

As a member of the 3NG Private label Program you enjoy the benefit of 24x7 Branded Support for your Customers. However there will be instances where you may choose to troubleshoot a Customer internally. We have prepared the following guide to ensure a productive experience.

If you continue to experience difficulties once you have run these tests, we request that you to send the following to [support@3ngnetworks.com](mailto:support@3ngnetworks.com):

- The results of the below tests
- The telephone number that you called when you had the issue
- The time of day the call was made.

We may not be able to troubleshoot your Customers line successfully without this information.

### Checklist

#### **1. Updated Router Firmware**

Do you have the latest firmware on your router? If you are using a Linksys router, you can go to [Linksys Downloads](#) and locate your router's model to download the most recent firmware. If you do not have a Linksys, then you will need to go to your router's manufacturer site to download the most recent firmware.

#### **2. A Ping Test**

This determines the packet loss and latency time to and from your destination and the quality of your network connection to our gateways. You run the ping test by going to the Start button on your computer, go to run, type cmd and hit enter. Then you will type in the following ping command: ping [address to be assigned]

You want your test to show an average less than 100 ms with minimal packet loss. If it shows over that, then you'll want to contact your ISP because they may be having issues.

#### **3. A MOS Test**

This resource helps you determine the suitability of your connection for VoIP by placing a call from wherever you are to selected destinations around the world and returning a MOS score.

For the MOS Test go to [www.testyourvoip.com](http://www.testyourvoip.com)

#### **4. A Speed Test**

This test determines the speed of your internet connection. Run a speed test with a reputable site. You need at least 80 kbps of upload and download speed for the G711 codec to maintain a clear voice call. After running the speed test, you will want to determine by the speed if you have enough bandwidth to support Voice-over-IP.

#### **5. A tracert Test**

This test can be used to determine your internet connectivity. This will help to determine if your internet connection is timing out. If you see a lot of time out responses, you will want to contact your ISP to find out why your connection is timing out.

##### **To run this test:**

1. Open a DOS prompt by going to Start/Run and type cmd.

2. Then type the following: `tracert www.yahoo.com`
3. You should get a response similar to this:  

```
tracert www.yahoo.com
Tracing route to www.yahoo-ht3.akadns.net [209.191.93.52]
over a maximum of 30 hops:
  1  8 ms  12 ms  9 ms ns50 [172.20.100.1]
  2  43 ms  16 ms  14 ms 63.133.152.1
  3  48 ms  31 ms  26 ms 172.16.20.133
  4  15 ms  21 ms  32 ms airband-69-26-208-13.airband.net [69.26.208.13]
  5  19 ms  30 ms  22 ms 65.89.99.85
  6   26 ms  14 ms  19 ms 216.140.4.158
```
4. After the tracert is complete, type the following command: `ping -t` with the second or third IP that was displayed in the tracert (in the above case would be 63.133.152.1 or 172.16.20.133). Then hit <enter>  
**Example: ping -t 63.133.152.1**

Now your computer will continuously ping the IP. When you have an issue with your calls you will want to revisit the DOS screen to see if there were any time out responses.

### Now run through the following troubleshooting guidelines:

#### 1. Existing Account "No Dial Tone"

If you do not have a dial tone and you have an existing account that was working until now, then troubleshoot with the following steps:

- Is your network working? Do you have access to email and the Internet? If you have any doubt, go on-line for verification.
  - If your network is not working, you will need to contact your Internet Service Provider (ISP)
- Have you experienced any interruption in power?
  - Double check the power outlet or power strip to verify a working power source.
- Have any physical changes been made in the general area of the computer, router, ATA device or power strip?
  - Cleaning or rearranging furniture can cause the connections to become loose. Re-check all connections.
  - Construction or remodeling can cause a sliced cable or an electrical circuit breaker to blow. Verify that you have power to the outlet and that you have a working broadband connection.
- Is your telephone set working?
  - Plug in a different telephone set into the ATA device or verify through a land line that the set is still working.
- Are the ATA device, router and modem working?
  - Check each device for blinking lights with respect to device model
- If the above has not rectified the problem, take the following steps:
  - Power Cycle (unplug and re-plug) the ATA device to restore dial tone. If dial tone still has not been restored, power cycle the router, and then modem one at a time.
- If dial tone is still not restored, then contact customer support at [support@3ngnetworks.com](mailto:support@3ngnetworks.com) or [# to be assigned] to continue troubleshooting. Support will need the following test information:
  - If using an ATA, your device's IP address. Do this by lifting the handset to the phone and dialing \*\*\*\*\*. Enter 110# at the prompt. This will give you the device's IP address.

