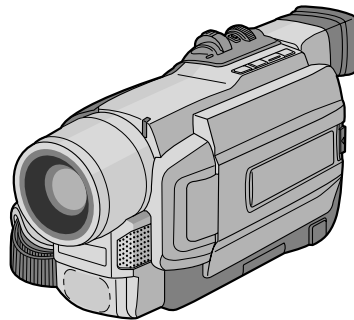


# JVC

## SERVICE MANUAL

### DIGITAL VIDEO CAMERA

# GR-DVL210A/EA, 310A/A-S, 313A, 450A/A-S



Mini **DV** PAL

Regarding service information other than these sections, refer to the GR-DVL150EG service manual (No. 86613) and GR-DVL150EG, DVL450EG (Additional edition) service manual (No. 86613B). Also, be sure to note important safety precautions provided in the service manual.

**SPECIFICATIONS** *(The specifications shown pertain specifically to the model GR-DVL910A, DVL510A, DVL450A, DVL313A, DVL310A, DVL210A, DVL910EA, DVL510EA, DVL210EA)*

Camcorder	
<b>For General</b>	
Power supply	: DC 11.0 V $\equiv$ (Using AC Adapter) DC 7.2 V $\equiv$ (Using battery pack)
Power consumption	
LCD monitor off, viewfinder on	: Approx. 4.3 W
LCD monitor on, viewfinder off	: Approx. 5.3 W
Video light	: Approx. 3.5 W
Dimensions (W x H x D)	: 83 mm x 97 mm x 188 mm (with the LCD monitor closed and the viewfinder pushed down)
Weight	: Approx. 610 g (GR-DVL910A/DVL450A/DVL910EA) Approx. 590 g (GR-DVL510A/DVL313A/DVL310A/DVL210A/DVL510EA/ DVL210EA)
Operating temperature	: 0°C to 40°C
Operating humidity	: 35% to 80%
Storage temperature	: -20°C to 50°C
Pickup	: 1/4" CCD
Lens	: F 1.8, f = 3.6 mm to 36 mm, 10:1 power zoom lens
Filter diameter	: $\phi$ 37 mm
LCD monitor	: 3.5" diagonally measured, LCD panel/TFT active matrix system (GR-DVL910A/DVL450A/DVL910EA) 2.5" diagonally measured, LCD panel/TFT active matrix system (GR-DVL510A/DVL313A/DVL310A/DVL210A/DVL510EA/ DVL210EA)
Viewfinder	: Electronic viewfinder with 0.44" colour LCD (GR-DVL910A/DVL450A/DVL910EA) Electronic viewfinder with 0.24" black/white LCD (GR-DVL510A/DVL313A/DVL310A/DVL210A/DVL510EA/ DVL210EA)
Speaker	: Monaural
<b>For Digital Video Camera</b>	
Format	: DV format (SD mode)
Signal format	: PAL standard
Recording/Playback format	: Video: Digital component recording Audio: PCM digital recording, 32 kHz 4-channel (12-bit), 48 kHz 2-channel (16-bit)
Cassette	: Mini DV cassette
Tape speed	: SP: 18.8 mm/s LP: 12.5 mm/s
Maximum recording time (using 80 min. cassette)	: DC: 80 min. LP: 120 min.
<b>For Digital Still Camera (GR-DVL910A/DVL510A/DVL910EA/DVL510EA only)</b>	
Storage media	: SD Memory Card/MultiMediaCard
Compression system	: JPEG (compatible)

File size	: VGA (640 x 480 pixels)
Picture quality	: 2 modes (FINE/STANDARD)
Approximate number of storable images with memory card [8 MB] (provided)	
FINE	: 100
STANDARD	: 200
with memory card [16 MB] (optional)	
FINE	: 200
STANDARD	: 400
with memory card [32 MB] (optional)	
FINE	: 400
STANDARD	: 800
with memory card [64 MB] (optional)	
FINE	: 800
STANDARD	: 1600

#### For Connectors

<b>S-Video</b>	
Output	: Y : 1 V (p-p), 75 $\Omega$ , analogue C : 0.29 V (p-p), 75 $\Omega$ , analogue
Input (GR-DVL910A/DVL510A/ DVL910EA/DVL510EA only)	: Y : 0.8 V (p-p) - 1.2 V (p-p), 75 $\Omega$ , analogue C : 0.2 V (p-p) - 0.4 V (p-p), 75 $\Omega$ , analogue
<b>AV</b>	
Video output	: 1 V (p-p), 75 $\Omega$ , analogue
Video input (GR-DVL910A/DVL510A/DVL910EA/DVL510EA only)	: 0.8 V (p-p) - 1.2 V (p-p), 75 $\Omega$ , analogue
Audio output	: 300 mV (rms), 1 k $\Omega$ , analogue, stereo
Audio input (GR-DVL910A/DVL510A/DVL910EA/DVL510EA only)	: 300 mV (rms), 50 k $\Omega$ , analogue, stereo
<b>DV</b>	
Output	: 4-pin, IEEE 1394 compliant
Input	: 4-pin, IEEE 1394 compliant
USB (GR-DVL910A/DVL510A/DVL910EA/DVL510EA only)	: 5-pin
<b>PC (DIGITAL PHOTO)</b> (GR-DVL450A/DVL313A/DVL310A/DVL210A/DVL210EA only)	
	: $\phi$ 2.5 mm, 3-pole
<b>EDIT (GR-DVL910A/DVL510A/DVL910EA/DVL510EA only)</b>	
	: $\phi$ 3.5 mm, 2-pole
<b>JLIP (GR-DVL450A/DVL313A/DVL310A/DVL210A/DVL210EA only)</b>	
	: $\phi$ 3.5 mm, 4-pole

