Canon Digital Imaging Product

SERVICE MANUAL

PowerShot A30/A40

Digital Camera

English Edition

1 GENERAL DESCRIPTION OF PRODUCT

2 TECHNICAL DESCRIPTION

3 REPAIR INSTRUCTION

4 PARTS CATALOG

5 DIAGRAMS

6 APPENDIX

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Photo Products Service Administration Division
First Edition 2002

Application

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CANON INC.
Digital Imaging Products Service Dept.
30-2, Shimomaruko 3-Chome, Ohta-ku,
Tokyo 146-8501, Japan

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine CANON replacement parts. Especially critical parts in the power circuit block should not be replaced with other makes. Critical parts are marked with ⚠ in the schematic diagrams.
2. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
4. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

4-1 Leakage Current Cold Check

1) Unplug the AC cord and connect a jumper between the two prongs on the plug.
2) Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2MΩ. When the exposed metal does not have a return path to the chassis, the reading must be ∞.

4-2 Leakage Current Hot Check

1) Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2) Connect a 1.5KΩ 10 watt resistor, paralleled by 0.15μF capacitor, between each exposed metallic parts on the unit and a good earth ground such as a water pipe, as shown in the figure below.
3) Use an AC voltmeter, with 1000Ω/volt or more sensitivity, to measure the potential across the resistor.
4) Check all exposed metallic parts of the cover (Cable connection, Handle bracket, metallic cabinet. Screwheads, Metallic overlays, etc), and measure the voltage at each point.
5) Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6) The potential at any point should not exceed 0.75V RMS.
   A leakage current tester (FLUKE MODEL : 8000A equivalent) may be used to make the hot checks.
   Leakage current must not exceed 0.5 milliamp.
   In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and corrective action must be taken before returning the instrument to the customer.

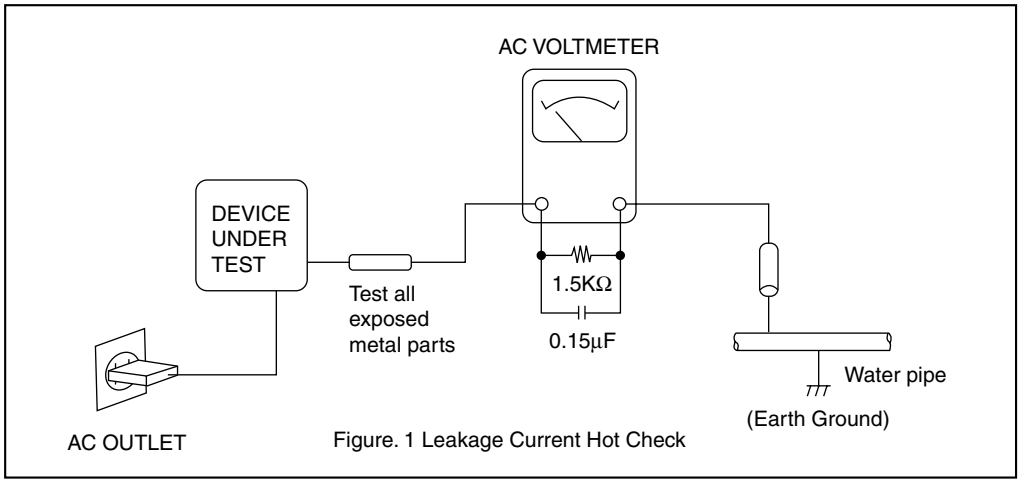


Figure. 1 Leakage Current Hot Check

CHAPTER 2. TECHNICAL DESCRIPTION

CONTENTS

1. Functions of each unit

1.1 MAIN PCB ASS'Y

1) Driving the CCD Sensor.
2) Conversion of the image signal from the analog signal to the digital signal.
3) Controlling the power supply and the system by CPU. (Refer to Sections 2.1 and 2.2.)
4) Image processing, and reading and writing the image signal to and from the CF card using DSP. (Refer to Section 2.2.2.)
5) LCD drive and amplification of the video and audio output. (A40 model only) (Refer to Section 2.2.3.)

1.2 DC/DC PCB ASS'Y

1) Power supply drive (DC/DC converter).
2) Backlight for LCD drive.

1.3 FLASH UNIT

1) Flash drive and charging circuit for the flash.

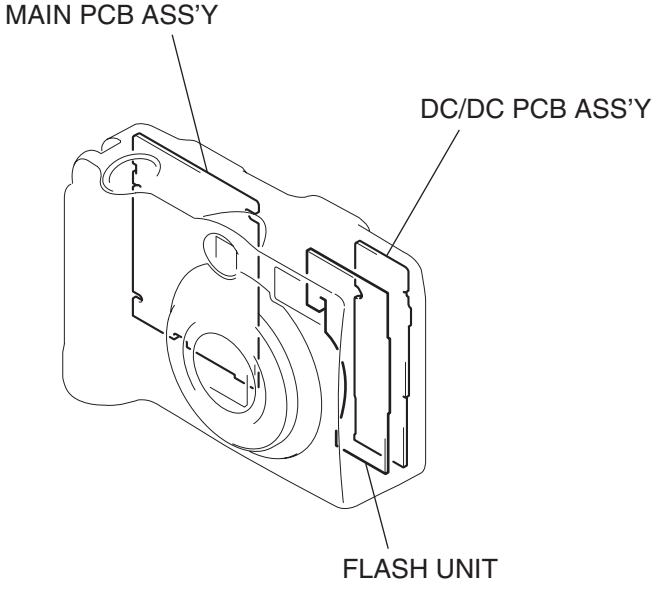


Fig. 1

2. Outline of Circuits

2.1 Power Supply Control

The power supply is controlled by the CPU mounted on the main PCB ass'y.

2.1.1 Power Supply Block Diagram

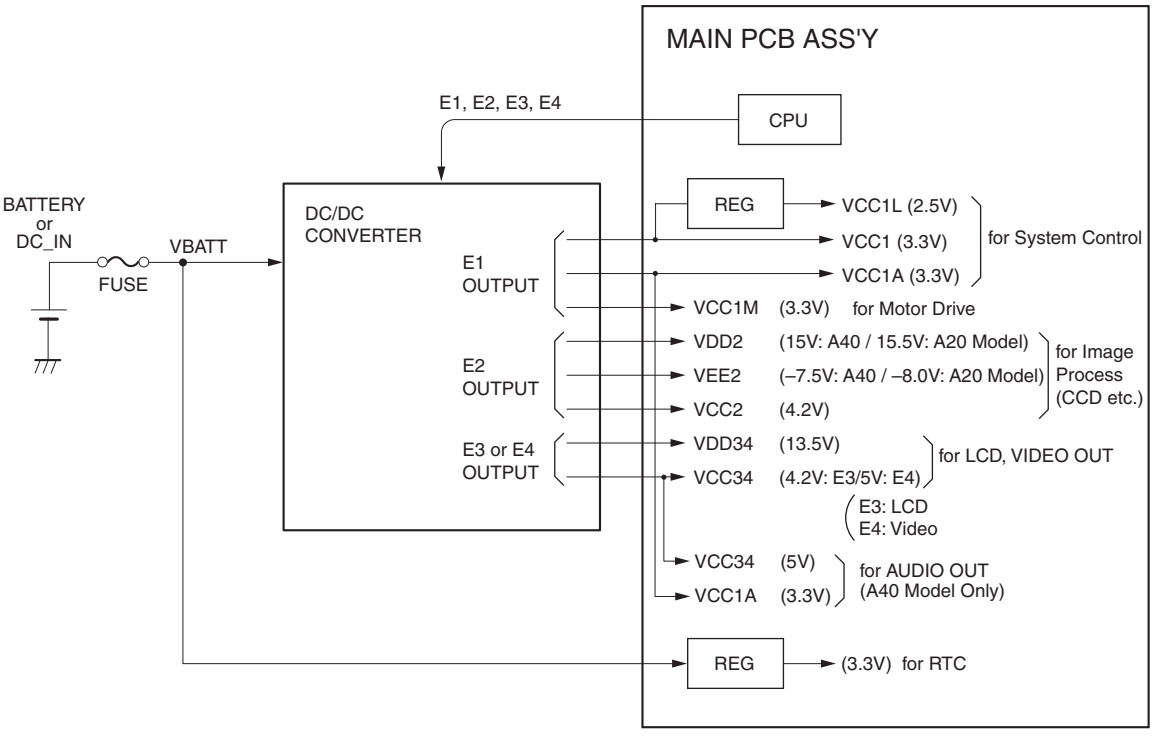
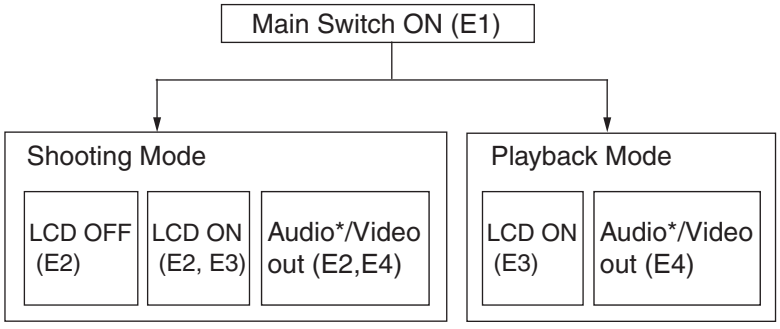


Fig. 2 Power System Block Diagram

2.1.2 Power Control Sequence



* A40 Model only

2.2 Signal Processing

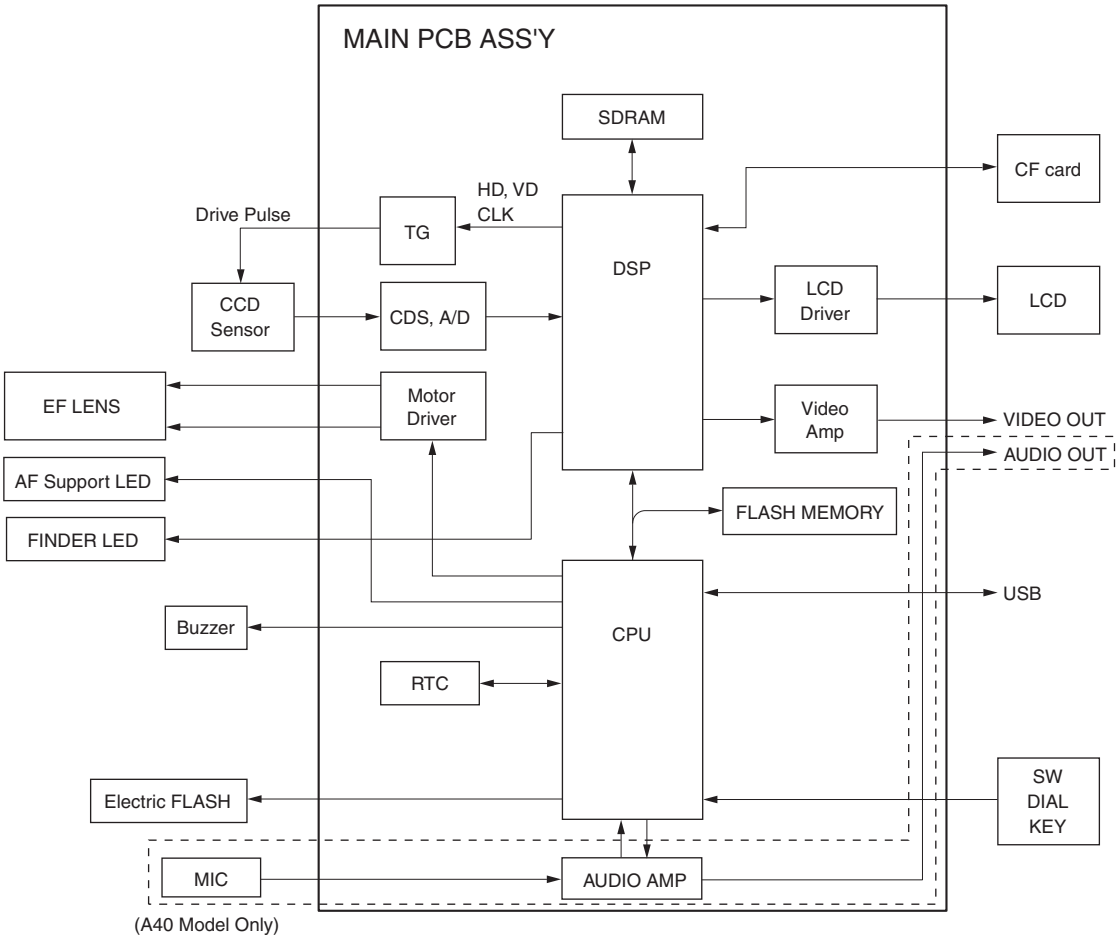


Fig. 3 Signal System Block Diagram

2.2.1 System Control

The CPU on the main PCB ass'y controls the EF lens (motor, shutter), operation switch receiver, USB communication and flowing circuits.

- TG: Creation of the CCD drive pulse
- CDS, A/D: CCD signal processing and conversion of the digital data
- LCD Driver: Driving the LCD
- FLASH MEMORY: Firmware memory
- DSP: Picture processing
- RTC: Clock count for watch
- AF Support LED: AF auxiliary, self-timer and red-eye protection also serves as a lamp
- Electric Flash: Flash and charging circuit

2.2.2 Picture Processing

1) The drive pulse of the CCD sensor is created by both clock from DSP and TG that is operated by sync. signal.
   The picture signal by the drive pulse is output from CCD sensor.
   The output signal of the CCD picture is converted to the signal processing and the digital data by the CDS and A/D converter, and is sent to the DSP.

2) The DSP circuit performs the following signal processing.
   - Processes the picture data (using the SDRAM).
   - Writes and reads the picture data to and from the CF card.
   - Inputs the picture data to the CPU.
   - Outputs analog video signal to the LCD and VIDEO OUT.

3) The video signal that is supplied form the DSP is controlled by the LCD driver and is displayed on the LCD. The video amplifier is activated when the video jack is inserted to the video jack or AV jack and drives the video signal in 75 Ω.

2.2.3 Audio Processing (During record and playback)

1) During animation recording.
   - The microphone audio signal is converted to the digital data by CPU and is recorded.
2) During playback, the data is converted back to the analog audio signal and is output to the AV jack.

Note: Installed in the A40 model only. (Audio cannot be played back by camera.)

3. Troubleshooting

3.1 When an Error Code is Displayed

[Remedy]

- Check for any abnormalities in the mounting of probable faulty parts or connector connections referring to the table below.
- Try replacing probable faulty parts referring to the below.

[NOTE]

- The error code is displayed on the LCD Monitor.
- Adjustments must be performed after the part has been replaced. For details, see the chapter of "Adjustments".

Error Code	Name	Occurrence Conditions	Cause and Probable Faulty Part
E02	AF TIME OUT	AF processing did not end within the specified time.	MAIN PCB ASS'Y
			OPTICAL UNIT
		The focus lens was not driven.	MAIN PCB ASS'Y
			OPTICAL UNIT
E03	EF TIME OUT	Auto Flash Control did not end within the specified time.	MAIN PCB ASS'Y
			OPTICAL UNIT
E09	JPEG DMA TIME OUT	JPEG processing did not end within the specified time.	MAIN PCB ASS'Y
E14	UNKOWN	When unkown error, cause of which is not known, occurs.	UNKOWN
E16	IMAGING TIME OUT	When communication between CPU and peripheral IC is not completed within the specified time during recording using EVF or after completion of recording.	MAIN PCB ASS'Y
E18	ZOOM LENS ERROR	Movement of the lens barrel did not end within the specified time.	MAIN PCB ASS'Y
			OPTICAL UNIT
E23	CF NO SPACE	When the CF becomes full during writing of photographed images to CF, writing is repeatedly performed with the JPEG compression ratio successively increased to reduce the size of the image file until it can be successfully written to CF. This error occurs when writing of the JPEG image file fails after 10 retries at increasingly higher compression ratios.	MAIN PCB ASS'Y
E24	POWER ON ERROR	The power of the imaging circuit on the MAIN PCB ASS'Y was not detected.	MAIN PCB ASS'Y
			DC/DC PCB ASS'Y
E25	FOCUS PI ERROR	Detection of the focus PI (photo-interrupter) failed.	OPTICAL UNIT
			MAIN PCB ASS'Y
E26	CAPTURE TIME OUT	Writing of the photograph image to SDRAM did not end within the specified time.	MAIN PCB ASS'Y

Error Code	Name	Occurrence Conditions	Cause and Probable Faulty Part
E27	CF WRITE TIME OVER	Free area could not be secured in the buffer for the photograph image within the specified time in the continuous shooting mode.	CF CARD MAIN PCB ASS'Y
E30	POWER OFF ERROR	The camera power was turned OFF while the image was being recorded to the CF Card. (The error code is displayed when the camera is next turned ON.) * This error may occur after E23.	The battery or DC plug was removed while the image was being recorded to the CF Card. → Remedy: Restart the camera.
E50	CF FORMAT ERROR	The CF Card could not be formatted properly.	CF CARD
E51	CF ACCESS ERROR	When image data cannot be read from CF normally.	CF CARD
E52	QUICK REVIEW ERROR	Review of the photograph image failed.	MAIN PCB ASS'Y

3.2 When a Problem Occurs

[Remedy]

- Check for any abnormalities in the mounting of probable faulty parts or connector connections referring to the table below.
- Try replacing probable faulty parts referring to the table below.

[NOTE]

- Adjustments must be performed after the part has been replaced. For details, see the chapter of "Adjustments".

Problem (when an error code is not displayed)	Cause and Probable Faulty Part
The camera does not work.	MAIN PCB ASS'Y
	REAR COVER UNIT
	DC/DC PCB ASS'Y
	BATTERY BOX UNIT
The image is not displayed on the LCD Monitor.	MAIN PCB ASS'Y
	BUTTON PCB ASS'Y
	LCD PANEL
	BACK LIGHT UNIT
The photograph image is abnormal.	OPTICAL UNIT
	MAIN PCB ASS'Y
The zoom does not function.	OPTICAL UNIT
	MAIN PCB ASS'Y
	BATTERY BOX UNIT
	REAR COVER UNIT
The Built-in Flash does not fire.	FLASH UNIT
	DC/DC PCB ASS'Y
Video output is strange.	MAIN PCB ASS'Y
Communications with the personal computer is not possible.	MAIN PCB ASS'Y
The CF card or Micro Drives is not recognized.	CF CARD
	REAR COVER UNIT
	MAIN PCB ASS'Y
Buttons/The Mode dial do not work.	REAR COVER UNIT
	RLS PCB ASS'Y

CHAPTER 3. REPAIR INSTRUCTION

CONTENTS

1. Before Starting the Repair Work

Be sure to read the following precaution before starting the repair work.

1.1 Precaution on Flash High Tension Circuit

- When the FRONT COVER UNIT is removed, be sure to discharge the main capacitor. (Discharging resistor: 1 k ohms, approx. 5 W.)
- First contact the GND ⊖ terminal of the main capacitor with the discharging resistor. Then contact the positive ⊕ terminal of the main capacitor.

CAUTION:
Be careful of electric shock because the circuit is the high tension circuit.

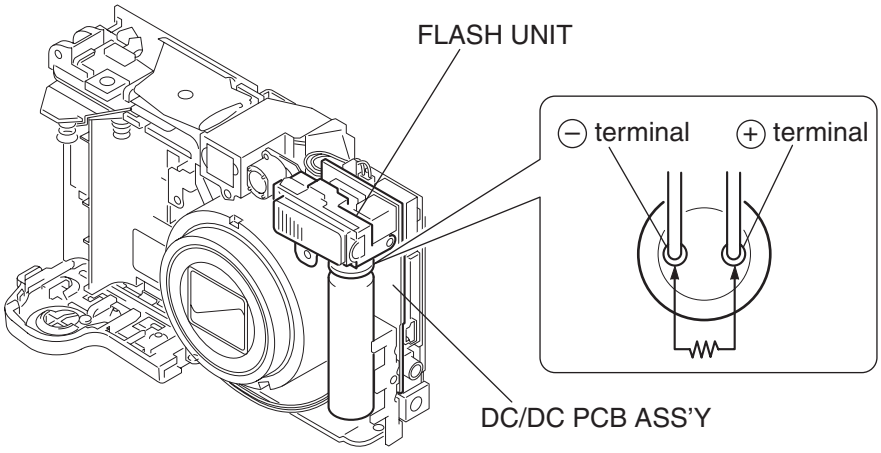


Fig. 3-1 Precaution on flash high tension circuit

1.2 List of Tools

The following tools are used for the re-assembling during service.

(1) List of tools

New	Name of tools	Part No.	Areas where supplies are used
	DRIVER HANDLE	CY9-7014-00	CCD UNIT

1.3 List of Supplies

The following supplies are used for the re-assembling during service.

(1) List of supplies

New	Name of supplies	Part No.	Areas where supplies are used
	DIA BOND 1663G	CY9-8129-000	Attaching the parts together
	ADHESIVE TAPE, SONY T4000	CY4-6012-000	Fixing the flexible cable
	ADHESIVE TAPE, 3M NO.56	CY4-6018-000	DC/DC SHIELD CASE 1

1.4 Flexible Connectors

This product uses the four types of the flexible connectors.

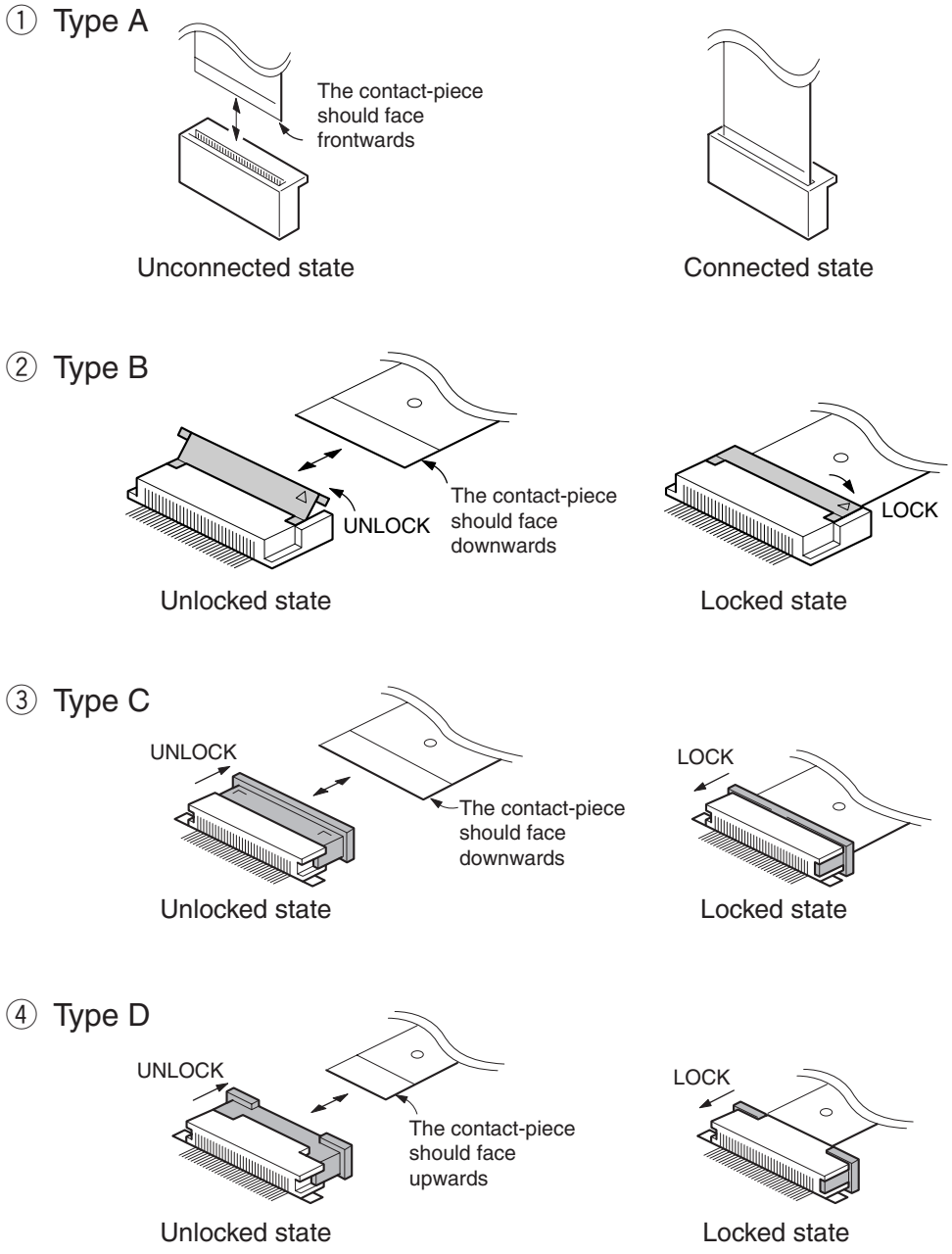


Fig. 3-2 Flexible connectors

CAUTIONS:

1. For the connectors of Type B, Type C and Type D, set them to the unlocked state before removing and inserting flexible card. After flexible card is inserted, set them to the locked state.
2. The flexible card is equipped with the holes as shown. Use them for removal and insertion by inserting the tweezers into them as required.

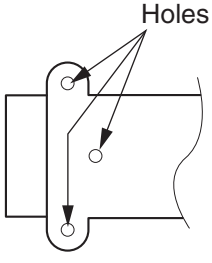
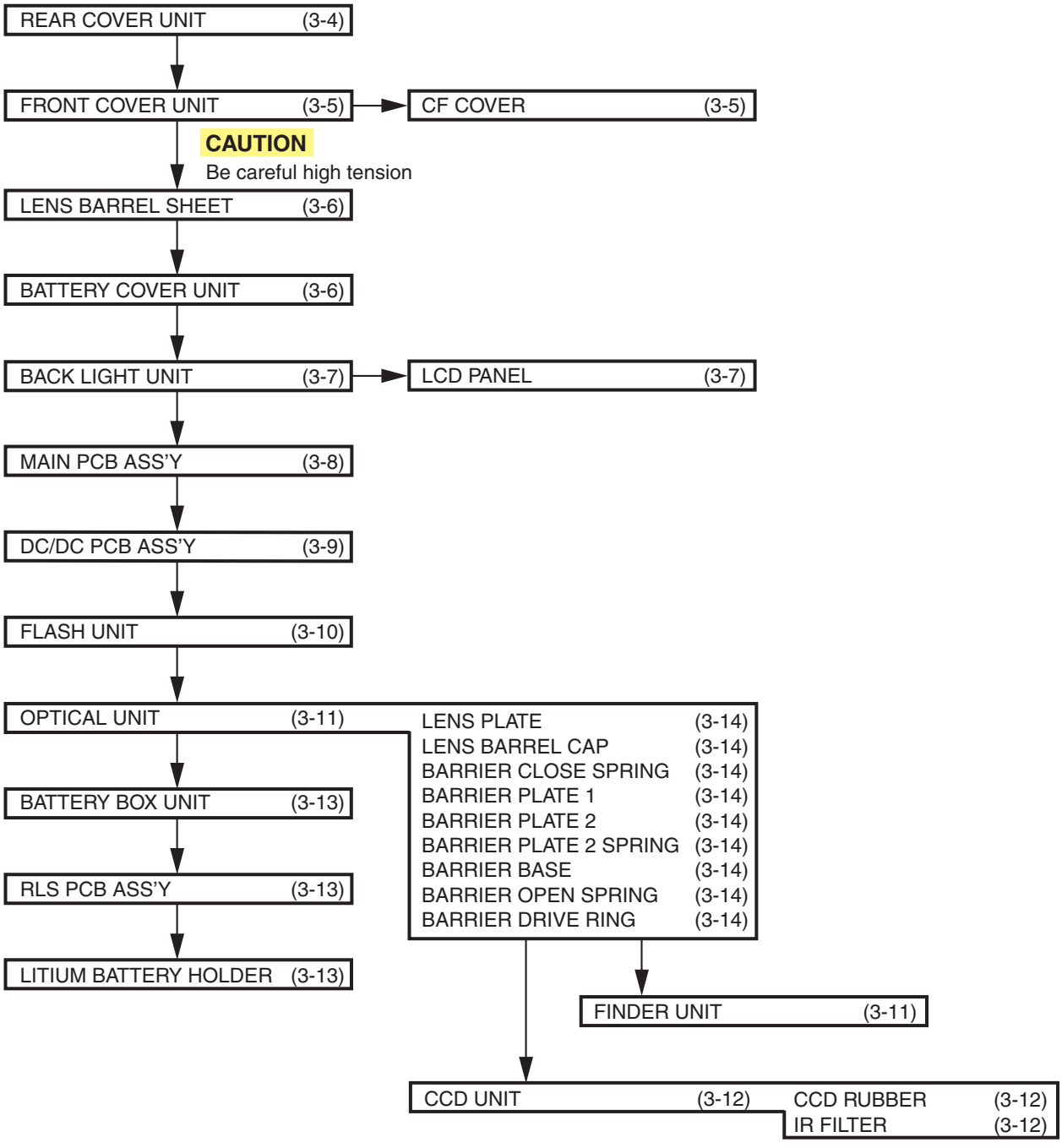


Fig. 3-3 Holes for removal

2. Disassembly/Assembly

2.1 Procedure

Disassembling procedure of PowerShot A40 (A30) is shown by the following flowchart.
Reverse the disassembling procedure to reassemble them. ∗ The pages to refer are shown in parenthesis ( ).



