

# Color Digital Camera

VPC-MZ1E    VPC-MZ1EX  
VPC-MZ1

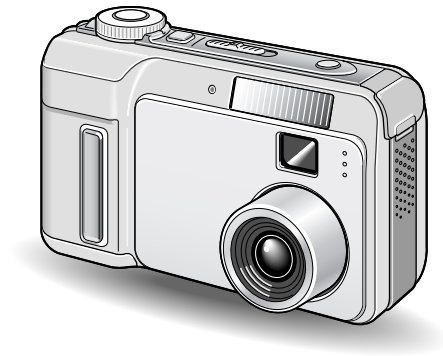
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1. OUTLINE OF CIRCUIT DESCRIPTION  
DISASSEMBLY  
ELECTRICAL ADJUSTMENT  
TROUBLE SHOOTING GUIDE
  
2. PARTS LIST  
OVERALLWIRING



# SERVICE MANUAL

## Color Digital Camera



### VPC-MZ1E

(Product Code : 126 287 01)  
(U.K.)

### VPC-MZ1EX

(Product Code : 126 287 02)  
(Europe)  
(PAL General)

### VPC-MZ1

(Product Code : 126 287 03)  
(U.S.A.)  
(Canada)

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#### 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.

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.

# 1. OUTLINE OF CIRCUIT DESCRIPTION

## 1-1. CA1 and A PART OF CA2 CIRCUIT

### DESCRIPTIONS

#### Around CCD block

### 1. IC Configuration

#### CA1 board

IC903 (ICX274AQ) CCD imager

IC901, IC902 (CXD3400N) V driver

#### CA2 board

IC911 (H driver, CDS, AGC and A/D converter)

### 2. IC903 (CCD imager)

#### [Structure]

Interline type CCD image sensor

Image size Diagonal 8.293 mm (1/1.8 type)

Pixels in total 1688 (H) x 1248 (V)

Recording pixels 1600 (H) x 1200 (V)

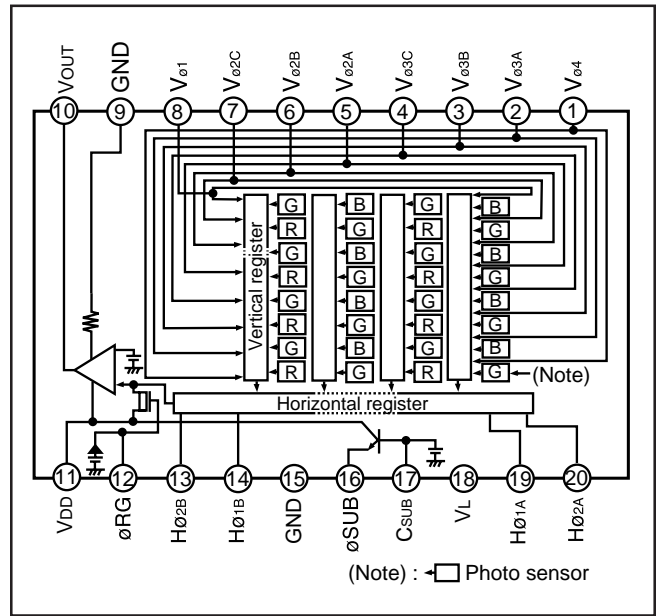


Fig. 1-1. CCD Block Diagram

Pin No.	Symbol	Pin Description	Pin No.	Symbol	Pin Description
1	V $\phi$ 4	Vertical register transfer clock	11	V <sub>DD</sub>	Circuit power
2	V $\phi$ 3A	Vertical register transfer clock	12	$\phi$ RG	Reset gate clock
3	V $\phi$ 3B	Vertical register transfer clock	13	H $\phi$ 2B	Horizontal register transfer clock
4	V $\phi$ 3C	Vertical register transfer clock	14	H $\phi$ 1B	Horizontal register transfer clock
5	V $\phi$ 2A	Vertical register transfer clock	15	GND	GND
6	V $\phi$ 2B	Vertical register transfer clock	16	$\phi$ SUB	Substrate clock
7	V $\phi$ 2C	Vertical register transfer clock	17	C <sub>SUB</sub>	Substrate bias
8	V $\phi$ 1	Vertical register transfer clock	18	V <sub>L</sub>	Protection transistor bias
9	GND	GND	19	H $\phi$ 1A	Horizontal register transfer clock
10	V <sub>OUT</sub>	Signal output	20	H $\phi$ 2A	Horizontal register transfer clock

Table 1-1. CCD Pin Description

### 3. IC901, IC902 (V Driver) and IC911 (H Driver)

An H driver and V driver are necessary in order to generate the clocks (vertical transfer clock, horizontal transfer clock and electronic shutter clock) which driver the CCD.

IC901 and IC902 are V driver. In addition the XV1-XV4 signals which are output from IC102 are the vertical transfer clocks, and the XSG signal which is output from IC102 is superimposed onto XV2 and XV3 at IC901 and IC902 in order to generate a ternary pulse. In addition, the XSUB signal which is output from IC102 is used as the sweep pulse for the electronic shutter. A H driver is inside IC911, and H1A, H1B, H2A, H2B and RG clock are generated at IC911.

#### 4. IC911 (CDS, AGC Circuit and A/D Converter)

The video signal which is output from the CCD is input to Pin (29) of IC911. There are inside the sampling hold block, AGC block and A/D converter block.

The setting of sampling phase and AGC amplifier is carried out by serial data at Pin (37) of IC911. The video signal is carried out A/D converter, and is output by 12-bit.

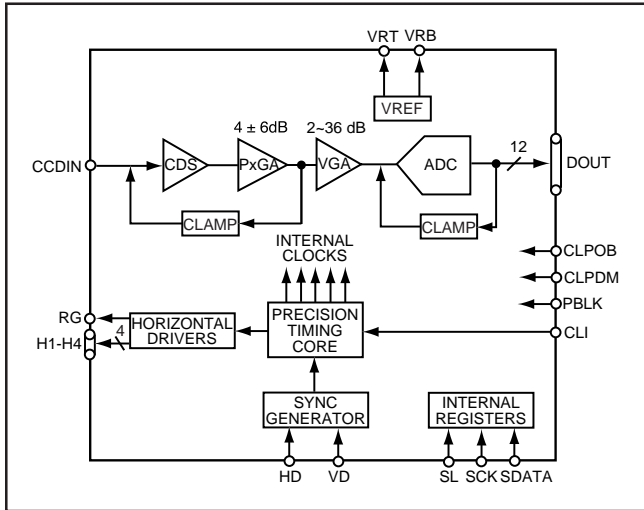


Fig. 1-2. IC911 Block Diagram

#### 5. Lens drive block

##### 5-1. Iris and shutter drive

When the drive signals (IRSTB, ICW, IOEB and ICLK) which are output from the ASIC, the stepping motor is sine-wave driven by the micro-step motor driver (IC952), and are then used to drive the iris steps and open/close the shutter.

##### 5-2. Focus drive

When the drive signals (FRSTB, FCW, FOEB and FCLK) which are output from the ASIC, the focus stepping motor is sine-wave driven by the micro-step motor driver (IC951). Detection of the standard focusing positions is carried out by means of the photointerruptor (FOCUS PI) inside the lens block.

##### 5-3. Iris drive

The zoom stepping motor drive signals (ZIN1, ZIN2, ZIN3 and ZIN4) which are output from the ASIC are used to drive by the motor driver (IC953). Detection of the zoom positions is carried out by means of photointerruptor (ZOOM PI) inside the lens block.

## 1-2. CA2 CIRCUIT DESCRIPTION

### 1. Circuit Description

#### 1-1. Scanning converter (Interlace converter)

This circuit uses the function of a 128-Mbit SDRAMs to convert the non-interlaced signal which is output from the CCD into an interlaced signal for the video monitor.

#### 1-2. Camera signal processor

This comprises circuits such as the digital clamp circuit, white balance circuit,  $\gamma$  circuit, color signal generation circuit, matrix circuit and horizontal aperture circuit.

##### 1. Digital clamp circuit

The optical black section of the CCD extracts 16-pixel averaged values from the subsequent data to make the black level of the CCD output data uniform for each line. The 16-pixel 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  $1-k$ .

##### 2. White balance circuit

This circuit controls the white balance by using the AWB judgement value computed by the CPU to control the gain for each R, G and B pixel based on the CCD data which has been read.

##### 3. $\gamma$ 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.

##### 4. Color generation circuit

This circuit converts the CCD data into RGB signals.

##### 5. Matrix circuit

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

##### 6. Horizontal aperture circuit

This circuit is used generate the aperture signal.

#### 1-3. SDRAM controller

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

#### 1-4. PIO

The expansion parallel port can be used for functions such as stroboscope control and LCD driver control.

#### 1-5. SIO (Serial control)

This is the interface for the 4-bit microprocessor.

#### 1-6. USB control

This is communicated PC with 12 Mbps.

#### 1-7. TG, SG block

This is the timing generation circuit which generates the clocks (vertical transfer clock and electronic shutter clock) which drive the CCD.

#### 1-8. 8-bit D/A circuit (Audio)

This circuit converts the audio signals (analog signals) from the microphone to 8-bit digital signals.

#### 1-9. 8-bit A/D circuit (Audio)

The audio signals which were converted to digital form by the 8-bit A/D circuit are temporarily to a sound buffer and then recorded in the SSFDC card. During playback, the 8-bit D/A circuit converts these signals into analog audio signals.

#### 1-10. Sound buffer

Audio memory

#### 1-11. LCD driver

The Y/C signals which are input to the LCD driver are converted to RGB signals, and the timing signal which is necessary for LCD monitor display and the RGB signals are then supplied to the LCD monitor.

#### 1-12. LCD monitor

This is the image display device which displays the image signals supplied from the LCD driver.

#### 1-13. Memory card control

This reads data from the memory card and stores it in SDRAM, and writes out the image data stored in SDRAM. In addition, error correction is carried out when the data is read.

#### 1-14. MJPEG compression

Still and continuous frame data is converted to JPEG format, and movie images are compressed and expanded in MJPEG format.

## 2. Outline of Operation

When the shutter opens, the reset signals, TEST0, TEST1 and the serial signals ("take a picture" commands) from the 8-bit microprocessor are input and record operation starts. When the TG drives the CCD, picture data passes through the A/D and is then input to the ASIC as 10-bit data. This data then passes through the DCLP, AWB, shutter and  $\gamma$  circuit, after which it is input to the SDRAM. The AWB, shutter,  $\gamma$ , and AGC value are computed from this data, and two 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 or 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. Aperture correction is carried out, and in case of still picture the data is then compressed by the JPEG method and in case of picture it is compressed by MJPEG method and is written to compact flash card. When the data is to be output to an external device, it is read JPEG picture data from the compact flash card and output to PC via the USB.

### 3. LCD Block

During EE, gamma conversion is carried out for the 10-bit RGB data which is input from the A/D conversion block of the CCD to the ASIC in order that the  $\gamma$  revised can be displayed on the video. The YUV of 640 x 480 is then transferred to the SVRAM.

The data which has accumulated in the SDRAM is after D/A conversion is carried out by SDRAM control circuit inside the ASIC, makes Y/C signal, the data is sent to the LCD panel and displayed.

If the shutter button is pressed in this condition, the 10-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 compact flash card is converted to RGB signals. In the same way as for EE, the data is then sent to the SDRAM, after which D/A conversion is carried out inside the ASIC, and then the data is sent to the LCD panel and displayed.

The LCD driver is converted Y/C 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 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: fixed at DC) 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.

## 1-3. CA3 CIRCUIT DESCRIPTION

### 1. Outline

This is the main CA3 power block, and is comprised of the following blocks.

Switching controller (IC511)

Lens system 3.4 V power output (L5101, Q5102, D5101, C5114)

Backlight power output (L5103, Q5106, C5121)

Analog and LCD system power output (Q5112, T5101)

### 2. Switching Controller (IC511)

This is the basic circuit which is necessary for controlling the power supply for a PWM-type switching regulator, and is provided with four built-in channels. They are CH1 (lens system 3.4 V), CH2 (backlight) and CH4 (analog and LCD system). CH3 is not used. Feedback from 3.4 V (D) C (CH1), +15.0 V (A) or +12.4 V (L) power supply output are received, and the PWM duty is varied so that each one is maintained at the correct voltage setting level. CH2 is feedback from 10 mA power supply output are received, and the PWM duty is varied so that each one is maintained at the correct voltage setting level.

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

If output is short-circuited for the length of time determined by the condenser which is connected to Pin (33) of IC511, all output is turned off. The control signal (P(A) ON and LCD ON) are recontrolled to restore output.

### 3. Lens system 3.4 V Power Output

3.4 V (D) C is output for lens. Feedback is provided to the switching controller (Pin (1) of IC511) so that PWM control can be carried out.

### 4. Backlight Power Output

10 mA (L) is output. The backlighting turns on when current flows in the direction from pin (1) to pin (2) of CN531. At this time, a feedback signal is sent from pin (2) of CN531 to pin (12) of IC511 through R5137 so that PWM control is carried out to keep the current at a constant level (10 mA).

### 5. Analog and LCD System Power Output

15.0 V (A), -7.7 V (A), 12.4 V (L) and 15 V (L) are output. Feedback for the 15.0 V (A) with view mode and 12.4 V (L) with play mode is provided to the switching controller (Pin (36) of IC511) so that PWM control can be carried out.

## 1-4. PW1 POWER CIRCUIT DESCRIPTION

### 1. Outline

This is the main PW1 power circuit, and is comprised of the following blocks.

Switching controller (IC501)

Digital and LCD system and 5.0 V system power output (L5005, Q5015, D5005, C5036, C5037)

Digital 3.3 V system power supply (L5002, Q5003, D5002, C5018)

Digital 3.4 V system power supply (L5003, Q5009, D5004, C5029)

Series regulator (IC502)

Digital 2.5 V system power supply (Q5007, C5025, C5026)

Analog system 5 V power supply (L5008, Q5020, D5006, C5045)

### 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 four built-in channels, only CH1 (digital 3.3 V), CH3 (5 V system), CH2 (digital 3.4 V) and CH4 (analog system 5 V) are used. Feedback from 3.3 V (D) (CH1), 3.4 V (D) (CH2), 5 V (D) (CH3) and 5.0 V (A) power supply outputs are received, and the PWM duty is varied so that each one is maintained at the correct voltage setting level.

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

If output is short-circuited for the length of time determined by the condenser which is connected to Pin (33) of IC501, all output is turned off. The control signal (P ON, P(A) ON and LCD ON) are recontrolled to restore output.

### 3. Digital 3.3 V Power Output

3.3 V (D) is output. Feedback for the 3.3 V (D) is provided to the switching controller (Pins (1) of IC501) so that PWM control can be carried out.

### 4. Digital 3.4 V System Power Output

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

### 5. 5 V System Power Output

5 V (D) and 5 V (L) are output. Feedback for the 5 V (D) is provided to the switching controller (Pin (25) of IC501) so that PWM control can be carried out.

### 6. Series Regulator (IC502)

This is provided with one built-in channel. Digital 3.4 V is input, and digital 2.5 V is output.

### 7. Digital 2.5 V System Power Output

2.5 V (D) is output. Feedback for the 2.5 V (D) is provided to the Pin (7) of IC502. The current of Q5008 base is controlled so that the voltage of Q5008 collector is 2.5 V.

### 8. Analog 5 V System Power Output

5 V (A) is output. Feedback is provided to the switching controller (Pin (36) of IC501) so that PWM control can be carried out.



## 1-5. PW1 STROBE CIRCUIT DESCRIPTION

### 1. Charging Circuit

When UNREG power is supplied to the charge circuit and the CHG signal 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. Power switch

When the CHG signal switches to Hi, Q5406 turns ON and the charging circuit starts operating.

#### 1-2. Power supply filter

L5401 and C5401 constitute 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 50-100 kHz. Because self-excited light emission is used, the oscillation frequency changes according to the drive conditions.

#### 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 C5144 on the CA3 board.

#### 1-6. Voltage monitoring circuit

This circuit is used to maintain the voltage accumulated at C5144 at a constant level.

After the charging voltage is divided and converted to a lower voltage by R5417 and R5419, it is output to the SY1 circuit board as the monitoring voltage VMONIT. When this VMONIT voltage reaches a specified level at the SY1 circuit board, the CHG signal is switched to Low and charging is interrupted.

### 2. Light Emission Circuit

When RDY and TRIG signals are input from the ASIC expansion port, the stroboscope emits light.

#### 2-1. Emission control circuit

When the RDY signal is input to the emission control circuit, Q5409 switches on and preparation is made to let current flow to the light emitting element. Moreover, when a STOP signal is input, the stroboscope stops emitting light.

#### 2-2. Trigger circuit

When a TRIG signal is input to the trigger circuit, D5405 switches on, a high-voltage pulse of several kilovolts is generated inside the trigger circuit, and this pulse is then applied to the light emitting part.

#### 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.

## 1-6. SY1 CIRCUIT DESCRIPTION

### 1. Configuration and Functions

For the overall configuration of the SY1 circuit board, refer to the block diagram. The SY1 circuit board 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. Signal input and output for zoom and lens control.

