



Impact



Charger Manual

Charger Models:

(((• DC-1-USB

(((• AC-1

(((• AC/DC-3

(((• AC/DC-6-LC

(((• AC/DC-6-USB

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Safety Instructions

This document contains important safety and operating instructions. Before using the battery charger, please read all the instructions carefully and save them for future reference.

- 1) User must not make any modification to the unit. Use of accessories not recommended by Impact Radio Accessories may result in risk of fire, electric shock, or injury.
- 2) Never attempt to charge alkaline or dry cell batteries. They may burst causing damage and personal injury.
- 3) Never let metal, wire or any foreign material come into contact with any internal part of the charger.
- 4) To reduce risk of fire, electric shock, or injury, do not operate the charger if it has been broken or damaged in any way. Take it to an authorized Impact dealer.
- 5) To reduce risk of electric shock, unplug the charger from the AC outlet before attempting any maintenance or cleaning.
- 6) Turn the radio off when charging the battery.
- 7) User must not replace the battery cups, power cables, or power supply units with similar parts in the market. Such actions can cause damage to the charger unit or to the rechargeable batteries and will void the warranty.
- 8) Make sure battery and charger contacts are always clean, otherwise batteries may not fully charge.
- 9) Keep the charger away from TV sets or Radios to prevent interference.
- 10) Always ensure batteries being charged have internal protection circuits.
- 11) Avoid overcharging. Batteries must be removed from the charger to stop charging. Batteries must not charge for more than 15 hours after the LED indicator turns green.
- 12) To reduce risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting the charger.
- 13) An extension cord should not be used unless necessary. Use of an improper extension cord could result in risk of fire and electric shock.
- 14) Connect equipment only to an appropriately fused and wired supply of the correct voltage (as specified on the product).
- 15) Never expose the charger to rain, snow, any liquids or particulate matter.
- 16) The acceptable operating temperature range is 0°C (32°F) to 40°C (104°F).
- 17) The acceptable storage temperature range is -40°C (40°F) to 80°C (176°F).
- 18) Make sure the cord is located where it will not be stepped on, tripped over, or subjected to water, damage, or stress.
- 19) Always ensure proper disposal of batteries and electronics. Never incinerate used batteries. This may cause an explosion.

Charger Safety Features

1) Adapter Cup Safety Features:

- a. Every Impact Charger adapter cup has circuitry in the base of the charger cup and is designed to have 2 pre-set voltage limits: a high or maximum level, and a low or minimum level. This helps protect against any power surges coming into the charger from damaging the batteries or charger circuit board.
- b. If the voltage is below the minimum pre-set voltage, the charger goes into trickle mode until the voltage of the battery gets high enough for rapid charging.
- c. If the voltage is above the pre-set maximum voltage, the charger will shut down and no charge will be put into the batteries.

2) Charger Circuit Board Safety Features:

- a. Ambient Temperature cut-off is set at 90°C (176°F). Charging will be cut off when the charger reaches 90°C (176°F). It will resume charging when the temperature goes down below 65°C (149°F). The red LED will blink 4 times and then stops for 22 seconds. It will repeat itself until the temperature drops down.
- b. The circuit board is outfitted with a fuse to protect against any power surges into the charger and will trip the fuse before the surge reaches the circuit board.

3) Power Supply Unit (PSU) Safety Features:

- a. **Over Power Protection Circuit:**
If the charger software determines there is too much power, it will cease rapid charge and go into standby mode.
- b. **Over Current Protection Circuit:**
If the charger software determines too much current is being applied to the batteries, the charger will cease rapid charge and go into standby mode.
- c. **Short Circuit Protection Software**
- d. **Over Thermal Protection Circuit**

Intended Use

Impact Universal Chargers utilize our fully interchangeable cup system to support most new and discontinued two-way radio batteries. All units incorporate individual micro-processors that fully and safely support NiCd, NiMh, Li-Ion and LiPo battery chemistries. The charger can charge rechargeable batteries of different capacities, from 700mAh to 5000mAh.



Universal Radio Chargers

All our chargers have these features:

- Charge battery with or without radio attached
- Wide range of adapter cups available
- Rapid rate, quad-chemistry charging
- LED charging / charged indicator



DC - 1 - USB

Ideal solution for charging your portable on the go! Perfect for forestry, public safety, and disaster relief. Includes charger cup, cigarette lighter power cable and mounting bracket with radio restraint strap.

- 2 USB ports for charging devices
- Super tough Polycarbonate casing with steel base plate
- 12V DC input with supplied cigarette lighter cable
- Supplied with steel mounting bracket and hardware
- Integrated restraint strap with thumb tab to keep radios secure



AC - 1

The AC-1 is a rapid rate, quad-chemistry single desk top unit fitted with a self switching (110/220V) wall cube power supply.

- Tough polycarbonate casing
- 110/240V self switching power supply cube for international use





AC / DC - 3

This compact and lightweight charger is exactly half the size of our highly popular flagship six bank charger.

