Recommended QoS Configuration Settings for Rosewill RNX-AC750RT Wireless Router

RingCentral®

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Introduction

RingCentral has taken the guesswork out of router selection. Because we know that Quality of Service (QoS) is paramount to your business, we have carefully selected and tested a set of dependable routers suitable for supporting high-quality VoIP conversations.

This document provides recommended configuration settings to ensure the highest possible QoS for voice calls on the Rosewill® RNX-AC750RT wireless router.

Additional routers that have been tested and recommended are shown on the Recommended Routers page of the RingCentral Customer Care website.

Supported Browsers for Test

- Internet Explorer® 11 or higher (Windows® XP, 7, 8 or higher)
- Firefox® version 36 or higher (Windows and Mac®)
- Safari version 6.2 or higher (Mac)

Note:

The routers recommended here are quality hardware that we have tested internally and work reliably with our services. However, given the constantly updated firmware and physical changes made by manufacturers and the nature of cloud-based services, RingCentral cannot control the final configuration of the hardware or your computer systems/networks, or promise that any given router will work with your system, or guarantee that our information is 100% up to date.

Quality of Service

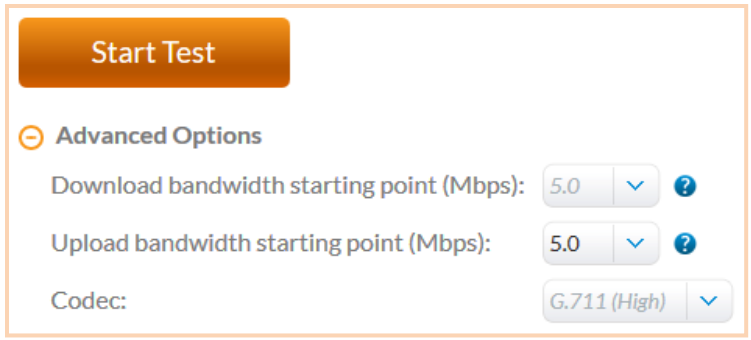
RingCentral provides reliable, high-quality voice service. Your local network, internet connection, and your router all contribute to overall call quality, with sufficient dedicated bandwidth to voice calls being the biggest factor. To help you manage your call quality, RingCentral offers tools to check your internet connection speed, and instructions to configure the Quality of Service (QoS) settings of your routers.

The QoS settings on your router enable it to give priority to real-time voice traffic over lower-priority data traffic, such as large downloads. This document provides recommended configuration settings to ensure the highest-possible QoS experience on the RNX-AC750RT wireless router. Please reference the relevant TCP/UDP settings on the Ports and Firewalls table to complete the recommended setup.

Test Your Connection Capacity

The RingCentral Connection Capacity test will help determine the maximum number of simultaneous RingCentral calls that can be supported on your broadband connection. Run this test during normal business hours when the connection is in use by other applications, including large file downloads.

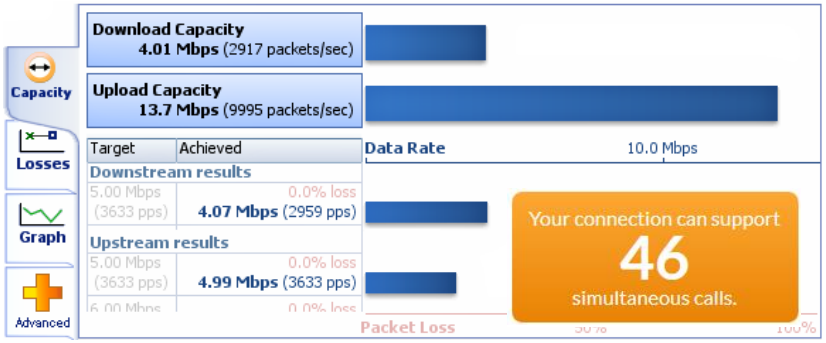
The capacity test should be run using the maximum number of simultaneous call connections needed, and should use the G.711 codec selection.



