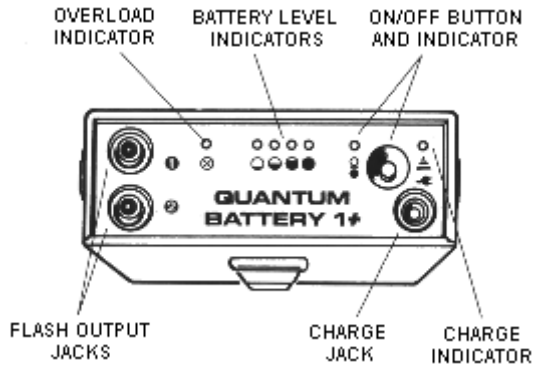# QUANTUM BATTERY 1+

OPERATING INSTRUCTIONS

For Quantum Battery 1+ 's with Serial Numbers : L270 and above

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1.0 NEW FEATURES

Whether you are an old or new QB1 or QB1+ user, please read these new instructions for the latest operating updates!
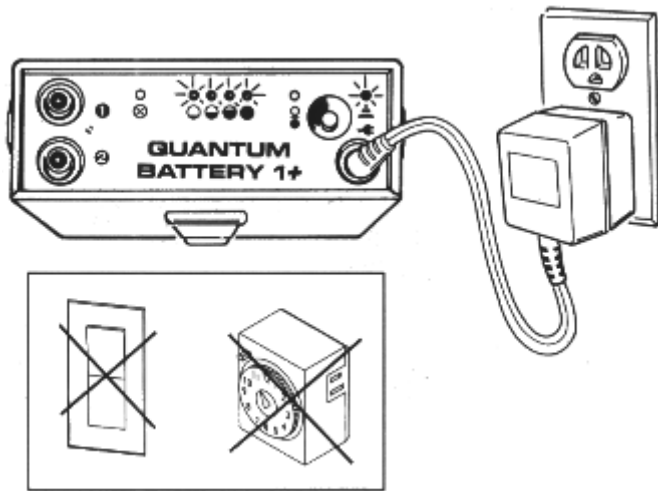

1.1 Battery Capacity Display - Without any flash Modules connected, press the ON/OFF Button. The LED "gas gauge" will display battery capacity for 3 seconds and then shut off.

1.2 Discharge Prevention - If the ON/OFF Button is pressed for more than 10 seconds, the QB1+ shuts off to prevent accidental discharge, such as when stored in a camera bag.

1.3 Energy Saving Mode - Hold down the ON/OFF Button about 3 seconds until the LED "gas gauge" blinks once, then release the Button. The yellow LED will be on and the LED "gas gauge" will display every 3 seconds.

1.4 Low Battery Shut Down - When the cells are exhausted QB1+ shuts itself off. The red Error LED lights and one red "gas gauge" LED blinks slowly. After one minute all lights shut off. **Charge QB1+ as soon as possible.**

1.5 Over Current/Overheat Protection - QB1+ shuts down, the red Error LED will light, and the "gas gauge" will blink 3 times every 2 seconds.

1.6 Charging - Charging time is decreased to between 3 and 5 hours. The LED "gas gauge" indicates the charge progress.

1.7 Self Check - When connecting the charger, QB1+ goes through a self check. If QB1+ detects any problems, the red Error LED will light, and one or more of the "gas gauge" LED's will be blinking. See section 5.3.

2.0 CHARGING QB1+

2.1 When to Charge:

- Charge QB1+ before using it for the first time.
- Charge after each use. The QB1+'s lead cells have no memory.
- *Never discharge fully prior to recharging.*
- Charge immediately if there is a Low Battery shutdown.
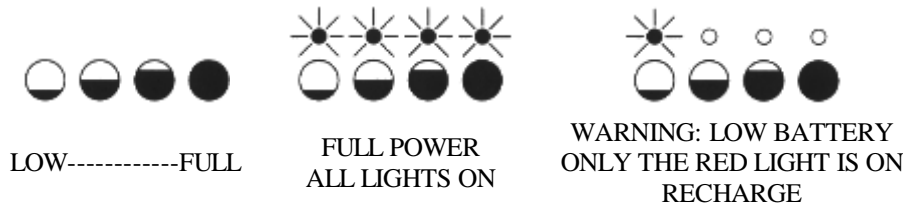- Charge before storing QB1+. Recharge a stored QB1+ every 3 months.

2.2 How to Charge:

- Remove Modules from output jacks.
- Connect the charger to QB1 + and mains (household) power.
- *Charge to completion in one continuous period.* Do not use a timer or connect to a mains outlet that can be turned off.
- *Do not use a voltage adapter.* This will damage QB1+. Instead, use one of the optional QB1+ chargers listed on our web site.
- Charge until all green LED indicators are on.