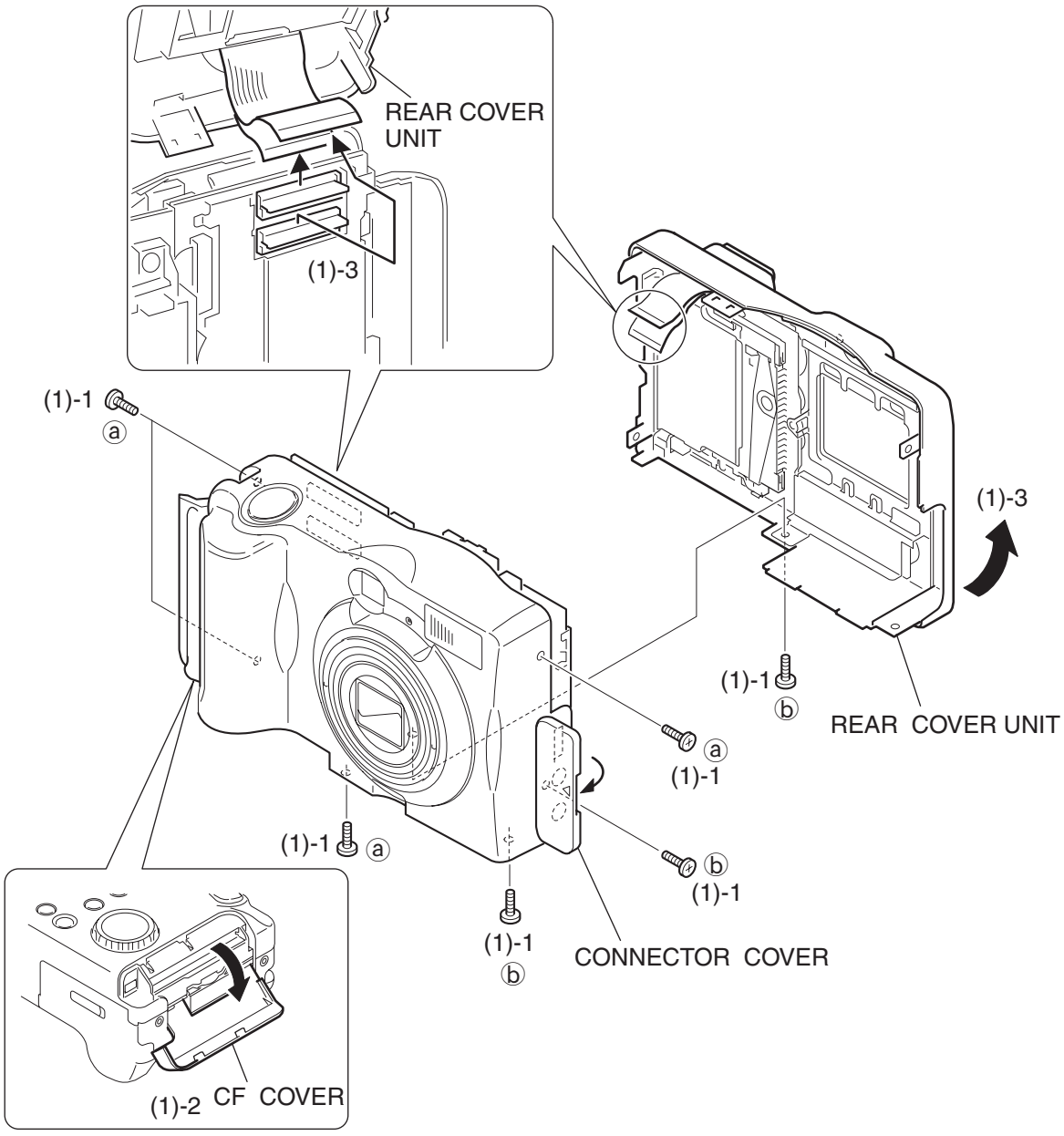


Fig. 3-4 REAR COVER UNIT

2.2 REAR COVER UNIT

(1) REAR COVER UNIT

1. Remove the six screws.
   Remove the one screw by turning over the CONNECTOR COVER.
2. Open the CF COVER.
3. Open the REAR COVER UNIT in the direction of arrow and remove it by disconnecting the two flexible printed wired board.

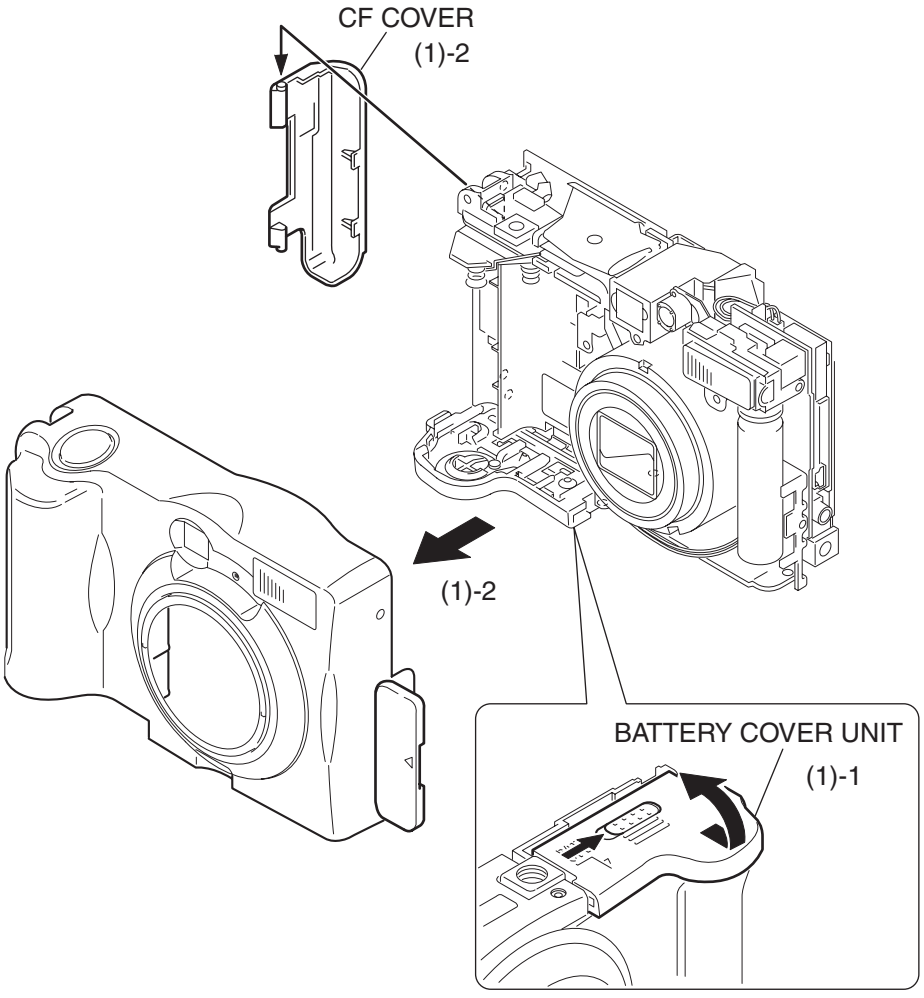


Fig. 3-5 FRONT COVER UNIT, CF COVER

2.3 FRONT COVER UNIT, CF COVER

(1) FRONT COVER UNIT, CF COVER

1. Open the BATTERY COVER UNIT after releasing the look while pushing the BATTERY OPEN BUTTON in the direction of the arrow .
2. Take the FRONT COVER UNIT in the direction of arrow and at the same time remove the CF COVER.

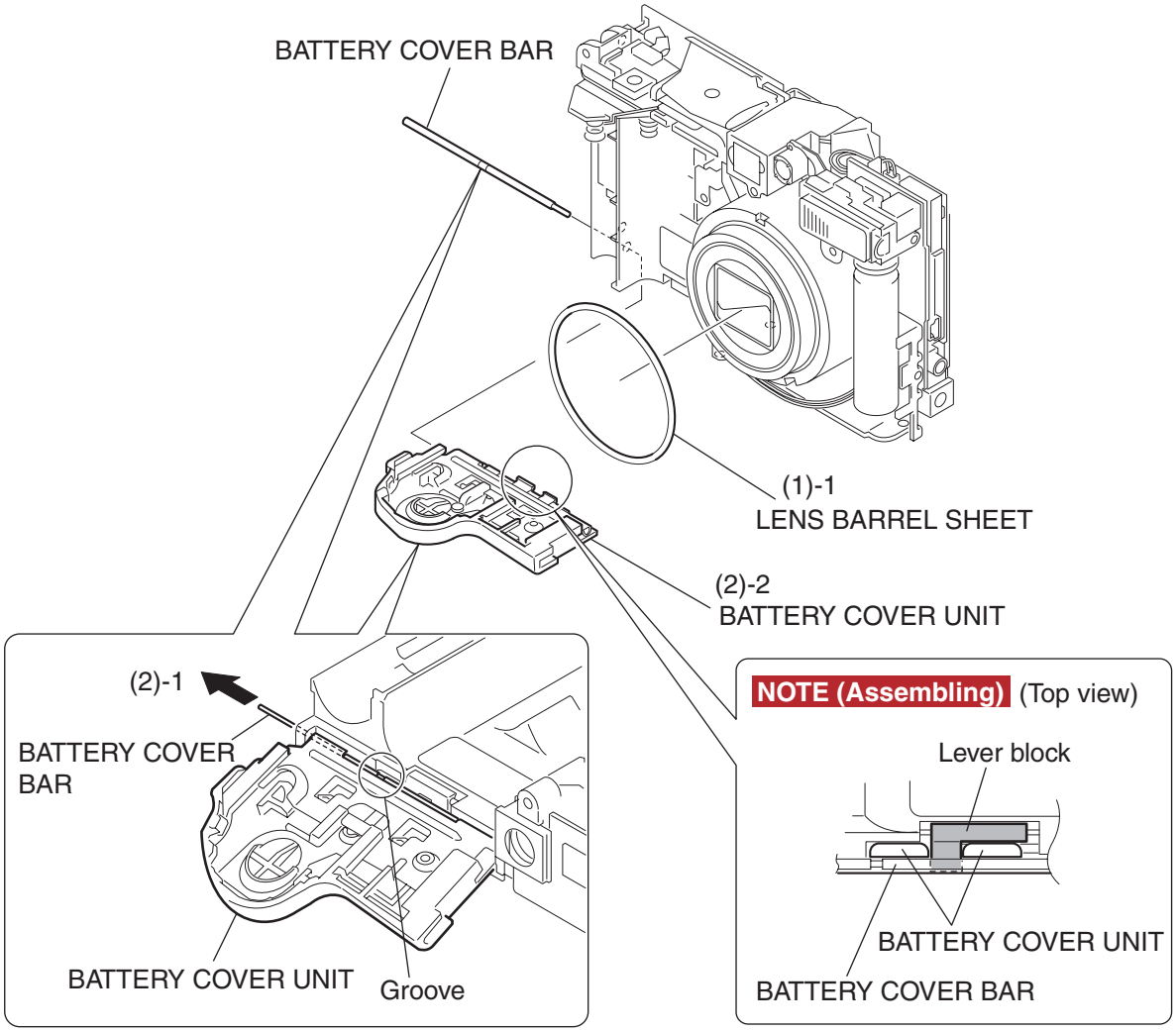


Fig. 3-6 LENS BARREL SHEET, BATTERY COVER UNIT

2.4 LENS BARREL SHEET, BATTERY COVER UNIT

(1) LENS BARREL SHEET

1. Remove the LENS BARREL SHEET.

(2) BATTERY COVER UNIT

1. Insert tweezers or the like into the groove of the BATTERY COVER BAR and remove it in the direction of arrow.
2. Remove the BATTERY COVER UNIT.

NOTE (Assembling)

Attach the lever block to the BATTERY COVER UNIT.

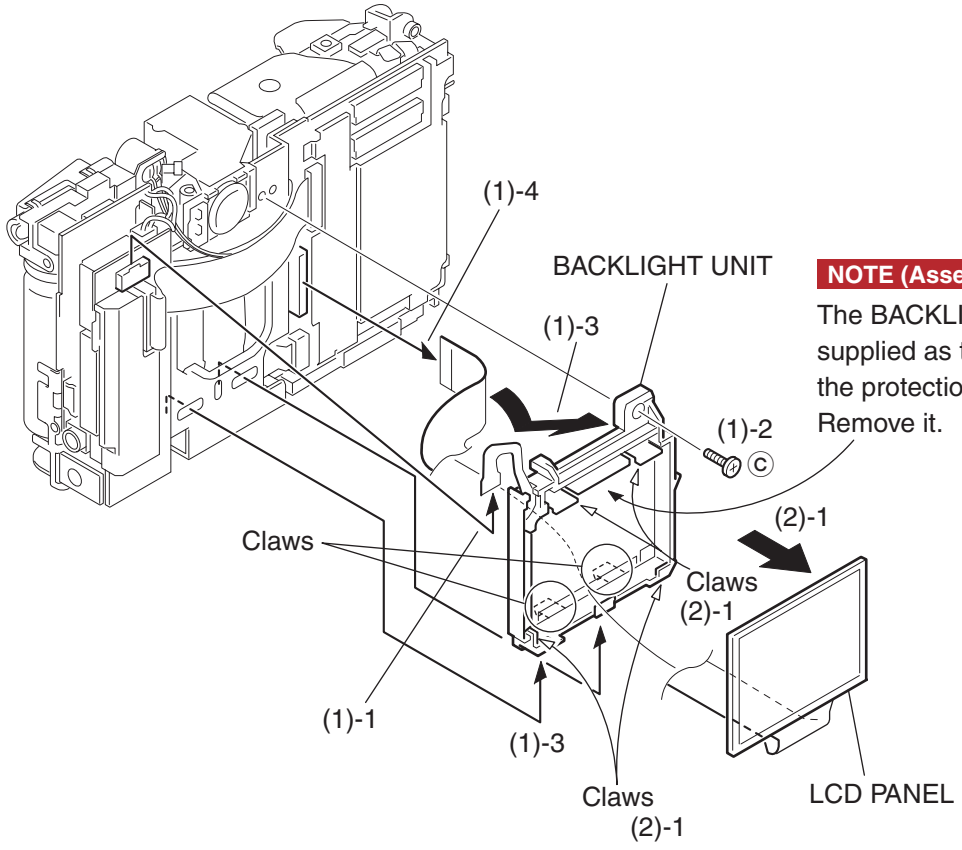


Fig. 3-7 BACKLIGHT UNIT, LCD PANEL

2.5 BACKLIGHT UNIT, LCD PANEL

(1) BACKLIGHT UNIT

1. Remove the flexible printed wired board of the BACKLIGHT UNIT.
2. Remove the screw.
3. Rotate the BACKLIGHT UNIT in the direction of arrow and remove it by releasing the claws.
4. Remove the flexible printed wired board of the LCD PANEL.

(2) LCD PANEL

1. Release the four claws in the top and bottom, and remove the LCD PANEL in the direction of arrow.

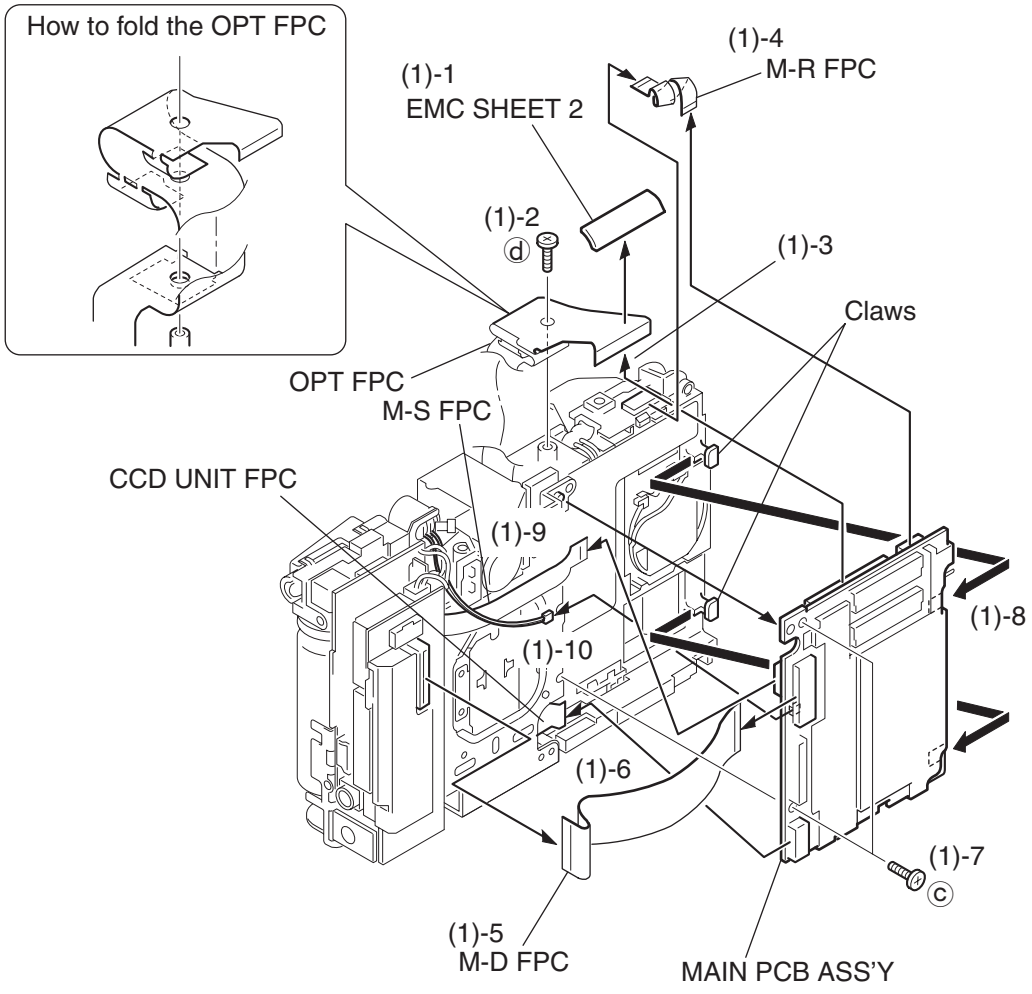


Fig. 3-8 MAIN PCB ASS'Y

2.6 MAIN PCB ASS'Y

(1) MAIN PCB ASS'Y

1. Remove the EMC SHEET 2.
2. Remove the screws.
3. Remove the OPT FPC.
4. Remove the M-R FPC.
5. Remove the M-D FPC.
6. Remove the flexible printed wired board of the CCD UNIT.
7. Remove the two screws.
8. While taking care of the claws in the top and bottom, remove the MAIN PCB ASS'Y in the direction of arrow.
9. Remove the M-S FPC.
10. Disconnect the connector.

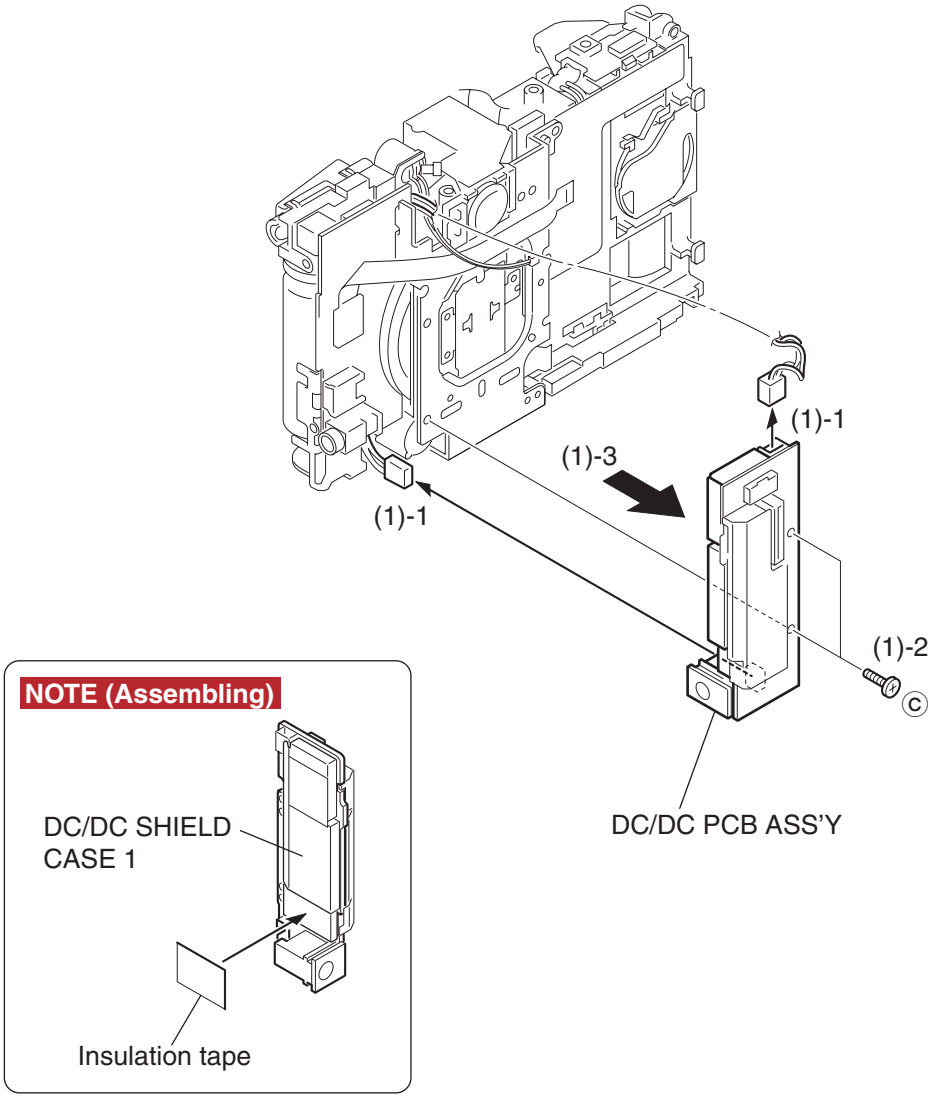


Fig. 3-9 DC/DC PCB ASS'Y

2.7 DC/DC PCB ASS'Y

(1) DC/DC PCB ASS'Y

1. Disconnect the two connectors.
2. Remove the two screws.
3. Remove the DC/DC PCB ASS'Y in the direction of arrow.

NOTE (Assembling)

Attach the insulation tape to the DC/DC SHIELD CASE 1.

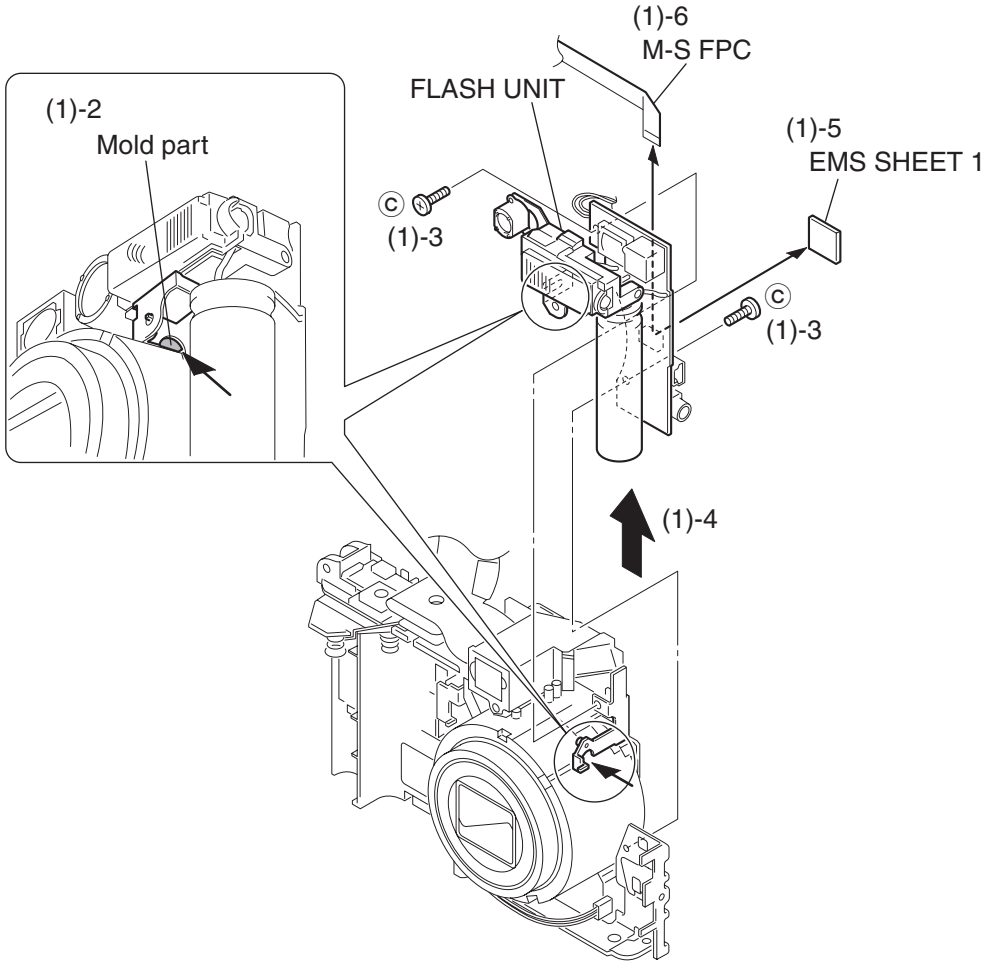


Fig. 3-10 FLASH UNIT

2.8 FLASH UNIT

(1) FLASH UNIT

1. Remove the HIGH VOLTAGE CAUTION TAPE.
2. Remove the mold part of the FLASH UNIT from the dowel with the sharp point tweezers or the like.
3. Remove the two screws. (One screw from the front and the other from the rear.)
4. Remove the FLASH UNIT by sliding it.
5. Remove the EMS SHEET 1.
6. Remove the M-S FPC.

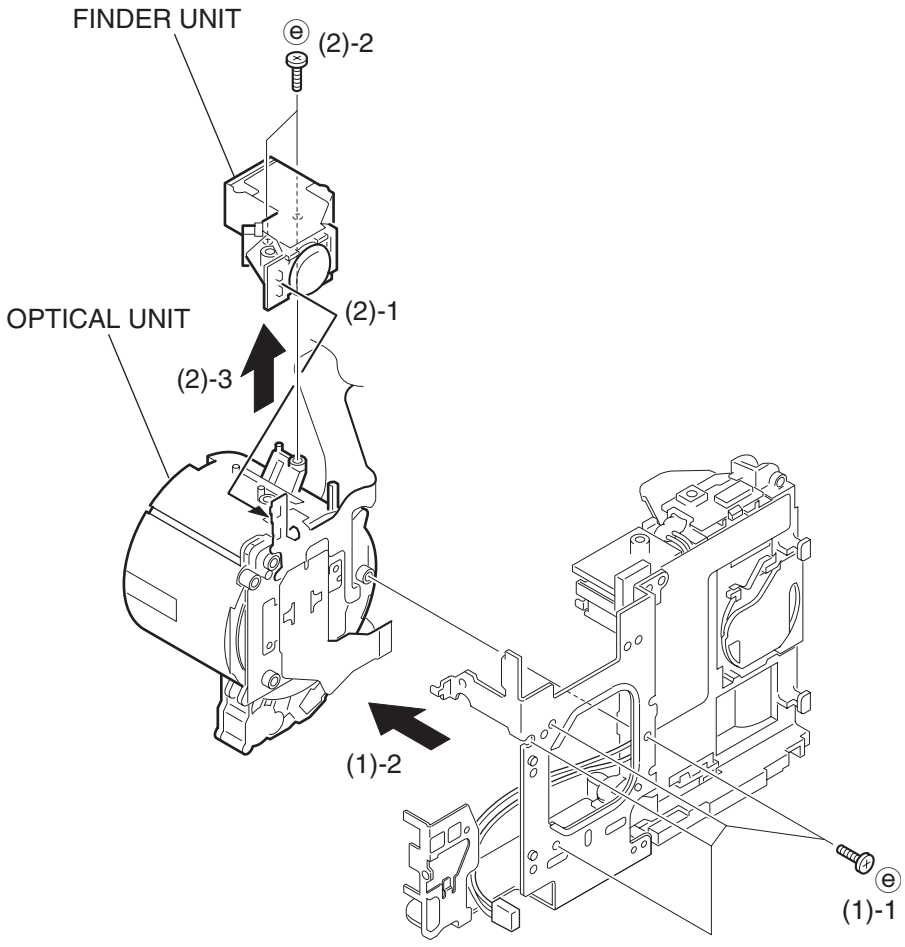


Fig. 3-11 OPTICAL UNIT, FINDER UNIT

2.9 OPTICAL UNIT, FINDER UNIT

(1) OPTICAL UNIT

1. Remove the four screws.
2. While taking care of flexible printed wired board, remove the OPTICAL UNIT in the direction of arrow.

(2) FINDER UNIT

1. Remove the flexible printed wired board.
2. Remove the two screws.
3. Remove the FINDER UNIT in the direction of arrow.

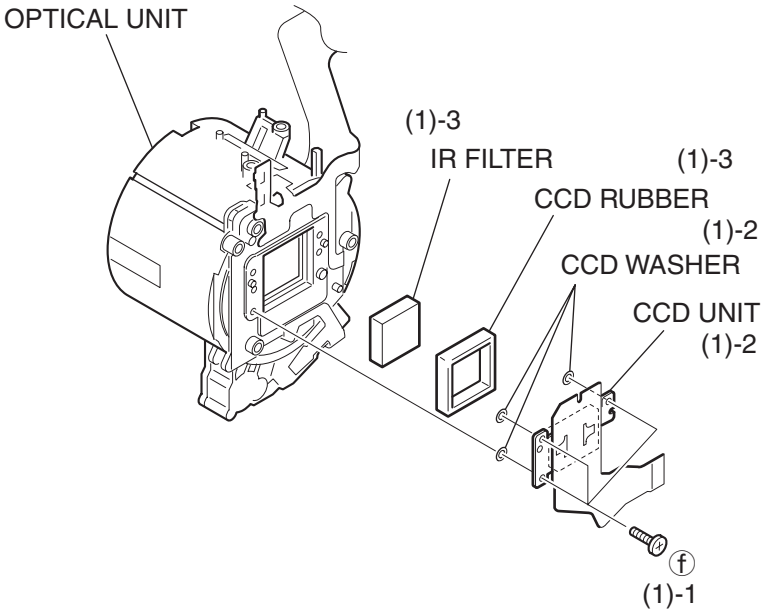


Fig. 3-12 CCD UNIT

2.10 CCD UNIT

(1) CCD UNIT

1. Remove the three screws.
   * Use the HAND DRILL BIT (CY9-1548-000).
2. Remove the CCD UNIT.

CAUTION

Be careful not to drop the washers.

