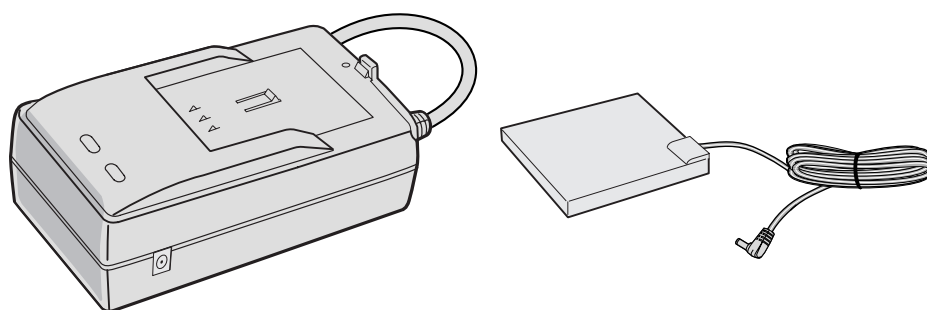


JVC

SERVICE MANUAL

AC POWER ADAPTER/CHARGER

AA-V100U



SPECIFICATIONS

Power	USA and Canada AC 120 V \sim , 60 Hz Other countries AC 110 V – 240 V \sim , 50 Hz/60 Hz
Power consumption	23 W
Output power	DC 7.2 V \equiv , 1.2 A (charge) DC 6.3 V \equiv , 1.8 A (VTR)
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 mm (W) x 44 mm (H) x 110 mm (D) (2-11/16" x 1-3/4" x 4-3/8")
Weight	Approx. 255 g (0.57 lbs)

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 \triangle 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.

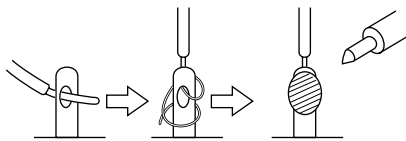


Fig.1

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.

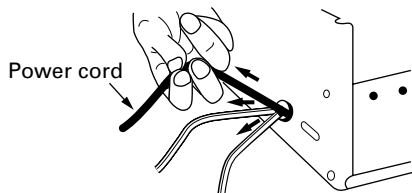


Fig.2

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).

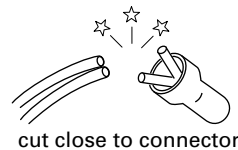


Fig.3

- (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.

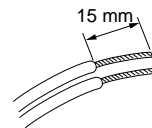


Fig.4

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

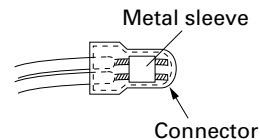


Fig.5

- (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.

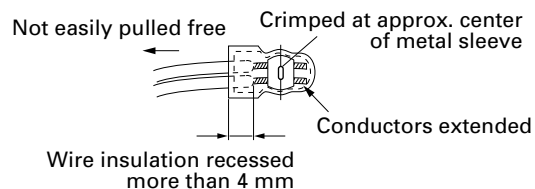


Fig.7

● 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.

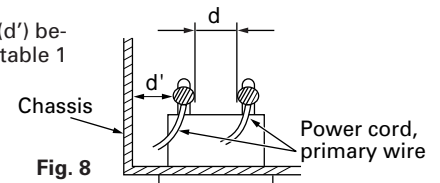


Fig. 8

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.

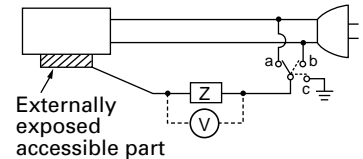


Fig. 9

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.

