



RSG-3000 Wireless Smart Gateway User Manual

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Hardware Setup

UNPACK YOUR ROUTER



The box contains the following items:

- RSG-3000 Wireless Smart Gateway
- AC power adapter (plug varies by region)
- Power cable
- RJ-45 ethernet cable

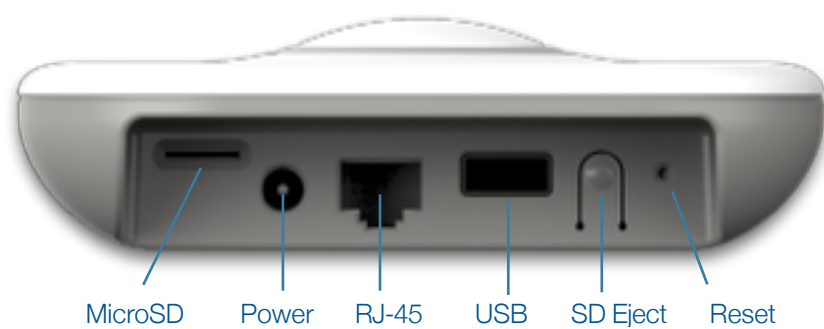
TOP PANEL



The RSG-3000 Wireless Smart Gateway has the status LEDs shown in the above figure.

MicroSD	Solid: The MicroSD card is mounted and ready for getting access. Off: The MicroSD card is not accessible.
WLAN	Solid: The wireless LAN is ready. Blinking: The wireless LAN radio is working.
ZigBee	Solid: There is no formed ZigBee network. Slow blinking: The ZigBee network is working. Quick blinking: The ZigBee network is allowed join.
ColorRing LED	Breathing Green: Normal Blinking Red: Warning Blinking Purple: Software upgrading

REAR PANEL



The rear panel has has the connectors and buttons shown in the above figure.

POSITION YOUR ROUTER

The gateway lets you get access of your 2.4Ghz WiFi and ZigBee network from virtually anywhere within the operating range of your wireless network. However, the operating distance of range of your wireless connection can vary significantly depending on the physical placement of your router. For example, the thickness and number of walls the wireless signal passes through can limit the range. For best results, place your gateway:

- Near the centre of the area where your computers or sensor devices operate, and preferably within the line of sight to your wireless devices.
 - Keeping the number of walls and ceilings between the gateway and your devices to a minimum.
 - Away from electrical devices that are potential sources of interference. Equipment that might cause interference includes ceiling fans, microwaves, computers, the base of a cordless phone, or a 2.4Ghz cordless phone.
 - Away from any large metal surfaces, such as a solid metal door or aluminium studs. Large expanses of other materials such as glass, insulated walls, fish tanks, mirrors, brick, and concrete can also affect your wireless signal.
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Getting Started

ROUTER SETUP PREPARATION

RSG-3000 supports various network topology for your application. Before you setup your wireless smart gateway, you have to determine the topology you are going to setup and gather the needed information as much as possible in order to configure the networks properly.

WIRED ETHERNET SETUP

The RJ45 port is for wired ethernet connection. RSG-3000 supports either Local Area Network (LAN) or Wide Area Network (WAN) for the RJ45 port.

The WAN mode supports following IP configurations.

- DHCP client
- PPPoE
- Static IP address

LAN mode setup

The screenshot shows a web browser window with the address bar displaying '192.168.3.1'. The page title is 'Network Settings'. The 'Wired' section is active, with 'LAN' selected. Below it are fields for 'Account', 'Password', 'Static' (unchecked), 'IP' (0.0.0.0), 'Netmask' (0.0.0.0), and 'Gateway' (0.0.0.0). The 'Wireless' section has an 'AP' subsection with 'Enable Wifi AP' unchecked, and fields for 'SSID' (ColorRing_027EA4), 'Auth Key' (masked), 'IP' (192.168.3.1), and 'Netmask' (255.255.255.0). Below that is a 'Wifi Client' subsection with 'Enable Wifi Client' unchecked, a 'Scan' button, and fields for 'SSID' (default) and 'Auth Key' (masked). A 'Save Network Config' button is at the bottom.

