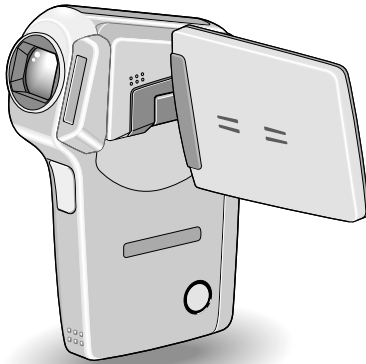




# SERVICE MANUAL

## Digital Movie Camera



### Contents

1. OUTLINE OF CIRCUIT DESCRIPTION .....	3
2. DISASSEMBLY .....	12
3. ELECTRICAL ADJUSTMENT .....	17
4. USB STORAGE INFORMATION REGISTRATION .....	22
5. TROUBLESHOOTING GUIDE .....	23
6. PARTS LIST .....	24
CIRCUIT DIAGRAMS & PRINTED WIRING BOARDS .....	C1

### RoHS

- This product does not contain any hazardous substances prohibited by the RoHS Directive.

### WARNING

- You are requested to use RoHS compliant parts for maintenance or repair.
- You are requested to use lead-free solder.  
(This product has been manufactured using lead-free solder. Be sure to follow the warning given on page 2 when carrying out repair work.)

CAUTION : Danger of explosion if battery is incorrectly replaced.

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

Discard used batteries according to the manufacturer's instructions.

NOTE : 1. Parts order must contain model number, part number, and description.  
2. Substitute parts may be supplied as the service parts.  
3. N. S. P. : Not available as service parts.

Design and specification are subject to change without notice.

## VPC-CG6

(Product Code : 168 069 01)  
(U.S.A.) (Canada) (Korea) (Taiwan)

## VPC-CG6EX

(Product Code : 168 069 02)  
(Europe) (U.K.) (South America)  
(China) (Australia) (Hong Kong)  
(Russia) (Middle East) (Africa)  
(General) (Korea) (Taiwan)

## VPC-CG6EXBL

(Product Code : 168 069 05)  
(Europe) (U.K.) (South America)  
(China) (Australia) (Hong Kong)  
(Russia) (Middle East) (Africa)  
(General) (Korea) (Taiwan)

## VPC-CG6EXP

(Product Code : 168 069 06)  
(Europe) (U.K.) (South America)  
(China) (Australia) (Hong Kong)  
(Russia) (Middle East) (Africa)  
(General) (Korea) (Taiwan)

## VPC-CG6GX

(Product Code : 168 069 07)  
(South America) (China)  
(Australia) (Hong Kong)  
(General) (Korea) (Taiwan)

## PRODUCT SAFETY NOTICE

The components designated by a symbol (  $\triangle$  ) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage, and voltage ratings shown.

### WARNING

#### Do not use solder containing lead.

This product has been manufactured using lead-free solder in order to help preserve the environment.

Because of this, be sure to use lead-free solder when carrying out repair work, and never use solder containing lead.

Lead-free solder has a melting point that is 30 - 40°C (86 - 104°F) higher than solder containing lead, and moreover it does not contain lead which attaches easily to other metals. As a result, it does not melt as easily as solder containing lead, and soldering will be more difficult even if the temperature of the soldering iron is increased.

The extra difficulty in soldering means that soldering time will increase and damage to the components or the circuit board may easily occur.

Because of this, you should use a soldering iron and solder that satisfy the following conditions when carrying out repair work.

#### Soldering iron

Use a soldering iron which is 70 W or equivalent, and which lets you adjust the tip temperature up to 450°C (842°F). It should also have as good temperature recovery characteristics as possible.

Set the temperature to 350°C (662°F) or less for chip components, to 380°C (716°F) for lead wires and similar, and to 420°C (788°F) when installing and removing shield plates.

The tip of the soldering iron should have a C-cut shape or a driver shape so that it can contact the circuit board as flat or in a line as much as possible.

#### Solder

Use solder with the metal content and composition ratio by weight given in the table below. Do not use solders which do not meet these conditions.

Metal content	Tin (Sn)	Silver (Ag)	Copper (Cu)
Composition ratio by weight	96.5 %	3.0 %	0.5 %

Lead-free solder is available for purchase as a service tool.

Use the following part number when ordering:

**Part name:** Lead-free solder with resin (0.5 mm dia., 500 g)

**Part number:** VJ8-0270

#### Note:

If replacing existing solder containing lead with lead-free solder in the soldered parts of products that have been manufactured up until now, remove all of the existing solder at those parts before applying the lead-free solder.

# 1. OUTLINE OF CIRCUIT DESCRIPTION

## 1-1. CCD CIRCUIT DESCRIPTION

### 1. IC Configuration

The CCD peripheral circuit block basically consists of the following ICs.

IC931 (MN39830PMJ-A)	CCD imager
IC901 (AN20112A)	V driver
IC905 (AD9971BCPZRL)	CDS, AGC, A/D converter, H driver vertical TG

### 2. IC931 (CCD)

#### [Structure]

1/2.5 inch positive pixel-type color frame-reading fixed picture elements

Optical size	1/2.5 type format
Effective pixels	2864 (H) X 2160 (V)
Pixels in total	2934 (H) X 2171 (V)
Optical black	
Horizontal (H) direction:	Front 12 pixels, Rear 58 pixels
Vertical (V) direction:	Front 6 pixels, Rear 5 pixels
Dummy bit number	Horizontal : 28 Vertical : 7

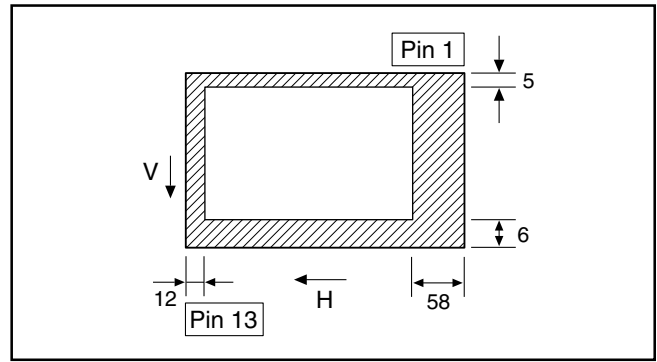


Fig. 1-1. Optical Black Location (Top View)

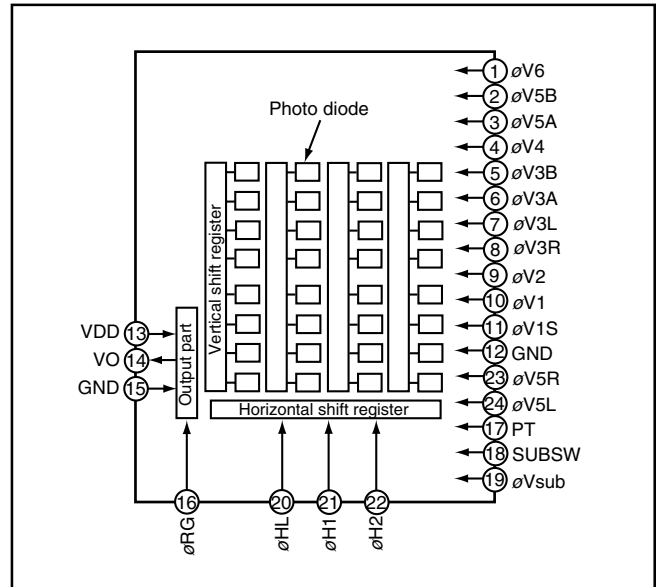


Fig. 1-2. CCD Block Diagram

Pin No.	Symbol	Pin Description	Waveform	Voltage
1, 23, 24	V <sub>5R</sub> , V <sub>5L</sub> , V <sub>6</sub>	Vertical shift register clock pulse		-6.0 V, 0 V
2, 3	V <sub>5A</sub> , V <sub>5B</sub>	Vertical shift register clock pulse		-6.0 V, 0 V, 12 V
4, 7, 8, 9, 11	V <sub>1S</sub> , V <sub>2</sub> , V <sub>3R</sub> , V <sub>3L</sub> , V <sub>4</sub>	Vertical shift register clock pulse		-6.0 V, 0 V
5, 6, 10	V <sub>1</sub> , V <sub>3A</sub> , V <sub>3B</sub>	Vertical shift register clock pulse		-6.0 V, 0 V, 12 V
14	VO	CCD output	DC	Aprox. 10 V
13	VDD	Power	DC	12 V
16	ØRG	Reset pulse		12.5 V, 16 V
12, 15	GND	GND	GND	0 V
17	PT	Protection P well	DC	-6.0 V
18	SUB SW	Substrate control		0, 3.3 V (When importing all picture element: 3.5 V)
19	ØVsub	Substrate clock	DC	Aprox. 8 V (Different from every CCD)
21, 22	ØH <sub>1</sub> , ØH <sub>2</sub>	Horizontal shift register clock pulse		0 V, 3.0 V
20	ØHL	Horizontal shift register clock pulse		0 V, 3.3 V

Table 1-1. CCD Pin Description

---- When sensor read-out

### 3. IC901 (V Driver)

A V driver (IC901) is necessary in order to generate the clocks (vertical transfer clock and electronic shutter clock) which driver the CCD.

In addition the XV1-XV13 signals which are output from IC101 are vertical transfer clocks, and the XSG signal is superimposed onto XV1, XV3 and XV5 at IC901 in order to generate a ternary pulse. In addition, the XSUB signal which is output from IC101 is used as the sweep pulse for the electronic shutter.

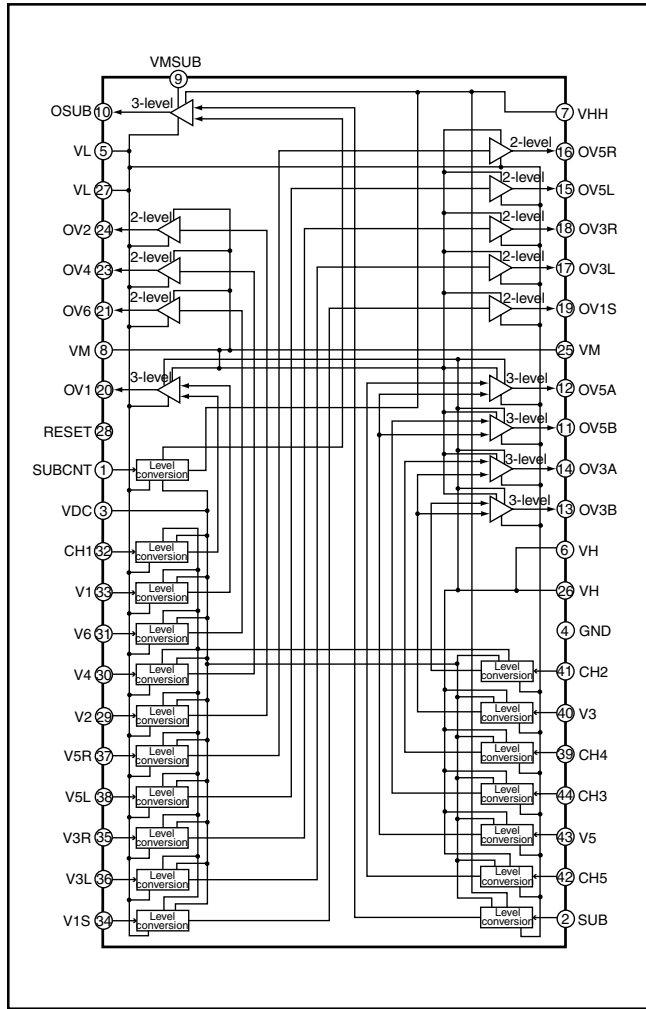


Fig. 1-3. IC901 Block Diagram

### 4. IC905 (H Driver, CDS, AGC and A/D converter)

IC905 contains the functions of H driver, CDS, AGC and A/D converter. As horizontal clock driver for CCD image sensor, H1, H2, H3, H4, HL and RG are generated inside, and output to CCD.

The video signal which is input to pin (25) of IC905. There are sampling hold blocks generated from the SHP and SHD pulses, and it is here that CDS (correlated double sampling) is carried out.

After passing through the CDS circuit, the signal passes through the VGA (VGA: Variable Gain Amplifier). It is converted internally into a small-amplitude actuating signal (LVDS), and is then input to IC101. The gain of the VGA amplifier is controlled by pins (32), (33) and (34) using serial signals which is output from IC101.

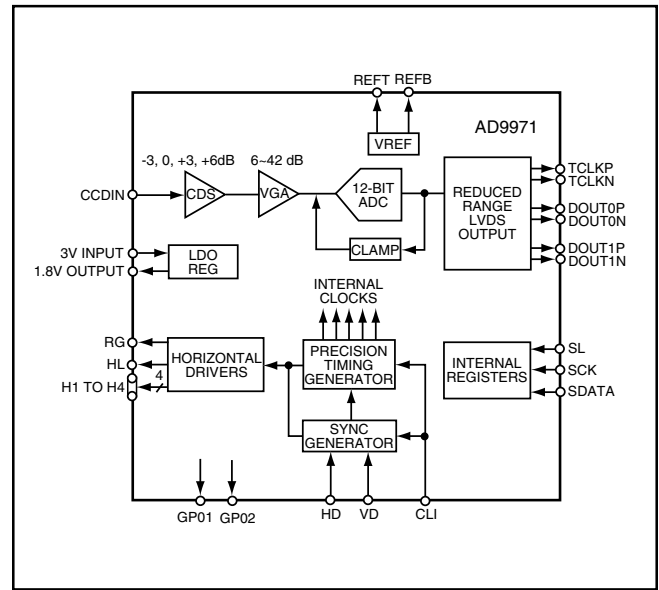


Fig. 1-4. IC905 Block Diagram

## 1-2. CP1 and VF1 CIRCUIT DESCRIPTION

### 1. Circuit Description

#### 1-1. Digital clamp

The optical black section of the CCD extracts averaged values from the subsequent data to make the black level of the CCD output data uniform for each line. The optical black section of the CCD averaged value for each line is taken as the sum of the value for the previous line multiplied by the coefficient  $k$  and the value for the current line multiplied by the coefficient  $1-k$ .

#### 1-2. Signal processor

##### 1. $\gamma$ correction circuit

This circuit performs (gamma) correction in order to maintain a linear relationship between the light input to the camera and the light output from the picture screen.

##### 2. Color generation circuit

This circuit converts the CCD data into RGB signals.

##### 3. Matrix circuit

This circuit generates the Y signals, R-Y signals and B-Y signals from the RGB signals.

##### 4. Horizontal and vertical aperture circuit

This circuit is used generate the aperture signal.

#### 1-3. AE/AWB and AF computing circuit

The AE/AWB carries out computation based on a 64-segment screen, and the AF carries out computations based on a 6-segment screen.

#### 1-4. SDRAM controller

This circuit outputs address, RAS, CAS and AS data for controlling the SDRAM. It also refreshes the SDRAM.

#### 1-5. Communication control

##### 1. SIO

This is the interface for the 8-bit microprocessor.

##### 2. PIO/PWM/SIO for LCD

8-bit parallel input and output makes it possible to switch between individual input/output and PWM input/output.

#### 1-6. TG/SG

Timing generated for 6 million pixel horizontal addition CCD control.

#### 1-7. Digital encorder

It generates chroma signal from color difference signal.

### 2. Outline of Operation

When the shutter opens, the reset signals (ASIC and CPU) and the serial signals ("take a picture" commands) from the 8-bit microprocessor are input and operation starts.

When the TG/SG drives the CCD, picture data passes through the A/D and CDS, and is then input to the ASIC as LVDS data. The AF, AE, AWB, shutter, and AGC value are computed from this data, and three exposures are made to obtain the optimum picture. The data which has already been stored in the SDRAM is read by the CPU and color generation is carried out. Each pixel is interpolated from the surrounding data as being either R, G, and B primary color data to produce R, G and B data. At this time, correction of the lens distortion which is a characteristic of wide-angle lenses is carried out. After AWB and  $\gamma$  processing are carried out, a matrix is generated and aperture correction is carried out for the Y signal, and the data is then compressed by JPEG and is then written to card memory (SD card).

When the data is to be output to an external device, it is taken data from the memory and output via the USB I/F. When played back on the LCD and monitor, data is transferred from memory to the SDRAM, and the image is then elongated so that it is displayed over the SDRAM display area.

### 3. LCD Block

During EE, the YUV of 640 x 480 conversion is carried out for the 12-bit RGB data which is input from the A/D conversion block of the CCD to the ASIC in order to be displayed on the video, and then transferred to the SDRAM.

The data which has accumulated in the SDRAM is converted to digital YUV signal in conformity to ITUR-601 inside the ASIC by SDRAM control circuit inside the ASIC, the data is sent to the LCD driver IC and displayed the image to LCD panel after gamma conversion is carried out.

If the shutter button is pressed in this condition, the 12-bit data which is output from the A/D conversion block of the CCD is sent to the SDRAM (DMA transfer), and is displayed on the LCD as a freeze-frame image.

During playback, the JPEG image data which has accumulated in the SD card is converted to YUV signals. In the same way as for EE, the data is then sent to the SDRAM, converted to digital YUV signal in conformity to ITUR-601 inside the ASIC, the data is sent to the LCD driver IC built-in LCD and displayed the image to LCD panel.

The LCD driver is converted digital YUV signals to RGB signals from ASIC, and these RGB signals and the control signal which is output by the LCD driver are used to drive the LCD panel. The RGB signals are 1H transposed so that no DC component is present in the LCD element, and the two horizontal shift register clocks drive the horizontal shift registers inside the LCD panel so that the 1H/1V transposed RGB signals are applied to the LCD panel.

Because the LCD closes more as the difference in potential between the VCOM (common polar voltage: AC drive) and the R, G and B signals becomes greater, the display becomes darker; if the difference in potential is smaller, the element opens and the LCD become brighter. In addition, the brightness and contrast settings for the LCD can be varied by means of the serial data from the ASIC.

## **4. Lens drive block**

### **4-1. Focus drive**

The three control signals (LENS\_SD, LENS\_CK and LENS\_EN) which are output from the ASIC (IC101) are converted into drive pulses (FOCUS A+, FOCUS A-, FOCUS B+ and FOCUS B-) by the motor driver (IC951), and are then used to drive micro step the stepping motor for focusing operation.

Detection of the standard focusing positions is carried out by the ASIC detecting the signal (FPIOUT) from the photointerruptor (F\_SENSE) inside the lens block.

### **4-2. Zoom drive**

The three control signals (LENS\_SD, LENS\_CK and LENS\_EN) which are output from ASIC (IC101) are converted into drive pulses (ZOOM A+, ZOOM A-, ZOOM B+ and ZOOM B-) by the motor driver (IC951), and are then used to drive micro step the stepping motor for zoom operation.

Detection of the standard zooming positions is carried out by the ASIC detecting the signal (ZPIOUT) from the photointerruptor (Z\_SENSE) inside the lens block.

### **4-3. ND filter drive**

The ND filter drive signals (NDON and NDOFF) which are output from the ASIC (IC101) are used to drive (ND + and ND -) by the motor driver (IC951), and then the ND filter is inserted into and removed from the beam path.

### **4-4. Aperture/shutter drive**

The signal (SHUTTER+) that is output from the ASIC (IC101) and the the signal (input to IC951 INB) that is output from pin (8) of IC971 (PWM OUT) are converted into drive pulses (DRIVE+ and DRIVE -) by the motor driver (IC951), and are then used to drive galvano-type aperture motor to control the aperture diameter to the desired setting, and opened and closed. Detection of the aperture diameter is carried out by amplifying at IC971 the output (HALL OUT+ and HALL OUT-) from the hall element inside the lens block, and by the ASIC detecting the output level (HALL\_OUT).

## **5. Video clip recording and playback**

### **5-1. Recording**

The signals from the camera block are input to the ASIC where they are processed, and the image data that is stored in the IC102 SDRAM is input to the IC102 MPEG4 CODEC LSI. The CODEC LSI converts this data to encoded MPEG4 data, after which it is returned to the ASIC as streaming data, and the data is then written in sequence onto the SD card. At this time, the audio signals that are input to the built-in microphone are converted into digital data by the audio CODEC IC of IC181, and they are then input via the ASIC to IC102 (MPEG4 CODEC). The audio data is then encoded (AAC) by IC102, and then it is returned to the ASIC as streaming data and is then written in sequence onto the SD card together with the image signals described above.

### **5-2. Playback**

The data is read from the SD card and input to IC102 as streaming data. The encoded data is decoded into image data by IC102 and then returned to the ASIC where it is displayed by the LCD or on a TV monitor. At this time, the audio data is also decoded by IC102, and it passes through the ASIC and is input to IC181 as digital data. D/A conversion is carried out at IC181, and the sound is then output to the speaker or to the LINE OUT terminal.

## **6. Audio CODEC circuit (IC181)**

The audio signals from the microphone are converted into 16-bit digital data. AD conversion is carried out at a maximum sampling frequency of 48 kHz.

During audio playback, the 16-bit digital data is converted into analog signals and these drive the speaker or line out system. DA conversion is carried out at a maximum sampling frequency of 48 kHz.

## 1-3. PWA POWER CIRCUIT DESCRIPTION

### 1. Outline

This is the main power circuit, and is comprised of the following blocks.

Switching controller (IC501)  
Analog 12 V power output (L5009)  
Analog -6 V power output (L5005)  
Analog 3.4 V power output (IC503)  
5 V power output (L5003)  
Digital 3.25 V power output (L5001)  
Digital 1.2 V power output (L5004)  
Digital 1.8 V power output (L5002)  
Backlight power output (L5008)  
Motor system power output (Q5301, L5301)  
USB charge circuit (IC521)

### 2. Switching Controller (IC501)

This is the basic circuit which is necessary for controlling the power supply for a PWM-type switching regulator, and is provided with eight built-in channels, only SU (5 V), M (digital 3.25 V), SD (digital 1.2 V), BST (analog 12 V), INV (analog -6 V), AFE (analog 1.8 V), LED (backlight) and AUX (motor system) are used.

Feedback for the each power supply output is received, and the PWM duty is varied so that each one is maintained at the correct voltage setting level. Feedback for the backlight power output (LED) is provided to the both ends voltage of resistance so that regular current can be controlled to be current that was setting.

#### 2-1. Short-circuit protection circuit

If output is short-circuited for the length of time determined by internal fixing of IC501, all output is turned off. The control signal (SEL, PON2 and P ON etc.) are recontrolled to restore output.

### 3. Analog 12 V Power Output

+12 V (A) is output. Feedback for the +12 V (A) is provided to the switching controller (Pin (26) of IC501) so that PWM control can be carried out.

### 4. Analog -6 V Power Output

-6 V (A) is output. Feedback for the -6 V (A) is provided to the switching controller (Pin (25) of IC501) so that PWM control can be carried out.

### 5. Analog 3.4 V Power Output

+3.4 V (A) is output. +3.4 V (A) is output to drop 3.4 V by regulator IC503 from 5 V power output.

### 6. 5 V Power Output

+5 V is output. Feedback for the +5 V is provided to the switching controller (Pin (42) of IC501) so that PWM control to be carried out.

### 7. Digital 3.25 V Power Output

VDD3 is output. Feedback for the VDD3 is provided to the switching controller (Pin (2) of IC501) so that PWM control to be carried out.

### 8. Digital 1.2 V Power Output

VDD1.2 is output. Feedback for the VDD1.2 is provided to the switching controller (Pin (12) of IC501) so that PWM control to be carried out.

### 9. Digital 1.8 V Power Output

VDD1.8 is output. Feedback for the VDD1.8 is provided to the switching controller (Pin (11) of IC501) so that PWM control to be carried out.

### 10. Backlight Power Output

Regular current is being transmitted to LED for LCD backlight. Feedback for the both ends voltage of resistance that is being positioned to in series LED are provided to the switching controller (Pin (37) of IC501) so that PWM control to be carried out.

### 11. Motor System Power Output

5.3 V is output. Feedback for the 5.3 V output is provided to the switching controller (Pin (23) of IC501) so that PWM control to be carried out.

### 12. USB charge circuit

If the camera's power is turned off, USB cable connection mode setting while it is connected to the USB cable, the battery will be charged from USB 5V.

## **1-4. ST1 STROBE CIRCUIT DESCRIPTION**

### **1. Charging Circuit**

When UNREG power is supplied to the charge circuit and the CHG signal from microprocessor becomes High (3.3 V), the charging circuit starts operating and the main electrolytic capacitor is charged with high-voltage direct current.

However, when the CHG signal is Low (0 V), the charging circuit does not operate.

#### **1-1. Charge switch**

When the CHG signal switches to Hi, IC541 starts charging operation.

#### **1-2. Power supply filter**

C5401 constitutes the power supply filter. They smooth out ripples in the current which accompany the switching of the oscillation transformer.

#### **1-3. Oscillation circuit**

This circuit generates an AC voltage (pulse) in order to increase the UNREG power supply voltage when drops in current occur. This circuit generates a drive pulse with a frequency of approximately 200-300 kHz, and drive the oscillation transformer. When the SW 3.2 V signal is input, the peak current during oscillation changes.

#### **1-4. Oscillation transformer**

The low-voltage alternating current which is generated by the oscillation control circuit is converted to a high-voltage alternating current by the oscillation transformer.

#### **1-5. Rectifier circuit**

The high-voltage alternating current which is generated at the secondary side of T5401 is rectified to produce a high-voltage direct current and is accumulated at electrolytic capacitor C5412.

#### **1-6. Charge monitoring circuit**

The functions programmed in the IC541 monitor oscillations and estimate the charging voltage. If the voltage exceeds the rated value, charging automatically stops. Then, the ZCHG\_DONE signal is changed to Lo output and a "charging stopped" signal is sent to the microcomputer.

### **2. Light Emission Circuit**

When FLCLT signal is input from the ASIC, the stroboscope emits light.

#### **2-1. Emission control circuit**

When the FLCLT signal is input to the emission control circuit, Q5402 switches on and preparation is made to the light emitting. Moreover, when a FLCLT signal becomes Lo, the stroboscope stops emitting light.

#### **2-2. Trigger circuit**

The Q5402 is turned ON by the FLCLT signal and light emission preparation is preformed. Simultaneously, high voltage pulses of several kV are emitted from the trigger coil and applied to the light emitter.

#### **2-3. Light emitting element**

When the high-voltage pulse from the trigger circuit is applied to the light emitting part, current flows to the light emitting element and light is emitted.

### **Beware of electric shocks.**



## 1-5. SYA CIRCUIT DESCRIPTION

### 1. Configuration and Functions

For the overall configuration of the SYA block, refer to the block diagram. The SYA block centers around a 8-bit microprocessor (IC301), and controls camera system condition (mode).

The 8-bit microprocessor handles the following functions.

1. Operation key input, 2. Clock control and backup, 3. Power ON/OFF, 4. Strobe charge control, 5. Battery charge control (USB charge).

Pin	Signal	I/O	Outline
1	SCK	O	Serial data clock output
2	CARD	I	SD card detection (L= SD card)
3	KEY MENU	I	Key input MENU
4	CHG_DONE	I	Strobe condensor charge done detection (H → L= charge done)
5	HOT LINE	I	Hot line request from ASIC
6	BAT_CHGERR	I	Battery charge status (H= charge error or full charge/L= charging)
7	LCD_PWM	O	LCD backlight illuminance adjustment
8	BAT_CHGOFF	O	Battery charge ON/OFF control (H= CHG OFF or BAT OFF (USB insertion))
9	VDD2	-	VDD
10	VSS2	-	GND
11	VF_LED (R)	O	Red LED (H= lighting)
12	VF_LED (G)	O	Green LED (H= lighting)
13	USB_SUSPWR	O	Power supply ON/OFF from USB (H= USB bus power OFF/L= ON)
14	USB_HPWR	O	USB high power/low power switching (H= USB high power/H= low power)
15	PON2	O	VDD 1.8 V D/D converter start-up signal (H= ON)
16	LENS_4M	O	Lens driver IC standard clock output
17	NAND RESET	O	OneNAND flash reset (L= reset)
18	MAIN RESET	O	System reset (MRST)
19	ASWON	O	Gyro sensor quick charge (rising) property control (H= quick/L= normal)
20	USB_DET1	I	USB connection detection (L= connection)
21	BACKUP CTL	O	Backup battery charge control (H= charge)
22	AL3.2 ON	O	AL3.2 power ON/OFF (H= ON)
23	PLLEN	O	ASIC PLL oscillation ON/OFF (H= ON)
24	TRST	O	JTAG and LEDA3 start-up reset (L= reset)
25	KEY_1st	I	Key input 1st SHUTTER (L= input)
26	MROUT	I	LCD panel open/close detection (MR sensor detection) (H= panel open)
27	BOOT_COMREQ	I	Command request input (combine with BOOT output)
28	PRG ENA/DATA1	I	Debugger terminal
29	SW3.2 ON	O	SW3.2 power ON/OFF signal (L= ON)
30	ST_CHG	O	Strobe charge control (H= charge)
31	SEL	O	8-bit microprocessor power voltage switch (H= 3.2 V/L= 2.4 V)
32	SCAN IN3	I	Keyscan input 3 (L= input)
33	SCAN IN2	I	Keyscan input 2 (L= input)
34	KEY_PLAY	I	Key input PLAY (L= input)
35	SCAN IN1	I	Keyscan input 1 (L= input)
36	SCAN IN0	I	Keyscan input 0 (L= input)
37	VSS3	-	GND
38	VDD3	-	VDD
39	RDSEL	I/O	Debugger terminal
40	CLK (SFW)	I/O	Debugger terminal
41	DATA0 (SFW)	I/O	Debugger terminal
42	P ON	O	VDD3, VDD1.2 ON/OFF signal (H= ON)

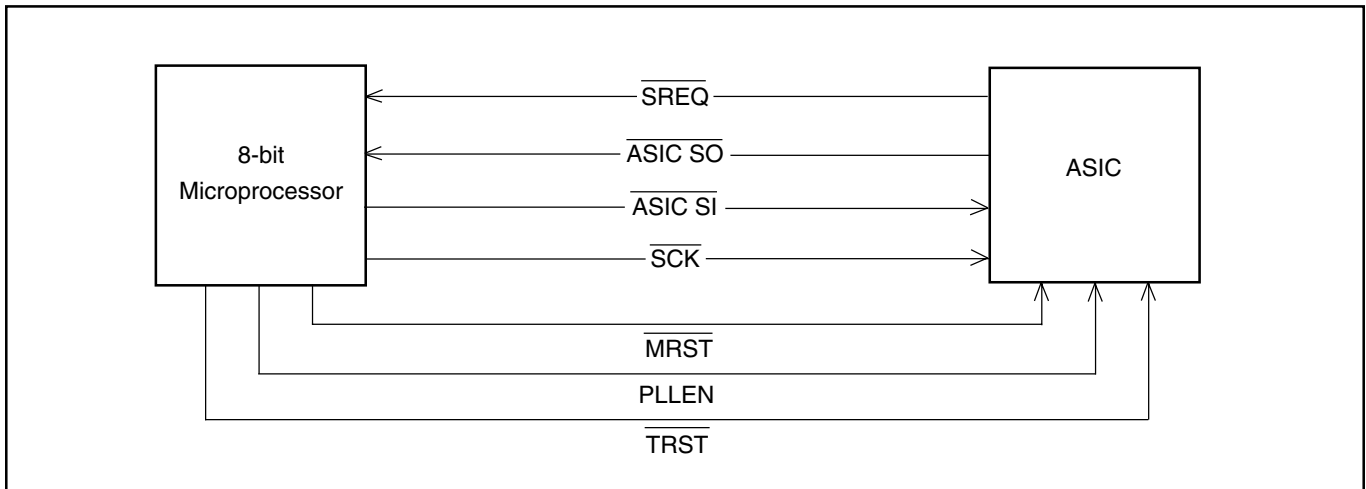
See next page →

43	SCAN OUT3	O	Keyscan output 3
44	SCAN OUT2	O	Keyscan output 2
45	SCAN OUT1	O	Keyscan output 1
46	SCAN OUT0	O	Keyscan output 0
47	ZHP_AD	I	Headphone cable detection
48	BAT_I	I	Battery current value detection (analog input)
49	BAT +	I	Battery voltage detection (analog input)
50	BAT_T	I	Battery temperature detection (analog input)
51	BL ON	O	LCD backlight ON/OFF signal (H=ON)
52	BAT_OFF/INT0	I	Battery OFF detection (L= battery OFF)
53	SREQ	I/O	Serial communication request signal
54	SCAN IN4	I	Keyscan input 4
55	KEY_2nd	I	Key input 2nd SHUTTER (L= input)
56	RESET	I	Microprocessor reset input (L= reset)
57	XCIN	I	Sub clock (32.768 kHz)
58	XCOUT	O	Sub clock (32.768 kHz)
59	VSS1	-	GND
60	XIN	I	Main clock (4 MHz)
61	XOUT	O	Main clock (4 MHz)
62	VDD1	-	VDD
63	UNREG SY	I	Camera power voltage input
64	AV JACK	I	AV JACK connection terminal (L= connection)
65	TH_TEMP	I	Camera temperature detection
66	SO	O	Serial data output
67	SI	I	Serial data input
68	NOT USED	-	-

**Table 5-1. 8-bit Microprocessor Port Specification**

## 2. Internal Communication Bus

The SYA block carries out overall control of camera operation by detecting the input from the keyboard and the condition of the camera circuits. The 8-bit microprocessor reads the signals from each sensor element as input data and outputs this data to the camera circuits (ASIC) or to the LCD display device as operation mode setting data. Fig. 5-1 shows the internal communication between the 8-bit microprocessor, ASIC and SPARC lite circuits.