Pin	Signal	I/O	Outline
1~4	SCAN OUT 0~3	O	Key matrix output
5	P ON	O	Digital power ON/OFF control H : ON
6	PA ON	O	Analog power ON/OFF control H : ON
7	LCD ON	O	LCD power ON/OFF control H : ON
8	P ON2	O	ASIC/CF card power timing control H : ON
9	VSS	-	GND
10	VDD	-	VDD
11	SELF_LED	O	Self-timer LED control L : ON
12	STBY_LED (GREEN)	O	Stand-by LED (green) control L : ON
13	STBY_LED (RED)	O	Stand-by LED (red) control L : ON
14	AVREF_ON	O	A/D converter standard voltage control L : ON
15	SI	I	Receiving data (from ASIC)
16	SO	O	Sending data (to ASIC)
17	SCK	I/O	Communication clock (to ASIC)
18	PRG SI	I	Flash memory write receiving data
19	PRG SO	O	Flash memory write sending data
20	PRG SCK	I/O	Flash memory write communication clock
21	AV JACK	I	AV jack connection detection H : AV JACK detection
22	NOT USED	-	-
23	CHG ON	O	Flash charge control H : ON
24	VDD	-	VDD
25	AVSS	-	Analog GND
26~29	SCAN IN 3~0	I	Key scan input
30	NOT USED	-	-
31	DC_IN	I	DC JACK/battery detection input (analog input)
32	CHG VOL	I	Strobe charge voltage detection (analog input)
33	BATTERY	I	Battery voltage detection (analog input)
34	AVREF	-	Analog standard voltage input terminal
35	AVDD	-	A/D converter analog power terminal
36	RESET	I	Reset input
37	XCOUNT	O	Clock oscillation terminal (32.768 kHz)
38	XCIN	I	Clock oscillation terminal
39	IC	I	Flash memory writing voltage
40	XOUT	O	Main clock oscillation terminal (4MHz)
41	XIN	I	Main clock oscillation terminal
42	VSS	-	GND
43	BAT OFF	I	Battery OFF detection
44	SREQ	I	Serial communication requirement (from ASIC)
45	JOG 0	I	Jog shuttle input 0
46	SCAN_IN5	I	Key scan input 5
47	JOG 1	I	Jog shuttle input 1
48	BR PCON	O	-

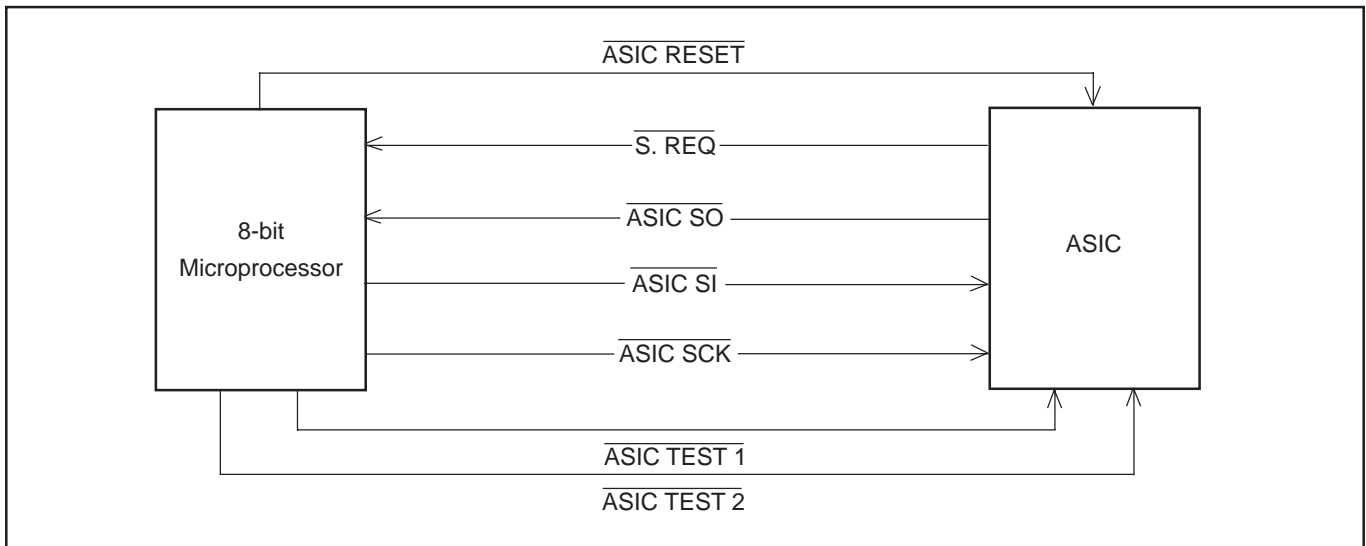
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49	BR OPEN	O	Barrier open control	H : Open
50	BR CLOSE	O	Barrier close control	L : Close
51	CARD	I	CF card insertion detection	L : Insertion
52	BUZZER	O	Buzzer beep tone output	H : Pulse output
53	SCAN IN 4	I	Key scan input 4	
54	SCAN OUT 4	O	Key scan output 4	
55	WAKE UP	I	-	
56	SYMUTE	O	Audio mute control	L : Mute
57	USB	I	USB connector detection	L : USB detecion
58	NOT USED	-	-	
59	NOT USED	-	-	
60	NOT USED	-	-	
61	NOT USED	-	-	
62	ASIC TEST 1	O	ASIC reset control signal 1	
63	ASIC TEST 2	O	ASIC reset control signal 2	
64	ASIC RESET	O	ASIC reset singal	

**Table 4-1. 8-bit Microprocessor Port Specification**

## 2. Internal Communication Bus

The SY1 circuit board 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. 4-1 shows the internal communication between the 8-bit microprocessor, ASIC and SPARC lite circuits.



**Fig. 4-1 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	5
0	← LEFT	↑ UP	→ RIGHT	↓ DOWN	1st shutter	2nd shutter
1	TELE	WIDE	PLAY MODE	REC MODE (LCD OFF)	REC MODE (LCD ON)	-
2	MODE	SET	INFO	FLASH MODE	BARRIER OPEN	BARRIER CLOSE
3	STILL IMAGE	SEQUENTIAL SHOT	VIDEO CLIP SHOOTING	SET UP	PC MODE	TEST
4	-	-	-	-	-	POWER ON

**Table 4-2. 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 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 capacitor. 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 both the  $\overline{P(A)}$  ON signal at pin (6) and the  $\overline{P}$  ON signal at pin (5) to high, and then turns on the DC/DC converter. After this, low signals are output from pins (62), (63) and (64) so that the ASIC is set to the active condition. If the LCD monitor is on, the LCD ON signal at pin (7) set to high, and the DC/DC converter for the LCD monitor is turned on. 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	LCD MONITOR
Power voltage		3.3 V	5 V (A) +12 V etc.	3.2 V (ALWAYS)	5V (L) +12V etc.
Power OFF		OFF	OFF	32KHz	OFF
CAMERA	Power switch ON- Auto power OFF	OFF	OFF	4 MHz	OFF
	Shutter switch ON	ON	ON→OFF	4 MHz	OFF
	Monitor OFF	OFF	OFF	4 MHz	OFF
	LCD finder	ON	ON	4 MHz	ON
Play back		ON	OFF	4 MHz	ON

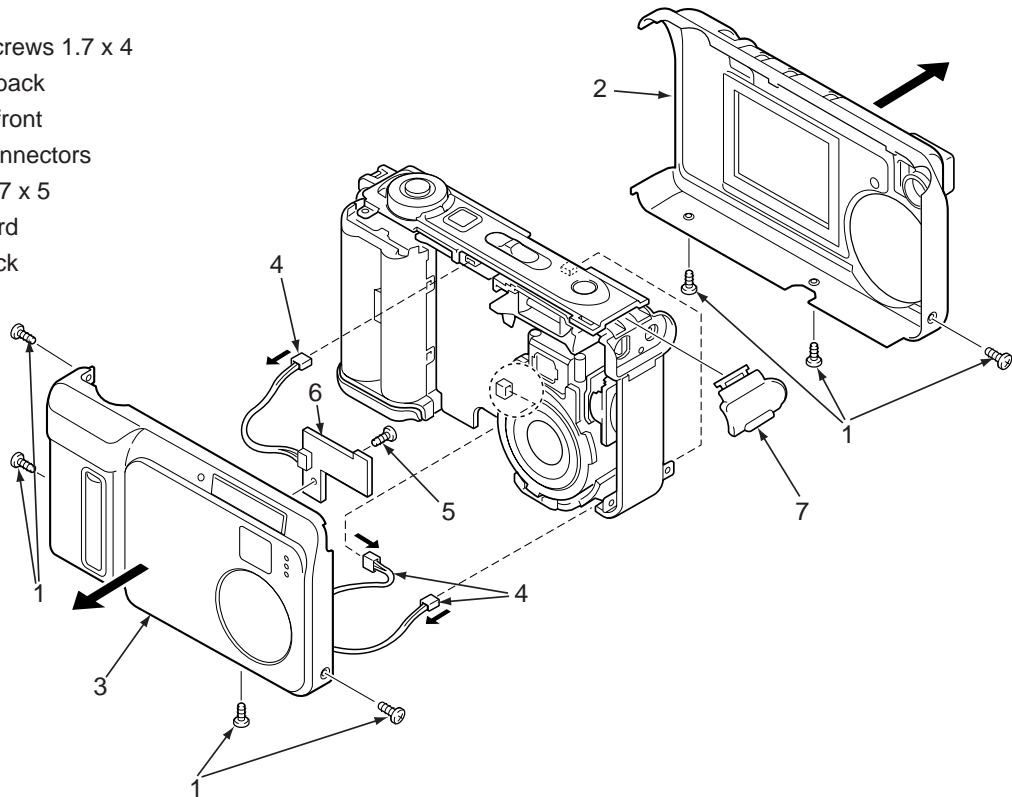
**Table 4-3. Camera Mode (Battery Operation)**

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

## 2. DISASSEMBLY

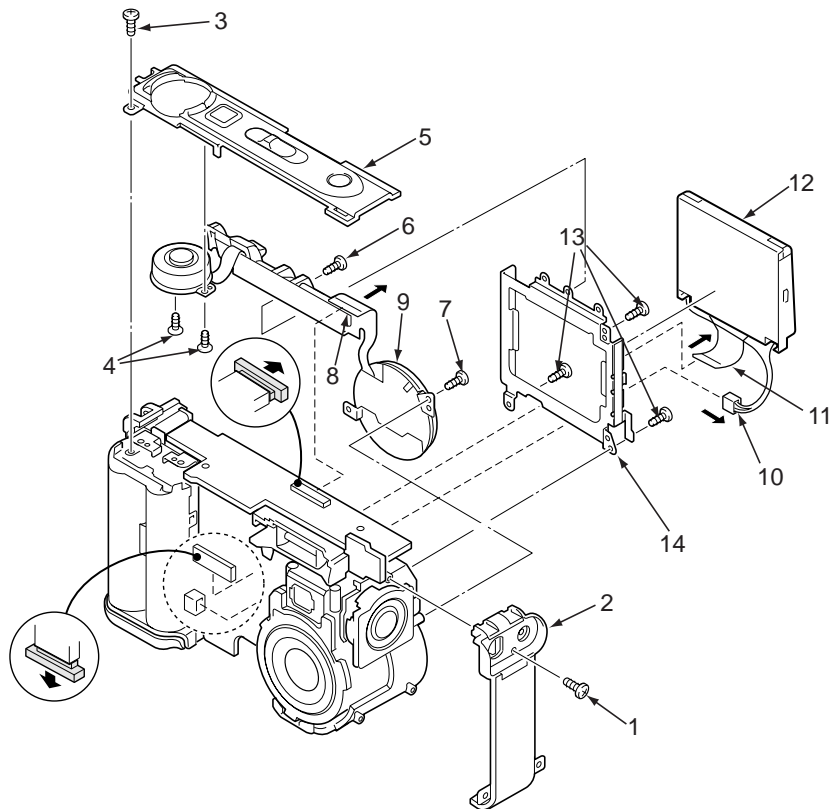
### 2-1. REMOVAL OF CABINET BACK, CABINET FRONT AND SY2 BOARD

1. Seven screws 1.7 x 4
2. Cabinet back
3. Cabinet front
4. Three connectors
5. Screw 1.7 x 5
6. SY2 board
7. Cover jack

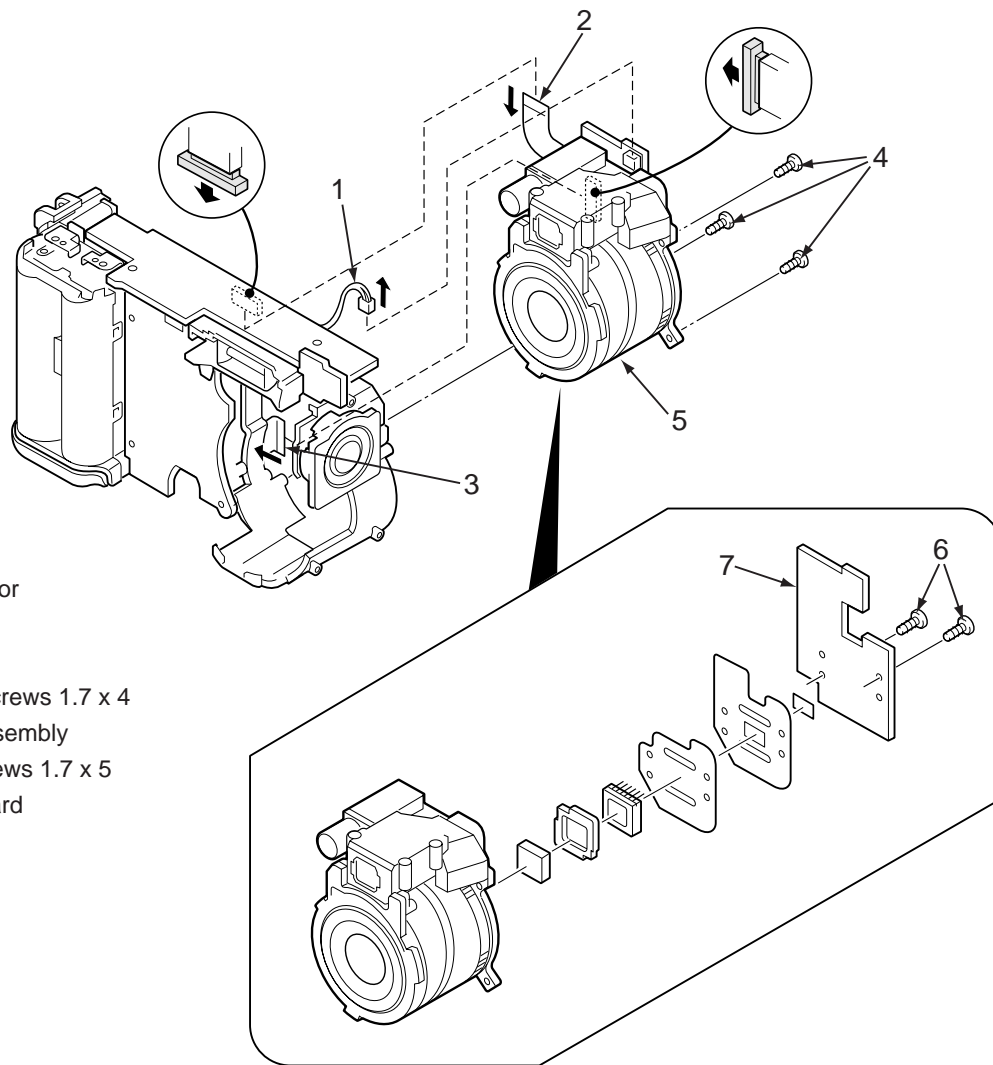


### 2-2. REMOVAL OF CABINET TOP AND LCD

1. Screw 1.7 x 4
2. Cabinet left
3. Screw 1.7 x 2.5
4. Two screws 1.7 x 2.5
5. Cabinet top
6. Screw 1.7 x 3.5
7. Screw 1.7 x 4
8. FPC
9. Unit control panel
10. Connector
11. FPC
12. LCD
13. Three screws 1.7 x 4
14. Holder monitor

