JVC

SERVICE MANUAL

DIGITAL STILL CAMERA

GC-QX3HDU/GC-QX5HDU

DIGITAL STILL CAMERA

Regarding service information other than these sections, refer to the GC-QX3U service manual (No.86564). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS

Power source	: DC 5 V ⎓
Power consumption	: 3.6 W (when the LCD screen is off) 4.8 W (when the LCD screen is on)
Dimensions	: 111 (W) mm x 67 (H) mm x 59 (D) mm (4-3/8" x 2-11/16" x 2-3/8") (except protruding parts)
Weight	: Approx. 290 g (0.64 lbs) (without a Memory card and battery)
Operating temperature	: 0°C to 40°C (32°F to 104°F)
Relative humidity	: 35% to 80%
Storage temperature	: –20°C to 50°C (–4°F to 122°F)
LCD screen	: 2.0 inch, polysilicon TFT (200,000 pixels)
Storage media	: SmartMedia™ 3.3V (up to 64MB)
CCD	: 3.34 million pixels (3.24 million valid pixels), 1/1.8" square pixels, primary color filter, interlace scan CCD
Focal distance	: 7.5 mm to 17.5 mm (equivalent to 37mm to 86 mm on a 35 mm still camera)
Lens	: 2.3X optical zoom lens
Video	: 160 pixels x 120 pixels, 20 seconds, JVC original format
Recording format	: Exif Ver. 2.1 (DCF compliant), TIFF (Uncompressed), DPOF-compatible
Sensitivity	: 80/160/320 (ISO compliant)
Iris value (F value)	: F2.8/3.8, 5.6, 8, 11
Exposure control	: Program AE, iris priority AE
Exposure compensation	: ±2EV (0.5EV steps)
Minimum subject distance	: Approx. 2 cm to 50 cm (in Macro mode)
Light measurement system	: Multi, spot
Flash	: Built-in, Auto/red-eye prevention/forced/disabled
Recommended distance for flash	: Approx. 2.5 m
Shutter speed	: Auto (Program AE: 1/8 seconds – 1/750 seconds, Iris priority AE: 2 seconds – 1/750 seconds)
White balance	: Auto/Manual (☀, ☁, 💡, MWB, ☽)
Focus	: Auto/Manual
Self timer	: 1 second, 8 seconds
Photo quality	: 3 modes (STANDARD/FINE/NO COMP.)
Number of storable photos (with an 8MB Memory card, STANDARD/FINE/NO COMP.)	: 2032 x 1536: approx. 10/8/0 1024 x 768: approx. 43/32/3 640 x 480: approx. 87/65/8
Battery	: Lithium ion battery
Printer connector	: Output for optional printer
VIDEO output connector	: Two-pole plug, 3.5 mm diameter (NTSC)
Digital output connector	: Mini-USB connector

AC Power Adapter/Charger AA-V37

Power requirement	
U.S.A. and Canada	: AC 120 V∿, 60 Hz
Other countries	: AC 110 V – 240 V∿, 50 Hz/60 Hz
Power consumption	: 14 W
Output	
Charge	: DC 3.6 V ⎓, 0.77 A
Camera	: DC 5.0 V ⎓, 1.5 A
Operating temperature	: 0°C to 40°C (32°F to 104°F) [when charging: 10°C to 35°C (50°F to 95°F)]
Dimensions	: 68 (W) mm x 38 (H) mm x 110 (D) mm (2-11/16" x 1-1/2" x 4-3/8")
Weight	: Approx. 230 g (0.51 lbs) (without a DC cord)

E. & O. E. Design and specifications subject to change without notice.

This service manual is printed on 100% recycled paper.

No.86588
October 2000

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SOFTW ARE SECTION FOR Windows®

Operating Environment

The host computer that runs the Windows® operating environment must satisfy the following conditions.

USB Driver

1. Microsoft® Windows® 98/Windows® 98 Second Edition, Full version (Not Upgrade)/Windows® 2000 Professional (Not Upgrade)
2. Available USB port
3. CD-ROM drive

Video Player

1. CPU: Intel® Pentium® 200MHz class or higher
2. Microsoft® Windows® 95/Windows® 98
3. Display capability of 65,536 colors or more
4. CD-ROM drive
5. Minimum RAM requirement: 32MB
6. Minimum hard disk space requirement: 1MB

* The system requirements information is not a guarantee that provided software applications will work on all personal computers meeting those requirements.
* Microsoft®, Windows® are either registered trademarks or trademarks of Microsoft corporation in United States and/or other countries.
* Intel®, Pentium® are registered trademarks of Intel corporation.
* Other trademarks are property of their respective owners.
* If you use Windows® 95 or a personal computer which does not have a USB port, use an optional flash path, conversion card adapter, etc. For details on the operating environment of these devices, contact the dealers or manufacturers.

