Ruijie Reyee RG-M32 Home Wi-Fi Router

Hardware Installation and Reference Guide

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Preface

Technical Support

- Official website of Ruijie Reyee: https://www.ruijienetworks.com/products/reyee
- Technical Support Website: https://ruijienetworks.com/support
- Case Portal: https://caseportal.ruijienetworks.com
- Community: https://community.ruijienetworks.com
- Technical Support Email: techsupport@ireyee.com

Conventions

1. GUI Symbols

Interface symbol	Description	Example
Boldface	1. Button names 2. Window names, tab name, field name and menu items 3. Link	1. Click OK. 2. Select Config Wizard. 3. Click the Download File link.
>	Multi-level menus items	Choose System > Time.

2. Signs

The signs used in this document are described as follows:

Danger

An alert that calls attention to safety instruction that if not understood or followed can result in personal injury.

Warning

An alert that calls attention to important rules and information that if not understood or followed can result in data loss or equipment damage.

Caution

An alert that calls attention to essential information that if not understood or followed can result in function failure or performance degradation.

Note

An alert that contains additional or supplementary information that if not understood or followed will not lead to serious consequences.

Specification

An alert that contains a description of product or version support.

3. Note

This manual introduces the features of the product and offers guidance on configuration and testing.

Contents

1 Product Introduction

1.1 Overview

The RG-M32 router is a router is a gigabit Wi-Fi router designed for small- or medium-sized indoor scenarios covering apartments, villas, residential buildings, and small business offices. Complying with IEEE 802.11a/b/g/n/ac/ax standards, this router supports both 2.4 GHz and 5 GHz bands, as well as 2 x 2 MU-MIMO technology, delivering ultra-fast speeds reaching up to 800Mbps at 2.4 GHz, 2402 Mbps at 5 GHz. In addition to an uplink port (WAN port), this router also provides three gigabit downlink ports (LAN ports) for connecting to wired clients, making this router an ideal choice for meeting indoor wired and wireless deployment requirements.

1.2 Package Contents

Table 1-1 Package Contents

No.	Item	Quantity
1	RG-M32 Router	1 or 2
2	Power Adapter (12 V DC/2.5 A)	1 or 2
3	Ethernet Cable	1 or 2
4	User Manual	1
5	Warranty Card	1

Note

The package contents above are intended to provide a general overview, and are subject to the terms of the order contract. Please check your goods carefully against the package contents or order contract. If you have any questions, please contact the distributor.

1.3 Appearance

1.3.1 Top View

Figure 1-1Top View

Table 1-2 LEDs

Mark	Item	Description
1	Mesh LED	● Blinking: The mesh pairing is in progress. ● Off: The router is not connected to, or is disconnected from the primary router. ● On: The mesh pairing is successful.
2	System LED	● Fast blinking (16 times/second): The router is initializing, resetting or upgrading. ● Steady blue: The router is initialized, or is connected to the Internet. ● Blinking blue (16 times/second): The

Mark	Item	Description
		router is restarting. ● Steady orange: The router is not connected to the Internet.

1.3.2 Side View and Bottom View

Figure 1-2Side View and Bottom View

Table 1-3 Ports and Buttons

Mark	Item	Description
1	Gigabit LAN ports	10 Mbps/100 Mbps/1000 Mbps Base-T downlink ports, for connecting to wired clients.
2	Gigabit WAN port	10 Mbps/100 Mbps/1000 Mbps Base-T uplink port
3	DC power cord	Connects to a 12 V/2.5 A DC power adapter to

Mark	Item	Description
	connector	supply power to the router.
4	Reset button	● Press and hold for less than 1 second: No action is triggered. ● Press and hold for more than 10 seconds: The router is restored to factory defaults.
5	Mesh button	Press and hold for less than 2 seconds: The router establishes a mesh network with nearby unconfigured Reyee routers or range extenders.