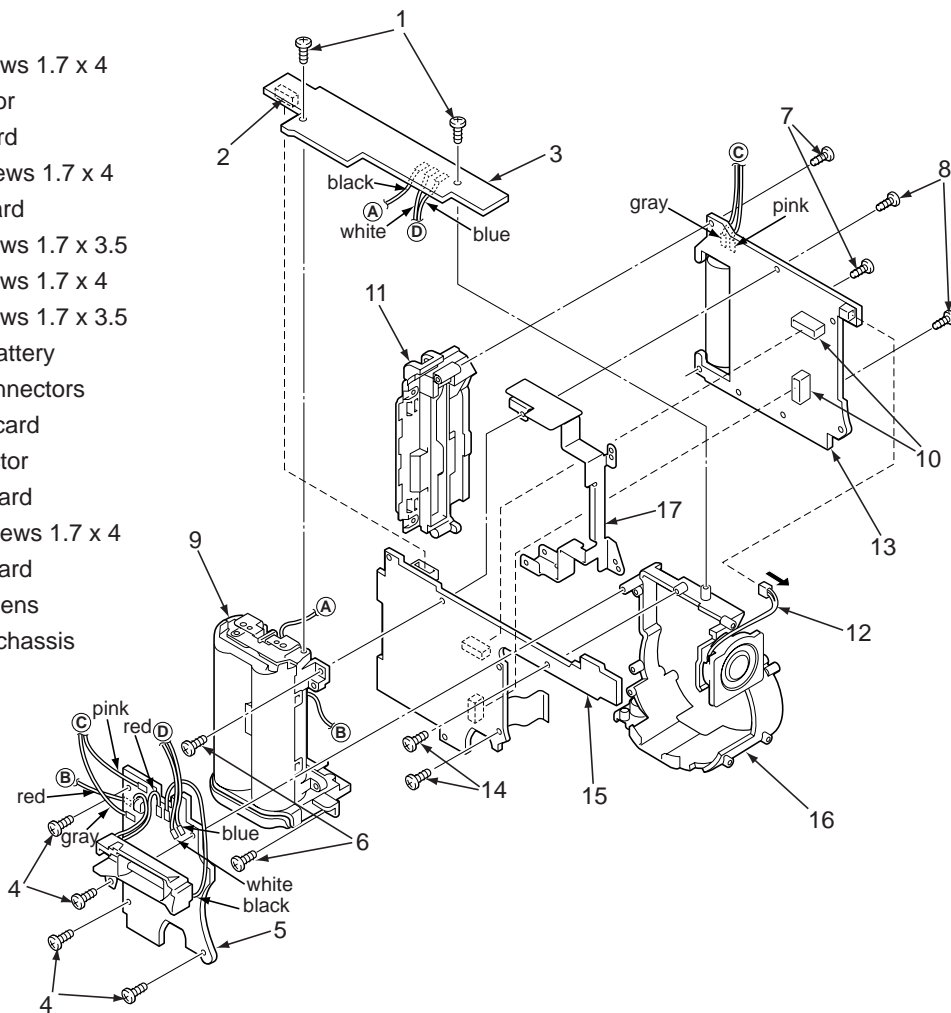


## 2-3. REMOVAL OF LENS ASSEMBLY AND CA1 BOARD

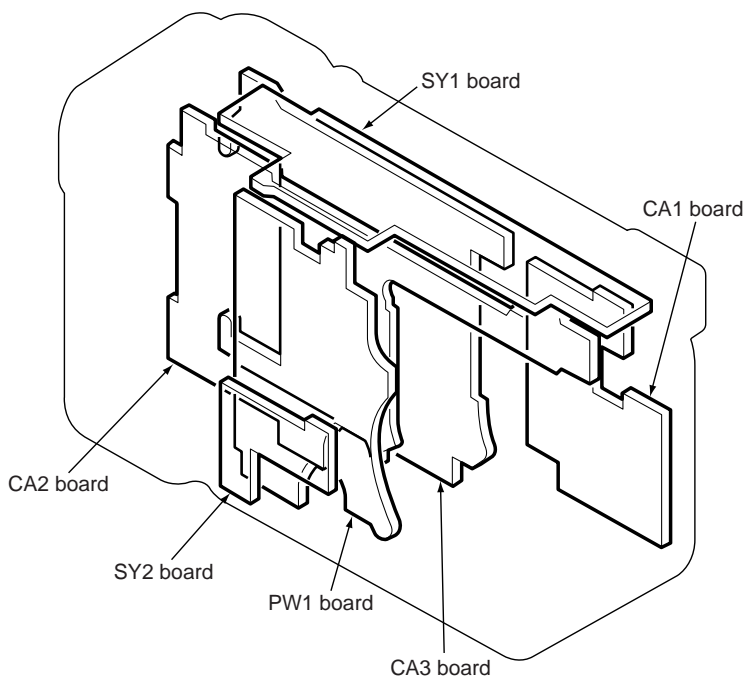


## 2-4. REMOVAL OF SY1 BOARD, PW1 BOARD, CA3 BOARD AND CA2 BOARD

1. Two screws 1.7 x 4
2. Connector
3. SY1 board
4. Four screws 1.7 x 4
5. PW1 board
6. Two screws 1.7 x 3.5
7. Two screws 1.7 x 4
8. Two screws 1.7 x 3.5
9. Holder battery
10. Two connectors
11. Holder card
12. Connector
13. CA3 board
14. Two screws 1.7 x 4
15. CA2 board
16. Holder lens
17. Holder chassis



## 2-5. BOARD LOCATION

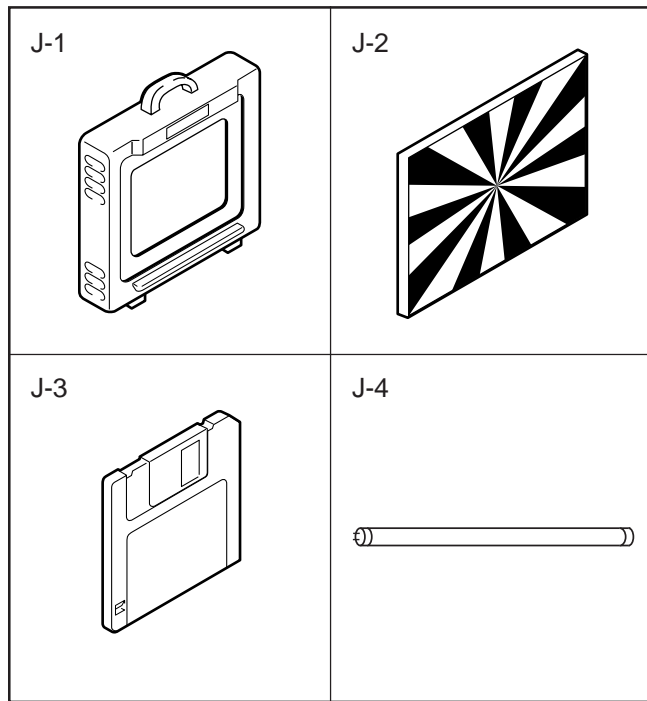


### 3. ELECTRICAL ADJUSTMENT

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

Ref. No.	Name	Part code
J-1	Color viewer 5,100 K	VJ8-0007
J-2	Siemens star chart	
J-3	Calibration software	VJ8-0179
J-4	Spare lamp	VJ8-0028

**Note:** J-1 color viewer is 100 - 110 VAC only.



#### 3-2. Equipment

- Oscilloscope
- Digital voltmeter
- AC adaptor
- PC (IBM®-compatible PC, Pentium processor, Window 98 or Me)

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

- IC501 Oscillation Frequency Adjustment
- 5.0 V (D) Voltage Adjustment
- 3.3 V (D) A Voltage Adjustment
- 3.4 V (D) B Voltage Adjustment
- 5 V (A) Voltage Adjustment
- IC511 Oscillation Frequency Adjustment
- 3.4 V (D) C Voltage Adjustment
- 12.4 V (L) Voltage Adjustment 1
- 12.4 V (L) Voltage Adjustment 2
- CCD VSUB Adjustment
- AWB Adjustment
- Lens Adjustment
- CCD Defect Detect Adjustment
- CCD Black Point Defect Detect Adjustment
- LCD Panel Adjustment
  - LCD H AFC Adjustment
  - LCD RGB Offset Adjustment

- LCD Gain Adjustment
- LCD Red Brightness Adjustment
- LCD Blue Brightness Adjustment

**Note:** If the lens, CCD and board in item 11-14, it is necessary to adjust again. Adjustments other than these should be carried out in sequence. For 13 and 14, carry out adjustment after sufficient charging has taken place. In case of carrying out adjustment item 11 and 12 after adjusting item 13 and 14, adjust item 11 and 12 after turning off the power.

#### 3-4. Setup

##### 1. System requirements

- Windows 98 or Me
- IBM®-compatible PC with pentium processor
- CD-ROM drive
- 3.5-inch high-density diskette 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 calibration software

- Insert the calibration software installation diskette into your diskette drive.
- Open the explorer.
- Copy the DscCalDI\_127 folder on the floppy disk in the FD drive to a folder on the hard disk.

##### 3. Installing USB drive

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

##### 4. Color Viewer

- Turn on the switch and wait for 30 minutes for aging to take place before using Color Pure.
- The luminance adjustment control on the color viewer should be set to around the middle position (memory 5) during use.
- The fluorescent lamps which are used in the color viewer are consumable parts. After the cumulative usage time reaches 2000 hours, the color temperature will start to increase as the usage time increases, and correct adjustment will not be possible. When the cumulative usage time reaches 2000 hours, all of the fluorescent lamps should be simultaneously replaced with new lamps.

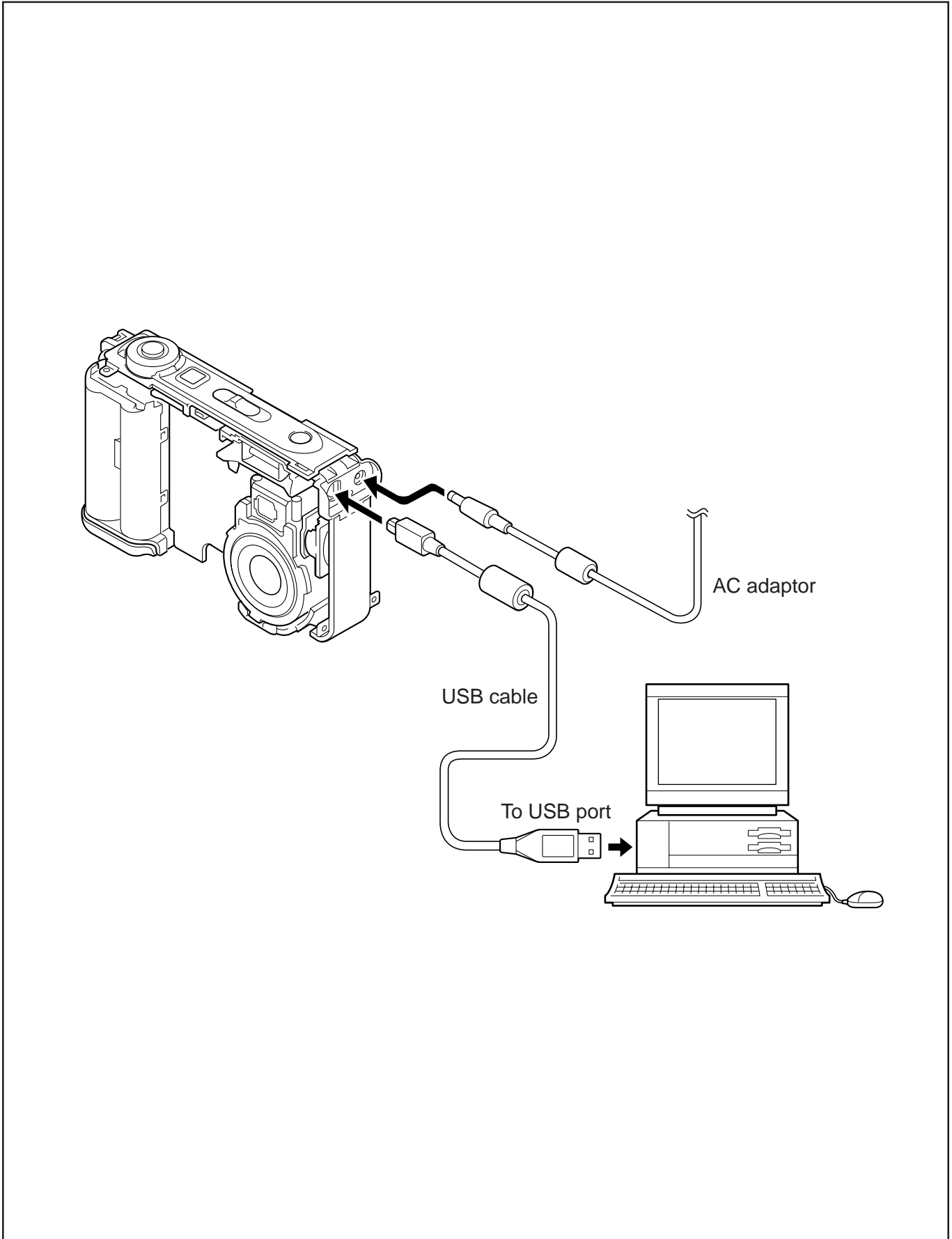
##### 5. Computer screen during adjustment

Calibration <input type="button" value="AWB"/> <input type="button" value="Focus"/> <input type="button" value="UV Matrix"/> Cal Mode <input type="button" value="OK"/> Cal Data <input type="button" value="OK"/>	Upload <input type="button" value="Firmware"/> <input type="button" value="Image"/> <input type="button" value="Initialize"/> <input type="checkbox"/> EVF <input type="button" value="LCD Type"/>	LCD 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"/> H AFC <input type="text"/> Test <input type="text"/>	Setting Language <input type="text"/> Video Mode <input type="text"/>
USB strage <input type="button" value="Get"/> VID <input type="text"/> <input type="button" value="Set"/> Serial <input type="text"/> <input type="button" value="Set"/> <input type="button" value="Set"/> PID <input type="text"/> <input type="button" value="Set"/> Rev. <input type="text"/> <input type="button" value="Set"/>			



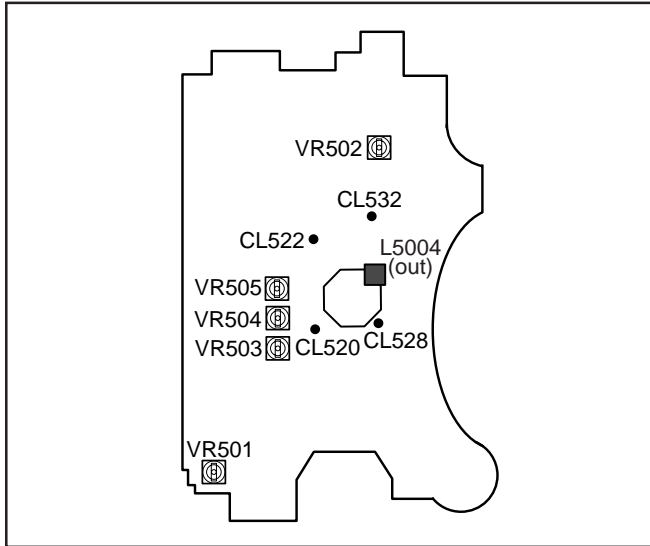
### 3-5. Connecting the camera to the computer

1. Line up the arrow on the cable connector with the notch on the camera's USB port. Insert the connector.
2. Locate a USB port on the back of your computer.



### 3-6. Adjust Specifications

[PW1 board (Side B)]



**Note:**

1. Voltage adjustment is necessary to repair in the PW1 board and replace the parts.
2. Power voltage set about +3.0 V.

**Preparation:**

1. Carry out the voltage adjustments disconnecting cabinet back and cabinet front. Disconnect CN981 (CA3), CN302 (SY1) and CN310 (SY1). Connect all other connectors.
2. Shorten pin 1 and pin 3 of CN302 (SY1).
3. Insert the compact flash.
4. Set the main switch to the camera mode.
5. Set the selector dial to the still image shooting mode.
6. Push the power switch, and confirm that the through screen from the CCD can be seen on the LCD.

#### 1. IC501 Oscillation Frequency Adjustment

Measuring Point	CL532
Measuring Equipment	Frequency counter
ADJ. Location	VR501
ADJ. Value	200 ± 1 kHz

**Adjustment method:**

1. Adjust with VR501 to 200 ± 1 kHz.

#### 2. 5.0 V (D) Voltage Adjustment

Measuring Point	CL520
Measuring Equipment	Digital voltmeter
ADJ. Location	VR504
ADJ. Value	5.10 ± 0.05 V

**Adjustment method:**

1. Adjust with VR504 to 5.10 ± 0.05 V.

### 3. 3.3 V (D) A Voltage Adjustment

Measuring Point	CL528
Measuring Equipment	Digital voltmeter
ADJ. Location	VR502
ADJ. Value	3.37 ± 0.02 V

**Adjustment method:**

1. Adjust with VR502 to 3.37 ± 0.02 V

### 4. 3.4 V (D) B Voltage Adjustment

Measuring Point	L5004 OUT side
Measuring Equipment	Digital voltmeter
ADJ. Location	VR503
ADJ. Value	3.38 ± 0.03 V

**Adjustment method:**

1. Adjust with VR503 to 3.38 ± 0.03 V.

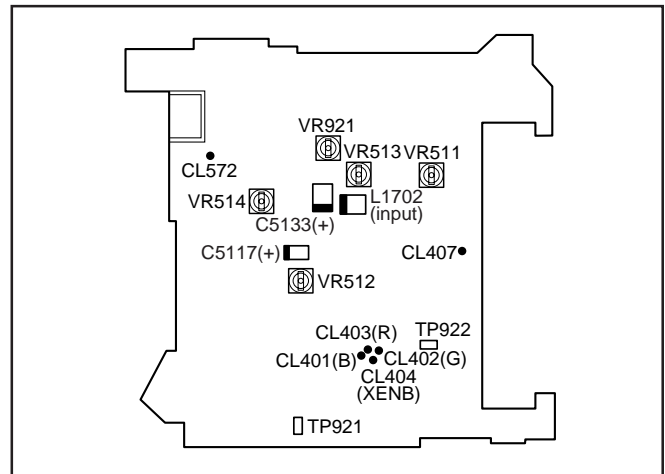
### 5. 5 V (A) Voltage Adjustment

Measuring Point	CL522
Measuring Equipment	Digital voltmeter
ADJ. Location	VR505
ADJ. Value	5.13 ± 0.05 V

**Adjustment method:**

1. Adjust with VR505 to 5.13 ± 0.05 V.

[CA3 board (Side A)]



**Note:**

1. Voltage adjustment is necessary to repair in the CA3 board and replace the parts.
2. Power voltage set about +3.0 V.

#### 6. IC511 Oscillation Frequency Adjustment

Measuring Point	CL572
Measuring Equipment	Frequency counter
ADJ. Location	VR511
ADJ. Value	200 ± 1 kHz

**Adjustment method:**

1. Adjust with VR511 to  $200 \pm 1$  kHz.

**7. 3.4 V (D) C Voltage Adjustment**

Measuring Point	C5117 (+) side
Measuring Equipment	Digital voltmeter
ADJ. Location	VR512
ADJ. Value	$3.41 \pm 0.03$ V

**Adjustment method:**

1. Adjust with VR512 to  $3.41 \pm 0.03$  V

**8. 12.4 V (L) Voltage Adjustment 1**

Measuring Point	C5133 (+) side or L1702 input side
Measuring Equipment	Digital voltmeter
ADJ. Location	VR514
ADJ. Value	$12.40 \pm 0.05$ V

**Adjustment method:**

1. Set the main switch to the play mode.
2. Adjust with VR514 to  $12.40 \pm 0.05$  V.

**9. 12.4 V (L) Voltage Adjustment 2**

Measuring Point	C5133 (+) side or L1702 input side
Measuring Equipment	Digital voltmeter
ADJ. Location	VR513
ADJ. Value	$12.40 \pm 0.05$ V

**Adjustment method:**

1. Set the main switch to the camera mode, and turn on the LCD.
2. Adjust with VR513 to  $12.40 \pm 0.05$  V.

**10. CCD VSUB Adjustment**

**Note:**

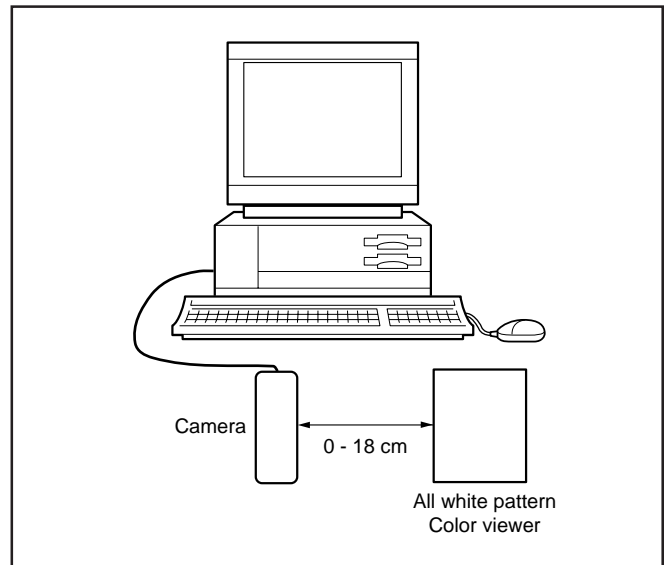
1. When installing a new CCD, read the abbreviation described on the rear side of CCD, and write it to the board.
2. If the CCD, each board and parts replaces, it is necessary to adjust again.

