



I-Peak 867

Professional Intel l i g e n t
Digital Bal a n c e c h a r g e r

Instruction Manual



Ref. Y-024



Warranty

We guarantee this product to be free of manufacturing or assembly defects for a period of one year from time of purchase. This does not affect your statutory rights. 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. You will be required to produce proof of purchase (invoice or receipt).

This warranty is not valid for any damage or subsequent damage arising as a result of a misuse, modification or for damage or consequential damage arising as a result of failure to observe the procedures outlined in this manual.

Operation of this product is carried out entirely at the risk of the operator.

Please note that, whilst every effort is made to ensure the accuracy of instructions and material included with this product, mistakes can occur and neither YES nor its distributors will be held liable for any loss or damage arising from the use of this product or for any loss or damage arising from omissions or inaccuracies in the associated instructions or materials included with this product.

We reserve the right to modify the design of this product, contents and manuals without prior notification.

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Warning and safety notes

These warnings and safety notes are particularly important. Please follow the instructions for maximum safety; otherwise the charger and the battery can be damaged or at worst it can cause a fire. Also read the chapter "Before you begin".

- Never leave the charger unsupervised when it is connected to a power supply. If any malfunction is observed immediately terminate the process and refer to the operation manual.
- Keep the unit away from dust, damp, rain, heat, direct sunshine and vibration. Do not drop it.
- The circuit of the unit is designed to be powered by an 11-18V power source .
- This unit and the battery to charge or discharge should be set up on a heat-resistant, noninflammable and nonconducting surface. Never place them on a car seat, carpet or similar surface.
- Never use this charger inside a car, van or any other motor vehicle.
- Keep all inflammable volatile materials well away from the chargers operating area.
- Never charge batteries fitted inside models, always remove them before charging.
- Make sure you know the specifications of the battery to be charged or discharged to ensure it meets the requirements of this charger. If the program is set up incorrectly the battery and charger may be damaged and cause a fire.

NiCd/NiMH	Voltage level: 1.2V/cell Allowable fast charge current: 1C-2C (depends on the performance of cell) Discharge voltage cut off level: 0.85V/cell (NiCd), 1.0V/cell (NiMH)
Li-ion	Voltage level: 3.6V/cell Max. charge voltage: 4.1V/cell Allowable fast charge current: 1C or less Min. discharge voltage cut off level: 2.5V/cell or higher
LiPo	Voltage level: 3.7V/cell Max. charge voltage: 4.2V/cell Allowable fast charge current: 1C or less Discharge voltage cut off level: 3.0V/cell or higher
LiFe	Voltage level: 3.3V/cell Max. charge voltage: 3.6V/cell Allowable fast charge current: 4C or less Discharge voltage cut off level: 2.0V/cell or higher
Pb	Voltage level: 2.0V/cell (Lead-acid) Max. charge voltage: 2.46V/cell Allowable fast charge current: 0.4C or less Discharge voltage cut off level: 1.75V/cell or higher

- To avoid short-circuits between the charge lead always connect the charge cable to the charger first, then connect the battery. Reverse the sequence when disconnecting.
- Do not connect more than one battery pack to this charger at any one time.
- Do not attempt to charge or discharge the following types of battery.
 - A battery pack which consists of different types of cell (including different manufacturers)
 - A battery that is already fully charged or just slightly discharged.
 - Non-rechargeable batteries (Explosion hazard).
 - Batteries that require a different charge technique from NiCd, NiMH, Li-Poly or Gel cell (Pb, Lead acid).
 - A faulty or damaged battery.
 - A battery fitted with an integral charge circuit or a protection circuit.
 - Batteries installed in a device or which are electrically linked to other components.
 - Batteries that are not expressly stated by the manufacturer to be suitable for the currents the charger delivers during the charge process.

Introduction

Thank you for purchasing YES I-PEAK 867 charger. This is high-speed recharge/discharge equipment manufactured with high technology & professional control software. It enables you maintain your battery with optimal status with high level of safety.

Specifications

Operating voltage range:	DC 11.0 - 18.0V
Circuit power:	150W
Charge current range:	0.1 - 7.0A
Current drain for balancing Li-Po:	300mAh/cell
NiCd/NiMH battery cell count:	1-27 cells
Li-ion/Polymer cell count:	1-8 cells
Gel cell battery voltage:	2V - 36V
Weight:	595g (Net Weight)
Dimensions:	170 x 123 x 45mm

Professional features

Optimal user interface

When charging or discharging, I-PEAK 867 has an AUTO function that sets the feeding current automatically. Especially for Lithium batteries, it can prevent the over-charging that can lead to an explosion by user's fault. Every program in the unit is controlled with mutual links and communication for every possible error for maximum safety. These can be set at user's option.

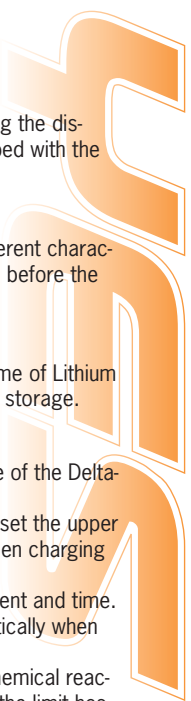
Special recharge plugs port for receiver, transmitter and igniter charger. And for frequently used charger port such as multi-purpose crocodile pin etc. It provides most convenient balance charge port for Lithium batteries, with separated 2,3,4,5,6,7,8 charge port, and external reverse connector.