- AC and DC cables included
- Mounting brackets and vehicle hard wired kits available
- Smallest & Lightest - 2.5lbs
- 110/240V self switching power supply for international use



AC / DC - 6 - LC

Charge six different batteries with or without the radio attached! This cost effective charger is made with a super tough Polycarbonate casing. Space saving design with dual power source allows you to charge your radios anywhere!

- Super tough Polycarbonate casing
- 110/240V self switching power supply for international use
- Minimal footprint for use in small spaces
- AC cable included. DC cable can be ordered separately



AC / DC - 6 - USB

Charge six different batteries with or without the radio attached! This premium charger has an anodized aluminum case for superior strength and durability. Space saving design with dual power source allows you to charge your radios anywhere!

- 6 USB ports for charging devices
- Smallest & Lightest - 4.9lbs
- Mounting brackets and vehicle hard wired kits available
- Anodized aluminum casing for superior strength and durability
- AC and DC cables included
- 110/240V self switching power supply for international use



Applicable industries:



Construction



Education



Entertainment & Events



Healthcare



Hospitality



Industrial & Manufacturing



Public Safety



Recreational



Retail



Transportation

Replacement Parts & Accessories

Please go to www.impactcomms.com to view our complete list of replacement parts and accessories for your charger.

Operating Instructions

- 1) Your Impact charger should come with the adapter cups installed. If the cups are not installed or you are changing the cups, simply insert the cups into each charger bay making sure to line up the four contact points on the bottom of the adapter cup with the four metal contacts on the base of the charger bay. Secure each cup with the Phillips screw provided.

IMPORTANT NOTE:

DO NOT USE POWER TOOLS. Hand tighten the screw using a Phillips screwdriver to ensure the cup fits firmly into the charger bay.

- 2) Insert the AC power cable into the power cable port or the DC cigarette cable into the DC port.
- 3) Plug the AC power cable into the wall socket or the DC power cable into the vehicle cigarette lighter socket.
- 4) Turn on the charger with the ON/OFF power switch.
- 5) Upon powering up the chargers, the charger unit will perform a self-diagnosis indicated by all red LED lights on the charger unit, flashing at once and then going off.
- 6) Before inserting batteries attached to radios, ensure the radio(s) are powered off.
- 7) Insert a battery, or radio with battery attached, into the charger cup ensuring the contacts on the battery line up correctly with the contacts in the charger adapter cup.

NOTE:

Some charger adapter cups (ex: MOT-11) include spacers that can be removed and flipped to accommodate different battery thicknesses.

- 8) The red LED light(s) will illuminate indicating the charge cycle has begun. The red light will stay illuminated until the charge cycle is complete at which point a steady green LED light will illuminate indicating that the battery is fully charged.

NOTE:

If you notice different LED light behavior, than indicated above in step 8, please refer to the Charger LED Light Coding section on the next page under Technical Information to determine the message or action to take.

Technical Information

⦿• Charger Voltage Ranges:

- **Lithium battery charging** = 7.2V – 8.4V
- **NiCd and NiMh battery charging** = 7.2V – 9.6V

⦿• Power-On Self Diagnostic Feature:

When the charger is plugged in and powered on, it will automatically check the power circuit in each charger bay, indicated by the red LED going on, then off within 1-3 seconds. If there are no batteries inserted in the charger, the charger bay LED's will be steady clear indicating standby/idle mode. If batteries are inserted into the charger, the red LED will be solid for 1-3 seconds and then stay solid red to indicate rapid charging cycle or change to solid green, indicating the batteries are fully charged.

⦿• Charger LED Light Coding:

- **Steady Red** = Battery is charging.
- **Flashing Red** = Battery Fault.
 - **4 x red flashes** = The ambient temperature of the charger is too high for charging.
 - **6 x red flashes** = The voltage of the battery being charged is too low for rapid charge mode. The charger will automatically go into trickle charge mode until the voltage is high enough, at which point the charger automatically changes to rapid charge mode.
 - **8 x red flashes** = The voltage of the battery is too high, and the charger will not charge. Remove the battery for use on the radio.
- **Steady Green** = Battery charging is complete.
- **LED Light Off (with battery inserted)** = The battery's internal protection circuit has been tripped.
- **LED Light Off (with no battery inserted)** = Charger is in standby/idle mode or the charger unit is powered off.

Troubleshooting Tips

1) “My batteries do not appear to be charging or holding a charge.”

If batteries being inserted into the chargers have no LED light reaction, check to ensure the charger and battery contacts are clean and that the battery charging contacts and charger contacts are properly aligned. If LED light behaviour appears to be normal and your batteries seem to have no capacity even after being fully charged indicated by steady green LED's, completely discharge them, then fully charge them again. If they still do not retain a charge (or very little), new batteries must be purchased.

2) “The charger does not power up when plugged in.”

- a. Ensure that the power switch is turned on.
- b. Unscrew fuse holder and check fuse. Replace with the same 15amp fuse if necessary.
- c. Check that power cables are inserted firmly into cable ports and that the power to the wall plug or vehicle DC receptacle is on or functioning properly.
- d. Ensure that all charger adapter cups are fully inserted and charging contacts are touching and aligned with the chargers contact points.

