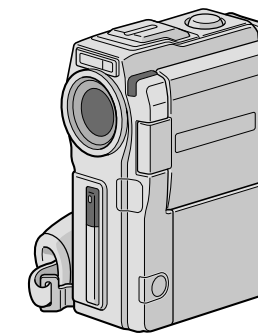


JVC

SERVICE MANUAL

DIGITAL VIDEO CAMERA

GR-DVM80UM/90UM



Mini DV NTSC
DSC
DIGITAL
STILL CAMERA

(AUDINAC KIT)

Regarding service information other than these sections, refer to the GR-DVM90U service manual (No. 86565). Also, be sure to note important safety precautions provided in the service manual.

SPECIFICATIONS *(The specifications shown pertain specifically to the model GR-DVM90UM)*

Camcorder

For General	
Power supply	: DC 6.3 V (Using AC Power Adapter/Charger) DC 7.2 V (Using battery pack)
Power consumption	: Approx. 4.6 W LCD monitor off, viewfinder on LCD monitor on, viewfinder off
Dimensions (W x H x D)	: 51 mm x 125 mm x 97 mm (2-1/16" x 4-15/16" x 3-7/8") (with the LCD monitor closed and the viewfinder pushed back in)
Weight	: Approx. 510 g (1.2 lbs) (without cassette, MultiMediaCard and battery) Approx. 585 g (1.3 lbs) (incl. cassette, MultiMediaCard and battery)
Operating temperature	: 0°C to 40°C (32°F to 104°F)
Operating humidity	: 35% to 80%
Storage temperature	: -20°C to 50°C (-4°F to 122°F)
Pickup	: 1/4" CCD (Progressive Scan)
Lens	: F 1.8, f = 3.8 mm to 38 mm, 10:1 power zoom lens
Filter diameter	: ø27 mm
LCD monitor	: 2.5" diagonally measured, LCD panel/TFT active matrix system
Viewfinder	: Electronic viewfinder with 0.55" color LCD
Speaker	: Monaural
For Digital Video Camera	
Format	: DV format (SD mode)
Signal format	: NTSC 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)	: SP: 80 min. LP: 120 min.
For Digital Still Camera	
Storage media	: MultiMediaCard
Compression system	: JPEG (compatible)
File size	: 2 modes (XGA: 1024 x 768 pixels/VGA: 640 x 480 pixels)
Picture quality	: 2 modes (FINE/STANDARD)
Approximate number of storable images (with the provided MultiMediaCard [8 MB], with Sound Effects pre-stored)	
FINE	: 46 (VGA), 21 (XGA)
STANDARD	: 133 (VGA), 64 (XGA)

(with an optional MultiMediaCard [4 MB])	
FINE	: 26 (VGA), 12 (XGA)
STANDARD	: 76 (VGA), 36 (XGA)
(with an optional MultiMediaCard [8 MB])	
FINE	: 54 (VGA), 24 (XGA)
STANDARD	: 155 (VGA), 75 (XGA)

For Connectors	
Video output	: 1 V (p-p), 75 Ω, analog
Audio output	: 300 mV (rms), 1 kΩ, analog, stereo
DV Input/output	: 4-pin, IEEE 1394 compliant
Headphone output	: ø3.5 mm, stereo

AC Power Adapter/Charger AA-V51EN

Power requirement	
U.S.A. and Canada	: AC 120 V~, 60 Hz
Other countries	: AC 110 V to 240 V~, 50 Hz/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 7.2 V, 0.77 A
VTR	: DC 6.3 V, 1.8 A
Dimensions (W x H x D)	: 68 mm x 45 mm x 110 mm (2-11/16" x 1-13/16" x 4-3/8")
Weight	: Approx. 254.5 g (0.57 lbs)

Docking Station

For General	
Dimensions (W x H x D)	: 55 mm x 36 mm x 107 mm (2-3/16" x 1-7/16" x 4-1/4")
Weight	: Approx. 89.9 g (0.2 lbs)

