Mobile Communications

STANDARD DESK
CHARGER COMBINATIONS
19B801506P11 & P13

Maintenance Manual

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SPECIFICATIONS*

Input Voltage	120 Volts AC (50/60 Hz) at 2 watts 240 Volts AC (50/60 Hz) at 2 watts
Charge Time	14 Hours
Temperature	
Operate	0°C to +45°C
Storage	-20°C to +60°C
Size (W x L x H)	12.0 x 13.0 x 17.0 cm (4.75 x 5.07 x 6.63 in)
Weight	0.85 kg (1.9 lbs)

* 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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IMPORTANT SAFETY INSTRUCTIONS

1. **SAVE THIS MANUAL** - It contains important safety and operating instructions for the Standard Multi-Charger.

2. Before using battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.

3. **CAUTION** - To reduce risk of injury, charge only battery pack 19A704850 and battery pack 19A704860. Charging any other battery pack or batteries may cause a battery to burst and cause personal injury and damage.

4. Do not expose charger to rain or snow.

5. Do not use auxiliary equipment not recommended or sold by the manufacturer. To do so may result in a risk of fire, electric shock, or injury to persons.

6. To reduce risk of damage to electric plug and cord, pull by plug rather than cord when disconnecting charger.

7. Make sure the cord is located so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.

8. An extension cord should not be used unless absolutely necessary. Use of improper extension cord could result in risk of a fire and electric shock. If extension cord must be used, make sure:

   a. That pins on plug of extension cord are the same number size and shape as those of plug on charger;

   b. That extension cord is properly wired and in good electrical condition; and

   c. That the wire size is large enough as specified in Table 1.

TABLE 1

Recommended Minimum Size For Extension Cords Used With Battery Chargers

Length of Cord (ft.)	25	50	100	150
AWG Size of Cord	18	18	18	16

9. Do not operate charger with damaged cord or plug - replace them immediately.

10. Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; take it to a qualified service shop.

11. Do not disassemble charger; return it to a qualified service shop when service or repair is required. Incorrect reassembly may result in a risk of electrical shock or fire.

12. To reduce risk of electrical shock, unplug charger from outlet before attempting any maintenance or cleaning.

13. Care should be taken when placing the charger in service to insure proper top and bottom ventilation. A minimum air space of 1/4 inch is required between the bottom of the charger and the surface of the desk.

14. **DANGER** - Never alter AC cord or plug provided. If it will not fit outlet, have proper outlet installed by a qualified electrician. Improper connection can result in a risk of an electric shock.

15. The battery charger Model H2A1L2A is for use on a nominal 120 Vac circuit, and has a grounding plug that looks like the plug illustrated in sketch A of Figure 1. A temporary adapter, which looks like the adapter illustrated in sketches B and C, may be used to connect this plug to a two-pole receptacle as shown in sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician.

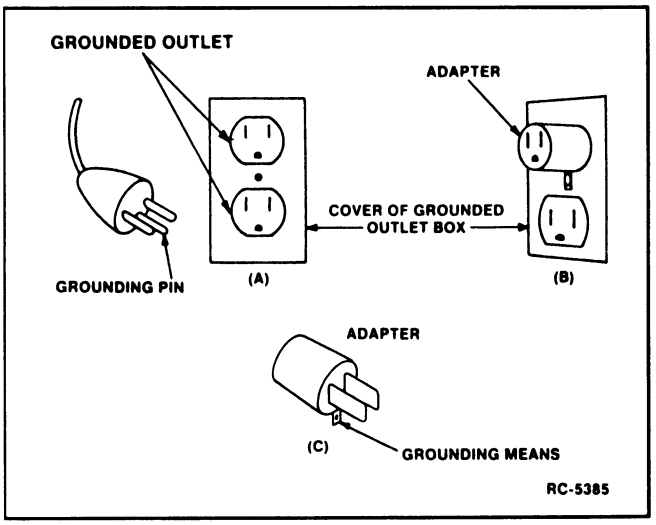

Figure 1 - Grounding Methods

IMPORTANT SAFETY INSTRUCTIONS (CONT.)

16. **DANGER** - Before using adapter as illustrated in Figure 1, be certain that center screw of outlet plate is grounded. The green-colored rigid ear or lug extending from adapter must be connected to a properly grounded outlet - make certain it is grounded. If necessary, replace original outlet cover plate screw with a longer screw that will secure adapter ear or lug to outlet cover plate and make ground connection to ground outlet.