High-power and high-performance circuit

I-PEAK 867 employs the circuit that has maximum output power of 150W. As a result it can charge or discharge up to 27 cells of NiCd/NiMH and 8 series of Lithium batteries with maximum current of 7.0A. Furthermore the cooling system is so efficient that can hold such a power without any trouble of running the CPU or the operating program.

Individual voltage balance for Lithium batteries inside

I-PEAK 867 has an individual-cell-voltage balancer inside. This does not require any extra balancer when



charging Lithium batteries (LiLo/LiPo/LiFe) for cell voltage balancing.

Bal ance individual cells on discharge

IPEAK 867 also can monitor and balance individual cells of the Lithium battery pack during the discharge process. If the voltage of any one cell varies abnormally, the process will be stopped with the error message.

Suitable for various types of Lithium batteries

IPEAK 867 can accept three types of Lithium batteries-LiLo, LiPo and LiFe. They have different characteristics by their chemistry. You can select any one of them that you are going to process before the job. For their specifications, refer Warnings and safety notes section.

Lithium battery "Fast" and "Storage" mode

You can charge Lithium battery for special purposes. Fast charge reduces the charging time of Lithium battery and Storage mode controls the final voltage of the battery to be suit for long time storage.

Maximum Safety

Delta-Peak Sensitivity: The automatic charge termination program works on the principle of the Delta-peak voltage detection.

Auto-charge current limit: When charging NiCd or NiMH at AUTO current mode, you can set the upper limit of charge current to avoid from high current charging. This is very useful when charging the low impedance and small capacity NiMH battery in AUTO mode.

Capacity Limit: The charging capacity always calculated by multiple of the charging current and time. If the charging capacity exceeds the limit the process will be terminated automatically when you set the maximum value.

Temperature Limit: The temperature of the battery on charging will rise by its internal chemical reaction. If you set the limit of temperature the process will be expired forcibly when the limit has reached.

Processing Time Limit: You can also restrain the maximum process time to prevent from any possible defect.

Input Power Monitor: To protect the car battery using as input power from being damaged the voltage of it always monitored. If it drops below the lower limit the process will be ended automatically.

Data Store/Load

For users convenience it can store maximum 10 data of different batteries. You can establish the data contains program setting of the battery to charge or discharge continually. These data can be called out at any time you need and the process can be executed without program setting.

Cycl ic charging/discharging

Perform 1 to 5 cycles of charge>discharge or discharge>charge continually for battery refreshing and balancing.

PC based analysis using USB communication

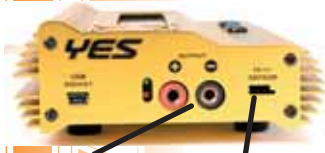
For technical expert, IPEAK 867 offers PC based software that can analyse the characteristic of the battery by USB port. It shows a graph of voltage, current, capacity and temperature curves. It also shows the individual voltage of each cell in the Lithium battery pack.

*PC analysis software and USB Link wire are not included.

Mul ti- use wires

Five kinds of wires are provided with the IPEAK 867 charger. You can charge and discharge your battery easily with these wires.

Control s



Input power cable
11-18V DC

Temperature Sensor port



Output charge lead
4mm banana plug

Balance Lead sockets
JST-XH ports



LCD Screen
16 Characters, 2 Lines

- Scroll through the Main Menu
- Stop any charge processes
- Alter values
- See the status of individual cells in balance charge mode
- Resume or Start charge processes
- Confirm an action

Important!

Please take note of the proper connection method when charging LiPo batteries. Incorrect use will damage the charger.

Before you begin

Before charging

Please bear in mind the following points before commencing charging:

- Did you select the appropriate program suitable for the type of battery you will be charging?
- Did you set up adequate current for charging or discharging?
- Have you checked the type of battery you are charging, i.e. Li-Po, NiMH, NiCd, Gel?
- Have you checked the battery voltage? Lithium battery packs can be wired in parallel and in series, i.e. a 2 cell pack can be 3.7V (in parallel) or 7.4V (in series).
- Have you checked that all connections are firm and safe? Make sure there are no intermittent contacts at any point in the circuit.

Batteries information and connection

During charge process, a specific quantity of electrical energy is fed into the battery. The charge quantity is calculated by multiplying charge current by charge time. The maximum permissible charge current varies depending on the battery type or its performance, and can be found in the information by the battery manufacturer. Only batteries that are expressly stated to be capable of quick-charge are allowed to be charged at rates higher than the standard charge current.

Connect the battery to the terminal of the charger: red is positive and black is negative. Due to the difference between resistance of cable and connector, the charger can not detect resistance of the battery pack, the essential requirement for the charger to work properly is that the charge lead should be of adequate conductor cross-section, and high quality connectors which are normally gold-plated should be fitted to both ends.

Always refer to the manual by the battery manufacturer pertaining to charging methods, recommended

charging current and charging time. Especially, the Lithium battery should be charged according to the charging instruction provided by the manufacturer strictly. Attention should be paid to the connection of Lithium battery especially.

Do not attempt to disassemble the battery pack arbitrarily. Please be advised that Lithium battery packs can be wired in parallel and in series. In the parallel connection, the battery's capacity is calculated by multiplying single battery's capacity by the number of cells with total voltage stay the same. The voltage's imbalance may cause fire or explosion. Lithium battery is recommended to charge in series.