For Connectors	
S-Video	: Y: 1 V (p-p), 75 Ω, analog output C: 0.29 V (p-p), 75 Ω, analog output
Video	: 1 V (p-p), 75 Ω, analog output
Audio	: 300 mV (rms), 1 kΩ, analog output
JLIP/EDIT	: ø3.5 mm, 4-pole, mini-head jack (compatible with RC-5325 plug)
PC	: ø2.5 mm, 3-pole
External microphone input	: 506 μV (rms), high impedance unbalanced with ø3.5 mm (stereo)
PRINTER	: For an optional video printer equipped with a PRINT DATA connector

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

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

Printed in Japan

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November 2000

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The following table indicate main different points between models GR-DVM90U, DVM90UM and GR-DVM80UM.

ITEM \ MODEL	GR-DVM90U	GR-DVM90UM	GR-DVM80UM
AC ADAPTER CHARGER	AA-V51U	AA-V51EN	←
A/V RCA CABLE	Optional	Provided	←
S CABLE, S-VIDEO CABLE	Optional	Provided	←
DOCKING STATION	CU-V502U	←	CU-V503U
STROBE	Used	←	Not used
DSC	Used	←	Not used
MULTIMEDIA CARD	Used	←	Not used

Note: Mark ← is same as left.

The following table indicate different parts number between models GR-DVM90U, DVM90UM and GR-DVM80UM.

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

REF. NO.	ITEM \ MODEL	GR-DVM90U	GR-DVM90UM	GR-DVM80UM
1	PACKING CASE	LY31717-001A	-	-
△ 5	AC ADAPTER CHARGER	LY20603-001B	LY20603-012A	←
△ 6	DOCKING STATION	LY20590-001A	←	LY20590-003A
8	CD ROM	* LY31133-013A	LY31133-013B	LY31133-015A
9	MULTIMEDIA CARD	QAM0262-002	←	-
29	WARRANTY INF.	BT-51005-4	-	-
34	REGIST. CARD	BT-51020-2	-	-
35	SHEET (ATT.)	LYT0584-007A	-	-
36	MINI DV TAPE	Not used	Used	←
37	A/V RCA CABLE	-	YQ31953A	←
38	S CABLE, S-VIDEO CABLE	-	QAM0004-004	←
39	CORE FILTER, X2	-	QQR0918-002	←

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

FINAL ASSEMBLY <M2>

REF. NO.	ITEM	MODEL	GR-DVM90U	GR-DVM90UM	GR-DVM80UM
△ 101	LOWER CASE ASSY		LY20576-001B	←	LY20576-003B
106	ARM ASSY		* LY20601-001A	LY20601-001B	←
114	ZOOM UNIT		* LY31680-001A	LY31680-001B	LY31680-002B
115	MICROPHONE		* LY31671-001A	LY31671-001B	←
121	CASS.COVER ASSY		LY20602-001A	←	LY20602-003A
121A	PLATE (HINGE)		LY31675-001A	←	-
121B	BRACKET (HINGE)		LY42261-001A	←	-
121C	SHAFT (C)		LY30014-009A	←	-
121E	COVER (C.C)		LY20599-001A	←	LY20599-002A
123	GRIP BELT		* LY31745-001A	LY31745-001B	←
134	SUB OPE ASSY		LY31684-001A	←	-
135	CAMERA OPE UNIT		LY20600-001A	←	LY20600-003A
140	SPACER (A)		* LY30029-054B	LY30029-0B7A	←
141	SHEET		-	-	LY42406-001A
146	FRONT COVER ASSY		LY20581-001D	←	LY20581-003D
146C	WINDOW(STB)		LY42278-001A	←	-
147	FRONT COVER 2		* LY31761-002A	LY31761-002B	←
151	HOOD ASSY		* LY31767-001A	LY31767-001B	←
152	HOOK		* LY31691-001A	LY31691-001B	←
168	SPECIAL SCREW		* LY30018-008A	LY30018-0B9A	←
176	SPECIAL SCREW		LY30018-060A	←	-
197	SPECIAL SCREW, X5		LY30018-070A	←	LY30018-049A
204	SCREW, X2		* QYSPSPT1730R	QYSPSPT1735R	←
205	SPECIAL SCREW		* LY30018-060A	LY30018-0B7A	←
206	SPECIAL SCREW		* LY30018-060A	LY30018-0B7A	←
223	BASE (T.P.)		* LY31693-001A	LY31693-001B	←
225	BRACKET (BASE)2		* LY42291-001A	LY42291-001B	←
228	HEAT TAPE		* LY42756-001A	LY42756-001B	←

