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Troubleshoot Modems
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NOTE: Installed equipment may vary from that pictured. Please see troubleshooting steps for specific equipment images and descriptions.
Check Physical Connections - Power Inserter

Power Inserter

VCOM Power Inserter:

• Most installations have a black transformer (junction box) in the middle of the power cable that connects to the power inserter.
• Verify the plug is secure in the outlet and is tight in the transformer.

TranSystem Power Inserter:

• This power inserter has a screw on power supply labeled DC.
• The RED Light indicates the power inserter is on and receiving power.
• The ANT connector should be connected to the antenna on the roof.
• The TV connector should be connected to the modem.

NOTE: For either power inserter, verify the connections are tight and in the right position.
Identify Your Modem

Identify your modem from the images below.

Vyyo 280 (700Mhz) - Page 5-6

Arris WM450 (700Mhz) - Page 8-9

Arris WM502 (700Mhz VoIP) - Page 12-13

Vyyo 284 (700Mhz) - Page 7

Arris WM550 (700Mhz) - Page 10-11

Alvarion WiMax Outdoor (2.5Ghz) - Page 14

*Power Supply is the only unit inside the home*
Identify your modem from the images below.

**Alvarion WiMax Outdoor 4Motion (2.5Ghz) - Page 15**
*Power Supply is the only unit inside the home*

**Alvarion WiMax Indoor 4Motion (2.5Ghz) - Page 17**

**Alvarion WiMax Indoor (2.5Ghz) - Page 16**
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**Motorola Canopy 900Mhz/2.4Ghz - Page 18**
*Power Supply is the only unit inside the home*

**PHIHONG - Page 19**
1. Verify all physical connections.

2. Check the power inserter. (See page 2)

3. Check the status of the modem.
   - DO NOT PRESS the RESET button on the back of the modem. This resets the configuration and may require a technician visit to repair.
   - If the modem is linked properly, the lights will look like the following picture. (NOTE: Some lights may blink during normal operation.)
     - If the modem is linked, troubleshoot the computer -OR- router.
• If the POWER light is off, make sure the modem is plugged in and the surge protector is on. (Check the switch on the power strip.)
• If the STATUS light is off, check RF LINK light.
  • If the RF link light is blinking:
    • Re-check the physical connections (coaxial cables).
    • Ensure the power plug is securely connected to the power inserter.
    • Check for a coax surge protector and remove if one is connected.
    • Power cycle the modem and check the lights again.
• If the LAN/USB light is off:
  • Make sure the network cable is connected from the modem to computer -OR- router.
  • If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET.

4. Power cycle the modem and router -OR- computer.
   • First, power cycle the modem and check the status of the lights.
   • Second, power cycle the router -OR- computer.

**NOTE:** If you have a router, power cycle the router, then the computer.
1. Verify all physical connections.

2. Check the status of the modem.
   - If the modem is linked properly, the POWER, STATUS, RF LINK and LAN/USB will be on. *(NOTE: Some lights may blink during normal operation.)*
     - If the modem is linked, troubleshoot the computer -OR- router.
   - If the POWER light is off, make sure the modem is plugged in and the surge protector is on. *(Check the switch on the power strip.)*
   - If the STATUS light is off, check RF LINK light.
     - If the RF link light is blinking:
       - Re-check the physical connections (coaxial cables).
       - Check for a coax surge protector and remove if one is connected.
       - Power cycle the modem and check the lights again.
   - If the LAN/USB light is off:
     - Make sure the network cable is connected from the modem to computer -OR- router.
     - If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET.

3. Power cycle the modem and router -OR- computer.
   - First, power cycle the modem and check the status of the lights.
   - Second, power cycle the router -OR- computer.

**NOTE:** If you have a router, power cycle the router, then the computer.
Arris WM450 (700Mhz)

1. Verify all physical connections.

- Make sure power is plugged into the power inserter.
- Coax Surge Protector can be bypassed by unscrewing it from the power inserter. They may burn out during a storm. You may or may not have this device.

2. Check the power inserter. (See page 2)

3. Check the status of the modem.
   - DO NOT PRESS the RESET button on the back of the modem. This resets the configuration and may require a technician visit to repair.
   - If the modem is linked properly, the POWER, ONLINE, CABLE and ETHERNET will be on.
     - If the modem is linked, troubleshoot the computer -OR- router.
• If the POWER light is off, make sure the modem is plugged in and the surge protector is on. (Check the switch on the power strip.) NOTE: The power light MAY flash during normal operation.
• If the ONLINE light is off, check POWER and CABLE lights.
  • If the Power and Cable lights are blinking at the same time:
    • Re-check the physical connections (coaxial cables).
    • Ensure the power plug is securely connected to the power inserter.
    • Check for a coax surge protector and remove if one is connected.
    • Power cycle the modem and check the lights again.

