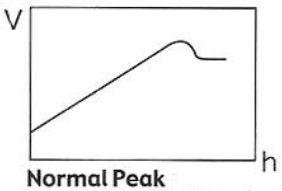
# CDC Charger Ver.6.0

CHARGE DISCHARGE CYCLE

Thank you for your purchase. This is the most advanced charge / discharge system for Ni-Cd & Ni-MH batteries. Our exclusive battery internal resistance detection accurately calculate battery IR in realtime during charging, discharging & cycling. New V6 software also allow users to set trickle charge on/off, store 10 battery profiles, recall last battery charge and discharge data, select 6 different ring tones, handle 1 to 10 cells with high performance switching circuitry, select partial charge, set auto timer for repeak, boost battery before race...etc The unit may seems complicated at first but once you start using it, you will find it very user friendly. The following user guide will be very helpful for both expert users and beginners.

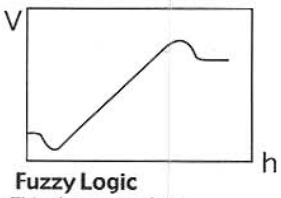
## NEW FUNCTION

### NORMAL PEAK



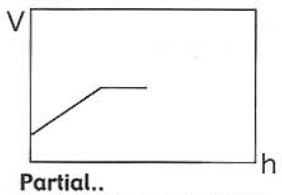

**Normal Peak**
Use this mode for all standard charging applications. You can setup the unit to perform one peak or two peaks. You can setup the auto repeak delay time within the USER SETUP MODE. To turn off the 2nd peak, set the repeak delay time to zero.

### FUZZY LOGIC



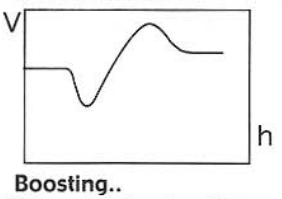

**Fuzzy Logic**
This charge mode is especially useful for packs with a partial charge. The unit would first discharge your pack according to your preset discharge rate and then fully charge your pack.

### PARTIAL ..




**Partial..**
Use this mode only for Ni-MH cell(s). Certain Ni-MH batteries require a partial charge for long term storage. You can program the amount of partial charge in the USER SETUP MODE. 10 to 30% usually good for Ni-MH battery.

### BOOSTING ..




**Boosting..**
This mode is developed for racing application. You can get the most capacity and power from your batteries using this boosting function. The unit first partial discharge your pack momentarily follow by a preprogrammed fast charge, this increase battery temperature as well as it's overall voltage output. We suggest that you only use this boosting feature when your pack is cool. Never use the Boosting function when your pack is still warm.

## SPECIFICATION

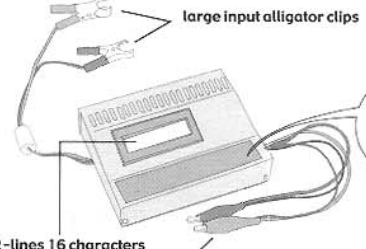
| ADD Specification | |
|---|---|
| LCD | 2x16characters INDIGO Blue backlit LCD display |
| BUTTONS | Surface Panel Type |
| Battery IR | mOhm |
| Auto Repeak | On/Off 1-60 Minutes(1minute step) |
| Partial Charge | 10-50%(10% step) |
| Alarm Sound | 6 Ring Tones (user selectable) |
| Case Size | 6.14"x 4.80"x 1.77" (15.6x12.2 4.5cm) |
| Weight | 24.54ounces(695g) |
| Input Voltage(Power Source) | 11.5-15 Volts DC |
| Charge Battery Capacity | 50-6000mA (50mA step) |
| Charge rate(Super linear) | 0.1-7.0A(0.1A step) |
| Auto Trickle | ON/OFF Auto Trickle Value |
| Discharge Rate | 0.1-20.0A(0.1V step) |
| Volt Threshold | 3-20mV/cell for Ni-CD,3-15mV/cell for Ni-MH, |
| Cycle Number | 1-9 times(1 time step) |
| Delay Time For After Charge | 1-10 Minutes(1 Minutes step) |
| Delay Time For After Discharge | 1-60 Minutes(1 Minutes step) |