SOFTW ARE SECTION FOR Macintosh®

Operating Environment

The host computer that runs the Macintosh® operating environment must satisfy the following conditions.

USB Driver

1. USB-compatible computer (iMac™, iBook™, Power Mac™ G3/G4, Power Book™ G3, etc.)
2. Mac OS 8.5.1/Mac OS 8.6/Mac OS 9.0

JVC Video Decoder

1. Power PC 603e/120MHz or faster
2. Mac OS 7.6.1 or later
3. QuickTime 3.0 or later
4. Minimum RAM requirement: 32MB
5. Minimum hard disk space requirement: 1MB

* Macintosh® is a registered trademark of Apple Computer.
* Other trademarks are property of their respective owners.
* If you use Macintosh® which does not have a USB port, use an optional flash path, conversion card adapter, etc. For details on the operating environment of these devices, contact the dealers or manufacturers.

The following table indicate main different features between models GC-QX3U, GC-QX3HDU and GC-QX5HDU.

MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
Shooting Continuous Photos	YES	NO	YES
Collage Mode	YES	NO	YES
6M Pro-Still(Pixel Shift Mode)	YES	NO	YES
DR Pro-Still(Wide Range Mode)	YES	NO	YES
Installing the Film Copying Adapter	NO	NO	YES
Shooting Film(Film Copy Mode)	NO	NO	YES

The following table indicate different parts number between models GC-QX3U, GC-QX3HDU and GC-QX5HDU.

PACKING ASSEMBLY <M1>

REF NO.	ITEM / MODEL	GC-QX3U	GC-QX3HDU	GC-QX5HDU
1	PACKING CASE	LY31465-002A	LY31465-013A	LY32048-002A
2	POLY BAG	LY30023-016A	LY30023-016A	←
3	CUSHION	LY31466-001A	LY31466-001A	←
4	SHEET	LY42548-001A	——	——
5	HOOD(OP)	LY31822-001A	——	——
5A	POLY BAG	QPA01001505	——	——
9	CD-ROM ASSEMBLY	LY31074-007A	LY31133-018A	←
13	FILM COPY ADAP.	——	——	LY20687-001A
14	FILM HOLDER AS	——	——	LY32047-001A
15	CUSHION(ACC)	——	——	LY32050-001A
19	CABLE ASSY(AUDIO/VIDEO)	——	QAM0297-001	←
20	POLY BAG	——	QPA01202505	←
27	MEDIA CARD ASSY	LY31737-001A	←	LY31737-002A
⚠ 31	INST.BOOK(EN)	LYT0543-001C	LYT0668-001C	LYT0668-001A
⚠ 32	INST.BOOK(FR)	LYT0543-002A	LYT0668-002C	LYT0668-002A
⚠ 33	INST.BOOK(SP)	LYT0543-003A	LYT0668-003C	LYT0668-003A

Note : Mark —— is not used.

FINAL ASSEMBLY <M1>

REF NO.	ITEM / MODEL	GC-QX3U	GC-QX3HDU	GC-QX5HDU
103	BOARD HOLDER ASSEMBLY	LY31457-002A	←	LY31457-007B
107C	SHEET	LY42322-001A	——	——
110	TOP COVER ASSEMBLY	LY31460-003A	LY31460-009A	LY31460-008B
111	OPERATION UNIT	LY20521-002C	LY20521-002D	LY20521-007B
113	SPACER(A)	LY30029-016A	——	——
118	MICROPHONE	——	LY31454-001A	←
125	S.SHEET(FFC)	LY42506-001A	——	——
130	SHEET	——	LY42890-001A	←
131	SPACER(A)	——	LY30029-0C2A	←
152	REAR COVER ASSEMBLY	LY20519-003B	LY20519-009A	LY20519-010A
153	FRONT COVER ASSEMBLY	LYH20147-001A	LYH20222-003A	LYH20222-002A
153A	FRONT COVER	LY20516-003A	LY20516-009A	LY20516-008A
153B	GRIP	LY42320-001A	LY31444-001A	←

Note : Mark —— is not used.