Important information on discharging

The main purpose of discharging is to clean residual capacity of the battery, or to reduce the battery's voltage to a defined level. The same attention should be paid to the discharging process as charging. The final discharge voltage should be set up correctly to avoid deep discharging. Lithium batteries can not be discharged to lower than the minimum voltage, or it will cause a rapid loss of capacity or a total failure. Generally, Lithium battery doesn't need to be discharged. Please pay attention to the minimum voltage of Lithium battery to protect the battery.

Some rechargeable batteries have a memory effect. If they are partly used and recharged before the whole charge is accomplished, they remember this and will only use that part of their capacity next time. This is a 'memory effect'. It is said that NiCd and NiMH batteries are suffering from memory effect. NiCd has more memory effect than NiMH.

Lithium batteries are recommended to be discharged partially rather than fully discharged. Frequent full discharging should be avoided if possible. Instead, charge the battery more often or use a battery of larger capacity.

With a new NiCd battery pack, full capacity cannot be used until it has been subjected to 10 or more charge cycles. The cyclic process of charge and discharge will optimize the capacity of battery pack.

Users Set-up

IPEAK 867 will be operated with the default value of the essential user settings when it is connected to a 12V battery for the first time. The screen displays the following information in sequence and the user can change the value of parameter on each screen.

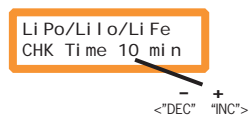
When you are willing to alter the parameter value in the program, press start/enter key to make it blink then change the value with Inc> or <Dec key. The value will be stored by pressing start/enter key once.

LIXX V. Type



The screen shows the nominal voltage of Lithium batteries. There are three kinds of Lithium batteries: LiFe(3.3V), Lilo(3.6V) or LiPo(3.7V). This information is of critical importance! You have to check the battery carefully to make sure it is set up correctly. If it is different from correct value, explosion can occur during charge process.

LIXX Check Time



To avoid from erroneous setting by users, IPEAK 867 detects the cell count of Lithium battery automatically at the beginning of charge or discharge process. But a battery that is deep-discharged can't be detected correctly. To avoid this error, the time term can be set to verify the cell count by the processor. Normally, 15 seconds are enough to detect the cell count correctly. You need to extend the time term limit for the battery of large capacity. But the charge or discharge process may come to an end within the time term because of the time limit decided by the wrong count if you set too long time limit for the battery of

small capacity. This may cause fatal error. You have to extend the time term if the processor detect the cell count incorrectly at the beginning of charge or discharge process. Otherwise, default value is recommended to use.

Delta Peak Sensitivity

Ni MH Sensitivity
D. Peak Default

- +
<"DEC" "INC">

Ni Cd Sensitivity
D. Peak Default

- +
<"DEC" "INC">

The "NiMH Sensitivity D. Peak" shows the trigger voltage for automatic charge termination of NiMH and NiCd battery. The valid value ranges from 5 to 20 mV per cell. Setting the trigger voltage higher brings a danger of overcharging; whereas setting it lower brings a possibility of premature termination. Please refer to the technical specification of the battery. (NiCd default:12mV, NiMH default:7mV)

Temp Cut-Off

Temp Cut-Off
ON 80C

- +
<"DEC" "INC">

The maximum temperature of the battery can be set during the charge process. The process will be terminated automatically to protect battery once the temperature of battery reaches this value. This feature is accomplished through temperature probe (optional).

Waste Time

Waste time
CHG/DCHG 5 min

- +
<"DEC" "INC">

The battery becomes warm after cycles of charge/discharge process. The program will insert a time delay after each charge/discharge process to allow the battery enough time to cool down before beginning next cycle of charge/discharge process. The valid value ranges from 1 to 60 minutes. When the charge process starts, the integrated safety timer starts to run simultaneously. If error detected or the termination circuit can not

detect whether the battery is fully charged or not, this unit is programmed to prevent overcharging. Please refer to the below statement to calculate the timer you set.

Trickle-mode

Ni MH/Ni cd/Pd
Trickle 100mA

- +
< DEC INC >

You can set the trickle charge mode on or off. If it is on, the charger will automatically supply the trickle charge current to achieve the full charge without overheating the battery after fast charge has been terminated.

Safe timer Calculation

Safety timer
ON 120 min

- +
<"DEC" "INC">

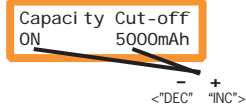
When charging NiCd or NiMH batteries, divide the capacity by current, then divide the result by 11.9, set this number of minutes as the value for safety timer setting. If the charger stopped at this time threshold, about 140% of the capacity will have been fed into the battery.

For example:

Capacity	Current	Safety Time
2000mAh	2.0A	(2000/2.0=1000)/11.9=84 minutes
3300mAh	3.0A	(3300/3.0=1100)/11.9=92 minutes
1000mAh	1.2A	(1000/1.2=833)/11.9=70 minutes

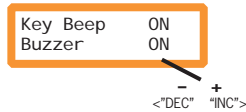


Capacity Cut-Off



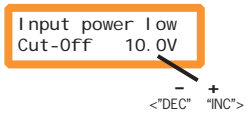
The program provides maximum capacity protection function. If the Delta peak voltage can not be detected or the safety timer times out, the charge process will stop automatically, when the battery reaches the user-set maximum charge capacity.

Key Beep / Buzzer



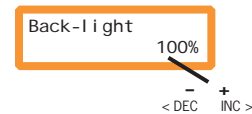
The beep to confirm users' operation sounds every time a button is pressed. The beep or melody sounds at various times during operation to confirm different mode change. These functions can be switched on or off.