- Your Public IP Address. If you do not know it, then you can go to [www.whatismyip.com](http://www.whatismyip.com).
- Your network speed information.
- Your ping test results.
- Your MOS score results.

### 2. New Account "No Dial Tone"

If you do not have a dial tone, your account is new, and you're in the installation process, then take the following steps first:

- Power Cycle the ATA device to restore dial tone. If dial tone still has not been restored, power cycle the router and then the modem one at a time.

If you still do not have a dial tone, troubleshoot with the following steps:

- Is your network working? Do you have access to email and the Internet? If you have any doubt, go on-line for verification.
  - If your network is not working, you will need to contact your ISP.
- Is your power working?
  - Check the power outlet or power strip to verify a working power source.
- Is your telephone set working?
  - Plug a different telephone set into the ATA device or verify through a land line that the set is still working.
- Which port is the telephone set plugged into?
  - The set must be plugged into Phone Port 1 on the back side of the ATA.
- The device should be set-up as follows:
  - The telephone should be plugged into Phone Port 1 of the ATA.
  - The ATA needs to be plugged into a power source.
  - The ATA needs to be connected to the router via an Ethernet connection.
  - The router needs to be plugged into the modem.
  - The router needs to be connected to your PC via an Ethernet connection.
- How old is your router? The router may not have a current version of firmware installed.
  - Go on-line to the manufacturers' support section of their website and download an updated version of firmware.
- What type of router and DSL modem do you have?
  - There are certain types of routers and modems that do not work with VoIP
- If dial tone is still not restored, then contact customer support at [support@3ngnetworks.com](mailto:support@3ngnetworks.com) or [# to be assigned] to continue troubleshooting. Support will need the following test information:
  - If using an ATA, your device's IP address. Do this by lifting the handset to the phone and dialing \*\*\*\*\*. Enter 110# at the prompt. This will give you the device's IP address.
  - Your Public IP Address. If you do not know it, then you can go to [www.whatismyip.com](http://www.whatismyip.com).
  - Your network speed information.
  - Your ping test results.
  - Your MOS score results.

### 3. "Echo on the Line" or "One Way Audio"

If you are a new or existing customer, when "Echo on the line" is the service problem, in most cases it has been found to be an issue relating from the ISP.

To determine this:

- First make sure that your router is setup for Quality of Service (QoS). This gives bandwidth priority to your phone call rather than what you are doing on your computer at the time of a call.

- You do this by logging into your router.
- If using a Linksys router:
  - Type 192.168.1.1 into your web browser. It should bring up a login screen. Try typing in **admin** as the password and **leave the user name blank**. If this doesn't work, type in admin for user name and call or email Support to get your admin password. Once you have logged into the router, you want to go to the Applications & Gaming Tab and then the QoS tab. It will look like this:



- Under Application-based QoS, click enable and specific port would be 5060. Mark it as high priority. Under Port based QoS, click enable and mark port 1 as high priority and the others as low. Then click save settings.

If using another router, you will need to contact that manufacturer to find out how to configure that router for QoS.

If this does not help then:

- Perform a network speed test
  - Acceptable upload range is above 100 kbps
    - This test must be run about 5-6 times during a 24 hour period to accurately reflect the upload speed of the network.
  - If your speed falls outside of this range, you will need to contact your ISP to increase the speed or Broadband.
  - If the network speed is within the normal range, then contact customer support at [support@3ngnetworks.com](mailto:support@3ngnetworks.com) or [# to be assigned] to continue troubleshooting. Support will need the following test information:
    - Your Public IP Address. If you do not know it, then you can go to [www.whatismyip.com](http://www.whatismyip.com).
    - Your network speed information.
    - Your ping test results.
    - Your MOS score results.