ELECTRONIC VIEWFINDER ASSEMBLY <M4>

REF. NO.	ITEM	MODEL	GR-DVM90U	GR-DVM90UM	GR-DVM80UM
300	VF UNIT		* LY31749-001A	LY31749-001C	←

MONITOR ASSEMBLY <M5>

REF. NO.	ITEM	MODEL	GR-DVM90U	GR-DVM90UM	GR-DVM80UM
△ 500	MONITOR ASSY		* LYH20164-001B	LYH20164-001C	LYH20164-002C
△ 504	MONITOR COVER ASSY		LY20585-001A	←	LY20585-003A
504C	SPECIAL SCREW, X2		* QYSPSPT1720R	LY30018-057A	←
520	SPACER(A)		* -	LY30029-0A1A	←

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

MAIN BOARD ASSEMBLY <01>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
PW	MAIN BOARD ASSY		* YB10284B-02	YB10284B-07	YB10284C-05

MDA BOARD ASSEMBLY <02>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
R4850	MG RESISTOR		* NRSA6AJ-104W	-	-

CCD BOARD ASSEMBLY <03>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
WR1	E-SH C WIRE C-F		* WJR0017-001A	WJR0017-001C	←

MONITOR BOARD ASSEMBLY <04>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
PW	MONITOR BOARD ASSY		* YB10289A-01	YB10289A-04	←

MMC BOARD ASSEMBLY <06>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
PW3	MMC BOARD ASSY		* YB10288A3	YB10288A3-01	YB10288B3-01