1.4 Technical Specifications

Table 1-4 Specification

Radio Specifications	2.4 GHz and 5 GHz 4 dual-radio
Protocol and Standard	Wi-Fi 6 (802.11ax)
Operating Frequency Bands	802.11b/g/n/ac: 2.400 GHz to 2.483 GHz 802.11a/n/ac/ax: 5.150 GHz to 5.350 GHz, 5.470 GHz to 5.725 GHz, 5.725 GHz to 5.850 GHz (country-specific restrictions apply)
Antenna Type	External flat omni-directional antenna 2.4 GHz: 5.2 dBi 5 GHz: 4.8 dBi
Spatial Streams	2.4 GHz, 4×4, MU-MIMO 5 GHz, 4×4, MU-MIMO

Data Rate	2.4 GHz: 800 Mbps 5 GHz: 2402 Mbps Combined: 3202 Mbps
Modulation Technology	OFDM: BPSK@6/9 Mbps,QPSK@12/18 Mbps,16QAM@24 Mbps,64QAM@48/54 Mbps DSSS:DBPSK@1 Mbps,DQPSK@2 Mbps, and CCK@5.5/11 Mbps MIMO-OFDM: BPSK, QPSK, 16QAM, 64QAM, 256QAM and1024QAM OFDMA
Receive Sensitivity	2.4 GHz: 802.11b: –96 dBm (1 Mbps) 802.11g: –91 dBm (6 Mbps), -85 dBm (54 Mbps) -90 dBm (MCS0), -85 dBm (MCS7) 5 GHz: 802.11n: –90 dBm (MCS0), –70 dBm (MCS7) –88 dBm (6 Mbps), –60 dBm (54 Mbps) –88 dBm (MCS0), –62 dBm (MCS7), –58 dBm (MCS9) -88 dBm (MCS0), -62 dBm (MCS8), -58 dBm (MCS11)
Max. Transmit Power	CE EIRP: ≤ 20 dBm (2.4 GHz) ≤ 27 dBm (5 GHz) ≤ 20 dBm 2400 to 2483.5 MHz (Bluetooth) 2400 to 2483.5 MHz ≤ 20 dBm (EIRP) 5150 to 5350 MHz ≤ 23 dBm (EIRP) 5470 to 5725 MHz ≤ 30 dBm (EIRP) 5725 to 5850 MHz ≤ 30 dBm (EIRP)
Power Step	1.0 dBm
Dimensions (W x D x H)	119 mm x 119 mm x 200 mm (4.67 in. x 4.67 in. x 7.87 in.) (excluding the accessories and mounting brackets)
Net Weight	0.66 kg
Service Ports	1 x 10 Mbps/100 Mbps/1000 Mbps Base-T uplink port (WAN port) 3 x 10 Mbps/100 Mbps/1000 Mbps Base-T downlink port (LAN port)

Management Port	N/A
LED	1 x system LED, 1 x mesh LED
Power Supply	AC/DC power adapter (12 V/2.5 A DC)
Max. Power Consumption	< 30 W
Bluetooth 5.0	Not supported
Environment	Operating temperature: –10℃ to +45℃ (14℉ to 113℉)
	Storage temperature: –40°C to +70°C (–40°F to +158°F)
	Operating humidity: 5% to 95% RH (non-condensing)
	Storage humidity: 5% to 95% RH (non-condensing)
Installation	Placed on a flat surface
Certification	CE, UKCA, EAC, RCM
MTBF	> 25000 H

1.5 Power Supply Technical Specifications

The RG-M32 router supports 12 V/2.5 A DC power supply, and is supplied with a 12V/2.5A DC power adapter. Technical specifications of the DC power cord connector:

Inner Diameter	Outer Diameter	Depth	Conductor Resistance	Voltage Resistance	Voltage for Insulator and Conductor Test	Polarity Symbol
2.10±0.1 mm (0.08±0.002 in.)	5.50±-0.05 mm (0.22±0.05 in.)	11.5±0.5 mm (0.45±0.019 in.)	50 Ω	100MΩ	1000 V	Center (tip) of the output plug: Positive (+) Barrel (ring) of the output plug: Negative (-) Reversed polarity symbol is not allowed

1.6 Cooling

This router adopts a fanless design. Therefore, a sufficient clearance needs to be maintained around the router for cooling.