Input Power



This function monitors the voltage of the input battery used to power this charger. If the voltage is lower than user-set value, the program will end forcibly to protect the input battery.

Backlight



You can adjust the brightness of LCD screen at the charger.

Lithium polymer charge programs

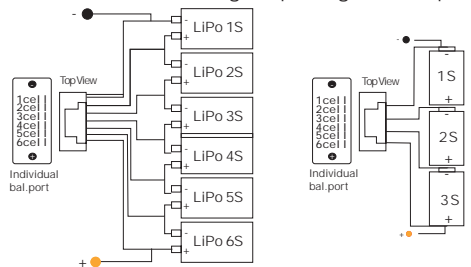
- These programs are only suitable for charging and discharging Lithium batteries with a nominal voltage of 3.3V, 3.6V and 3.7V per cell. These batteries need to adopt different charge technique that is termed a constant voltage (CV) and constant current (CC) method. The charge current varies according to the battery capacity and performance.

The final voltage of charge process is also very important; it should be precisely matched with the characteristic voltage of the battery. They are 4.2V for LiPo, 4.1V for Lilo, and 3.6V for LiFe. The charge current and nominal voltage as for cell count set on the charge program must always be correct for the battery to be charged.

When you are willing to alter the parameter value in the program, press start/enter key to make it blink then change the value with Inc> or <Dec key. The value will be stored by pressing start/enter key once.

The Individual Cell connection Diagram shows the correct way to connect your battery to the I-PEAK 867 charger while charging in the balance charge program mode only.

Individual Cell connection Diagram (pin-assignment of 8-pins)



Warning

Failure to connect as shown in this diagram will damage this charger.

This balance charging function is designed for JST-XH balance leads only. Do not try and fit any other type of balance lead directly into this charger's balance ports. (If you are not sure what type of lead you have then check with your local model shop before connecting to the balance ports on this charger.)



The main battery leads must be connected along with the balance lead connector as shown before charging your battery.

WARNING: Insultate the croc clips! When they touch each other, they will cause a short circuit.

Lithium Charging program

- The program is only suitable for charging Lithium-polymer batteries with a nominal voltage of 3.3/3.6/3.7V/cell.

- Select this charge process by choosing LiPo CHARGE from the main menu by pressing the "Start/Enter" button. The display should look similar to this:

```
Li Po CHARGE
2.0A      11.1V(3S)
```

The left side of the first line shows the type of battery you select at the user's setting.

The value on the left side of the second line sets a charge current and the value on the right side of the second line sets the voltage of the battery pack.

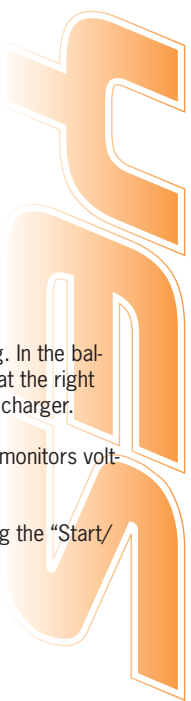
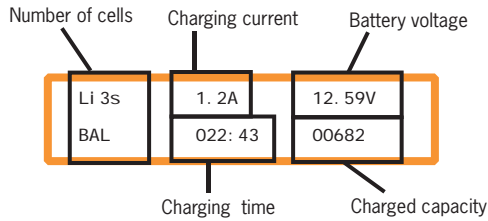
- When you want to change the values of parameters, please press "Start/Enter" key to make it blink and then use "DES" or "INC" to change the value. Then press "Start/Enter" key again to store the value.
- After setting the current and voltage, press "Start/Enter" key for more than 3 seconds to start the process (Charge current: 0.1~7.0A, Voltage: 1~8 series).
- This displays the number of cells you set up and the processor detects.

```
S: 3SER    R: 3SER
CONFIRM (ENTER)
```

Top Line: S = Number of cells selected by you in the previous screen.
R = Number of cells detected by the charger.

If both numbers are identical you can start charging by press "Start/Enter" button. If not, press "Batt type/Stop" button to go back to previous screen to carefully check the number of cells of the battery pack before going ahead.

- This screen shows the real-time status during charge process. Press "Batt type/Stop" key once to stop the charge process.

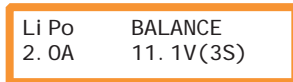


Charging Lithium battery in the balance mode

- This function is for balancing the voltage of Lithium-polymer battery cells while charging. In the balance mode, the battery needs to have a balance lead to connect to the individual port at the right side of the charger. And you need to connect the battery's output plug to the output of charger.

Charging in this mode is different from the normal modes, because the built-in processor monitors voltage of individual cell and control input current fed into each cell to normalize the voltage.

1. Select this charge process by choosing LiPo BALANCE from the main menu by pressing the "Start/Enter" button. The display should look similar to this:



The value on the left side of the second lines sets the charge current.
The value on the right side of the second lines sets the battery pack's voltage.

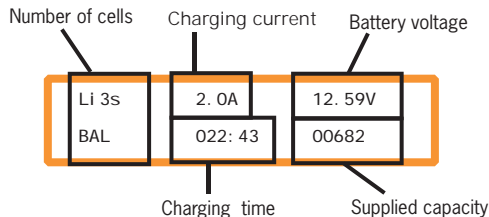
2. After setting current and voltage, press "Start/Enter" for more than 3 seconds to start the process.
3. This displays the number of cells you set up and the processor detects.