Specific requirements for QoS:

- Bandwidth—100 Kbps up and down per call
- Latency (one-way)—less than 150 ms
- Jitter—not to exceed 100 ms
- Packet loss—less than 3%

These requirements are the foundation for ensuring your local network can support satisfactory VoIP. Failure to meet these requirements will result in poor voice quality.



When the test completes, you will see the recommended number of simultaneous calls your connection can support while maintaining good quality voice calls.

Test Your Connection Quality

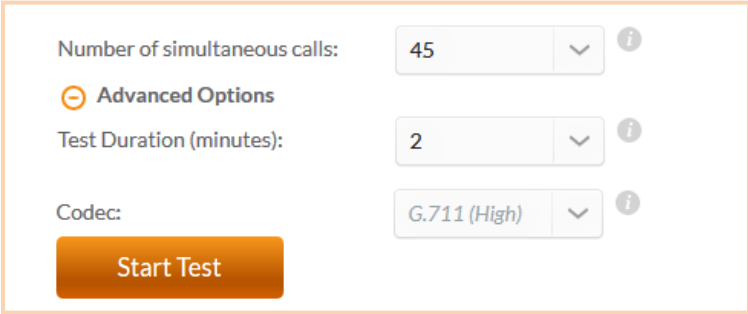
RingCentral provides a VoIP Quality test that will simulate VoIP calls between your computer and RingCentral, and provide an estimate of the voice quality you should expect when using our service. For the most accurate results, run this test *at least* three different times throughout a business day, and *during peak usage times*, while connected to the network that you plan to use for RingCentral.

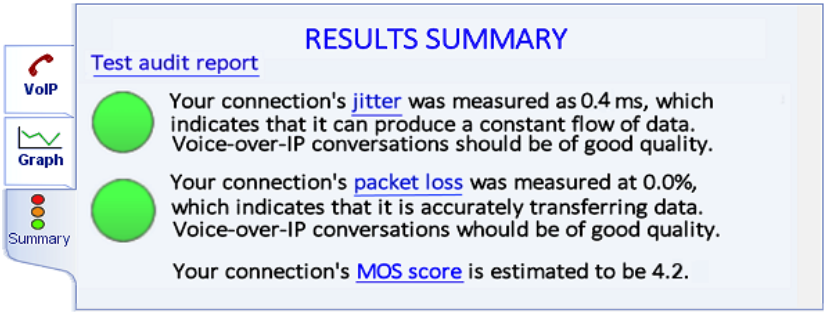
A two-minute test is typically sufficient, while longer tests are useful to find intermittent problems or to simultaneously test VoIP performance along with other traffic, such as file transfers or remote access.

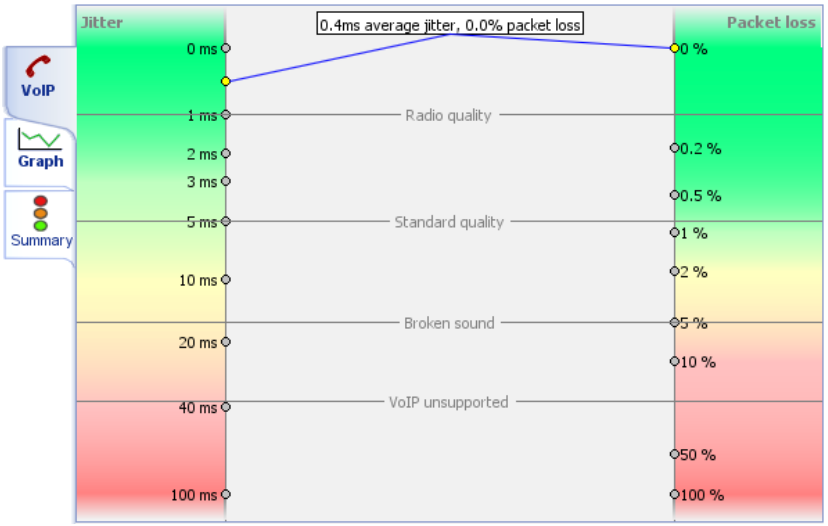
Select the maximum number of simultaneous users you expect to support, and set the test duration between 1 and 5 minutes; 2 minutes is considered sufficient in most instances.

