

DCR-TRV380/TRV480/TRV480E

RMT-831

SERVICE MANUAL

LEVEL 2

Ver 1.1 2004.12

Revision History

How to use
Acrobat Reader



M2000 MECHANISM

Photo: DCR-TRV480E

DCR-TRV480

US Model
Canadian Model

DCR-TRV480E

AEP Model
UK Model
North European Model
Australian Model

DCR-TRV380/
TRV480/
TRV480E

E 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 (9-876-781-51).
- For INSTRUCTION MANUAL, refer to SERVICE MANUAL, LEVEL1 (9-876-781-41).
- For MECHANISM ADJUSTMENTS, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL IX [M2000 MECHANISM]" (9-929-861-11).
- Reference No. search on printed wiring boards is available.
- Table for differences of function of each model.
- TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)
- HELP: Sheet attachment positions and procedures of processing the flexible boards/harnesses are shown.

On the VC-345 board

This service manual provides the information that is premised the circuit board replacement service and not intended repair inside the VC-345 board.

Therefore, schematic diagrams, printed wiring boards, mounted parts location and electrical parts list of the VC-345 board are not shown.

The following pages are not shown.

Schematic diagrams Pages 4-9 to 4-44
Printed wiring boards Pages 4-59 to 4-62
Waveforms Pages 4-70 to 4-75
Mounted parts location Pages 4-77 and 4-78
Electrical parts list Pages 5-16 to 5-24

Digital8 DIGITAL VIDEO CAMERA RECORDER

SONY®



SPECIFICATIONS

Video camera recorder

System

Video recording system

2 rotary heads, Helical scanning system

Still image recording system

Exif Ver. 2.2*¹

*¹ "Exif" is a file format for still images, established by the JEITA (Japan Electronics and Information Technology Industries Association). Files in this format can have additional information such as your camcorder's setting information at the time of recording.

Audio recording system

Rotary heads, PCM system

Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal

DCR-TRV380/TRV480:

NTSC color, EIA standards

DCR-TRV480E:

PAL color, CCIR standards

Usable cassette

8 mm video format cassette

Tape speed

DCR-TRV380/TRV480:

SP: Approx. 28.67 mm/s

LP: Approx. 19.11 mm/s

DCR-TRV480E:

SP: Approx. 28.70 mm/s

LP: Approx. 19.13 mm/s

Recording/play back time

DCR-TRV380/TRV480:

(using 120 min. Hi8/Digital8 video cassette)

DCR-TRV480E:

(using 90 min. Hi8/Digital8 video cassette)

SP: 60 min

LP: 90 min

Fast forward/rewind time

DCR-TRV380/TRV480:

(using 120 min. Hi8/Digital8 video cassette)

DCR-TRV480E:

(using 90 min. Hi8/Digital8 video cassette)

Approx. 5 min

Viewfinder

Electric viewfinder (monochrome)

Image device

3.0 mm (1/6 type) CCD (Charge Coupled Device)

DCR-TRV380/TRV480:

Gross: Approx. 460 000 pixels

Effective (still): Approx. 290 000 pixels

Effective (movie): Approx. 290 000 pixels

DCR-TRV480E:

Gross: Approx. 540 000 pixels

Effective (still): Approx. 350 000 pixels

Effective (movie): Approx. 350 000 pixels

Lens

Combined power zoom lens
Filter diameter: 37 mm (1 7/16 in.)
20 × (Optical), 990 × (Digital)
F = 1.6 ~ 2.4

Focal length

2.5 - 50 mm (1/8 - 2 in.)
When converted to a 35 mm still camera
In CAMERA-TAPE:
42 - 840 mm (1 11/16 - 33 1/8 in.)
In CAMERA-MEMORY:
42 - 840 mm (1 11/16 - 33 1/8 in.)

Color temperature

Auto

Minimum illumination

4 lx (lux) (F 1.6)
0 lx (lux) (during the NightShot plus function)*²
*² Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/Output connectors

Audio/Video input/output

AV MINIJACK
Video signal: 1 Vp-p, 75 Ω (ohms), unbalanced, sync negative
Audio signal: 327 mV (at output impedance more than 47 kΩ (kilohms)), Input impedance more than 47 kΩ (kilohms), Output impedance with less than 2.2 kΩ (kilohms)
Stereo minijack (Φ 3.5 mm)

DV input/output

4-pin connector

USB jack

mini-B

LCD screen

Picture

6.2 cm (2.5 type)

Total dot number

123 200 (560 × 220)

General

Power requirements

DC 7.2 V (battery pack)
DC 8.4 V (AC Adaptor)

Average power consumption (when using the battery pack)

During camera recording using the viewfinder
2.9 W
During camera recording using the LCD
3.8 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 (approx.)

85 × 98 × 151 mm (3 3/8 × 3 7/8 × 6 in.)
(w/h/d)

Mass (Approx.)

800 g (1 lb 12 oz) main unit only
940 g (2 lb 1 oz) including the NP-FM30 rechargeable battery pack, Hi8/Digital8 cassette, lens cap, and shoulder strap.

Supplied accessories

AC Adaptor (1)
Power cord (1)
Lens cap (1)
Shoulder strap (1)
Wireless Remote commander RMT-831 (1)
A/V connecting cable (1)
USB cable (1)
Rechargeable battery pack NP-FM30 (1)
CD-ROM "Picture Package Ver.1.5" (1)
Camera Operations Guide (1)
See page 5-25.

AC Adaptor AC-L15A/L15B

Power requirements

AC 100 - 240 V, 50/60 Hz

Current consumption

0.35 - 0.18 A

Power consumption

18 W

Output voltage

DC 8.4 V, 1.5 A

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.)

56 × 31 × 100 mm (2 1/4 × 1 1/4 × 4 in.) (w/h/d)
(d) excluding the projecting parts

Mass (approx.)

190 g (6.7 oz) excluding the power cord

Rechargeable battery pack (NP-FM30)

Maximum output voltage

DC 8.4 V

Output voltage

DC 7.2 V

Capacity

5.0 Wh (700 mAh)

Dimensions (approx.)

38.2 × 20.5 × 55.6 mm
(1 9/16 × 1 3/16 × 2 1/4 in.) (w/h/d)

Mass (approx.)

65 g (2.3 oz)

Operating temperature

0° C to 40° C (32° F to 104° F)

Type

Lithium ion

Design and specifications are subject to change without notice.

Table for differences of function

Model	DCR-TRV380	DCR-TRV480	DCR-TRV480E
Destination	E	US, CND, E	AEP, UK, NE, E, AUS
Color system	NTSC	NTSC	PAL
Playback system	Digital8	Hi8/8/Digital8	Hi8/8/Digital8

- Abbreviation
 - AUS : Australian model
 - CND : Canadian model
 - NE : North European model

CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

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 IDENTIFIÉS 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 PIÈCES 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.

- Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
- Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
- Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
- Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
- Check the B+ voltage to see it is at the values specified.
- 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°C 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°C.
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

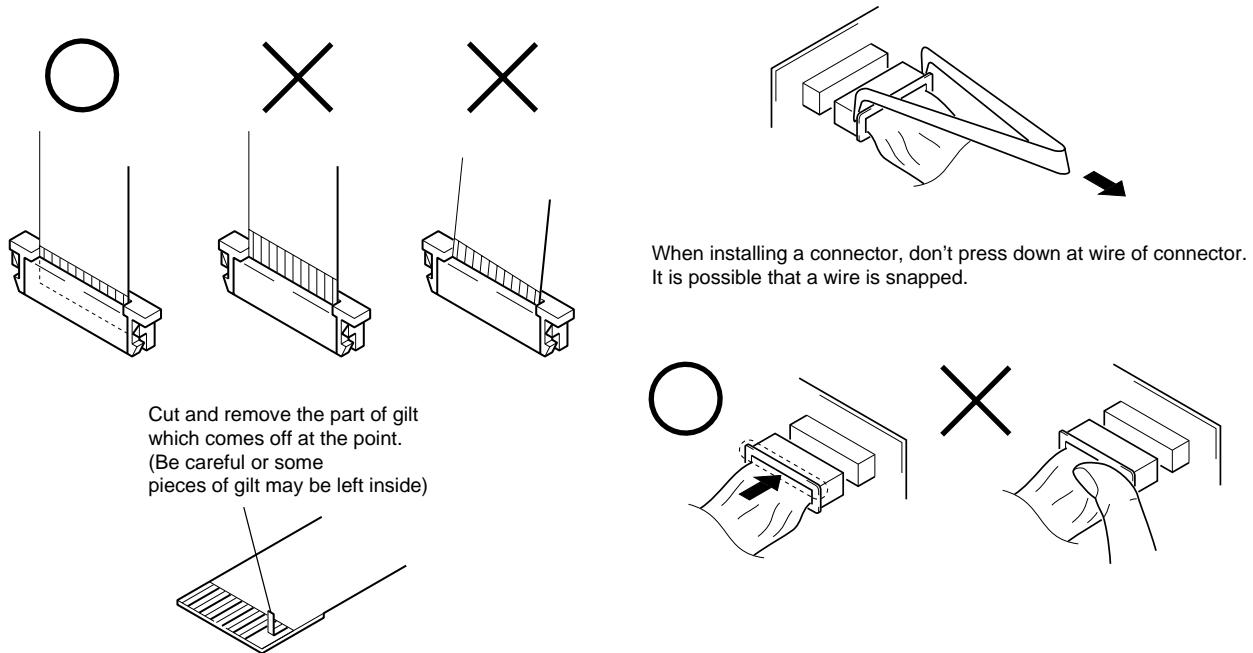
<u>Section</u>	<u>Title</u>	<u>Page</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1. SERVICE NOTE					
1-1.	Note for Repair	1-1			
1-2.	Power Supply During Repairs	1-1			
1-3.	To Take Out a Cassette when not Eject (Force Eject)	1-2			
1-4.	Self-diagnosis Function	1-3			
1-4-1.	Self-diagnosis Function	1-3			
1-4-2.	Self-diagnosis Display	1-3			
1-4-3.	Self-diagnosis Code Table	1-4			
2. DISASSEMBLY					
2-1.	Flow Chart	2-1			
2-2.	Mechanism Deck Service Position	2-3			
2-3.	LCD Service Position	2-5			
2-4.	Circuit Boards Location	2-6			
2-5.	Flexible Boards Location	2-6			
3. BLOCK DIAGRAMS					
3-1.	Overall Block Diagram (1/6)	3-1			
3-2.	Overall Block Diagram (2/6)	3-3			
3-3.	Overall Block Diagram (3/6)	3-5			
3-4.	Overall Block Diagram (4/6)	3-7			
3-5.	Overall Block Diagram (5/6)	3-9			
3-6.	Overall Block Diagram (6/6)	3-11			
3-7.	Power Block Diagram (1/3)	3-13			
3-8.	Power Block Diagram (2/3)	3-15			
3-9.	Power Block Diagram (3/3)	3-17			
4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS					
4-1.	Frame Schematic Diagram	4-1			
4-2.	Schematic Diagrams	4-5			
	CD-472 (CCD IMAGER)	4-7			
	PD-205 (LCD DRIVER, BACKLIGHT DRIVE)	4-45			
	SI-041 (STEADYSHOT, JACK)	4-47			
	FP-792 FLEXIBLE	4-47			
	FP-228, FP-299, FP-300, FP-301, FP-302, FP-802 FLEXIBLE	4-49			
	CONTROL KEY BLOCK (SS-5100, PR-5100, SB-9000)	4-50			
	CONTROL KEY BLOCK (CF-5100)	4-51			
4-3.	Printed Wiring Boards	4-55			
	CD-472	4-57			
	PD-205	4-63			
	SI-041, FP-792 FLEXIBLE	4-65			
	FP-228, FP-299, FP-300, FP-301, FP-302, FP-802 FLEXIBLE	4-67			
4-4.	Waveforms	4-69			
4-5.	Mounted Parts Location	4-79			
5. REPAIR PARTS LIST					
5-1.	Exploded Views	5-2			
5-1-1.	Overall Assembly	5-2			
5-1-2.	Front Panel Block	5-3			
5-1-3.	Lens Block	5-4			
5-1-4.	LCD Block	5-5			
5-1-5.	Cabinet R Block	5-6			
5-1-6.	EVF Block	5-7			
5-1-7.	Battery Panel Block	5-8			
5-1-8.	MD Frame Block	5-9			
5-1-9.	Cassette Compartment Assembly, Drum Assembly	5-10			
5-1-10.	LS Chassis Block Assembly	5-11			
5-1-11.	Mechanical Chassis Block Assembly-1	5-12			
5-1-12.	Mechanical Chassis Block Assembly-2	5-13			
5-2.	Electrical Parts List	5-14			

1. SERVICE NOTE

1-1. NOTE FOR REPAIR

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

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



1-2. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied to the battery terminal using the regulated power supply (8.4V), the power is shut off so that the unit cannot operate.

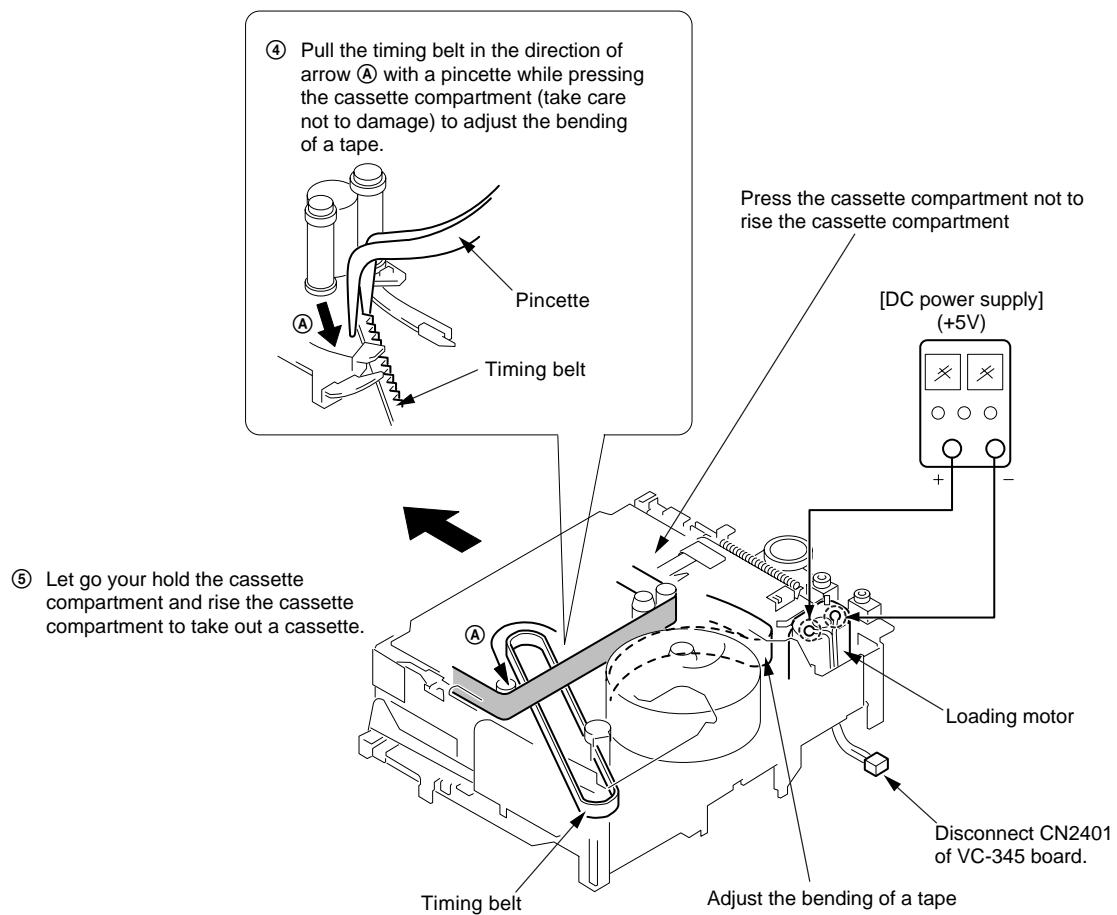
The following method is available to prevent this.

Method 1.

Use the AC power adaptor (AC-L10, AC-VQ800 etc.).

1-3. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

- ① Refer to "SECTION 2 DISASSEMBLY" to remove the mechanism deck block.
- ② Disconnect CN2401 (2P) of VC-345 board.
- ③ Add +5V from the DC POWER SUPPLY and unload with a pressing the cassette compartment.

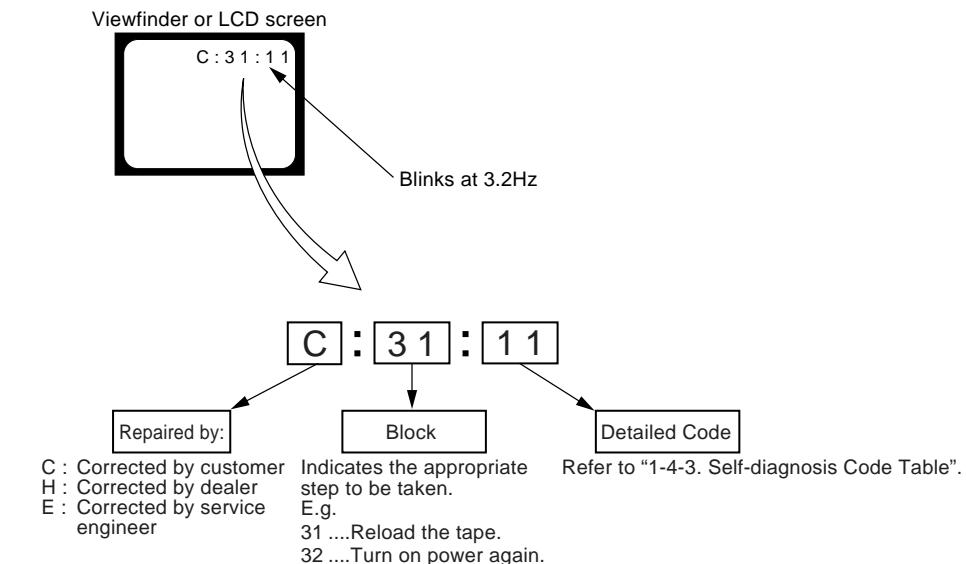


1-4. SELF-DIAGNOSIS FUNCTION

1-4-1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or LCD screen what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual.



1-4-2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or LCD screen shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.

1-4-3. Self-diagnosis Code Table

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	0 4	0 0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	2 1	0 0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2 2	0 0	Video head is dirty.	Clean with the optional cleaning cassette.
C	3 1	1 0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	1 1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	2 0	T reel side tape slackening when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 1	S reel side tape slackening when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	2 3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	3 0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3 1	3 1	FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 1	PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 3	PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 4	Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 2	1 0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	1 1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 0	T reel side tape slackening when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 1	S reel side tape slackening when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 1	FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 1	PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 3	PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 4	Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

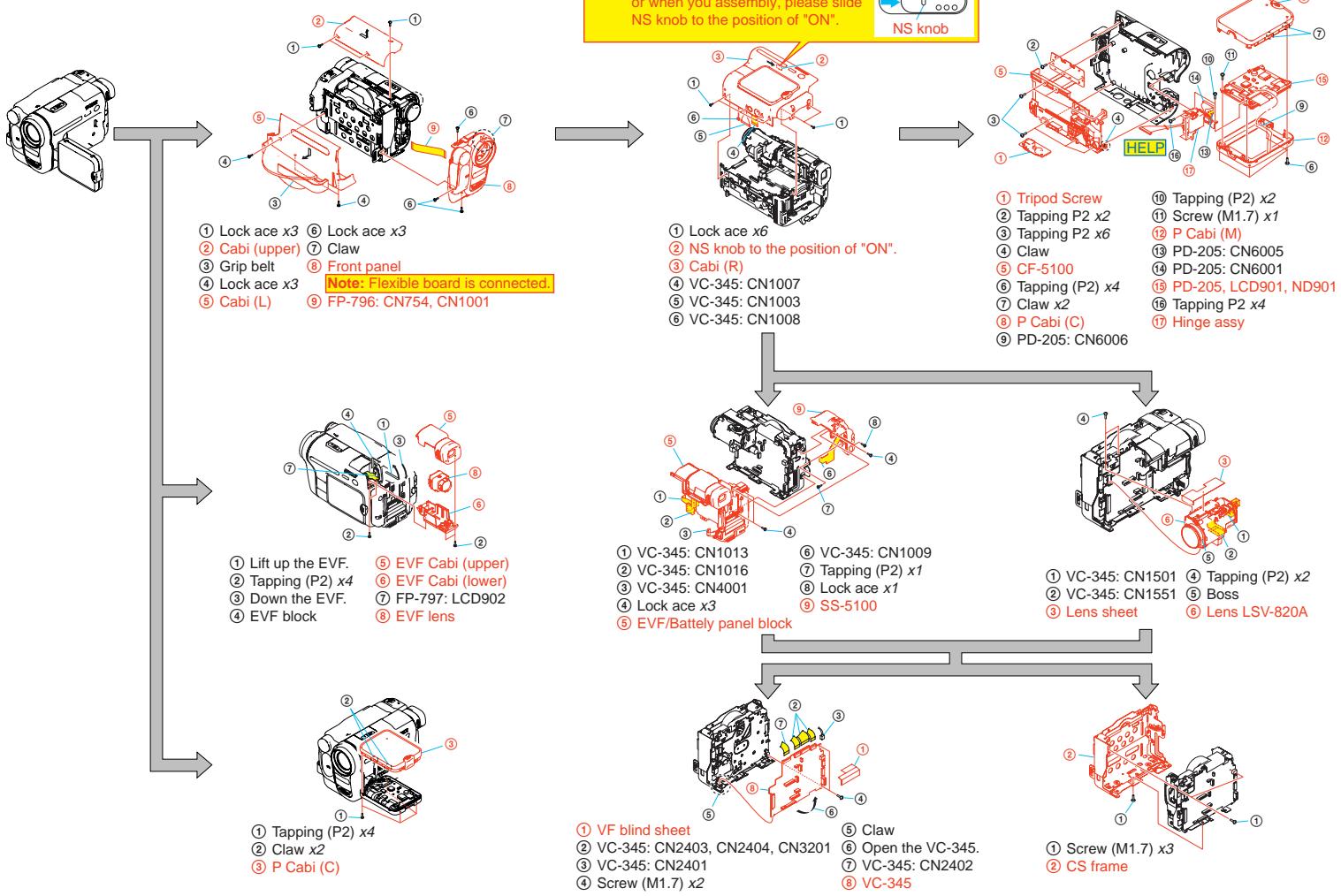
Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ⑫ of CN1551 of VC-345 board) when focusing is performed when the control dial is rotated in the focus manual mode and the focus motor drive circuit (IC1554 of VC-345 board) when the focusing is not performed.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ⑯ of CN1551 of VC-345 board) when zooming is performed when the zoom switch is operated and the zoom motor drive circuit (IC1554 of VC-345 board) when zooming is not performed.
E	6 2	0 0	Steadyshot function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE752 of SI-041 board) peripheral circuits.
E	6 2	0 1	Steadyshot function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE751 of SI-041 board) peripheral circuits.

