

# *Operator's Manual*

## UNIVERSAL DESK CHARGER STANDARD & RAPID

### **WARNING**

TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE



The lightning flash and arrowhead within the triangle is a warning sign alerting you of "dangerous voltage" inside the product.

### **CAUTION**

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.

**See Marking On Bottom/Back Of Product**

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NOTE: The Universal Chargers BML 161 51/022 & /024 have been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## NOTICE!

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## **IMPORTANT SAFETY INFORMATION**

1. **SAVE THIS MANUAL** - It contains important safety and operating instructions for Universal Desk Charger BML 161 51/021 AND /022.
2. Before using the battery charger, read all instructions and cautionary markings on (1) the battery charger, (2) the battery, and (3) the product using the battery.
3. **CAUTION** - To reduce the risk of injury, charge only Ericsson battery packs using the proper battery sleeve. Charging any other battery pack or batteries may cause the battery to burst and cause personal injury or 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 the plug rather than the cord when disconnecting the 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 an improper extension cord could result in a risk of fire and electric shock. If an extension cord must be used, make sure:

## **IMPORTANT SAFETY INFORMATION (Cont.)**

- a. That pins on the plug of the extension cord are the same number, size, and shape as those on the charger's plug;
- b. That the extension cord is properly wired and in good condition; and
- c. That the wire size is large enough for the AC ampere rating of the charger as specified in Table 1.

**TABLE 1  
RECOMMENDED MINIMUM SIZE FOR  
EXTENSION CORDS**

LENGTH OF EXTENSION CORD (ft.)	25	50	100	150
AWG SIZE OF EXTENSION 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; return it to a qualified service shop.
11. Do not disassemble the 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 electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.

## IMPORTANT SAFETY INFORMATION (Cont.)

13. **GROUNDING AND AC POWER CORD CONNECTION** -To reduce the risk of electrical shock use only a properly grounded outlet. The charger is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. Be sure that the outlet is properly installed and grounded in accordance with all local codes and ordinances.
14. **DANGER** - Never alter the AC cord or plug. If it will not fit in the outlet, have a proper outlet installed by a qualified electrician. Improper connection can result in risk of an electric shock.
15. The Rapid charger 120 Vac line cord has a grounding plug that looks like the plug illustrated in 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.
16. **DANGER** - Before using an adapter as illustrated, be certain the center screw of the outlet plate is grounded. The green-color rigid ear or lug extending from the adapter must be connected to a properly grounded outlet--make certain it is grounded. If necessary, replace the outlet cover plate screw with a longer screw that will secure adapter ear or lug to outlet plate and make ground connection to grounded outlet.

## IMPORTANT SAFETY INFORMATION (Cont.)

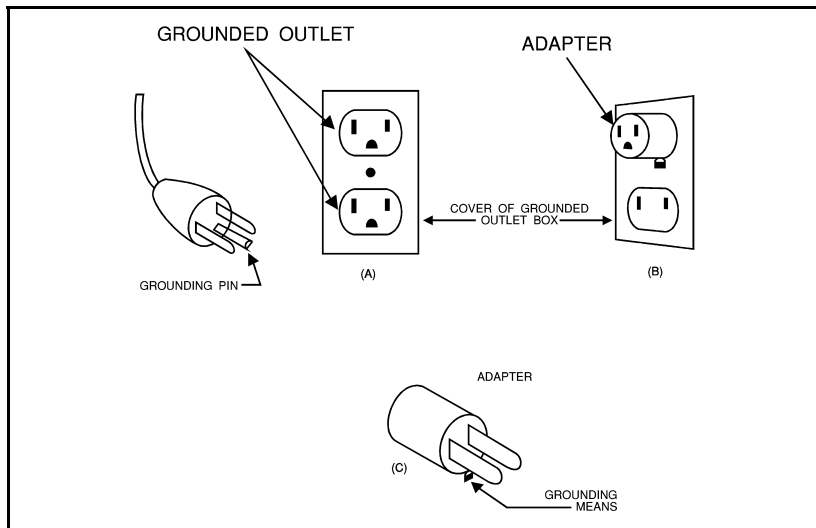


Figure 1 - Grounding Methods

17. Care should be taken when placing the charger in service to insure proper top and bottom ventilation. A minimum of 1/4" is required between the bottom of the charger and the surface on which it sits.