3. Remove the CCD RUBBER, IR FILTER.

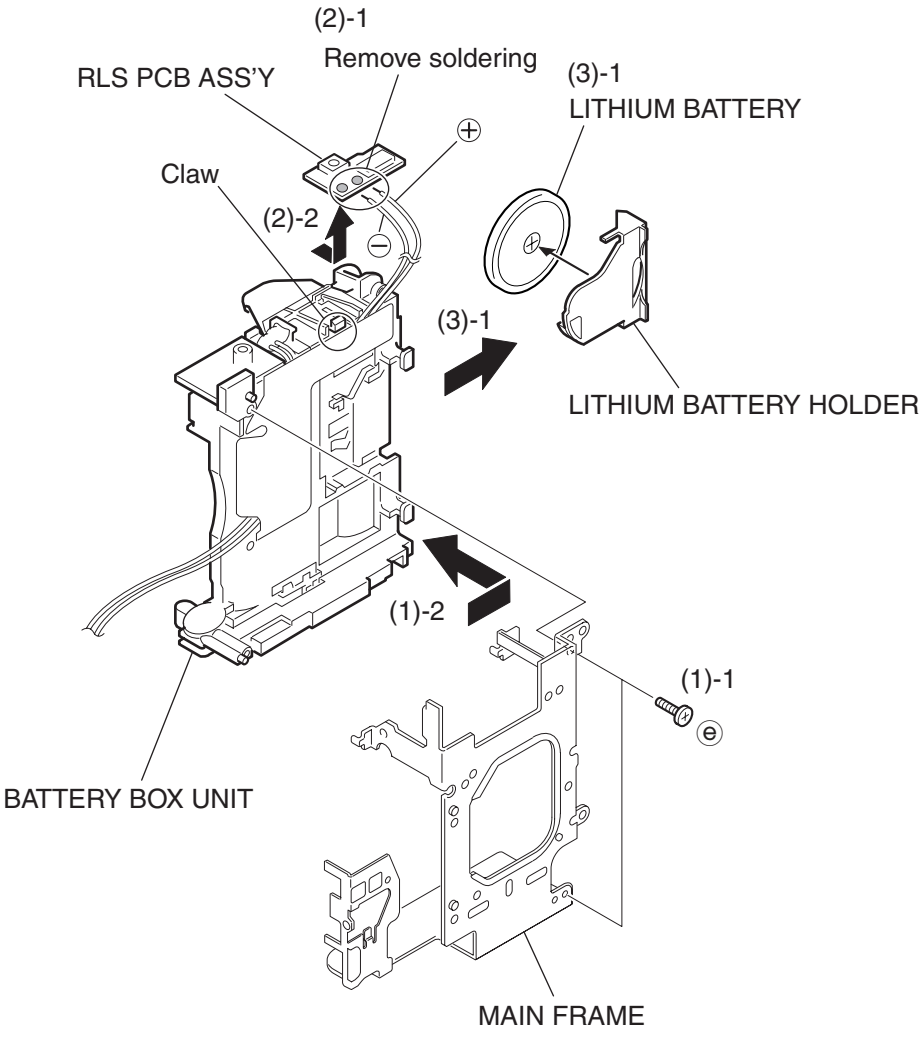


Fig. 3-13 BATTERY BOX UNIT, RLS PCB ASS'Y, LITHIUM BATTERY HOLDER

2.11 BATTERY BOX UNIT, RLS PCB ASS'Y, LITHIUM BATTERY HOLDER

(1) BATTERY BOX UNIT

1. Remove the two screws.
2. Remove the BATTERY BOX UNIT in the direction of arrow.

(2) RLS PCB ASS'Y

1. Remove soldering. (⊕ : red, ⊖ : black)
2. Release the claws and remove the RLS PCB ASS'Y in the direction of arrow.

(3) LITHIUM BATTERY HOLDER

1. Remove the LITHIUM BATTERY from the LITHIUM BATTERY HOLDER.

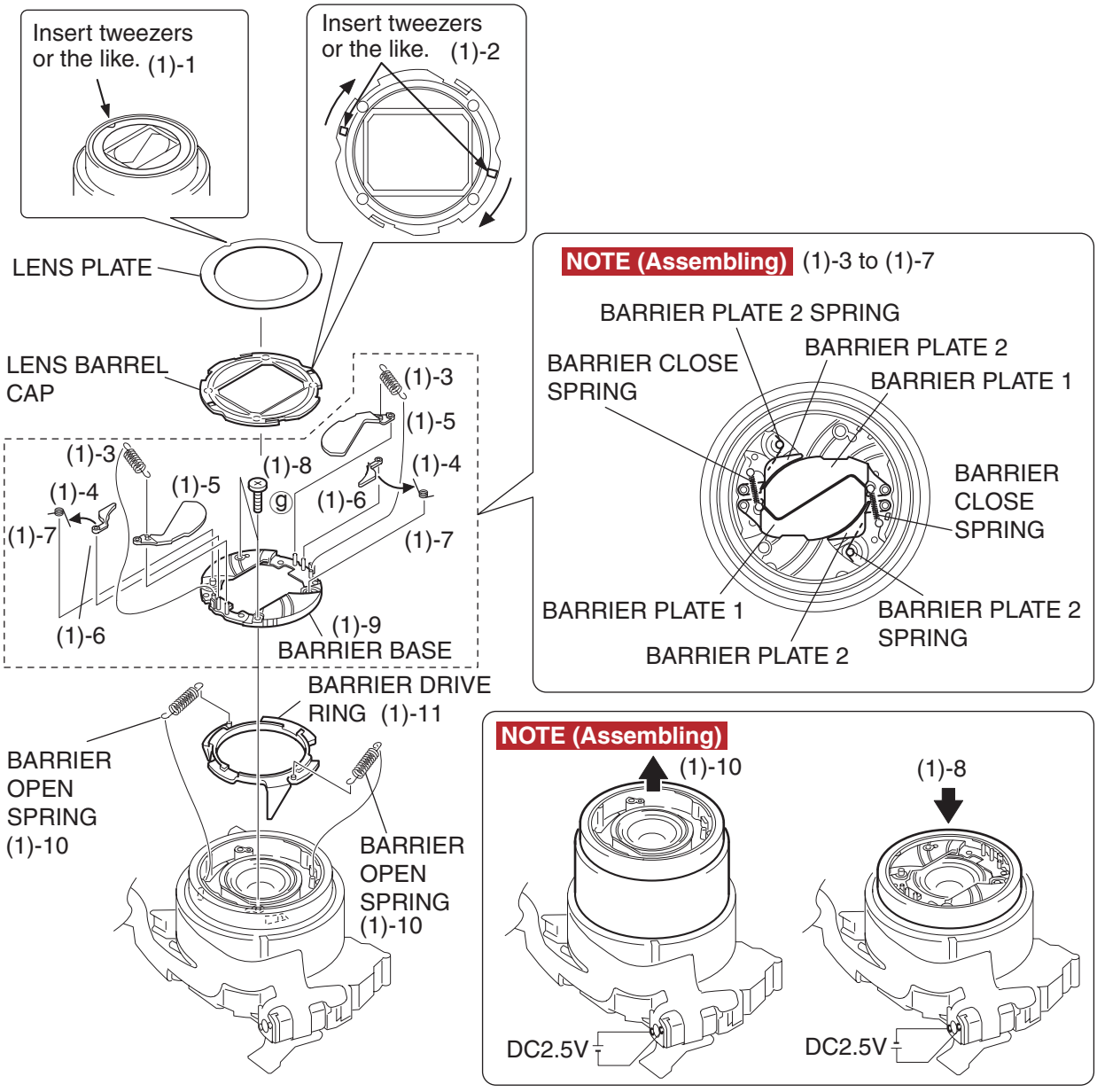


Fig. 3-14 OPTICAL UNIT

2.12 OPTICAL UNIT

(1) OPTICAL UNIT

1. Remove the LENS PLATE by inserting tweezers or the like into its groove.
2. Insert tweezers or the like to the LENS BARREL CAP. Rotate it in the clockwise direction and remove it.
3. Remove the BARRIER CLOSE SPRING (2 pieces).
4. Remove an end of the BARRIER PLATE 2 SPIRNG (2 pieces) and loosen the fastening of the BARRIER PLATE 2.
5. Remove the BARRIER PLATE 1 (2 pieces).
6. Remove the BARRIER PLATE 2 (2 pieces).
7. Remove the BARRIER PLATE 2 SPIRNG (2 pieces).
8. Remove the two screws.

NOTE (Assembling) Apply the voltage (DC 2.5V) across the motor terminal to drive the motor until the motor stops and the BARREL is fully comes out.

9. Remove the BARRIER BASE.
10. Remove the BARRIER OPEN SPRING (2 pieces).

NOTE (Assembling) Apply the voltage (DC 2.5V) across the motor terminal to drive the motor until the motor stops and the BARREL is full housed.

11. Remove the BARRIER DRIVE RING.

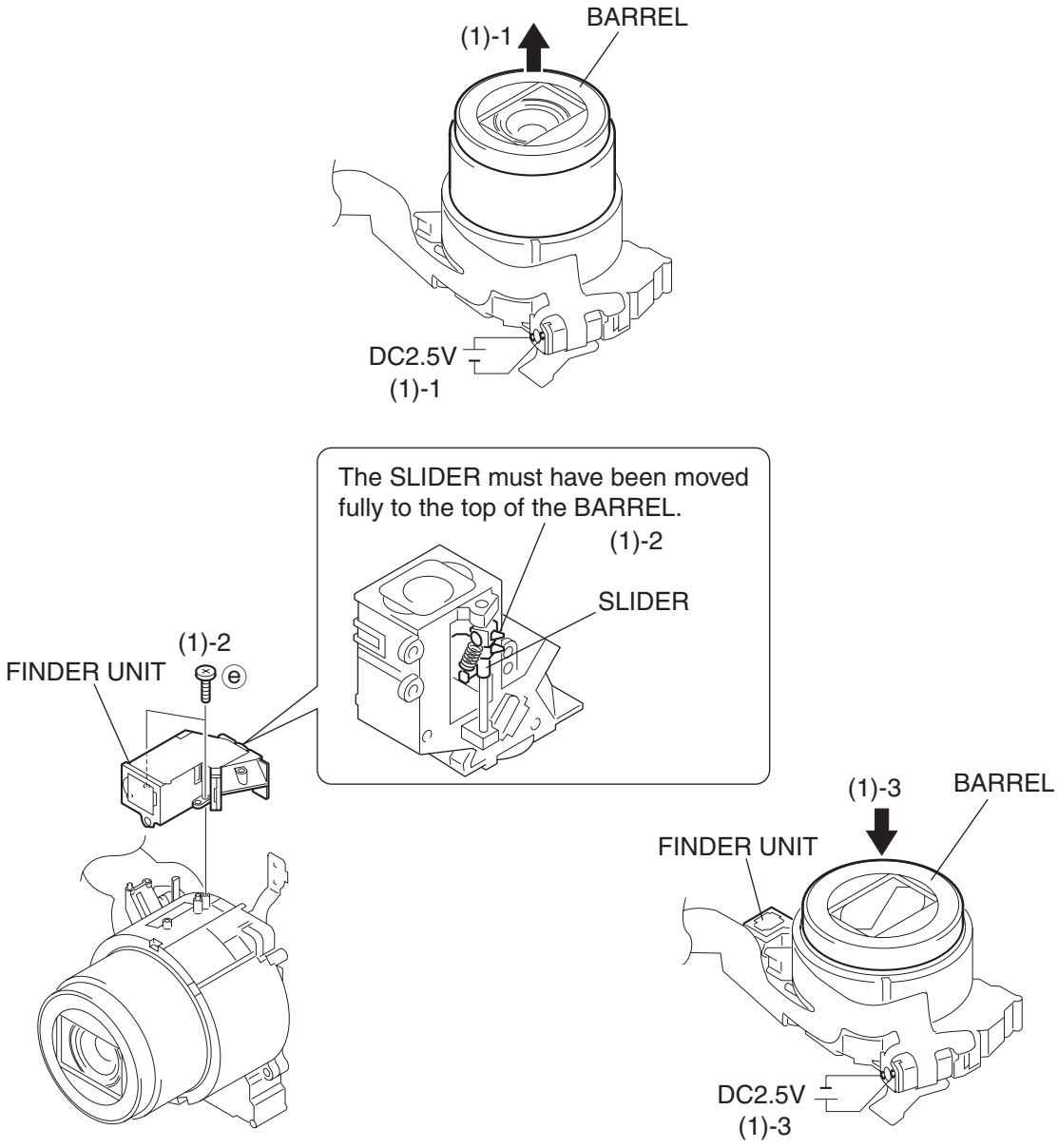


Fig. 3-15 Assembling the FINDER UNIT

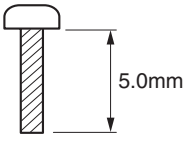
2.13 Assembling the FINDER UNIT

(1) Assembling the FINDER UNIT

1. Apply the voltage (DC 2.5V) across the motor terminal to drive the motor until the motor stops and the BARREL fully comes out.
2. Move the SLIDER fully to the top of the BARREL and secure it with the two screws.
3. Apply the voltage (DC 2.5V) across the motor terminal to drive the motor until the motor stops and the BARREL is full housed.

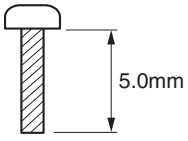
2.14 Screw List

ⓐ Ⓐ④⓪
CD1-4276-000



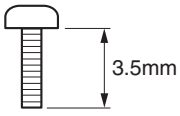
GRAY/SILVER
M1.7
(SELF TAP)

ⓐ Ⓐ③⓪
CD1-4283-000



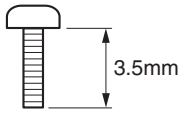
GRAY/SILVER
M1.7
(SELF TAP)

ⓑ Ⓐ④⓪
CD1-4277-000



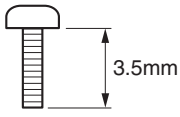
GRAY/SILVER
M1.7

ⓑ Ⓐ③⓪
CD1-4284-000



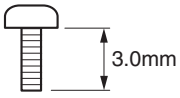
GRAY/SILVER
M1.7

ⓑ Ⓐ③⓪
CD1-4277-000



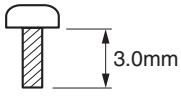
GRAY
M1.7

ⓒ
CD1-4270-000



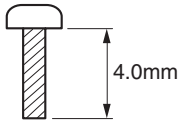
METAL
M1.7

ⓓ
CD1-3441-000



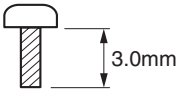
BLACK
M1.7
(SELF TAP)

ⓔ
XA4-9170-407



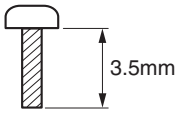
METAL
M1.4
(SELF TAP)

ⓕ
XA4-9170-307



METAL
M1.4
(SELF TAP)

ⓖ
XA4-9140-359



METAL
M1.4
(SELF TAP)

3. Adjustments

3.1 Replacement Parts and Adjustment Items

PowerShot A30/A40 requires electrical adjustments when certain parts are replaced.
The table below indicates the adjustments required for the respective part replacements.
For all other parts not listed below, no electrical adjustments are necessary after replacement.

Adjustment Items / Replacement Part	CCD Adjustment	Optical Unit Adjustment	Imaging Process Adjustment	Pixel Dot Adjustment	Flash Adjustment
BATTERY BOX UNIT					
DC/DC PCB ASS'Y					
CCD UNIT	● #1		● #2	● #3	● #4
OPTICAL UNIT		●			
FLASH UNIT					●
MAIN PCB ASS'Y	○	○	○	○	○
LCD PANEL					
BACK LIGHT UNIT					

● : Adjustment is necessary after replacement.
○ : Adjustment is necessary after replacement.
(Adjustment is not necessary, only if the adjustment data has been saved and then transferred after the part is replaced.)
Blank : Adjustment is unnecessary.

* When CCD UNIT is replaced, adjust certainly at the procedure as below.

#1. CCD Adjustment

#2. Imaging Process Adjustment

#3. Pixel Dot Adjustment

#4. Flash Adjustment

3.2 Adjustment Tools

The following tools are required for electrical adjustment.

DESCRIPTION	PARTS NO.	REMARKS
PC/AT-Compatible Machine (Windows98 pre-installed Model, USB port)	—	Local purchase
Adjustment Software (CD-ROM)	CY8-4375-031	CD-ROM, SERVICE MANUAL (J/E)
Compact Power Adapter CA-PS500	—	Enclosed in camera kit (or Local purchase)
INTERFACE CABLE IFC-300PCU (USB Cable)	—	(or Local purchase)
Brightness Box (light source A)	—	Local purchase
Color Viewer (5600° K)	DY9-2039-100	(or Local purchase)
Standard Color Bar Chart	DY9-2002-000	(or Local purchase)
Standard 18% Gray Chart	CY4-6016-000	CHART, 18%GRAY
Zoom /AF Chart	—	*1
W-10 Filter	CY9-1543-000	(or Local purchase)
C-12 Filter *2	DY9-2029-000	(or Local purchase)
ND-4 Filter	—	Local purchase
ND-8 Filter	—	Local purchase
Light-Shielding Cloth (500 × 500 or larger)	—	Local purchase
Tripod	—	Local purchase

*1 Print the Auto Focus Chart on the legal size paper from the “Zoom_AFChart_Legal.pdf ” (in the folder of this CD-ROM, :\Adjust\Chart).
Print the Auto Focus Chart on the A3 size paper from the “Zoom_AFChart_A3.pdf ”.

*2 2pcs. required.

3.3 Before Starting Electrical Adjustments

3.3.1 TWAIN Driver Installation

Install the USB Driver for Adjustment in the CD-ROM to PC.
("This Adjustment Software" is impossible when the RS-232C TWAIN driver is used.)

3.3.2 Installing the Adjustment Software

1. Double click the icon on the launcher screen or a file in the CD-ROM. (Model name of the camera that you are going to adjust and the name of the adjustment software are different.)

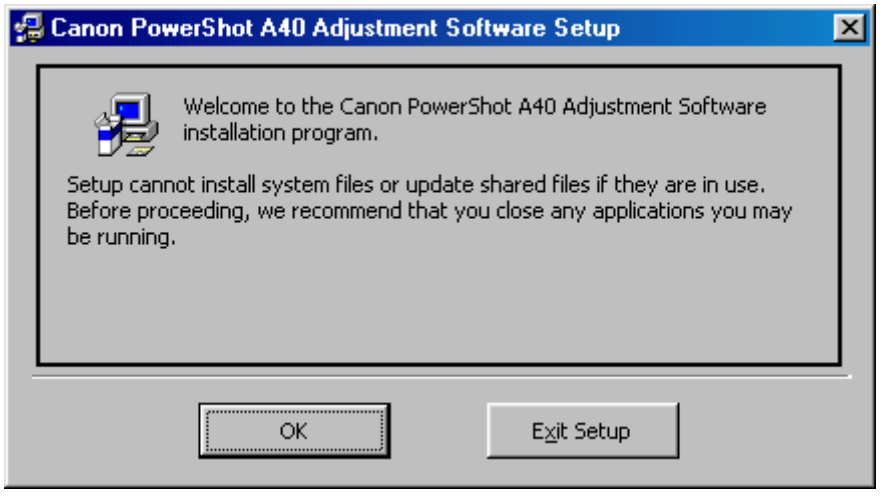
A40

Camera Type		Adjustment Software	
Destination	Third place of Serial No.	Icon	File Path
USA/Europe/Canada	2/3/5	A40_USA_Adj.	\Adjust\A40\USA\Setup.exe
OTH (Asia/Oceania)	4	A40_OTH_Adj.	\Adjust\A40\OTH\Setup.exe

A30

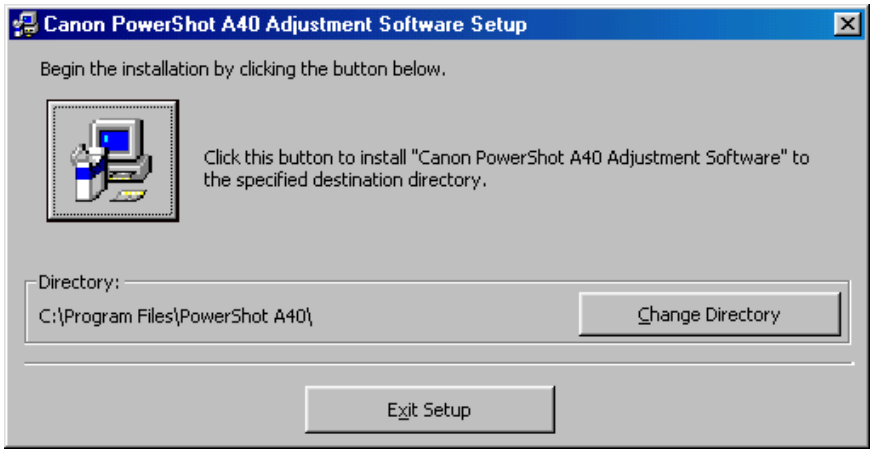
Camera Type		Adjustment Software	
Destination	Third place of Serial No.	Icon	File Path
USA/Europe/Canada	2/3/5	A30_USA_Adj.	\Adjust\A30\USA\Setup.exe
OTH (Asia/Oceania)	4	A30_OTH_Adj.	\Adjust\A30\OTH\Setup.exe

2. When the dialog box below appears, click the "OK" button.

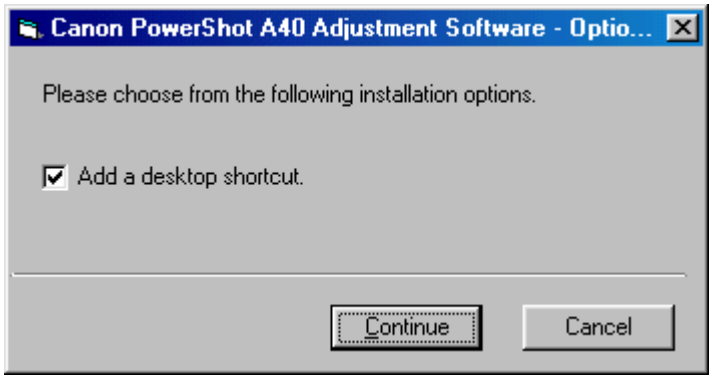


* All figures for the Adjustment Software are examples of the PowerShot A40.

3. When the dialog box below appears, click the  button. (Software installation will then begin.)



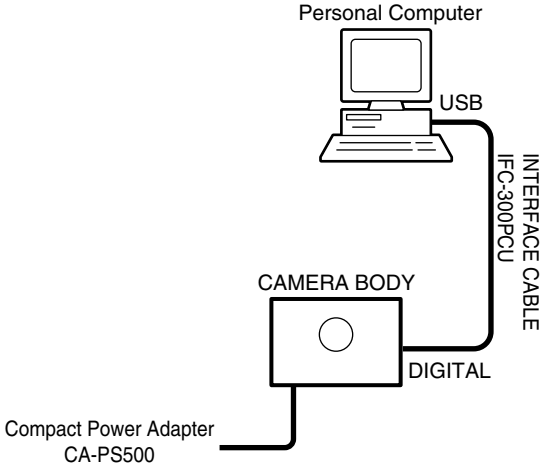
4. When the dialog box below appears, click the “Continue” button.
(In the case that you do not add a shortcut on desktop, remove clicking from the check box.)



3.3.3 Preparation

Before starting up the Adjustment Software, follow the preparatory steps below:

1. Obtain all the tools necessary for the adjustment.
2. Connect the Camera to the Power Source with the Compact Power Adapter CA-PS500.
3. Set the Replay Mode on the camera and turn on.



4. Connect the Camera's Digital terminal to the PC's USB Port with INTERFACE CABLE IFC-300 PCU.
5. Turn on the camera.
   Note: Perform the preparation in the following order otherwise the camera won't work properly.

3.3.4 Starting up the Adjustment Software

After completing the preparatory steps, click Start and move the cursor to Program; then select Canon Digital Camera and click PowerShot A30/A40 Adjustment.

3.3.5 Menu Window

When the Adjustment Software starts up, the Menu Window below will appear.

3.3.6 How to Use the Adjustment Software

Calibration/Adjustment

For starting, click the button related with adjustment.

* Whenever you use your light source for the adjustment for the first time, be sure to click the “Calibration” Button.

Quitting the Adjustment Software

Click the “Exit” button.

Saving or Loading data

- “Save” button : This button saves all adjustment data stored on the camera in text format.
- “Load” button : This button loads all adjustment data saved in text format to the camera.

Saving or Loading data

- “Save” button : This button saves all adjustment data stored on the camera in text format.
- “Load” button : This button loads all adjustment data saved in text format to the camera.

Notes

- If the adjustment fails, a message indicating the failure will appear on each product. If this happens, do the adjustment again.
- The Adjustment Software is dedicated only to Canon Digital Camera PowerShot A30/A40. Never use it for any other camera.
- The Windows98/2000 must be pre-installed on the computer that is equipped with the USB terminal. (Windows95 does not support the USB.)

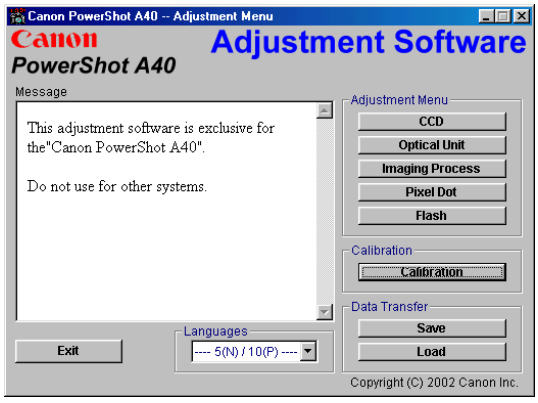
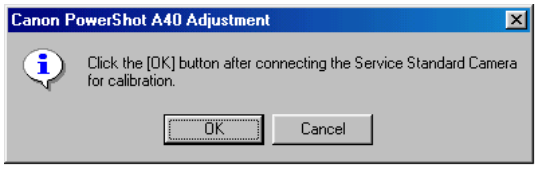
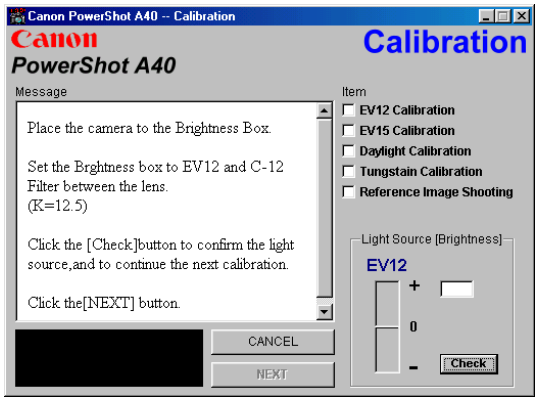
  * The operation with the WinMe, etc. is not guaranteed.