• If the ONLINE light is flashing AND the POWER and CABLE lights are on solid, press the gray STANDBY button on the side of the modem.
  • If the Online light is still flashing or Internet service is not restored, power cycle the modem and check the lights again.
• If the ETHERNET light is off:
  • Make sure the network cable is connected from the modem to computer -OR- router.
  • If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET.

4. Power cycle the modem and router -OR- computer.
  • First, power cycle the modem and check the status of the lights.
  • Second, power cycle the router -OR- computer.

NOTE: If you have a router, power cycle the router, then the computer.
1. Verify all physical connections.

This device is normally next to the antenna on the roof.

Make sure power is plugged into the power inserter.

Coax Surge Protector can be bypassed by unscrewing it from the power inserter. They may burn out during a storm. You may or may not have this device.

2. Check the power inserter. (See page 2)

3. Check the status of the modem.

• DO NOT PRESS the RESET button on the back of the modem. This resets the configuration and may require a technician visit to repair.

• If the modem is linked properly, the POWER, DS, US, ONLINE and LINK will be on. (NOTE: Some lights may blink during normal operation.)

  • If the modem is linked, troubleshoot the computer -OR- router.
• If the POWER light is off, make sure the modem is plugged in and the surge protector is on. (Check the switch on the power strip.)
• If the DS light is blinking for more than 30 seconds:
  • Re-check the physical connections (coaxial cables).
  • Ensure the power plug is securely connected to the power inserter.
  • Check for a coax surge protector and remove if one is connected.
  • Power cycle the modem and check the lights again.
• If the US light is blinking for more than 30 seconds, and the DS light is solid green, contact the Gardonville 24x7 Internet Help Desk.
• If the ONLINE light is flashing, check US and DS lights.
  • Power cycle the modem and check the lights again.
• If the LINK light is off:
  • Make sure the network cable is connected from the modem to computer -OR- router.
  • If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET.

4. Power cycle the modem and router -OR- computer.
  • First, power cycle the modem and check the status of the lights.
  • Second, power cycle the router -OR- computer.

NOTE: If you have a router, power cycle the router, then the computer.
NOTE: DO NOT Power cycle the modem if your Gordonville VoIP Service is working. Doing so will result in a temporary loss of phone service.

1. Verify all physical connections.

2. Check the power inserter. (See page 2)

3. Check the status of the modem.
   • DO NOT PRESS the RESET button on the back of the modem. This resets the configuration and may require a technician visit to repair.
   • If the modem is linked properly, the POWER, DS, US, ONLINE, LINK, TELEPHONE 1 -AND/OR- TELEPHONE 2 will be on. (NOTE: Some lights may blink during normal operation.)
     • If the modem is linked, troubleshoot the computer -OR- router.
• If the POWER light is off, make sure the modem is plugged in and the surge protector is on.  
  (Check the switch on the power strip.)
• If the DS light is blinking for more than 30 seconds:
  • Re-check the physical connections (coaxial cables).
  • Ensure the power plug is securely connected to the power inserter.
  • Check for a coax surge protector and remove if one is connected.
  • Power cycle the modem and check the lights again.
• If the US light is blinking for more than 30 seconds, and the DS light is solid green, contact 
  the Gardenville 24x7 Internet Help Desk.
• If the ONLINE light is flashing, check US and DS lights.
  • Power cycle the modem and check the lights again.
• If the LINK light is off:
  • Make sure the network cable is connected from the modem to 
    computer -OR- router.
  • If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET.
• If the TELEPHONE 1 -AND/OR- TELEPHONE 2 light(s) are blinking, this means the telephone 
  service is in use or out of service. Check for dial tone on the phone line. If there is no dial 
  tone, power cycle the modem and check the lights again. NOTE: If you are on the phone, power 
  cycling the modem will disconnect your current phone call.

4. Power cycle the modem and router -OR- computer.
  • First, power cycle the modem and check the status of the lights.
  • Second, power cycle the router -OR- computer.

