SKYRC

iMAX B6AC Version 2

AC/DC Dual Power
Professional Balance Charger/Discharger

Instruction Manual

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Congratulations on your choice of SKYRC B6AC Version 2(V2) AC/DC Input Professional Balance Charger/Discharger. This unit is simple to use, but the operation of a sophisticated automatic charger such as SKYRC B6AC does require some knowledge on the part of the user. These operating instructions are designed to ensure that you quickly become familiar with its functions. It is therefore important that you read right through the Operating Instructions, Warning and Safety Notes before you attempt to use your new charger for the first time. We hope you have many years of pleasure and success with your new battery charger.

SKYRC B6AC V2 is the upgraded version for well-known IMAX B6AC. Compared with B6AC V1, it is more accurate and stable and also has some new features and functions. Users could set the terminal voltage by themselves and connect it to PC for PC control and firmware upgrade. What's more, users could also use it as Lithium Battery Meter and Battery Internal Resistance Meter. There are Automatic Charging Current Limit, Capacity Limit, Temperature Threshold and Processing Time Limit which makes the charger safer than V1.
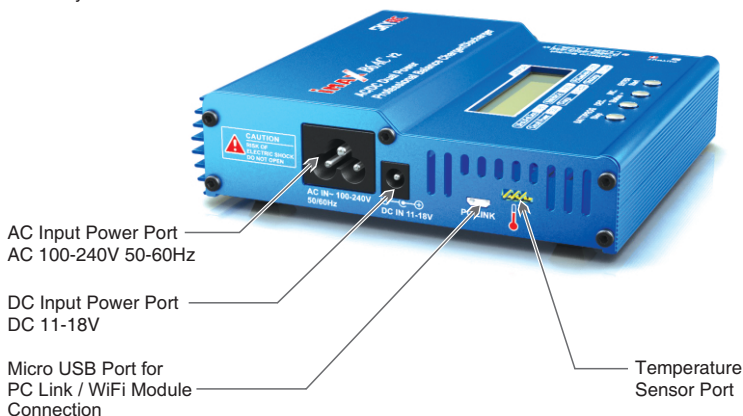
SKYRC B6AC V2 is a high-performance, micro processor control charge/discharge station with battery management suitable for use with all current battery types, with integral equalizer for six-cell Lithium-Polymer (LiPo), Lithium iron phosphate(LiFe) and Lithium-Ion (LiIon) batteries; maximum 6A charge current and maximum 50W charge power. It can be powered by 11-18V DC source or from 100V-240V via the built in switch-mode power supply.

Please BE SURE to read these INSTRUCTIONS, WARNING and SAFETY NOTES before you use the charger for the first time.

It can be dangerous to mis-handle batteries and battery chargers, as there is always a risk of batteries catching fire and exploding.

INTRODUCTION

Please read this entire operating manual completely and attentively before using this product, as it covers a wide range of information on operating and safety. Or please do use this product in company with a specialist!

LCD Display

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 Any Action

Balance Lead Socket
JST-XH Ports

Output Charge Lead
4mm Banana Plug

AC Input Power Port
AC 100-240V 50-60Hz

DC Input Power Port
DC 11-18V

Micro USB Port for
PC Link / WiFi Module
Connection

Temperature
Sensor Port

Optimized Operating Software

IMAX B6AC V2 features the so-called AUTO function that set the feeding current during the process of charging or discharging. Especially for lithium batteries, it can prevent the overcharging which may lead to an explosion due to the user's fault. It can disconnect the circuit automatically and alarm once detecting any malfunction. All the programs of this product were controlled through two way linkage and communication, to achieve the maximum safety and minimize the trouble. All the settings can be configured by users!

Battery Memory (Data Store/Load)

The charger can store up to 10 different charge/discharge profiles for your convenience. You can keep the data pertaining to program setting of the battery of continuous charging or discharging. Users can call out these data at any time without any special program setting.

Terminal Voltage Control(TVC)

The charger allows user to change the end voltage. (for expert user only)

PC Control Software "Charge Master"

The free "Charge Master" software gives you unparalleled ability to operate the charger through the computer. You can monitor pack voltage, cell voltage and other data during the charging, view charge date in real-time graphs. And you can initiate, control charging and update firmware from "Charge Master".

Smart Phone Control via WiFi Module (both iOS and Android)

Finally, your charger gets its own apps. This charger can be controlled and operated by smart phones via WiFi module(option part SK-600075).

Internal Independent Lithium Battery Balancer

IMAX B6AC V2 employs an individual-cell-voltage balancer. It isn't necessary to connect an external balancer for balance charging.

Balancing Individual Cells Battery Discharging

During the process of discharging, IMAX B6AC V2 can monitor and balance each cell of the battery individually. Error message will be indicated and the process will be ended automatically if the voltage of any single one cell is abnormal.

Adaptable to Various Type of Lithium Battery

IMAX B6AC V2 is adaptable to various types of lithium batteries, such as LiPo, LiIon and the new LiFe series of batteries.