**Fig. 5-1 Internal Bus Communication System**

### 3. Key Operaiton

For details of the key operation, refer to the instruction manual.

SCAN OUT \ SCAN IN	0	1	2	3	4
0	UP	RIGHT	DOWN	LEFT	SET
1	-	V. REC	TELE	WIDE	-
2	PW_TEST	-	TEST	-	PW_ON
3	-	-	LCD TURN	-	-

**Table 5-2. Key Operation**

### 4. Power Supply Control

The 8-bit microprocessor controls the power supply for the overall system.

The following is a description of how the power supply is turned on and off. When the battery is attached, a regulated 3.2 V (power off: 2.4 V) voltage is normally input to the 8-bit microprocessor (IC301) by IC302, so that clock counting and key scanning is carried out even when the power switch is turned off, so that the camera can start up again. When the battery is removed, the 8-bit microprocessor operates in sleep mode using the backup battery. At this time, the 8-bit microprocessor only carries out clock counting, and waits in standby for the battery to be attached again. When a switch is operated, the 8-bit microprocessor supplies power to the system as required.

The 8-bit microprocessor first sets the P ON2 signal at pin (15) and P ON signal at pin (42) to high, and then turns on the DC/DC converter. After this, low signal is output from pin (18) so that the ASIC is set to the reset condition. After this these pins set to high, and set to active condition. Once it is completed, the ASIC returns to the reset condition, all DC/DC converters are turned off and the power supply to the whole system is halted.

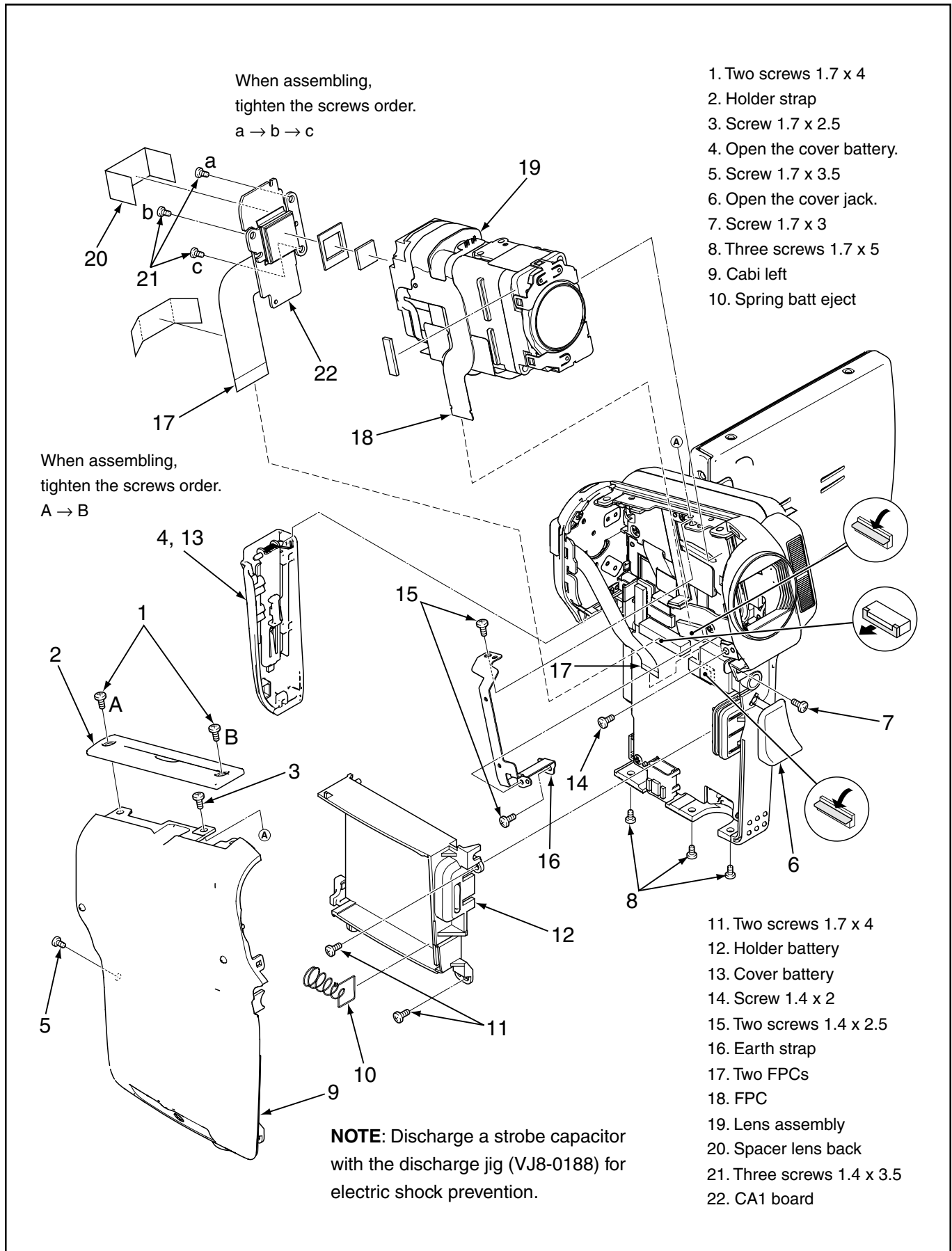
		ASIC, memory	CCD	8 bit CPU
Power voltage		3.3 V 1.2 V	+3.4 V (A) +12 V (A), -6 V(A)	3.2 V (P ON) 2.4 V (P OFF)
Power OFF		OFF	OFF	32KHz
CAMERA	Power switch ON - Auto power OFF	OFF	OFF	32KHz
	LCD finder	ON	ON	4 MHz
Play back		ON	OFF	4 MHz

**Table 5-3. Camera Mode**

Note) 4 MHz = Main clock operation, 32 kHz = Sub clock operation

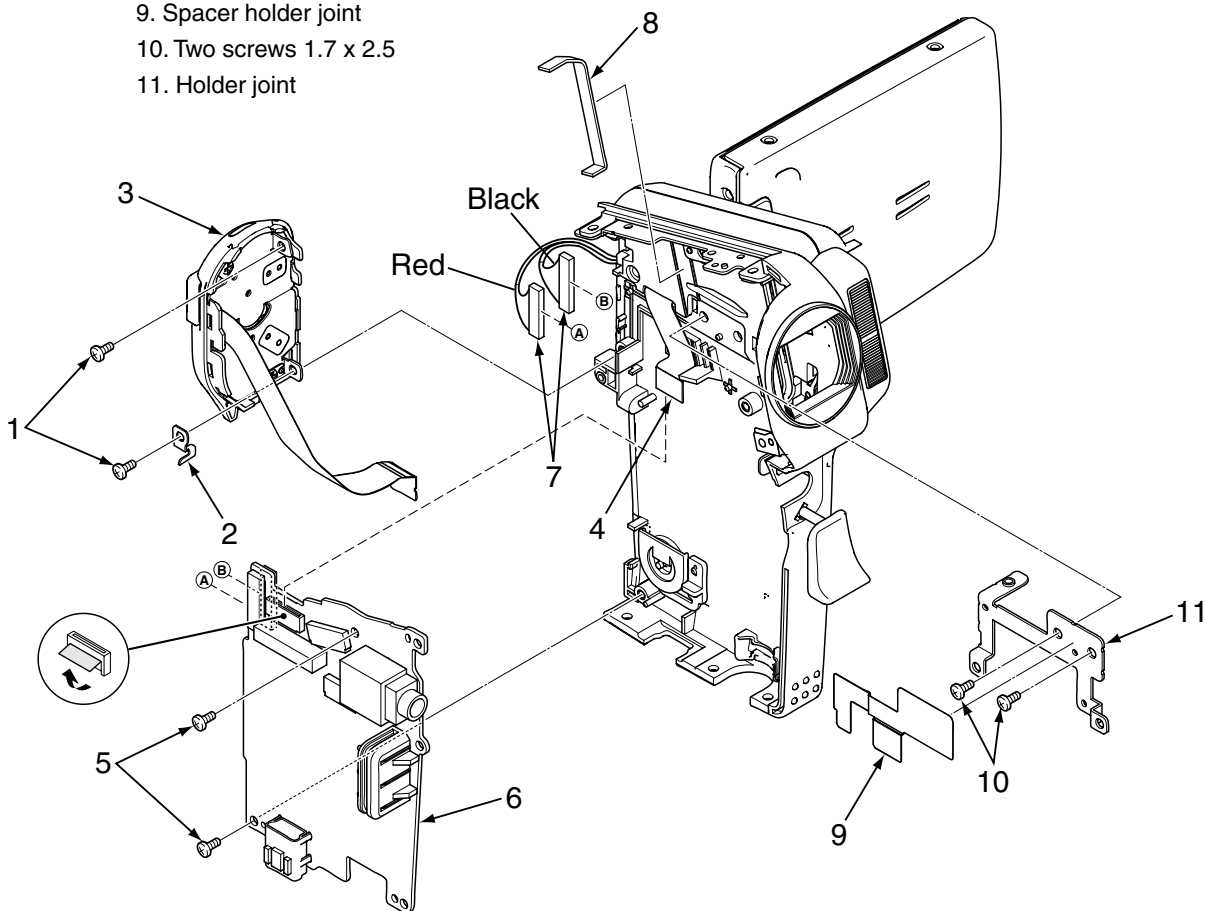
## 2. DISASSEMBLY

### 2-1. REMOVAL OF CABI LEFT, LENS ASSEMBLY AND CA1 BOARD



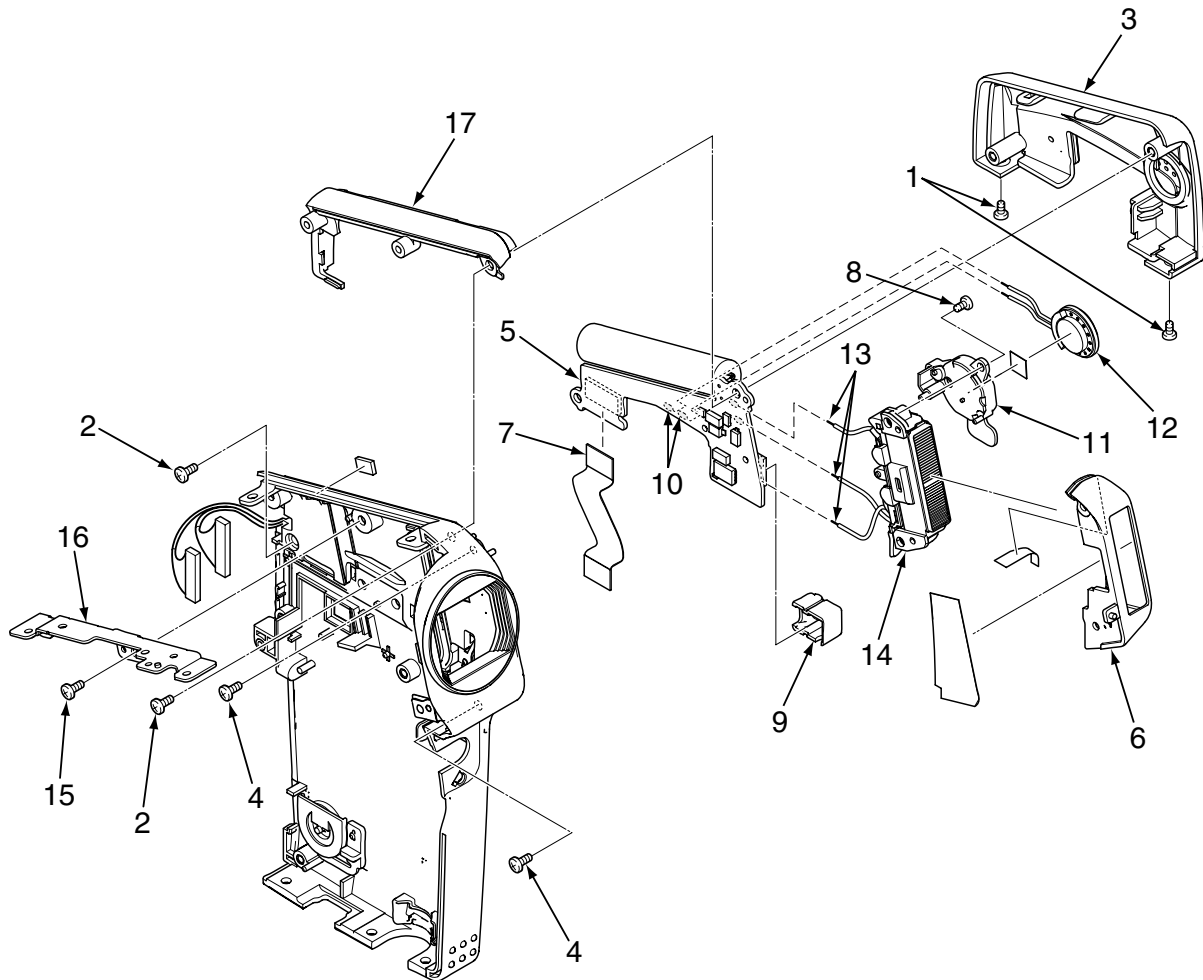
## 2-2. REMOVAL OF CP1 BOARD

1. Two screws 1.7 x 4
2. Earth batt
3. Button back
4. FPC
5. Two screws 1.7 x 4
6. CP1 board
7. Two connectors
8. Spacer lens right
9. Spacer holder joint
10. Two screws 1.7 x 2.5
11. Holder joint



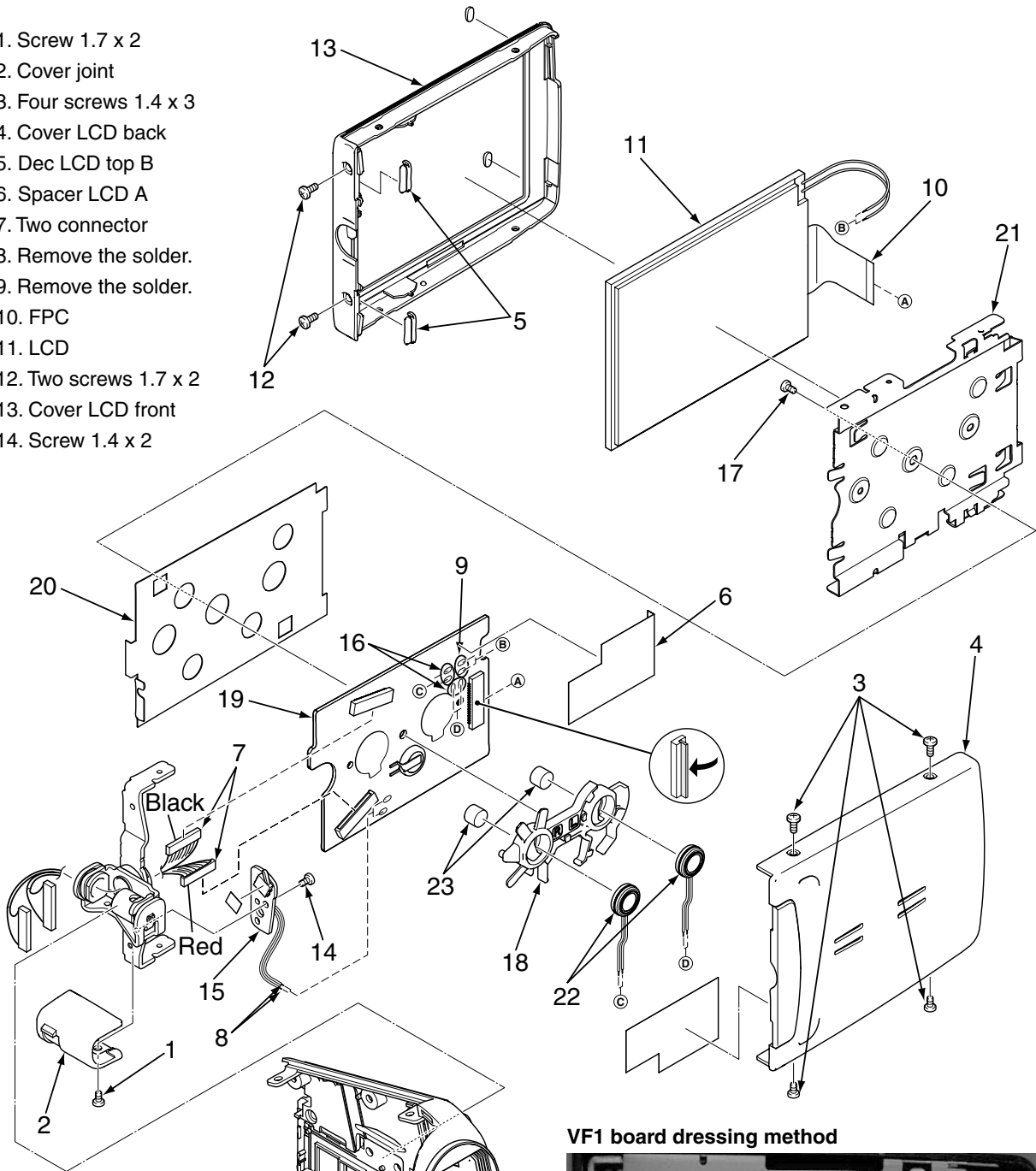
## 2-3. REMOVAL OF ST1 BOARD

- |                               |                        |
|-------------------------------|------------------------|
| 1. Two screws 1.7 x 2         | 10. Remove the solder. |
| 2. Two screws 1.7 x 5         | 11. Holder speaker     |
| 3. Assy cover joint           | 12. Speaker, 8         |
| 4. Two screws 1.4 x 5         | 13. Remove the solder. |
| 5. ST1 board                  | 14. Assy, lamp         |
| 6. Cover flash                | 15. Screw 1.7 x 4      |
| 7. Flexible pwb SG111 ST1-CP1 | 16. Hol strap inner    |
| 8. Screw 1.4 x 3              | 17. Cover joint top    |
| 9. Cover trigger              |                        |



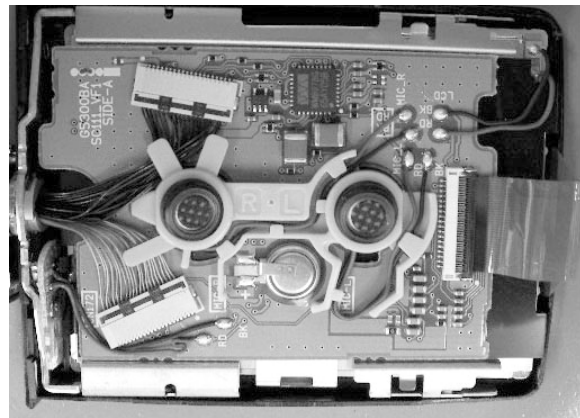
## 2-4. REMOVAL OF LCD, TB1 BOARD AND VF1 BOARD

1. Screw 1.7 x 2
2. Cover joint
3. Four screws 1.4 x 3
4. Cover LCD back
5. Dec LCD top B
6. Spacer LCD A
7. Two connector
8. Remove the solder.
9. Remove the solder.
10. FPC
11. LCD
12. Two screws 1.7 x 2
13. Cover LCD front
14. Screw 1.4 x 2

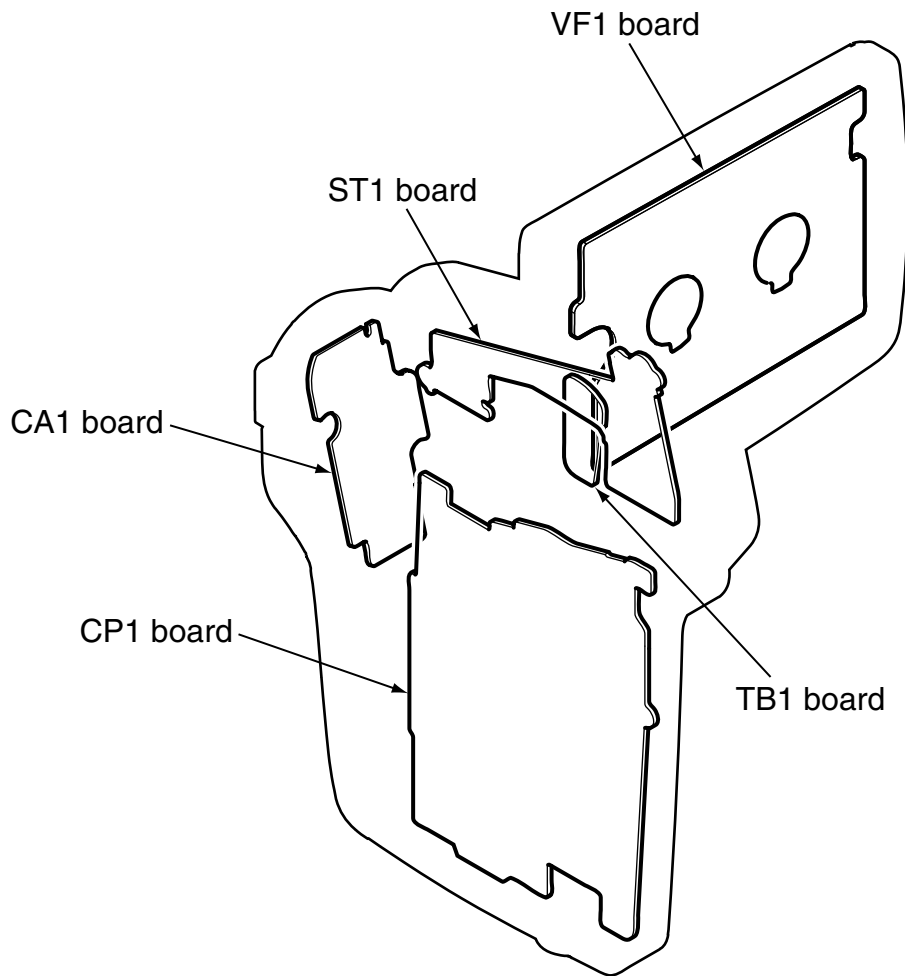


15. TB1 board
16. Remove the solder.
17. Screw 1.7 x 2.5
18. Holder mic
19. VF1 board
20. Spacer VF1
21. Holder monitor
22. Microphone
23. Spacer mic

**VF1 board dressing method**



2-5. BOARD LOCATION





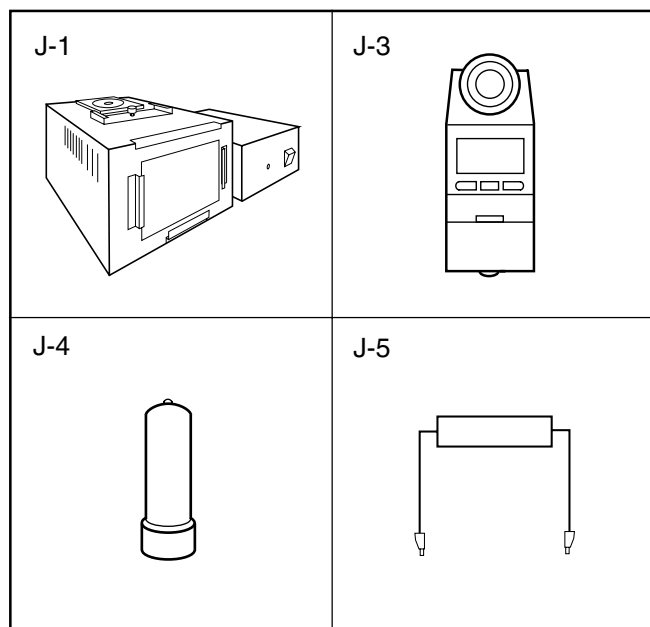
### 3. ELECTRICAL ADJUSTMENT

#### 3-1. Table for Servicing Tools

Ref. No.	Name	Number	Part code
J-1	Pattern box (color viewer)	1	VJ8-0190
J-2	Calibration software	1	
J-3	Chroma meter	1	VJ8-0192
J-4	Spare lump	1	VJ8-0191
J-5	Discharge jig	1	VJ8-0188
J-6	Collimator	1	VJ8-0260
J-7	Spare lump (collimator)	1	VJ8-0282

Download the calibration software and the firmware from the following URL.

<http://www.digital-sanyo.com/overseas/service/>



#### 3-2. Equipment

1. PC (IBM®-compatible PC, Pentium processor, Window 98 or Me or 2000 or XP)

#### 3-3. Adjustment Items and Order

1. Lens Adjustment
2. AWB Adjustment
3. CCD White Point Defect Detect Adjustment
4. CCD Black Point And White Point Defect Detect Adjustment In Lighted

Note: Item 1-4 adjustments should be carried out in sequence.

#### 3-4. Setup

##### 1. System requirements

- Windows 98 or Me or 2000 or XP
- IBM®-compatible PC with pentium processor
- CD-ROM drive
- USB port
- 40 MB RAM
- Hard disk drive with at least 15 MB available
- VGA or SVGA monitor with at least 256-color display

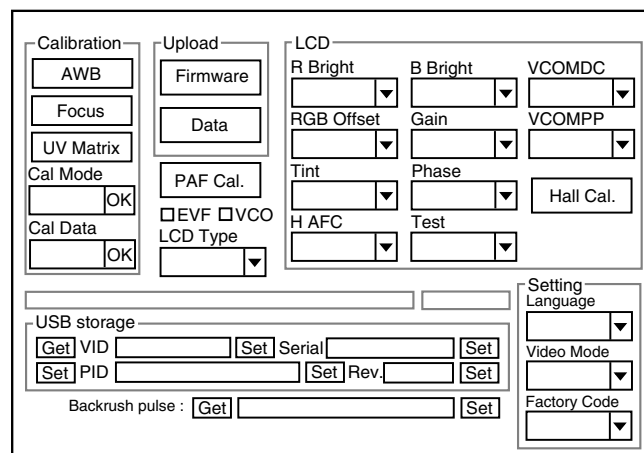
##### 2. Installing USB driver

Install the USB driver with camera or connection kit for PC.

##### 3. Pattern box (color viewer)

Turn on the switch and wait for 30 minutes for aging to take place before using Color Pure. It is used after adjusting the chroma meter (VJ8-0192) adjust color temperature to  $3100 \pm 20$  K and luminosity to  $900 \pm 20$  cd/m<sup>2</sup>. Be careful of handling the lump and its circumference are high temperature during use and after power off for a while.

##### 4. Computer screen during adjustment



##### 3-5. Connecting the camera to the computer

1. Insert the full charge batteries.
2. Line up the arrow on the cable connector with the notch on the camera's USB port. Insert the connector.
3. Locate a USB port on your computer.
4. If "USB CONNECTION" is displayed, choose the "CARD READER", and press the SET button.

