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> Retevis RT73 Amateur DMR Radio User Manual

Retevis EUA9203A

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Model: EUA9203A

INTRODUCTION

The Retevis RT73 is a compact and multifunctional dual-band amateur DMR radio transceiver designed for reliable communication. Featuring GPS/APRS functionality, 4,000 channels, and 200,000 contacts capacity, it offers both analog and digital operating modes. Its high 20W power output ensures strong signal coverage, making it suitable for various environments including vehicles and emergency situations. This manual provides detailed instructions for setup, operation, maintenance, and troubleshooting to ensure optimal performance of your RT73 radio.



SAFETY INFORMATION

Please read and understand all safety precautions before operating the Retevis RT73 radio. Failure to do so may result in injury or damage to the device.

- Do not operate the radio in explosive atmospheres (e.g., flammable gases, dust particles, metallic powders).
- Avoid exposing the radio to direct sunlight for prolonged periods or placing it near heating appliances.
- Do not disassemble or modify the radio. Repairs should only be performed by qualified technicians.
- Use only Retevis-approved accessories to prevent damage and ensure optimal performance.
- Keep the radio away from water and moisture. This device is not waterproof.
- Ensure proper ventilation, especially when operating at high power, to prevent overheating. The built-in cooling fan assists with heat dissipation.
- Observe all local regulations and licensing requirements for amateur radio operation.

PACKAGE CONTENTS

Verify that all items are present in your package:

- Retevis RT73 Amateur DMR Radio Transceiver
- Hand Microphone with Numeric Keypad
- Power Cable
- Mounting Bracket and Screws
- USB Programming Cable
- User Manual (this document)
- GPS Antenna (if included in specific package)

PRODUCT OVERVIEW: BUTTONS & FUNCTIONS

Familiarize yourself with the various parts and controls of your Retevis RT73 radio.

Buttons & Functions



Figure 2: Main components and their functions.

Table 1: Radio and Microphone Controls

Component	Function
Power On/Off Button	Press and hold to power the radio on or off.
Rotating Knob (Volume/Squelch)	Adjusts volume. Can also control squelch level depending on mode.
TFT Display	Shows channel information, frequency, mode, and other operational data.
Menu/Confirm Key	Accesses the menu system and confirms selections.
Programming/Earpiece Jack	Connects to a computer for programming or to an earpiece.
Microphone Speaker Jack	Connects the hand microphone to the radio.
Antenna Jack	Connects the external antenna.

Component	Function
Cooling Fan	Activates automatically to dissipate heat during prolonged transmission.
GPS Antenna Jack	Connects the GPS antenna for APRS functionality.
Power Input	Connects the DC power supply.
PTT Key (Microphone)	Push-to-Talk button for transmitting.
Numeric Keypad (Microphone)	Used for direct frequency entry, menu navigation, and DTMF tones.
Customizable Function Keys (P1-P7)	Programmable keys for quick access to frequently used functions.

SETUP

Initial Setup and Connection

- Mounting:** Choose a stable and well-ventilated location for the radio, such as a vehicle dashboard or a desk. Use the provided mounting bracket and screws to secure the unit.
- Antenna Connection:** Connect your external antenna to the Antenna Jack on the rear of the radio. Ensure the connection is secure.
- GPS Antenna Connection (Optional):** If using GPS/APRS functionality, connect the GPS antenna to the dedicated GPS Antenna Jack.
- Hand Microphone Connection:** Plug the hand microphone cable into the Microphone Speaker Jack on the front of the radio.
- Power Connection:** Connect the provided power cable to the Power Input on the rear of the radio. Connect the other end to a stable 13.8V DC power source (e.g., vehicle battery, regulated power supply). Ensure correct polarity.
- Power On:** Press and hold the Power On/Off button to turn on the radio. The TFT display will illuminate.

Programming the Radio

The Retevis RT73 requires programming via computer for full functionality, including channel setup, contact lists, and advanced features. Dedicated programming software (CPS) and files are provided by Retevis.