SPECIAL FEATURES

Fast and Storage Mode of Lithium Battery

Purposes to charge lithium battery varies, 'fast' charge reduce the duration of charging, whereas 'store' state can control the final voltage of your battery, so as to store for a long time and protect useful time of the battery.

Re-Peak Mode of NiMH/NiCd Battery

In re-peak charge mode, the charger can peak charge the battery once, twice or three times in a row automatically. This is good for making certain the battery is fully charged.

Delta-peak Sensitivity for NiMH/NiCd

Delta-peak sensitivity for NiMH/NiCd battery: The automatic charge termination program based on the principle of the Delta-peak voltage detection. When the battery's voltage exceeds the threshold, the process will be terminated automatically.

Cyclic Charging/Discharging

1 to 5 cyclic and continuous process of charge > discharge or discharge > charge is operable for battery refreshing and balancing to stimulate the battery's activity.

Automatic Charging Current Limit

You can set up the upper limit of the charging current when charging your NiMH or NiCd battery, it is useful for the NiMH battery of low impedance and capacity in the 'AUTO' charging mode.

LiPo Battery Meter

The user can check battery's total voltage, the highest voltage, the lowest voltage and each cell's voltage.

Battery Internal Resistance Meter

The user can check battery's total internal resistance and each cell's internal resistance.

Capacity Limit

The charging capacity is always calculated as the charging current multiplied by time. If the charging capacity exceeds the limit, the process will be terminated automatically when you set the maximum value.

*Temperature Threshold**

The battery's internal chemical reaction will cause the temperature of the battery to rise. If the temperature limit is reached, the process will be terminated.

* This function is available by connecting optional temperature probe, which is not included in the package.

Processing Time Limit:

You can also limit the maximum process time to avoid any possible defect.

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.

❗ Never leave the charger unattended when it is connected to its power supply. If any malfunction is found, TERMINATE THE PROCESS AT ONCE and refer to the operation manual.

❗ Keep the charger well away from dust, damp, rain, heat, direct sunshine and vibration. Never drop it.

❗ The allowable DC input voltage is 11~18V DC

❗ The allowable AC input voltage is 100~240V AC

❗ This charger and the battery should be put on a heat-resistant, noninflammable and nonconductive surface. Never place them on a car seat, carpet or similar. Keep all the inflammable volatile materials away from operating area.

❗ 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 .It can cause fire or explosion due to overcharging.

Standard Battery Parameters

	LiPo	Lilon	LiFe	NiCd	MiMH	Pb
Nominal Voltage	3.7V/cell	3.6V/cell	3.3V/cell	1.2V/cell	1.2V/cell	2.0V/cell
Max Charge Voltage	4.2V/cell	4.1V/cell	3.6V/cell	1.5V/cell	1.5V/cell	2.46V/cell
Storage Voltage	3.8V/cell	3.7V/cell	3.3V/cell	n/a	n/a	n/a
Allowable Fast Charge	≦1C	≦1C	≦4C	1C-2C	1C-2C	≦0.4C
Min. Discharge Voltage	3.0-3.3V/cell	2.9-3.2V/cell	2.6-2.9V/cell	0.1-1.1V/cell	0.1-1.1V/cell	1.8V/cell

Be very careful to choose the correct voltage for different types of battery otherwise you may cause damage to the batteries. Incorrect settings could cause the cells to fire or explode.

WARNING AND SAFETY NOTES

⚠ **Never attempt to charge or discharge the following types of batteries.**
A battery pack which consists of different types of cells (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, LiPo 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.

⚠ **Please bear in mind the following points before commencing charging:**
Did you select the appropriate program suitable for the type of battery you are charging?
Did you set up adequate current for charging or discharging?
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 secure?
Make sure there are no intermittent contacts at any point in the circuit.

⚠ **Charging**
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 battery manufacturer about charging methods, recommended charging current and charging time. Especially, the lithium battery should be charged according 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 get highlighted 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 capacity by the number of cells with total voltage stay the same. The voltages imbalance may cause fire or explosion .Lithium battery is recommended to charge in series.

⚠ Discharging

The main purpose of discharging is to clean residual capacity of the battery, or to reduce the battery 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 battery 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.

PROGRAM FLOW CHART

BATT/PROGRAM LiPo BATT	LiPo BALANCE CHG 2.0A 7.4V (2S)	LiPo CHARGE 2.0A 7.4V (2S)	LiPo FAST CHARGE 2.0A 7.4V (2S)	LiPo STORAGE 2.0A 7.4V (2S)	LiPo DISCHARGE 2.0A 7.4V (2S)
BATT/PROGRAM LiFe BATT	LiFe BALANCE CHG 2.0A 6.6V (2S)	LiFe CHARGE 2.0A 6.6V (2S)	LiFe FAST CHARGE 2.0A 6.6V (2S)	LiFe STORAGE 2.0A 6.6V (2S)	LiFe DISCHARGE 2.0A 6.6V (2S)
BATT/PROGRAM Lilo BATT	Lilo BALANCE CHG 2.0A 7.2V (2S)	Lilo CHARGE 2.0A 7.2V (2S)	Lilo FAST CHARGE 2.0A 7.2V (2S)	Lilo STORAGE 2.0A 7.2V (2S)	Lilo DISCHARGE 2.0A 7.2V (2S)
BATT/PROGRAM NiMH BATT	NiMH CHARGE CURRENT 2.0A	NiMH Auto CHARGE CURRENT 2.0A	NiMH DISCHARGE 0.1A CUT: 1.0V	NiMH RE-PEAK 1	NiMH CYCLE CHG>DCHG 1
BATT/PROGRAM NiCd BATT	NiCd CHARGE CURRENT 2.0A	NiCd Auto CHARGE CURRENT 2.0A	NiCd DISCHARGE 0.1A CUT: 1.0V	NiCd RE-PEAK 1	NiCd CYCLE CHG>DCHG 1
BATT/PROGRAM Pb BATT	Pb CHARGE 2.0A 2.0V (1P)	Pb DISCHARGE 0.1A 2.0V (1P)			

