	C	R6067	D-7	C	R9501	E-8	F			
			TL2006	B-9	C	LB5001	D-4	F	C4113	B-8	C	C7017	D-7	C	R1182	B-6	C	R6068	D-7	C	RX6401	C-5	C			
			TL2007	B-2																						

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.
5. Supply of CD-ROM, in accordance with license protection, is allowable as replacement parts only for customers who accidentally damaged or lost their own.

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

Definition of Parts supplier:

1. Parts marked with [MBI] in the remarks column are supplied from **Matsushita Battery Industrial Co., Ltd.**
2. Parts marked with [PAVC-CSG] in the remarks column are supplied from **PAVC COMPANY CS Group (PAVC-CSG).**
Others are supplied from **PAVCSG (ASPC).**

DMC-LS80P/PC/PL/EB/EE/EF/EG/E/GC/GK/GN

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		----- P.C.B. LIST -----		
	VEP56056A	MAIN PCB	1	(RTL)E.S.D.
		--- INDIVIDUAL PARTS ---		
△ B9101	ML614S/F9FE	BUTTON BATTERY	1	[MBI]
		--- ELEC. COMPONENTS ---		
	VEP56056A	MAIN PCB		(RTL)E.S.D.
C1001	ECJ1VB1A224K	C.CAPACITOR CH 10V 0.22U	1	
C1100	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1101	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C1102	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C1105	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C1110	F1J0J106A004	C.CAPACITOR CH 6.3V 10U	1	
C1111	F1J0J226A014	C.CAPACITOR CH 6.3V 22U	1	
C1120	F1J0J106A004	C.CAPACITOR CH 6.3V 10U	1	
C1121	F1J0J226A014	C.CAPACITOR CH 6.3V 22U	1	
C1131	F1J0J106A004	C.CAPACITOR CH 6.3V 10U	1	
C1140	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1141	F1J0J106A004	C.CAPACITOR CH 6.3V 10U	1	
C1151	F1J0J106A004	C.CAPACITOR CH 6.3V 10U	1	
C1160	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1161	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1171	F1J1C475A059	C.CAPACITOR CH 16V 4.7U	1	
C1180	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1181	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C1221	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C1222	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C1261	ECJ1VB1E104K	C.CAPACITOR CH 25V 0.1U	1	
C1262	ECJ2FB1E475M	C.CAPACITOR CH 25V 4.7U	1	
C2001	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C2002	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C2003	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C2004	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C2011	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C3001	F3E0J476A014	E.CAPACITOR CH 6.3V 47U	1	
C3002	F3E0J476A014	E.CAPACITOR CH 6.3V 47U	1	
C3003	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C3004	F1H0J106A009	C.CAPACITOR CH 6.3V 10U	1	
C3005	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C3006	F1H0J106A009	C.CAPACITOR CH 6.3V 10U	1	
C3007	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C3008	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C3009	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C3010	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C3011	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C3013	ECJ1VB1H104K	C.CAPACITOR CH 50V 0.1U	1	
C3014	F1J1C225A144	C.CAPACITOR CH 16V 2.2U	1	
C3015	F1J1C1050011	C.CAPACITOR CH 16V 1U	1	
C3016	F1J1A106A023	C.CAPACITOR CH 10V 10U	1	
C3017	F1J1A106A023	C.CAPACITOR CH 10V 10U	1	
C3018	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C3019	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C3020	F1H0J106A009	C.CAPACITOR CH 6.3V 10U	1	
C4102	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C4103	F1H1C105A095	C.CAPACITOR CH 16V 1U	1	
C4104	F1H1C105A095	C.CAPACITOR CH 16V 1U	1	
C4105	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C4106	F1J0J1060009	C.CAPACITOR CH 6.3V 10U	1	
C4107	F1J0J1060009	C.CAPACITOR CH 6.3V 10U	1	
C4108	F1J0J226A014	C.CAPACITOR CH 6.3V 22U	1	
C4109	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C4110	F1H1C105A095	C.CAPACITOR CH 16V 1U	1	
C4111	F1H1C105A095	C.CAPACITOR CH 16V 1U	1	
C4112	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C4113	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C4114	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C5001	ECJ0EB1E102K	C.CAPACITOR CH 25V 1000P	1	
C5002	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5004	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C5005	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5006	ECJ0EB1A473K	C.CAPACITOR CH 10V 0.047U	1	
C5007	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C5009	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5010	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C5011	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6001	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C6009	F1G1H100A565	C.CAPACITOR CH 50V 10P	1	