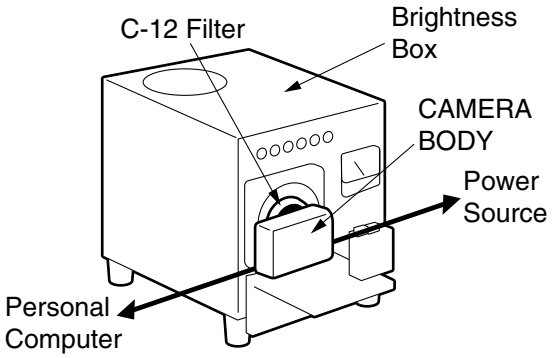
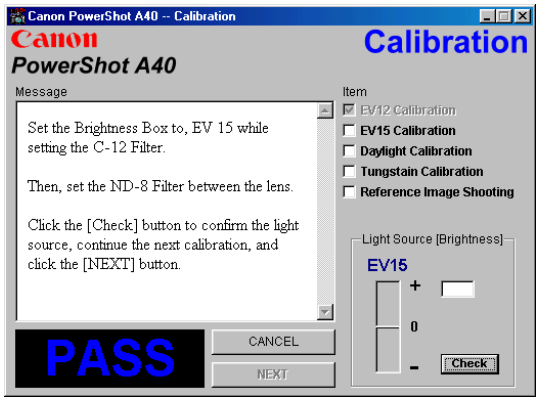
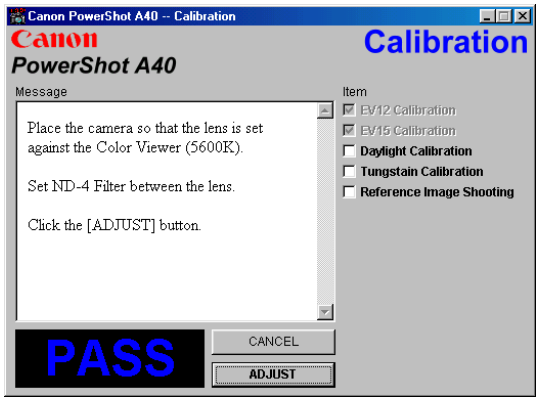
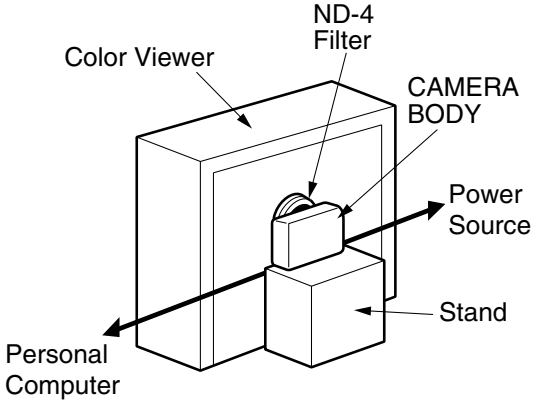
3.4 Calibration

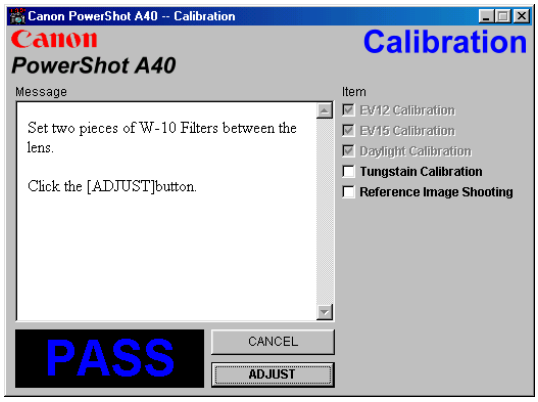
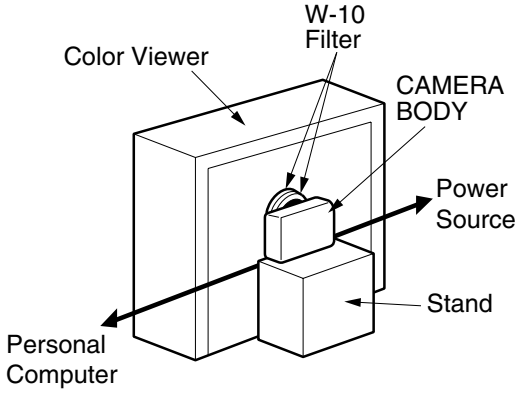
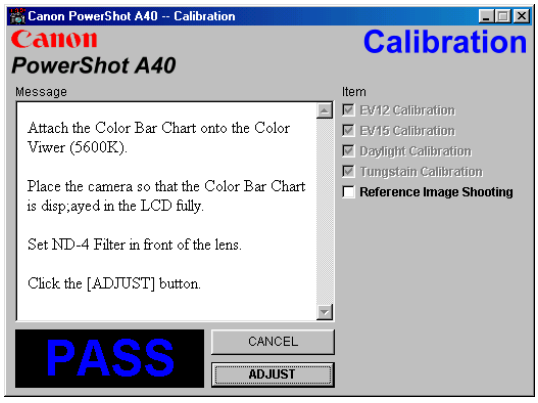
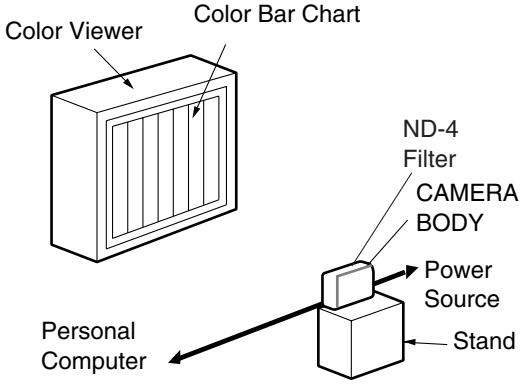
3.4.1 Calibration

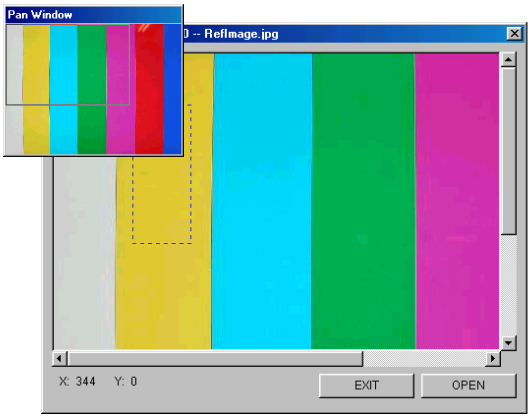
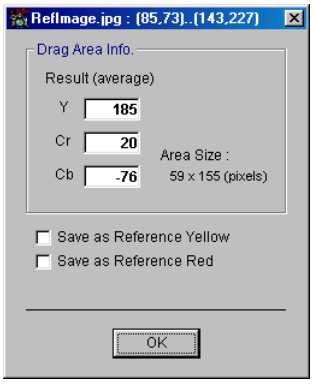
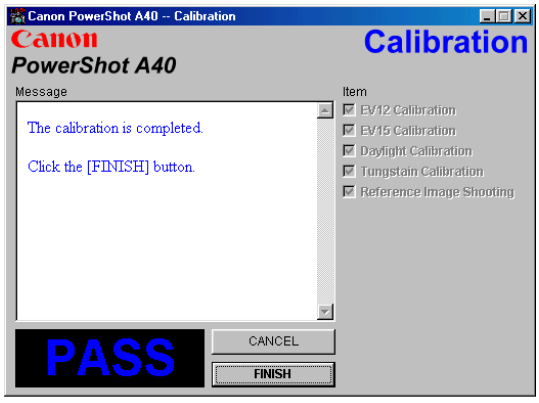
■ Tools Used

- Reference Camera (Merchandise)
- Compact Power Adapter CA-PS500
- Adjustment Software
- W-10 Filter (2pcs.)
- Personal Computer
- Color Viewer (5600° K)
- C-12 Filter
- INTERFACE CABLE IFC-300PCU
- ND-8 Filter
- ND-4 Filter

1	Click the “Calibration” button.	
2	1. When the message on the right appears, check that the reference camera (Merchandise) is connected to the computer. 2. Click the “OK” button.	
3	When the message on the right appears, go to 4.	

4	1. Place the camera so that lens is set against the light source surface of the Brightness Box via the C-12 Filter. 2. Set the Brightness Box to EV12. 3. Click the “Check” button. 4. Check the Brightness level if it is within 0 ± 5. * If not, calibrate the Brightness Box until it becomes within 0 ± 5. 5. Click the “NEXT” button.	
5	1. When the message on the right appears, Set the Brightness Box to EV15 and attach the ND-8 Filter while setting the C-12 Filter between the lens. 2. Click the “Check” button. 3. Check the Brightness level if it is within 0 ± 5. * If not, calibrate the Brightness Box until it becomes within 0 ± 5. 4. Click the “NEXT” button.	
6	When the message on the right appears go to 7.	
7	1. Attach the ND-4 Filters between the Lens and the Color Viewer. 2. Place the camera so that the lens is set against the center part of the Color Viewer. 3. Click the “ADJUST” button.	

8	When the message on the right appears go to 9.	
9	1. Remove the ND-4 Filter. 2. Attach the two W-10 Filters between the Lens and the Color Viewer. Place the camera so that the lens is set against the center part of the Color Viewer. 3. Click the “ADJUST” button.	
10	When the message on the right appears go to 11.	
11	1. Attach the Color Bar Chart to the Color Viewer. 2. Place the camera so that the Viewing image of the color bar chart is the full of LCD with the ND-4 Filter attached. 3. Click the “ADJUST” button.	

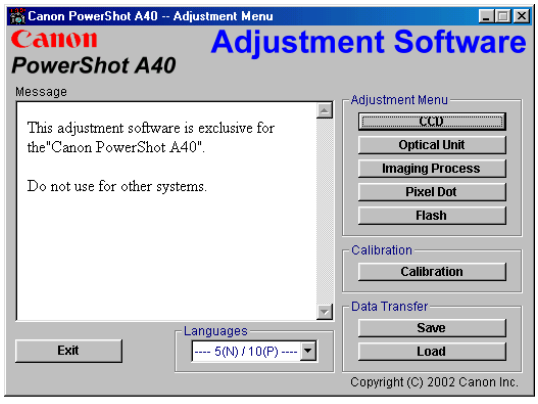
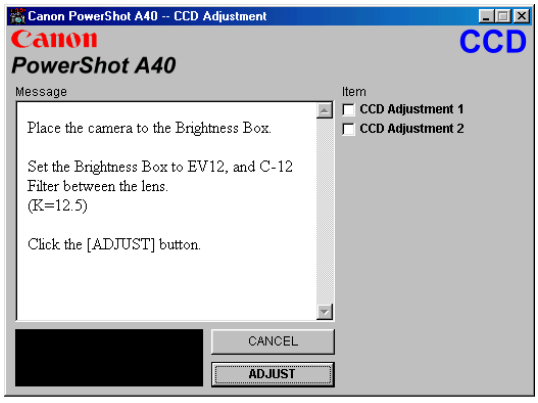
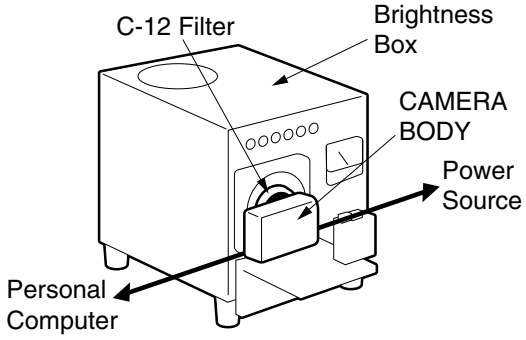
12	Point and drag the shot yellow area to be measured with mouse.	
13	Check “Save as Reference Yellow (or Red)” click the “OK” button. Measure “RED” referring to the procedures from the above.	
14	When the message on the right appears, click the “FINISH” button. (This ends the “Calibration”.)	

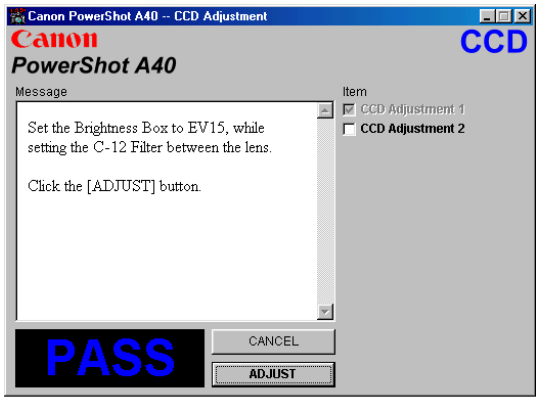
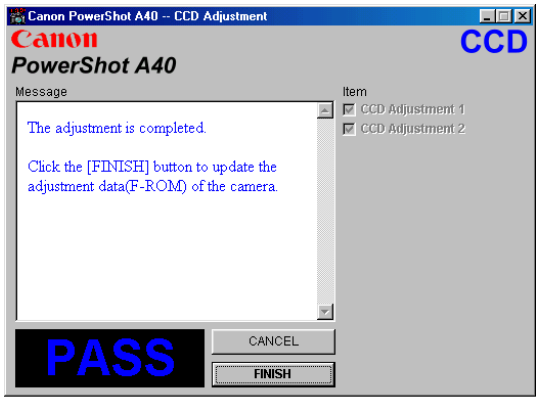
3.5 Adjustment Procedure

3.5.1 CCD Adjustment

■ Tools Used

- Personal Computer
- INTERFACE CABLE IFC-300PCU
- Brightness Box (light source A)
- Adjustment Software
- Compact Power Adapter CA-PS500
- C-12 Filter

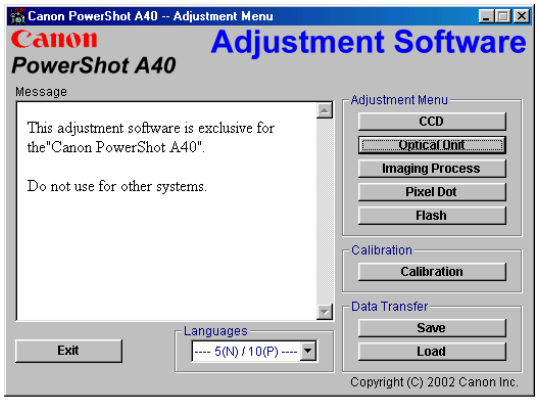
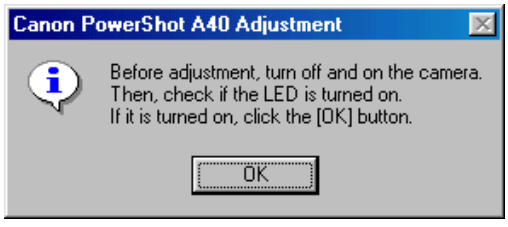
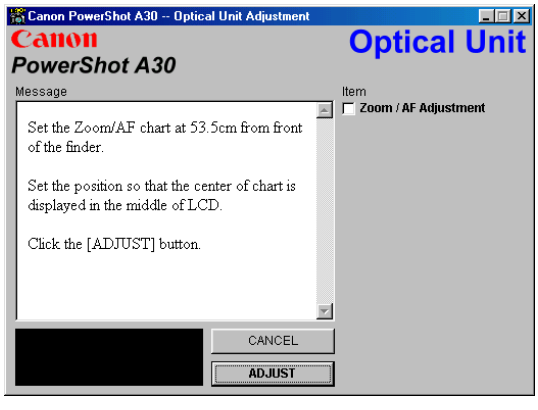
1	Click the “CCD” button.	
2	When the message on the right appears, go to 3.	
3	1. Place the camera so that lens is set against the light source surface of the Brightness Box via the C-12 Filter. 2. Set the Brightness Box to EV12. 3. Click the “ADJUST” button.	

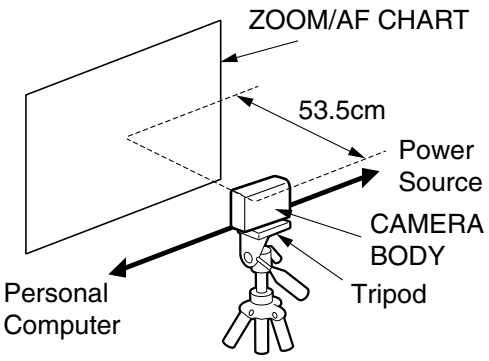
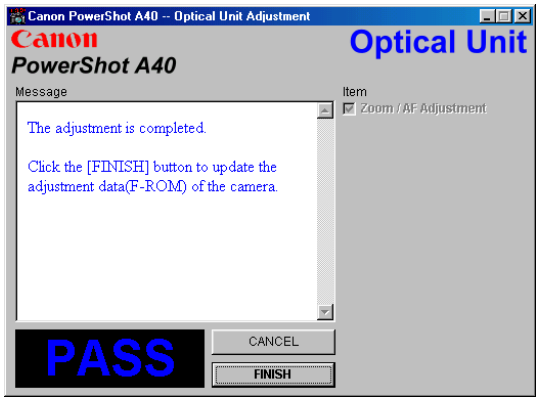
4	When the message on the right appears, Set the Brightness Box to EV15 while setting the C-12 Filter between the lens. Click the “ADJUST” button.	
5	When the message on the right appears, click the “FINISH” button. (This ends the “CCD” Adjustment.)	

3.5.2 Optical Unit Adjustment

■ Tools Used

- Personal Computer
- INTERFACE CABLE IFC-300PCU
- ZOOM/AF Chart
- Tripod
- Adjustment Software
- Compact Power Adapter CA-PS500

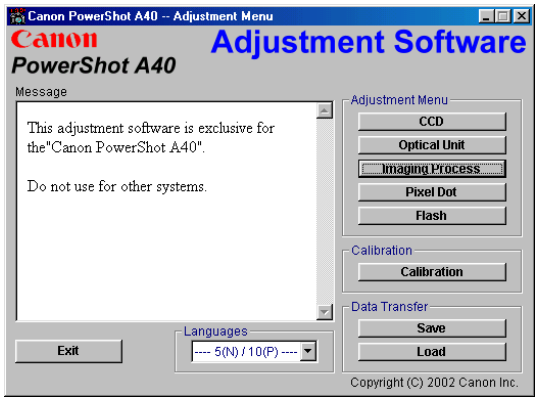
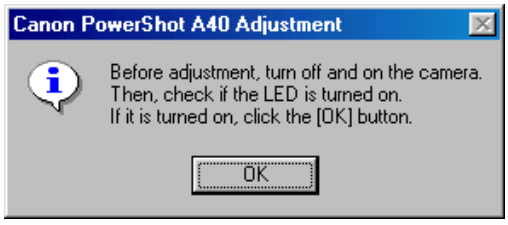
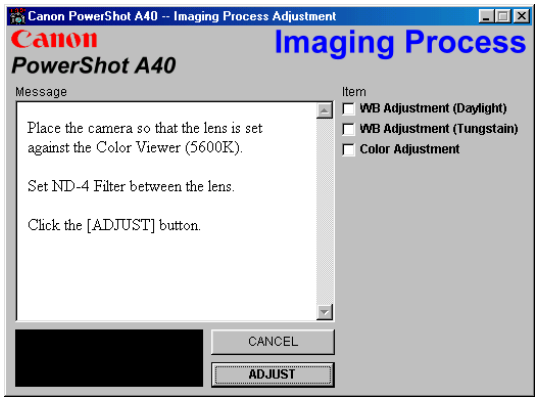
1	Click the “Optical Unit” button.	
2	When the message on the right appears, turn off/on the camera. Click the “OK” button.	
3	When the message on the right appears, go to 4.	

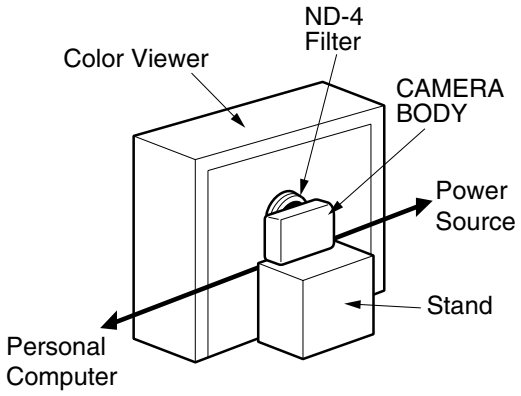
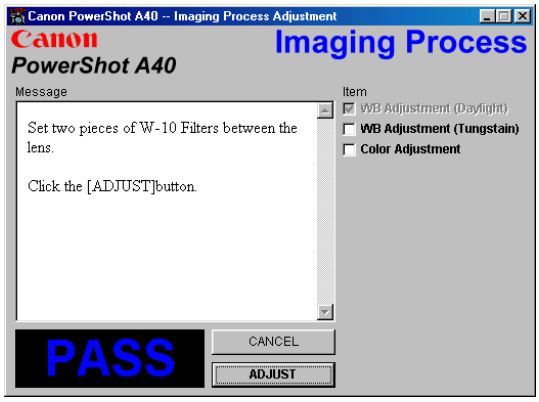
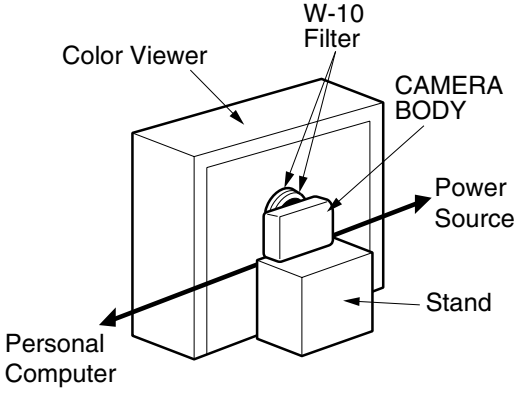
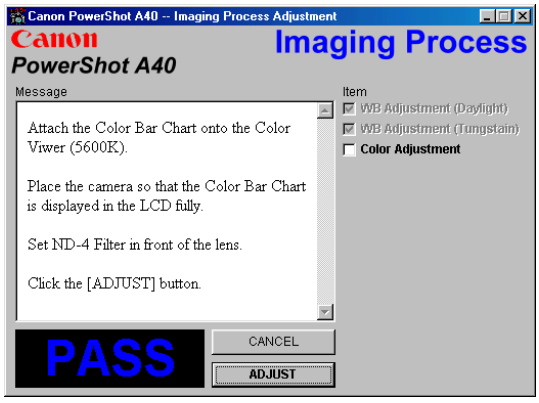
4	1. Place the Zoom Chart at 53.5cm away from the front of the camera finder. * Place the Auto Focus Chart on a plain color wall or equivalent. * Adjust the light so that the brightness of the chart will be about EV8.5. 2. Adjust the position of the camera finely so that the center of the Auto Focus Chart is aligned with the center of the LCD. 3. Click the "ADJUST" button. * When the adjustment does not work, click the "Default" button.	
5	When the message on the right appears, click the "FINISH" button. (This ends the "Optical Unit" Adjustment.)	

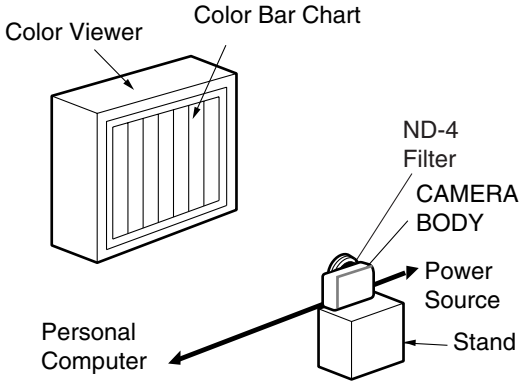
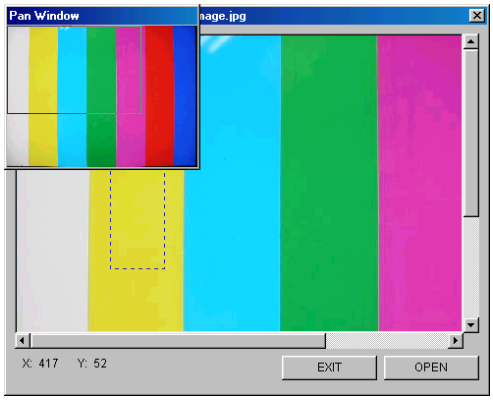
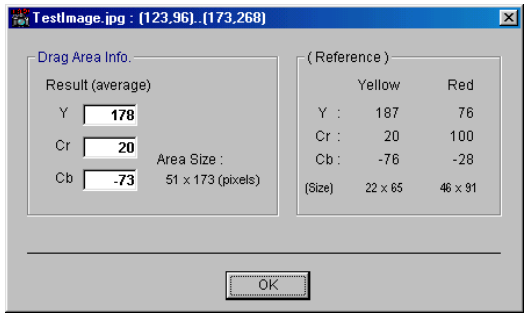
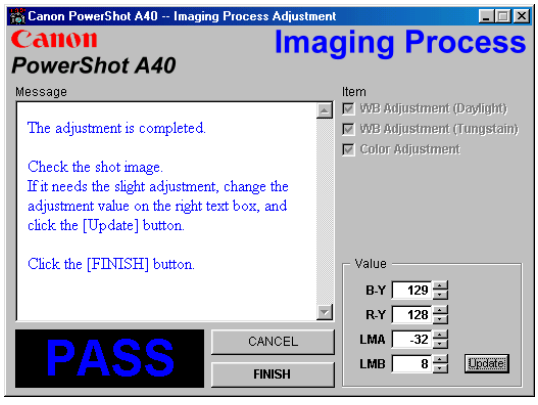
3.5.3 Imaging Process Adjustment

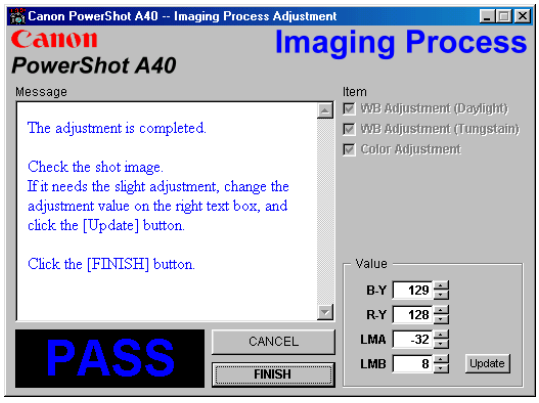
■ Tools Used

- Personal Computer
- INTERFACE CABLE IFC-300PCU
- Brightness Box (light source A)
- Compact Power Adapter CA-PS700
- Color Viewer (5600° K)
- Adjustment Software
- W-10 Filter (2 pcs.)
- Light-Shielding Cloth
- DC Coupler DR-700
- Color Bar Chart
- ND-4 Filter

1	Click the “Imaging Process” button.	
2	When the message on the right appears, turn off/on the camera. Click the “OK” button.	
3	When the message on the right appears, go to 4.	

4	1. Attach the ND-4 Filters between the Lens and the Color Viewer. 2. Place the camera so that the lens is set against the center part of the Color Viewer. 3. Click the “ADJUST” button.	
5	When the message on the right appears, go to 6.	
6	1. Remove the ND-4 Filter. 2. Attach the two W-10 Filters. Place the camera so that the lens is set against the center part of the Color Viewer. 3. Click the “ADJUST” button.	
7	When the message on the right appears, go to 8.	

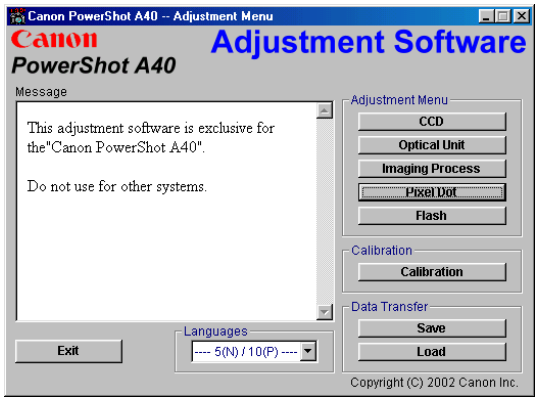
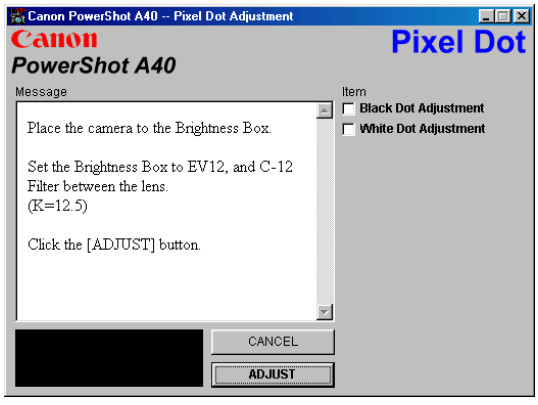
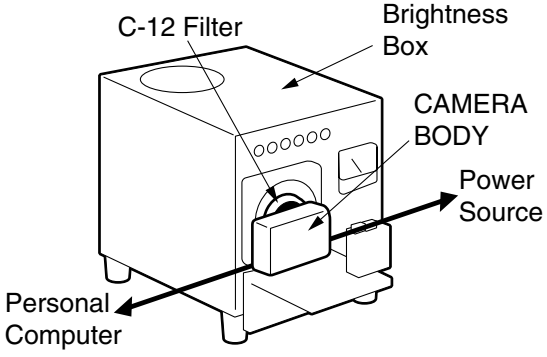
8	1. Attach the Color Bar Chart to the Color Viewer. 2. Place the camera so that the viewing image of the color bar chart is the full of LCD. 3. Click the “ADJUST” button.	
9	Point and drag the shot yellow area to be measured with mouse.	
10	1. Check “Save as Reference Yellow (or Red)”, and click the “OK” button. * Measure “Red” referring to the procedures from the above. 2. If these data are within specifications, go to 12. * Specification Ave_Cr = Reference Camera ± 10 Ave_Cb = Reference Camera ± 10	
11	1. Confirm to see that the image on the PC monitor satisfies the specifications. 2. If the image on the PC monitor does not satisfy the specifications, change the data using UP, DOWN button or change the data directly by typing the data in the text box. Then click the “UPDATE” button.	

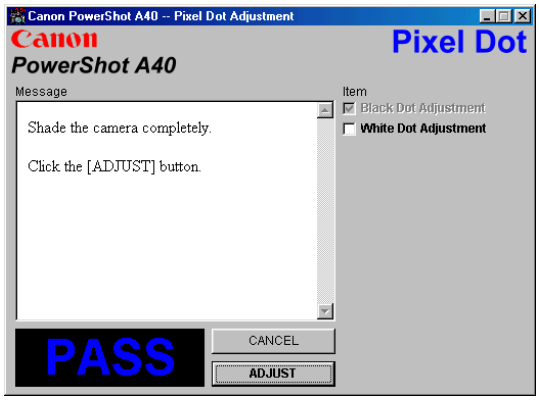
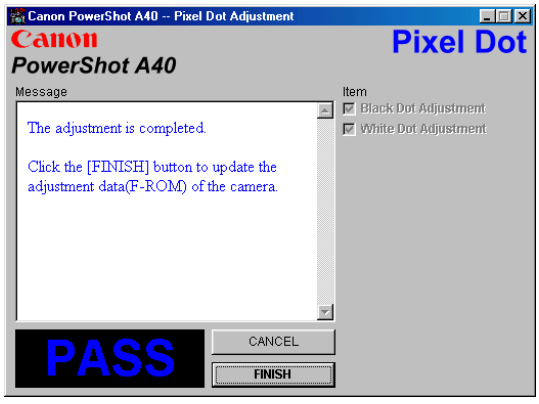
12	When the adjustment is completed, click the "FINISH" button. (This ends the "Imaging Process" Adjustment.)	