- Install Software:** Install the Retevis RT73 CPS (Customer Programming Software) on your computer.
- Connect Radio:** Connect the radio to your computer using the provided USB programming cable via the Programming/Earpiece Jack.
- Read/Write Data:** Launch the CPS. You can read the current configuration from the radio, modify settings (frequencies, channels, digital contacts, zones, customizable keys), and then write the new configuration back to the radio.
- Save Codeplug:** It is highly recommended to save your radio's original configuration (codeplug) before making any changes.

OPERATING INSTRUCTIONS

Display Overview

Large TFT Screen & Visual Operation

TFT screen displays various working states, and combine with visual icons for easy use and operation. Support 6 levels adjustable brightness



Figure 3: Large TFT Screen and Visual Operation.

The TFT display provides comprehensive information about the radio's status. Key indicators include:

- **Channel Display Mode:** Shows the current channel number.
- **Zone:** Indicates the current operating zone.
- **Current Time:** Displays the current time.
- **Profiles:** Shows active user profiles.
- **Operating Main Band:** Displays the primary frequency band.
- **RSSI (Received Signal Strength Indicator):** Shows the strength of the incoming signal.
- **Current Volume:** Indicates the current audio output level.
- **Digital Mode / Analog Mode:** Clearly indicates the current operating mode.
- **Power:** Shows the transmit power level.
- **Current Contact Type:** Displays information about the current contact in DMR mode.

GPS APRS Function



Figure 4: GPS APRS Functionality.

The RT73 supports GPS and APRS (Automatic Packet Reporting System) functionality. When enabled and configured, the radio can transmit your location data, allowing other APRS users to track your position. This is particularly useful for real-time communication of immediate value information in local areas, such as during outdoor activities or emergency response.

- Ensure the GPS antenna is properly connected.
- Enable GPS and APRS features in the radio's menu or via the programming software.
- Configure your APRS settings, including callsign, SSID, and beacon interval.

Digital (DMR) and Analog Modes



Digital/Analog Two modes DMR

Figure 5: Digital/Analog Two Modes DMR.

The RT73 operates in both analog and digital (DMR) modes, providing flexibility for communication with various radio systems. You can switch between these modes as needed, making it ideal for environments requiring compatibility with both older and newer equipment.

- **Analog Mode:** Standard FM communication. Set frequency, CTCSS/DCS tones as required.
- **Digital (DMR) Mode:** For digital voice and data communication. Requires proper configuration of Color Code, Talkgroup, and Slot via programming software.
- The display will clearly indicate whether the radio is currently operating in Analog or Digital mode.

Channel Management and Contacts

LARGE CAPACITY

300K

4000

Contacts Channels



Figure 6: Large Capacity for Contacts and Channels.

The RT73 supports up to 4,000 channels and 200,000 contacts, allowing for extensive communication networks. Channels and contacts are managed primarily through the programming software.

- **Channel Selection:** Use the rotating knob or the up/down keys on the microphone to navigate through programmed channels.
- **Direct Frequency Entry:** In VFO mode (if enabled), you can directly enter frequencies using the numeric keypad on the microphone.
- **Contact List:** In DMR mode, the radio can display contact information for incoming calls if the contact is stored in the radio's memory.

Customizable Function Keys

7 CUSTOMIZABLE FUNCTION KEYS



Figure 7: Customizable Function Keys.

The RT73 features 7 customizable function keys (P1-P7) that can be programmed via the CPS to provide quick access to frequently used features, enhancing operational convenience.

- Assign functions such as scan, monitor, power level adjustment, or zone switching to these keys.
- Refer to the programming software manual for a complete list of assignable functions.

Clear Sound Quality



Figure 8: Microphone Gain and Magnetic Hanging.

The RT73 incorporates digital signal processing technology to ensure clear and precise audio transmission and reception, even in noisy environments. The squelch function can be quickly adjusted to filter out background noise.

- Adjust the squelch level using the rotating knob or through the menu to optimize audio clarity.
- The microphone is designed for clear voice pickup, and some models may feature magnetic hanging for convenient storage.

