# **QUANTUM QB-11 FAST CHARGER**

**INSTRUCTIONS** 

## FAST CHARGER QB-11 FOR QUANTUM BATTERY QB-20

The QB-12 is an adaptor cable used in conjunction with the charger/adaptor QB-11 for charging the QB-20 without removing it from the powerpack. Follow same charging instructions listed below.

#### **Instructions**

The newly designed QB-11 charger makes the Quantum Battery more effective than ever. It rapidly charges the battery, balances the cells, and indicates when full charge is attained. The QB-11 interfaces between regular 200B charger and QB-20 sealed lead battery. It cuts off current when the battery is fully charged, not after heat build-up as with the NiCad system. This results in less strain and a more reliable battery.

The QB-11 charges the QB-20 replacement battery for Norman 200B power packs. The QB-11 is connected between the regular Norman charger and the QB-20 to properly regulate and charge the battery.

The QB-11 will provide 3 functions; it will rapidly charge one or two QB-20 batteries, it will charge balance a badly discharged cell, and it will indicate a full charge.

# Charging the battery

Remove the QB-20 from the 200B and connect it (them) to the QB-11. Plug the Norman charger into the QB-11. **Press the red button** on the Norman charger, and push **PRESS TO START** on the QB-11. The red light of the Norman should light, and the red light on the QB-11 will go out.

As the battery is charged, the QB-11 light will blink on and off. Eventually it will stay lit, indicating full charge. A full charge for one battery takes 1 1/2-2 hours. Charging two batteries takes twice as long. The regulated QB-11 cannot overcharge the batteries if left on charge for longer than necessary for "full" charge.

When power is removed from the QB-11, disconnect the QB-20 from it to prevent discharge of the battery.

# **Charge Balancing**

You can increase the life of your battery by "balancing" the cells. This means equalizing the capacity of the six internal cells in each QB-20. To balance the cells with the QB-11, simply allow it to charge the QB-20 for 12-24 hours. We recommend this procedure periodically, whenever the batteries are not needed for use.

Charge balancing will also revive what appears to be a "dead" battery, due to overdischarging. This could occur if the 200B was left on accidentally, or if a QB-20 was used repeatedly without being charged back to 100% each time. If the QB-20 appears "dead" or very low in capacity, charge it with the QB-11 for 24-48 hours to revive it.

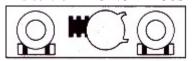
# Using the QB-20

Place the QB-20 in the Norman 200B and operate as usual. The QB-20 will deliver typically 120 full power flashes (200 watt-second) on a full charge. To get optimum performance a slight adjustment of the 200B circuit may be advisable as outlined below.

## WARNING HIGH VOLTAGE

- 1. Remove the battery from the 200B! Turn off!
- 2. Turn the control on the 200B circuit board fully counter clockwise.
- 3. Turn the control back clockwise 2 "hours" (1/6 turn).

#### This control DO NOT ADJUST



# **Operating Units**

- 1. Resting the QB-20 when not needed, by turning the 200B off, increases the number of flashes.
- 2. Charge the QB-20 after each use. Frequent charging promotes long battery life.
- 3. Turn the 200B off when recycle time exceeds 5 seconds and recharge the battery immediately.
- 4. Store the battery in a fully charged state only.