Click jitter and packet loss on the RESULTS SUMMARY panel to view the overall quality of your expected VoIP connection.

MOS score (Mean Opinion Score) refers to a test that has been used for decades in telephony networks to obtain the human user's view of the quality of the network. The MOS is the arithmetic mean of all the individual scores, and can range from 1 (worst) to 5 (best). A MOS score of 4 is good.

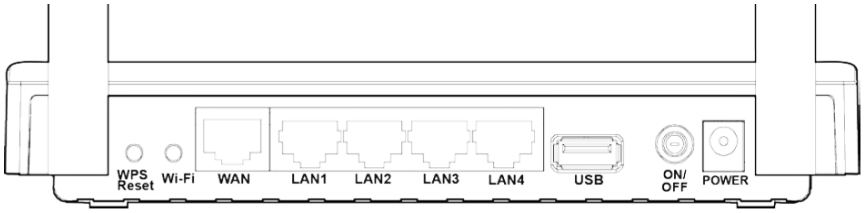






Configure Your Router

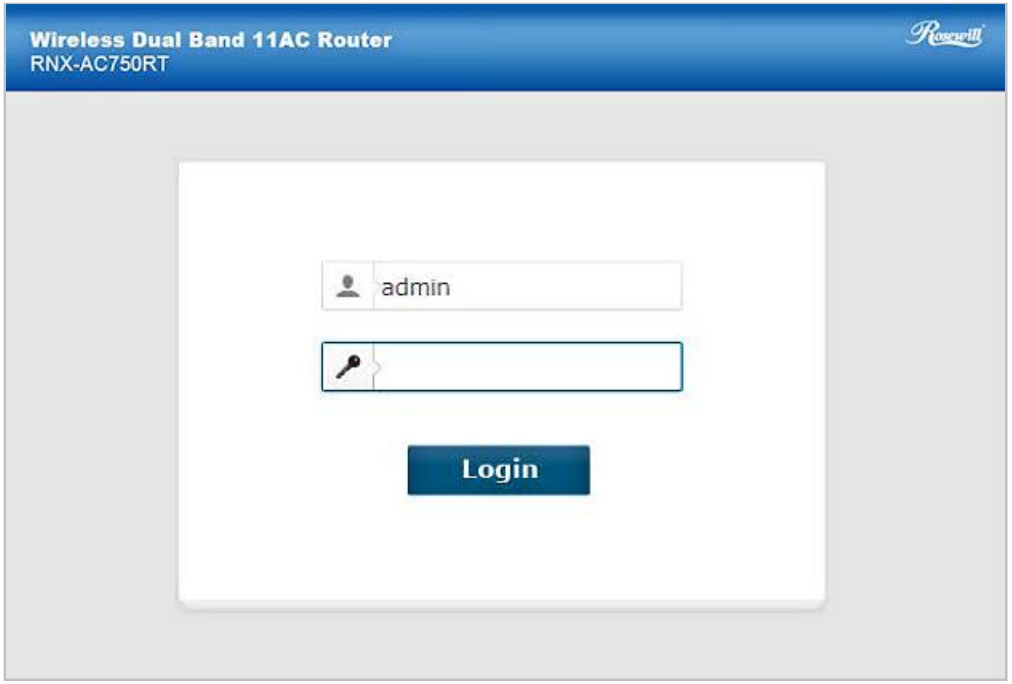
RNX-AC750RT Router QoS Configuration



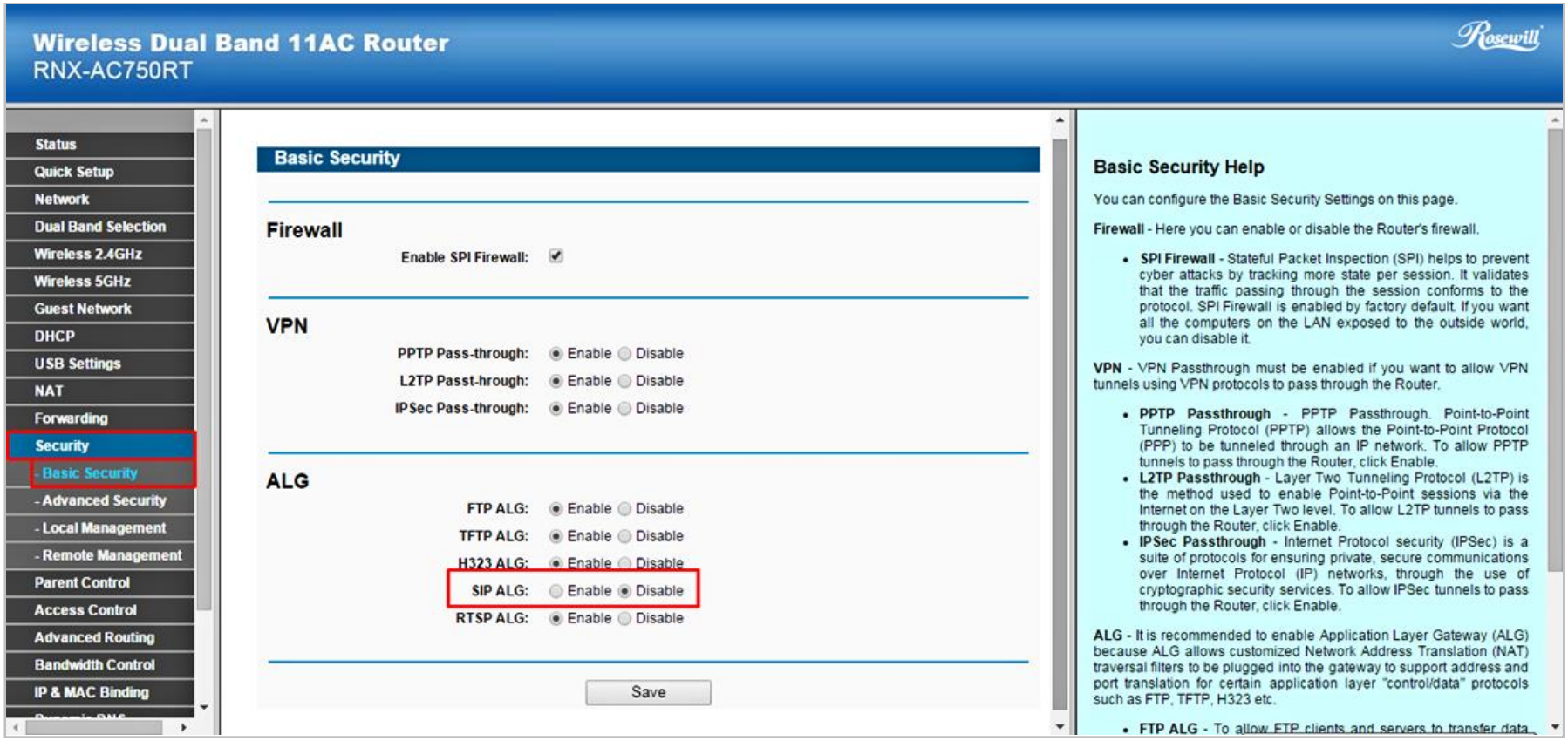
Brand:	Rosewill
Model:	AC750 (RNX-AC750RT)
Hardware version:	RNX-AC750RT v1 00000000
Firmware version:	0.9.10.9 v0032.0 Build 150624 Rel.62513n

To review the User Guide for the Rosewill RNX-AC750RT click here.

