



# PIRANHA™

## DC Peak Charger



- Capable of charging batteries rated at 1200–3600mAh capacity
- Includes 80 minute safety timeout
- Output short-circuit fuse protection
- Input and output reverse polarity protection
- Five year warranty

### IMPORTANT PRECAUTIONS

- Charge only nickel-cadmium or nickel-metal hydride rechargeable batteries. Do NOT attempt to charge other types of rechargeable batteries as permanent damage to the battery and charger could result.
- Do not allow water, moisture or foreign objects into the charger.
- Do not attempt to use batteries with more/fewer cells or total voltage than listed in the specifications.
- Do not leave the charger unattended while charging. **Disconnect the battery and remove input power from charger immediately if the charger becomes hot!!** Allow the charger or battery to cool down before reconnecting.
- Do not place the charger or battery on a flammable surface or near a flammable object while in use. Keep away from carpets, cluttered workbenches, etc.
- Do not block the vent holes located on the rear and bottom of the charger. Place the charger on a hard, flat surface and keep objects clear of the rear of the case to allow proper heat ventilation.
- Do not use automotive battery chargers as a power supply for this charger.
- Always disconnect from input power when not in use.
- Do not overcharge batteries as permanent damage could result. Do not attempt to charge a battery if it is hot.
- Keep out of reach of children.

### INTRODUCTION

Thank you for purchasing the DuraTrax® Piranha™ DC Peak Charger. Capable of charging nickel-cadmium (NiCd) and nickel-metal hydride (NiMH) batteries, the DuraTrax Piranha DC Peak Charger is specifically designed for charging 6 or 7-cell sub-C battery packs at approximately 4 amps maximum from a 12 volt DC power source. Piranha's highly accurate peak detection circuitry ensures that batteries reach full charge every time. This is a major advantage over traditional "wind-up" chargers, taking all of the guess-work out of battery charging at the track. The simple push of a button is all the control that is needed, and two status LEDs aid in monitoring charge progress.

**Read this entire instruction manual to learn about specific functions and features and safety information. Damage resulting from misuse or modification of this charger will void your warranty.**

### SPECIFICATIONS

<b>Input Voltage:</b>	11-15V DC
<b>Battery Types:</b>	nickel-cadmium (NiCd) and nickel-metal hydride (NiMH)
<b>Number Cells:</b>	6 or 7
<b>Battery Capacities:</b>	1200-3600mAh
<b>Max. Fast Charge Current:</b>	4.0 amps fixed
<b>Fast Charge Termination:</b>	-deltaV peak detection
<b>Trickle Charge Current:</b>	approx. 50mA
<b>Output Connectors:</b>	lead with standard plug
<b>Fuse:</b>	internal
<b>Case Size:</b>	4.0 x 3.0 x 1.625" (102 x 76 x 42mm)
<b>Weight:</b>	0.44 lb (196g)

### SPECIAL FEATURES

- Incredibly simple, accurate, compact, lightweight and affordable!
- Charges 6 or 7-cell NiCd or NiMH battery packs
- Pushbutton start
- Linear charge current fixed at approximately 4.0 amps
- Automatic trickle charge fixed at approx. 50mA
- Twin LEDs indicate fast charge and trickle charge

### CARE & HANDLING INSTRUCTIONS FOR NiMH BATTERIES

While similar in appearance to NiCd batteries and having the same 1.2V rating per cell, NiMH cells contain a different chemical makeup which requires different care and handling.

- **Do not to allow NiMH batteries to overheat at any time.** Heat can adversely affect the performance of NiMH batteries. If overheating is observed, disconnect the battery from the charger immediately and allow to cool down! Reduce charge current rate for future charges.
- Store NiMH packs with some voltage remaining on the cells.
- Use a NiMH battery pack no more than three cycles per day, with a two to three hour break in-between for cooling. More frequent use is likely to overheat the pack.
- NiMH cells have a self-discharge rate of approximately 20–25% (compared to 15% for NiCd batteries). Thus, if NiMH batteries have been inactive for more than a few days it is important to recharge them immediately prior to use.

### INPUT POWER

The DuraTrax Piranha DC Peak Charger only accepts DC input power, which can be supplied by a 12V DC automotive battery or power supply. Included with this charger is an adapter cable having a small white plug on one end and alligator clips on the opposite end. This is used to connect the charger to the input battery or power supply. Connect the input power cable to the charger by inserting the small white connector into the rear, left hand side of the charger. Next, connect the charger's red alligator clip to the positive (+) terminal on the 12V input battery or power supply, and the black alligator clip to the negative (-) terminal on the battery or power supply. When using a power supply on the input, it is best to use one whose output is filtered to remove unwanted electrical noise. To achieve the maximum potential with this charger, the source battery must be capable of delivering at least 6 amps of current while maintaining 12V DC.

## BATTERY CONNECTION & CHARGER CONTROLS

**Power:** Connect the charger to the desired power source. No LED will illuminate until a battery is connected to the charger's output.

