DSC-P8

SERVICE MANUAL

LEVEL 2

Ver 1.0 2003. 03
Revision History

US Model
Canadian Model
AEP Model
UK Model
E Model
Hong Kong Model
Australian Model
Chinese Model
Korea Model
Tourist Model
Japanese Model

Link

SPECIFICATIONS	BLOCK DIAGRAMS	PRINTED WIRING BOARDS
SERVICE NOTE	FRAME SCHEMATIC DIAGRAMS	REPAIR PARTS LIST
DISASSEMBLY	SCHEMATIC DIAGRAMS	

- For ADJUSTMENTS (SECTION 6), refer to SERVICE MANUAL, ADJ (987622651.pdf).
- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL 1 (987622641.pdf).
- This service manual contains information for Japanese model as well.
- Reference No. search on printed wiring boards is available.
- Note in Lens Frame Installation
- BARRIER OPERATION TEST METHOD
- HELP: Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

On the JK-243, JK-244 and SY-83 boards

This service manual procides the information that is premised the circuit board replacement service and not intended repair inside the JK-243, JK-244 and SY-83 boards.
Therefore, schematic diagram, printed wiring board and electrical parts list of the JK-243, JK-244 and SY-83 boards are not shown.
The following pages are not shown.

JK-243, JK-244 boards

Schematic diagram ..... Pages 4-35 to 4-36
Printed wiring board ..... Pages 4-51 to 4-52
Electrical parts list ..... Pages 5-6

SY-83 board

Schematic diagram ..... Pages 4-9 to 4-28
Printed wiring board ..... Pages 4-43 to 4-46
Electrical parts list ..... Pages 5-9 to 5-13

The above-described information is shown in service manual Level 3.

DIGITAL STILL CAMERA

SONY®

DSC-P8

COVER

Self Diagnosis Supported model

Cyber-shot Digital Still Camera

MEMORY STICK

InfoLITHIUM TM C TYPE

SPECIFICATIONS

■ Camera

[System]

Image device
6.67 mm (1/2.7 type) color CCD
Primary color filter

Total pixels number of camera
Approx. 3 340 000 pixels

Effective pixels number of camera
Approx. 3 210 000 pixels

Lens 3× zoom lens
f = 6.0 – 18.0 mm (1/4 – 23/32 inches) (39 – 117 mm (1 9/16 – 4 5/8 inches) when converted to a 35 mm still camera)
F2.8 – 5.2

Exposure control
Automatic exposure, Scene selection (7 modes)

White balance
Flash, Automatic, Daylight, Cloudy, Fluorescent, Incandescent

Data format (DCF compliant)
Still images: Exif Ver. 2.2 JPEG compliant, GIF (for Clip Motion), DPOF compatible
Audio with still image: MPEG1 compliant (Monaural)
Moving images: MPEG1 compliant (Monaural)

Recording media
"Memory Stick"

Flash Recommended distance (ISO set to Auto): 0.5 m to 3.5 m (19 3/4 inches to 11 feet 5 3/16 inches) (W)
0.5 m to 2.5 m (19 3/4 inches to 8 feet 2 7/16 inches) (T)

[Output connectors]

A/V OUT (MONO) (Monaural)
Minijack
Video: 1 Vp-p, 75 Ω, unbalanced, sync negative
Audio: 327 mV (at a 47 kΩ load)
Output impedance 2.2 kΩ

USB jack mini-B

[LCD screen]

Used LCD panel
3.8 cm (1.5 type) TFT drive

Total number of dots
123 200 (560×220) dots

[General]

Used battery pack
NP-FC11

Power requirements
3.6 V

Power consumption (during shooting)
1.5 W

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
108×51.5×35.1 mm (4 3/8×2 1/8×1 7/16 inches) (W/H/D, excluding maximum protrusions)

Mass Approx. 200 g (7 oz) (including battery pack NP-FC11, "Memory Stick" and wrist strap)

Built-in microphone
Electret condenser microphone

Built-in speaker
Dynamic speaker

Exif Print Compatible

PRINT image matching II Compatible

■ AC-LS5 AC Adaptor

Rated input voltage
100 to 240 V AC, 50/60 Hz, 11 W, 0.16 to 0.09 A

Rated output voltage
DC 4.2 V, 1.5 A in operating mode

Operating temperature
0°C to 40°C (32°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Dimensions
Approx. 48×29×81 mm (1 15/16×1 3/16×3 1/4 inches) (W/H/D)

Mass Approx. 130 g (5 oz)

■ NP-FC11 battery pack

Used battery
Lithium-ion battery

Maximum voltage
DC 4.2 V

Nominal voltage
DC 3.6 V

Capacity 2.8 Wh (780 mAh)

Accessories

- NP-FC11 battery pack
- AC-LS5 AC Adaptor
- Power cord (mains lead)
- A/V connecting cable
- USB cable
- Wrist strap
- "Memory Stick" (16 MB)
- CD-ROM (USB driver SPVD-010)
- Operating instructions

Design and specifications are subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Unleaded solder

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40℃ higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350℃.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

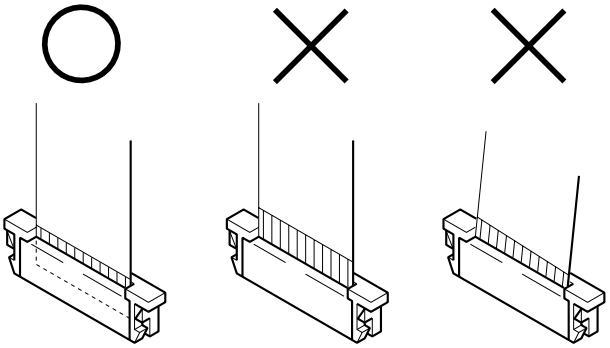
TABLE OF CONTENTS

COVER

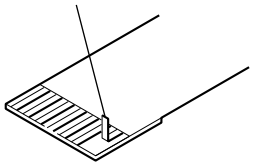
SECTION 1
SERVICE NOTE

1-1. NOTE FOR REPAIR

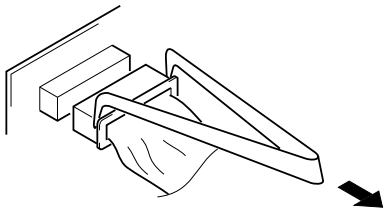
Make sure that the flat cable and flexible board are not cracked of bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



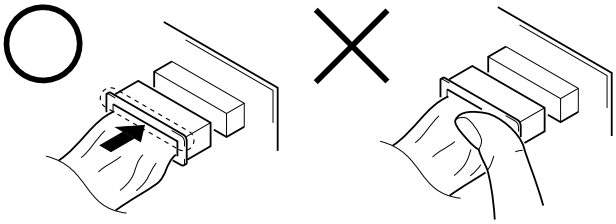
Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)



When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.

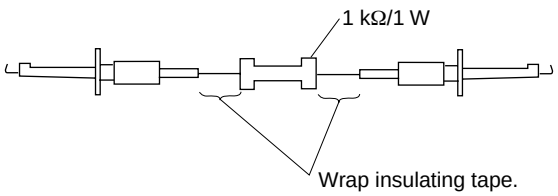


1-2. DISCHARGING OF THE ST-81 FLEXIBLE BOARD'S CHARGING CAPACITOR (C001)

The charging capacitor (C001) of the ST-81 flexible board is charged up to the maximum 300 V potential.
There is a danger of electric shock by this high voltage when the battery is handled by hand. The electric shock is caused by the charged voltage which is kept without discharging when the main power of the unit is simply turned off. Therefore, the remaining voltage must be discharged as described below.

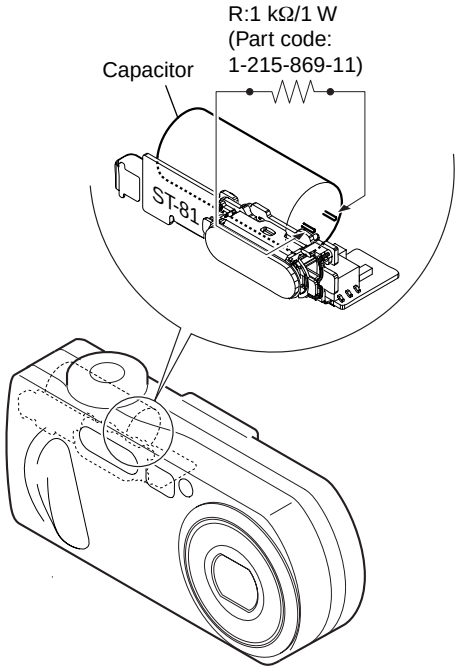
Preparing the Short Jig

To preparing the short jig, a small clip is attached to each end of a resistor of 1 kΩ /1 W (1-215-869-11).
Wrap insulating tape fully around the leads of the resistor to prevent electrical shock.



Discharging the Capacitor

Short-circuit between the positive and the negative terminals of charged capacitor with the short jig about 10 seconds.



1-3. PRECAUTION ON REPLACING THE VIDEO LENS OR THE SY-83 BOARD

The DSC-P8 uses the position sensor to detect the zoom position. Accordingly, the zoom position will vary if the position data changes due to the replacement of the video lens or the SY-83 board, thus causing the video lens to collide against the mechanism end when the power is turned off.
Though the position data is calibrated at the “Flange Back Adjustment”, add the following work when making an adjustment at the replacement of video lens to prevent a collision of video lens.

When Replacing the Video Lens

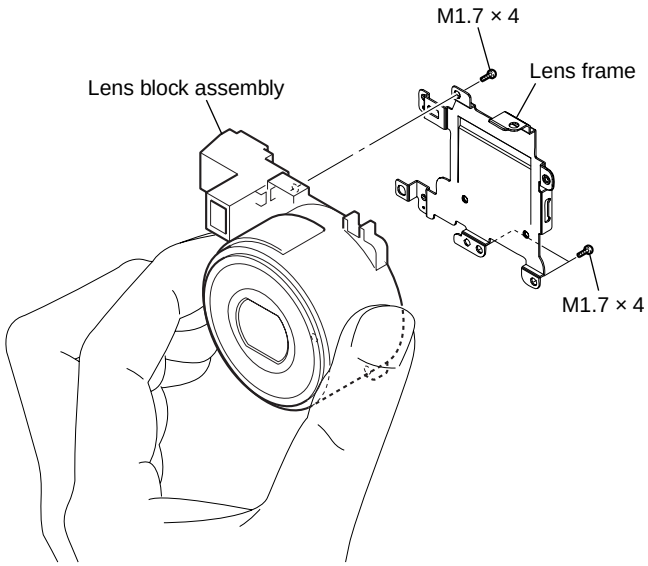
1) With current video lens assembled, turn the power on, and set the data of page: 6F, address: 3E to “FF”, then turn the power off.
2) Replace the video lens with a new one, turn the power on, and perform the “Flange Back Adjustment”.
   Thus, new position data will be written.

When Replacing the SY-83 Board

1) Replace the SY-83 board with a new one, set the mode dial to “PLAY”, turn the power on, and set the data of page: 6F, address:3E to “FF”, then turn the power off.
2) Set the mode dial to “CAMERA”, turn the power on, and perform the “Flange Back Adjustment”.
   Thus, new position data will be written.

1-4. NOTE IN LENS FRAME INSTALLATION

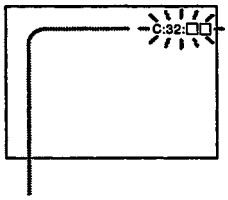
When tightening a screw, have both sides of the lens block assembly so as not for the load to depend.



1-5. DESCRIPTION ON SELF-DIAGNOSIS DISPLAY

Self-diagnosis display

The camera has a self-diagnosis display. This function displays the camera condition with five-digits (a combination of a letter and figures) on the LCD screen. If this occurs check the following code chart. The five-digits display informs you of the camera's current condition. The last two digits (indicated by □□) will differ depending on the state of the camera.



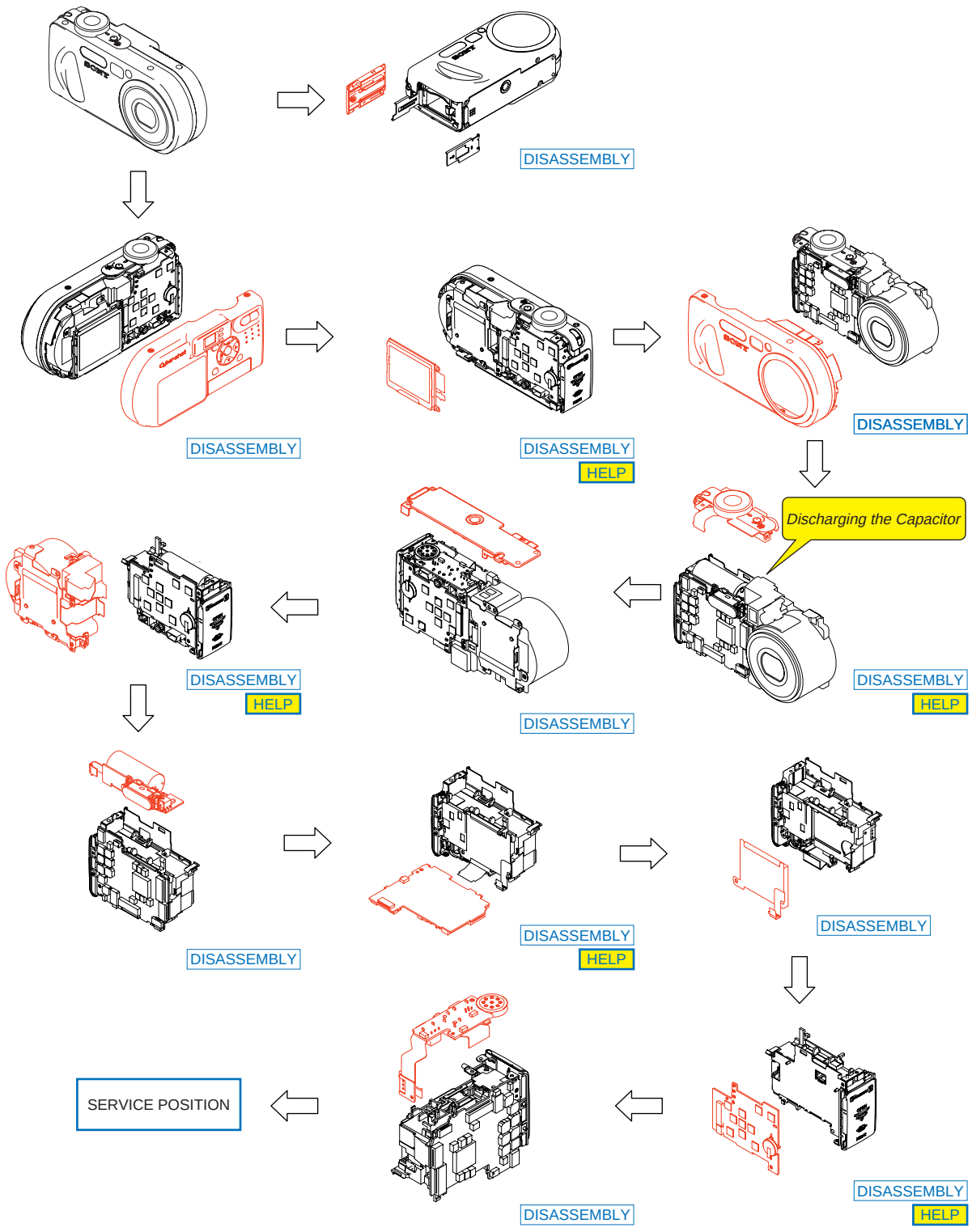
Self-diagnosis display

- C: □□: □□
  You can reverse the camera malfunction yourself. (However, contact your Sony dealer or local authorized Sony service facility when you cannot recover from the camera malfunction.)
- E: □□: □□
  Contact your Sony dealer or local authorized Sony service facility.

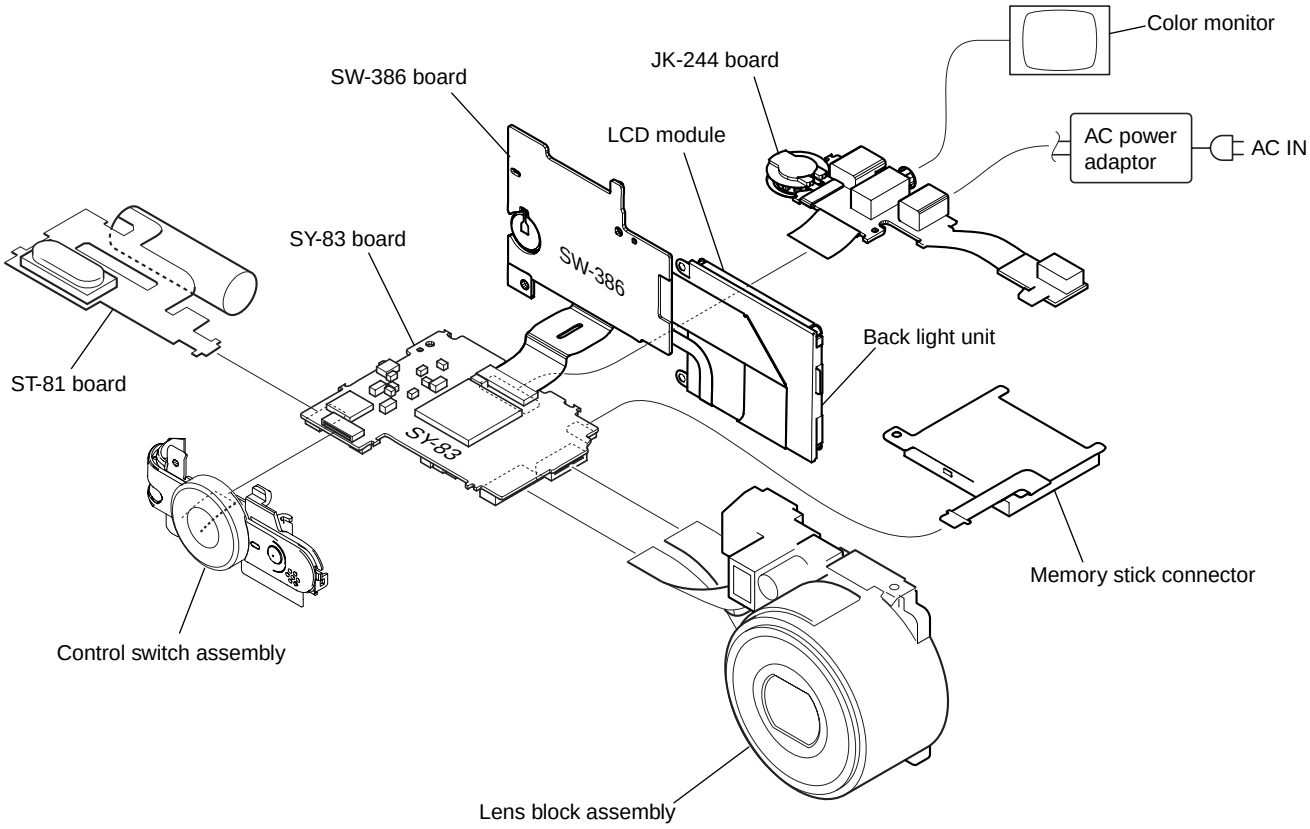
Display Code	Countermeasure	Cause	Caution Display During Error
C:32:□□	Turn the power off and on again.	Trouble with hardware.	SYSTEM ERROR
C:13:□□	Format the "Memory stick".	Unformatted memory stick is inserted.	FORMAT ERROR
	Insert a new "Memory Stick".	Memory stick is broken.	MEMORY STICK ERROR
E:61:□□	Checking of lens drive circuit.	When failed in the focus and zoom initialization.	—
E:91:□□	Checking of flash unit or replacement of flash unit.	Abnormality when flash is being charged.	