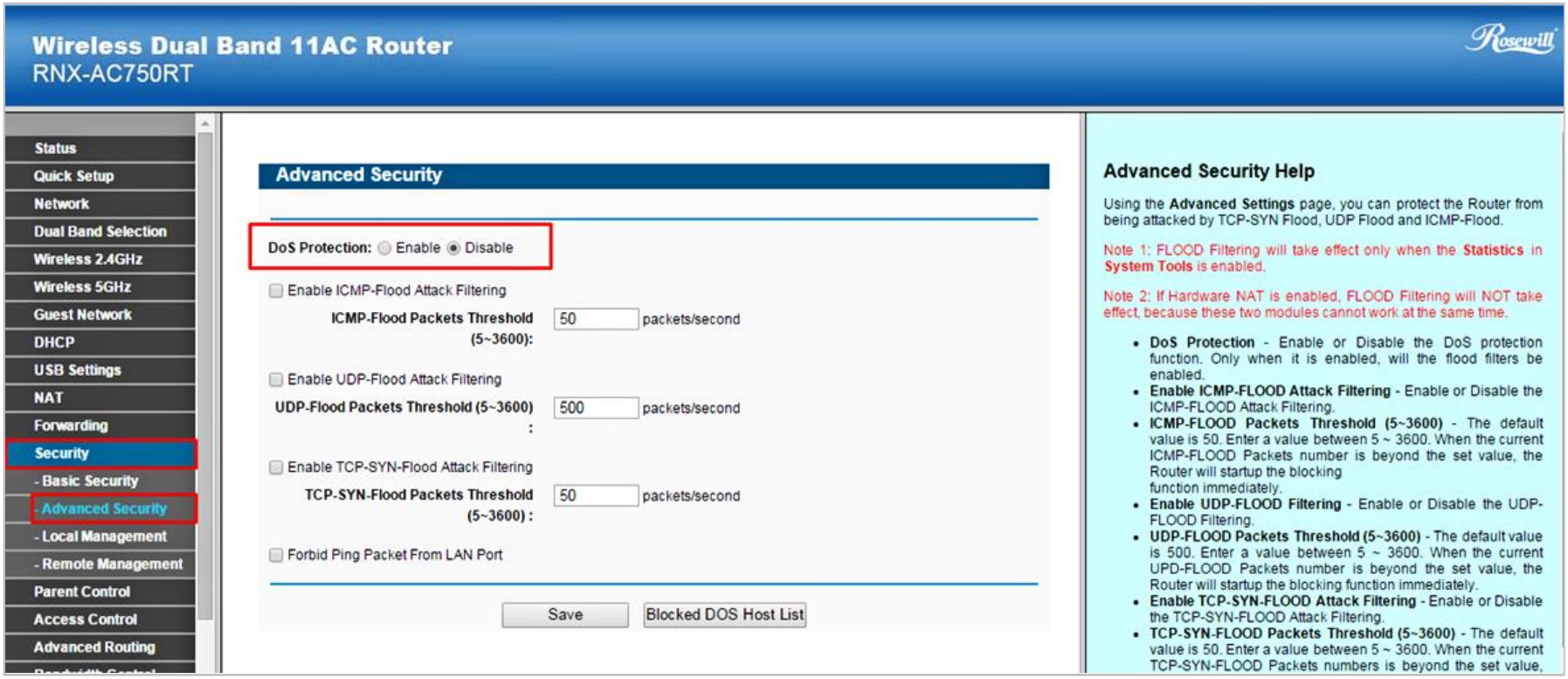
1. Browse to the default router IP address (normally 192.168.1.1). User name is **admin** and the default password is **admin**. Click **Login**.