#### AC Adapter AP-V10A or AP-V10EA

Power requirement	: AC 110 V to 240 V $\sim$ , 50 Hz/60 Hz
Output	: DC 11 V $\equiv$ , 1 A
Dimensions (W x H x D)	: 59 mm x 31 mm x 84 mm
Weight	: Approx. 140 g (not including Power Cord)

Specifications shown are for SP mode unless otherwise indicated. E & O.E. Design and specifications subject to change without notice.

# TABLE OF CONTENTS

**DIFFERENT TABLE** ..... 1, 2

**5. PARTS LIST (5-1 to 5-2)**

5.1 **PACKING AND ACCESSORY ASSEMBLY <M1>** ..... 5-1

The following table indicate main different points between models GR-DVL150EG, GR-DVL210A and GR-DVL210EA.

ITEM \ MODEL	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
DIGITAL ZOOM	4X/30X	4X/50X	←
TOTAL ZOOM RATIO	300X	500X	←
AC ADAPTER	AP-V10EG	AP-V10A	AP-V10EA
REMOTE CONTROL UNIT	RM-V716U	RM-V717U	←

The following table indicate main different points between models GR-DVL150EG(Additional edition), GR-DVL310A, GR-DVL310A-S, GR-DVL313A, GR-DVL450EG(Additional edition), GR-DVL450A and GR-DVL450A-S.

ITEM \ MODEL	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
DIGITAL ZOOM	4X/30X	4X/50X	←	4X/60X	4X/30X	4X/50X	←
TOTAL ZOOM RATIO	300X	500X	←	←	300X	500X	←
AC ADAPTER	AP-V10EG	AP-V10A	AP-V10A-S	AP-V10A	AP-V10EG	AP-V10A	AP-V10A-S
REMOTE CONTROL UNIT	RM-V716U	RM-V717U	←	←	RM-V716U	RM-V717U	←

The following table indicate different parts number between models GR-DVL150EG, GR-DVL210A, and GR-DVL210EA.

**PACKING AND ACCESSORY ASSEMBLY <M1>** Note: As for IB (INSTRUCTIONS), refer to sec.5.

REF. NO \ MODEL	ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
1	PACKING CASE	LY32095-003A	LY32095-018B	LY32095-003A
4	POLY BAG	QPA02003006	QPA02003506	QPA02003006
7	SHEET(AGREMENT)	—	—	LYT0378-003A
9	WARRANTY CARD	BT-54013-2	—	BT-56001-2
10	SHEET(CON.PLUG)	—	LYT0609-001A	—
△ 12	AC ADAPTER	LY20688-013A	LY20688-003A	LY20688-007A
19	SER.NET CARD	—	—	BT-56002-2
△ 21	CONVERSION PLUG	—	PEMC1012-02	—
△ 25	POWER CORD	QMPL120-190-JR	←	QMPH020-190-JR
26	ADAPTER PLUG	QAM0302-001	—	—

## FINAL ASSEMBLY <M2>

REF. NO \ MODEL	ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
107	COVER (AJUST)	LY32092-013A	LY32092-008A	←
115	UPPER CASE(2.5)ASSY	LY20707-003B	LY20707-009A	←
△ 130	FRONT COVER ASSY	LY20711-003A	LY20711-006A	←
130A	HOOD	LY32111-002A	LY32111-005A	←
136	STICKER(TOP)	LY43093-003A	LY43093-001A	←
137	STICKER(SIDE)	LY43094-002A	LY43094-001A	←

## ELECTRONIC VIEWFINDER ASSEMBLY <M4>

REF. NO \ MODEL	ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
300	VF ASSY	LY20744-002B	LY20744-003A	LY20744-002B
314	LABEL(VF)	LY43041-002A	—	—

## MONITOR ASSEMBLY <M5>

REF. NO \ MODEL	ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
△ 500	MONITOR ASSY	LYH20246-008B	LYH20246-008A	LYH20246-008B

Notes : Mark — is not used.  
 Mark ← is same as left.