3.5.4 Pixel Dot Adjustment

■ Tools Used

- Personal Computer
- INTERFACE CABLE IFC-300PCU
- Brightness Box (light source A)
- Color Viewer (5600° K)
- Compact Power Adapter CA-PS500
- Adjustment Software
- C-12 Filter
- Light-Shielding Cloth (500 × 500 or larger)

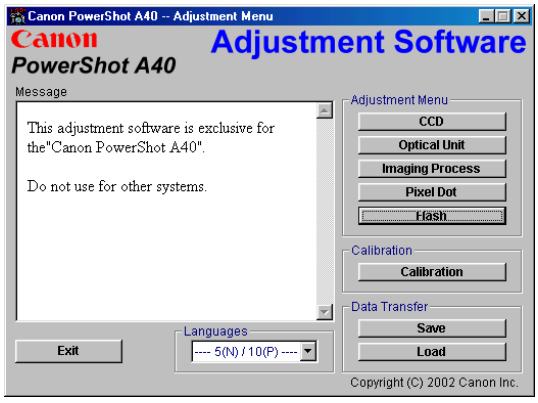
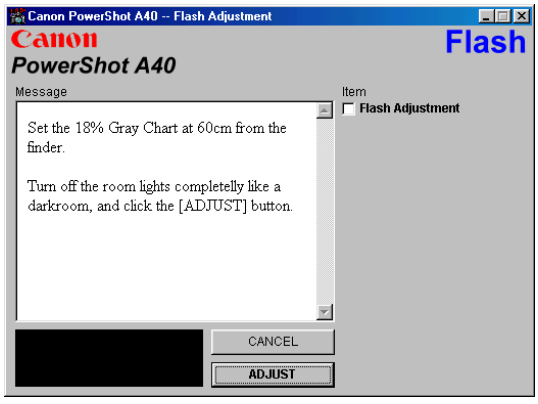
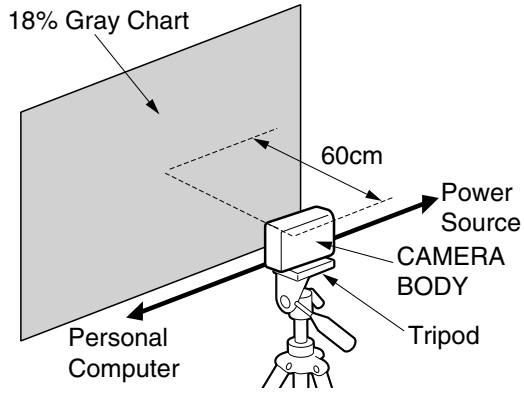
1	Click the “Pixel Dot” button.	
2	When the message on the right appears, go to 3.	
3	1. Place the camera so that lens is set against the light source surface of the Brightness Box via the C-12 Filter. 2. Set the Brightness Box to EV12. 3. Click the “ADJUST” button.	

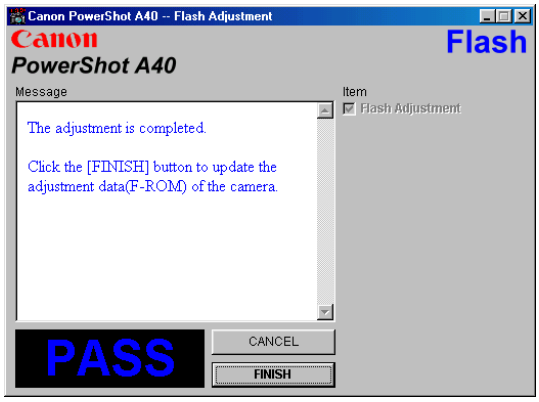
4	1. When the message on the right appears, cover the camera with the Light-Shielding Cloth so that the no light reasons the CCD. 2. Click the “ADJUST” button.	
5	When the message on the right appears, click the “FINISH” button. (This ends the “Pixel Dot” Adjustment.)	

3.5.5 Flash Adjustment

■ Tools Used

- Personal Computer
- Compact Power Adapter CA-PS500
- INTERFACE CABLE IFC-300PCU
- Adjustment Software
- 18% Gray Chart

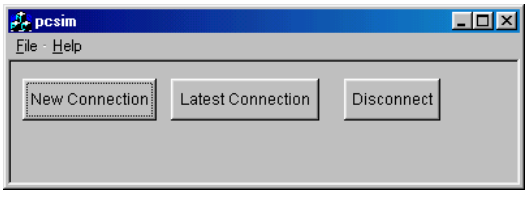
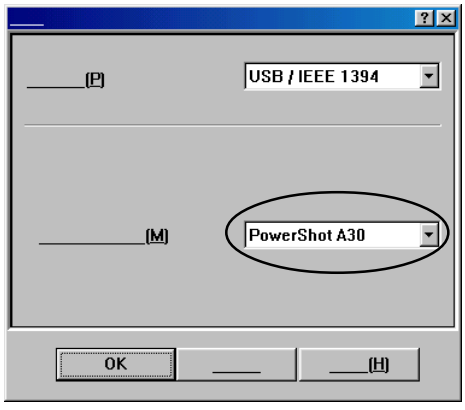
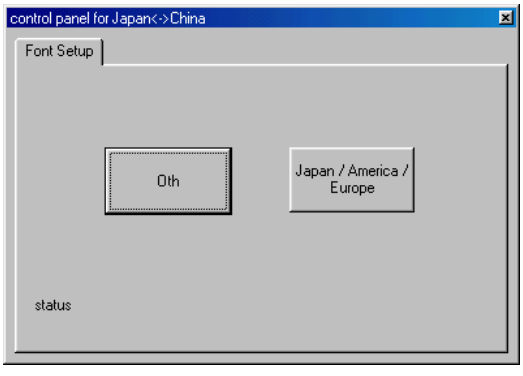
1	Click the “Flash” button.	
2	When the message on the right appears, go to 3.	
3	1. Set 18% Gray Chart 60cm from the Finder front. 2. Make the room as dark as a darkroom. 3. Click the “ADJUST” button.	

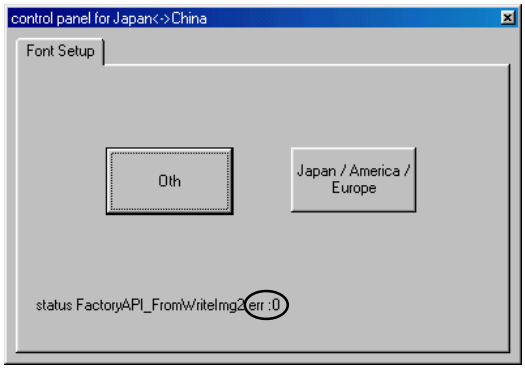
4	When the message on the right appears, click the "FINISH" button. (This ends the "Flash" Adjustment.)	

3.5.6 Language (For Oth)

■ Tools Used

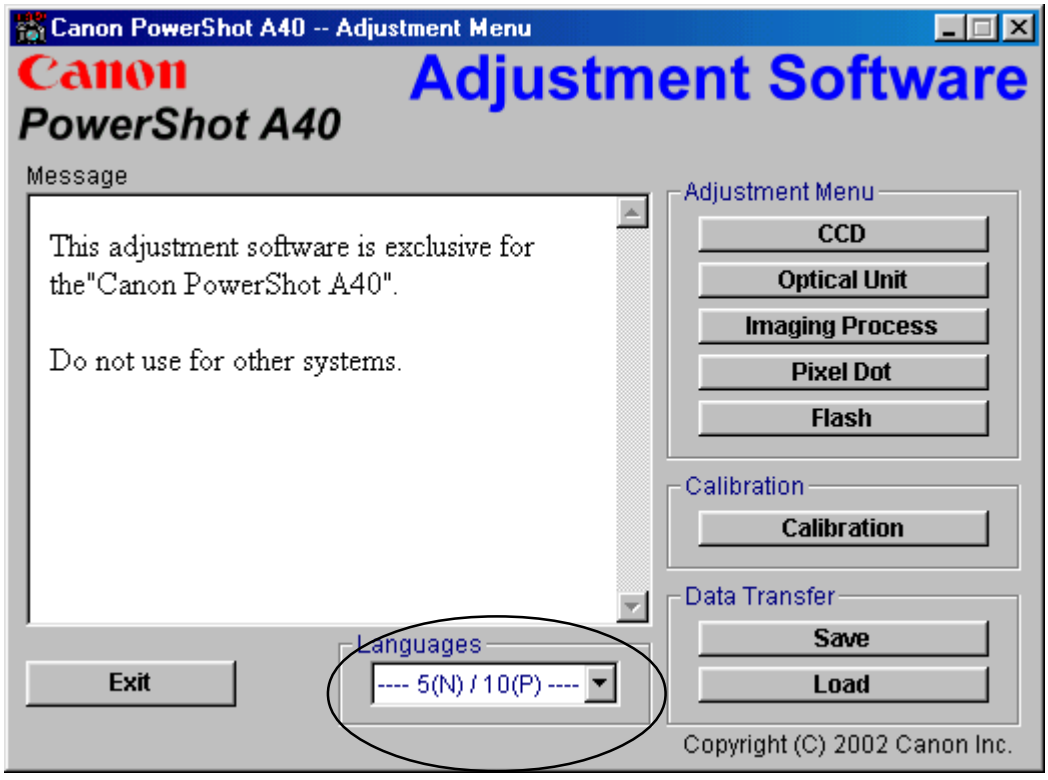
- Personal Computer
- INTERFACE CABLE IFC-300PCU
- Compact Power Adapter CA-PS500
- Adjustment Software (FontSet.exe)

1	Open the “FontSet.exe” and click the “New Connection” button.	
2	When the message on the right appears, confirm the model name, and click the “OK” button.	
3	When the message on the right appears, click the “Oth” button.	

4	*Make sure to appear “err:0 on the bottom line.	

3.5.7 Language Settings

It is not required to set the language.



CHAPTER 4. PARTS CATALOG

CONTENTS

CLASS凡例

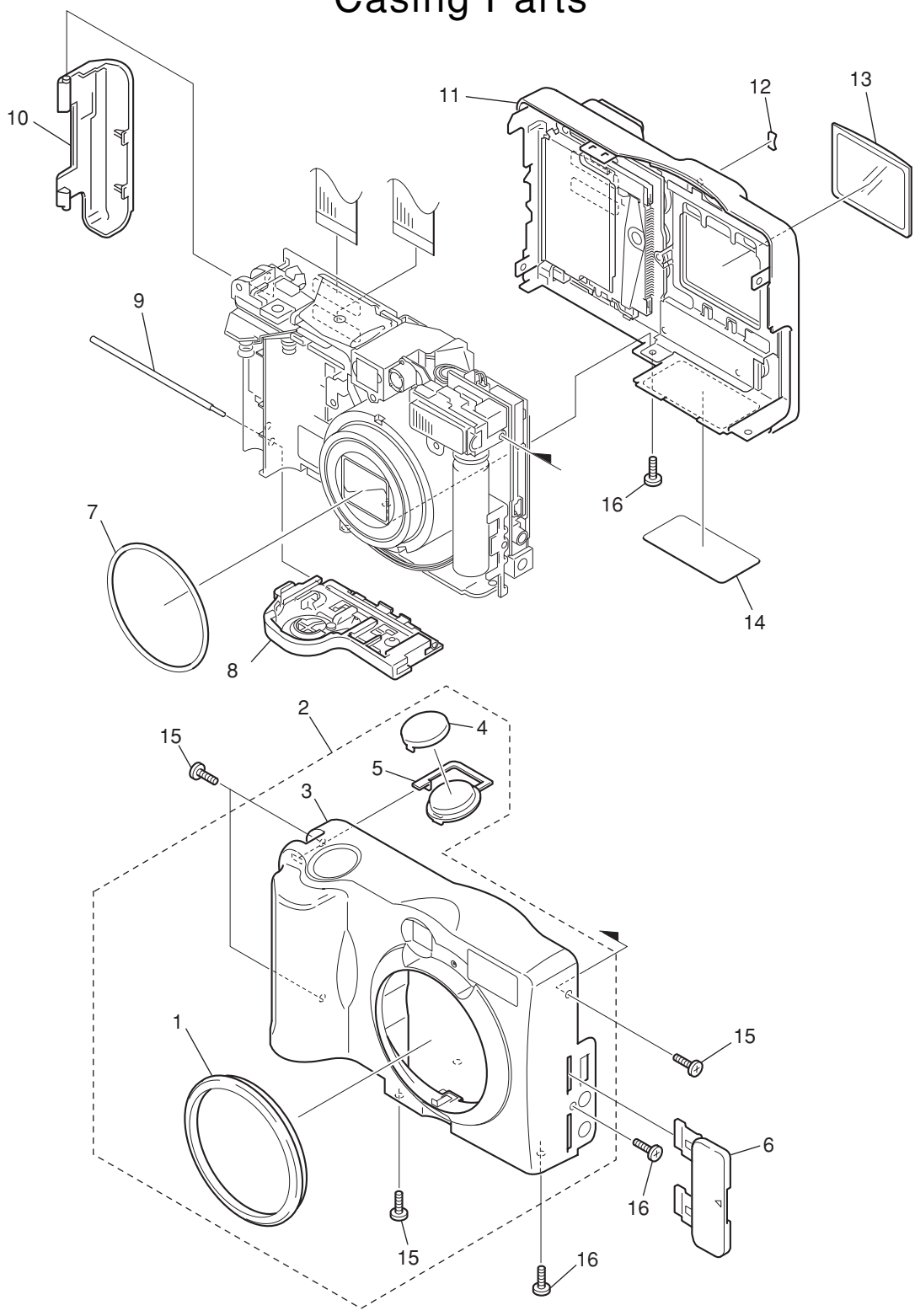
A: 使用頻度　高
B: 使用頻度　中
C: 使用頻度　低
D: 安全規格部品
E: 消耗部品
F: 標準ネジ、ワッシャー
S: 供給制限品

Category of CLASS

A: Frequency of use: High
B: Frequency of use: Middle
C: Frequency of use: Low
D: Safety-related critical parts
E: Consumable parts
F: Standard screws and washers
S: Supply of the parts is limited

Pg1

Casing Parts

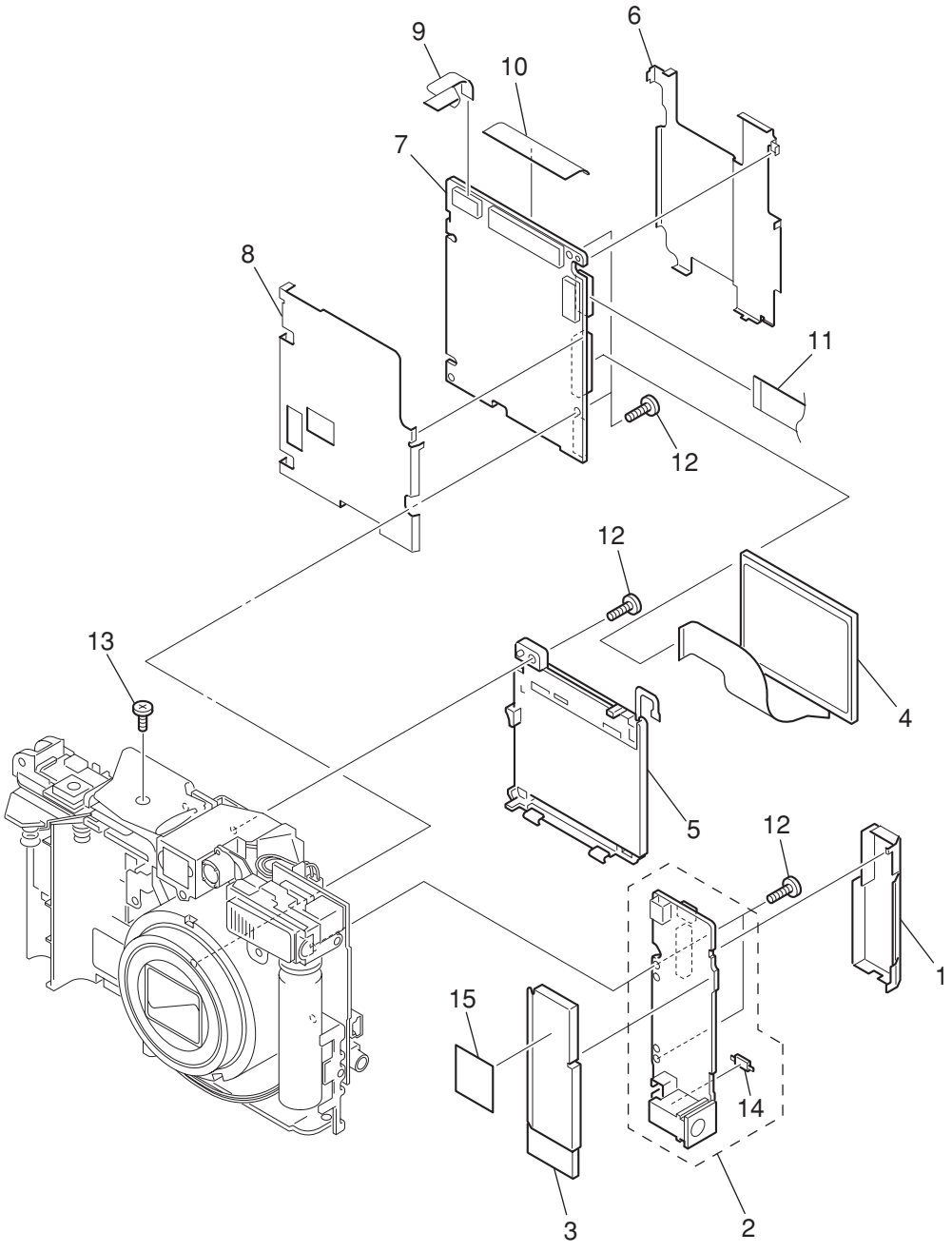


PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CY1-6154-000	B	1	RING, SCREW	A40/A30
2	CM1-1387-000	B	1	FRONT COVER UNIT	A30
3	CM1-1373-000	B	1	FRONT COVER UNIT	A40
4	CD1-3790-000	B	1	CAP, RELEASE	A40
5	CD1-3413-000	B	1	BASE, RELEASE	A40
6	CD1-4260-000	B	1	COVER, CONNECTOR	A40/A30
7	CD1-3432-000	C	1	SHEET, LENS BARREL	A40/A30
8	CM1-1375-000	B	1	BATTERY COVER UNIT	A40
	CM1-1388-000	B	1	BATTERY COVER UNIT	A30
9	CD1-3486-000	C	1	BAR, BATTERY COVER	A40/A30
10	CD1-4261-000	B	1	COVER, CF	A40/A30
11	CM1-1374-000	B	1	REAR COVER UNIT	A40/A30
12	CD1-4274-000	B	1	COVER, HOLE	A40/A30
13	CD1-4265-000	B	1	WINDOW, LCD	A40/A30
14	CY1-6136-000	B	1	PLATE, BODY NUMBER (J)	A40 (FOR JAPAN)
	CY1-6137-000	B	1	PLATE, BODY NUMBER (N)	A40 (FOR USA/CANADA)
	CY1-6138-000	B	1	PLATE, BODY NUMBER (E)	A40 (FOR EUROPE)
	CY1-6139-000	B	1	PLATE, BODY NUMBER (O)	A40 (FOR ASIA/AUSTRARIA)
	CY1-6140-000	B	1	PLATE, BODY NUMBER (J) (MALAYSIA)	A40 (FOR JAPAN)
	CY1-6141-000	B	1	PLATE, BODY NUMBER (N) (MALAYSIA)	A40 (FOR USA/CANADA)
	CY1-6142-000	B	1	PLATE, BODY NUMBER (E) (MALAYSIA)	A40 (FOR EUROPE)
	CY1-6143-000	B	1	PLATE, BODY NUMBER (O) (MALAYSIA)	A40 (FOR ASIA/AUSTRARIA)
	CY1-6144-000	B	1	PLATE, BODY NUMBER (J)	A30 (FOR JAPAN)
	CY1-6145-000	B	1	PLATE, BODY NUMBER (N)	A30 (FOR USA/CANADA)
	CY1-6146-000	B	1	PLATE, BODY NUMBER (E)	A30 (FOR EUROPE)
	CY1-6147-000	B	1	PLATE, BODY NUMBER (O)	A30 (FOR ASIA/AUSTRARIA)
15	CD1-4276-000	F	4	SCREW	A40
	CD1-4283-000	F	4	SCREW	A30
16	CD1-4277-000	F	3	SCREW	A40
	CD1-4284-000	F	2	SCREW	A30
	CD1-4277-000	F	1	SCREW	A30

Pg2

Internal Parts-1

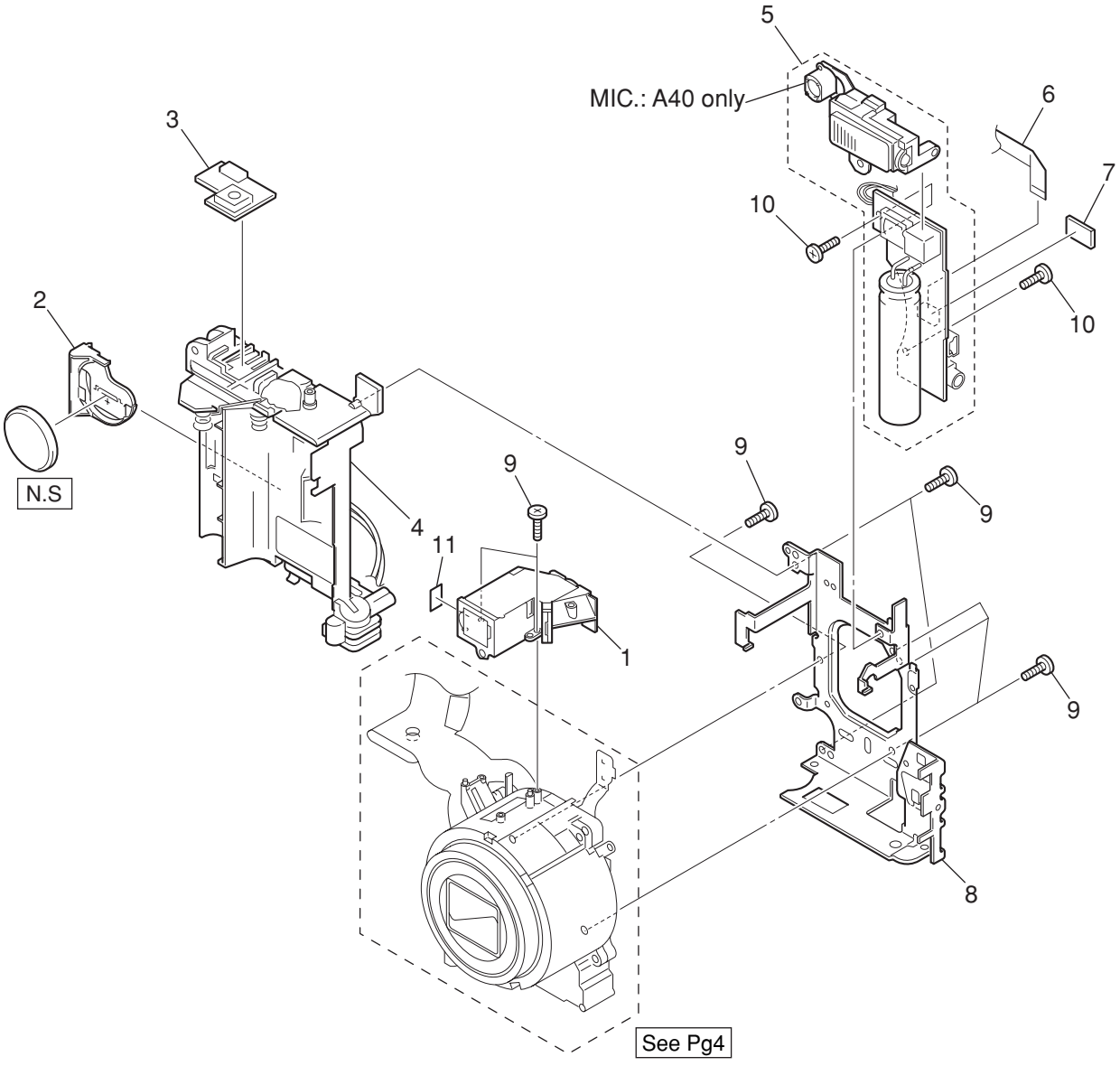


PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CD1-3510-000	C	1	CASE, DC/DC SHIELD 2	A40/A30
2	CM1-1377-000	C	1	DC/DC PCB ASS'Y	A40
	CM1-1390-000	C	1	DC/DC PCB ASS'Y	A30
3	CD1-3509-000	C	1	CASE, DC/DC SHIELD 1	A40/A30
4	WG2-5213-000	C	1	PANEL, LCD	A40/A30
	WG2-5213-001	C	1	PANEL, LCD (SELECTION)	A40/A30
5	CM1-1381-000	C	1	BACK LIGHT UNIT	A40/A30
6	CD1-3508-000	C	1	CASE, MAIN SHIELD 2	A40/A30
7	CM1-1376-000	C	1	MAIN PCB ASS'Y	A40
	CM1-1389-000	C	1	MAIN PCB ASS'Y	A30
8	CD1-3507-010	C	1	CASE, MAIN SHIELD 1	A40/A30
9	CK2-1204-000	C	1	FPC, M-R	A40/A30
10	CD1-4281-000	C	1	SHEET, EM 2	A40/A30
11	CK2-1202-000	C	1	FPC, M-D	A40/A30
12	CD1-4270-000	F	5	SCREW	A40/A30
13	CD1-3441-000	F	1	SCREW	A40/A30
14	WD1-5063-000	C	1	FUSE, MATSU.DENKI UNHH205	A40/A30
15	CD1-4282-000	C	1	SHEET, DC/DC	A40/A30

Pg3

Internal Parts-2

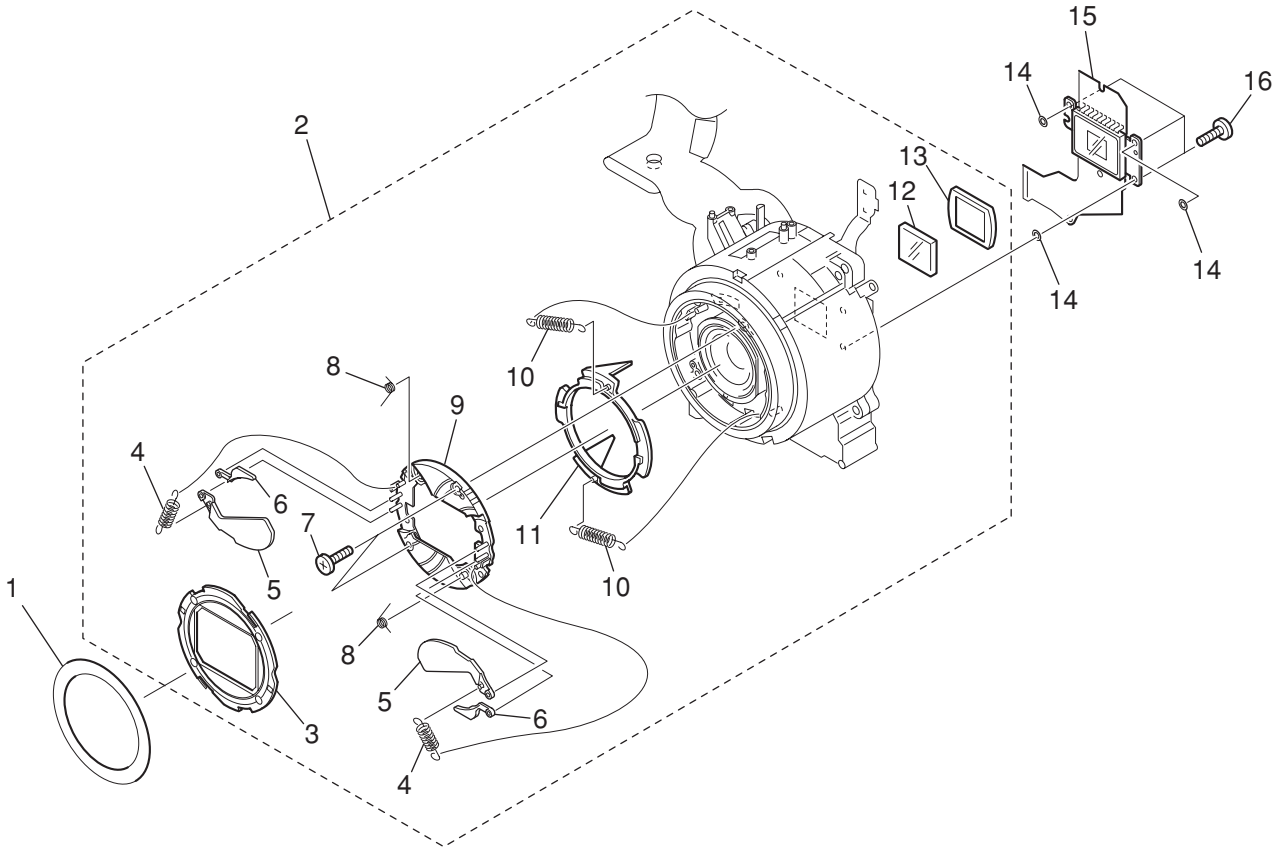


PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CM1-1180-000	B	1	FINDER UNIT	A40/A30
2	CD1-4262-000	B	1	HOLDER, LITHIUM BATTERY	A40/A30
3	CM1-1380-000	C	1	RLS PCB ASS'Y	A40/A30
4	CM1-1383-000	C	1	BATTERY BOX UNIT	A40/A30
5	CM1-1378-000	C	1	FLASH UNIT	A40
	CM1-1391-000	C	1	FLASH UNIT	A30
6	CK2-1203-000	C	1	FPC, M-S	A40/A30
7	CD1-3799-000	C	1	SHEET, EM 1	A40/A30
8	CD1-3473-010	C	1	FRAME, MAIN	A40/A30
9	XA4-9170-407	F	8	SCREW	A40/A30
10	CD1-4270-000	F	2	SCREW	A40/A30
11	CD1-4435-000	C	1	SHEET, CONDUCTION	A40/A30