### 3-6. The adjustment item which is necessary in part exchange

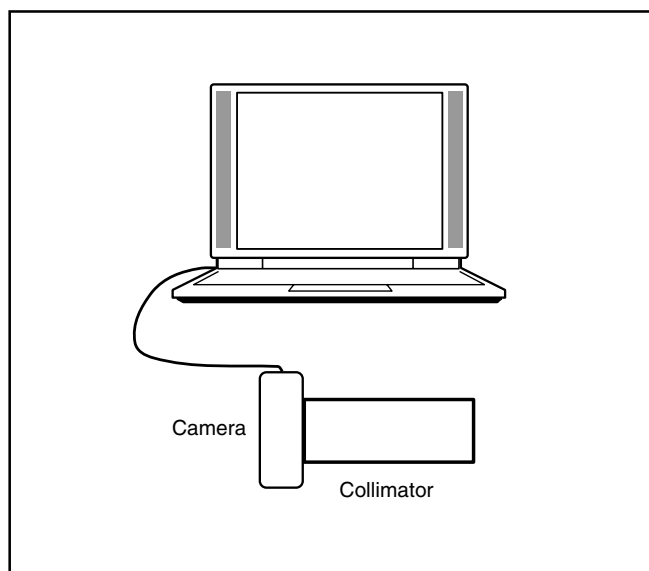
	Lens Adjustment	AWB Adjustment	CCD White Point Defect Detect Adjustment	CCD Black Point And White Point Defect Detect Adjustment In Lighted	Factory Cord Setting	Language Setting	USB storage information registration	Reset Setting
COMPL PWB CP-1	○	○	○	○	○	△	○	○
COMPL PWB ST-1								
COMPL PWB VF-1	○	○						
COMPL PWB TB-1								
ASSY FLEXIBLE PWB CA1	○	○	○	○				
LENS ASSY	○	○						

○ : Be sure to carry out the necessary adjustments after replacing the unit.

△ : Adjustment is possible from the menu setting screen of the camera and by using the calibration software.

### 3-7. Adjust Specifications

#### 1. Lens Adjustment



#### Preparation:

POWER switch: ON

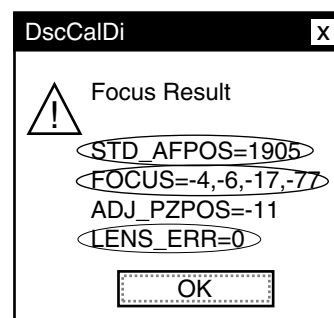
If using a ready-made collimator, set to infinity.

#### Note:

Do not vibrate during the adjustment.

#### Adjustment method:

1. Set the camera 0 cm from the collimator. (Do not enter any light.)
2. Set the camera so that it becomes center of the screen in the collimator.
3. Double-click on the DscCalDi.exe.
4. Click the Focus, and click the Yes.
5. Lens adjustment value will appear on the screen.
6. Click the OK.



Adjustment value determination is effectuated using the "STD AFPOS", "FOCUS" and "LENS\_ERR" values.

If FOCUS=focus1, focus2, focus3, focus4 and the adjustment values fulfill the conditions below, they are determined as within specifications.

#### Adjustment value determination

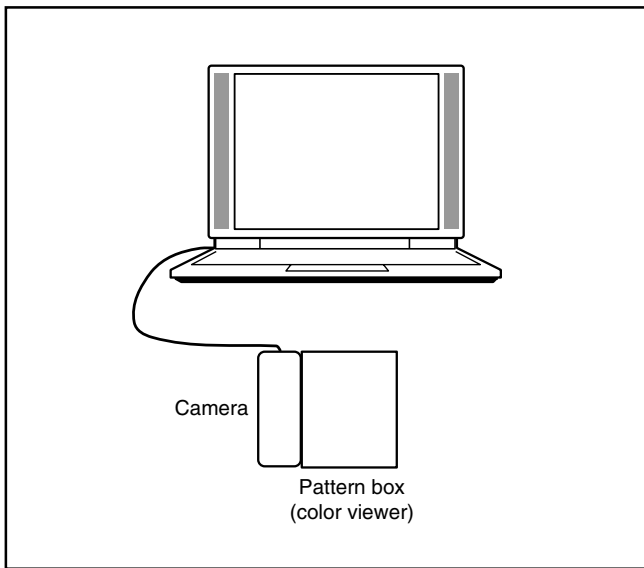
$1800 \leq \text{STD\_AFPOS} < 2000$

$-40 \leq \text{focus1} \leq +40, -50 < \text{focus2} < +50,$

$-60 \leq \text{focus3} \leq +60, -200 \leq \text{focus4} \leq +200$

lens\_error=0

## 2. AWB Adjustment

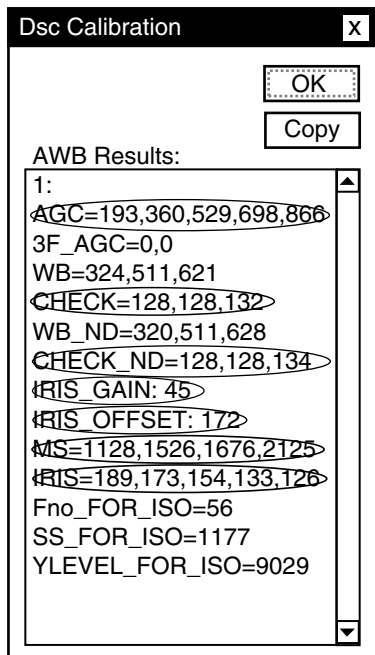


### Preparation:

POWER switch: ON

### Adjusting method:

1. When setting the camera in place, set it to an angle so that nothing appears in any part of the color viewer except the white section. (Do not enter any light.)
2. Double-click on the DscCalDi.exe.
3. Click the AWB, and click the Yes.
4. AWB adjustment value will appear on the screen.
5. Click the OK.



Adjustment value determination is effectuated using the "AGC", "CHECK", "CHECK\_ND", "MS", "IRIS", "IRIS\_GAIN" and "IRIS\_OFFSET" values.

If AGC= a1, a2, a3, a4, a5, CHECK= wc0, wc1, wc2, CHECK\_ND= wnc0, wnc1, wnc2, MS= ms1, ms2, ms3, ms4, IRIS= s1, s2, s3, s4, s5, IRIS\_GAIN= g and IRIS\_OFFSET= o the adjustment values fulfill the conditions below, they are determined as within specifications.

### Adjustment value determination

$50 < a1 < 310$ ,  $100 < a2 < 550$ ,  $200 < a3 < 750$ ,  
 $300 < a4 < 950$ ,  $400 < a5 < 1024$   
 $wc0 = 128 \pm 2$ ,  $wc1 = 128 \pm 2$ ,  $wc2 = 130 \pm 40$   
 $wnc0 = 128 \pm 2$ ,  $wnc1 = 128 \pm 2$ ,  $wnc2 = 130 \pm 40$   
 $801 < ms1 \leq 2500$ ,  $1201 < ms2 \leq 2900$ ,  $1251 < ms3 \leq 3100$ ,  
 $1401 < ms4 \leq 3600$   
 $100 \leq s1 \leq 220$ ,  $100 \leq s2 \leq 220$ ,  $100 \leq s3 \leq 220$ ,  
 $100 \leq s4 \leq 220$ ,  $100 \leq s5 \leq 220$   
 $ms4 > ms3 > ms2 > ms1$   
 $s1 > s2 > s3 > s4 > s5$   
 $0 \leq g \leq 255$   
 $0 \leq o \leq 255$

Adjustment values other than the above are irrelevant.

## 3. CCD White Point Defect Detect Adjustment

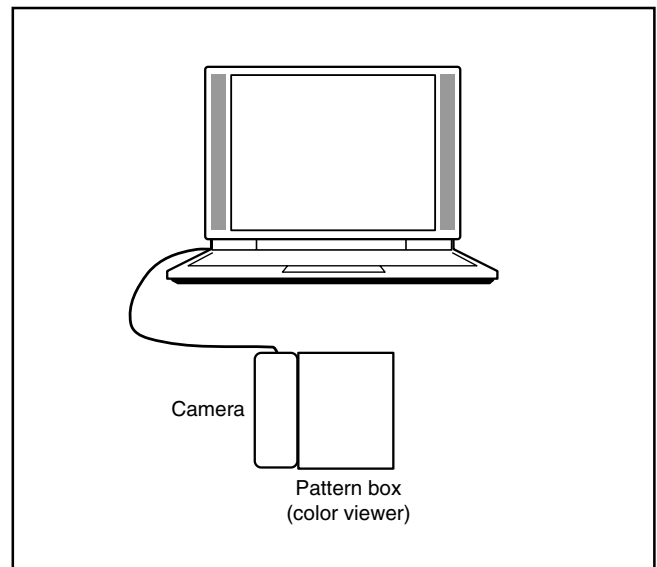
### Preparation:

POWER switch: ON

### Adjustment method:

1. Double-click on the DscCalDi.exe.
2. Select "CCD Defect" on the LCD "Test", and click the "Yes".
3. After the adjustment is completed, OK will display.
4. Click the OK.

## 4. CCD Black Point And White Point Defect Detect Adjustment In Lighted



### Preparation:

POWER switch: ON

Setting of pattern box:

Color temperature:  $3100 \pm 20$  (K)

Luminance:  $900 \pm 20$  (cd/m<sup>2</sup>)

### Adjusting method:

1. Set the camera 0 cm from the pattern box. (Do not enter any light.)
2. Double-click on the DscCalDi.exe.
3. Select "CCD Black" on the LCD "Test", and click the "Yes".
4. After the adjustment is completed, the number of defect will appear.

### 3-8. Factory Code Setting

1. Check the "Factory Code" display within the Setting group.
2. **For U.S.A., Canada and NTSC general area**  
If "FC\_SANYO\_U" does not appear, click on the "▼" mark located on the right of the "Factory Code" display BOX and select "FC\_SANYO\_U".
3. **For Europe and PAL general area**  
If "FC\_SANYO\_EX" does not appear, click on the "▼" mark located on the right of the "Factory Code" display BOX and select "FC\_SANYO\_EX".

### 3-9. Language Setting

1. Click on the "▼" mark located on the right of the "Language" display BOX.
2. Select language. (Default is English.)
3. End "DscCal" and remove the camera before turning the camera power OFF.

<b>Calibration</b> AWB Focus UV Matrix Cal Mode <input type="text"/> OK Cal Data <input type="text"/> OK	<b>Upload</b> Firmware Data PAF Cal. <input type="checkbox"/> EVF <input type="checkbox"/> VCO LCD Type	<b>LCD</b> R Bright <input type="text"/> B Bright <input type="text"/> RGB Offset <input type="text"/> Gain <input type="text"/> Tint <input type="text"/> Phase <input type="text"/> H AFC <input type="text"/> Test <input type="text"/> VCOMDC <input type="text"/> VCOMPP <input type="text"/> Hall Cal. <input type="text"/>
USB storage <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> VID <input type="text"/> <input type="text"/> Serial <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> PID <input type="text"/> <input type="text"/> Rev. <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Backrush pulse : <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>		
<b>Setting</b> Language <input type="text"/> Video Mode <input type="text"/> Factory Code <input type="text"/>		

### 3-10. Program data writing to NAND-Memory Carry out program data writing to NAND-memory after replacing CP1 board.

#### Preparation:

SD card: SD card with data written into the root directory  
Data: S111Nxxx.bin (xxx: version)

#### Overwriting method:

1. Insert the above SD card.
2. Turn on the camera.
3. Set the REC/PLAY button to the PLAY.
4. Press the MENU button. The PLAY MENU appears.
5. Toggle the SET button to the left two times to display the OPTION MENU.
6. Choose the FORMAT.
7. Toggle the SET button to the left for 2 seconds. FIRMWARE UPDATE will display.
8. Choose YES.
9. Press the SET button. Update is starting.

#### Note:

Do not turn off the camera's power or remove the SD card while the firmware is being updated.

### 3-11. Reset Setting

#### Carry out reset settings after replacing CP1 board.

1. Turn on the camera.
2. Press the MENU button.
3. Toggle the SET button to the left two times to display the OPTION MENU.
4. Choose the RESET SETTINGS, and press the SET button.
5. Select RESET, and press the SET button.

### 3-12. The Compulsive boot starting method

1. Keep MENU button, SET button, and SHUTTER button depressed while switching on the power.
2. Connect the camera and the computer with USB cable.

### 3-13. Firmware uploading procedure

1. Uploading the firmware should be carried out if the version number (COMPL PWB XX-X) on the replacement circuit board is lower than the version of the distributed firmware. For XX-X, enter the name of the circuit board containing the firmware.
2. The firmware is distributed by e-mail in self-extracting archive format. Change the extension of the distributed file to .EXE and save it in your preferred folder.
3. When you double-click the saved file, the firmware (binary file) will be saved in the same folder.
4. The firmware must not be distributed without permission.

#### 1. Overwriting firmware from the SD card

##### Preparation:

SD card: SD card with firmware rewritten into the root directory

Data: S111Nxxx.BIN (xxx: version)

##### Overwriting method:

1. Insert the above SD card.
2. Turn on the camera.
3. Set the REC/PLAY button to the PLAY.
4. Press the MENU button. The PLAY MENU appears.
5. Toggle the SET button to the left two times to display the OPTION MENU.
6. Choose the FORMAT.
7. Toggle the SET button to the left for 2 seconds. FIRMWARE UPDATE will display.
8. Choose YES.
9. Press the SET button. Update is starting.

##### Note:

Do not turn off the camera's power or remove the SD card while the firmware is being updated.

The power will turn on automatically after the update is complete.

#### 2. Overwriting firmware from the calibration software

##### Preparation:

PC with overwriting firmware copied to the preferred folder in the HD.

Data: S111Nxxx.BIN (xxx: version)

##### Overwriting method:

1. Connect the camera's USB/AV terminal to the computer's USB connector.
2. The USB Connection screen appears on the camera's LCD monitor. Choose the "CARD READER", and press the SET button.
3. Double-click on the DscCalDi.exe.
4. Click the Firmware.
5. Choose the firmware file to use for overwriting, and click the Yes.
6. Update is starting. The message will appear, and choose OK.
7. After the update is complete, disconnect the USB cable and turn the camera's power off.

##### Note:

Do not turn off the camera's power while the firmware is being updated.

## 4. USB STORAGE INFORMATION REGISTRATION

USB storage data is important for when the camera is connected to a computer via a USB connection.

If there are any errors in the USB storage data, or if it has not been saved, the USB specification conditions will not be satisfied, so always check and save the USB storage data.

### Preparation:

POWER switch: ON

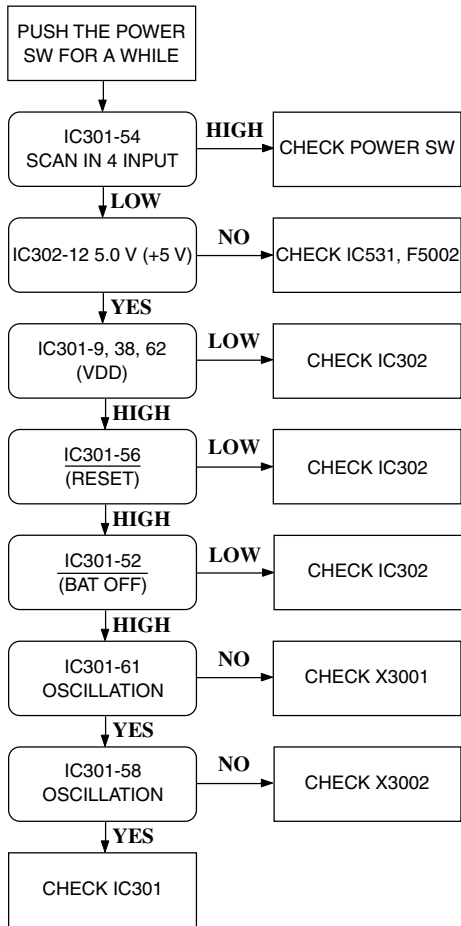
### Adjustment method:

1. Connect the camera to a computer. (Refer to 3-5. Connecting the camera to the computer on the page 17.)
2. Double-click on the DscCalDi.exe.
3. Click on the Get button in the USB storage window and check the USB storage data.  
 VID: SANYO  
 PID: CG6  
 Serial:  
 Rev. : 1.00
4. Check the "Serial" in the above USB storage data. If the displayed value is different from the serial number printed on the base of the camera, enter the number on the base of the camera. Then click the Set button.
5. Next, check VID, PID and Rev. entries in the USB storage data. If any of them are different from the values in 3. above, make the changes and then click the corresponding Set button.

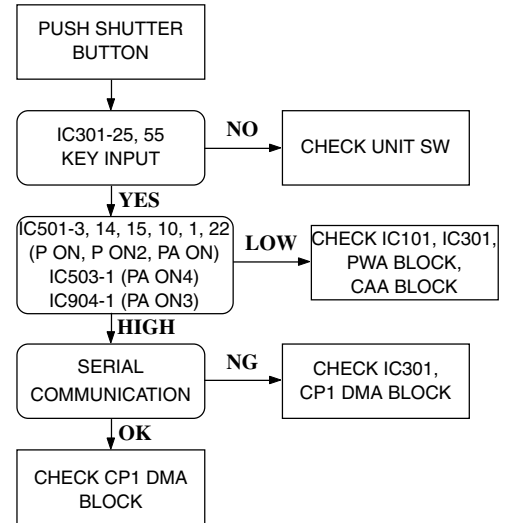
<b>Calibration</b> AWB Focus UV Matrix Cal Mode <input type="text"/> OK Cal Data <input type="text"/> OK	<b>Upload</b> Firmware Data PAF Cal. <input type="checkbox"/> EVF <input type="checkbox"/> VCO LCD Type <input type="text"/>	<b>LCD</b> R Bright <input type="text"/> B Bright <input type="text"/> VCOMDC <input type="text"/> RGB Offset <input type="text"/> Gain <input type="text"/> VCOMPP <input type="text"/> Tint <input type="text"/> Phase <input type="text"/> Hall Cal. <input type="text"/> H AFC <input type="text"/> Test <input type="text"/>
USB storage <input type="text"/> <input type="text"/>		
<input type="button" value="Get"/> VID <input type="text"/> <input type="button" value="Set"/>	<input type="button" value="Set"/> Serial <input type="text"/> <input type="button" value="Set"/>	<input type="button" value="Set"/> Rev. <input type="text"/> <input type="button" value="Set"/>
<input type="button" value="Set"/> PID <input type="text"/> <input type="button" value="Set"/>	Backrush pulse : <input type="button" value="Get"/> <input type="text"/> <input type="button" value="Set"/>	
Setting Language <input type="text"/>		
Video Mode <input type="text"/>		
Factory Code <input type="text"/>		

## 5. TROUBLESHOOTING GUIDE

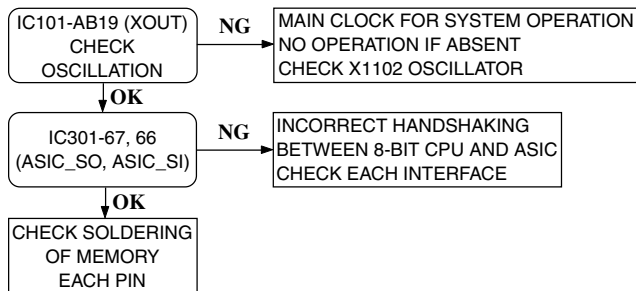
### POWER LOSS INOPERATIVE



### TAKING INOPERATIVE



### NO PICTURE



## 6. PARTS LIST

### PACKING MATERIALS

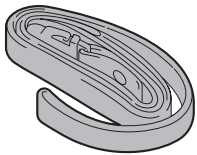
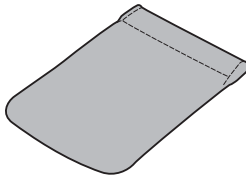
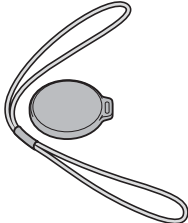
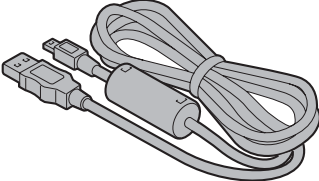
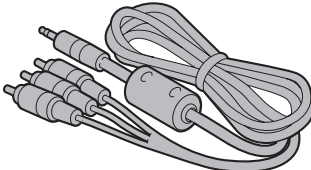
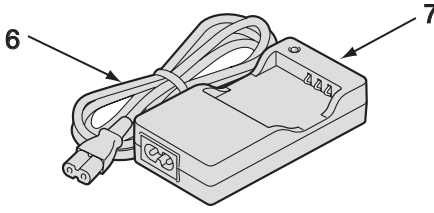
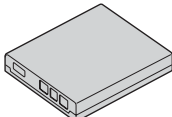
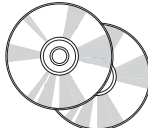
LOCATION	PARTS NO.	DESCRIPTION
7001	636 098 9962	CARTON INNER-SG111/EX, EXCEPT VPC-CG6
7001	636 098 9955	CARTON INNER-SG111/U, VPC-CG6 ONLY
7002	636 078 4659	CUSHION SHEET-SX792/KRNK
7003	636 096 9261	REINFORCE PAD,A-SX817/J (BOTTOM)

### ACCESSORIES

LOCATION	PARTS NO.	DESCRIPTION
<b>Note: Refer to the table of accessories</b>		
1	636 087 0017	STRAP -SX719/U
2	636 099 5475	CASE SOFT-SG111/J
3	636 099 3624	ASSY,CAP LENS-SG111/J
4	645 089 8297	CABLE,DSC USB
OR	645 089 8303	CABLE,DSC USB
5	645 090 2192	CABLE,DSC A/V
OR	645 090 2208	CABLE,DSC A/V
6	△ 645 083 6787	CORD,POWER-1.2MK, EXCEPT VPC-CG6
6	△ 645 083 6794	CORD,POWER-1.9MK, VPC-CG6 ONLY
7	△ 645 089 5081	BATTERY CHARGER
8	△ 645 089 8990	BATTERY,RECHARGE,LI-ION
9	636 099 5864	DISC,CD-ROM SSP G111 U1 (N.S.P.) (Sanyo software pack) (PDF of instruction manual: English, French, Spanish, German, Dutch, Italian, Simplified Chinese, Traditional Chinese, Korean, Russian)
9	636 099 5871	DISC,CD-ROM SSP G111 U2 (N.SP.) (Sanyo software pack)
10	636 097 9031	INSTRUCTION MANUAL (English)



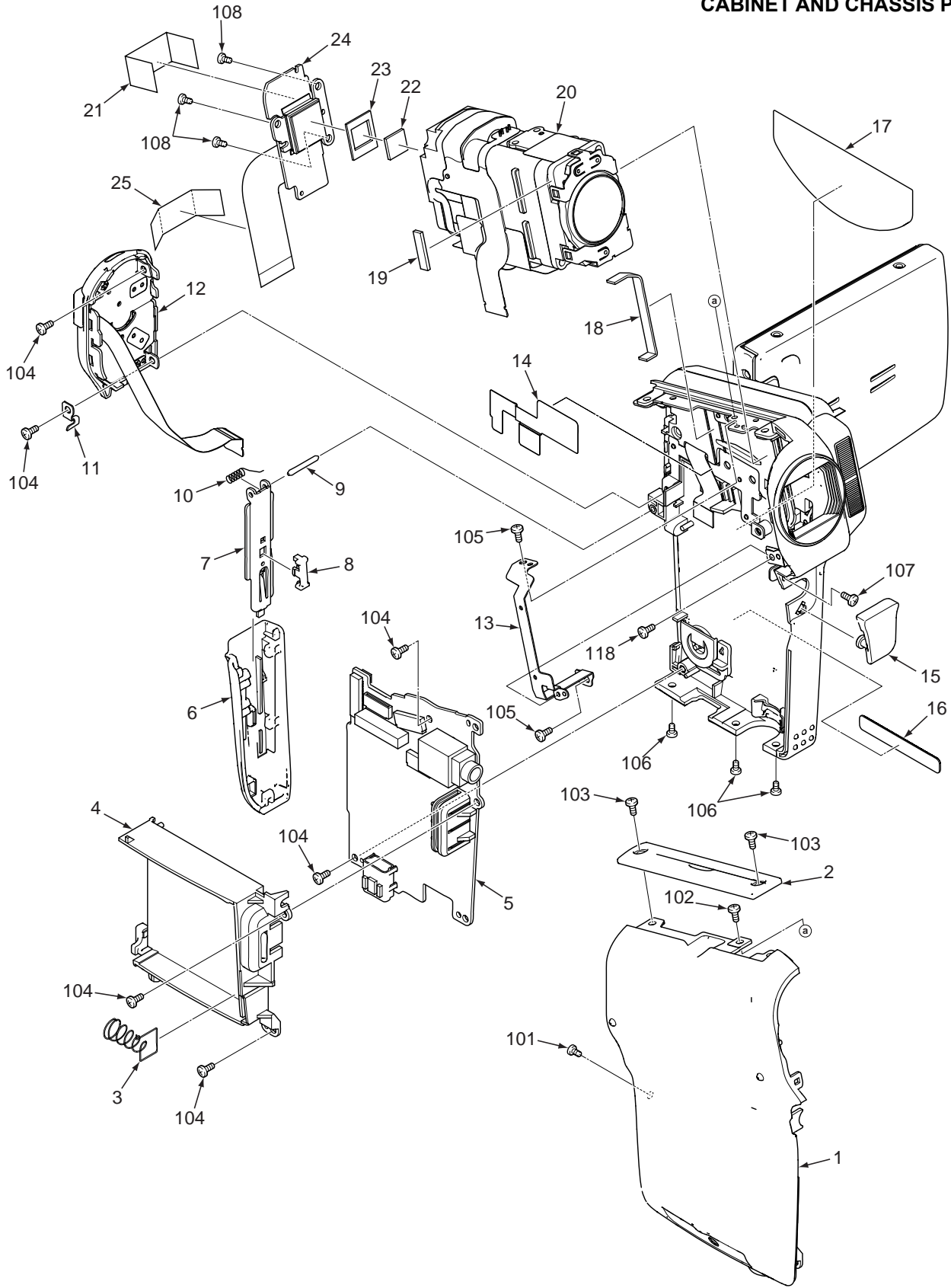
**Table of accessories**

<p>1</p> 	<p>2</p> 
<p>3</p> 	<p>4</p> 
<p>5</p> 	<p>6</p> 
<p>8</p> 	<p>9</p> 

# CABINET AND CHASSIS PARTS 1

LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
1	636 099 4188	COMPL,CABI LEFT-SG111/J, VPC-CG6, VPC-CG6EX, VPC-CG6GX	16	636 098 8392	DEC RIGHT-SG111/J, EXCEPT VPC-CG6EXBL
1	636 099 5192	COMPL,CABI LEFT-SG111/J2, VPC-CG6EXBL ONLY	16	636 099 5352	DEC RIGHT-SG111/J2, VPC-CG6EXBL ONLY
1	636 099 5635	COMPL,CABI LEFT-SG111/J3, VPC-CG6EXP ONLY	17	636 098 8255	DEC LCD-SG111/J, VPC-CG6, VPC-CG6EX, VPC-CG6GX
2	636 098 8385	HOLDER STRAP-SG111/J	17	636 099 5178	DEC LCD-SG111/J2, VPC-CG6EXBL ONLY
3	636 099 1590	SPRING BATT EJECT-SG111/J	17	636 099 5512	DEC LCD-SG111/J3, VPC-CG6EXP ONLY
4	636 098 8163	HOLDER BATTERY -SG111/J, EXCEPT VPC-CG6EXBL	18	636 099 1583	SPACER LENS RIGHT-SG111/J
4	636 099 7585	HOLDER BATTERY -SG111/J2, VPC-CG6EXBL ONLY	19	636 100 2134	SPACER LENS LEFT-SG111/J
5	636 099 6038	COMPL PWB, CP-1 F/W	20	645 089 3117	LENS(ASSY)
6	636 098 8095	COVER BATTERY-SG111/J, EXCEPT VPC-CG6EXBL	21	636 101 6971	SPACER LENS BACK-SG111/J
6	636 099 5291	COVER BATTERY-SG111/J2, VPC-CG6EXBL ONLY	22	645 089 7719	OPTICAL FILTER
7	636 098 8347	HOLDER COVER BATT -SG111	23	636 082 8131	SPACER SX719
8	636 099 1439	HOLDER PUSH BATT-SG111/J, EXCEPT VPC-CG6EXBL	24	636 099 7424	COMPL FPC SV-SG111
8	636 099 7592	HOLDER PUSH BATT-SG111/J2, VPC-CG6EXBL ONLY	25	636 101 1815	SHIELD TAPE CA FPC SG111
9	636 101 5523	SHAFT COVER BATT-SG111/J	101	411 177 0906	SCR S-TPG PAN PCS 1.7X3.5, EXCEPT VPC-CG6EXBL
10	636 099 1606	SPRING COVER BAT-SG111/J	101	411 193 2007	SCR S-TPG PAN PCS 1.7X3.5, VPC-CG6EXBL ONLY
11	636 098 8378	EARTH BATT-SG111/J	102	411 176 1003	SCR PAN PCS 1.7X2.5
12	636 099 7561	COMPL,BUTT BACK-SG111/J2, VPC-CG6EXBL ONLY	103	411 178 6204	SCR PAN PCS 1.7X4
12	636 099 4225	COMPL,BUTTON BACK-SG111/J, EXCEPT VPC-CG6EXBL	104	411 177 6502	SCR S-TPG PAN PCS 1.7X4
13	636 098 8354	EARTH STRAP-SG111/J	105	312 065 5006	SPECIAL SCREW-1.4X2.5
14	636 101 4564	SPACER HOLDER JOINT-SG111	106	312 067 5400	SP SCR HMPN1.7X5A NEW-R, EXCEPT VPC-CG6EXBL
15	636 098 8279	COVER JACK-SG111/J, EXCEPT VPC-CG6EXBL	106	312 070 1505	SP SCR HMPN1.7X5WP NEW-R, VPC-CG6EXBL ONLY
15	636 099 5338	COVER JACK-SG111/J2, VPC-CG6EXBL ONLY	107	411 175 5705	SCR PAN PCS 1.7X3, EXCEPT VPC-CG6EXBL
			107	411 194 8206	SCR PAN PCS 1.7X3, VPC-CG6EXBL ONLY
			108	411 181 8707	SCR S-TPG PAN PCS 1.4X3.5
			118	411 181 2705	SCR PAN PCS-1.4 X 2

