

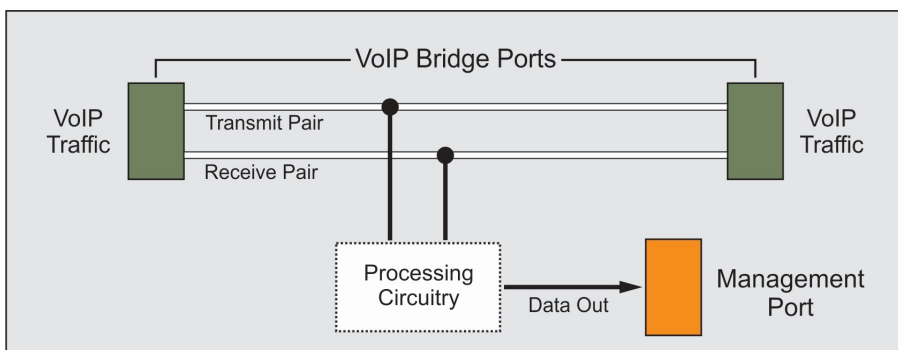
# Vertex – Caller ID for VoIP

03/21/2024

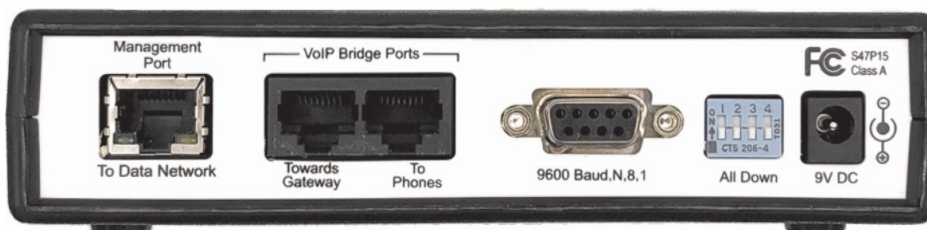
The Vertex is designed to work only with standard, **non-encrypted SIP** (Session Initiation Protocol) signaling from the VoIP provider. Before proceeding, please verify that your VoIP provider is sending this signaling type. The Vertex is intended for use only with VoIP phones. When using **standard telephones**, a CallerID.com analog device is required.

## Basics

1. There are 3 network ports on the Vertex. The 2 VoIP Bridge Ports simply provide a hard-wired route for Ethernet to pass through so that processing circuitry can be connected in parallel. This approach allows passive packet "sniffing" thus eliminating any network point-of-failure. The Management port is the only end-point connection recognized by network hardware.



2. The Management port is used for configuring the device as well as sending data to software applications that accept Caller ID via Ethernet. Connect this port to the same subnet that your Ethernet enabled Caller ID application is running. The serial port output is used only for software that accepts Caller ID serial input.



3. VoIP Bridge Ports simply provide a pass-through connection between two devices, they are not seen by any hardware on the network.

**All VoIP traffic of interest must pass through the VoIP Bridge Ports for correct Vertex operation.**

4. We recommend the Vertex Bridge Ports connect the two network devices nearest to the VoIP telephones, while still being in-line with all VoIP traffic. The block diagram below represents the Vertex Bridge Ports connecting a network switch to a PoE switch powering the phones.



## Connections

All VoIP traffic of interest must pass through the Vertex VoIP Bridge Ports. Once all connections are made and power applied, **all three amber lights on the Vertex must be steady on**. If one or more amber lights are not on, refer to the troubleshooting section at the end of this guide.

### Figure 1 - Phones Connected to an Auxiliary Switch.

When all phones connect to an auxiliary switch off of the main network switch the two switches are connected through the Vertex "VoIP Bridge Ports".

- Although the Vertex connection reduces the throughput speed to the phones to 100Mbps, this is of no consequence since voice traffic uses very little bandwidth (< 1 Mbs).
- Note that the connection below **does not** create a network loop. VoIP Bridge Ports only provide a link between the two devices connected to them. They are not seen by any network hardware.