Pg4

OPTICAL UNIT



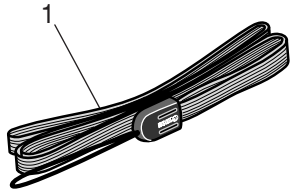
PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CD1-4257-000	B	1	PLATE, LENS	A40/A30
2	CY1-6133-000	B	1	OPTICAL UNIT	A40
	CY1-6134-000	B	1	OPTICAL UNIT	A30
3	CD1-4256-000	C	1	CAP, LENS BARREL	A40/A30
4	CS8-5228-000	C	2	SPRING, BARRIER CLOSE	A40/A30
5	CD1-4254-000	B	2	PLATE, BARRIER 1	A40/A30
6	CD1-4255-000	B	2	PLATE, BARRIER 2	A40/A30
7	XA4-9140-359	F	2	SCREW	A40/A30
8	CS8-6159-000	C	2	SPRING, BARRIER PLATE 2	A40/A30
9	CD1-3448-000	C	1	BASE, BARRIER	A40/A30
10	CS8-5229-000	C	2	SPRING, BARRIER OPEN	A40/A30
11	CD1-3447-000	C	1	RING, BARRIER DRIVE	A40/A30
12	YN1-2011-000	C	1	FILTER, IR	A40
	YN1-2021-000	C	1	FILTER, IR	A30
13	FC2-9355-000	C	1	RUBBER, CCD	A40/A30
14	CD1-3443-000 020	C	3	WASHER, CCD	A40
	CD1-3443-000 040	C	3	WASHER, CCD	A30
15	CY1-6092-000	C	1	CCD UNIT	A40
	CY1-6135-000	C	1	CCD UNIT	A30
16	XA4-9140-307	F	3	SCREW	A40/A30

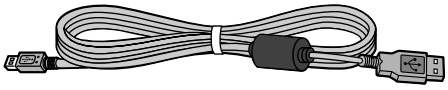
Pg5

Accessories-1

Wrist Strap WS-200

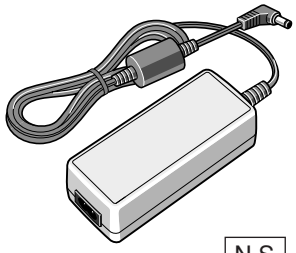


USB Interface Cable IFC-300PCU



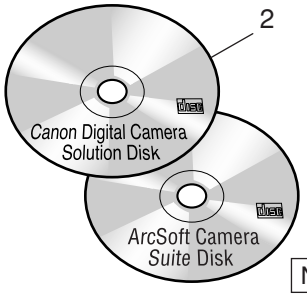
N.S

Compact Power Adapter CA-PS500



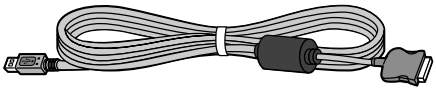
N.S

Canon Digital Camera Solution Disk, ArcSoft Camera Suite Disk



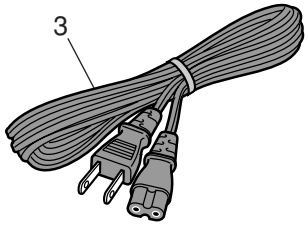
N.S

Direct Interface Cable DIF-100

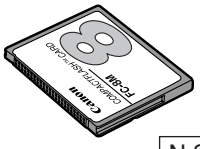


N.S

AC Cable

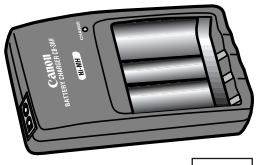


CF Card FC-8M



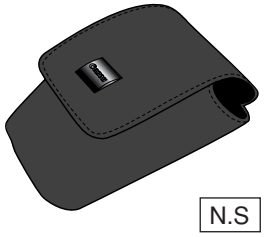
N.S

Battery Charger CB-3AH



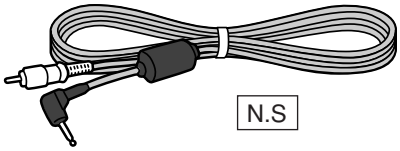
N.S

Soft Case SC-PS600



N.S

Video Cable VC-100



N.S

NiMH Battery NB4-100

N.S

N.S : N.S Stand for No Stock (Product available)

PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	C84-1060-000	B	1	WRIST STRAP WS-200	
2	C84-1109-000	S	1	CD-ROM, SOLUTION VER.8.0 (J/E)	
	C84-1110-000	S	1	CD-ROM, SOLUTION VER.8.0 (E/F/S)	
3	WT3-5062-000	C	1	AC CABLE (J)	FOR JAPAN
	WT3-5063-000	C	1	AC CABLE (N)	FOR USA/CANADA
	WT3-5064-000	C	1	AC CABLE (E)	FOR EUROPE/ASIA
	WT3-5115-000	C	1	AC CABLE (B)	FOR ASIA
	WT3-5066-000	C	1	AC CABLE (A)	FOR AUSTRARIA

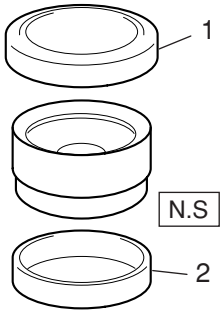
Pg6

Accessories-2

Conversion Lens Adapter LA-DC52

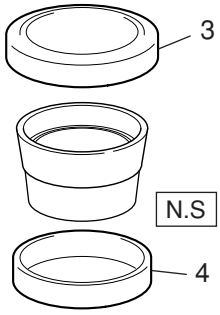
N.S

Wide Converter WC-DC52



N.S

Tele Converter TC-DC52

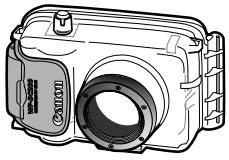


N.S

Close-up Lens 250D (52mm)

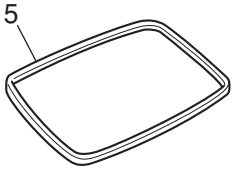
N.S

Waterproof Case WP-DC200s

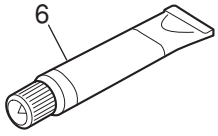


N.S

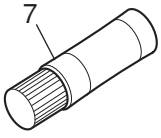
Waterproof Seal



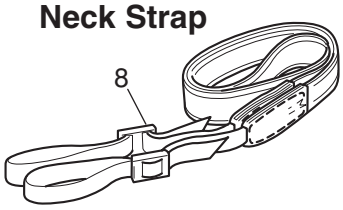
Silicone Grease



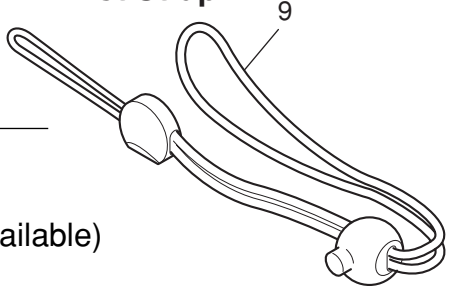
Anti-Condesation Solution



Neck Strap



Wrist Strap



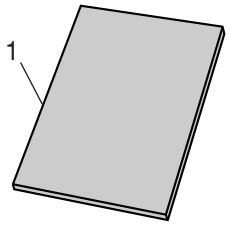
N.S : N.S Stand for No Stock (Product available)

PARTS LIST

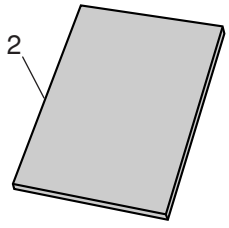
SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CD1-3830-000	B	1	CAP, FRONT	
2	CD1-4042-000	B	1	CAP, REAR	
3	CD1-4315-000	B	1	CAP, FRONT	
4	CD1-4316-000	B	1	CAP, REAR	
5	CY1-6100-000	B	1	PACKING, RUBBER, WP-DC200	
6	DY9-3029-000	C	1	GREASE, PACKING	
7	DY9-3028-000	C	1	PROTECTOR, MOISTURE	
8	CY1-6099-000	B	1	NECK STRAP	
9	CY1-6174-000	B	1	WRIST STRAP	

Accessories-3

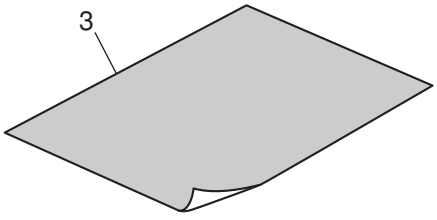
Camera User Guide



Software Starter Guide



System Map

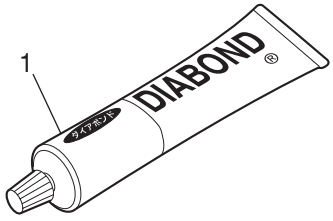


PARTS LIST

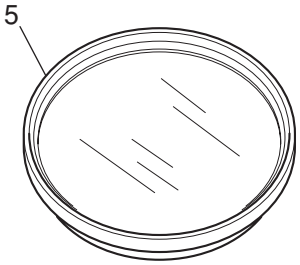
SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CDI-J028-000	S	1	I.BOOK (J) PS A40/A30	FOR JAPAN
	CDI-E047-000	S	1	I.BOOK (E) PS A40/A30	FOR USA/CANADA/ASIA/ AUSTRARIA
	CDI-F037-000	S	1	I.BOOK (F) PS A40/A30	FOR CANADA
	CDI-S038-000	S	1	I.BOOK (S) PS A40/A30	FOR USA
2	CDI-J032-000	S	1	SOFTWARE GUIDE (J) FOR VER8.0	FOR JAPAN
	CDI-E041-000	S	1	SOFTWARE GUIDE (E) FOR VER8.0	FOR USA/CANADA/ASIA/ AUSTRARIA
	CDI-F031-000	S	1	SOFTWARE GUIDE (F) FOR VER8.0	FOR CANADA
	CDI-S028-000	S	1	SOFTWARE GUIDE (S) FOR VER8.0	FOR USA
3	CDI-J029-000	S	1	SYSTEM MAP (J) PS A40/A30	FOR JAPAN
	CDI-E048-000	S	1	SYSTEM MAP (E) PS A40/A30	FOR USA/CANADA/ASIA/ AUSTRARIA
	CDI-F038-000	S	1	SYSTEM MAP (F) PS A40/A30	FOR CANADA
	CDI-S039-000	S	1	SYSTEM MAP (S) PS A40/A30	FOR USA

Service Tools

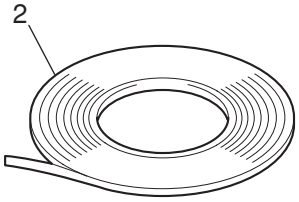
DIA BOND NO.1663G BLACK



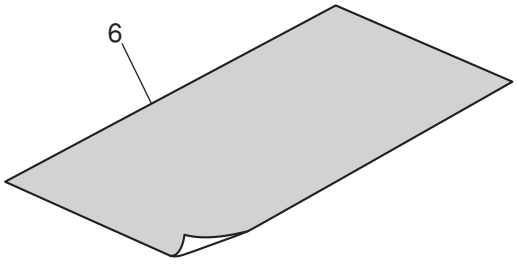
W-10 Filter



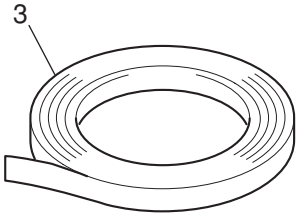
Adhesive Tape SONY T4000

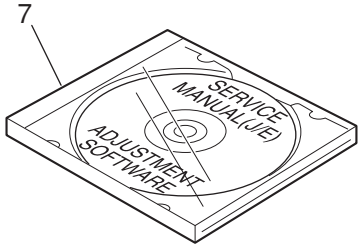


18% Gray Chart

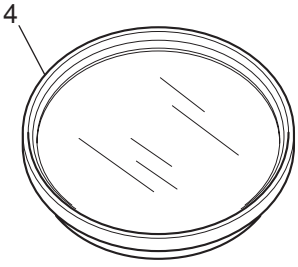


Adhesive Tape 3M NO.56





C-12 Filter



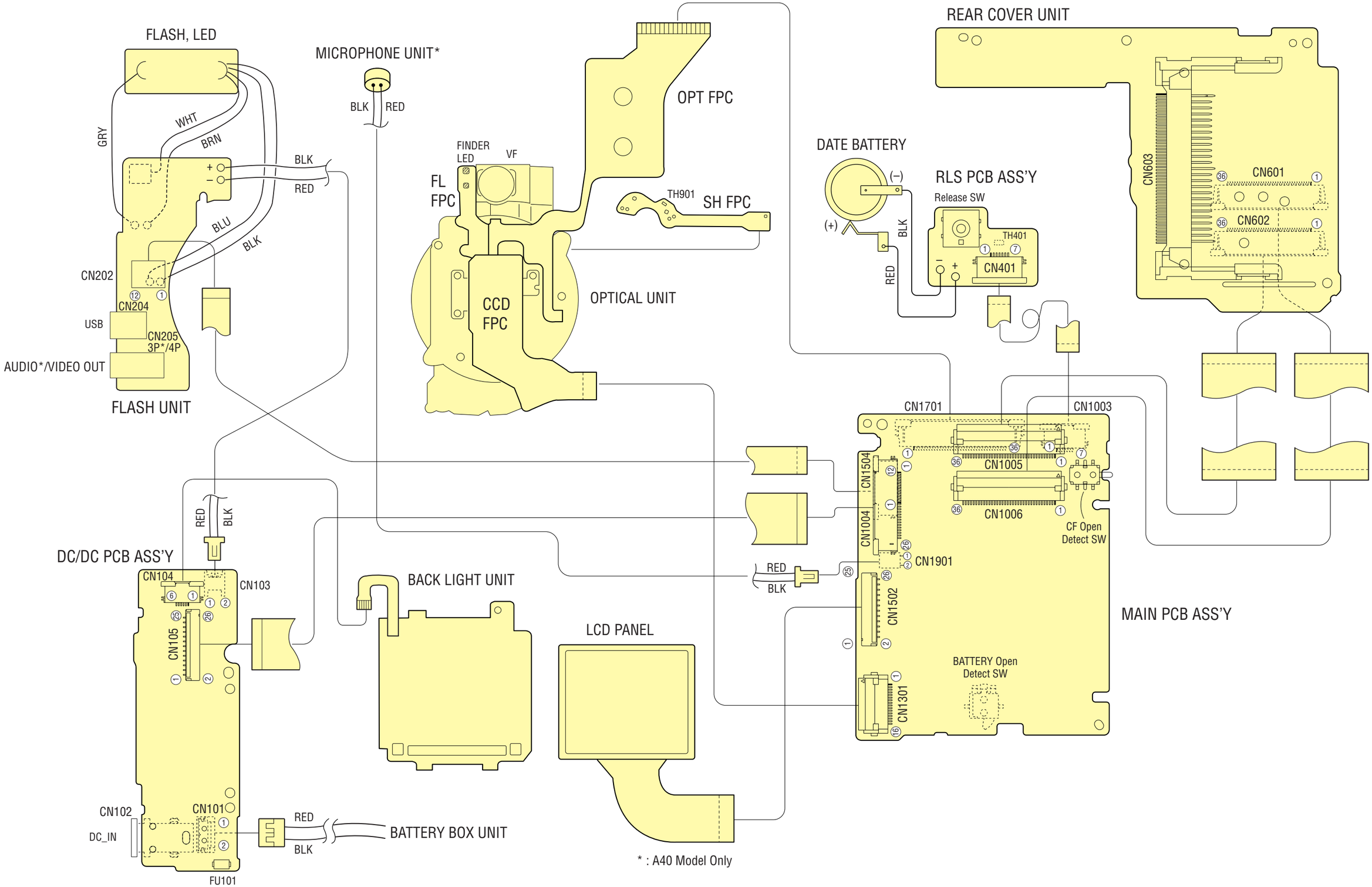
PARTS LIST

SYMBOL	PARTS NO.	CLASS	QTY	DESCRIPTION	REMARKS
1	CY9-8129-000	Y	1	BOND, DIA BOND NO.1663G BLACK	
2	CY4-6012-000	Y	1	ADHESIVE TAPE, SONY T4000	6mm X 50m Roll
3	CY4-6018-000	Y	1	ADHESIVE TAPE, 3M NO.56	15mm X 66m Roll
4	DY9-2029-000	Y	1	FILTER, C-12	
5	CY9-1543-000	Y	1	FILTER, W-10	
6	CY4-6016-000	Y	1	CHART, 18% GRAY	
7	CY8-4375-031	Y	1	CD-ROM, SERVICE MANUAL (J/E)	

CHAPTER 5. DIAGRAMS

CONTENTS

1. INTERCONNECTION DIAGRAM



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CONNECTORS

MAIN PCB ASS'Y

CN1003	
1	M_GND
2	SCAN
3	SW1
4	SW2
5	BUT_BATT
6	VBATTEMP
7	C_GND

CN1004	
1	DC_DET
2	VDD2
3	VEE2
4	VCC2
5	C_GND
6	C_GND
7	C_GND
8	C_GND
9	VBATT
10	VCC1
11	VCC1
12	VCC1
13	VCC1A
14	VDD34
15	VCC34
16	E1PLAT
17	E2LAT
18	E3LAT
19	E4LAT
20	VCC1M
21	VCC1M
22	VCC1M
23	LED_BL
24	M_GND
25	M_GND
26	M_GND

CN1005	
1	M_GND
2	C_GND
3	SET
4	MINUS
5	PLUS
6	MENU
7	SCAN
8	POWER
9	VBATT_R
10	EXP/WB
11	DISP
12	DIAL0
13	SCON
14	DIAL1
15	DIAL2
16	C_GND
17	C_GND
18	/CD1
19	D03
20	D11
21	D04
22	D12
23	D05
24	D13
25	D06
26	D14
27	D07
28	D15
29	/CE1
30	/CE2
31	A10
32	/VS1
33	/OE
34	/IORD
35	A09
36	/IOWR

CN1006	
1	M_GND
2	C_GND
3	BUZZER
4	TELE
5	WIDE
6	C_GND
7	C_GND
8	/CD2
9	D10
10	/IOIS16
11	D09
12	D02
13	D08
14	D01
15	Not Connected
16	D00
17	Not Connected
18	A00
19	/REG
20	A01
21	Not Connected
22	A08
23	/WE
24	A07
25	IREQ
26	VCC1
27	VCC1
28	A06
29	Not Connected
30	A05
31	/VS2
32	A04
33	RESET
34	A03
35	/WAIT
36	A02

CN1301	
1	C_GND (LG)
2	VOUT (VO)
3	C_GND (PW)
4	VDD (OD)
5	SUB (SUB)
6	CSUB (OG)
7	VL (PT)
8	RG (R)
9	H2 (H2)
10	H1 (H1)
11	V1B (V1)
12	V1A (V5)
13	V2 (V2)
14	V3B (V3)
15	V3A (V6)
16	V4 (V4)

( ) : A30 Model

CN1502	
1	Not Connected
2	RGT
3	BLUE
4	RED
5	GREEN
6	PSIG
7	HCK1
8	HCK2
9	CEXT/REXT
10	Not Connected
11	REF
12	HST
13	WIDE
14	Not Connected
15	VSSG
16	VDDG
17	VSS
18	VDD
19	DWN
20	EN
21	VCK
22	VST
23	COM
24	Not Connected

CN1504	
1	UV_GND
2	VBUS
3	D–
4	D+
5	VIDEO
6	AUDIO
7	VC_DET
8	STSP
9	VCHGLVL
10	EFCHG
11	LEDS_AN
12	LED_SELF

CN1701	
1	ZMRST_EM
2	ZMRST_CO
3	ZMRST_AN
4	ZMRST_CA
5	LEDG_CA
6	LEDA_CA
7	LEDY_CA
8	LEDY_AN
9	LEDA_AN
10	LEDG_AN
11	AFRST_EM
12	AFRST_CO
13	AFRST_AN
14	AFRST_CA
15	ZMO–
16	ZMO–
17	ZMO+
18	ZMO+
19	AFA+
20	AFA–
21	AFB–
22	AFB+
23	ZMPO0_EM
24	ZMPO0_CA
25	ZMPO0_AN
26	ZMPO0_CO
27	ZMPO1_AN
28	ZMPO1_CA
29	ZMPO1_CO
30	ZMPO1_EM
31	IR+
32	IR–
33	SH+
34	SH–
35	THM2
36	THM1

RLS PCB ASS'Y

CN401	
1	M_GND
2	SCAN
3	SW1
4	SW2
5	BUT_BATT
6	VBATTEMP
7	C_GND

REAR COVER UNIT

CN601	
1	M_GND
2	C_GND
3	SET
4	MINUS
5	PLUS
6	MENU
7	SCAN
8	POWER
9	VBATT_R
10	EXP/WB
11	DISP
12	DIAL0
13	SCON
14	DIAL1
15	DIAL2
16	C_GND
17	C_GND
18	/CD1
19	D03
20	D11
21	D04
22	D12
23	D05
24	D13
25	D06
26	D14
27	D07
28	D15
29	/CE1
30	/CE2
31	A10
32	/VS1
33	/OE
34	/IORD
35	A09
36	/IOWR

CN602	
1	M_GND
2	C_GND
3	BUZZER
4	TELE
5	WIDE
6	C_GND
7	C_GND
8	/CD2
9	D10
10	/IOIS16
11	D09
12	D02
13	D08
14	D01
15	/STSDHG
16	D00
17	SPKR
18	A00
19	/REG
20	A01
21	INPACK
22	A08
23	/WE
24	A07
25	IREQ
26	VCC1
27	VCC1
28	A06
29	/CSEL
30	A05
31	/VS2
32	A04
33	RESET
34	A03
35	/WAIT
36	A02

CN603	
1	GND
2	D03
3	D04
4	D05
5	D06
6	D07
7	/CE1
8	A10
9	/OE
10	A09
11	A08
12	A07
13	VCC
14	A06
15	A05
16	A04
17	A03
18	A02
19	A01
20	A00
21	D00
22	D01
23	D02
24	/IOIS16
25	/CD2
26	/CD1
27	D11
28	D12
29	D13
30	D14
31	D15
32	/CE2
33	/VS1
34	/IORD
35	/IOWR
36	/WE
37	IREQ
38	VCC
39	/CSEL
40	/VS2
41	RESET
42	/WAIT
43	/INPACK
44	/REG
45	/SPKR
46	/STSDHG
47	D08
48	D09
49	D10
50	GND

FLASH UNIT

CN201	
1	VBATT
2	GND

CN202	
1	LED_SELF
2	LEDS_AN
3	EFCHG
4	VCHGLVL
5	STSP
6	AUDIO*
7	VC_DET
8	VIDEO
9	D+
10	D–
11	VBUS
12	UV_GND

CN204	
1	VBUS
2	D–
3	D+
4	Not Connected
5	UV_GND

CN205	
1	UV_GND
2	AUDIO
3	VIDEO
4	VC_DET

*A40 Model Only

DC/DC PCB ASS'Y

CN101	
1	BATT+
2	BATT–

CN102	
1	VDC_IN
2	BATT-_SEPA
3	GND

CN103	
1	VBATT
2	GND

CN104	
1	LED_BL
2	LED_BL
3	LED_BLA4
4	LED_BLA3
5	LED_BLA2
6	LED_BLA1

CN105	
1	Not Connected
2	VDD2
3	VEE2
4	VCC2
5	C_GND
6	C_GND
7	C_GND
8	C_GND
9	VBATT
10	VCC1
11	VCC1
12	VCC1
13	VCC1A
14	VDD34
15	VCC34
16	E1PLAT
17	E2LAT
18	E3LAT
19	E4LAT
20	VCC1M
21	VCC1M
22	VCC1M
23	LED_BL
24	M_GND
25	M_GND
26	M_GND

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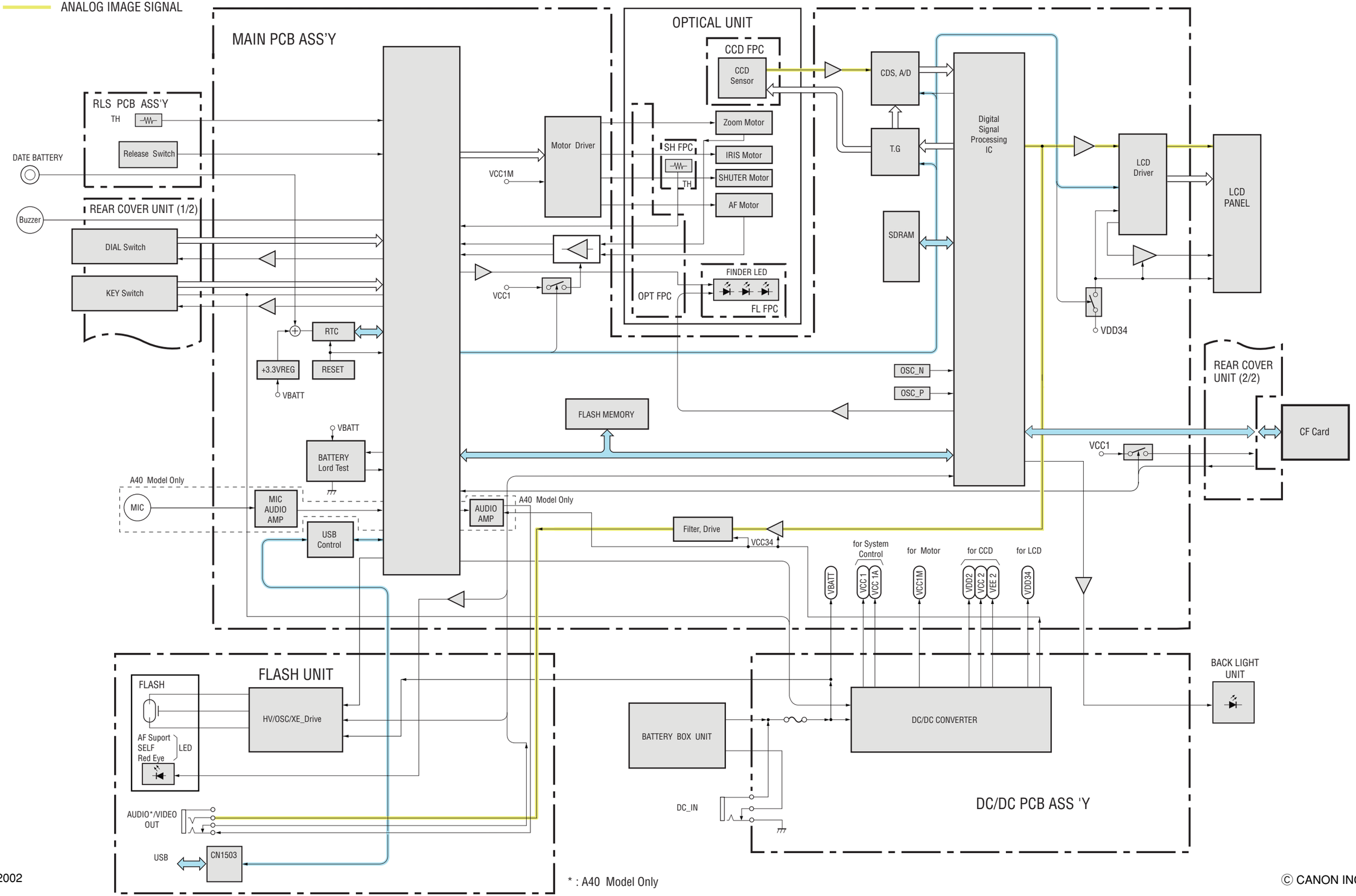
2. BLOCK DIAGRAMS

2.1 OVERALL

DATA COMMUNICATION
ANALOG IMAGE SIGNAL



* : A40 Model Only

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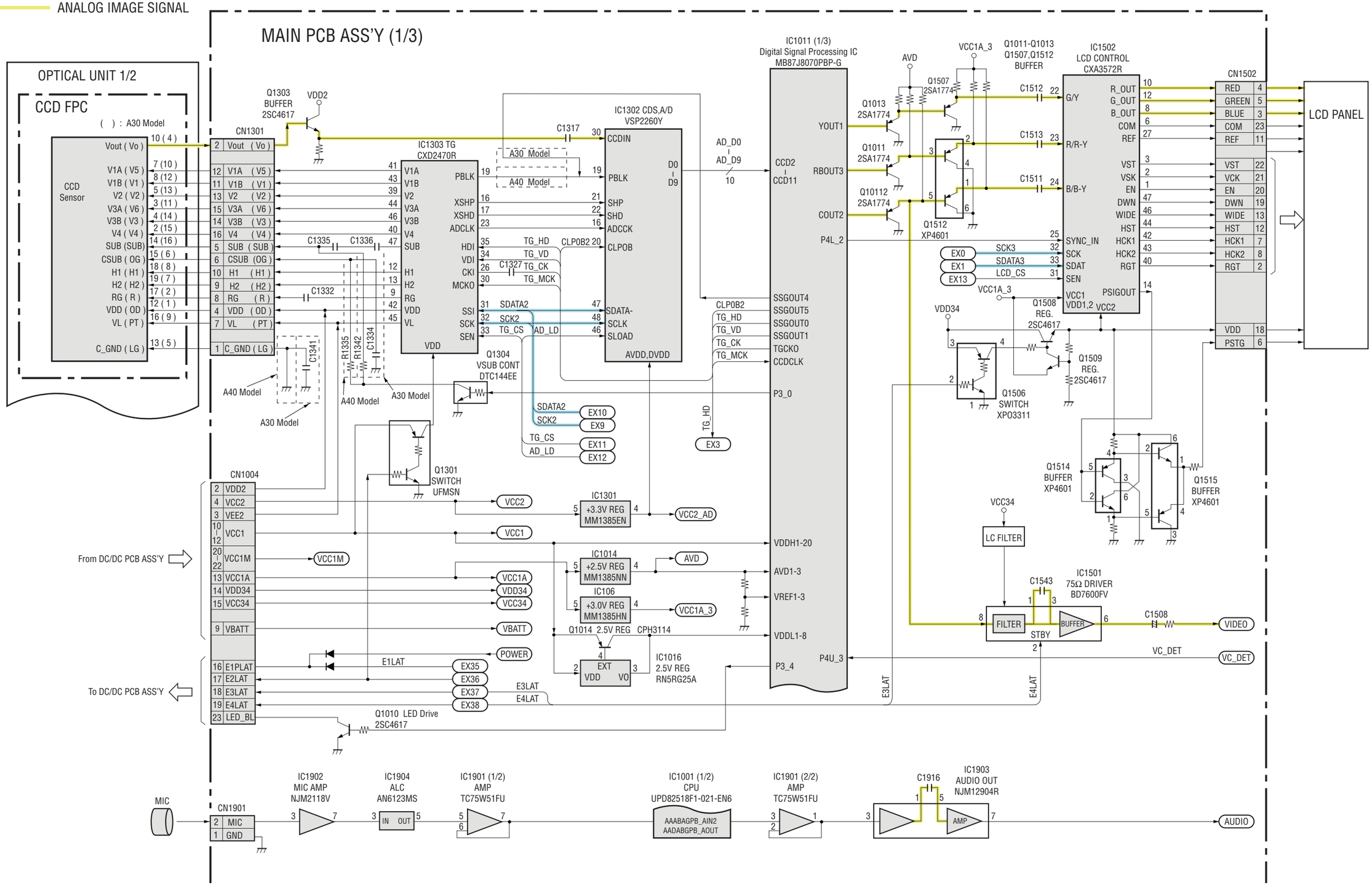
2.2 MAIN PCB ASS'Y (1/3)