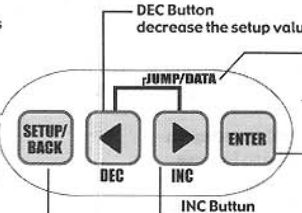
## LCD Display

| | | Charge or Discharge capacity | Charge or Discharge time | Outoput Battery Voltage | Charging Current (Discharge Current) | Slow charging current | Input Voltage | Peak Voltage | Average Voltage (0.000V) | Battery Resistance (mΩ) |
|---|---|---|---|---|---|---|---|---|---|---|
| Charge mode | During charge | ● | ● | ● | ● | | ● | ● | | ● |
| | After charge | ● | ● | ● | | ● | ● | ● | | ● |
| Disharge mode | During discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | After discharge | ● | ● | ● | ● | | ● | | ● | ● |
| Cycle mode | During initial discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | During discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | During charge | ● | ● | ● | ● | | ● | ● | | ● |
| | After charge | ● | ● | ● | | ● | ● | ● | | ● |
| | After test discharge | ● | ● | ● | | ● | ● | ● | ● | ● |
| Data | | ● | ● | ● | ● | ● | ● | ● | ● | ● |

## CDC FEATURES

You can push DEC and INC together to access a special screen.This screen save previous battery charge and discharge information, data is available until power source is disconnected.




**DEC Button**
decrease the setup value, select modes, and charge to other data screens.

During BATTERY INFO setup screen, you can press DEC and INC together to initiate a Jump command. This shortcut is for experience users to bypass charge and discharge setup screens. JUMP command brings you to your preset charge, discharge and cycle modes without going through the usual setup steps.

**ENTER Button**
select differrent operation modes, enter data and start operations.

**INC Buttun**
increase the setup value , select modes, and charge to other data screens.

**SETUP/BACK Buttun**
cancel operation and data erase(reset) , or returns you to the revious screen within the SETUP mode.



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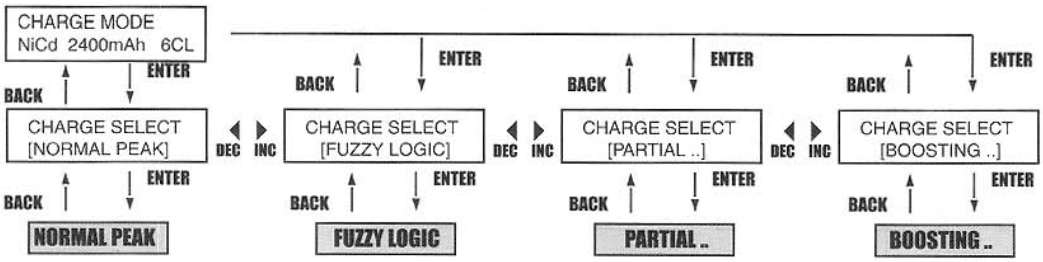
## CHARGE




Change to CHARGE SELECT screen, when press "ENTER".
Choose charge selection control by DEC and INC buttons.
Then press "ENTER" to start.

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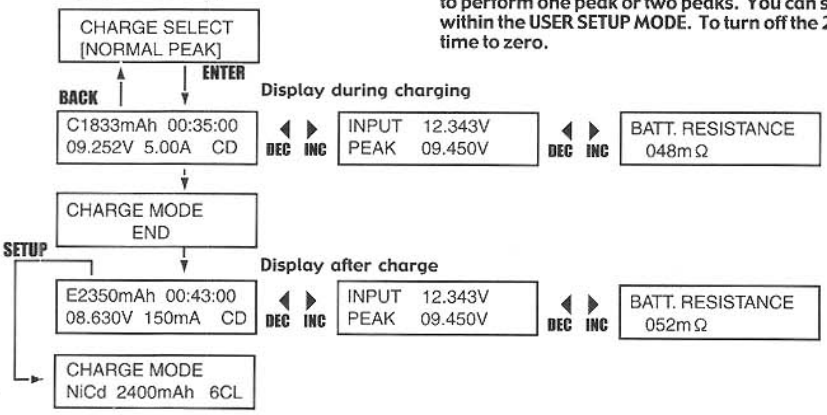
### NORMAL PEAK — Normal Peak

Use this mode for all standard charging applications. You can setup the unit to perform one peak or two peaks. You can setup the auto repeak delay time within the USER SETUP MODE. To turn off the 2nd peak, set the repeak delay time to zero.