HELP

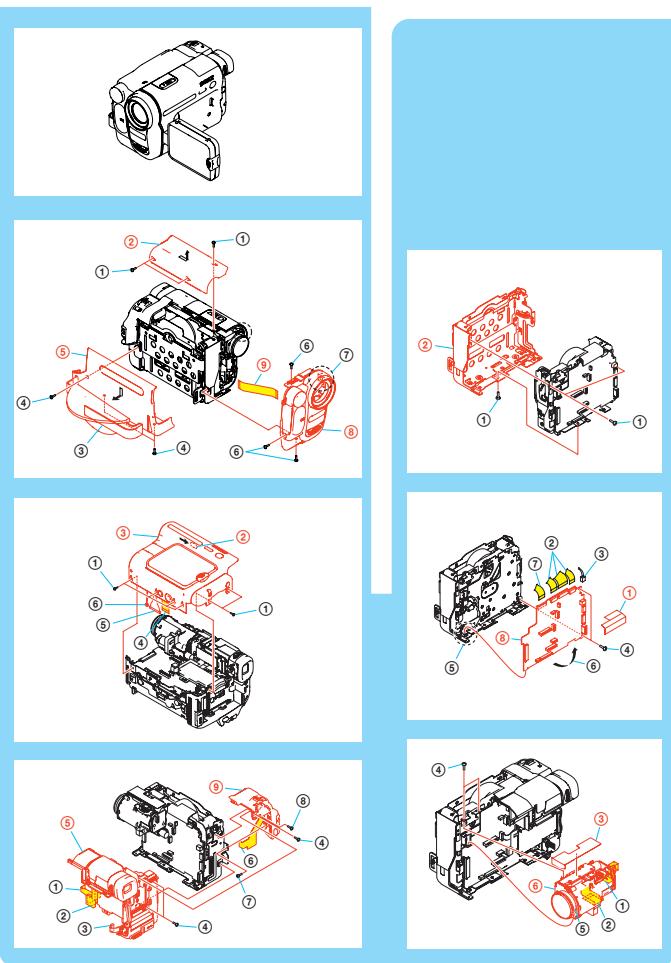
2. DISASSEMBLY

2-1. FLOW CHART

The following flow chart shows the disassembly procedure.



2-2. MECHANISM DECK SERVICE POSITION



DCR-TRV380/TRV480/TRV480E

2-3

Connection to Check the Mechanism deck

To check the mechanism deck, set the Camera or VTR to the "Forced power ON" mode. (Or, connect the control key block (SS-5100) to the CN1009 of VC-345 board and set the power switch to the "CAMERA" or "PLAY/EDIT" mode.) Operate the Camera functions of the zoom and focus, the VTR function using the adjustment remote commander (with the HOLD switch set in the OFF position).

Setting the "Forced Camera Power ON" mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: A, address: 10, set data: 01 and press the PAUSE button of the adjustment remote commander.

Setting the "Forced VTR Power ON" mode

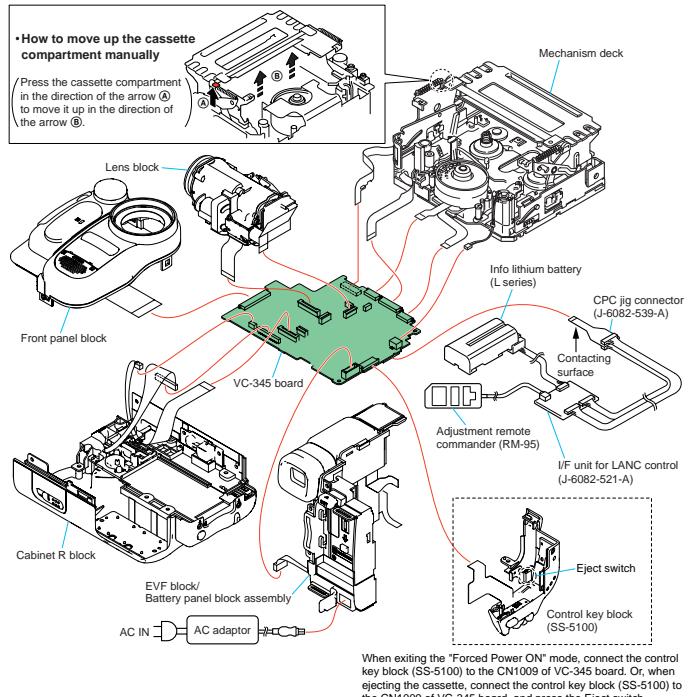
- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: A, address: 10, set data: 02 and press the PAUSE button of the adjustment remote commander.

Exiting the "Forced Power ON" mode

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: A, address: 10, data: 00, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 0, address: 01, and set data: 00.

How to move up the cassette compartment manually

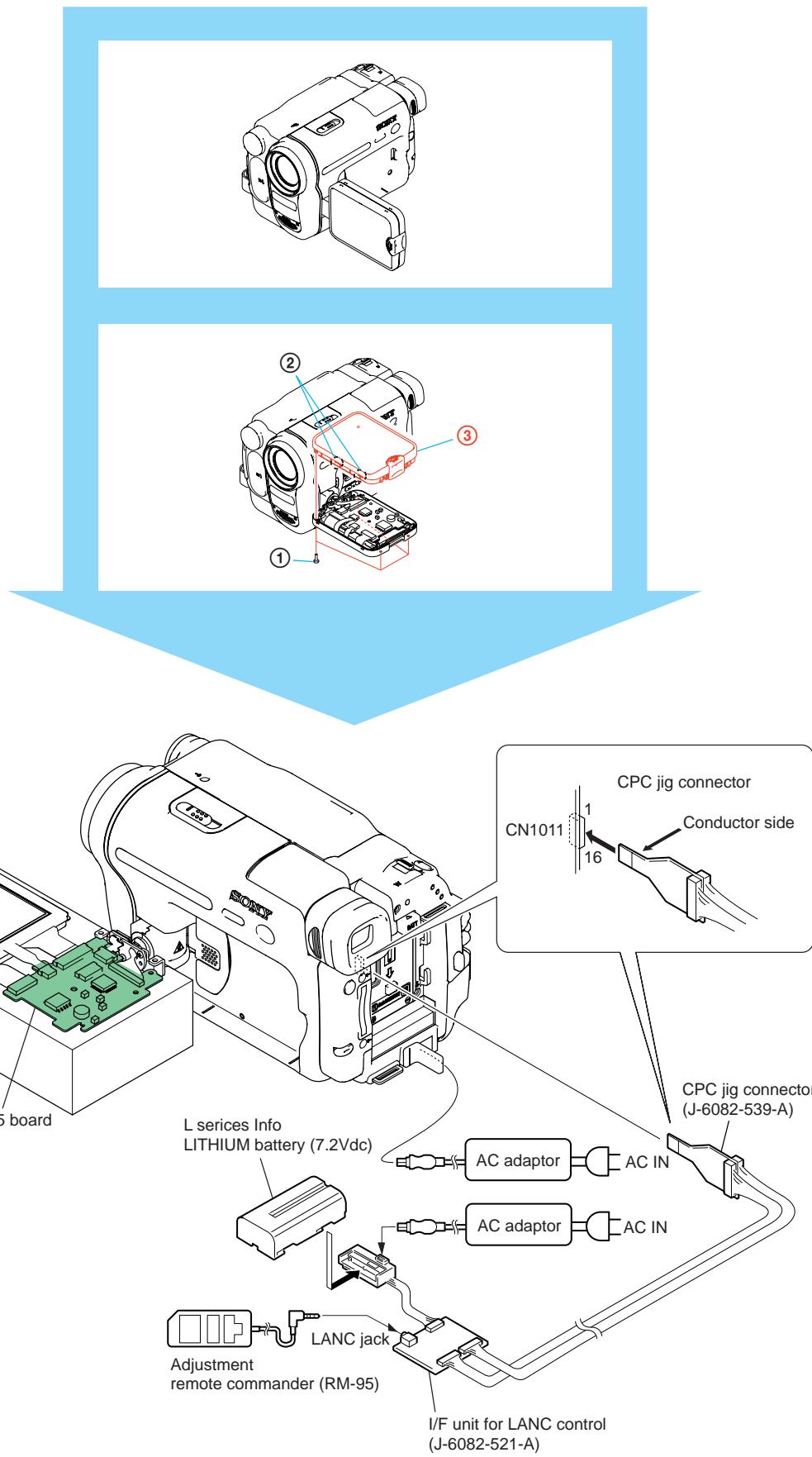
Press the cassette compartment in the direction of the arrow ④ to move it up in the direction of the arrow ⑥.



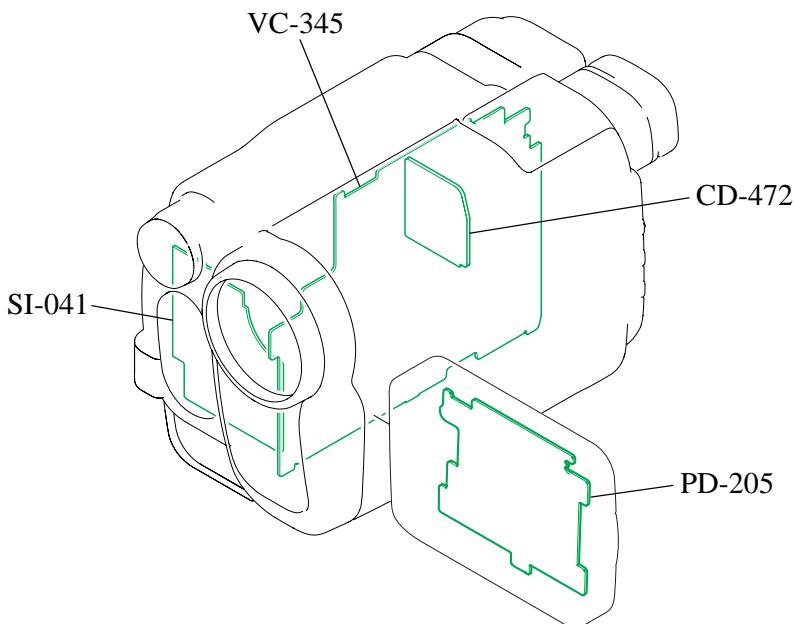
When exiting the "Forced Power ON" mode, connect the control key block (SS-5100) to the CN1009 of VC-345 board. Or, when ejecting the cassette, connect the control key block (SS-5100) to the CN1009 of VC-345 board, and press the Eject switch.

2-4

2-3. LCD SERVICE POSITION

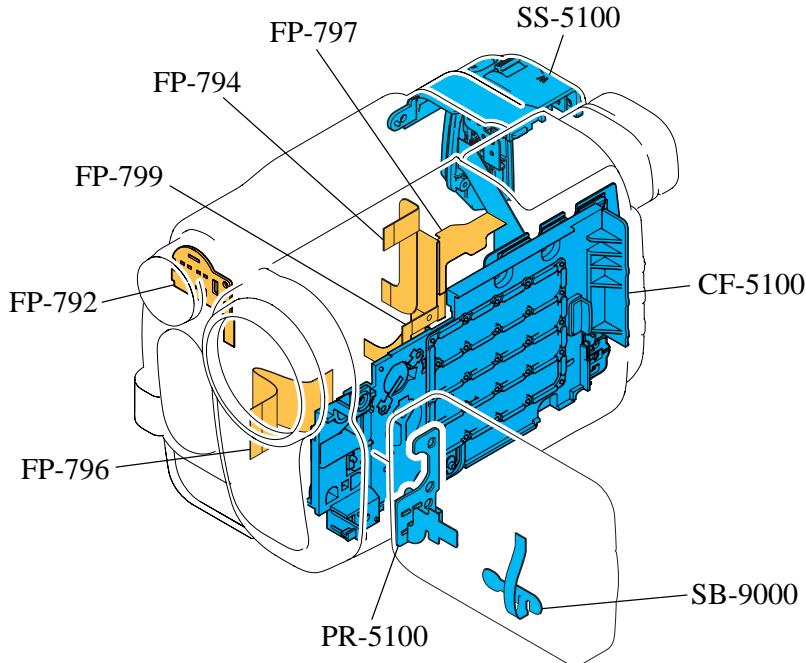


2-4. CIRCUIT BOARDS LOCATION



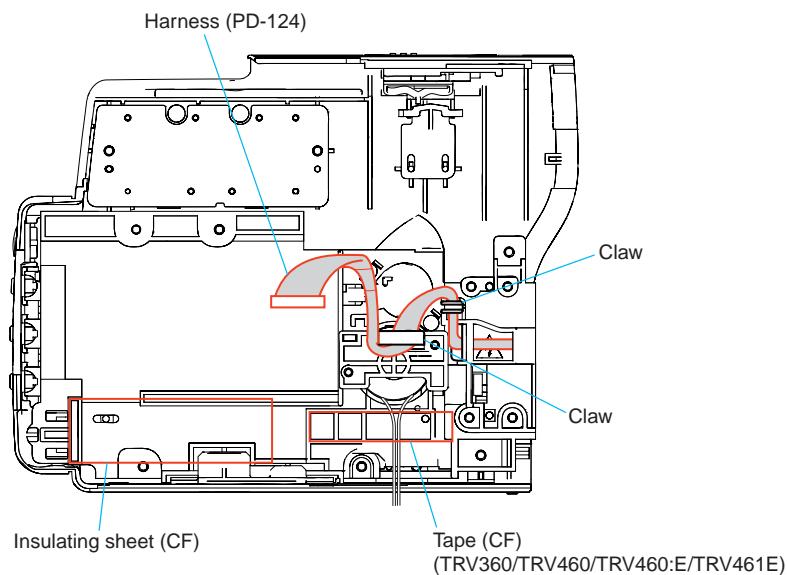
Board Name	Function
CD-472	CCD IMAGER
VC-345	A/D CONVERTER, TIMING GENERATOR, VIDEO/AUDIO DSP, LENS CONTROL, LENS DRIVE, Hi8/Std8 VTR PROCESS, VIDEO IN/OUT , DV SIGNAL PROCESS, REC/PB AMP, DV INTERFACE, STEADYSHOT, Hi8/Std8 PB AMP, USB/MODE CONTROL, MS INTERFACE, MEMORY, HI CONTROL, CAMERA/MECHA CONTROL, SERVO, AUDIO, DC CONTROL, CONNECTOR
PD-205	LCD DRIVE, BACKLIGHT DRIVE
SI-041	STEADYSHOT, JACK

2-5. FLEXIBLE BOARDS LOCATION



HELP

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



Note: Close the LCD panel, when you work.

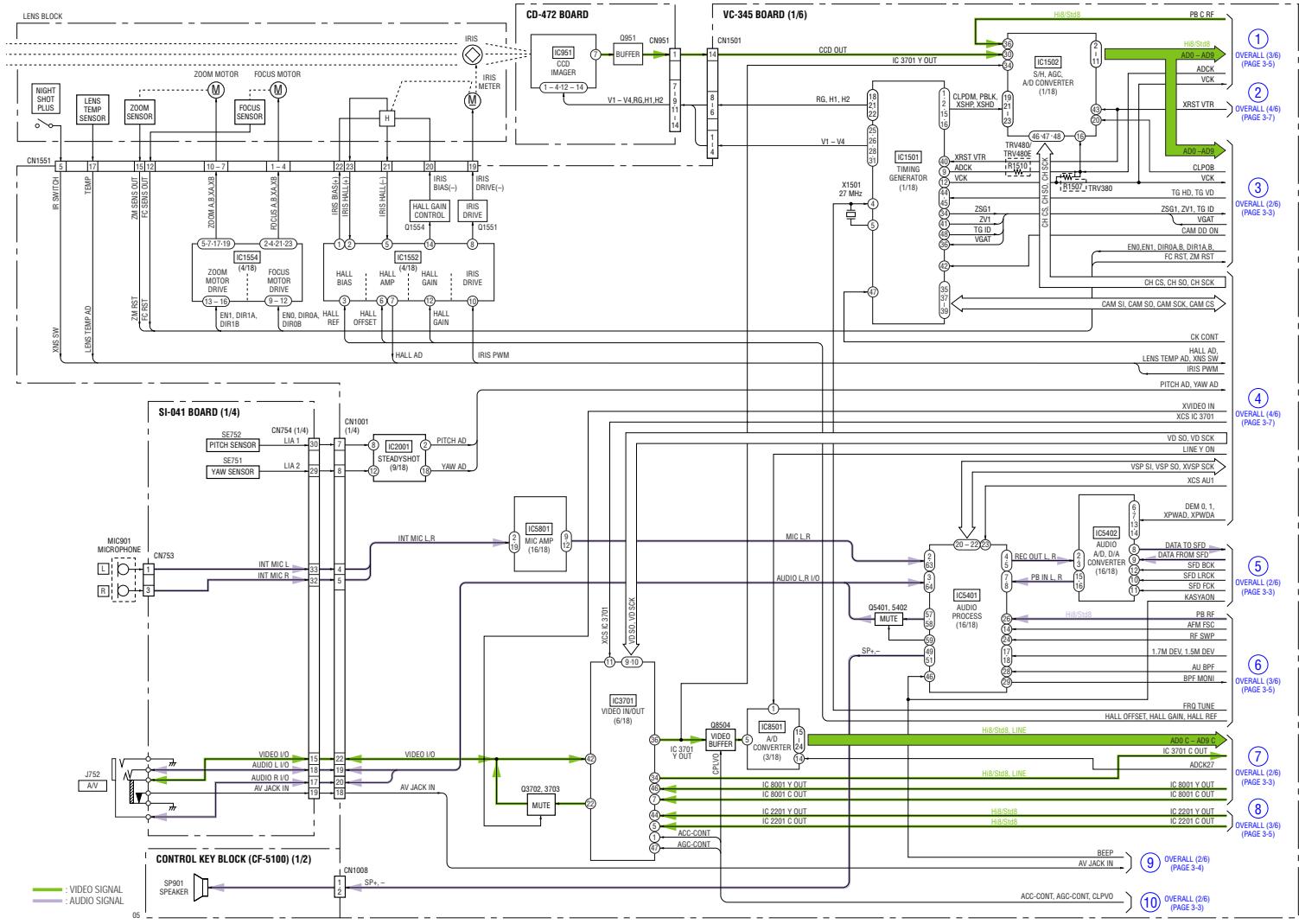
3. BLOCK DIAGRAMS

Link

OVERALL BLOCK DIAGRAM (1/6)	OVERALL BLOCK DIAGRAM (6/6)
OVERALL BLOCK DIAGRAM (2/6)	POWER BLOCK DIAGRAM (1/3)
OVERALL BLOCK DIAGRAM (3/6)	POWER BLOCK DIAGRAM (2/3)
OVERALL BLOCK DIAGRAM (4/6)	POWER BLOCK DIAGRAM (3/3)
OVERALL BLOCK DIAGRAM (5/6)	

3. BLOCK DIAGRAMS

3-1. OVERALL BLOCK DIAGRAM (1/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

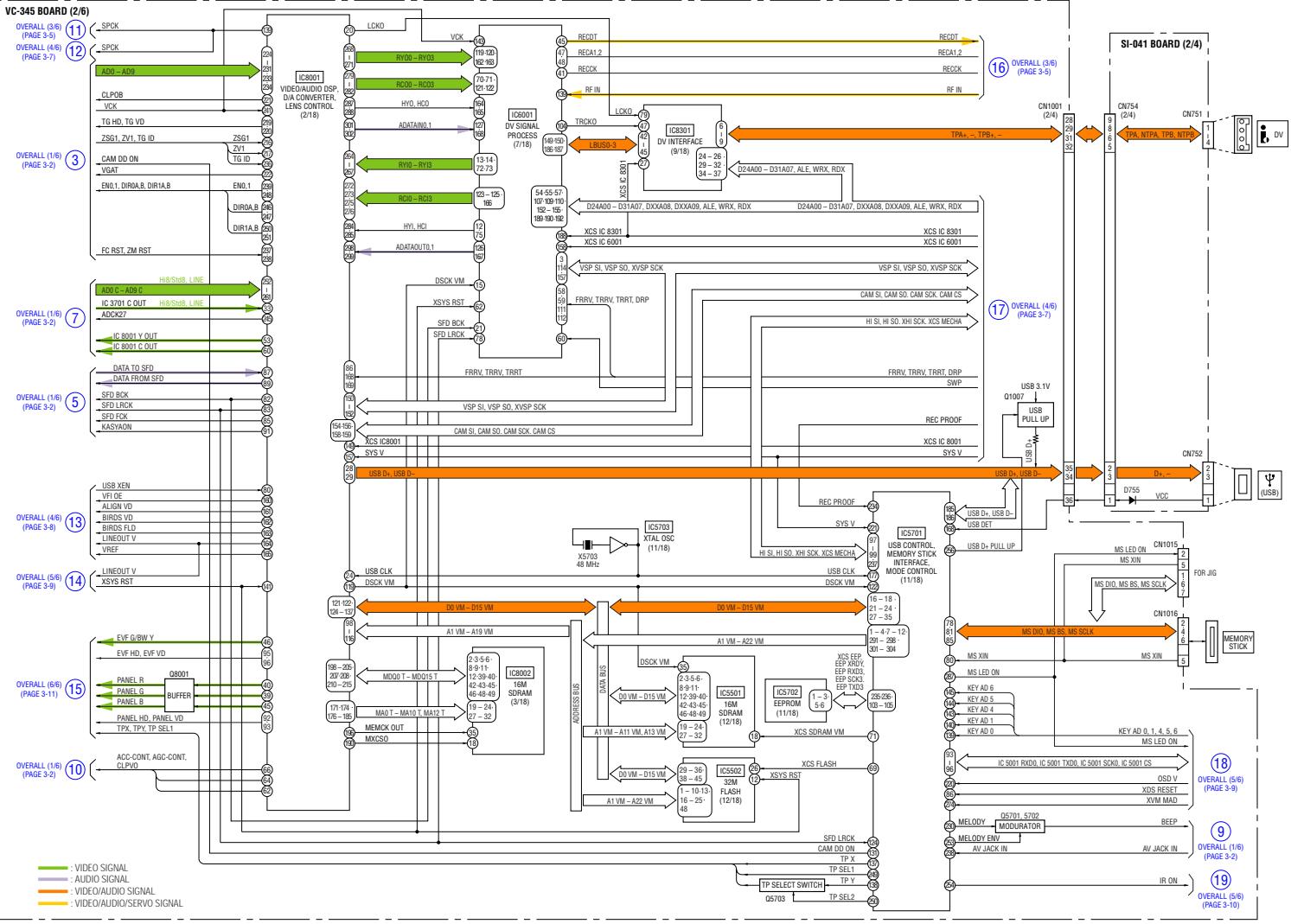


DCR-TRV380/TRV480/TRV480E

3-1

3-2

3-2. OVERALL BLOCK DIAGRAM (2/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

