

# Internet Service Requirements

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VoIP (Voice over Internet Protocol) dialers and VoIP phone service require a high speed internet connection with adequate and consistent bandwidth using a proper router to have consistently high quality calls.

## Minimum Requirements:

To determine your internet bandwidth, you may quickly perform a test at this website:

<http://www.speedtest.net> Click the **BEGIN TEST** button (do NOT click the START SCAN button).

(Note: If you are outside of North America, before clicking the button, click the middle of North America on the map.)

It first tests your "Ping", then your "Download Speed", and finally your "Upload Speed".

**Ping** (the time it takes for calls to go from your computer to ring the destination phone):

It should be **less than 90 ms (milliseconds)** so the lower the ping, the better!

**Download Speed:** You need at least **1.5 megabytes (mbps) for each** of our Dialers or if you have our Business VoIP Phone Service, you need 1.0 megabytes (mbps) for each IP Phone.

**Wired connections are the best.**

Wireless and satellite internet connections may or may not work well, depending on their signal strength.

**Virtual Private Networks (VPN)** may not be used to operate our Dialers.

## Dedicated or Shared Internet Service:

Other simultaneous internet activities (such as web browsing, audio and video file streaming, uploading and downloading files, watching YouTube, etc.) by you or other people that are using the same internet service can greatly reduce the available bandwidth for your dialer, thus possibly reducing the quality of your VoIP calls. In addition, if your internet service provider shares the same service with other people or companies in your neighborhood or building, your service can be diminished at any time if any of those other people are using a lot of bandwidth. When there is not enough bandwidth available, you will notice an increase in the time (latency) it takes to view web pages, download files, etc. But when VoIP voice "packets" slow down, the quality of the calls get "choppy" or "echo", or simply drop. If your bandwidth is inadequate for high quality sound, we recommend getting more bandwidth and/or using a Quality of Service (QOS) router. If you have numerous VoIP dialers or phones, as well as numerous employees using their computers on the internet, we recommend getting a separate (dedicated) internet connection for your VoIP and another for your other internet uses.

## Routers & Modems:

Routers & Modems are hardware used to distribute network traffic and bandwidth. Most internet services provide you with a router/modem combination. If you **do have** a router/modem combination, you cannot also have a separate router. If your modem does not have a router built in, you will need a separate router. **Notes:** Some modems/routers do not work well (or do not work at all) with VoIP. (You may need to ask your internet provider if your modem is VoIP compatible.)

**Known PROBLEM Routers: UBEE & Xfinity Technicolor TC8305C**

**Make sure that SIP ALG is turned OFF. Make sure that you have the latest FIRMWARE installed on your router.**

Note: Routers/modems need to be "rebooted" from time to time to reset addressing (computers also need to be rebooted periodically to clear memory).

## Firewall Management:

Firewalls are used to protect your network and computers from outside attacks, viruses, malware, etc.

To use VoIP technology, you will need to open the following ports on your **firewall/modem/router**:

Port 5060 TCP and UDP

Port 5004 UDP

Port 3478 and 3479 UDP for stun Server

Port 16348-32768 UDP (RTP, RTCP multimedia Streaming)

In addition, if you are using Windows Firewall on your PC, you may have to create an exception or open it.

**Make sure that you have the latest FIRMWARE installed on your router.**

**Make sure that SIP ALG is turned OFF.**

## Anti-Virus Management:

Anti-Virus software that we recommend is included free: "Windows Security Essentials" with Windows 7 and "Windows Defender" with Windows 8 and Windows 10.

Some other anti-virus software (such as Norton, AVG, Kaspersky, Sophos, Avast, Trend Micro, Web Root, and McAfee) may block or degrade your VoIP service, but they can often be unblocked by making an exception for our VoIP software.

**If you need additional help, we recommend contacting an Information Technology (IT) professional with VoIP experience (not just internet experience).**