MAINTENANCE

Proper maintenance ensures the longevity and reliable operation of your Retevis RT73 radio.

- **Cleaning:** Use a soft, damp cloth to clean the radio's exterior. Do not use harsh chemicals or abrasive cleaners.
- **Connections:** Regularly check all cable connections (antenna, microphone, power) to ensure they are secure and free from damage.
- **Ventilation:** Ensure the cooling fan area on the back of the radio is free from dust and obstructions to allow for proper heat dissipation.

Cool Work

Perfect refrigeration system, long-term work no burn



Figure 9: Cooling Fan for "Cool Work" operation.

- **Storage:** When not in use for extended periods, store the radio in a dry, cool place, away from direct sunlight and extreme temperatures.
- **Firmware Updates:** Check the official Retevis website periodically for firmware updates. Updates can improve performance and add new features. Follow the provided instructions carefully when performing updates.

TROUBLESHOOTING

If you encounter issues with your Retevis RT73, refer to the table below for common problems and their solutions.

Table 2: Common Troubleshooting Steps

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Radio does not power on.	No power supply; incorrect power connection; faulty power cable.	Check power cable connection and power source. Ensure 13.8V DC supply.
No audio from speaker.	Volume too low; squelch too high; speaker/microphone not connected.	Increase volume. Lower squelch level. Ensure microphone is securely connected.
Cannot transmit or receive.	Incorrect frequency/channel; antenna not connected; wrong mode (analog/DMR); programming error.	Verify frequency and channel settings. Check antenna connection. Ensure correct operating mode. Re-check programming.
GPS/APRS not working.	GPS antenna not connected; GPS/APRS feature disabled; poor satellite signal.	Ensure GPS antenna is connected. Enable GPS/APRS in settings. Move to an open area for better signal.
Radio overheats.	Prolonged high-power transmission; blocked cooling fan.	Reduce transmission time. Ensure cooling fan is clear of obstructions. Operate in a well-ventilated area.
Programming error.	Incorrect CPS version; driver issues; cable connection.	Ensure correct CPS version for RT73. Install proper USB drivers. Reconnect programming cable. Try a different USB port.

SPECIFICATIONS

Key technical specifications for the Retevis RT73 Amateur DMR Radio.

Table 3: Technical Specifications

Feature	Detail
Brand	Retevis
Model Number	EUA9203A
Color	Black
Number of Channels	4000
Frequency Range	144-148 MHz (VHF) and 420-450 MHz (UHF)
Maximum Range	5 Kilometers (dependent on terrain and conditions)
Tuning Technology	UHF; VHF
Voltage	13.8 Volts (DC)
Product Dimensions	12.1D x 6.5W x 4.2H centimeters

Feature	Detail
Weight	890g (approximate)
Water Resistance Level	Not waterproof
Special Features	GPS/APRS Function, Digital/Analog Modes (DMR), Automatic Squelch, Customizable Function Keys, Cooling Fan
Compatible Devices	Other radios of the same brand, radios with the same frequency range (144-148 MHz and 420-450 MHz), and compatible accessories such as microphones, headsets, or external antennas.
Rechargeable Battery	Yes (implies internal or external battery support, typically powered by a rechargeable source like a car battery for mobile use)

WARRANTY AND SUPPORT

Retevis offers a comprehensive warranty and support for your RT73 radio:

- **Manufacturer Warranty:** We provide a 2-year warranty from the date of purchase.
- **30-Day Satisfaction Guarantee:** You may try the product for 30 days and return it for free if you are not satisfied.
- **Replacement Policy:** We can replace the walkie-talkie for you within the first 6 months of purchase.
- **Repair Service:** After 8 months, we will be responsible for repairing the product, but you will be responsible for shipping costs.

For technical support, warranty claims, or further assistance, please visit the official Retevis website or contact their customer service. Ensure you have your model number (EUA9203A) and purchase details ready. You can visit the Retevis brand store for more information and products:[Retevis Official Store](#)

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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

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