17. The battery charger Model H2A1M2A is for use on a circuit having a nominal rating of 240 Vac and is factory equipped with a specific electric cord to permit connection to an acceptable electric circuit. Make sure that the charger is connected to an outlet having the same configuration as the electric cord. No adapter should be used with this charger.

18. Desk chargers should be placed on the flat base close to the applicable AC (50/60 Hz) source. Care should be taken when mounting or placing to insure proper top and bottom ventilation. A minimum air space of 1/4 inch is required between the bottom of desk chargers and the other surfaces.

19. **CAUTION** - After disassembling for service, care should be taken when replacing the screws to insure that no cables are sandwiched between a housing and bottom plate (this is cautionary information for qualified service personnel only).

DESCRIPTION

General Electric's Standard Desk Charger (19B801506P11 and P13) is used to charge a single nickel-cadmium battery pack. The desk charger with the fifth digit in the combination nomenclature an "L" accepts 120 Volts AC at 50/60 Hz. The desk charger with the fifth digit an "M" accepts 240 Volts AC at 50/60 Hz. Both combinations will charge a normally discharged battery pack to 100 percent of its capacity in approximately fourteen hours. If the battery pack is excessively discharged, unusually cold (below 0°C), unusually hot (above + 45°C) or has never been charged, the required charging time will increase.

The charge will start when a battery pack is inserted into the charging insert. A Red LED will light to indicate that the charger is charging and will remain on until the battery pack is removed.

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, charge a battery pack at room temperatures of 18°C (65°F) to 30°C (85°F) whenever possible.

To use the desk charger, plug the power cable into the applicable power source (120 Volts AC or 240 Volts AC, 50/60 Hz). Place the radio into the charging insert with the speaker facing toward the front of the charger, or place the battery pack into the insert with the arrow on the yellow label pointing toward the front of the charger. The Red LED indicator labeled CHARGING will light indicating the battery pack is being charged. To charge the battery pack to 100 percent capacity, let it stay in the charging insert for at least fourteen 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 (refer to Figure 2 - Standard Desk Charger).

WARNING

General Electric Charger combinations covered in this manual are designed for charging GE battery packs 19A704850 and GE battery packs 19A704860. Charging any other battery packs or batteries may result in damage to equipment, leakage or explosion.

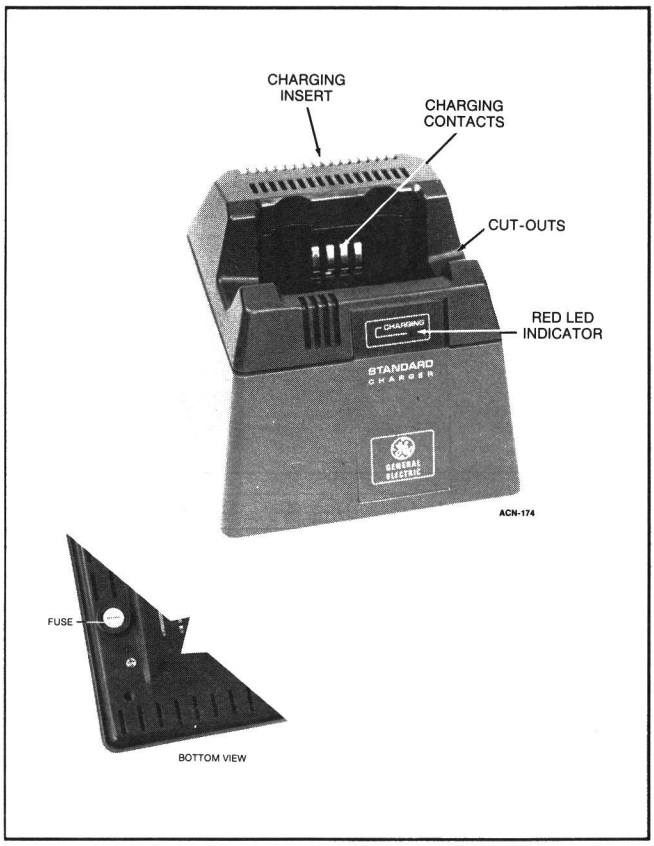

Figure 2 - Standard Desk Charger

CIRCUIT ANALYSIS

The Standard Desk Charger consists of a power supply circuit and a single charging insert. AC developed across the secondary of transformer T1 is rectified by full wave rectifiers CR1 and CR2.

The rectified output is applied to the charging circuit consisting of a resistor network (R1 through R5) and switch S1, to determine the C/10 constant current charge rate. This charge rate is 80 mA for the standard battery pack and 120 mA for the high capacity battery pack. Switch S1, located in the charging insert, switches to the 120 mA charge rate when the high capacity battery is inserted into the charging insert.

