

USER GUIDE



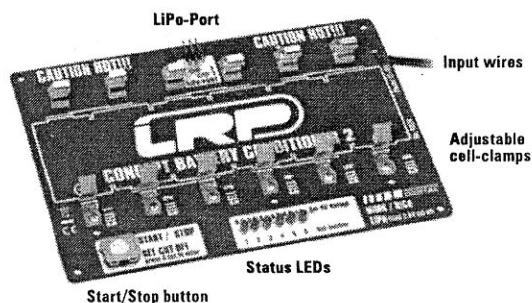
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1. SPECIFICATION

Size	145 x 101.5 x 22mm
Weight	110g
Cell capacity	1-6 Sub-C NiMH/NiCd 2S LiPo packs
Input voltage	11-15 Volt
Discharge current	3.0A
Discharge cut-off voltage	NiMH/NiCd: adjustable 0.0, 0.3, 0.7, 0.8, 0.9, 1.0V per cell LiPo: fixed 2.8V per cell

Specifications subject to change without notice.

2. CONNECTIONS / STATUS INDICATIONS



STATUS LEDs:

The status LEDs have two functions:

1. During turn-on, the LEDs indicate the set discharge cut-off voltage for a 2 second time period.
2. If a battery is placed on the LRP CONCEPT BATTERY CONDITIONER 2 and the discharge process is started, the LEDs indicate the discharge status of each individual cell.

INPUT WIRES:

Connect the input wires to a suitable power supply. The input voltage has to be 11-15 volts. You can either use a stabilized power supply with a suitable output voltage or a 12V car battery. We recommend our LRP POWER SUPPLY COMPETITION 10A or 14A (#43140 10A; #43150 14A).

Note: Check polarity while connecting the LRP CONCEPT BATTERY CONDITIONER 2 to the power supply!

LIPO-PORT:

The LiPo Port is used for connecting a LiPo battery pack to the LRP CONCEPT BATTERY CONDITIONER 2. Connect the balancing connector of the 2S LiPo with the LiPo-Port plug socket on the tray. The LRP CONCEPT BATTERY CONDITIONER 2 then discharges each cell of your LiPo-pack to a fixed cut-off voltage of 2.8V.

Note: Check polarity of the balancing connector while connecting it to the LRP CONCEPT BATTERY CONDITIONER 2!

ADJUSTABLE CELL-CLAMPS:

With the adjustable cell-clamps, you can easily adjust the LRP CONCEPT BATTERY CONDITIONER 2 to your preferred cell configuration. Depending on the position of your battery plugs, you can move the cell-clamps further back on the tray. To do so, unscrew the cell-clamp and remove it from the tray together with the screw. You can then place it on the desired position on the LRP CONCEPT BATTERY CONDITIONER 2 and screw the clamp back on.

If you have a battery pack with less than 6 cells, always start on the left side and put the first cell of the battery pack into the „Cell 1“ slot. Otherwise the LRP CONCEPT BATTERY CONDITIONER 2 will not function properly.

REPAIR PROCEDURES / LIMITED WARRANTY

All products from LRP electronic GmbH (hereinafter called "LRP") are manufactured according to the highest quality standards. LRP guarantees this product to be free from defects in materials or workmanship for 90 days (non-european countries only) from the original date of purchase verified by sales receipt. This limited warranty doesn't cover defects, which are a result of normal wear, misuse or improper maintenance. This applies among other things to:

- Mechanical damage of the PCB
- Humidity/Water residue on the PCB
- Mechanical damage of electronic components/PCB
- Soldered on the PCB
- Connected with reversed polarity

To eliminate all other possibilities or improper handling, first check all other components and the trouble shooting guide, if available, before you send in this product for repair or warranty. Products sent in for repair, that operate perfect have to be charged with a service fee.

By sending in this product, you assign LRP to repair the product, if it is no warranty or Limited Lifetime Warranty case. The original sales receipt including date of purchase needs to be included. Otherwise, no warranty can be granted. For quick repair- and return service, add your address and detailed description of the malfunction.

thank you for your trust in this LRP product. By purchasing a LRP CONCEPT BATTERY CONDITIONER 2, you have chosen a high-performance battery conditioner. Due to the microprocessor controlled discharge process of each single cell, your battery gets the best treatment possible. The defined discharging not only helps the performance of the pack, but also increases the life span of your battery. Special highlights:

- Microprocessor controlled
- SCC - Secure Cut-Off Circuitry
- 3.0A discharge current
- Push button for start/stop of discharge process
- Advanced Digital
- Ready-to-use, fully assembled
- Optimised for latest NiMH competition batteries
- Adjustable cut-off voltage in 6 steps
- Indicates individual cell discharge status
- Adjustable cell-clamps for 1-6 cell packs
- Input wires with 4mm connectors
- 2S LiPo single cell discharging

Please read the following instructions to ensure, that your LRP CONCEPT BATTERY CONDITIONER 2 always works up to your full satisfaction.

Please read and understand these instructions completely before you use this product! With operating this product, you accept the LRP warranty terms.

3. OPERATION

Connect the LRP CONCEPT BATTERY CONDITIONER 2 to a suitable power supply with an output voltage of 11-15V. During turn-on, the LEDs indicate the currently set discharge cut-off voltage for a 2 second time period. After this, all LEDs go off and the LRP CONCEPT BATTERY CONDITIONER 2 is ready to use.

Adjusting the discharge cut-off voltage

1. Press and hold the START/STOP button for at least 3 seconds in order to get into the setup mode of the discharge cut-off voltage. The currently active discharge cut-off voltage is indicated by a blinking LED.
2. By pressing the START/STOP button again, you can now adjust the desired discharge cut-off voltage.
3. If you wait longer than 5 seconds, the adjusted value will be permanently saved as the new, active discharge cut-off voltage and the LRP CONCEPT BATTERY CONDITIONER 2 automatically jumps back into the discharge mode. The discharge process of the battery won't be started at this time.

Note: The adjusted discharge cut-off voltage will be permanently saved, even if the LRP CONCEPT BATTERY CONDITIONER 2 gets disconnected from the power supply!

Discharging 1-6 cell Sub-C NiMH/NiCd batteries

1. Place the battery on the LRP CONCEPT BATTERY CONDITIONER 2. Be sure, that all cell-clamps have good contact to the cells.
- Note:** Check polarity when placing the battery on the tray.
2. Press the START/STOP button once to start the discharge process. The currently active discharge cut-off voltage will be shown for 2 seconds before the discharge process starts.
3. The LEDs begin to blink and indicate the discharge status of each cell. When all LEDs are off, the discharge process is finished and you can connect the battery to a charger. Be sure to remove the battery from the LRP CONCEPT BATTERY CONDITIONER 2 before you begin to charge.

Discharging 2S LiPo-packs

1. Connect the balancing connector of the 2S LiPo-pack to the LiPo-Port of the LRP CONCEPT BATTERY CONDITIONER 2.
- Note:** Check polarity of the balancing connector when connecting it to the tray!
2. Press the START/STOP button once to start the discharge process. During LiPo discharge, the discharge cut-off voltage is fixed to 2.8V per cell. This cannot be changed.
3. Both LEDs of cell 1 and cell 2 begin to blink. When both LEDs are off, the discharge process is finished and you can connect the battery to a charger. During discharge of a LiPo 2S pack, only the LEDs of cell 1 and cell 2 are active. All other LEDs are inactive and off.

Technical advise for the discharge process - SCC Secure Cut-Off Circuitry

All cells get discharged individually with a current of approx. 3.0A until they reach the adjusted discharge cut-off voltage. As soon as the cell reaches the cut-off voltage, the SCC (Secure Cut-Off Circuitry) disconnects the discharge load from the cell and stops the discharge process. Because of this, the cell voltage of each cell starts to rise again and does not stay at the adjusted cut-off voltage. This is done on purpose and not a malfunction of the LRP CONCEPT BATTERY CONDITIONER 2. The SCC prevents deep-discharging of the cells, which would damage them!

4. SET-UP TIPS - BATTERY STORAGE

We recommend to use a discharge cut-off voltage of 0.9V per cell for NiMH batteries. This value is also used with great success by our teamdrivers and our worldwide raceteam. Never discharge NiMH cells lower than 0.8V. NiCd cells can be discharged to 0.0V per cell.

Be sure to always put some charge into the battery pack if you do not use the battery for several weeks. The storage of completely discharged NiMH- and LiPo-packs over a longer period of time damages the battery in general.

We recommend to always store the battery pack with a partial charge. For NiMH batteries, a partial charge of approx. 1/4 of its nominal capacity is OK. For a VTEC4200 battery with a nominal capacity of 4200mAh, this would be approx. 1000mAh. You can then store the battery for several weeks without any problems. For LiPo batteries, we recommend to partial charge them with approx. 1/2 of its nominal capacity.

After a long storage period, the battery pack should be discharged with the LRP CONCEPT BATTERY CONDITIONER 2 first, before using it. After the battery has cooled down, you can charge it normally.

Because we don't have control over the installation or use of this product, we can't accept any liability for any damages resulting from using this product. Therefore using this product is at owner's risk. Our limited warranty liability shall be limited to repairing the unit to our original specifications. In no case shall our liability exceed the original cost of the unit. By installing or operating this product, the user accepts all resulting liability.

The specifications like weight, size and others should be seen as guide values. Due to ongoing technical improvements, which are done in the interest of the product, LRP does not take any responsibility for the accuracy of these specs.

LRP-Distributor-Service:

- Package your product carefully and include sales receipt and detailed description of malfunction.
- Send parcel to your national LRP distributor.
- Distributor repairs or exchanges the product.
- Shipment back to you usually by COD (cash on delivery), but this is subject to your national LRP distributor's general policy.



WARNING NOTES

No toy. Not suitable for children under 14 years.

Keep the product out of the reach of children.

Pay close attention to the following points, as they can destroy the product and void your warranty. Non-observance of these points can lead to property damage, personal and severe injuries!

- Never leave the product unsupervised while it is switched on, in use or connected with a power source. If a defect occurs, it could set fire to the product or the surroundings.
- Never wrap your product in plastic film, metal foil or similar. In fact, make sure it gets enough fresh air.
- Avoid incorrect connections or connections with reversed polarity of the product.
- All wires and connections have to be well insulated. Short-circuits can possibly destroy the product.
- Never allow this product or other electronic components to come in contact with water, oil or fuels or other electroconductive liquids, as these could contain minerals, which are harmful for electronic circuits. If this happens, stop the use of your product immediately and let it dry carefully.
- Never cut off or modify the original plugs and original wires.
- Never open the product and never solder on the PCB or other components.
- Always remove the battery from your product or disconnect the product from the power source, if the product is not in use.
- During usage, the product has to be kept on a non-flammable, heat-resistant mat. Furthermore no flammable or highly inflammable objects may be close to the product.
- Avoid short circuits, overcharging and reverse polarity of the battery or single cells. This can lead to fire or explosion.
- Under no circumstances a NiMH/LiPo-battery shall be deep discharged.
- Do not throw away used batteries in the household garbage, but only give them to the collection stations or dispose of them at a special garbage depot.



The crossed-out wheeled bin means that within the European Union the product must be taken to separate collection at the product end-of-life. Do not dispose of these products as unsorted municipal waste.