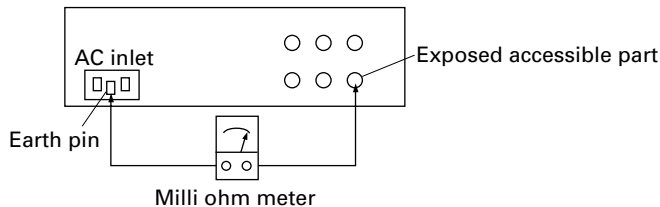


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V 200 to 240 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	$d \geq 4 \text{ mm}$ $d' \geq 8 \text{ mm}$ (Power cord) $d' \geq 6 \text{ mm}$ (Primary wire)

Table 1 Specifications for each region

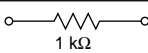
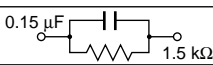
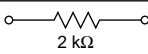
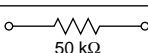
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan		$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada		$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia		$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
			$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

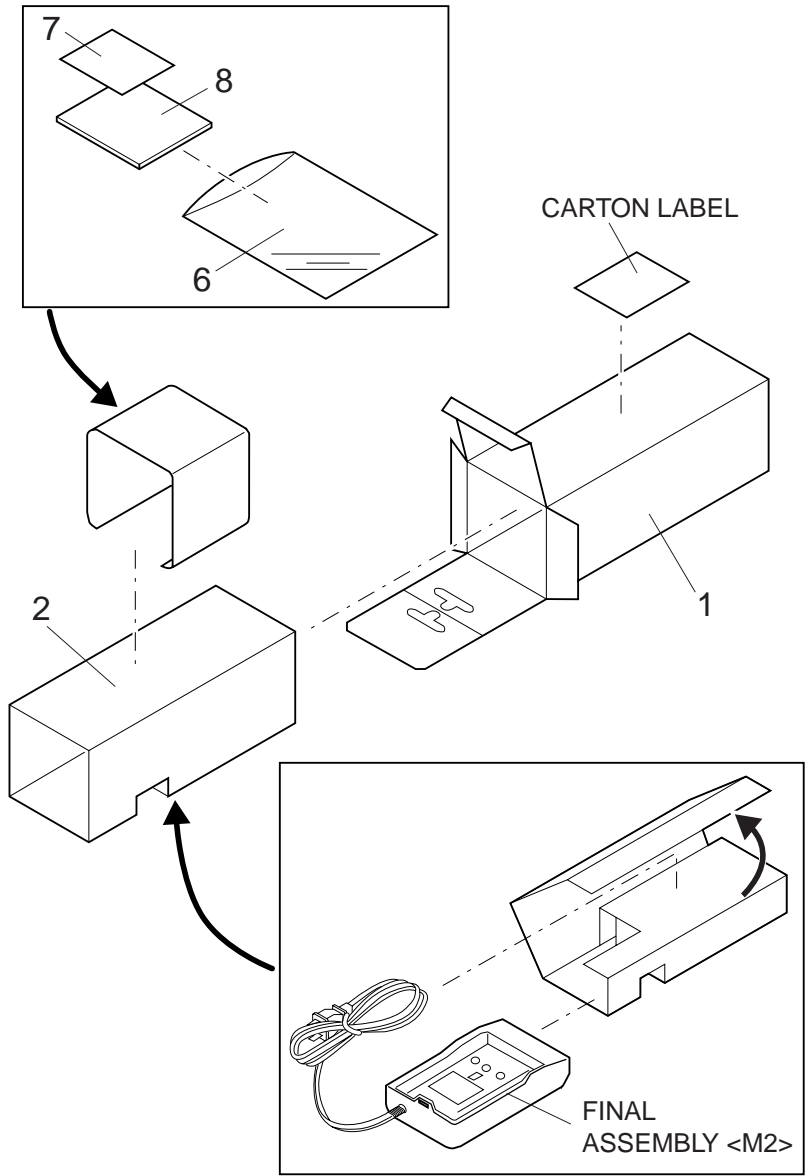
Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SAFETY PRECAUTION

