

Retevis RT29D

Retevis RT29D DMR 2 Way Radio User Manual

Model: RT29D

Brand: Retevis

1. INTRODUCTION

The Retevis RT29D is a professional-grade DMR (Digital Mobile Radio) two-way radio designed for reliable and secure communication in various demanding environments. Featuring IP67 waterproofing, high power output for extended range, and a long-lasting 3200mAh battery, this radio is built to meet the needs of business, outdoor, and emergency service users. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your RT29D radio.

What's in the Box

- 2x RT29 Two Way Radio and Antenna
- 2x 3200 mAh Battery
- 2x Desktop Charger and Adapter, Belt clip
- 2x English User Manual



Figure 1.1: Package Contents of the Retevis RT29D

2. KEY FEATURES

The Retevis RT29D incorporates several advanced features to ensure optimal performance and user convenience.

2.1 Digital (DMR) and Analog Modes

The RT29D supports both digital and analog modes, offering enhanced sound quality, improved communication security, and better battery life in digital mode. It maintains compatibility with existing analog radio fleets, working with Tier I & II walkie-talkies.



Figure 2.1: Digital and Analog Mode Compatibility

2.2 High Power and Long Range

Equipped with high power DMR technology, the RT29D provides extended communication distance, making it suitable for large areas and challenging terrains. It is designed to keep your team connected efficiently, whether in the field or at an event.



Figure 2.2: High Power for Extended Range

2.3 IP67 Waterproof and Dustproof

The RT29D boasts an IP67 rating, ensuring maximum robustness against water and dust ingress. This feature allows the radio to operate reliably in severe weather conditions, including rain and wind, making it ideal for outdoor and demanding work environments.

Video 2.1: Demonstration of the RT29D's IP67 Waterproof and Dustproof capabilities, showing its resilience in challenging conditions.

2.4 Durable and Sturdy Construction

Constructed from solid aluminum material, the RT29D is built to be rugged and withstand the rigors of daily use. Its robust design ensures maximum uptime and reliability for business and professional applications.



Figure 2.4: Durable and Sturdy Build

2.5 Long-Lasting 3200mAh Battery

The radio is powered by a high-capacity 3200mAh rechargeable battery, providing up to 14 hours of working time and an impressive 46 hours of standby time. This ensures all-day use without the need for frequent recharging.

3200mAh Rechargeable Battery



Figure 2.5: 3200mAh Rechargeable Battery Performance

2.6 Secure Communication

The RT29D features 32-bit digital encryption, enhancing communication security and privacy. This makes it suitable for commercial or business environments where secure conversations are paramount.

3. SETUP GUIDE

3.1 Battery Installation

To install the battery, align the battery pack with the grooves on the back of the radio. Slide the battery upwards until it clicks securely into place. Ensure the battery release latch is engaged to prevent accidental detachment.



Figure 3.1: Battery and Radio Back Panel

3.2 Charging the Battery

Place the radio with the installed battery into the desktop charger. Ensure the charging contacts on the radio align with those on the charger. The charging indicator light on the charger will typically turn red while charging and green when fully charged. A full charge takes approximately 6 hours.



Figure 3.2: Convenient Charging Setup

3.3 Attaching the Antenna and Belt Clip

Screw the antenna clockwise onto the antenna connector on top of the radio until it is finger-tight. Attach the belt clip to the designated slots on the back of the radio for easy carrying.

4. OPERATING INSTRUCTIONS

4.1 Basic Controls

The RT29D features intuitive controls for ease of use:

- **Power/Volume Knob:** Located on top, rotate clockwise to power on and increase volume, counter-clockwise to decrease volume and power off.
- **Channel Knob:** Located on top, rotate to select desired communication channel.
- **PTT (Push-to-Talk) Key:** Located on the side, press and hold to transmit, release to receive.
- **Side Keys (Programmable):** Two side keys can be programmed for various functions (e.g., zone change, power adjustment) via programming software.
- **Earpiece Jack:** Located on the side, for connecting audio accessories.

4.2 Making a Call

Ensure your radio is powered on and set to the desired channel. Press and hold the PTT key to transmit your message. Speak clearly into the microphone. Release the PTT key to listen for a response.

4.3 Call Types

The RT29D supports various communication methods:

- **Single Call:** Direct communication with a specific individual radio.
- **Group Call:** Communication with a predefined group of radios.
- **All Call:** Broadcast message to all radios within range on the current channel.

4.4 Understanding Radio Range

The effective communication range of your RT29D radio is influenced by several factors, including radio power, signal type (digital vs. analog), horizon distance, atmospheric conditions, antenna quality, and most significantly, terrain and

obstacles.

Video 4.1: An informative video explaining the factors that affect two-way radio range, including terrain, obstacles, and atmospheric conditions.