BATT/PROGRAM BATT METER → MAIN 0.00V (Connect the main battery socket)

4.20 4.19 4.19 V / 0.00 0.00 0.00 V → MAIN 0.00V H0.000V L0.000V (Connect battery via balance board)

BATT/PROGRAM BATT RESISTANCE → 005 003 003 mΩ / 005 mΩ → TATAL: 16mΩ / H: 5mΩ L: 3mΩ

BATT/PROGRAM SYSTEM SETTING->	Safety Timer ON 120Min	Capacity Cut-Off ON 5000mAH	Temp Cut-Off ON 50°C 122°F	Temperature Unit Celsius	Rest Time CHG>DCHG 10Min	NiMH Sensitivity D.Peak Default
	Stop / Batt Type	Serial Number: 000000	Version HW:1.00 FW: 1.10	Load Factory Set Enter	Input. Power Low Cut-Off 11.0V	Key Beep ON Buzzer ON	NiCd Sensitivity D.Peak Default

BATT/PROGRAM BATT MEMORY

[BATT MEMORY 1] ENTER SET->	BATT TYPE LiPo	BATT VOLTS 7.4V (2S)	CHARGE CURRENT 4.9A	DSCH CURRENT 2.2A	DSCH VOLTAGE 3.0V/CELL
ENTER CHARGER LOAD......	[BATT MEMORY 1] LiPo 7.4V (2S)	SAVE PROGRAM SAVE....	SAVE PROGRAM ENTER	TVC=YOUR RISK 4.20V	
LiPo BALANCE CHG 4.9A 7.4V(2S)	LiPo CHARGE 4.9A 7.4V(2S)	LiPo FAST CHARGE 4.9A 7.4V(2S)	LiPo STORAGE 4.9A 7.4V(2S)	LiPo DISCHARGE 2.2A 7.4V(2S)	

[BATT MEMORY 1] C:4.9A D:2.2A   (STARG/ENTER-3 Seconds)

[BATT MEMORY 2] ENTER SET->	BATT TYPE MiMH	BATT VOLTS 2.4V (2S)	CHARGE CURRENT 3.3A	TRICKLE 100mA	PEAK DELAY 1Min
[BATT MEMORY 2] C:1.0A D:1.0A	[BATT MEMORY 2] NiMH 2.4V (2S)	SAVE PROGRAM SAVE....	SAVE PROGRAM ENTER	DSCH VOLTAGE 1.1V/CELL	DSCH CURRENT 2.2A
ENTER CHARGER LOAD......	NiMH CHARGE CURRENT 1.0A	NiMH Auto CHARGE CURRENT 1.2A	NiMH DISCHARGE 1.0A CUT: 2.0V	NiMH RE-PEAK 2	NiMH CYCLE DCHG>CHG 1

[BATT MEMORY 3] ENTER SET->	BATT TYPE Pb	BATT VOLTS 4.0V (2P)	CHARGE CURRENT 3.3A	DSCH CURRENT 1.5A	DSCH VOLTAGE 1.7V/CELL
Pb CHARGE 3.3A 4.0V(2P)	ENTER CHARGER LOAD......	[BATT MEMORY 3] C:3.3A D:1.5A	[BATT MEMORY 3] Pb 4.0V (2S)	SAVE PROGRAM SAVE....	SAVE PROGRAM ENTER
Pb DISCHARGE 1.5A 4.0V(2P)					

STARG/ENTER-3 Seconds

BATT PROG / STOP Button:
   It is used to stop the progress or go back to previous step/screen
DEC Button:
   It is used to go through the menus and decrease the parameter value
INC Button:
   It is used to go through the menus and increase the parameter value
ENTER / START Button:
   It is used to enter parameter or store parameter on screen.

When you are willing to alter the parameter value in the program, press the START/ENTER button to make it blink then change the value by pressing DEC and INC button. The value will be stored by re-pressing the START/ENTER button. If there is another parameter can be altered in the same screen, when you confirm the first parameter value, the next parameter value will start to blink which means it is ready to alert.

When you are willing to start the progress, press and hold the START/ENTER button for 3 seconds. When you are willing to stop the progress or go back to previous step/screen, press the BATT PROG/STOP button once.