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

1. PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.

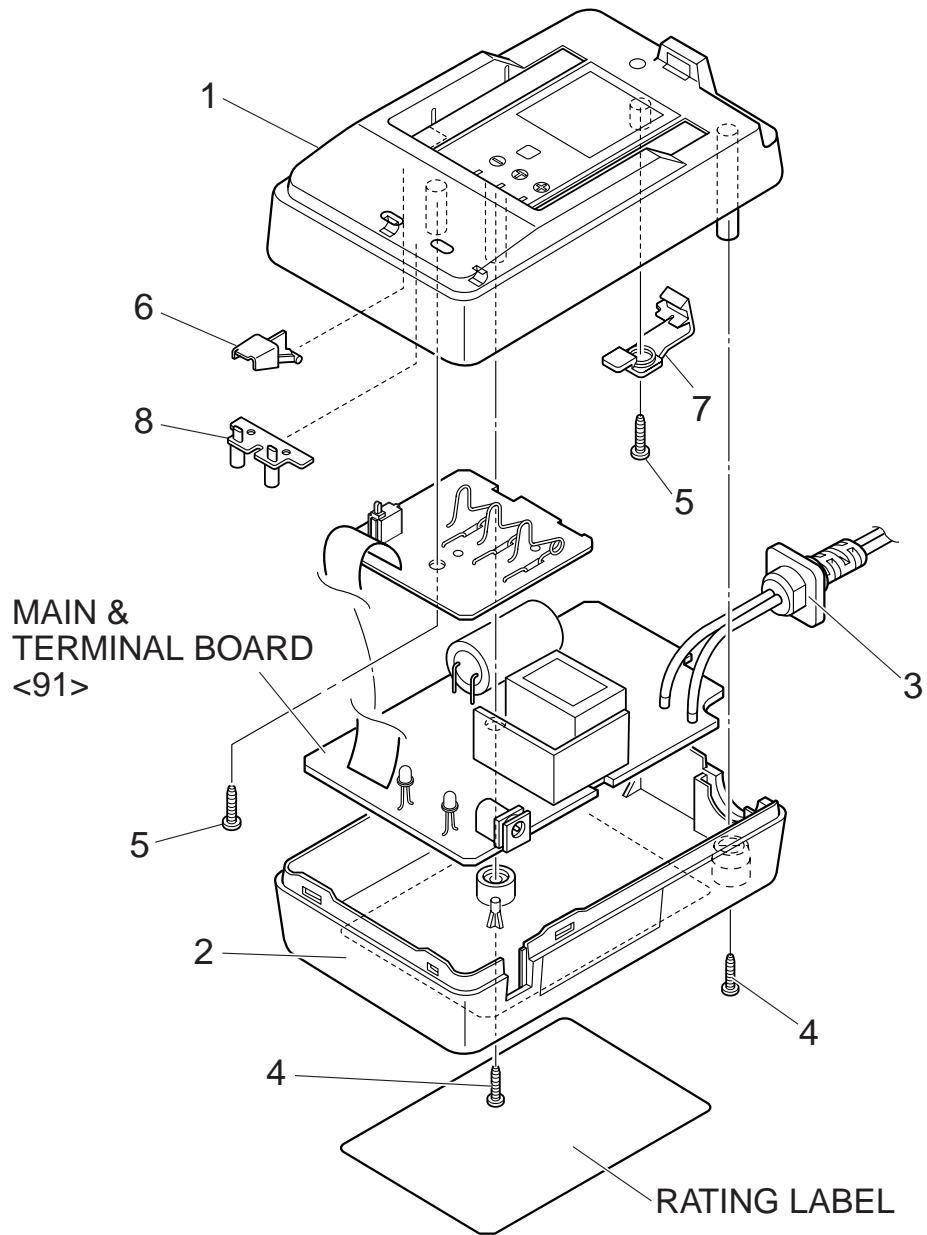


#	\triangle REF No.	PART No.	PART NAME, DESCRIPTION

PACKING ASSEMBLY <M1>			
1		LY31381-001A	PACKING CASE
2		LY32337-001A	CUHION SHEET
6		QPA01702505P	POLY BAG

#	\triangle REF No.	PART No.	PART NAME, DESCRIPTION
7		BT-51005-5	WARRANTY INF.
\triangle 8		LYT0841-001A	INST. BOOK(EN,FR,SP)