Top Line: S = Number of cells selected by you in the previous screen.
R = Number of cells detected by the charger.

If both numbers are identical you can start charging by press "Start/Enter" button. If not, press "Batt type/Stop" button to go back to previous screen to carefully check the number of cells of the battery pack before going ahead.

4. This screen shows the real-time status during charge process. Press "Batt type/Stop" key once to stop the charge process.



Fast charging of Lithium battery

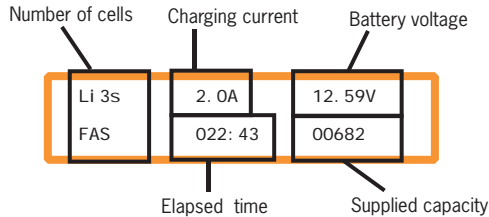
Charging current will normally be reduced during the final stage of the charging process. This specific CV process will increase the final charging current to end the charging process earlier. The total charged capacity during fast charging will be a little less than during normal charging, but charging time will be shortened accordingly.

1. Select this charge process by choosing LiPo FAST CHARGE from the main menu by pressing the "Start/Enter" button. The display should look similar to this:

Li Po	FAST CHG
2. 0A	11. 1V(3S)

You can set up the charging current and voltage of the battery pack. Press "Start/Enter" key to display voltage confirmation.

2. Then press "Start/Enter" key again to confirm and begin to charge. This screen shows the real-time status of "fast charging". Press "Batt type/Stop" key once to stop the charge process.



Storage control of Lithium battery

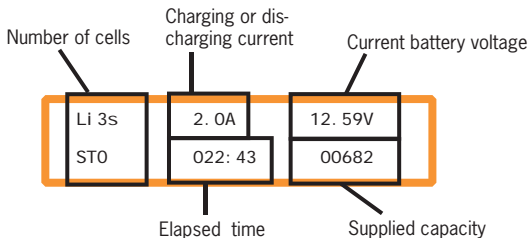
- This function is for charging/discharging batteries which are not used at once. This program is designed for charging or discharging of batteries of specific original state. They are classified by types: 3.75V Lilo, 3.85V LiPo and 3.3V LiFe.

The program will begin to discharge if the original state of the battery exceeds the voltage level of storage.

At this screen, you can set up the current and voltage of the battery pack. Charging and discharging will make the batteries come to the voltage level of "storage" state.

Li Po	STORAGE
2. 0A	11. 1V(3S)

This screen shows the real-time status charging. Press "Batt type/Stop" key once to stop the charge process.



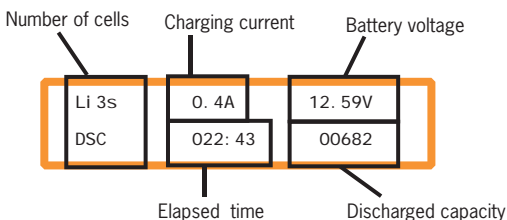
The screen shows the present situation during charge process. To stop charging press Batt type/Stop key once.

Discharging of Lithium battery

The value of discharge current on the left cannot exceed 1C, and the value on the right cannot be under the voltage recommended by the manufacturer to avoid deep discharging. Press “Start/Enter” for more than 3 seconds to start charging.

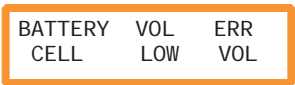


This shows the real-time status of discharging, you can press “Batt type/Stop” key to stop discharging.



Voltage balancing and monitoring in the discharge process

The processor monitors voltage of each cell when the battery packs are during its “storage” and “discharging” process. To achieve this feature, plug each battery to the charger individually. If voltage of any cell is abnormal, I-PEAK 867 will show error message and terminate the program forcibly. So if there is battery damage or disconnection, you can see the error message and press “INC” to know which cell is damaged.



The processor detects voltage of one cell is too low.



The 4th cell was damaged. The value of voltage may be zero if disconnection occurs.

NiMH/NiCd Battery Program

- These programs are for charging or discharging NiMH (Nickel-Metal-Hydrate) or NiCd (Nickel-Cadmium) battery commonly used for R/C model applications.

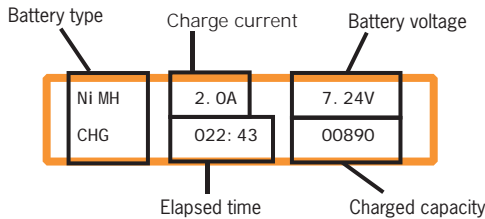
To alter the value at the display, press Start/Enter key to make it blink then change the value using Inc> or <Dec key. The value will be stored by pressing Start/Enter key once.

To start the process, press Start/Enter button for more than 3 seconds.

Charging NiCd/NiMH battery

NI MH CHARGE	Aut
CUR LI MIT	5. 0A

This program charges the battery using the current you set up. In the “auto” state, you should set up the upper limit of the charge current to avoid damage by excessive feeding current. Some batteries of low resistance and capacity can lead to higher current in the “auto” charging mode. But in the manual mode, it will charge with the current you set. You can make it blink in the current field and press “INC” and “DEC” at the same time to switch mode.



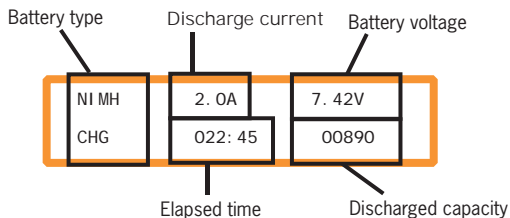
The screen displays the current state of charging. To stop the process, press Batt type/Stop key once. The audible sound indicated you the end of process.