When you power on the charger, it will enter LiPo Battery balance program directly. You could change the mode (balance mode, normal charge mode, fast charge mode, store mode or discharge mode), enter the desired charging/discharging mode, set the referred parameter and start the progress.

If you have no request for LiPo Battery program, please press the BATT PROG/STOP button to enter BATT PROGRAM screen.

Here is the detailed procedure to make the charger work. All the screens and operations will take Li-Po BALANCE CHARGE program for example,

1. **Connection**

   1). **Connecting to power source**

   SKYRC B6AC V2 comes with the built in switching power supply. You can connect the AC power cord directly to the main AC socket. (100-240V AC).
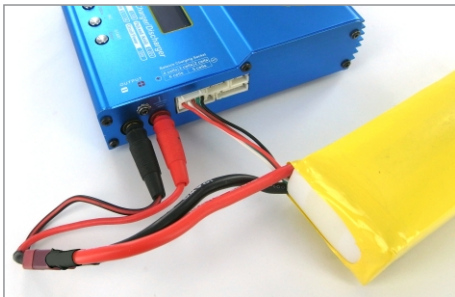
   2). **Connecting the battery**

   Important!!! Before connecting a battery it is absolutely essential to check one last time that you have set the parameters correctly. If the settings are incorrect, the battery may be damaged, and could even burst into flames or explode. To avoid short circuits between the banana plugs, always connect the charge leads to the charger first, and only then to the battery. Reverse the sequence when disconnecting the pack.

   3). **Balance Socket**

It is for lithium battery in all mode.

   The balance wire attached to the battery must be connected to the charger with the black wire aligned with the negative marking. Take care to maintain correct polarity! (See the wiring diagram below.)

   This diagram shows the correct way to connect your battery to the SKYRC B6AC V2 while charging in the balance charge program mode.

⚠ **WARNING:**

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

To avoid short circuit between the charge lead always connect the charge cable to the charger first, then connect the battery. Reverse the sequence when disconnecting.

2. Getting started

Locate the flowcharts show the entire programming menu. It is highly recommended to have these flowcharts handy while learning to operate this charger.

There are two main ways in which to set the charger.

(1) A memory profile is available for setting and storing pertinent information for up to 10 different batteries. Once a battery's information is stored into a memory it will be retained until changed again manually. Recalling a battery's memory number makes the charger instantly ready to go!

(2) If you do not wish to use the battery memories, this charger can be manually set before each use.

For following step, all are basing on manually set

```
BATT/PROGRAM
        LiPo BATT
```
↓ START/ENTER

```
LiPo BALANCE CHG
2.0A   11.1V (3S)
```
↓ START/ENTER

```
LiPo BALANCE CHG
2.0A   11.1V (3S)
```
↓ START/ENTER

```
LiPo BALANCE CHG
2.0A   11.1V (3S)
```
↓ START/ENTER

```
LiPo BALANCE CHG
2.0A   11.1V (3S)
```
↓ START/ENTER
  > 3 Seconds

```
BATTERY CHECK
WAIT...
```
↓

```
R: 3SER  S: 3SER
CANCEL(STOP)
```
↓

3. BATT/PROGRAM Select

Press INC and DEC to go through all the programs and press START/ENTER to enter LiPo BATT Program.

4. Mode Select

Press INC and DEC to go through all the modes and press START/ENTER to enter LiPo Balance Charge Mode.

5. Battery Setting

Press START/ENTER, the current value will start to blink, press INC and DEC to change the value and press START/ENTER to confirm your setting.

At the same time, the battery cells number will start to blink, press INC and DEC to change the value and press START/ENTER to confirm your setting.

6. Program Start

Press and hold START/ENTER for 3 seconds to start the program.

The charger is detecting the battery cell.

R shows the number of cells detected by the charger and S is the number of cells set by you at the previous screen. If both numbers are not identical, press STOP to go back to previous screen to recheck the number of cells of the battery pack before going ahead.

```
R:3SER  S:3SER
CONFIRM(ENTER)
```
↓ START/ENTER

R shows the number of cells detected by the charger and S is the number of cells set by you at the previous screen. If both numbers are identical, press START/ENTER to start charging process.

```
LP4s 1.5A 12.14V
BAL 000:50 00022
```

7. Charging Status Monitor

During charge process, real-time status will be showed as left screen.

VARIOUS INFORMATION DURING THE PROCESS

Press INC or DEC during charging or discharging process, you can inquire various information on LCD screen .

```
LP4s 1.5A 12.14V
BAL 000:50 00022
```

Real-time status: battery type, battery cell, charge current, battery voltage, elapsed time and charged capacity

↕ INC ▶

```
4.07 4.06 4.11 V
0.00 0.00 0.00 V
```

Voltage of each cell in the battery pack when the battery is connected with balance lead.

▶ ↕ INC

```
Fuel= 90%
Cell= 4.10V
```

Charged capacity percentage and average cell voltage of the battery pack.

```
LP4s 1.5A 12.14V
BAL 000:50 00022
```

◀ ↕ DEC

```
End Voltage
        12.6V(3S)
```

Final voltage when the program ends.