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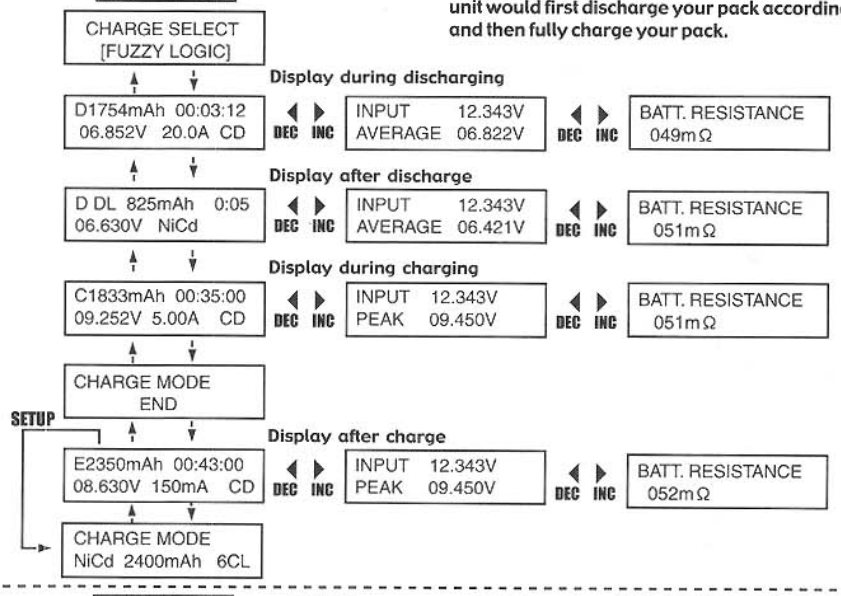


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### PARTIAL .. — Partial..

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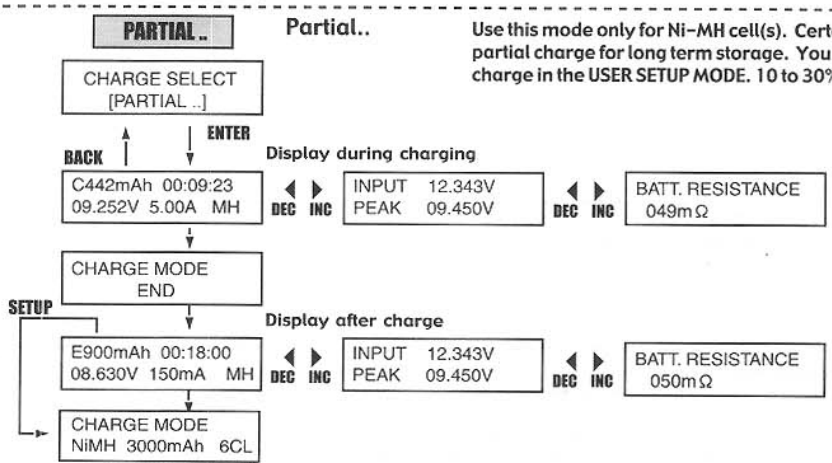

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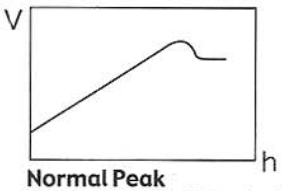


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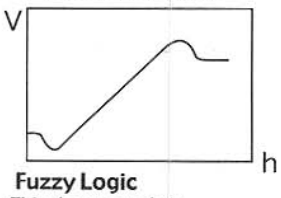


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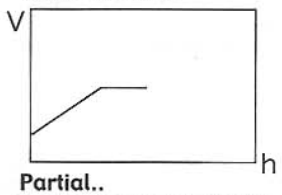


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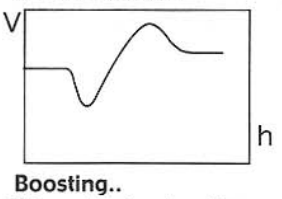


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| | After charge | ● | ● | ● | | ● | ● | ● | | ● |
| Disharge mode | During discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | After discharge | ● | ● | ● | ● | | ● | | ● | ● |
| Cycle mode | During initial discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | During discharge | ● | ● | ● | ● | | ● | | ● | ● |
| | During charge | ● | ● | ● | ● | | ● | ● | | ● |
| | After charge | ● | ● | ● | | ● | ● | ● | | ● |
| | After test discharge | ● | ● | ● | | ● | ● | ● | ● | ● |
| Data | | ● | ● | ● | ● | ● | ● | ● | ● | ● |

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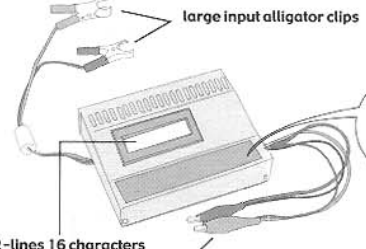


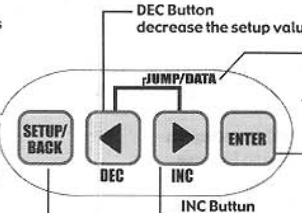


**DEC Button**
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cancel operation and data erase(reset) , or returns you to the revious screen within the SETUP mode.