Terrain and obstacles, such as buildings, hills, and dense foliage, can significantly block radio signals, creating "dead zones" or reducing effective range. The radio horizon also limits line-of-sight communication. To maximize range, consider increasing transmission power (doubling power can extend range by approximately 1.4 times), improving receiver sensitivity (adjusting squelch and using high-gain antennas), transmitting from higher locations, and ensuring your battery is fully charged.

5. MAINTENANCE

5.1 General Care and Cleaning

To ensure the longevity and optimal performance of your RT29D radio, regularly clean its exterior with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners. Keep the earpiece jack and charging contacts free from dust and debris.

5.2 Battery Care

For best battery performance, fully charge and then fully drain the battery twice upon initial use. After this conditioning, regular charging is sufficient. Avoid overcharging or completely depleting the battery for extended periods. Store the radio and battery in a cool, dry place when not in use.

5.3 IP67 Waterproof Maintenance

While the RT29D is IP67 rated, it is important to ensure all covers (e.g., earpiece jack cover) are securely closed before exposing the radio to water or dust. After exposure to water, wipe the radio dry with a clean cloth. Do not attempt to charge a wet radio.

6. TROUBLESHOOTING

If you encounter issues with your Retevis RT29D radio, please refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Radio does not power on	Low or depleted battery; improperly installed battery	Charge the battery fully; ensure battery is correctly installed.
No signal or poor reception	Out of range; heavy obstacles; incorrect channel/frequency; weak battery	Move to an open area; check channel settings; ensure battery is charged.
Cannot communicate with other radios	Different firmware (RT29 vs RT29D); incompatible frequency/CTCSS/DCS settings	Ensure all radios are RT29D and have identical frequency and CTCSS/DCS settings. Note: RT29D is not directly compatible with RT29 due to different firmware.
Audio is distorted or too low	Volume too low; earpiece/microphone issue; weak signal	Adjust volume; check earpiece/microphone connection; move closer to other radios.

7. SPECIFICATIONS

Specification	Detail
Item Weight	2.9 pounds
Product Dimensions	1.58 x 2.61 x 5.95 inches
Country of Origin	China
Item model number	RT29D
Batteries	2 Lithium Ion batteries required. (included)
Brand	Retevis
Color	Black
Number of Channels	128
Special Feature	IP67 Waterproof and dustproof; rugged walkie talkies, Single/group/all call, DMR radios; Analogue/Digital, High power long range 2 way radio, 3200mAh Large capacity battery
Talking Range Maximum	5 Mile (Note: Actual range may vary significantly based on terrain and conditions)
Voltage	7.4 Volts (DC)
Water Resistance Level	Waterproof

8. WARRANTY & SUPPORT

8.1 Warranty Information

Retevis provides a 2-year warranty for the radio body and a 1-year warranty for accessories. Additionally, there is a 30-day no-reason return policy. Beyond the warranty period, maintenance services are still offered, with buyers responsible for associated costs.

8.2 Customer Support

For any questions, technical assistance, or warranty claims, please contact Retevis customer support through Amazon. They aim to reply within 12 hours to provide the most hassle-free service possible.

Documents - Retevis – RT29D

Shenzhen Your Technology Co., LTD
Address: Room 421, 4th Floor, Building 4, Yoki Intelligent Park, No. 3 Changfu Middle Road, Futian District, Shenzhen, Guangdong Province, China
Tel: +86-755-24819352
Email: sales@YTK.com

Date: 2025-04-17

Declaration of Similarity

FEDERAL COMMUNICATIONS COMMISSION
Authorization and Evaluation Division
7435 Colgate Mills Road
Columbia, MD 21046

To whom it may concern

We, Shenzhen Your Technology Co., LTD hereby declare that we have a product named **Two Way Radio**, the model number is **RT29**, FCC ID: **2ABORTED** was tested by **Shenzhen Your Technology Co., Ltd.** According to your request for this purpose, we would like to let a series model (RT29) to inspect and evaluate. All of the model is **electronically identical**, the difference among them is model name and sales channel. The model number is **RT29**, the model name is **Two Way Radio**, the model RT29 is for use office which may be used in business or group or training center, since the price may change for different customer, we need different model to send.

We confirm that all information above is true, and we'll be responsible for all the consequences. Please contact us if you have any questions.