**Adjustment method:**

1. Disconnect CN303 on the SY1 board. Turn on the power, and set so that the through screen from the CCD can be seen on the LCD.
2. Read the abbreviation display on the rear side of CCD (side A of CA-1 board). Convert these to voltages using the table below. For example, "h" → VSUB = 11.7 V
3. Adjust with VR921 so that the voltage of TP921 at VSUB becomes the displayed voltage value  $\pm 0.1$  V.

VSUB abbreviation	1	2	3	4	6	7	8	9	A
Voltage	8.9	9.1	9.3	9.5	9.7	9.9	10.1	10.3	10.5
	C	d	E	f	G	h	J	K	L
	10.7	10.9	11.1	11.3	11.5	11.7	11.9	12.1	12.3
	N	P	R	S	U	V	W	X	Y
	12.7	12.9	13.1	13.3	13.5	13.7	13.9	14.1	14.3
									Z
									14.5

**11. AWB Adjustment**



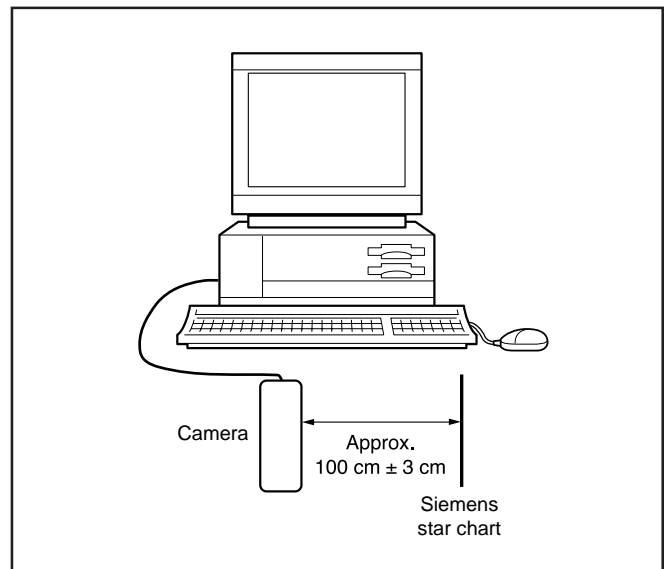
**Preparation:**

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 DscCalDi127.
3. Click the AWB, and click the Yes.
4. AWB adjustment value will appear on the screen.
5. Click the OK.

**12. Lens Adjustment**



**Preparation:**

POWER switch: ON

**Adjustment condition:**

More than A3 size siemens star chart  
Fluorescent light illumination with no flicker  
Illumination above the subject should be  $400 \text{ lux} \pm 10 \%$ .

**Adjustment method:**

1. Set the siemens star chart  $100 \text{ cm} \pm 3 \text{ cm}$  so that it becomes center of the screen.

2. Double-click on the DscCalDi127.
3. Click the Focus, and click the Yes.
4. Lens adjustment value will appear on the screen.
5. Click the OK.

### 13. CCD Defect Detect Adjustment

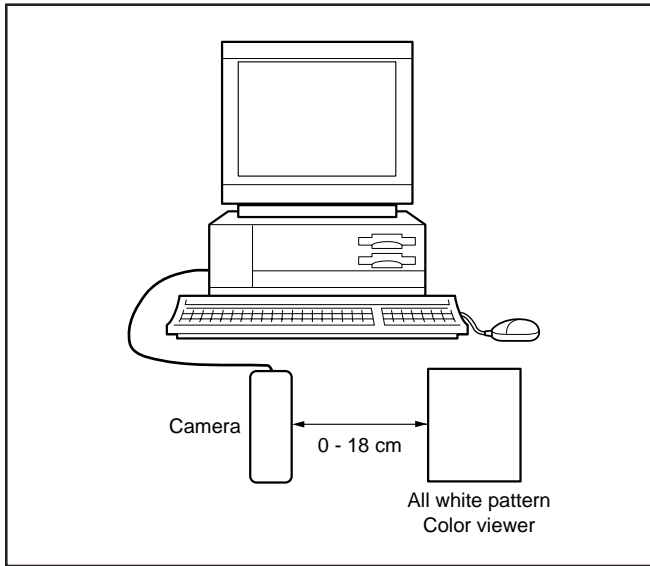
**Preparation:**

POWER switch: ON (Set the camera mode.)

**Adjustment method:**

1. Double-click on the DscCalDi127.
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.

### 14. CCD Black Point Defect Detect Adjustment



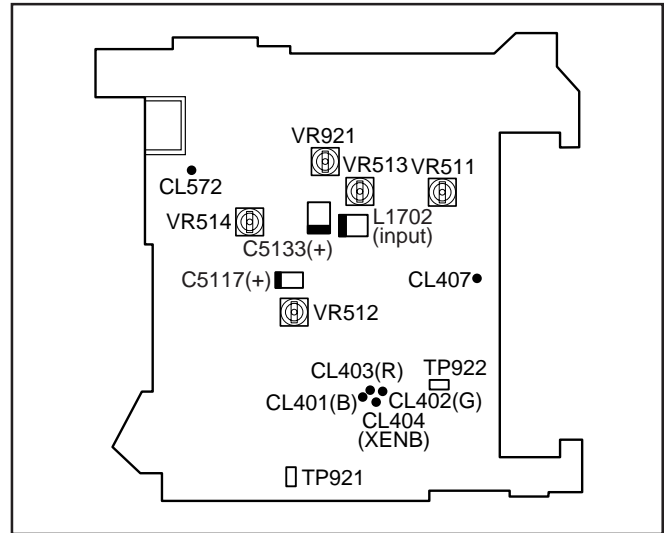
**Preparation:**

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 DscCalDi127.
3. Select "CCD Black" on the LCD "Test", and click the "Yes".
4. After the adjustment is completed, the number of defect will appear.

## 15. LCD Panel Adjustment [CA3 board (Side A)]



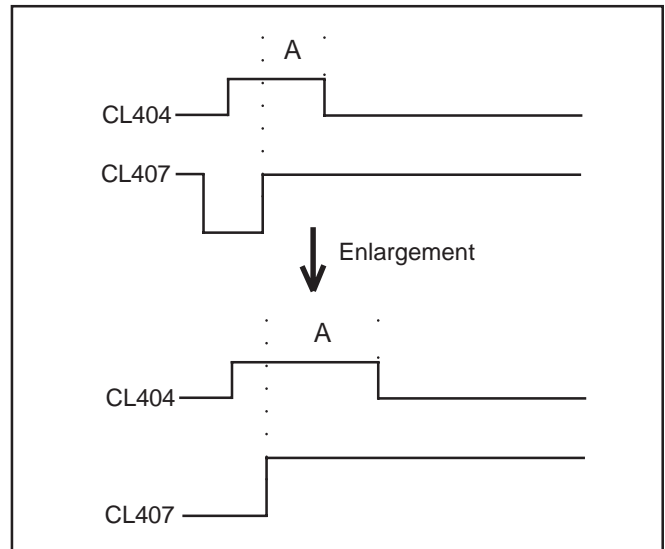
### 15-1. LCD H AFC Adjustment

**Preparation:**

POWER switch: ON

**Adjusting method:**

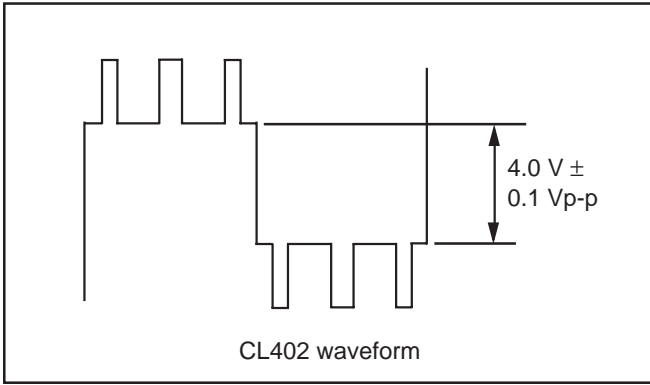
1. Double-click on the DscCalDi127.
2. Select 0 on the LCD "H AFC".
3. Apply a trigger using CL407, and adjust LCD "H AFC" so that the time A from the rising signal at CL407 to the falling signal at CL404 is  $5.16 \pm 0.2$  msec.



### 15-2. LCD RGB Offset Adjustment

**Adjusting method:**

1. Adjust LCD "RGB Offset" so that the amplitude of the CL402 waveform is  $4.0 \text{ V} \pm 0.1 \text{ Vp-p}$ .



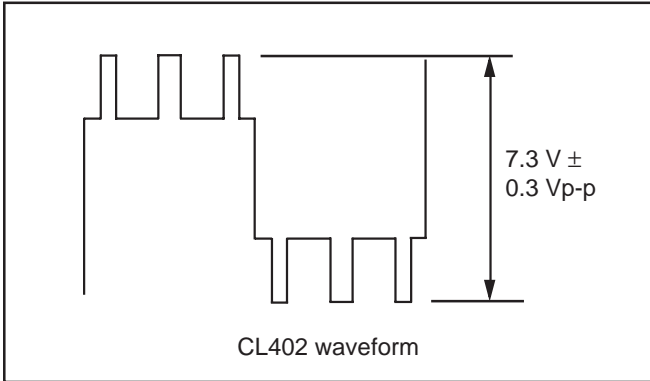
### 15-3. LCD Gain Adjustment

**Adjusting method:**

1. Adjust LCD "Gain" so that the amplitude of the CL402 waveform is  $7.3\text{ V} \pm 0.3\text{ Vp-p}$ .

**Note:**

15-2. LCD RGB Offset adjustment should always be carried out first.



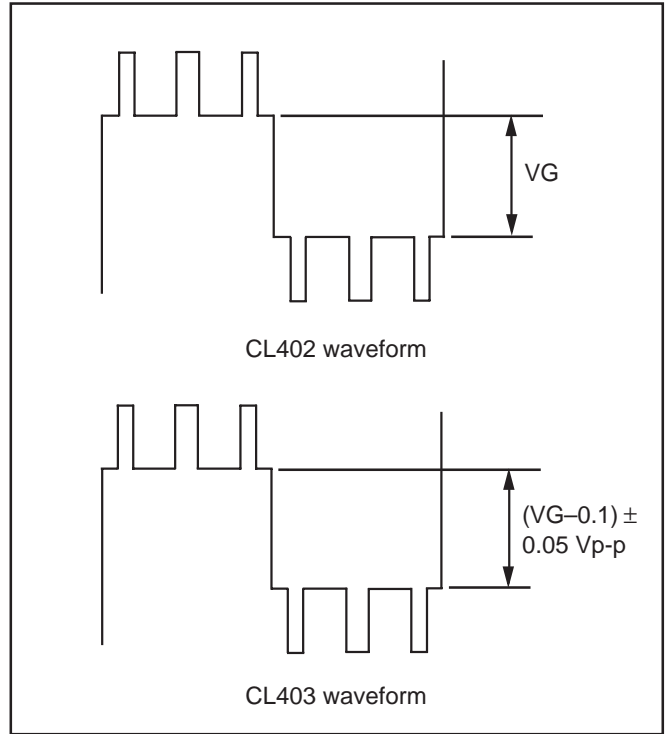
### 15-4. LCD Red Brightness Adjustment

**Adjusting method:**

1. Adjust LCD "R Bright" so that the amplitude of the CL403 waveform is  $(VG-0.1) \pm 0.05\text{ Vp-p}$  with respect to the CL402 (VG) waveform.

**Note:**

15-2. LCD RGB Offset adjustment and 15-3. LCD Gain adjustment should always be carried out first.



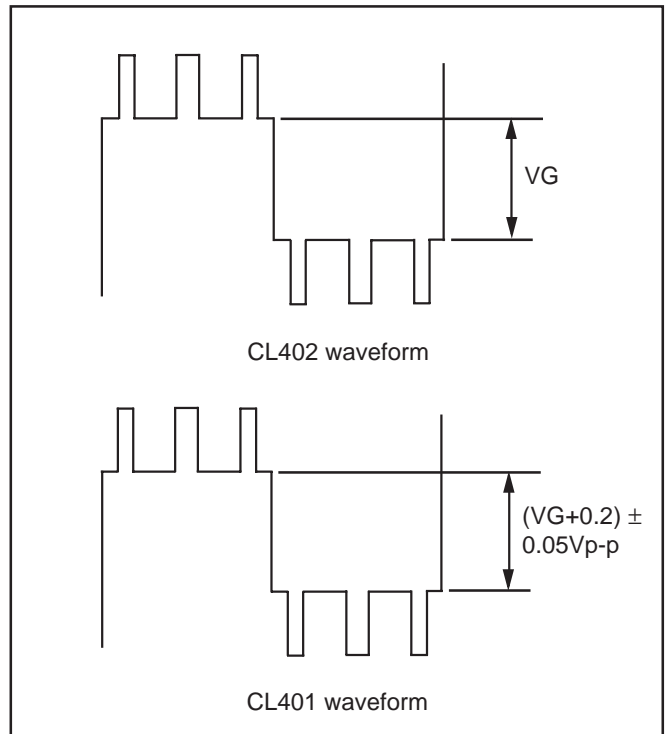
### 15-5. LCD Blue Brightness Adjustment

**Adjusting method:**

1. Adjust LCD "B Bright" so that the amplitude of the CL401 waveform is  $(VG+0.2) \pm 0.05\text{ Vp-p}$  with respect to the CL402 (VG) waveform.

**Note:**

15-2. LCD RGB Offset adjustment and 15-3. LCD Gain adjustment have done.



## 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

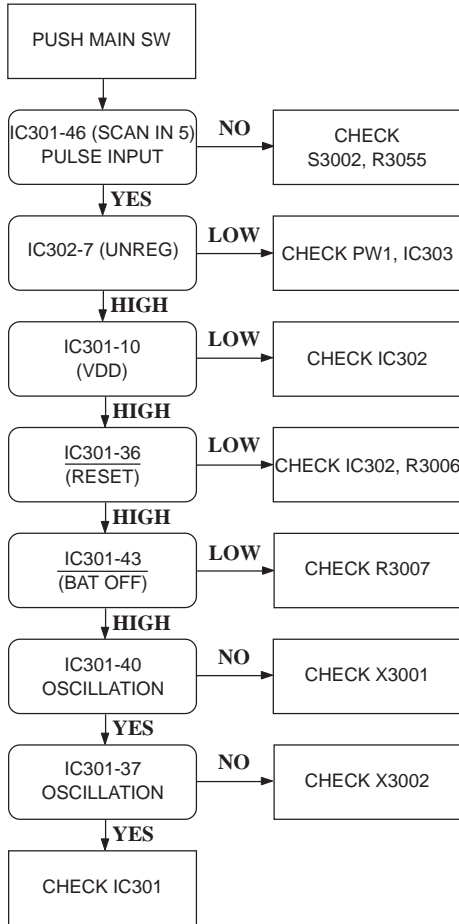
### Adjustment method:

1. Connect the camera to a computer. (Refer to 3-5. Connecting the camera to the computer on the page 16.)
2. Double-click on the DscCalDi127.
3. Click on the Get button in the USB storage window and check the USB storage data.  
 VID: SANYO  
 PID: VPC-MZ1E or VPC-MZ1EX or VPC-MZ1  
 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.

