

MPR *Personal Series*

**STANDARD 14-HOUR DESK CHARGER COMBINATIONS
351L1A1X AND 351M1A1X**



SPECIFICATIONS *

<u>COMBINATION NO.</u>	<u>INPUT VOLTAGE</u> (50/60 Hz)	<u>INPUT CURRENT</u>	<u>INPUT POWER</u>
351L1A1X	121 VAC	35 Milliamps	4 Watts
351M1A1X	220 VAC	20 Milliamps	4 Watts

Used with MPR Personal Series two-way radios

RECHARGE TIME 14 HOURS

TEMPERATURE RANGE +5°C to 45°C
(+41°F to 113°F)

*These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

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COMBINATION NOMENCLATURE

Digit 1	Digit 2	Digit 3	Digit 4	Digit 5	Digit 6	Digit 7	Digit 8
Product Line	Application	Package	Input Voltage	Charge Time	Version	Type	Frequency Range
3 Charger	5 MPR (700 mAh and 1200 mAh batt)	1 Desk	L 121 VAC M 220 VAC	1 14-hour	A 1 Charge Socket	1 Standard	X Not Range Sensitive

WARNING

No one should be permitted to handle any portion of the equipment that is supplied with high voltage; or to connect any external apparatus to the units while the units are supplied with power. KEEP AWAY FROM LIVE CIRCUITS.

DESCRIPTION

General Electric standard 14-hour desk charger combinations 351L1A1X and 351M1A1X, will recharge battery packs used with MPR Personal Series, FM two-way radios.

Charger combination 351L1A1X, for 121 VAC operation and charger combination 351M1A1X for 220 VAC operation will recharge a standard MPR 700 mAh or 1200 mAh battery pack.

Each charger combination will recharge a fully discharged battery pack back to a full charge in 14 hours at a c/10 constant charge rate. When a battery pack is inserted into the charging insert of a desk charger, an amber LED indicator will light, indicating that the battery pack is being charged.

INSTALLATION

The desk charger can be located on a table top or other flat surface. The location should be close to a 121 Volt AC or 220 Volt AC, 50/60 Hz source.

CAUTION

The desk charger should not be used in a hazardous location.

OPERATION

Temperature characteristics of nickel-cadmium batteries, prevent a full charge at temperature extremes. For a maximum charge, recharge the battery pack at room temperatures of from 65° to 85° Fahrenheit whenever possible.

To use the desk charger, plug the power cable into a 121 Volt AC or 220 Volt AC 50/60 Hz source (See Figure 1). Place the radio into the charging insert with the speaker facing the front of the charger, or place the battery pack into the insert with the arrow on the yellow label pointing toward the rear of the charger. The amber LED indicator labeled "CHARGING" will light, indicating the battery is being charged. To charge the battery to 100% capacity, let it stay in the charging insert for at least 14 hours. A battery pack is removed from the charger by simply reaching into the cut outs provided in the sides of the charging insert, and lifting the battery pack out.

WARNING

General Electric Charger combinations covered in this manual, are designed for charging GE 700 mAh battery pack 19D429763G1 and GE 1200 mAh battery pack 19D429777G1. Charging any other battery pack or batteries may result in damage to equipment, leakage or explosion.

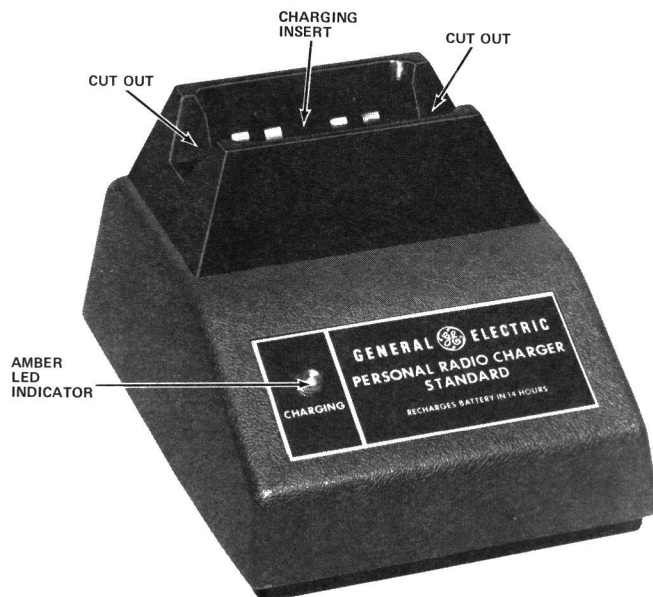


Figure 1 - Desk Charger

CIRCUIT ANALYSIS

The 14-hour desk charger contains a power supply and a charging circuit. References to symbol numbers mentioned in the following text can be found on the applicable schematic and outline diagram or parts list (See Table of Contents).

