

# REFLEX

2-3s LiPo AC Charger

Simple • Capable • **Safe**

Input power	AC	100-240V @50-60Hz
Internal switching DC power supply	20W	
Charge current rate	Up to 2A	
Output connector	JST-XT 2s and 3s Balance Plugs	
Weight	150g	
Dimensions	105x70x40mm	

- Entire contents ©2014 Radient RC.
- Before using your product, review all documentation and inspect the products carefully. If for some reason you decide it is not what you wanted, then do not continue with unpacking, setup or operation of your product. Your local hobby dealer cannot accept a product for return or exchange after partaking in actions that produce wear and tear.
- Product specifications are subject to change without notice. Due to ongoing development, the actual product may vary from images shown.
- This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
- This product is not a toy! (14+) Recommended for ages 14 and up. Adult supervision required for ages under 18 years old. Contains small parts, keep out of reach of children 3 years of age and younger.

**PACKAGE CONTENTS**

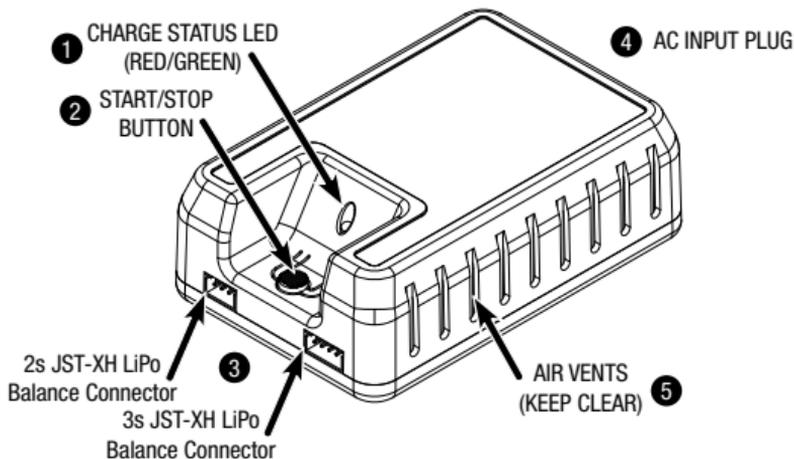
- [1] Reflex Charger
- [1] Documentation package
- [1] HCT to Mini Adapter

**COMPATIBLE BATTERY TYPES FOR USE WITH YOUR CHARGER**

- Lithium Polymer (LiPo)
  - › 2s (7.4V) - 3s (11.1V)

**UNBOXING**

1. Remove the charger from the box.
  - a. Ensure the plug is compatible with your battery.
    - i. NOTE: There are many different types of battery plugs on the market. If yours does not fit the standard supplied plugs, please visit your local hobby dealer to purchase the correct adapter.
2. Read charging instructions and understand all warnings and cautions before proceeding.
  - a. This product is not a toy and should not be operated, or maintained without supervision of an adult.
  - b. It is necessary to follow all manufacturer's charging instructions per each battery type.



## PHYSICAL FEATURES

1. Status LED
  - a. OFF: No input power detected.
  - b. FLASHING RED: Stand By, Power on but no battery connected.
  - c. SOLID RED: Charging.
  - d. FLASHING GREEN: Peak detection active
    - i. The charger has entered Constant Voltage (CV) mode, the battery is approximately 90% charged.
  - e. SOLID GREEN: Charge cycle complete.
  - f. FLASHING RED/GREEN: Error
    - i. Connection problem or damaged battery.
    - ii. Input power is out of operating limits.
2. Start/Stop Button
  - a. Pressing the button for 3 seconds will cause the charge cycle to start, indicated by the LED glowing Solid RED.
  - b. Press to stop charging at any time while charging.
  - c. Press to clear an error.
3. LiPo Balance Charging Ports
  - a. 2s and 3s JST-XH balance connectors
  - b. Connect to the balance leads of your battery. Visit your local hobby dealer for assistance if the plug on your battery and charger do not match.
  - c. **WARNING: Never try to force connectors together.**
4. AC input plug
  - a. For use with grounded receptacles (plugs) supplying 100-240V @50-60Hz AC power.
5. Ventilation for cooling
  - a. Always keep clear and never stick anything into the charger through these or any other holes in the case.

