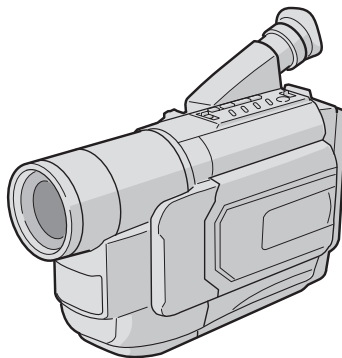


# JVC

## SERVICE MANUAL

### COMPACT VHS CAMCORDER

# GR-FX12A,FX120A,FX220A/A-S



**S-VHS** VHS  
625 PAL  
**Super VHS**  
**Super VHS ET**

Regarding service information other than these sections, refer to the GR-FX12EG service manual (No.86590). Also, be sure to note important safety precautions provided in the service manual.

## SPECIFICATIONS

Camcorder	
<b>General</b>	
<b>Format</b>	: S-VHS (GR-SXM470A/ SXM27EA/SX22EA only)/ VHS PAL standard
<b>Power source</b>	: DC 11 V $\text{---}$ (Using AC Adapter) DC 6 V $\text{---}$ (Using battery pack)
<b>Power consumption</b>	
<b>Viewfinder on</b>	: 4.0 W (GR-SXM470A/ FXM270A/FXM170A/FXM17A/ SXM27EA only) 3.7 W (GR-FX220A/FX120A/ FX12A/SX22EA only)
<b>LCD monitor* on</b>	: 4.5 W (GR-SXM470A/ FXM270A/FXM170A/FXM17A/ SXM27EA only)
<b>Video light**</b>	: 3.0 W
* Models equipped with LCD monitor only.	
** GR-SXM470A/FXM270A/FX220A/SXM27EA/SX22EA only.	
<b>Signal system</b>	: PAL-type
<b>Video recording system</b>	
<b>Luminance</b>	: FM recording
<b>Colour</b>	: Converted sub-carrier direct recording Conforms to VHS standard
<b>Cassette</b>	: <b>S-VHS</b> / <b>VHS</b> cassette
<b>Tape speed</b>	
<b>SP</b>	: 23.39 mm/sec.
<b>LP</b>	: 11.70 mm/sec.
<b>Recording time (max.)</b>	
<b>SP</b>	: 60 minutes
<b>LP</b>	: 120 minutes (with EC-60 cassette)
<b>Operating temperature</b>	: 0°C to 40°C
<b>Operating humidity</b>	: 35% to 80%
<b>Storage temperature</b>	: -20°C to 50°C

<b>Weight</b>	: Approx. 910 g (GR-SXM470A only) Approx. 900 g (GR-FXM270A/FXM170A/ FXM17A/SXM27EA only) Approx. 730 g (GR-FX220A/SX22EA only) Approx. 720 g (GR-FX120A/FX12A only)
<b>Dimensions</b> (W x H x D)	: 200 mm x 112 mm x 118 mm (GR-SXM470A/FXM270A/ FXM170A/FXM17A/SXM27EA only) 200 mm x 112 mm x 115 mm (GR-FX220A/FX120A/FX12A/ SX22EA only) (with the LCD monitor* closed and with the viewfinder full tilted downward)
* Models equipped with LCD monitor only.	
<b>Pickup</b>	: 1/4" format CCD
<b>Lens</b>	: F1.6, f = 3.9 mm to 62.4 mm, 16:1 power zoom lens with auto iris and macro control, filter diameter 40.5 mm
<b>Viewfinder</b>	: Electronic viewfinder with 0.5" black/white CRT
<b>White balance adjustment</b>	: Auto/Manual adjustment
<b>LCD monitor</b> (models equipped with LCD monitor only)	: 3" diagonally measured, LCD panel/TFT active matrix system (GR-SXM470A only) 2.5" diagonally measured, LCD panel/TFT active matrix system (GR-FXM270A/FXM170A/ FXM17A/SXM27EA only)
<b>Speaker</b> (models equipped with LCD monitor only)	: Monaural
<b>Connectors</b>	
JLIP/EDIT	: $\phi$ 3.5 mm, 4-pole, mini-head jack (compatible with RC-5325 plug)

<b>Video</b>	: 1 V (p-p), 75 $\Omega$ unbalanced, analogue output (via Video output connector)
<b>Audio</b>	: 300 mV (rms), 1 k $\Omega$ analogue output (via Audio output connector)
<b>S-Video</b> (GR-SXM470A/ SXM27EA/SX22EA only)	: <b>Y</b> : 1 V (p-p), 75 $\Omega$ , analogue output <b>C</b> : 0.29 V (p-p), 75 $\Omega$ , analogue output

AC Adapter AP-V10A/AS/EA	
<b>Power requirement</b>	: AC 110 V to 240 V $\sim$ , 50 Hz/60 Hz
<b>Output</b>	: DC 11 V $\text{---}$ , 1 A
<b>Dimensions</b> (W x H x D)	: 59 mm x 31 mm x 84 mm
<b>Weight</b>	: Approx. 140 g (not including Power Cord)

### Optional Accessories

- Battery Packs BN-V12U, BN-V20U, BN-V400U
- Compact S-VHS (**S-VHS**) Cassettes SE-C45/30
- Compact VHS (**VHS**) Cassettes EC-60/45/30
- Remote Control Unit RM-V700U
- Active Carrying Bag CB-V7U
- Cassette Adapter C-P7U

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

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 to 2

## 5. PARTS LIST

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

The following table indicate main different points between models GR-FX12EG,GR-FX12A,GR-FX120A,GR-FX220A and GR-FX220A-S.