2 Preparing for Installation

2.1 Safety Precautions

The RG-M32 router plays a vital role in connecting networks, and its proper functioning is crucial for ensuring the normal operation of all interconnected subnetworks.

The following safety precautions must be followed during installation and use:

- Do not place the device in a damp or wet location, and keep the device away from any kind of liquid.
- Install the device in a position far away from heat sources.
- Wear an ESD wrist strap during installation and maintenance.
- Do not wear loose clothing and tighten your belt, scarf, and sleeves to prevent clothing from getting caught on the device and causing damage.
- Keep tools and accessories away from walking areas to avoid damage.
- You are advised to use an uninterruptible power source (UPS) to avoid power failures and disturbance.

2.2 Installation Environment Requirements

This router must be installed indoors to ensure its normal operation and prolonged service life. The installation site must meet the following requirements.

- Temperature and humidity
- Cleanliness
- ESD protection requirements
- Anti-interference
- Checking the mounting workbench

2.2.1 Temperature and Humidity

Maintain an appropriate temperature and humidity at the installation site to ensure its normal operation and prolonged service life. High humidity can lead to poor insulation and electrical performance issues such as leakage. On the other hand, low humidity can cause shrinkage of insulation gaskets and looseness of fastening screws, which can

generate static electricity and pose a risk to internal circuits, especially in dry climate environments. High temperatures can significantly impact the reliability and service life of the device by accelerating the aging process of insulation materials. See the following table for temperature and humidity requirements.

Operating Temperature	Operating Humidity
–10℃ to +45℃ (14°F to 113°F)	5% to 95% (non-condensing)

2.2.2 Cleanliness

Dust poses a significant risk to the operational safety of the device. When indoor dust accumulates on the device, it can lead to electrostatic adsorption and result in poor contact. This not only affects the lifespan of the device, but also increases the likelihood of communication failures. The risk of electrostatic adsorption increases when the indoor relative humidity is low.

The following table describes the requirements for the dust content and granularity.

Max. Diameter (µm)	0.5	1	3	5
Max. Concentration (number of particles/m³)	1.4×107	7×105	2.4×105	1.3×105

In addition to dust, the device also has specific requirements on the presence of harmful gases such as hydrochloric acid sulfides in the air at the installation site. These gases can cause accelerated corrosion of metals and aging of certain components. The table below displays the specific limits for harmful gases including SO2, H2S, NO2, NH3, and Cl2 at the installation site.

Gas	Avg. (mg/m³)	Max. (mg/m³)
Sulfur dioxide (SO_2)	0.2	1.5
Hydrogen sulfide (H_2S)	0.006	0.03
Nitrogen dioxide (NO_2)	0.04	0.15
Ammonia gas (NH_3)	0.05	0.15
Chlorine gas (CI_2)	0.01	0.3

2.2.3 ESD Protection Requirements

This device is designed with rigorous anti-static procedures during circuit design. However, excessive static electricity can still cause damage to its circuit board. Static electricity in the communication network connected to the device mainly originates from two sources:

- Outdoor high-voltage transmission lines, lightning and other external electric fields; and
- Internal systems such as indoor flooring materials and overall structure of the device.

To prevent damage caused by static electricity, please pay attention to the following:

- Keep the indoor installation environment clean and free of dust.
- Maintain appropriate temperature and humidity.

2.2.4 Anti-interference

Anti-interference measures primarily target electromagnetic and current interferences. The following requirements should be considered to ensure effective mitigation of interference:

- Take effective measures to prevent interference from power grid to the power supply system.
- Keep the device away from the grounding facility or lightning and grounding facility of the power device as much as possible.
- Keep the device far away from high-frequency current devices such as high-power radio transmitting stations and radar launchers.

2.2.5 Checking the Mounting Workbench

Regardless of whether the device is installed on a desktop or wall, the following conditions must be met:

- The desktop or wall surface must be smooth and clean.
- The network cables must be in good condition.