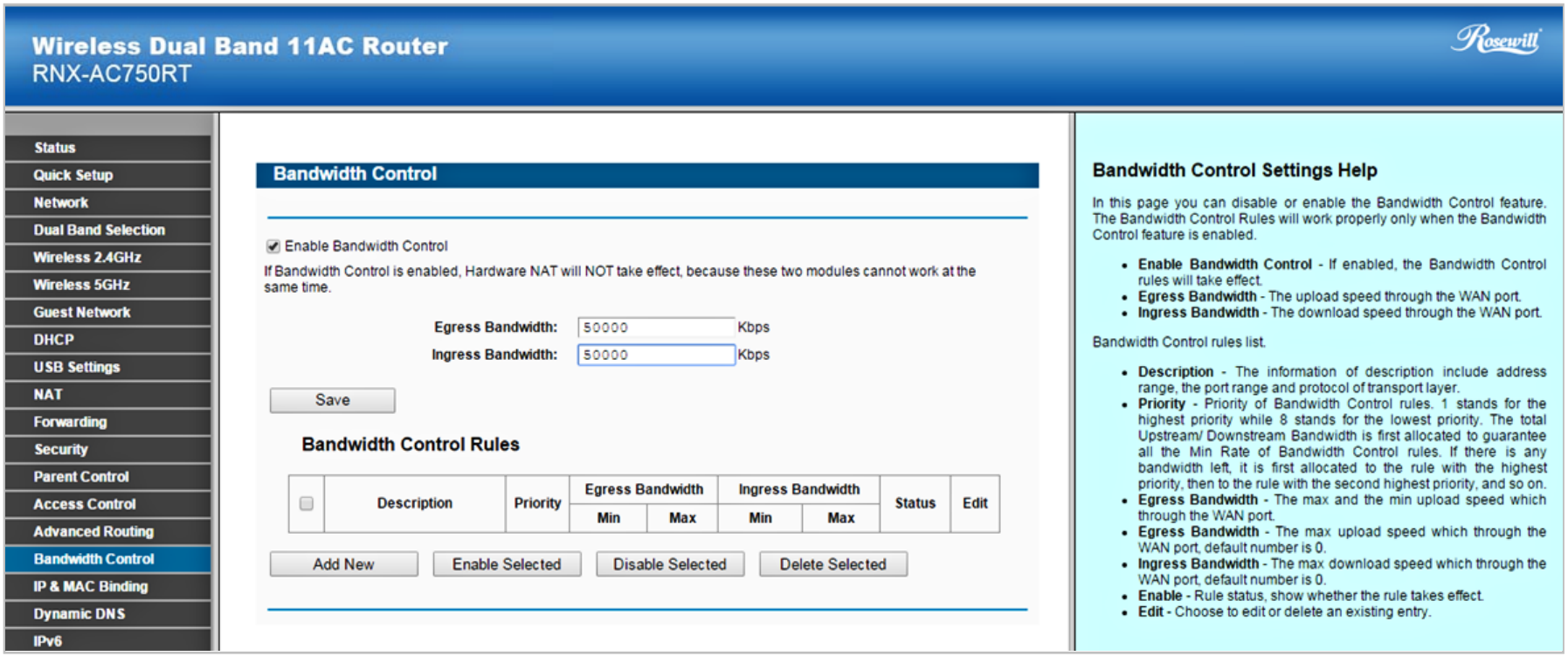
2. Click **Security**; then click **Basic Security**. Under **AGL** find an option for **SIP ALG**. Set **SIP ALG** to **Disable**. Click **Save**.



