Updating Your LiHV Charger Software

**WARNING!** The LiHV charging mode is only compatible with lithium batteries with a nominal voltage of 3.8V/cell. Charging “standard” lithium batteries (LiPo) with a nominal voltage of 3.7V/cell in LiHV mode will overcharge the battery, resulting in damage to the battery, fire, or explosion.

1. Download and install the charger 1216-C2 Ver. 4.03 update program on your PC.
   
   ![DOWNLOAD CHARGER UPDATE]


2. Open the charger update program.

3. While the charger is powered off, plug a USB/mini-USB cable into the PC and into the charger's left (#1 bank) PC Link port.

4. While pressing the STOP and ENTER buttons simultaneously, power on the charger. When a series of rectangles is displayed across the top line of the LCD screen as shown at right, release the STOP and ENTER buttons.

![Charger Screen with Rectangles]

5. The update program will display the charger’s current firmware version and the “some data was sent” message, which confirms that the charger has been recognized.
6. Click “Update.” The progress bar will show the update’s progress in green. DO NOT unplug the mini-USB cable from the charger during the update process.

7. The update is complete when the “Upgrade Complete” window appears and the charger makes a single “beep.” The charger’s screen will return to normal.

8. Click “OK”

9. Unplug the micro-USB cord from the left PC Link port.

10. Power off the charger.

11. Plug the micro-USB connector into the charger’s right (#2) PC link port, and follow steps #4-7 to update the #2 bank.

---

**Charger Update Notes**

The 1216-C2 4.03 LiHV update makes it possible to charge and discharge LiHV (lithium high voltage) batteries with a nominal voltage of 3.8V per cell. In addition, you are able to select the charge rate, number of cells, and terminal voltage.

To determine the correct charge rate and cell count, refer to the instruction manual included with your battery. If you are unable to determine the charge rate or cell count, contact the battery manufacturer for guidance before continuing.

The Terminal Voltage Control (TVC) allows you to set the charge voltage to between 4.25V and 4.35V per cell. This feature can be used to fine-tune the end voltage so that it complies with local racing regulation or to reduce vehicle power as a tuning option. TVC is only available in LiPo and LiHV Standard, Balance, and Fast charge modes.

Your charger operates using a CC/CV (Constant Current/Constant Voltage) charging scheme. When the battery reaches its predetermined voltage, the charge current will drop until the battery has reached maximum capacity.

The LiHV option is added to your charge menu and operates the same way as the other lithium battery programs included with your charger. Please consult your original manual for operating procedures.
Warnings and Safety Notes

- **ALWAYS** select the appropriate input voltage setting before plugging your charger into AC power.
- **NEVER** leave the charger unsupervised during use. If any malfunction is observed, immediately terminate the charging process.
- **ALWAYS** observe warnings and cautions included with your battery.
- **ALWAYS** refer to the instructions included with your battery when determining the proper charge, discharge, and storage parameters.
- **NEVER** charge a battery that is swollen, appears damaged in any way, consists of different types of cells (including from different manufacturers), non-rechargeable batteries, batteries with an integral charger circuit or protection circuit, batteries installed in a vehicle/device or electrically linked to other components, or batteries that are not expressly stated by the manufacturer to be compatible with the charger current that this charger delivers during the charging process.
- **NEVER** charge any battery type other than LiHV, LiPo, LiFe, LiIo, NiMH, NiCd, or lead acid (Pb) batteries.
- **ALWAYS** place the battery and charger on a heat-resistant, non-flammable, and non-conductive surface away from flammable materials and volatile materials.
- **ALWAYS** place the battery in a fireproof container during the charging process.
- **ALWAYS** double-check all connections prior to starting the charging process.
- **ALWAYS** connect the charge lead to the charger first, then connect the battery to the charge lead.
- **NEVER** remove the charge lead from the charger while the battery is plugged into the charge lead.
- **ALWAYS** remove the battery from the charger and unplug the charger from the wall when not in use.
- **NEVER** leave the battery plugged into the charger when the charger is unplugged from the wall.
- **ALWAYS** keep the charger away from moisture, dust, heat, direct sunlight, and vibration. Do not drop it.

Charge/Discharge Amounts by Cell Type and Voltage

<table>
<thead>
<tr>
<th></th>
<th>LiHV</th>
<th>LiPo</th>
<th>Lilo</th>
<th>LiFe</th>
<th>NiCd</th>
<th>NiMH</th>
<th>Pb</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nominal Voltage</strong></td>
<td>3.8V</td>
<td>3.7V</td>
<td>3.6V</td>
<td>3.3V</td>
<td>1.2V</td>
<td>1.2V</td>
<td>2.0V</td>
</tr>
<tr>
<td><strong>Max. Charge Voltage</strong></td>
<td>4.35V</td>
<td>4.2V</td>
<td>4.1V</td>
<td>3.6V</td>
<td>1.5V</td>
<td>1.5V</td>
<td>2.46V</td>
</tr>
<tr>
<td><strong>Storage Voltage</strong></td>
<td>3.9V</td>
<td>3.8V</td>
<td>3.7V</td>
<td>3.3V</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Allowable Fast Charge</strong></td>
<td>≤ 1C</td>
<td>≤ 1C</td>
<td>≤ 1C</td>
<td>≤ 4C</td>
<td>1C-2C</td>
<td>1C-2C</td>
<td>≤ 0.4C</td>
</tr>
<tr>
<td><strong>Min. Discharge Voltage</strong></td>
<td>3.2V</td>
<td>3.2V</td>
<td>3.2V</td>
<td>2.9V</td>
<td>.9V</td>
<td>.9V</td>
<td>1.8V</td>
</tr>
</tbody>
</table>