2 FINAL ASSEMBLY <M2>



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

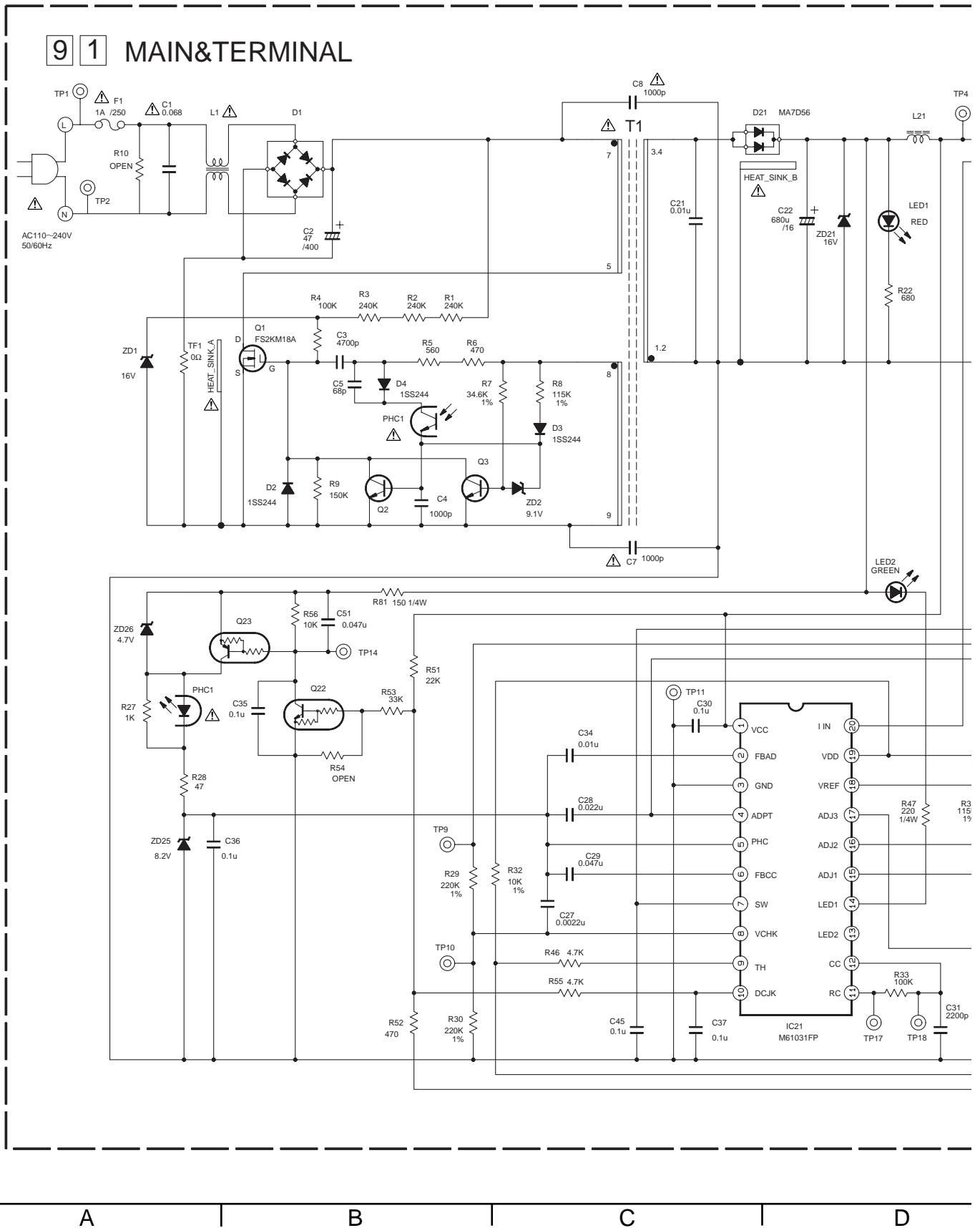
FINAL ASSEMBLY <M2>


△ 1	LY32286-001A	UPPER CASE
△ 2	PTY20483-021	LOWER CASE
△ 3	PTY20290-040	AC POWER CORD
4	YQ10531-011	TAP SCREW, X2 LOWER
5	PTY20545-055	TAP SCREW, X2
6	PTY20754-052	SWITCH COVER
7	PTY20754-054	LOCK LEVER
8	PTY20754-055	LENS