Next Page>>

# SAFETY PRECAUTION

1. Do not leave the battery and the charger unattended while in use.
2. Do not operate the charger near water
3. It is the users responsibility to follow battery mfg. suggested charge rate.
   Users must also closely monitor the pack temperture during fast charging.
   Overcharging may occur if the CDC malfunction or when user does not follow
   battery mfg. recommended charges rate.
4. Never connect the charger to an automobile while it's engine is running.
5. This charger is not intended for use by unsupervised children.
6. This charger is disigned for high power Ni-Cd & Ni-MH battery only.
7. When charging , also monitor the temperature of the charger. If the unit becomes too hot , disconnect the unit

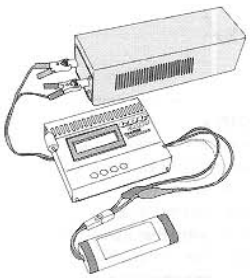
## CONNECTING THE POWER SOURCE & BATTERY PACK

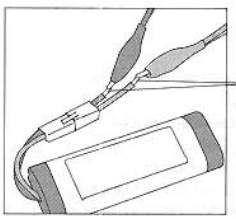
Please see the SELECTION MENUS CHART.

1.You can use any regulated supply or lead-acid battery which supplied 11.5-15volts DC with at least 10A capacity.
12V automotive charger also works fine. CDC shows Previous setup values when you connect the large input clips to power source.

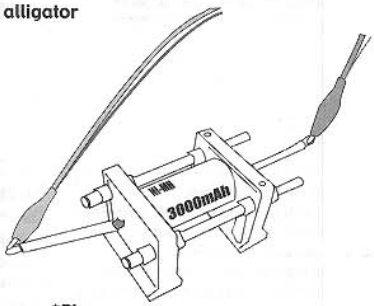
The RED Positive (+) large input clips to the POS(+) terminal of the power source , BLACK Negative(-) large input clips to the NEG(-) terminal of the power source.

2.Connect the small alligator output clips to your Ni-CD or Ni-MH pack.
The RED positive(+) alligator output clips to the positive(+) side of the battery wire , BLACK negative(-) alligator output clip to the negative (-) side of the battery wire.
A poor connection can cause the charger to FALSE PEAK and turn off before a full charge is completed.





The connector wires must be different length,this would help prevent short circuit .




*Please use
EAGLE BATTERY HOLDER
when matching single cell batteries.

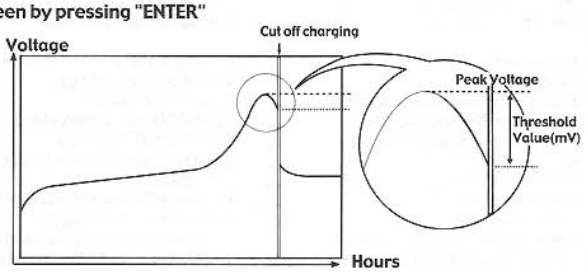
3.BATTERY INFORMATION

Change to the BATTERY INFORMATION SCREEN when you press the back button. Follows①-⑨selection control by DEC and INC.

① Select the battery type , change to next screen when press "ENTER"
② Select the number of cells , change to next screen by pressing "ENTER"
③ Select the proper battery capacity , change to next screen by pressing "ENTER"
④ Select the desire charge current , change to next screen by pressing "ENTER"
Please see the RATE-SELECTABLE CHART.
⑤ Select the desire discharge current , change to next screen by pressing "ENTER"
Please see the RATE-SELECTABLE CHART.
⑥ Select the desire value of volt threshold , change to next screen by pressing "ENTER"