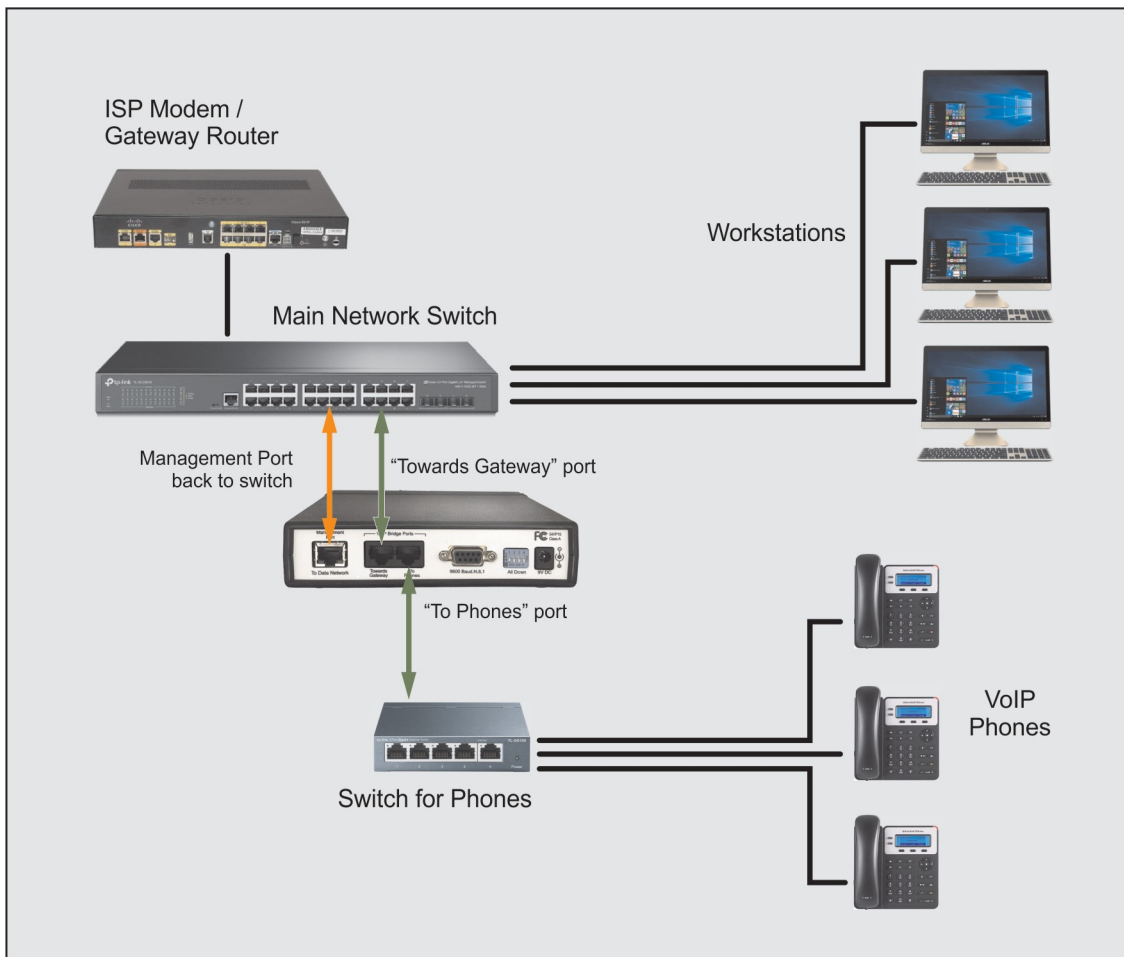


Figure 1

## Figure 2 - Separate VoIP and Data Sub-Networks

When phones and data are on two separate subnets, the Vertex captures VoIP traffic on the phone subnet and delivers Caller ID data to the data network (for Caller ID applications using Ethernet delivery).

- The VoIP Bridge Ports monitor the VoIP traffic flowing from the ISP Modem/Router to the phone switch and delivers the Caller ID output to the data subnet via the Management port connection.
- This connection **does not** create a conflict between LANs. VoIP Bridge Ports only provide a link between the two devices connected to them. They are not seen by any network hardware.