Discharging NiCd/NiMH batteries

Set charge current on the left and the final voltage on the right. Range of the charge current is 0.1-1.0A; range of final voltage is 0.1-25.0V. Press “Start/Enter” key for more than 3 seconds to start the program.

NI MH DI S CHARGE	
1. 0A	11. 5V

The screen indicates the discharging state. You can press “Start/Enter” key to alter discharge current. Press “Start/Enter” again to store the value. Press “Batt type/Stop” key to stop discharging. The emitted sound alerts the end of discharging.



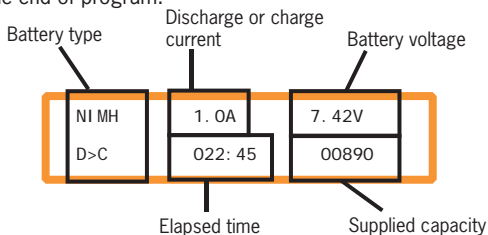


Charge/discharge and discharge/charge cycle of NiCd/NiMH battery

You can set up sequence on the left and the number of cycles on the right. You can balance, refresh and break-in the battery with this function. You can set a temporary cool-off procedure in the user's setting. Range of the cycle number is 1-5.

NI MH	CYCLE
DCHG>CHG	3

Press "Batt type/Stop" key to stop program, you can press "Start/Enter" key to alter charge current. The sound indicates the end of program.



When it approaches to the end, you can see the capacity of the battery being charged or discharged. You can press "INC" or "DEC" key to display result of each cycle.

DCHG	1	1314mAh
CHG	1	1430mAh

Pb lead-sulphuric acid battery program

- This is programmed for charging Pb (lead-acid) battery with nominal voltage from 2 to 36V.

Pb lead-acid battery is completely different from NiCd/NiMH battery. These batteries can only deliver current lower in comparison to their capacity. The same restriction applies to the charging process. Consequently, the optimum charge current can only be 1/10 of the capacity.

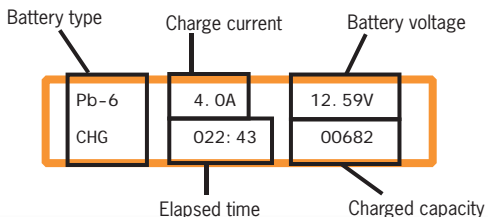
Pb battery cannot be used for fast-charging, please follow the instructions provided by the battery manufacturer. You can press "Start/Enter" key to make it blink and alter the value of parameters using "INC" or "DEC" key, press "Start/Enter" key to store the value.

Charging of the Pb battery

Set up the charge current on the left and nominal voltage on the right. Range of current is 0.1-5.0A, the voltage should match the battery being charged. Press "Start/Enter" key for more than 3 seconds to start charging.

Pb CHARGE	
4.0A	12.0V(6P)

The screen displays the real-time discharging status. Press "Start/Enter" key to alter discharge current. Press "Start/Enter" key again to store the parameter value you set. Press "Batt type/Stop" key to end the program.

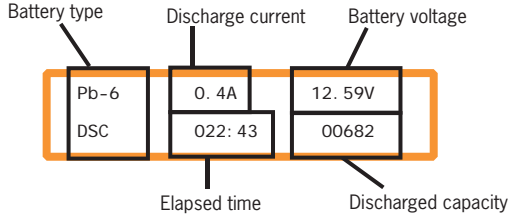


Discharging of the Pb battery

Set up the charge current on the left and nominal voltage on the right. Range of discharge current is 0.1-5.0A, the voltage should match the battery being charged. Press "Start/Enter" key for more than 3 seconds to start charging.

Pb DI SCHARGE
1.0A 12.0V(6P)

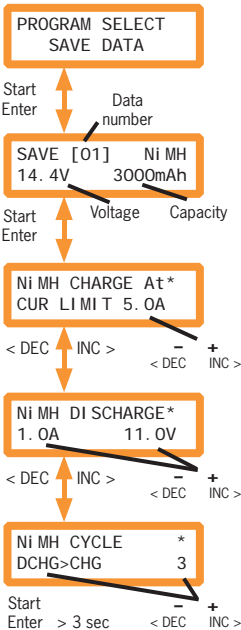
The screen displays the real-time discharging status. Press "Start/Enter" key to alter discharge current. Press "Start/Enter" key again to store the parameter value you set. Press "Batt type/Stop" key to end the program.



Data storage program

Store data

For your convenience, I-PEAK 867 has a data storage and load program. It can store five battery data representing the respective specifications of batteries. You can call back the data when charging or discharging without setting up the program again.



Select PROGRAM SELECT SAVE DATA from the main menu. Press "Start/Enter" key to make values blink, and use "INC" or "DEC" to set up the parameter.

Setting of the parameter in this screen will not affect the charge and discharge process. They just represent the specification of the battery. The following screens will automatically be displayed matched with the battery type you set up. The example is NiMH battery pack, including 12 cells, the capacity is 3000mAh.

Set up the charge current in the manual mode, or current limit in the auto mode. Press "INC" and "DEC" key simultaneously to make the current field blink to switch the charge mode.

Set up the discharge current and final voltage.