OP BLOCK ASSEMBLY <M3>

REF NO.	ITEM / MODEL	GC-QX3U	GC-QX3HDU	GC-QX5HDU
203	OPTICAL BLOCK ASSEMBLY	LY31490-001B	LY31490-004A	←
221	TILT FRAME	*LY20716-001A	←	←

Note : Mark —— is not used.

Note : Mark * is GC-QX3U was also changed.

MAIN BOARD ASSEMBLY <01>

REF NO.	MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
PW1	MAIN BOARD ASSEMBLY	YB10282B-06	YB10299K-03	YB10299U-01

CCD BOARD ASSEMBLY <02>

REF NO.	MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
PW1	CCD BOARD ASSEMBLY	YB10283A1-04	YB10300K1-02	YB10300U1-01

MONI REG BOARD ASSEMBLY <03>

REF NO.	MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
PW4	MONI REG BOARD ASSEMBLY	YB10283A4-04	YB10300K4-02	YB10300U4-01

JACK BOARD ASSEMBLY <04>

REF NO.	MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
PW2	JACK BOARD ASSEMBLY	YB10283A2-04	YB10300K2-02	YB10300U2-01

STROBE BOARD ASSEMBLY <05>

REF NO.	MODEL / ITEM	GC-QX3U	GC-QX3HDU	GC-QX5HDU
PW3	STROBE BOARD ASSEMBLY	YB10283A3-04	YB10300K3-02	YB10300U3-01

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

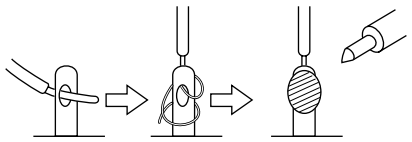


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

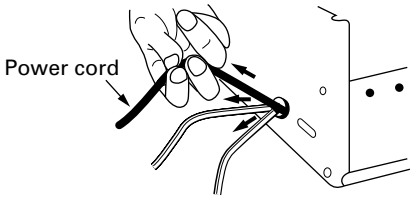


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

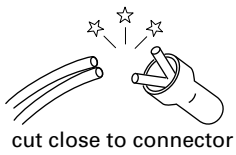


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

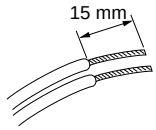


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

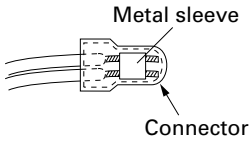


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

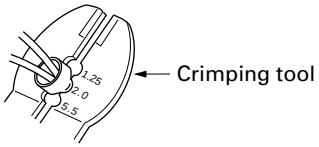


Fig.6

(5) Check the four points noted in Fig.7.

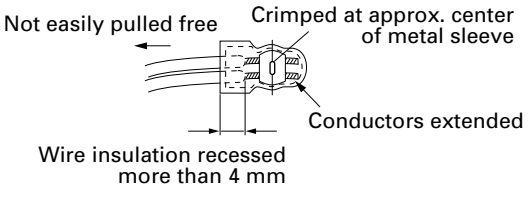


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

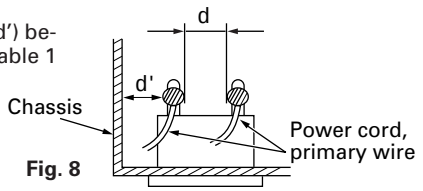


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

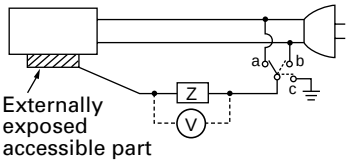


Fig. 9

5. Grounding (Class Ⅰ model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

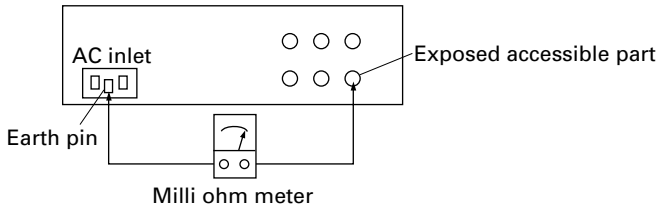


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 µF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

NOTE : *This service manual has indicated only the item different from GC-QX3U No.86564.*