## GENERAL CHARGING PRECAUTIONS...

Although great for first time users, Radiant RC products are indeed advanced electronics that could result in injury if used improperly. Failure to use caution and common sense to operate your product in a safe and responsible manner can result in damage to the product or other properties. Therefore this product is not intended for use or maintenance by children without direct adult supervision. Radiant RC, and your local hobby dealer shall not be liable for any loss or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product or any product required to operate or maintain it. Following are some general tips that will help increase the safe operation and enjoyment of your charger.

### ...GENERAL CHARGING PRECAUTIONS CONTINUED

- Always use a LiPo/Fire safe charging bag rated for the battery you are charging.
- Always operate your charger in a well ventilated area and on a flat surface ensuring no vents are obstructed.
- Do not operate your charger in direct sun light, rain, electrical, or thunder storms.
- The charger should never be connected to a battery without being connected to an input power source.
- Never operate your charger where input power is highly unstable.
- Never attempt to charge a non-rechargeable battery or battery type that is not compatible with this charger
- Operate in a dry, open environment away from property, and cars (never run into the street for any reason).
- Always disconnect the battery from the charger after charge is complete.
- Never connect the battery when the charger is powered off. The charger should always be powered on before connecting the battery.
- Never stick anything into the charger case due to risk of electrical shock.
- Always allow batteries to completely cool before charging.
  - › NOTE: Only use genuine replacement or aftermarket parts available from your local dealer to ensure proper operation of your Radiant RC product.
- Avoid charging on or around flammable items.
- Never attempt to charge a swollen or damaged battery.
- Never leave the battery unattended while charging.
- Never operate the charger without adult supervision.
- Never charge a warm battery, always allow the battery to cool to room temperature before charging.
- Never drop the charger or battery.
- Inspect the battery and charger before use. Never charge a battery or operate a charger if the wire or connector has been damaged or if the battery has experienced a short circuit.
- Incorrect use of the battery, connections, or charging equipment can cause personal injury or property damage.
- Never allow batteries or charger to come in contact with moisture at any time; avoid environments with high humidity.
- Disconnect input power and battery immediately if the battery, connector, or charger becomes hot or changes form during use.
  - › **Warning: The charger can reach temperatures up to 170 degrees Fahrenheit. Avoid prolonged contact to avoid burns and handle the charger with care during a charge and immediately after.**

## THIS PART IS REALLY IMPORTANT PLEASE READ COMPLETELY

**WARNING:** LiPo batteries are designed to be balance charged to ensure each cell within the battery obtain their maximum charge while ensuring the battery pack as a whole is not over charged. If a cell within your battery becomes out of balance, meaning that the charger cannot charge that particular cell at the same rate as the other cells in the battery, the charger will give an error. Please take each error message seriously and take appropriate measures to research if the problem is indeed a cell going bad in your battery. If a cell is indeed going bad and cannot be balance charged, it is time to replace your battery pack. Improper disposal is very dangerous. See your local hobby dealer for appropriate disposal resources for your batteries.

## LETS GET CHARGING

Now that you are familiar with the charger, its features, and general precautions of what not to do and some of what to do, we should get started charging your first battery. Just a reminder... set some time aside so you **DON'T** have to walk away and **STOP THE CHARGER, MID CHARGE** since you should never leave the charger unattended while charging. Finally, confirm the battery chemistry type, capacity, voltage and cell count of the battery you will charge and ensure all connector plugs are compatible. Here are the basics of what you will be doing.

1. Plug the charger into a properly grounded AC power source.
2. Plug the battery into the charger and place the battery on/in a non-flammable surface/container and away from any flammable objects.
3. Follow the appropriate charge instructions for your battery configuration.
4. Unplug the battery from the charger when the charge is complete.
5. Remove charger from wall plug when not in use.
  - a. NOTE: Only use batteries with labels that are legible and clearly state the capacity, cell count (or voltage), and chemistry type as LiPo only.