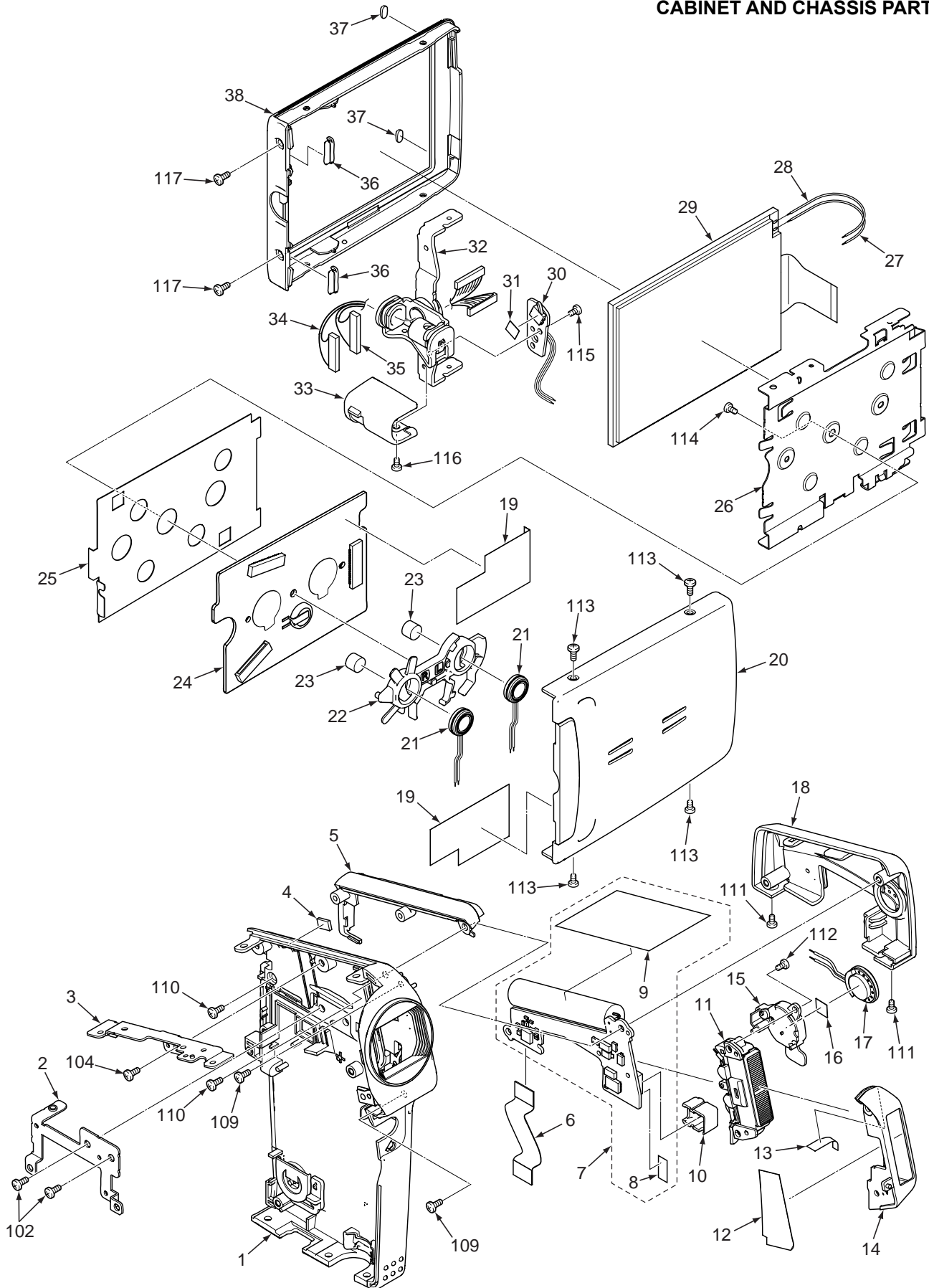
# CABINET AND CHASSIS PARTS 1



## CABINET AND CHASSIS PARTS 2

LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
1	636 099 4157	COMPL,CABI RIGHT-SG111/J, VPC-CG6, VPC-CG6EX,PC-CG6GX	21	645 089 9737	MICROPHONE
1	636 099 5147	COMPL,CABI RIGHT-SG111/J2, VPC-CG6EXBL ONLY	22	636 098 8156	HOLDER MIC-SG111/J
1	636 099 5604	COMPL,CABI RIGHT-SG111/J3, VPC-CG6EXP ONLY	23	636 099 1675	SPACER MIC-SG111/J
2	636 098 8316	HOLDER JOINT-SG111/J	24	636 098 9108	COMPL PWB,VF-1
3	636 098 8330	HOL STRAP INNER-SG111/J	25	636 101 4571	SPACER VF1 -SG111/J
4	636 099 8797	SPACER CON-SG111/J	26	636 098 8323	HOLDER MONITOR-SG111/J
5	636 098 8118	COVER JOINT TOP-SG111/J, VPC-CG6, VPC-CG6EX,PC-CG6GX	27	636 099 7332	ASSY,WIRE LCD&VF1-SG111
5	636 099 5307	COVER JOINT TOP-SG111/J2, VPC-CG6EXBL ONLY	28	636 099 7349	ASSY,WIRE LCD&VF1-SG111
5	636 099 5574	COVER JOINT TOP-SG111/J3, VPC-CG6EXP ONLY	29	645 089 8822	LCD(COM25T2962GLB)
6	636 099 4676	FLEXIBLE PWB SG111ST1-CP1	30	636 098 9115	COMPL PWB,TB-1
7	636 098 9092	COMPL PWB,ST-1	31	636 081 4554	SPACER JOINT-SX718/J
8	636 099 8858	SPACER ST-SG111	32	636 099 4195	ASSY,JOINT-SG111/J
9	636 099 3587	SPACER CON B- SG111/J	33	636 098 8187	COVER JOINT-SG111/J, EXCEPT VPC-CG6EXP
10	636 068 0265	COVER TRIGER-SX612/J	33	636 099 5581	COVER JOINT-SG111/J3, VPC-CG6EXP ONLY
11	645 089 8204	ASSY,LAMP-SG111, EXCEPT VPC-CG6EXBL	34	636 100 3995	ASSY,WIRE VF1&CP1-SG111
11	645 090 0198	ASSY,LAMP-SG111/J2, VPC-CG6EXBL ONLY	35	636 099 4706	ASSY,WIRE VF1&CP1-SG111
12	636 100 8860	SPACER FLASH -SG111/J	36	636 098 8231	DEC LCD TOP B-SG111/J
13	636 101 3802	SPACER FLASH A-SG111/J	37	636 099 6991	COVER STAND-SG111/J
14	636 098 8194	COVER FLASH-SG111/J, EXCEPT VPC-CG6EXBL	38	636 102 3887	ASSY,COVER LCD FR SV-111
14	636 099 5321	COVER FLASH-SG111/J2, VPC-CG6EXBL ONLY	102	411 176 1003	SCR PAN PCS 1.7X2.5
15	636 098 8170	HOLDER SPEAKER-SG111/J	104	411 177 6502	SCR S-TPG PAN PCS 1.7X4
16	636 099 1460	ADHESIVE SPEAKER-SG111/J	109	411 213 4202	SCR S-TPG PAN PCS 1.4X5
17	645 091 3778	SPEAKER,8	110	312 067 5400	SP SCR HMPN1.7X5A NEW-R
18	636 099 4300	ASSY,COVER JOINT-SG111/J, VPC-CG6, VPC-CG6EX, VPC-CG6GX	111	411 199 0601	SCR TIN 1.7X2, VPC-CG6EXBL ONLY
18	636 099 5215	ASSY,COVER JOINT-SG111/J2, VPC-CG6EXBL ONLY	111	411 199 0700	SCR TIN 1.7X2, EXCEPT VPC-CG6EXBL
18	636 099 5642	ASSY,COVER JOINT-SG111/J3, VPC-CG6EXP ONLY	112	411 190 2208	SCR S-TPG PAN PCS 1.4X3
19	636 101 4588	SPACER LCD A-SG111/J	113	411 186 8207	SCR PAN PCS-1.4X3, EXCEPT VPC-CG6EXBL
20	636 099 4997	ASSY,COV LCD BACK-SG111/J, VPC-CG6, VPC-CG6EX, VPC-CG6GX	113	312 070 1208	SPSCR E2PN1.4X3WP, VPC-CG6EXBL ONLY
20	636 099 5239	ASSY COV LCD BACK-SG111/J2, VPC-CG6EXBL ONLY	114	312 060 9504	SPECIAL SCREW-1.7X2.5
20	636 099 5659	ASSY COV LCD BACK-SG111/J3, VPC-CG6EXP ONLY	115	411 181 2705	SCR PAN PCS-1.4X2
			116	411 184 0005	SCR PAN PCS 1.7X2.0, VPC-CG6EXP ONLY
			116	411 194 8404	SCR PAN PCS 1.7X2.0, EXCEPT VPC-CG6EXP
			117	411 194 8404	SCR PAN PCS 1.7X2.0

# CABINET AND CHASSIS PARTS 2



# ELECTRICAL PARTS

**Note:**

1. Materials of Capacitors and Resistors are abbreviated as follows ;

<b>Resistors</b>		<b>Capacitors</b>
MT-FILM	Metallized Film Resistor	MT-POLYEST Metallized Polyester Capacitor
MT-GLAZE	Metallized Glaze Resistor	MT-COMPO Metallized Composite Capacitor
OXIDE-MT	Oxide Metallized Film Resistor	TA-SOLID Tantalum Solid Capacitor
		AL-SOLID Aluminum Solid Capacitor
		NP-ELECT Non-Polarized Electrolytic Capacitor
		OS-SOLID Aluminum Solid Capacitors with Organic Semiconductive Electrolytic Capacitor
		DL-ELECT Double Layered Electrolytic Capacitor
		POS-SOLID Polymerized Organic Semiconductor Capacitor

2. Tolerance of Capacitor (10pF over) and Resistor are noted with follow symboles.

F	.....1%	G	.....2%	J	.....5%	K	.....10%
M	.....20%	N	.....30%	Z	.....+80% ~ -20%		

3. Capacitors

U : µF P : pF

4. Inductors

UH : µH MH : mH

5. N.S.P. : Not available as service parts.

LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
<b>COMPL PWB, CP-1 F/W</b>			X3001	945 046 1416	OSC,CERAMIC 4.00MHZ
	636 099 6038		X3002	645 080 8708	OSC,CRYSTAL 32.768KHZ
			<b>(INDUCTORS)</b>		
	<b>(VARISTORS)</b>		L1007	945 059 8112	IMPEDANCE,1000 OHM P
VA134	308 050 1207	VARISTOR AVR-M1608C120MT	L1008	945 053 5469	IMPEDANCE,120 OHM P
VA155	308 050 0606	VARISTOR AVR-M1005C120MT	L1011	945 059 8112	IMPEDANCE,1000 OHM P
VA301	308 050 0507	VARISTOR AVR-M1005C080MT	L1012	945 059 8112	IMPEDANCE,1000 OHM P
VA302	308 050 0507	VARISTOR AVR-M1005C080MT	L1301	945 072 7413	IMPEDANCE,90 OHM -
			L1302	945 066 4688	IMPEDANCE,30 OHM P
	<b>(SEMICONDUCTORS)</b>		L1551	945 053 5414	IMPEDANCE,1000 OHM P
Q1301	305 172 4703	TR UNR32A3	L1552	945 053 5414	IMPEDANCE,1000 OHM P
OR	305 168 3703	TR DTC144EM	L1553	945 020 1869	INDUCTOR,750 OHM
OR	305 207 5002	TR RN1104FV	L5001	645 072 3681	INDUCTOR,2.4U N
Q1303	405 218 3902	TR UP0431300	L5002	645 072 7573	INDUCTOR,4.7U N
Q1401	405 218 3902	TR UP0431300	L5003	645 079 6616	INDUCTOR,1.2U N
Q3001	305 183 7700	TR EMH10	L5004	645 067 2361	INDUCTOR,3.3U N
Q5201	305 169 4501	TR DTC114EM	L5005	645 079 7675	INDUCTOR,4.7U N
OR	305 207 4906	TR RN1102FV	L5008	645 072 7573	INDUCTOR,4.7U N
OR	305 172 4604	TR UNR32A1	L5009	645 081 7410	INDUCTOR,2.1U M
Q5301	305 208 8606	TR FDC633N-NF	L5010	945 061 7417	INDUCTOR,47U M
Q5302	305 184 6009	TR UP03396	L5011	945 066 4688	IMPEDANCE,30 OHM P
			L5012	945 066 4688	IMPEDANCE,30 OHM P
	<b>(INTEGRATED CIRCUITS)</b>		L5301	645 079 1253	INDUCTOR,2.1U M
IC101	410 619 3406	IC KS756U2642CBP BGA (N.S.P.)	L9001	945 059 8211	IMPEDANCE,600 OHM P
IC102	410 625 9003	IC MBG124APBS-ME1 BGA (N.S.P.)	<b>(CAPACITORS)</b>		
OR	310 577 7709	IC MBG124PBS-ME1 BGA (N.S.P.)	CB101	303 391 4306	CERAMIC 0.1U K 16V
IC121	309 675 9203	IC K5R5658VCM-DR75 BGA (N.S.P.)	CB102	303 409 1402	CERAMIC 1000P K 50V
IC151	409 679 4003	IC NJM2561F1A	CB901	303 392 5500	CERAMIC 1U K 6.3V
IC301	410 619 9804	IC LC87F2832AUFL68TBM-E BGA (N.S.P.)	CB904	303 391 4306	CERAMIC 0.1U K 16V
IC302	409 676 9902	IC LV5622LP-TE-L-E	CB905	303 391 4306	CERAMIC 0.1U K 16V
IC501	309 616 9804	IC MAX8611ETM+	CB906	303 391 4306	CERAMIC 0.1U K 16V
IC503	309 637 4307	IC TK70634HC-G	CB971	303 392 5500	CERAMIC 1U K 6.3V
IC521	310 615 3908	IC LTC4066EUF#PBF	C1007	303 419 4004	CERAMIC 0.1U K 10V
IC901	309 645 9905	IC AN20112A	C1008	303 383 5205	CERAMIC 4.7U K 6.3V
IC904	409 677 2803	IC NJM2877F3-03	C1009	303 419 4004	CERAMIC 0.1U K 10V
IC905	309 669 6904	IC AD9971BCPZ	C1010	303 419 4004	CERAMIC 0.1U K 10V
IC951	309 674 2700	IC BU2232GU	C1011	303 419 4004	CERAMIC 0.1U K 10V
IC971	309 646 8709	IC AK7331	C1018	303 383 5205	CERAMIC 4.7U K 6.3V
			C1019	303 419 4004	CERAMIC 0.1U K 10V
	<b>(DIODES)</b>		C1020	303 419 4004	CERAMIC 0.1U K 10V
D3001	307 205 2809	DIODE RB520S-30	C1021	303 419 4004	CERAMIC 0.1U K 10V
OR	307 221 0100	DIODE MA2SD24	C1026	303 375 0300	CERAMIC 4.7U K 4V
D5001	307 223 5509	DIODE MA2Z720	C1031	303 384 9202	CERAMIC 1U M 4V
D5002	307 223 5509	DIODE MA2Z720	C1074	303 419 4004	CERAMIC 0.1U K 10V
D5003	307 223 5509	DIODE MA2Z720	C1078	303 419 4004	CERAMIC 0.1U K 10V
D5201	307 248 0701	DIODE MA21D3800	C1079	303 419 4004	CERAMIC 0.1U K 10V
D5301	307 250 0706	DIODE DRB060M-30	C1081	303 343 3104	CERAMIC 1U K 6.3V
D9001	307 223 5509	DIODE MA2Z720	C1082	303 419 4004	CERAMIC 0.1U K 10V
D9002	307 210 1903	DIODE 1SS400	C1083	303 383 5205	CERAMIC 4.7U K 6.3V
OR	307 226 4806	DIODE BASS16	C1084	303 419 4004	CERAMIC 0.1U K 10V
D9003	307 223 5509	DIODE MA2Z720	C1086	303 343 3104	CERAMIC 1U K 6.3V
D9005	307 223 5509	DIODE MA2Z720			
			<b>(OSCILLATORS)</b>		
X1102	645 069 4967	OSC,CRYSTAL 48.00000MHZ			

LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
C1087	303 419 4004	CERAMIC 0.1U K 10V	C9066	303 419 4103	CERAMIC 1000P K 25V
C1092	303 383 5205	CERAMIC 4.7U K 6.3V	C9067	303 419 4103	CERAMIC 1000P K 25V
C1099	303 338 0309	CERAMIC 0.1U K 10V	C9068	303 419 4004	CERAMIC 0.1U K 10V
C1121	303 314 6400	CERAMIC 7P D 50V	C9069	303 409 9804	CERAMIC 5P C 25V
C1122	303 314 6400	CERAMIC 7P D 50V	C9070	303 409 9804	CERAMIC 5P C 25V
C1201	303 419 4004	CERAMIC 0.1U K 10V	C9513	303 382 3905	CERAMIC 0.1U K 6.3V
C1202	303 276 1307	CERAMIC 1000P K 50V	C9514	303 338 0309	CERAMIC 0.1U K 10V
C1203	303 381 8109	CERAMIC 1U K 6.3V	C9526	303 338 0309	CERAMIC 0.1U K 10V
C1204	303 419 4004	CERAMIC 0.1U K 10V	C9534	303 356 6208	CERAMIC 2.2U K 10V
C1205	303 419 4004	CERAMIC 0.1U K 10V	C9545	303 338 0309	CERAMIC 0.1U K 10V
C1206	303 419 4004	CERAMIC 0.1U K 10V	C9567	303 338 0309	CERAMIC 0.1U K 10V
C1207	303 383 5205	CERAMIC 4.7U K 6.3V	C9711	303 382 3905	CERAMIC 0.1U K 6.3V
C1208	303 276 1307	CERAMIC 1000P K 50V	C9712	303 294 6100	CERAMIC 100P J 50V
C1303	303 381 8109	CERAMIC 1U K 6.3V	C9714	303 381 8109	CERAMIC 1U K 6.3V
C1401	303 419 4004	CERAMIC 0.1U K 10V	C9716	303 382 3905	CERAMIC 0.1U K 6.3V
C1501	303 419 4004	CERAMIC 0.1U K 10V	C9717	303 279 5005	CERAMIC 4700P K 25V
C1503	303 383 5205	CERAMIC 4.7U K 6.3V	C9718	303 282 5108	CERAMIC 470P K 50V
C1551	303 419 4004	CERAMIC 0.1U K 10V	C9719	303 276 1307	CERAMIC 1000P K 50V
C1554	303 373 5802	CERAMIC 100P J 25V	C9720	303 382 3905	CERAMIC 0.1U K 6.3V
C1555	303 373 5802	CERAMIC 100P J 25V	C9721	303 382 3905	CERAMIC 0.1U K 6.3V
C3001	303 391 0506	CERAMIC 10U K 6.3V	C9722	303 381 8109	CERAMIC 1U K 6.3V
C3002	303 419 4004	CERAMIC 0.1U K 10V			<b>(RESISTOR PACKS)</b>
C3003	303 338 0309	CERAMIC 0.1U K 10V	RB101	945 037 0817	R-NETWORK 0X4 1/16W
C3005	303 419 4004	CERAMIC 0.1U K 10V	RB102	945 028 0697	R-NETWORK 100X4 1/16W
C3006	303 381 8109	CERAMIC 1U K 6.3V	RB103	945 028 0697	R-NETWORK 100X4 1/16W
C3007	303 381 8109	CERAMIC 1U K 6.3V	RB104	645 078 4224	R-NETWORK 0X2 0.063W
C3008	303 380 2207	CERAMIC 22P J 25V	RB105	945 037 0817	R-NETWORK 0X4 1/16W
C3009	303 381 8109	CERAMIC 1U K 6.3V	RB106	945 037 4372	R-NETWORK 220X4 1/16W
C3010	303 276 1307	CERAMIC 1000P K 50V	RB107	945 037 4372	R-NETWORK 220X4 1/16W
C3011	303 419 4004	CERAMIC 0.1U K 10V	RB108	945 037 0817	R-NETWORK 0X4 1/16W
C3013	303 381 8109	CERAMIC 1U K 6.3V	RB110	945 037 4372	R-NETWORK 220X4 1/16W
C3014	303 424 9407	CERAMIC 20P J 25V	RB111	945 037 4372	R-NETWORK 220X4 1/16W
C3015	303 381 8109	CERAMIC 1U K 6.3V	RB112	945 037 4372	R-NETWORK 220X4 1/16W
C5005	303 393 2607	CERAMIC 22U M 6.3V	RB113	945 037 4372	R-NETWORK 220X4 1/16W
C5006	303 393 2607	CERAMIC 22U M 6.3V	RB115	945 028 0710	R-NETWORK 10KX4 1/16W
C5007	303 381 8109	CERAMIC 1U K 6.3V	RB117	945 037 0817	R-NETWORK 0X4 1/16W
C5008	303 381 8109	CERAMIC 1U K 6.3V	RB141	945 028 0710	R-NETWORK 10KX4 1/16W
C5010	303 276 1307	CERAMIC 1000P K 50V	RB142	945 028 0710	R-NETWORK 10KX4 1/16W
C5014	303 393 2607	CERAMIC 22U M 6.3V	RB145	945 028 0697	R-NETWORK 100X4 1/16W
C5015	303 393 2607	CERAMIC 22U M 6.3V	RB301	945 028 0703	R-NETWORK 1KX4 1/16W
C5016	303 408 5906	CERAMIC 10U M 6.3V	RB302	945 042 8204	R-NETWORK 33KX4 1/32W
C5018	303 393 2607	CERAMIC 22U M 6.3V	RB304	945 037 4389	R-NETWORK 330X4 1/16W
C5019	303 393 2607	CERAMIC 22U M 6.3V	RB305	945 028 0703	R-NETWORK 1KX4 1/16W
C5021	303 381 8109	CERAMIC 1U K 6.3V	RB306	945 028 0727	R-NETWORK 100KX4 1/16W
C5022	303 380 6601	CERAMIC 0.22U K 6.3V	RB311	645 068 6405	R-NETWORK 150KX2 1/16W
C5023	303 420 7506	CERAMIC 4.7U K 16V	RB313	945 028 0703	R-NETWORK 1KX4 1/16W
C5027	303 381 8109	CERAMIC 1U K 6.3V	RB315	645 078 4835	R-NETWORK 33KX2 0.063W
C5028	303 381 8109	CERAMIC 1U K 6.3V	RB316	645 068 6405	R-NETWORK 150KX2 1/16W
C5029	303 320 0607	CERAMIC 220P J 25V	RB971	645 078 4835	R-NETWORK 33KX2 0.063W
C5030	303 381 8109	CERAMIC 1U K 6.3V	RB972	645 078 4958	R-NETWORK 47KX2 0.063W
C5036	303 420 7506	CERAMIC 4.7U K 16V	RB975	645 078 5054	R-NETWORK 56KX2 0.063W
C5037	303 420 7506	CERAMIC 4.7U K 16V	RB976	645 078 4606	R-NETWORK 220X2 0.063W
C5042	303 320 0607	CERAMIC 220P J 25V			<b>(RESISTORS)</b>
C5045	303 420 7506	CERAMIC 4.7U K 16V	R1001	301 302 1307	MT-GLAZE 100 JA 1/20W
C5046	303 381 8109	CERAMIC 1U K 6.3V	R1004	301 308 3305	MT-GLAZE 68 JA 1/20W
C5047	303 338 0309	CERAMIC 0.1U K 10V	R1005	301 328 4306	MT-GLAZE 39 DD 1/20W
C5201	303 384 6409	CERAMIC 4.7U K 6.3V	R1006	301 328 4306	MT-GLAZE 39 DD 1/20W
C5202	303 384 6409	CERAMIC 4.7U K 6.3V	R1010	301 302 2007	MT-GLAZE 10K JA 1/20W
C5203	303 338 0309	CERAMIC 0.1U K 10V	R1011	301 330 9603	MT-GLAZE 1.5K DA 1/20W
C5301	303 320 0607	CERAMIC 220P J 25V	R1012	301 312 9706	MT-GLAZE 11.8K DC 1/16W
C5302	303 276 1901	CERAMIC 22P J 50V	R1016	301 302 1307	MT-GLAZE 100 JA 1/20W
C5303	303 282 9403	CERAMIC 680P K 50V	R1022	301 333 3004	MT-GLAZE 22 DD 1/20W
C5304	303 408 5906	CERAMIC 10U M 6.3V	R1023	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
C5305	303 381 6204	POS-SOLID 33U M 8V	R1026	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
C9006	303 382 3806	CERAMIC 0.01U K 10V	R1029	301 302 2106	MT-GLAZE 1K JA 1/20W
C9012	303 382 3905	CERAMIC 0.1U K 6.3V	R1030	301 317 1408	MT-GLAZE 2.2 JA 1/20W
C9031	303 381 8109	CERAMIC 1U K 6.3V	R1037	301 326 6203	MT-GLAZE 1.3K DC 1/20W
C9032	303 391 0803	CERAMIC 1U K 25V	R1040	301 317 8209	MT-GLAZE 3.6K DC 1/20W
C9033	303 391 0803	CERAMIC 1U K 25V	R1041	301 317 9503	MT-GLAZE 1K DC 1/20W
C9034	303 397 7608	CERAMIC 1U K 25V	R1051	301 302 1307	MT-GLAZE 100 JA 1/20W
C9035	303 281 5000	CERAMIC 0.033U K 25V	R1052	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
C9036	303 323 6309	CERAMIC 0.1U K 16V	R1081	301 302 2007	MT-GLAZE 10K JA 1/20W
C9053	303 419 4004	CERAMIC 0.1U K 10V	R1083	301 302 1307	MT-GLAZE 100 JA 1/20W
C9057	303 441 5703	TA-SOLID 22U M 10V	R1084	301 302 2007	MT-GLAZE 10K JA 1/20W
C9061	303 323 6309	CERAMIC 0.1U K 16V	R1085	301 317 8407	MT-GLAZE 47K DC 1/20W
C9064	303 269 2809	CERAMIC 0.15U K 25V	R1086	301 307 1104	MT-GLAZE 47K JA 1/20W
C9065	303 155 1800	CERAMIC 0.01U K 25V	R1087	301 302 2007	MT-GLAZE 10K JA 1/20W

LOCATION	PARTS NO.	DESCRIPTION
R1088	301 308 3305	MT-GLAZE 68 JA 1/20W
R1089	301 302 2007	MT-GLAZE 10K JA 1/20W
R1091	301 307 1104	MT-GLAZE 47K JA 1/20W
R1092	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R1093	301 302 2007	MT-GLAZE 10K JA 1/20W
R1095	301 302 1307	MT-GLAZE 100 JA 1/20W
R1121	301 317 6700	MT-GLAZE 470 DD 1/20W
R1122	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R1203	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R1206	301 306 7800	MT-GLAZE 10 JA 1/20W
R1207	301 302 2007	MT-GLAZE 10K JA 1/20W
R1301	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R1302	301 302 2007	MT-GLAZE 10K JA 1/20W
R1403	301 302 1307	MT-GLAZE 100 JA 1/20W
R1431	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R1434	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R1501	301 267 0902	MT-GLAZE 150 DC 1/16W
R1502	301 267 0902	MT-GLAZE 150 DC 1/16W
R1504	301 267 0902	MT-GLAZE 150 DC 1/16W
R1551	301 331 0906	MT-GLAZE 6.8K DA 1/20W
R1552	301 302 2106	MT-GLAZE 1K JA 1/20W
R1554	301 317 8407	MT-GLAZE 47K DC 1/20W
R1555	301 317 7004	MT-GLAZE 39K DC 1/20W
R1558	301 224 9306	MT-GLAZE 1K JA 1/16W
R3001	301 302 2106	MT-GLAZE 1K JA 1/20W
R3002	301 225 8001	MT-GLAZE 330 JA 1/16W
R3003	301 224 9306	MT-GLAZE 1K JA 1/16W
R3004	301 302 1703	MT-GLAZE 1.5K JA 1/20W
R3007	301 310 6400	MT-GLAZE 330K JA 1/20W
R3008	301 225 2009	MT-GLAZE 680 JA 1/16W
R3009	301 225 7905	MT-GLAZE 220 JA 1/16W
R3010	301 302 2106	MT-GLAZE 1K JA 1/20W
R3011	301 331 2207	MT-GLAZE 22K DA 1/20W
R3012	301 307 1104	MT-GLAZE 47K JA 1/20W
R3014	301 331 1408	MT-GLAZE 10K DA 1/20W
R5001	301 321 2002	MT-GLAZE 68K DC 1/20W
R5003	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5005	301 321 2507	MT-GLAZE 5.1K DC 1/20W
R5006	301 326 6203	MT-GLAZE 1.3K DC 1/20W
R5007	301 321 2002	MT-GLAZE 68K DC 1/20W
R5008	301 326 3400	MT-GLAZE 30K DC 1/20W
R5009	301 326 6302	MT-GLAZE 16K DC 1/20W
R5010	301 317 7806	MT-GLAZE 100K DC 1/20W
R5011	301 321 2002	MT-GLAZE 68K DC 1/20W
R5014	301 317 7707	MT-GLAZE 27K DC 1/20W
R5015	301 328 1503	MT-GLAZE 300K DC 1/20W
R5016	301 307 1104	MT-GLAZE 47K JA 1/20W
R5017	301 327 0507	MT-GLAZE 680K JA 1/20W
R5018	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5019	301 317 8704	MT-GLAZE 180 DD 1/20W
R5021	301 317 8902	MT-GLAZE 2K DC 1/20W
R5025	301 317 7004	MT-GLAZE 39K DC 1/20W
R5026	301 317 8407	MT-GLAZE 47K DC 1/20W
R5027	301 317 8605	MT-GLAZE 1.5K DC 1/20W
R5036	301 321 1807	MT-GLAZE 270K DC 1/20W
R5037	301 327 0705	MT-GLAZE 56K DC 1/20W
R5038	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5041	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5042	301 326 6708	MT-GLAZE 12 DD 1/20W
R5054	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5201	301 312 3704	MT-FILM 1 FD 1/6W
R5202	301 317 8100	MT-GLAZE 100 DD 1/20W
R5203	301 317 8902	MT-GLAZE 2K DC 1/20W
R5204	301 317 7806	MT-GLAZE 100K DC 1/20W
R5205	301 326 6203	MT-GLAZE 1.3K DC 1/20W
R5207	301 302 1208	MT-GLAZE 0.000 ZA 1/20W
R5301	301 321 2002	MT-GLAZE 68K DC 1/20W
R5302	301 317 9305	MT-GLAZE 10K DC 1/20W
R5303	301 317 8407	MT-GLAZE 47K DC 1/20W
R5304	301 326 3400	MT-GLAZE 30K DC 1/20W
R5305	301 321 2408	MT-GLAZE 2.4K DC 1/20W
R9008	301 225 0906	MT-GLAZE 82K JA 1/16W
R9031	301 308 7808	MT-GLAZE 220K JA 1/20W
R9032	301 302 2007	MT-GLAZE 10K JA 1/20W
R9035	301 224 8903	MT-GLAZE 100K JA 1/16W
R9036	301 224 9405	MT-GLAZE 1.0M JA 1/16W
R9039	301 240 9502	MT-GLAZE 820 JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R9051	301 240 9007	MT-GLAZE 3.9 JA 1/16W
R9055	301 225 1101	MT-GLAZE 27 JA 1/16W
R9058	301 240 9007	MT-GLAZE 3.9 JA 1/16W
R9059	301 240 9007	MT-GLAZE 3.9 JA 1/16W
R9062	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9063	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R9505	301 314 0503	MT-FILM 22 FD 1/6W
R9506	301 314 0503	MT-FILM 22 FD 1/6W
R9507	301 105 7902	MT-GLAZE 0.000 ZA 1/16W
R9718	301 317 7806	MT-GLAZE 100K DC 1/20W
R9719	301 317 7806	MT-GLAZE 100K DC 1/20W
R9720	301 225 8100	MT-GLAZE 10 JA 1/16W
R9721	301 262 1904	MT-GLAZE 6.8K DC 1/16W
R9722	301 317 9107	MT-GLAZE 2.2K DC 1/20W
R9723	301 317 9503	MT-GLAZE 1K DC 1/20W
R9724	301 317 9107	MT-GLAZE 2.2K DC 1/20W
R9726	301 331 2603	MT-GLAZE 33K DA 1/20W
R9728	301 317 7806	MT-GLAZE 100K DC 1/20W
		<b>(THERMISTOR)</b>
TH301	308 054 7700	TH NCP15WF104F03-RC
		<b>(SWITCH)</b>
S3001	645 045 2857	SWITCH,PUSH,
		<b>(FUSES)</b>
F5001	△ 323 031 5609	FUSE 32V 2A
F5002	△ 323 031 8501	FUSE 24V 2.5A
F5003	△ 323 031 5500	FUSE 32V 1A
		<b>(JACK)</b>
JK151	645 088 6898	JACK,PHONE D3.6 (N.S.P)
		<b>(CONNECTORS)</b>
CN103	645 068 9673	PLUG,PWB-WIRE 20P(N.S.P)
CN104	645 068 9673	PLUG,PWB-WIRE 20P(N.S.P)
CN105	645 083 6671	SOCKET,FPC 12P (N.S.P)
CN110	645 072 3674	SOCKET,USB 5P (N.S.P)
CN141	645 069 7548	SOCKET,CARD(SD) 1(N.S.P)
CN301	645 084 2580	SOCKET,FPC 19P (N.S.P)
CN501	645 089 3421	TERMINAL,3P-SG111 (N.S.P)
CN901	645 089 4534	SOCKET,FPC 39P (N.S.P)
CN951	645 082 0250	SOCKET,FPC 23P (N.S.P)
		<b>(MISCELLANEOUS)</b>
		636 101 9811 SPACER CP1-SG111
JW151	636 101 9804	ASSY,WIRE CP1-SG111 (N.S.P.)