1.3.2 Disassembly method (I)

STEP	PART NAME	FIG. NO.	POINT		NOTE
①	FRONT CASE REAR CASE	Fig 1-3-1		Remove screws 2 (115), 3 (156), 4 (157), 1 (154)	
②	OPERATION UNIT		Remove the Connector ⓡ MAIN CN4001 ⟺ OPERATION UNIT Remove the TOP COVER	Remove screws 3 (116) 2 (115)	Note 1
③	STROBE BOARD ASSEMBLY	Fig 1-3-1	Remove the Connector ⓝ MAIN CN6601 ⟷ STROBE CN6501	Remove screw 1 (114)	Note 1 Note 2
	JACK BOARD ASSEMBLY	Fig 1-3-2	Remove the Connector ⓟ MAIN CN5501 ⟺ JACK CN101 ⓜ LCD MODULE (BL) ⟺ JACK CN701	Remove screws 2 (114) ⓔ (SD3), ⓕ (SD4), ⓖ (SD5)	
④	LCD MODULE		Remove the Connector ⓚ MAIN CN3002 ⟺ LCD MODULE (LCD) Remove from the Frame Assy Remove from the LCD Holder	Remove screws 2 (114)	Note 1 Note 3
⑤	MAIN BOARD ASSEMBLY		Remove the Connector ⓗ MAIN CN501 ⟺ OP UNIT ⓩ MAIN CN2501 ⟷ MIC ⓒ MAIN CN3001 ⟷ MON/REG CN9001 ⓓ MON/REG TL9001 ⟷ Frame Assy	 ⓓ (SD1)	Note 1
	MONI/REG BOARD ASSEMBLY		Remove the PWB HOLDER	Remove screws 2 (114)	Note 1
⑥	OP UNIT	Fig 1-3-3	Remove from the Frame Assy	Remove screws 3 (117)	

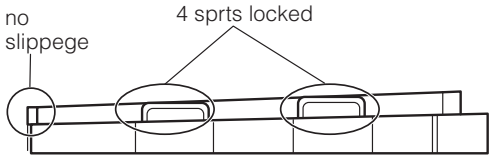
CONNEC-TOR/HL	NO.OF PINS	CONNECTION
ⓒ	80	MAIN Board CN3001 ⟷ MONI/REG Board CN9001
ⓓ	1	MONI/REG Board TL9001 ⟷ MAIN FRAME (RED)
ⓔ	1	JACK Board TP3 ⟷ MAIN FRAME (BROWN)
ⓕ	1	JACK Board TP2 ⟷ MONI/REG Board J9001 (BLACK)
ⓖ	1	JACK Board TP1 ⟷ MONI/REG Board J9002 (RED)
ⓗ	22	MAIN Board CN501 ⟺ OP UNIT
ⓙ	2	MAIN Board CN502 ⟷ OP UNIT
ⓚ	24	MAIN Board CN3002 ⟺ LCD MODULE (LCD)
ⓜ	2	JACK Board CN701 ⟺ LCD MODULE (BL)
ⓝ	14	MAIN Board CN6601 ⟷ STROBE Board CN6501
ⓟ	38	MAIN Board CN5501 ⟺ JACK Board CN101
ⓠ	28	MAIN Board CN2001 ⟷ CCD Board CN1001
ⓡ	12	MAIN Board CN4001 ⟺ OPERATION UNIT
ⓢ	1	STROBE UNIT WIRE (ORANGE) ⟷ STROBE Board J6501 (Through hole)
ⓣ	1	STROBE UNIT WIRE (BROWN) ⟷ STROBE Board J6502 (Through hole)
ⓤ	1	STROBE UNIT WIRE (RED) ⟷ STROBE Board J6503 (Through hole)
ⓥ	1	STROBE UNIT WIRE (BLACK) ⟷ STROBE Board J6504 (Through hole)
ⓦ	1	STROBE UNIT WIRE (Red, Thin wire) ⟷ STROBE Board J6505 (Through hole)
ⓧ	1	STROBE UNIT WIRE (BLACK, Thin wire) ⟷ STROBE Board J6506 (Through hole)
ⓩ	2	MAIN CN2501 ⟷ MIC

Note 1
Destination of connectors.
Note*: Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*

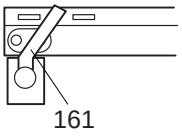
- ⟷ *: Board to Board connector*
- ⟺ *: Flat wire*
- ⟷ *: Wire*

Note 2
Be careful from electric shock hazard because the capacitor (C6512) for the strobe is exposed. Be sure to positively discharge the capacitor if it is energized by short-circuiting a resistor (10 - 22 k) connected at both capacitor terminals. Please be very careful when doing this job.