The charge current is applied to the battery pack when the battery pack is in the charging insert. The Red LED indicator labeled "CHARGING" lights when contact has been made with the battery pack contacts.

NOTE

Green Label batteries, as used on Intrinsically Safe or Non-Incendive radios, can also be recharged in any of the above Chargers. However, these Battery Chargers are not approved for use in any area in which a hazardous atmosphere may or does exist.

MAINTENANCE INSTRUCTIONS

Disassembly Procedure

To gain access to the desk charger circuitry for servicing, remove the four 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 other parts.

Troubleshooting Procedure

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

SYMPTOM	CHECK FOR:
LED does not light	1. Battery pack not placed in charging insert properly. 2. Open Fuse (F1). 3. Open LED 4. Correct connection plug. 5. Burned out components. 6. Dirty Charging contacts. 7. Cold solder joint or short circuit.

Fuse Replacement

This Standard Desk Charger is protected by a single fuse (F1) in a fuse holder (XF1) located in the bottom of the housing. If the charger fails to operate, the problem may be a defective fuse. The fuse may be replaced with a fuse that is similar in type and size [1/8 amp (120 Vac) or 1/16 amp (240 Vac) slow blow]. However, if the problem persists, check with service personnel.

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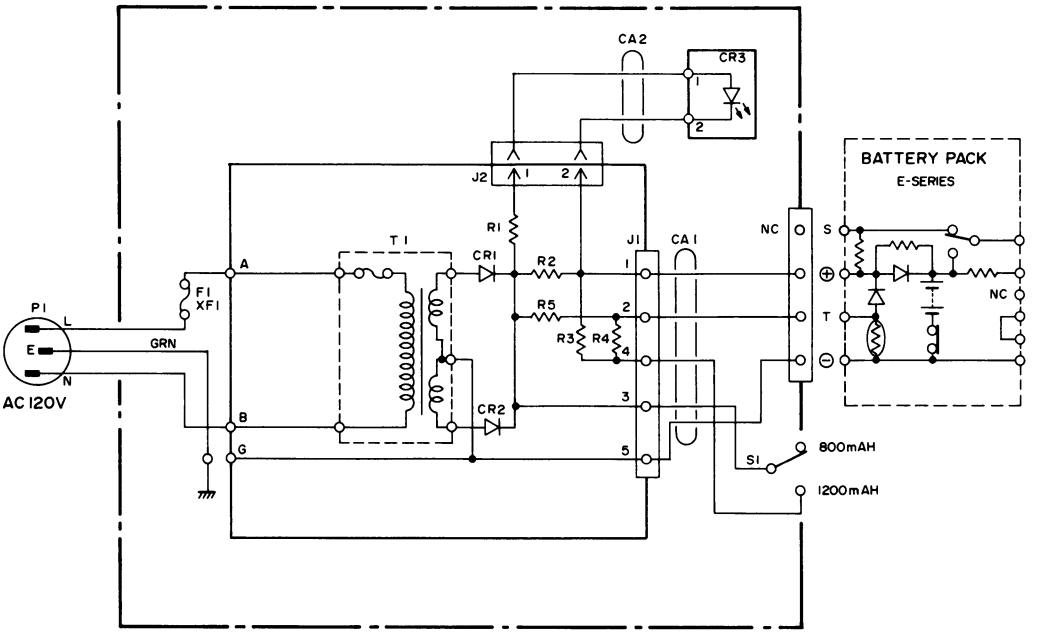
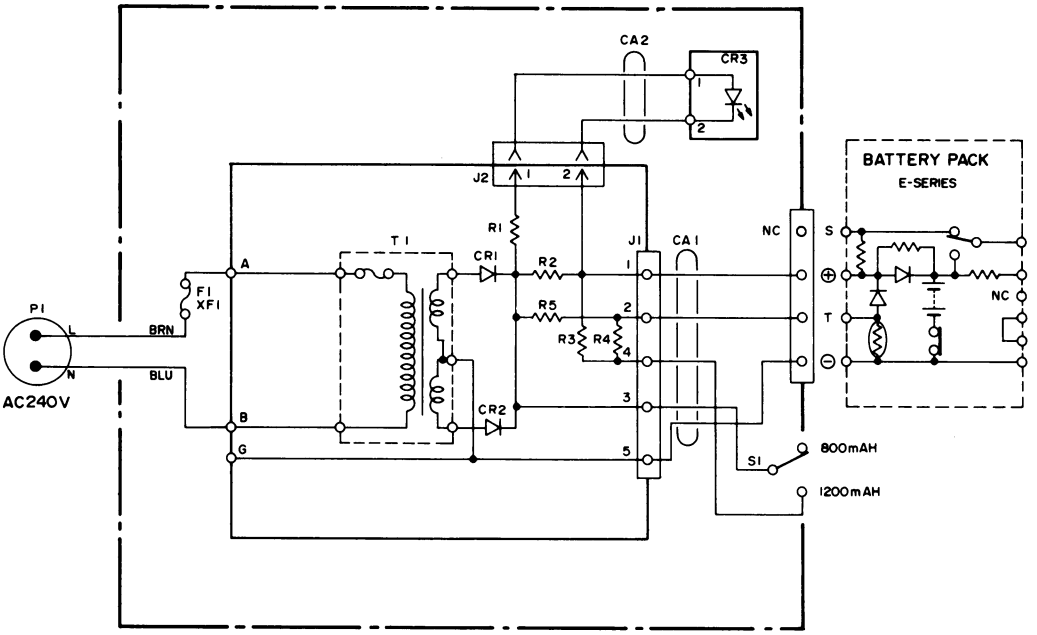