### COMPL FPC SV-SG111

636 099 7424

		<b>(SEMICONDUCTOR)</b>
Q9301	305 212 7800	TR UP05C8G (N.S.P)
		<b>(INTEGRATED CIRCUITS)</b>
IC701	645 088 3149	GYRO SENSOR (N.S.P)
IC702	309 650 3509	IC TK70630HC-G (N.S.P)
		<b>(CAPACITORS)</b>
CB701	303 392 5500	CERAMIC 1U K 6.3V (N.S.P)
C7002	303 279 5104	CERAMIC 3300P K 50V (N.S.P)
C7003	303 279 5104	CERAMIC 3300P K 50V (N.S.P)
C7004	303 383 5205	CERAMIC 4.7U K 6.3V (N.S.P)
C7005	304 107 6300	CERAMIC 4.7U K 16V (N.S.P)
C7006	303 341 7005	CERAMIC 0.068U K 10V (N.S.P)
C7009	304 107 6300	CERAMIC 4.7U K 16V (N.S.P)
C9303	303 397 1606	CERAMIC 10U M 10V (N.S.P)
C9304	303 342 3303	CERAMIC 0.1U K 25V (N.S.P)
C9305	303 420 7902	CERAMIC 10U K 16V (N.S.P)
		<b>(RESISTORS)</b>
R7001	301 262 0709	MT-GLAZE 39K DC 1/16W (N.S.P)
R7002	301 262 0709	MT-GLAZE 39K DC 1/16W (N.S.P)
R7003	301 309 2604	MT-GLAZE 470K DC 1/16W (N.S.P)
R7004	301 226 1506	MT-GLAZE 0.000 ZA 1/16W (N.S.P)
R7005	301 309 2604	MT-GLAZE 470K DC 1/16W (N.S.P)
R9301	301 225 1804	MT-GLAZE 47 JA 1/16W (N.S.P)
R9302	301 225 8001	MT-GLAZE 330 JA 1/16W (N.S.P)
R9303	301 235 1405	MT-GALZE 1.2K JA 1/16W (N.S.P)
		<b>(MISCELLANEOUS)</b>
		----- IC MN39830PMJ-A (N.S.P.)
		----- MOUNTING,LENS SX817 (N.S.P.)



LOCATION	PARTS NO.	DESCRIPTION
<b>COMPL PWB,TB-1</b>		
636 098 9115		
<b>(SWITCH)</b>		
S6601	645 078 7294	SWITCH,DETECTOR 1P-1T,
<b>(MISCELLANEOUS)</b>		
	636 101 0450	ASSY,WIRE TB1&VF1-SG111 (N.S.P.)
	636 101 0467	ASSY,WIRE TB1&VF1-SG111 (N.S.P.)

**COMPL PWB,VF-1**  
636 098 9108

<b>(INTEGRATED CIRCUITS)</b>		
IC181	309 641 9404	IC WM8978GEFL
IC182	309 624 7809	IC NJM2860F3-03
IC651	309 599 3301	IC MRSS32W
<b>(CAPACITORS)</b>		
C1701	303 433 1102	CERAMIC 1U K 10V
C1702	303 383 5205	CERAMIC 4.7U K 6.3V
C1703	303 383 5007	CERAMIC 1U K 16V
C1704	303 433 1102	CERAMIC 1U K 10V
C1705	303 433 1102	CERAMIC 1U K 10V
C1706	303 382 7804	CERAMIC 2.2U K 10V
C1707	303 383 5007	CERAMIC 1U K 16V
C1708	303 433 1102	CERAMIC 1U K 10V
C1709	303 433 1102	CERAMIC 1U K 10V
C1710	303 383 5007	CERAMIC 1U K 16V
C1711	303 433 1102	CERAMIC 1U K 10V
C1712	303 433 1102	CERAMIC 1U K 10V
C1713	303 383 5007	CERAMIC 1U K 16V
C1714	303 338 0309	CERAMIC 0.1U K 10V
C1715	303 338 0309	CERAMIC 0.1U K 10V
C1716	303 338 0309	CERAMIC 0.1U K 10V
C1801	303 433 1102	CERAMIC 1U K 10V
C1804	303 433 1102	CERAMIC 1U K 10V
C1805	303 433 1102	CERAMIC 1U K 10V
C1806	303 279 5104	CERAMIC 3300P K 50V
C1807	303 381 8109	CERAMIC 1U K 6.3V
C1808	403 454 3403	CERAMIC 100U M 6.3V
C1809	403 454 3403	CERAMIC 100U M 6.3V
C1810	303 279 5104	CERAMIC 3300P K 50V
C1811	303 381 8109	CERAMIC 1U K 6.3V
C1825	303 383 5205	CERAMIC 4.7U K 6.3V
C1827	303 381 8109	CERAMIC 1U K 6.3V
C6501	303 338 0309	CERAMIC 0.1U K 10V
<b>(RESISTOR PACKS)</b>		
RB181	645 078 4958	R-NETWORK 47KX2 0.063W
RB182	645 078 4644	R-NETWORK 2KX2 0.063W
RB192	645 078 4606	R-NETWORK 220X2 0.063W
<b>(RESISTORS)</b>		
R1701	301 228 4505	MT-GLAZE 2.2 JA 1/16W
R1702	301 224 9009	MT-GLAZE 10K JA 1/16W
R1703	301 105 7902	MT-GLAZE 0.000 ZA 1/16W
R1801	301 301 3500	MT-GLAZE 200 JA 1/16W
R1802	301 301 3500	MT-GLAZE 200 JA 1/16W
R1804	301 237 2509	MT-GLAZE 4.7 JA 1/16W
R1805	301 237 2509	MT-GLAZE 4.7 JA 1/16W
R1810	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1811	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
R1812	301 226 1506	MT-GLAZE 0.000 ZA 1/16W
<b>(RECHARGEABLE BATTERY)</b>		
Z6001	945 051 6000	BATTERY,RECHARGE
<b>(CONNECTORS)</b>		
CN171	645 086 5183	SOCKET,FPC 37P (N.S.P)
CN172	645 068 9673	PLUG,PWB-WIRE 20P(N.S.P)
CN173	645 068 9673	PLUG,PWB-WIRE 20P(N.S.P)

**COMPL PWB,ST-1**  
636 098 9092

<b>(SEMICONDUCTOR)</b>		
Q5402	306 020 3701	TR CY25CAH-8F-T13 F10V
<b>(INTEGRATED CIRCUIT)</b>		
IC541	309 671 6602	IC TPS65560RGT

LOCATION	PARTS NO.	DESCRIPTION
<b>(DIODES)</b>		
D5401	307 245 6805	DIODE FPSN4
D5402	307 250 8009	DIODE MA2YF8000L
D5404	307 205 5206	DIODE RB521S-30
OR	307 221 4108	DIODE MA2SD19
<b>(TRANSFORMERS)</b>		
T5401	645 086 4537	TRANS,STEP UP
T5402	645 069 2420	TRANS,STEP UP
<b>(CAPACITORS)</b>		
C5401	303 393 2607	CERAMIC 22U M 6.3V
C5402	303 276 1307	CERAMIC 1000P K 50V
C5403	303 381 8109	CERAMIC 1U K 6.3V
C5404	303 276 1307	CERAMIC 1000P K 50V
C5410	303 428 3401	CERAMIC 0.018U K 350V
C5411	303 428 3609	CERAMIC 0.01U K 350V
C5412	404 110 8800	ELECT 40U A 300V
<b>(RESISTOR PACKS)</b>		
RB541	645 078 5702	R-NETWORK 1KX2 0.063W
RB542	645 078 5719	R-NETWORK 10KX2 0.063W
<b>(RESISTORS)</b>		
R5402	302 106 1609	MT-GLAZE 100K JD 1/8W
R5403	301 224 8804	MT-GLAZE 100 JA 1/16W
R5404	301 263 2108	MT-GLAZE 5.1K DC 1/16W
R5405	301 267 1008	MT-GLAZE 6.2K DC 1/16W
R5411	301 224 9306	MT-GLAZE 1K JA 1/16W
R5422	302 106 1708	MT-GLAZE 220K JD 1/8W
R5424	301 224 9009	MT-GLAZE 10K JA 1/16W
<b>(CONNECTOR)</b>		
CN541	645 071 1060	SOCKET,FPC 12P (N.S.P)
<b>(MISCELLANEOUS)</b>		
	636 099 8858	SPACER ST-SG111
	636 099 3587	SPACER CON B- SG111/J

# CIRCUIT DIAGRAMS & PRINTED WIRING BOARDS

## TABLE OF CONTENTS

<b>OVERALL WIRING &amp; BLOCK DIAGRAMS</b>	Page
OVERALL WIRING .....	C3
OVERALL CIRCUIT .....	C4
CCD CIRCUIT .....	C5
LENS CIRCUIT .....	C5
MAIN CIRCUIT .....	C6
POWER CIRCUIT .....	C7
STROBE CIRCUIT .....	C7
SYSTEM CONTROL CIRCUIT .....	C8
<b>CIRCUIT DIAGRAMS</b>	
CIRCUIT WAVEFORMS .....	C8
CP1 BOARD (DMA) MAIN .....	C9
CP1 BOARD (TCA) LENS .....	C14
CP1 BOARD (SYA) SYSTEM CONTROL .....	C15
CP1 BOARD (PWA) POWER .....	C16
CP1 BOARD (CAA) CCD AFE & DRIVER .....	C17
CA1 BOARD CCD & GYRO SENSOR .....	C18
VF1 BOARD LCD CONNECTOR & AUDIO .....	C19
TB1 BOARD SWITCH .....	C19
ST1 BOARD STROBE .....	C20
<b>PRINTED WIRING BOARDS (P.W.B.)</b>	
CP1 P.W.B. (SIDE A & B) .....	C21
ST1 P.W.B. (SIDE A & B) .....	C22
CA1 P.W.B. (SIDE A & B) .....	C22
TB1 P.W.B. (SIDE A & B) .....	C22
VF1 P.W.B. (SIDE A & B) .....	C23

**NOTES:**

1. All resistance values in "OHMS" unless otherwise noted.  
(K=1,000 ; M=1,000,000)
2. All capacitance values in "μF" unless otherwise noted.  
p=pico farad ; μ ,u or U=micro farad
3. All inductance values in "μH" unless otherwise noted.  
μ ,u or U=micro henry ; m=milli henry

**Figure of printed wiring boards**

**Multilayer board:**


"Side A" means the view from A side of the board.

"Side B" means the view from B side of the board.

**Singlelayer board:**

View from the copper-foil side of the board, otherwise noted.

**PRODUCT SAFETY NOTICE**

THE COMPONENTS DESIGNATED BY A SYMBOL () IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SYMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

**EXPLANATORY NOTES (EXAMPLES)**

**Resistor** 10K:1/16J means 10kilo ohm ±5%, 1/16watt max.  
1M:1/10K means 1mega ohm ±10%, 1/10watt max.

**Capacitor** 0.047:F means 0.047micro farad, Ftype.

**Electrolytic capacitor**  
10:16 means 10micro farad, 16volt max.

**Inductor** 330:J means 330micro henry ±5%  
470:K means 470micro henry ±10%  
No description J or K means ±5%

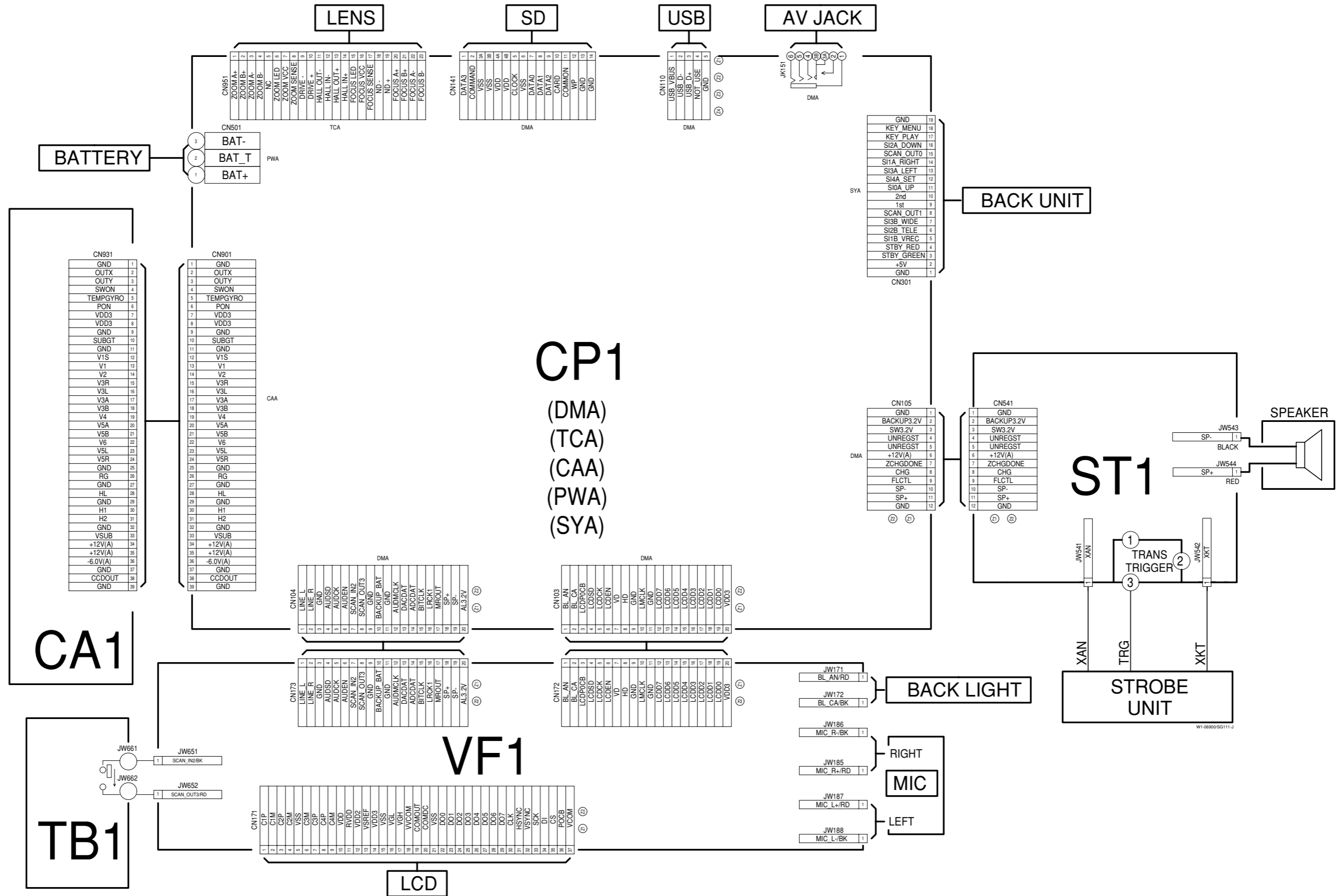
The number of "H=##" written in slant character, shows the voltage.

The number of "H=##" written in upright character, shows the height of the parts.