Note 3
LCD panel is fixed by four hooks of backlight.
Insert LCD panel in a hook firmly.



Note 5
Stick to let it pass between LEDs.Stick to come out on the left of the sheet metal of a video terminal.



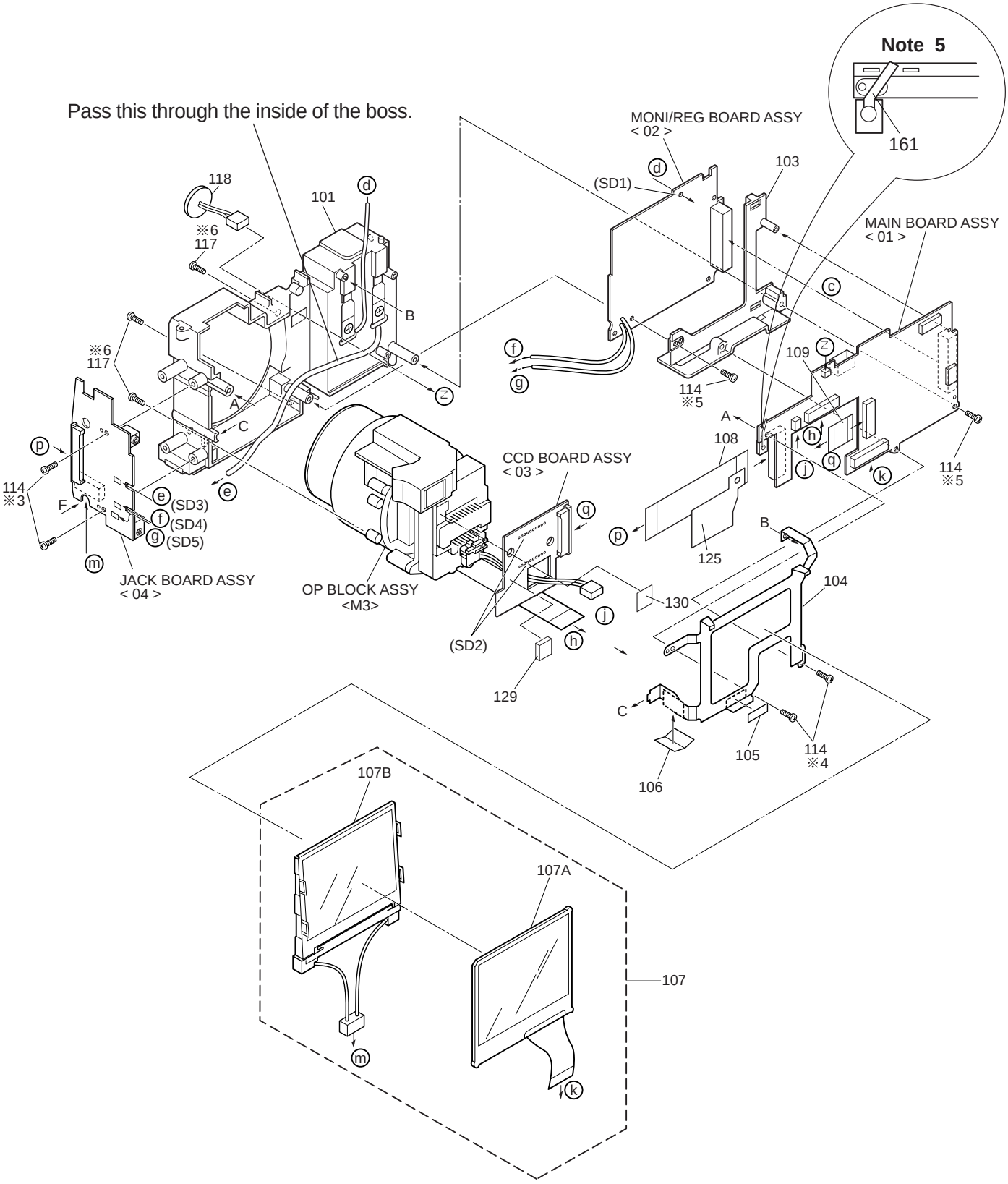

Note 5
161
Pass this through the inside of the boss.
MONI/REG BOARD ASSY
< 02 >
MAIN BOARD ASSY
< 01 >
118
※6
117
101
103
(SD1)
109
114
※5
※6
117
114
※3
(SD3)
(SD4)
(SD5)
JACK BOARD ASSY
< 04 >
OP BLOCK ASSY
<M3>
CCD BOARD ASSY
< 03 >
108
125
130
104
(SD2)
129
105
106
114
※4
107B
107A
107