SECTION 2
DISASSEMBLY

The following flow chart shows the disassembly procedure.



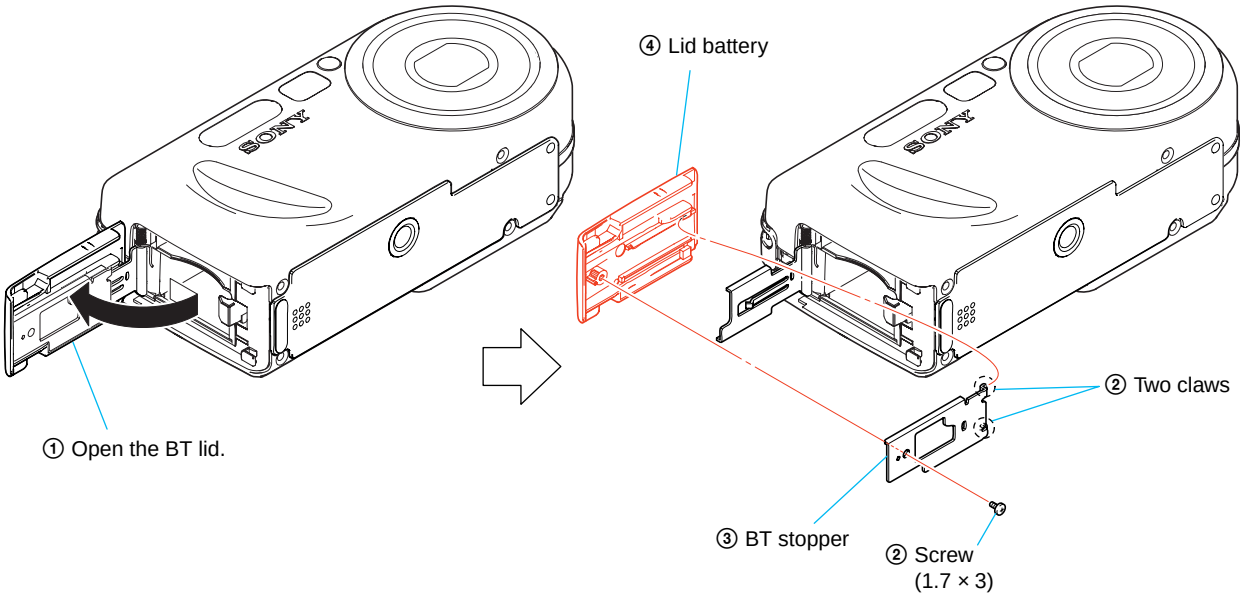
[SERVICE POSITION]



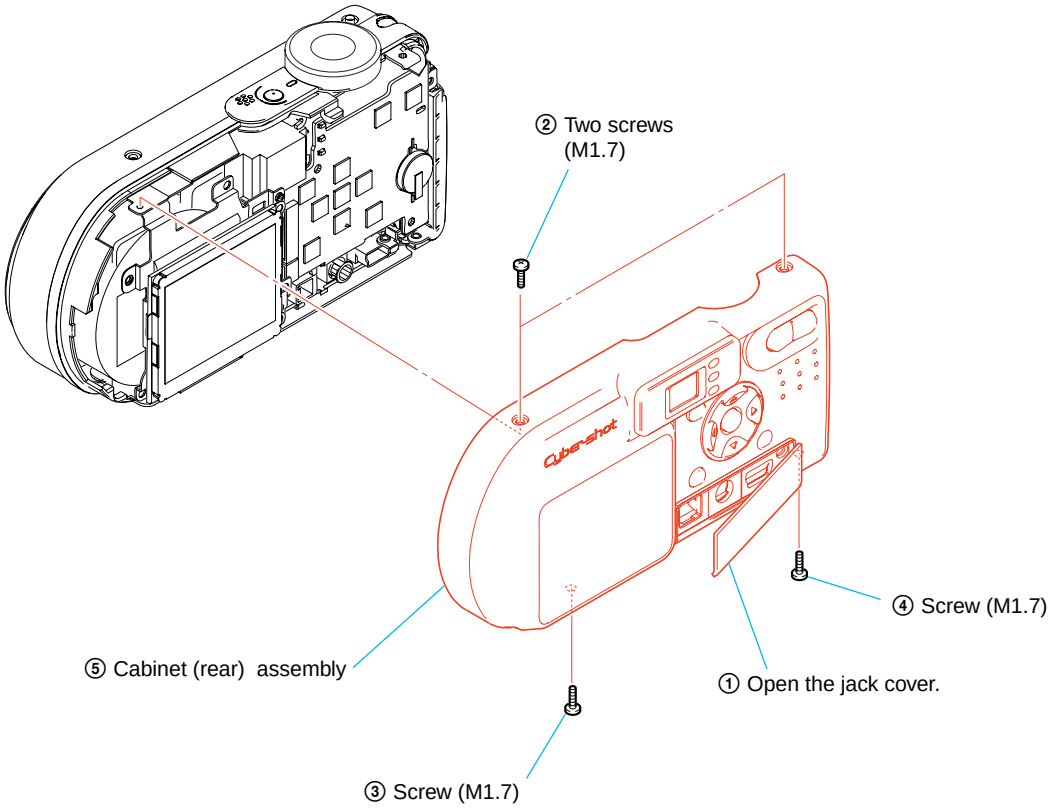
The procedure for a service position

Note: Follow the disassembly procedure in the numerical order given.

2-1. BATTERY LID

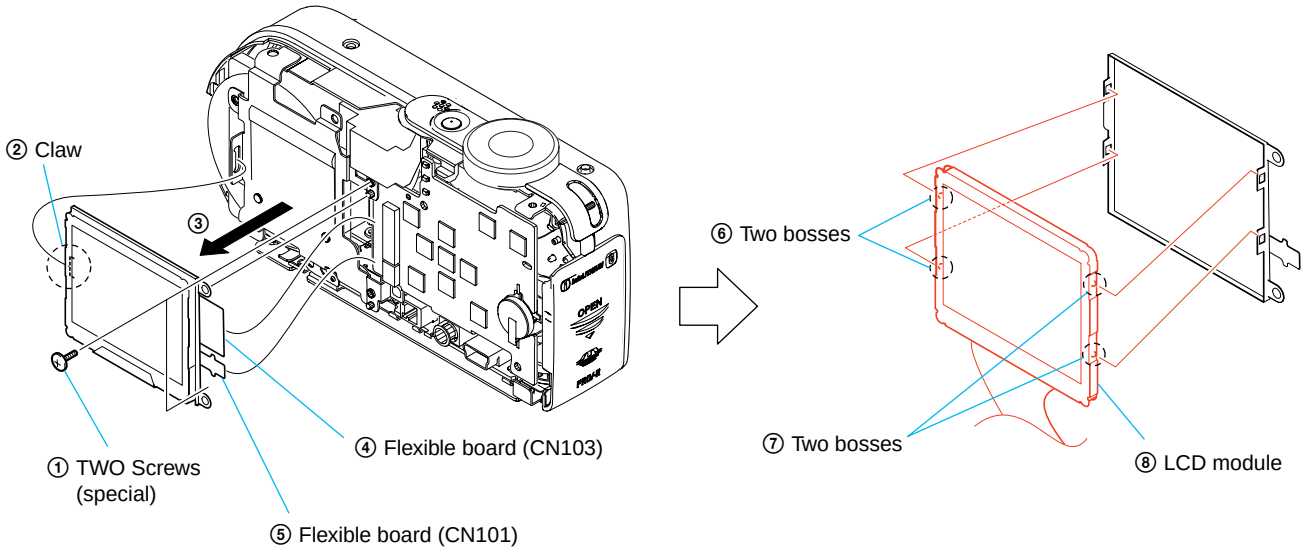


2-2. CABINET (REAR) ASSEMBLY

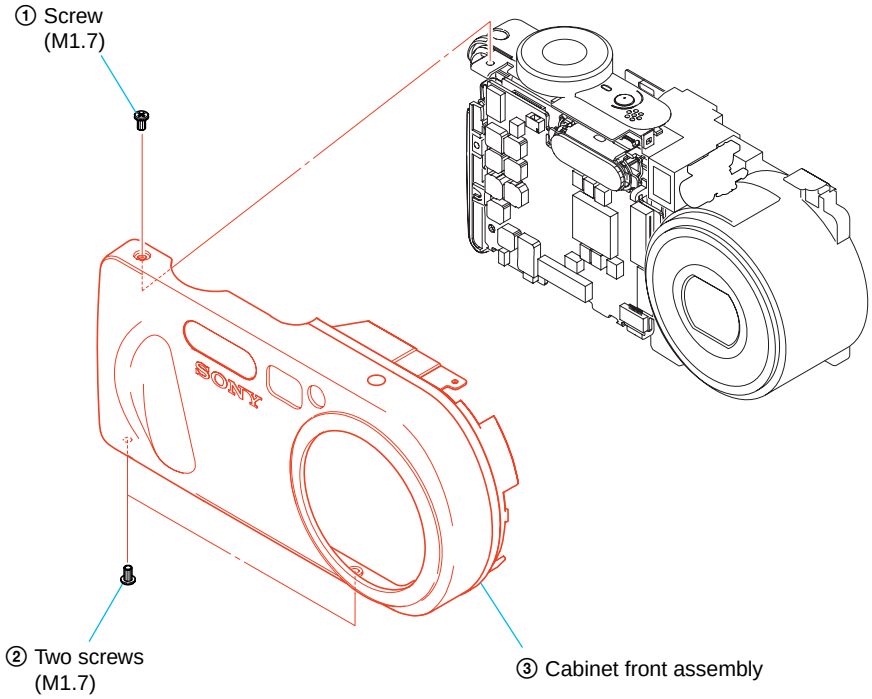


2-3. LCD MODULE

HELP

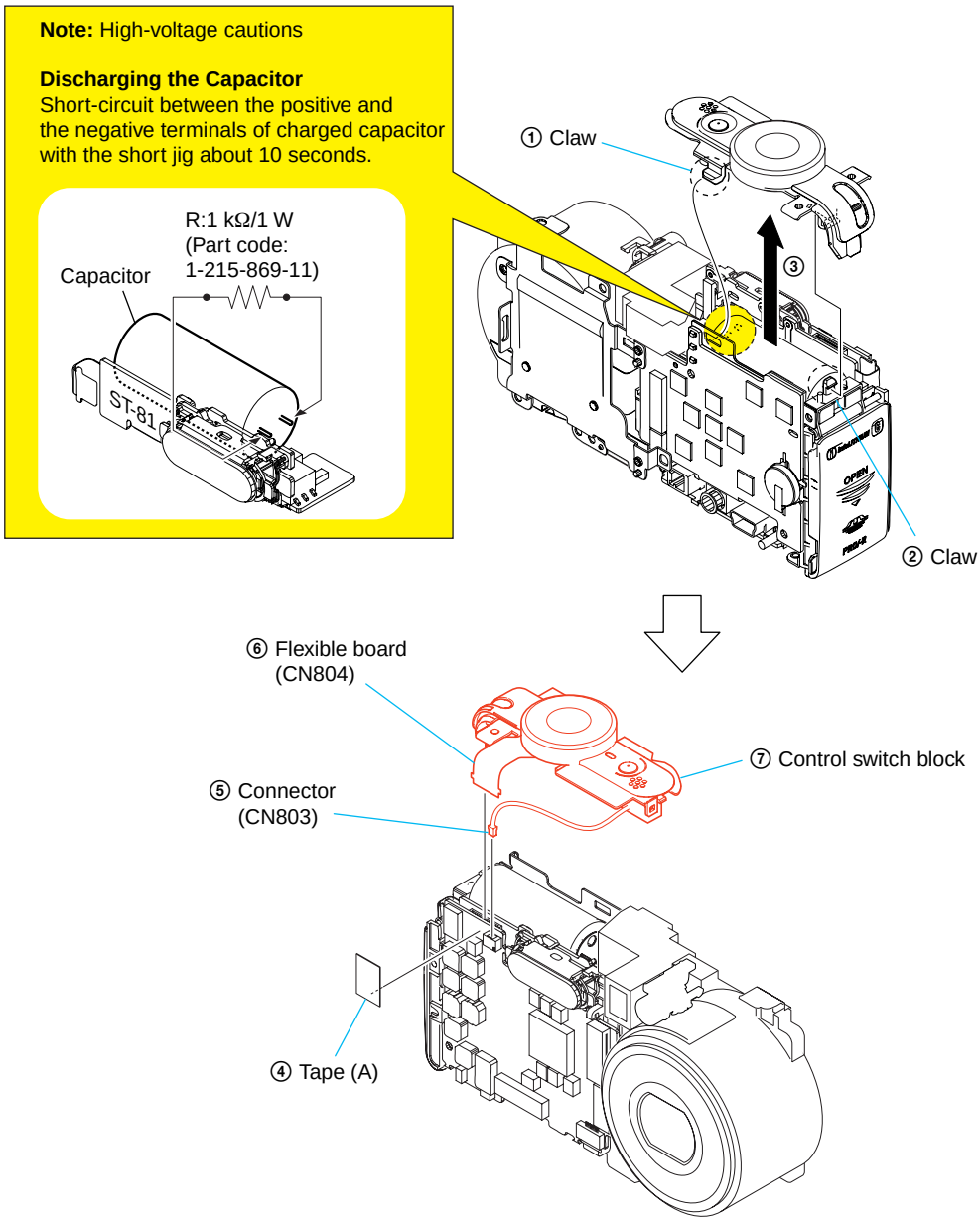


2-4. CABINET FRONT ASSEMBLY

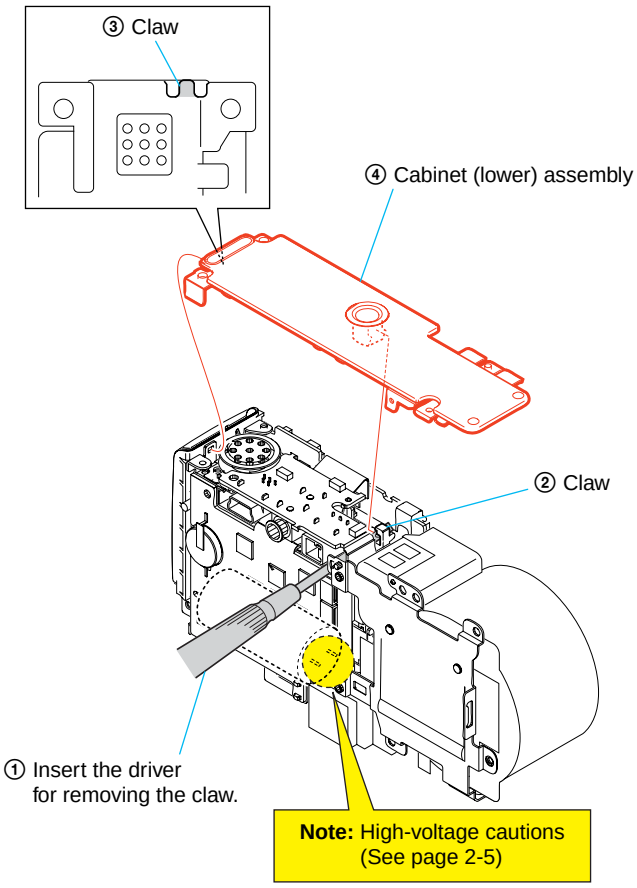


2-5. CONTROL SWITCH BLOCK

HELP



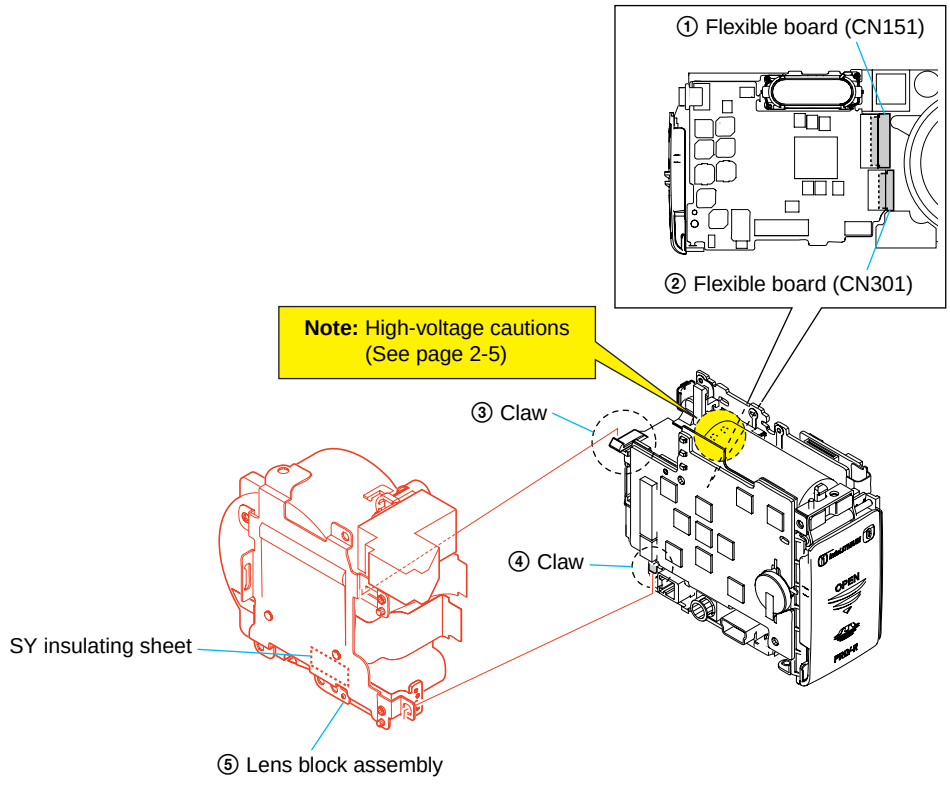
2-6. CABINET (LOWER) ASSEMBLY



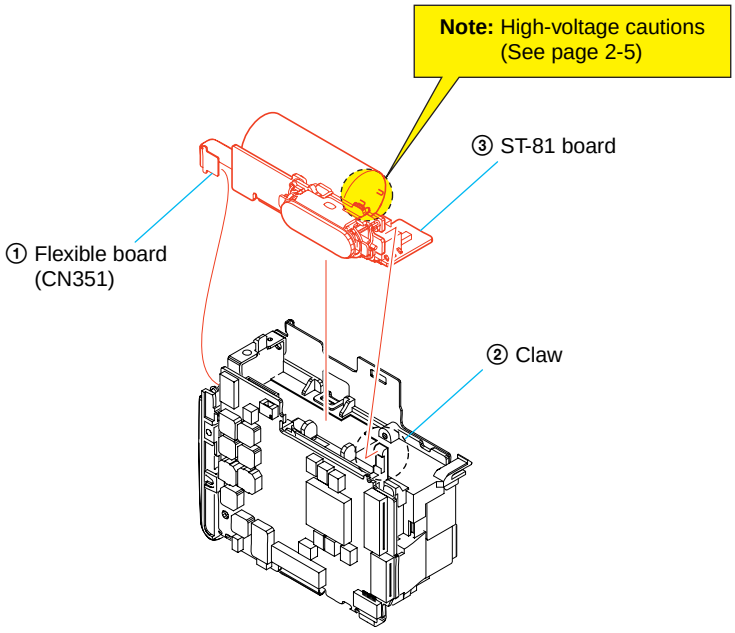
Note: To disengage the claw, pass a flat headed driver under the flexible cable.
It may be a cause of breakage of the flexible cable to pass a flat headed driver above the flexible cable.