STANDARD DESK CHARGERS

19B801506P11 120 Vac
19B801506P13 240 Vac

PARTS LIST

STANDARD DESK CHARGER
19B801506P11,P13
ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
		- - - - - - - - - - - - DIODE - - - - - - - - - - - -
CR1 and CR2	F29/16-11070-01	IN4002
CR3	F29/16-11400-01	LED SLB-24VR
		- - - - - - - - - - - - FUSE - - - - - - - - - - - -
F1	F29/20-09740-06	3SB125, 125mA, 250V
		- - - - - - - - - - - - FUSE SOCKET - - - - - - - - - -
XF1	F29/20-09770-01	FH-S07
		- - - - - - - - - - - - CONNECTOR - - - - - - - - - -
J2	F29/20-08370-01	B2B-PH-K
		- - - - - - - - - - - - RESISTORS - - - - - - - - - -
R1	F29/10-03060-47F	Metal fixed, RSF1B681J, 680 ohmJ, 1W
R2	F29/10-03070-37F	Metal fixed, RSF2B101J, 100 ohmJ, 2W
R3	F29/10-03070-39F	Metal fixed, RSF2B151J, 150 ohmJ, 2W
R4	F29/10-03070-41F	Metal fixed, RSF2B221J, 220 ohmJ, 2W
R5	F29/10-03070-39F	Metal fixed, RSF2B151J, 150 ohmJ, 2W
		- - - - - - - - - - - - SWITCH - - - - - - - - - -
S1	F29/20-10170-06	SS-5GL2D
		- - - - - - - - - - - - TRANSFORMER - - - - - - - -
T1		TO-1221
		- - - - - - - - - - - - MISCELLANEOUS - - - - - - -
PC1	F29/3P-P1-0451	PWB
PC2	F29/3P-P1-0452	PWB
CA1	F29/4P-M3-0455	Wire Assembly
CA2	F29/4P-M3-0459-01	Wire Assembly
P1	F29/4P-M4-0092	Power Supply Cord (P11).
	F29/4P-M4-0093	Power Supply Cord (P13).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