NOTE: If you have a router, power cycle the router, then the computer.
1. Check the power inserter (see picture above)

2. Check the status of the Power Supply
   • If the modem is linked properly, the POWER, WIRELESS, and ETHERNET lights will be on
     • If the modem is linked, troubleshoot the computer -OR- router
   • If the POWER light is off, make sure the modem is plugged in and the surge protector is ON
     (Check the switch on the power strip)
   • If the WIRELESS light is off, check the cable on the RADIO side of the power inserter is plugged in correctly
   • If the ETHERNET light is off
     • Make sure the network cable is connected from the modem to computer -OR- router
     • If it connects to a router, make sure it is plugged into the port labeled WAN or INTERNET

3. Power cycle the modem and router -OR- computer
   • First, power cycle the power inserter and check the status of the lights (Wireless light).
   • Second, power cycle the router -OR- computer

NOTE: If you have a router, power cycle the router, then the computer.
1. Check the power inserter (see picture above)

2. Check the status of the Power Supply.
   • If the modem is linked properly, the PORT & AC will be on
     • If the modem is linked, troubleshoot the computer -OR- router
   • If the AC light is off, make sure the modem is plugged in and the surge protector is ON (Check the switch on the power strip)
   • If the PORT light is off, check the cable on the DATA & POWER OUT side of the power inserter is plugged in correctly
     • Make sure the network cable is connected from the DATA IN port on the power supply to the Router or PC
     • If it connects to a router, make sure it is plugged into the port labeled WAN, INTERNET or MODEM

3. Power cycle the modem and router -OR- computer
   • First, power cycle the power inserter and check the status of the lights (PORT & AC).
   • Second, power cycle the router -OR- computer

**NOTE:** If you have a router, power cycle the router, then the computer.
1. Check the status of the Power Supply.
   • If the modem is linked properly, the Status light will be solid green and the Signal bars will be steady at a certain level
     • If the modem is linked, troubleshoot the computer -OR- router
   • If there is no lights, make sure the modem is plugged in and the surge protector is ON (Check the switch on the power strip)
   • If the Signal lights are flashing and Status light is orange or a red light is off, please pull the power cord and plug it back in.
     • If the lights continue to stay that way after another 5 minutes, please escalate to the office.

2. Power cycle the modem and router -OR- computer
   • First, power cycle the modem and check the status of the lights. If status light is solid green and signal lights are steady at a specific level, proceed to the next step.
   • Second, power cycle the router -OR- computer

NOTE: If you have a router, power cycle the router, then the computer.
1. Check the status of the Power Supply.
   - If the modem is linked properly, the Status light will be solid green and the Signal bars will be steady at a certain level
     - If the modem is linked, troubleshoot the computer -OR- router
   - If there is no lights, make sure the modem is plugged in and the surge protector is ON (Check the switch on the power strip)
   - If the Signal lights are flashing and Status light is orange or a red light is off, please pull the power cord and plug it back in.
     - If the lights continue to stay that way after another 5 minutes, please escalate to the office.

2. Power cycle the modem and router -OR- computer
   - First, power cycle the modem and check the status of the lights. If status light is solid green and signal lights are steady at a specific level, proceed to the next step.
   - Second, power cycle the router -OR- computer

**NOTE:** If you have a router, power cycle the router, then the computer.
Motorola Canopy 900Mhz/2.4GHz

1. Check the power inserter (see picture above)
   - Check the power inserter power adapter to verify the light is Solid Green
   - Verify the CAT5E cable going to the outside equipment is plugged into the TO RADIO side of the power inserter
   - Verify the TO COMPUTER side of the inserter is plugged into the PC or Router (This is the short, black CAT5 connector fixed to the power supply).

2. Power cycle the modem and router -OR- computer
   - First, power cycle the power inserter, wait 90 seconds.
   - Second, power cycle the router -OR- computer

NOTE: If you have a router, power cycle the router, then the computer.
1. Check the power inserter (see picture above)

2. Check the status of the power supply.
   • If the modem is linked properly, the ON and CONNECT lights will be on
     • If the modem is linked, troubleshoot the computer —OR— the router
     • If the ON light is off make sure the modem is plugged in and the surge protector is ON (check the switch on the power strip)
     • If the CONNECT light is off, verify that the network cable on the OUT side is secure and leads out to the antenna on the roof.
     • If the CONNECT light is lit, verify the network cable is connected from the IN port to the router or PC.
     • If it connects to a router, make sure it is plugged in to the port labeled WAN, INTERNET, or MODEM
       • If the red FAULT light is lit, Contact Gardonville Support at 320-834-5155.

3. Power cycle the modem and router —OR— computer
   • First power cycle the power inserter and check the status of the lights (CONNECT and ON)
   • Second, power cycle the router —OR— computer

**NOTE:** If you have a router, power cycle the router, then the computer.
Basic Network Troubleshooting Tips

The steps ahead are for basic network troubleshooting and may not work for some networks.