2-7. LENS BLOCK ASSEMBLY

HELP

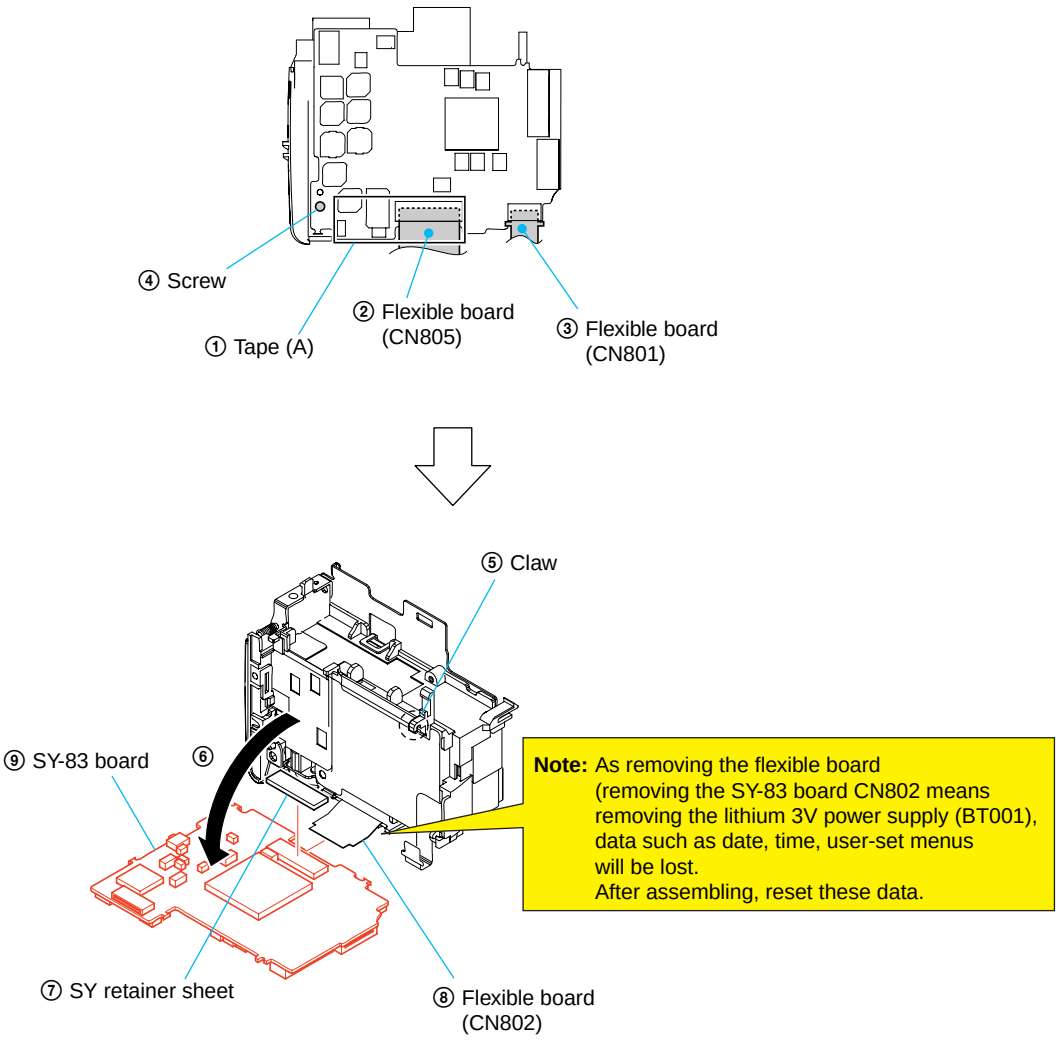


2-8. ST-81 BOARD

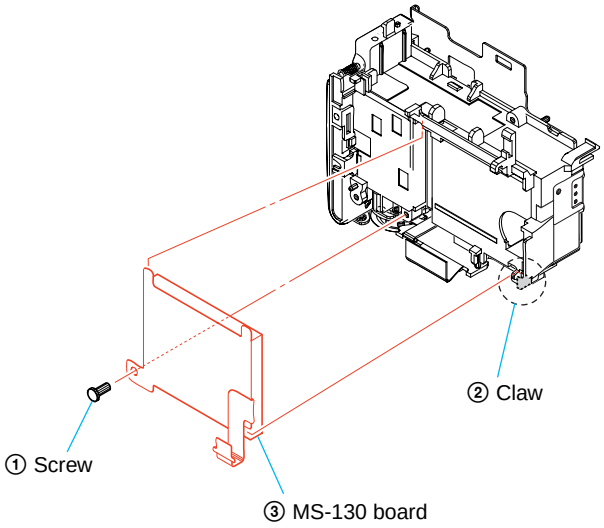


2-9. SY-83 BOARD

HELP

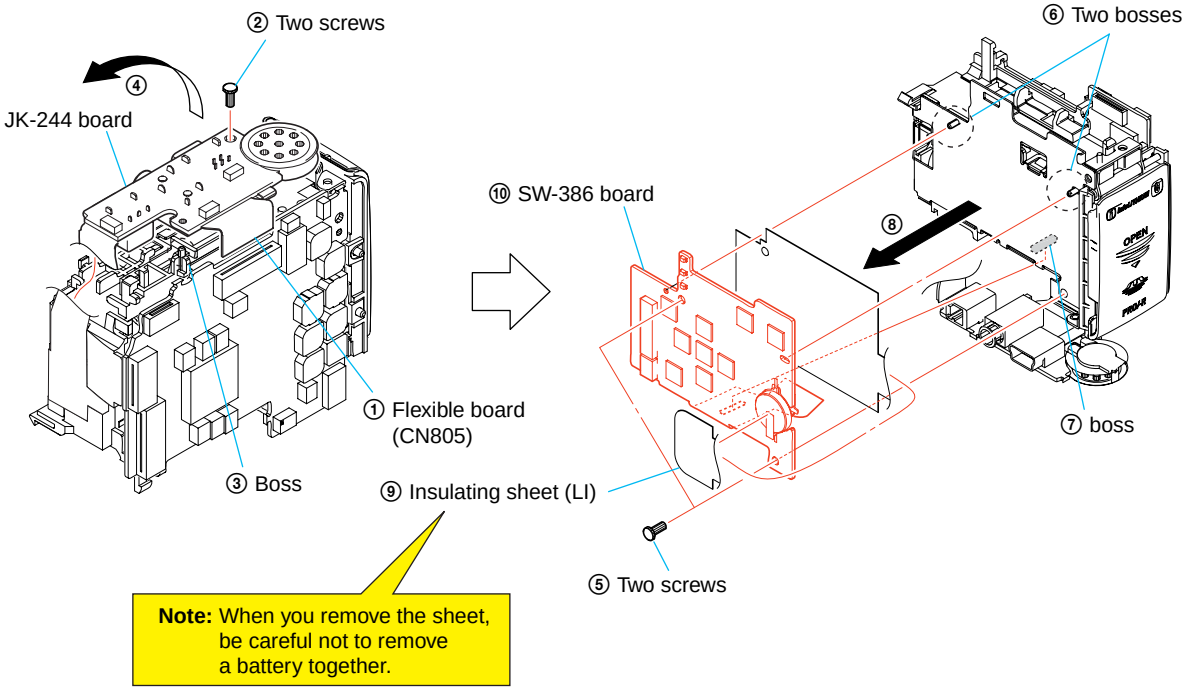


2-10. MS-130 BOARD

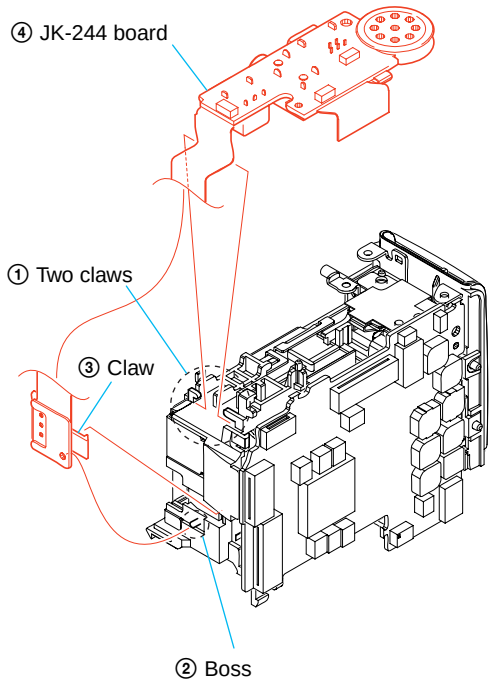


2-11. SW-386 BOARD

HELP

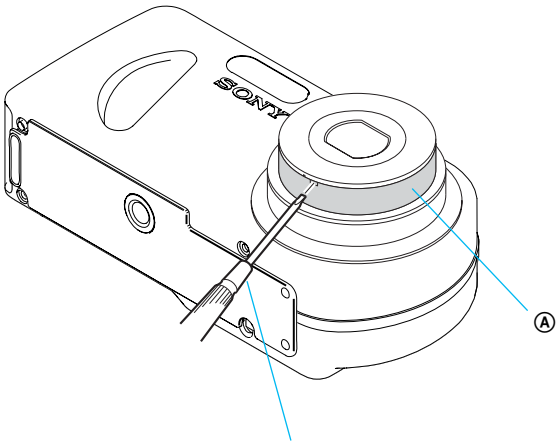


2-12. JK-244 BOARD

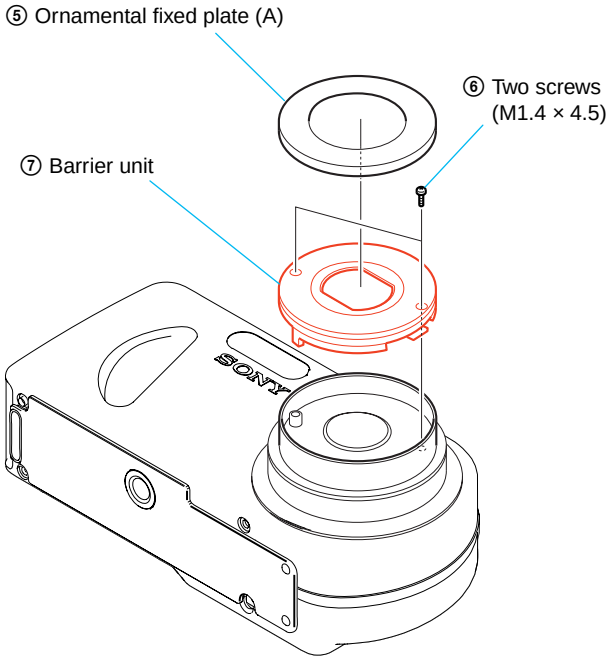


2-13. BARRIER UNIT

① Switch on a power supply.
② Push zoom button and transform the lens as shown below.
③ Switch off a power supply by taking out a battery or cut off a power supply from AC daptor. (without using camera's power swich)

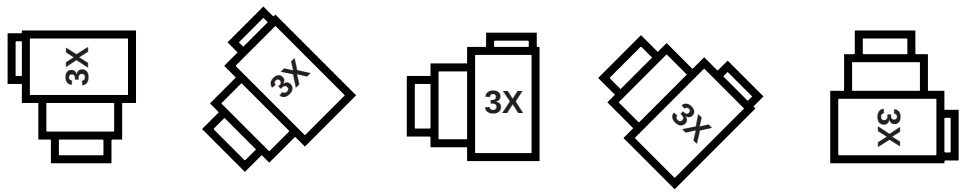


④ Pinch Ⓐ portion with finger and fit a driver over a hollow.



[BARRIER OPERATION TEST METHOD]

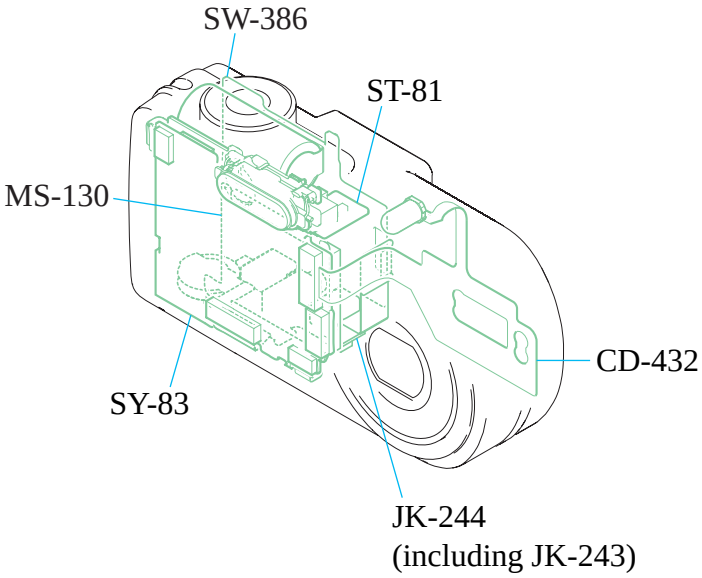
After the barrier unit is replaced, check the following items with turning the power of the set ON/OFF.
• The lens moves out and the barrier shutters open completely when the power is turned on.
• The lens moves in and the barrier shutters close completely when the power is turned off.
Checking condition is ① downward ② 45° downward ③ horizontal ④ 45° upward ⑤ upward; totally five positions and check three times for each position.



① downward ② 45° downward ③ horizontal ④ 45° upward ⑤ upward

The test needs to be performed only when the barrier unit is replaced.
No performance of this test is needed when the lens is replaced.

2-14. CIRCUIT BOARDS LOCATION



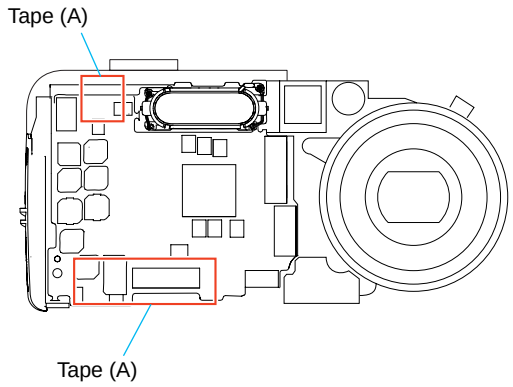
Board Name	Function
CD-432	CCD IMAGER
JK-244 (including JK-243)	JACK
MS-130	MEMORY STICK CONNECTOR
ST-81	FLASH DRIVE
SW-386	CONTROL SWITCH, LCD DRIVE, TIMING GENERATOR
SY-83	CAMERA MODULE, CAMERA DSP, 128M SDRAM, VIDEO AMP, LENS DRIVE, SH DSP, 16M FLASH MEMORY, CLOCK GENERATOR, FRONT CONTROL, AUDIO, FLASH CONTROL, DC/DC CONVERTER

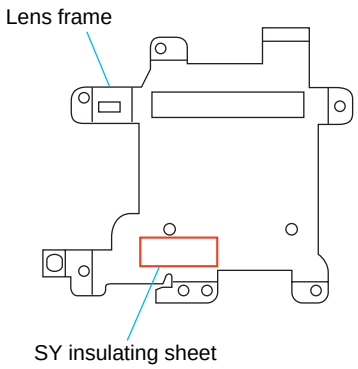
2003.03.04 Update

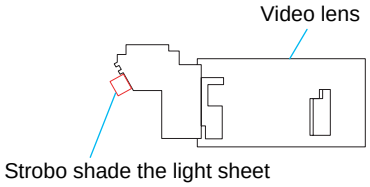
HELP

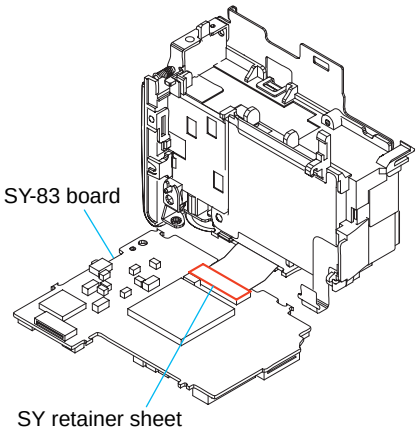
Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