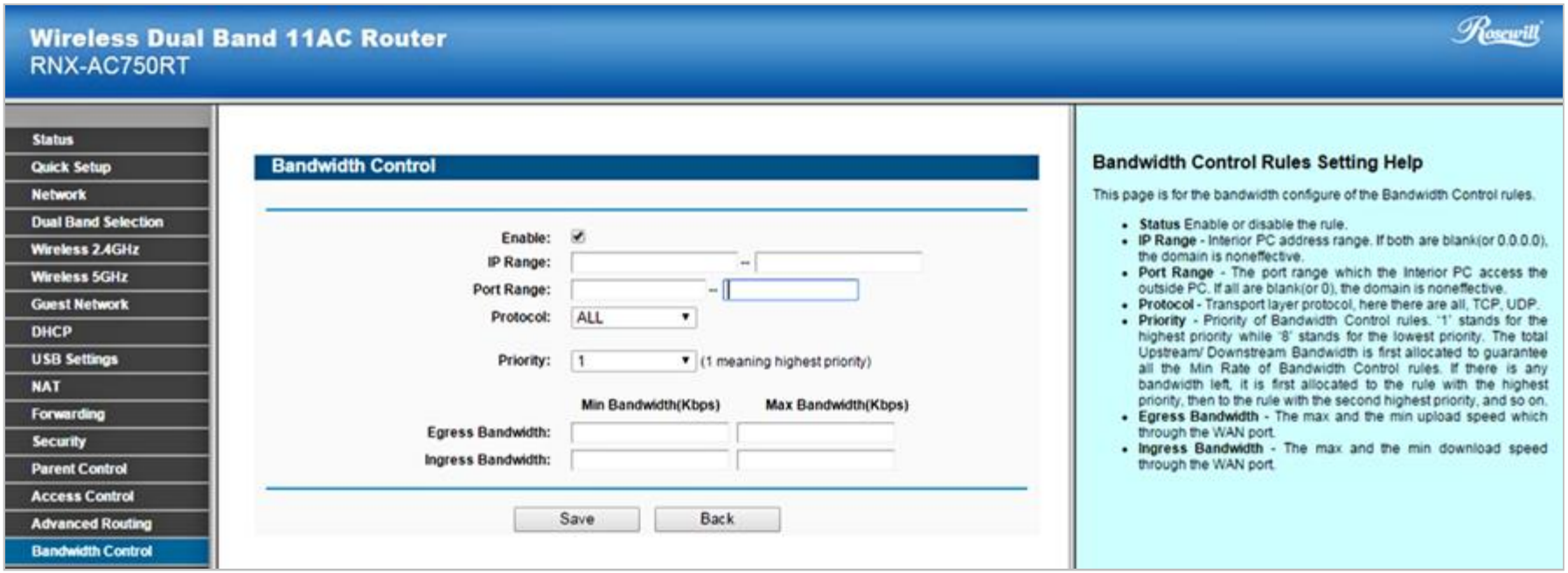
3. Under the same **Security** tab, click **Advanced Security**. On this menu change **DoS Protection** to **Disable**. Click **Save**.



4. Click the **Bandwidth Control** tab. Check **Enable Bandwidth Control** and enter in your network's upload and download speed in Kbps.
This can be obtained using your ISP's speed-test feature, via their website. Example: Search (via Google) "Comcast speed test", or "AT&T speed test"; then click on the link to your ISP's website.



5. Under the **Bandwidth Control Rules**, click **Add New**. Set a new rule for each Port Range found on our required port page.
   a. **Port Range**—Port protocol (e.g., 5060 – 6000)
   b. **Protocol**—either UDP, TCP, or ALL
   c. **Priority** —1
   d. **Egress Bandwidth** —The max and the min upload speed through the WAN port
   e. **Ingress Bandwidth** —The max and the min download speed through the WAN port
   f. Click **Save** after all required fields are entered.



Ports and Firewalls Settings for RingCentral VoIP Service

Please see RingCentral Ports and Firewalls reference link for the required TCP/UDP ports that need to be opened for RingCentral devices to work. Categories are:

- Device Type
- Protocol
- Source Port—Customer Side
- Destination Port—RingCentral Side

Also see information on **Port Triggering** on the referenced page.

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