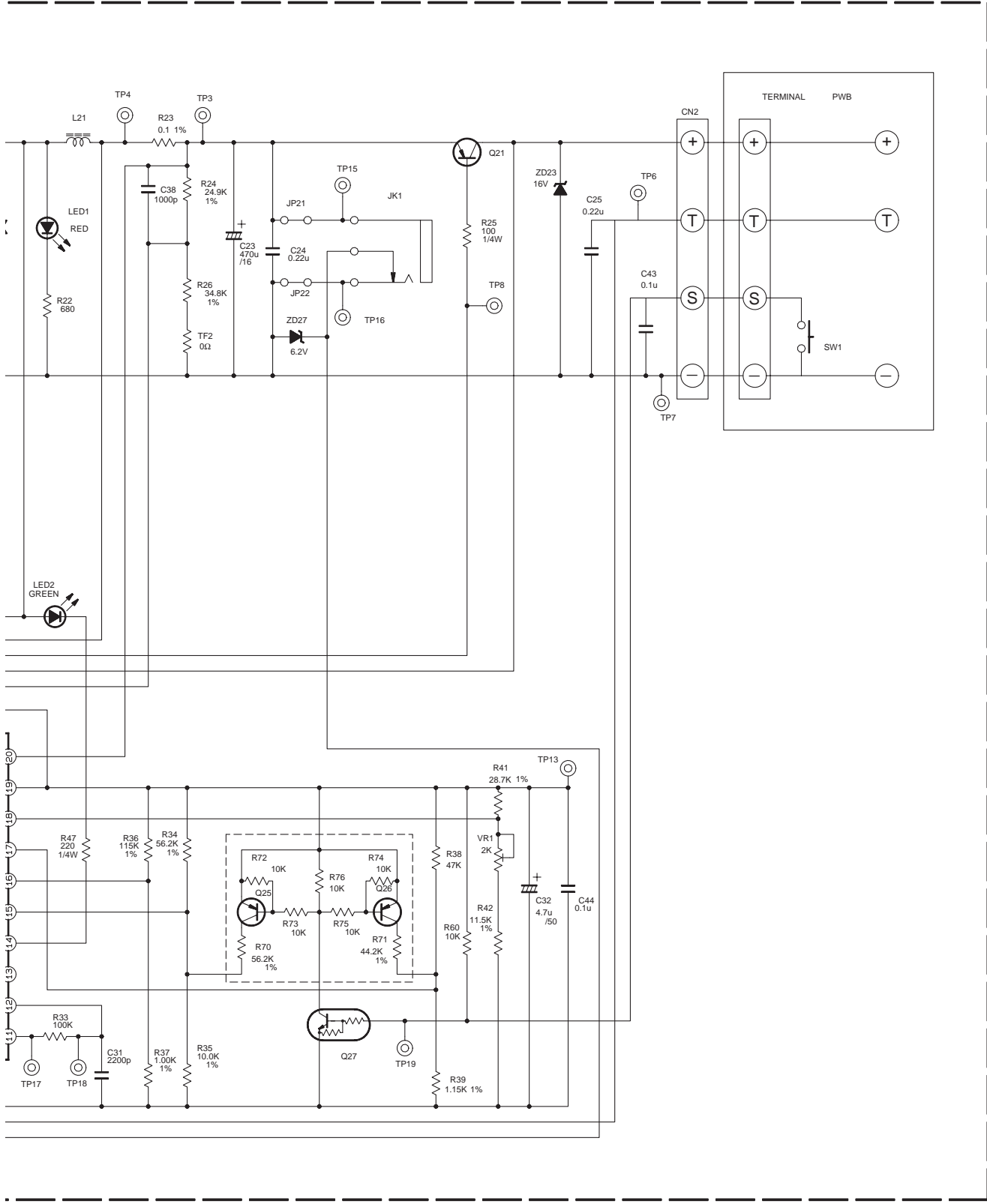
3. SCHEMATIC DIAGRAM

NOTE : When ordering parts, be sure to order according to the Part Number indicated in the Parts List.