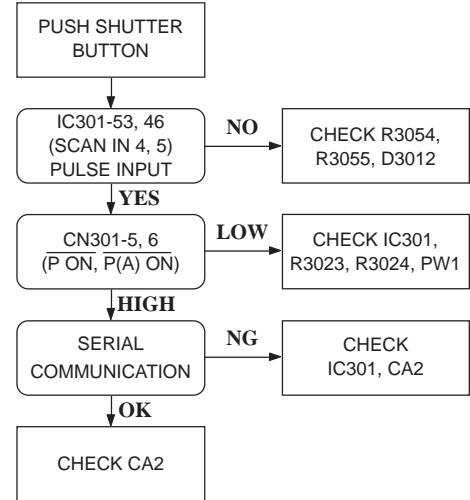
<b>Calibration</b> AWB Focus UV Matrix Cal Mode <input type="text"/> OK Cal Data <input type="text"/> OK	<b>Upload</b> Firmware Image Initialize <input type="checkbox"/> EVF LCD Type <input type="text"/>	<b>LCD</b> R Bright <input type="text"/> B Bright <input type="text"/> VCOMDC <input type="text"/>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

## 5. TROUBLESHOOTING GUIDE

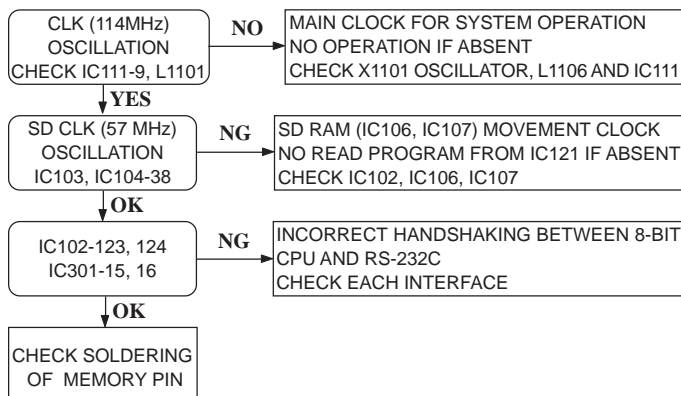
### POWER LOSS INOPERATIVE



### TAKING INOPERATIVE



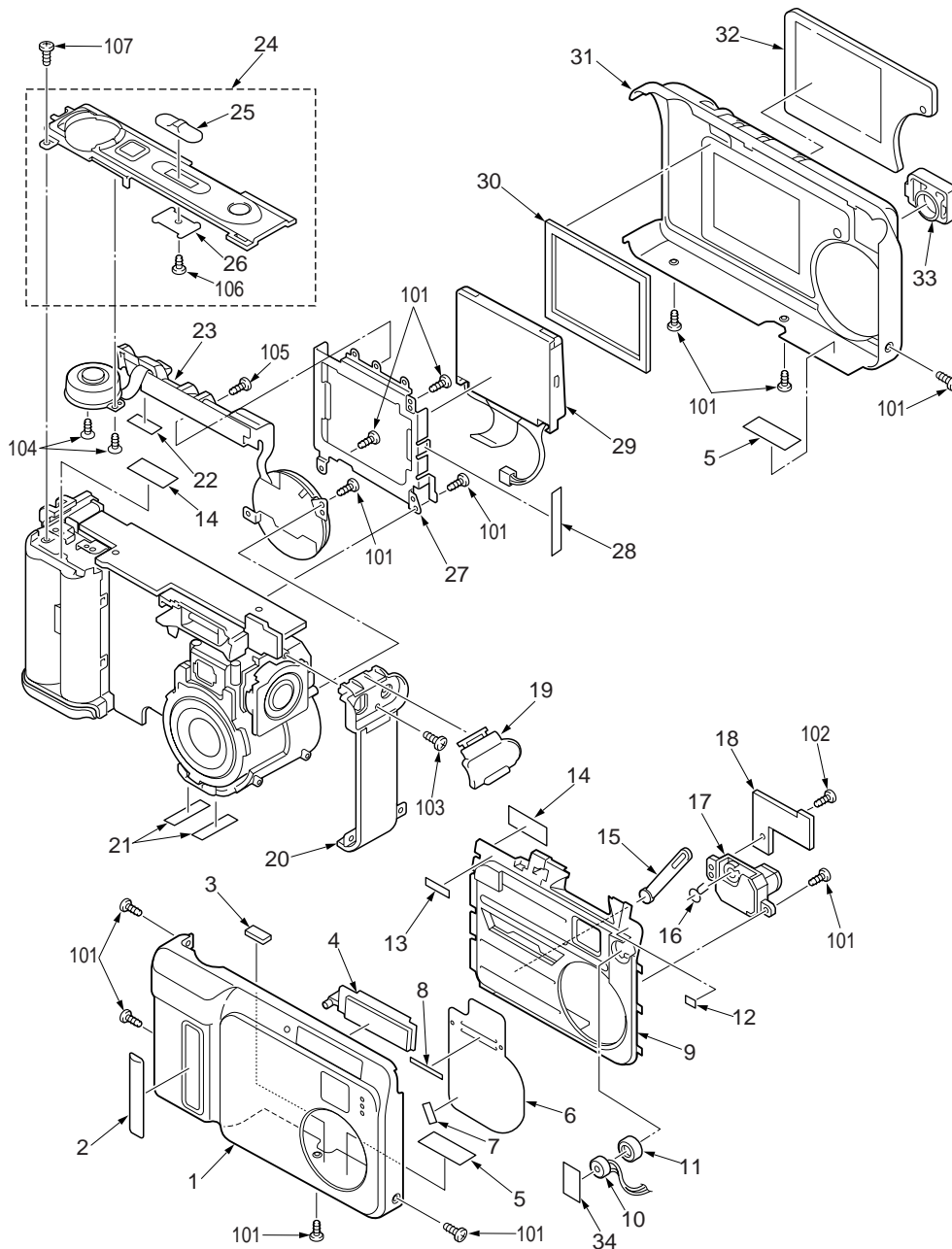
### NO PICTURE



# 6. PARTS LIST

LOCATION	PARTS NO.	DESCRIPTION
<b>CABINET AND CHASSIS PARTS 1</b>		
1	636 061 9197	CABINET FRONT-SX212/E
2	636 061 4215	DEC GRIP-SX212/J
3	636 062 8540	SPACER FRONT-SX212
4	636 061 4208	DEC FLASH-SX212/J
5	636 063 0222	SHILED TAPE-SX212/J
6	636 061 4079	ASSY,COVER LENS-SX212/J
7	636 061 5328	SPACER COVER LENS B-212/J
8	636 061 5311	SPACER COVER LENS A-212/J
9	636 061 4130	CABINET FRONT INNER-212/J
10	645 045 9214	MICROPHONE
11	636 061 5281	HOLDER MIC-SX212/J
12	636 062 8502	ADHESIVE TAPE FRONT A-212
13	636 062 8519	ADHESIVE TAPE FRONT B-212
14	636 062 9974	SPACER A-SX212/J
15	636 061 4277	LEVER COVER LENS-SX212/J
16	636 062 8564	SPRING COVER LENS B-SX212
17	645 046 9121	ASSY,MOTOR
18	636 061 1221	COMPL PWB,SY-2
19	636 061 4192	COVER JACK-SX212/J
20	636 061 4154	CABINET LEFT-SX212/J

LOCATION	PARTS NO.	DESCRIPTION
21	645 037 0274	PAD(L=15)
22	636 063 2745	SPACER UNIT-SX212/J
23	645 048 6586	UNIT,CONTROL PANEL
24	636 061 9159	ASSY,CABINET TOP-SX212/E
25	636 061 4260	KNOB FUNCTION-SX212/J
26	636 061 4307	SLIDE FUNCTION-SX212/J
27	636 061 3447	HOLDER MONITOR-SX212/J
28	636 062 9004	SPACER HL MONITOR-SX212/J
29	645 045 8590	LCD(ALP228CGXC0)
30	636 061 4291	SPACER MONTOR-SX212/J
31	636 061 9180	CABINET BACK-SX212/E
32	636 061 4222	DEC MONITOR-SX212/J
33	636 061 5175	ASSY,COVER EYE-SX212/J
34	636 063 1298	SPACER MIC-SX212
101	411 177 6502	SCR S-TPG PAN PCS 1.7X4
102	411 176 7005	SCR S-TPG PAN PCS 1.7X5.0
103	411 175 6504	SCR S-TPG PAN PCS 1.7X4.0
104	412 060 9501	SPECIAL SCREW-1.7X2.5
105	411 175 8904	SCR PAN PCS 1.7X3.5
106	411 177 8407	SCR S-TPG PAN PCS 1.7X3
107	411 177 8100	SCR S-TPG PAN PCS 1.7X2.5

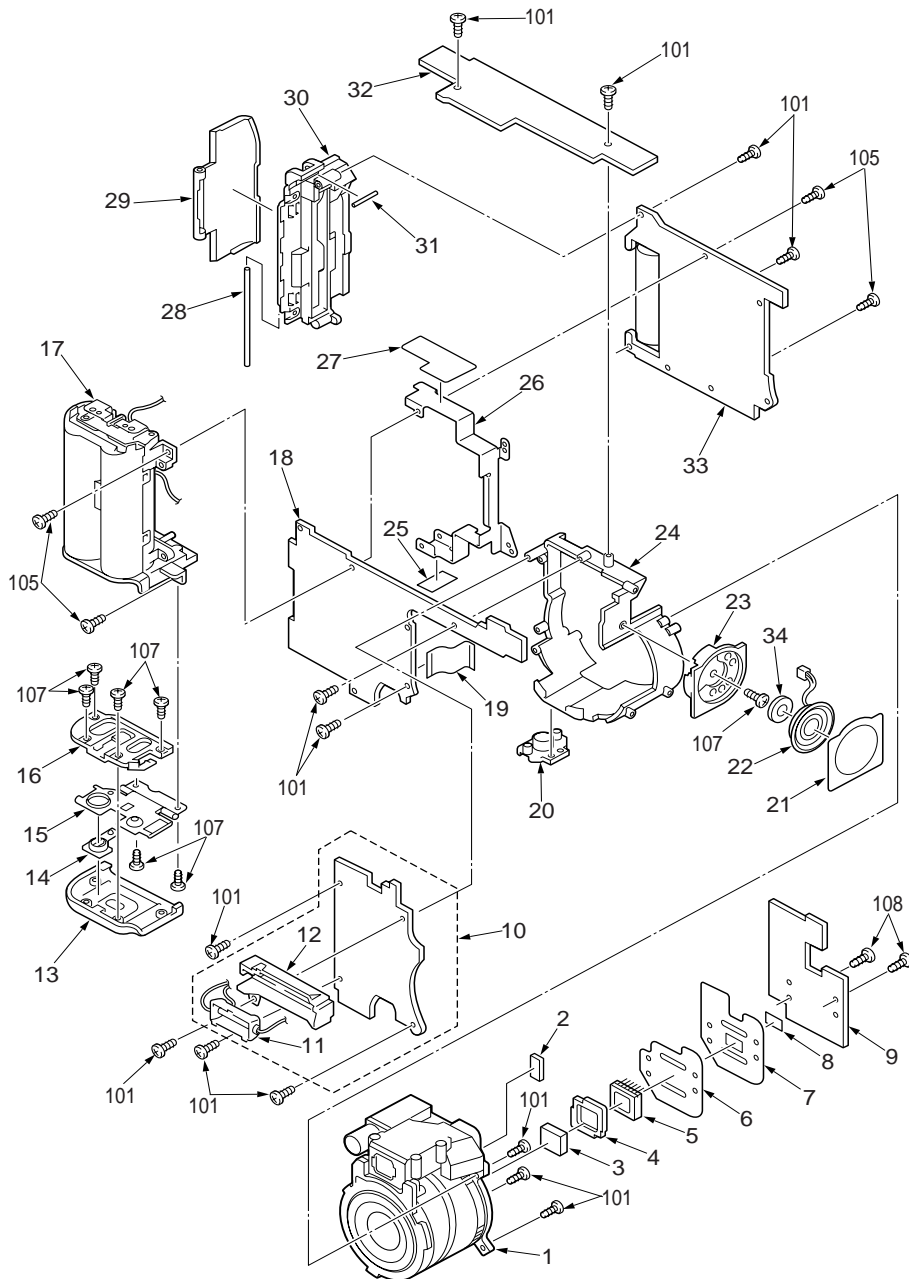


**N.S.P.: Not available as service parts.**



LOCATION	PARTS NO.	DESCRIPTION
<b>CABINET AND CHASSIS PARTS 2</b>		
1	645 046 9480	LENS(ASSY),R127A
2	636 062 9813	SPACER LENS-SX212/J
3	645 037 6412	OPTICAL FILTER
4	636 057 0696	SPACER
5	409 502 6501	IC ICX274AQ-C
6	636 061 5298	MOUNTING,LENS
7	636 061 5304	SPACER INSULATOR
8	636 060 9785	SHILED TAPE SX212
9	636 061 0361	COMPL PWB,CA-1
10	636 061 1238	COMPL PWB,PW-1
11	645 046 9343	ASSY,LAMP,SX212 (Included in COMPL PWB PW-1)
12	636 061 3768	HOLDER FLASH-SX212/J, (Included in COMPL PWB PW-1)
13	636 061 4178	COVER BATTETY-SX212/J
14	636 061 4161	CAP BATT TERMINAL-SX212/J
15	636 062 9738	ASSY,HOLDER CV BATT-SX212
16	636 061 4253	HOLDER COVER BATT-SX212/J
17	△ 636 063 1533	ASSY,HOLDER BATT B-SX212J (SV)
18	636 061 0354	COMPL PWB,CA-2,VPC-MZ1 ONLY
18	636 061 0385	COMPL PWB,CA-2,EXCEPT VPC-MZ1

LOCATION	PARTS NO.	DESCRIPTION
19	645 045 9290	FLEXIBLE FLAT CABLE
20	636 061 3812	STAND-SX212/J, STAND
21	636 061 5335	SPACER SPEAKER A-SX212/J
22	645 045 9207	SPEAKER,8
23	636 061 3775	HOLDER SPEAKER-SX212/J
24	636 061 3744	HOLDER LENS-SX212/J
25	645 041 3148	PAD(L=12)
26	636 061 3454	HOLDER CHASSIS-SX212/J
27	636 061 8893	SPACER CHASSIS M-SX212/J
28	636 061 3829	SHAFT CARD-SX212/J
29	636 061 3683	COVER CARD-SX212/J
30	636 061 3751	HOLDER CARD-SX212/J
31	636 061 3836	SHAFT STRAP-SX212/J
32	636 061 1214	COMPL PWB,SY-1
33	636 061 1207	COMPL PWB,CA-3
34	636 061 5342	SPACER SPEAKER B-SX212/J
101	411 177 6502	SCR S-TPG PAN PCS 1.7X4
105	411 175 8904	SCR PAN PCS 1.7X3.5
107	411 177 8100	SCR S-TPG PAN PCS 1.7X2.5
108	411 182 3701	SCR S-TPG PAN PCS 1.7X5





LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
IC107	409 502 3807	IC HY57V641620HGT-H	C1058	403 312 6805	CERAMIC 0.1U Z 16V
IC111	409 486 8201	IC IMIC6002AT	C1059	403 312 6805	CERAMIC 0.1U Z 16V
IC121	409 506 1106	IC 28700212B,VPC-MZ1 ONLY	C1061	403 346 2309	CERAMIC 0.1U K 10V
OR	409 506 1908	IC 28701212A,EXCEPT VPC-MZ1	C1062	403 346 2309	CERAMIC 0.1U K 10V
IC138	409 327 6502	IC TC7W32FU	C1063	403 346 2309	CERAMIC 0.1U K 10V
IC139	409 149 5301	IC TC7S00F	C1064	403 346 2309	CERAMIC 0.1U K 10V
IC146	409 471 4201	IC SN74LV245ADB	C1065	403 346 2309	CERAMIC 0.1U K 10V
IC147	409 471 4201	IC SN74LV245ADB	C1066	403 346 2309	CERAMIC 0.1U K 10V
IC148	409 471 4102	IC SN74LV244ADB	C1067	403 346 2309	CERAMIC 0.1U K 10V
IC149	409 471 4102	IC SN74LV244ADB	C1071	403 346 2309	CERAMIC 0.1U K 10V
IC152	409 427 4101	IC TK15405M	C1072	403 346 2309	CERAMIC 0.1U K 10V
IC160	409 301 5507	IC TC7S08FU	C1073	403 346 2309	CERAMIC 0.1U K 10V
IC161	409 395 5902	IC TC7SH00FU	C1074	403 346 2309	CERAMIC 0.1U K 10V
IC162	409 432 2505	IC LMV321M7X	C1075	403 346 2309	CERAMIC 0.1U K 10V
IC163	409 432 2505	IC LMV321M7X	C1076	403 346 2309	CERAMIC 0.1U K 10V
IC164	409 432 2505	IC LMV321M7X	C1077	403 346 2309	CERAMIC 0.1U K 10V
IC165	409 471 4003	IC SN74LV273ADB	C1081	403 329 6508	TA-SOLID 10U M 6.3V
IC166	409 407 0505	IC TK11331BM	C1082	403 329 6508	TA-SOLID 10U M 6.3V
IC911	409 506 3100	IC AD9849KST	C1083	403 312 6805	CERAMIC 0.1U Z 16V
IC914	409 407 0505	IC TK11331BM	C1086	403 329 6508	TA-SOLID 10U M 6.3V
IC915	409 155 7702	IC TC4S66F	C1090	403 311 4505	CERAMIC 1000P K 50V
		<b>(DIODES)</b>	C1091	403 311 4505	CERAMIC 1000P K 50V
D1501	407 109 4609	DIODE MA728	C1093	403 311 4505	CERAMIC 1000P K 50V
D1601	407 134 7408	DIODE MA141WK	C1101	403 311 3409	CERAMIC 0.01U K 16V
OR	407 130 4401	DIODE DAN202U	C1102	403 311 3409	CERAMIC 0.01U K 16V
D1602	407 149 0807	DIODE 1SS355	C1103	403 311 3409	CERAMIC 0.01U K 16V
D1603	407 188 9809	DIODE MA742	C1104	403 312 6805	CERAMIC 0.1U Z 16V
		<b>(OSC)</b>	C1105	403 329 6508	TA-SOLID 10U M 6.3V
X1101	645 023 3951	OSC,CRYSTAL 14.31818MHZ	C1201	403 283 6309	CERAMIC 1U Z 10V
OR	645 040 0049	OSC,CRYSTAL 14.31818MHZ	C1421	403 312 6805	CERAMIC 0.1U Z 16V
		<b>(INDUCTORS)</b>	C1422	403 329 6508	TA-SOLID 10U M 6.3V
L1010	645 020 1875	INDUCTOR,1500 OHM	C1423	403 312 6805	CERAMIC 0.1U Z 16V
L1011	645 020 1875	INDUCTOR,1500 OHM	C1424	403 312 6805	CERAMIC 0.1U Z 16V
L1012	645 036 5393	INDUCTOR,1000 OHM	C1501	403 334 3806	CERAMIC 10U K 6.3V
L1083	645 020 1912	INDUCTOR,240 OHM	C1502	403 311 7506	CERAMIC 22P J 50V
L1085	645 020 1912	INDUCTOR,240 OHM	C1508	403 311 5007	CERAMIC 33P J 50V
L1101	645 020 1912	INDUCTOR,240 OHM	C1510	403 312 6805	CERAMIC 0.1U Z 16V
L1102	645 020 1899	INDUCTOR,68 OHM	C1511	403 343 3101	CERAMIC 1U K 6.3V
L1104	645 020 1899	INDUCTOR,68 OHM	C1512	403 345 3802	TA-SOLID 22U M 4V
L1501	645 021 1737	INDUCTOR,47U J	C1513	403 345 4205	TA-SOLID 47U M 6.3V
OR	645 043 5898	INDUCTOR,47U J	C1517	403 312 6805	CERAMIC 0.1U Z 16V
L1502	645 035 7190	INDUCTOR,33U J	C1519	403 334 3806	CERAMIC 10U K 6.3V
L1601	645 016 0349	INDUCTOR,600 OHM	C1602	403 345 4304	TA-SOLID 22U M 10V
L1603	645 016 0349	INDUCTOR,600 OHM	C1603	403 329 6508	TA-SOLID 10U M 6.3V
L1604	645 016 0349	INDUCTOR,600 OHM	C1604	403 345 4205	TA-SOLID 47U M 6.3V
		<b>(CAPACITORS)</b>	C1611	403 312 6805	CERAMIC 0.1U Z 16V
C1001	403 348 1300	CERAMIC 0.047U K 10V	C1621	403 283 6309	CERAMIC 1U Z 10V
C1005	403 343 8700	CERAMIC 1U M 12V	C1622	403 346 2309	CERAMIC 0.1U K 10V
C1007	403 343 8700	CERAMIC 1U M 12V	C1623	403 283 6309	CERAMIC 1U Z 10V
C1008	403 338 4403	CERAMIC 0.1U K 16V	C1624	403 283 6309	CERAMIC 1U Z 10V
C1011	403 338 4403	CERAMIC 0.1U K 16V	C1625	403 319 3609	CERAMIC 330P K 50V
C1012	403 338 4403	CERAMIC 0.1U K 16V	C1626	403 343 8700	CERAMIC 1U M 12V
C1014	403 283 6309	CERAMIC 1U Z 10V	C1627	403 311 3409	CERAMIC 0.01U K 16V
C1015	403 343 8700	CERAMIC 1U M 12V	C1628	403 344 0505	CERAMIC 0.033U K 10V
C1027	403 329 6508	TA-SOLID 10U M 6.3V	C1629	403 325 6304	CRAMIC 0.22U K 10V
C1028	403 329 6508	TA-SOLID 10U M 6.3V	C1630	403 283 6309	CERAMIC 1U Z 10V
C1029	403 329 6508	TA-SOLID 10U M 6.3V	C1631	403 283 6309	CERAMIC 1U Z 10V
C1032	403 312 6805	CERAMIC 0.1U Z 16V	C1632	403 319 3609	CERAMIC 330P K 50V
C1033	403 312 6805	CERAMIC 0.1U Z 16V	C1633	403 346 2309	CERAMIC 0.1U K 10V
C1034	403 312 6805	CERAMIC 0.1U Z 16V	C1634	403 311 3409	CERAMIC 0.01U K 16V
C1035	403 312 6805	CERAMIC 0.1U Z 16V	C1635	403 283 6309	CERAMIC 1U Z 10V
C1037	403 312 6805	CERAMIC 0.1U Z 16V	C1636	403 283 6309	CERAMIC 1U Z 10V
C1038	403 312 6805	CERAMIC 0.1U Z 16V	C1637	403 283 6309	CERAMIC 1U Z 10V
C1039	403 312 6805	CERAMIC 0.1U Z 16V	C1638	403 343 8700	CERAMIC 1U M 12V
C1041	403 312 6805	CERAMIC 0.1U Z 16V	C1639	403 343 8700	CERAMIC 1U M 12V
C1042	403 312 6805	CERAMIC 0.1U Z 16V	C1640	403 329 6508	TA-SOLID 10U M 6.3V
C1045	403 312 6805	CERAMIC 0.1U Z 16V	C9102	403 283 6309	CERAMIC 1U Z 10V
C1046	403 312 6805	CERAMIC 0.1U Z 16V	C9103	403 283 6309	CERAMIC 1U Z 10V
C1047	403 312 6805	CERAMIC 0.1U Z 16V	C9104	403 311 3409	CERAMIC 0.01U K 16V
C1048	403 312 6805	CERAMIC 0.1U Z 16V	C9105	403 343 3101	CERAMIC 1U K 6.3V
C1049	403 329 6508	TA-SOLID 10U M 6.3V	C9106	403 311 3409	CERAMIC 0.01U K 16V
C1051	403 312 6805	CERAMIC 0.1U Z 16V	C9107	403 343 3101	CERAMIC 1U K 6.3V
C1052	403 312 6805	CERAMIC 0.1U Z 16V	C9108	403 312 6805	CERAMIC 0.1U Z 16V
C1053	403 312 6805	CERAMIC 0.1U Z 16V	C9109	403 311 3409	CERAMIC 0.01U K 16V
C1054	403 312 6805	CERAMIC 0.1U Z 16V	C9111	403 346 2309	CERAMIC 0.1U K 10V
C1055	403 312 6805	CERAMIC 0.1U Z 16V	C9112	403 207 0307	CERAMIC 1U Z 16V
C1057	403 312 6805	CERAMIC 0.1U Z 16V	C9114	403 320 5302	CERAMIC 0.15U K 25V



LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
<b>COMPL PWB,CA-3</b>					
	636 061 1207				
	<b>(SEMICONDUCTORS)</b>			<b>(CAPACITORS)</b>	
Q1704	405 102 5500	TR 2SB1218A-R	C1701	403 344 0505	CERAMIC 0.033U K 10V
OR	405 137 2000	TR 2SA1576A-R	C1702	403 346 2309	CERAMIC 0.1U K 10V
Q5101	405 129 2308	TR UMZ1N	C1703	403 311 3409	CERAMIC 0.01U K 16V
Q5102	405 148 7100	TR CPH6401	C1710	403 317 1904	CERAMIC 6800P K 25V
Q5103	405 148 6905	TR CPH3303	C1713	403 311 3409	CERAMIC 0.01U K 16V
Q5104	405 115 7201	TR DTC144EE	C1714	403 317 2208	CERAMIC 16P K 50V
Q5105	405 129 2308	TR UMZ1N	C1715	403 332 9503	CERAMIC 1U M 6.3V
Q5106	405 150 5200	TR CPH5703	C1716	403 311 3409	CERAMIC 0.01U K 16V
Q5107	405 092 1100	TR 2SA1577-P	C1717	403 347 9406	CERAMIC 0.22U Z 10V
OR	405 092 1209	TR 2SA1577-Q	C1718	403 335 4802	CERAMIC 0.33U K 6.3V
OR	405 092 1407	TR 2SA1577-R	C1719	403 338 4403	CERAMIC 0.1U K 16V
Q5108	405 115 6907	TR DTC114EE	C1720	403 338 0405	CERAMIC 0.47U K 25V
Q5109	405 129 2308	TR UMZ1N	C1728	403 338 0405	CERAMIC 0.47U K 25V
Q5110	405 129 2308	TR UMZ1N	C1729	403 338 0405	CERAMIC 0.47U K 25V
Q5111	405 115 7201	TR DTC144EE	C1730	403 338 0405	CERAMIC 0.47U K 25V
Q5112	405 148 3904	TR CPH3209	C1740	403 338 4403	CERAMIC 0.1U K 16V
Q5113	405 129 3008	TR UMD2N	C1741	403 332 9503	CERAMIC 1U M 6.3V
Q5114	405 129 3008	TR UMD2N	C1743	403 332 9503	CERAMIC 1U M 6.3V
Q5115	405 129 3008	TR UMD2N	C1745	403 332 9503	CERAMIC 1U M 6.3V
Q5116	405 129 8409	TR UMC2N	C1746	403 332 9503	CERAMIC 1U M 6.3V
Q5117	405 129 3008	TR UMD2N	C1748	403 358 3202	CERAMIC 10U K 6.3V
Q5118	405 129 3008	TR UMD2N	C1751	403 332 8209	CERAMIC 10U M 16V
Q5119	405 115 5207	TR 2SC4617 R	C1752	403 332 9503	CERAMIC 1U M 6.3V
Q5120	405 092 1100	TR 2SA1577-P	C1753	403 332 9503	CERAMIC 1U M 6.3V
OR	405 092 1209	TR 2SA1577-Q	C1754	403 332 9503	CERAMIC 1U M 6.3V
OR	405 092 1407	TR 2SA1577-R	C1756	403 358 3202	CERAMIC 10U K 6.3V
Q5121	405 115 6907	TR DTC114EE	C1778	403 332 8209	CERAMIC 10U M 16V
Q5122	405 157 1403	TR 2SA2018	C1810	403 332 9503	CERAMIC 1U M 6.3V
Q5123	405 115 7805	TR DTC114WE	C1811	403 332 9503	CERAMIC 1U M 6.3V
Q9501	405 131 0408	TR DTC115EUA	C1812	403 332 9503	CERAMIC 1U M 6.3V
Q9502	405 131 0408	TR DTC115EUA	C1813	403 332 9503	CERAMIC 1U M 6.3V
Q9503	405 129 2803	TR UMH10N	C5101	403 155 2309	CERAMIC 4700P K 50V
	<b>(INTEGRATED CIRCUITS)</b>		C5102	403 338 4403	CERAMIC 0.1U K 16V
IC172	409 467 3409	IC LV4137W	C5103	403 343 3101	CERAMIC 1U K 6.3V
IC173	409 468 1602	IC TK11333BM	C5104	403 343 3101	CERAMIC 1U K 6.3V
IC181	409 446 7305	IC TPA301D-SOL008-P-0150	C5105	403 155 1807	CERAMIC 0.01U K 25V
IC511	409 417 8300	IC LA5627W	C5106	403 342 7506	CERAMIC 1000P J 50V
IC512	409 301 5507	IC TC7S08FU	C5107	403 342 7506	CERAMIC 1000P J 50V
IC951	409 451 8700	IC MPC17AT85MTA	C5108	403 155 1807	CERAMIC 0.01U K 25V
IC952	409 451 8700	IC MPC17AT85MTA	C5109	403 343 3101	CERAMIC 1U K 6.3V
IC953	409 373 0509	IC LB1846M	C5110	403 338 4403	CERAMIC 0.1U K 16V
IC981	409 407 6903	IC LB1930M	C5111	403 155 1807	CERAMIC 0.01U K 25V
	<b>(DIODES)</b>		C5112	403 320 0604	CERAMIC 220P J 25V
D1801	407 149 0807	DIODE 1SS355	C5113	403 335 1405	CERAMIC 10U K 6.3V
D5101	407 201 2701	DIODE RB051L-40	C5114	403 367 6607	POS-SOLID 47U M 6.3V
D5102	407 187 8704	ZENER DIODE UDZ27B	C5115	403 276 1304	CERAMIC 1000P K 50V
D5103	407 203 5809	DIODE F02J9	C5116	403 335 1405	CERAMIC 10U K 6.3V
D5104	407 203 5809	DIODE F02J9	C5117	403 335 1405	CERAMIC 10U K 6.3V
D5105	407 203 5809	DIODE F02J9	C5118	403 343 3101	CERAMIC 1U K 6.3V
D5106	407 149 0807	DIODE 1SS355	C5119	403 309 2407	CERAMIC 82P J 50V
D5107	407 162 8507	DIODE DAN222	C5120	403 335 1405	CERAMIC 10U K 6.3V
	<b>(OSC)</b>		C5121	403 340 1803	CERAMIC 1U M 25V
X1701	645 025 6004	OSC,CRYSTAL 3.579545MHZ	C5123	403 327 0300	CERAMIC 10U Z 25V
	<b>(VARIABLE RESISTORS)</b>		C5124	403 279 5002	CERAMIC 4700P K 25V
VR511	645 028 2249	VR,SEMI,3.3K S	C5125	403 343 3101	CERAMIC 1U K 6.3V
VR512	645 028 2201	VR,SEMI,2.2K S	C5126	403 367 6607	POS-SOLID 47U M 6.3V
VR513	645 019 5143	VR,SEMI,1K S	C5127	403 320 0604	CERAMIC 220P J 25V
VR514	645 019 5143	VR,SEMI,1K S	C5129	403 325 7608	CERAMIC 1U K 16V
VR921	645 019 5150	VR,SEMI,10K S	C5130	403 325 7608	CERAMIC 1U K 16V
	<b>(INDUCTORS)</b>		C5132	403 325 7608	CERAMIC 1U K 16V
L1702	645 004 2478	INDUCTOR,10U J	C5133	403 323 6009	CERAMIC 10U M 16V
L5101	645 037 0625	INDUCTOR,4.7U M	C5134	403 325 7608	CERAMIC 1U K 16V
L5102	645 037 0601	INDUCTOR,10U M	C5135	403 343 3101	CERAMIC 1U K 6.3V
L5103	645 046 1927	INDUCTOR,6.8U M	C5136	403 333 3708	CERAMIC 10U M 10V
L5104	645 037 1523	INDUCTOR,10U K	C5137	403 323 6009	CERAMIC 10U M 16V
L5105	645 037 1523	INDUCTOR,10U K	C5138	403 345 3901	CERAMIC 3.3U M 6.3V
L5106	645 037 1530	INDUCTOR,47U K	C5140	403 325 7608	CERAMIC 1U K 16V
L5107	645 037 1530	INDUCTOR,47U K	C5141	403 343 3101	CERAMIC 1U K 6.3V
L5108	645 037 1530	INDUCTOR,47U K	C5143	403 352 7305	CERAMIC 4.7U K 6.3V
L5109	645 037 1530	INDUCTOR,47U K	C5144	404 081 5303	ELECT 140U A 330V
L5110	645 037 1523	INDUCTOR,10U K	C5145	403 335 1405	CERAMIC 10U K 6.3V
	<b>(TRANSFORMERS)</b>		C5146	403 345 3901	CERAMIC 3.3U M 6.3V
T5101	645 046 1897	TRANS,POWER,PULSE	C9500	403 312 6805	CERAMIC 0.1U Z 16V
			C9501	403 311 3409	CERAMIC 0.01U K 16V
			C9502	403 311 3409	CERAMIC 0.01U K 16V
			C9503	403 311 3409	CERAMIC 0.01U K 16V