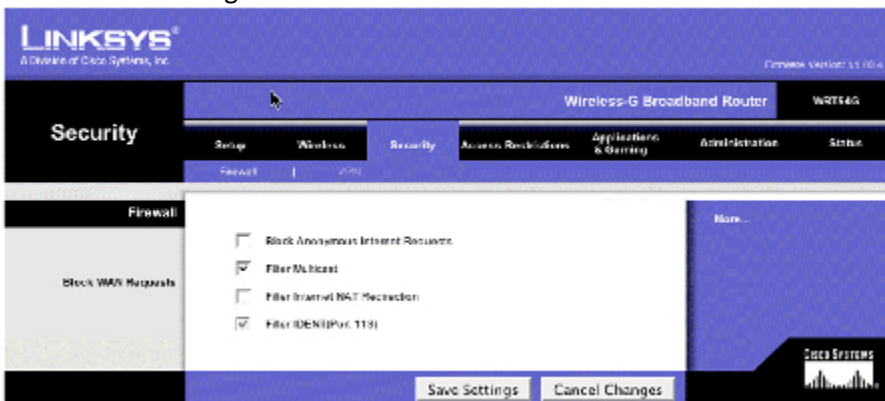


Configuring router for inbound calling:

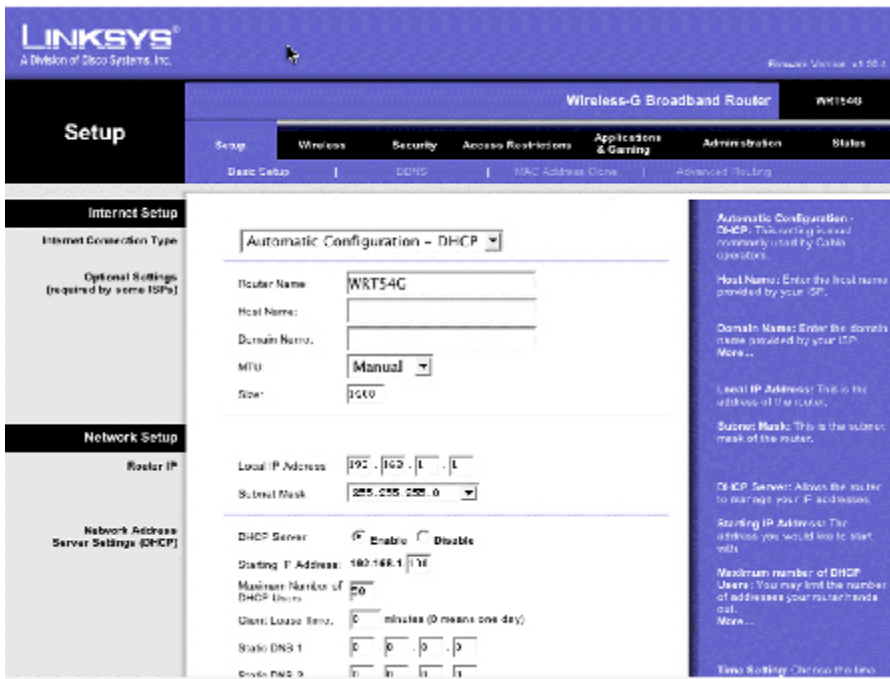
1. Click Continue to go back into the Admin Module
2. Go to the Applications and Gaming Tab
3. Go to the DMZ Tab
4. Click Enable
5. The IP address should be whatever your ATA IP address displays. In this case it was 100. To Find your ATA IP Address, lift the handset to the phone and dial \*\*\*\*\*. Enter 110# at the prompt. This will give you the device's IP address.
6. Save Settings



1. Click Continue to go back into the Admin Module
2. Go to the Security Tab
3. Go to Firewall Tab
4. Uncheck Anonymous Internet requests
5. Save Settings