### VOLT THERSHOLD SETTING

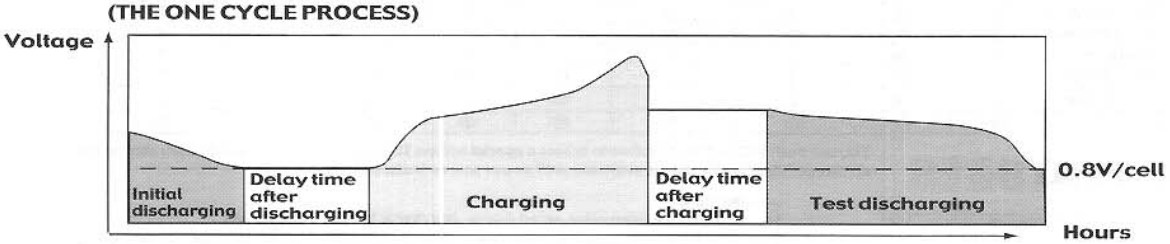
The volt thershold value entered the drop in millivolts that the CDC looks for determine that the battery pack has peaked. This is adjustable from 3 to 20mV/cell(Ni-CD) and 3 to 15mV/cell(Ni-MH). To adjust , push the DEC and INC buttons from the Volt Threshold screen.
Please see the RATE-SELECTABLE CHART.




CAUTION:
1. If you setup higher volt threshold value than the rate is more than standard threshold value , the CDC gives longer charge to the battery.
   This may overcharge your pack , causing chemical leak & overheat , internal damage to your batteries will result.
2. Don't use "RATE-SELECTABLE CHART" value for old and damaged battery , The CDC will not work correctly.

⑦ Select the desire number of cycle , change to next screen by pressing "ENTER"

**(THE ONE CYCLE PROCESS)**




⑧ Select the delay time for after charge , change to next screen by pressing "ENTER"
⑨ Select the delay time for after discharge , change to next screen by pressing "ENTER"

During BATTERY INFO setup screen, you can press DEC and INC together to initiate a Jump command. This shortcut is for experience users to bypass charge and discharge setup screens. JUMP command brings you to your preset charge, discharge and cycle modes without going through the usual setup screens.

## USER PROGRAM MODE

Change to the USER PROGRAM MODE by pressing the INC button. Follows 1 - 4 selection control by DEC and INC.

① Select the slow charge ON or OFF, change to next screen by pressing "ENTER"
② Select the delay time for repeak charge, change to next screen by pressing "ENTER"
If you set up 0 MIN, there will be no 2nd auto repeak.
CAUTION: Auto repeak charge works for Normal Peak & Fuzzy Logic only.
③ Select the partial rate(10-50%), change to next screen by pressing "ENTER"
We recommend select 10-30% for NI-MH battery long term storage.
④ Select the operation end melody, change to next screen by pressing "ENTER"
⑤ Then press the ENTER to USER PROGRAM MODE again.
Change to other MODE when you control by DEC button.

## 5.CHAGE MODE

Change to the CHARGE MODE by pressing the DEC and INC bottons.
Change to CHARGE FUNCTION and press "ENTER"
Then you can select the charge function, control by DEC and INC.
Press "ENTER" to start. The rings will announce complete charge.

## 6.DISCHARGE MODE

Change to the DISCHARGE MODE by pressing the DEC and INC buttons.
Press "ENTER" to start. Check your battery info data & user program data.

## 7.CYCLE MODE

Change to the CYCLE MODE by pressing the DEC and INC buttons.
Press "ENTER" to start. Check your battery info data & user program data.

## 8.DISPLAY RESULT

You can push DEC and INC together to access a special screen.
This screen save previous battery charge and discharge information, data is available until power source is disconnected.