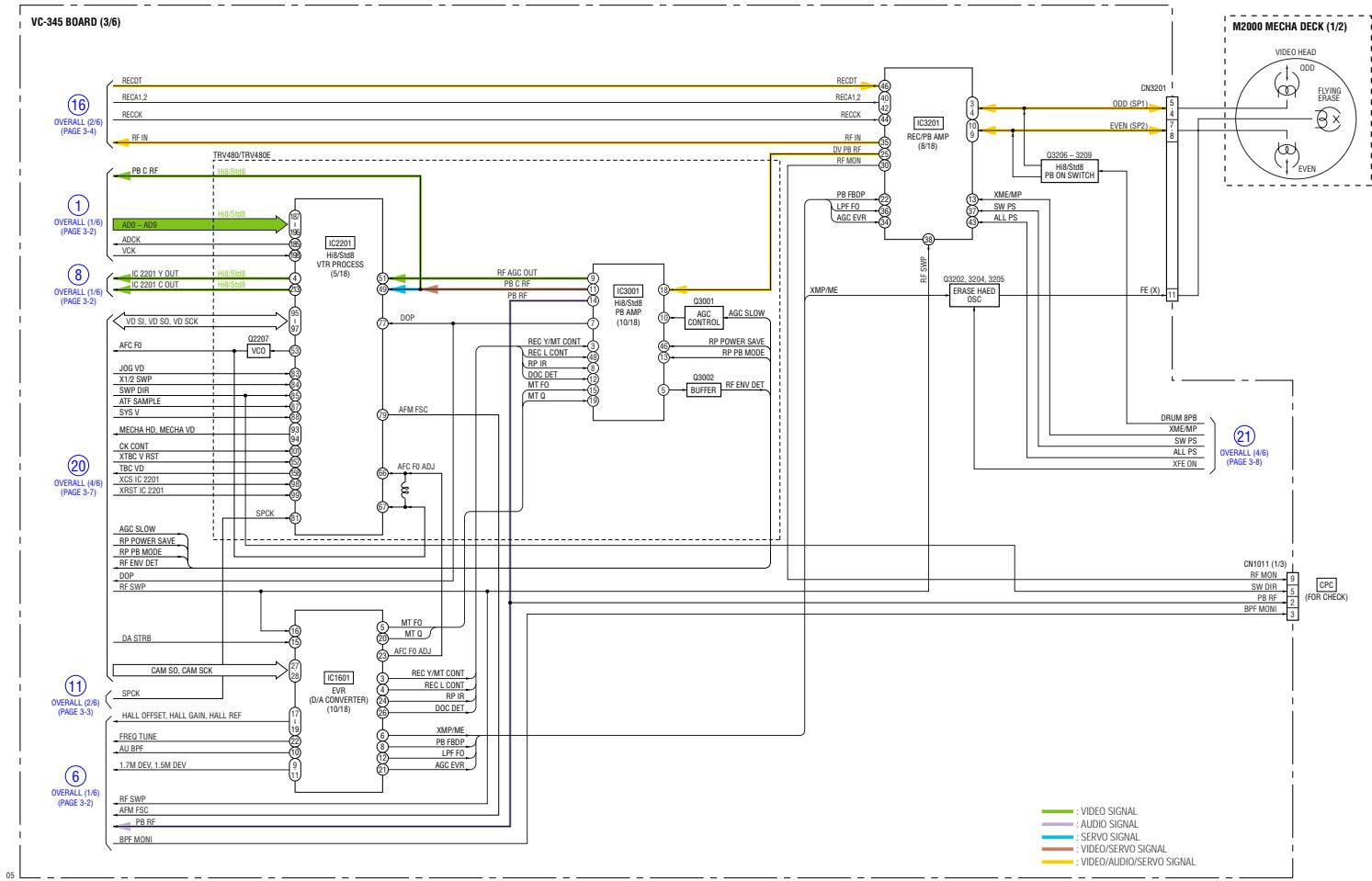


DCR-TRV380/TRV480/TRV480E

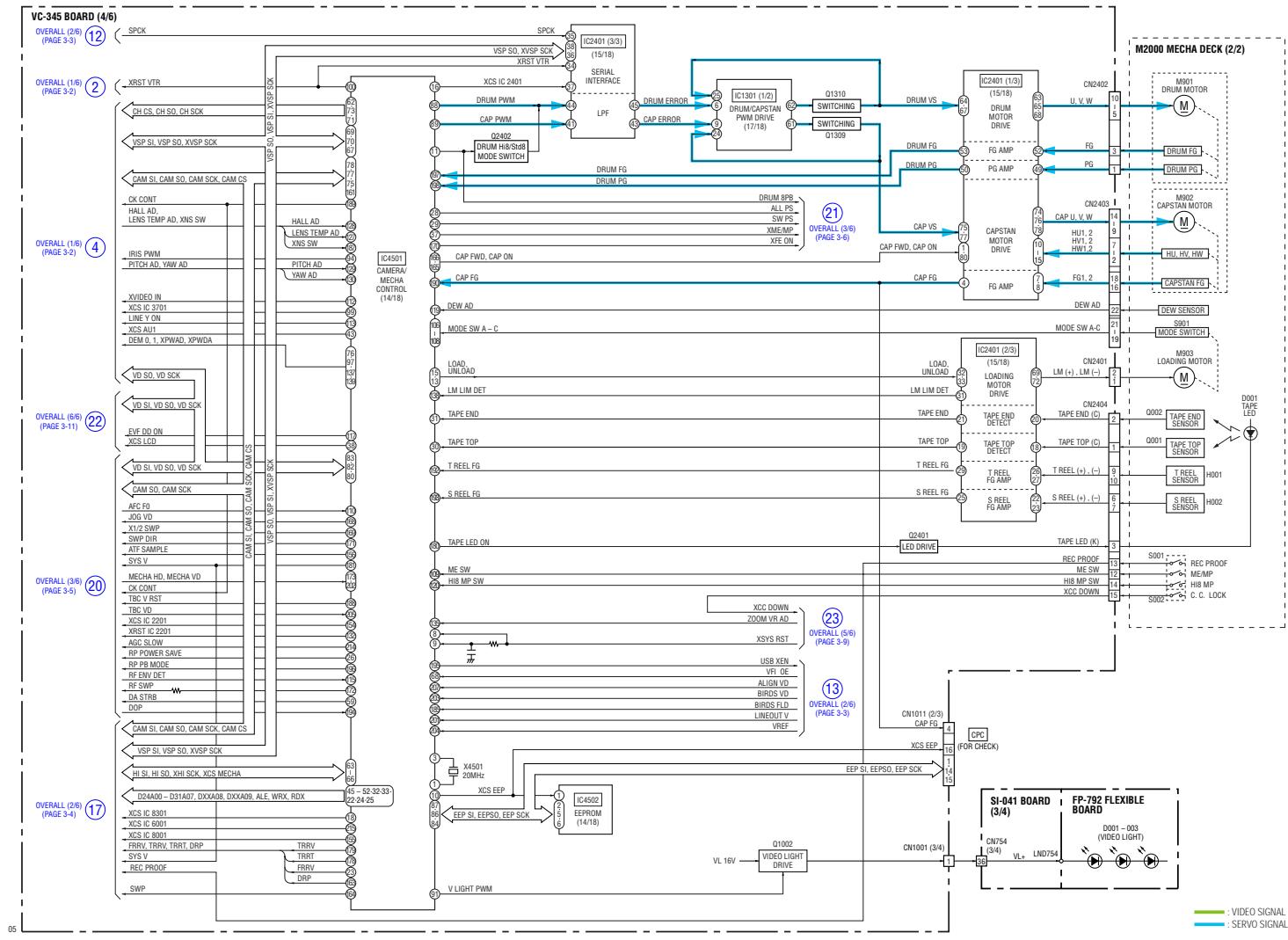
3-3

3-4

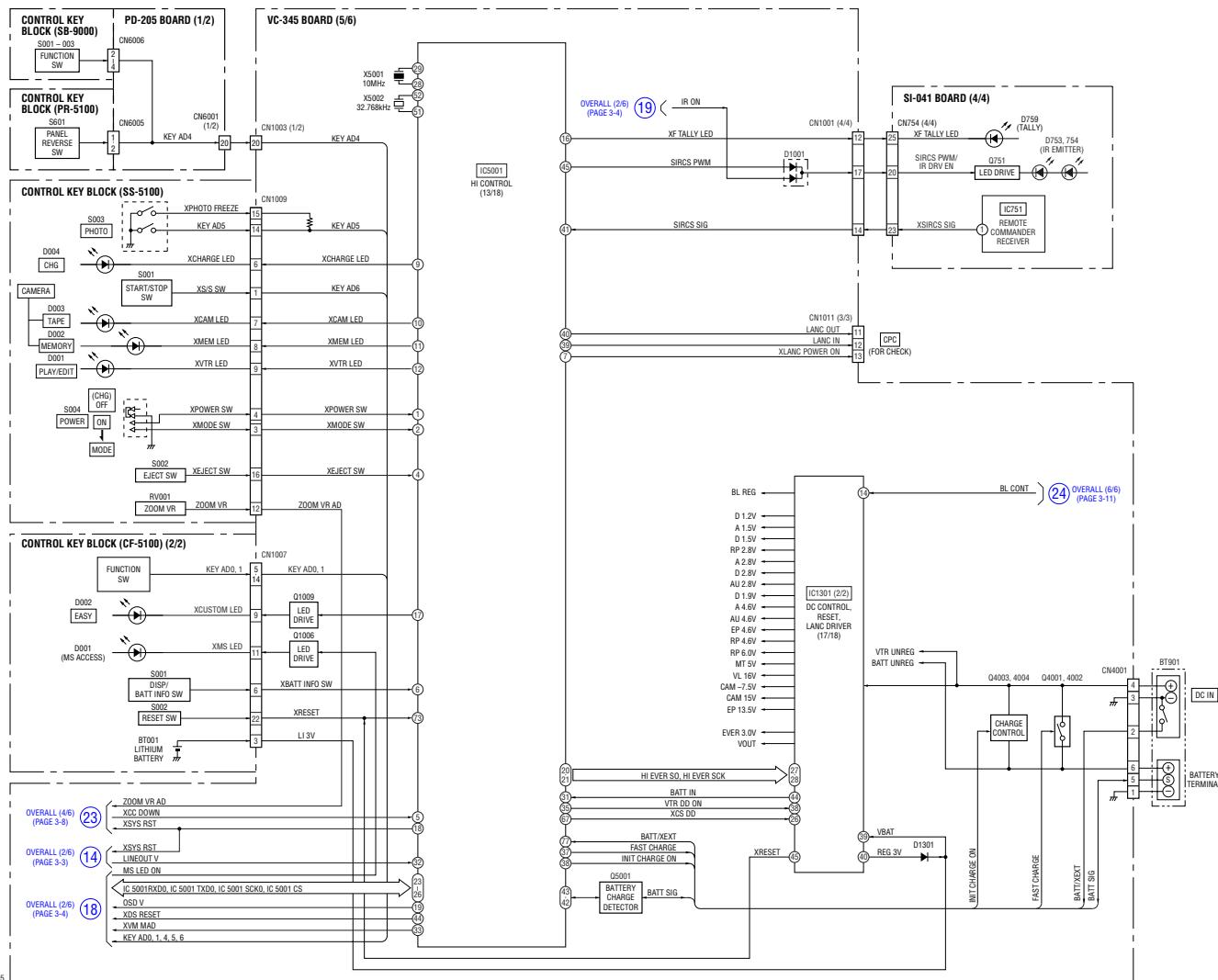
3-3. OVERALL BLOCK DIAGRAM (3/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



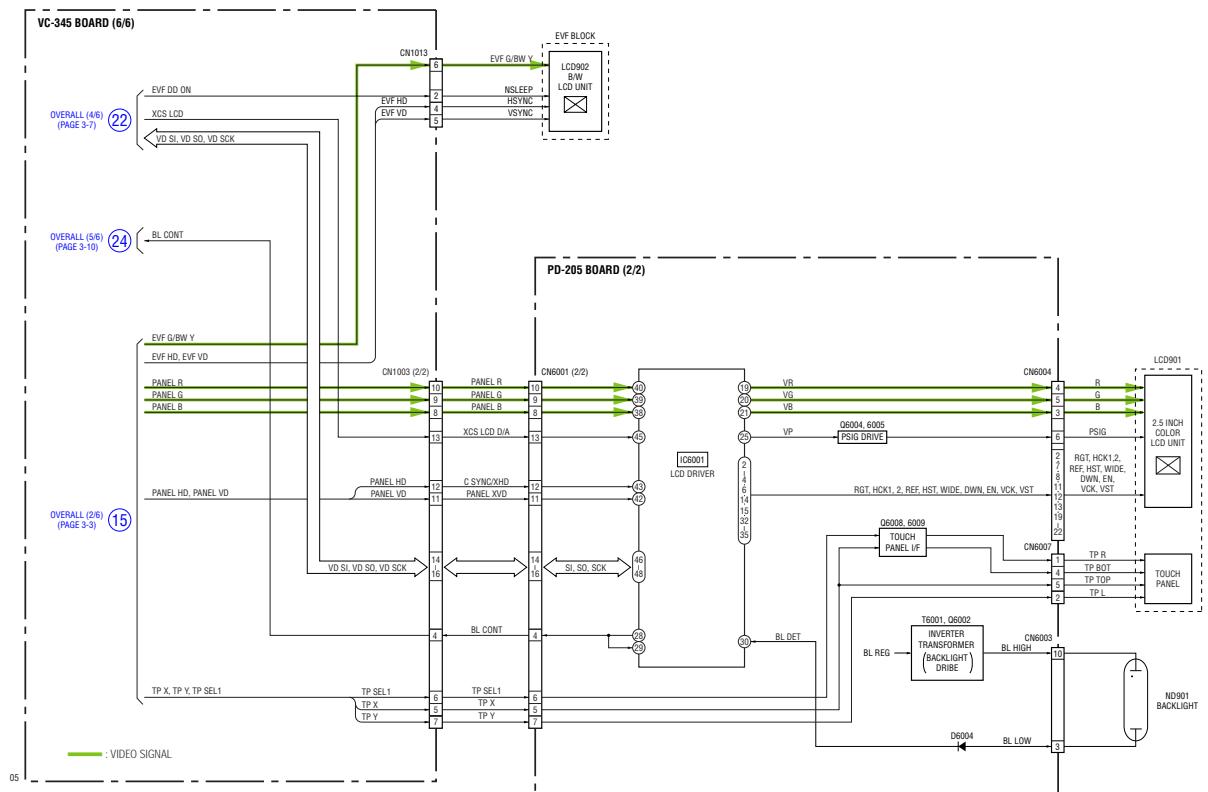
3-4. OVERALL BLOCK DIAGRAM (4/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



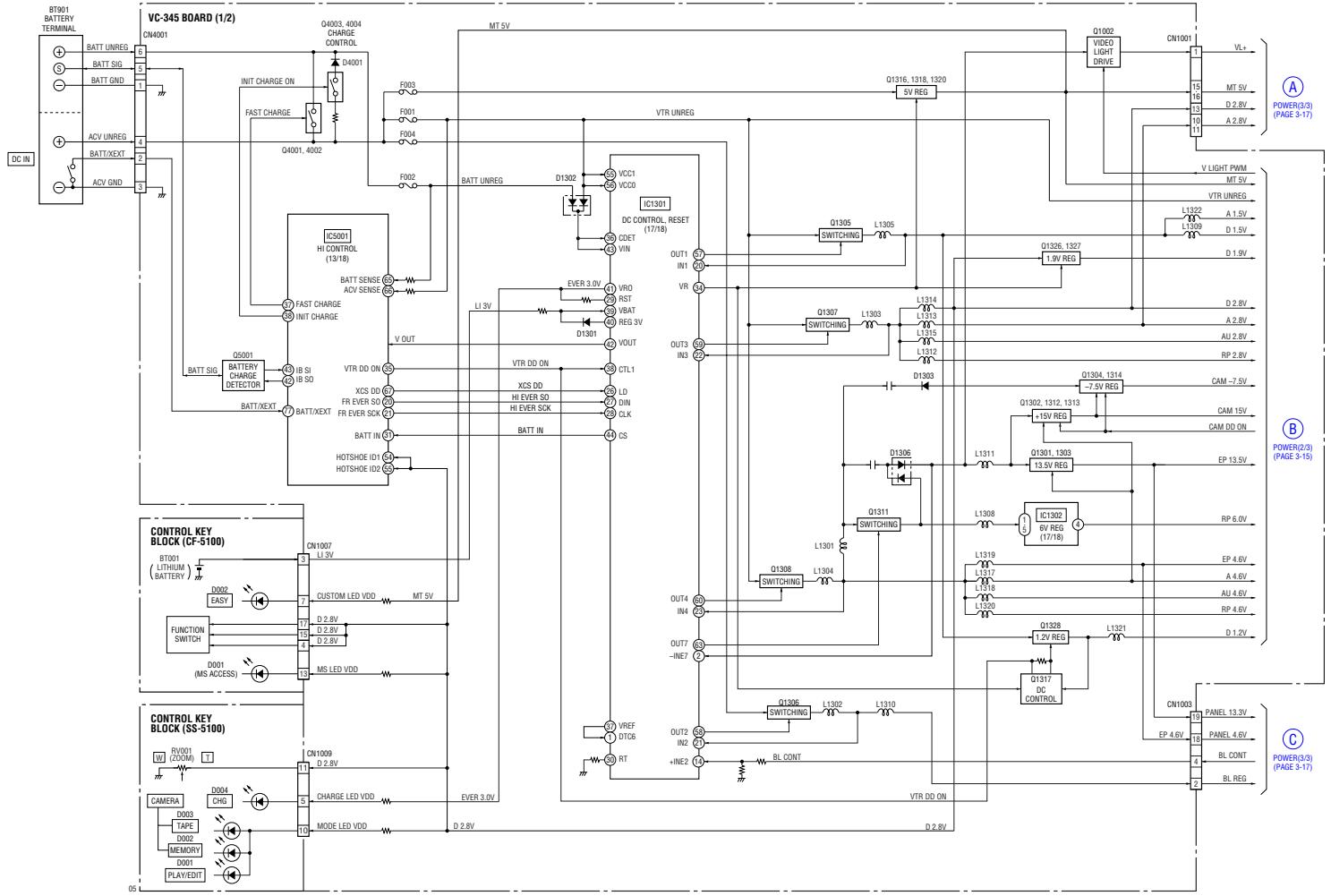
3-5. OVERALL BLOCK DIAGRAM (5/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



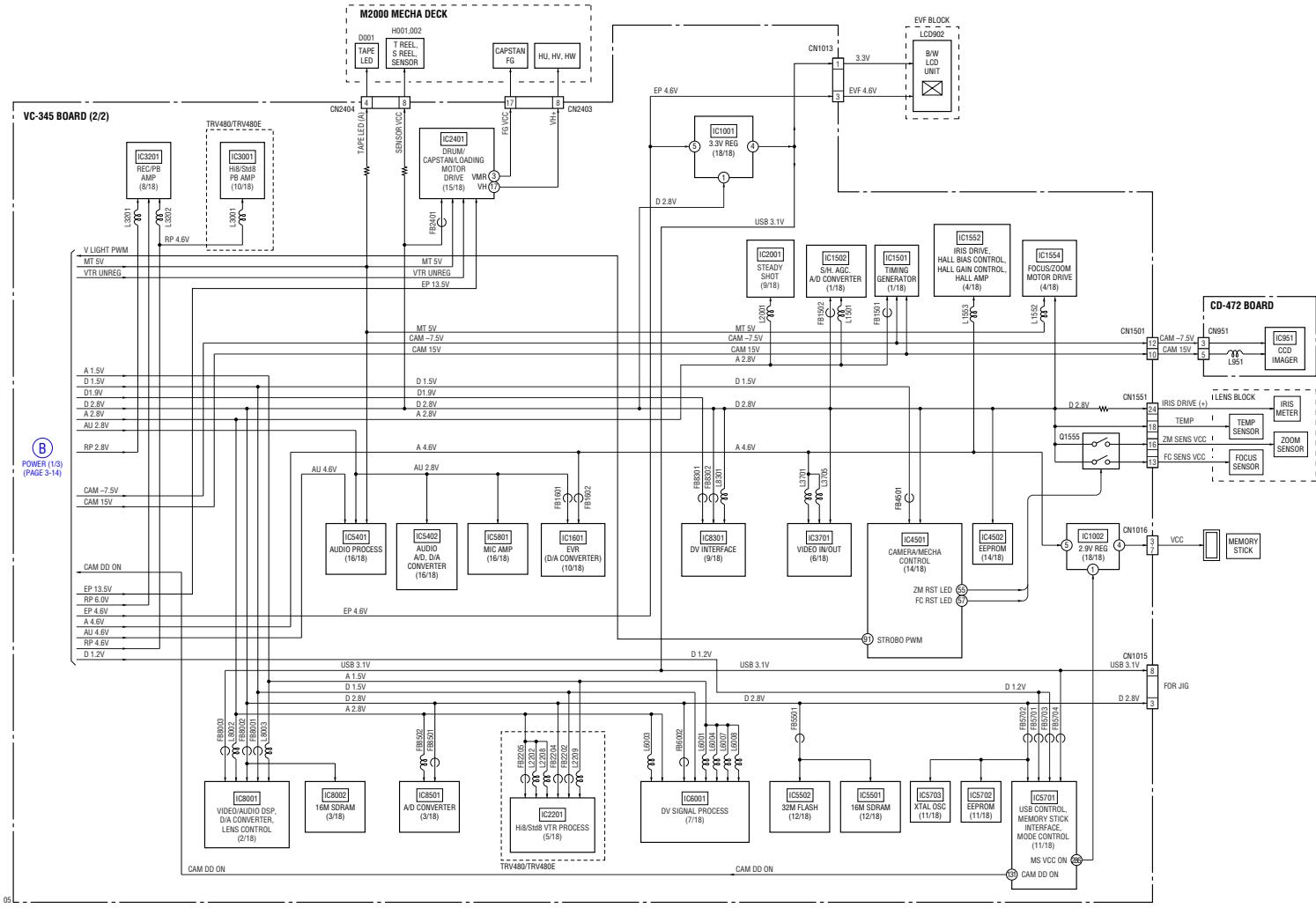
3-6. OVERALL BLOCK DIAGRAM (6/6) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



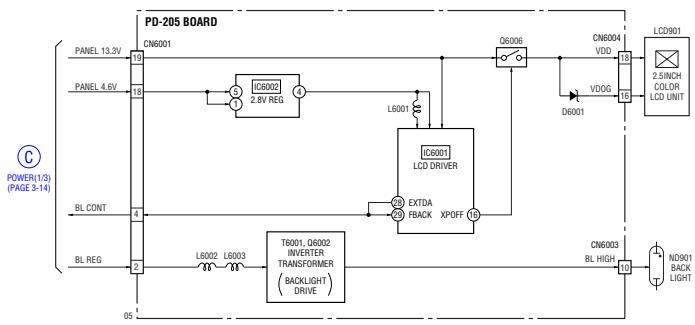
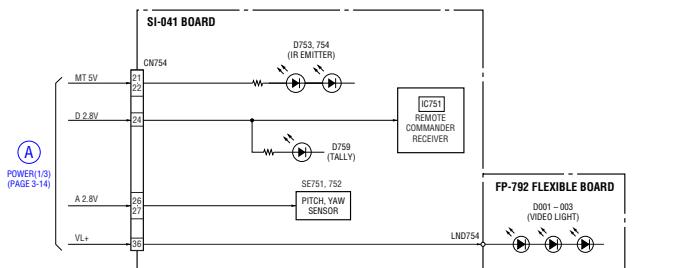
3-7. POWER BLOCK DIAGRAM (1/3) (): Number in parenthesis () indicates the division number of schematic diagram where the component is located.



3-8. POWER BLOCK DIAGRAM (2/3) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.

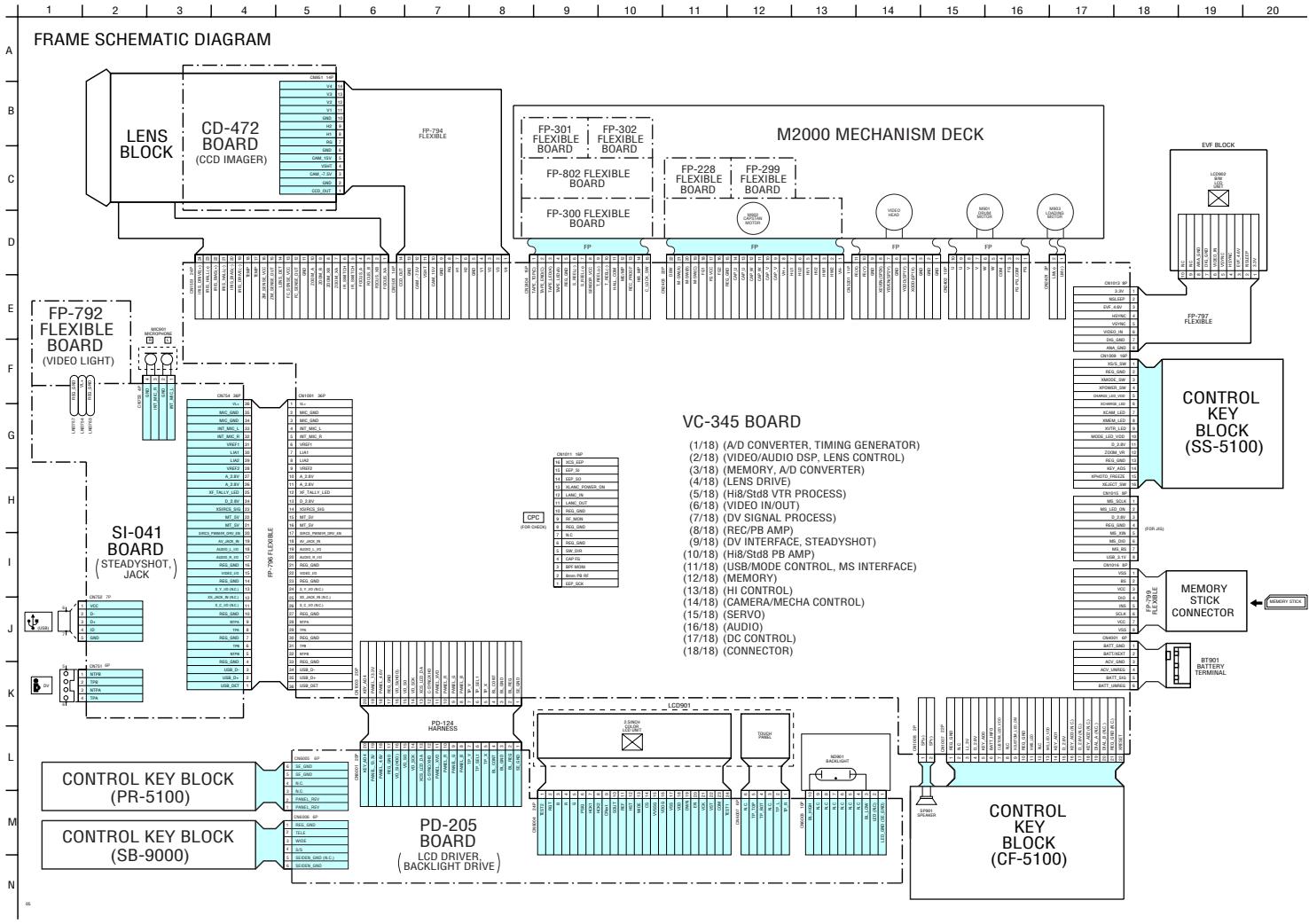


3-9. POWER BLOCK DIAGRAM (3/3) () : Number in parenthesis () indicates the division number of schematic diagram where the component is located.