Fig.1-3-2

SECTION 2
ELECTRICAL ADJUSTMENT

2.1 ELECTRICAL ADJUSTMENT

2.1.1 Precautions

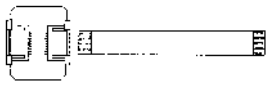
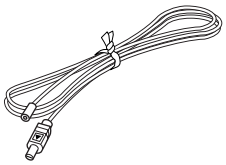
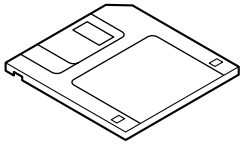
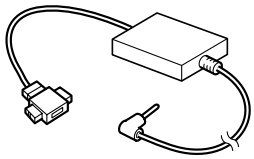
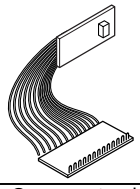
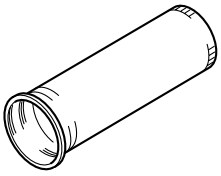
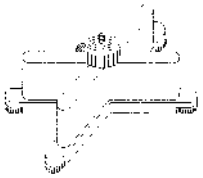
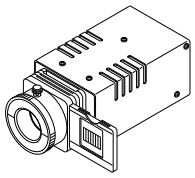
Both the camera section and deck section of this model are designed and manufactured to be adjustment-free. However, if both or either of the following parts is replaced, it needs special adjustment with a personal computer at a JVC service equipment after the part replacement

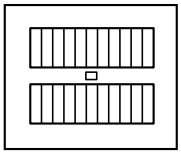
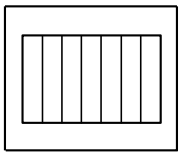
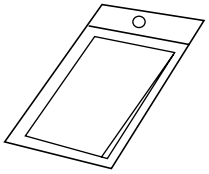
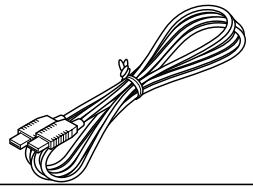
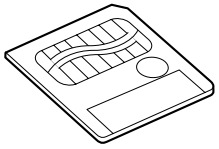
- OP block assembly
- EEPROM (on the MAIN board)

When there is some trouble in the electric circuit, it is required to detect the faulty part with specified test instruments first and then to proceed to repair, replacement and adjustment.

1. When cheking a signal at a chip test point, be sure to use an IC clip or the like not to apply any stress to the test point. When replacing a chip part (IC in particular), completely remove solder chips from it and its periphery before proceeding to part replacement (in order to avoid exfoliation of the pattern).
2. Carefully disconnect/connect connectors because they are apt to get damaged.

2.1.2 Test instruments required for electrical adjustment

1 Patch cord ASSY YTU93105	2 Jig connector cable YTU93104B
	
3 Service support system YTU94057-49	4 PC cable QAM0099-002
	
5 Jig connector cable YTU93106A	6 INF adjustment lens YTU92001B
	
7 Camera stand YTU93079	8 Light box assembly YTU93096A
	

9 Gray scale chart YTU94133A	10 Color bar chart YTU94133C
	
11 Cleaning cloth KSMM-01	12 USB QAM0252-001
	
13 Smart media card 16MB	
	

2.1.3 Required test equipment

1. Color TV monitor.
2. AC power adapter (AA-V37 or equivalent)
3. Oscilloscope (dual-trace type, for more than 20 MHz).
4. Digital voltmeter
5. Frequency counter (with threshold level adjuster)
6. Personal computer

2.1.4 Setup (LCD ADJUSTMENT)

Setup for electrical adjustment with personal computer

Note 1: *As a general rule for adjustment with a personal computer, connect a personal computer to its PRINTER terminal.*