C6011	F1G1H120A422	C.CAPACITOR CH 50V 12P	1	
C6017	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6019	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6022	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6023	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6025	ECJ0EB1E102K	C.CAPACITOR CH 25V 1000P	1	
C6026	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6027	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C6033	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C6035	ECJ0EB1E102K	C.CAPACITOR CH 25V 1000P	1	
C6041	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6042	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C6043	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6044	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6046	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6047	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6048	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6049	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C6050	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C6053	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C6054	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6055	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6063	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6064	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6065	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6066	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6067	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6068	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6069	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C6401	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C7001	F1J1A106A024	C.CAPACITOR CH 10V 10U	1	
C7002	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C7003	ECJ0EB1C103K	C.CAPACITOR CH 16V 0.01U	1	
C7004	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C7005	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C7013	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C7018	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7019	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7022	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C7023	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7024	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7101	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C7102	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C7103	F1J0J106A016	C.CAPACITOR CH 6.3V 10U	1	
C7104	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7105	ECJ0EB1E222K	C.CAPACITOR CH 25V 2200P	1	
C7106	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C7107	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C7108	ECJ0EB1E471K	C.CAPACITOR CH 25V 470P	1	
C7109	ECJ0EB1E471K	C.CAPACITOR CH 25V 470P	1	
C7110	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7151	ECJ0EB1A683K	C.CAPACITOR CH 10V 0.068U	1	
C7152	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7153	ECJ0EB1A683K	C.CAPACITOR CH 10V 0.068U	1	
C7154	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C7155	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9001	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C9032	F1H1A105A028	C.CAPACITOR CH 10V 1U	1	
C9051	ECJ0EB1A333K	C.CAPACITOR CH 10V 0.033U	1	
C9052	ECJ0EB1A333K	C.CAPACITOR CH 10V 0.033U	1	
C9053	F1J0J2260004	C.CAPACITOR CH 6.3V 22U	1	
C9101	ECJ0EB1E102K	C.CAPACITOR CH 25V 1000P	1	
C9102	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C9103	F1G1H120A422	C.CAPACITOR CH 50V 12P	1	
C9104	F1G1H120A422	C.CAPACITOR CH 50V 12P	1	
C9105	F1G0J1050007	C.CAPACITOR CH 6.3V 1U	1	
C9108	F1G1A1040006	C.CAPACITOR CH 10V 0.1U	1	
C9109	F1J1C475A059	C.CAPACITOR CH 16V 4.7U	1	
CX6001	F1L1E103A065	C.CAPACITOR CH 25V 0.01U	1	

DMC-LS80P/PC/PL/EB/EE/EF/EG/E/GC/GK/GN

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D1161	MA2ZD1800L	DIODE	1	E.S.D.
D1171	MA2ZD1800L	DIODE	1	E.S.D.
D1181	MA2ZD1800L	DIODE	1	E.S.D.
D1261	B0JDC000013	DIODE	1	E.S.D.
D1262	MAZ81000LL	DIODE	1	E.S.D.
D3001	MA2S111008	DIODE	1	E.S.D.
D9101	B0JDC000013	DIODE	1	E.S.D.
D9102	B0JDC000017	DIODE	1	E.S.D.
D9501	B3ABB0000150	DIODE	1	E.S.D.
△ F1001	ERBSE2R50U	FUSE 32V 2.5A	1	
△ F1002	ERBSE2R50U	FUSE 32V 2.5A	1	
FP9001	K1MY39BA0235	CONNECTOR 39P	1	
FP9002	K1MY39BA0235	CONNECTOR 39P	1	
FP9004	K1MN04BA0208	CONNECTOR 4P	1	
FP9103	K1MY37BA0235	CONNECTOR 37P	1	
IC1101	VUEALLPT016	IC	1	E.S.D.[PAVC-CSG]
IC1221	C0CBCBC00219	IC	1	E.S.D.
IC2001	C9ZB00000474	IC	1	E.S.D.
IC3001	C1AB00002917	IC	1	E.S.D.
IC3002	C0CBCBC00236	IC	1	E.S.D.
IC6001	MN103SE00ERF	IC	1	E.S.D.
IC6002	RS10085	IC	1	E.S.D.
IC6003	C3ABRJ000014	IC	1	E.S.D.
IC7101	L2ES00000016	GYROSCOPE	1	E.S.D.
