

BC-450 BATTERY CHARGER

Instruction Manual

BEFORE USING OUR BATTERY CHARGER, READ IN DETAILS ALL INSTRUCTIONS CONTAINED IN THIS MANUAL. KEEP THIS MANUAL IN A SAFE PLACE AS YOU MAY NEED TO USE IT LATER.

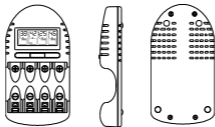
We draw the attention of all users of this device: please follow the safety and maintenance instructions which are part of this manual. Also read the caution markings on the charger, the manual, and the gift box.



INTRODUCTION:

Congratulations on purchasing this intelligent charging unit, which enables definitely quick and optimum charging to “AA” and “AAA” rechargeable batteries. With charging functions as well as individual LCD displays for the charging compartments, this charging unit is reliable, user-friendly and ideal for use in the home, office or on journey.

The Charging unit



CAUTIONS:

1. The charger is restricted to **charging NiCd and NIMH rechargeable batteries only**. Never adopt this charger to other types of batteries, such as alkaline, lithium, carbon zinc battery or other types of battery that is not specified.
2. The charging unit shall only be used at normal indoor room conditions.

3. Always follow the charging instructions for the rechargeable battery.
4. Never use other kinds of the power cable and transformer apart from those originally supplied with the charging unit.
5. The rechargeable battery may become hot during charging. User should take extra care when taking out the battery after charging.
6. Unplug the charging unit from the power source when it is not in use.

FEATURES:

The Charging unit

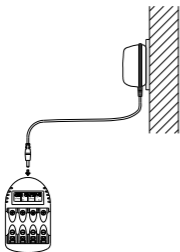
- Charging the rechargeable battery in around 450mA charging current.
- Three operating modes (charging/ discharge/ test) can be launched to the charger.
- Individual LCD display for different compartments.
- Charging both "AA" and "AAA" rechargeable batteries simultaneously.
- Minus delta voltage (-dV) detection for charge termination.
- Defect batteries detection.
- Discharge mode (first discharging and then charging) to remove memory effect of rechargeable batteries.

- Test function to check the capacities of rechargeable batteries.
- The LCD of charger displays the different operating status of different modes.
- Trickle charging is available after the rechargeable battery is fully charged.
- To prevent overcharge, charger timer is available to limit the charging time to 10 hours for each charging process.

INVENTORY OF CONTENTS

1. Charging unit.
2. Transformer.
3. Instruction Manual.

START CHARGING THE RECHARGEABLE BATTERIES



(Figure 1)

After the transformer has been plugged into the power source (Figure 1), user should insert a rechargeable battery into the charging unit and plug the DC jack into the battery charger. Shortly afterwards, the battery voltage (for example, "1.38V") and the "CHARGE" sign will be shown on the LCD.

OPERATING MODES OF THE CHARGING UNIT

This powerful charging unit provides three operating modes:

- a. Charge up the rechargeable battery (**CHARGE**) – to charge up the rechargeable battery, automatically switch to trickle charge after rechargeable battery is full.
- b. Discharge then charge up the rechargeable battery (**DISCHARGE**) – to discharge the rechargeable battery then charge it for minimizing the memory effect.
- c. Check the rechargeable battery capacity in Ah (**TEST**).

SETTING UP THE CHARGER

To choose the operating mode for all battery compartments, user can make selection within 30 seconds after inserting the first rechargeable battery into the charger. Press the MODE key to toggle between CHARGE, DISCHARGE and TEST functions, the selected mode will be flashed on the LCD until the process end. The set up process will be extended another 30 seconds if a rechargeable battery is added during the process.

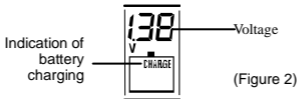
Note: If no rechargeable battery is added within 30 seconds, the set up process is ended and the mode will remain the same permanently. User

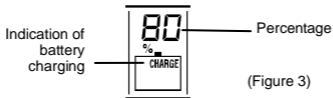
has to take off and reinstall all batteries for selecting the new mode. Only one mode can be used for all compartments at the same time!

CHARGING MODE

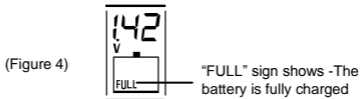
The unit can charge up the rechargeable battery. It will automatically switch to trickle charging after the rechargeable battery is fully charged.

During the process of charging, the display of voltage (Figure 2) and percentage (Figure 3) will alternate with the "CHARGE" sign on the LCD. The item of percentage will show the percentage of the battery charged while the item of voltage will show the voltage of battery.





Once the battery is full, the voltage will display permanently with the “FULL” sign. (Figure 4) The trickle charging will start shortly and around 5% of the charging current to keep the rechargeable batteries being full. The only default charging current is around 450mA during the charging process.



Note:

- The charging current of the rechargeable batteries depends on battery condition. It cannot be selected by the user.
- In case the power source terminates, the charger will reset. Once the power source is back to normal, the batteries will be taken as newly installed batteries in the charger.

- For proper reset, unplug the DC jack and wait for 5 seconds before plugging it into the charger.

The estimated charging time of different battery size is tabulated in Table 1.

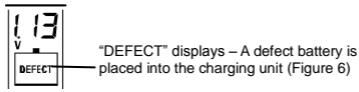
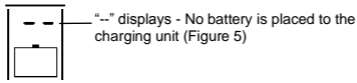
Table 1. Charging Time with Two Types of Battery Size			
Size of battery	Battery Capacity	Charging current (mA)	Estimated charging time
AA	2600mAh	around 450mA	~7 hrs
AAA	1000mAh		~2.5 hrs

Note:

- When the transformer has been plugged into the power source, the version number of the charger (for example "53") will be displayed after all the segments light up momentarily. The "--" sign (Figure 5) will show before the batteries are placed. If the

defect batteries are placed to the charging unit, the “DEFECT” sign (Figure 6) will show on the LCD of charger.