◀ ↕ DEC

```
IN Power Voltage
          12.56V
```

Input voltage.

◀ ↕ DEC

```
Ext. Temp   ----
Int. Temp   37°C
```

Internal temperature.
Temperature probe is needed to show external temperature.

◀ ↕ DEC

```
Temp Cut-Off
          50°C
```

Cut off temperature

◀ ↕ DEC

```
Safety    Time
ON        200min
```

Safety timer ON and duration of time in minutes.

◀ ↕ DEC

```
Capacity Cut-Off
ON      5000mAh
```

Capacity cut-ofON and the setting value of capacity.

8. Program Stop

During the charging process, press STOP to stop the charging process.

9. Program Complete

When the charging process finishes, an audible sound will be heard.

Charging Program

Depends on different battery type, the operation programs are different.

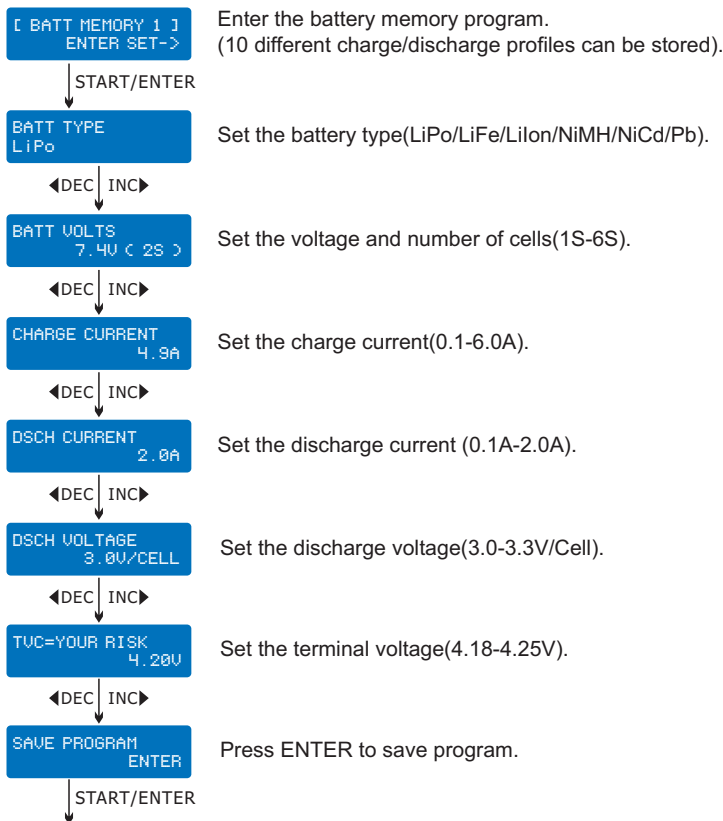| Batt Type	Operation Program	Description
LiPo LiIon LiFe	CHARGE	This charging mode is for charging LiPo/LiFe/LiIon battery in normal mode.
	DISCHARGE	This mode is for discharging LiPo/LiFe/LiIon battery.
	STORAGE	This program is for charging or discharging lithium battery which will not be used for long time.
	FAST CHG	The charging capacity may be a bit smaller than normal charging but the process time will be reduced.
	BAL CHARGE	This mode is for balancing the voltage of lithium-polymer battery cells while charging.
NiMH NiCd	CHARGE	The charger will charge NiMH and NiCd batteries using the charge current set by the user.
	AUTO CHG	In this program the charger detects the condition of the battery which is connected to the output and automatically charges the battery. **Note: 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.**
	DISCHARGE	This mode is for discharging NiMH/NiCd battery.
	RE-PEAK	In re-peak charge mode, the charger can peak charge the battery once, twice or three times in a row automatically. This is good for confirming the battery is fully charged, and for checking how well the battery receives fast charges.
	CYCLE	1 to 5 cyclic and continuous process of charge>discharge or discharge>charge is operable for battery refreshing and balancing to stimulate the battery's activity.
Pb	CHARGE	This mode is for charging Pb battery.
	DISCHARGE	This mode is for discharging Pb battery.

BATTERY MEMORY SET AND CALL OUT

The charger can store up to 10 different charge/discharge profiles for your convenience, and the stored profiles can be recalled quickly without having to go through the setup process.

When you are willing to alter the parameter value in the program, press START/ENTER to make it blink then change the value with INC or DEC. The value will be stored by pressing START/ENTER once.

Note: All following screen are taking 2S(7.4V) LiPo battery for example.

1. Battery Memory Set

```
[ BATT MEMORY 1 ]
    ENTER SET->
```
Enter the battery memory program.
(10 different charge/discharge profiles can be stored).

↓ START/ENTER

```
BATT TYPE
LiPo
```
Set the battery type(LiPo/LiFe/LiIon/NiMH/NiCd/Pb).

◄DEC | INC►

```
BATT VOLTS
    7.4V ( 2S )
```
Set the voltage and number of cells(1S-6S).

◄DEC | INC►

```
CHARGE CURRENT
          4.9A
```
Set the charge current(0.1-6.0A).