2.3 Tools

Common Tools	Phillips screwdriver and cables
Special Tools	Wire stripper, crimping plier, RJ45 crimping plier, and wire cutter
Meters	Multimeter and bit error rate tester (BERT)

Note

The RG-M32 is not shipped with a tool kit. You need to prepare a tool kit by yourself.

3 Installation

> ⚠ **Caution**
>
> Before installing the device, make sure that you have carefully read the requirements described in Chapter 2.

3.1 Before You Begin

Carefully plan and arrange the installation location, networking mode, power supply, and cabling before installation. Confirm the following requirements before installation:

- The installation location should meet the temperature and humidity requirements of the device.
- The installation location should meet the voltage and current requirements of the device.
- The selected power supply should meet the system power requirements of the device.
- The installation location should meet the network cable requirements of the device.
- The installation location should meet the installation site requirements of the device.
- Ensure that all the specific requirements of the intended users are met if this device is designed for special purpose.

3.2 Safety Precautions Before Installation

To ensure the normal operation and prolonged service life of the device, the following safety precautions must be followed:

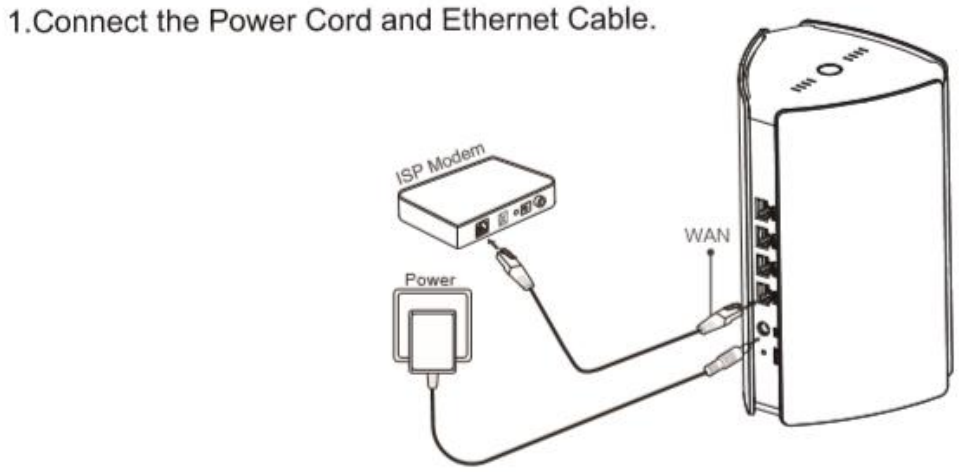
- Do not power on the device during installation.
- Place the device in a well-ventilated environment.
- Do not expose the device to high temperature.
- Keep the device away from high-voltage power cables.
- Install the device indoors.
- Do not expose the device in a thunderstorm or strong electric field.
- Keep the device clean and dust-free.

- Cut off the power before cleaning the device.
- Do not wipe the device with a damp cloth.
- Do not wash the device with liquid.
- Do not open the enclosure when the device is working.
- Fasten the device tightly.

3.3 Installing the Router

- Installing the router on a flat surface

The router can be placed on a horizontal surface, such as on a shelf or desktop.



4 Debugging

4.1 Setting Up the Configuration Environment

Verify that the power cables are in good condition and meet safety requirements.

4.2 Powering On

4.2.1 Checking Before Power-on

Verify that the DC power connector of the device is in good condition, and that the device does not shake when the DC power adapter is connected to the DC power connector.

4.2.2 Checking After Power-on

- Verify that the LED status is normal.
- After the device is powered on, verify that the SSID can be successfully connected to by a smartphone or any other wireless device.

4.3 Troubleshooting Power Failures

The working status of the LED on the device indicates whether the device power system is malfunctioning. See Table 1-2 for the description of the LED status. Perform the following checks in the case of any abnormality:

- Verify that the device is properly powered on.
- Verify that the Ethernet cable is correctly connected to the device.

Note

If the device still cannot be powered on after the preceding check, please contact your local distributor or technical support.