4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM



4-2. SCHEMATIC DIAGRAMS

Link

• CD-472 BOARD (CCD IMAGER)	• CONTROL KEY BLOCK (SS-5100)
• PD-205 BOARD (LCD DRIVER, BACKLIGHT DRIVE)	• CONTROL KEY BLOCK (PR-5100)
• SI-041 BOARD (STEADYSHOT, JACK) FP-792 FLEXIBLE BOARD	• CONTROL KEY BLOCK (SB-9000)
• FP-228, FP-299, FP-300, FP-301, FP-302, FP-802 FLEXIBLE BOARD	• CONTROL KEY BLOCK (CF-5100)

• COMMON NOTE FOR SCHEMATIC DIAGRAMS

• WAVEFORMS

4-2. 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. $\text{pF} : \mu\text{F}$. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. $\text{k}\Omega=1000\ \Omega$, $\text{M}\Omega=1000\ \text{k}\Omega$.
- 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.

Example	C541 22U TA A	L452 10UH 2520
Kinds of capacitor		External dimensions (mm)

Case size

- 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
 $\text{XEDIT} \rightarrow \text{EDIT}$ $\text{PB/XREC} \rightarrow \text{PB/REC}$
WW: non flammable resistor
WW+: fusible resistor
 : panel designation
—: B+ Line
---: B- Line
➡: IN/OUT direction of (+,-) B LINE.
 : adjustment for repair.
—: not use circuit
• Circled numbers refer to waveforms.

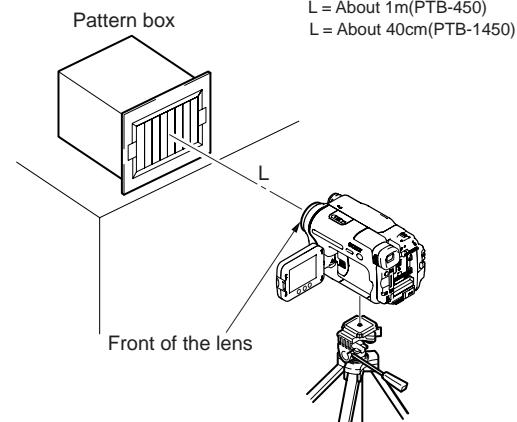
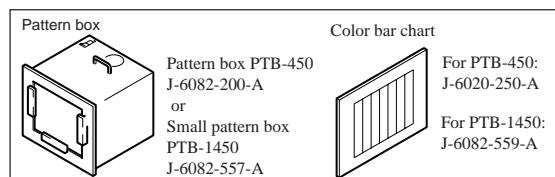
(Measuring conditions voltage and waveform)

- 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 M Ω input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

Precautions for Replacement of CCD Imager

- The CD-472 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.

1. Connection



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

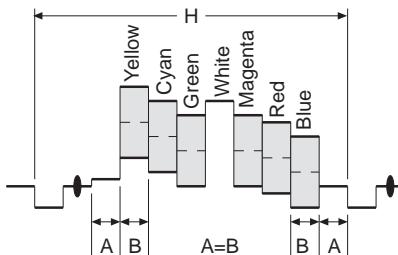


Fig. a (Video output terminal output waveform)

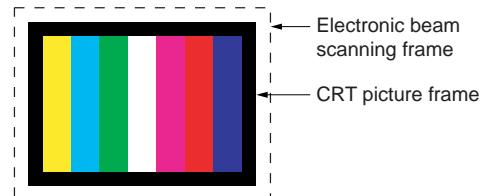


Fig.b (Picture on monitor TV)

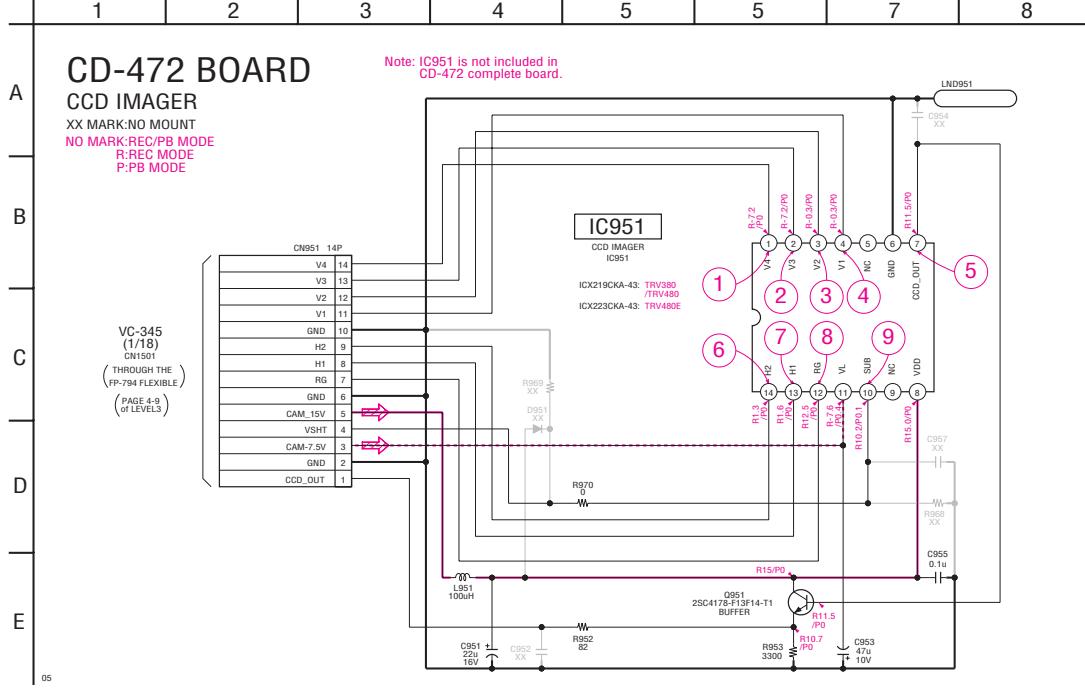
When indicating parts by reference number, please include the board name.

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

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

For Schematic Diagram

* Refer to page 4-57 for printed wiring board.

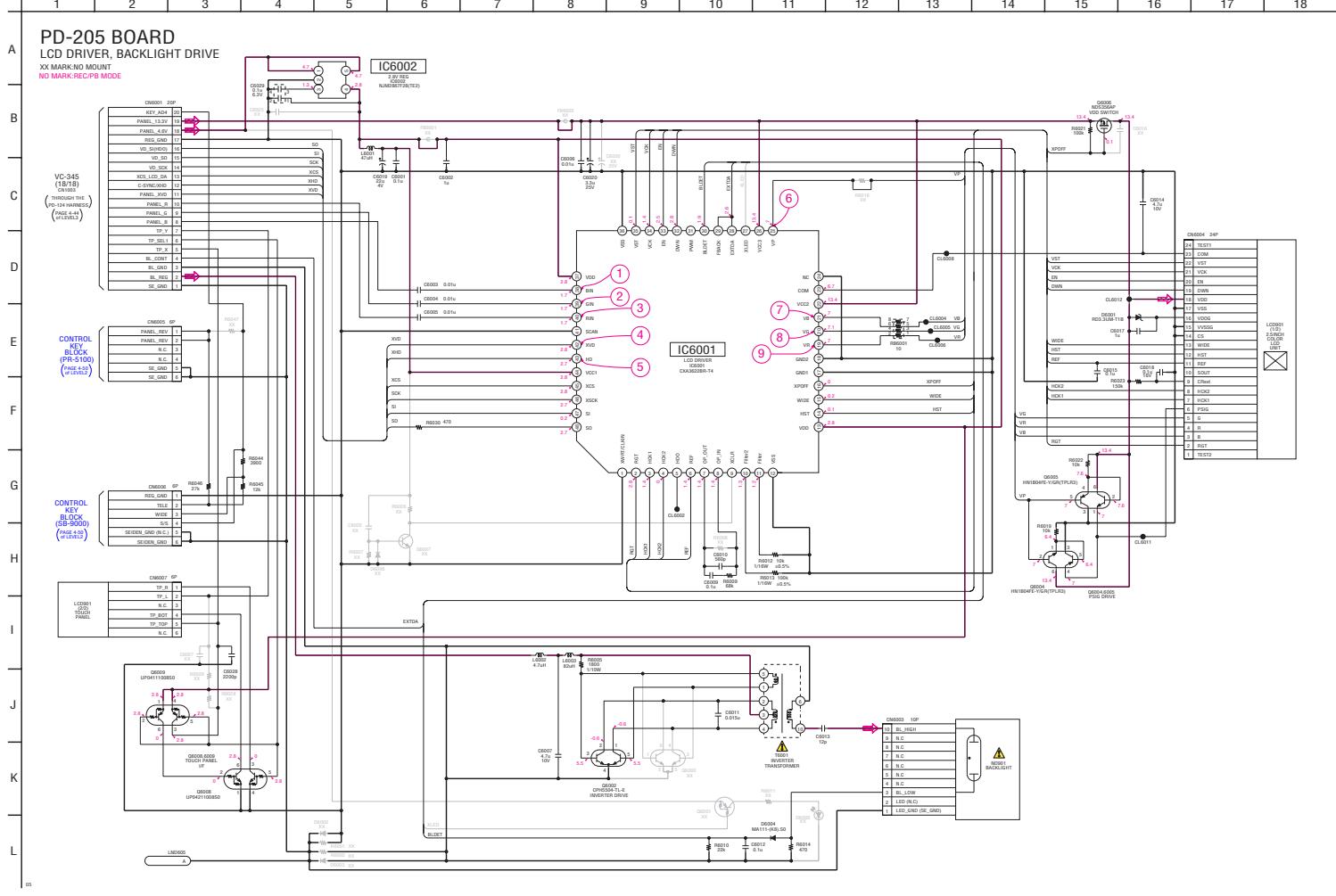


Schematic diagrams of the VC-345 board are not shown.
Pages from 4-9 to 4-44 are not shown.

DCR-TRV380/TRV480/TRV480E

For Schematic Diagram

• Refer to page 4-63 for printed wiring board.

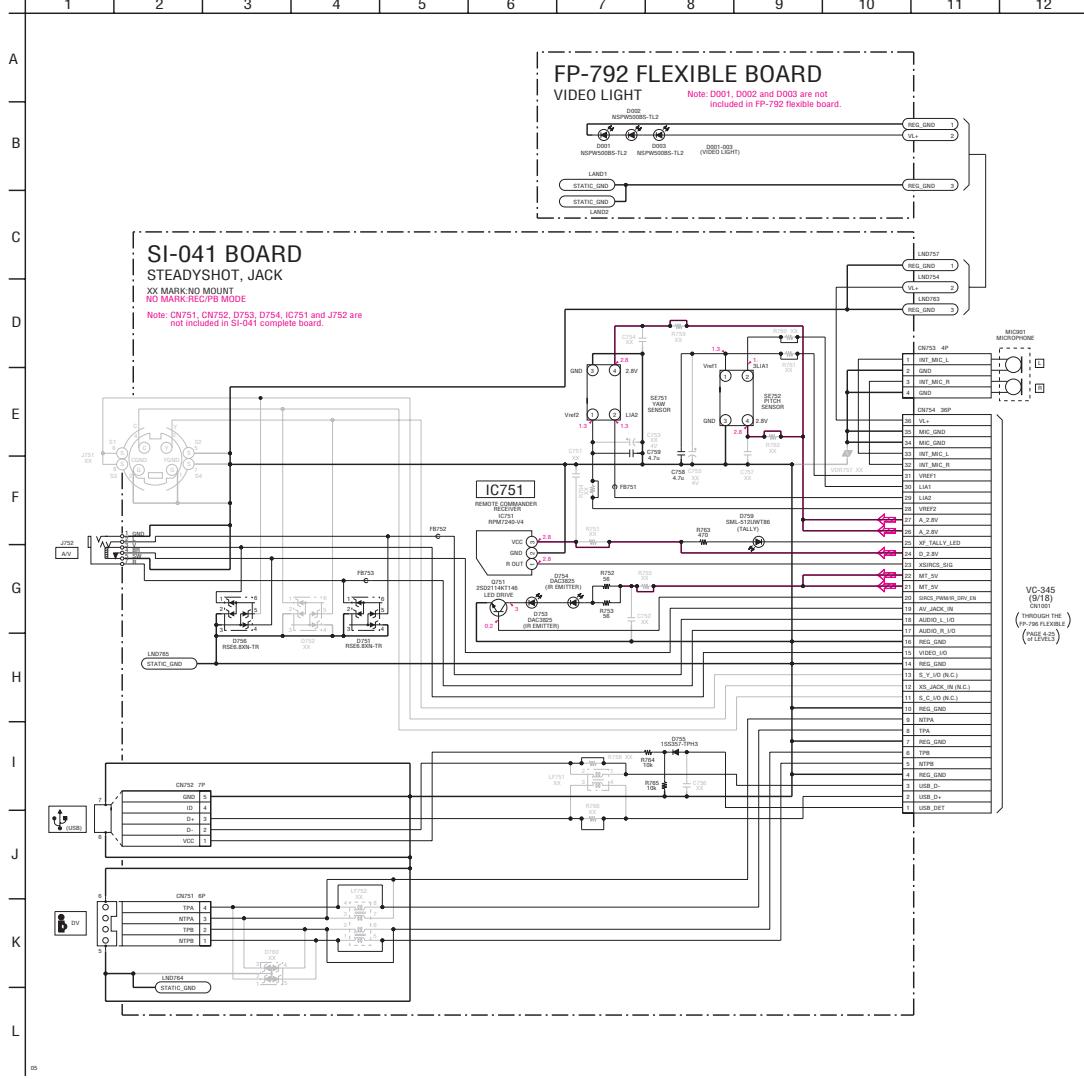


The components identified by mark △ or dotted line with mark △ are critical for safety.
Replace only with part number specified.

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

For Schematic Diagram

* Refer to page 4-65 for printed wiring board.



DCR-TRV380/TRV480/TRV480E

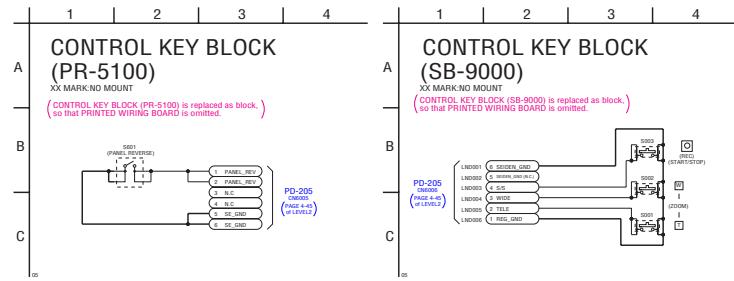
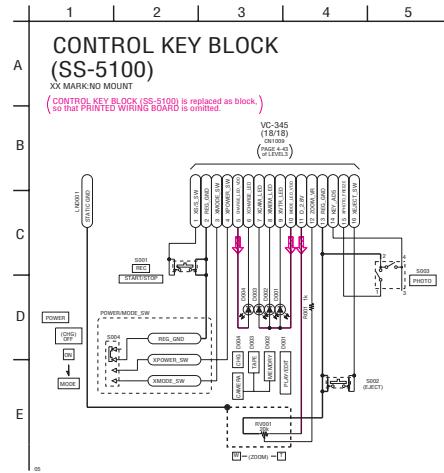
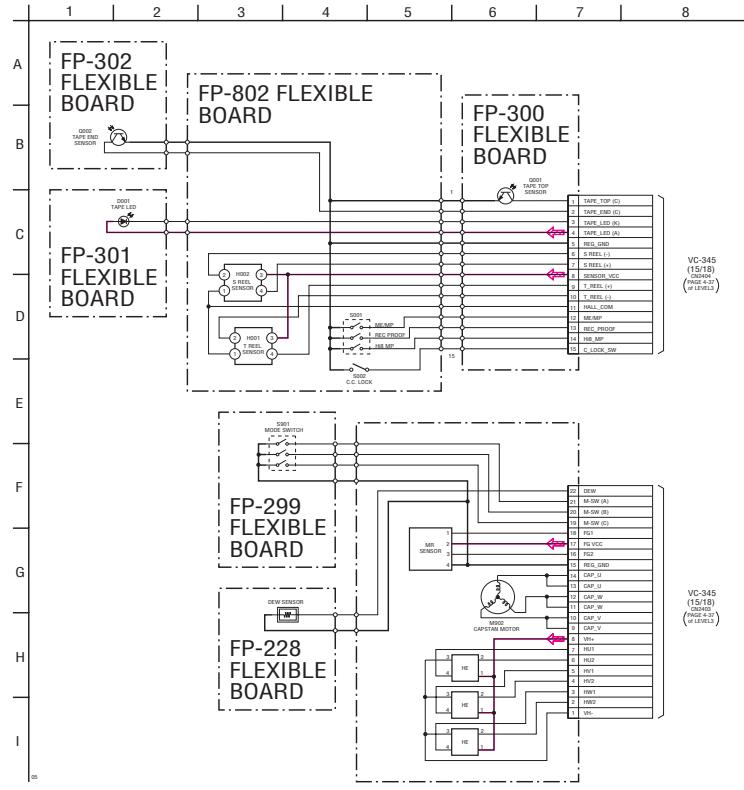
4-47

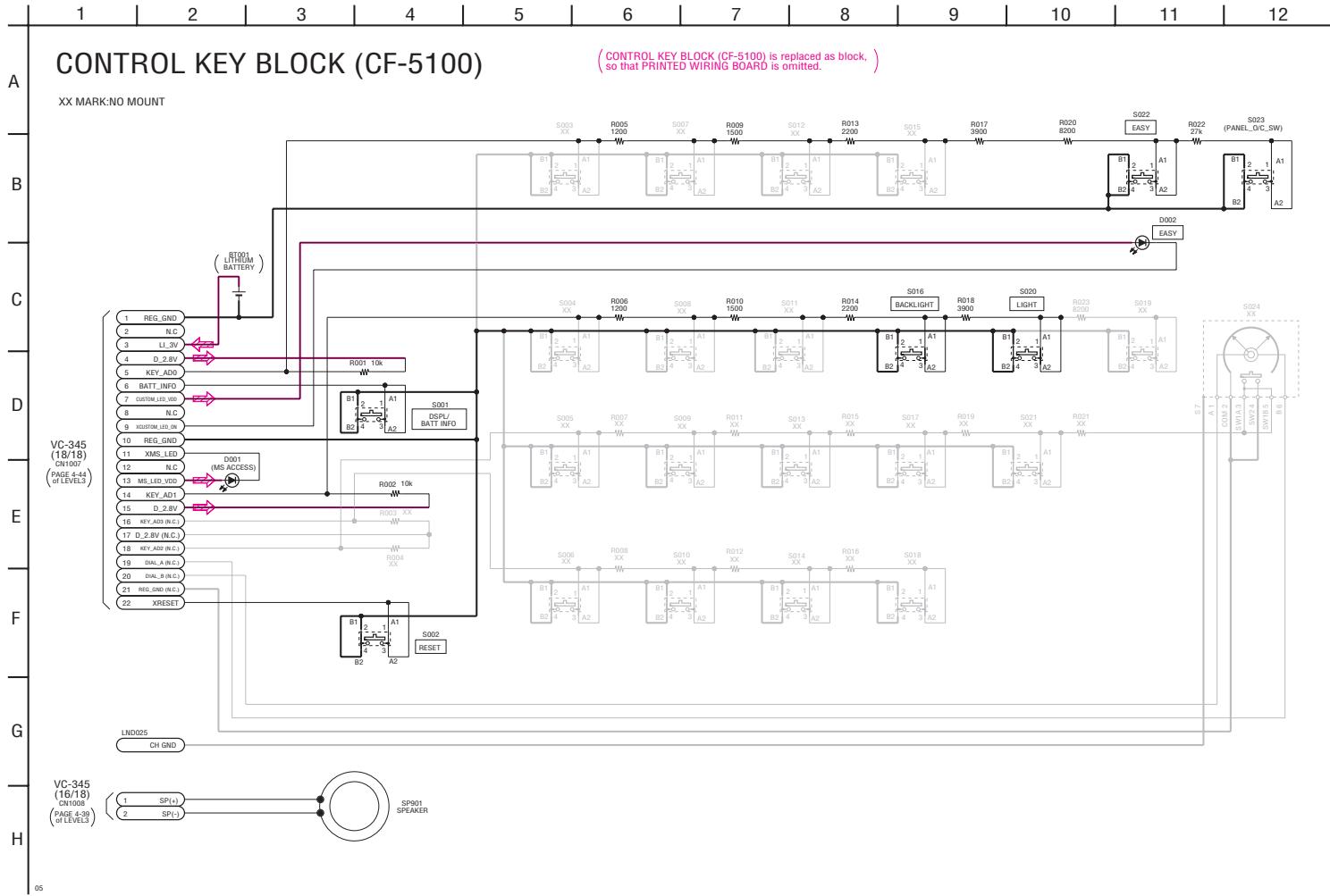
4-48

SI-041, FP-792

For Schematic Diagram

• Refer to page 4-67 for printed wiring board.





4-3. PRINTED WIRING BOARDS

Link

• CD-472 BOARD	• FP-792 FLEXIBLE BOARD
• PD-205 BOARD	• FP-228, FP-299, FP-300, FP-301, FP-302, FP-802 FLEXIBLE BOARD
• SI-041 BOARD	

• COMMON NOTE FOR PRINTED WIRING BOARDS	• WAVEFORMS
• MOUNTED PARTS LOCATION	• CIRCUIT BOARDS LOCATION • FLEXIBLE BOARDS LOCATION

Board Name	Function
CD-472	CCD IMAGER
PD-205	LCD DRIVE, BACKLIGHT DRIVE
SI-041	STEADYSHOT, JACK

4-3. PRINTED WIRING BOARDS

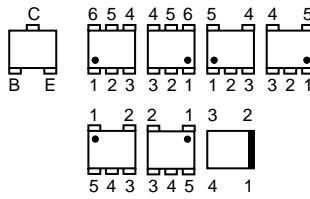
4-3. PRINTED WIRING BOARDS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS

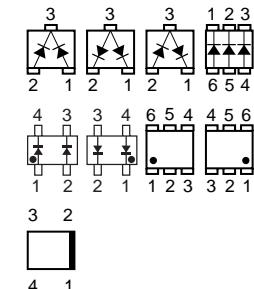
- : Uses unleaded solder.
- : Circuit board
- : Flexible board
- Pattern from the side which enables seeing.
 : pattern of the rear side
(The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are a few cases that the part printed on diagram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

- Chip parts.