STROBE BOARD ASSEMBLY <07>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
PW	STROBE BOARD ASSY		YB10249C	←	-

AUDIO VF BOARD ASSEMBLY <08>

REF. NO.	MODEL		GR-DVM90U	GR-DVM90UM	GR-DVM80UM
	ITEM				
PW1	AUDIO VF BOARD ASSY		YB10285B2-02	←	YB10285C2-02

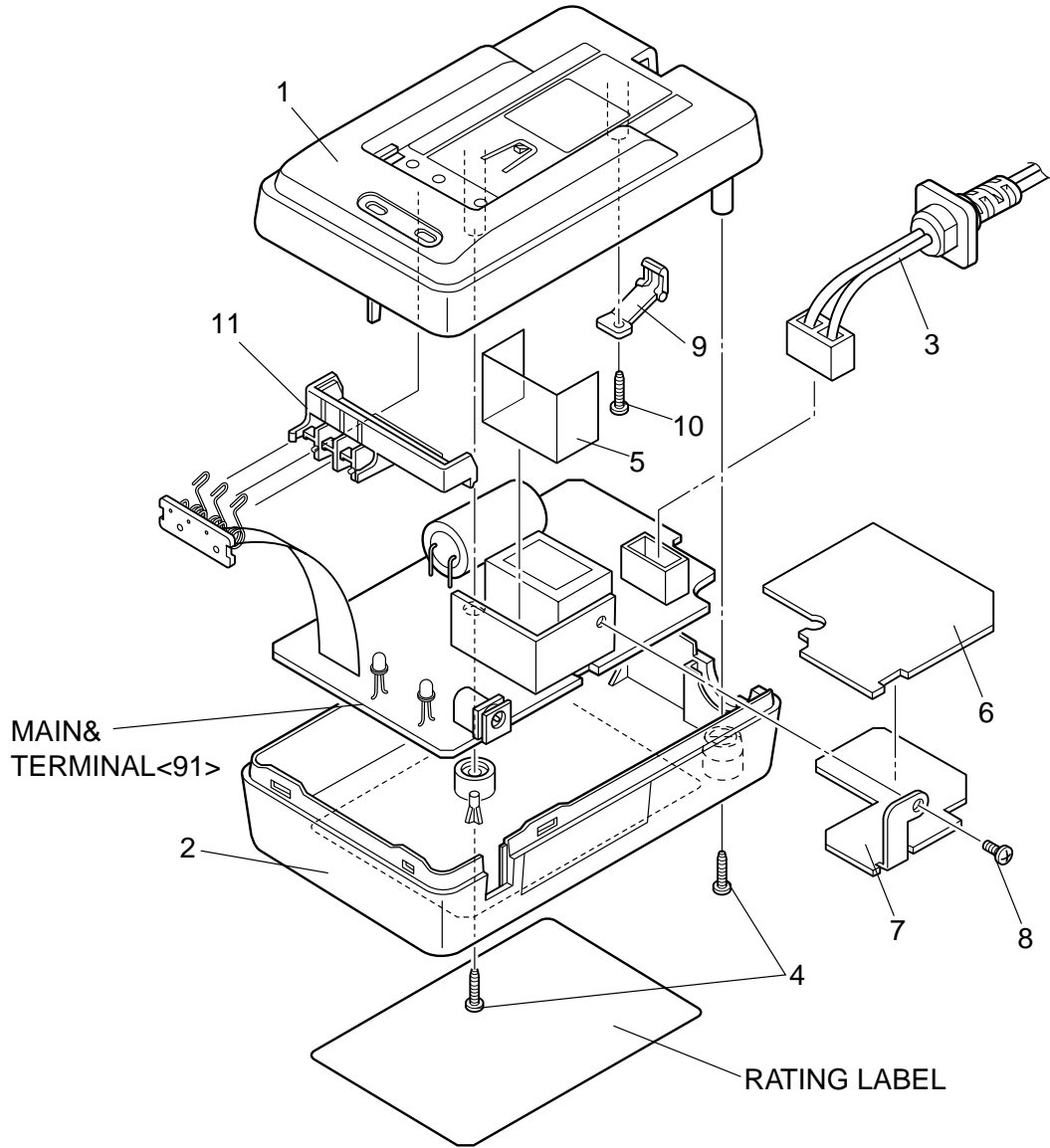
Note: Mark - is not used. Mark ← is same as left. Mark * reference model was also changed.

SECTION 6 AC ADAPTER CHARGER (AA-V51EN)

SAFETY PRECAUTION

Parts identified by the \triangle symbol are critical for safety. Replace only with specified part numbers.