AC voltage developed across the secondary of T1 or T2 is rectified by a full-wave bridge rectifier. The rectified output is applied to the charging circuit.

The charging circuit is a series resistance which determines the c/10 constant current charge rate, 70 mA for the 700 mAh battery pack and 120 mA for the 1200 mAh battery pack. The charging current is applied to the battery pack when the pack is in the charging insert. The amber LED indicator labeled "CHARGING" lights when positive contact has been made with the battery contacts. Charging current for the 700 mAh battery pack is applied through charging

contacts E2 and E3. Charging current for the 1200 mAh battery pack is applied through charger contacts E2 and E4.

MAINTENANCE

DISASSEMBLY

To gain access to the desk charger circuitry for servicing, remove the three Phillips-head screws in the bottom of the charger and carefully lift off the housing. The charger must be disassembled to replace the LED indicator and the fuse.

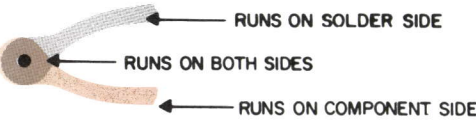
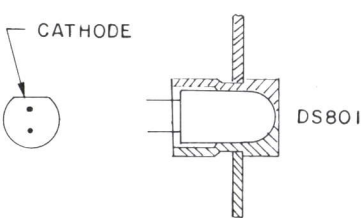
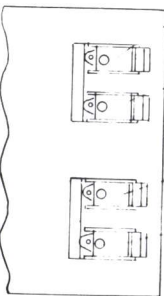
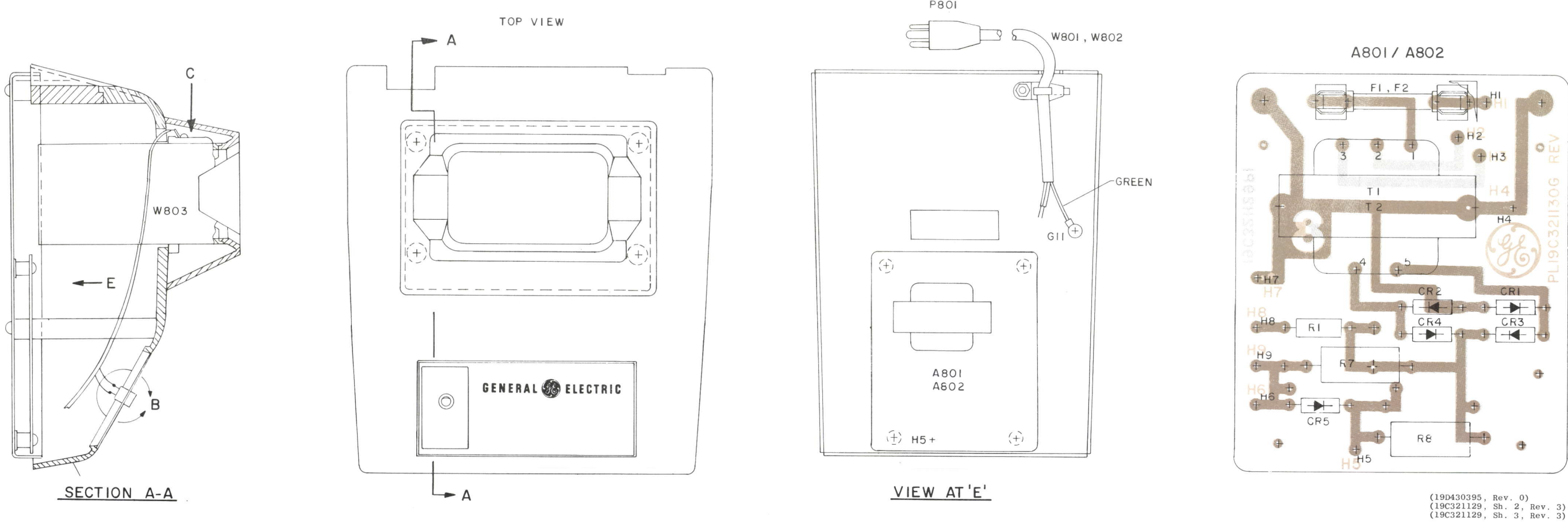
TROUBLESHOOTING

Should a service problem arise, the following chart contains possible causes.