5 Monitoring and Maintenance

5.1 Monitoring

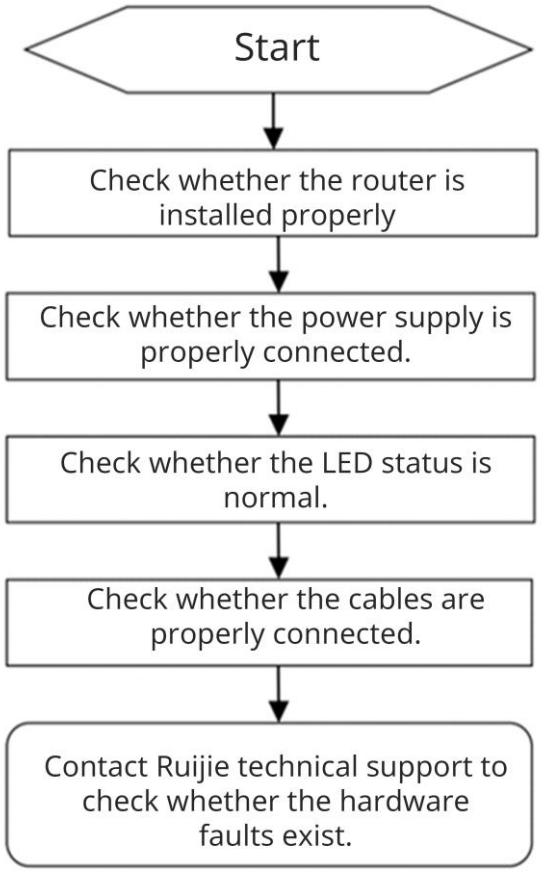
You can observe the LED status to monitor the device in operation.

5.2 Hardware Maintenance

If the hardware is faulty, please contact Ruijie Networks technical support.

6 Common Troubleshooting

6.1 Troubleshooting Flowchart



6.2 Common Faults

6.2.1 The LED Is Off After the Device is Powered On

Verify that the supplied power adapter is connected properly, and whether the Ethernet cable is connected properly.

6.2.2 Ethernet Port Is Not Working After the Ethernet Cable Is Plugged In

Verify that the device at the other end of the Ethernet cable is working properly. Check Verify that the Ethernet cable is capable of providing the required data rate and is properly connected.

6.2.3 A Client Cannot Discover the SSID of the Router

(1) Verify that the device is properly powered on.

(2) Verify that the Ethernet port is correctly connected.

(3) Verify that the router is correctly configured.

(4) Move the client closer to the router.

6.2.4 A Client Cannot Discover the 5 GHz SSID of the Router

- Verify that a 5 GHz SSID is configured on the router.
- Verify that the router is compliant with the IEEE 802.3at standard.

7 Appendixes

7.1 Appendix A Connectors and Media

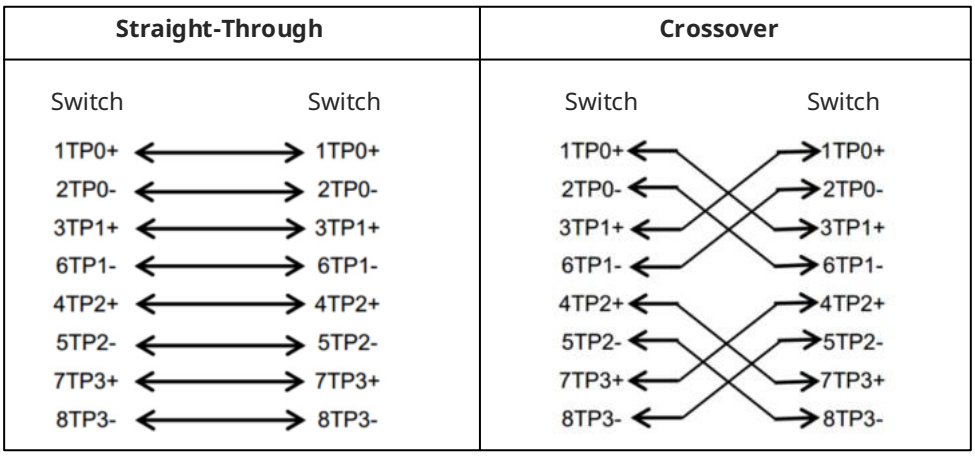
1000BASE-T/100BASE-TX/10BASE-T Port

The 1000BASE-T/100BASE-TX/10BASE-T is a 10/100/1000 Mbps auto-negotiation port that supports auto MDI/MDIX Crossover.