### NOTE

Due to the temperature characteristics of nickel-cadmium batteries, the batteries will not accept a full charge at temperature extremes. For maximum capacity, recharge the battery pack at a room temperature of 65° to 85° Fahrenheit, whenever possible.

## SPECIFICATIONS

VOLTAGE SOURCE	120/230 Vac $\pm$ 10%, 50/60 Hz
POWER CONSUMPTION	
Rapid Charger	33 watts
Standard Charger	6 watts
FUSE RATING	
Rapid Charger	1 Amp 250 volt, fast blow
Standard Charger	not fused
RECHARGE TIME	
Rapid Charger	1 hour
Standard Charger	14 hours
OPERATING TEMPERATURE RANGE	+5° to +45°C (+41° to +113°F)
DIMENSIONS (H x W x D)	
Height	4.4 inches (112 mm)
Width	4.7 inches (118.5 mm) (front) 5.3 inches (134.5 mm) (rear)
Depth	6.6 inches (168 mm)
WEIGHT	
Rapid Charger	2.0 lb. (0.91 kg)
Standard Charger	1.4 lb. (0.64 kg)

## DESCRIPTION

The Universal Desk Charger is designed to charge personal radio battery packs. Each charger is available with one or more interchangeable battery sleeves specifically designed for a particular radio or series of radios.

The Standard Desk Charger is powered by either a 120 Vac or 230 Vac power source through the use of a plug-in power transformer called a "Wall Cube" power supply adapter. The charger is capable of fully charging the battery pack in 14 hours.

The Rapid Desk Charger has a built-in power supply and plugs directly into a 120 Vac or 230 Vac power source. The charger is capable of charging most battery packs in one hour or less.

Battery Pack sleeves are available for the following Ericsson personal radios:

<u>RADIO TYPE</u>	<u>SLEEVE NUMBER</u>
M-PA, M-PD, MTL, PLS & TPX	BML 161 51/001
PCS	BML 161 51/002
M-RK	BML 161 51/003
MONOGRAM	BML 161 51/004
PRISM HP	BML 161 51/005

### CAUTION

Recharging any battery pack or batteries other than the ones your equipment was designed to charge may result in damage to equipment, leakage, or explosion.



## INSTALLATION

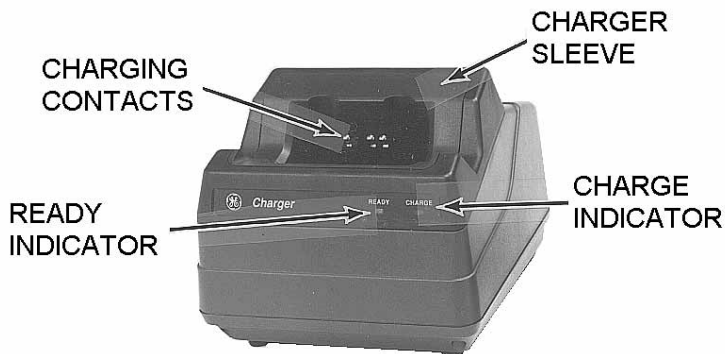
1. **STANDARD DESK CHARGER:** Locate the Standard Desk Charger on a desk or other flat surface near a 120/220Vac 50/60 Hz source. Connect the plug end of the power cable into the power jack located on the rear of the charger. Plug the "wall cube" power supply into the outlet. (To insure adequate ventilation, allow for a minimum of 1/4" clearance around the top and bottom covers.)
2. **RAPID DESK CHARGER:** Locate the Rapid Desk Charger on a desk or other flat surface near a 120/220 Vac 50/60 Hz source and plug into the outlet. (To insure adequate ventilation, allow for a minimum of 1/4" clearance around the top and bottom covers.)