6.1 CABINET ASSEMBLY <MA>



\triangle REF No. PART No. PART NAME, DESCRIPTION

CABINET ASSEMBLY <MA>

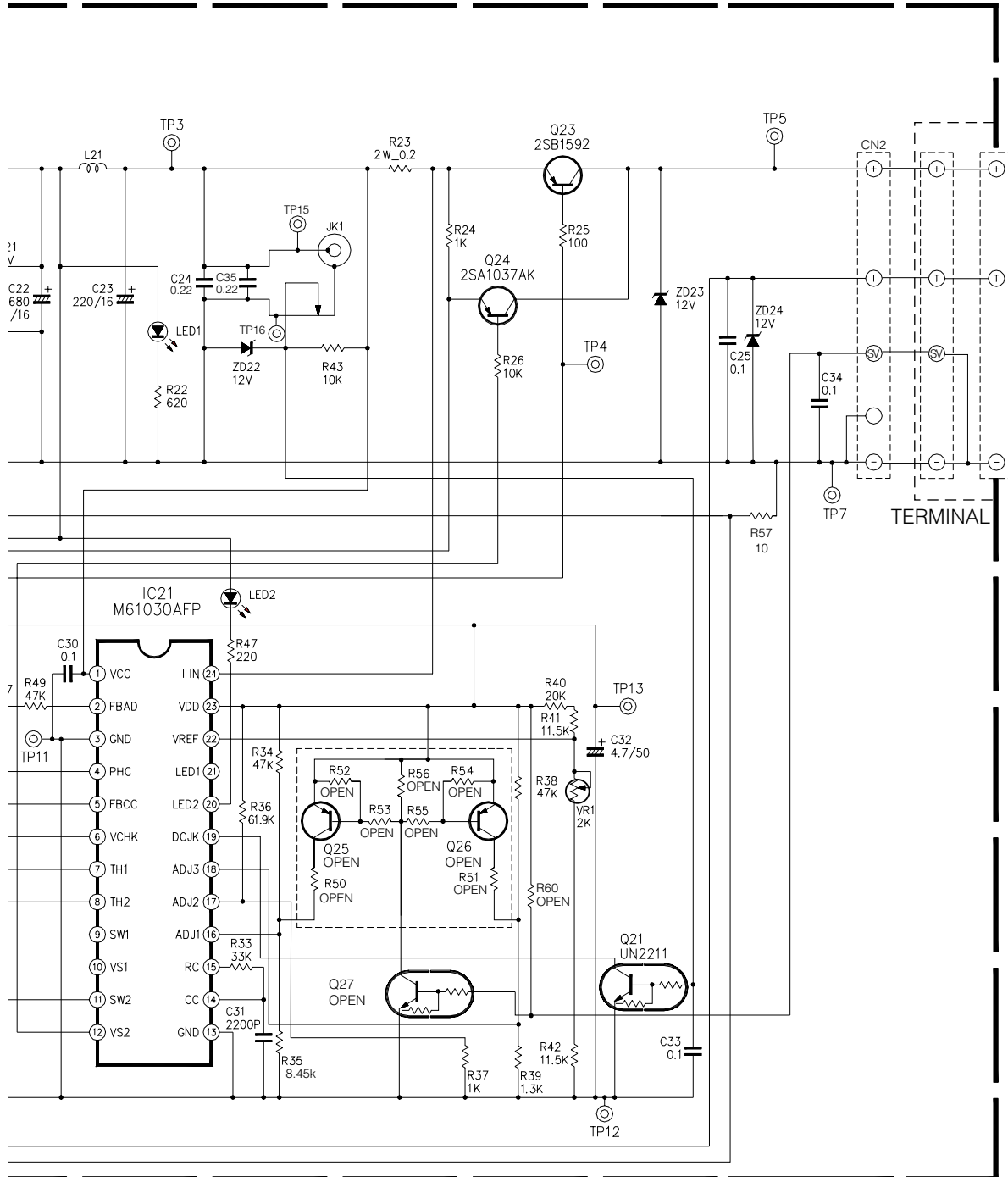
\triangle 1	PTY20603-013	UPPER CASE ASSY
\triangle 2	PTY20483-023	LOWER CASE
\triangle 3	PTY20483-035	POWER CORD
4	YQ10531-011	SCREW,x2
\triangle 5	PTY20483-078	INSULATOR B
\triangle 6	PTY20483-076	SHILED PLATE