Set up the charge/ discharge sequence and cycle number. Saving the data



Load data program

PROGRAM SELECT
LOAD DATA



This program is to load the data stored at the “save data” program. Press “Start/Enter” key to make the data field blink and press “INC” or “DEC” for more than 3 seconds to load the data.

LOAD [01] Ni MH
14.4V 3000mAh



Choose the data number you want to call back. The data you want to call back will be displayed.

Load . . .

Loading the data.

Various information in the program

You can inquire various information on LCD display during charging or discharging process. When you press <Dec button the charger shows the establishment of user settings. And also you can monitor the voltage of individual cell by pressing Inc> button when the individual connection cable is linked to the Lithium battery.

End Vol tage
12.06V(3s)

The final voltage will be reached at the end of process.

Capaci ty Cut-Off
ON 5000mAh

Safety Ti mer
ON 200mi n

Temp Cut-Off
OFF 80C

The internal temperature of the charger and the temperature of battery being charged. (The external temperature only will be displayed when using the thermal probe.)

Ext. Temp 26C
Int. Temp 30C

The external temperature is displayed when the temperature probe is used.

IN Power Vol tage
12.56V

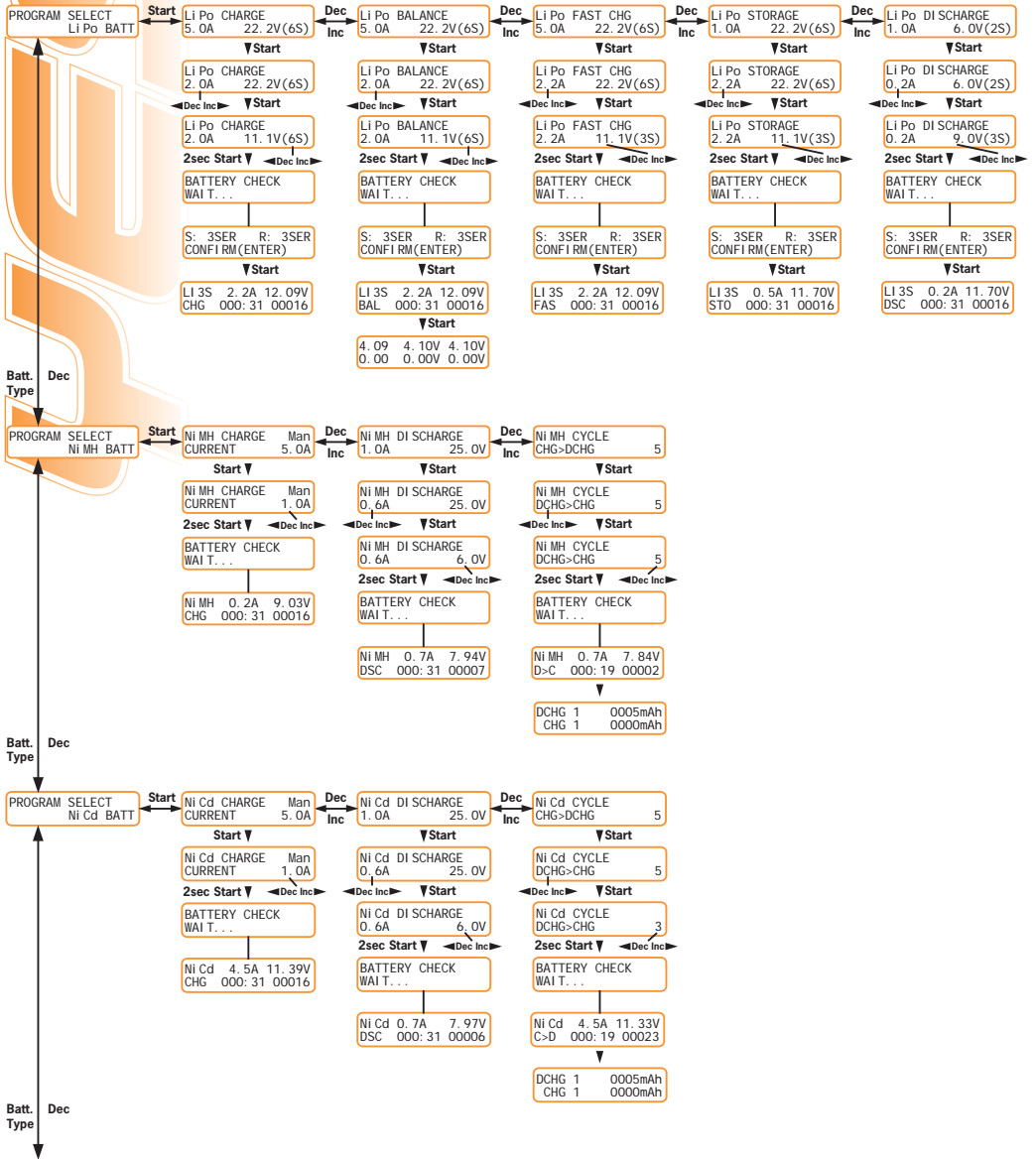
Present input voltage (DC power).