Sincerely Yours,

Signature: 
Dongfeng Shen

Manager

[pdf] Declaration of Conformity

chelsea gao DoS Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D
rt29d

Shenzhen Ysair Technology Co., LTD Address:Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... Ysair Technology Co., LTD hereby declare that we have a product named as Two Way Radio, the models: **RT29D** FCC ID: 2A3OORT**29D** was tested by Shenzhen Accurate Technology Co., Ltd. Meanwhile, for our m...

lang:en score:32 filesize: 129.73 K page_count: 1 document date: 2025-05-23

Shenzhen Yuntai Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yushan Intelligent Park, No. 3 Chaofu
Middle Road, Yeguan Community, Beihuan Street, Longgang District, Shenzhen
China
Tel: +86-755-23421913
Email: sterry@163.com

Date: 2012-04-17

To: FEDERAL COMMUNICATIONS COMMISSIONS
Authorizations and Exemptions Division
7450 Colgate Mills Road
Columbia, MD 20464

Subject: Attention statement regarding the spectrum efficiency

Type of Equipment: Two Way Radio
Model number: RT290, RT12
FCC ID: 2ABGQRT2D

Dear Sir or Madam:

We, Shenzhen Yuntai Technology Co., LTD declare that the time division multiple access (TDMA) technology provides two paths in a 12.5 MHz channel bandwidth, thus meeting the spectrum efficiency of 2.5 bits/Hz of spectrum requirement. The radio also provides a feature of 800Hz in a 12.5 MHz channel, thus meeting the minimum rate of 400Hz in a 6.25 MHz channel.

Please contact the radio engineer if you have any question or need any further information.

Sincerely Yours,


Signature: *Dongfeng Shen*

Dongfeng Shen

Manager

[pdf] Declaration of Conformity

bacl Declaration Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d
Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4,
Yunli Intelligent Park, ... estation statement regarding the spectrum efficiency Type of
Equipment: Two Way Radio Model number: **RT29D**, RT29 FCC ID: 2A3OORT29D
Dear Sir or Madam We, Shenzhen Ysair Technology Co., LTD declare that...
lang:en **score:30** filesize: 80.53 K page_count: 1 document date: 2025-05-22

U. S. AGENT LETTER OF ATTESTATION

[pdf] Agent Authorization

Note Please print this letter with your company s paper US Agent Attestation Letter Shenzhen
Ysair Technology Co LTD RT29D Two Way Radio 2A3OO~~RT29D~~ rt29d
U.S. AGENT LETTER OF ATTESTATION Date:2025-05-19 FEDERAL
COMMUNICATIONS COMMISSION Authorization and Evaluation Division 7435
Oakland Mills Road Columbia, MD 21046 Ref: Attestation Statements CFR 47 2.911 d
7 Filing FCC ID:2A3OO~~RT29D~~ Shenzhen Ysair Technology Co., LTD certifies that, as
of the dat...

lang:en score:17 filesize: 145.74 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: 86-755-23481953
Email: retevis@126.com

Attestation Letter
Date: 2025-05-19
FEDERAL COMMUNICATIONS COMMISSIONS
Authorization & Evaluation Division
7451 Oakland Mills Road
Columbia, MD 21046
Ref: Attestation Statement CFR 47.2.911(d)(5)(ii) Filing
FCC ID: 2A3OORT29D

Shenzhen Ysair Technology Co., LTD certifies that the equipment for which authorization is sought has been tested by equipment published from seeking an equipment authorization pursuant to section 205 of the FCC Act.

Sincerely Yours,
Signature: 
Dongling Shen
Manager

Frequency Range (MHz) FCC Rule Part
400-400 FCC Part 90
401-404 FCC Part 90
405-460 FCC Part 90
461-473 FCC Part 90
462-5375 FCC Part 90
463-5375 FCC Part 90
467-7375-467-5375 FCC Part 90

Also, equipment programming is the responsibility of Authorized Service Personnel, the radio complies with CFR Part 90 (2020), in fact the operator cannot directly program the transmit frequency using the normally accessible external controls.

[pdf]

Dear Sir Madam karen Frequency Justification Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... MD 21046 Subject: Extended Frequencies Justification Dear Sir/Madam, The Radio with FCC ID: 2A3OORT29D was designed to operate in the frequency bands 400-480MHz To aid equipment authorization in o...

lang:en score:17 filesize: 158.07 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: 86-755-23481953
Email: retevis@126.com

Attestation Letter
Date: 2025-05-19
FEDERAL COMMUNICATIONS COMMISSIONS
Authorization & Evaluation Division
7451 Oakland Mills Road
Columbia, MD 21046
Ref: Attestation Statement CFR 47.2.911(d)(5)(ii) Filing
FCC ID: 2A3OORT29D

Shenzhen Ysair Technology Co., LTD certifies that the equipment for which authorization is sought has been tested by equipment published from seeking an equipment authorization pursuant to section 205 of the FCC Act.