SYMPTOM	CHECK FOR:
DS801 does not light.	1. Battery is not in charging insert properly. 2. Fuse F1 is open. 3. LED DS801 is open.

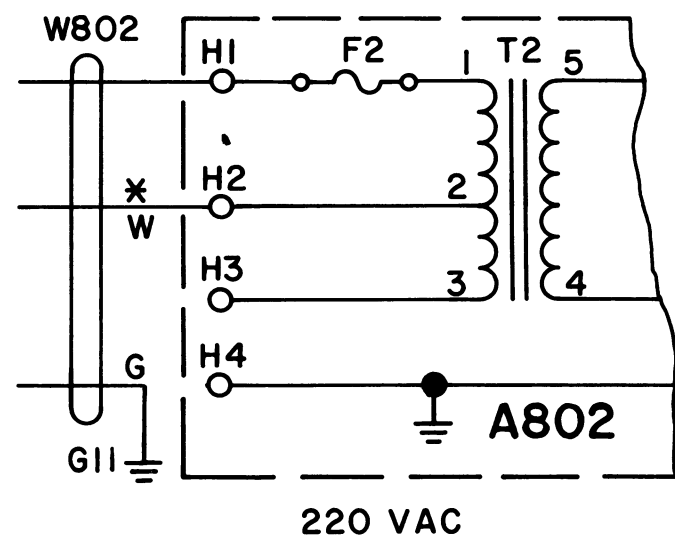
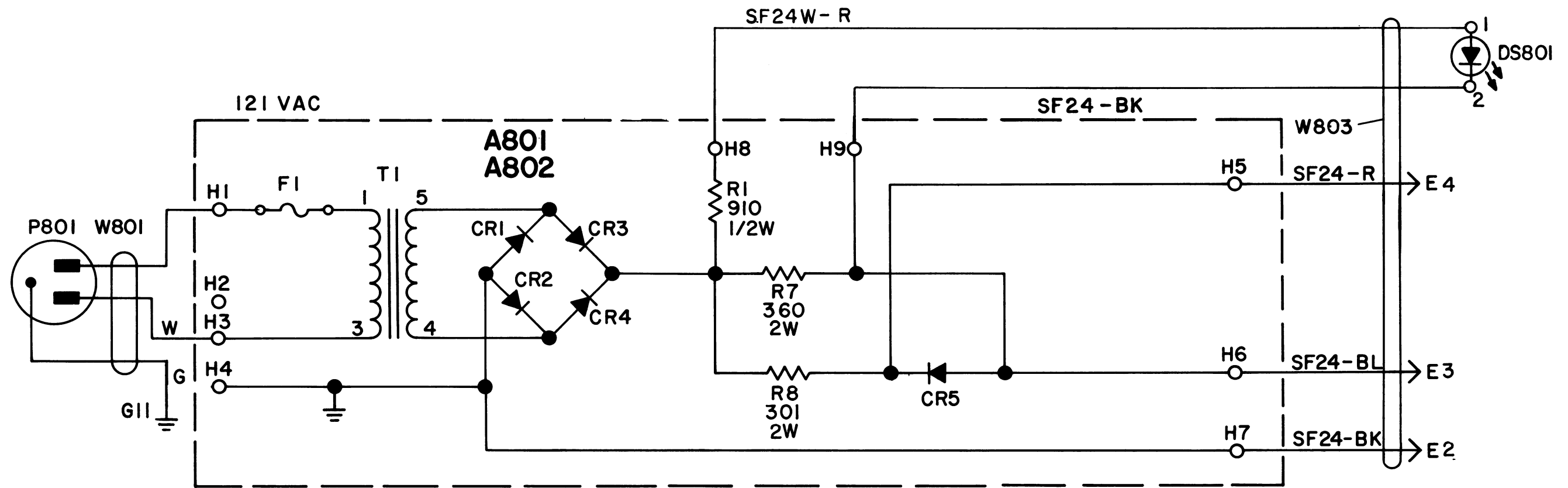
240 VAC OPERATION

