

7. Unbalanced Voltage



This screen shows the voltage difference between the highest voltage and lowest voltage cells in the battery pack.

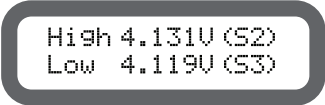
MESSAGE AFTER LI-ION/POLY CHARGING

A timer screen will show after the charge cycle ends. See the battery's charging status by turning the START dial to the left or right.

1. Battery Voltage Per Cell



2. This screen shows which battery cells have the highest and lowest voltage. For example, the second battery has the highest voltage while the third battery has the lowest voltage.



3. Unbalanced Voltage



This screen shows the voltage difference between the highest voltage and lowest voltage cells in the battery pack.

WARNING: If at any time during the charge process the battery pack(s) become hot or begin to puff unplug the battery immediately and discontinue the charge process as batteries can cause fire, collateral damage and injuries.

LI-ION/POLY CHARGE WARNING MESSAGE

1. This screen shows that the battery cannot be charged at the setting for the current voltage. Change the voltage for this battery.



2. This screen shows that the wrong battery voltage has been set for the battery. Change charge voltage value.

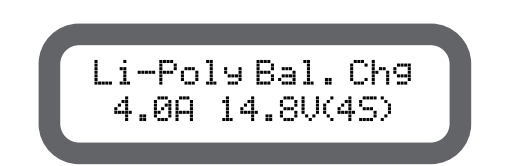


3. This screen shows that the battery may have been damaged by over discharge. Do NOT charge this battery.



LI-ION/POLY BALANCE CHARGE MODE

A timer screen will show during the charge cycle. See the battery's charging status by turning the START dial to the left or right.



While in the User Setup mode, press the dial to change to Li-Po battery balance charging.

- Press the dial again to confirm changes.
- Press the MODE button to open the charge current screen.
- Press the START dial and adjust the current rate to the appropriate rating.
- Press and hold the dial for 3 seconds to activate charge.

MESSAGE DURING LI-ION/POLY BALANCE CHARGING

A timer screen will show during the charge cycle. See the battery's charging status by turning the START dial to the left or right.

MESSAGE AFTER LI-ION/POLY BALANCE CHARGING

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1. Battery Voltage Per Cell



2. This screen shows which battery cells have the highest and lowest voltage. For example, the second battery has the highest voltage while the third battery has the lowest voltage.



3. Unbalance Voltage



This screen shows the voltage difference between the highest voltage and lowest voltage cells in the battery pack.

LI-ION/POLY BALANCE CHARGE WARNING MESSAGE

1. This screen shows that the battery cannot be charged at the current setting for voltage. Change the voltage setting for this battery.



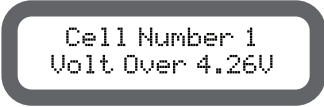
2. This screen shows when the battery is not correctly connected to the charger using a balance adapter.



3. This screen shows that the unbalanced voltage is above the 10mV limit at 30mV. The charger will automatically switch to a 100mA charge rate until the battery cell voltages are balanced to less than 10mV. The charger will begin normal charging after the cells are balanced.



4. This screen shows battery voltage is over 4.26V for the first cell in a pack. The charger will drop to a low current rate until the cells are balanced within specifications.



WARNING: Always confirm the battery voltage and series cell count is correct and never charge higher than a 1C rate. Li-Po batteries can cause serious injury and fire if charged inappropriately. (1C – charger current equals the battery capacity. Example A: 1000mAh battery's charge current limit is 1 amp. Example B: 3300mAh battery's charge current is 3.3A)

LI-ION/POLY FAST CHARGE MODE

Near the end of a standard charging cycle, the charger switches from Constant Current (CC) mode to Constant Voltage (CV) mode in order to slowly "top off" the current in the battery pack as close as possible to the maximum capacity. In Fast Charge, the CV mode is eliminated in order to greatly shorten the charging time; however, the final capacity of the battery will be less than what you would get using the standard charge method.



While in the User Setup mode, press the dial to change to Li-Po battery balance charging.

- Press the dial again to confirm changes.
- Press the MODE button to open the charge current screen.
- Press the START dial and adjust the current rate to the appropriate rating.
- Press and hold the dial for 3 seconds to activate charge.

A timer screen will show during the charge cycle. See the battery's charging status by turning the START dial to the left or right.