3) “LED light is flashing red.”

This indicates a fault with the battery. Check the bay using another battery. If the bay operates correctly, the battery is not charging sufficiently and will need to be replaced.

4) “LED stays red, then goes green, then off.”

Some Li-Ion batteries have internal protection breakers that send a message to the charger to turn off when the battery is fully charged. The battery will be charged and ready for use. If the battery is left in the unit for an extended period, the charge level of the battery will decrease, and the charger will begin charging automatically. To restart charging cycle, attach battery to radio, power radio for minimum of 5 minutes and then reinsert battery. The charge cycle will begin charging automatically.

5) “One (or more) bay(s) is not working, the LED lights are not illuminating at all.”

To determine if the fault is in the charger or just the cup, remove the cup from the non-working bay and swap it with a cup in a bay that is working correctly. If the same bay LED is still not illuminating, then the processor for that bay may be faulty. If the faulty bay has moved to the bay that was previously working, the cup is possibly defective. Contact your authorized Impact dealer for assistance.

6) “My Motorola CP 150/200 battery does not fit in the MOT-11 cup.”

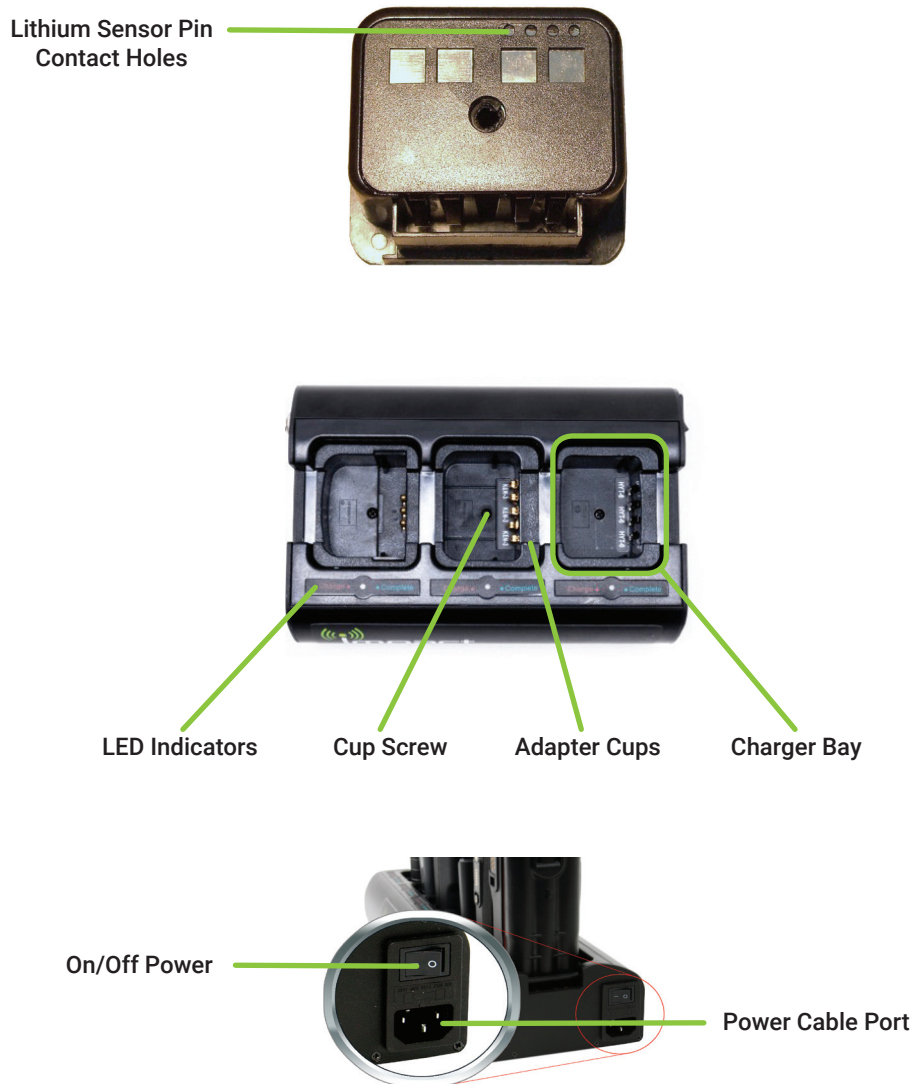
There is a built-in spacer in the floor of the cup. Carefully remove the spacer by pulling the edges away from the side walls of the cup. Turn the spacer around 180 degrees and re-insert.

Important Information

PLEASE READ CAREFULLY BEFORE USING YOUR AC/DC-3 CHARGER

The single metal pin inside the bottom of each charger bay is designed to detect Li-Ion and Li-Po battery chemistries and apply the correct charging algorithm to avoid any overheating issues. It is therefore necessary to ensure that the four sensor pin contact holes are always exposed when charging Li-Ion batteries. When charging NiMh or NiCd chemistry batteries, please cover the access holes with the supplied adhesive strip or electrical tape to ensure maximum charging performance.

Your charger is factory set for charging Li chemistry battery packs.



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