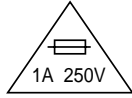
9 1 MAIN&TERMINAL



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

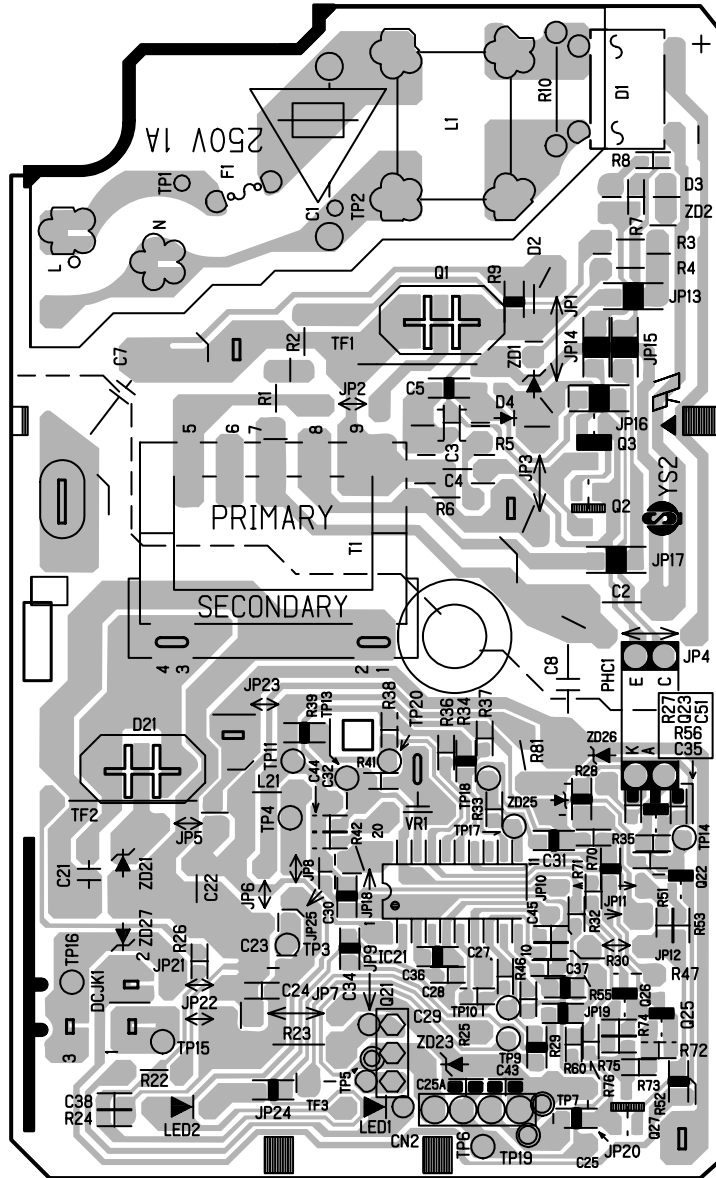


4. CIRCUIT BOARD



CAUTION:
FOR CONTINUED PROTECTION AGAINST
FIRE HAZARD, REPLACE ONLY WITH SAME
TYPE AND RATED FUSE.

ATTENTION:
POUR UNE PROTECTION PERMANENTE
CONTRE LES RISQUE D'INCENDE,
REEMPLACER LES FUSIBLE PAR UN AUTRE
DE MEME TYPE ET DE MEME TENSION.