Network Settings

Wired

☒ LAN
☐ DHCP
☐ PPPOE

Account
Password

☐ Static

IP
Netmask
Gateway

Wireless

AP

☐ Enable Wifi AP

SSID
Auth Key
IP
Netmask

Wifi Client

☐ Enable Wifi Client

Scan

SSID
Auth Key

WAN mode with DHCP client setup

The screenshot shows a web browser window with the address bar displaying '192.168.3.1'. The page title is 'Network Settings'. The 'Wired' section is active, with 'DHCP' selected. Below it, there are fields for 'Account', 'Password', 'Static' (unselected), 'IP' (0.0.0.0), 'Netmask' (0.0.0.0), and 'Gateway' (0.0.0.0). The 'Wireless' section is also visible, with 'AP' settings including 'Enable Wifi AP' (unselected), 'SSID' (ColorRing_027EA4), 'Auth Key' (masked), 'IP' (192.168.3.1), and 'Netmask' (255.255.255.0). Below the AP settings is the 'Wifi Client' section, with 'Enable Wifi Client' (unselected), a 'Scan' button, 'SSID' (default), and 'Auth Key' (masked). At the bottom, there is a 'Save Network Config' button.

Wired

☐ LAN
☒ DHCP
☐ PPPOE

Account
Password

☐ Static

IP
Netmask
Gateway

Wireless

AP

☐ Enable Wifi AP

SSID
Auth Key
IP
Netmask

Wifi Client

☐ Enable Wifi Client

Scan

SSID
Auth Key

The IP address of the RJ45 port for WAN access will be obtained from the uplink router which supports DHCP server to lease an IP address to the gateway.

WAN mode with PPPoE setup

The screenshot shows a web browser window with the address bar displaying '192.168.3.1'. The page title is 'Network Settings'. The 'Wired' section is active, with the 'PPPOE' option selected. The 'Account' field contains 'account@your_isp.net' and the 'Password' field is masked with dots. The 'Static' option is unselected, and its fields (IP, Netmask, Gateway) are all set to '0.0.0.0'. The 'Wireless' section has the 'AP' option selected, with 'Enable Wifi AP' unselected. The 'SSID' is 'ColorRing_027EA4', 'Auth Key' is masked, 'IP' is '192.168.3.1', and 'Netmask' is '255.255.255.0'. The 'Wifi Client' section has 'Enable Wifi Client' unselected, and the 'Scan' button is visible. The 'SSID' is 'default' and the 'Auth Key' is masked. A 'Save Network Config' button is at the bottom.

Wired

☐ LAN

☐ DHCP

☒ PPPOE

Account: account@your_isp.net

Password:

☐ Static

IP: 0.0.0.0

Netmask: 0.0.0.0

Gateway: 0.0.0.0

Wireless

AP

☐ Enable Wifi AP

SSID: ColorRing_027EA4

Auth Key:

IP: 192.168.3.1

Netmask: 255.255.255.0

Wifi Client

☐ Enable Wifi Client

Scan

SSID: default

Auth Key:

Save Network Config

The IP address of the RJ45 port for WAN access will be obtained via PPP over Ethernet (PPPoE) from your Internet Service Provider (ISP). The account and password information for PPPoE authentication should be obtained from your ISP.

WAN mode with Static IP address setup

The screenshot shows a web browser window with the address bar displaying 192.168.3.1. The page title is "Network Settings". The "Wired" section is active, showing three options: LAN, DHCP, and PPPOE, all of which are unselected. The "Static" option is selected, and its fields are filled with the following values: IP (10.1.1.1), Netmask (255.255.255.0), and Gateway (10.1.1.254). The "Wireless" section is also visible, with the "AP" sub-section showing "Enable Wifi AP" unselected, and fields for SSID (ColorRing_027EA4), Auth Key (masked), IP (192.168.3.1), and Netmask (255.255.255.0). The "Wifi Client" sub-section shows "Enable Wifi Client" unselected, a "Scan" button, and fields for SSID (default) and Auth Key (masked). A "Save Network Config" button is located at the bottom of the form.

Wired

☐ LAN

☐ DHCP

☐ PPPOE

Account

Password

☒ Static

IP

Netmask

Gateway

Wireless

AP

☐ Enable Wifi AP

SSID

Auth Key

IP

Netmask

Wifi Client

☐ Enable Wifi Client

SSID

Auth Key

The IP address of the RJ45 port for WAN access will be set to static. Please consult your ISP for the IP, Netmask, and Gateway IP address for Internet access.

WIRELESS ETHERNET SETUP

The wireless ethernet of RSG-3000 supports both Access Point (AP) and Client mode.