◄DEC | INC►

```
DSCH CURRENT
          2.0A
```
Set the discharge current (0.1A-2.0A).

◄DEC | INC►

```
DSCH VOLTAGE
    3.0V/CELL
```
Set the discharge voltage(3.0-3.3V/Cell).

◄DEC | INC►

```
TVC=YOUR RISK
          4.20V
```
Set the terminal voltage(4.18-4.25V).

◄DEC | INC►

```
SAVE PROGRAM
          ENTER
```
Press ENTER to save program.

↓ START/ENTER

```
SAVE PROGRAM
SAVE….
```

```
[ BATT MEMORY 1 ]
LiPo   7.4V (2S)
```
Indicate the battery type and battery cell of the saved profile.

```
[ BATT MEMORY 1 ]
C:4.9A    D:2.2A
```
Indicate the charge and discharge current of the saved profile.
Press the START/ENTER for 3 seconds to call out the memory.

START/ENTER
>3 Seconds

2. Battery Memory Call Out

```
ENTER CHARGER
LOAD……
```
Load the memory set
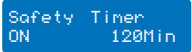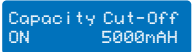
```
LiPo BALANCE CHG
4.9A      7.4V(2S)
```
Press START/ENTER for 3 seconds to start the process.

SYSTEM SETTING

It will be operated with the default value of the essential user settings when it is powered on 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 to make it blink then change the value with INC or DEC. The value will be stored by pressing START/ENTER once.

ITEM	SELECTION	DESCRIPTION
Safety Timer ON 120Min	OFF/ ON (1-720 Min)	When you start a charge process, the integral safety timer automatically starts running at the same time. This is programmed to prevent overcharge the battery if it proves to be faulty, or if the termination circuit cannot detect the battery full. The value for the safety timer should be generous enough to allow a full charge of the battery.
Capacity Cut-Off ON 5000mAH	OFF/ ON (100-50000 mAh)	This program sets the maximum charge capacity that will be supplied to the battery during charge. If the delta peak voltage is not detected nor the safety timer expired by any reason, this feature will automatically stop the process at the selected capacity value.
Temp Cut-Off ON 50°C 122°F	OFF/ ON (20°C/68°F - 80°C/176°F)	The battery's internal chemical reaction will cause the temperature of the battery to rise. If the temperature limit is reached, the process will be terminated.
Temperature Unit Celsius	Celsius Fahrenheit	You can choose the temperature displayed by Celsius or Fahrenheit as you like.
Rest Time CHG>DCHG 10Min	1-60Min	A rest time allowing the battery to cool down between charging/discharging cycle.

ITEM	SELECTION	DESCRIPTION
NiMH Sensitivity D.Peak Default NiCd Sensitivity D.Peak Default	Default: 4mV/Cell 5-15mV/Cell	This program is for NiMH/NiCd battery only. When the charger detects the delta peak value reaches the value you set, the charger will say the battery is fully charged.
Key Beep ON Buzzer ON	OFF/ON	The beep sounds at every time touching the buttons to confirm your action. The beep or melody sounded at various times during operation to alert different mode changes.
Input. Power Low Cut-Off 11.0V	10.0-11.0V	This program monitors the voltage of input battery. If the voltage drops below the value you set the operation forcibly terminated to protect the input battery.
Load Factory Set Enter		Press ENTER to load factory default setting.
Version HW:1.00 FW: 1.10		It indicates the hardware and firmware version.
Serial Number: 000000		It indicates the unique serial number of this charger.

BATTERY METER

The user can check battery's total voltage, the highest voltage, the lowest voltage and each cell's voltage.
Please connect the battery to the charger main battery lead to battery socket and balance wires to balance socket.

This diagram shows the correct way to connect your battery to check the voltage.

Battery Pack
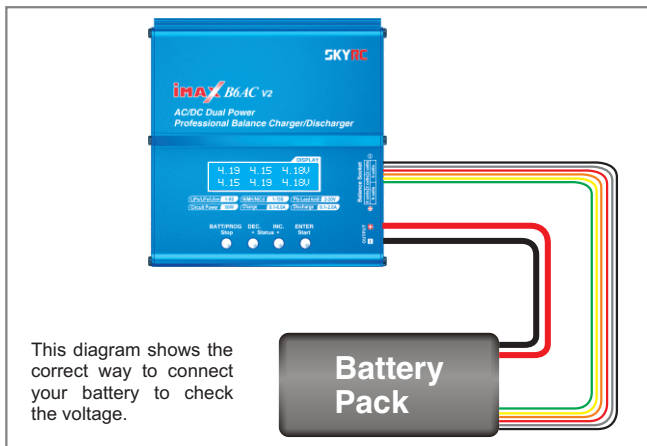
BATT/PROGRAM BATT METER	Press the START/ENTER to enter the Lithium Battery Meter program.
START ENTER	
4.20 4.19 4.19 V 4.18 4.18 4.19 V	The screen indicate each cell's voltage.
INC▶	
MAIN 25.13V H4.200V L4.182V	The screen indicate the total voltage, the highest voltage and the lowest voltage.