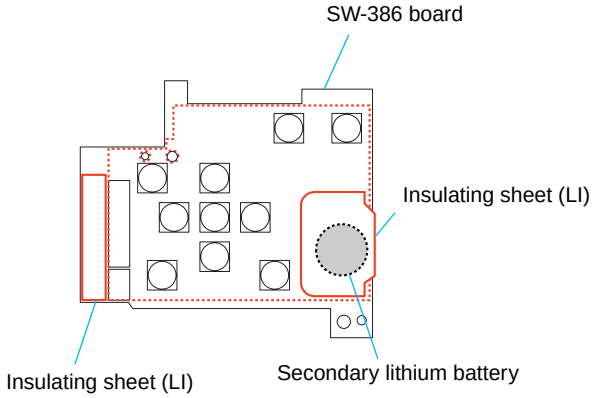
MAIN BLOCK SECTION

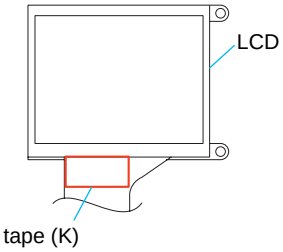












COVER

3. BLOCK DIAGRAMS

Link

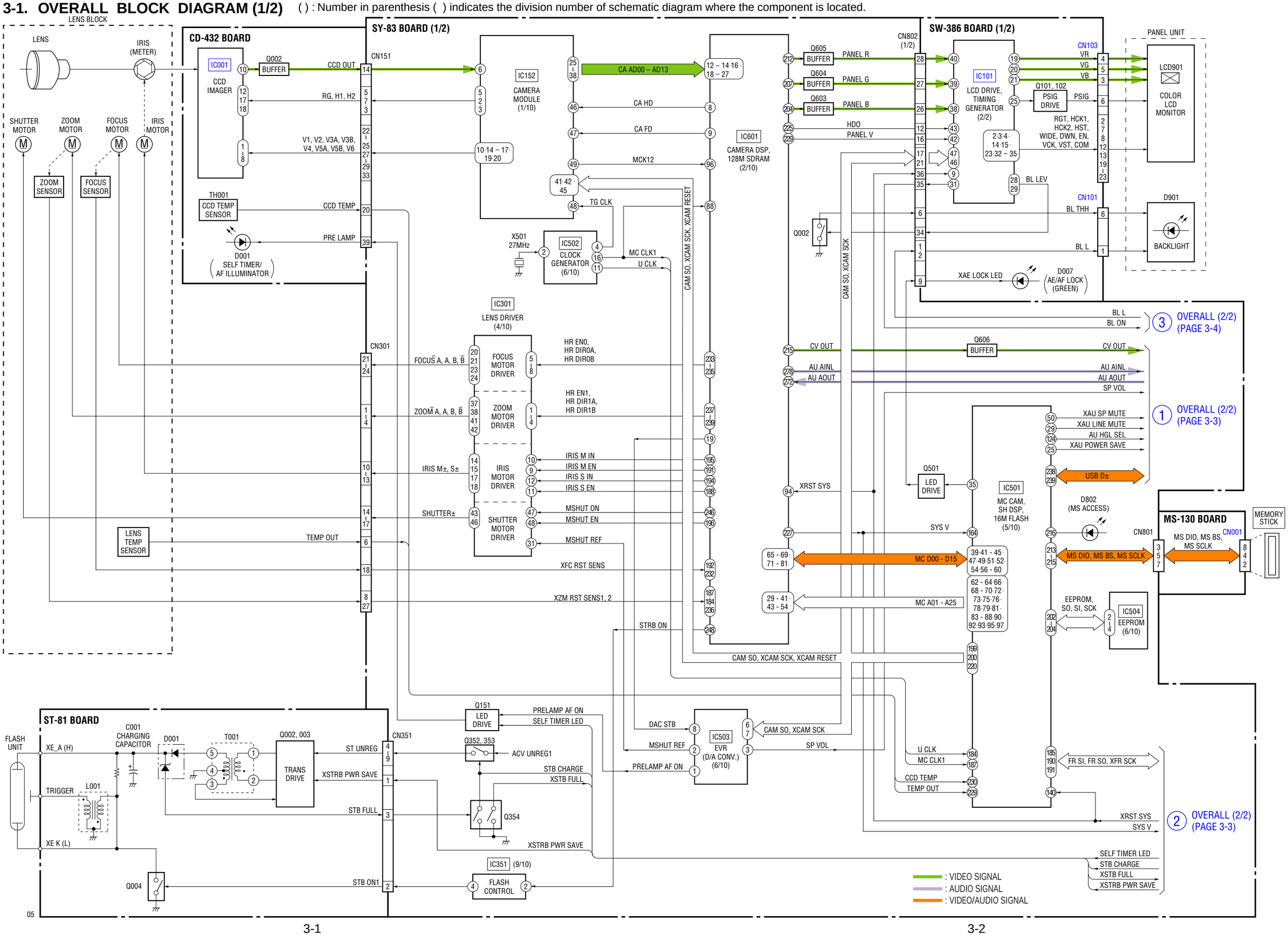
- OVERALL BLOCK DIAGRAM (1/2)
- POWER BLOCK DIAGRAM (1/2)
- OVERALL BLOCK DIAGRAM (2/2)
- POWER BLOCK DIAGRAM (2/2)

COVER

SECTION 3
BLOCK DIAGRAMS

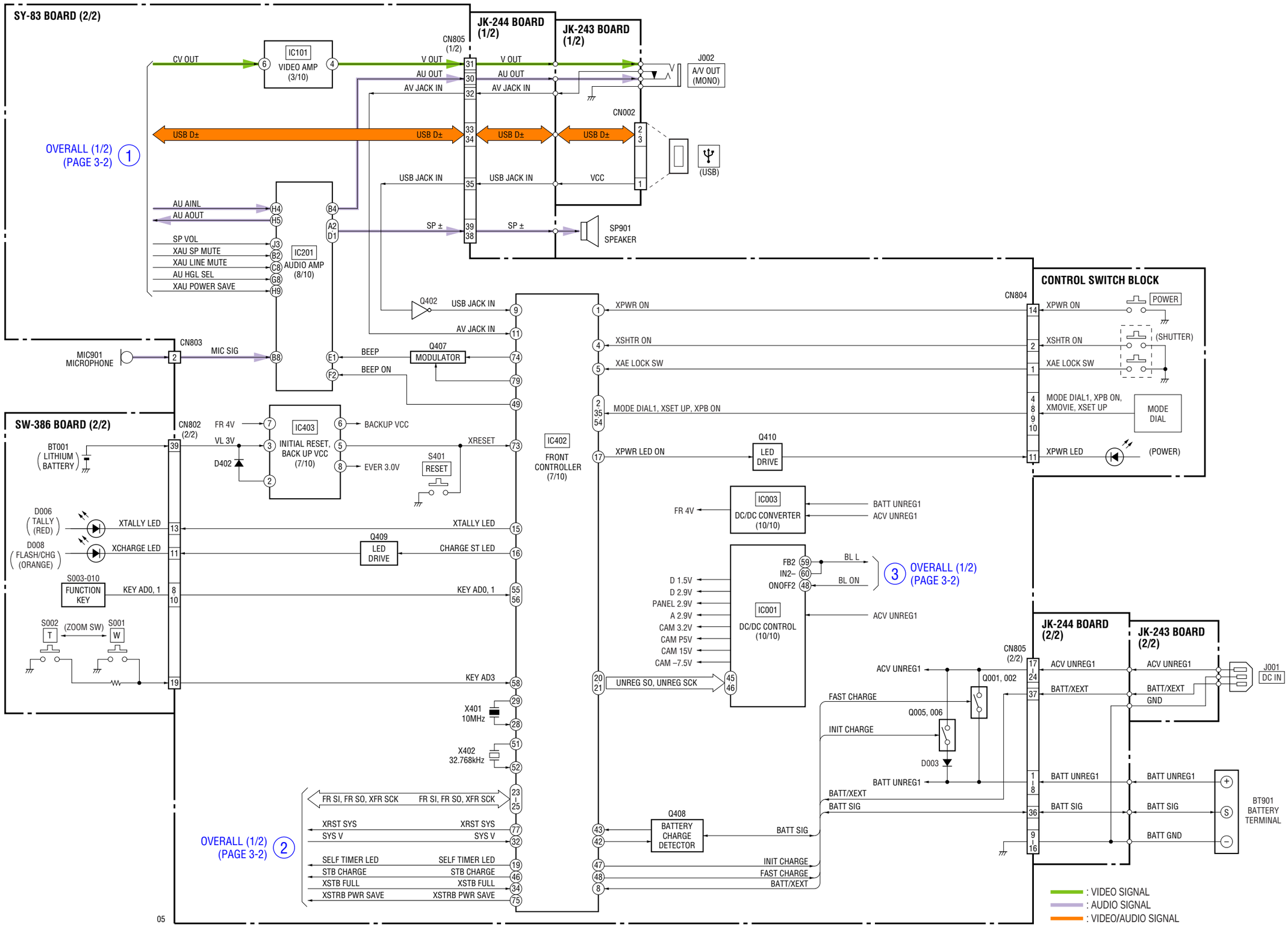
3-1. OVERALL BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



3-2. OVERALL BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.

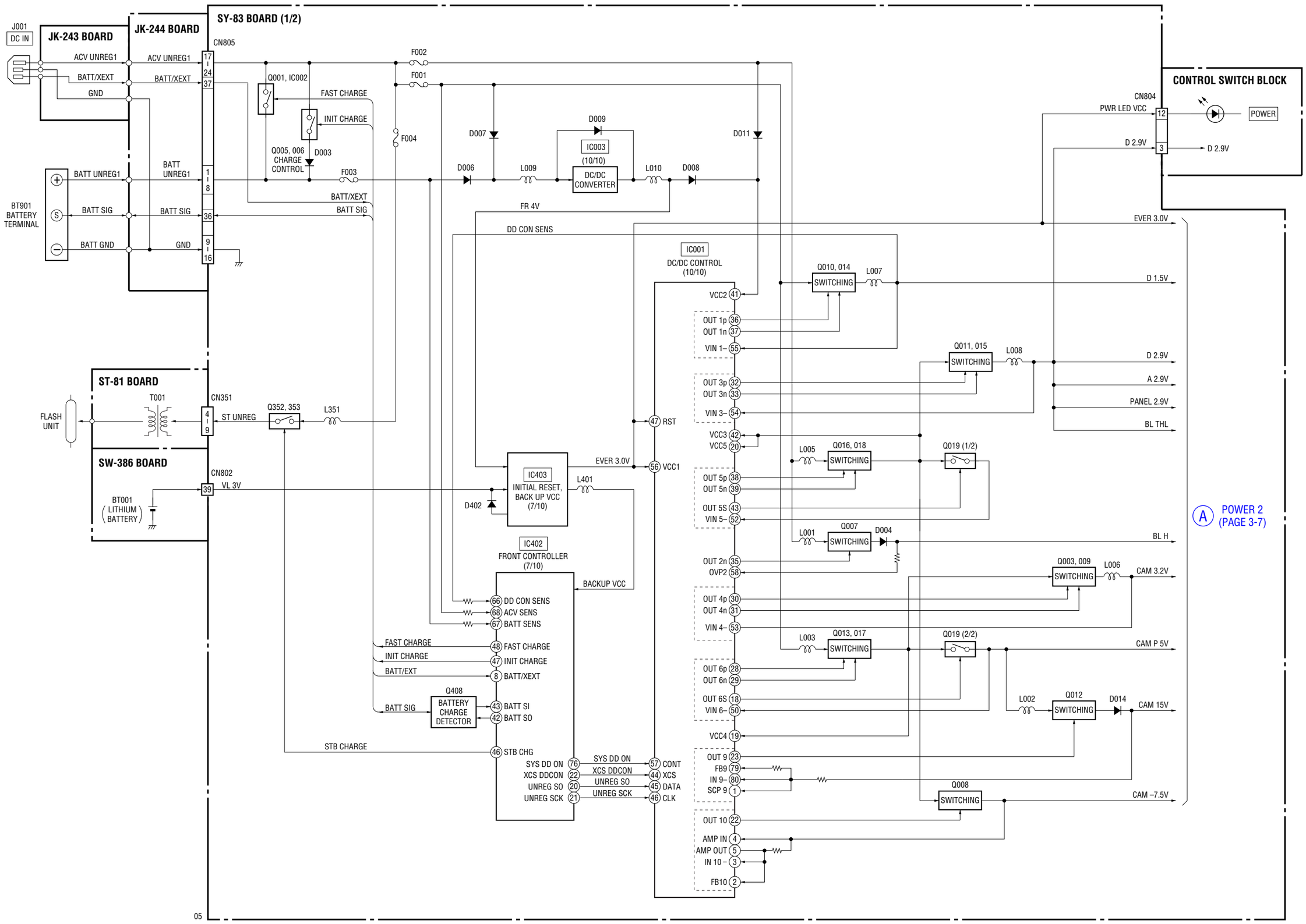


COVER

3. BLOCK DIAGRAMS

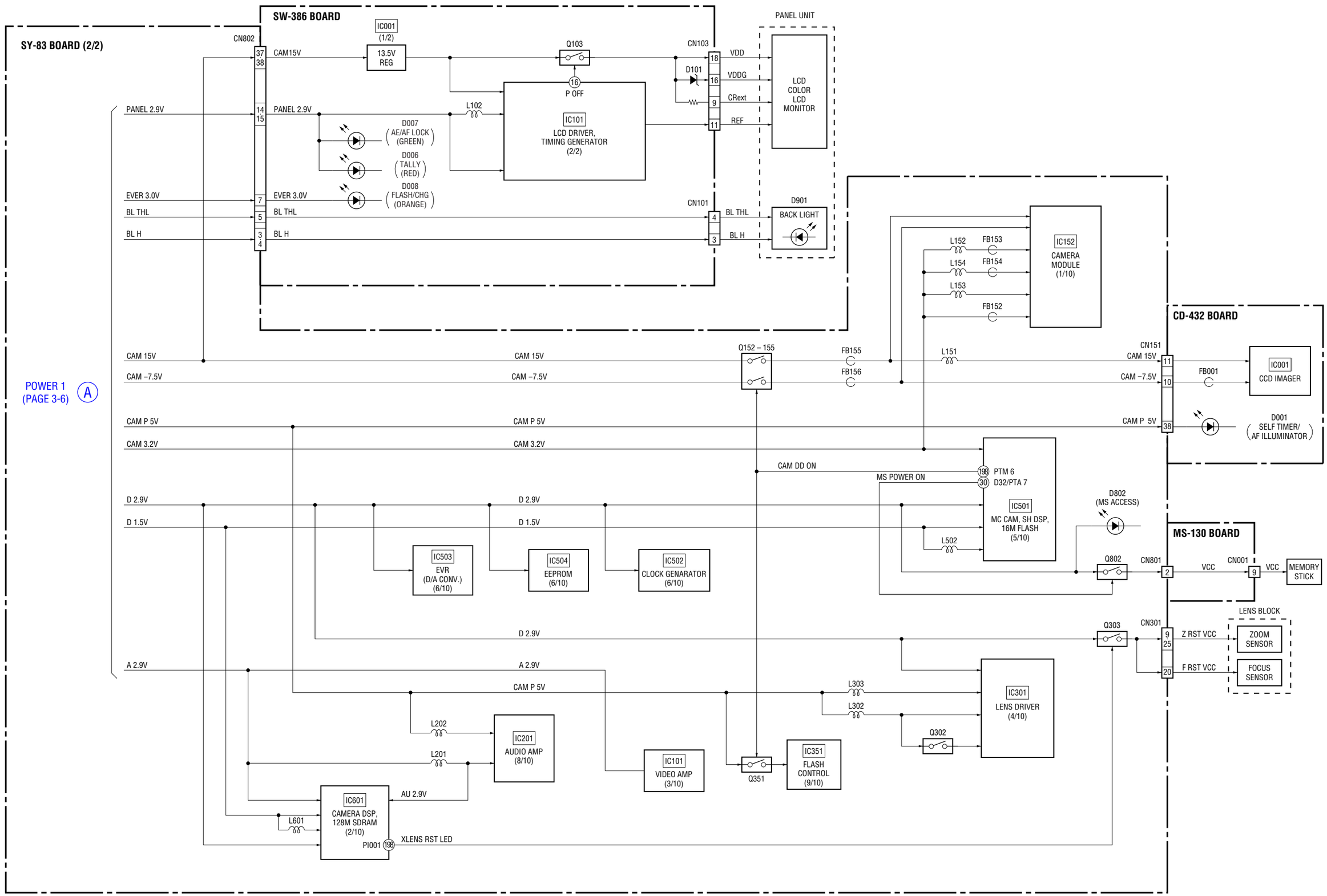
3-3. POWER BLOCK DIAGRAM (1/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



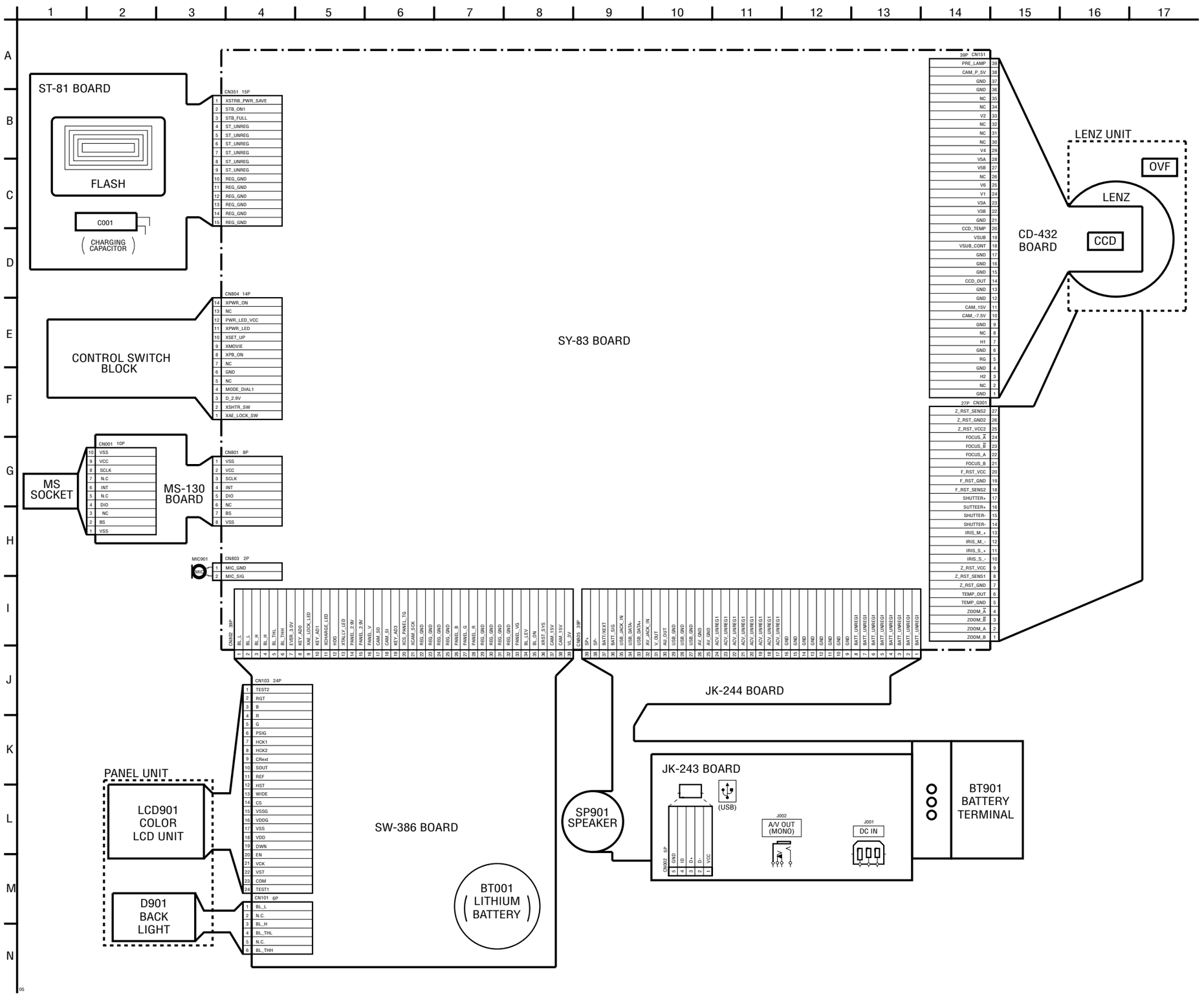
3-4. POWER BLOCK DIAGRAM (2/2)

( ) : Number in parenthesis ( ) indicates the division number of schematic diagram where the component is located.



SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAMS

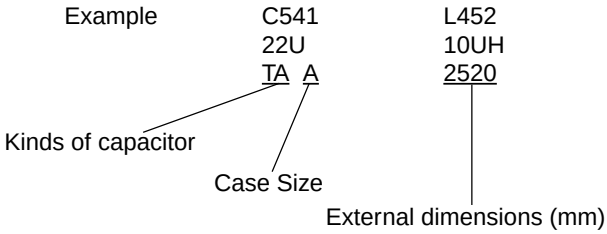


4-2. SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For schematic diagrams)

- All capacitors are in µF unless otherwise noted. pF : µµF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

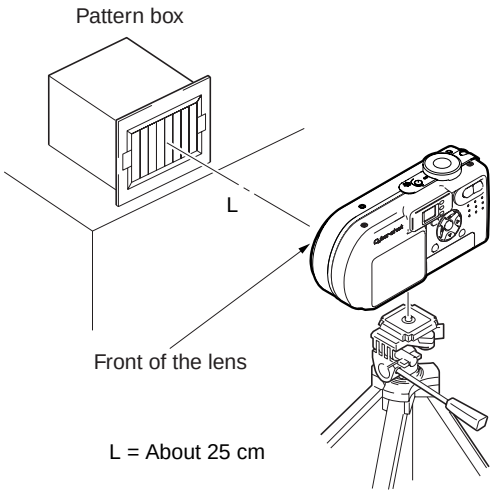


- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- : non flammable resistor
- : fusible resistor
- : panel designation
- : B+ Line
- : B– Line
- : IN/OUT direction of (+,–) B LINE.
- : adjustment for repair.
- : VIDEO SIGNAL (ANALOG)
- : AUDIO SIGNAL (ANALOG)
- : VIDEO/AUDIO SIGNAL
- : VIDEO/AUDIO/SERVO SIGNAL
- : SERVO SIGNAL
- Circled numbers refer to waveforms.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms.
  (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

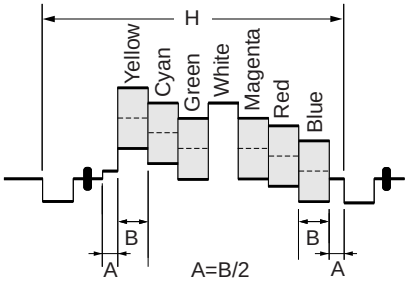


Fig. a (Video output terminal output waveform)

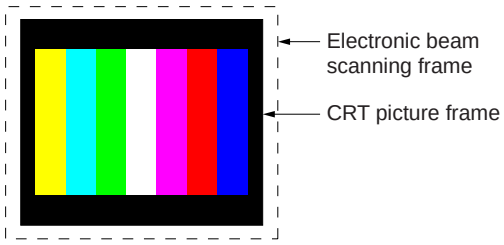


Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

COVER

4-2. SCHEMATIC DIAGRAMS

Link

- CD-432 BOARD (CCD IMAGER)
- ST-81 BOARD (FLASH DRIVE)
- SW-386 BOARD (1/2) (CONTROL SWITCH)
- MS-130 BOARD (MEMORY STICK CONNECTOR)
- SW-386 BOARD (2/2) (LCD DRIVE, TIMING GENERATOR)
- CONTROL SWITCH BLOCK
- COMMON NOTE FOR SCHEMATIC DIAGRAMS
- WAVEFORMS

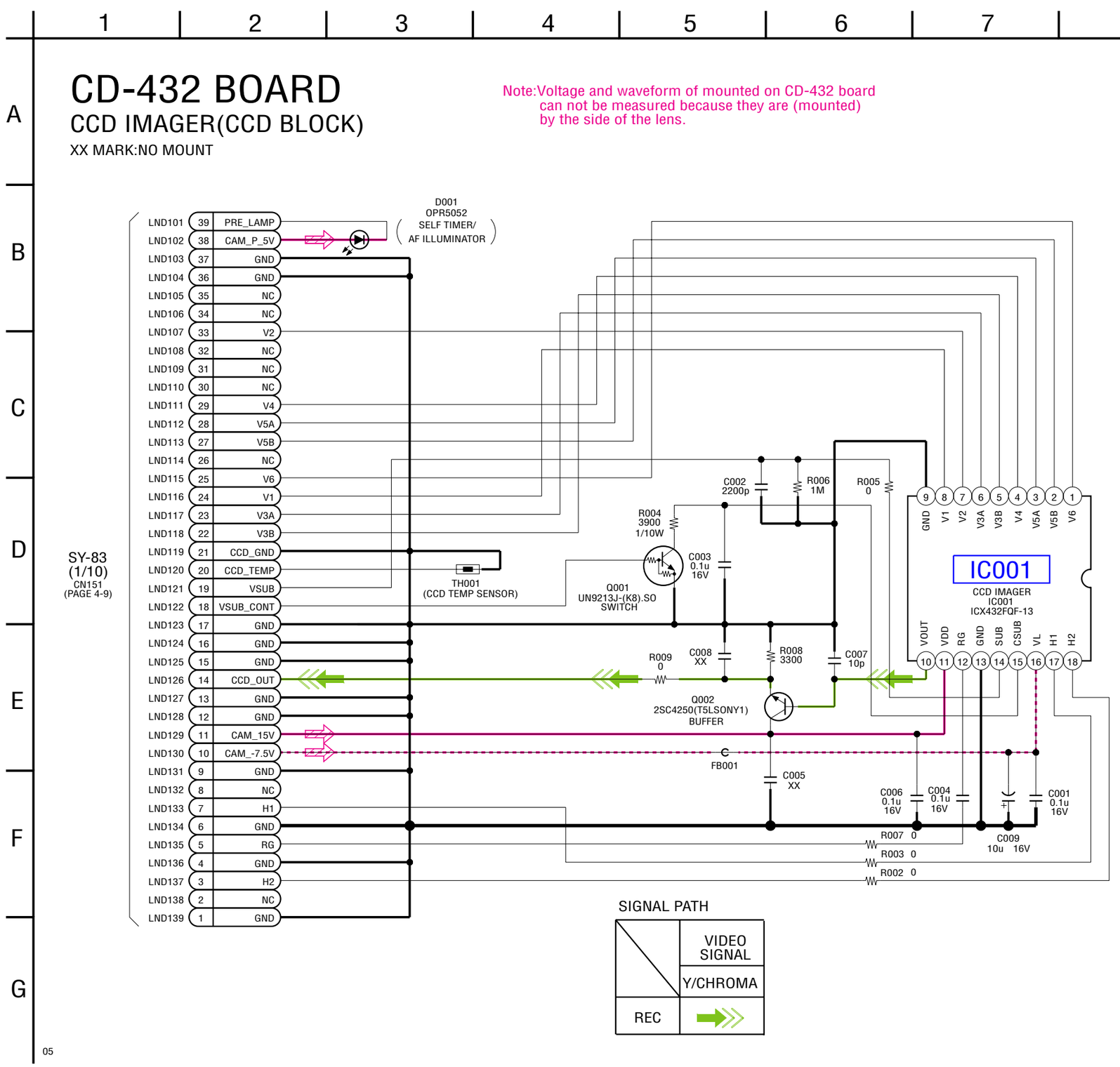
For Schematic Diagram
• Refer to page 4-41 for printed wiring board.

CD-432 BOARD

CCD IMAGER(CCD BLOCK)

XX MARK:NO MOUNT

Note:Voltage and waveform of mounted on CD-432 board can not be measured because they are (mounted) by the side of the lens.



Precautions for Replacement of CCD Imager

- The CD-432 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

Schematic diagram of the SY-83 board are not shown.
Pages from 4-9 to 4-28 are not shown.

For Schematic Diagram

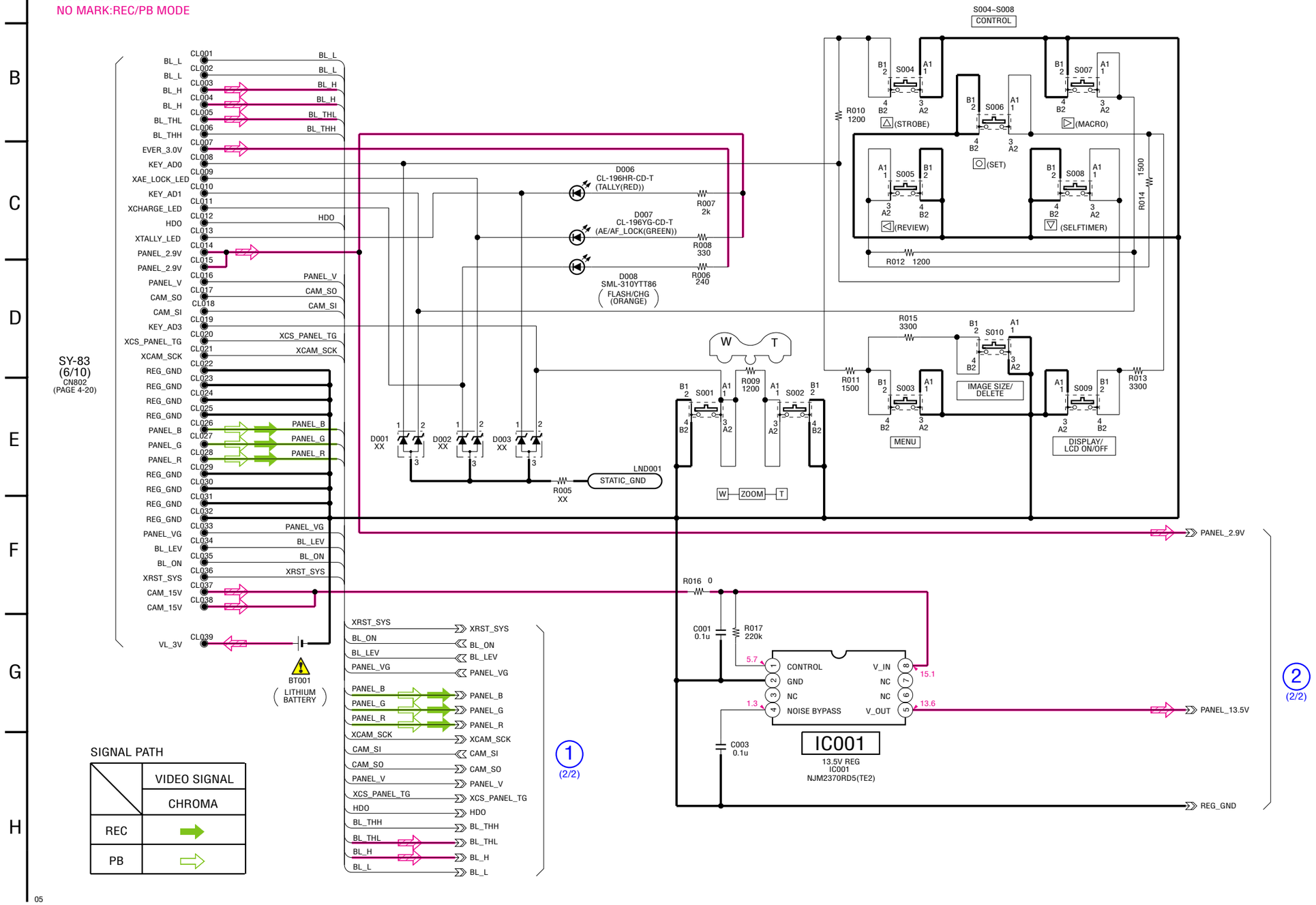
• Refer to page 4-47 for printed wiring board.

SW-386 BOARD (1/2)

CONTROL SWITCH(KEY BLOCK)

XX MARK:NO MOUNT

NO MARK:REC/PB MODE



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

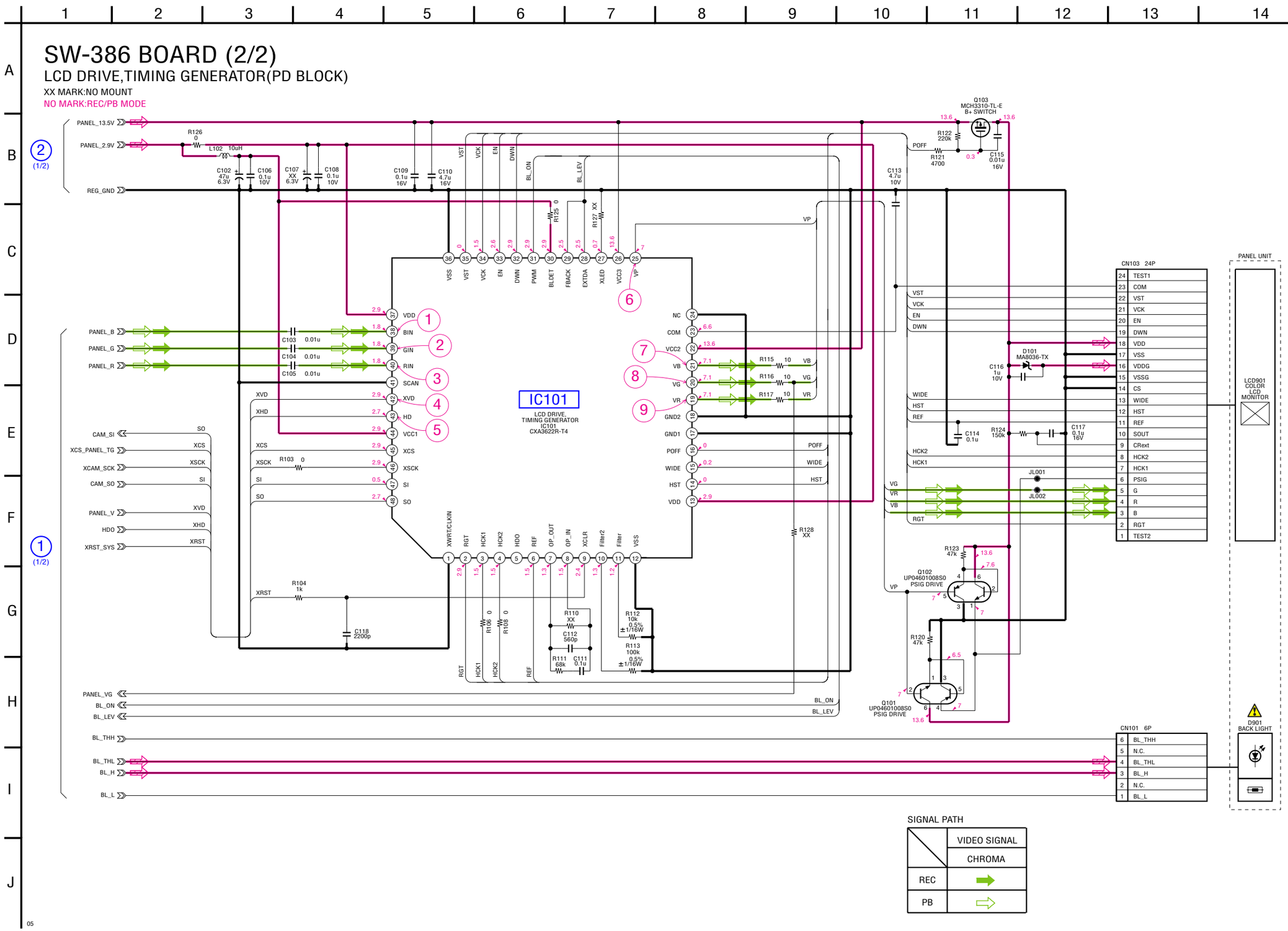
For Schematic Diagram
- Refer to page 4-47 for printed wiring board.
- Refer to page 4-56 for waveforms.

SW-386 BOARD (2/2)

LCD DRIVE,TIMING GENERATOR(PD BLOCK)

XX MARK:NO MOUNT

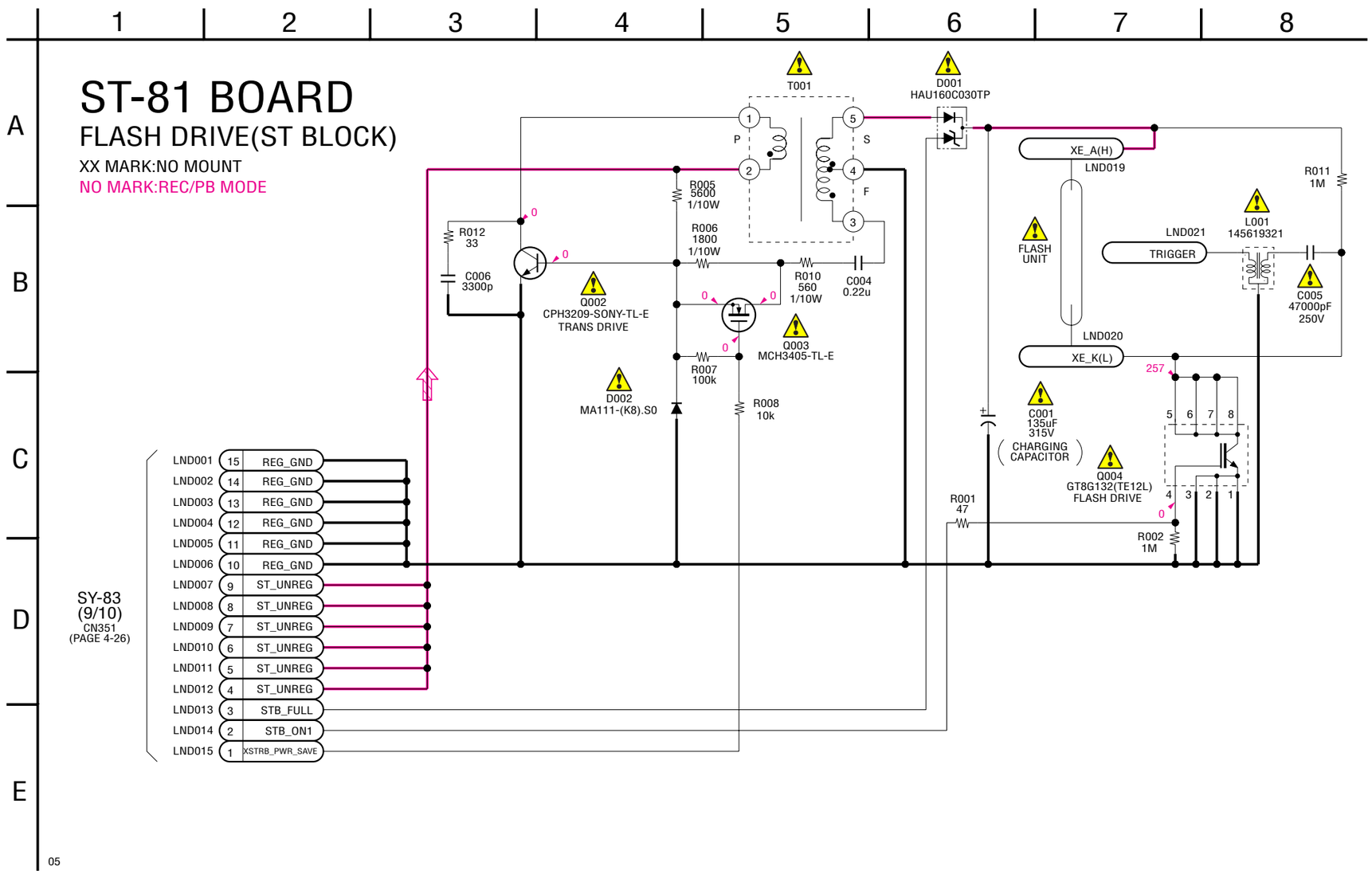
NO MARK:REC/PB MODE



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

For Schematic Diagram

• Refer to page 4-49 for printed wiring board.