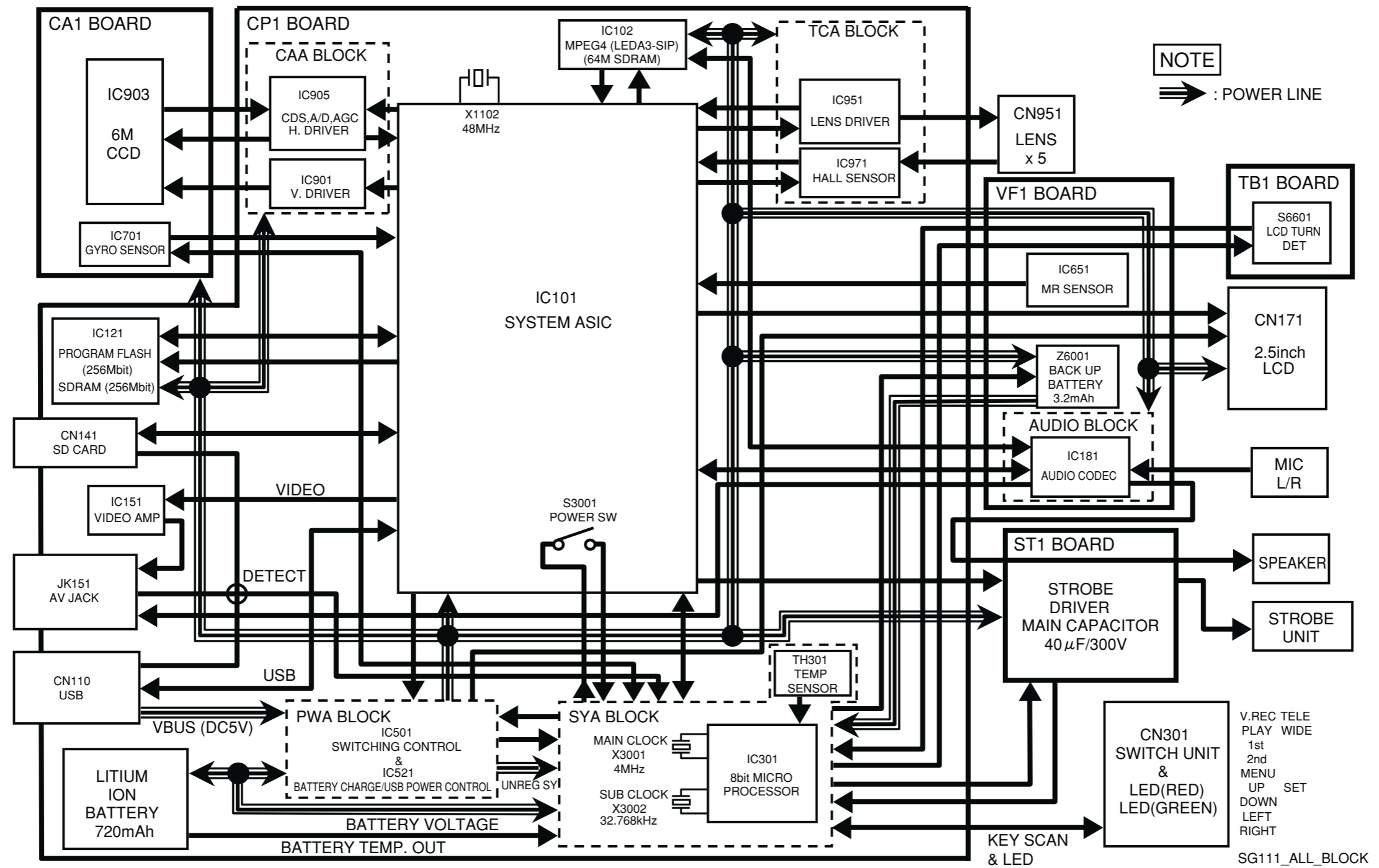
PAL-F-EX

OVERALL WIRING & BLOCK DIAGRAMS

OVERALL WIRING

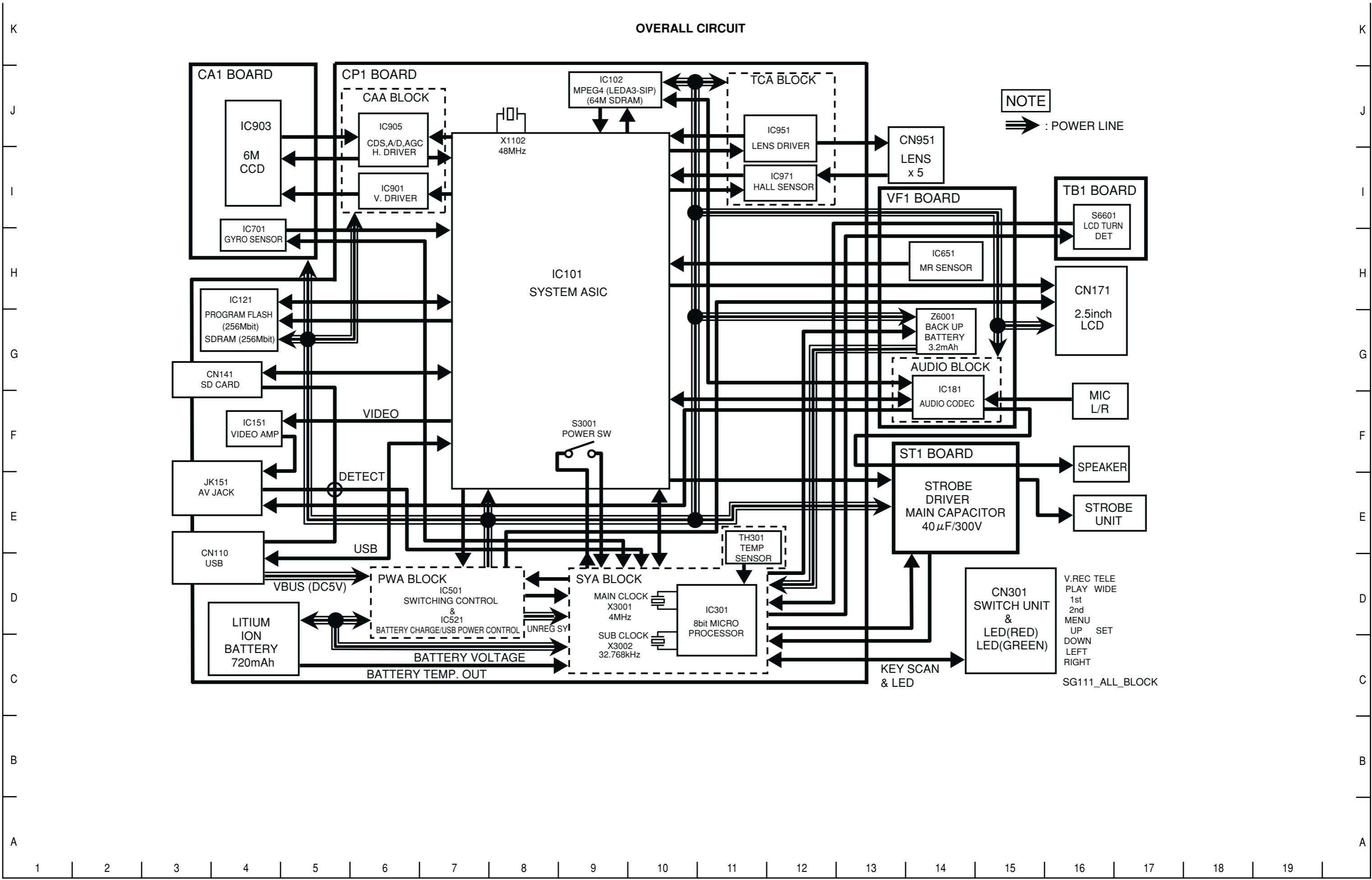


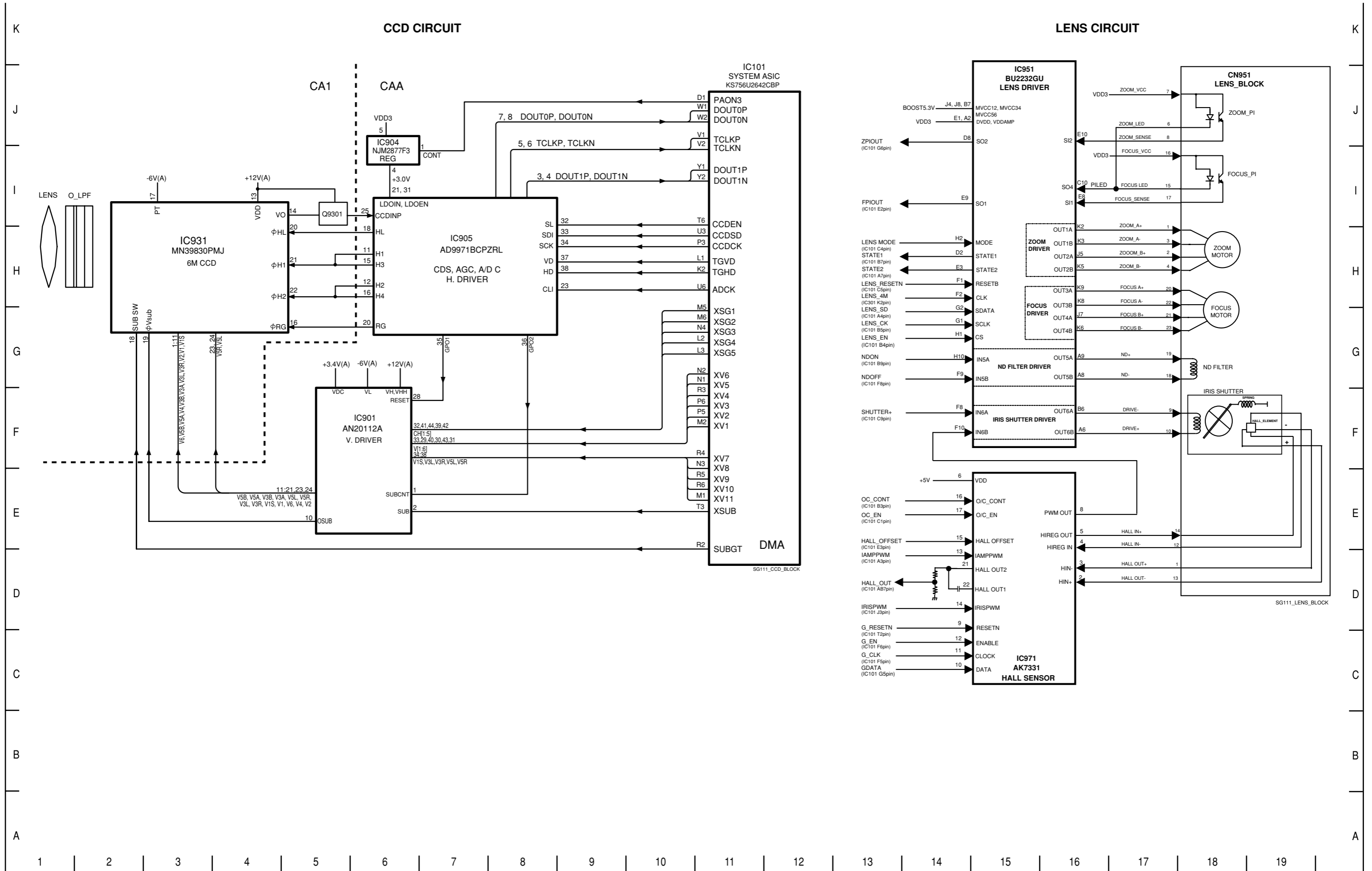
OVERALL CIRCUIT



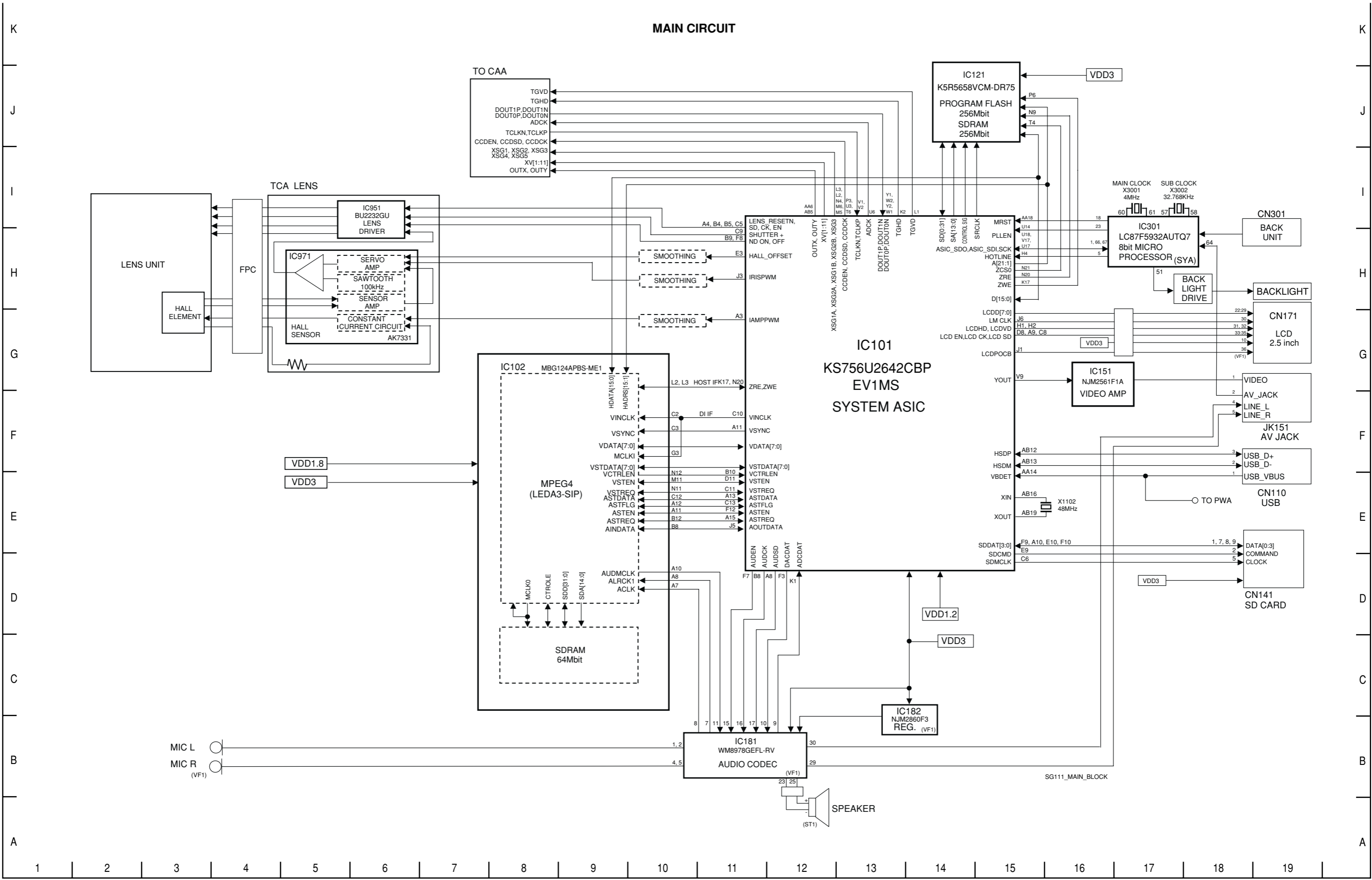
**NOTE**  
 : POWER LINE

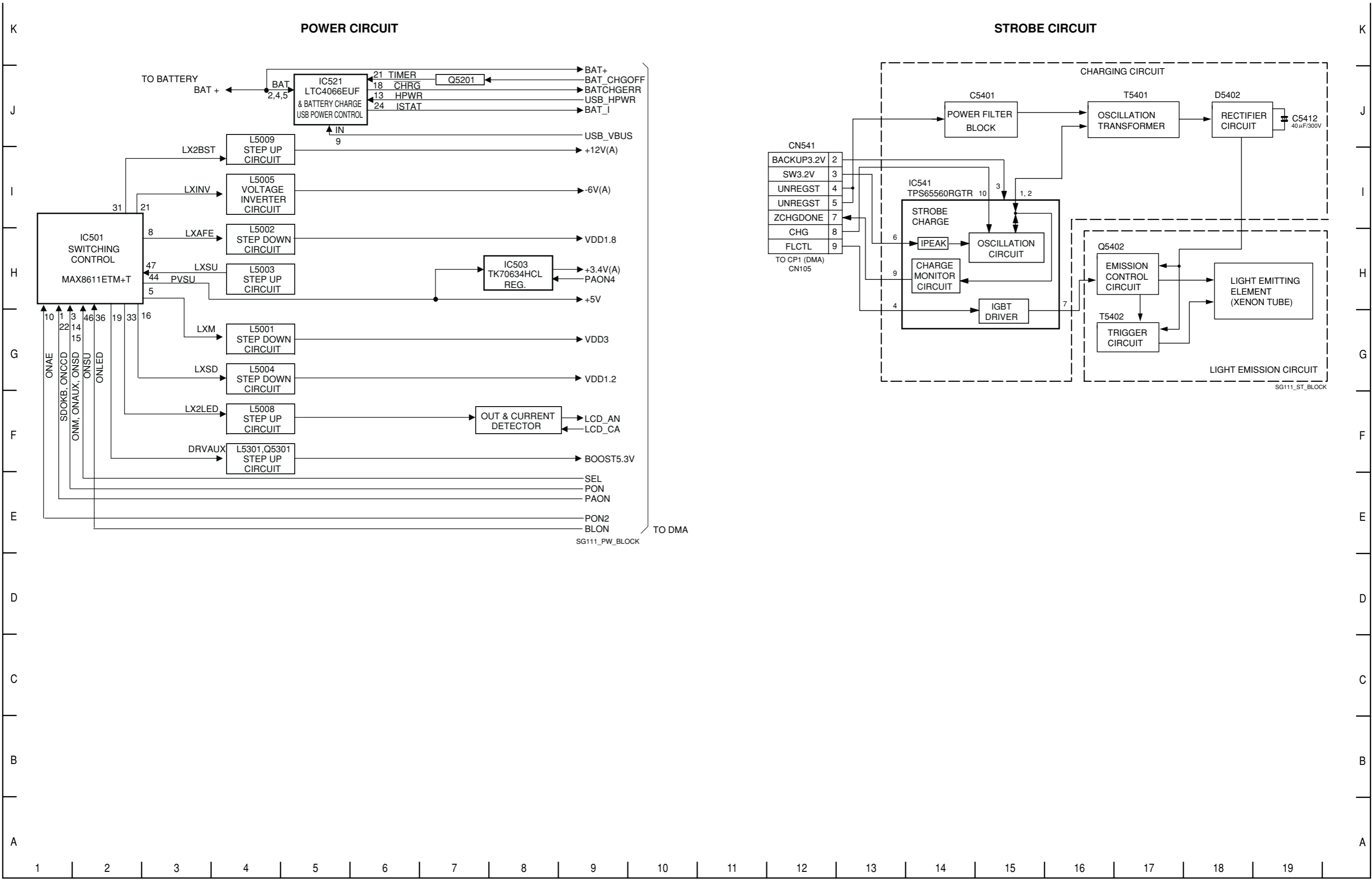
V.REC TELE  
 PLAY WIDE  
 1st  
 MENU  
 UP SET  
 DOWN  
 LEFT  
 RIGHT  
 SG111\_ALL\_BLOCK





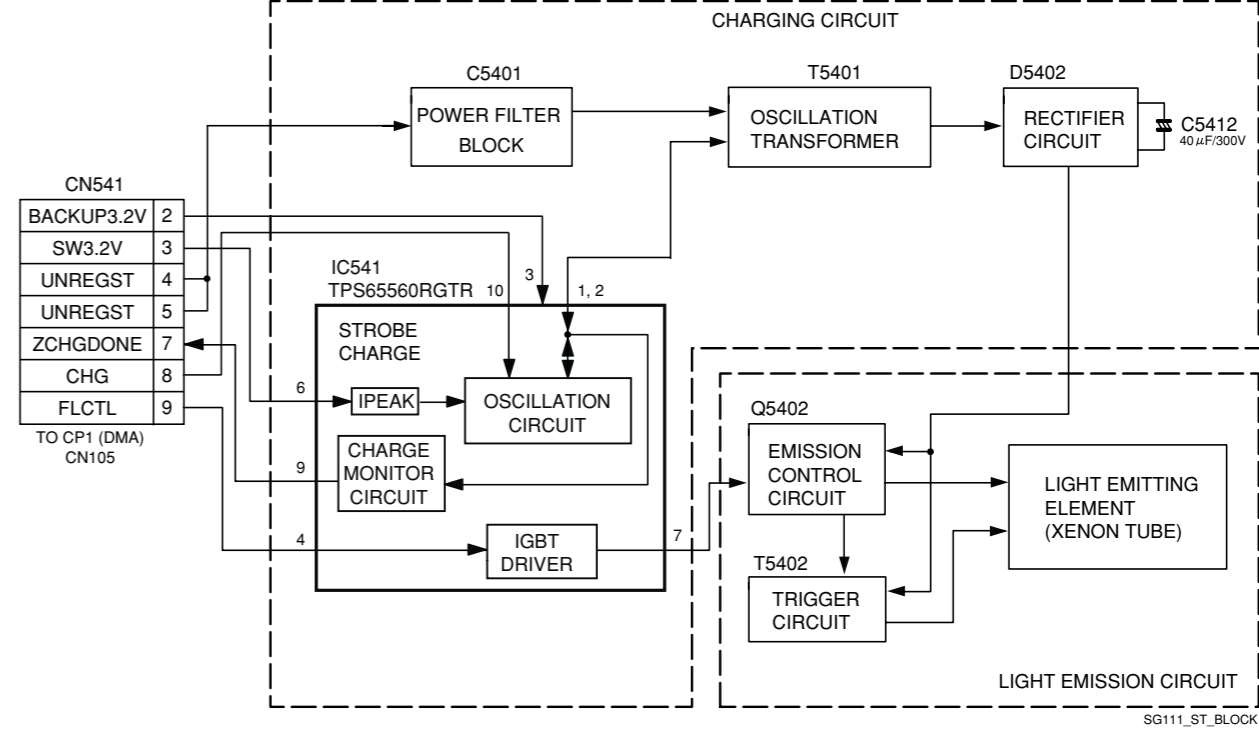
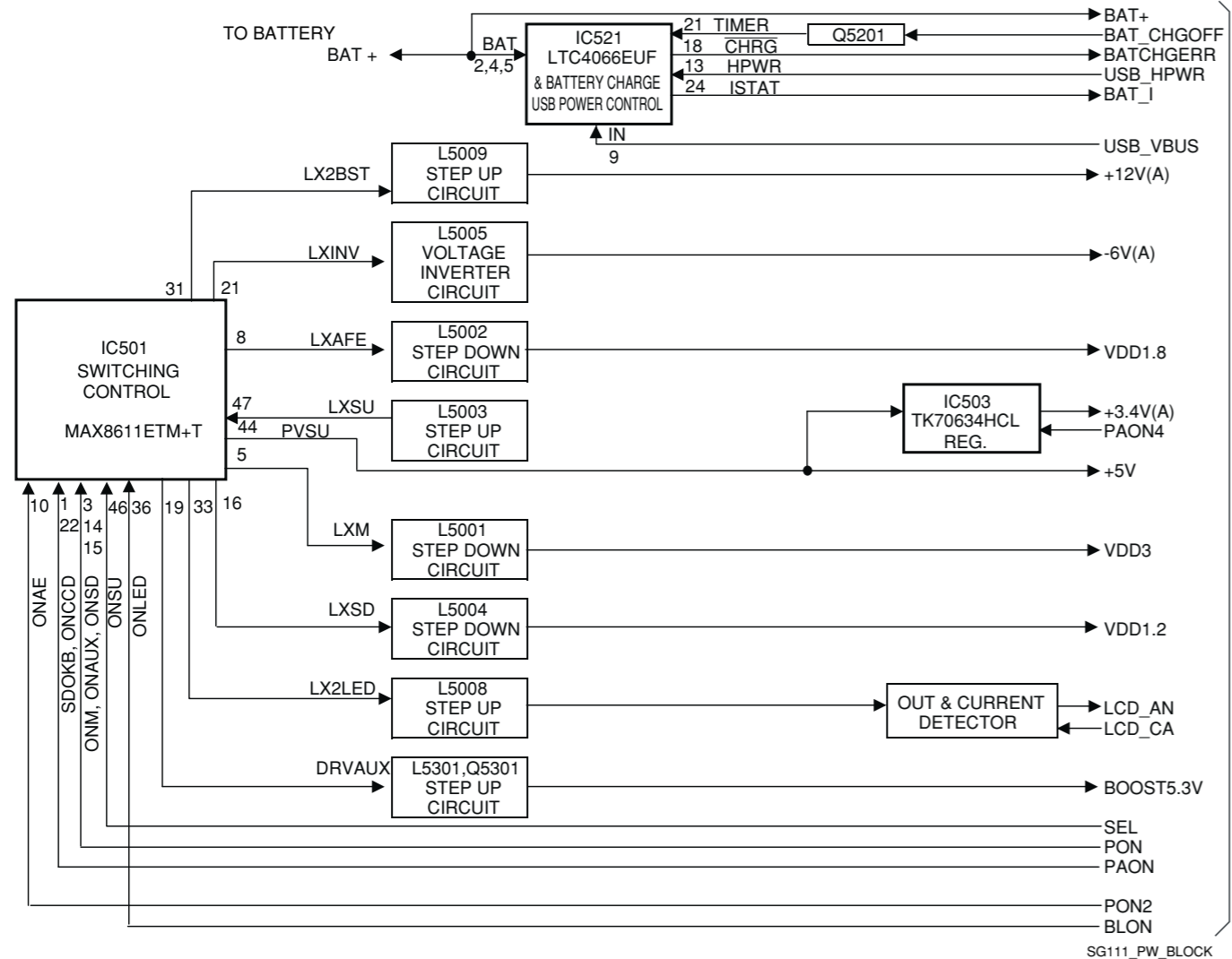
MAIN CIRCUIT





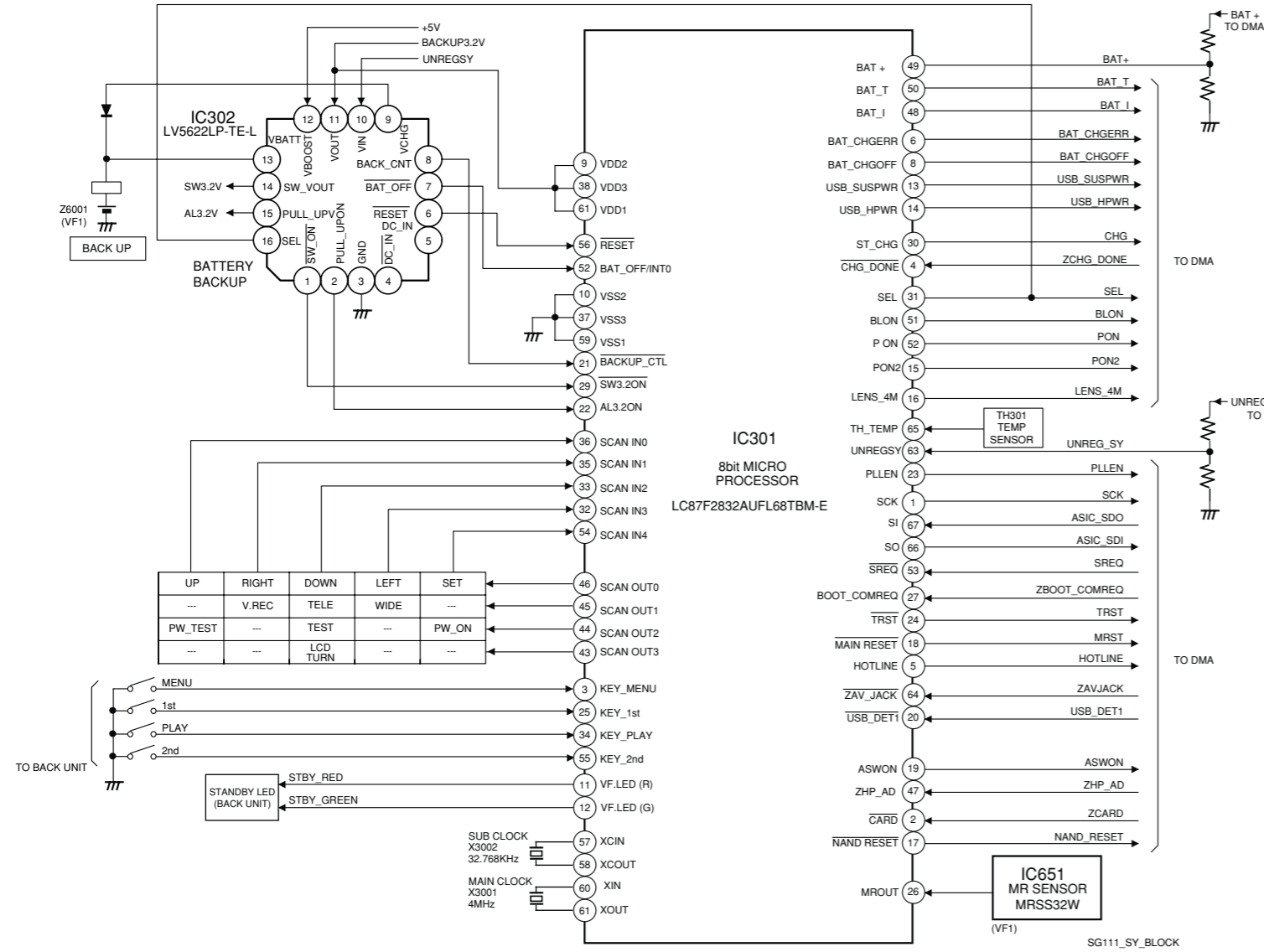
**POWER CIRCUIT**

**STROBE CIRCUIT**



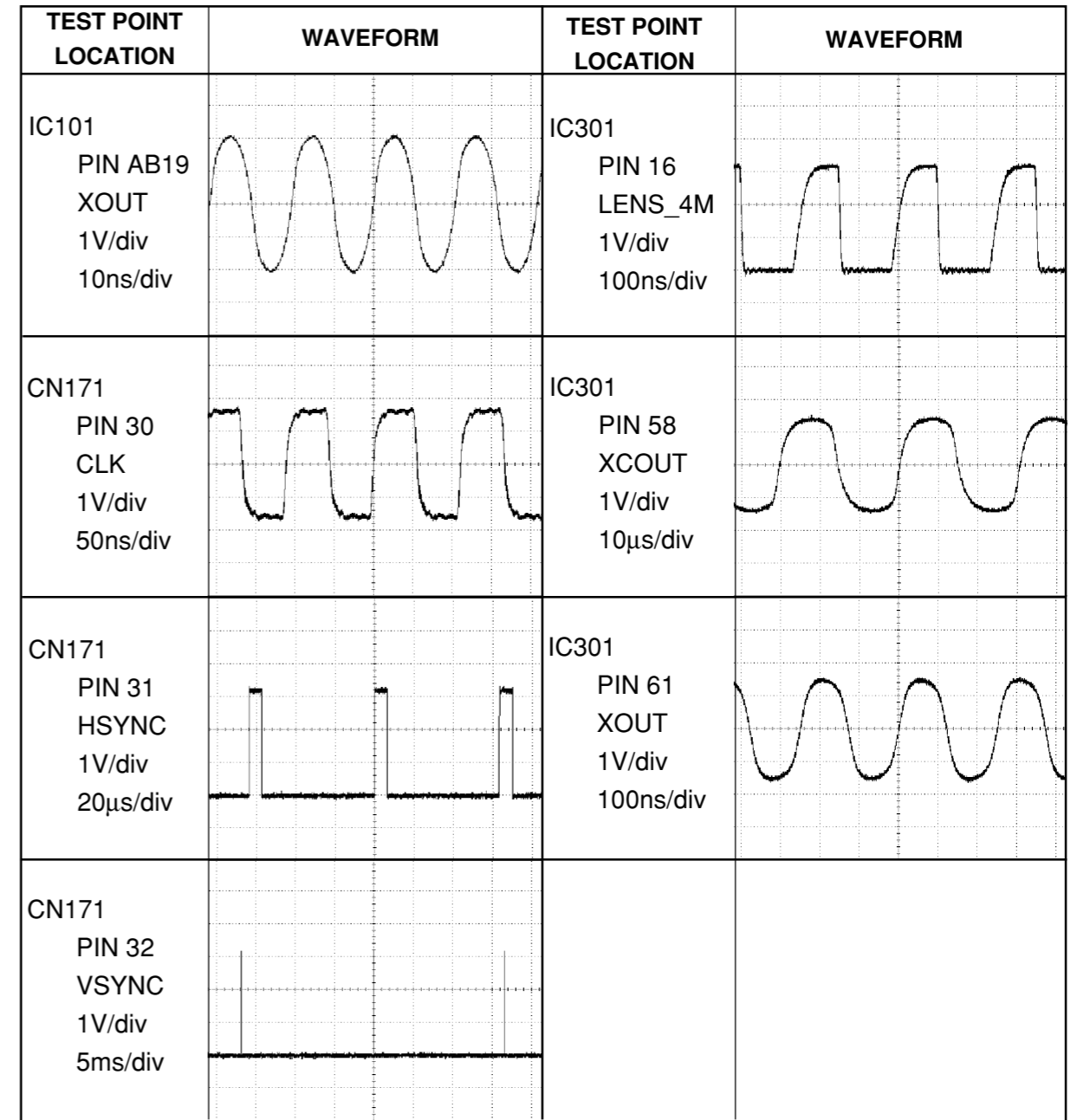


### SYSTEM CONTROL CIRCUIT



### CIRCUIT DIAGRAMS

### CIRCUIT WAVEFORMS



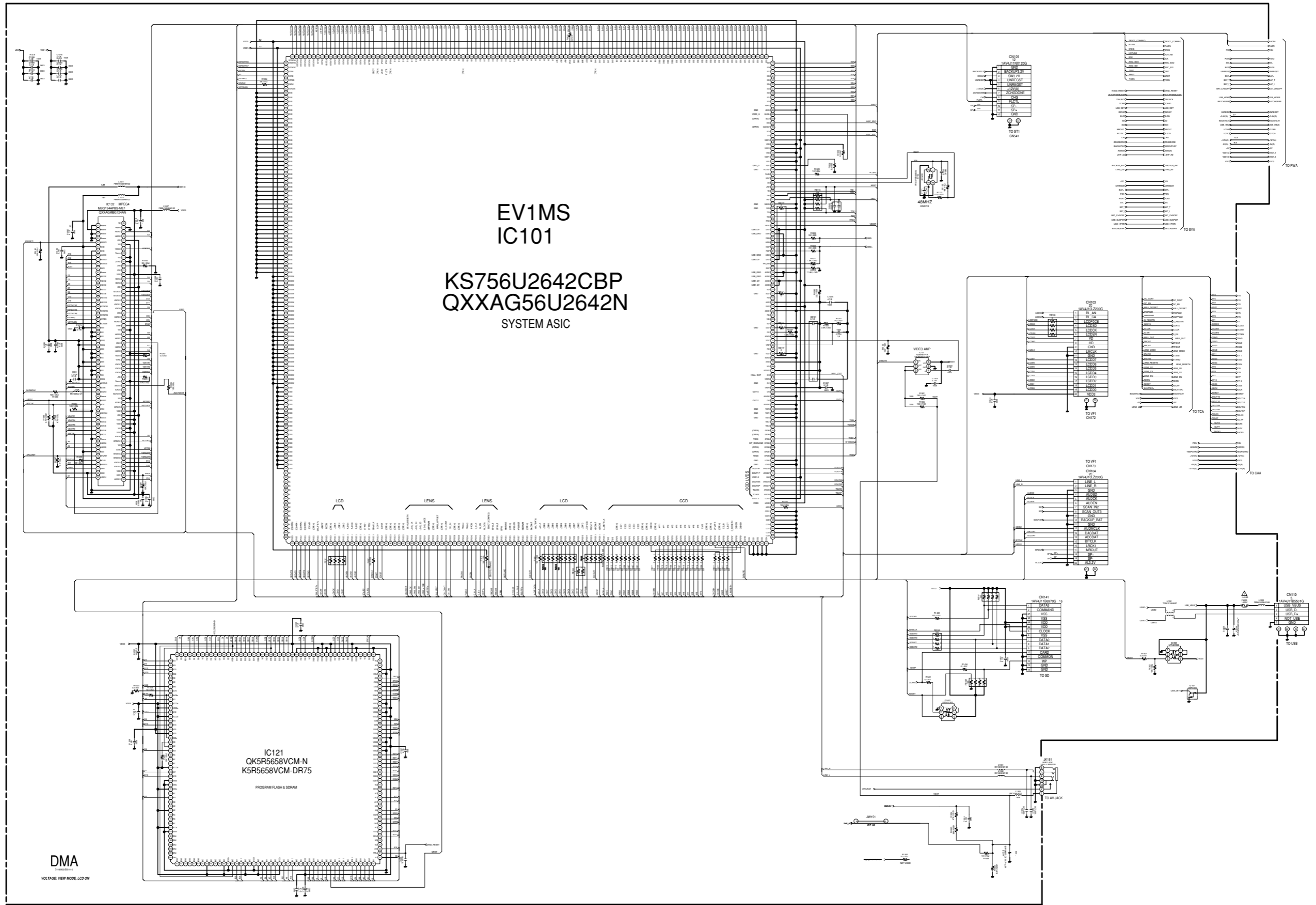
WF-SG111

CP1 BOARD (DMA) MAIN

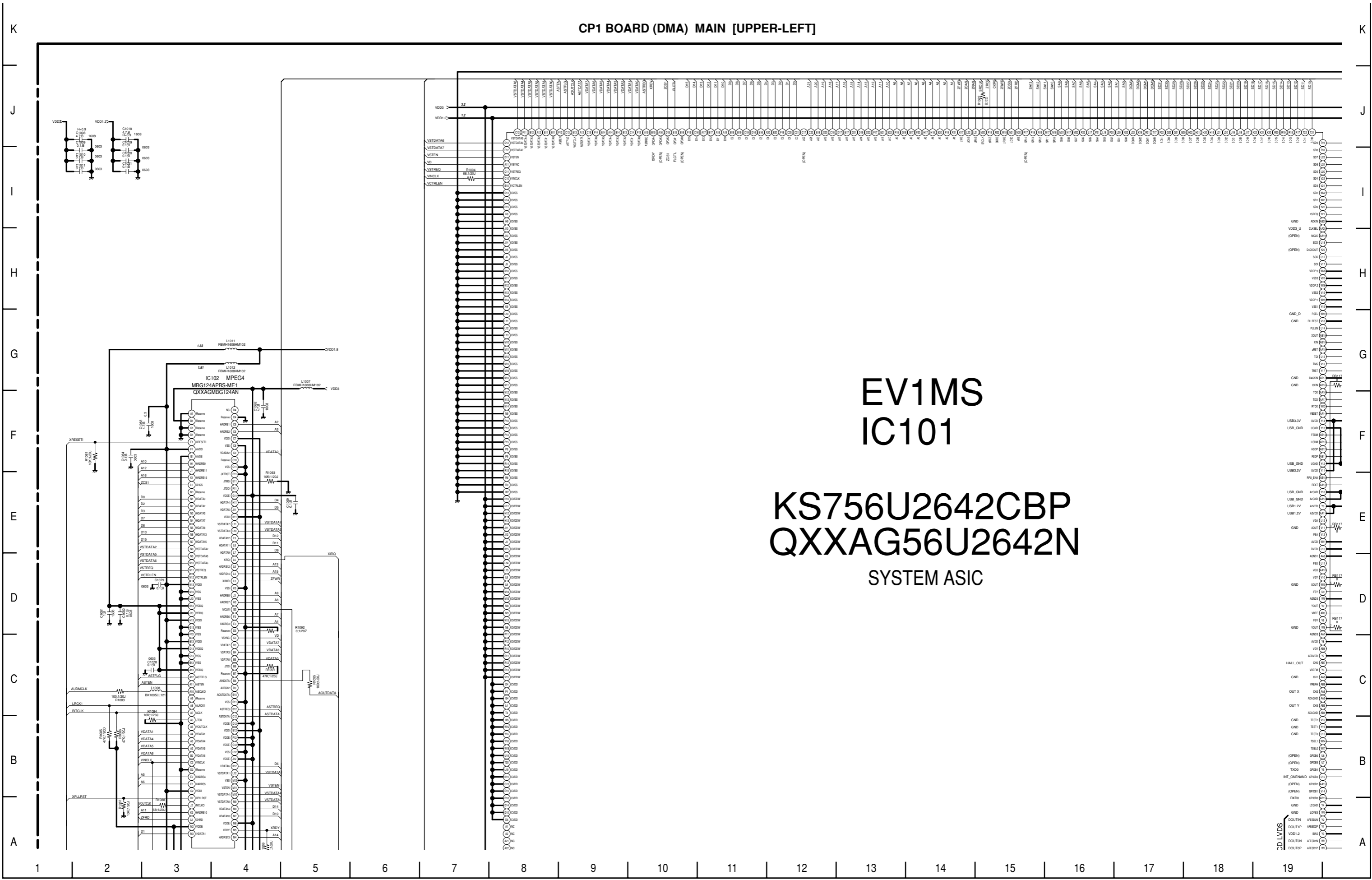
EV1MS  
IC101  
KS756U2642CBP  
QXXAG56U2642N  
SYSTEM ASIC