Note 2: *Use DC cord to supply the power.*

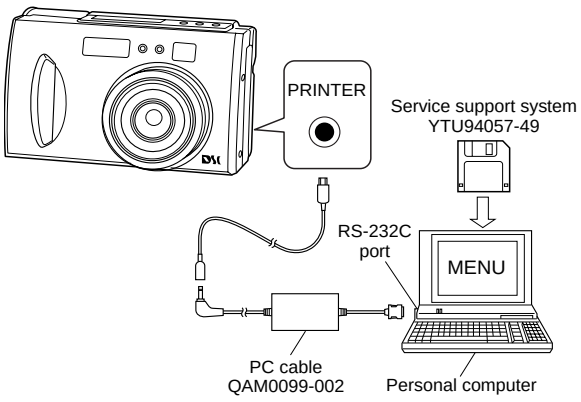


Fig. 2-1-1 Setup for electrical adjustment with personal computer (I)

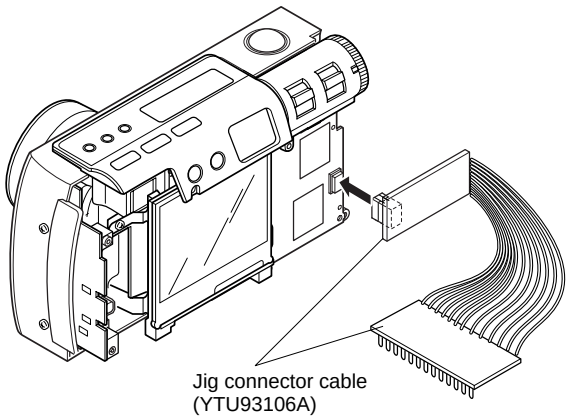


Fig. 2-1-2 Setup for electrical adjustment with personal computer (II)

2.1.5 Setup (CCD ADJUSTMENT)

Setup for electrical adjustment with personal computer

Note 1: *As a general rule for adjustment with a personal computer, connect a personal computer to its DIGITAL terminal.*

Note 2: *Use DC cord to supply the power.*

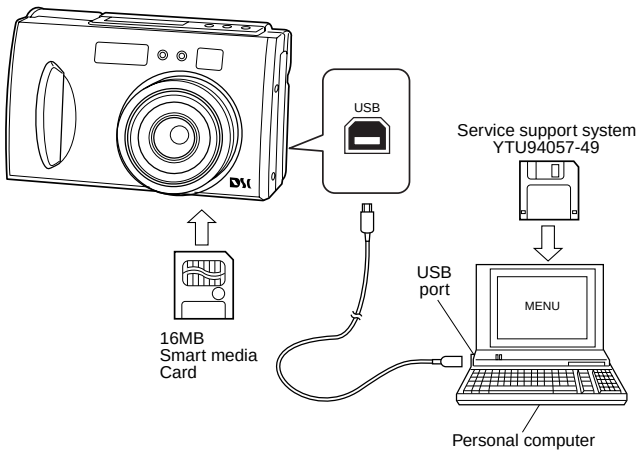


Fig. 2-1-3 Setup for electrical adjustment with personal computer (I)

Pin No.	FUNCTION	Pin No	FUNCTION
1	AL3.3V	16	AL3.3V
2	AL3.3V	17	NC
3	JTAGMODE	18	135TMS
4	135TDI	19	135TDO
5	135nTRST	20	135TCK
6	32RST	21	32DBI
7	32nTRST	22	32TMS
8	32TDO	23	32TDI
9	32TCK	24	NC
10	M_BLUE	25	M_COM
11	RPD	26	M_SIG_C
12	M_PSIG	27	M_RED
13	M_GREEN	28	M_SIG_GND
14	NC	29	GND
15	GND	30	GND

Table 2-1-1 Jig Connector Function

2.2 Setup with patch cords and jig connector cables

Note:

Fig. 2-2-1 shows an example of expansion setup that facilitates inspection of major boards because main components are connected by means of patch cords and jir cables.For proceeding to electrical adjustment in such the setup, disassemble the set at certain level required for the current adjustment objectives referring to the section 1 "DISASSEMBLY" and properly set up the expanded set and test instruments.

