

# INSTRUCTION MANUAL

**NC1500** AA/AAA NiMH Battery Charger & Analyzer

**SKYRC**

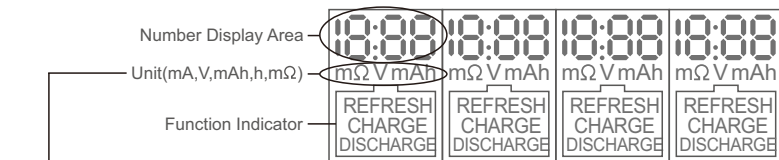
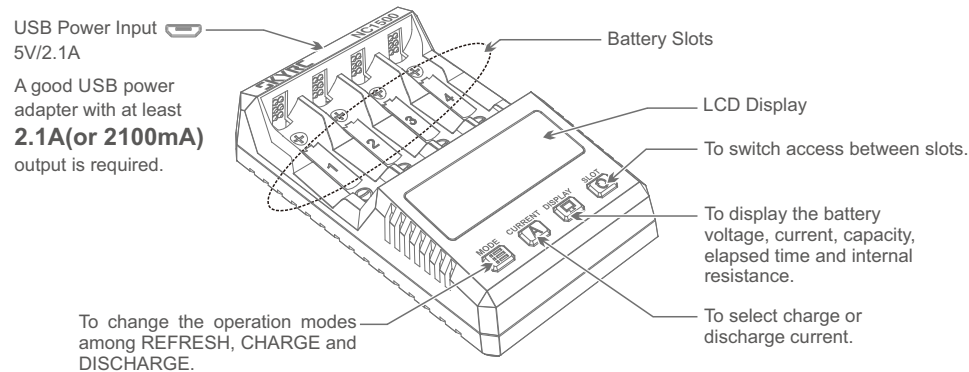
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## INTRODUCTION

Thank you for purchasing SkyRC NC1500 AA/AAA Battery Charger & Analyzer.

Charging batteries is usually a primitive, boring and mundane activity, and it still is. What matters during the charging activity, especially for AA/AAA NiMH battery charging? No doubt, accuracy and safety. The creation of NC1500 charger not only arises out of need, but also from the desire to have a simple but safe and accurate charger for such battery.

NC1500 has 4 independent slots and supports AA/AAA NiMH batteries, offers maximum charge rate of 1500mA.



mA	Charge or discharge current
V	Battery voltage
mAh	Battery capacity
h	Hour (duration of operation)
mΩ*	Battery internal resistance

*\*At the start of a program, the device always performs a quick standard test first in order to determine the internal battery resistance. Aged or poor condition batteries have a higher IR and therefore heat up more during charge or discharge. The values are estimates and will vary depending on the state of the batteries and operation environment.*

## FEATURES

- Four independent slots, can charge 1-4 pcs of NiMH AA or AAA in any combinations.
- Individual battery charging status
- LCD display for easy reading.
- Four buttons for easy operation.
- Three modes of operation: CHARGE, DISCHARGE and REFRESH.
- Battery internal resistance detection
- Powered by any USB adapter, smartphone charger or power bank.
- Maximum 1500mA charge rate for 1 or 2 batteries.
- Termination methods:
  - Individual minus delta voltage (-dV)
  - Individual safety timer
  - Temperature sensor
- Trickle charge: to always have fully charged batteries

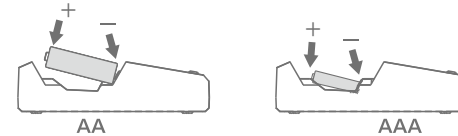
## OPERATION

### 1. CHARGE

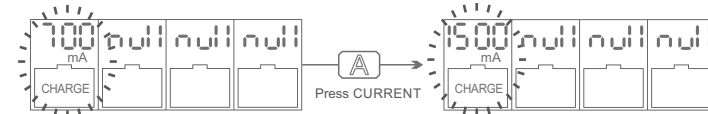
This function allows you to charge a single AA or AAA or mixed with AA and AAA battery up to four at one time. Charges your battery with selected constant current. Charging terminates when the battery is full or some other termination criteria has been met. Useful when battery needs to be recharged. Should be used on batteries known to be in good condition and which have been in continuous use.

**Note: As the 4 slots are independent from each other, we only take slot 1 as an example for below operation mode descriptions.**

- 1) Connect the USB power adapter to the charger. A good USB power adapter with at least 2.1A(or 2100mA) output is required to power up NC1500.
- 2) Insert a battery into slot.

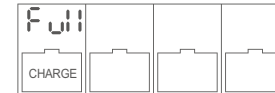


- 3) Press **A** to select charge current (200, 500, 700, 1000, 1500mA),  
**Maximum charging current can be set at 1500mA when only ONE or TWO batteries are charged. The maximum charging current for THREE or FOUR batteries is 1000mA.**



After setting, the interface will stop flashing and CHARGE will initiate automatically 8 seconds later.

- 4) Once the process is initiated, no other operations, like mode change, current selection etc. will be accepted. Users, however, can click **Q** to check the battery real-time parameters like current, voltage, charge capacity, internal resistance and elapsed time.
- 5) Displays Full when the CHARGE process has finished.



Trickle charging: After the battery is fully charged, the charger will give a small amount of current to maintain the fully charged level.