IC121  
QK5R5658VCM-N  
K5R5658VCM-DR75  
PROGRAM FLASH & SDRAM

DMA  
VOLTAGE: VIEW MODE, LCD ON



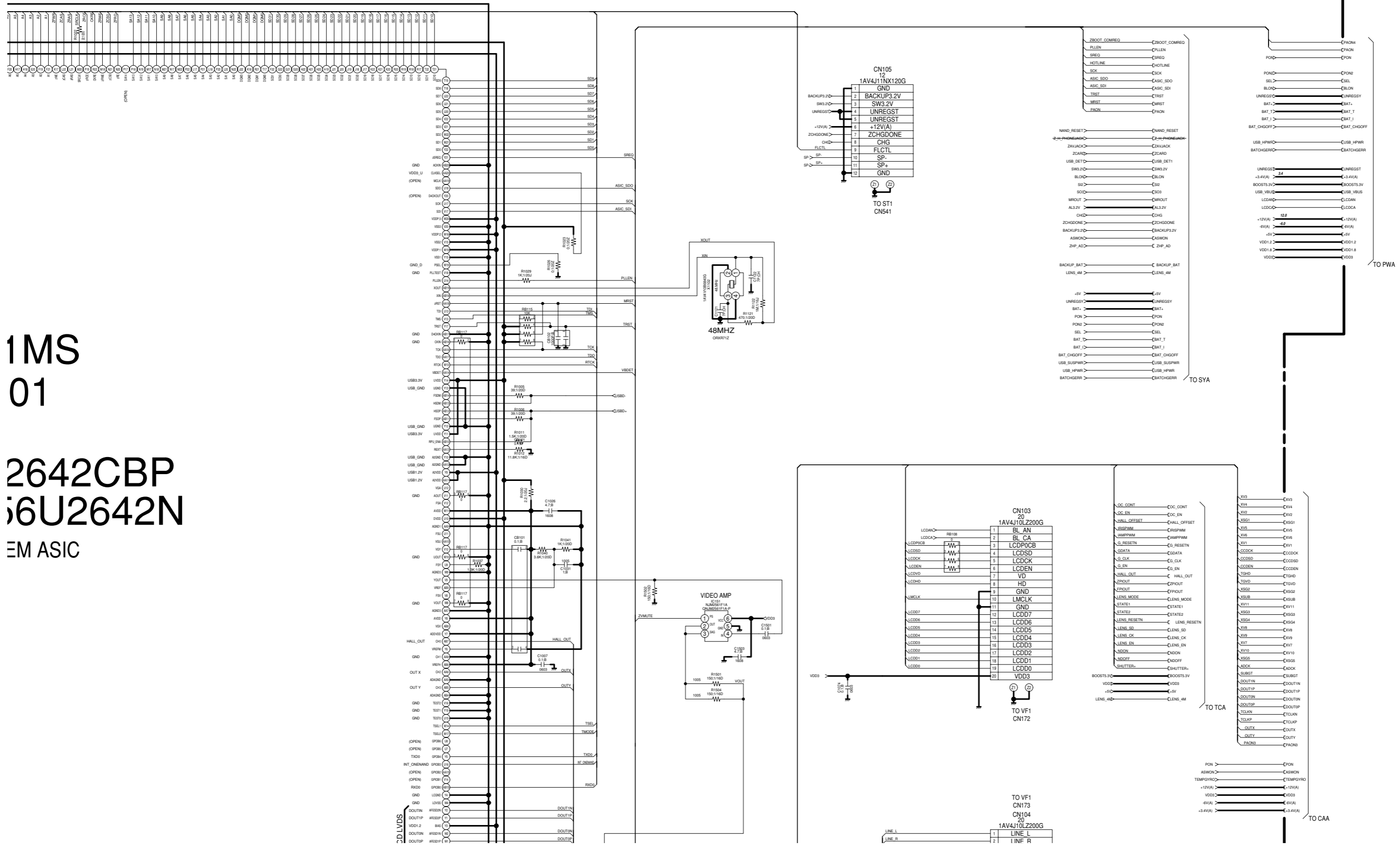
CP1 BOARD (DMA) MAIN [UPPER-LEFT]



EV1MS  
IC101

KS756U2642CBP  
QXXAG56U2642N  
SYSTEM ASIC

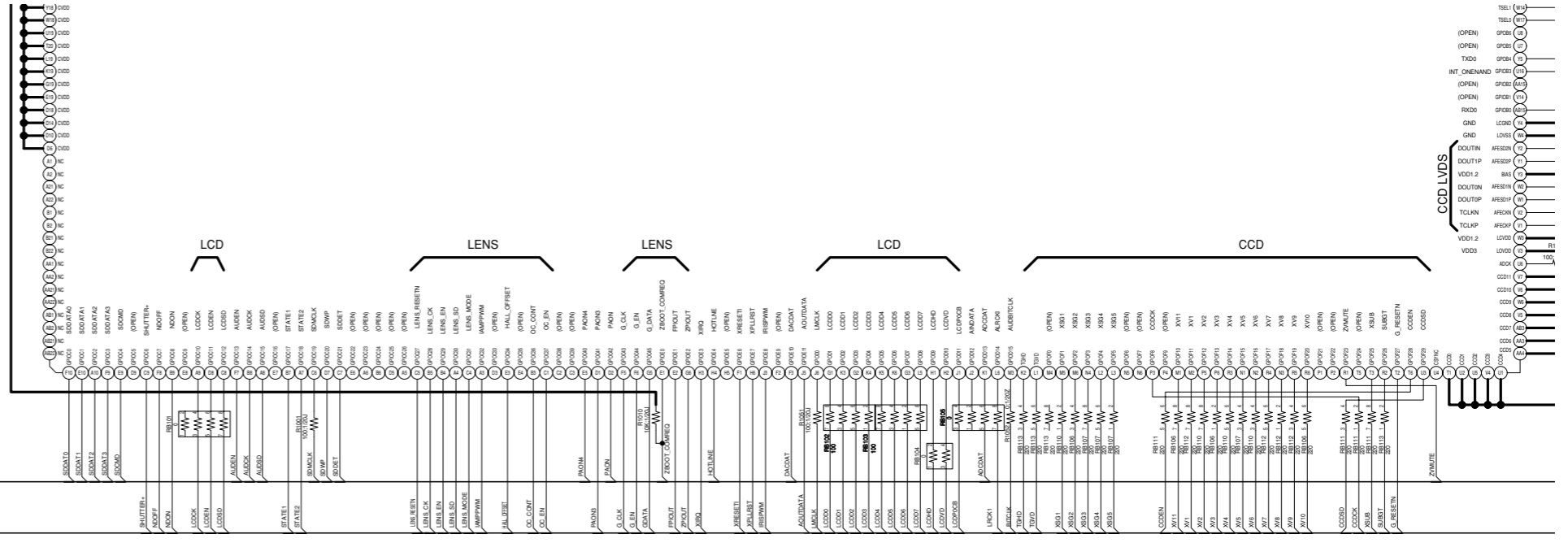
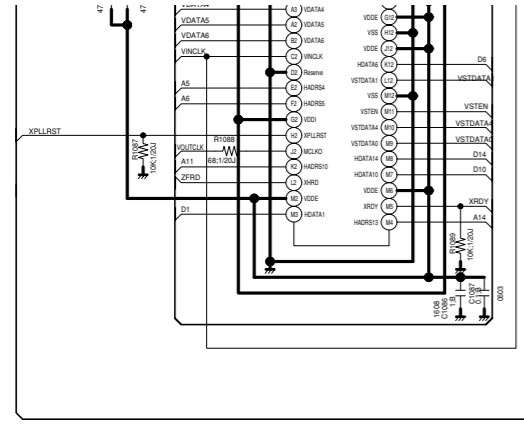
CP1 BOARD (DMA) MAIN [UPPER-RIGHT]



1MS  
01

2642CBP  
6U2642N  
EM ASIC

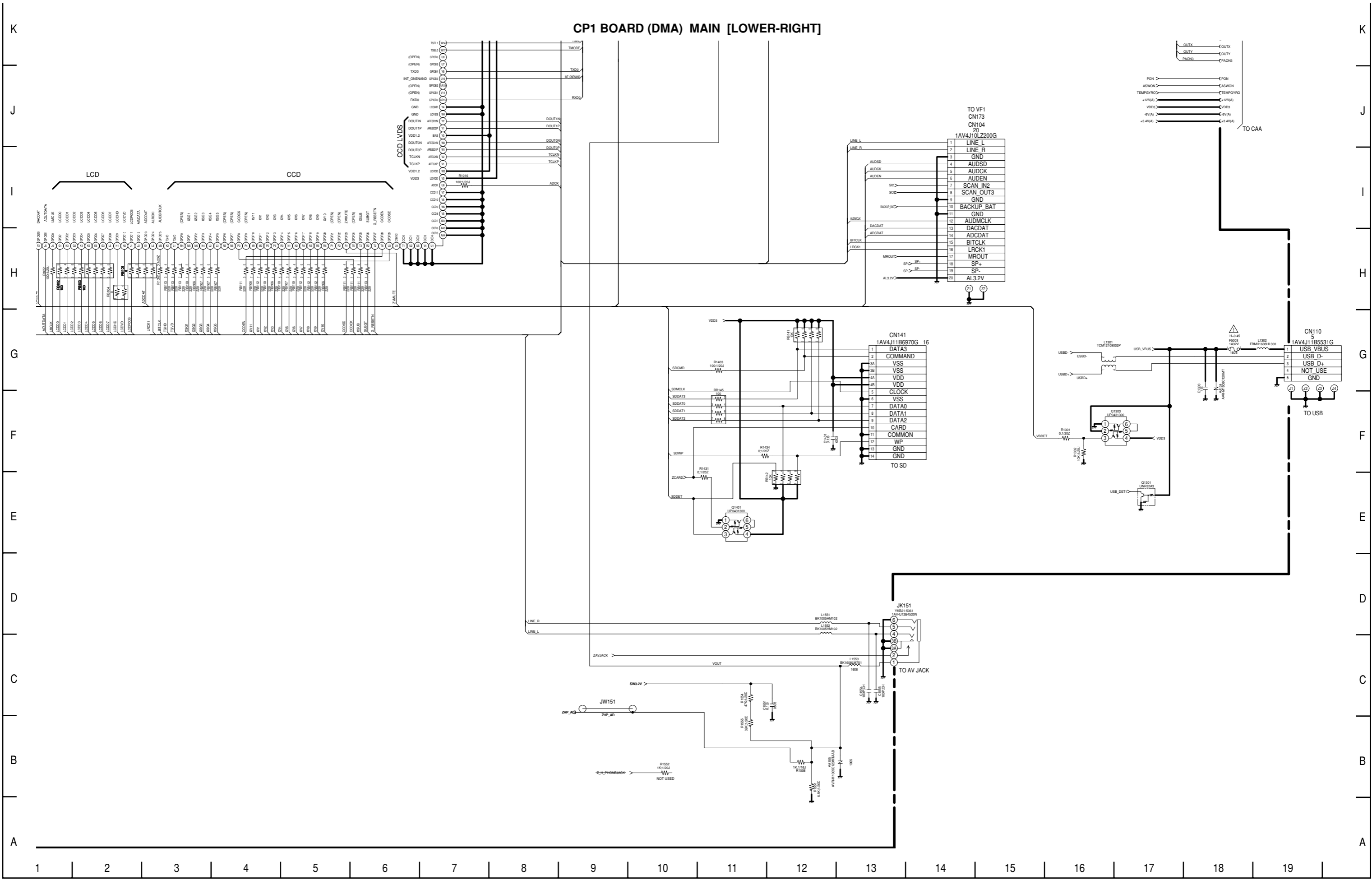
CP1 BOARD (DMA) MAIN [LOWER-LEFT]



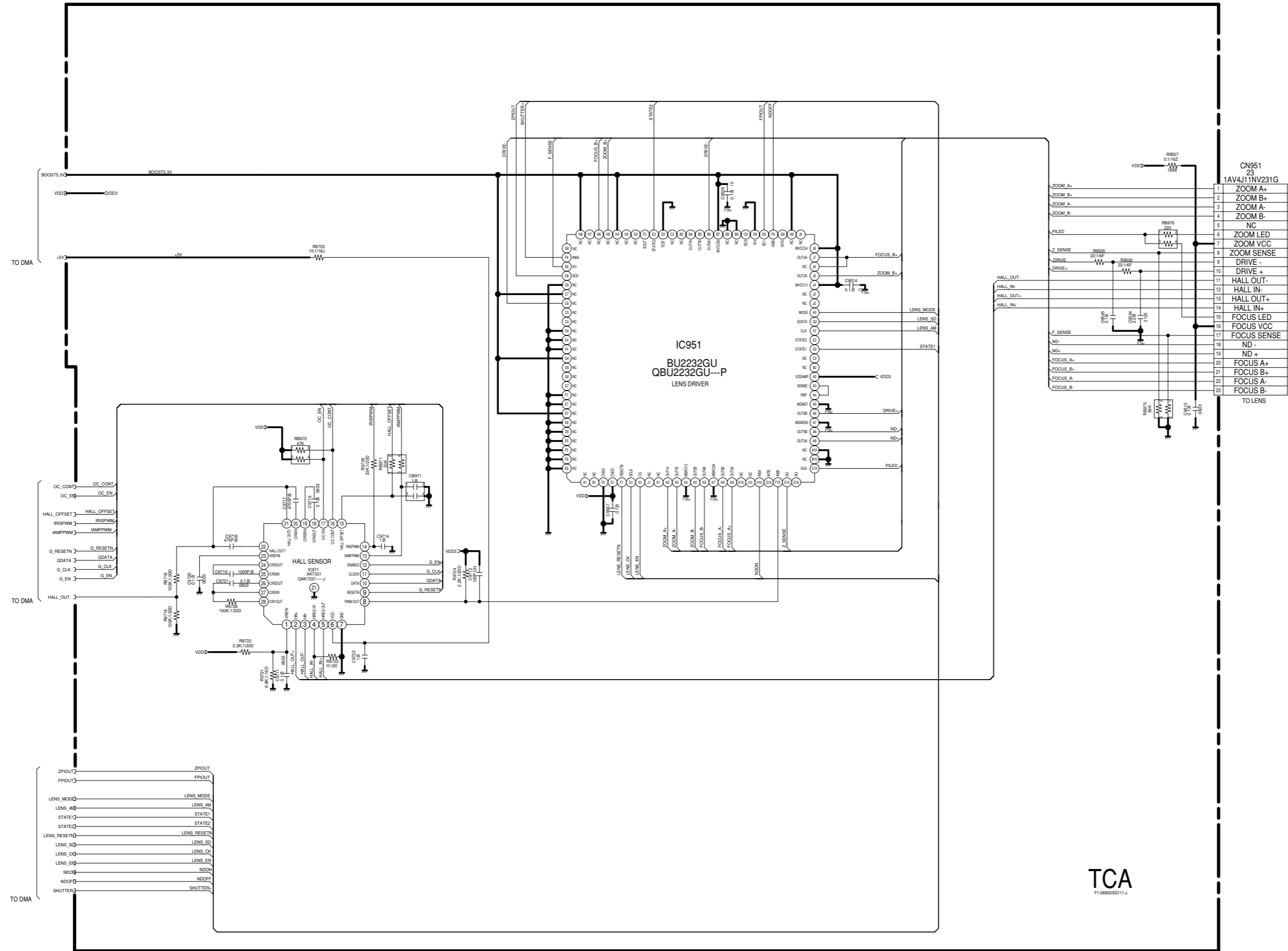
**DMA**  
D1-0900/SG11-J  
VOLTAGE: VIEW MODE, LCD ON

**IC121**  
**QK5R5658VCM-N**  
**K5R5658VCM-DR75**  
PROGRAM FLASH & SDRAM

CP1 BOARD (DMA) MAIN [LOWER-RIGHT]



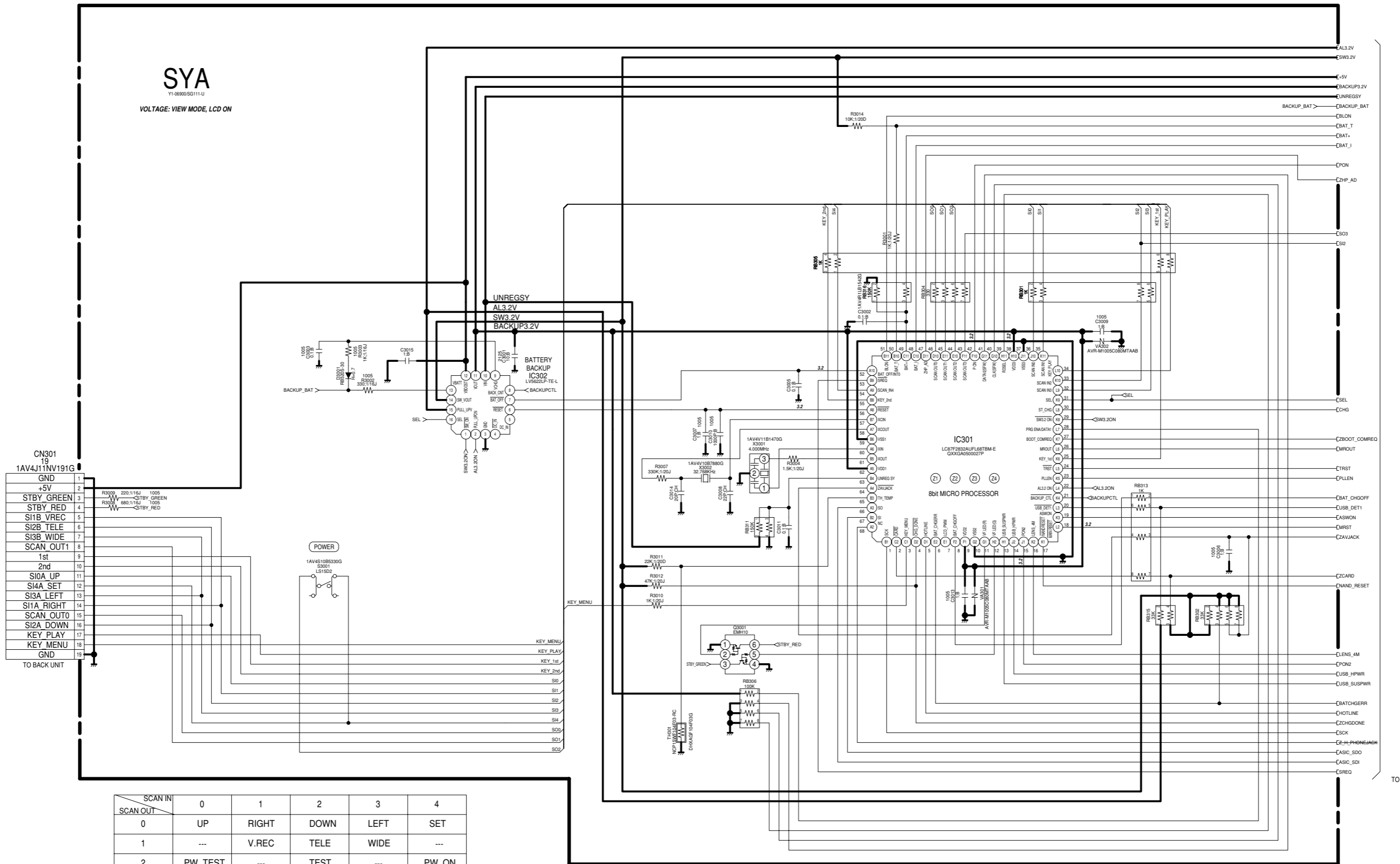
# CP1 BOARD (TCA) LENS



TCA  
F1-089050111-J

CP1 BOARD (SYA) SYSTEM CONTROL

**SYA**  
Y1-869005G111-U  
VOLTAGE: VIEW MODE, LCD ON



SCAN IN / SCAN OUT	0	1	2	3	4
0	UP	RIGHT	DOWN	LEFT	SET
1	---	V.REC	TELE	WIDE	---
2	PW_TEST	---	TEST	---	PW_ON
3	---	---	LCD TURN	---	---

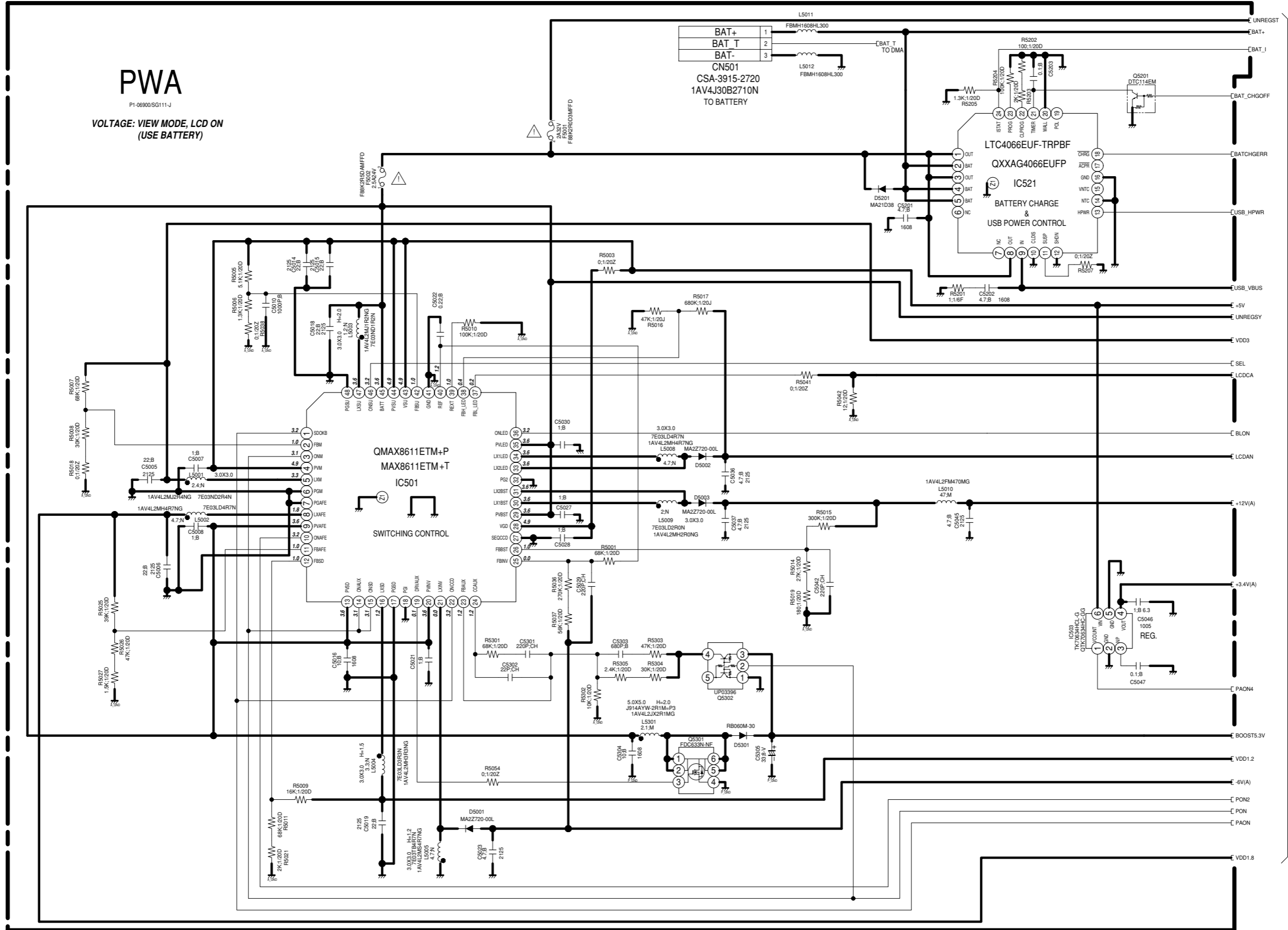


# CP1 BOARD (PWA) POWER

## PWA

P1-06900/SG111-J

VOLTAGE: VIEW MODE, LCD ON  
(USE BATTERY)



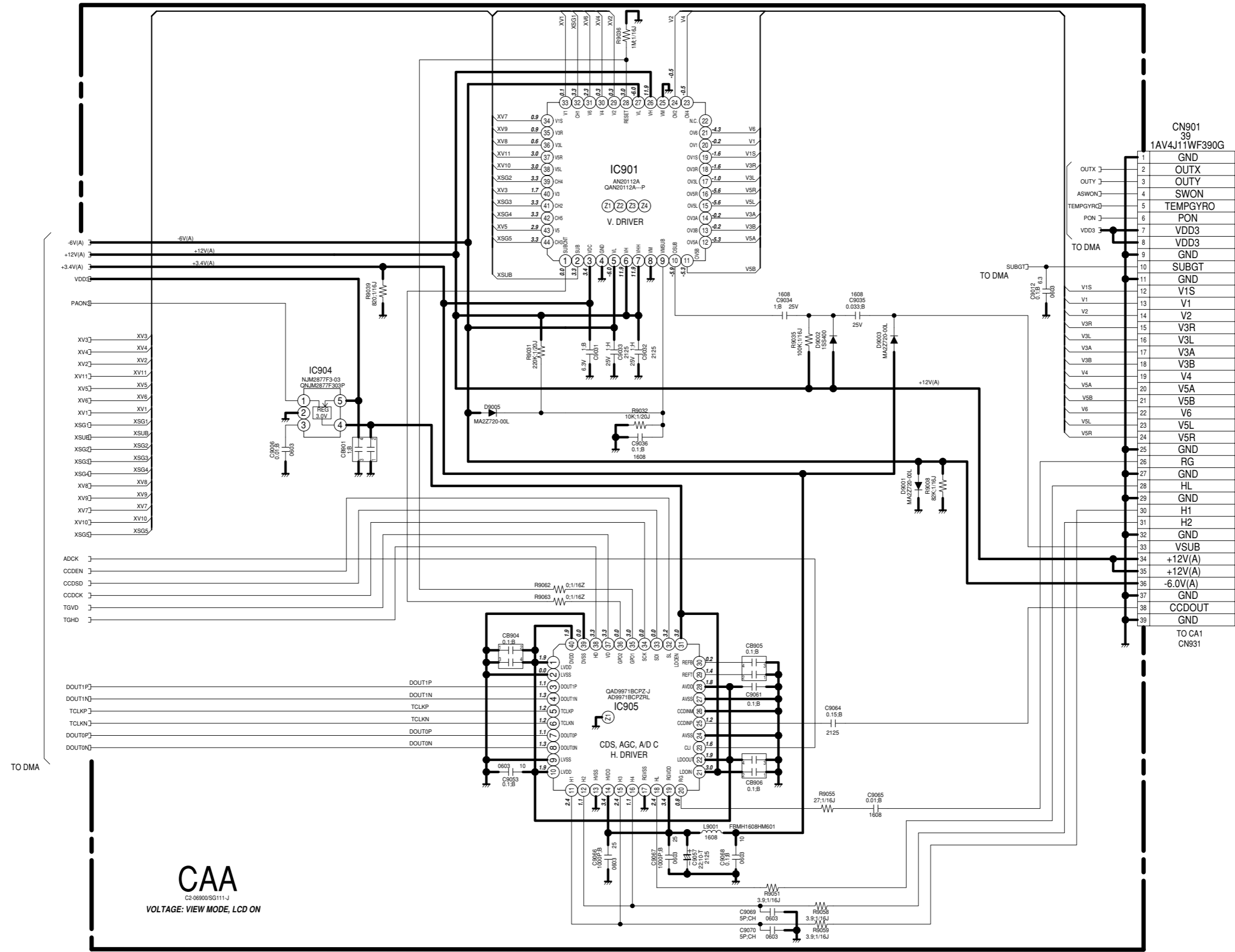
K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

TO DMA

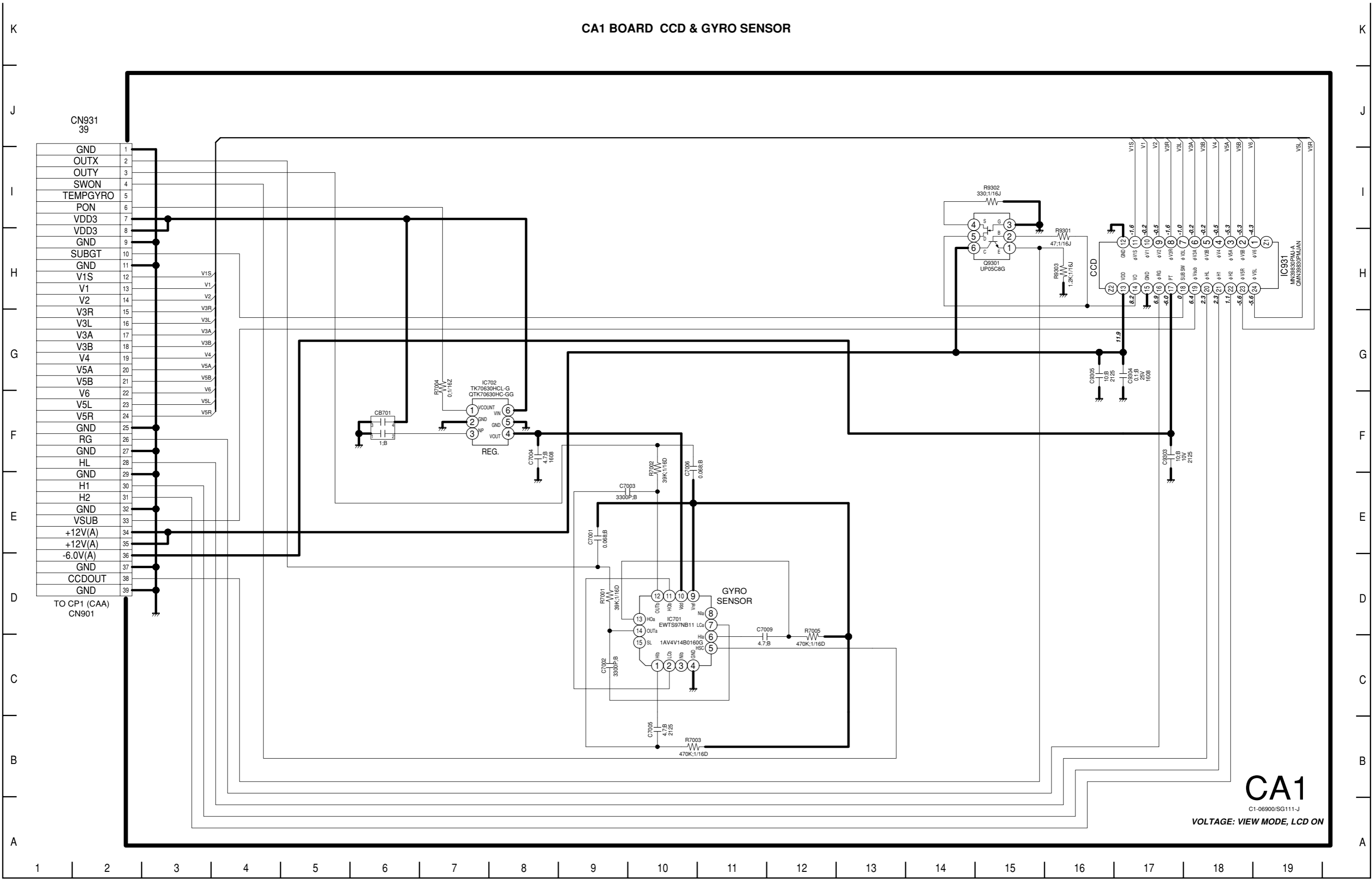
CP1 BOARD (CAA) CCD AFE & DRIVER



CN901	
39	
1AV4J11WF390G	
1	GND
2	OUTX
3	OUTY
4	SWON
5	TEMPGYRO
6	PON
7	VDD3
8	VDD3
9	GND
10	SUBGT
11	GND
12	V1S
13	V1
14	V2
15	V3R
16	V3L
17	V3A
18	V3B
19	V4
20	V5A
21	V5B
22	V6
23	V5L
24	V5R
25	GND
26	RG
27	GND
28	HL
29	GND
30	H1
31	H2
32	GND
33	VSUB
34	+12V(A)
35	+12V(A)
36	-6.0V(A)
37	GND
38	CCDOUT
39	GND
TO CA1 CN931	