### RATE-SELECTABLE CHART.

| | KIND OF BATTERY | Standard threshold value | Maximum threshold value | Charge current | Disharge current |
|---|---|---|---|---|---|
| Ni-CD | SANYO less than 200mAh | 3mV | (3mV) | less than 0.3A | less than 0.3A |
| | SANYO less than 500mAh | 3mV | (3mV) | less than 0.3A | less than 0.3A |
| | SANYO 500mAh | 3mV | (5mV) | less than 1.0A | less than 0.5A |
| | SANYO 600mAh | 3mV | (5mV) | less than 1.0A | less than 0.5A |
| | SANYO 1100mAh | 3mV | (5mV) | less than 1.0A | less than 0.8A |
| Ni-MH | SANYO 700mAh(AAA) | 3mV | (5mV) | less than 1.0A | less than 0.5A |
| | SANYO 1700mAh (AA) | 3mV | (5mV) | less than 1.0A | less than 0.8A |
| Ni-CD | SANYO RC1300 | 10mV | (15mV) | less than 4.0A | less than 15.0A |
| | SANYO RC1400 | 10mV | (15mV) | less than 4.0A | less than 15.0A |
| | SANYO RC1500 | 10mV | (15mV) | less than 4.0A | less than 15.0A |
| | SANYO RC1500HP | 10mV | (15mV) | less than 4.0A | less than 15.0A |
| | SANYO RC1700 | 15mV | (20mV) | less than 5.0A | less than 20.0A |
| | SANYO RC2000 | 15mV | (20mV) | less than 5.0A | less than 20.0A |
| | SANYO RC2400 | 15mV | (20mV) | less than 5.0A | less than 20.0A |
| | SANYO RC2400HP | 15mV | (20mV) | less than 5.0A | less than 20.0A |
| NI-MH | SANYO RC3000 | 8mV | (15mV) | less than 5.0A | 5.0A~20A |
| | SANYO RC3000HV | 8mV | (15mV) | less than 6.0A | 5.0A~20A |
| | Panasonic P-3000 | 5mV | (8mV) | less than 5.0A | 5.0A~20A |
| | Panasonic P-3000HV | 5mV | (8mV) | less than 5.0A | 5.0A~20A |
| | Panasonic P-3000HV ULTRA METAL | 5mV | (8mV) | less than 5.0A | 5.0A~20A |
| | POWERS GT3000R & GT R3300 | 4mV | (6mV) | less than 4.0A | 5.0A~20A |

**ERROR MESSAGE** ..... Check the ERROR MESSAGE CHART which error you have.

### CUSTOMER SERVICE & REPAIRS

**EAGLE MODEL CO., LTD**
62-79 IWAYA-CHO TOYOHASHI-CITY AICHI-KEN 440-0842 JAPAN
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RADIO CONTROL RACING PARTS MANUFACTURERS & TRADING
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Review this instruction before sending CDC for service.

### PRODUCT WARRANTY

EAGLE MODEL CO.,LTD guarantees the CDC to be free from defects in materials and workmanship for a period 120 days from original date of purchase.(Verified by dated, itemmized sales receipt)
We reserve the right to modiry the provisions stated in this warranty without notice.
This warranty is limited to the original purchaser of the charger and is not transferable.

Any self modification voide all warranty.
And in case of oren case, change wire, Addition of parts to CDC.
Use other purpose that out of CDC SPECIFICATION. Allowing water, moisture.

# SELECTION MENUS CHART

## START DISPLAY

EAGLE RACING
Version 6.0

## MODE DISPLAY

BATTERY INFO | BATTERY INFO | BATTERY INFO | BATTERY INFO

BACK | BACK | BACK | BACK

CHARGE MODE NiMH 3000mAh 6CL
CHARGE MODE 4.0C 20.0D 10mV
CHARGE MODE C: 1MIN D: 1MIN
ENTER
BACK
CHARGE

DEC INC

DISCHARGE MODE NiMH 3000mAh 6CL
DISCHARGE MODE 4.0C 20.0D 10mV
DISCHARGE MODE C: 1MIN D: 1MIN
ENTER
DISCHARGE MODE START
BACK ENTER
DISCHARGE

DEC INC

CYCLE MODE NiMH 3000mAh 6CL
CYCLE MODE 4.0C 20.0D 10mV
CYCLE MODE C: 1MIN D: 1MIN
ENTER
CYCLE MODE START
BACK ENTER
CYCLE

DEC INC

LCD shows previous input setup values, when you connect the large input clips to power source.

USER PRGM MODE
PRESS SETUP
BACK ENTER
USER PRGM MODE

Next PAGE

## BATTERY INFO

BATTERY INFO[0]
NiMH 3000mAh 6CL

BATTERY INFORMATION can store 10 different profiles in the memory.

BACK ENTER

BATTERY TYPE
NiCd NiMH

DEC INC
Select your batteries type.

BACK ENTER

CELL NUMBER
6CELL

DEC INC
Select the number of cell in your battery pack.
(Minimum 1 cell to Maximum 10 cells)

BACK ENTER

BATTERY CAPACITY
3000mAh

DEC INC
Select your battery capacity
(Minimum 50mAh to Maximum 6000mAh)

BACK ENTER

CHARGE CURRENT
4.0A

DEC INC
Select the charge current
(Minimum 0.1A to Maximum 7.0A)

BACK ENTER

DISCHG. CURRENT
20.0A

DEC INC
Select the discharge current
(Minimum 0.1A to Maximum 20.0A)

BACK ENTER

⊿PEAK ADJ. NiMH
10mV/C. 60mV/P.