Charger combination 351M1A1X is normally shipped strapped for 220 VAC. If 240 VAC operation is desired the combination must be rewired. This is accomplished by moving the white wire from H2 to H3 on circuit board A802 (See Wiring Diagram).



OUTLINE DIAGRAM

DESK CHARGER COMBINATIONS
351L1A1X & 351M1A1X



* FOR 240 VAC OPERATION MOVE
W (RIB) WIRE FROM H2 TO H3.

SCHEMATIC DIAGRAM

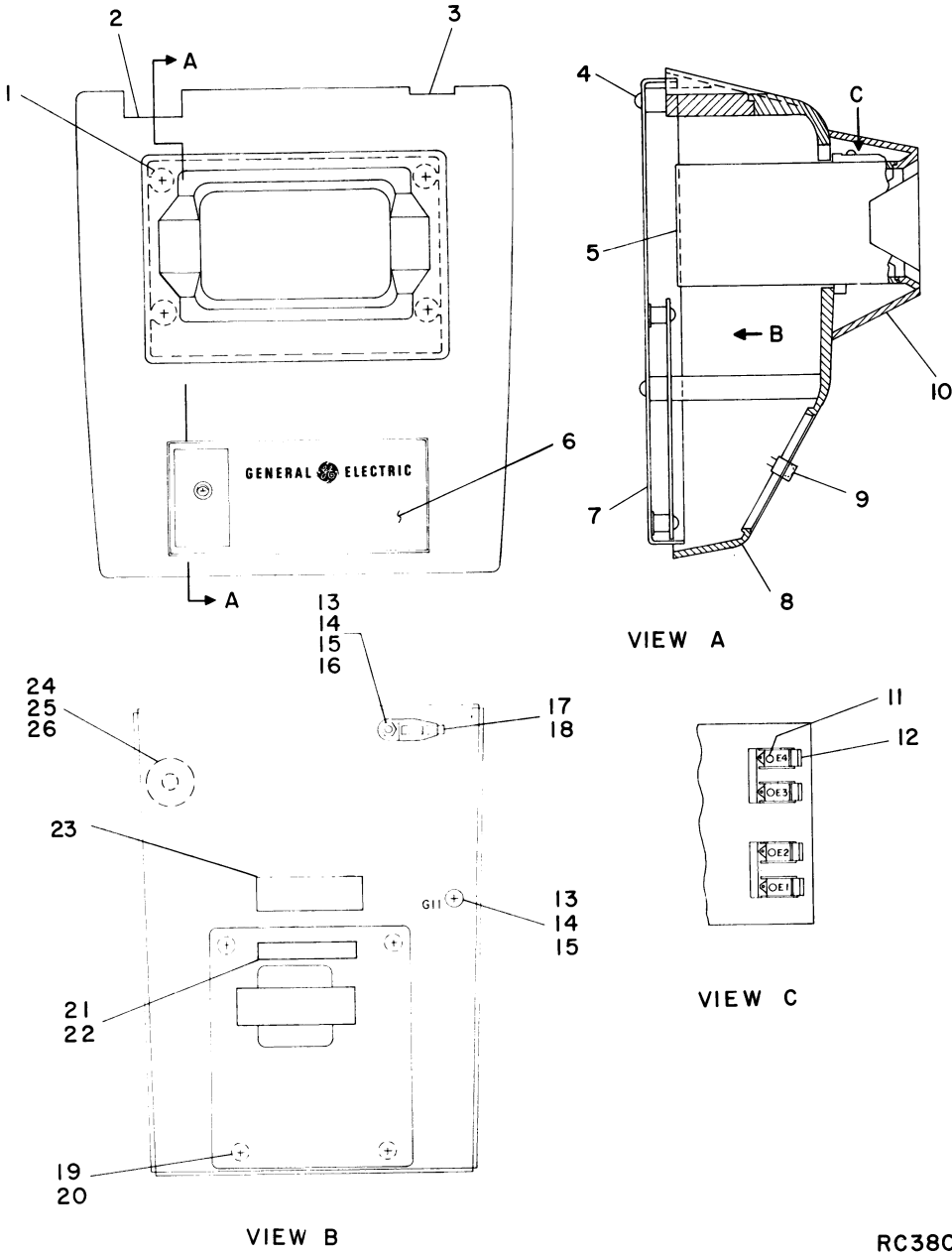
DESK CHARGER COMBINATIONS
351L1A1X & 351M1A1X