3.0 FUEL GAUGE INDICATORS

The LED "fuel gauge" indicates the remaining capacity of the battery during charging or discharging.
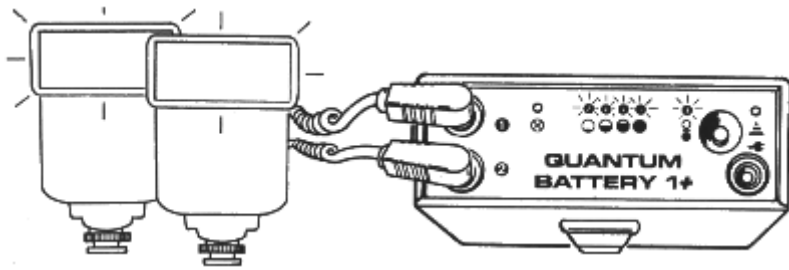
LOW------------FULL

FULL POWER
ALL LIGHTS ON

WARNING: LOW BATTERY
ONLY THE RED LIGHT IS ON
RECHARGE

4.0 POWERING YOUR FLASH WITH QUANTUM BATTERY 1+

4.1 Follow this sequence to assure proper connection to your flash!

a. Connect the Module to the flash. The Module Instructions explain the proper Module position.

b. Plug the Module cord into power output l or 2 on the QB1+.

c. Turn on the flash's power switch.

d. Press the ON/OFF Button of the QB1 +. *You must immediately hear the flash charge, or see indicators on the flash unit turn on.*

e. *If you see or hear nothing press the ON/OFF Button on QB1+ to turn it off!*

f. If you failed to power your flash, reposition the Module inside its battery compartment. Repeat steps a-e until the flash responds and the correct position has been determined.

4.2 Powering two flashes at once:

Connect two modules into outputs 1 and 2. The combined ISO 100 guide number may not exceed 240 (ft.) or 72 (meters). This is the equivalent of two shoe mount flashes.

5.0 TROUBLESHOOTING

5.1 Flash not powered:

- Is the Module correct for your flash?
- Is the Module positioned correctly and firmly seated inside the battery compartment?
- Is the Module cord securely plugged into the QB1+ output?
- Is the flash switched ON?
- Has the QB1+ been charged?

5.2 Charger not charging:

- Is the charger plugged into a working mains outlet?
- Is the charger securely plugged into the charge jack of the QB1+?
- Is the charge LED indicator on?

5.3 Gas Gauge LED's are blinking after connecting the charger:

- If there are three LED's blinking simultaneously, and the red Error LED is on, make sure the proper charger is plugged into the QB1+.
- If one, two, or four LED's blink and the red Error LED is on, this indicates the QB1+ detects a fault in its circuit. Please return the unit for service.

5.4 Overload Occurs:

An overload is indicated by the red Error LED and a blinking gas gauge. QB1+ power to the Modules will automatically shut down. To restart the QB1+, determine the cause of the overload and remove it. Then turn QB1+ off and on again.

5.5 Causes of Overload:

- A Module inserted incorrectly into a flash battery compartment.
- A short circuit across the Module contacts. Be sure the contacts do not touch any metal surface.
- A defective flash unit which has an internal short circuit (repair or replace flash).
- Firing a flash repeatedly before the ready light comes on. This will over stress the flash and may also result in under exposure.

6.0 CARE AND MAINTENANCE

6.1 Battery Replacement:
All rechargeable cells have a limited lifetime, usually a few hundred recharges. The recharge life is greater for shallow discharges, and also depends upon proper charging. Battery cells can be replaced by sending the QB1+ and charger to Quantum Instruments or any overseas distributor.

6.2 Maximum Consecutive Flashes:
Do not exceed the flash manufacturer's recommendation for the maximum number of full power consecutive flashes, without a cool-off period!

6.3 Conserve Power:
Use the Energy Saving mode, section 1.3. To save more power in a slow shooting session, turn QB1+ off when it is not being used.

6.4 Environment:

- Recharge indoors at room temperature.
- Store at room temperature or cooler. Recharge every 3 months when in storage.
- Operation temperature: -40°F to 120°F (-40°C to 55°C).
- Never submerge the QB1+ or its charger in water.

CONTAINS SEALED LEAD ACID BATTERY.
MUST BE RECYCLED OR DISPOSED OF PROPERLY.

DO NOT PLACE USED BATTERIES IN YOUR REGULAR TRASH!

Return this battery to a federal or state approved sealed lead battery recycler.
This may be where you purchased the battery.