### NOTE

Refer to Universal Desk Charger Maintenance Manual if it is necessary to change the charger sleeve or to replace printed wiring boards, components, or assemblies.

Only an authorized or certified electronic technician should attempt to disassemble or service the charger.

## INDICATORS



## RAPID DESK CHARGER

### WARNING

If both RED and GREEN indicators are blinking fast, immediately unplug the charger and return it for service. If left in this condition, the battery may be severely overcharged causing personal injury or damage.

## **STAND-BY**

Both indicators are **OFF**. Battery not installed.

## **CHARGE (RED)**

**CONTINUOUS:** Indicates battery is charging at the selected charging rate.

**BLINKS SLOWLY:** Indicates a BATTERY FAULT condition which is preventing an acceptable rapid charge. This condition may result if the battery is too hot or cold, weak or dead, or defective. If the blinking RED indicator does not turn to a continuous RED after 15 minutes, remove and reinsert the battery.

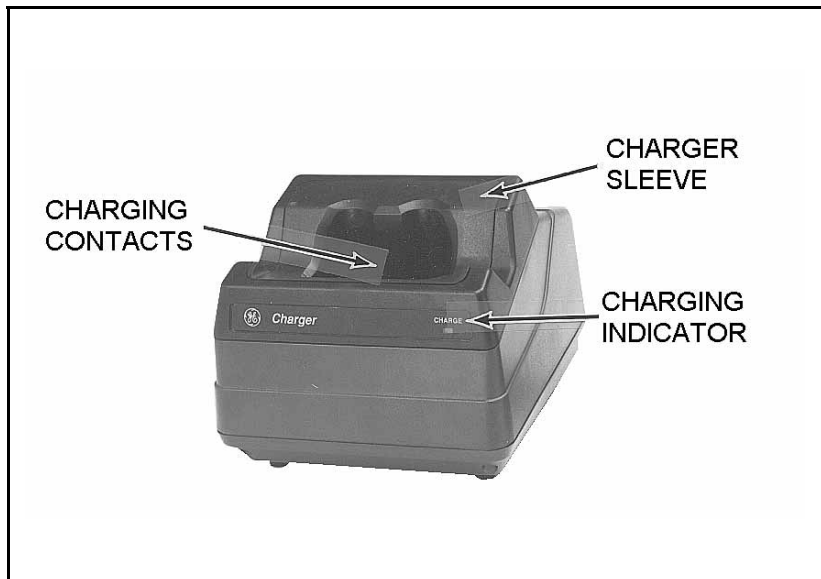
Weak or Dead Battery - The CHARGE indicator goes to continuous RED after the battery has an acceptable pre-charge (typically less than 10 minutes).

Cold or Hot Battery - The indicator stays in a blinking RED condition until the battery temperature reaches acceptable limits and the battery is removed and reinserted to clear the fault condition.

Defective Battery - The indicator stays in a blinking RED condition after clearing the fault by removing and reinserting the battery.

## **READY (GREEN)**

**CONTINUOUS:** Indicates charging is complete and charger has switched to trickle charge.



### STANDARD DESK CHARGER

#### **PROBLEM (RED/GREEN)**

**BLINKING FAST:** When both indicators are blinking fast, either the output has a short circuit or an abnormal output condition exists.

#### **CHARGE (RED)**

**CONTINUOUS:** Indicates battery is charging at the selected charging rate.

## OPERATION

### Using The Desk Charger

#### CAUTION

To reduce risk of injury, charge only nickel- cadmium batteries. Other types of batteries may burst causing personal injury or damage.