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

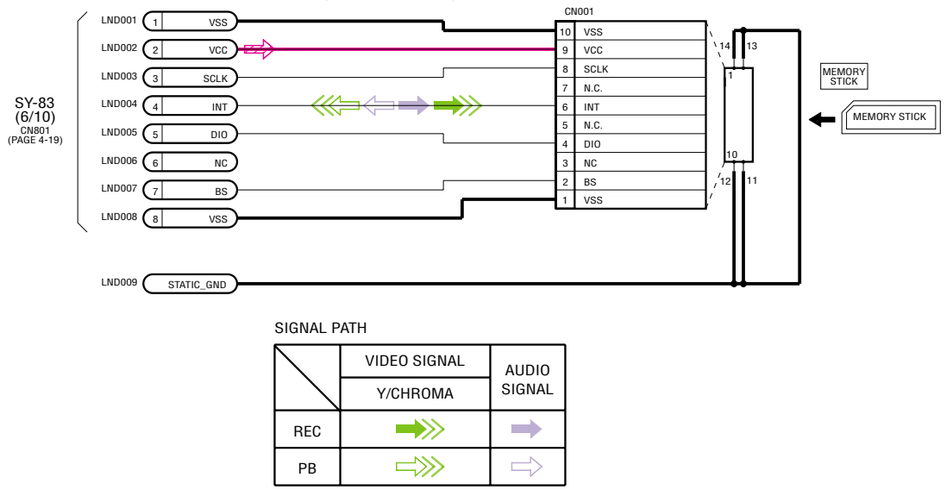
Schematic diagrams of the JK-243 and JK-244 board
are not shown.
Pages from 4-35 to 4-36 are not shown.

For Schematic Diagram

• Refer to page 4-53 for printed wiring board.

MS-130 BOARD

MEMORY STICK CONNECTOR(MS BLOCK)

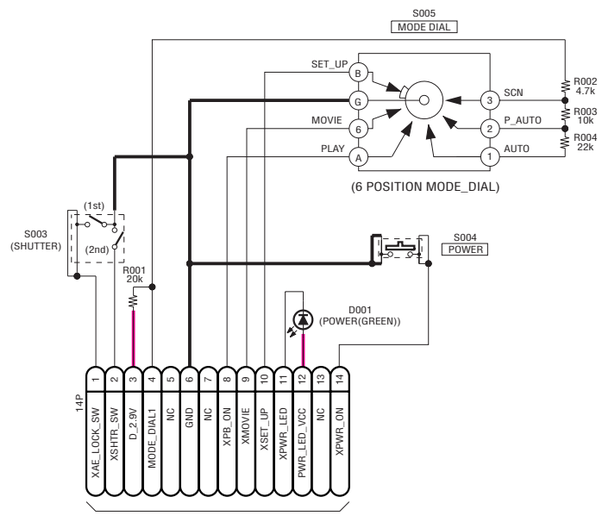


SIGNAL PATH

	VIDEO SIGNAL	AUDIO SIGNAL
	Y/CHROMA	
REC	⇒	⇒
PB	⇨	⇨

CONTROL SWITCH BLOCK

(CONTROL SWITCH BLOCK is replaced as a block, so that PRINTED WIRING BOARD is omitted.)



SY-83 (7/10)
CN804
(SEE PAGE 4-21)

COVER

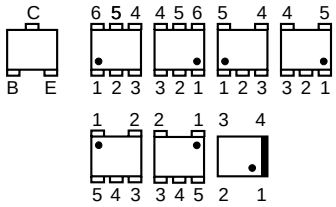
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

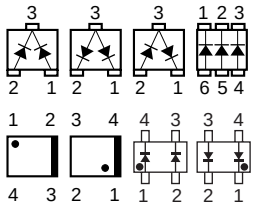
- : Uses unleaded solder.
- : Circuit board
  : Flexible board
  Pattern from the side which enables seeing.
  : pattern of the rear side
  (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram isn't mounted in this model.
- : panel designation

- Chip parts.

Transistor



Diode



Board Name	Parts Location	Waveforms	Pattern	
			Total Number of Layers	Layers Not Indicated
CD-432	4-57	–	2 layers	–
SW-386	4-60	4-56	2 layers	–
ST-81	4-60	–	2 layers	–
MS-130	–	–	1 layers	–

COVER

4-3. PRINTED WIRING BOARDS

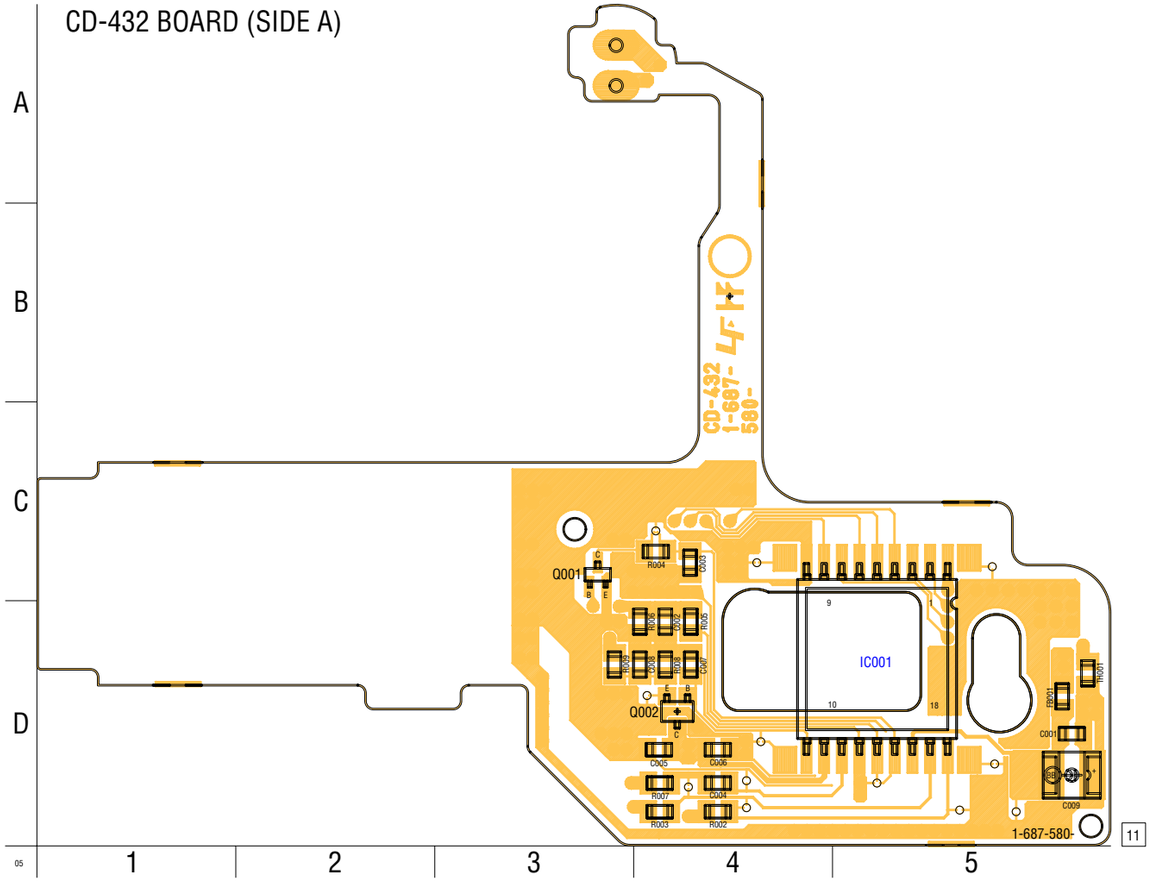
Link

- CD-432 BOARD
- ST-81 BOARD
- SW-386 BOARD
- MS-130 BOARD
- COMMON NOTE FOR PRINTED WIRING BOARDS
- WAVEFORMS
- MOUNTED PARTS LOCATION
- CIRCUIT BOARDS LOCATION

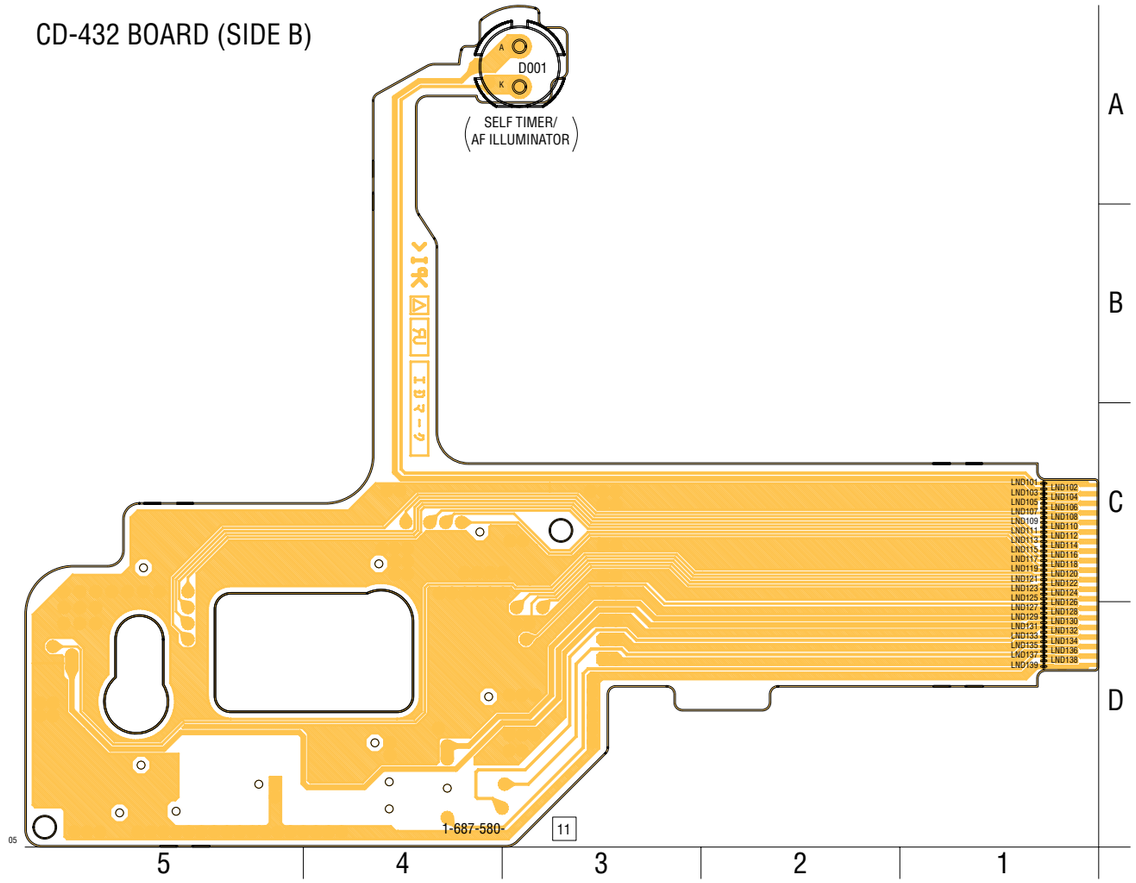
CD-432 (CCD IMAGER)

Note for Printed Wiring Board (See page 4-39).

CD-432 BOARD (SIDE A)



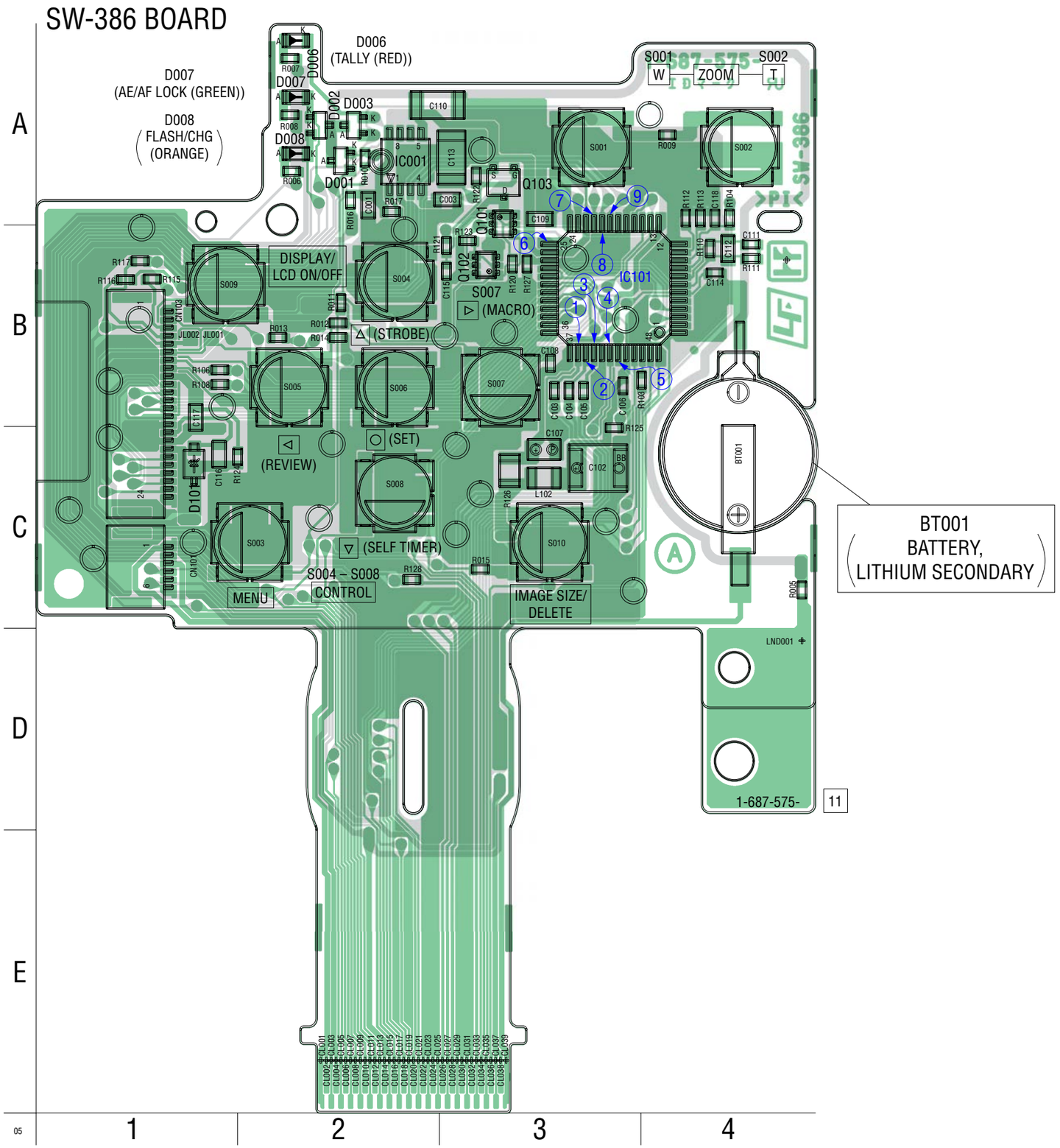
CD-432 BOARD (SIDE B)



Printed wiring board of the SY-83 board are not shown.
Pages from 4-43 to 4-46 are not shown.

SW-386 (LCD DRIVE, TIMING GENERATOR, CONTROL SWITCH)

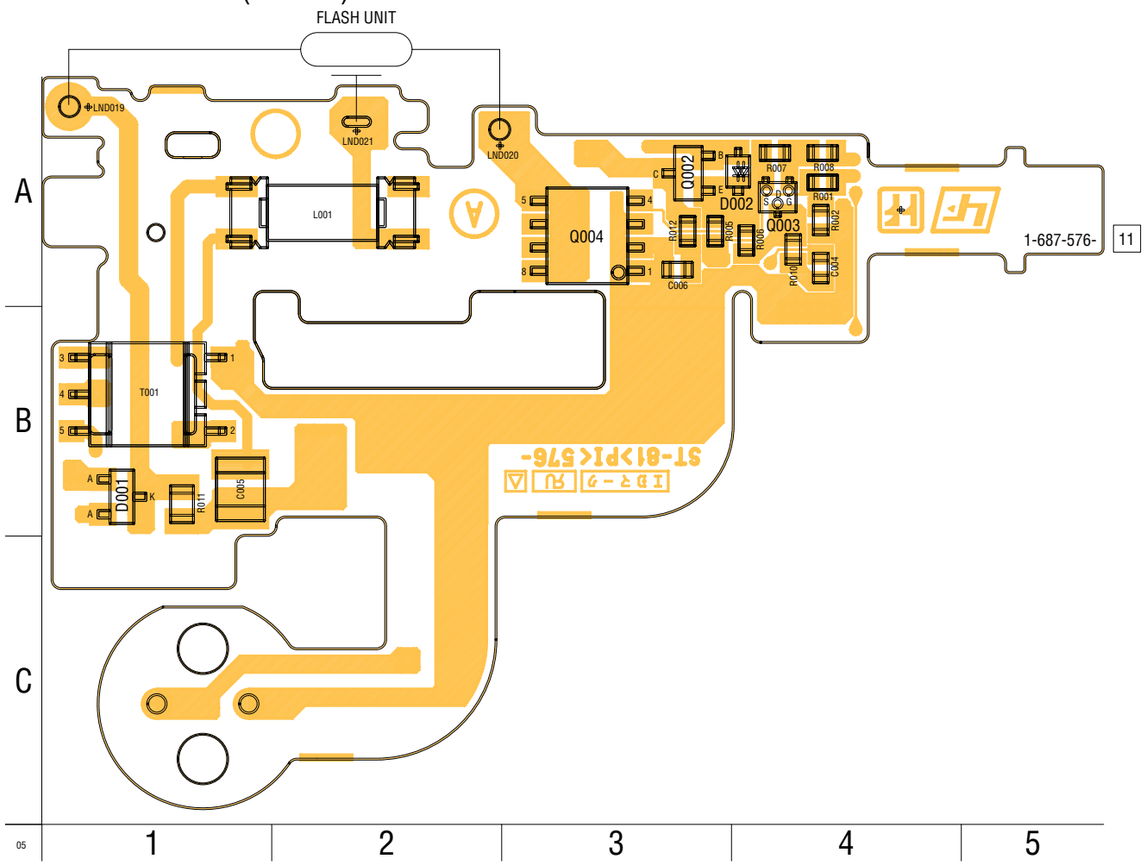
Note for Printed Wiring Board (See page 4-39).