Verify that the modem is operational and passing Internet traffic:

Plug a computer directly into the modem to check if the Internet is working.

- If the Internet is working, unhook the computer, re-connect any devices that were previously unhooked and power cycle the device by unplugging its power cord and plugging it back in. Please reboot the computer at this time. If you still have no Internet with all the devices plugged back in, please reboot your computer and consult the correct networking troubleshooting guide that matches your setup (see pages 18-22).

If the Internet is not working directly out of the modem on the computer, try power cycling the modem by unplugging the modem power cord and plugging it back in. Wait for the online light to come back on and test again.

- If there is still no Internet, continue on to the PC or Apple Troubleshooting Guide on pages 27-28.

Find the correct network setup from following guides:

- Modem, Router and Multiple Computer Troubleshooting - Page 22-23
- Modem and Computer Troubleshooting - Page 24
- Wireless Network Troubleshooting - Page 25-26
- PC Troubleshooting - Page 27
- Apple Troubleshooting - Page 28
Identify the equipment that you may have hooked up behind your modem (devices such as routers and switches or computers). Below is a picture of a modem, router & computer(s) network setup:

- Modem – could be an Arris, Vyoo, Zhone, Paradyne, Allied Telesyn, Zyxel, or Sprint.
- Router – commonly a Cisco Linksys, Engenius, D-link, Netgear, Belkin, or Zyxel. These can be wired or wireless connections to the computer.
- Ethernet Connection - will go from the modem’s ETHERNET jack to the router’s modem INTERNET or WAN jack.
- Ethernet Connections - are ETHERNET cables from other open ports on the devices shown to the computer’s Internet jack. These connections can be wireless.

**Things to look for before troubleshooting the modem, router & computer(s) network setup:**

- Are all of the devices powered on?
  
  Yes – continue on with the guide.
  
  No - check for power switches, verify they are in the on position, and also verify power cords are plugged into a power source on all network devices.

- Does the modem have a STATUS, ONLINE or ADSL light that is lit up to show the modem is in an online state?
  
  Yes - This means the modem should be online and ready to pass Internet traffic.
  
  No - Power cycle this device by pulling the power cord out of this device and plugging it back in (can be done from the back of the modem). It should come back to an online state after 2 minutes. If the status light does not come back on, please call our office at 320-834-5155.

**If the modem is online, please continue to the next page of the troubleshooting guide.**
Power cycle the equipment behind the modem by unplugging the power cord and plugging it back in. Do this in the following order:

• Verify the physical cabling is plugged in correctly from the modem to the router and from the router to the computer(s) before starting the next step. The cabling is explained by the picture on page 22.

• Next, unplug the power cord to the router and leave unplugged until told to plug it back in.

• Unplug the modem, wait 10 seconds and plug it back in. Wait for the ONLINE light or STATUS light to stay solid green.

• Plug the router back in. Wait 2 minutes and check any computers that may be connected directly to this device. If no Internet is present on any of the computers, please restart the computers and try again.

If there is still no Internet, continue on to the PC or Apple Troubleshooting Guide on pages 27-28.
Identify the equipment that you may have hooked up behind your modem (normally just a computer for this setup). Below is a picture of a modem & computer setup:

- Modem – could be an Arris, Vyoy, Zhone, Paradyne, Allied Telesyn, Zyxel, or Sprint.
- Ethernet Connection - will go from the modem’s ETHERNET jack to the router’s MODEM INTERNET or WAN jack.

Things to look for before troubleshooting the Modem & Computer Network setup:

- Are all of the devices powered on?
  
  Yes – continue on with the guide.

  No - check for power switches, verify they are in the on position, and also verify power cords are plugged into a power source on all network devices.

- Does the modem have a STATUS, ONLINE or ADSL light that is lit up to show the modem is in an online state?

  Yes - This means the modem should be online and ready to pass Internet traffic.

  No - Power cycle the device by pulling the power cord out of the modem and plugging it back in (this can be done from the back of the modem). It should come back to an online state after 2 minutes. If these steps do not help, please call our office at 320-834-5155.

Power cycle the equipment behind the modem by unplugging the power cord and plugging it back in. Do this in the following order:

- Verify the physical cabling is plugged in correctly from the modem to the computer before starting the next step. The cabling is explained by the picture above.
- If no Internet is present on the computer, please restart the computer and try again.