IC7102	L2ES00000017	GYROSCOPE	1	E.S.D.
IC7103	C0ABHA000054	IC	1	E.S.D.
IC7151	C0ABHA000054	IC	1	E.S.D.
IC9101	C1AB00002894	IC	1	E.S.D.
JK2001	K1FB108E0008	CONNECTOR 12P	1	
L1111	G1C3R3ZA0103	CHIP INDUCTOR 3.3UH	1	
L1121	G1C3R3MA0175	INDUCTOR	1	
L1131	G1C100KA0023	CHIP INDUCTOR 10UH	1	
L1141	G1C6R8MA0031	CHIP INDUCTOR 6.8UH	1	
L1151	G1C100KA0023	CHIP INDUCTOR 10UH	1	
L1161	G1C4R7ZA0097	CHIP INDUCTOR 4.7UH	1	
L1171	G1C100KA0023	CHIP INDUCTOR 10UH	1	
L1181	G1C100KA0023	CHIP INDUCTOR 10UH	1	
L2002	G1C220KA0124	CHIP INDUCTOR 22UH	1	
L2011	J0JAD0000023	FILTER	1	
L3001	G1C100KA0055	CHIP INDUCTOR 10UH	1	
L3002	G1C100KA0124	CHIP INDUCTOR 10UH	1	
L3003	G1C100KA0124	CHIP INDUCTOR 10UH	1	
L7001	G1C220KA0055	CHIP INDUCTOR 22UH	1	
L7101	G1C220KA0055	CHIP INDUCTOR 22UH	1	
LB1001	J0JHC0000048	FILTER	1	
LB1002	J0JHC0000048	FILTER	1	
LB2001	J0JBC0000071	FILTER	1	
LB2002	J0JCC0000077	FILTER	1	
LB3001	J0JBC0000044	FILTER	1	
LB3002	J0JBC0000044	FILTER	1	
LB5001	J0JCC0000317	FILTER	1	
LB6001	J0JCC0000317	FILTER	1	
P6401	K1NA09E00079	SD CARD SLOT	1	
PP9001	K1KA20BA0052	CONNECTOR 20P	1	
Q1331	B1CFHC000005	TRANSISTOR	1	
Q7102	B1HB0000001	TRANSISTOR	1	
QR1301	B1GBCFN0041	TRANSISTOR-RESISTOR	1	
QR2011	B1GBCFN0020	CHIP DIGITAL TRANSISTOR	1	
QR6001	B1GDCFN00033	CHIP DIGITAL TRANSISTOR	1	
QR7101	B1GFCFGN0011	TRANSISTOR-RESISTOR	1	
R1101	ERJ2RHD104X	M.RESISTOR CH 1/16W 0.1M	1	
R1105	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R1121	ERJ2RHD243X	M.RESISTOR CH 1/16W 24K	1	
R1122	ERJ2RHD103X	M.RESISTOR CH 1/16W 10K	1	
R1131	ERJ2RHD123X	M.RESISTOR CH 1/16W 12K	1	
R1132	ERJ2RHD622X	M.RESISTOR CH 1/16W 6.2K	1	
R1141	ERJ2RHD222X	M.RESISTOR CH 1/16W 2.2K	1	
R1142	ERJ2RHD113X	M.RESISTOR CH 1/16W 11K	1	
R1151	ERJ2RHD113X	M.RESISTOR CH 1/16W 11K	1	
R1152	ERJ2RHD133X	M.RESISTOR CH 1/16W 13K	1	
R1161	ERJ2RHD623X	M.RESISTOR CH 1/16W 62K	1	
R1162	ERJ2RHD133X	M.RESISTOR CH 1/16W 13K	1	
R1171	ERJ2RHD333X	M.RESISTOR CH 1/16W 33K	1	
R1172	ERJ2RHD473X	M.RESISTOR CH 1/16W 47K	1	
R1173	ERJ2RHD332X	M.RESISTOR CH 1/16W 3.3K	1	
R1181	ERJ2GEJ823X	M.RESISTOR CH 1/16W 82K	1	
R1182	ERJ2GEJ113X	M.RESISTOR CH 1/16W 11K	1	
R1186	ERJ2RKH240X	M.RESISTOR CH 1/16W 24	1	
R1261	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R1262	ERJ2GEJ104X	M.RESISTOR CH 1/16W 100K	1	
R1301	ERJ2GEJ104X	M.RESISTOR CH 1/16W 100K	1	
R1351	ERJ2GEJ332X	M.RESISTOR CH 1/16W 3.3K	1	
R2001	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R2002	ERJ2GEJ750X	M.RESISTOR CH 1/16W 75	1	
R2003	ERJ2GEJ561X	M.RESISTOR CH 1/16W 560	1	
R2012	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R2013	ERJ2GEJ473X	M.RESISTOR CH 1/16W 47K	1	
R3003	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R3004	ERJ2GEJ220X	M.RESISTOR CH 1/16W 22	1	
R3010	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R3011	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R4101	ERJ2GEJ224X	M.RESISTOR CH 1/16W 220K	1	
R5002	ERJ2GEJ222X	M.RESISTOR CH 1/16W 2.2K	1	
R5006	ERJ2GEJ390X	M.RESISTOR CH 1/16W 39	1	