\triangle REF No. PART No. PART NAME, DESCRIPTION

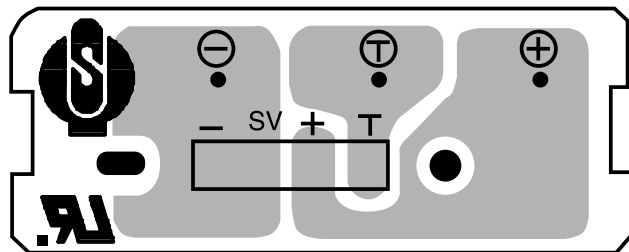
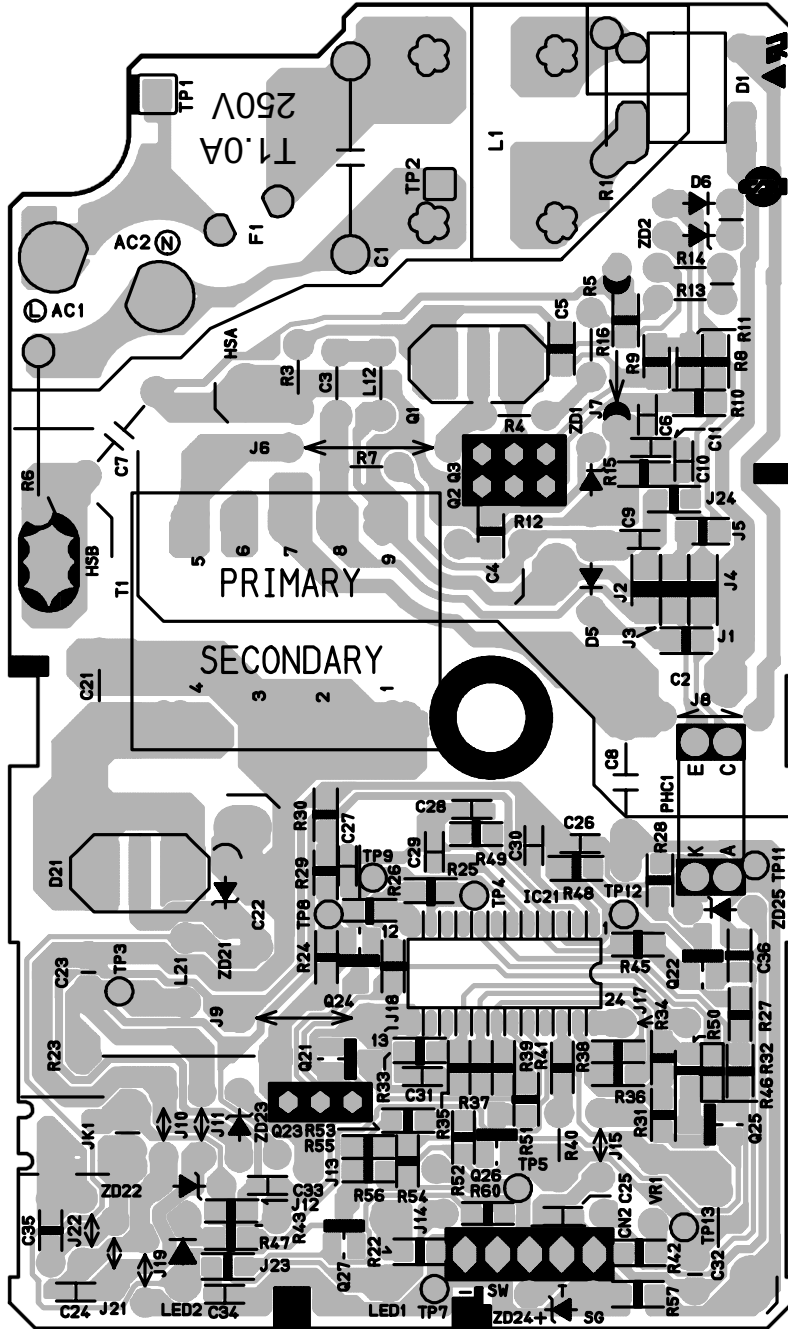
\triangle 7	PTY20483-077	INSULATOR A
8	PTY20483-079	SCREW, for shield plate
9	PTY20603-055	LOCK LEVER
10	PTY20545-055	SCREW
11	PTY20603-054	TERMINAL HOLDER

Safety precautions

The components identified by the symbol \triangle are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.