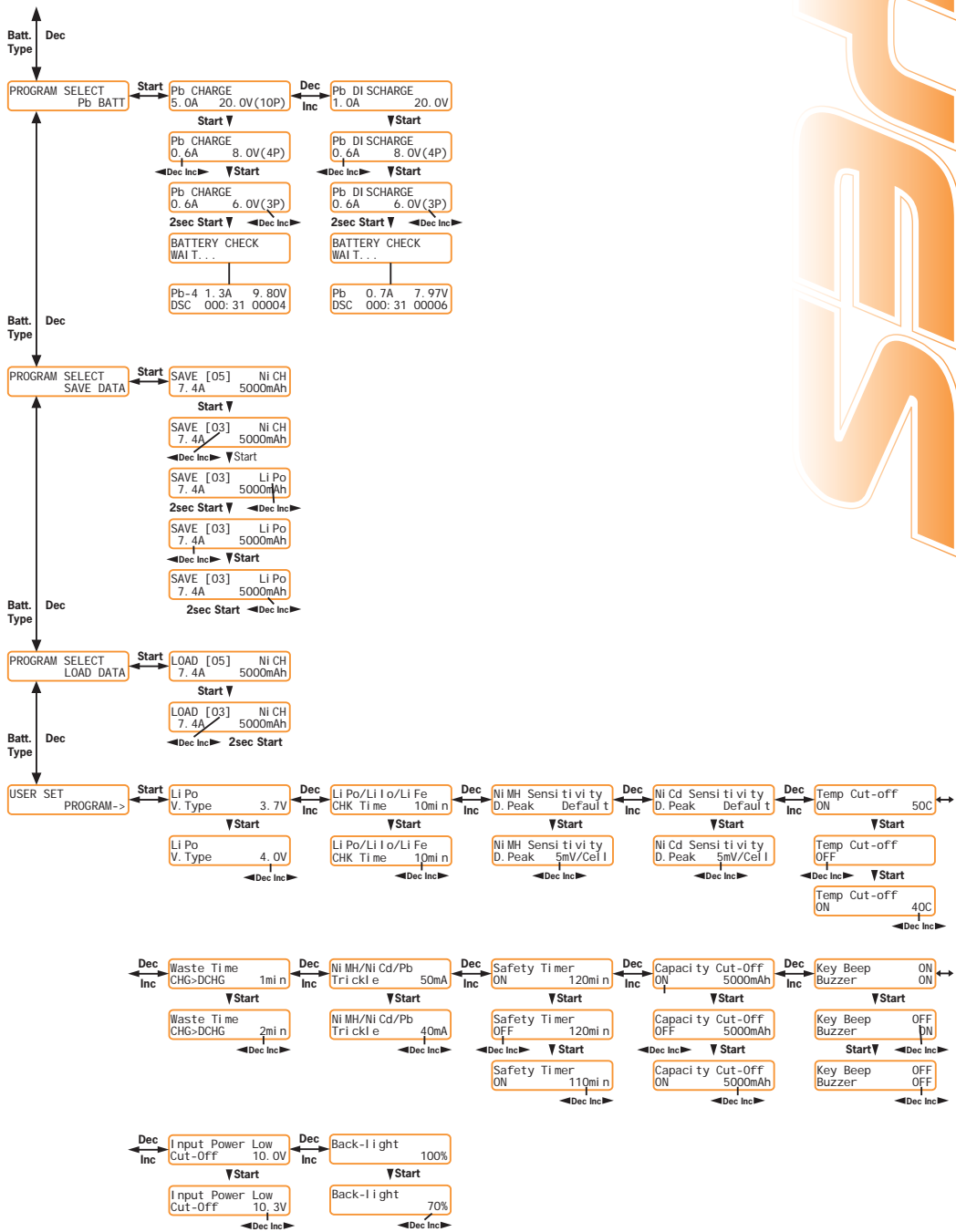
C1: 4.12 C2: 4.09V
C3: 4.09 C4: 4.12V

Using the individual connection cable to the battery, you can check the individual voltages of each cell in the battery pack. When connect the cable to the port on the right side of the charger the program shows them for maximum 8 cells in sequence. To utilize this feature, the battery pack must have a balancer connector that is linked to each cell.

C5: 4.18 C6: 4.15V
C7: 4.08 C8: 4.12V

Program chart I-PEAK867





Error messages and warnings

I-PEAK 867 incorporates a various functions of protective and monitoring the system to verify functions and the state of its electronics. In any case of occurring error, the screen displays the cause of error that is self explanatory with audible sound.

REVERSED
POLARITY

The output is connected to a battery with incorrect polarity.

CONNECTION
BREAK

This will be displayed if the unit detects a break in the circuit between the battery and output or if the battery is voluntarily disconnected during the charge process.

SHORT ERR

There was a short circuit at OUTPUT.

INPUT VOL ERR

Erroneous selection of voltage of Lithium pack, please check the voltage of the battery pack.

VOL SELECT ERR

The voltage of the battery pack has been selected incorrectly!

BREAKDOWN

The charger has malfunctioned for some reason. Seek professional advice.

BATTERY CHECK
LOW VOLTAGE

The processor detects that the battery has dropped below the minimum voltage during the charge process.

BATTERY CHECK
HIGH VOLTAGE

The voltage is higher than which is set. Please check the number of cells in the battery pack.

BATTERY VOLTAGE
CELL LOW VOL

Voltage of one cell in the battery pack is too low, please check the voltage of each cell.

BATTERY VOLTAGE
CELL HIGH VOL

Voltage of one cell in the battery pack is too low, please check the voltage of each cell.

BATTERY VOLTAGE
CELL CONNECT

Wrong connection of the connector detected; please check the connector and cable.

TEMP OVER ERR

The internal temperature is too high, please cool down.

CONTROL
FAILURE

The processor cannot control the feeding current, please repair it.

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