LOCATION	PARTS NO.	DESCRIPTION
C9504	403 314 7404	CERAMIC 3300P K 50V
C9505	403 312 6805	CERAMIC 0.1U Z 16V
C9506	403 314 7404	CERAMIC 3300P K 50V
C9507	403 311 3409	CERAMIC 0.01U K 16V
C9508	403 311 3409	CERAMIC 0.01U K 16V
C9509	403 311 3409	CERAMIC 0.01U K 16V
C9510	403 312 6805	CERAMIC 0.1U Z 16V
C9511	403 312 6805	CERAMIC 0.1U Z 16V
C9534	403 312 6805	CERAMIC 0.1U Z 16V
C9802	403 358 3202	CERAMIC 10U K 6.3V
<b>(RESISTORS)</b>		
R1702	401 261 3906	MT-FILM 2.2K DU 1/16W
R1703	401 261 2602	MT-FILM 10K DU 1/16W
R1704	401 261 6105	MT-FILM 390 DU 1/16W
R1706	401 261 9304	MT-FILM 15K DD 1/16W
R1708	401 261 2602	MT-FILM 10K DU 1/16W
R1710	401 226 2401	MT-GLAZE 560 JA 1/16W
R1713	401 226 2401	MT-GLAZE 560 JA 1/16W
R1714	401 226 2401	MT-GLAZE 560 JA 1/16W
R1719	401 228 4502	MT-GLAZE 2.2 JA 1/16W
R1730	401 262 4508	MT-FILM 30K DD 1/16W
R1735	401 261 8703	MT-FILM 22K DD 1/16W
R1736	401 261 4309	MT-FILM 1.2K DU 1/16W
R1737	401 261 2602	MT-FILM 10K DU 1/16W
R1801	401 225 2105	MT-GLAZE 12K JA 1/16W
R1802	401 224 9808	MT-GLAZE 220K JA 1/16W
R1803	401 225 2105	MT-GLAZE 12K JA 1/16W
R1811	401 225 1405	MT-GLAZE 47K JA 1/16W
R1812	401 274 9704	MT-GLAZE 24K DC 1/16W
R1813	401 224 9006	MT-GLAZE 10K JA 1/16W
R5101	401 224 9303	MT-GLAZE 1K JA 1/16W
R5102	401 224 9402	MT-GLAZE 1.0M JA 1/16W
R5103	401 224 9303	MT-GLAZE 1K JA 1/16W
R5104	401 258 0406	MT-GLAZE 120K DC 1/16W
R5105	401 258 9300	MT-GLAZE 220K DC 1/16W
R5106	401 258 9300	MT-GLAZE 220K DC 1/16W
R5107	401 258 0406	MT-GLAZE 120K DC 1/16W
R5108	401 224 9402	MT-GLAZE 1.0M JA 1/16W
R5109	401 224 9303	MT-GLAZE 1K JA 1/16W
R5110	401 258 9102	MT-GLAZE 5.6K DC 1/16W
R5111	401 258 0406	MT-GLAZE 120K DC 1/16W
R5112	401 258 9300	MT-GLAZE 220K DC 1/16W
R5113	401 224 9402	MT-GLAZE 1.0M JA 1/16W
R5114	401 274 9704	MT-GLAZE 24K DC 1/16W
R5115	401 263 1702	MT-GLAZE 1.2K DC 1/16W
R5116	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R5117	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5118	401 225 1603	MT-GLAZE 390 JA 1/16W
R5119	401 225 8008	MT-GLAZE 330 JA 1/16W
R5120	401 225 1306	MT-GLAZE 470 JA 1/16W
R5121	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5122	401 224 9006	MT-GLAZE 10K JA 1/16W
R5123	401 224 8900	MT-GLAZE 100K JA 1/16W
R5124	401 224 9303	MT-GLAZE 1K JA 1/16W
R5125	401 224 9303	MT-GLAZE 1K JA 1/16W
R5126	401 262 1000	MT-GLAZE 33K DC 1/16W
R5127	401 269 3908	MT-GLAZE 4.7K DC 1/16W
R5128	401 226 5501	MT-GLAZE 120 JA 1/16W
R5130	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R5131	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5132	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5133	401 224 9006	MT-GLAZE 10K JA 1/16W
R5134	401 224 8900	MT-GLAZE 100K JA 1/16W
R5135	401 225 0101	MT-GLAZE 27K JA 1/16W
R5136	401 224 9303	MT-GLAZE 1K JA 1/16W
R5137	401 224 9303	MT-GLAZE 1K JA 1/16W
R5139	401 275 5903	MT-GLAZE 10 DD 1/16W
R5140	401 262 2502	MT-GLAZE 68 DD 1/16W
R5141	401 283 7104	MT-GLAZE 100 DC 1/16W
R5143	401 226 5501	MT-GLAZE 120 JA 1/16W
R5144	401 226 5501	MT-GLAZE 120 JA 1/16W
R5145	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5146	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R5147	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5148	401 224 9006	MT-GLAZE 10K JA 1/16W
R5149	401 225 1405	MT-GLAZE 47K JA 1/16W
R5150	401 225 1405	MT-GLAZE 47K JA 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R5151	401 225 1405	MT-GLAZE 47K JA 1/16W
R5153	401 262 1000	MT-GLAZE 33K DC 1/16W
R5154	401 262 1307	MT-GLAZE 2.4K DC 1/16W
R5156	401 262 1000	MT-GLAZE 33K DC 1/16W
R5157	401 263 1900	MT-GLAZE 3.3K DC 1/16W
R5158	401 262 0607	MT-GLAZE 22K DC 1/16W
R5159	401 224 8900	MT-GLAZE 100K JA 1/16W
R5160	401 258 6606	MT-GLAZE 10K DC 1/16W
R5161	401 225 1405	MT-GLAZE 47K JA 1/16W
R5162	401 224 8900	MT-GLAZE 100K JA 1/16W
R5163	401 224 9006	MT-GLAZE 10K JA 1/16W
R5164	401 225 0507	MT-GLAZE 33K JA 1/16W
R5166	401 240 9509	MT-GLAZE 820 JA 1/16W
R5167	401 240 9509	MT-GLAZE 820 JA 1/16W
R5168	401 224 9600	MT-GLAZE 2.7K JA 1/16W
R5169	401 225 0705	MT-GLAZE 56K JA 1/16W
R5170	401 225 1702	MT-GLAZE 39K JA 1/16W
R5171	401 224 9006	MT-GLAZE 10K JA 1/16W
R5173	401 037 5004	MT-GLAZE 0.000 ZA 1/16W
R5174	401 224 8900	MT-GLAZE 100K JA 1/16W
R5175	401 224 9501	MT-GLAZE 2.2K JA 1/16W
R5176	401 237 2407	MT-GLAZE 270K JA 1/16W
R5177	401 225 0200	MT-GLAZE 3.3K JA 1/16W
R5178	401 224 8900	MT-GLAZE 100K JA 1/16W
R5179	401 225 1306	MT-GLAZE 470 JA 1/16W
R5180	401 225 1306	MT-GLAZE 470 JA 1/16W
R5181	401 225 1306	MT-GLAZE 470 JA 1/16W
R5185	401 258 6606	MT-GLAZE 10K DC 1/16W
R9201	401 224 9006	MT-GLAZE 10K JA 1/16W
R9501	401 203 3803	MT-GLAZE 1 JA 1/16W
R9502	401 203 3803	MT-GLAZE 1 JA 1/16W
R9503	401 224 8900	MT-GLAZE 100K JA 1/16W
R9505	401 225 0606	MT-GLAZE 5.6K JA 1/16W
R9506	401 225 0606	MT-GLAZE 5.6K JA 1/16W
R9507	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R9508	401 225 0705	MT-GLAZE 56K JA 1/16W
R9509	401 038 0008	MT-GLAZE 200 JA 1/10W
R9510	401 038 0008	MT-GLAZE 200 JA 1/10W
R9511	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R9512	401 225 0705	MT-GLAZE 56K JA 1/16W
R9542	401 224 7804	MT-GLAZE 2.7 JA 1/16W
R9543	401 224 8900	MT-GLAZE 100K JA 1/16W
R9545	401 224 7804	MT-GLAZE 2.7 JA 1/16W
R9546	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R9801	401 224 9006	MT-GLAZE 10K JA 1/16W
R9802	401 224 9006	MT-GLAZE 10K JA 1/16W
R9803	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
<b>(PROTECTORS)</b>		
PR511	△ 423 028 0904	FUSE 32V 2A
PR512	△ 423 028 1307	FUSE 32V 1.5A
PR513	△ 423 028 1307	FUSE 32V 1.5A
PR981	△ 423 028 0904	FUSE 32V 2A
<b>(CONNECTORS)</b>		
CN171	645 045 4417	SOCKET,24P (N.S.P)
CN172	645 024 8184	PLUG,26P (N.S.P)
CN173	645 024 8184	PLUG,26P (N.S.P)
CN175	645 025 1320	PLUG,2P (N.S.P)
CN531	645 005 6901	PLUG,SIDE-ZR-SM3 (N.S.P)
CN951	645 045 4400	SOCKET,18P (N.S.P)
CN981	645 002 2876	PLUG,2P (N.S.P)
<b>(MISCELLANEOUS)</b>		
	636 062 4375	SPACER FL CONDENCER-SX212
<b>COMPL PWB,PW-1</b>		
	636 061 1238	
<b>(SEMICONDUCTORS)</b>		
Q5001	405 115 5207	TR 2SC4617 R
Q5002	405 129 2308	TR UMZ1N
Q5003	405 148 7100	TR CPH6401
Q5004	405 148 6905	TR CPH3303
Q5005	405 129 2704	TR UMH9N
Q5006	405 148 6905	TR CPH3303
Q5007	405 153 4606	TR 2SA2013
Q5008	405 129 2308	TR UMZ1N
Q5009	405 148 7100	TR CPH6401

LOCATION	PARTS NO.	DESCRIPTION	LOCATION	PARTS NO.	DESCRIPTION
Q5010	405 148 6905	TR CPH3303	C5021	403 367 6607	POS-SOLID 47U M 6.3V
Q5011	405 115 6907	TR DTC114EE	C5022	403 338 2904	CERAMIC 0.47U K 10V
Q5012	405 157 1403	TR 2SA2018	C5023	403 338 4403	CERAMIC 0.1U K 16V
Q5013	405 129 2902	TR UMH11N	C5024	403 276 1304	CERAMIC 1000P K 50V
Q5014	405 129 2308	TR UMZ1N	C5025	403 335 1405	CERAMIC 10U K 6.3V
Q5015	405 148 3904	TR CPH3209	C5026	403 335 1405	CERAMIC 10U K 6.3V
Q5016	405 157 1403	TR 2SA2018	C5027	403 335 1405	CERAMIC 10U K 6.3V
Q5019	405 129 2308	TR UMZ1N	C5028	403 320 0604	CERAMIC 220P J 25V
Q5020	405 148 7100	TR CPH6401	C5029	403 367 6607	POS-SOLID 47U M 6.3V
Q5021	405 157 1403	TR 2SA2018	C5030	403 276 1304	CERAMIC 1000P K 50V
Q5022	405 115 6907	TR DTC114EE	C5031	403 335 1405	CERAMIC 10U K 6.3V
Q5401	405 115 7508	TR DTC123JE	C5032	403 335 1405	CERAMIC 10U K 6.3V
Q5402	405 115 6907	TR DTC114EE	C5033	403 343 3101	CERAMIC 1U K 6.3V
Q5405	405 150 6603	TR CPH3210	C5034	403 309 2407	CERAMIC 82P J 50V
Q5406	405 150 5002	TR CPH3109	C5035	403 343 3101	CERAMIC 1U K 6.3V
Q5407	405 115 5207	TR 2SC4617 R	C5036	403 335 1405	CERAMIC 10U K 6.3V
Q5409	405 158 0306	TR CY25AAJ-8	C5037	403 335 1405	CERAMIC 10U K 6.3V
<b>(INTEGRATED CIRCUITS)</b>			C5038	403 279 5002	CERAMIC 4700P K 25V
IC501	409 417 8300	IC LA5627W	C5039	403 343 3101	CERAMIC 1U K 6.3V
IC502	409 466 6203	IC TK73200	C5040	403 335 1405	CERAMIC 10U K 6.3V
<b>(DIODES)</b>			C5043	403 335 1405	CERAMIC 10U K 6.3V
D5001	407 205 5203	DIODE RB521S-30	C5044	403 320 0604	CERAMIC 220P J 25V
D5002	407 201 2701	DIODE RB051L-40	C5045	403 333 3708	CERAMIC 10U M 10V
D5003	407 209 1706	DIODE RB081L-20	C5046	403 279 5002	CERAMIC 4700P K 25V
D5004	407 201 2701	DIODE RB051L-40	C5047	403 333 3708	CERAMIC 10U M 10V
D5005	407 210 9401	DIODE RB491D	C5048	403 343 3101	CERAMIC 1U K 6.3V
D5006	407 203 5601	DIODE RB461F	C5401	403 367 6607	POS-SOLID 47U M 6.3V
D5007	407 210 5403	DIODE RB551V-30	C5403	403 350 2005	CERAMIC 0.15U K 10V
D5009	407 205 5203	DIODE RB521S-30	C5404	403 276 1304	CERAMIC 1000P K 50V
D5402	407 202 0300	DIODE F1F16	C5406	403 343 3101	CERAMIC 1U K 6.3V
D5403	407 122 2606	DIODE SFPM-64	C5407	403 276 1007	CERAMIC 0.01U K 16V
D5404	407 202 0102	DIODE F1SN4	C5409	403 284 7701	CERAMIC 0.033U Z 16V
D5405	407 199 4503	DIODE CR08AS-8-T1	C5410	403 341 4407	CERAMIC 0.047U K 350V
D5407	407 162 8507	DIODE DAN222	C5411	403 330 5903	CERAMIC 0.01U K 500V
D5410	407 162 8507	DIODE DAN222	C5414	403 279 5002	CERAMIC 4700P K 25V
<b>(VARIABLE RESISTORS)</b>			<b>(RESISTORS)</b>		
VR501	645 028 2249	VR,SEMI,3.3K S	R5001	401 224 9303	MT-GLAZE 1K JA 1/16W
VR502	645 028 2201	VR,SEMI,2.2K S	R5002	401 224 9402	MT-GLAZE 1.0M JA 1/16W
VR503	645 028 2201	VR,SEMI,2.2K S	R5003	401 224 9303	MT-GLAZE 1K JA 1/16W
VR504	645 028 2201	VR,SEMI,2.2K S	R5004	401 258 0406	MT-GLAZE 120K DC 1/16W
VR505	645 028 2201	VR,SEMI,2.2K S	R5005	401 258 9300	MT-GLAZE 220K DC 1/16W
<b>(INDUCTORS)</b>			R5006	401 258 9300	MT-GLAZE 220K DC 1/16W
L5001	645 037 1530	INDUCTOR,47U K	R5007	401 258 0406	MT-GLAZE 120K DC 1/16W
L5002	645 036 7496	INDUCTOR,4.7U M	R5008	401 224 9402	MT-GLAZE 1.0M JA 1/16W
L5003	645 037 0625	INDUCTOR,4.7U M	R5009	401 224 9303	MT-GLAZE 1K JA 1/16W
L5004	645 046 1941	INDUCTOR,10U M	R5010	401 224 9303	MT-GLAZE 1K JA 1/16W
L5005	645 037 0625	INDUCTOR,4.7U M	R5011	401 262 2304	MT-GLAZE 1.0K DC 1/16W
L5006	645 037 1523	INDUCTOR,10U K	R5012	401 262 5206	MT-GLAZE 1.5K DC 1/16W
L5008	645 037 0625	INDUCTOR,4.7U M	R5013	401 224 9402	MT-GLAZE 1.0M JA 1/16W
L5009	645 037 1523	INDUCTOR,10U K	R5014	401 258 0406	MT-GLAZE 120K DC 1/16W
L5010	645 030 5887	INDUCTOR,1000 OHM	R5015	401 258 9300	MT-GLAZE 220K DC 1/16W
L5012	645 037 1523	INDUCTOR,10U K	R5016	401 258 9102	MT-GLAZE 5.6K DC 1/16W
L5401	645 036 4938	INDUCTOR,10U M	R5017	401 258 0406	MT-GLAZE 120K DC 1/16W
<b>(TRANSFORMERS)</b>			R5018	401 258 9300	MT-GLAZE 220K DC 1/16W
T5401	645 032 8831	TRANS,STEP UP	R5019	401 224 9402	MT-GLAZE 1.0M JA 1/16W
T5402	645 031 6951	TRANS,STEP UP	R5020	401 262 2304	MT-GLAZE 1.0K DC 1/16W
<b>(CAPACITORS)</b>			R5021	401 262 5206	MT-GLAZE 1.5K DC 1/16W
C5001	403 155 2309	CERAMIC 4700P K 50V	R5022	401 224 9303	MT-GLAZE 1K JA 1/16W
C5002	403 338 4403	CERAMIC 0.1U K 16V	R5023	401 235 1402	MT-GALZE 1.2K JA 1/16W
C5003	403 343 3101	CERAMIC 1U K 6.3V	R5024	401 225 1603	MT-GLAZE 390 JA 1/16W
C5004	403 343 3101	CERAMIC 1U K 6.3V	R5025	401 225 8008	MT-GLAZE 330 JA 1/16W
C5005	403 169 2807	CERAMIC 330P J 50V	R5026	401 225 1306	MT-GLAZE 470 JA 1/16W
C5006	403 338 4403	CERAMIC 0.1U K 16V	R5027	401 261 1508	MT-GLAZE 4.3K JA 1/16W
C5007	403 155 1807	CERAMIC 0.01U K 25V	R5028	401 224 9006	MT-GLAZE 10K JA 1/16W
C5008	403 155 1807	CERAMIC 0.01U K 25V	R5029	401 224 8900	MT-GLAZE 100K JA 1/16W
C5009	403 335 4703	CERAMIC 0.22U K 6.3V	R5030	401 224 9303	MT-GLAZE 1K JA 1/16W
C5010	403 342 7506	CERAMIC 1000P J 50V	R5031	401 283 8903	MT-FILM 0.22 FA 1/4W
C5011	403 342 7506	CERAMIC 1000P J 50V	R5032	401 224 9303	MT-GLAZE 1K JA 1/16W
C5012	403 155 1807	CERAMIC 0.01U K 25V	R5033	401 262 1000	MT-GLAZE 33K DC 1/16W
C5013	403 343 3101	CERAMIC 1U K 6.3V	R5034	401 269 3908	MT-GLAZE 4.7K DC 1/16W
C5014	403 325 6304	CERAMIC 0.22U K 10V	R5035	401 224 8900	MT-GLAZE 100K JA 1/16W
C5015	403 155 1807	CERAMIC 0.01U K 25V	R5036	401 224 9303	MT-GLAZE 1K JA 1/16W
C5016	403 335 1405	CERAMIC 10U K 6.3V	R5037	401 224 9006	MT-GLAZE 10K JA 1/16W
C5017	403 320 0604	CERAMIC 220P J 25V	R5038	401 224 9303	MT-GLAZE 1K JA 1/16W
C5018	403 367 6607	POS-SOLID 47U M 6.3V	R5039	401 262 5602	MT-GLAZE 56K DC 1/16W
C5019	403 283 5708	CERAMIC 2200P K 50V	R5040	401 263 2006	MT-GLAZE 8.2K DC 1/16W
C5020	403 367 6607	POS-SOLID 47U M 6.3V	R5041	401 257 4009	MT-GLAZE 68K DC 1/16W