1. **Turn the radio OFF** and place the radio into the charging sleeve with the speaker facing the front of the charger, or properly insert the battery into the charger as indicated on the battery pack, making sure the ON-OFF switch on the battery pack is in the OFF position (M-RK, Monogram or Prism HP battery packs do not have an ON/OFF switch).
2. **STANDARD DESK CHARGER:** The RED indicator will light indicating the battery is being charged. The proper charge current for long or short case battery packs is selected by the insert microswitch. To charge the battery to maximum capacity, let the battery pack charge for at least 14 hours.
3. **RAPID DESK CHARGER:** The RED indicator will light indicating the battery is being charged. (If the RED indicator is blinking slowly - the charger is in the pre-charging mode. The charger should switch to normal charge within 10 minutes.) When the GREEN indicator lights - charging is complete and the charger is in trickle charge mode.

## **NOTE**

On occasion when charging a new battery or a battery which has been out of use for a few months, the charger will prematurely switch to the trickle charge before the battery has been fully charged. If this happens, allow the battery to continue trickle charging overnight. Then remove and reinsert the battery and observe that the battery goes through a normal rapid charge before putting it into service.

### **To Remove A Battery Pack**

Simply reach into the cutouts provided in the sides of the charging insert and lift the battery pack out.

## **DEFINITIONS**

Dead Battery	- Battery pack with low voltage due to long-term self discharge or extreme discharge.
Hot Battery	- Battery Pack excessively warmed by charging or environmental temperature conditions.
Cold Battery	- Battery pack excessively cooled by an environmental condition.
Defective Battery	- Battery pack with one or more of the internal cells shorted.

## TROUBLESHOOTING CHART

SYMPTOM	CHECK FOR
<ol style="list-style-type: none"> <li>1. RED LED indicator does not light.</li>   <li>2. Pre-charge too long RED LED blinks slowly for over 10 minutes. (Rapid charger only)</li>   <li>3. Red charge LED ON for several seconds then starts to blink slowly. (Rapid Charger only)</li>   <li>4. RED and GREEN LEDs blink rapidly (Rapid Charger only).</li> </ol>	<ol style="list-style-type: none"> <li>1. Power cable not plugged in securely.</li> <li>2. Defective "wall cube" (Standard Charger only).</li> <li>3. Battery pack not properly installed in charger.</li> <li>4. Defective charger, return to a qualified service shop for repair.</li> <li>5. Charging contacts on the battery or charger are dirty. Clean with soft eraser.</li> </ol> <ol style="list-style-type: none"> <li>1. Defective battery with shorted cells.</li> </ol> <ol style="list-style-type: none"> <li>1. Hot battery (above 45°C).</li> <li>2. Cold battery (below 0°C).</li> </ol> <p>Remove battery and insert after temperature has stabilized.</p> <ol style="list-style-type: none"> <li>1. Defective charger, return charger to a qualified service shop.</li> </ol>

## ACCESSORIES AND REPLACEMENT PARTS

Accessories and replacement parts may be obtained from your local dealer or by calling the Ericsson Inc. After Market Services 24-Hour Toll Free Number **1-800-368-3277 (USA only)** or FAX **1-800-833-7592**. Please provide the description and part number when ordering [e.g. PCS sleeve, BML 161 51/002].

The following pages illustrate and identify the accessories and replacement parts available. NOTE: Complete chargers must be ordered using applicable package number.