Wireless Ethernet with AP mode setup

The screenshot shows a web browser window with the address bar displaying '192.168.3.1'. The page title is 'Network Settings'. The 'Wired' section has three radio buttons: 'LAN', 'DHCP' (selected), and 'PPPOE'. Below 'PPPOE' are fields for 'Account' and 'Password'. Below 'Static' are fields for 'IP' (0.0.0.0), 'Netmask' (0.0.0.0), and 'Gateway' (0.0.0.0). The 'Wireless' section has a sub-section 'AP' with a checked 'Enable Wifi AP' checkbox. Below it are fields for 'SSID' (ColorRing_027EA4), 'Auth Key' (masked with dots), 'IP' (192.168.3.1), and 'Netmask' (255.255.255.0). Below the 'AP' section is a 'Wifi Client' section with an unchecked 'Enable Wifi Client' checkbox, a 'Scan' button, and fields for 'SSID' (default) and 'Auth Key' (masked with dots). At the bottom is a 'Save Network Config' button.

Wired

☐ LAN

☒ DHCP

☐ PPPOE

Account

Password

☐ Static

IP

Netmask

Gateway

Wireless

AP

☒ Enable Wifi AP

SSID

Auth Key

IP

Netmask

Wifi Client

☐ Enable Wifi Client

Scan

SSID

Auth Key

To setup the AP mode, check the 'Enable Wifi AP' checkbox and config the SSID and Auth Key for WiFi client authentication. The default authentication mode is WPA2 with AES encryption.

Wireless Ethernet with WiFi Client mode setup

The screenshot shows a web browser window with the address bar displaying '192.168.3.1'. The page title is 'Network Settings'. The interface is divided into two main sections: 'Wired' and 'Wireless'.

Wired Section:

- Radio buttons for LAN, DHCP (selected), and PPPOE.
- Fields for Account (0.0.0.0) and Password (masked with dots).
- Radio button for Static.
- Fields for IP (0.0.0.0), Netmask (0.0.0.0), and Gateway (0.0.0.0).

Wireless Section:

AP (Access Point) Mode:

- Checkbox 'Enable Wifi AP' is checked.
- Fields for SSID (ColorRing_027EA4), Auth Key (masked), IP (192.168.3.1), and Netmask (255.255.255.0).

Wifi Client Mode:

- Checkbox 'Enable Wifi Client' is checked.
- 'Scan' button.
- Field for SSID (ColorRing_000086).
- List of detected SSIDs: ColorRing_000086, ColorRing_LAN, ColorRing_PRT, ColorRing_000088, and ColorRing_027C8C.
- Field for Auth Key (masked).

At the bottom, there is a 'Save Network Config' button.

To setup the WiFi client mode, check the 'Enable Wifi Client' checkbox and then 'Scan' the environment, pick the WiFi AP you would like to connect. Fill the authentication password to get WiFi access for the AP router.

Regulatory Compliance Information

FCC REQUIREMENTS FOR OPERATION

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. The FCC ID for this device is YUDRSG3000.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

CAUTION:

Changes or modifications to this device not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instructions, may cause interference harmful to radio communications.

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.

There is no guarantee, however, that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- (1) Reorient or relocate the receiving antenna.
 - (2) Increase the separation between the equipment and receiver.
 - (3) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
 - (4) Consult the dealer or an experienced radio or TV technician for help.
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EUROPE-EU DECLARATION OF CONFORMITY AND RESTRICTIONS

Hereby, Rosonix Technology., Inc. declares that the RSG-3000 is in compliance with essential requirements and other relevant provisions of Directive 1999/5/EC.

This equipment is marked with the **CE** symbol and can be used throughout the European community.

This indicates compliance with the R&TTE Directive 1999/5/EC and meets the relevant parts of following technical specifications:

EN 300 328, Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission Systems; Data transmission equipment operating in the 2.4Ghz ISM band and using spread spectrum modulation techniques; Harmonised EN covering essential requirements under article 3.2 of the R&TTE Directive.

EN 301 489-17, Electromagnetic Compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services;

Part 17: Specific Conditions for Wideband Data and HYPERLAN Equipment.

EN 60950-1, Safety of Information Technology Equipment.

EN 62311, Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz ~ 300 GHz)

France - 2.4Ghz for Metropolitan France:

In all Metropolitan départements, wireless LAN frequencies can be used under the following conditions, either for public or private use:

- Indoor use: maximum power (EIRP) of 100mW for the entire 2400-2483.5MHz frequency band
 - Outdoor use: maximum power (EIRP) of 100mW for the 2400-2454MHz band and with maximum power (EIRP) of 10mW for the 2454-2483.5MHz band
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NCC WARNING STATEMENT

NCC 警語：本產品已取得國家通訊傳播委員會低功率射頻認證。依國家通信傳播委員會低功率電波輻射性電機管理辦法之規定，應包含下列警語與 NCC 符號及認證編號：

第十二條：經形式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條：低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規 定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

本產品內含射頻模組

RSG-3000