R5008	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R6002	ERJ2GEJ105X	M.RESISTOR CH 1/16W 1M	1	
R6004	ERJ2GEJ152X	M.RESISTOR CH 1/16W 1.5K	1	
R6005	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6006	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6007	ERJ2GE0R000X	M.RESISTOR CH 1/16W 0	1	
R6008	ERJ2GEJ560X	M.RESISTOR CH 1/16W 56	1	
R6010	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6013	ERJ2RHD271X	M.RESISTOR CH 1/16W 270	1	
R6017	ERJ2RHD122X	M.RESISTOR CH 1/16W 1.2K	1	
R6018	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R6021	ERJ2RHD222X	M.RESISTOR CH 1/16W 2.2K	1	
R6022	ERJ2RKF5902X	M.RESISTOR CH 1/16W 59K	1	
R6023	ERJ3GEYJ390V	M.RESISTOR CH 1/10W 39	1	
R6024	ERJ3GEYJ390V	M.RESISTOR CH 1/10W 39	1	
R6025	ERJ2RHD103X	M.RESISTOR CH 1/16W 10K	1	
R6037	ERJ2GEJ152X	M.RESISTOR CH 1/16W 1.5K	1	
R6054	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6055	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6061	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6062	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6063	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6064	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6065	ERJ2GEJ153X	M.RESISTOR CH 1/16W 15K	1	
R6066	ERJ2GEJ153X	M.RESISTOR CH 1/16W 15K	1	
R6067	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6068	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6402	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7006	ERJ2GEJ682X	M.RESISTOR CH 1/16W 6.8K	1	
R7007	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7009	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7010	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7013	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7014	ERJ2GEJ682X	M.RESISTOR CH 1/16W 6.8K	1	
R7017	ERJ2BQFR56X	M.RESISTOR CH 1/8W 0.56	1	
R7101	ERJ2GEJ202X	M.RESISTOR CH 1/16W 2K	1	
R7102	ERJ2GEJ202X	M.RESISTOR CH 1/16W 2K	1	
R7103	ERJ2GEJ824X	M.RESISTOR CH 1/16W 820K	1	
R7104	ERJ2GEJ824X	M.RESISTOR CH 1/16W 820K	1	
R7105	ERJ2RHD472X	M.RESISTOR CH 1/16W 4.7K	1	
R7106	ERJ2RHD472X	M.RESISTOR CH 1/16W 4.7K	1	
R7107	ERJ2RKH274X	M.RESISTOR CH 1/16W 270K	1	
R7108	ERJ2RKH274X	M.RESISTOR CH 1/16W 270K	1	
R7111	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7112	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7131	ERJ2GEJ151X	M.RESISTOR CH 1/16W 150	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R1132	ERJ2RHD622X	M.RESISTOR CH 1/16W 6.2K	1	
R1141	ERJ2RHD222X	M.RESISTOR CH 1/16W 2.2K	1	
R1142	ERJ2RHD113X	M.RESISTOR CH 1/16W 11K	1	
R1151	ERJ2RHD113X	M.RESISTOR CH 1/16W 11K	1	
R1152	ERJ2RHD133X	M.RESISTOR CH 1/16W 13K	1	
R1161	ERJ2RHD623X	M.RESISTOR CH 1/16W 62K	1	
R1162	ERJ2RHD133X	M.RESISTOR CH 1/16W 13K	1	
R1171	ERJ2RHD333X	M.RESISTOR CH 1/16W 33K	1	
R1172	ERJ2RHD473X	M.RESISTOR CH 1/16W 47K	1	
R1173	ERJ2RHD332X	M.RESISTOR CH 1/16W 3.3K	1	
R1181	ERJ2GEJ823X	M.RESISTOR CH 1/16W 82K	1	
R1182	ERJ2GEJ113X	M.RESISTOR CH 1/16W 11K	1	
R1186	ERJ2RKH240X	M.RESISTOR CH 1/16W 24	1	
R1261	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R1262	ERJ2GEJ104X	M.RESISTOR CH 1/16W 100K	1	