PB CHARGE MODE

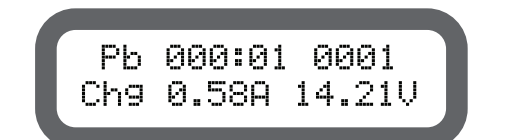


While in the User Setup mode, press the dial to change to Pb battery charging.

- Press the dial again to confirm changes.
- Press the MODE button to open the charge current screen.
- Press the START dial and adjust the current rate to the appropriate rating.
- Press and hold the dial for 3 seconds to activate charge.

Suggested charge rate for PB charging is 0.3C (i.e. .3 x 5Ah=1.5A).

MESSAGE DURING PB CHARGING



A timer screen will show during the charge cycle. See the battery's charging status by turning the START dial to the left or right.

1. Selected Fast Charge Cutoff Voltage.



The cutoff value is predetermined when selecting the 2V, 6V, or 12V setting before charging and is not adjustable once charging has begun.

2. Input Voltage/System Temperature



3. Max Charge Time



4. Max Charge Capacity



A timer screen will show after the charge cycle ends. See the battery's charging status by turning the START dial to the left or right.

WARNING INFORMATION

LCD Screen Warning and Error messages are shown below. During charger operation, circuits monitor battery and charger functions. The following messages may show on the charger's LCD screen if you need to make the recommended responses. If the message continues after you respond as recommended, contact your nearest Horizon Hobby customer service center for assistance.

1. If the battery connection is lost during operation, the OPEN/STOP error will flash. Replace or reconnect battery.
2. Reverse Polarity: Battery polarity reversed. Connect poles of charge adapters correctly to the battery and the charger.
3. Waiting Overheating: Charger temperature overheated. Lower charge/discharge current rates and be sure the cooling fan is not blocked.
4. After charging, Ni-MH/END will flash alternately, showing the battery may be removed from the charger.
5. When the charge reaches the negative delta voltage, the Ni-MH/FULL is displayed, showing the battery may be removed from the charger.
6. When the charge reaches the Timed setting limit, the Ni-MH/TIME is displayed. Remove the battery from the charger.
7. When the charge reaches the capacity setting limit, the Ni-MH/CAPA is displayed, Ni-MH/CAPA will flash alternately. Remove the battery from the charger.

8. When the charge reaches the Temperature setting limit, the Ni-MH/TEMP is displayed. Remove the battery from the charger and do a test of the battery to make sure the battery is not damaged.
9. Li-Po/Li-Fe Battery Low Voltage, LOW/VOL will flash alternately. Remove the battery from the charger and do a test of the battery to make sure the battery is not damaged.
10. FAN/STOP will flash alternately when the cooling fan is not operating correctly. Make sure the fan is not blocked and that the charger has not been left powered on for a long time without charging a battery.



11. This screen is displayed when there is a charger breakdown. Contact your nearest Horizon Hobby customer service center for assistance.



12. This screen shows when there is a charger breakdown. Contact your nearest Horizon Hobby customer service center for assistance.

Battery Type						
	Li-Po	Li-Ion	Li-Fe	Ni-MH	Ni-Cd	Pb
Standard voltage (Volts per cell)	3.70	3.60	3.30	1.20	1.20	2.00
Maximum voltage (Volts per cell)	4.20	4.10	3.60	1.60	1.60	2.45
Minimum voltage (Volts per cell)	3.00	3.00	2.00	1.00	0.85	1.75

FIVE YEAR LIMITED WARRANTY

What this Warranty Covers
Horizon Hobby, Inc., (Horizon) warrants that the Products purchased (the "Product") will be free from defects in materials and workmanship for a period of 5 years from the date of purchase by the Purchaser.

What is Not Covered
This warranty is not transferable and does not cover (i) cosmetic damage, (ii) damage due to acts of God, accident, misuse, abuse, negligence, commercial use, or due to improper use, installation, operation or maintenance, (iii) modification of or to any part of the Product, (iv) attempted service by anyone other than a Horizon Hobby authorized service center, or (v) Products not purchased from an authorized Horizon dealer.

OTHER THAN THE EXPRESS WARRANTY ABOVE, HORIZON MAKES NO OTHER WARRANTY OR REPRESENTATION, AND HEREBY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE PURCHASER ACKNOWLEDGES THAT THEY ALONE HAVE DETERMINED THAT THE PRODUCT WILL SUITABLY MEET THE REQUIREMENTS OF THE PURCHASER'S INTENDED USE.

Purchaser's Remedy
Horizon's sole obligation and purchaser's sole and exclusive remedy shall be that Horizon will, at its option, either (i) service, or (ii) replace, any Product determined by Horizon to be defective. Horizon reserves the right to inspect any and all Product(s) involved in a warranty claim. Service or replacement decisions are at the sole discretion of Horizon. Proof of purchase is required for all warranty claims. SERVICE OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY.
Limitation of Liability
HORIZON SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY, REGARDLESS OF WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR ANY OTHER THEORY OF LIABILITY, EVEN IF HORIZON HAS BEEN ADVISED OF THE POS-

SIBILITY OF SUCH DAMAGES. Further, in no event shall the liability of Horizon exceed the individual price of the Product on which liability is asserted. As Horizon has no control over use, setup, final assembly, modification or misuse, no liability shall be assumed nor accepted for any resulting damage or injury. By the act of use, setup or assembly, the user accepts all resulting liability. If you as the purchaser or user are not prepared to accept the liability associated with the use of the Product, purchaser is advised to return the Product immediately in new and unused condition to the place of purchase.

Law
These terms are governed by Illinois law (without regard to conflict of law principals). This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Horizon reserves the right to change or modify this warranty at any time without notice.

WARRANTY SERVICES

Questions, Assistance, and Services
Your local hobby store and/or place of purchase cannot provide warranty support or service. Once assembly, setup or use of the Product has been started, you must contact your local distributor or Horizon directly. This will enable Horizon to better answer your questions and service you in the event that you may need any assistance. For questions or assistance, please direct your email to productsupport@horizonhobby.com, or call 877.504.0233 toll free to speak to a Product Support representative. You may also find information on our website at www.horizonhobby.com.
Inspection or Services
If this Product needs to be inspected or serviced, please use the Horizon Online Service Request submission process found on our website or call Horizon to obtain a Return Merchandise Authorization (RMA) number. Pack the Product securely using a shipping carton. Please note that original boxes may be included, but are not designed to withstand the rigors of shipping without additional protection. Ship via a carrier that provides tracking and insurance for lost or damaged parcels, as Horizon is not responsible for merchandise until it arrives and is accepted at our facility. An Online Service

Request is available at <http://www.horizonhobby.com> under the Support tab. If you do not have internet access, please contact Horizon Product Support to obtain a RMA number along with instructions for submitting your product for service. When calling Horizon, you will be asked to provide your complete name, street address, email address and phone number where you can be reached during business hours. When sending product into Horizon, please include your RMA number, a list of the included items, and a brief summary of the problem. A copy of your original sales receipt must be included for warranty consideration. Be sure your name, address, and RMA number are clearly written on the outside of the shipping carton.
NOTICE: Do not ship LiPo batteries to Horizon. If you have any issue with a LiPo battery, please contact the appropriate Horizon Product Support office.

Warranty Requirements
For Warranty consideration, you must include your original sales receipt verifying the proof-of-purchase date. Provided warranty conditions have been met, your Product will be serviced or replaced free of charge. Service or replacement decisions are at the sole discretion of Horizon.

Non-Warranty Service
Should your service not be covered by warranty service will be completed and payment will be required without notification or estimate of the expense unless the expense exceeds 50% of the retail purchase cost. By submitting the item for service you are agreeing to payment of the service without notification. Service estimates are available upon request. You must include this request with your item submitted for service. Non-warranty service estimates will be billed a minimum of ½ hour of labor. In addition you will be billed for return freight. Horizon accepts money orders and cashiers checks, as well as Visa, MasterCard, American Express, and Discover cards. By submitting any item to Horizon for service, you are agreeing to Horizon's Terms and Conditions found on our website <http://www.horizonhobby.com/Service/Request/>.

WARRANTY AND SERVICE CONTACT INFORMATION

Country of Purchase	Horizon Hobby	Address	Phone Number / Email Address
United States of America	Horizon Service Center (Electronics and engines)	4105 Fieldstone Rd Champaign, Illinois, 61822 USA	877-504-0233 Online Repair Request: visit www.horizonhobby.com/repairs
	Horizon Product Support (All other products)	4105 Fieldstone Rd Champaign, Illinois, 61822 USA	877-504-0233 productsupport@horizonhobby.com

PARTS CONTACT INFORMATION

Country of Purchase	Horizon Hobby	Address	Phone Number / Email Address
United States	Sales	4105 Fieldstone Rd Champaign, Illinois, 61822 USA	800-338-4639 sales@horizonhobby.com

FCC INFORMATION

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.