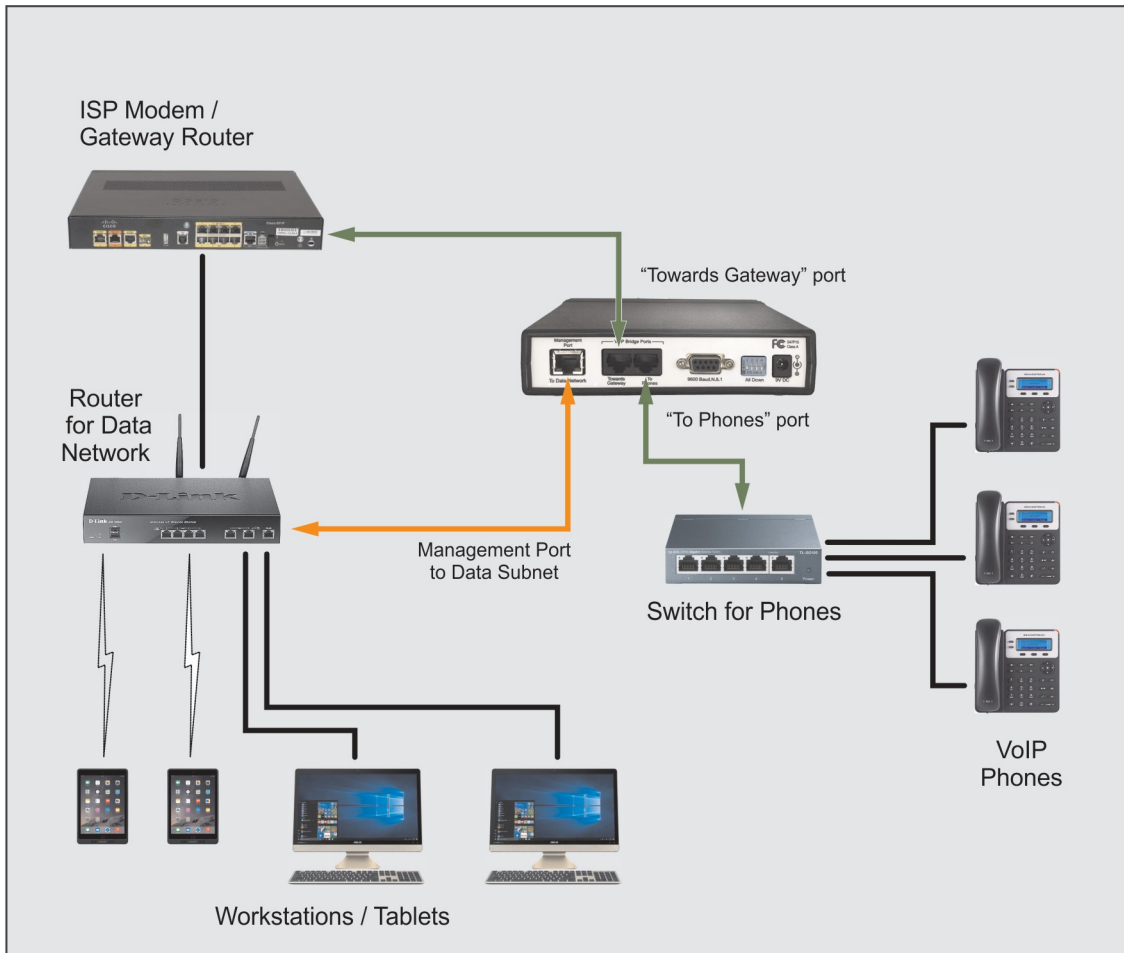


Figure 2

## Vertex Setup Instructions

1. Make Vertex connections when no VoIP calls are in progress and internet traffic is at a minimum.

**Note that the Vertex will not pass a Gigabit connection.** When the Gigabit link between two devices is removed and routed through the Vertex Bridge Ports, you may need to reboot at least one device in order to re-establish the link at 100BaseT.

2. Power up the Vertex and wait until the power light remains steady on. The unit will attempt to obtain an IP address automatically via DHCP and connect to the network.
3. Check the other lights on the front panel. **Amber lights on all three channels must be steady on** indicating network connections. If any amber light is not on, refer to the Troubleshooting section below. If an amber light is lit, the corresponding green light on that channel should flash, indicating data packets detected.

4. On a Windows PC, download and install the Vertex Configuration Tool (VCT) at [CallerID.com/vct](http://CallerID.com/vct).
5. Launch VCT. Upon startup, VCT must find the Vertex hardware. If the hardware is not found, refer to the Troubleshooting section below.
6. VCT will prompt you to run the Setup Wizard. **Run the Setup Wizard** and follow all steps carefully.
7. Set the appropriate parameters within your software application to enable Caller ID pop-up screens.

## Troubleshooting

**Issue:** The network connection through the VoIP Bridge Ports is not working.

Possible Solutions:

1. Reboot both devices that are connected to the VoIP Bridge Ports in an effort to auto-negotiate a 100BaseT link. If the auto-negotiation fails, try step 2.
2. If one of the devices connected is managed, log in and "hard set" the port speed to 100BaseT.

**Issue:** The network connection through the VoIP Bridge ports is working, but one or both amber lights on the Bridge ports are not steady on. The devices that the Bridge ports connect are communicating via Energy Efficient Ethernet (EEE) signaling. The Vertex is not compatible.

Possible Solutions:

1. If one of the devices connected to a VoIP Bridge Port is managed equipment, log in and "hard set" the port speed to either **10BaseT, Full Duplex** or **100BaseT, Half Duplex**.
2. Connect a TP-Link™ brand switch to either VoIP Bridge port. This disables EEE and allows Bridge port link detection. For more information, refer to [CallerID.com/amber](http://CallerID.com/amber),

**Issue:** Vertex Configuration Tool (VCT) will not detect the Vertex hardware.

(The VCT sends a UDP broadcast command to the subnet the PC is connected to. If the Vertex sees the command, it responds back to the VCT thus establishing a connection.)

Possible Solutions:

1. Verify that the Vertex Management port amber light is on and the green light is flashing.
2. Re-boot the Vertex hardware. The Vertex only obtains an IP address via DHCP upon boot-up.
3. Verify your PC is connected to the same subnet as the Management port.
4. Turn off any 3rd party Firewalls (e.g. Norton, McAfee, Trend Micro, etc.).
5. When running VCT on the same PC as the Popup application, verify the Popup application is off and re-launch VCT.
6. When using a laptop WiFi connection, the wireless connection must be on the same subnet.
7. If DHCP on the router is enabled:
  - a. Check the router's DHCP table to see if the Vertex is registered. If so, ping the address listed.
  - b. If the ping is successful, UDP broadcasts may be blocked by your PC or a network appliance.
  - c. Use menu selection: **File / Connection Manager** in VCT to communicate via unicast.

**Note:** The VCT Wizard cannot run using a unicast connection; a manual setup is necessary.

**Technical Support 770-263-7111**

8:30 am - 4:30 pm, M-F, EST

*Please provide the serial number of the Vertex*