R1301	ERJ2GEJ104X	M.RESISTOR CH 1/16W 100K	1	
R1351	ERJ2GEJ332X	M.RESISTOR CH 1/16W 3.3K	1	
R2001	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R2002	ERJ2GEJ750X	M.RESISTOR CH 1/16W 75	1	
R2003	ERJ2GEJ561X	M.RESISTOR CH 1/16W 560	1	
R2012	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R2013	ERJ2GEJ473X	M.RESISTOR CH 1/16W 47K	1	
R3003	ERJ2GEJ470X	M.RESISTOR CH 1/16W 47	1	
R3004	ERJ2GEJ220X	M.RESISTOR CH 1/16W 22	1	
R3010	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R3011	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R4101	ERJ2GEJ224X	M.RESISTOR CH 1/16W 220K	1	
R5002	ERJ2GEJ222X	M.RESISTOR CH 1/16W 2.2K	1	
R5006	ERJ2GEJ390X	M.RESISTOR CH 1/16W 39	1	
R5008	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R6002	ERJ2GEJ105X	M.RESISTOR CH 1/16W 1M	1	
R6004	ERJ2GEJ152X	M.RESISTOR CH 1/16W 1.5K	1	
R6005	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6006	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6007	ERJ2GE0R000X	M.RESISTOR CH 1/16W 0	1	
R6008	ERJ2GEJ560X	M.RESISTOR CH 1/16W 56	1	
R6010	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6013	ERJ2RHD271X	M.RESISTOR CH 1/16W 270	1	
R6017	ERJ2RHD122X	M.RESISTOR CH 1/16W 1.2K	1	
R6018	ERJ2GEJ103X	M.RESISTOR CH 1/16W 10K	1	
R6021	ERJ2RHD222X	M.RESISTOR CH 1/16W 2.2K	1	
R6022	ERJ2RKF5902X	M.RESISTOR CH 1/16W 59K	1	
R6023	ERJ3GEYJ390V	M.RESISTOR CH 1/10W 39	1	
R6024	ERJ3GEYJ390V	M.RESISTOR CH 1/10W 39	1	
R6025	ERJ2RHD103X	M.RESISTOR CH 1/16W 10K	1	
R6037	ERJ2GEJ152X	M.RESISTOR CH 1/16W 1.5K	1	
R6054	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6055	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6061	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6062	ERJ2GEJ101X	M.RESISTOR CH 1/16W 100	1	
R6063	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6064	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6065	ERJ2GEJ153X	M.RESISTOR CH 1/16W 15K	1	
R6066	ERJ2GEJ153X	M.RESISTOR CH 1/16W 15K	1	
R6067	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6068	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R6402	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7006	ERJ2GEJ682X	M.RESISTOR CH 1/16W 6.8K	1	
R7007	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7009	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7010	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7013	ERJ2GEJ102X	M.RESISTOR CH 1/16W 1K	1	
R7014	ERJ2GEJ682X	M.RESISTOR CH 1/16W 6.8K	1	
R7017	ERJ2BQFR56X	M.RESISTOR CH 1/8W 0.56	1	
R7101	ERJ2GEJ202X	M.RESISTOR CH 1/16W 2K	1	
R7102	ERJ2GEJ202X	M.RESISTOR CH 1/16W 2K	1	
R7103	ERJ2GEJ824X	M.RESISTOR CH 1/16W 820K	1	
R7104	ERJ2GEJ824X	M.RESISTOR CH 1/16W 820K	1	
R7105	ERJ2RHD472X	M.RESISTOR CH 1/16W 4.7K	1	
R7106	ERJ2RHD472X	M.RESISTOR CH 1/16W 4.7K	1	
R7107	ERJ2RKH274X	M.RESISTOR CH 1/16W 270K	1	
R7108	ERJ2RKH274X	M.RESISTOR CH 1/16W 270K	1	
R7111	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7112	ERJ2GEJ223X	M.RESISTOR CH 1/16W 22K	1	
R7131	ERJ2GEJ151X	M.RESISTOR CH 1/16W 150	1	