Transistor



Diode

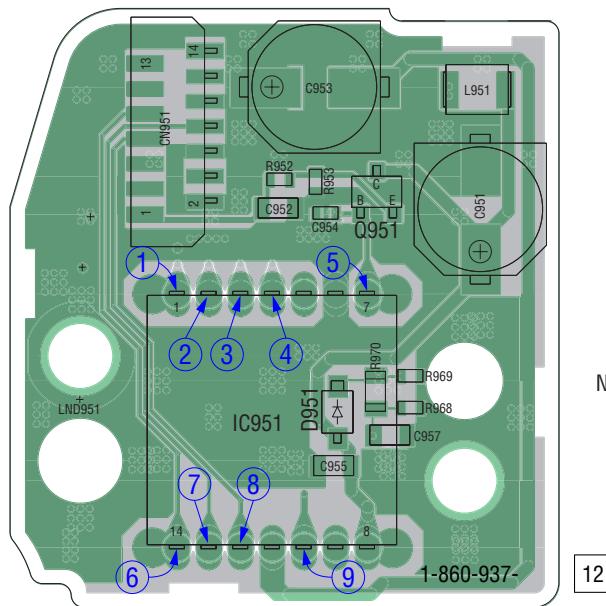


BOARD INFORMATION

Board Name	Parts Location (Shown on Page)	Pattern	
		Total Number of Layers	Layers Not Indicated
CD-472	—	8 layers	2 to 7 layers
PD-205	4-79	2 layers	—
SI-041	4-79	2 layers	—
FP-792 Flexible	—	1 layer	—
FP-228 Flexible	—	1 layer	—
FP-299 Flexible	—	1 layer	—
FP-300 Flexible	—	1 layer	—
FP-301 Flexible	—	1 layer	—
FP-302 Flexible	—	1 layer	—
FP-802 Flexible	—	1 layer	—

CD-472

Note for Printed Wiring Board (See page 4-55).

 : Uses unleaded solder.**CD-472 BOARD**

Note: IC951 is not included in
CD-472 complete board.

05

12

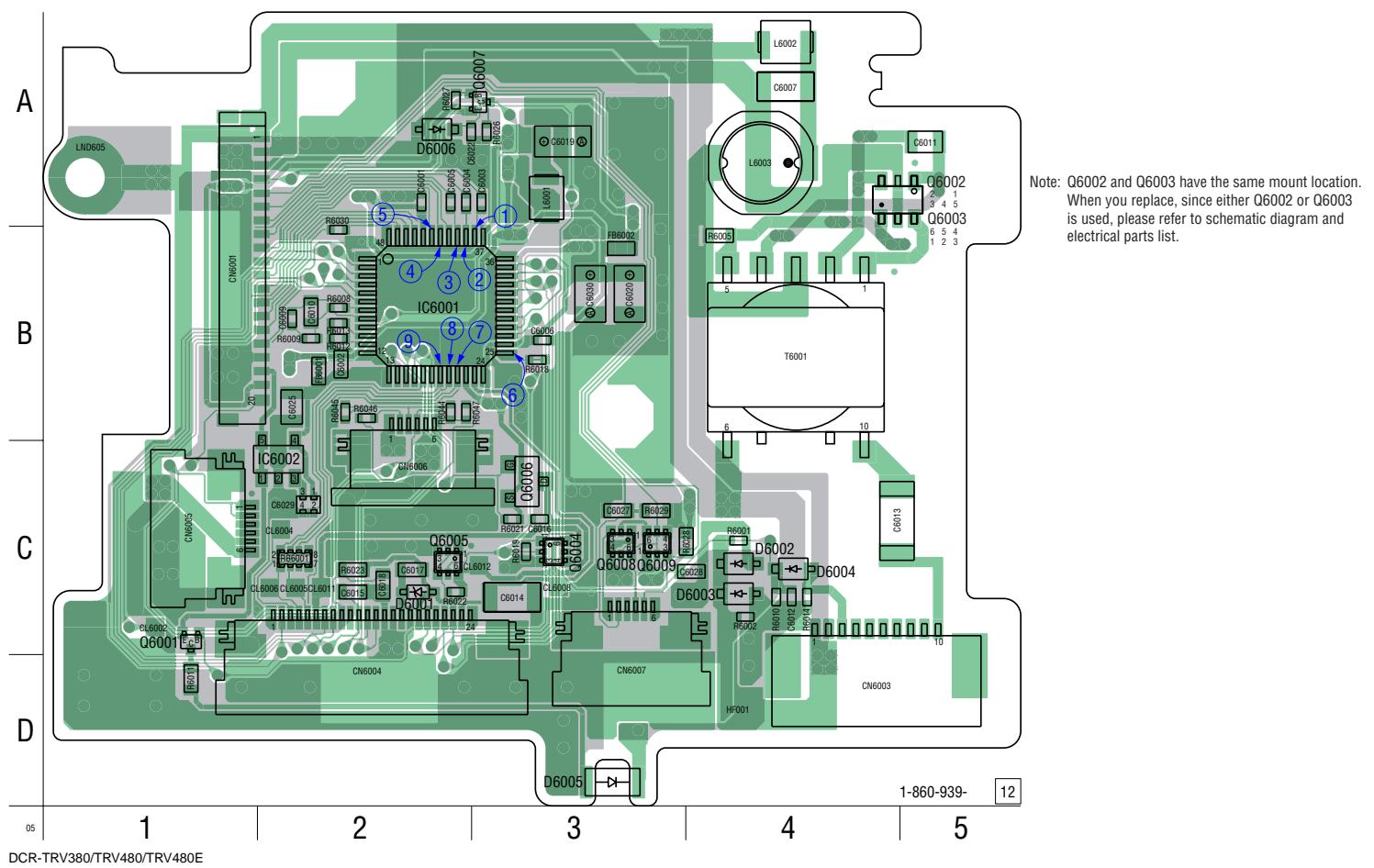
Printed wiring boards of the VC-345 board are not shown.
Pages from 4-59 to 4-62 are not shown.

PD-205

Note for Printed Wiring Board (See page 4-55).

 : Uses unleaded solder.

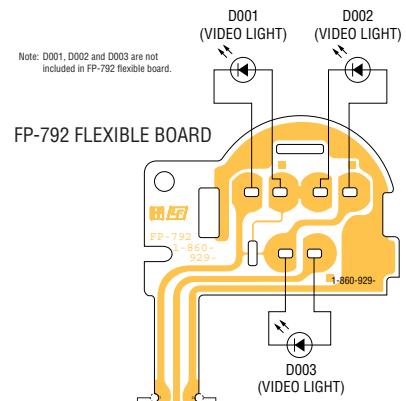
PD-205 BOARD



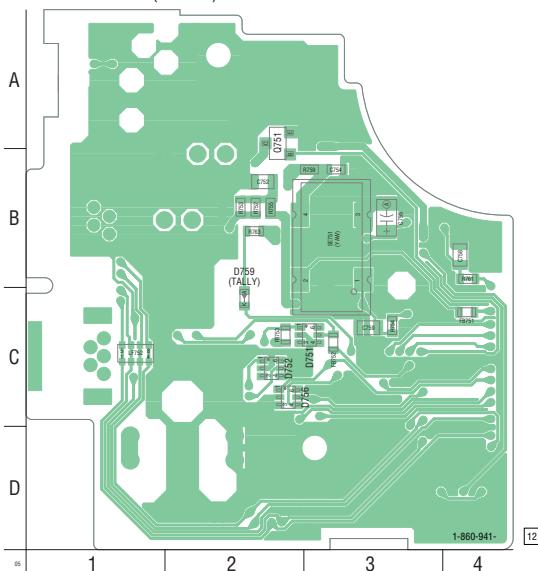
SI-041, FP-792 FLEXIBLE

Note for Printed Wiring Board (See page 4-55).

: Uses unleaded solder.



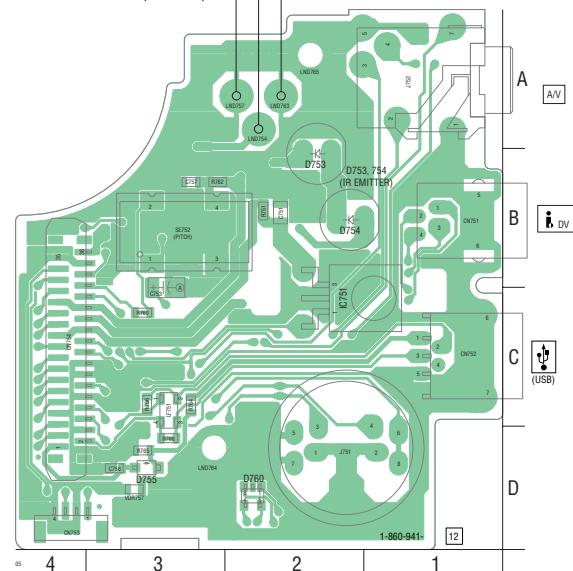
SI-041 BOARD (SIDE A)



DCR-TRV380/TRV480/TRV480E

4-65

SI-041 BOARD (SIDE B)



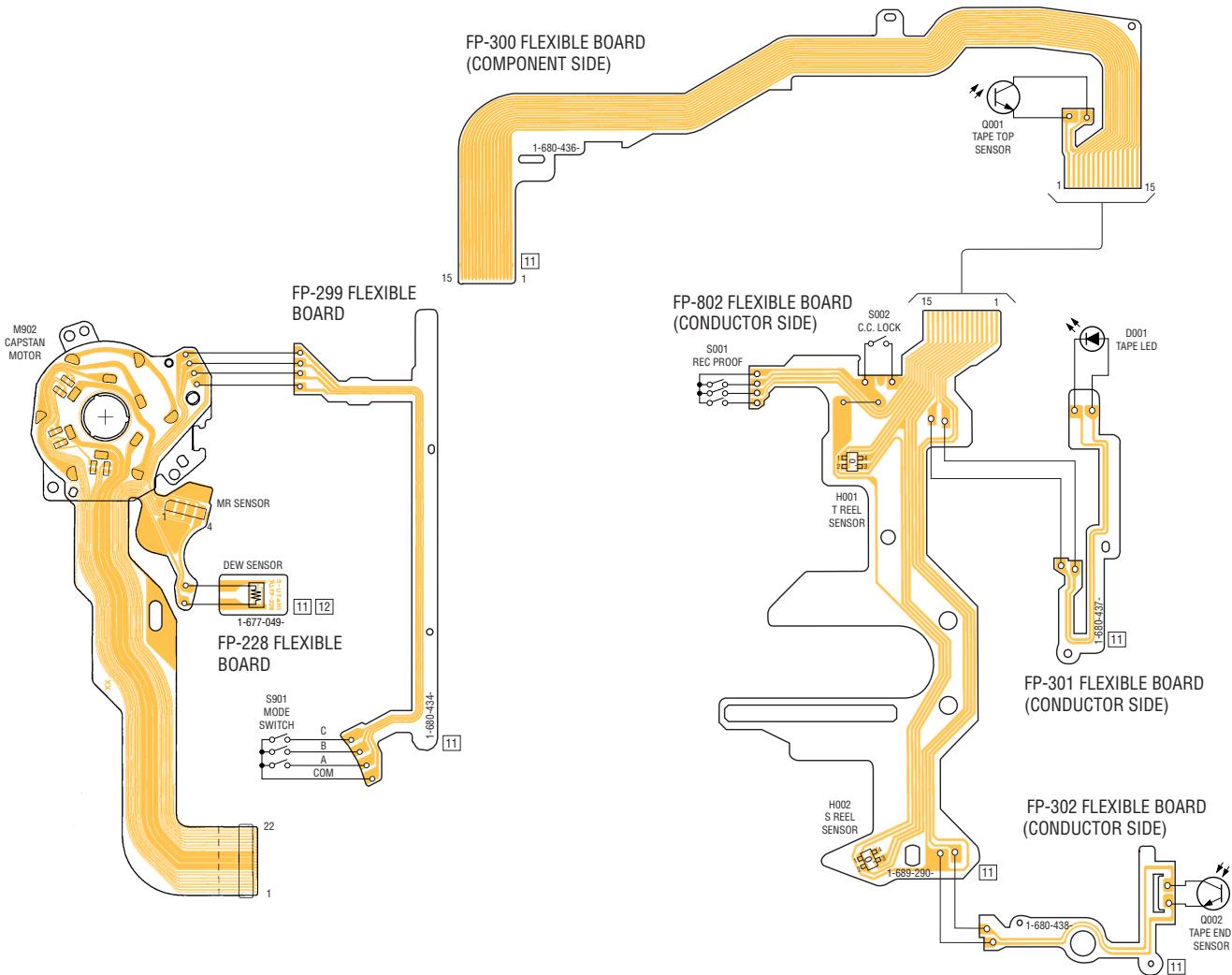
4-66

SI-041, FP-792

FP-228, FP-299, FP-300, FP-301, FP-302, FP-802 FLEXIBLE

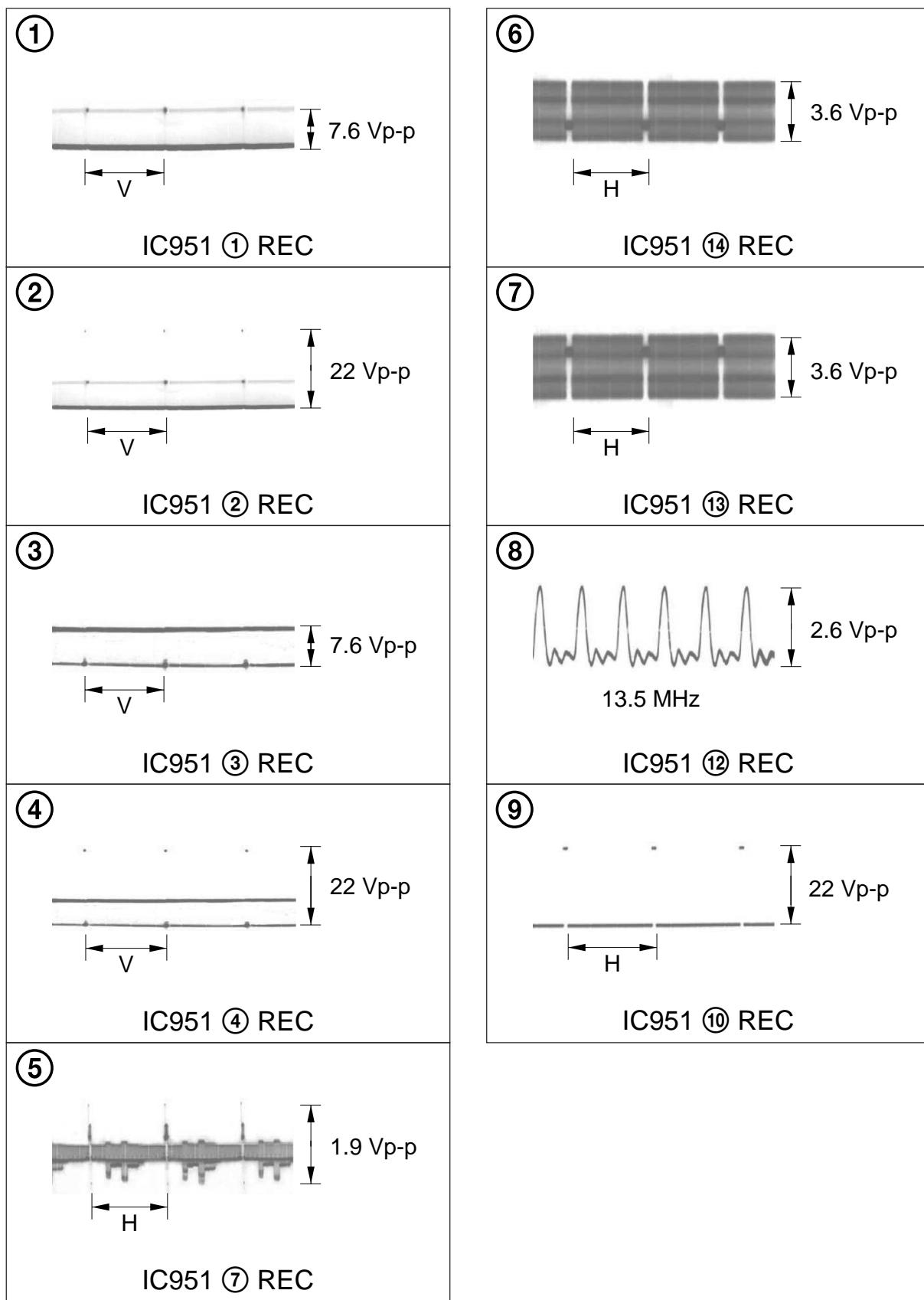
Note for Printed Wiring Board (See page 4-55).

LFB : Uses unleaded solder.



4-4. WAVEFORMS

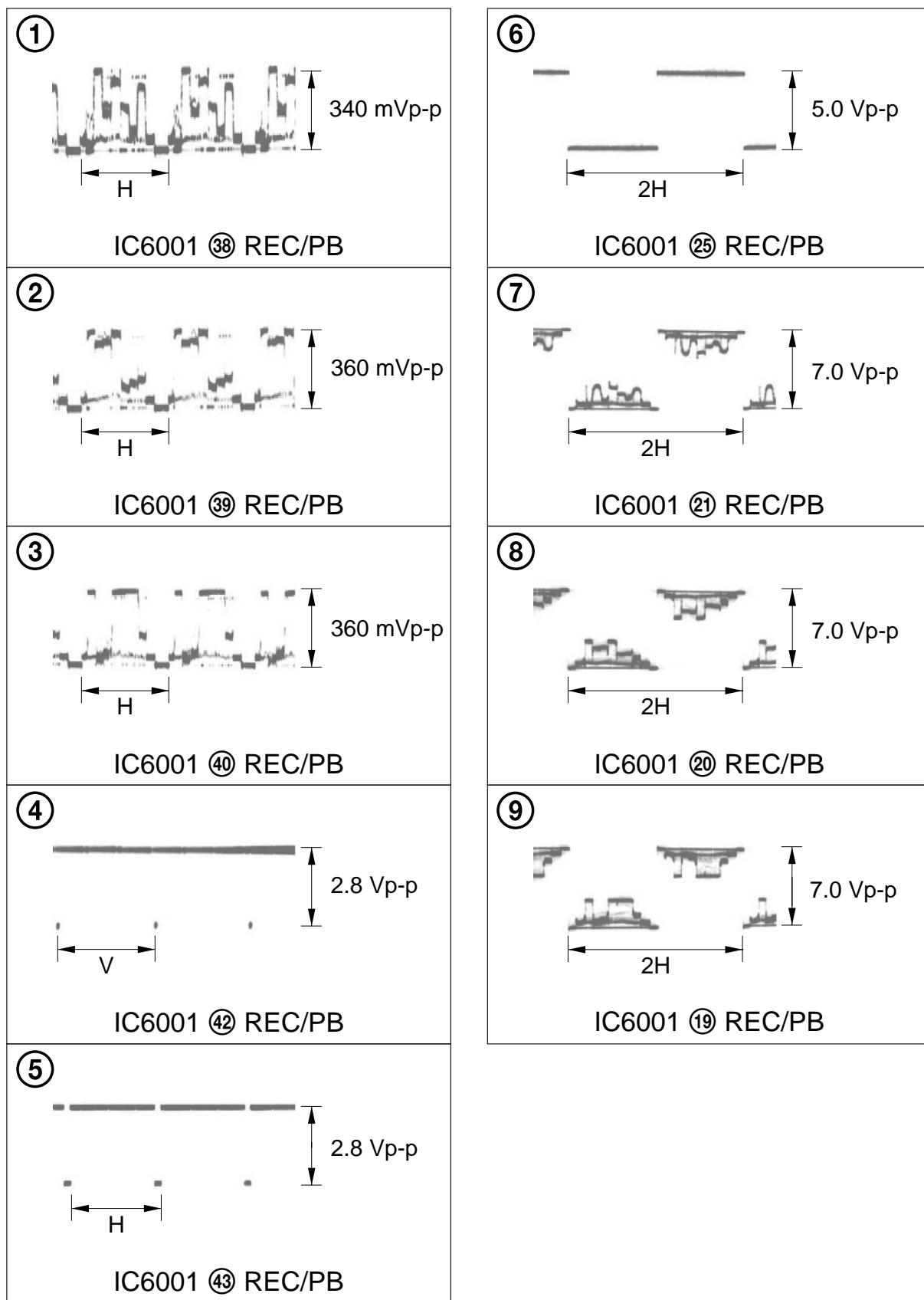
CD-472 BOARD



Waveforms of the VC-345 board are not shown.
Pages 4-70 to 4-75 are not shown.

PD-205 BOARD

PD-205 BOARD



Mounted parts location of the VC-345 board is not shown.
Pages 4-77 and 4-78 are not shown.

4-3. PRINTED WIRING BOARDS

4-5. MOUNTED PARTS LOCATION

PD-205 BOARD SI-041 BOARD

C6001	A-2	C758	B-4
C6002	B-2	C759	C-3
C6003	A-3		
C6004	A-2	* CN751	B-1
C6005	A-2	* CN752	C-1
C6006	B-3	* CN753	D-4
C6007	A-4	* CN754	C-4
C6009	B-2		
C6010	B-2	D751	C-3
C6011	A-5	* D753	B-2
C6012	C-4	* D754	B-2
C6013	C-4	* D755	D-3
C6014	C-3	D756	C-3
C6015	C-2	D759	C-2
C6017	C-2		
C6018	C-2	FB751	C-4
C6019	A-3	FB752	C-3
C6020	B-3	FB753	C-2
C6028	C-4		
C6029	C-2	* IC751	C-2
CN6001	B-1	* J752	A-1
CN6003	D-4		
CN6004	D-2	Q751	A-2
CN6005	C-1		
CN6006	C-2	R752	B-2
CN6007	D-3	R753	B-2
		R763	B-2
D6001	C-2	* R764	C-3
D6004	C-4	* R765	D-3
IC6001	B-2	SE751	B-3
IC6002	C-2	* SE752	B-3
L6001	A-3		
L6002	A-4		
L6003	A-4		
Q6002	A-5		
Q6004	C-2		
Q6005	C-2		
Q6006	C-3		
Q6008	C-3		
Q6009	C-3		
R6005	B-4		
R6009	B-2		
R6010	C-4		
R6012	B-2		
R6013	B-2		
R6014	C-4		
R6019	C-3		
R6021	C-3		
R6022	C-2		
R6023	C-2		
R6030	B-2		
R6044	B-2		
R6045	B-2		
R6046	B-2		
RB6001	C-2		
T6001	B-4		

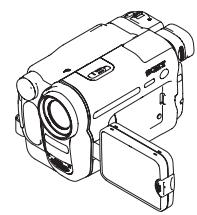
no mark : side A
* mark : side B

5. REPAIR PARTS LIST

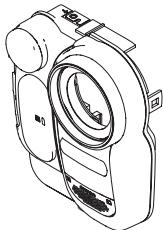
NOTE: Characters **A** to **L** of the electrical parts list indicate location of exploded views in which the desired part is shown.

