Charger Manual

Charger Models:

- IMPC-1DC
- IMPC-6AC/DC

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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 45°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. 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 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**

IMPC-1DC

2YR WARRANTY

Ideal solution for users that need to charge their portable radio while on the go; public safety, transportation, construction, forestry and more. Includes: charger cup, cigarette lighter power cable, mounting bracket and radio restraint strap.

- USB port for charging devices
- Super tough Polycarbonate casing with steel mounting bracket and hardware
- 12V DC input with supplied cigarette lighter cable
- Charge battery with or without radio attached
- Rapid rate, quad-chemistry charging
- Wide range of adapter cups available
- LED charging/charged indicator

IMPC-6AC/DC

2YR WARRANTY

Charge six different batteries with or without the radio attached! This premium universal rapid two-way radio battery charger with USB device support is made of polycarbonate plastic for strength and durability. Space-saving design with dual internal (not in-line) power source allows you to charge your radios anywhere.

- Mounting brackets and vehicle hard-wired kits available
- 110/240V self switching power supply for international use
- 6 USB ports for charging devices
- Made of polycarbonate plastic
- Additional 10 Ft Fused Cable Hard-Wire Kit available
- AC and DC cables included

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 green 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.

Radios shown are sold separately and not included with the chargers.

Technical Information

Charger Input Voltage = 9V - 16V

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 green LED flashing 5 times, then off. If there are no batteries inserted in the charger, the charger bay LED's will be go off indicating stand by/idle mode. If batteries are inserted into the charger, the red LED will be go on 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:

The red light keeps flashing = the charger temperature is abnormal or the charger input voltage is not between 9V -16V.

- **5 x green flashes (Frequency 1Hz)** = Powering up and performing self-diagnosis.
- **Steady Green** = Battery charging is complete.
- **LED Light Off (with battery inserted)** = The battery's internal protection circuit has been tripped or the battery and cup are not aligned.
- **LED Light Off (with no battery inserted)** = Charger is in standby/idle mode.
- **The red light flashes ten minutes after the battery is inserted** = the battery is damaged and cannot be charged
- **Steady Red** = Battery is charging.
- **Steady Green** = Battery charging is complete.
- **Battery is removed** = The light goes 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 interphone is inadvertently turned on during charging and the battery is not removed after being fully charged for a long time. At this time, the battery will remain in the interphone for a long time, and the battery power will be continuously consumed. When the battery power consumption is less than 8V,the charger will automatically recharge the battery. If the battery has not been removed, the process will continue to cycle.

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.

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