DEC INC
Select the value of volt threshold.
(Ni-CD Minimum 3mV to Maximum 20mV per cell
Ni-MH Minimum 3mV to Maximum 15mV per cell)

BACK ENTER

CYCLE NUMBER
1 TIMES

DEC INC
Select the number of cycle
(Minimum 1 time to Maximum 9 times)

BACK ENTER

DELAY TIME AFTER
CHARGE= 1 MIN

DEC INC
Select the value of DELAY TIME AFTER CHARGE.
(Minimum 1 minute to Maximum 60 minutes)

BACK ENTER

DELAY TIME AFTER
DISCHARGE= 1 MIN

DEC INC
Select the value of DELAY TIME AFTER DISCHARGE.
(Minimum 1 minute to Maximum 60 minutes)

ENTER

Press DEC& INC Together for jump

## USER PRGM MODE

USER PRGM MODE
PRESS SETUP
ENTER
BACK

DEC INC

TRICLE CURRENT
ON OFF

Select the slow charge ON or OFF.

ENTER
BACK

DEC INC

DERY TIME FOR
REPEAK= 0MIN

Select the value of delay time for repeak charge.
(Minimum 0 minute to Maximum 60 minutes)
*If you setup 0 minute, will be no 2nd peak.

ENTER
BACK

DEC INC

PARTIAL RATE = 20%
600mAh / 3000mAh

Use this mode only for Ni-MH cell(s). Certain Ni-MH batteries require a partial charge for long term storage. You can program the amount of partial charge in the USER SETUP MODE. 10 to 30% for NI-MH battery.

ENTER
BACK

DEC INC

MELODY SELECT
1 SOUND

Press DEC and INC to change alarm sound.

BACK

USER PRGM MODE
PRESS SETUP
ENTER
BACK

USER PRGM MODE

## MODE DISPLAY

BACK | BACK | BACK

CHARGE MODE NiMH 3000mAh 6CL
ENTER
BACK
CHARGE

DEC INC

DISCHARGE MODE NiMH 3000mAh 6CL
ENTER
DISCHARGE

DEC INC

CYCLE MODE 1T NiMH 3000mAh 6CL
ENTER
BACK
CYCLE

DEC INC

USER PRGM MODE
PRESS SETUP
BACK
USER PRGM MODE

## ERROR MESSAGE

This list the massages that may appear on the CDC's display, and the probable cause and solution. If you are unable to solve your problem, contact with our Customer Service Department.

**INPUT VOLTAGE Error 10.451V**

In case the range of the input voltage exceeds between 11.5V-15.0V The above error massage will be shown.
Once ESC key is pressed, Mode selection Display will be show.

**Open Circuit Error**

In case the battery pack is disconnected during charging or discharging, the above error massage will be shown.
Once ESC key is pressed, Mode selection Display will be show.

**No Battery Error**

In case Charge/ Discharge/ Cycle mode is practiced while the battery pack is disconnected, the above error massage will be shown.
Once ESC key is pressed, Mode selection Display will be show.

**Reverse Battery Error**

In case Charge/ Discharge/ Cycle mode is executed while the battery pack is connected in reverse, the above massage will be shown.
Once ESC key is pressed, Mode selection Display will be show.

## PROCESSING

Charge Processing
Discharge Processing

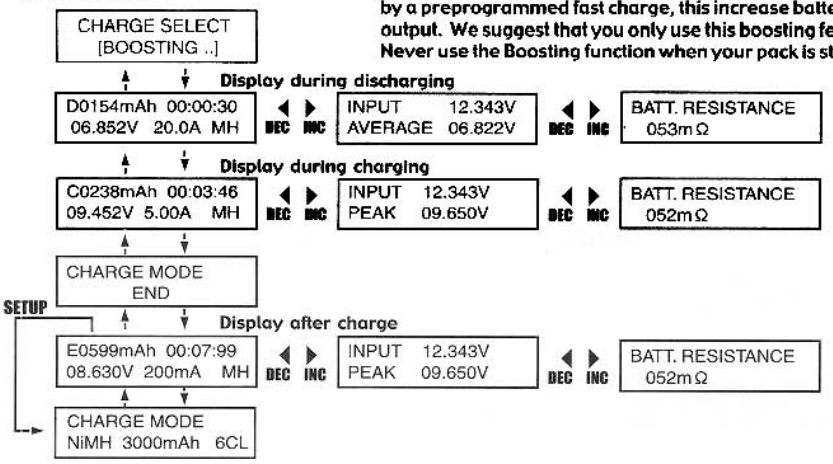
Sometimes special processing time is required for resting battery packs. This is a preprogrammed function and will improve overall battery performance.