Link

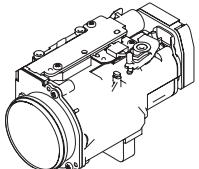
EXPLODED VIEWS



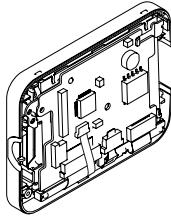
OVERALL ASSEMBLY



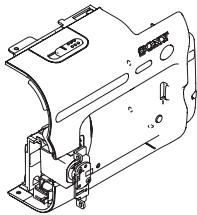
FRONT PANEL BLOCK



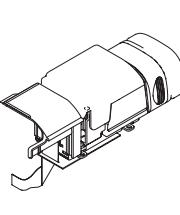
LENS BLOCK



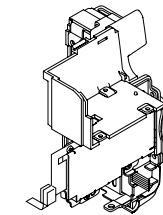
LCD BLOCK



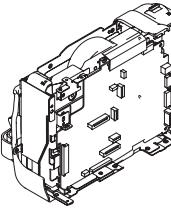
CABINET R BLOCK



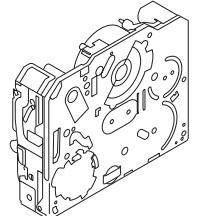
EVF BLOCK



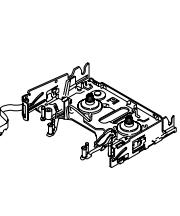
BATTERY PANEL BLOCK



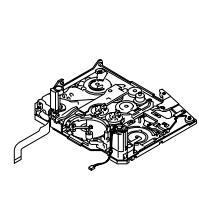
MD FRAME BLOCK



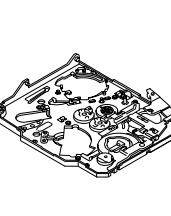
CASSETTE COMPARTMENT ASSEMBLY, DRUM ASSEMBLY



LS CHASSIS BLOCK ASSEMBLY



MECHANICAL CHASSIS BLOCK ASSEMBLY-1



MECHANICAL CHASSIS BLOCK ASSEMBLY-2

Link

ELECTRICAL PARTS LIST

ACCESSORIES

• CD-472 BOARD	C	• FP-301 FLEXIBLE BOARD	J	• PD-205 BOARD	D
• FP-228 FLEXIBLE BOARD	K	• FP-302 FLEXIBLE BOARD	J	• SI-041 BOARD	B
• FP-299 FLEXIBLE BOARD	K	• FP-792 FLEXIBLE BOARD	B		
• FP-300 FLEXIBLE BOARD	J	• FP-802 FLEXIBLE BOARD	J		

5. REPAIR PARTS LIST

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: μ F
- COILS
uH: μ H
- 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...: μ A..., uPA..., μ PA...,
uPB... , μ PB... , uPC... , μ PC... ,
uPD... , μ PD...
- Abbreviation
AUS : Australian model
CND : Canadian model
NE : North European model

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

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

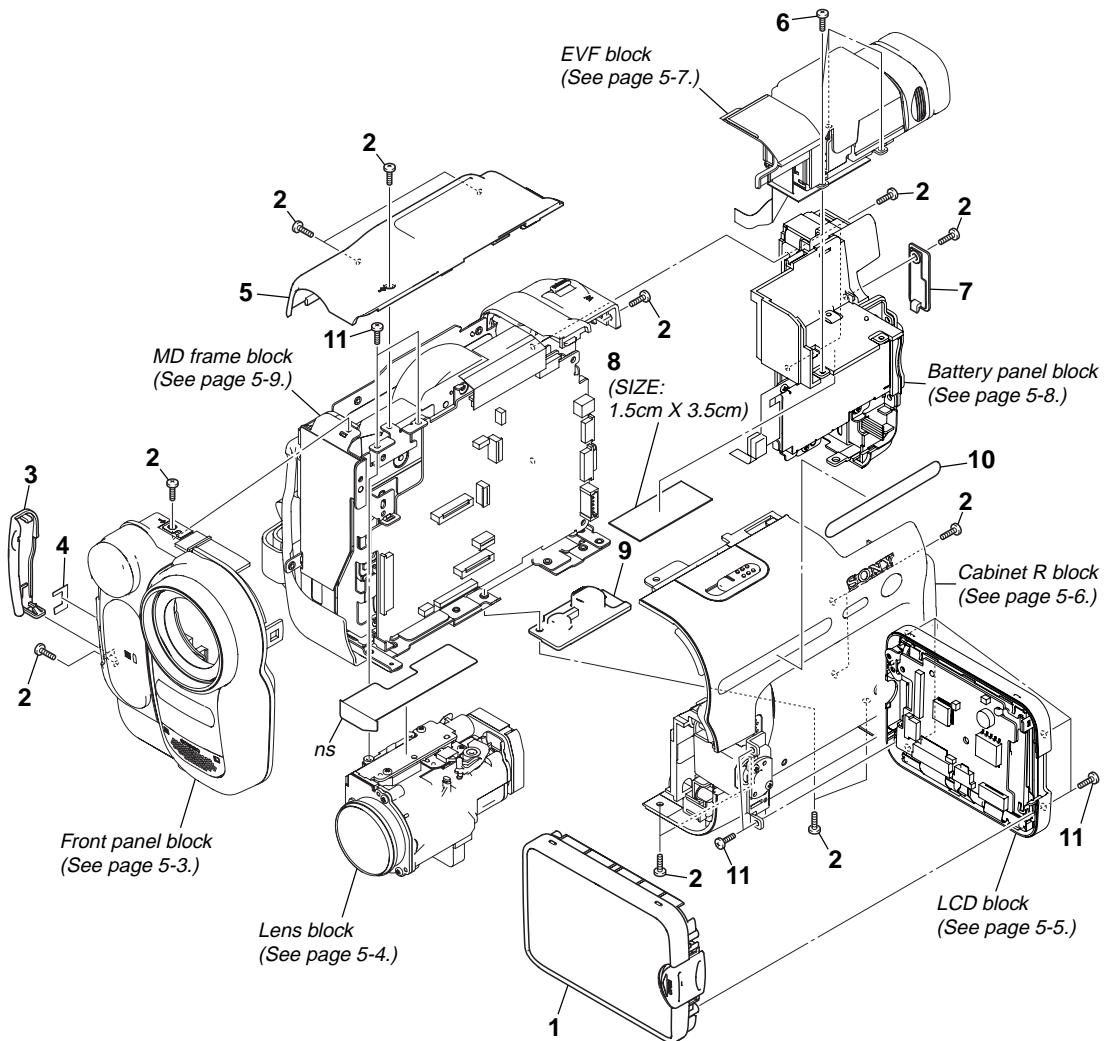
Les composants identifiés par une marque
 \triangle sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant
le numéro spécifié.

5. REPAIR PARTS LIST

5-1. EXPLODED VIEWS

5-1-1. OVERALL ASSEMBLY

ns: not supplied



Ref. No.	Part No.	Description
1	X-2024-897-1	CABINET (C (970)) ASSY, P
2	3-080-203-31	SCREW (M2), LOCK ACE, P2
3	3-087-813-11	COVER (51), JACK
4	2-548-261-31	SHEET (90), JACK
5	3-087-811-11	CABINET (UPPER) (51)
6	3-078-889-11	SCREW (M1.7)

Ref. No.	Part No.	Description
7	3-087-810-11	LID (51), CPC
8	COUTION	RETAINER (51), EVF FLEXIBLE
9	3-079-012-11	SCREW (30), TRIPOD
10	2-580-024-41	LABEL (90)
11	3-080-204-21	SCREW, TAPPING, P2

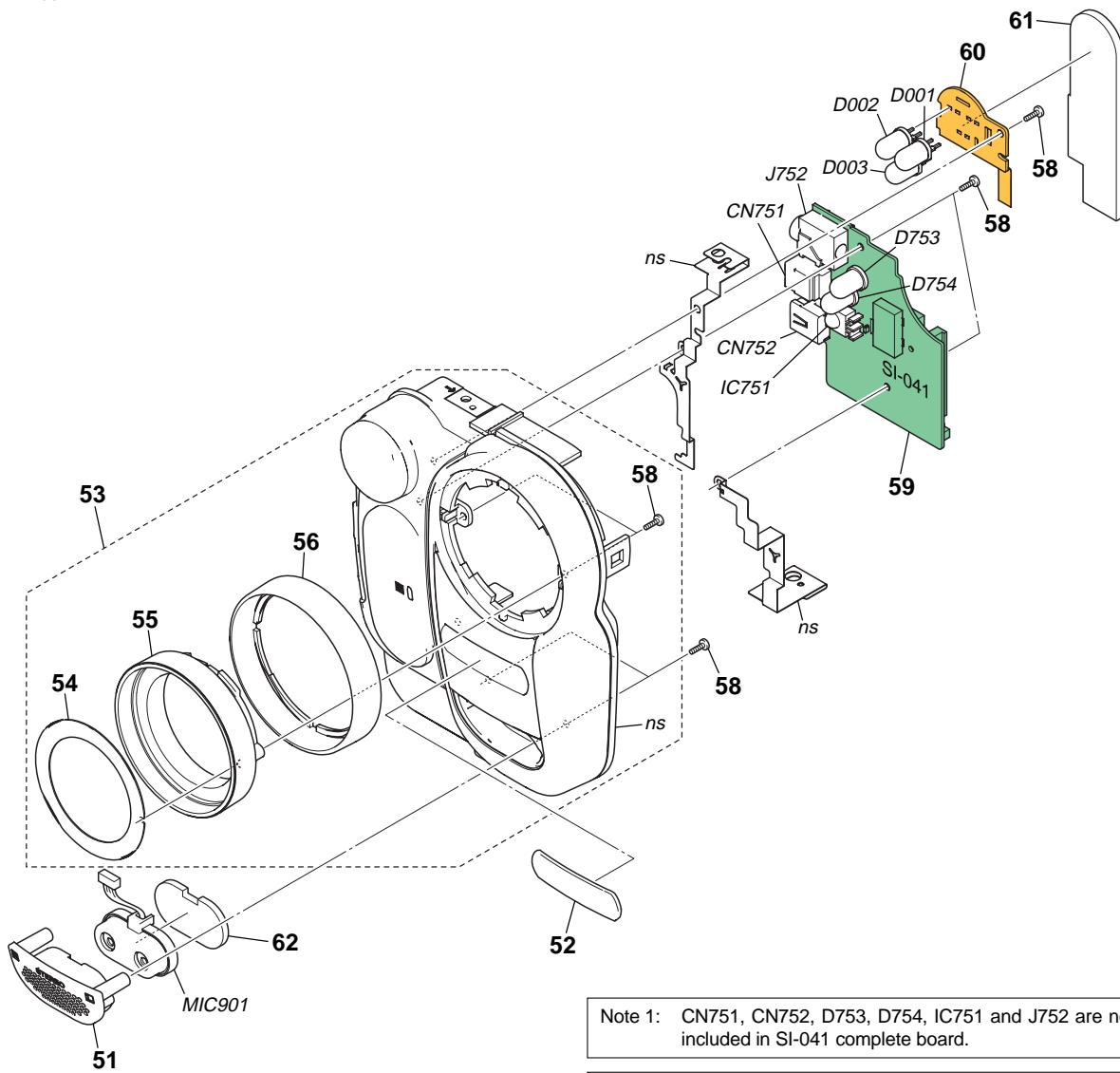
CAUTION :

For the part of 8 : RETAINER (51), EVF FLEXIBLE
(3-088-616-01), cut WOVEN (T0.25), FABRIC NON
(3-076-631-01) into the desired length and use it.

5. REPAIR PARTS LIST

5-1-2. FRONT PANEL BLOCK

ns: not supplied



Note 1: CN751, CN752, D753, D754, IC751 and J752 are not included in SI-041 complete board.

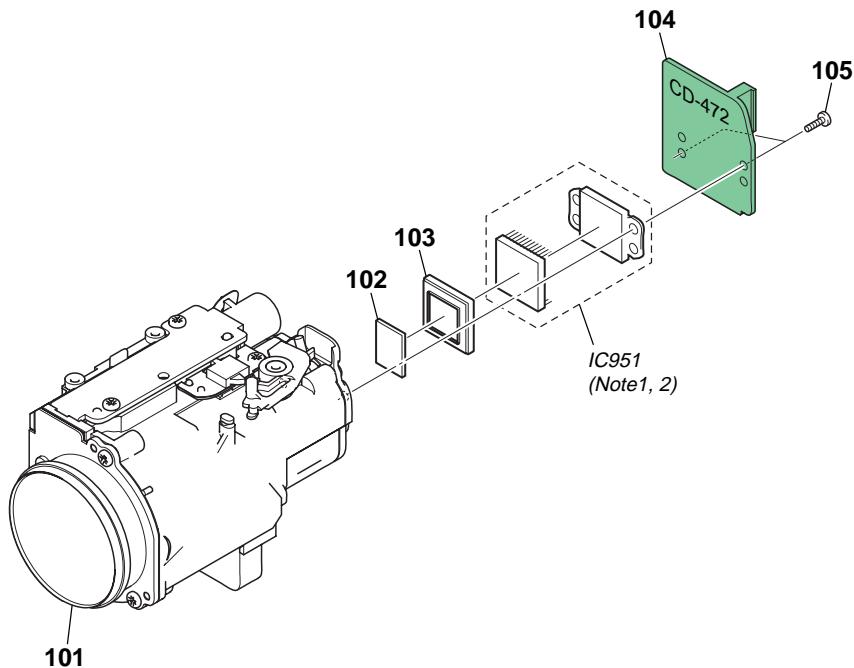
Note 2: D001, D002 and D003 are not included in FP-792 flexible board.

Ref. No.	Part No.	Description
51	3-087-738-31	RETAINER (51), MICROPHONE
52	3-087-740-31	PLATE (51), MAGNIFICATION
53	X-2024-888-1	PANEL (970) ASSY, FRONT
54	3-087-739-01	PLATE (51), NAME
55	3-087-743-01	SCREW (51), FILTER
56	3-087-742-01	RING (51), FRONT
58	3-080-204-21	SCREW, TAPPING, P2
59	A-1082-752-A	SI-041 BOARD, COMPLETE (Note 1)
60	1-860-929-11	FP-792 FLEXIBLE BOARD (Note 2)
61	3-087-994-01	CUSHION (51), JACK
62	3-088-031-01	CUSHION (51), MICROPHONE
CN751	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (DV) (Note 1)

Ref. No.	Part No.	Description
CN752	1-794-962-11	CONNECTOR, SQUARE TYPE (USB 5P) (USB) (Note 1)
D001	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT) (Note 2)
D002	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT) (Note 2)
D003	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT) (Note 2)
D753	8-719-078-24	DIODE DAC3825 (IR Emitter) (Note 1)
D754	8-719-078-24	DIODE DAC3825 (IR Emitter) (Note 1)
IC751	6-704-975-01	IC RPM7240-V4 (Note 1)
J752	1-778-040-11	JACK, SMALL TYPE (A/V OUT) (Note 1)
MIC901	1-542-513-11	MICROPHONE

5. REPAIR PARTS LIST

5-1-3. LENS BLOCK



Note 1: IC951 is not included in CD-472 complete board.

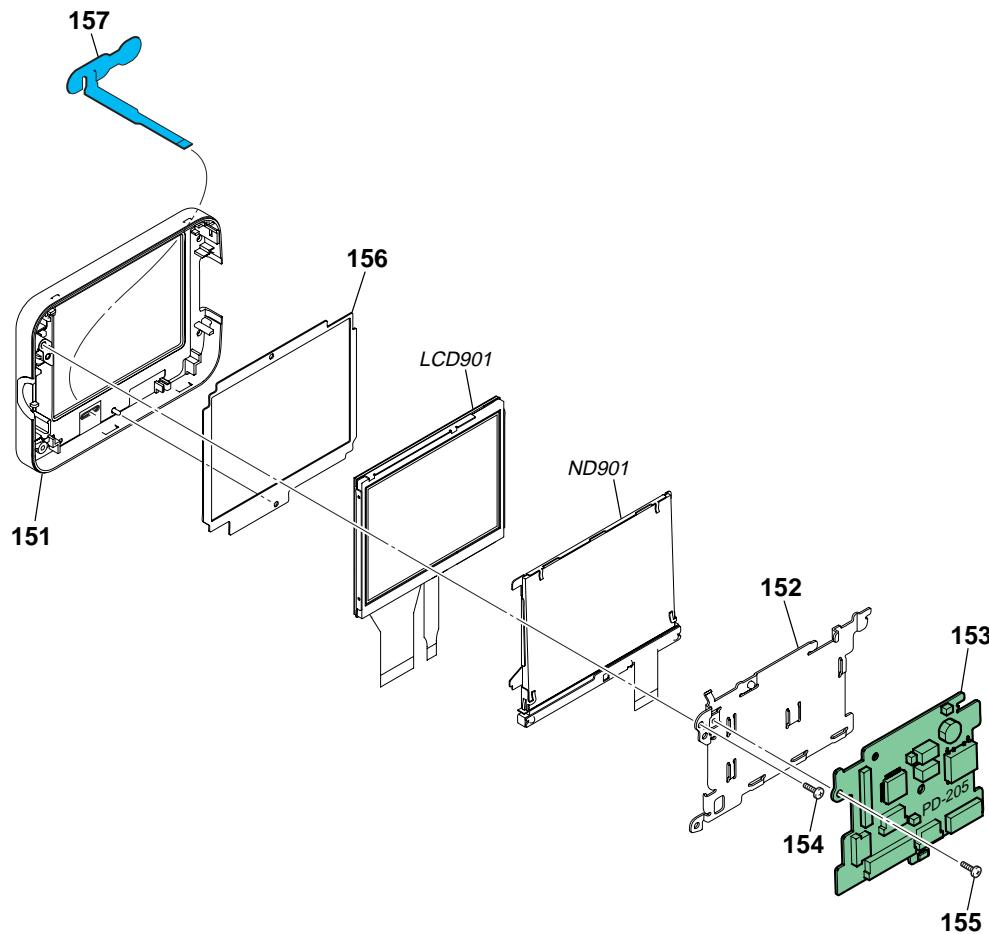
Note 2: Be sure to read "Precautions for Replacement of CCD Imager" on page 4-5 when changing the CCD imager.

Ref. No.	Part No.	Description
101	8-848-765-01	DEVICE, LENS LSV-820A
102	1-758-554-11	FILTER BLOCK, OPTICAL
103	3-053-973-01	RUBBER (W), SEAL
104	A-7111-980-A	CD-472 BOARD, COMPLETE

Ref. No.	Part No.	Description
105	3-080-204-21	SCREW, TAPPING, P2
IC951	A-7013-401-A	CCD BLOCK ASSY (CCD IMAGER) (TRV480E) (Note 1, 2)
IC951	A-7016-724-A	CCD BLOCK ASSY (CCD IMAGER) (TRV380/TRV480) (Note 1, 2)

5. REPAIR PARTS LIST

5-1-4. LCD BLOCK



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

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

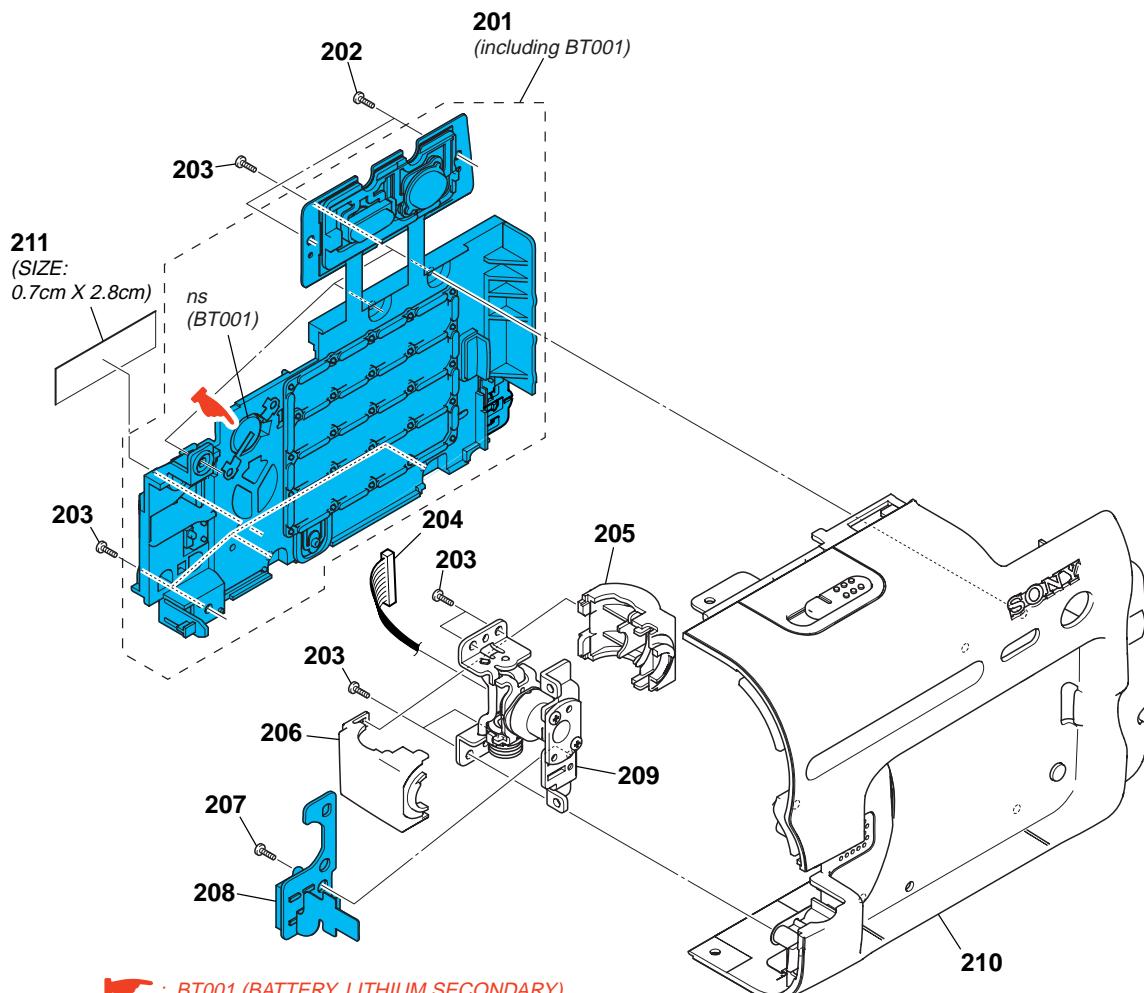
Ref. No.	Part No.	Description
151	X-2024-898-1	CABINET (M (970)) ASSY, P
152	3-087-902-01	FRAME (61), PANEL
153	A-1081-090-A	PD-205 BOARD, COMPLETE
154	3-080-204-21	SCREW, TAPPING, P2
155	3-078-889-11	SCREW (M1.7)

Ref. No.	Part No.	Description
156	3-088-536-01	CUSHION (61), LCD
157	1-479-063-11	KEY BLOCK, CONTROL (SB-9000)
LCD901	8-753-052-10	ACX307AKM-1
△ND901	1-518-951-21	TUBE, FLUORESCENT, COLD CATHODE

5. REPAIR PARTS LIST

5-1-5. CABINET R BLOCK

ns: not supplied



CAUTION
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type.