  If there is still no Internet, continue on to the PC or Apple Troubleshooting Guide on pages 27-28.
Wireless Network Troubleshooting

Identify the equipment that you may have hooked up behind your modem (normally just a router for this setup). Below is a picture of a wireless network setup:

- Modem – could be an Arris, Vyyo, Zhone, Paradyne, Allied Telesyn, Zyxel, or Sprint.
- Router – commonly a Cisco Linksys, Engenius, D-link, Netgear, Belkin, or Zyxel. These can be wired or wireless connections to the computer.
- Ethernet Connection - will go from the modem’s ETHERNET jack to the router’s MODEM INTERNET or WAN jack.
- Wireless Connection – connection to most laptops and some desktop computers with wireless cards installed in them.

Things to look for before troubleshooting the wireless network:

• Are all of the devices powered on?

  Yes – continue on with the guide.

  No - check for power switches, verify they are in the on position, and also verify power cords are plugged into a power source on all network devices.

• Does the modem have a STATUS, ONLINE or ADSL light that is lit up to show the modem is in an online state?

  Yes - This means the modem should be online and ready to pass Internet traffic.

  No - Power cycle this device by pulling the power cord out of this device and plugging it back in (can be done from the back of the modem). It should come back to an online state after 2 minutes. If these steps do not help, please call our office at 320-834-5155.

If the modem is online, please continue to the next page of the troubleshooting guide.
Power cycle the equipment behind the modem by unplugging the power cord and plugging it back in. Do this in the following order:

• Verify the physical cabling is plugged in correctly from the modem to the router before starting the next step. The cabling is explained by the picture on page 25.

• Next, unplug the power cord to the wireless router and leave unplugged until told to plug it back in.

• Unplug the modem, wait 10 seconds and plug it back in. Wait for it to go back online.

• Plug the router back in. Wait 2 minutes and check any computers that are connected wirelessly to this device.

• If no Internet is present on any of the computers, please restart the computers and try again.

If there is still no Internet, continue on to the PC or Apple Troubleshooting Guide on pages 27-28.
If your PC is not online consult this guide for help. Please verify cables are properly connected to the router, switch or modem. The next steps can be taken to restore the Internet connection:

Verify the PC ETHERNET connection is plugged into one of the LAN connections on the router or switch. If the PC is connected wirelessly, check for any switches with a WiFi logo and verify they are in the on position.

If this is connected properly, test the Internet. If it is not working, please restart the PC and check again.

If the reboot does not fix the issue, verify the Local Area Network or Wireless Network Adapter is enabled by going to:

The adapter will read ‘Disabled’ if it is turned off. It will read ‘Enabled’ or ‘Connected’ if it is turned on. You can right click the adapter and select disable, then right click again and select enable to reset the adapter.

- Windows XP - Start Button > Control Panel > Network and Internet (If in category view select Classic View) > Network Connections
- Windows VISTA - Start Button > Control Panel > Under Network and Internet, select View Network Status and Tasks or if Classic View is selected, please select Network and Sharing Center > Manage Network Connections.
- Windows 7 – Start Button > Control Panel > Network and Sharing Center > Change Adapter Settings.

Next, verify there are no STATIC IP addresses.

Check this by – right clicking the adapter > select Properties > Double left click Internet Protocol (TCP/IP) or Internet Protocol IPv4 (Vista & Windows 7). The box for Internet Protocol Ipv4 or Internet Protocol (TCP/IP) MUST remain CHECKED.

- If there are numbers filled into the IP Address, Subnet Mask and Default Gateway, this means you are currently using a static address.
- If the networking person(s) says you do not need this, please select the Obtain IP Address Automatically Settings. Also, select the option for Obtain DNS Server Address Automatically and select OK.
- Then select OK on the Adapter Settings window. This change will cause it to look for an address automatically.

If your Internet still is not working, please reboot your computer and call our office at 320-834-5155.
Apple Troubleshooting

If your Apple is not online consult this guide for help. Please verify cables are properly connected to the router, switch or modem.

These steps can be taken to troubleshoot an Apple’s Internet issues:

• From the Apple menu, choose System Preferences.
• From the View menu, choose Network.
• Choose Built-in Ethernet from the Show pop-up menu (the Configure pop-up menu prior to Mac OS X 10.1).
• Click the TCP/IP tab, if necessary.
• Choose either Manually or Using DHCP from the Configure pop-up menu, DHCP is the most common option.
• Click Apply Now.
• Open the web browser to test your connection to the Internet.

Additional steps for Apple’s Airport:

• Open a web browser to verify that the computer connects to the Internet.
• After the computer successfully connects to the Internet, physically connect the base station to the network.
• Unplug the DSL or cable modem’s power cord for a few seconds, then plug it back in.
• Use the AirPort Setup Assistant from the Utilities section of the Application folder to copy the computer’s settings to the base station.

If your Internet still is not working, please call our office at 320-834-5155.