Sincerely Yours,
Signature: 
Dongling Shen
Manager

CFR 47.2.911(d)(5)(ii) Attestation Letter

[pdf]

Rachel Chen 2 911 d 5 i Attestation Statement Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... Mills Road Columbia, MD 21046 Ref: Attestation Statements CFR 47.2.911 d 5 i Filing FCC ID: 2A3OORT29D Shenzhen Ysair Technology Co., LTD certifies that the equipment for which authorization is sou...

lang:en score:17 filesize: 75.65 K page_count: 1 document date: 2025-05-22

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: 86-755-23481953
Email: retevis@126.com

Attestation Letter
Date: 2025-05-19
FEDERAL COMMUNICATIONS COMMISSIONS
Authorization & Evaluation Division
7451 Oakland Mills Road
Columbia, MD 21046
Ref: Attestation Statement CFR 47.2.911(d)(5)(ii) Filing
FCC ID: 2A3OORT29D

Shenzhen Ysair Technology Co., LTD certifies that as of the date of the filing of the application, the applicant has not started on the covered U.S. as an entity producing "covered" equipment. And our product does not use any hardware software information.

Sincerely Yours,
Signature: 
Dongling Shen
Manager

CFR 47.2.911(d)(5)(ii) Attestation Letter

[pdf]

Rachel Chen 2 911 d 5 ii Attestation Statement Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... Mills Road Columbia, MD 21046 Ref: Attestation Statements CFR 47.2.911 d 5 ii Filing FCC ID: 2A3OORT29D Shenzhen Ysair Technology Co., LTD certifies that as of the date of the filing of the applica...

lang:en score:17 filesize: 208.69 K page_count: 1 document date: 2025-05-23

Shenzhen Ysair Technology Co., LTD
Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen, China
Tel: 86-755-23481953
Email: retevis@126.com

FCC Authorization
Date: 2025-05-19
FEDERAL COMMUNICATIONS COMMISSIONS
Authorization & Evaluation Division
7451 Oakland Mills Road
Columbia, MD 21046
Subject: Agent Authorization

To whom it may concern:
We, Shenzhen Ysair Technology Co., LTD, the undersigned, hereby certifies that Shenzhen Accurate Technology Co., Ltd. is acting on behalf of all parties named to appear before the FCC in this proceeding. We further certify that all acts performed by Shenzhen Accurate Technology Co., Ltd. on our behalf shall have the same effect as our own action.

We, the undersigned, hereby certify that we are not subject to a denial of federal benefits, that includes FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

This authorization is valid until further written notice from the applicant.

Sincerely Yours,
Signature: 
Dongling Shen
Manager

QA-PR-175-B 7/20/2014

[pdf] Agent Authorization

Note Please print this letter with your company s paper FCC Agent Authorization Letter Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OORT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, No. 3 Changfa Middle Road, Yangmei Community, Bantian Street, Longgang District, Shenzhen, China Tel: 86-755-23481953 Email: retevis 126.com Date: 2025-05-19 FCC Authorization FEDERAL COMMUNICATIO...

lang:en score:16 filesize: 75.94 K page_count: 1 document date: 2025-05-22

Shenzhen Ysair Technology Co., LTD
Address: Room 401, 4th Floor, Building 4, Yunli Intelligent Park, No. 2 Dongguan Middle Road,
Yunli Intelligent Park, Shenzhen, China
Postcode: 518046
Email: Ysair@163.com

FCC Confidential Authorization

Date: 2025-05-12

FEDERAL COMMUNICATIONS COMMISSION
Authorization and Operations Division
7475 California Avenue Road
Columbia, MD 21046

Subject: Confidentiality Request regarding application for certification of
FCC ID: 2A3OOERT29D

In accordance with Sections 0.457 and 0.459 of the Commission's Rules,
Shenzhen Ysair Technology Co., LTD hereby requests long-term confidential treatment
of information accompanying the application as outlined below:

- Block Diagram
- Schematics
- Operation Description
- Part/Part/Line up Procedure

As well as short-term confidential treatment of information accompanying this
application for a period of 180 days after grant is issued as outlined below:

- Internal Pictures
- User's Manual
- External Pictures
- Test Setup Pictures

The above information is proprietary and confidential information not currently
available to the public. The public disclosure of these materials provides unanticipated
benefit to its competitor in the market.

Sincerely Yours,

Signature: 

Dongfeng Shan

Manager

[pdf] Confidentiality Request Letter

Note Please print this letter with your company's paper

FCC Long and Short term Confidentiality

Request Shenzhen Ysair Technology Co LTD RT29D Two Way Radio 2A3OOERT29D rt29d

Shenzhen Ysair Technology Co., LTD Address: Room 403, 4th Floor, Building 4, Yunli Intelligent Park, ... , MD 21046 Subject: Confidentiality Request regarding application for certification of FCC ID: 2A3OOERT29D In accordance with Sections 0.457 and 0.459 of the Commission's Rules, Shenzhen Ysair Technolo...

lang:en score:16 filesize: 147.67 K page_count: 1 document_date: 2025-05-23