6.3 CIRCUIT BOARD



6.4 ELECTRICAL PARTS LIST

#REF No.	PART No.	PART NAME, DESCRIPTION	#REF No.	PART No.	PART NAME, DESCRIPTION

MAIN & TERMINAL BOARD ASSEMBLY <91>					
△ PW1	PTY20603-503	MAIN & TERMINAL BOARD ASSY	R43	QRE141J-103Y	MF RESISTOR 10kΩ 1/4W
△ HS1	PTY20483-071	HEAT SINK A	R45	NRSA02J-222X	MG RESISTOR 2.2kΩ 1/10W
△ HS2	PTY20591-072	HEAT SINK B	R46	NRSA02J-472X	MG RESISTOR 4.7kΩ 1/10W
OT1	PTY10067-551	SCREW	R47	NRSA02J-221X	MG RESISTOR 220Ω 1/10W
IC21	M61030AFP	CHARGE CONTROL IC 24pin SOP	R48	NRSA02J-102X	MG RESISTOR 1kΩ 1/10W
			R49	NRSA02J-473X	MG RESISTOR 47kΩ 1/10W
			R57	NRSA02J-100X	MG RESISTOR 10Ω 1/10W
			△ C1	QFZ9072-104	CAPACITOR 0.1μF 275V
Q1	FS2KM18A	MOS FET	C2	YQ10626-402	E CAPACITOR 47μF 400V
Q2	2SD2227	TRANSISTER	C3	PTY10067-651	CAPACITOR 1500pF 250V
Q3	2SD2227	TRANSISTER	C4	NCB21CK-224X	CAPACITOR 0.22μF 16V
Q21	UN2211TX	DIG.TRANSISTER	C5	PTY10067-653	CAPACITOR 0.01μF 50V
Q22	2SA1037AK/QR/-X	CHIP TRANSISTER	C6	NCB31HK-391X	CAPACITOR 390pF 50V
Q23	2SB1592	TRANSISTER	△ C7	PTY20538-611	CAPACITOR 2200pF 250V
Q24	2SA1037AK/QR/-X	TRANSISTER	△ C8	PTY20538-611	CAPACITOR 2200pF 250V
			C9	NDC31HJ-680X	CAPACITOR 68pF 50V
D1	S1WBA60	B.DIODE!	C10	NDC31HJ-151X	CAPACITOR 150pF 50V
D5	1SS244T77	DIODE 200V 6A	C11	NDC31HJ-151X	CAPACITOR 150pF 50V
D6	1SS244T77	DIODE 200V 6A	C21	PTY10067-657	CAPACITOR 0.01μF 250V
D21	MA7D56	DIODE 60V 10A	C22	PTY20292-321	E CAPACITOR 680μF 16V
ZD1	MTZJ12C-T2	ZENER DIODE 12V	C23	QETL1CM-227	E CAPACITOR 220μF 16V
ZD2	MTZJ6.2B-T2	ZENER DIODE 6.2V 500mW	C24	PTY20603-601	CAPACITOR 0.22μF 10V
ZD21	MTZJ12C-T2	ZENER DIODE 12V	C25	NCF31EZ-104X	CAPACITOR 0.1μF 25V
ZD22	MTZJ12C-T2	ZENER DIODE 12V	C26	PTY20603-601	CAPACITOR 0.22μF 10V
ZD23	MTZJ12C-T2	ZENER DIODE 12V	C27	NCB31CK-473X	CAPACITOR 0.047μF 16V
ZD24	MTZJ12C-T2	ZENER DIODE 12V	C28	NCB31CK-473X	CAPACITOR 0.047μF 16V
ZD25	MA4047NM	ZENER DIODE 4.7V 500mW	C29	NCB31CK-104X	CAPACITOR 0.1μF 16V
LED1	YQ10531-540	LED RED POWER	C30	NCF31EZ-104X	CAPACITOR 0.1μF 25V
