BARCODE-USA R1

BARCODE-USA Chainway R1 Tabletop RFID Reader/Writer User Manual

Model: R1

Introduction Product Overview Setup Operation Maintenance Troubleshooting Specifications Warranty & Support

1. Introduction

This manual provides essential information for the proper use and maintenance of your BARCODE-USA Chainway R1 Tabletop RFID Reader/Writer. The R1 is a versatile and high-performance device designed for efficient UHF RFID tag encoding. It features an Impinj E310 chip, ensuring accurate and reliable performance compliant with Class 1 Gen 2 standards. The device supports multiple protocols, including EPC and UHF, making it suitable for various applications such as logistics, access control, and production process management. Please read this manual thoroughly before operating the device.

2. Product Overview

The Chainway R1 is a compact tabletop RFID reader/writer. Its design prioritizes ease of use and integration into various desktop environments.

Figure 2.1: Front view of the Chainway R1 Tabletop RFID Reader/Writer. This image shows the sleek, black, square-shaped device with a subtle circular pattern on top and the "CHAINWAY" logo on the front edge. A small indicator light is visible on the top right.

2.1 Key Features

- **UHF RFID Engine:** CM310-1 module based on Impinj E310 for high-performance encoding.
- **Multi-Protocol Support:** Compatible with ISO18000-6C/EPC C1 G2 protocols.
- **Circular Polarized Antenna:** Ensures efficient tag reading and writing.
- **Adjustable Output Power:** +5 dBm to +25 dBm, with +/-1dB accuracy.
- **Compact Design:** User-friendly tabletop form factor suitable for various applications.

Figure 2.2: Side and bottom views of the Chainway R1, highlighting the internal Impinj E310 chip and connectivity port. The image displays the device from two angles, showing its slim profile and the USB-C port on the rear.

Figure 2.3: Multiple perspectives of the Chainway R1, emphasizing its sleek and compact design suitable for desktop use. This composite image shows the device from the front, top, side, and bottom, illustrating its small footprint.

3. Setup

Follow these steps to set up your Chainway R1 RFID Reader/Writer.

1. **Unpack the Device:** Carefully remove the R1 reader/writer and any included cables from its packaging.
2. **Connect to Power/Data:** Connect the R1 to your computer or host device using the provided USB Type-A cable. The device draws power and transmits data via this single connection.
3. **Driver Installation (if necessary):** For most modern operating systems (Windows, Linux), the device should be recognized automatically. If not, please refer to the manufacturer's website for specific driver downloads.
4. **Software Installation:** Install the appropriate RFID application software or SDK (Software Development Kit) on your computer. This software is required to interact with the R1 for reading and writing RFID tags. The SDK supports Windows and Linux operating systems.
5. **Placement:** Place the R1 on a stable, flat surface, ensuring no metallic objects are directly underneath or

immediately surrounding the device, as this can interfere with RFID performance.

Figure 3.1: The Chainway R1 in operation, connected to a laptop via USB, with an RFID card placed on its surface for reading or writing. This illustrates a typical setup scenario.

4. Operating Instructions

Once the Chainway R1 is set up and the necessary software is installed, you can begin reading and writing RFID tags.

4.1 Reading RFID Tags

1. **Launch Software:** Open your RFID application software on the connected computer.
2. **Select Read Function:** Within the software, select the function for reading RFID tags.
3. **Place Tag:** Position the UHF RFID tag directly on the surface of the Chainway R1. Ensure the tag is flat and centered for optimal performance. The maximum read range is approximately 15 cm.
4. **Initiate Read:** Click the "Read" button or equivalent in your software. The device will attempt to read the tag's data.
5. **Verify Data:** The read data (e.g., EPC, TID) will be displayed in your application software.

4.2 Writing RFID Tags

1. **Launch Software:** Open your RFID application software.
2. **Select Write Function:** Choose the function for writing RFID tags.
3. **Enter Data:** Input the data you wish to write to the tag (e.g., new EPC, user data) into the designated fields in your software.
4. **Place Tag:** Place the UHF RFID tag on the surface of the Chainway R1.
5. **Initiate Write:** Click the "Write" button or equivalent in your software. The device will attempt to write the data to the tag.
6. **Verify Write:** After the write operation, it is recommended to perform a read operation to confirm that the data was written correctly.

Note: The output power of the R1 is adjustable from +5 dBm to +25 dBm. This setting can typically be configured within

your RFID application software or SDK to optimize performance for different tag types and environments.

5. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Chainway R1.

- **Cleaning:** Use a soft, dry, lint-free cloth to clean the exterior of the device. Do not use abrasive cleaners, solvents, or spray directly onto the device.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Avoid Liquids:** Keep the device away from water and other liquids.
- **Cable Care:** Handle the USB cable gently. Avoid bending or twisting it excessively, which can damage the internal wires.
- **Environmental Considerations:** Operate the device within its specified temperature and humidity ranges to prevent damage.

6. Troubleshooting

If you encounter issues with your Chainway R1, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
Device not recognized by computer.	• Loose USB connection. • Missing or incorrect drivers. • Faulty USB port or cable.	• Ensure the USB cable is securely connected to both the R1 and the computer. • Check Device Manager (Windows) or `lsusb` (Linux) for device recognition. Install drivers if needed. • Try a different USB port or cable.
Cannot read/write RFID tags.	• Tag not properly placed. • Incorrect tag type (not UHF). • Software settings incorrect. • Interference from metallic objects. • Output power too low.	• Ensure the tag is flat and centered on the R1. • Verify that you are using compatible UHF RFID tags (EPC C1 G2). • Check your RFID application software settings for correct protocol and power levels. • Move the device away from large metallic surfaces. • Increase the output power setting in your software.
Slow or inconsistent performance.	• Environmental interference. • Software issues.	• Minimize other wireless devices or sources of electromagnetic interference. • Ensure your RFID application software is up-to-date and configured correctly.

7. Specifications

Feature	Detail
Model	R1

Feature	Detail
Manufacturer	Chainway
RFID Engine	CM310-1 module based on Impinj E310
Frequency	902.75 - 927.25 MHz
Protocol	ISO18000-6C/EPC C1 G2
Antenna	Circular Polarized Antenna
Output Power	+5 dBm to +25 dBm (adjustable, +/-1dB accuracy)
Max Read Range	15 cm
Connectivity	USB Type A
Operating System Support	All operating systems (SDK supports Windows / Linux)
Color	Black

Figure 7.1: The underside of the Chainway R1, displaying the model number "R1" and other regulatory markings. This view also shows the rubber feet for stability.

8. Warranty and Support

For warranty information and technical support, please contact BARCODE-USA directly. Refer to your purchase

documentation for specific warranty terms and conditions.
You can visit the official BARCODE-USA store on Amazon for additional product information and support resources: BARCODE-USA Store

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

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