## CHARGING A LITHIUM POLYMER (LIPO) BATTERY...

The Radiant Reflex charger supports charging of LiPo batteries at a specific rate per configuration. 2s (7.4V) LiPo batteries will charge up to 2 Amps, 3s (11.1V) batteries will charge up to 1.5 Amps.

- › NOTE: Your charger is equipped with a safety shut-off timer set to 240min. Charging of batteries with capacity higher than 5000mAh may require a greater charge time and thus require more than one charge cycle to achieve full charge. It is always recommended to allow your battery to cool to room temperature before charging either the first or second time. If the safety timer is activated, simply restart the charger.

To charge a LiPo battery, perform the following steps:

1. Connect the balance charging leads of your battery to the charger in the appropriate port.
2. This charger will automatically charge batteries at up to 2A, therefore it is recommended to not charge batteries with a capacity rating of less than 2000mAh on this charger.

### **...CHARGING A LITHIUM POLYMER (LIPO) BATTERY CONTINUED**

3. Press the Start button and hold until the 'Status' LED turns solid RED (Approximately 3 seconds) to start the charging cycle.
  - a. NOTE: If the LED begins to flash RED or if the charger is unresponsive to your input, see the troubleshooting guide at the back of this manual.
4. Near the end of charge completion the LED will flash GREEN, indicating the charger has entered Constant Voltage (CV) mode.
5. When the charge is complete, the LED will glow solid GREEN. The LED will glow solid GREEN until the battery or AC power is disconnected.
  - a. NOTE: If the charger encounters an error throughout the start or charging process, the 'Status' LED will flash RED/GREEN. See the trouble shooting guide at the back of this manual for possible solutions.
6. Pressing the Start/Stop button at any time while charging will STOP the charge cycle.

### **CARE AND MAINTENANCE...**

**WARNING: This charger contains an AC to DC converter which stores electrical power for a short time after disconnection from the input source. Always unplug the charger from both input and output before performing any cleaning or maintenance to prevent electric shock. It is advisable to wait at least 1 minute before starting your cleaning or maintenance.**

#### **Care:**

- Always use clean, dry cloth or soft bristle brush to clean your equipment.
- Never use chemical cleansers to avoid damage to the sensitive electronics and plastics.
- Before every use, inspect the input and output power cords and plugs and discontinue use if there are any signs of damage.
  - › NOTE: Continued use of a damaged battery or charger will void the warranty and could cause personal injury and property damage.

#### **Maintenance:**

- Periodically use compressed air to blow out dust that has been trapped inside the charger to help prevent excessive heat due to dust build up.
  - › **WARNING: Always wear eye protection when using compressed air to clean your charger.**
  - › NOTE: Ensure the charger is disconnected from input power and any battery before performing any care or cleaning procedures.

## STORAGE AND DISPOSAL

### Storage:

- Always unplug the AC power cord for storage. Upon removal and reinstallation, always check for damaged/frayed wires and debris that may have fallen into the socket of the cord or charger port.
  - › Warning: Never “kink” (or bend sharply) any electrical wires. Doing so may damage the internal electrical wire even if the outside appears undamaged.
- Never store the charger (or your batteries) in direct sunlight for extended periods of time.
- Since every battery and manufacturer is different, refer to the storage instructions from your battery manufacturer for proper information.

### Disposal:

- Your product and the various batteries it is intended to be used with are considered electronic waste and should never be discarded in standard garbage containers. Please visit your local hobby dealer and use the FREE battery disposal center for proper disposal/recycling of batteries. Consult your local city waste disposal center for information on disposal of electronics other than batteries.
- Please do your part to protect our environment.

## TROUBLESHOOTING GUIDE

Problem / Symptom	Possible Cause	Possible Solution
Status LED is flashing RED/ GREEN	Battery voltage too low	Battery may be dead and in need of replacement
	Battery voltage too high	Battery voltage could already indicate a full charge, attempt to use your battery then charge again
	Input voltage is too low	Check for stable input power with proper voltage
The charger is unresponsive to starting	The button is not being depressed for long enough time	Ensure you are pressing down the button for at least 3 seconds
	There is a connection problem	Check input and output connections



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