5. ELECTRICAL PARTS LIST

#	REF No.	PART No.	PART NAME, DESCRIPTION

MAIN & TERMINAL BOARD ASSEMBLY <91>			
△	PW1	PTY20754-502	MAIN & TERMINAL BOARD ASSY
	IC21	M61031FP	Charge control IC 20pin SOP
	Q1	FS2KM18A	MOS FET
	Q2	2SD2226KT146	TRANSISTER
	Q3	2SD2226KT146	TRANSISTER
	Q22	DTC114YUA-X	DIG.TRANSISTOR
	Q23	DTA114YUA-X	DIG.TRANSISTOR
	Q25	2SA1576A/QR/-X	TRANSISTOR
	Q26	2SA1577A/QR/-X	TRANSISTOR
	Q27	UN2211TX	DIG.TRANSISTOR
	D1	S1WBA60	B. DIODE 600V 1A
	D2	1SS244T77	DIODE 200V 0.2A
	D3	1SS244T77	DIODE 200V 0.2A
	D4	1SS244T77	DIODE 200V 0.2A
	D21	MA7D56	DIODE 60V 10A
	ZD1	MTZJ16T-77	ZENER DIODE 16V 500mW
	ZD2	MTZJ9.1B	ZENER DIODE 9.1V 500mW
	ZD21	MTZJ16T-77	ZENER DIODE 16V 500mW
	ZD23	MTZJ16T-77	ZENER DIODE 16V 500mW
	ZD25	MA4082N/M/-T2	ZENER DIODE 8.2V 500mW
	ZD26	MA4047NM	ZENER DIODE 4.7V 500mW
	ZD27	MTZJ6.2B-T2	ZENER DIODE 6.2V 500mW
	LED1	YQ10531-540	LED RED POWER
	LED2	YQ10531-542	LED GREEN CHARGE
	R1	QRE141J-244Y	RESISTOR 240KΩ 1/4W
	R2	QRE141J-244Y	RESISTOR 240KΩ1/4W
	R3	QRE141J-244Y	RESISTOR 240KΩ 1/4W
	R4	QRE141J-104Y	RESISTOR 100kΩ 1/4W
	R5	QRE141J-561Y	RESISTOR 560Ω 1/4W
	R6	QRE141J-471Y	RESISTOR 470Ω 1/4W
	R7	NRSA63F-3482X	MG RESISTOR 34.8kΩ 1/16W 1%
	R8	NRSA63F-1153X	MG RESISTOR 115kΩ 1/16W 1%
	R9	NRSA63J-154X	MG RESISTOR 150kΩ 1/16W
	R22	QRE141J-681Y	RESISTOR 680Ω 1/4W
	R23	QRZ0192-R10X	MF RESISTOR 0.1Ω 1W 2%
	R24	NRSA63F-2492X	MG RESISTOR 24.9kΩ 1/16W 1%
	R25	QRE141J-101Y	RESISTOR 100Ω 1/4W
	R26	NRSA63F-3482X	MG RESISTOR 34.8kΩ 1/16W 1%
	R27	NRSA63J-102X	MG RESISTOR 1kΩ 1/16W
	R28	NRSA63J-470X	MG RESISTOR 47Ω 1/16W
	R29	PTY20754-511	MG RESISTOR 220kΩ 1/16W 1%
	R30	PTY20754-511	MG RESISTOR 220kΩ 1/16W 1%
	R32	PTY20754-512	MG RESISTOR 10kΩ 1/16W 1%
	R33	NRSA63J-104X	MG RESISTOR 100kΩ 1/16W
	R34	NRSA63F-5622X	MG RESISTOR 56.2kΩ 1/16W 1%
	R35	PTY20754-512	MG RESISTOR 10kΩ 1/16W 1%
	R36	NRSA63F-1153X	MG RESISTOR 115kΩ 1/16W 1%
	R37	PTY20754-513	MG RESISTOR 1.00kΩ 1/16W 1%
	R38	PTY20754-514	MG RESISTOR 47kΩ 1/16W 1%
	R39	NRSA63F-1151X	MG RESISTOR 1.15kΩ 1/16W 1%
	R41	NRSA63F-2872X	MG RESISTOR 28.7kΩ 1/16W 1%
	R42	NRSA63F-1152X	MG RESISTOR 11.5kΩ 1/16W 1%
	R46	NRSA63J-472X	MG RESISTOR 4.7kΩ 1/16W