Next page>>

## BOOSTING .

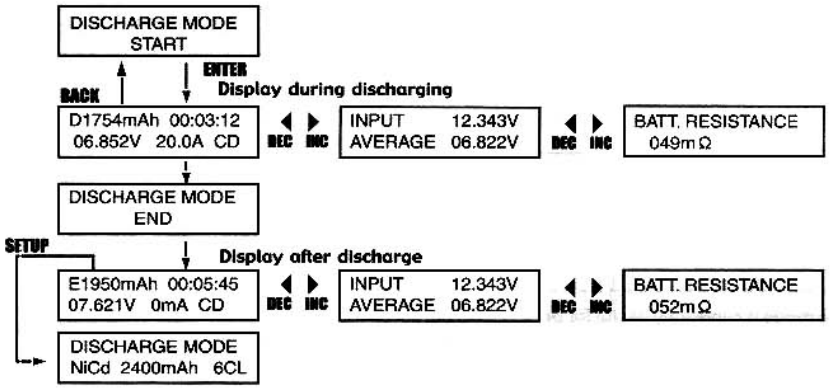
Boosting..

This mode is developed for racing application. You can get the most capacity and power from your batteries using this boosting function. The unit first partial discharge your pack momentarily follow by a preprogrammed fast charge, this increase battery temperature as well as it's overall voltage output. We suggest that you only use this boosting feature when your pack is cool.
Never use the Boosting function when your pack is still warm.



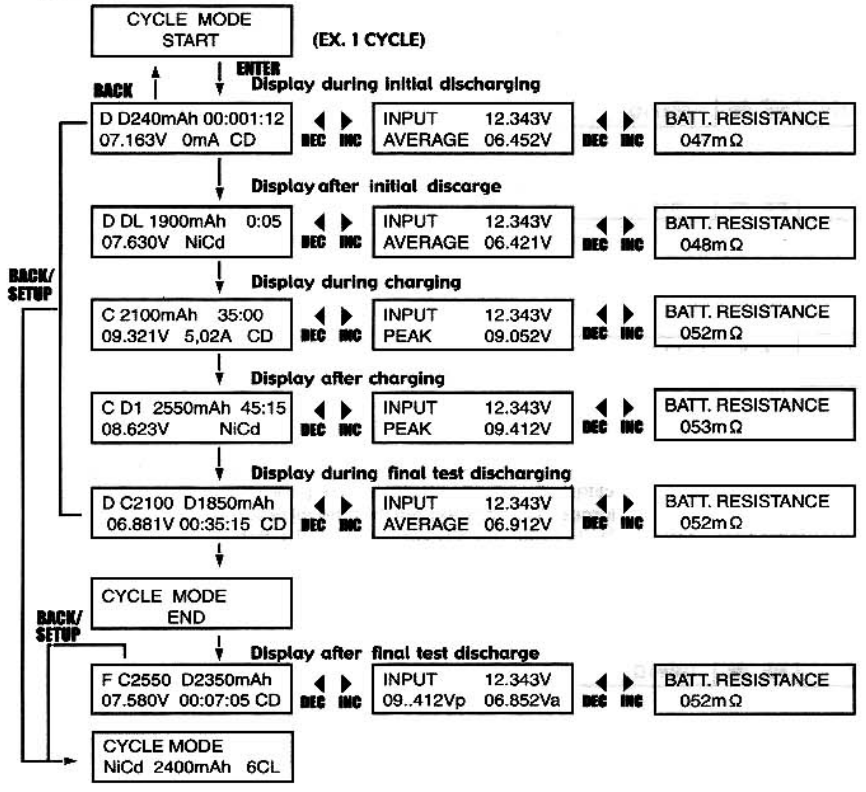

## DISCHARGE

(Discharge Start)




## CYCLE

(Cycle Start)




## DISPLAY RESULT

**You can push DEC and INC together to access a special screen.
This screen save previous battery charge and discharge information, data is available until power source is disconnected.**