DATA COMMUNICATION
ANALOG IMAGE SIGNAL



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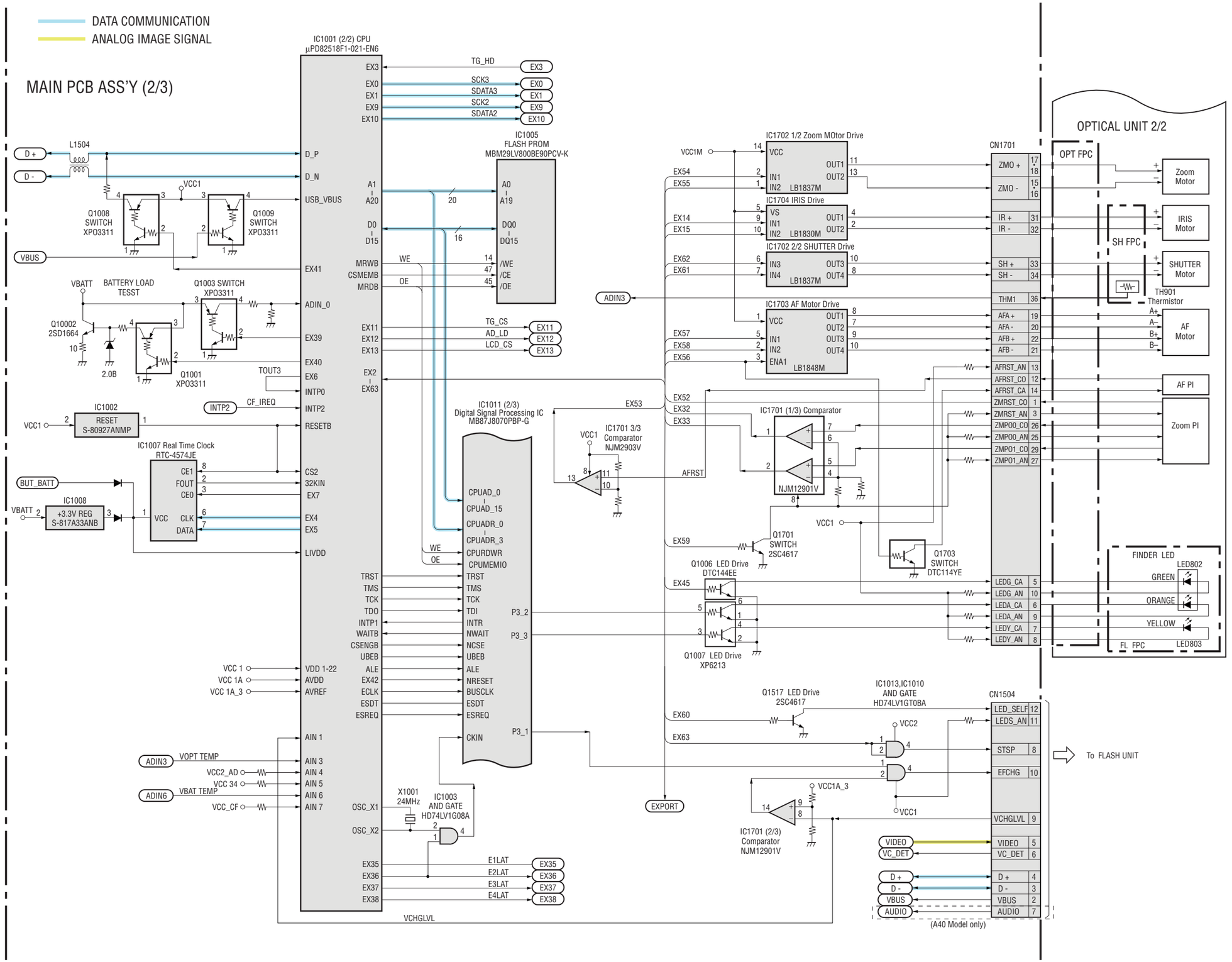

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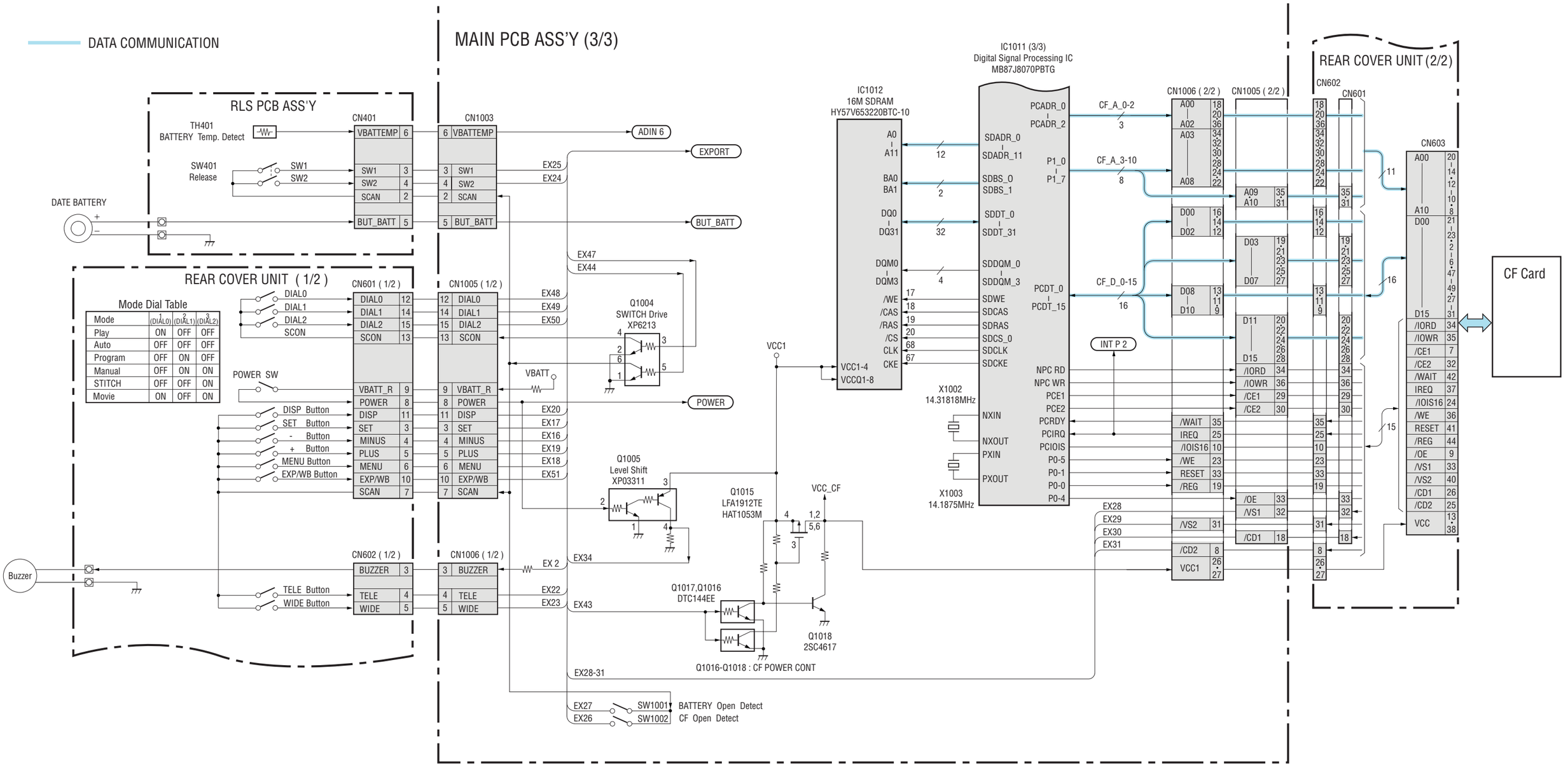
2.4 MAIN PCB ASS'Y (3/3)



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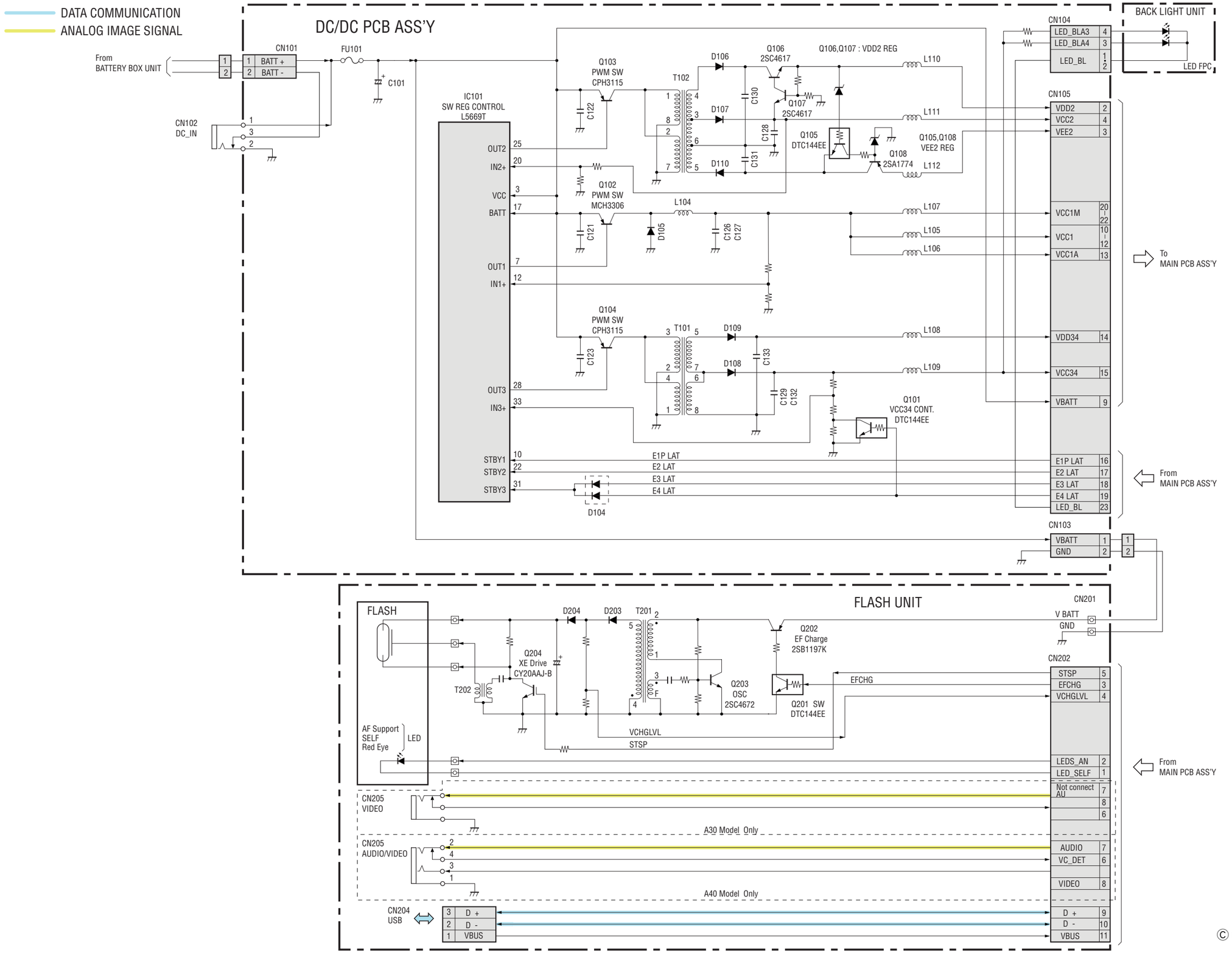
2.5 DC/DC PCB ASS'Y



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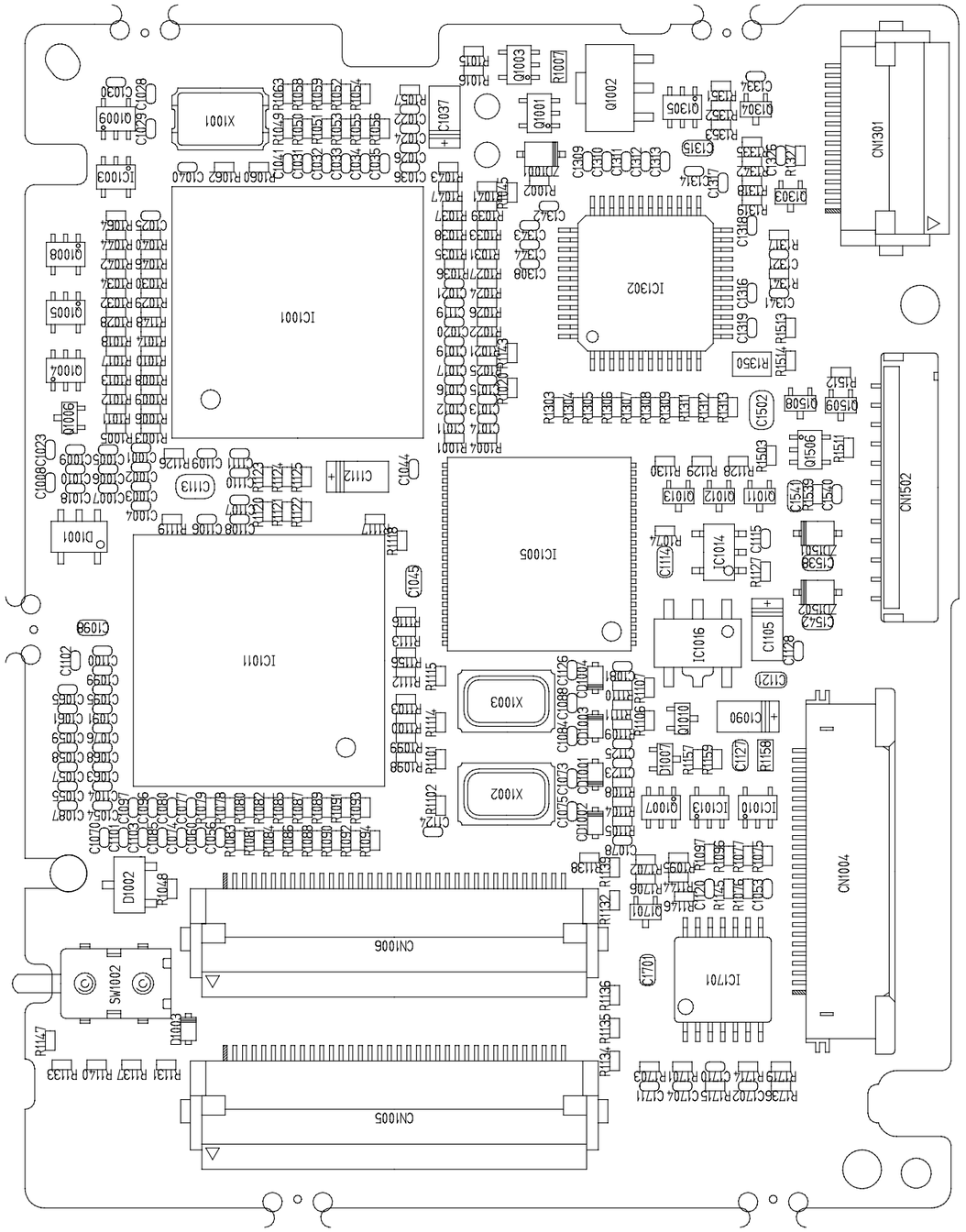
2.6 Abbreviation in Block Diagrams

Abbreviation	Nominal name	Description
ADC	Analog-to-Digital (A/D) Converter	
AE	Automatic Exposure control	
AF	Automatic Focussing control	
AND	Logic AND circuit	
R-Y/B-Y		Color difference signals of TV system
BPF	Band-Pass Filter	
BUFFER	Buffer circuit	
C	Chrominance signal	Color component signal of TV system
CCD	Charge-Coupled Device	CCD imager
CDS	Correlated Double Sampling system	
COMP.VIDEO	Composite video signal	
COMPARATOR	Voltage comparator	
CPU	Central Processing Unit	
DAC	Digital-to-Analog (D/A) Converter	
DRAM	Dynamic Random Access Memory	Memory with which read and write are freely possible.
DSP	Digital Signal Processing	Typically DSP device
EEPROM	Electrically Erasable PROM	PROM that is electrically erasable.
EVF	Electronic View Finder	
FET	Field Effect Transistor	
FLASH MEMORY		Non-volatile memory with which write and read are freely possible.
HPF	High-Pass Filter	
I/F	InterFace	The circuit that interconnects 2 devices or circuits.
IGBT	Insulated Gate Bipolar Transistor	Conductivity-modulation type FET transistor
INV.	Logic Inverter circuit	
IR	InfraRed ray	
IRIS	Iris	
LCD	Liquid Crystal Device	Typically LCD display
LED	Light Emitting Diode	Typically LED display
LPF	Low-Pass Filter	
NTSC	National Television System Committees	NTSC color TV system developed in USA
OP Amp	OPerational Amplifier	
OR	Logic OR circuit	
OSC	OSCillator	
PAL	Phase Alternating by Line	PAL color TV system developed in Germany
PLL	Phase Locked Loop	
PROM	Programmable Read Only Memory	Non-volatile memory in which program can be written.
PWM	Pulse Width Modulation	
REG.	REGulated power supply	
RTC	Real Time Clock	Reference clock oscillator
SDRAM	Synchronous Dynamic RAM	DRAM whose bus interface is synchronous.
SECAM	SEquential Colour À Mémoire	SECAM color TV system developed in France
SW REG	SWitching REGulator	Switching type regulated power supply device
TG	Timing Generator	
USB	Universal Serial Bus	USB type serial data communication system
VCO	Voltage Controlled Oscillator	
VCXO	Voltage Controlled X'tal Oscillator	
XE	Xenon Tube	
Y	Y-signal	Luminance component signal of TV system

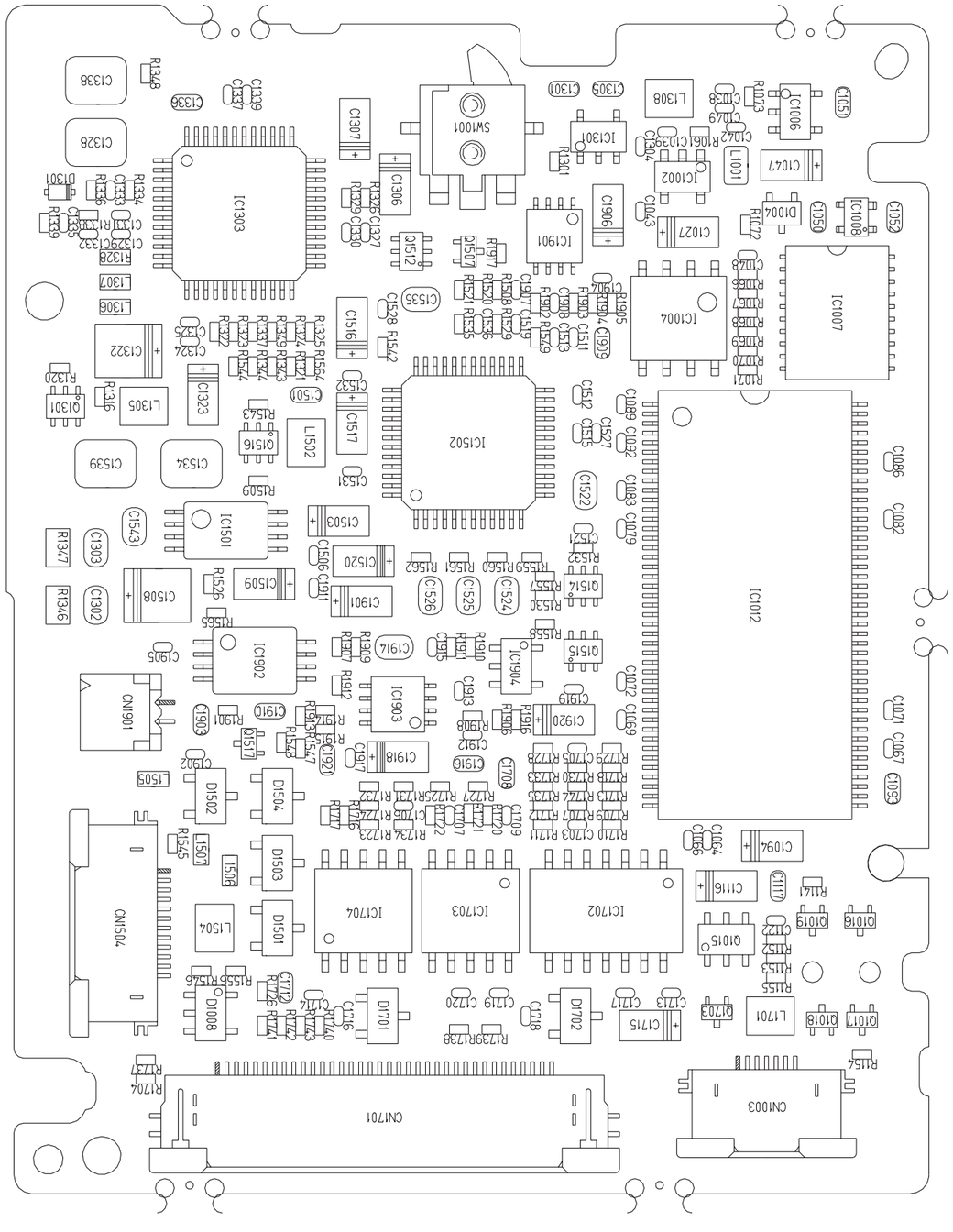
3. P.C.B. DIAGRAMS

3.1 MAIN PCB ASS'Y

MAIN PCB ASS'Y (SOLDERING SIDE)



MAIN PCB ASS'Y (COMPONENT SIDE)



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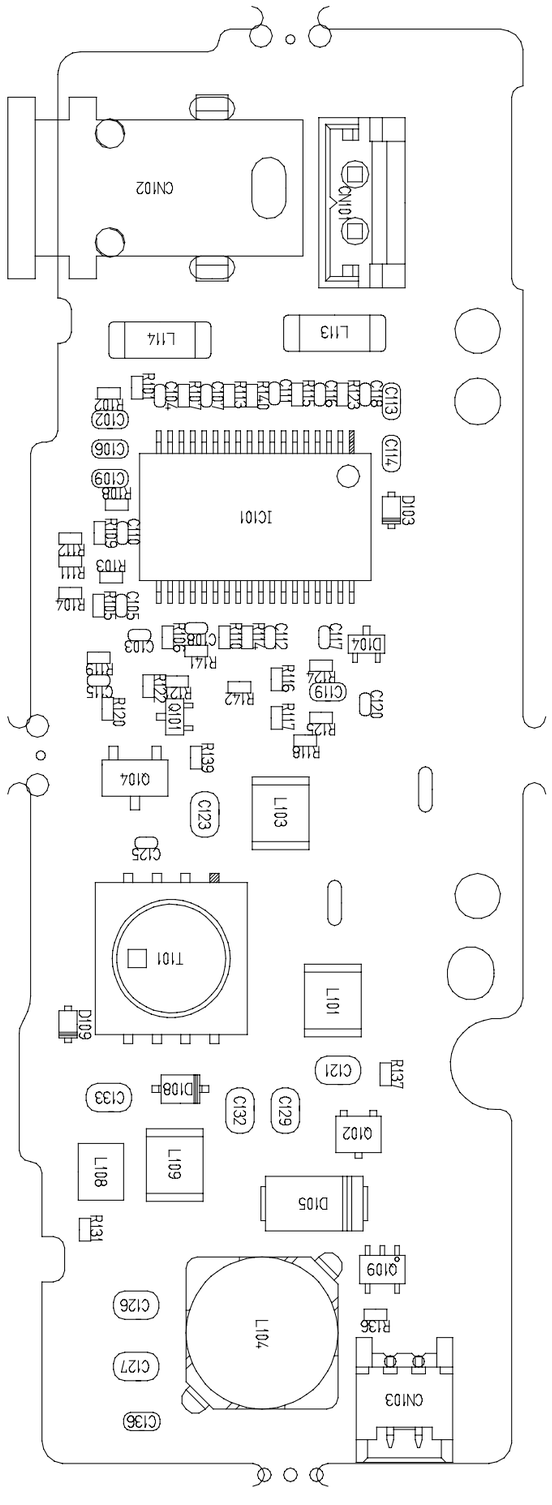
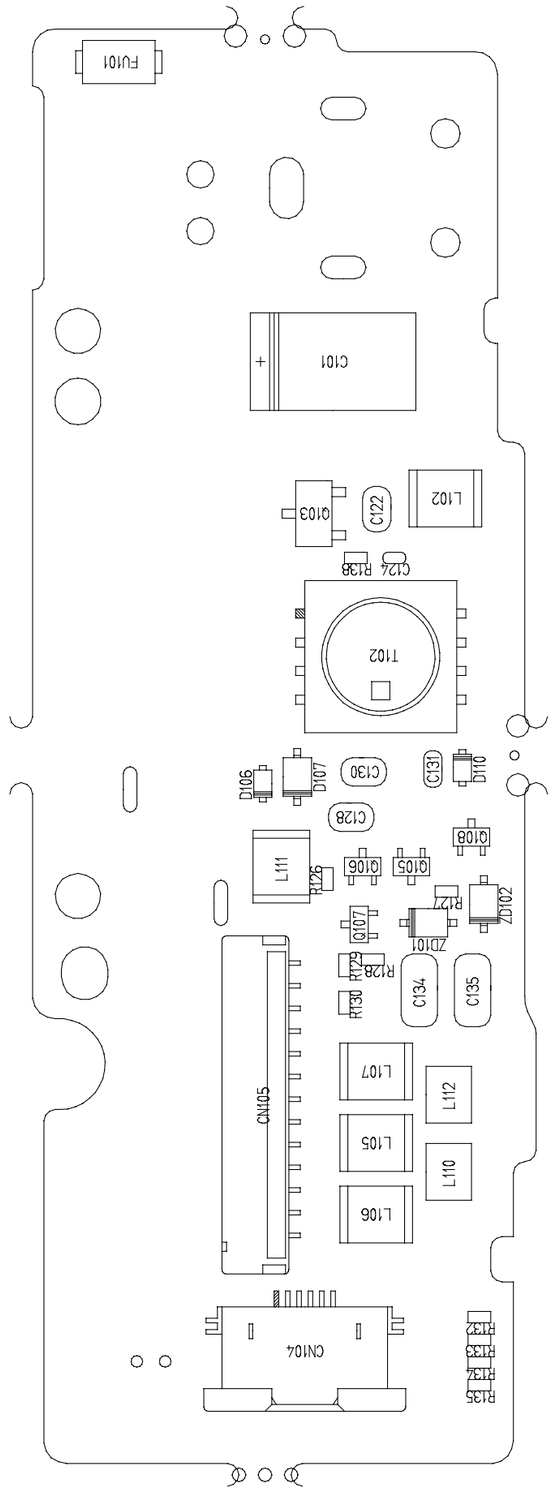
3.2 DC/DC PCB ASS'Y

DC PCB ASS'Y (SOLDERING SIDE)



DC PCB ASS'Y (COMPONENT SIDE)