The user can check battery's total resistance, the highest resistance, the lowest resistance and each cell's resistance.

Please connect the battery to the charger main battery lead to battery socket and balance wires to balance socket.

This diagram shows the correct way to connect your battery to check the resistance.
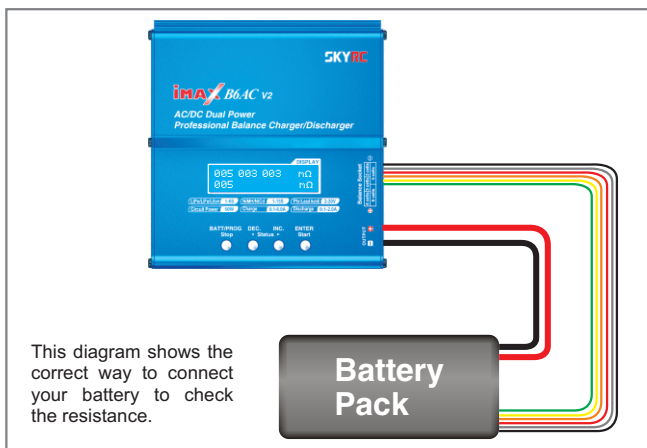
BATT/PROGRAM
BATT RESISTANCE

Start
Enter

Press the START/ENTER to enter the Lithium Battery Resistance program.

012 005 005   mΩ
006   mΩ

INC▶

The screen indicate each cell's resistance.

TATAL: 28mΩ
H: 12mΩ   L: 5mΩ

The screen indicate the total resistance, the highest resistance and the lowest resistance.

WARNING AND ERROR MESSAGE

In case of an error the screen will display the cause of error and emit an audible sound.

REVERSE POLARITY	Incorrect polarity connected.
CONNECTION BREAK	The battery is interrupted.
CONNECT ERROR CHECK MAIN PORT	The battery connection is wrong.
BALANCE CONNECT ERROR	The balance connect is wrong.
DC IN TOO LOW	Input voltage less than 11V.
DC IN TOO HIGH	Input voltage higher than 18V.
CELL ERROR LOW VOLTAGE	Voltage of one cell in the battery pack is too low.
CELL ERROR HIGH VOLTAGE	Voltage of one cell in the battery pack is too high.
CELL ERROR VOLTAGE-INVALID	Voltage of one cell in the battery pack is invalid.
CELL NUMBER INCORRECT	The cell number is wrong.
INT.TEMP.TOO HI	The internal temperature of the unit goes too high.
EXT.TEMP.TOO HI	The external temperature of the battery goes too high.
OVER CHARGE CAPACITY LIMIT	The battery capacity is more than the maximum capacity which the user sets.
OVER TIME LIMIT	The charging time is longer than the maximum charging time which the user sets.
BATTERY WAS FULL	The battery voltage is higher than the maximum voltage which the user sets when charging in balance mode.

The free "Charge Master" software gives you unparalleled ability to operate the charger through the computer. You can monitor pack voltage, cell voltage and other data during the charging, view charge date in real-time graphs. And you can initiate, control charging and update firmware from "Charge Master".

In order to connect the charger to the computer and use the "Charge Master", you are required to use a USB cable which is not included in this package. The cable must be terminated on one end with "A" plug and the opposite end is terminated with "micro-B" plug which can connect to charger directly.

The "Charge Master" can be download from www.skyrc.com.

THE SET CONTAINS

1. SKYRC iMAX B6AC V2 Charger
2. Power Cord
3. T Plug with Banana connector Charging Cable
4. DC Cable with Alligator Clip Charging Connector
5. T Plug with Alligator Clip connector Charging Cable
6. T Plug with Futaba connector Charging Cable
7. T Plug with JST connector Charging Cable
8. T Plug with XT60 connector Charging Cable

SPECIFICATION

- DC Input Voltage : 11-18V
- Display Type: 2x16 LCD
- Case Material: Metal
- Case Size: 135x144x36mm
- AC Input Voltage: 100-240V
- Display Backlight: Blue
- Controls: Four Buttons
- Weight: 632g
- PC Communications: USB Port for PC Control & Firmware Upgrade
- External Port: 2-6S Balance Socket-XH, Temperature Probe Socket, Battery Socket, DC Input, Micro USB Port for PC.
- Delta Peak Detection for NiMH/NiCd: 5-15mV/cell / Default: 4mV/cell
- Charge Cutoff Temperature: 20ºC/68ºF-80ºC/176ºF(adjustable)
- Charge Voltage: NiMH/NiCd: Delta peak detection
  - LiPo: 4.18-4.25V/cell
  - LiIon: 4.08-4.2V/cell
  - LiFe: 3.58-3.7V/cell
- Balance Current: 200mA/cell
- Reading Voltage Range: 0.1-25.8V/cell
- Battery Types/Cells: LiPo/LiIon/LiFe: 1-6cells
  - NiMH/NiCd: 1-15cells
  - Pb: 2-20V
- Battery Capacity Range: NiMH/NiCd: 100-50000mAh
  - LiPo/LiIon/LiFe: 100-50000mAh
  - Pb: 100-50000mAh
- Charge Current: 0.1A-6.0A
- Safety Timer: 1-720minutes off
- Charge Wattage: 50W
- Discharge Current: 0.1A-2.0A
- Discharge Cut-off Voltage: NiMH/NiCd: 0.1-1.1V/cell
  - LiPo: 3.0-3.3V/cell   LiIon: 2.9—3.2V/cell
  - LiFe: 2.6-2.9V/cell   Pb: 1.8V
- Discharge Wattage: 5W
- Balance Cells: 2-6 cells
- Memory: 10 different charge/discharge profiles
- Charge Method: CC/CV for lithium types and lead (Pb) batteries
  - Delta-peak Sensitivity for NiMH/NiCd.