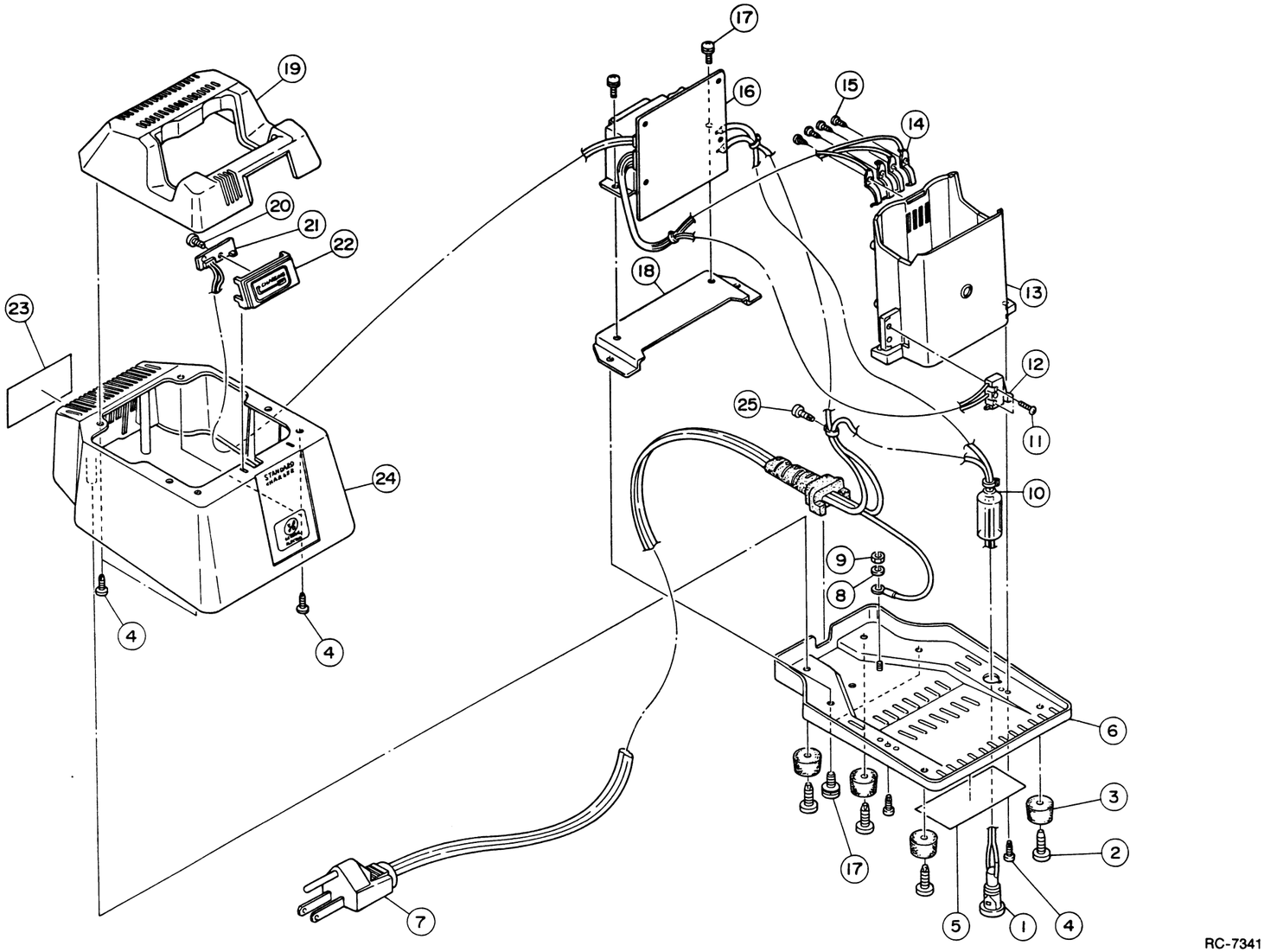
PARTS LIST

STANDARD DESK CHARGER
19B801506P11,P13
(MECHANICAL PARTS)

ISSUE 1

SYMBOL	GE PART NO.	DESCRIPTION
1	F29/20-09770-01	FUSE SOCKET.
2	F29/S-SSNT4015ZC	TAPPING SCREW.
3	F29/4P-B3-0084	RUBBER FEET.
4	F29/S-SSNT3008ZC	TAPPING SCREW.
5	F29/4P-N1-0397	RATING LABEL. (P11).
	F29/4P-N1-0400	RATING LABEL. (P13).
6	F29/2P-D3-0388	CABINET BOTTOM.
7	F29/4P-M4-0092	POWER SUPPLY CORD. (P11).
	F29/4P-M4-0093	POWER SUPPLY CORD. (P13).
8	F29/S-SSKW40ZC	SPRING WASHER.
9	F29/S-SSHN40ZC	HEXAGON NUT.
10	F29/43-00511-01	INSULATOR.
11	F29/S-SSNT2010ZC	TAPPING SCREW.
12	F29/20-10170-06	MICRO SWITCH.
13	F29/2P-B1-0051	LOWER SLEEVE.
14	F29/3P-D4-0069-02	CONTACT.
15	F29/S-SSNT2004ZC	TAPPING SCREW.
16	F29/3P-P1-0451	PWB.
17	F29/S-SSNSK4008ZC	SCREW.
18	F29/4P-D1-0360	BRACKET.
19	F29/2P-B1-0047	TOP SLEEVE.
20	F29/S-SSNT3006ZC	TAPPING SCREW.
21	F29/4P-P1-0452	PWB.
22	F29/3P-B1-0046-02	LED PANEL.
23	F29/4P-N1-0394-01	CAUTION LABEL.
24	F29/2P-B1-0048-01	UPPER CABINET.
25	F29/S-SSNT3010ZC	TAPPING SCREW.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES



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STANDARD DESK CHARGERS

19B801506P11 120 Vac
19B801506P13 240 Vac