### Charging Time with Various Charging Current \*

Size of Battery	Battery Capacity	Charging Current Selected (mA)	Estimated Charging Time
AA	2600mA	1500 (1 or 2 Pcs)	~100min
		1000	~2h 30min
		700	~3h 30min
		500	~5h
		200	~13H
AAA	1000mA	1000	~60min
		700	~70min
		500	~100min
		200	~5h

*\* Charge times are a guide only. Timing may differ according to brands/mAh capacity and environment conditions at the time of charge*

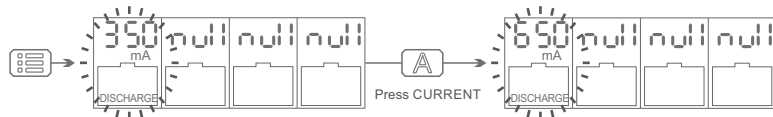
## 2. DISCHARGE

Useful for analyzing the remaining amount of electric charge stored in the battery.


1) Insert a battery into slot.

2) Press  to select DISCHARGE mode;

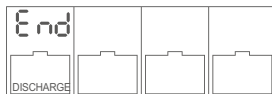
Press  to select discharge current (100, 250, 350, 500, 650mA),



After setting, the interface will stop flashing and DISCHARGE will initiate automatically 8 seconds later.

3) Once the process is initiated, no other operations, like mode change, current selection etc. will be accepted. Users, however, can click  to check the battery real-time parameters like current, voltage, discharge capacity, internal resistance and elapsed time.

4) Displays End when the DISCHARGE process has finished.



## 3. REFRESH

First charges the battery, rest for one hour, discharges, rest, then recharges again. This function reduces the memory effect and re-activates rechargeable batteries that have been unused for a long period of time. Also useful when the battery capacity needs to be determined.

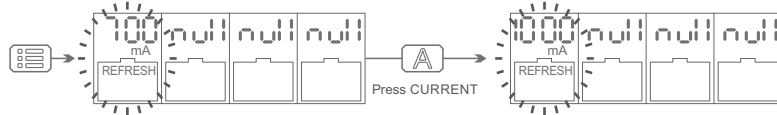
What is memory effect: It describes the situation in which rechargeable batteries gradually lose their maximum energy capacity if they are repeatedly recharged after being only partially discharged. REFRESH may bring the rechargeable battery back to optimum condition.

1) Insert a battery into slot.


2) Press  to select REFRESH mode;

Press  to select charge current (200, 500, 700, 1000, 1500mA).

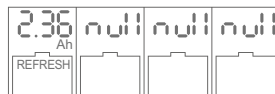
Discharge current will be half of charging current selected.



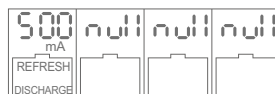
After setting, the process will initiate automatically 8 seconds later. It will stop flashing and enter into CHARGE process.

3) Once the process is initiated, no other operations, like mode change, current selection etc. will be accepted. Users, however, can click  to check the battery real-time parameters like current, voltage, charge capacity, internal resistance and elapsed time.

When the CHARGE process finishes, the slot will rest for an hour and displays as shown on the right:



Starts DISCHARGE routine after resting. Displays as shown on the right:



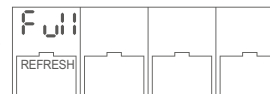
Rests for another hour after the DISCHARGE process has finished. Displays as shown on the right:



Recharges the battery to Full. Displays as shown on the right:



4) Displays Full when the REFRESH process has finished.



## Charge Four Batteries With Different Modes at Same Time

Scan to watch



*Example:*

Two batteries at charge mode, one at discharge mode and one at refresh mode.

## SPECIFICATION

USB Input Power: 5V/2.1A

Operation Mode: CHARGE, DISCHARGE and REFRESH

Charge Current: 200mA / 500mA / 700mA / 1000mA / 1500mA

Discharge Current: 100mA / 250mA / 350mA / 500mA / 650mA

Max Charging Capacity: 3000 mAh

Trickle Current: 50mA

Operating Temperature: 0 ~ 45 °C

Size: 108\*73\*28mm

Net Weight: 106g

## CAUTION

- The charger is restricted to charging NiMH rechargeable battery only.
- Never adapt this charger to other types of batteries such as alkaline, lithium, carbon zinc.
- Never charge or discharge any battery having evidence of leakage or damage.
- Do not expose the device to direct sunlight, heating devices, open flames; avoid extreme high or extreme low ambient temperatures and sudden temperature changes.
- Operate on a hard flat nice clean smooth heat-resistant nonflammable nonconductive surface in a well-ventilated area. Never place the device on a carpet, or similar.
- Keep all the inflammable volatile substances away from operating area.
- Avoid mechanical vibration or shock as these may cause damage to the device.
- Do not short-circuit slots or other parts of the device. Do not allow metal wires or other conductive material into the charger.

## WARRANTY AND SERVICE

**THIS WARRANTY IS ONLY VALID IN THE COUNTRY OF PURCHASE AND THROUGH FORMAL DISTRIBUTOR.**

We guarantee this product to be free of manufacturing and assembly defects for a period of one year from the time of purchase. The warranty only applies to material or operational defects, which are present at the time of purchase. During that period, we will repair or replace free of service charge for products deemed defective due to those causes.

For any repair or replace service, please contact your dealer in the first instance, who is responsible for processing guarantee claims. This warranty is not valid for any damage or subsequent damage arising as a result of misuse, modification or as a result of failure to observe the procedures outlined in this manual.

The manual is subject to change without notice; please refer to our website for the latest version!

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