LED2	YQ10531-542	LED GREEN CHARGE	C31	NCB31HK-222X	CAPACITOR 0.0022μF 50V
			C32	QEHA1HM-475	E CAPACITOR 4.7μF 50V
R1	QRN141J-105	RESISTOR 1MΩ 1/4W	C33	NCF31EZ-104X	CAPACITOR 0.1μF 25V
R3	PTY10067-601	MF RESISTOR 0.62Ω 1W	C34	NCF31EZ-104X	CAPACITOR 0.1μF 25V
R4	QRE141J-334Y	RESISTOR 330kΩ 1/4W	C35	QFLA1HJ-224	F CAPACITOR 0.22μF 50V
R5	QRE141J-334Y	RESISTOR 330kΩ 1/4W	C36	NCB21CK-224X	CAPACITOR 0.22μF 16V
R7	QRE141J-751Y	RESISTOR 750Ω 1/4W			
R8	NRSA02J-103X	MG RESISTOR 10kΩ 1/10W	△ T1	PTY20538-801	SW TRANS
R9	NRSA02J-272X	MG RESISTOR 2.7kΩ 1/10W	VR1	PTY20483-101	VOLUME 2kΩ
R10	NRSA02J-104X	MG RESISTOR 100kΩ 1/10W	△ F1	PTY20450-041	FUSE 1A 250V
R11	NRSA02J-682X	MG RESISTOR 6.8kΩ 1/10W	JK1	YQ21032-301	DC JACK
R12	QRE141J-181Y	RESISTOR 180Ω 1/4W	△ L1	PTY20450-401	LINE FILTER
R13	QRE141J-334Y	RESISTOR 330kΩ 1/4W	L12	PTY10067-702	BEAD INDUCTOR
R14	QRE141J-334Y	RESISTOR 330kΩ 1/4W	L21	PTY10067-703	COIL
R15	NRSA02J-182X	MG RESISTOR 1.8kΩ 1/10W	△ PHC1	PC123YS	PHOTO COUPLER
R16	NRSA02J-753X	MG RESISTOR 75kΩ 1/10W	TB1	PTY20603-053	TERMINAL, x3
R22	NRSA02J-621X	MG RESISTOR 620Ω 1/10W	WR1	PTY20603-052	FLAT CABLE, (4P)
R23	PTY20539-605	MF RESISTOR 0.20Ω 2W	CN1	PTY20603-056	CONNECTOR
R24	NRSA02J-102X	MG RESISTOR 1kΩ 1/10W			
R25	NRSA02J-101X	MG RESISTOR 100Ω 1/10W			
R26	NRSA02J-103X	MG RESISTOR 10kΩ 1/10W			
R27	NRSA02J-102X	MG RESISTOR 1kΩ 1/10W			
R28	NRSA02J-151X	MG RESISTOR 150Ω 1/10W			
R29	PTY20539-601	MG RESISTOR 47.0kΩ 1/10W			
R30	PTY20539-601	MG RESISTOR 47.0kΩ 1/10W			
R31	PTY20292-227	MG RESISTOR 10.0kΩ 1/10W			
R32	NRSA02J-103X	MG RESISTOR 10kΩ 1/10W			
R33	NRSA02J-333X	MG RESISTOR 33kΩ 1/10W			
R34	PTY20539-601	MG RESISTOR 47.0kΩ 1/10W			
R35	NRSA02F-8451X	MG RESISTOR 8.45kΩ 1/10W			
R36	NRSA02F-6192X	MG RESISTOR 61.9kΩ 1/10W			
R37	PTY20539-603	MG RESISTOR 1.0kΩ 1/10W			
R38	PTY20539-601	MG RESISTOR 47.0kΩ 1/10W			
R39	PTY20539-604	MG RESISTOR 1.3kΩ 1/10W			
R40	PTY20450-200	MG RESISTOR 20.0kΩ 1/4W			
R41	NRSA02F-1152X	MG RESISTOR 11.5kΩ 1/10W			
R42	NRSA02F-1152X	MG RESISTOR 11.5kΩ 1/10W			