**CAA**  
C2-06900SG111-J  
VOLTAGE: VIEW MODE, LCD ON

CA1 BOARD CCD & GYRO SENSOR

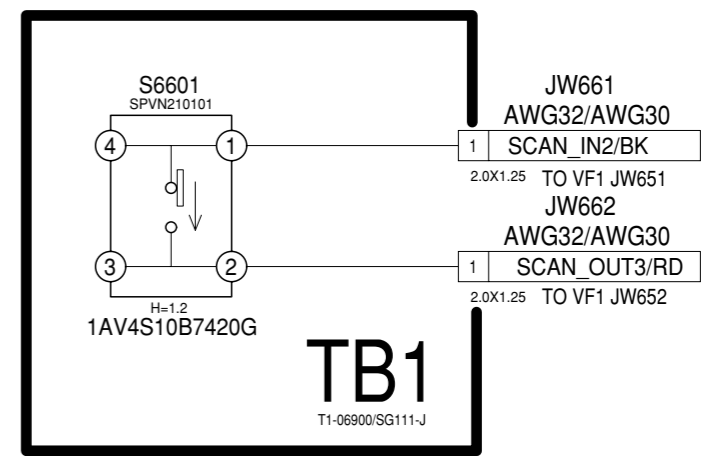
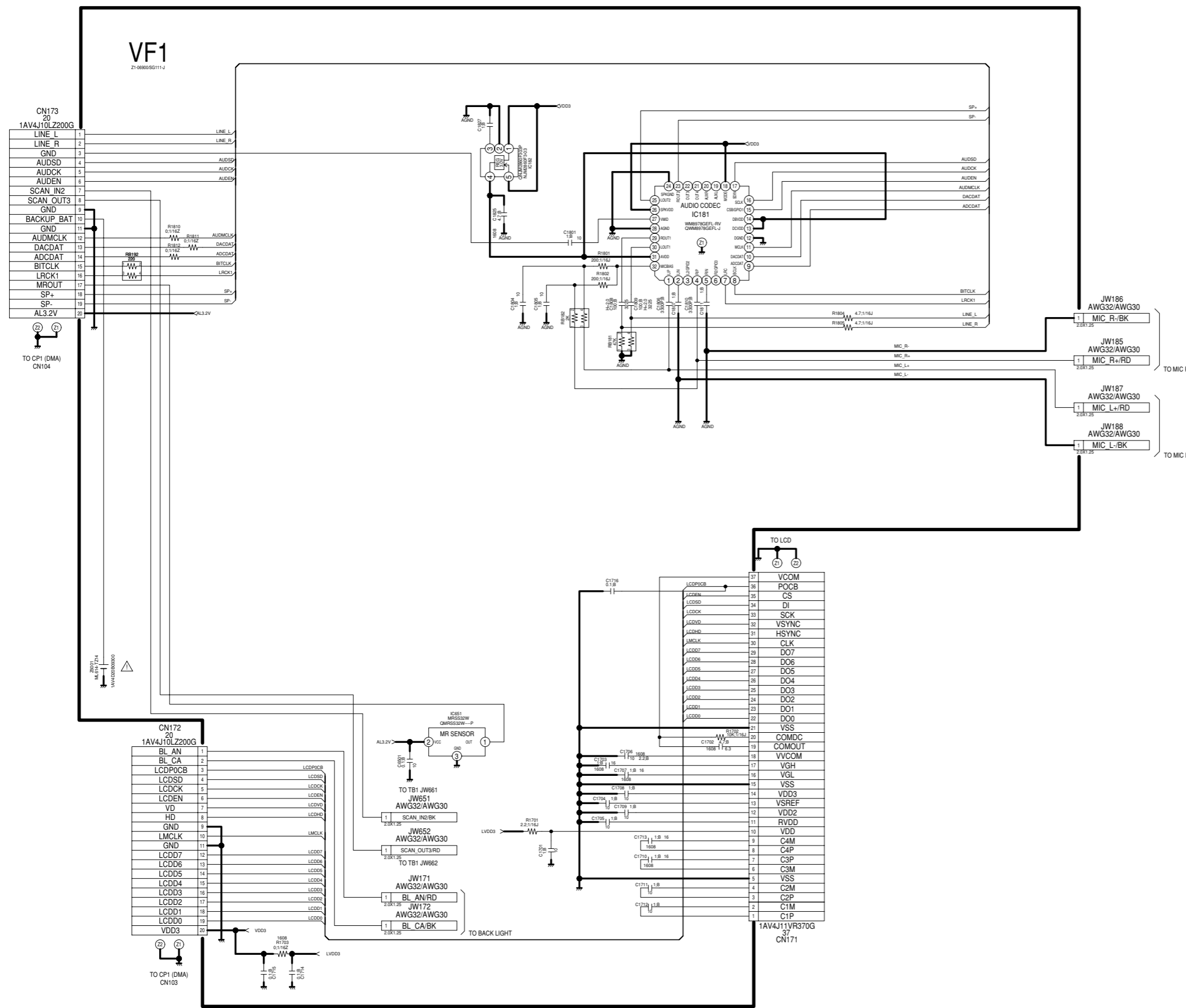


Pin	Signal
1	GND
2	OUTX
3	OUTY
4	SWON
5	TEMPGYRO
6	PON
7	VDD3
8	VDD3
9	GND
10	SUBGT
11	GND
12	V1S
13	V1
14	V2
15	V3R
16	V3L
17	V3A
18	V3B
19	V4
20	V5A
21	V5B
22	V6
23	V5L
24	V5R
25	GND
26	RG
27	GND
28	HL
29	GND
30	H1
31	H2
32	GND
33	VSUB
34	+12V(A)
35	+12V(A)
36	-6.0V(A)
37	GND
38	CCDOUT
39	GND

**CA1**  
C1-06900/SG1111-J  
VOLTAGE: VIEW MODE, LCD ON

VF1 BOARD LCD CONNECTOR & AUDIO

TB1 BOARD SWITCH



VF1  
Z1-06900SG111-J

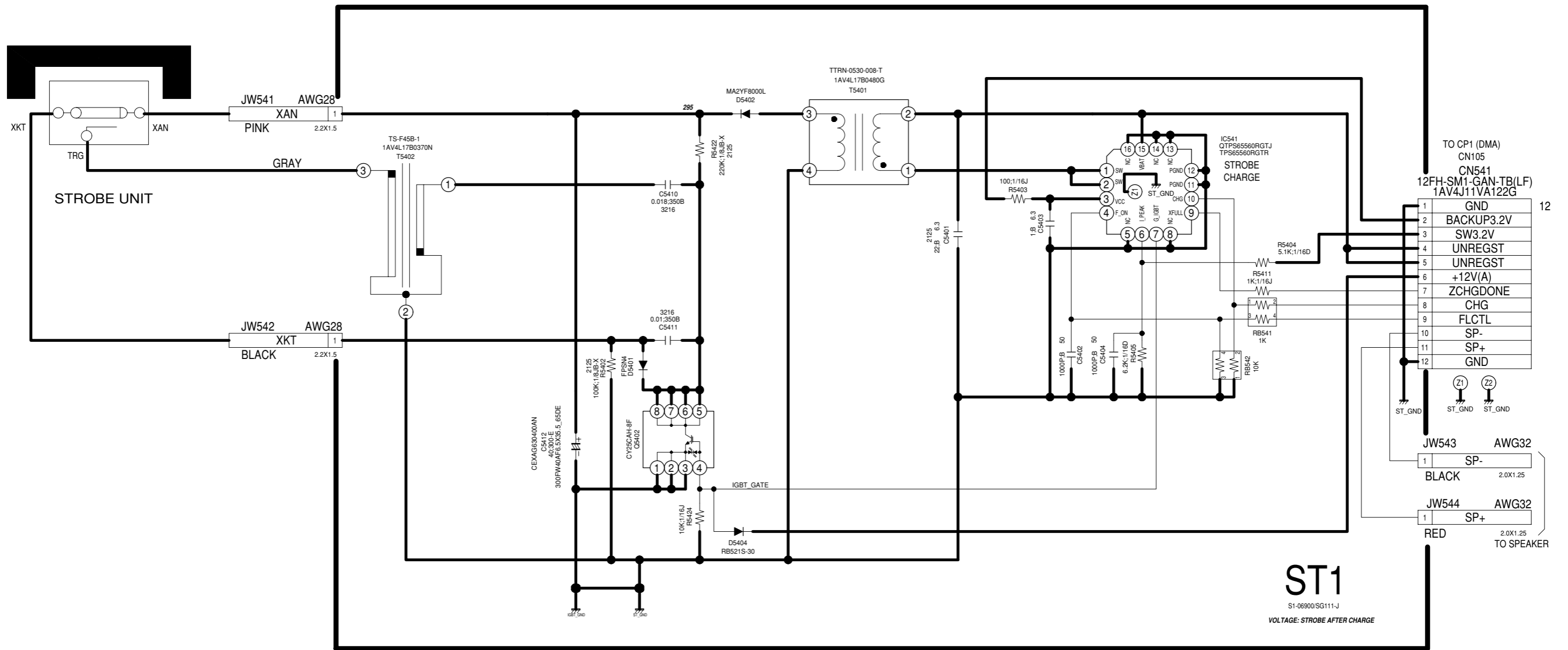
TB1  
T1-06900SG111-J

K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

K  
J  
I  
H  
G  
F  
E  
D  
C  
B  
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

ST1 BOARD STROBE



ST1

S1-06900/SG111-J  
VOLTAGE: STROBE AFTER CHARGE

TO CP1 (DMA)  
CN105

1	GND
2	BACKUP3.2V
3	SW3.2V
4	UNREGST
5	UNREGST
6	+12V(A)
7	ZCHGDONE
8	CHG
9	FLCTL
10	SP-
11	SP+
12	GND

JW543 AWG32

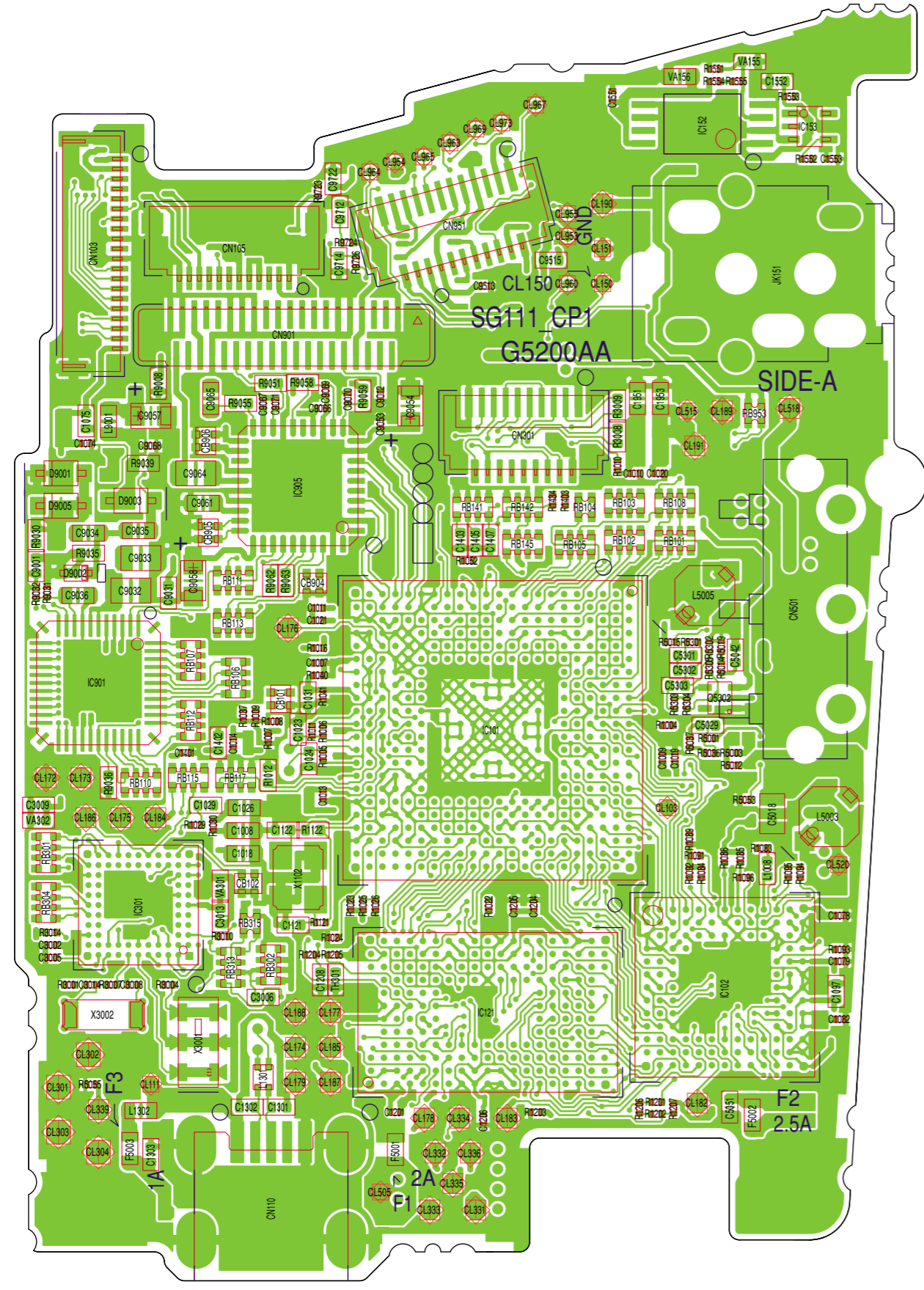
1	SP-
	BLACK

JW544 AWG32

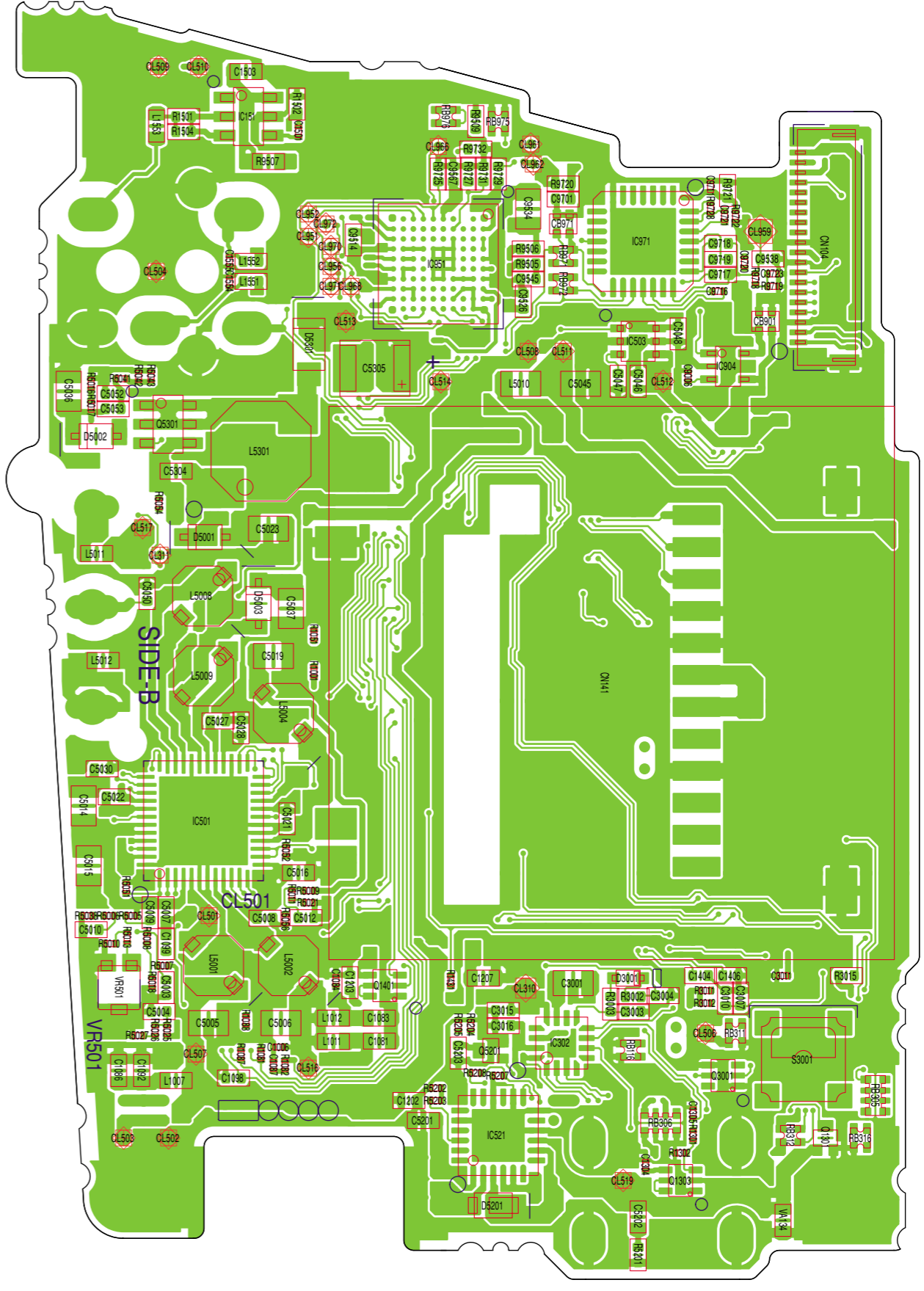
1	SP+
	RED

TO SPEAKER

PRINTED WIRING BOARDS (P.W.B.)  
CP1 P.W.B. (SIDE A)



CP1 P.W.B. (SIDE B)





ST1 P.W.B. (SIDE A)

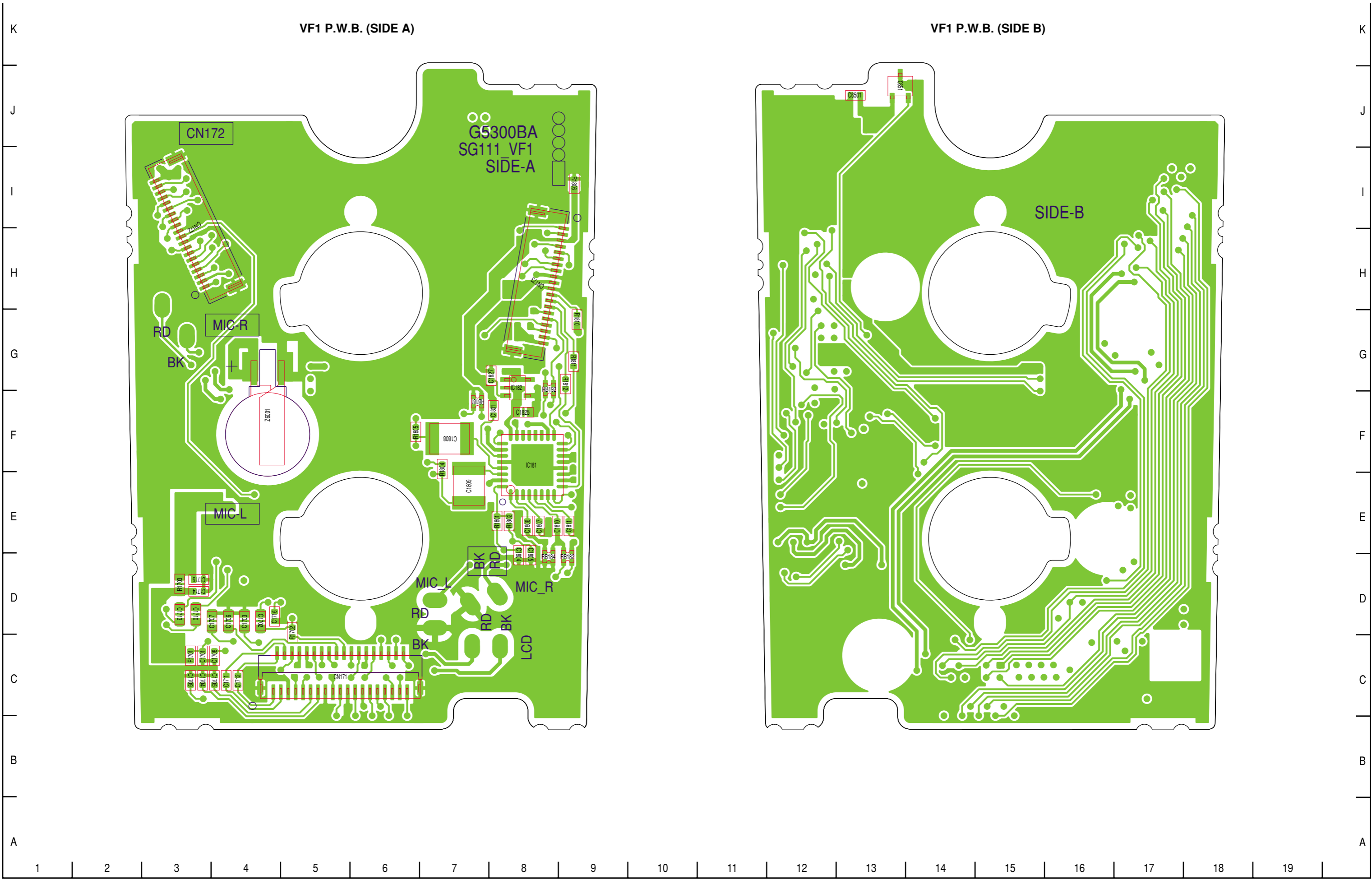
ST1 P.W.B. (SIDE B)

CA1 P.W.B. (SIDE A)

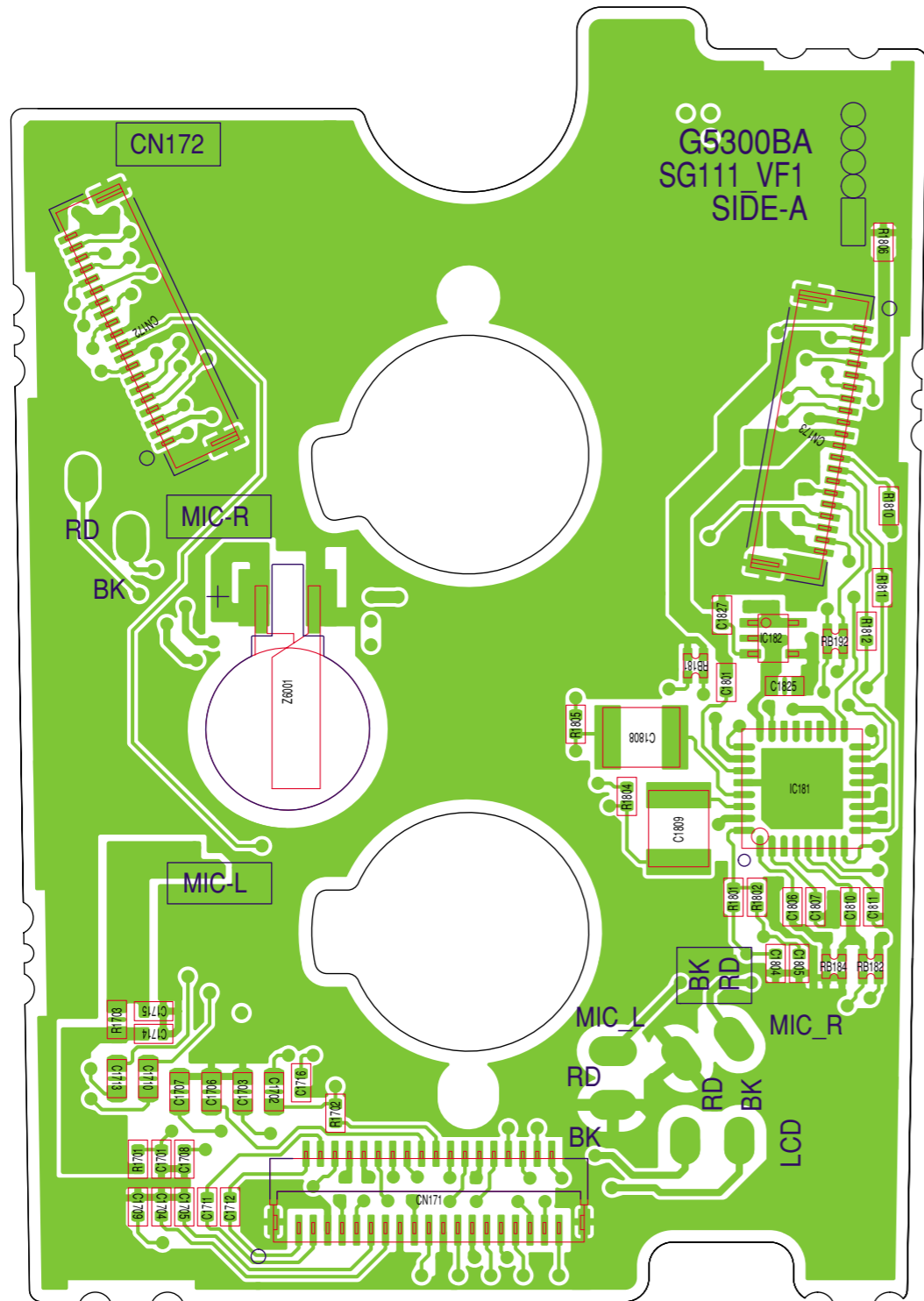
CA1 P.W.B. (SIDE B)

TB1 P.W.B. (SIDE A)

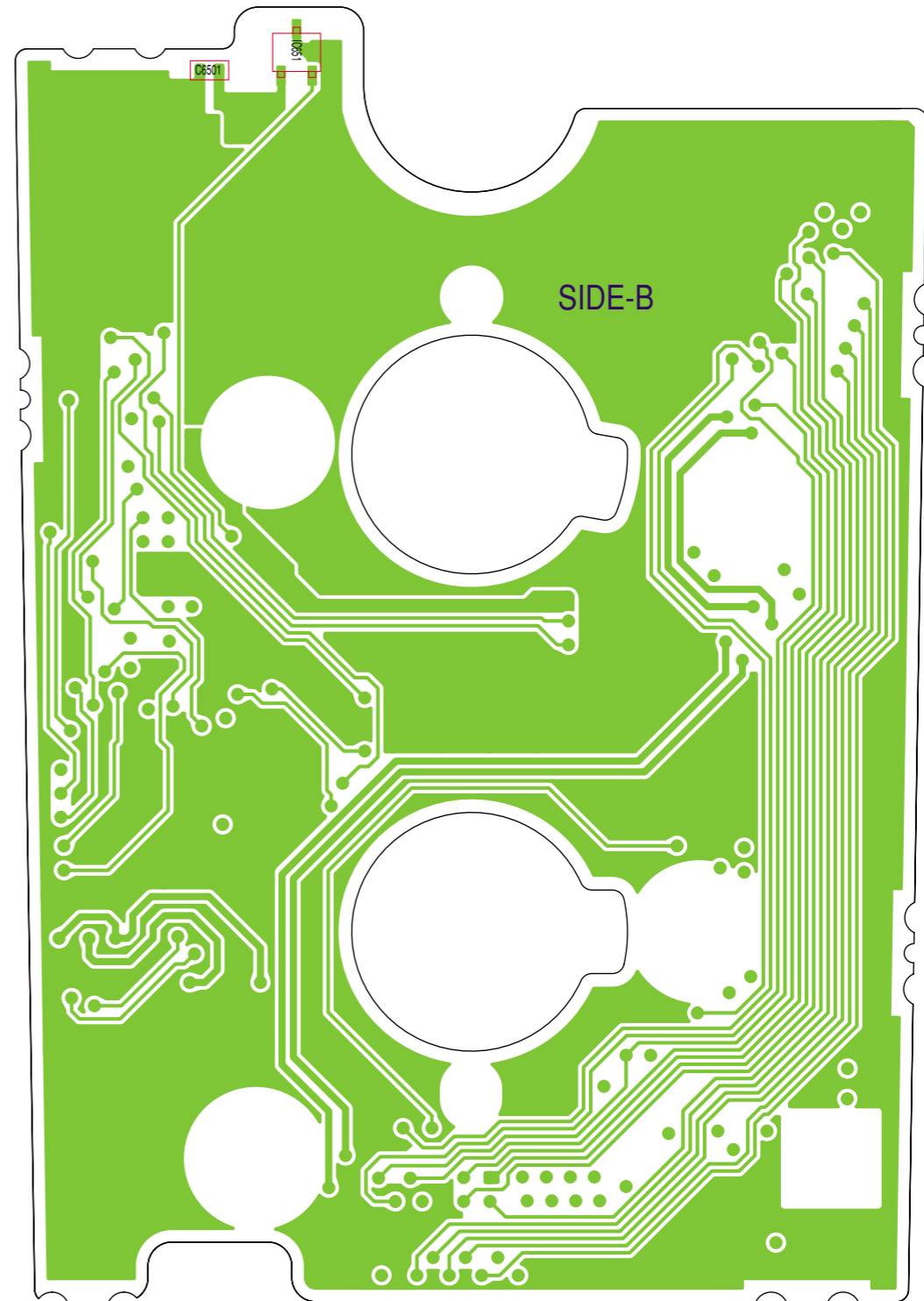
TB1 P.W.B. (SIDE B)



VF1 P.W.B. (SIDE A)



VF1 P.W.B. (SIDE B)







---

SANYO Electric Co., Ltd.  
Osaka, Japan