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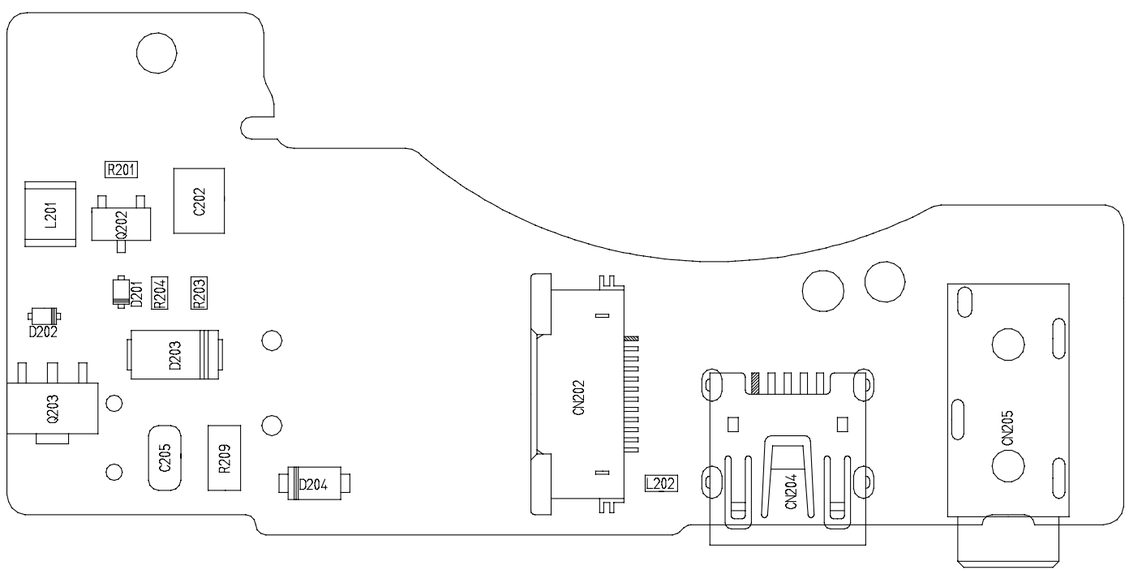
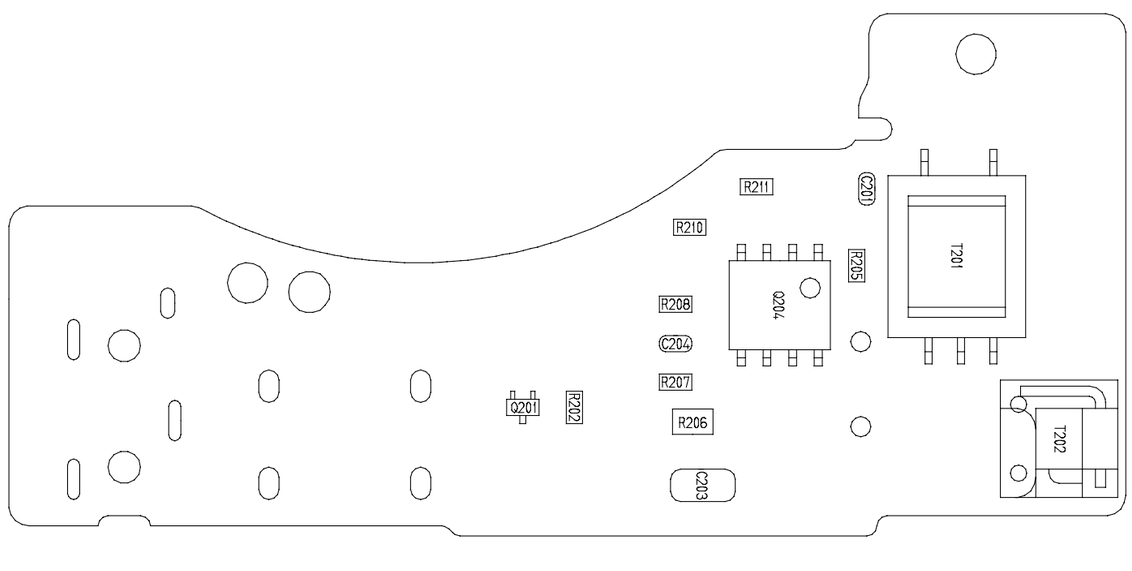
3.3 FLASH UNIT

FLASH PCB ASS'Y (SOLDERING SIDE)



FLASH PCB ASS'Y (COMPONENT SIDE)



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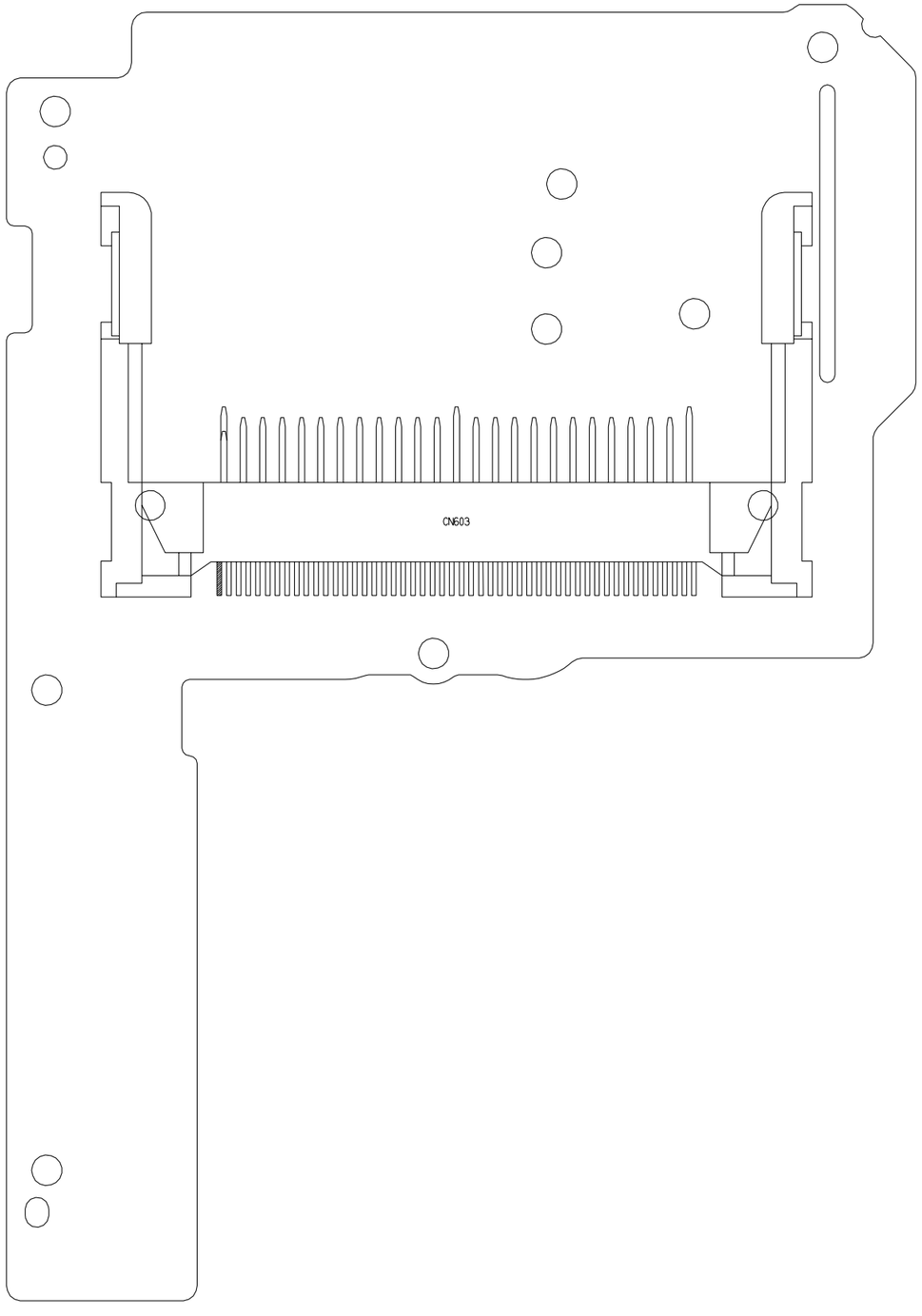
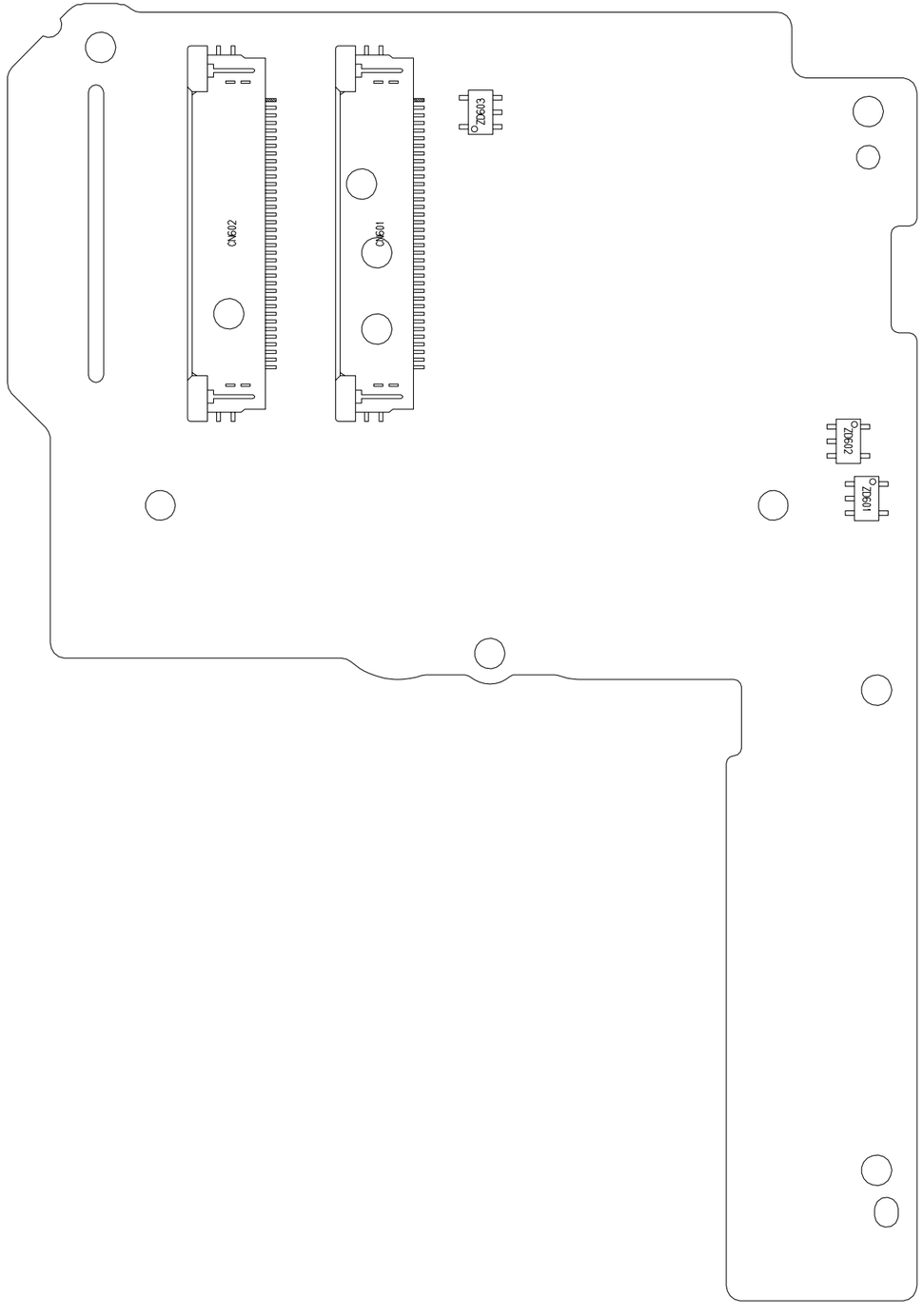
3.4 REAR COVER UNIT

REAR COVER UNIT (SOLDERING SIDE)



REAR COVER UNIT (COMPONENT SIDE)



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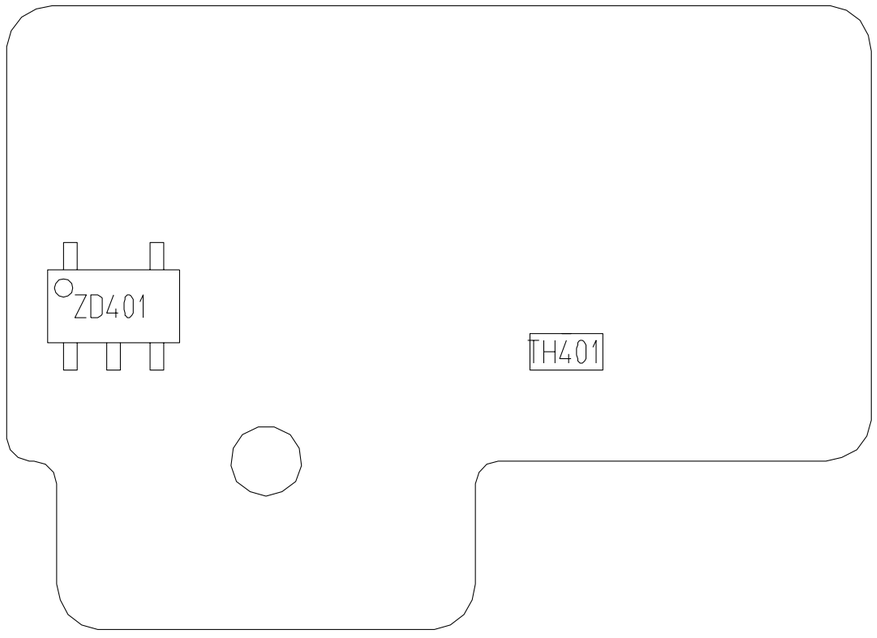
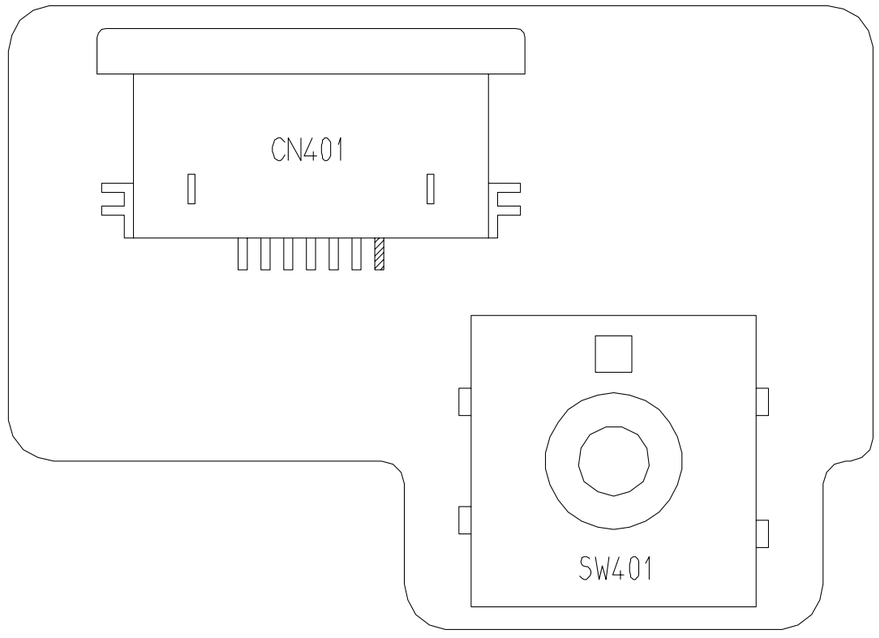
RLS PCB ASS'Y (SOLDERING SIDE)



RLS PCB ASS'Y (COMPONENT SIDE)



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How to print out the Zoom/AF Chart

The large materials such as “Zoom/AF Chart” that occupy a page of large size, can be divided into several smaller pages using “Graphic Select Tool” for printing the entire page.

< Procedures >

1. Select “ Text Select Tool” from the Command Bar and keep pressing it.

   Then, select the “ Graphic Select Tool”.

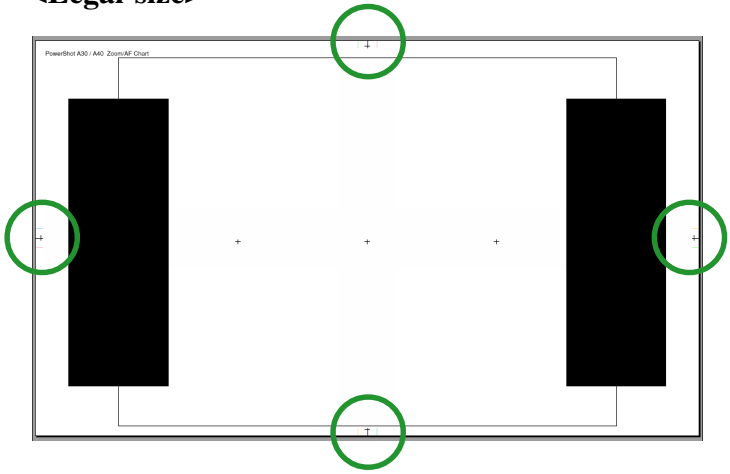
2. Select the desired portion to print. (Drag the cursor on desired area.)
3. Click “Print” of the Menu Bar. Check “Selected Thumbnails/Graphic”, then start printing.
   When you check “Fit to Page”, the date can be reduced or enlarged of its printing size so that the printing size fits the size of paper.*
4. To cancel the printing area, click an arbitrary position on the display.

* Remarks

The “Zoom/AF Chart” of the Service Manual that is saved in this CD-ROM, has the colored markings in colors so that the entire page can be divided into print papers (legal-size x 4 pages, A3 size x 3 pages). Operate as follows.

Select “Graphic Select Tool”. Select the 2 markings having the same color to select the first printing area. Press “Print” to print the first printing area. Perform the above steps 2 and 3. Select another 2 markings having the second color to select the second printing area. Press “Print” to print the second printing area. Repeat this procedure until the all pages are printed.

<Legal-size>



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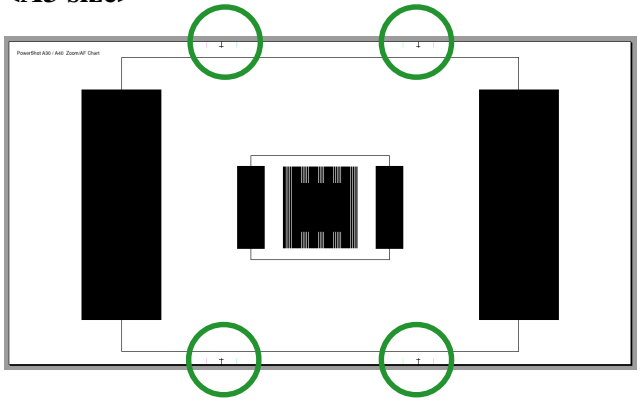
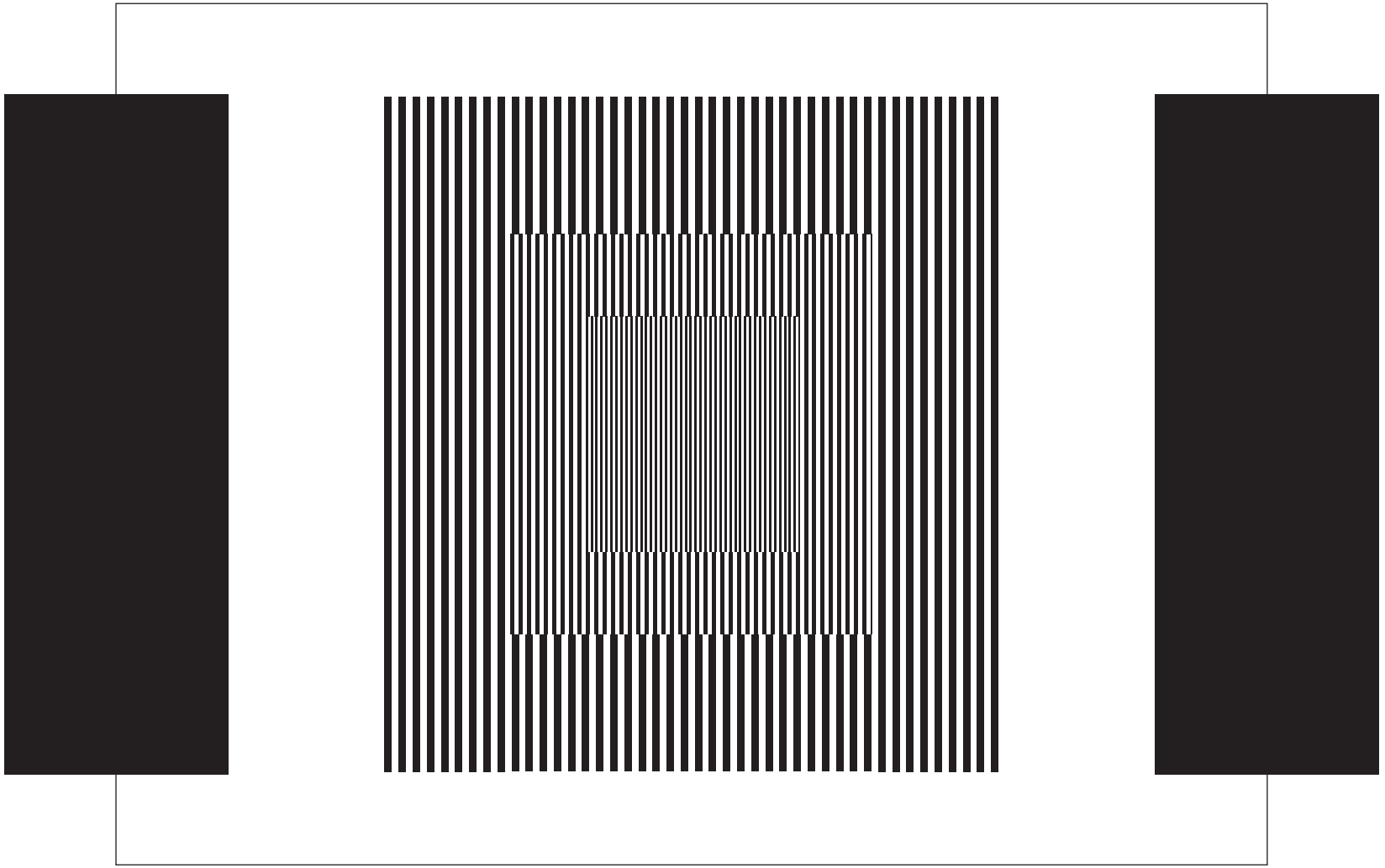
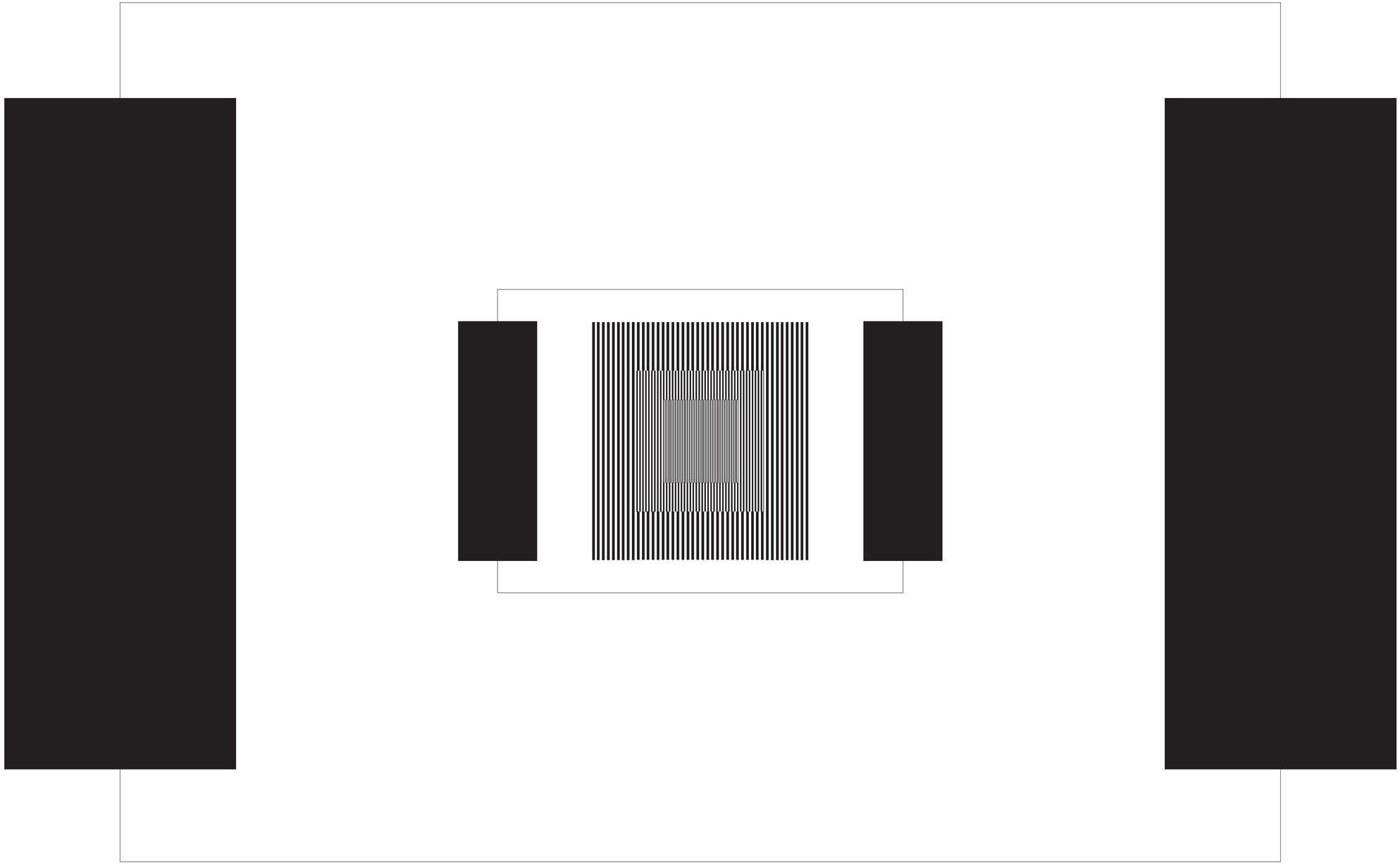


○: Markings

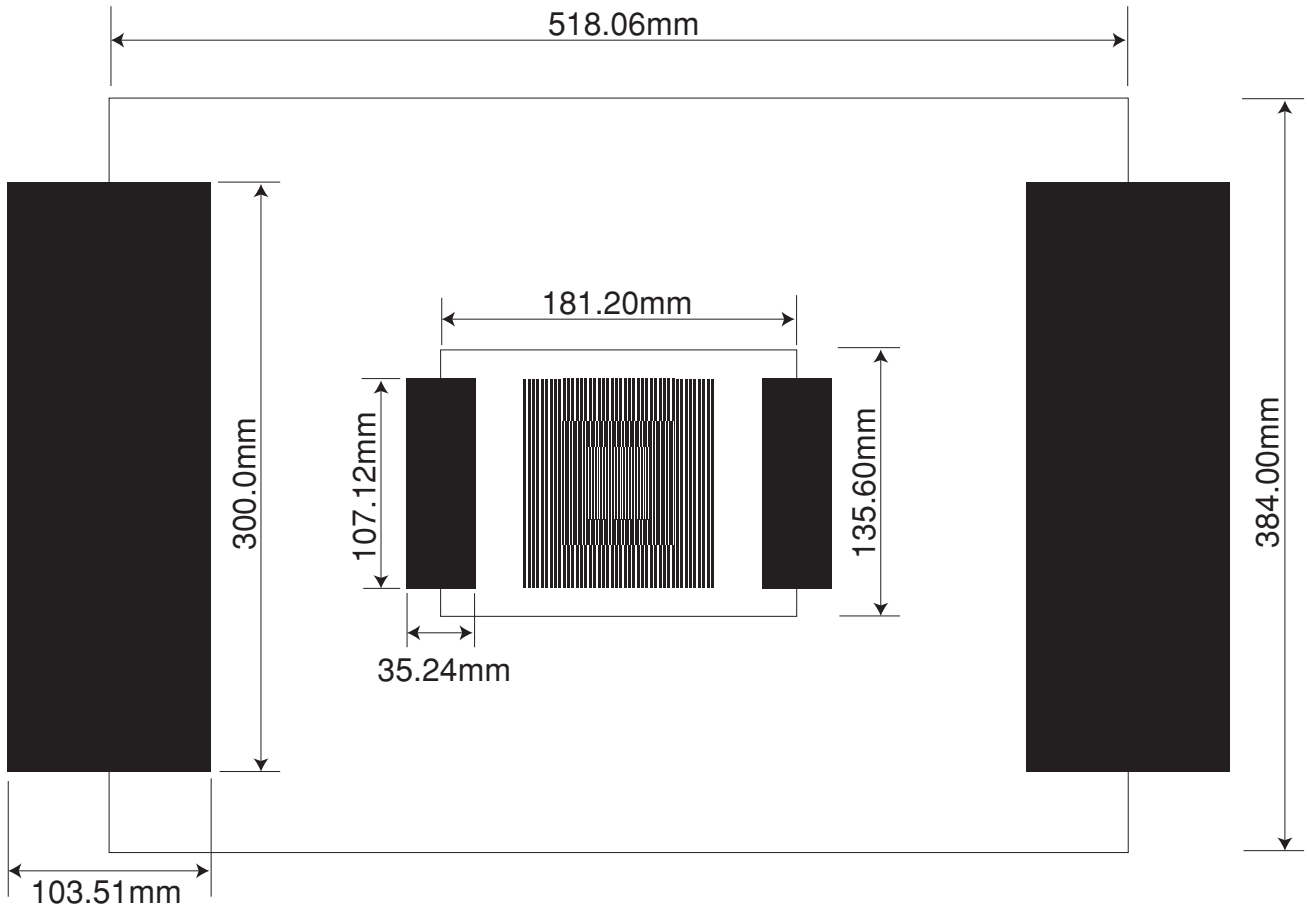
PowerShot A30 / A40 Zoom/AF Chart



PowerShot A30 / A40 Zoom/AF Chart



Dimensions


518.06mm
384.00mm
300.0mm
181.20mm
107.12mm
135.60mm
35.24mm
103.51mm