

Retevis RT81

Retevis RT81 Digital Two Way Radio User Manual

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your Retevis RT81 Digital Two Way Radio. The RT81 is a dual-mode (analog and digital) DMR walkie-talkie designed for reliable communication in various environments, including those requiring IP67 waterproof and dustproof protection. It features high power output, extended battery life, and advanced calling functions.

2. PRODUCT OVERVIEW

2.1. Package Contents

The standard package for the Retevis RT81 includes the following items:

- 2 x Retevis RT81 Walkie Talkies
- 2 x 2200mAh Li-ion Batteries
- 2 x Antennas
- 2 x Belt Clips
- 2 x Charging Docks
- 2 x Charger Adapters
- 1 x User Manual



Figure 2.1: Retevis RT81 Package Contents

2.2. Key Features

- **Dual-Mode Operation:** Supports both analog and digital modes for flexible communication and smooth transition.
- **IP67 Waterproof and Dustproof:** Designed to withstand immersion in water up to 1 meter for 30 minutes and is completely dustproof, suitable for harsh environments.
- **High Power Output:** Provides extended communication range, potentially covering up to 300,000 square feet or 30 floors.
- **TDMA Technology:** Utilizes Time Division Multiple Access to split 12.5 kHz channels into two 6.25 kHz channels, enhancing spectrum efficiency.
- **2200mAh Rechargeable Battery:** Offers long operational times, approximately 15 hours in analog mode and

25 hours in digital mode.

- **Multiple Call Types:** Supports individual calls, group calls, and all calls in digital mode for efficient personnel coordination.
- **Clear Digital Audio:** Digital communication minimizes sound distortion and signal drop, providing enhanced voice clarity.
- **User-Friendly Design:** Features simple controls and voice prompts for easy navigation.



Figure 2.2: Digital & Analog Dual Modes

IP67

MILITARY WATERPROOF



Figure 2.3: IP67 Waterproof Feature

LONG DISTANCE HIGH PENETRATION

HIGH POWER AND HIGH GAIN ANTENNA
FURTHER EXTEND THE CALL DISTANCE



Figure 2.4: Long Distance Communication

SINGLE & GROUP ALL CALL IN DIGITAL MODE

2 ZONE
32 CHANNEL



Figure 2.5: Single & Group Call Options

LONGER BATTERY LIFE

CONTINUES WORKING TIME:

ANALOG: 15H

DIGITAL: 25H



Figure 2.6: Extended Battery Life

3. SETUP

3.1. Battery Installation

1. Align the battery with the grooves on the back of the radio.
2. Slide the battery upwards until it clicks into place.
3. Ensure the battery is securely fastened to prevent accidental detachment.



Figure 3.1: Battery Compartment and Battery

3.2. Antenna Attachment

1. Screw the antenna clockwise into the connector on the top of the radio until it is firm.
2. Do not overtighten.

3.3. Charging the Battery

1. Place the radio (with battery installed) into the charging dock.
2. Connect the charger adapter to the charging dock and plug it into a power outlet.
3. The indicator light on the charging dock will show the charging status. Refer to the dock's specific instructions for light indications.



Figure 3.2: Radios in Charging Docks

4. OPERATING INSTRUCTIONS

4.1. Power On/Off

Rotate the Power/Volume knob clockwise to turn the radio on. Continue rotating to adjust the volume. Rotate counter-clockwise until a click is heard to turn the radio off.

4.2. Channel Selection

The RT81 comes with 16 pre-set channels. Use the Channel Selector knob on top of the radio to choose your desired channel. Voice prompts will announce the selected channel.

4.3. Dual Mode (Analog/Digital)

The RT81 supports both analog and digital communication. The mode is typically configured per channel during programming. Ensure you are on the correct mode for your intended communication.

4.4. Call Types (Digital Mode)

- **Individual Call:** Direct communication with a specific radio.
- **Group Call:** Communication with a pre-defined group of radios.
- **All Call:** Broadcast message to all radios within range, regardless of their current channel or group. This improves communication efficiency for personnel transfers or general announcements.

4.5. Talk Permit Tones

When enabled (requires specific firmware), talk permit tones notify users when a channel is clear for transmission, promoting orderly communication.

4.6. Programming

The RT81 radios are pre-set with CTCSS/DCS on 16 channels. To communicate with other brands of walkie-talkies or to customize frequencies and settings, programming is required. Please contact Retevis customer support via Amazon for programming assistance or firmware.

5. MAINTENANCE

5.1. IP67 Waterproof and Dustproof Care

While the RT81 is IP67 rated, proper care is essential to maintain its integrity:

- Ensure the battery cover and any accessory ports are securely sealed before exposing the radio to water or dust.
- Do not disassemble the radio, as this will compromise its waterproof performance.
- After exposure to saltwater or muddy conditions, rinse the radio with fresh water and dry thoroughly with a clean cloth.

5.2. General Cleaning

Clean the radio's exterior with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners. Ensure the charging contacts are clean and dry before placing the radio in the charging dock.

6. TROUBLESHOOTING

6.1. Radio Not Powering On

- Check if the battery is properly installed and charged.
- Ensure the Power/Volume knob is rotated clockwise past the 'off' position.

6.2. Cannot Communicate with Other Radios

- Verify that both radios are on the same channel.
- Confirm that both radios are set to the same mode (analog or digital).
- If communicating with other brands, ensure frequencies and CTCSS/DCS tones are programmed identically. Contact customer support for programming assistance.
- Check the antenna connection on both radios.

6.3. Poor Audio Quality or Limited Range

- Ensure the antenna is securely attached.

- Check for obstructions between radios (e.g., buildings, dense foliage).
- Verify battery charge level; low battery can affect performance.
- In digital mode, ensure you are within the optimal coverage area for clear transmission.

7. SPECIFICATIONS

Feature	Specification
Item Weight	2.65 pounds
Product Dimensions	1.45 x 2.51 x 5.48 inches
Item Model Number	FA9119A2-C9018A
Batteries	2 Lithium Ion batteries required (included)
Voltage	7.4 Volts (AC)
Water Resistance Level	Waterproof (IP67)
Number of Channels	32
Frequency Range	RT81 (70cm band)
Talking Range Maximum	547 Feet (Note: Actual range varies significantly with terrain and conditions)
Color	Black
Manufacturer	Retevis

8. WARRANTY AND SUPPORT

8.1. Warranty Information

Retevis provides a **2-year warranty** for the radio body and a **1-year warranty** for accessories. A 30-day no-reason return policy is also offered.

8.2. Customer Support

For any questions, programming assistance, or warranty claims, please contact Retevis customer support through Amazon. Responses are typically provided within 12 hours. Maintain service is available beyond the warranty period, with buyers responsible for associated costs.

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