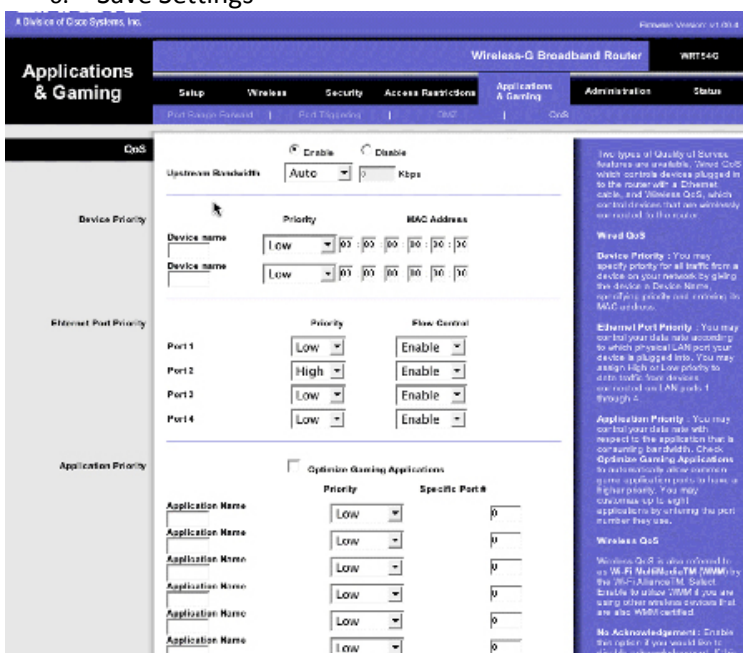


1. Click Continue to go back into the Admin Module
2. Go to the Setup Tab
3. Go to Basic Setup
4. Internet Setup
5. Make MTU - Manual
6. Size should be 1400
7. Save Settings



Finally, you will want to make sure that your router is giving priority QoS (Quality of Service) to the VoIP service

1. Click Continue to go back into the Admin Module
2. Go to the Applications and Gaming Tab
3. Go to the QoS Tab
4. Make sure that the Ethernet priority is set to give high priority to whatever port you have your phone plugged into
5. You can also set the Application priority to PAP2, High, Port 5060
6. Save Settings



Outbound and Inbound calling should now work. If it doesn't, please contact [support@3ngnetworks.com](mailto:support@3ngnetworks.com) or call [# to be assigned].

### 6. I have static on my line.

Sometimes there may be interference or "noise" on the line. If you have already set your router for QoS, then what you may want to do is purchase an ADSL filter. This broadband filter helps to remove the additional "noise" that is picked up on the line. It also helps to have this filter when using VoIP for faxing. You can order filters with your account manager.

### 7. I SEEM TO BE HAVING A LOT OF DROPPED CALLS.

- The first thing that you need to do if you are experiencing dropped calls is open an MS DOS command prompt. You do this by going to your Start button/Run and type cmd. Once the command prompt opens type: (for example) ping yahoo.com and hit enter.
- Perform a network speed test
  - Acceptable upload range is above 100 kbps
    - This test must be run about 5-6 times during a 24 hour period to accurately reflect the upload speed of the network.
  - If your speed falls outside of this range, you will need to contact your ISP to increase the speed or Broadband.
  - If the network speed is within the normal range, then contact customer support at [support@3ngnetworks.com](mailto:support@3ngnetworks.com) or [# to be assigned] to continue troubleshooting. Support will need the following test information:
    - Your Public IP Address. If you do not know it, then you can go to [www.whatismyip.com](http://www.whatismyip.com).
    - Your network speed information.
    - Your ping test results.
    - Your MOS score results.

Once you have run these tests, send the results to [support@3ngnetworks.com](mailto:support@3ngnetworks.com). Along with date and time issue arose and number called to/from. Support will then try to determine if the issue is a network issue or an ISP related issue.

### 8. I'VE CONNECTED MY ATA/ROUTER TO MY OTHER ROUTER AND NOW MY VOIP SERVICE ISN'T WORKING.

What probably is happening is that both routers are trying to assign an IP address to all devices connected. To make sure this doesn't happen, go into the second router in the lineup and disable DHCP. Then you will need to assign a static IP address to that router.

If you have any questions about troubleshooting any VoIP feature or component, please use the Support Ticketing features found in every level of the interface. By using this system you can avoid calling in to support and have one of our support professionals contact the Customer directly.