LOCATION	PARTS NO.	DESCRIPTION
R5042	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5043	401 225 1603	MT-GLAZE 390 JA 1/16W
R5044	401 225 8008	MT-GLAZE 330 JA 1/16W
R5045	401 225 1306	MT-GLAZE 470 JA 1/16W
R5046	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5047	401 224 9006	MT-GLAZE 10K JA 1/16W
R5048	401 224 8900	MT-GLAZE 100K JA 1/16W
R5049	401 224 9303	MT-GLAZE 1K JA 1/16W
R5050	401 224 9303	MT-GLAZE 1K JA 1/16W
R5051	401 262 1000	MT-GLAZE 33K DC 1/16W
R5052	401 269 3908	MT-GLAZE 4.7K DC 1/16W
R5053	401 224 8900	MT-GLAZE 100K JA 1/16W
R5054	401 224 9501	MT-GLAZE 2.2K JA 1/16W
R5055	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5056	401 226 5501	MT-GLAZE 120 JA 1/16W
R5057	401 226 5501	MT-GLAZE 120 JA 1/16W
R5058	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R5059	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5060	401 224 9006	MT-GLAZE 10K JA 1/16W
R5061	401 224 8900	MT-GLAZE 100K JA 1/16W
R5062	401 224 9501	MT-GLAZE 2.2K JA 1/16W
R5063	401 224 9303	MT-GLAZE 1K JA 1/16W
R5064	401 262 1000	MT-GLAZE 33K DC 1/16W
R5065	401 262 1703	MT-GLAZE 2.7K DC 1/16W
R5066	401 225 8008	MT-GLAZE 330 JA 1/16W
R5067	401 225 1603	MT-GLAZE 390 JA 1/16W
R5068	401 235 1402	MT-GALZE 1.2K JA 1/16W
R5069	401 225 1306	MT-GLAZE 470 JA 1/16W
R5070	401 261 1508	MT-GLAZE 4.3K JA 1/16W
R5071	401 224 9006	MT-GLAZE 10K JA 1/16W
R5072	401 224 8900	MT-GLAZE 100K JA 1/16W
R5073	401 224 9501	MT-GLAZE 2.2K JA 1/16W
R5074	401 224 9303	MT-GLAZE 1K JA 1/16W
R5075	401 262 1000	MT-GLAZE 33K DC 1/16W
R5076	401 262 1703	MT-GLAZE 2.7K DC 1/16W
R5401	401 224 9303	MT-GLAZE 1K JA 1/16W
R5408	401 229 3900	MT-GLAZE 180 JA 1/16W
R5409	401 224 9105	MT-GLAZE 150 JA 1/16W
R5410	401 225 7902	MT-GLAZE 220 JA 1/16W
R5411	401 224 9006	MT-GLAZE 10K JA 1/16W
R5412	401 227 2400	MT-GLAZE 15 JA 1/16W
R5413	401 224 9006	MT-GLAZE 10K JA 1/16W
R5414	401 224 9303	MT-GLAZE 1K JA 1/16W
R5417	402 078 4407	MT-GLAZE 10M FKG 1/8W
R5418	401 226 5402	MT-GLAZE 56 JA 1/16W
R5419	401 262 1208	MT-GLAZE 82K DC 1/16W
R5422	402 079 0200	MT-GLAZE 220K JKG 1/8W
R5423	401 225 0309	MT-GLAZE 33 JA 1/16W
R5424	401 226 5402	MT-GLAZE 56 JA 1/16W
R5425	402 077 7409	MT-GLAZE 100K JKG 1/8W
R5426	401 225 9005	MT-GLAZE 470K JA 1/16W
R5429	401 224 9006	MT-GLAZE 10K JA 1/16W
R5470	401 225 1306	MT-GLAZE 470 JA 1/16W
R5471	401 225 1306	MT-GLAZE 470 JA 1/16W
R5472	401 225 7902	MT-GLAZE 220 JA 1/16W
<b>(PROTECTORS)</b>		
PR501	△ 423 028 0904	FUSE 32V 2A
PR503	△ 423 029 3706	FUSE 32V 2.5A
PR504	△ 423 028 0904	FUSE 32V 2A
PR505	△ 423 028 1307	FUSE 32V 1.5A
<b>(CONNECTORS)</b>		
CN501	645 009 9892	SOCKET,PWB-PWB 30(N.S.P)
<b>(MISCELLANEOUS)</b>		
	636 061 3768	HOLDER FLASH-SX212/J, HOLDER_FLASH
	645 046 9343	ASSY,LAMP,SX212

### COMPL PWB,SY-1

636 061 1214

#### (SEMICONDUCTORS)

Q3001	405 138 5703	TR DTA124EUA
OR	405 119 1007	TR UN5112
OR	405 078 6105	TR 2SA1677

#### (INTEGRATED CIRCUITS)

IC301	410 412 1906	IC UPD780022AGK-B38-9ET
IC302	409 383 1008	S-8423NFS
IC303	410 298 3605	IC S-8324A50MC-EPE

LOCATION	PARTS NO.	DESCRIPTION
IC311	409 432 2505	IC LMV321M7X
<b>(DIODES)</b>		
D3001	407 149 0807	DIODE 1SS355
D3003	407 210 5403	DIODE RB551V-30
D3010	407 220 5905	DIODE HN1D01FU
D3011	407 220 5905	DIODE HN1D01FU
D3012	407 220 5905	DIODE HN1D01FU
D3013	407 220 5905	DIODE HN1D01FU
D3014	407 220 5905	DIODE HN1D01FU
D3015	407 220 5905	DIODE HN1D01FU
D5201	407 190 3703	DIODE RB050L-40-TE25
<b>(OSC)</b>		
X3001	645 034 8006	OSC,CERAMIC 4.00MHZ
X3002	645 034 7993	OSC,CRYSTAL 32.768KHZ
<b>(INDUCTORS)</b>		
L3001	645 010 0987	INDUCTOR,100U K
L5202	645 021 5315	INDUCTOR,110 OHM
<b>(CAPACITORS)</b>		
C3001	403 324 3502	DL-ELECT 0.1F Z 5.5V
C3002	403 283 6309	CERAMIC 1U Z 10V
C3003	403 312 6805	CERAMIC 0.1U Z 16V
C3004	403 312 6805	CERAMIC 0.1U Z 16V
C3005	403 312 6805	CERAMIC 0.1U Z 16V
C3006	403 345 4304	TA-SOLID 22U M 10V
C3007	403 283 6309	CERAMIC 1U Z 10V
C3008	403 312 6805	CERAMIC 0.1U Z 16V
C3010	403 311 7506	CERAMIC 22P J 50V
C3012	403 283 6309	CERAMIC 1U Z 10V
C3013	403 311 4505	CERAMIC 1000P K 50V
C3014	403 312 6805	CERAMIC 0.1U Z 16V
C3015	403 311 7506	CERAMIC 22P J 50V
C3016	403 312 6805	CERAMIC 0.1U Z 16V
C3017	403 332 8209	CERAMIC 10U M 16V
C3018	403 322 3504	CERAMIC 22U Z 10V
C3019	403 312 6805	CERAMIC 0.1U Z 16V
C3101	403 346 2309	CERAMIC 0.1U K 10V
C3102	403 283 6309	CERAMIC 1U Z 10V
C3103	403 311 5601	CERAMIC 1500P K 50V
C3104	403 346 2309	CERAMIC 0.1U K 10V
C3106	403 283 6309	CERAMIC 1U Z 10V
<b>(RESISTORS)</b>		
R3001	401 224 9303	MT-GLAZE 1K JA 1/16W
R3002	401 224 9303	MT-GLAZE 1K JA 1/16W
R3006	401 224 8900	MT-GLAZE 100K JA 1/16W
R3007	401 224 8900	MT-GLAZE 100K JA 1/16W
R3008	401 224 9006	MT-GLAZE 10K JA 1/16W
R3010	401 224 9006	MT-GLAZE 10K JA 1/16W
R3012	401 225 1405	MT-GLAZE 47K JA 1/16W
R3013	401 258 9300	MT-GLAZE 220K DC 1/16W
R3014	401 258 9300	MT-GLAZE 220K DC 1/16W
R3017	401 225 0408	MT-GLAZE 330K JA 1/16W
R3022	401 225 1405	MT-GLAZE 47K JA 1/16W
R3023	401 225 1405	MT-GLAZE 47K JA 1/16W
R3024	401 225 1405	MT-GLAZE 47K JA 1/16W
R3027	401 224 9006	MT-GLAZE 10K JA 1/16W
R3028	401 224 9006	MT-GLAZE 10K JA 1/16W
R3029	401 224 9006	MT-GLAZE 10K JA 1/16W
R3030	401 225 1405	MT-GLAZE 47K JA 1/16W
R3033	401 225 1306	MT-GLAZE 470 JA 1/16W
R3035	401 225 1405	MT-GLAZE 47K JA 1/16W
R3036	401 225 1306	MT-GLAZE 470 JA 1/16W
R3037	401 229 3900	MT-GLAZE 180 JA 1/16W
R3038	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R3041	401 226 1503	MT-GLAZE 0.000 ZA 1/16W
R3042	401 258 9300	MT-GLAZE 220K DC 1/16W
R3043	401 258 9300	MT-GLAZE 220K DC 1/16W
R3050	401 225 0507	MT-GLAZE 33K JA 1/16W
R3051	401 225 0507	MT-GLAZE 33K JA 1/16W
R3052	401 225 0507	MT-GLAZE 33K JA 1/16W
R3053	401 225 0507	MT-GLAZE 33K JA 1/16W
R3054	401 225 0507	MT-GLAZE 33K JA 1/16W
R3055	401 225 0507	MT-GLAZE 33K JA 1/16W
R3061	401 225 0507	MT-GLAZE 33K JA 1/16W
R3062	401 225 0507	MT-GLAZE 33K JA 1/16W
R3101	401 224 9501	MT-GLAZE 2.2K JA 1/16W
R3102	401 235 1402	MT-GALZE 1.2K JA 1/16W
R3103	401 229 7205	MT-GLAZE 18K JA 1/16W
R3104	401 225 2105	MT-GLAZE 12K JA 1/16W



LOCATION	PARTS NO.	DESCRIPTION
R3105	401 225 0705	MT-GLAZE 56K JA 1/16W
R3106	401 224 8900	MT-GLAZE 100K JA 1/16W
R3107	401 224 8801	MT-GLAZE 100 JA 1/16W
<b>(SWITCHES)</b>		
S3001	645 029 5911	SWITCH,SLIDE 1P-3T,
S3002	645 024 3851	SWITCH,PUSH,
S3003	645 024 3851	SWITCH,PUSH,
<b>(PROTECTORS)</b>		
PR301	△ 423 028 1505	FUSE 32V 1A
PR302	△ 423 028 1505	FUSE 32V 1A
<b>(JACK)</b>		
JK521	645 027 7030	SOCKET,DC
<b>(CONNECTORS)</b>		
CN301	645 035 5424	SOCKET,PWB-PWB 30(N.S.P)
CN302	645 038 4103	PLUG,3P (N.S.P)
CN303	645 044 8515	SOCKET,FPC 24P (N.S.P)
CN305	645 037 7822	PLUG,3P (N.S.P)
CN310	645 037 7778	PLUG,2P (N.S.P)

### COMPL PWB,SY-2

636 061 1221

#### **(WIRE)**

JW351 636 062 3095 ASSY,WIRE SY1&SY2-SX212 (N.S.P.)

#### **(SWITCHES)**

S3501 645 037 3138 SWITCH,DETECTOR 1P-1T,

S3502 645 037 3121 SWITCH,DETECTOR 1P-1T,

#### **(CONNECTOR)**

CN351 645 038 4103 PLUG,3P (N.S.P)

LOCATION PARTS NO. DESCRIPTION

## ACCESSORIES AND PACKING MATERIALS

9125	△ 645 047 8789	BATTERY,RECHARGE,COMPOSITE (two batteries in one composite)
9124	645 046 8797	CABLE,DSC USB (Refer to Fig.4)
9123	645 046 8810	CABLE,DSC VIDEO (Refer to Fig.3)
9130	645 037 2339	CARD,CF (COMPACT FLASH 8MB)
OR	645 048 5190	CARD,CF (COMPACT FLASH 8MB)
9119	△ 645 048 2632	BATTERY CHAGER (Refer to Fig.2) (without CORD POWER)
9120	△ 645 036 4129	CORD,POWER-1.2MK,VPC-MZ1EX ONLY (Refer to Fig.2)(without BATTERY CHAGER)
OR	△ 645 036 7434	CORD,POWER-1.2MK,VPC-MZ1E ONLY (Refer to Fig.2)(without BATTERY CHAGER)
OR	△ 645 036 9896	CORD,POWER-1.8MK,VPC-MZ1 ONLY (Refer to Fig.2)(without BATTERY CHAGER)
9126	645 046 7837	DISC,CD-ROM CEL SUSP54 E (Sanyo Software Pack 5.4 For Digital Cameras) (N.S.P.)
9127	645 043 5546	DISC,CD-ROM MGI PS3 (PhotoSuite) (N.S.P.)
9112	636 062 0094	INSTRUCTION MANUAL CAMERA (English, German, French, Spanish)
9113	636 062 1541	INSTRUCTION MANUAL SHEET FOR PDF (English, German, French, Spanish)
9114	636 063 2509	INSTRUCTION MANUAL (Sanyo Software Pack 5.4 For Digital Cameras) (English)
9115	636 062 9158	INSTRUCTION MANUAL FOR PANORAMA
9118	636 056 1007	STRAP HAND-SR662/J (Refer to Fig.1)
	636 061 5465	CARTON CASE INNER-SX212/E, VPC-MZ1E ONLY
	636 061 5489	CARTON CASE INNER-SX212/U,VPC-MZ1 ONLY
	636 061 5472	CARTON CASE INNER-SX212EX, VPC-MZ1EX ONLY
	636 060 6036	CUSHION SHEET-SX354/JO
	636 061 4703	REINFORCEMENT PAD,A-212/J (BOTTOM)
	636 060 4384	REINFORCEMENT PAD,B-114EX (TOP)

FIG.1

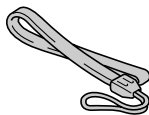


FIG.2

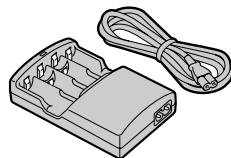


FIG.3

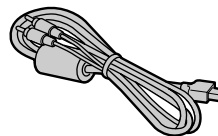
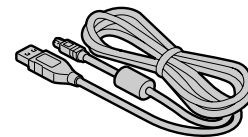


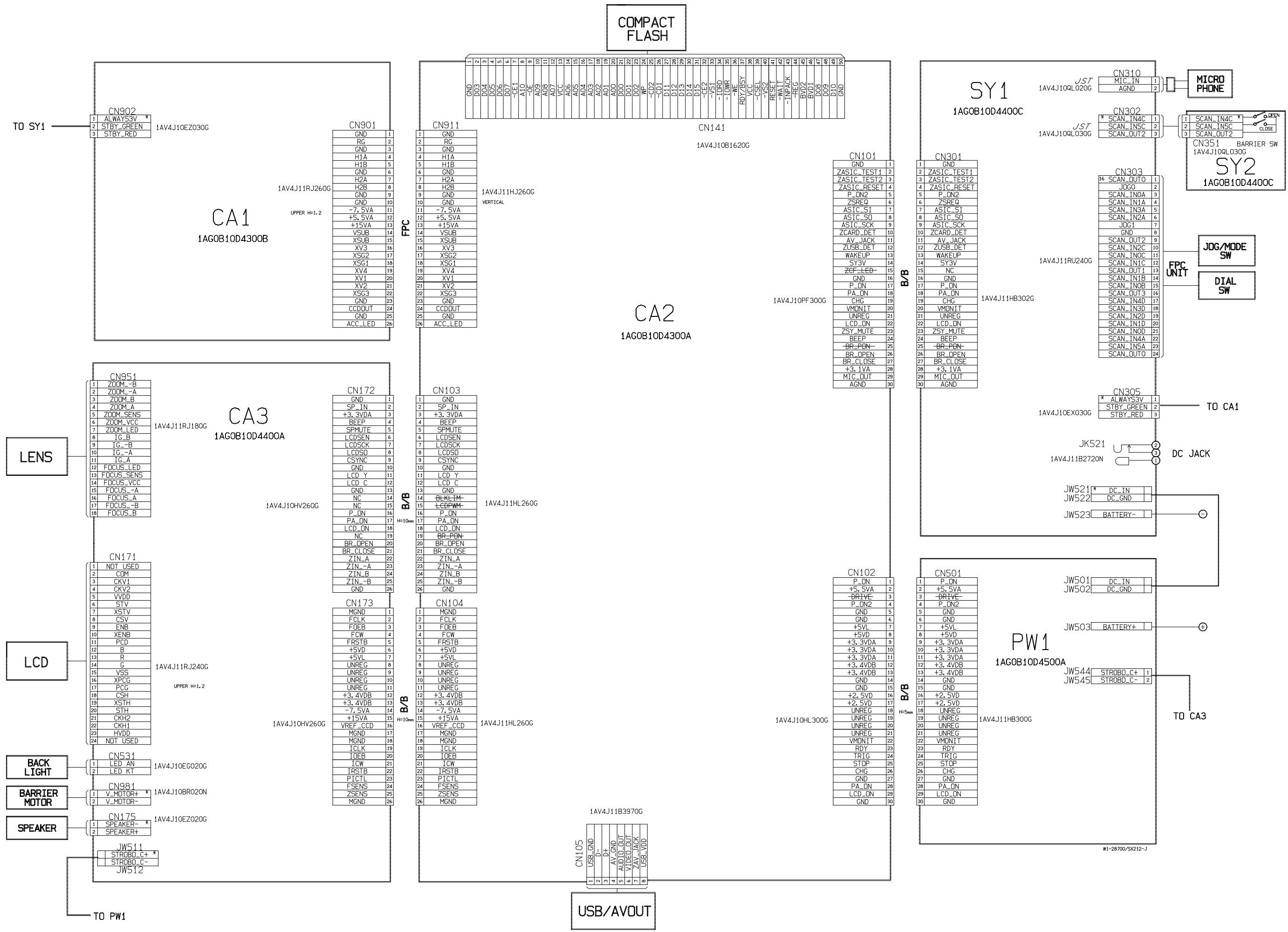
FIG.4



# SANYO

SANYO Electric Co.,Ltd.  
Osaka, Japan

# OVERALL WIRING



W1-28700/SX212-J