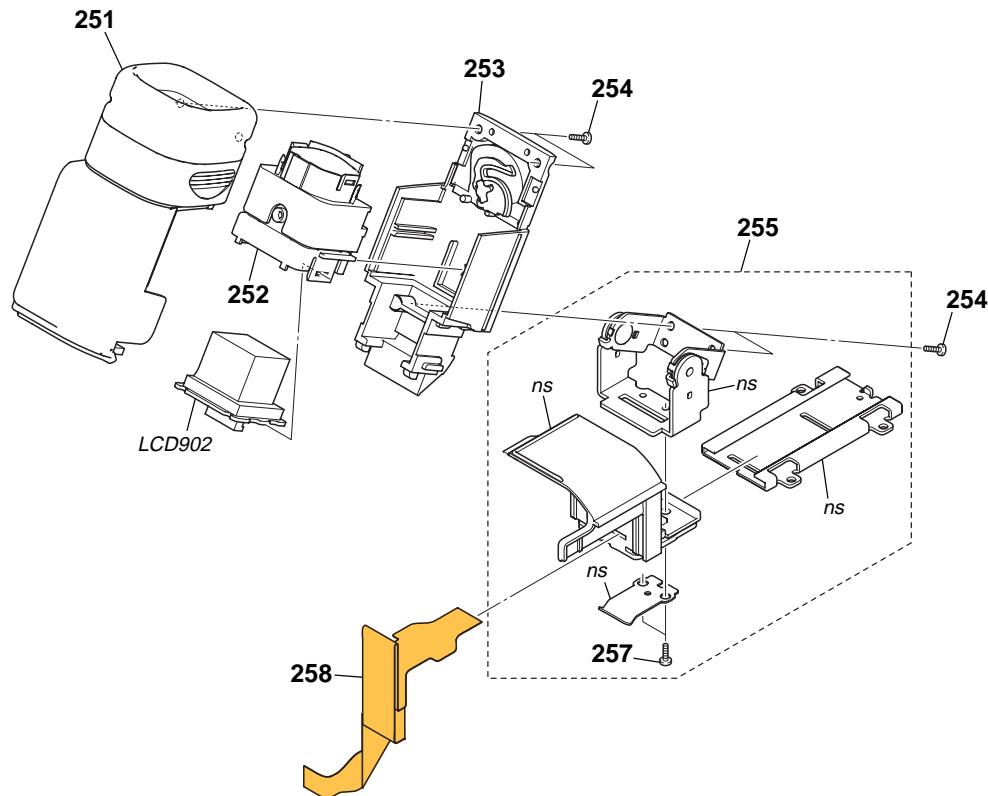
Ref. No.	Part No.	Description
201	1-478-416-61	KEY BLOCK, CONTROL (CF-5100) (including BT001)
202	3-080-206-11	SCREW, TAPPING, P2
203	3-080-205-21	SCREW, TAPPING, P2
204	1-962-648-11	HARNESS (PD-124)
205	3-087-826-11	COVER (M) (51), HINGE
206	3-087-825-31	COVER (C) (51), HINGE

Ref. No.	Part No.	Description
207	3-078-889-11	SCREW (M1.7)
208	1-478-418-11	KEY BLOCK, CONTROL (PR-5100)
209	X-3953-962-1	HINGE (51) ASSY
210	X-2024-894-1	CABINET (R (970)) ASSY
211	CAUTION	TAPE (CF)

5. REPAIR PARTS LIST

5-1-6. EVF BLOCK

ns: not supplied



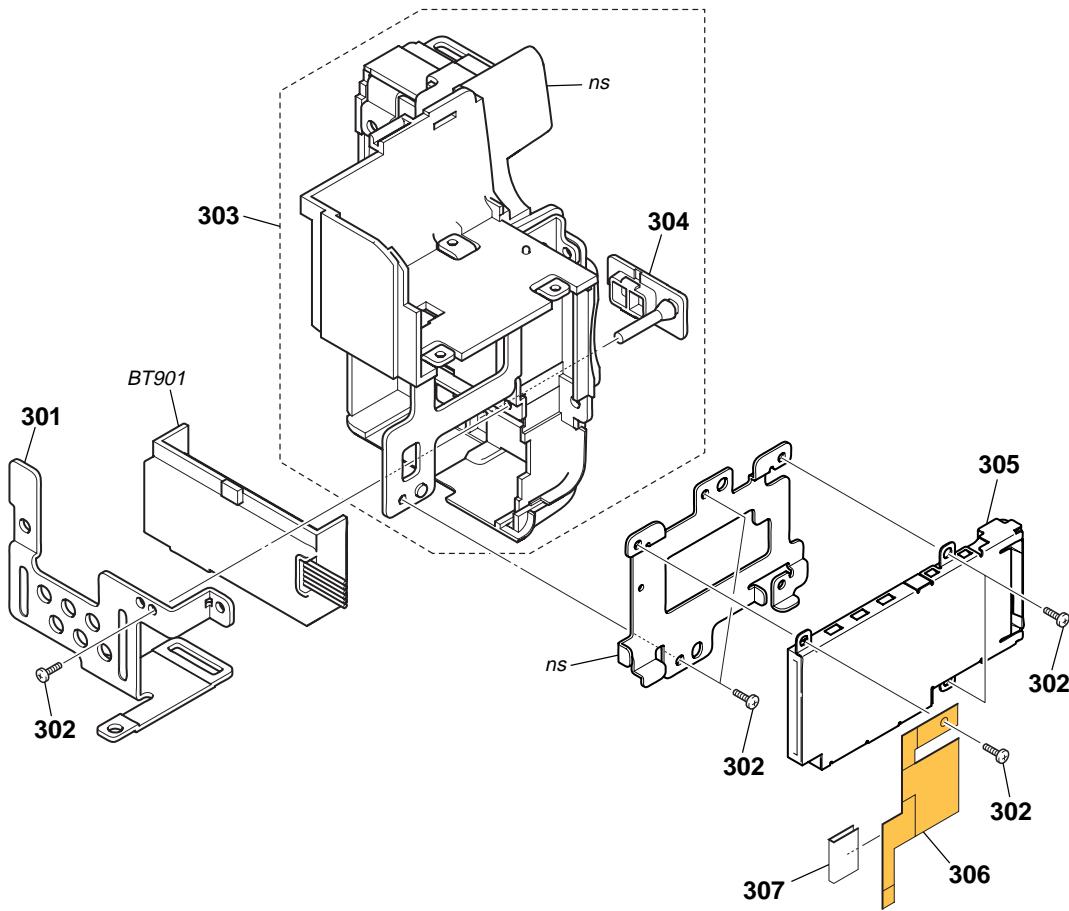
Ref. No.	Part No.	Description
251	X-2025-532-1	CABINET (UPPER (955)) ASSY, EVF
252	X-3951-166-1	LENS (M) ASSY, VF
253	X-2025-533-1	CABINET (LOWER (905)) ASSY, EVF
254	3-080-204-21	SCREW, TAPPING, P2
255	X-2048-474-1	BASE (910) ASSY, SLIDE
257	3-080-203-31	SCREW (M2), LOCK ACE, P2

Ref. No.	Part No.	Description
258	1-860-928-12	FP-797 FLEXIBLE BOARD
LCD902	1-805-465-61	INDICATOR MODULE LIQUID CRYSTAL (TRV380/TRV480)
LCD902	1-805-465-81	INDICATOR MODULE LIQUID CRYSTAL (TRV480E)

5. REPAIR PARTS LIST

5-1-7. BATTERY PANEL BLOCK

ns: not supplied



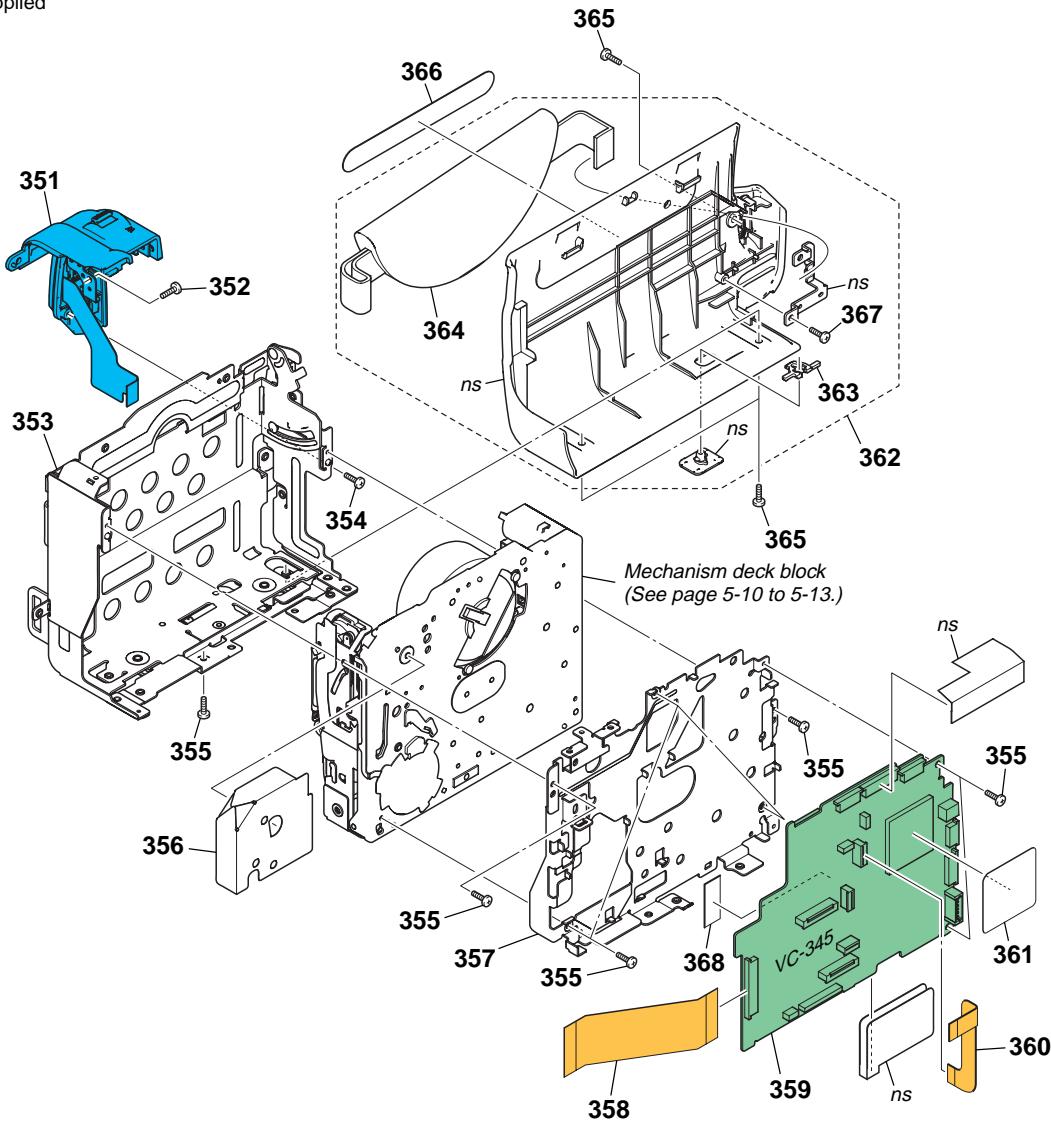
Ref. No.	Part No.	Description
301	3-087-799-01	SHEET METAL (LOWER) (51), STRAP
302	3-078-889-11	SCREW (M1.7)
303	X-2024-900-1	PANEL (970) ASSY, BATTERY
304	3-072-305-11	LID (2500), JACK

Ref. No.	Part No.	Description
305	1-816-271-21	MEMORY STICK CONNECTOR 10P
306	1-860-931-11	FP-799 FLEXIBLE BOARD
307	2-583-929-01	SHEET (970), MS SHIELD
BT901	1-694-772-11	TERMINAL BOARD, BATTERY

5. REPAIR PARTS LIST

5-1-8. MD FRAME BLOCK

ns: not supplied



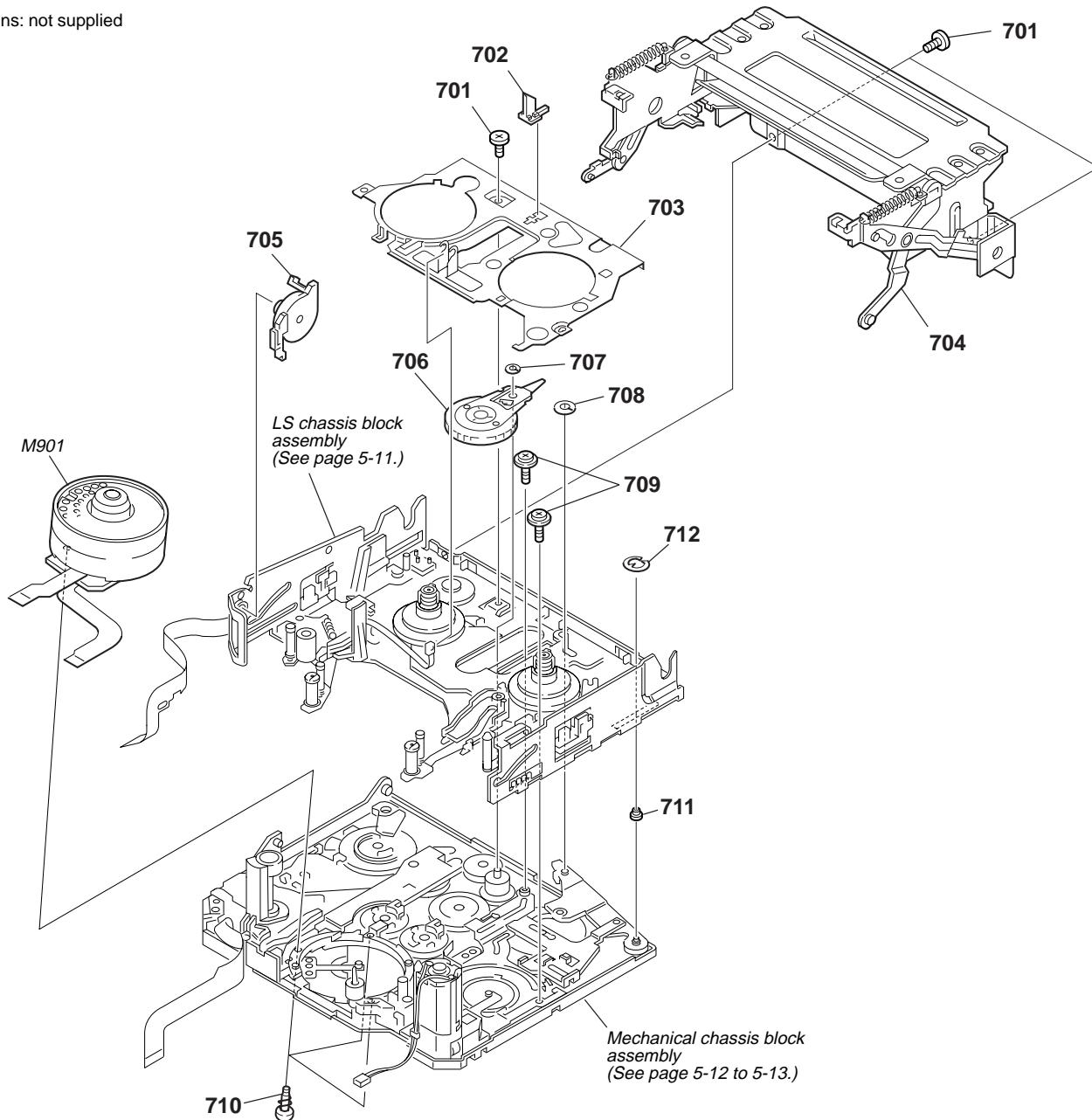
Ref. No.	Part No.	Description
351	1-478-417-81	KEY BLOCK, CONTROL (SS-5100)
352	3-080-253-01	SCREW (M1.7), LOCK ACE, P2
353	X-3953-958-2	FRAME (51) ASSY, CS
354	3-080-204-21	SCREW, TAPPING, P2
355	3-078-889-11	SCREW (M1.7)
356	3-066-169-01	SHEET (30), MD
357	3-087-809-02	FRAME (51), MD
358	1-860-927-11	FP-796 FLEXIBLE BOARD
359	A-1093-414-A	VC-345 BOARD, COMPLETE (SERVICE) (TRV380)
359	A-1093-415-A	VC-345 BOARD, COMPLETE (SERVICE) (TRV480/TRV480E)
360	1-860-930-11	FP-794 FLEXIBLE BOARD

Ref. No.	Part No.	Description
361	3-089-368-01	LABEL, FUSE REPLACEMENT (51) (TRV380/TRV480)
362	X-2048-472-1	CABINET (L (910)) ASSY
363	3-978-765-01	SLIDER, G LOCK
364	3-087-802-01	BELT (51), GRIP
365	3-080-203-31	SCREW (M2), LOCK ACE, P2
366	2-548-267-31	LABEL (L (95)) (TRV380)
366	2-548-267-41	LABEL (L (95)) (TRV480)
366	2-548-267-51	LABEL (L (95)) (TRV480E)
367	3-080-204-11	SCREW, TAPPING, P2
368	2-583-930-01	SHEET (970), VC SHIELD

5. REPAIR PARTS LIST

5-1-9. CASSETTE COMPARTMENT ASSEMBLY, DRUM ASSEMBLY

ns: not supplied



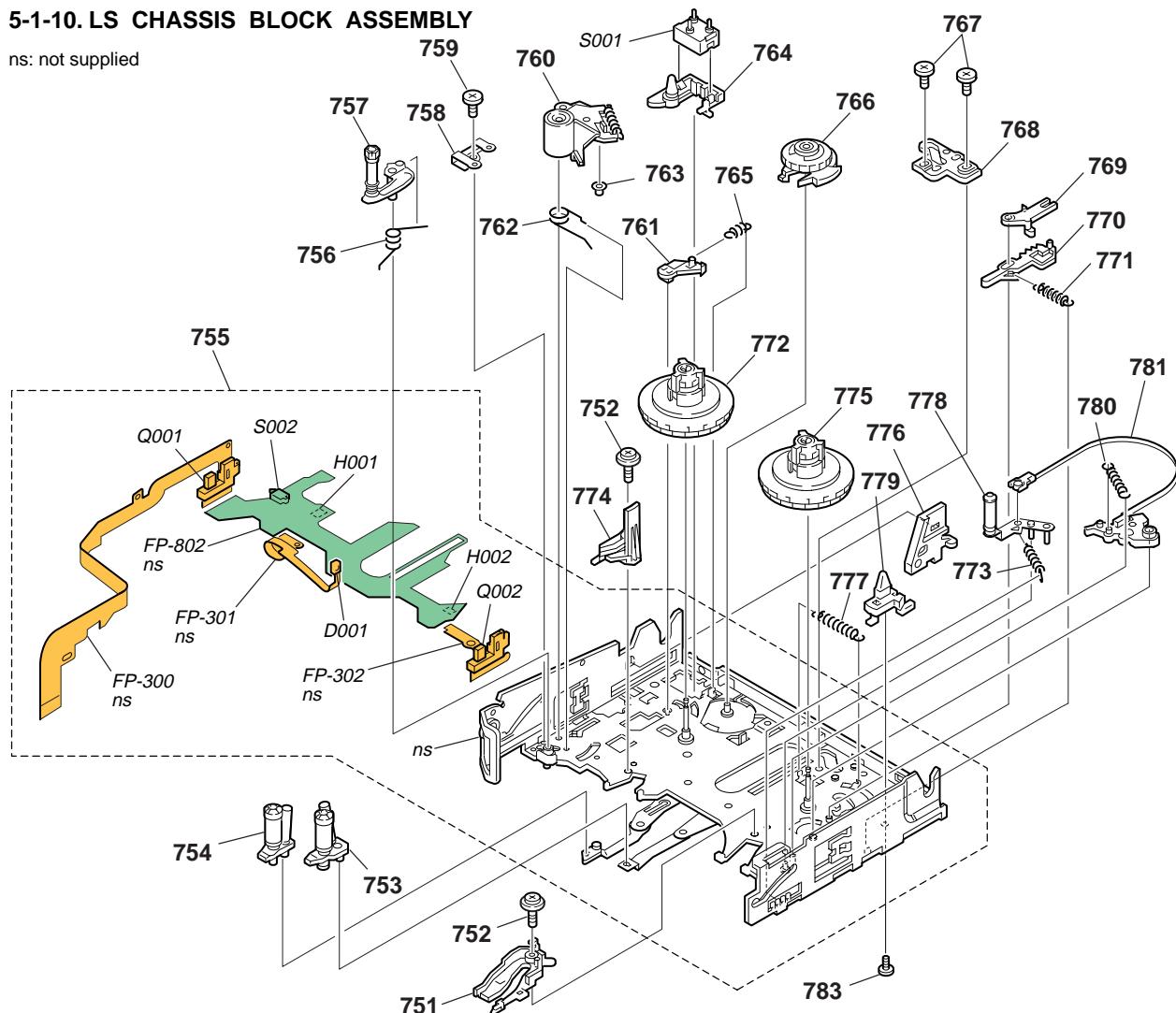
Ref. No.	Part No.	Description
701	3-065-932-01	PAN (2 MAIN M1.4X1.6), CAMERA
702	3-065-895-01	LEVER, REEL RELEASE
703	3-065-896-01	PLATE, BLIND
704	X-3951-298-1	CASSETTE COMPARTMENT ASSY
705	X-3951-302-1	DAMPER ASSY
706	X-3951-297-1	GEAR ASSY, R DRIVE
707	3-065-840-01	CUT (0.98X3X0.13), LUMILER (W)

Ref. No.	Part No.	Description
708	3-065-935-01	HLC CUT 1.8X4X0.5
709	3-947-503-01	SCREW (M1.4)
710	X-3951-299-1	SCREW ASSY, DRUM FITTING
711	3-074-309-01	ROLLER A, LS GUIDE
712	7-624-101-04	STOP RING 1.2 (E TYPE)
M901	A-7048-986-A	DRUM (DKH-04B-R) (SERVICE)

5. REPAIR PARTS LIST

5-1-10. LS CHASSIS BLOCK ASSEMBLY

ns: not supplied

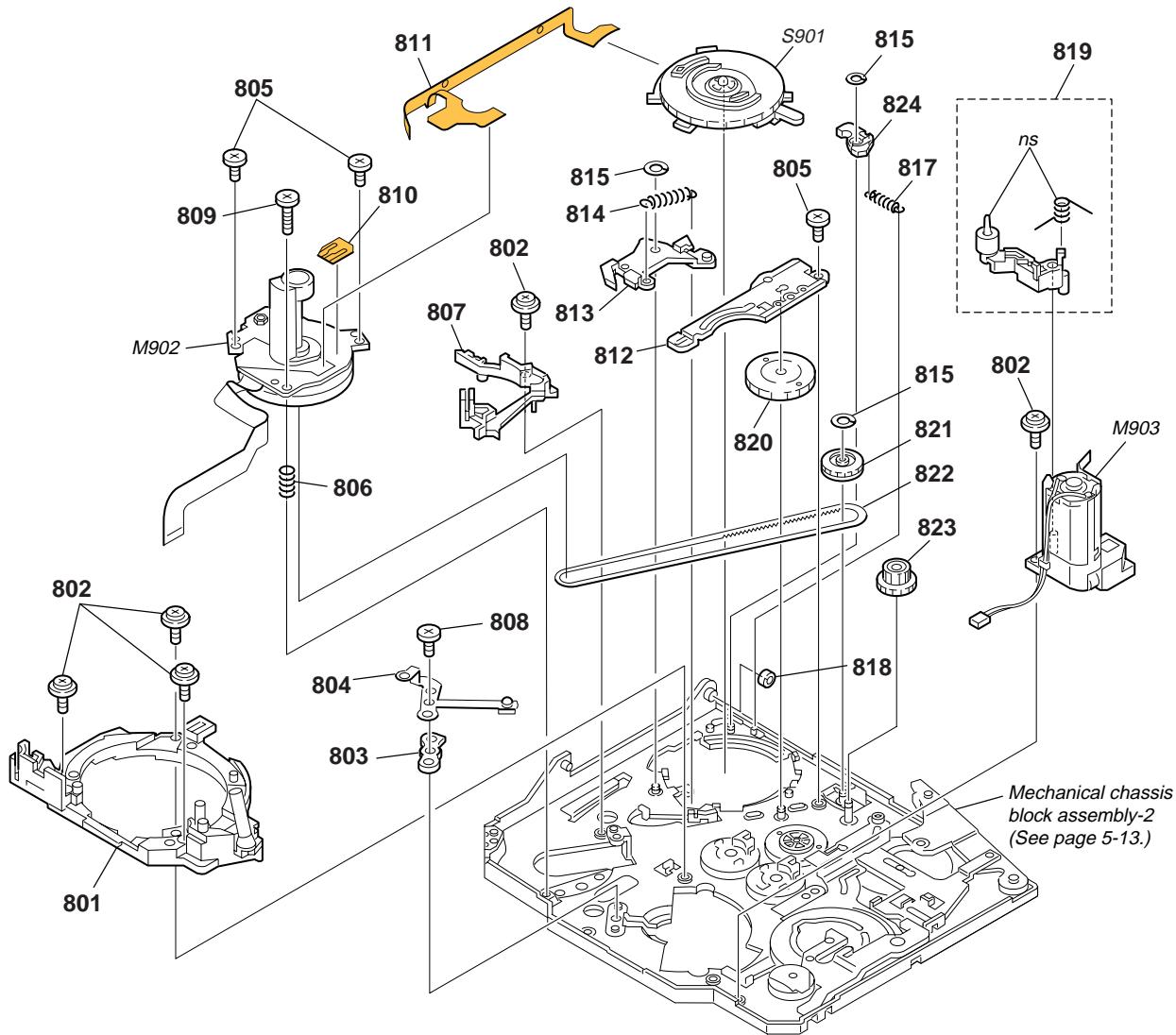


Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
751	3-065-822-02	RAIL (S), GUIDE	771	3-065-830-01	SPRING, S RATCHET
752	3-947-503-01	SCREW (M1.4)	772	X-3951-288-1	TABLE (T) ASSY, REEL
753	A-7096-416-B	BASE (S) BLOCK ASSY, GUIDE	773	3-065-819-01	SPRING, TG1 ARM
754	A-7096-415-A	BASE (T) BLOCK ASSY, GUIDE	774	3-065-821-01	RAIL (T), GUIDE
755	A-7096-426-A	CHASSIS ASSY, LS	775	X-3951-289-1	TABLE (S) ASSY, REEL
756	3-065-802-01	SPRING, TG7 ARM	776	3-065-833-01	GUIDE, LOCK
757	A-7096-414-A	ARM BLOCK ASSY, TG7	777	3-065-831-01	PLATE (SPR), RE RETURN
758	3-065-801-01	RETAINER, TG7	778	X-3951-304-1	ARM ASSY, TG1
759	3-065-932-01	PAN (2 MAIN M1.4X1.6), CAMERA	779	3-065-835-01	GUIDE (S), CASSETTE
760	X-3951-303-1	ARM ASSY, PINCH	780	3-065-820-01	SPRING, RVS ARM
761	3-065-823-01	ARM, T RATCHET	781	X-3951-296-1	BAND (ASSY), BT
762	3-065-794-01	ROAD (SPR), PINCH ARM	783	3-067-167-01	SCREW (M1.4X2), CAMERA TAPPING
763	3-065-792-01	ROLLER, P LIM ARM	D001	8-719-988-42	DIODE GL453 (TAPE LED)
764	3-065-834-01	GUIDE (T), CASSETTE	H001	8-719-033-37	ELEMENT, HALL HW-105C (T REEL)
765	3-065-824-01	SPRING, T RATCHET	H002	8-719-033-37	ELEMENT, HALL HW-105C (S REEL)
766	A-7096-417-A	SOFT ASSY, T	Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)
767	3-071-650-01	SCREW (M1.7) (S)	Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)
768	3-065-832-01	PLATE, LS CAM	S001	1-692-614-11	SWITCH, PUSH (3 KEY) (REC PROOF)
769	3-065-828-01	ARM, S RATCHET	S002	1-572-688-11	SWITCH, PUSH LEVER (1 KEY) (C. C. LOCK)
770	3-065-829-01	PLATE, S RATCHET (RE)			