Compliant with IEEE 802.3ab, 1000BASE-T requires Category 5e 100-ohm UTP or STP (recommended) with a maximum distance of 100 meters (328 feet).

The 1000BASE-T port requires all four pairs of twisted wires to be connected for data transmission. The following figure shows twisted pair connections for the 1000BASE-T port.

Figure 7-1 1000BASE-T Twisted Pair Connections



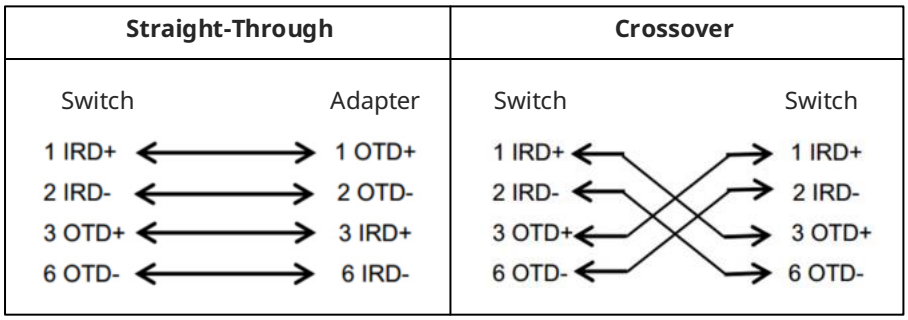
100BASE-TX/10BASE-T can be interconnected using cables of the preceding specifications. For 10 Mbps, the 100BASE-TX/10BASE-T port can be connected using 100-ohm Category 3, Category 4, and Category 5 cables; and for 100 Mbps, the 100BASE-TX/10BASE-T port can be connected using 100-ohm Category 5 cables with a maximum connection distance of 100 meters (328 feet). The following table shows 100BASE-TX/10BASE-T pin assignments.

Table 7-1 100BASE-TX/10BASE-T Pin Assignments

Pin	Socket	Plug
1	Input Receive Data+	Output Transmit Data+
2	Input Receive Data-	Output Transmit Data-
3	Output Transmit Data+	Input Receive Data+
6	Output Transmit Data-	Input Receive Data-
4, 5, 7, 8	Not Used	Not Used

The following figure shows feasible connections of the straight-through and crossover twisted pairs for a 100BASE-TX/10BASE-T port.

Figure 7-2100BASE-TX/10BASE-T Twisted Pair Connections



7.2 Appendix C Compliance Statements

The router complies with the European Commission (EC) Regulation No. 1275/2008 and Regulation No. 801/2013

1. How to turn on or off Wi-Fi: Log in to the web interface of the router, choose **More** > **Advanced** > **Wi-Fi Switch**, and click **Wi-Fi Switch** to turn Wi-Fi on or off.

2. Network standby power: < 8 W

3. Default time for power management: The product enters network standby power mode immediately after data transmission stops.

4. You are advised to unplug the power cord if the product is not used for a long time.

5. For details, log in to the product website https://www.ruijienetworks.com/products to view the related document.

Use only power supplies listed in the user instructions.

Input: 100-240V~ 50/60Hz 1.25A Output: 12V 2.5A 30.0W

Power supply manufacturer:

1. Hunan Frecom Electronics Co., Ltd. Model: F30L10-120250SPAV (z=U,V,B,D,C,S,K,M,A,I,E or F, indicates different AC plug type)

2. Dongguan Mentech Optical & Magnetic Co., Ltd. Model: MAUS-1202503000 (only use for US)