IMAX B6AC V2 satisfy all relevant and mandatory CE directives and FCC Part 15 Subpart B: 2010.

For EC directives:
The product has been tested to meet the following technical standards:

Test Standards	Title	Result
EN 55014-1:2006+ A1:2009+A2:2011	EN 55014-1: Electromagnetic Compatibility - Requirements for household appliances, electric tools and similar apparatus -a Part 1: Emission	Conform
EN 55014-2:1997+ A1:2001+A2:2008	EN 55014-2: Electromagnetic Compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity product family standard	Conform
EN 61000-3-2:2006+ A1:2009+A2:2009	EN 61000-3-2: Electromagnetic Compatibility (EMS) Part 3-2: Limits for harmonic current emissions(Equipment input current up to and including 16A per phase)	Conform
EN 61000-3-3:2008	EN 61000-3-3: Electromagnetic Compatibility (EMS) Part 3-3: Limitation of voltage supply systems for equipment with rated current ≤16A	Conform
EN 60335-1:2012	Part 1: General requirements	Conform
EN 60335-2-29:2004 +A2:2010	Part 2-29: Particular requirements for battery chargers Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure	Conform

This symbol means that you must dispose of electrical from the General household waste when it reaches the end of its useful life. Take your charger to your local waste collection point or recycling centre. This applies to all countries of the European Union, and to other European countries with a separate waste collection system.

Commonly used terms

Final charge voltage: the voltage at which the battery's charge limit (capacity limit) is reached. The charge process switches from a high current to a low maintenance rate (trickle charge) at this point. From this point on further high current charging would cause overheating and eventual terminal damage to the pack.

Final discharge voltage: the voltage at which the battery's discharge limit is reached. The chemical composition of the batteries determines the level of this voltage. Below this voltage the battery enters the deep discharge zone. Individual cells within the pack may become reverse polarized in this condition, and this can cause permanent damage.

A, mA: unit of measurement relating to charge or discharge current.1000 mA = 1 A (A=Ampere,mA=Milliampere)

Ah, mAh: unit of measurement for the capacity of a battery (Amperes x time unit; h = hour). If a pack is charged for one hour at a current of 2 A, it has been fed 2 Ah of energy. It receives the same quantity of charge (2 Ah) if it is charged for 4 hours at 0.5 A, or 15 minutes (=1/4 h) at 8 A.

'C'-rating: Capacity is also referred to as the 'C' rating. Some battery suppliers recommend charge and discharge currents based on the battery 'C' rating. A battery's '1C' current is the same number as the battery's rated capacity number, but noted in mA or amps. A 600mAh battery has a 1C current value of 600mA, and a 3C current value of (3 x 600mA) 1800mA or 1.8A. The 1C current value for a 3200mAh battery would be 3200mA (3.2A).

Nominal voltage(V): The nominal voltage of the battery pack can be determined as follows;
-.NiCd or NiMH: multiply the total number of cells in the pack by 1.2. A 8-cell pack will have a nominal voltage of 9.6 volts (8x1.2).
-.LiPo: multiply the total number of cells in the pack by 3.7. A 3-cell LiPo wired in series will have a nominal voltage of 11.1 volts (3x3.7).
-.LiIo: multiply the total number of cells in the pack by 3.6. A 2-cell LiIo wired in series will have a nominal voltage of 7.2 volts (2x3.6).
-.LiFe: multiply the total number of cells in the pack by 3.3. A 4-cell LiIo wired in series will have a nominal voltage of 13.2 volts (4x3.3).
If the nominal voltage of the battery is not printed on the battery's label, consult your battery manufacturer or supplier. Do not guess the rated voltage of battery.

Liability exclusion

This charger is designed and approved exclusively for use with the types of battery stated in this Instruction Manual. SkyRC accepts no liability of any kind if the charger is used for any purpose other than that stated.

We are unable to ensure that you follow the instructions supplied with the charger, and we have no control over the methods you employ for using, operating and maintaining the device. For this reason we are obliged to deny all liability for loss, damage or costs which are incurred due to the incompetent or incorrect use and operation of our products, or which are connected with such operation in any way.Unless otherwise prescribed by law, our obligation to pay compensation, regardless of the legal argument employed, is limited to the invoice value of those SkyRC products which were immediately and directly involved in the event in which the damage occurred.

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.

SKYRC

All specifications and figures are subject to change without notice.
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CE FC