120 Vac Wall Transformer  
BML 161 51/041

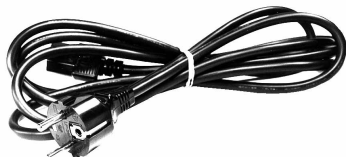


230 Vac Wall Transformer  
BML 161 51/042

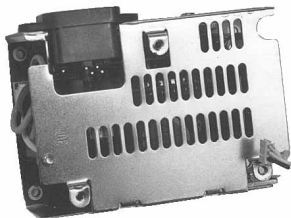




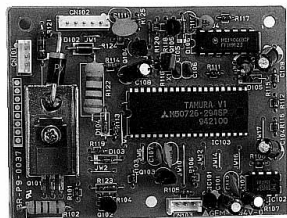
120 Vac Line Cord  
BML 161 51/043



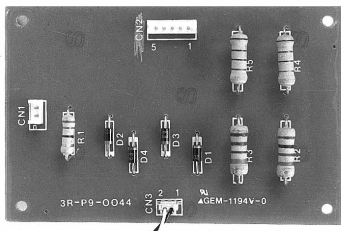
230 Vac Line Cord  
BML 161 51/044



Rapid Charger Power Supply  
F29/4R-A9-0082



Rapid Charger Control Board  
F29/4R-A9-0083



Standard Charger Board  
F29/4R-A9-0086



Charger Sleeve  
M-PA/M-PD/MTL BML 161 51/001  
PCS BML 161 51/002  
M-RK BML 161 51/003  
MONOGRAM BML 161 51/004  
PRISM HP BML 161 51/005

## WARRANTY

- A Ericsson Inc. (hereinafter "Seller") warrants to the original purchaser for use (hereinafter "Buyer") that Equipment manufactured by Seller shall be free from defects in material, workmanship and title, and shall conform to its published specifications. With respect to any Equipment not manufactured by Seller (except for integral parts of Seller's Equipment to which the warranties set forth above shall apply). Seller gives no warranty, and only the warranty, if any, given by the manufacturer shall apply. Batteries are excluded from this warranty but are warranted under a separate Nickel-Cadmium Battery Warranty.
- B Seller's obligations set forth in Paragraph C below shall apply only to failures to meet the above warranties (except as to title) occurring within the following periods of time from date of sale to the Buyer and are conditioned on Buyer's giving written notice to Seller within thirty (30) days of such occurrence.
1. for fuses, incandescent lamps, vacuum tubes and non-rechargeable batteries, operable on arrival only
  2. for parts and accessories (except as noted in B.1) sold by Seller's Service Parts Operation, ninety (90) days.
  3. for all other Equipment of Seller's manufacture, one (1) year.
- C If any Equipment fails to meet the foregoing warranties, Seller shall correct the failure at its option (i) by repairing any defective or damaged part or parts thereof, or (ii) by making available at Seller's factory any necessary repaired or replacement parts. Any repaired or replacement part furnished hereunder shall be warranted for the remainder of the warranty period of the Equipment in which it is installed. Where such failure cannot be corrected by Seller's reasonable efforts, the parties will negotiate an equitable adjustment in price. Labor to perform warranty service will be provided at no charge only for the Equipment covered under Paragraph B.3, and only during the first three (3) months following the date of sale to the Buyer. Thereafter, labor will be charged at prevailing rates. To be eligible for no-charge labor, service must be performed by an Authorized Service Center or other Servicer approved for these purposes either at its place of business during normal business hours, for mobile or personal equipment, or at the Buyer's location, for fixed location equipment. Service on fixed location equipment more than thirty (30) miles from the Service Center or other approved Servicer's place of business will include a charge for transportation. Equipment located off-shore is not eligible for no-charge labor.
- D Seller's obligation under Paragraph C shall not apply to any Equipment, or part thereof, which (i) has been modified or otherwise altered other than pursuant to Seller's written instructions or written approval or, (ii) is normally consumed in operation or, (iii) has a normal life inherently shorter than the warranty periods specified in Paragraph B, or (iv) is not properly stored, installed, used, maintained or repaired. or, (v) has been subjected to any other kind of misuse or detrimental exposure, or has been involved in an accident.
- E The preceding paragraphs set forth the exclusive remedies for claims (except as to title) based upon defects in or nonconformity of the Equipment, whether the claim is in contract, warranty, tort (including negligence), strict liability or otherwise, and however instituted. Upon the expiration of the warranty period, all such liability shall terminate. The foregoing warranties are exclusive and in lieu of all other warranties, whether oral, written, expressed, implied or statutory. NO IMPLIED OR STATUTORY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE SHALL APPLY. IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT OR EXEMPLARY DAMAGES.

This warranty applies only within the United States.

1-800-528-7711 (Outside USA, 804-528-7711)



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