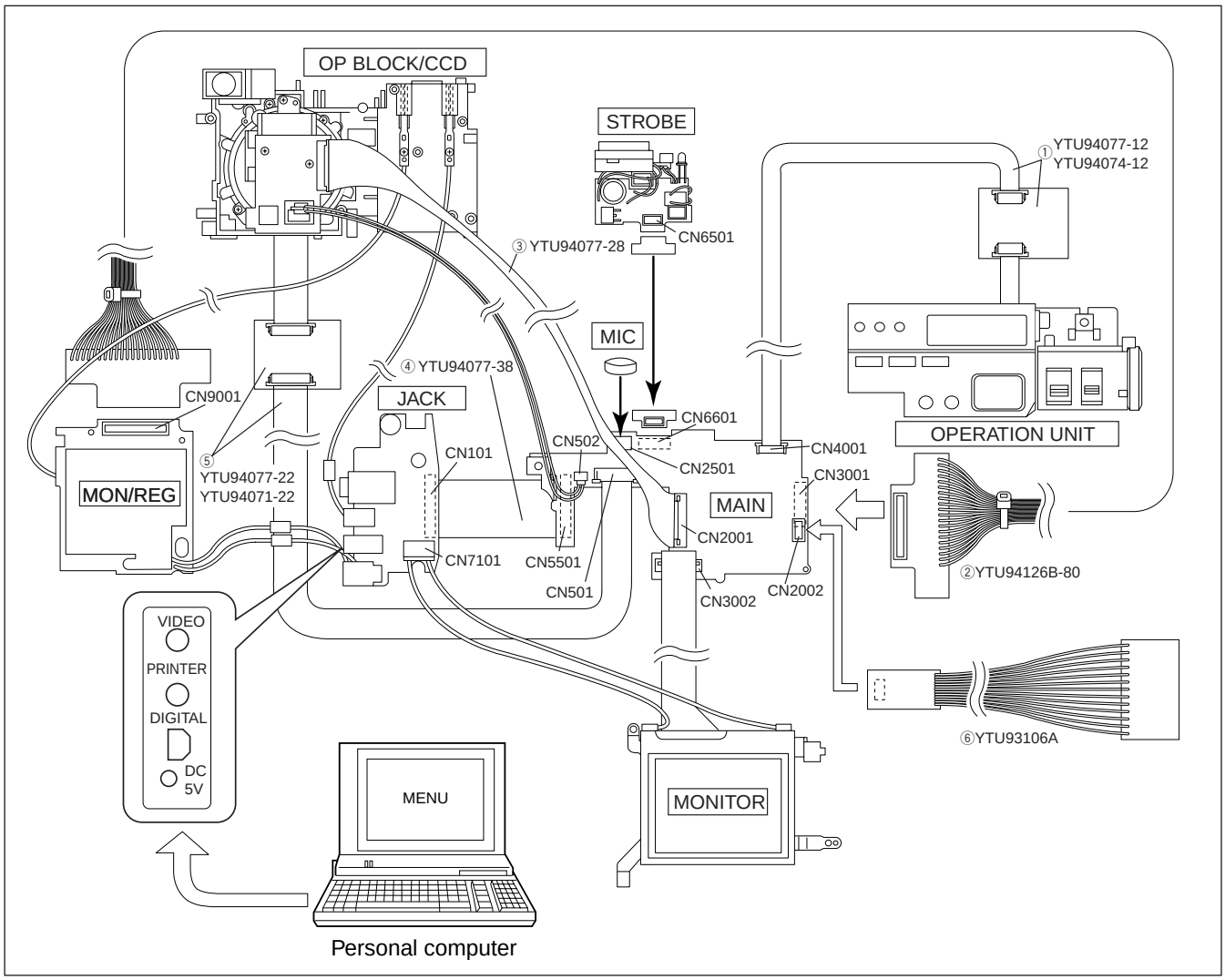


Fig. 2-2-1

	Connection				Pin No.	Parts Number	
①	MAIN CN4001	←→	OPRATION UNIT		12	YTU94077-12	FPC wire
						YTU94074-12	FPC CN.ASSY
②	MAIN CN3001	←→	MON/REG	CN9001	80	YTU94126B-80	B TO B CN.ASSY
③	MAIN CN2001	←→	CCD	CN1001	28	YTU94077-28	FPC wire
④	MAIN CN5501	←→	JACK	CN101	38	YTU94077-38	FPC wire
⑤	MAIN CN501	←→	OPUNIT		22	YTU94077-22	FPC wire
						YTU94074-22	FPC CN.ASSY
⑥	MAIN CN2202	←→			30	YTU93106A	JIG CN.cable

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