**Charge Connector:** This charger is equipped with a standard battery connector on the output. Securely connect the battery to be charged to the output connector. Pay special attention to ensure that the battery's polarities match the polarities on the charger's output. The red, positive (+) battery lead should be connected to the charger's red, positive (+) output lead, and the black, negative (-) battery lead should be connected to the charger's black, negative (-) charge lead. It is highly recommended to use pre-assembled battery leads to avoid possible erroneous operation as a result of using poor quality connections.

**WARNING! Do not short the battery's positive and negative connections, as permanent damage to the battery and/or the charger will result and void your warranty.**

**Controls:** This charger includes one push button, which will begin the "PEAK" charge function.

## CHARGING BATTERIES

**Cell Numbers and Size:** This charger is capable of charging 6 or 7-cell "sub-C" NiMH (nickel-metal hydride) or NiCd (nickel-cadmium) batteries. Sub-C size cells can easily handle Piranha's 4 amps of charge current, but battery temperature should be monitored during the charge process to make sure the battery does not overheat. This charger should not be used to charge any cells which are smaller in size than sub-C.

**NiCd and NiMH Batteries:** Nickel-cadmium and nickel-metal hydride batteries are fully charged every time, easily, and automatically with Piranha's highly accurate peak detection technology. This method can result in a battery safely receiving approximately 95-98% full charge, after which time the charger will automatically switch to a gentle trickle charge current. Trickle charge will help the battery safely reach its 100% full charge potential.

**To Charge a Battery:** Connect the desired battery pack to the standard connector on the charger's output. The "TRICKLE" LED will begin to flash, indicating the charger recognizes the battery is connected to the output and a trickle charge is being delivered to the battery. Press the "START" button located on the front of the charger to initiate the "PEAK" charge process, which will cause the "FAST" LED to illuminate. The charger will remain in the "PEAK" charge state until the battery has reached peak charge, or until the battery is disconnected from the charger.

**WARNING! It is normal for batteries to become warm during charge. Disconnect batteries IMMEDIATELY if they become hot at any time! Extra caution must be observed with NiMH batteries as any heating will reduce the lifespan of the battery. In such case, it may be necessary to reduce the fast charge current to lower the possibility of heating. Never attempt to charge batteries at excessive rates, as permanent damage could result.**

**Trickle Charge:** This charger will automatically supply trickle charge current to NiCd and NiMH batteries immediately after peak charge has ended. The trickle charge current rate is fixed at approximately 50mA. This charger will indicate that peak charge has ended and trickle charge has begun by flashing the "TRICKLE" LED. The charger will remain in the trickle charge state until the battery is disconnected from the charger.

**Safety Timer:** This charger has a built-in safety timer which provides another level of protection for your battery. If for some reason your battery is unable to reach peak charge, the Piranha

charger will automatically shut down the peak charge process after 80 minutes, and go directly to trickle charge. If this occurs, it is recommended to cycle your battery to see if it is still in useable condition.

## TROUBLESHOOTING GUIDE

**PROBLEM:** LEDs do not illuminate.

**CAUSES AND CURES:**

1. Input or output battery may be connected backwards. Connect battery leads properly.
2. Defective cell in the pack. Replace battery pack or cell.
3. Input power supply may be turned "off," or input battery may be discharged. Check input power supply.

**PROBLEM:** LED and controls do not function properly.

**CAUSES AND CURES:**

1. Battery possibly connected backwards. Connect battery leads properly, or contact Hobby Services for further details.

**PROBLEM:** Trickle charge functions, but will not lock into peak charge mode.

**CAUSES AND CURES:**

1. Output battery in unsatisfactory condition. Replace battery.
2. Poor output connections. Re-check all connections.

**PROBLEM:** Short run-time after battery has been peak charged.

**CAUSES AND CURES:**

1. Output battery in unsatisfactory condition. Replace battery.
2. Input power battery had low capacity. Re-charge input battery and re-charge.
3. Poor output connections. Re-check all connections.
4. Possible internal problem. Contact Hobby Services.

## 5-YEAR WARRANTY - \*USA & CANADA

DuraTrax warrants this product to be free from defects in materials and workmanship for a period of five (5) years from the date of purchase. During that period, DuraTrax will, at its option, repair or replace without service charge any product deemed defective due to those causes. You will be required to provide proof of purchase (invoice or receipt). This warranty does not cover damage caused by abuse, misuse, alteration or accident. If there is damage stemming from these causes within the stated warranty period, DuraTrax will, at its option, repair or replace it for a service charge not greater than 50% of its then current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair. This warranty gives you specific rights. You may also have other rights, which vary from state to state.

For service on your DuraTrax product, warranty or non-warranty, send it post-paid and insured to:

**HOBBY SERVICES**

3002 N. Apollo Drive, Suite 1  
Champaign, IL 61822  
(217) 398-0007

E-mail: [hobbyservices@hobbico.com](mailto:hobbyservices@hobbico.com)

\*For warranty and service information if purchased outside the USA or Canada, see the additional warranty information insert (if applicable) or ask your retailer for more information.

[www.duratrax.com](http://www.duratrax.com)