PARTS LIST

MPR 14 HOUR DESK CHARGER
351L1A1X 19D429767G1 121 VAC
351M1A1X 19D429767G2 220/240 VAC

SYMBOL	GE PART NO.	DESCRIPTION
A801 and A802		COMPONENT BOARD A801 19C321130G5 121 VAC A802 19C321130G6 220/240 VAC
		----- DIODES AND RECTIFIERS -----
CR1 thru CR5	4037822P1	Silicon, 1000 mA, 400 PIV.
		----- FUSES -----
F1	1R16P12	Quick blowing: 1/8 amp at 250 v; sim to Littell-fuse 312.125 or Bussmann AGC-1/8.
F2	7487942P6	Slow blowing: 1/16 amp at 250 v; sim to Bussmann MDL-1/16.
		----- RESISTORS -----
R1	3R77P911J	Composition: 910 ohms $\pm 5\%$, 1/2 w.
R7	3R79P361J	Composition: 360 ohms $\pm 5\%$, 2 w.
R8	3R79P301J	Composition: 300 ohms $\pm 5\%$, 2 w.
		----- TRANSFORMERS -----
T1	19A134091P1	Power, step-down, Pri: 121 VRMS, 50/60 Hz, Sec: 30 ± 1.2 VAC at 100 mA.
T2	19A134091P2	Power, step-down, Pri: 220/240 VRMS, 50/60 Hz, Sec: 30 ± 1.2 VAC at 100 mA.
		----- DIODES -----
DS801	19A134354P2	Diode, optoelectronic: yellow; sim to HEW. Packard 5082-4555.
		----- PLUGS -----
P801		(Part of W801).
		----- CABLES -----
W801	19B232987G1	Power: 3 conductors, approx 6 feet long.
W802	19B232987G2	Power: 3 conductors, wire size 18 AWG. (Includes DS801).
W803	19D429767G3	Desk Charger. (Includes DS801).
		MECHANICAL PARTS (SEE RC3806)
1	19A116773P108	Tap screw, Phillips POZIDRIV®: No. 7-19 x 1/2.
2	19C317175P3	Plug.
3	19B227249P1	Grommet.
4	19A116773P106	Tap screw, Phillips POZIDRIV®: No. 7-19 x 3/8.
5	19C328544G1	Sleeve assembly. (Includes items 11 & 12).
6	NP280569	Nameplate. (GENERAL ELECTRIC).
7	19C317108G2	Base assembly. (Includes items 16, 23, 26, 27 & 28).
8	19E500894P3	Housing.
9	19A134521P3	Lens.
10	19D429698P1	Collar.
11	N136P503C	Tap screw, phillips head: No. 2-32 x 3/16.
12	19C327044P1	Contact, spring.

SYMBOL	GE PART NO.	DESCRIPTION
13	7141225P3	Hex nut: No. 6-32.
14	N404P13C6	Lockwasher, internal tooth: No. 6.
15	N402P7C6	Flatwasher, narrow: No. 6.
16	4037460P6	Stud, self cinching.
17	19A115185P4	Strap buckle.
18	19A115185P5	Strap.
19	N80P9004C6	Machine screw, phillips: No. 4-40 x 1/4.
20	4035656P7	Spacer, threaded, metallic: No. thd. size 4-40.
21	19A116688P1	Clip, fuse. (Quantity 2).
22	19A130456G1	Fuse cover.
23	NP279917P9	Nameplate. (Fuse rating).
24	19A134365P1	Bumper, rubber.
25	19A134366P1	Rivet, tubular.
26	N402P37C6	Flatwasher, steel: No. 6.



RC3806

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES