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> LIMETA R24 24-Channel Universal Rechargeable Battery Charger Instruction Manual

LIMETA R24

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Model: R24

INTRODUCTION

This manual provides detailed instructions for the safe and efficient operation of your LIMETA R24 24-Channel Universal Rechargeable Battery Charger. Please read this manual thoroughly before using the device to ensure proper function and to prevent damage or injury. The LIMETA R24 is designed for charging various types of rechargeable batteries, including Ni-MH, Ni-Cd, 3.7V Lithium, LiFePO4, and NiZn batteries, across 24 independent slots.

IMPORTANT SAFETY INFORMATION

- **Only charge rechargeable batteries.** Never attempt to charge non-rechargeable (alkaline) batteries. Doing so can lead to overheating, leakage, rupture, or explosion, posing a fire hazard.
- Ensure correct battery polarity (+/-) when inserting batteries into the charger slots.
- Do not expose the charger to water, moisture, or extreme temperatures.
- Use only the provided power adapter or a compatible DC 5-12V, 48W power source.
- Monitor the charging process, especially when charging multiple batteries or older batteries. If batteries become excessively hot, discontinue charging immediately.
- Keep the charger away from flammable materials.
- Do not disassemble or modify the charger. Refer all servicing to qualified personnel.
- Regularly inspect batteries for signs of damage, rust, or swelling. Do not charge damaged batteries.

PRODUCT OVERVIEW

The LIMETA R24 is a professional-grade 24-channel battery charging station designed for versatility and safety. It features independent charging slots, automatic battery type identification, and advanced thermal management.

Key Features:

- **24 Independent Charging Slots:** Each slot operates independently, allowing simultaneous charging of different battery types and sizes.
- **Universal Compatibility:** Supports Ni-MH, Ni-Cd, 3.7V Lithium, LiFePO4, and NiZn rechargeable batteries.
- **Automatic Battery Type Identification:** The charger intelligently detects the battery chemistry and applies the appropriate charging algorithm.
- **Multiple Working Modes:** Includes Battery Charging, Battery Discharge, Battery Activation, and Battery Analysis.
- **Rapid Charging:** Up to 1500mA current output per slot, enabling quick charging times (approximately 90 minutes for some AA batteries).
- **Advanced Thermal Management:** Aluminum alloy housing with thermal-conductive silicone for efficient heat dissipation.
- **LCD Display:** Provides real-time information on charging status, voltage, current, capacity, and temperature for each slot.
- **Upgradeable Firmware:** Micro USB port for connecting to a PC to update firmware and optimize performance.

Product Components:



Figure 1: LIMETA R24 Charger (Front View)

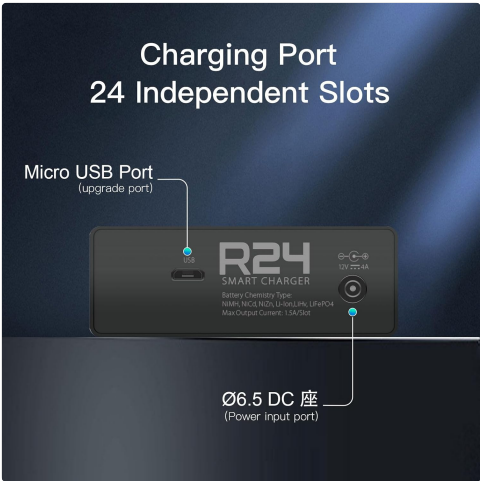


Figure 2: Rear view showing Micro USB (upgrade port) and DC power input port.

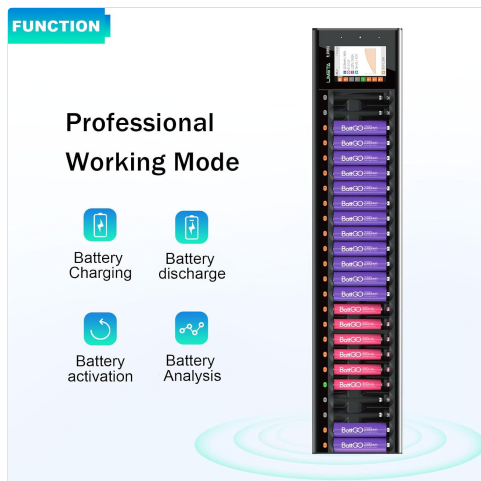


Figure 3: Charger with batteries in slots, demonstrating independent operation.

SETUP

1. **Unpack:** Carefully remove the LIMETA R24 charger and all accessories from the packaging.
2. **Placement:** Place the charger on a stable, flat, and heat-resistant surface, away from direct sunlight and heat sources. Ensure adequate ventilation around the unit.
3. **Power Connection:** Connect the provided power adapter to the DC input port (Ø6.5 DC) on the rear of the charger (refer to Figure 2). Plug the adapter into a suitable power outlet. The charger's display should illuminate.

OPERATION

Inserting Batteries:

Insert rechargeable AA or AAA batteries into the desired slots, ensuring correct polarity. The charger will emit a beep to confirm correct insertion. The LCD display will show information for each inserted battery.

Automatic Battery Identification and Charging:

Upon insertion, the charger automatically identifies the battery type (Ni-MH, Ni-Cd, 3.7V Lithium, LiFePO4, or NiZn) and initiates the appropriate charging algorithm. The display will show the charging status, including current, voltage, and estimated capacity.

24 Slots Independent Charging

Each channel can work separately in different modes
Simultaneous power supply,
no rotation or time-sharing,
fast charging speed.

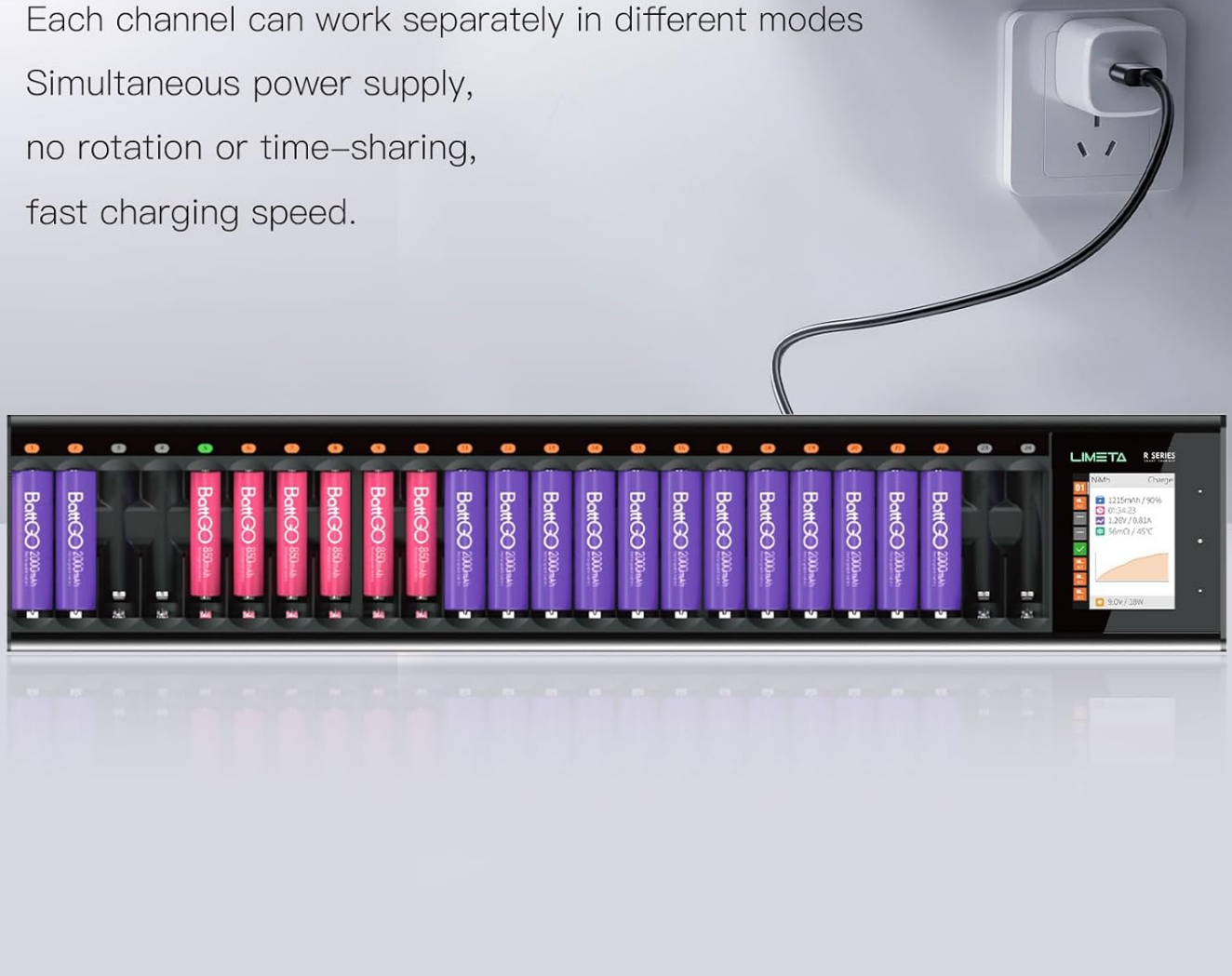


Figure 4: Independent charging in progress, with real-time data on the display.

Working Modes:

The R24 charger supports several professional working modes:

- **Charging:** Standard mode for replenishing battery power.
- **Discharge:** Discharges batteries to a safe level before recharging, which can help reduce memory effect for Ni-Cd batteries and optimize battery health.
- **Activation:** Attempts to reactivate deeply discharged or underperforming cells, particularly useful for older batteries.
- **Analysis:** Evaluates battery performance and capacity.



Figure 5: Display of available professional working modes.

Navigating the Display and Settings:

Use the up and down keys to switch between channels and view individual battery information. Long-press the settings button to access the settings page, where you can adjust parameters like charging current (e.g., reducing to 500mAh for batteries with lower consistency or to manage heat).

Time Monitoring

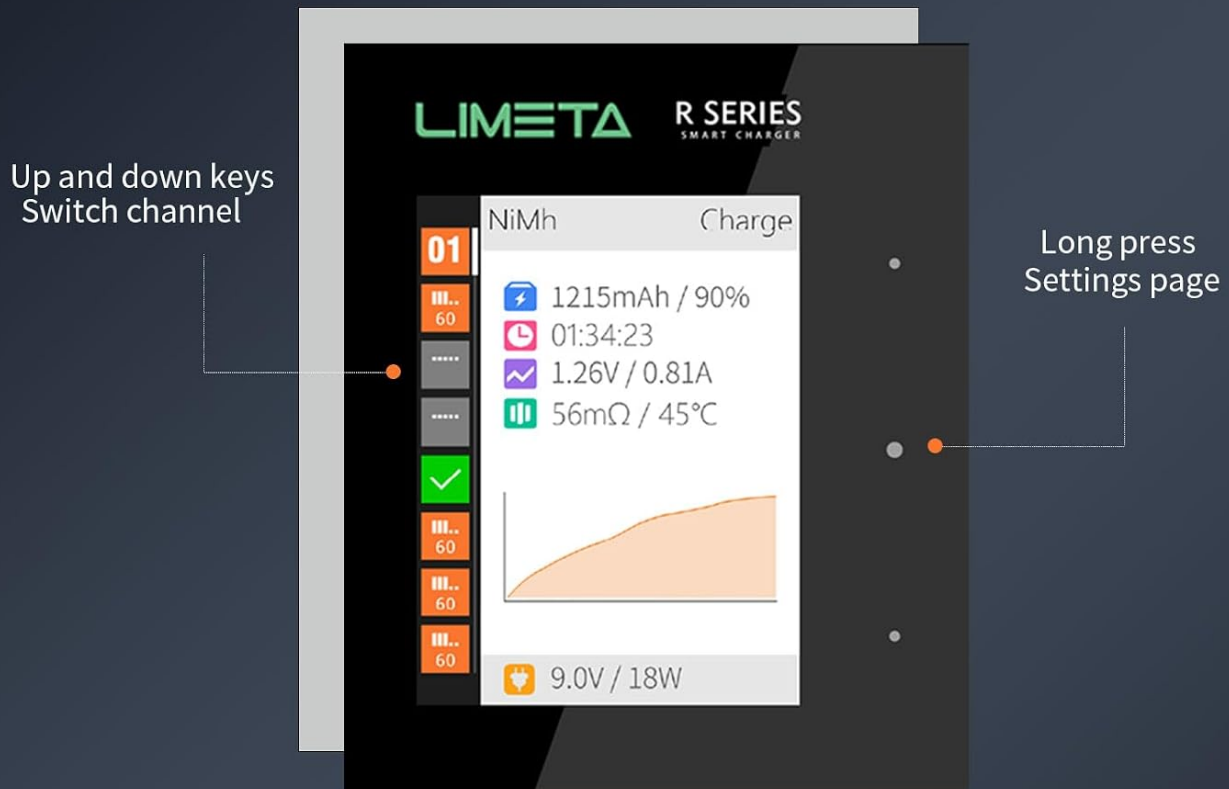


Figure 6: Display interface for time monitoring and navigation controls.

FIRMWARE UPDATE

The LIMETA R24 charger supports firmware updates to enhance performance, improve overcharging prevention, and optimize cell balancing. To update the firmware:

1. Connect the charger to a computer using a Micro USB cable (refer to Figure 2 for the Micro USB port location).
2. Open the ISDGo(PC) software on your computer.
3. Follow the on-screen instructions within the ISDGo(PC) software to update to the latest V2.0 firmware or newer.



Figure 7: Charger connected to a computer for firmware update.

BATTERY HEALTH OPTIMIZATION

The LIMETA R24 is designed to optimize battery health and longevity. It analyzes battery performance, reduces overheating risks, and can reactivate underperforming cells. Regularly check your battery's health to prevent failures such as swelling or explosions, which can result from battery rust or high internal resistance.

For batteries with lower consistency, it is recommended to reduce the charging current to below 500mAh to prevent overheating and prolong battery life.

TROUBLESHOOTING

Common Issues and Solutions:

Q: What should I do if a battery is difficult to remove?

A: The product is designed with dedicated grooves for removing batteries. The correct method is to pry out the batteries in order (e.g., from left to right or from right to left).

Q: Why is the measured contact resistance value high and inconsistent?

A: This product uses a contact plate charging design, and the contact resistance may vary depending on the battery's placement angle and contact position. Oxidation or rust on the battery's positive or negative terminals can also lead to poor contact and thus increased resistance.

Q: Why do some batteries catch fire?

A: Fast charging requires extremely high battery consistency. Famous brand batteries have low internal resistance and good consistency, ensuring stable charging and discharging. Some batteries have high internal resistance and poor consistency, which can easily cause overheating risks during fast charging. It is strongly recommended to prioritize well-known brand batteries. If you are unsure whether the battery has good consistency, please reduce the charging current to below 500mAh.

Q: What is independent operation of each channel?

A: The independent channel operation means that the R series support mixed charging of multiple battery types; it does not mean that multiple operating modes are supported simultaneously. Because the R series have too many slots, individually setting the working mode of each slot may cause inconvenience in your operation. If you need to use multiple functions simultaneously such as charging and analysis, please choose the R4 Evo (a different model).

Q: What should I do if the product emits a beeping sound?

- A: This could indicate:
1. Battery malfunction: Try replacing the battery.
 2. Charger malfunction: Please power off or try a different slot for testing.
 3. Incorrect parameter settings: Please consult the manual and check and reset the charging parameters.

Q: Why are the temperature or current measurement values inaccurate?

A: Software update: Please ensure the device is upgraded to the latest firmware. Environmental factors: Fluctuations in ambient temperature and other environmental conditions can also cause variations in usage and measurements. The current contact plate design may lead to some measurement fluctuations (especially in temperature). For temperature measurement, products will continue to be optimized and upgraded.

Q: Why does the battery sometimes show as fully charged but actually have insufficient capacity?

- A: This is related to the battery itself. Some batteries have exaggerated capacity ratings or the battery has aged.
1. It is recommended to charge batteries from reputable brands.
 2. After the display shows fully charged, please continue trickle charging for a period of time (e.g., 15-30 minutes) to supplement the capacity.
 3. It is recommended to use the product's analysis function to check the actual capacity before charging. Avoid using batteries with exaggerated capacity ratings.
- Some malfunction issues may appear to be caused by the charger but are actually due to the battery.

SPECIFICATIONS

Feature	Detail
Brand	LIMETA
Model Number	R24
Product Dimensions	3.11"D x 16.85"W x 1.1"H
Item Weight	810 Grams
Output Voltage	12 Volts

Feature	Detail
Input Voltage	DC 5-12V (48W)
Battery Charge Time	Approx. 90 minutes (varies by battery type/capacity)
Current Rating	1500 Milliamps (1.5 Amps) per slot
Connector Type Used on Cable	Micro USB (for firmware), DC Power Input
Number of Ports	24
Compatible Battery Types	Ni-MH, Ni-Cd, 3.7V Lithium, LiFePO4, NiZn (AA/AAA)
Note	Cannot charge 1.5V Lithium batteries.

PRODUCT VIDEOS

User Guide for Cylindrical Battery Charger

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This video provides a general user guide for cylindrical battery chargers, demonstrating basic functions and features relevant to the LIMETA R24.

Household Battery Charger Overview

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An overview video showcasing the features and usage of a household battery charger, applicable to the LIMETA R24 model.

WARRANTY AND SUPPORT

For warranty information, technical support, or customer service inquiries, please refer to the official LIMETA website or contact the seller directly. Ensure you have your product model number (R24) and purchase details available when seeking support. For firmware updates and further optimization, visit the official LIMETA support page and use the ISDGo(PC) software as described in the Firmware Update section.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question