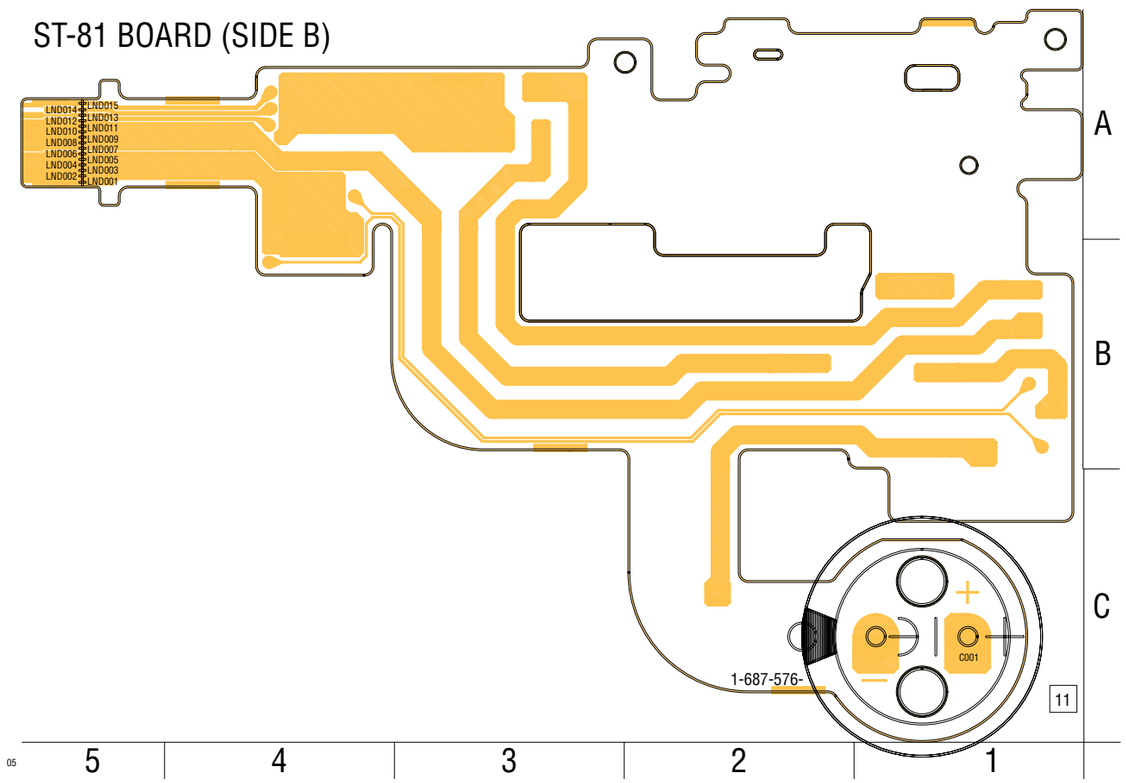
ST-81 (FLASH DRIVE)

Note for Printed Wiring Board (See page 4-39).

ST-81 BOARD (SIDE A)



ST-81 BOARD (SIDE B)

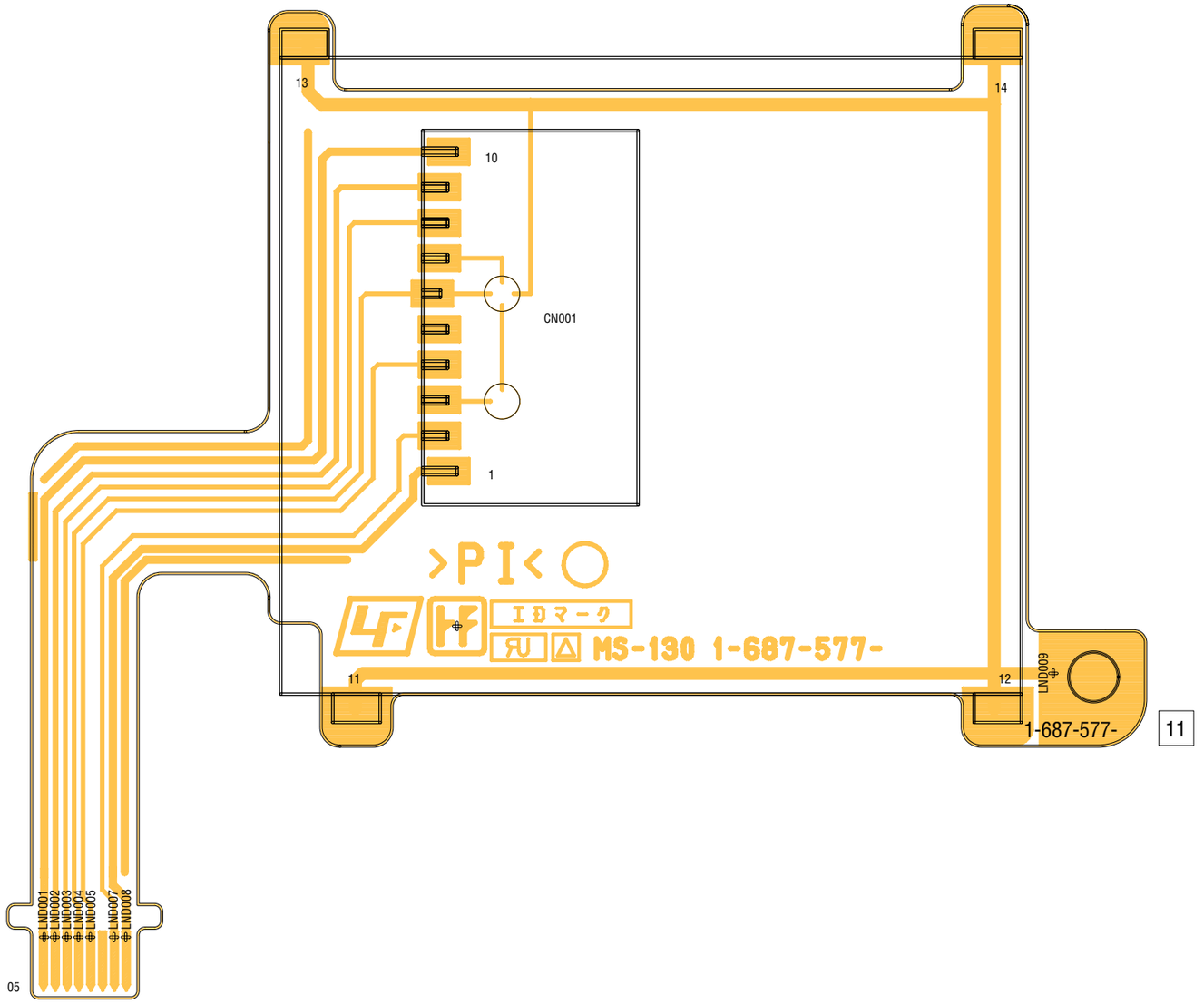


Printed wiring board of the JK-243 and JK-244 board are not shown.
Pages from 4-51 to 4-52 are not shown.

MS-130 (MEMORY STICK CONNECTOR)

Note for Printed Wiring Board (See page 4-39).

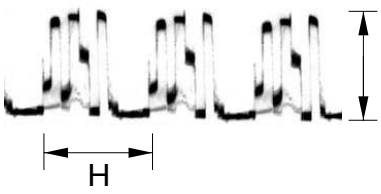
MS-130 BOARD



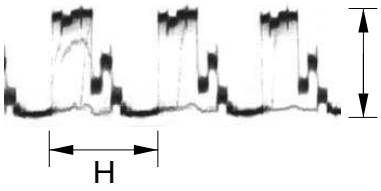
Waveforms of the SY-83 board are not shown.
Page 4-55 is not shown.

4-4. WAVEFORMS

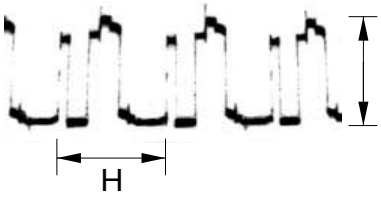
SW-386 BOARD

① 

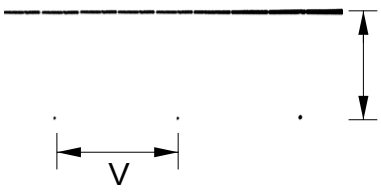
IC101 ㊳ REC/PB

② 

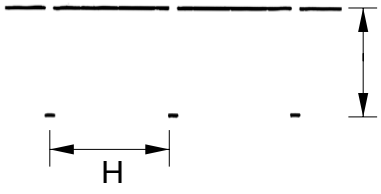
IC101 ㊴ REC/PB

③ 

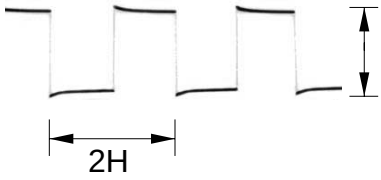
IC101 ㊵ REC/PB

④ 

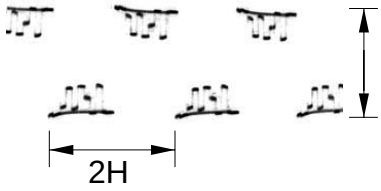
IC101 ㊷ REC/PB

⑤ 

IC101 ㊸ REC/PB

⑥ 

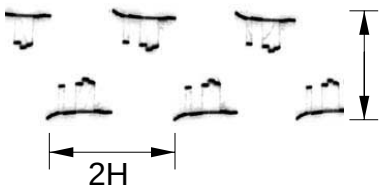
IC101 ㉕ REC/PB

⑦ 

IC101 ㉑ REC/PB

⑧ 

IC101 ⑳ REC/PB

⑨ 

IC101 ⑲ REC/PB

4-5. MOUNTED PARTS LOCATION

no mark : side A
* mark : side B

CD-432 BOARD

C001 D-5
C002 D-4
C003 C-4
C004 D-4
C006 D-4
C007 D-4
C009 D-5

* D001 A-3

IC001 D-5

FB001 D-5

Q001 C-3
Q002 D-4

R002 D-4
R003 D-4
R004 C-4
R005 D-4
R006 D-4
R007 D-4
R008 D-4
R009 D-3

TH001 D-5

Mounted parts location of the SY-83 board are not shown.
Page 4-58, 59 is not shown.

COVER

4-3. PRINTED WIRING BOARDS

no mark : side A
* mark : side B

SW-386 BOARD

	BT001	C-4
	C001	B-2
	C003	D-3
	C102	C-3
	C103	B-3
	C104	B-3
	C105	B-3
	C106	B-3
	C108	B-3
	C109	B-3
	C110	A-2
	C111	B-4
	C112	B-4
	C113	A-2
	C114	B-4
	C115	B-3
	C116	C-1
	C117	C-1
	C118	B-4
	CN101	C-1
	CN103	B-1
	D006	A-2
	D007	A-2
	D008	A-2
	D101	C-1
	IC001	A-2
	IC101	B-3
	L102	C-3
	Q101	B-3
	Q102	B-3
	Q103	A-3
	R006	A-2
	R007	A-2
	R008	A-2
	R009	A-4
	R010	A-2
	R011	B-2
	R012	B-2
	R013	B-2
	R014	B-2
	R015	C-3
	R016	A-2
	R017	A-2
	R103	B-3
	R104	B-4
	R106	B-2
	R108	B-2
	R111	B-4
	R112	B-4
	R113	B-4
	R115	B-1
	R116	B-1
	R117	B-1
	R120	B-3
	R121	B-3
	R122	A-3
	R123	B-3
	R124	C-2
	R125	C-3
	R126	C-3
	S001	A-3
	S002	A-4
	S003	C-2
	S004	B-2
	S005	B-2
	S006	B-2
	S007	B-3
	S008	C-2
	S009	B-1
	S010	C-3

ST-81 BOARD

*	C001	C-1
	C004	A-4
	C005	B-1
	C006	A-3
	D001	B-1
	D002	A-4
	L001	A-2
	Q002	A-3
	Q003	A-4
	Q004	A-3
	R001	A-4
	R002	A-4
	R005	A-3
	R006	A-4
	R007	A-4
	R008	A-4
	R010	A-4
	R011	B-1
	R012	A-3
	T001	B-1

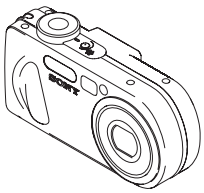
Mounted parts location of the JK-243 board are not shown.
Page 4-61 is not shown.

5. REPAIR PARTS LIST

NOTE: Characters A to C of the electrical parts list indicate location of exploded views in which the desired part is shown.

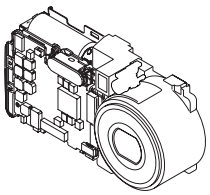
Link

EXPLODED VIEWS



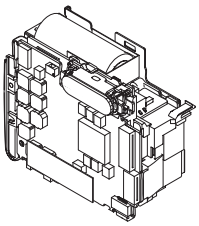
A

CABINET SECTION



B

LENS SECTION



C

BATTERY HOLDER SECTION

Link

ELECTRICAL PARTS LIST

ACCESSORIES

CD-432 BOARD	B	ST-81 BOARD	C		
MS-130 BOARD	C	SW-386 BOARD	C		

COVER

5. REPAIR PARTS LIST

SECTION 5
REPAIR PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- CAPACITORS:
  uF: µF
- COILS
  uH: µH
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation
  AUS : Australian model
  CH : Chinese model
  CND : Canadian model
  J : Japanese model
  JE : Tourist model
  HK : Hong Kong model
  KR : Korean model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

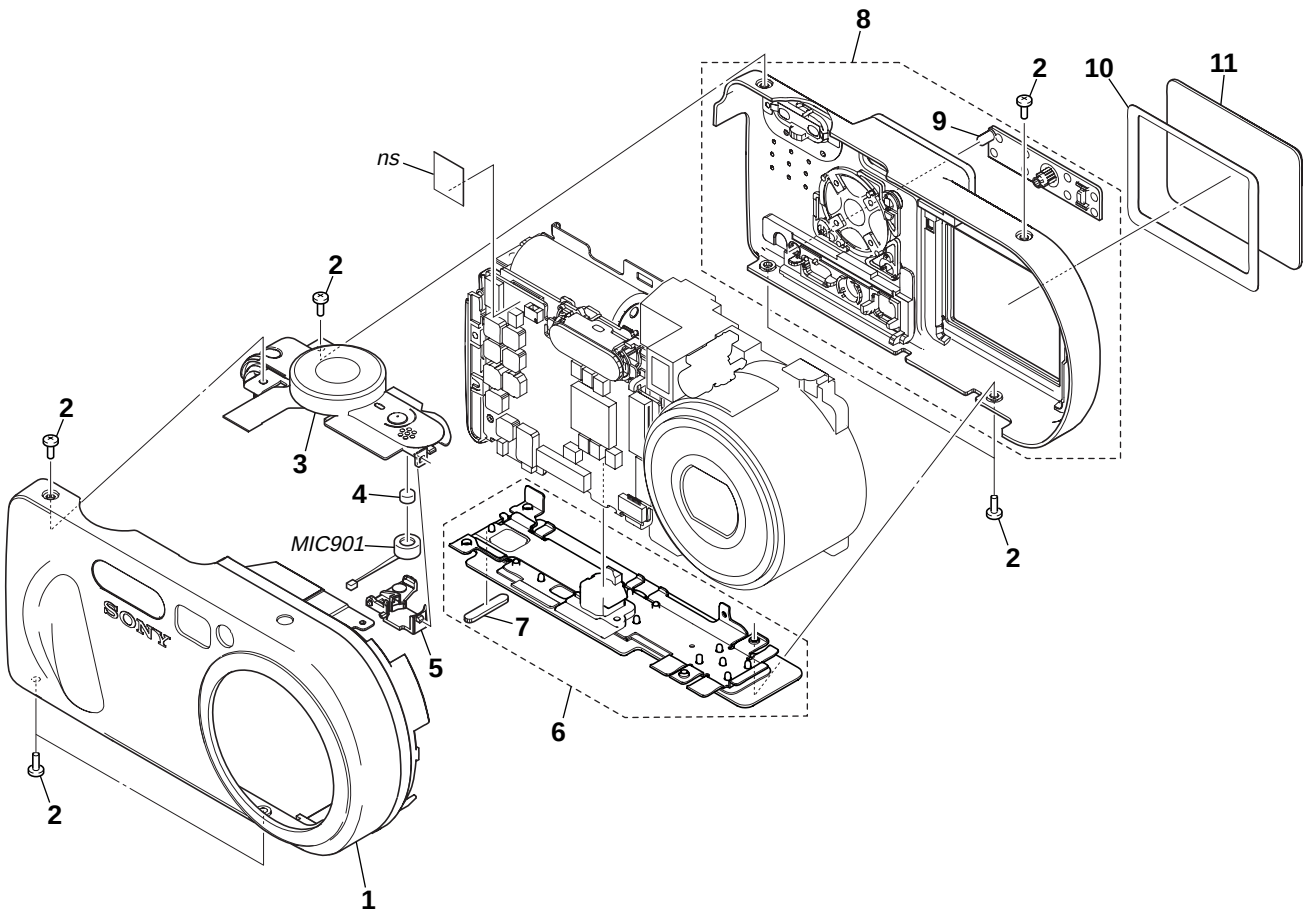
COVER

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. CABINET SECTION

ns: not supplied



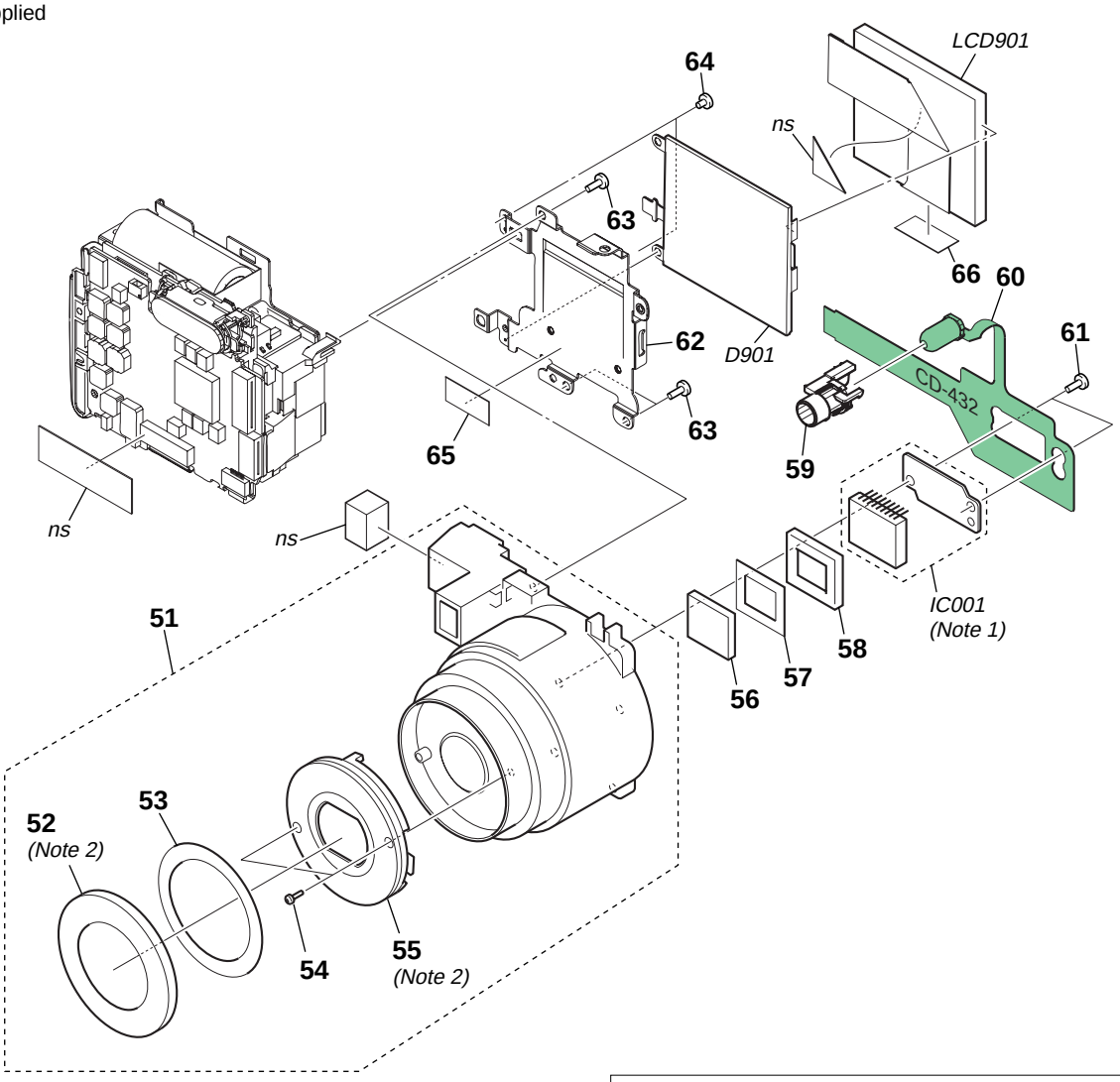
Ref. No.	Part No.	Description
1	X-3953-259-1	CABINET FRONT ASSY (BLUE)
1	X-3953-262-1	CABINET FRONT ASSY (RED)
1	X-3953-266-1	CABINET FRONT ASSY (SILVER)
1	X-3953-438-1	CABINET FRONT ASSY (WHITE)
2	3-989-735-11	SCREW (M1.7), LOCK ACE, P2
3	1-477-770-11	SWITCH BLOCK, CONTROL (SILVER)
3	1-477-770-21	SWITCH BLOCK, CONTROL (BLUE)
3	1-477-770-31	SWITCH BLOCK, CONTROL (RED)
3	1-477-770-41	SWITCH BLOCK, CONTROL (WHITE)
4	3-081-763-01	CUSHION, MICROPHONE
5	3-081-747-01	CASE, MICROPHONE
6	X-3953-264-1	CABINET (LOWER) ASSY (RED)
6	X-3953-268-1	CABINET (LOWER) ASSY (BLUE, SILVER, WHITE)
7	3-081-764-01	FOOT, RUBBER
8	X-3953-260-1	CABINET (REAR) ASSY (BLUE)
8	X-3953-263-1	CABINET (REAR) ASSY (RED)
8	X-3953-267-1	CABINET (REAR) ASSY (SILVER)
8	X-3953-439-1	CABINET (REAR) ASSY (WHITE)
9	3-081-742-01	COVER, JACK (SILVER)
9	3-081-742-11	COVER, JACK (BLUE)
9	3-081-742-21	COVER, JACK (RED)
9	3-081-742-51	COVER, JACK (WHITE)
10	3-081-761-01	SHEET, ADHESIVE, LCD WINDOW
11	3-081-770-01	WINDOW, LCD
MIC901	1-542-519-11	MICROPHONE

COVER

5. REPAIR PARTS LIST

5-1-2. LENS SECTION

ns: not supplied



(Note 1) Be sure to read “Precuations for Replacement of CCD Imager” on page 4-8 when changing the CCD imager.