5. REPAIR PARTS LIST

5-1-11. MECHANICAL CHASSIS BLOCK ASSEMBLY-1

ns: not supplied

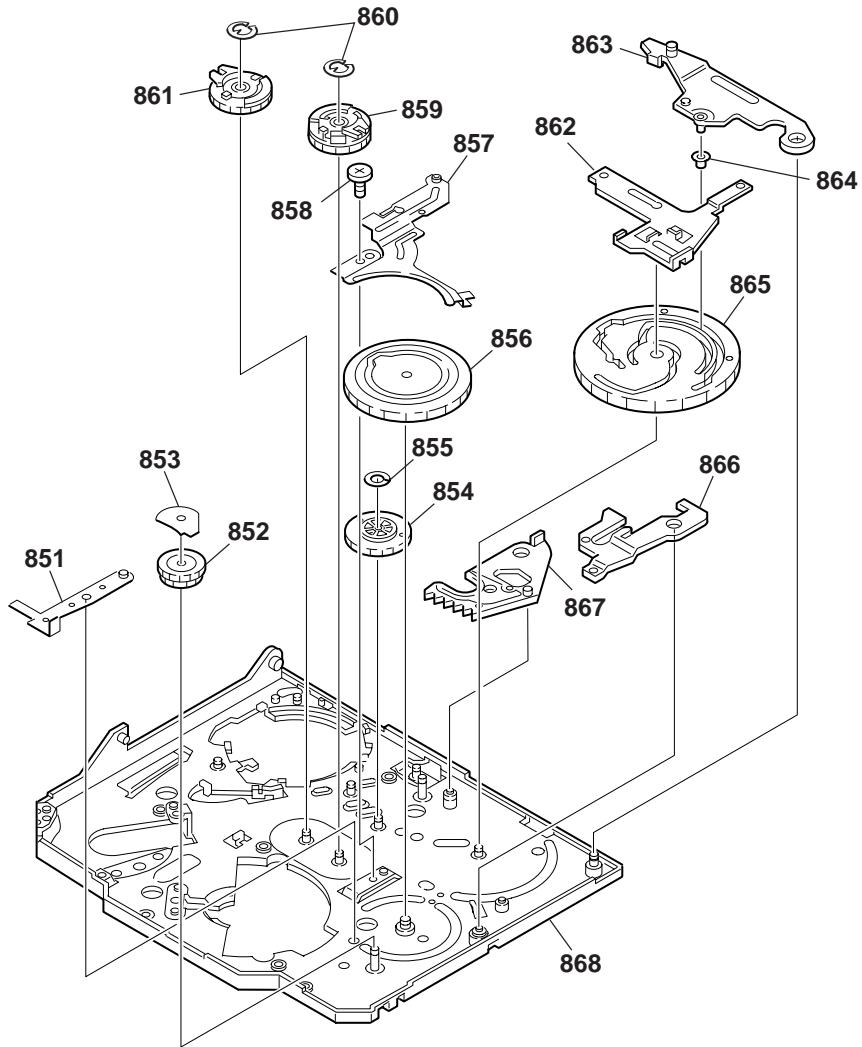


Ref. No.	Part No.	Description
801	A-7096-422-A	BASE ASSY, DRUM
802	3-947-503-01	SCREW (M1.4)
803	3-065-928-01	SPACER, GROUND
804	3-065-927-01	GROUND, DRUM
805	3-065-932-01	PAN (2 MAIN M1.4X1.6), CAMERA
806	3-067-154-01	SPRING, CAPSTAN
807	3-065-931-01	RAIL (T2), GUIDE
808	X-3947-398-1	SCREW ASSY, M1.7 PW
809	3-065-933-01	PAN (2 MAIN 1.4X4.5), CAMERA
810	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR)
811	1-680-434-11	FP-299 FLEXIBLE BOARD
812	3-065-877-01	PLATE (T), GUIDE LOCK
813	X-3951-301-1	PLATE ASSY, PINCH PRESSURE

Ref. No.	Part No.	Description
814	3-065-881-01	SPRING, P PRESSURE PLATE
815	3-065-934-01	HLW CUT 0.98X3X0.25
817	3-065-898-01	SPRING, EJECT ARM
818	3-065-870-01	ROLLER, LS GUIDE
819	A-7096-421-A	ARM ASSY, HCL
820	3-065-918-01	GEAR (2), CAM RELAY
821	A-7096-419-A	GEAR ASSY, CHANGE
822	3-065-902-01	BELT, TIMING
823	3-065-905-01	GEAR, RELAY
824	3-065-882-01	ARM, EJECT
M902	8-835-701-01	MOTOR, DC SCE13A/C-NP (CAPSTAN)
M903	A-7096-420-A	MOTOR ASSY, LD (LOADING)
S901	1-786-096-11	SWITCH, ROTARY (MODE SWITCH)

5. REPAIR PARTS LIST

5-1-12. MECHANICAL CHASSIS BLOCK ASSEMBLY-2



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
851	3-065-920-01	ARM, HC DRIVE	860	7-624-101-04	STOP RING 1.2 (E TYPE)
852	3-065-913-01	GEAR (4), LD	861	A-7096-412-A	GEAR (T) ASSY, GUIDE
853	3-065-914-01	SHEET, COVER	862	X-3951-307-1	PLATE ASSY, M SLIDE
854	3-065-917-01	GEAR (1), CAM RELAY	863	X-3951-305-1	ARM ASSY, LS
855	3-065-934-01	HLW CUT 0.98X3X0.25	864	3-065-901-01	ROLLER, LS ARM
856	3-065-915-01	GEAR (1), CAM	865	3-065-916-01	GEAR (2), CAM
857	3-065-878-01	PLATE (S), GUIDE LOCK	866	3-065-919-01	ARM, T1 LIMITTER
858	3-065-932-01	PAN (2 MAIN M1.4X1.6), CAMERA	867	X-3951-308-1	ARM ASSY, GL
859	A-7096-413-A	GEAR (S) ASSY, GUIDE	868	X-3951-300-2	CHASSIS ASSY, MECHANICAL

CD-472**FP-228****FP-299****FP-300****FP-301****FP-302****FP-792****FP-802****PD-205**

5-2. ELECTRICAL PARTS LIST

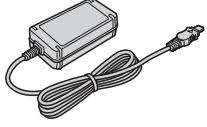
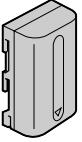
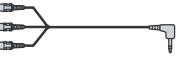
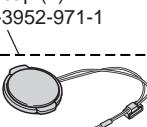
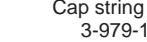
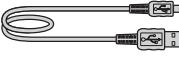
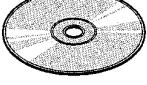
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
	A-7111-980-A	CD-472 BOARD, COMPLETE ***** (IC951 is not included in this complete board.)		(Not supplied)	FP-302 FLEXIBLE BOARD (Note 2) *****
		< CAPACITOR >			< PHOTO TRANSISTOR >
C951	1-126-395-11	ELECT CHIP 22uF 20% 16V	Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)
C953	1-128-994-21	ELECT CHIP 47uF 20% 10V			
C955	1-164-360-11	CERAMIC CHIP 0.1uF 16V	1-860-929-11		FP-792 FLEXIBLE BOARD *****
		< CONNECTOR >			(D001, D002 and D003 are not included in this flexible board.)
CN951	1-815-762-11	CONNECTOR, FFC/FPC 14P			< DIODE >
		< IC >	D001	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT)
IC951	A-7013-401-A	CCD BLOCK ASSY (CCD IMAGER) (Note 1) (TRV480E)	D002	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT)
IC951	A-7016-724-A	CCD BLOCK ASSY (CCD IMAGER) (Note 1) (TRV380/TRV480)	D003	6-500-744-01	DIODE NSPW500BS-TL2 (VIDEO LIGHT)
		< COIL >			
L951	1-469-528-91	INDUCTOR 100uH			< HOLE ELEMENT >
		< TRANSISTOR >	H001	8-719-033-37	ELEMENT, HALL HW-105C (T REEL)
Q951	8-729-117-73	TRANSISTOR 2SC4178-F14	H002	8-719-033-37	ELEMENT, HALL HW-105C (S REEL)
		< RESISTOR >			< SWITCH >
R952	1-218-940-11	RES-CHIP 82 5% 1/16W	S001	1-692-614-11	SWITCH, PUSH (3 KEY) (REC PROOF)
R953	1-218-959-11	RES-CHIP 3.3K 5% 1/16W	S002	1-572-688-11	SWITCH, PUSH LEVER (1KEY) (C.C. LOCK)
R970	1-216-864-11	SHORT CHIP 0			
	1-677-049-11	FP-228 FLEXIBLE BOARD (DEW SENSOR) *****			A-1081-090-A PD-205 BOARD, COMPLETE *****
					< CAPACITOR >
	1-680-434-11	FP-299 FLEXIBLE BOARD ***** (S901 is not included in this flexible board.)	C6001	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
		< SWITCH >	C6002	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V
S901	1-786-096-11	SWITCH, ROTARY (MODE SWITCH)	C6003	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V
			C6004	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V
		(Not supplied) FP-300 FLEXIBLE BOARD (Note 2) *****	C6005	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V
		< PHOTO TRANSISTOR >	C6006	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)	C6007	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V
			C6009	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
		(Not supplied) FP-301 FLEXIBLE BOARD (Note 2) *****	C6010	1-164-739-11	CERAMIC CHIP 560PF 5% 50V
		< DIODE >	C6011	1-164-657-11	CERAMIC CHIP 0.015uF 10% 50V
		D001 8-719-988-42 DIODE GL453S (TAPE LED)	C6012	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V
			C6013	1-100-371-11	CERAMIC CHIP 12PF 5% 3.15KV
			C6014	1-115-566-11	CERAMIC CHIP 4.7uF 10% 10V
			C6015	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V
			C6017	1-165-908-11	CERAMIC CHIP 1uF 10% 10V
			C6018	1-107-826-11	CERAMIC CHIP 0.1uF 10% 16V
			C6019	1-104-847-11	TANTAL. CHIP 22uF 20% 4V
			C6020	1-100-502-11	TANTAL. CHIP 3.3uF 20% 25V
			C6028	1-162-966-11	CERAMIC CHIP 0.0022uF 10% 50V
			C6029	1-100-252-11	CERAMIC CHIP 0.1uF 10% 6.3V

Note 1: Be sure to read "Precautions for Replacement of CCD Imager" on page 4-5 when changing the CCD imager.

Note 2: FP-300, FP-301, FP-302 and FP-802 flexible boards are included in CHASSIS ASSY, LS (A-7096-426-A).

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>			<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		
< CONNECTOR >									
CN6001	1-794-997-11	PIN, CONNECTOR 20P			A-1082-752-A	SI-041 BOARD, COMPLETE			
CN6003	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			***** (CN751, CN752, D753, D754, IC751 and J752 are not included in this complete board.)				
CN6004	1-815-031-11	CONNECTOR, FFC/FPC (ZIF) 24P			< CAPACITOR >				
CN6005	1-816-176-11	CONNECTOR, FFC/FPC (ZIF) 6P			C758	1-127-760-11	CERAMIC CHIP	4.7uF	10%
CN6006	1-691-370-11	CONNECTOR, FFC/FPC 6P			C759	1-127-760-11	CERAMIC CHIP	4.7uF	10%
CN6007	1-816-176-11	CONNECTOR, FFC/FPC (ZIF) 6P			6.3V				
< DIODE >									
D6001	8-719-050-42	DIODE RD3.3UM-T1B			CN751	1-794-276-11	CONNECTOR, SQUARE TYPE 4P (DV)		
D6004	8-719-073-01	DIODE MA111-(K8).SO			CN752	1-794-962-11	CONNECTOR, SQUARE TYPE (USB 5P) (USB)		
< IC >									
IC6001	8-752-115-66	IC CXA3622BR-T4			CN753	1-816-232-11	PIN, CONNECTOR (PC BOARD) 4P		
IC6002	6-706-717-01	IC NJM2867F28 (TE2)			CN754	1-818-074-11	CONNECTOR, FFC/FPC (ZIF) 36P		
< COIL >									
L6001	1-469-527-91	INDUCTOR	47uH		< DIODE >				
L6002	1-412-056-11	INDUCTOR	4.7uH		D751	6-500-044-01	DIODE DF6A6.8FU (TE85R)		
L6003	1-428-878-11	INDUCTOR	82uH		D753	8-719-078-24	DIODE DAC3825 (IR Emitter)		
< TRANSISTOR >									
Q6002	6-550-065-01	TRANSISTOR	CPH5504-TL-E		D754	8-719-078-24	DIODE DAC3825 (IR Emitter)		
Q6004	8-729-054-48	TRANSISTOR	UP04601008S0		D755	8-719-027-76	DIODE 1SS357-TPH3		
Q6005	8-729-054-48	TRANSISTOR	UP04601008S0		D756	6-500-044-01	DIODE DF6A6.8FU (TE85R)		
Q6006	8-729-041-23	TRANSISTOR	NDS356AP		D759	6-500-817-01	DIODE SML-512UWT86 (TALLY)		
Q6008	8-729-054-89	TRANSISTOR	UP04211008S0		< FERRITE BEAD >				
Q6009	8-729-054-44	TRANSISTOR	UP04111008S0		FB751	1-414-760-21	INDUCTOR, FERRITE BEAD		
< RESISTOR >					FB752	1-414-760-21	BEAD, FERRITE (CHIP) (1608)		
R6005	1-216-824-11	METAL CHIP	1.8K	5%	FB753	1-414-760-21	BEAD, FERRITE (CHIP) (1608)		
R6009	1-218-975-11	RES-CHIP	68K	5%	J752	1-778-040-11	JACK, SMALL TYPE (A/V)		
R6010	1-218-969-11	RES-CHIP	22K	5%	< JACK >				
R6012	1-208-911-11	METAL CHIP	10K	0.5%	< TRANSISTOR >				
R6013	1-208-935-11	METAL CHIP	100K	0.5%	Q751	8-729-023-22	TRANSISTOR	2SD2114K	
R6014	1-218-949-11	RES-CHIP	470	5%	< RESISTOR >				
R6019	1-218-965-11	RES-CHIP	10K	5%	R752	1-216-806-11	METAL CHIP	56	5%
R6021	1-218-977-11	RES-CHIP	100K	5%	R753	1-216-806-11	METAL CHIP	56	5%
R6022	1-218-965-11	RES-CHIP	10K	5%	R763	1-216-817-11	METAL CHIP	470	5%
R6023	1-216-847-11	METAL CHIP	150K	5%	R764	1-216-833-11	METAL CHIP	10K	5%
R6030	1-218-949-11	RES-CHIP	470	5%	R765	1-216-833-11	METAL CHIP	10K	5%
R6044	1-218-960-11	RES-CHIP	3.9K	5%	< SENSOR >				
R6045	1-218-966-11	RES-CHIP	12K	5%	SE751	1-476-807-41	SENSOR, ANGULAR VELOCITY (YAW)		
R6046	1-218-970-11	RES-CHIP	27K	5%	SE752	1-476-807-31	SENSOR, ANGULAR VELOCITY (PITCH)		
< COMPOSITION CIRCUIT BLOCK >									
RB6001	1-234-369-21	RES, NETWORK	10 (1005 x4)		< TRANSFORMER >				
< TRANSFORMER >									
▲ T6001	1-435-786-31	TRANSFORMER, INVERTER			Electrical parts list of the VC-345 board is not shown. Pages 5-16 to 5-24 are not shown.				

Checking supplied accessories.

	AC-L15A/L15B AC Adaptor (1) △ 1-477-533-51		Power cord (1) △ 1-696-819-22 (AUS) △ 1-769-608-11 (AEP, NE, E) △ 1-783-374-11 (UK) △ 1-790-542-12 (US, CND)		Rechargeable battery pack NP-FM30 (1) △ A-7096-387-A (US, CND) △ A-7096-388-B (EXCEPT US, CND)
	Wireless Remote Commander RMT-831 (1) 1-477-898-41		Battery holder 3-083-973-01		Shoulder strap (1) 3-987-015-02
	A/V connecting cable (1) 1-824-097-41		Lens cap (1) X-3952-971-1		Cap string (1) 3-979-194-12
	USB cable (1) 1-829-868-31		Conversion 2P adaptor (1) △ 1-569-008-12 (TRV380/TRV480: E)		
	CD-ROM (SPVD-012 2005) (USB Driver) (Picture Package Ver.1.5) (1) 2-515-350-01				

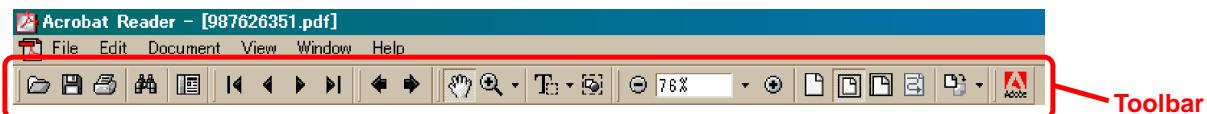
Other accessories

- 2-515-263-11 MANUAL, INSTRUCTION (ENGLISH)
(TRV480E: AEP, UK, E, AUS)
2-515-263-21 MANUAL, INSTRUCTION (FRENCH)
(TRV480E: AEP, E)
2-515-263-31 MANUAL, INSTRUCTION
(SPANISH, PORTUGUESE) (TRV480E: AEP)
2-515-263-41 MANUAL, INSTRUCTION (ITALIAN, GREEK)
(TRV480E: AEP)
2-515-263-51 MANUAL, INSTRUCTION (GERMAN, DUTCH)
(TRV480E: AEP)
2-515-263-61 MANUAL, INSTRUCTION (SWEDISH, RUSSIAN)
(TRV480E: NE)
2-515-263-71 MANUAL, INSTRUCTION (DANISH, FINNISH)
(TRV480E: NE)
2-515-263-81 MANUAL, INSTRUCTION (ARABIC, PERSIAN)
(TRV480E: E)
2-515-263-91 MANUAL, INSTRUCTION (SIMPLIFIED CHINESE)
(TRV480E: E)
2-515-268-11 MANUAL, INSTRUCTION (ENGLISH)
(TRV480: US, CND, E)
2-515-268-21 MANUAL, INSTRUCTION (FRENCH)
(TRV480: CND)
2-515-268-31 MANUAL, INSTRUCTION (SPANISH) (TRV380: E)
2-515-268-41 MANUAL, INSTRUCTION (PORTUGUESE)
(TRV380: E)

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.

[Description of main button functions on toolbar of the Adobe Acrobat Reader Ver5.0 (for Windows)]



Printing a text

1. Click the Print button
2. Specify a printer, print range, number of copies, and other options, and then click [OK].

Application of printing:

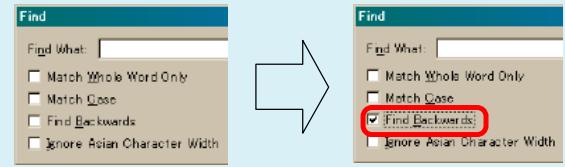
To set a range to be printed within a page, select the graphic selection tool and drag on the page to enclose a range to be printed, and then click the Print button.

Finding a text

1. Click the Find button
2. Enter a character string to be found into a text box, and click the [Find]. (Specify the find options as necessary)

Application to the Service Manual:

To execute “find” from current page toward the previous pages, select the check box “Find Backward” and then click the “Find”.



3. Open the find dialog box again, and click the [Find Again] and you can find the matched character strings displayed next. (Character strings entered previously are displayed as they are in the text box.)

Application to the Service Manual:

The parts on the drawing pages (block diagrams, circuit diagrams, printed circuit boards) and parts list pages in a text can be found using this find function. For example, find a Ref. No. of IC on the block diagram, and click the [Find Again] continuously, so that you can move to the Ref. No. of IC on the circuit diagram or printed circuit board diagram successively.

Note: The find function may not be applied to the Service Manual depending on the date of issue.

Switching a page

- To move to the first page, click the
- To move to the last page, click the
- To move to the previous page, click the
- To move to the next page, click the

Reversing the screens displayed once

- To reverse the previous screens (operation) one by one, click the
- To advance the reversed screens (operation) one by one, click the

Application to the Service Manual:

This function allows you to go and back between circuit diagram and printed circuit board diagram, and accordingly it will be convenient for the voltage check.

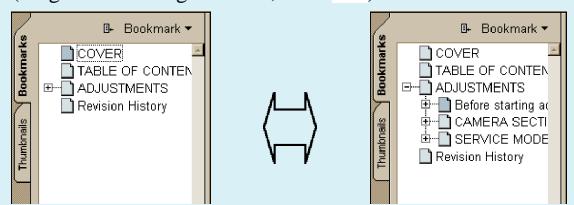
Moving with link

1. Select either palm tool , zoom tool , text selection tool , or graphic selection tool .
2. Place the pointer in the position in a text where the link exists (such as a button on cover and the table of contents page, or blue characters on the removal flowchart page or drawing page), and the pointer will change to the forefinger form .
3. Then, click the link. (You will go to the link destination.)

Moving with bookmark:

Click an item (text) on the bookmark pallet, and you can move to the link destination. Also, clicking can display the hidden items.

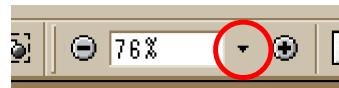
(To go back to original state, click



Zooming or rotating the screen display

“Zoom in/out”

- Click the triangle button in the zoom control box to select the display magnification. Or, you may click or for zooming in or out.



“Rotate”

- Click rotate tool , and the page then rotates 90 degrees each.

Application to the Service Manual:

The printed circuit board diagram you see now can be changed to the same direction as the set.

Revision History

Ver.	Date	History	Contents	S.M. Rev. issued
1.0	2004.11	Official Release	—	—
1.1	2004.12	Correction-1 (C1)	<ul style="list-style-type: none">• Correction of repair parts <p>S.M. correction: Page 5-4, Page 5-8, Page 5-9, Page 5-25</p>	Yes