

## QUANTARAY Microprocessor Controlled 60 Minute Ni-MH & Ni-Cd Battery Charger

This charger is designed to charge Nickel Metal Hydride (Ni-MH) and Nickel Cadmium (Ni-Cd) AA and AAA type rechargeable batteries. Please note that this charger must not be used with Alkaline, Carbon Zinc, Lithium or any other type of batteries other than Ni-MH or Ni-Cd.

### Features:

1. Recharges from 1 to 4 AA or AAA type Ni-MH or Ni-Cd batteries at one time.
2. Powered by the supplied AC adapter when used with household current or the 12volt DC adapter when used in a vehicle.
3. The Microprocessor Control protects batteries with a combination of  $-\Delta V$  detection circuit, an integrated timer and temperature controller.
4. Unique design with adjustable battery contact plates provides dependable connections with AA and AAA type batteries.
5. Automatic charging current selection for AA and AAA type batteries.
6. LED indicator lights for rapid charge, trickle charge and battery defect detection signal.
7. **Red** LED light: Rapid charge. **Green** LED light: Trickle charge. **Orange** LED Light: Cells are not suitable for charging, i.e. short circuit or batteries incorrectly install with wrong polarity.

### Safety Features:

1.  $-\Delta V$  cut-off function
2. Safety timer shut off
3. Reverse-polarity protection
4. Temperature control

### Operating Instructions:

1. Insert 1 to 4 AA or AAA type Ni-MH or Ni-Cd batteries into the battery bay of the charger. Do not mix battery types.

**Note:** To charge AAA batteries, pull down the adjustable battery contact plates, and insert the batteries into the battery bays. The AAA batteries will be held in by the adjustable battery contact plates and the charger will automatically adjust the charging current.

2. Batteries must be inserted in the correct polarity before charging. Do so by matching the positive symbol on the battery with the positive symbol on the battery bay of the charger.
3. Move the Ni-Mh/Ni-Cd selector switch located on the upper left hand side of the charger to match the battery type being charged.
4. Connect the supplied AC adapter plug into the jack at the top of the charger and then connect the AC adapter into a 110 VAC household outlet.

**Caution:** The supplied AC adapter provides 12-24VDC and delivers 750mA-1500mA. If a replacement adapter does not meet these specifications, the charger and/or adapter could become damaged.

5. When using in a vehicle, connect the supplied DC vehicle adapter plug into the charger's DC input jack at the top of the charger. Plug the large end of the adapter into the vehicle's lighter/power port.
6. The **Red** LED light will glow to indicate the charging cycle. After the batteries are fully charged, the **Red** LED light will turn off and the **Green** LED light will become illuminated indicating the charging cycle is complete. The charger will then go into trickle charge mode and the batteries may be removed for use.
7. Unplug the charger and remove the batteries when not in use.

### Bad Cell Detection:

When a battery is placed into the battery charger, the charger will automatically detect the status of the battery. If a battery is not suitable for charging i.e. short circuit or wrong polarity, the **Orange** LED light will flash.

Battery Type	Charging Current	Ni-MH Capacity	Charging Time
AA	2200 mA	1300 mAh	39 minutes
AA	2200 mA	1600 mAh	48 minutes
AA	2200 mA	1800 mAh	54 minutes
AA	2200 mA	2000 mAh	60 minutes
AA	2200 mA	2100 mAh	63 minutes
AA	2200 mA	2300 mAh	69 minutes
AA	2200 mA	2500 mAh	75 minutes
AAA	1100 mA	500 mAh	30 minutes
AAA	1100 mA	650 mAh	39 minutes
AAA	1100 mA	800 mAh	48 minutes
AAA	1100 mA	900 mAh	54 minutes

Battery Type	Charging Current	Ni-Cd Capacity	Charging Time
AA	1100 mA	600 mAh	36 minutes
AA	1100 mA	800 mAh	48 minutes
AAA	550 mA	220 mAh	27 minutes

\* **Please note:** Charging time will vary depending on the brand, capacity and condition of the battery or batteries being charged.

### Important Safety Instructions:

1. Before using this charger, read the instructions carefully.
2. This charger is intended for use with Ni-MH or Ni-Cd rechargeable batteries only. Attempting to charge any other types of batteries will cause personal injury and damage to the charger.
3. Do not mix battery types.
4. Do not expose the charger or adapters to rain or moisture. Designed and intended for indoor use only.
5. Always unplug the charger and adapters when not in use.
6. Never use an extension cord or any other attachment not recommended by the manufacturer. Doing so could result in fire, electrical shock or personal injury.
7. Do not operate the charger if it has been subject to shock or damage. If subjected to shock or damage have it serviced by a qualified service technician.
8. Do not disassemble the charger. Incorrect reassembly may result in a risk of electrical shock or fire.
9. Unplug the charger from an outlet before attempting maintenance or cleaning.

### Warranty:

This Sunpak product is warranted for 90 days for material and workmanship. Repairs will be made to the product at no charge, under the terms of the warranty as stated above, only when accompanied by a dated and itemized bill of sale and nominal handling charge. This warranty is not valid if the product has been misused or damaged in any way that is beyond our control or through normal wear and tear associated with use.

Should service be required, the product should be carefully packed and sent, prepaid and insured to:

ToCAD America Inc.  
53 Green Pond Road  
Rockaway, NJ 07866, USA  
973-627-9600  
www.tocad.com.