- The “DEFECT” sign will flash for a while on the LCD when the charger detects the battery condition. When the defective condition of the battery is confirmed, the “DEFECT” sign will turn on permanently.



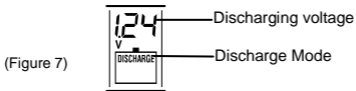
- If attempting to recharge the alkaline or carbon batteries, it may cause rupture, explosion or the leakage of hazardous liquids.
- During the charging process, the “CHARGE” sign will show if any rechargeable batteries are placed into the unit. Users should

make sure that the charged batteries are either NiCd or NiMH type and should not use the alkaline or carbon batteries.

- Carbon or Alkaline batteries may be the cause of the defect. Those types of batteries are NOT suitable for this charger. Another defect cause may come from the rechargeable batteries which voltage is too low.

DISCHARGE MODE

It is for removing the memory effect of rechargeable batteries. To select the discharge mode, please refer to the **SETTING UP THE CHARGER** above. Discharge mode will first discharge the rechargeable battery then charge it. When discharging, the "DISCHARGE" sign and battery voltage (Figure 7) will be shown on the LCD of charger.

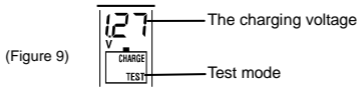
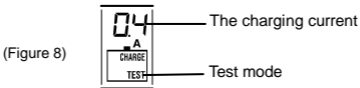


After discharging the battery, the batteries will be charged again. The display of voltage and percentage will alternate on the LCD. Once the battery is full, the voltage will be displayed permanently with the "FULL"

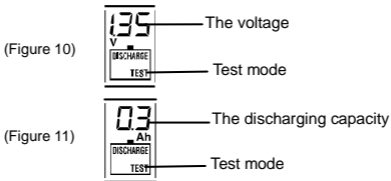
sign. The trickle charging will start shortly and around 5% of the charging current to keep the rechargeable batteries being full.

TEST MODE

To select the test mode, please refer to the **SETTING UP THE CHARGER** above. In the Test mode, the rechargeable batteries will first be fully charged and then discharged to determine the capacities and then fully charge the batteries again. During the first time of charging, the display of current (Figure 8) and voltage (Figure 9) will alternate on the LCD.



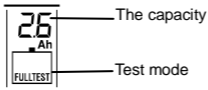
When in the discharging stage, the voltage (Figure 10) and discharging capacity (Figure 11) are displayed alternately.



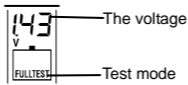
In the second time of charging, the voltage and the capacity are displayed alternately.

When the rechargeable batteries are fully charged, the capacity (Ah) (Figure 12) and the voltage (V) (Figure 13) will be shown alternately with the "FULLTEST" sign on the LCD. The trickle charging will start shortly and around 5% of the charging current to keep the rechargeable batteries being full.

(Figure 12)



(Figure 13)



TRICKLE CHARGING

After the rechargeable battery is fully charged, the charger will give a small amount of current to the rechargeable batteries to maintain the fully charged level. This stage is automatically launched after rechargeable batteries are fully charged and kept at the charging unit. The "FULL" or "FULLTEST" sign will be displayed on the LCD according to the mode user selected.

CARE AND MAINTENANCE:

- Extreme temperatures, vibration and shock should be avoided as

these may cause the damage to the unit.

- When cleaning the displays and casings, use a soft damp cloth only. Do not wet the exposed metal part of the charging unit. Do not use solvents or scouring agents as they may mark the LCD and casing.
- Do not spill water to the charging unit.
- Do not make any repair attempt to the units. Take it back to its original point of purchase for repair by a qualified engineer. Opening and tampering with the units may invalidate its guarantee.
- Do not expose the unit to extreme and sudden temperature changes. This may lead to the damage to the electronic parts of the unit.

SPECIFICATIONS:

Input voltage for AC/DC adapter	:	100V AC ~ 240V AC
Charging current	:	around 450mA (for each battery)
Max charging capacity (capacity of rechargeable batteries)	:	3000mAh
Dimensions (L x H x W)	:	
Charging unit	:	66 x 123.8 x 22.3 mm

LIABILITY DISCLAIMER:

- The manufacturer and supplier will not accept any responsibility on the improper or incorrect use that makes any consequence occur.
- Any performance of repairs or alternations by any person other than the original supplier will invalidate the warranty.
- This product is designed to be used only by people who have read and understood this instruction manual.
- The specifications of this product may be subject to change without any prior notice.
- This product is not a toy. Keep the children from it.
- User cannot reproduce any part of this manual without the written consent of the manufacturer.

CAUTION - SAFETY INSTRUCTIONS :

Attention of users should be drawn to the following important safety instructions:

- **As stated in the manual above, only use NiCd or NiMH rechargeable batteries.**
- **The unit is for indoor use only. Do not expose it to humidity. Do not place it in water or submit it to rain and/or snow. Do not store or use it near an extreme heat. Keep batteries away**

from the fire.

- **Do not use any accessory not supplied with the charger. The user should never use any power cable and transformer other than those originally supplied with the charging unit.**
- **Disconnect the AC/DC adapter when the unit is not in use.**
- **Do not operate the charger if it has received a blow or has been subject to any damage.**
- **Do not use the Battery charger for other purposes than the Only one originally forecasted.**
- **Do not open or/and disassemble the charger: such handling may result in the risk of electric shock or fire.**
- **User can reset the function of the product that is subject to the electrostatic discharge disturbance and surge. Please follow the instruction described in this manual to reset the function for normal operation.**