(Note 2) Be sure to read “Barrier Unit” and “Barrier Operation Test Method” on page 2-10 when changing the barrier unit or the ornamental fixed plate (A).

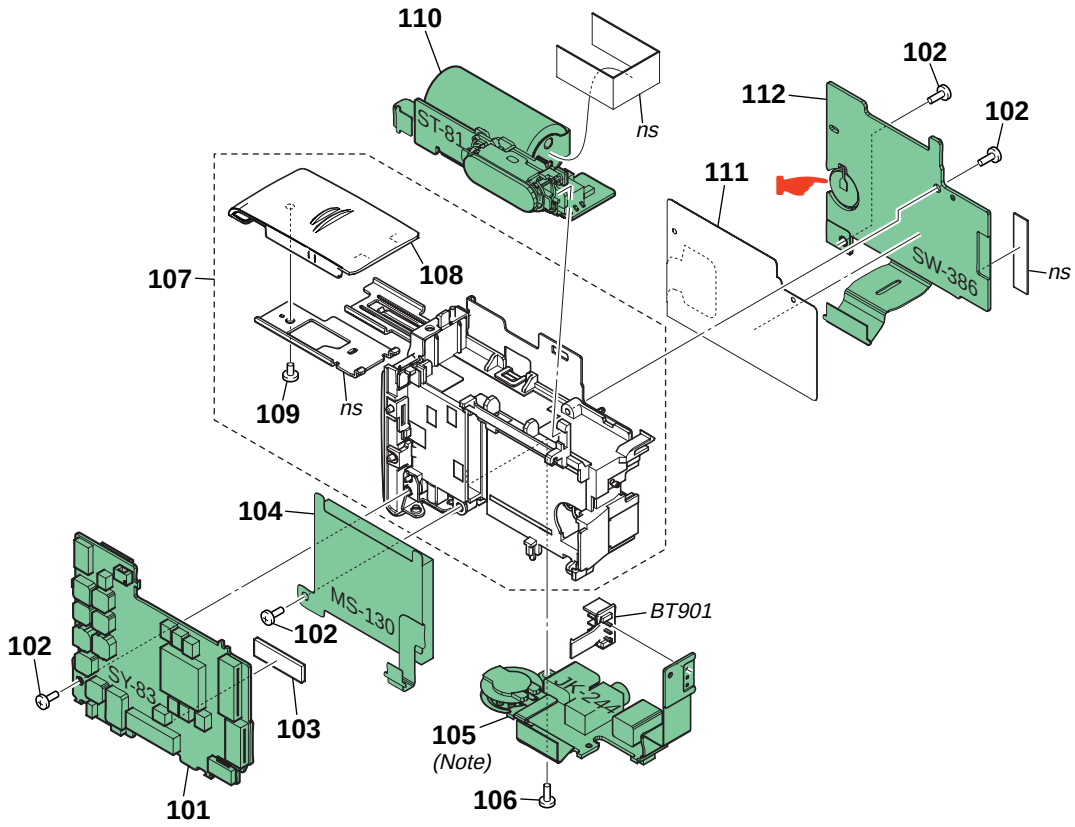
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description
51	1-758-914-11	LENS, VIDEO (ED02C)
52	3-709-683-01	PLATE (A), ORNAMENTAL FIXED (Note 2)
53	3-709-676-01	MATERIAL, FIXED PLATE ADHESION
54	3-709-678-01	TITE (B TITE M1.4X4.5), TAP
55	3-709-677-01	BARRIER UNIT (Note 2)
56	1-758-916-11	FILTER BLOCK, OPTICAL
57	3-076-569-01	PLATE, LIGHT INTERCEPTION
58	3-075-085-01	RUBBER (DQ), SEAL
59	3-081-681-01	HOLDER, AF
60	A-7078-619-A	CD-432 BOARD, COMPLETE
61	3-078-890-21	SCREW, TAPPING
62	3-081-745-01	LENS FRAME
63	3-080-204-11	SCREW, TAPPING, P2
64	3-081-427-01	SPECIAL
65	3-081-766-01	SHEET, INSULATING, SY
66	CAUTION	TAPE (K)
⚠D901	1-477-429-11	BLOCK, LIGHT GUIDE PLATE
IC001	A-7016-091-A	CCD BLOCK ASSY (CCD IMAGER) (Note 1)
LCD901	8-753-052-52	ACX309AKC-1 (SERVICE)

CAUTION :
For the part of 66 : TAPE (K) (3-075-828-01), cut WOVEN (T0.25), FABRIC NON (3-076-631-01) into the desired length and use it.

5-1-3. BATTERY HOLDER SECTION

ns: not supplied



: BT001 (BATTERY, LITHIUM SECONDARY)
Board on the mount position. (See page 4-48.)

(Note) Including the parts mounted on JK-243 board.

Ref. No.	Part No.	Description
101	A-7078-689-A	SY-83 BOARD, COMPLETE (SERVICE)
102	3-080-204-11	SCREW, TAPPING, P2
103	3-081-765-01	SHEET, SY RETAINER
104	A-7078-620-A	MS-130 BOARD, COMPLETE
105	A-7078-616-A	JK-244 BOARD, COMPLETE (Note)
106	3-989-735-11	SCREW (M1.7), LOCK ACE, P2
107	X-3953-258-1	HOLDER ASSY, BATTERY (BLUE)
107	X-3953-261-1	HOLDER ASSY, BATTERY (RED)
107	X-3953-265-1	HOLDER ASSY, BATTERY (SILVER)
107	X-3953-437-1	HOLDER ASSY, BATTERY (WHITE)
108	3-081-637-01	LID, BT (SILVER)
108	3-081-637-11	LID, BT (BLUE)
108	3-081-637-21	LID, BT (RED)
108	3-081-637-51	LID, BT (WHITE)
109	3-318-382-01	SCREW (1.7X3), TAPPING
110	A-7078-618-A	ST-81 BOARD, COMPLETE
111	3-081-748-01	SHEET (LI), INSLATING
112	A-7078-615-A	SW-386 BOARD, COMPLETE
BT901	1-694-854-11	BATTERY TERMINAL BOARD

5-2. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description			
	A-7078-619-A	CD-432 BOARD, COMPLETE			
		**********			
		(IC001 is not included in this board)			
		< CAPACITOR >			
C001	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C002	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C003	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C004	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C006	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C007	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C009	1-135-957-91	TANTAL. CHIP	10uF	20%	16V
		< DIODE >			
D001	6-500-398-01	DIODE OPR5052			
		(SELF TIMER/AF ILLUMINATOR)			
		< FERRITE BEAD >			
FB001	1-216-864-11	METAL CHIP	0	5%	1/16W
		< IC >			
IC001	A-7016-091-A	CCD BLOCK ASSY (CCD IMAGER) (Note)			
		< TRANSISTOR >			
Q001	8-729-037-74	TRANSISTOR UN9213J- (TK).SO			
Q002	8-729-050-22	TRANSISTOR 2SC4250 (T5LSONY1)			
		< RESISTOR >			
R002	1-216-864-11	METAL CHIP	0	5%	1/10W
R003	1-216-864-11	METAL CHIP	0	5%	1/10W
R004	1-216-828-11	METAL CHIP	3.9K	5%	1/10W
R005	1-216-864-11	METAL CHIP	0	5%	1/10W
R006	1-216-857-11	METAL CHIP	1M	5%	1/10W
R007	1-216-864-11	METAL CHIP	0	5%	1/10W
R008	1-216-827-11	METAL CHIP	3.3K	5%	1/10W
R009	1-216-864-11	METAL CHIP	0	5%	1/10W
		< THERMISTOR >			
TH001	1-810-816-11	THERMISTOR, NTC (1608)			

Electrical parts list of the JK-244 board is not shown.
Page 5-6 is not shown.

(Note) Be sure to read “Precautions for Replacement of CCD Imager” on page 4-8 when changing the CCD imager.

Ref. No.	Part No.	Description			
	A-7078-620-A	MS-130 BOARD, COMPLETE			
		**********			
		< CONNECTOR >			
CN001	1-815-572-61	CONNECTOR, MEMORY STICK			
	A-7078-618-A	ST-81 BOARD, COMPLETE			
		**********			
	1-477-769-11	STROBO LUMINESCENCE UNIT			
		< CAPACITOR >			
⚠C001	1-100-528-11	ELECT	135uF		315V
C004	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C005	1-137-723-21	CERAMIC CHIP	0.047uF	10%	250V
C006	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
		< DIODE >			
⚠D001	6-500-237-01	DIODE HAU160C030TP			
⚠D002	8-719-073-01	DIODE MA111- (K8).S0			
		< COIL >			
⚠L001	1-456-193-11	COIL, TRIGGER			
		< TRANSISTOR >			
⚠Q002	6-550-183-01	TRANSISTOR CPH3209-SONY-TL-E			
⚠Q003	8-729-056-01	TRANSISTOR MCH3405-TL-E			
⚠Q004	8-729-053-74	TRANSISTOR CY25AAJ-8-T13			
		< RESISTOR >			
R001	1-216-805-11	METAL CHIP	47	5%	1/10W
R002	1-216-857-11	METAL CHIP	1M	5%	1/10W
R005	1-216-830-11	METAL CHIP	5.6K	5%	1/10W
R006	1-216-824-11	METAL CHIP	1.8K	5%	1/10W
R007	1-216-845-11	METAL CHIP	100K	5%	1/10W
R008	1-216-833-11	METAL CHIP	10K	5%	1/10W
R010	1-216-818-11	METAL CHIP	560	5%	1/10W
R011	1-216-121-11	RES-CHIP	1M	5%	1/10W
R012	1-216-803-11	METAL CHIP	33	5%	1/10W
		< TRANSFORMER >			
⚠T001	1-439-714-21	DC-DC CONVERTER TRANSFORMER			
	A-7078-615-A	SW-386 BOARD, COMPLETE			
		**********			
		< BATTERY >			
⚠BT001	1-756-348-11	BATTERY, LITHIUM (SECONDARY)			
		< CAPACITOR >			
C001	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C003	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C102	1-125-839-91	TANTAL. CHIP	47uF	20%	6.3V
C103	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C104	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			
C105	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C106	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C108	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C109	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C110	1-127-820-11	CERAMIC CHIP	4.7uF		16V
C111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C112	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C113	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C114	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C115	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C116	1-165-908-91	CERAMIC CHIP	1uF	10%	10V
C117	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C118	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	50V
		< CONNECTOR >			
CN101	1-794-766-21	CONNECTOR, FFC/FPC (LIF) 6P			
CN103	1-794-770-11	CONNECTOR, FFC/FPC (LIF) 24P			
		< DIODE >			
D006	8-719-077-09	DIODE CL-196HR-CD-T (TALLY (RED))			
D007	8-719-063-83	DIODE SML-510MWT86 (AE/AF LOCK (GREEN))			
D008	8-719-077-34	DIODE SML-310YTT86 (FLASH/CHG (ORANGE))			
D101	8-719-017-82	DIODE MA8036			
		< IC >			
IC001	6-700-712-01	IC NJM2370RD5 (TE2)			
IC101	8-752-109-23	IC CXA3622R-T4			
		< COIL >			
L102	1-469-757-21	INDUCTOR	10uH		
		< TRANSISTOR >			
Q101	8-759-054-48	TRANSISTOR C010-PW2000SV-V110			
Q102	8-759-054-48	TRANSISTOR C010-PW2000SV-V110			
Q103	8-729-056-00	TRANSISTOR MCH3310-TL-E			
		< RESISTOR >			
R006	1-220-175-11	RES-CHIP	240	5%	1/16W
R007	1-208-690-11	RES-CHIP	2K	5%	1/16W
R008	1-218-947-11	RES-CHIP	330	5%	1/16W
R009	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R010	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R011	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R012	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R013	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R014	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R015	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R016	1-218-990-11	SHORT CHIP	0		
R017	1-218-981-11	RES-CHIP	220K	5%	1/16W
R103	1-218-990-11	SHORT CHIP	0		
R104	1-218-953-11	RES-CHIP	1K	5%	1/16W
R106	1-218-990-11	SHORT CHIP	0		
R108	1-218-990-11	SHORT CHIP	0		
R111	1-218-975-11	RES-CHIP	68K	5%	1/16W
R112	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R113	1-208-935-11	METAL CHIP	100K	0.5%	1/16W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

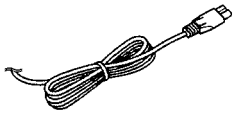
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SW-386

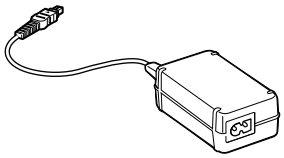
Ref. No.	Part No.	Description			
R115	1-208-635-11	RES-CHIP	10	5%	1/16W
R116	1-208-635-11	RES-CHIP	10	5%	1/16W
R117	1-208-635-11	RES-CHIP	10	5%	1/16W
R120	1-218-973-11	RES-CHIP	47K	5%	1/16W
R121	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R122	1-218-981-11	RES-CHIP	220K	5%	1/16W
R123	1-218-973-11	RES-CHIP	47K	5%	1/16W
R124	1-218-979-11	RES-CHIP	150K	5%	1/16W
R125	1-218-990-11	SHORT CHIP	0		
R126	1-216-295-91	SHORT CHIP	0		
		< SWITCH >			
S001	1-786-157-11	SWITCH, TACTILE (ZOOM SW (W))			
S002	1-786-157-11	SWITCH, TACTILE (ZOOM SW (T))			
S003	1-786-157-11	SWITCH, TACTILE (MENU)			
S004	1-786-157-11	SWITCH, TACTILE (△ (STROBE))			
S005	1-786-157-11	SWITCH, TACTILE (◁ (REVIEW))			
S006	1-786-157-11	SWITCH, TACTILE (○ (SET))			
S007	1-786-157-11	SWITCH, TACTILE (▷ (MACRO))			
S008	1-786-157-11	SWITCH, TACTILE (▽ SELFTIMER))			
S009	1-786-157-11	SWITCH, TACTILE (DISPLAY/LCD ON/OFF)			
S010	1-786-157-11	SWITCH, TACTILE (IMAGE SIZE/DELETE)			

Electrical parts list of the SY-83 board is not shown.
Pages 5-9 to 5-13 are not shown.

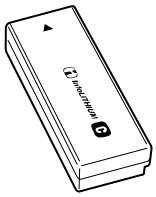
Checking supplied accessories.



Power cord (1)
⚠ 1-696-819-11 (AUS)
⚠ 1-769-608-11 (AEP, E)
⚠ 1-776-985-11 (KR)
⚠ 1-782-476-11 (CH)
⚠ 1-783-374-11 (UK, HK)
⚠ 1-790-107-22 (US, CND)
⚠ 1-790-732-11 (JE, J)



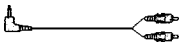
AC adaptor
AC-LS5 (1)
⚠ 1-477-730-11 (EXCEPT CH)
⚠ 1-477-730-21 (CH)



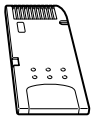
NP-FC11 battery pack (1)

Wrist strap (1)
3-070-841-01

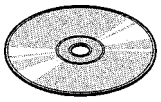
USB cable (1)
1-827-038-11



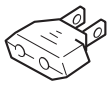
A/V connecting cable (1)
1-824-111-11



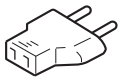
"Memory Stick" (16MB) (1)



CD-ROM
(SPVD-010 USB driver) (1)
3-078-942-02 (EXCEPT US, CND, J)
3-078-943-02 (US, CND, J)



Conversion Adaptor (1)
⚠ 1-569-008-12 (E)



Conversion Adaptor (1)
⚠ 1-569-007-11 (E, JE)

Other accessories

3-080-890-02 MANUAL, INSTRUCTION (for BASIC) (JAPANESE) (J)
3-080-890-11 MANUAL, INSTRUCTION (ENGLISH) (US, CND, AEP, UK, E, AUS, CH, HK, JE)
3-080-890-21 MANUAL, INSTRUCTION (FRENCH, GERMAN) (CND, AEP)
3-080-890-31 MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEP, E, JE)
3-080-890-41 MANUAL, INSTRUCTION (ITALIAN, DUTCH) (AEP)
3-080-890-51 MANUAL, INSTRUCTION (TRADITIONAL CHINESE, SIMPLIFIED CHINESE) (E, CH, HK, JE)
3-080-890-61 MANUAL, INSTRUCTION (RUSSIAN, SWEDISH) (AEP)
3-080-890-71 MANUAL, INSTRUCTION (ARABIC) (E)
3-080-890-81 MANUAL, INSTRUCTION (KOREAN) (KR)
3-080-891-01 MANUAL, INSTRUCTION (for APPLICATION) (JAPANESE) (J)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2003.03	Official Release	—	—