ITEM	MODEL					
	GR-FX12EG	GR-FX12A	GR-FX120A	GR-FX220A	GR-FX220A-S	
VIDEO LIGHT	NOT USE	←	←	USED	←	
BODY COLOR	MOLD BLACK	←	←	SILVER	←	
SNAP SHOT	NOT USE	←	←	USED (only FULL)	←	
NIGHT SCOPE	NOT USE	←	←	USED	←	
LIGHT SW	NOT USE	←	←	USED	←	
5 SEC REC SW	USED	←	←	NOT USE	←	
AC ADAPTER	AP-V10EG	AP-V10A	←	←	AP-V10A-S	
AC CORD	CEE TYPE	←	←	←	SASO TYPE	
CASSETTE ADAPTER	NOT USE	←	USED	←	←	
CONVERSION PLUG	NOT USE	USED (CEE→SASO)	←	←	USED (SASO→CEE)	

Note: Mark ← is same as left.

The following table indicate different parts number between models GR-FX12EG,GR-FX12A,GR-FX120A,GR-FX220A and GR-FX220A-S.  
PACKING AND ACCESSORY ASSEMBLY <M1> Note: As for IB (INSTRUCTIONS), refer to sec. 5.

REF NO.	ITEM	MODEL				
		GR-FX12EG	GR-FX12A	GR-FX120A	GR-FX220A	GR-FX220A-S
1	PACKING CASE	LY32179-001A	LY32054-093A	LY32054-073A	LY32054-079A	LY32054-028A
7	WARRANTY CARD	BT-54013-1	—	—	—	—
△ 9	POWER CORD	QMPL120-190-JR	←	←	←	QMPS110-190-JR
△ 10	AC ADAPTER	LY20688-001B	LY20688-003A	←	←	LYT20688-004A
17	BATTERY	—	—	R6P TYPE	←	←
19	CONNECTOR	PEMC1174	—	—	—	—
21	CASSETTE ADAPTER ASSY	—	—	YQ31963A-3	←	←
△ 22	CONVERSION PLUG (CEE→SASO)	—	PEMC1012-02	←	←	—
△ 23	CONVERSION PLUG (SASO→CEE)	—	—	—	—	PEMC1012
24	SHEET(CON.PLUG)	—	LYT0609-001A	←	←	←

## FINAL ASSEMBLY <M2>

REF NO.	ITEM	MODEL				
		GR-FX12EG	GR-FX12A	GR-FX120A	GR-FX220A	GR-FX220A-S
101	LOWER CASE ASSY	LY20684-001B	←	←	LY20684-002A	←
104	FRONT COVER ASSY	LY20683-002B	LY20683-006B	←	LY20683-007B	←
104E	DC LIGHT	—	—	—	LY32040-001A	←
	COVER(LIGHT)	LY30934-015A	LY30934-017A	←	—	—
104F	SPACER(A)	—	—	—	LY30029-0B4A	←
△104H	CAUTION LABEL	—	—	—	YQ44341-6	←
105	C.COVER(S) ASSY	* LY20680-002B	←	←	LY20680-008B	←
106	UPPER CASE(S)	LY10272-003A	←	LY10272-009A	LY10272-010A	←
107	STICKER(A)	LY32058-001A	←	←	LY32058-002A	←
108	STICKER(C)	LY32060-001A	←	←	LY32060-002A	←
109	TOP OPE UNIT	LY20614-004B	←	←	LY20614-002B	←
114	STICKER(D)	LY32061-003A	←	←	LY32061-001A	←
130	FRAME ASSY	LY20678-002A	←	←	LY20678-001A	←
130E	CONTACT(LIGHT)	—	—	—	YQ43810-1-1	←
130F	E-SI C WIRE C-F	—	—	—	WJM0167-001A	←
136	SCREW	* LY42981-001A	←	←	←	←

Note: Mark - is not used. Mark ← is same as left. Mark \* reference model was also changed.

**MAIN BOARD ASSEMBLY <01>**

REF NO.	ITEM	MODEL				
		GR-FX12EG	GR-FX12A	GR-FX120A	GR-FX220A	GR-FX220A-S
PW	MAIN BOARD ASSEMBLY	* YB10310EF-02	YB10310ER-02	←	YB10310EJ-02	←
CN4	W TO B CONNECTOR	QGA1201F2-02X	←	←	QGA1201F2-06X	←
IC4002	IC	---	---	---	TMS4C2973-28-X	←
C4040	C CAPCITOR	---	---	---	NCB21CK-105X	←
R5203	MG RESISTOR	---	---	---	NRSA63J-0R0X	←
R5204	MG RESISTOR	NRSA63J-0R0X	←	←	---	---
Q6306	MOS FET	---	---	---	SSM3K02F-X	←
D6616	Z DIODE	UDZS8.2B-X	←	←	UDZ5.1(B)-X	←
R6307	MG RESISTOR	---	---	---	NRSA63J-104X	←
R6616	MG RESISTOR	NRSA63J-102X	←	←	NRSA63J-222X	←
C6307	E CAPACITOR	---	---	---	NEA71CM-106X	←
L6306	INDUCTOR	---	---	---	NQL52EM-470X	←

**CCD BOARD ASSEMBLY <02>**

REF NO.	ITEM	MODEL				
		GR-FX12EG-X	GR-FX12A	GR-FX120A	GR-FX220A	GR-FX220A-S
PW	CCD BOARD ASSEMBLY	YB20899A-01	←	←	YB20899D-01	←
R5304	MG RESISTOR	NRSA02J-105X	←	←	---	---
C5303	C CAPACITOR	NCB21HK-102X	←	←	NCB21HK-222X	←

Note: Mark - is not used. Mark ← is same as left. Mark \* reference model was also changed.



**JVC**

VICTOR COMPANY OF JAPAN, LIMITED  
VIDEO DIVISION

S40894