**MAIN BOARD ASSEMBLY <01>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
PW	MAIN BOARD ASSY	YB10313PA-03	YB10313PA-04	←
C1008	CAPACITOR	NCBA1CK-103W	—	—
C1013	CAPACITOR	NCBA1CK-103W	—	—
C1018	CAPACITOR	NCBA1CK-103W	—	—
C1024	CAPACITOR	NDCA1HJ-100W	—	—
C1025	CAPACITOR	NDCA1HJ-100W	—	—
X1001	C OSCILLATOR	NAX0424-001X	NAX0474-001X	←

**JACK BOARD ASSEMBLY <06>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL210A	GR-DVL210EA
PW1	JACK BOARD ASSY	YB10314A1-01	YB10314A1-02	←
OT2	SPACER-B,X2	—	LY30017-023A	←

The following table indicate different parts number between models GR-DVL150EG(Additional edition), GR-DVL310A, GR-DVL310A-S, GR-DVL313A, GR-DVL450EG(Additional edition), GR-DVL450A and GR-DVL450A-S.

**PACKING AND ACCESSORY ASSEMBLY <M1> Note: As for IB (INSTRUCTIONS), refer to sec.5.**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
1	PACKING CASE	LY32095-003A	LY32095-011B	←	←	LY32095-002A	LY32095-019B	←
4	POLY BAG	QPA02003006	QPA02003506	←	←	QPA02003006	QPA02003506	←
7	SHEET(AGREMENT)	—	LYT0378-003A	←	←	LYT0378-003A	←	←
9	WARRANTY CARD	BT-54013-2	—	—	—	BT-54013-2	—	—
10	SHEET(CON.PLUG)	—	LYT0609-001A	←	←	—	LYT0609-001A	←
11	CD ROM	—	LY32210-002A	←	LY32210-002B	LY32210-002B	LY32210-002A	←
△ 12	AC ADAPTER	LY20688-013A	LY20688-003A	LY20688-014A	LY20688-003A	LY20688-013A	LY20688-003A	LY20688-014A
△ 21	CONVERSION PLUG	—	PEMC1012-02	PEMC1012	PEMC1012-02	—	PEMC1012-02	PEMC1012
23	CABLE ASSY	PEAC0428-150	QAM0214-001	←	←	QAM0214-001	←	←
△ 25	POWER CORD	QMPL120-190-JR	←	QMPS110-190-JR	QMPL120-190-JR	QMPL120-190-JR	←	QMPS110-190-JR
26	ADAPTER PLUG	QAM0302-001	—	—	—	QAM0302-001	—	—
28	CORE FILTER	QQR0918-002	—	—	—	—	—	—
31	PC CABLE	—	QAM0084-001	←	←	QAM0084-001	←	←
32	CORE FILTER	—	QQR0918-002	QQR0491-002	←	QQR0491-002	←	←

**FINAL ASSEMBLY <M2>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
107	COVER (AJUST)	LY32092-013A	LY32092-007A	←	LY32092-030A	LY32092-013A	LY32092-015A	←
115	UPPER CASE ASSY	LY20707-003C	LY20707-009B	←	←	LY20717-003C	LY20717-009B	←
△ 130	FRONT COVER ASSY	LY20711-003A	LY20711-006A	←	LY20711-007A	LY20711-003A	LY20711-006A	←
130A	HOOD	LY32111-002A	LY32111-005A	←	LY32111-006A	LY32111-002A	LY32111-005A	←
136	STICKER(TOP)	LY43093-003A	LY43093-008A	←	←	LY43093-011A	LY43093-008A	←
137	STICKER(SIDE)	LY43094-002A	LY43094-001A	←	←	LY43094-002A	LY43094-001A	←
196	BRACKET(OP)ASSY	LY42846-001C	←	←	LY42846-001A	LY42846-001C	←	←

**ELECTRONIC VIEWFINDER ASSEMBLY <M4>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
300	VF ASSY	LY20744-002B	←	←	←	LY20712-002B	LY20712-004A	←
314	LABEL(VF)	LY43041-002A	—	—	—	LY43041-002A	—	—

**MONITOR ASSEMBLY <M5>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
△ 500	MONITOR ASSY	LYH20246-008B	←	←	←	LYH20246-012A	LYH20246-025A	←

**MAIN BOARD ASSEMBLY <01>**

△ REF. NO	MODEL ITEM	GR-DVL150EG	GR-DVL310A	GR-DVL310A-S	GR-DVL313A	GR-DVL450EG	GR-DVL450A	GR-DVL450A-S
R3323	MG RESISTOR	NRSA6AJ-823W	NRSA6AJ-473W	←	←	NRSA6AJ-823W	NRSA6AJ-473W	←

Notes : Mark — is not used.  
Mark ← is same as left.



**JVC**

VICTOR COMPANY OF JAPAN, LIMITED  
VIDEO DIVISION

S40894