#	REF No.	PART No.	PART NAME, DESCRIPTION
	R47	QRE141J-221Y	RESISTOR 220Ω 1/4W
	R51	NRSA63J-223X	MG RESISTOR 22kΩ 1/16W
	R52	NRSA63J-471X	MG RESISTOR 470Ω 1/16W
	R53	NRSA63J-333X	MG RESISTOR 33kΩ1/16W
	R55	NRSA63J-473X	MG RESISTOR 47kΩ 1/16W
	R56	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R60	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R70	NRSA63F-5622X	MG RESISTOR 56.2kΩ 1/16W 1%
	R71	NRSA63F-4422X	MG RESISTOR 44.2kΩ 1/16W 1%
	R72	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R73	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R74	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R75	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R76	NRSA63J-103X	MG RESISTOR 10kΩ 1/16W
	R81	QRE141J-150Y	RESISTOR 150Ω 1/4W
△	C1	PTY20292-303	F CAPACITOR 0.068μF275V
	C2	YQ10626-402	E CAPACITOR 47μF400V
	C3	NCB31HK-472X	CAPACITOR 4700pF 50V
	C4	PTY20754-521	F CAPACITOR 1000pF 50V
	C5	NDC31HJ-680X	CAPACITOR 68pF 50V
△	C7	PTY20292-368	CAPACITOR 1000pF 250V
△	C8	PTY20292-368	CAPACITOR 1000pF 250V
	C21	PTY10067-657	CAPACITOR 0.01μF250V
	C22	PTY20292-321	E CAPACITOR 680μF16V
	C23	QETL1CM-477	E CAPACITOR 470μF16V
	C24	PTY20754-522	CAPACITOR 0.22μF16V
	C25	QFLA1HJ-224	F CAPACITOR 0.22μF50V
	C27	NCB31HK-222X	CAPACITOR 0.0022μF50V
	C28	NCB31EK-223X	CAPACITOR 0.022μF25V
	C29	PTY20754-523	CAPACITOR 0.047μF25V
	C30	PTY20754-524	CAPACITOR 0.1μF50V
	C31	NCB31HK-222X	CAPACITOR 0.0022μF50V
	C32	QEHA1HM-475	E CAPACITOR 4.7μF50V
	C34	PTY20754-525	CAPACITOR 0.01μF50V
	C35	PTY20754-526	CAPACITOR 0.1μF16V
	C36	PTY20754-526	CAPACITOR 0.1μF16V
	C37	PTY20754-524	CAPACITOR 0.1μF50V
	C38	NCB31HK-102X	CAPACITOR 0.001μF50V
	C43	PTY20754-524	CAPACITOR 0.1μF50V
	C44	PTY20754-524	CAPACITOR 0.1μF50V
	C45	PTY20754-526	CAPACITOR 0.1μF16V
	C51	NCB31CK-473X	CAPACITOR 0.047μF16V
△	L1	PTY20450-401	LINE FILTER
	L21	PTY10067-703	COIL
△	PHC1	PC817X1	PHOTO COUPLER
△		or PC817A	PHOTO COUPLER
△	T1	PTY20754-531	SW TRANS
	VR1	PTY20483-101	VOLUME 2kΩ
	JK1	YQ21032-301	DC JACK
△	F1	PTY20450-041	FUSE 1A 250V
△	HS1	PTY20483-071	HEAT SINK A
△	HS2	PTY20591-072	HEAT SINK B
	OT1	PTY10067-551	TAP SCREW,X2(HEAT SINK)
	SW1	PTY20545-662	SWITCH
	WR1	PTY20591-052	FLAT CABLE(4P)
	TB1	PTY20754-053	BATTERY TERMINAL,X3

(VP)-M1ACC

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