

Vertex – Caller ID for VoIP

The Vertex is compatible with any software designed to use CallerID.com's analog products. It is configured via the Ethernet "Management Port". The serial port output is for software that does not accept Caller ID data via Ethernet.

- The Vertex is designed to capture only standard, non-encrypted SIP (Session Initiation Protocol).
- If you are using standard telephones, a CallerID.com analog device will be required, instead of the Vertex.

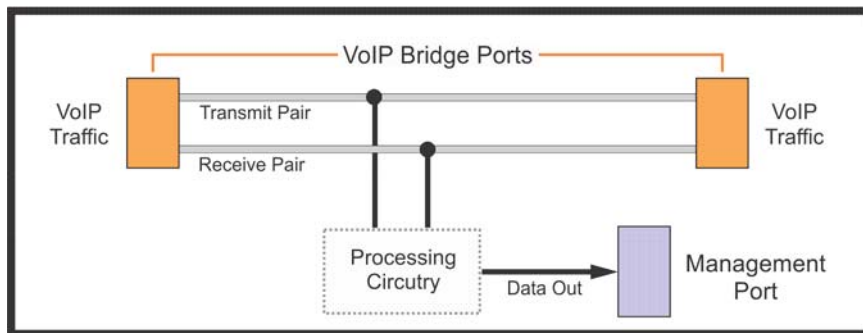
Determine Your Type of VoIP

Hosted VoIP The service provider performs all voice switching, routing, messages on hold, call queuing, and other call functions. In some cases, the end user needs only to connect VoIP phones to their network. Any significant programming and configuration is accomplished by the service provider. Most small businesses use Hosted VoIP.

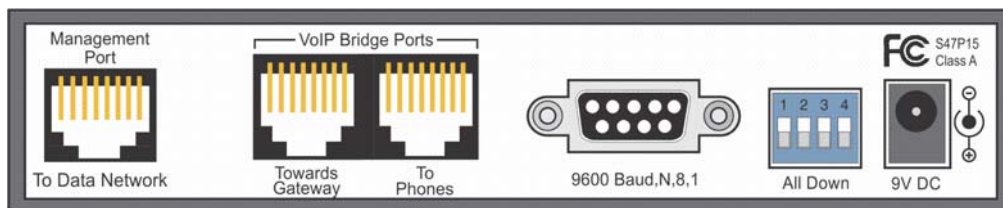
Managed VoIP involves additional equipment on site that handles most of the VoIP switching, routing, and call processing. If you have a Managed VoIP system, an IT or telephone professional would have installed it.

Basics

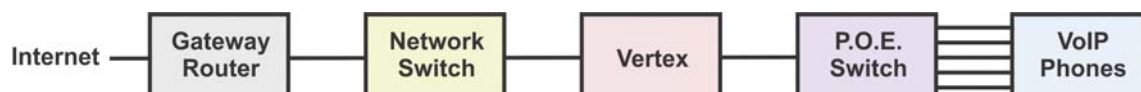
1. There are 3 network ports on the Vertex. The 2 VoIP Bridge Ports provide a pass-through link between two network endpoints at 100BaseT, with processing circuitry in parallel. This approach allows passive packet "sniffing" thus eliminating any network point-of-failure. The Management Port is the only port that presents itself as an endpoint on the network.



2. The Management Port is used to configure the device. Data is sent out this port 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.



3. The two VoIP Bridge Ports are pass-through ports. They are not seen as endpoints by the network. They simply connect the wire that carries all VoIP traffic between 2 endpoints such as a switch and a router. **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 endpoints nearest to the VoIP telephones, while still being in-line with all VoIP traffic. The diagram below shows the Vertex connecting a network switch to a P.O.E. switch powering the phones.



Vertex Setup Instructions

1. Refer to Figs. 1-4 to decide which connection diagram best matches your VoIP Network architecture.
2. 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. If the Vertex is placed between 2 Gigabit endpoints, reboot each device to allow automatic negotiation to 100BaseT. Refer to troubleshooting below.
3. Power-up the Vertex and wait until power light remains steady on. The unit will attempt to negotiate DHCP in an effort to automatically obtain an IP address.
4. Check the other lights on the front panel. Amber lights on all three channels should be steady on, indicating a network connection. If any amber light is not on, refer to troubleshooting below. The green lights on each channel should flash, indicating data packets detected.
5. Close any software application on this computer that is meant to interface with the Vertex. For example, if you are running a Caller ID enabled POS or Taxi Dispatch application on this computer, close it now.
6. Download and install the Vertex Configuration Tool (VCT) at www.VCT.CallerID.com.
7. Launch VCT. Upon startup, VCT must find the Vertex hardware. If the hardware is not found, turn off any third-party Firewalls or virus checking programs, re-check Ethernet connections, and try again.
8. Once the hardware is detected, select "Yes" to load parameters from the Vertex.
9. VCT will prompt you to run the Setup Wizard. **Run the Wizard and follow all steps carefully.** When completed, exit VCT.
10. Set the appropriate parameters within your software application to enable Caller ID pop-up screens.

Setup Troubleshooting

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

Solutions:

- A. Check the Vertex Management Port lights. The amber light must be on and the green light flashing.
- B. Turn off any 3rd party Firewalls (i.e. Norton, McAfee, Trend Micro, etc.).
- C. If DHCP on the router is enabled, re-boot Vertex hardware in an attempt to negotiate DHCP.
- D. Check the router DHCP table to determine whether the Vertex is listed. If shown, UDP broadcasts may be blocked by a network appliance. Ping the address listed. If the Ping is successful, go to step F.
- E. If DHCP on the router is disabled, try to Ping the Vertex at the default IP address of 192.168.1.90.
- F. If Pinging the device is successful, you may have to use **File/Connection Manager** in VCT to communicate via unicast. In order to use the VCT Wizard via unicast, follow the same instructions as "Setting up Vertex for a VPN" under Troubleshooting, at www.VCT.CallerID.com.

Issue: One or both amber lights on the VoIP bridge ports are not steady on. Note, both amber VoIP bridge ports must be steady on for the Vertex to operate correctly.

Solutions:

- A. If you are placing the Vertex VoIP bridge ports between 2 Gigabit endpoints, both endpoints may need to be re-booted to auto negotiate to 100BaseT. If re-boot does not create a network connection, the port connected to the Vertex on one endpoint will need to be configured to 100BaseT.
- B. If the network connection is working properly and one or both amber lights are still not on steady, try connecting the Vertex to another location closer to the VoIP phones. If the problem still exists, refer to "Amber Lights not Coming On or Flashing", under Troubleshooting, at www.VCT.CallerID.com.

Technical Support 770.263.7111
8:30 am - 5:00 pm, M-F, EST
Support@CallerID.com (Include Serial Number of Device)



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Vertex Connections

Fig. 1 - Simple Hosted VoIP

Hosted VoIP is defined by the service provider performing all voice switching, routing, messages on hold, call queuing, and other functions. In most cases, the end user needs only to connect VoIP phones to their network. Any significant programming and configuration is done by the service provider. If you are not sure whether you have Hosted VoIP service simply contact your service provider.

A typical Hosted VoIP network architecture is shown below with a Vertex unit connected. If a separate gateway router and network switch is not present, most likely you will need to install a network switch. In order to see all the inbound and outbound VoIP traffic, the Vertex "VoIP Bridge Ports" must connect the gateway router and the network switch. The "Management Port" on the Vertex is connected to the network switch. Refer to the diagram below; green lines indicate new connections. Remove the dotted gray, original connection.

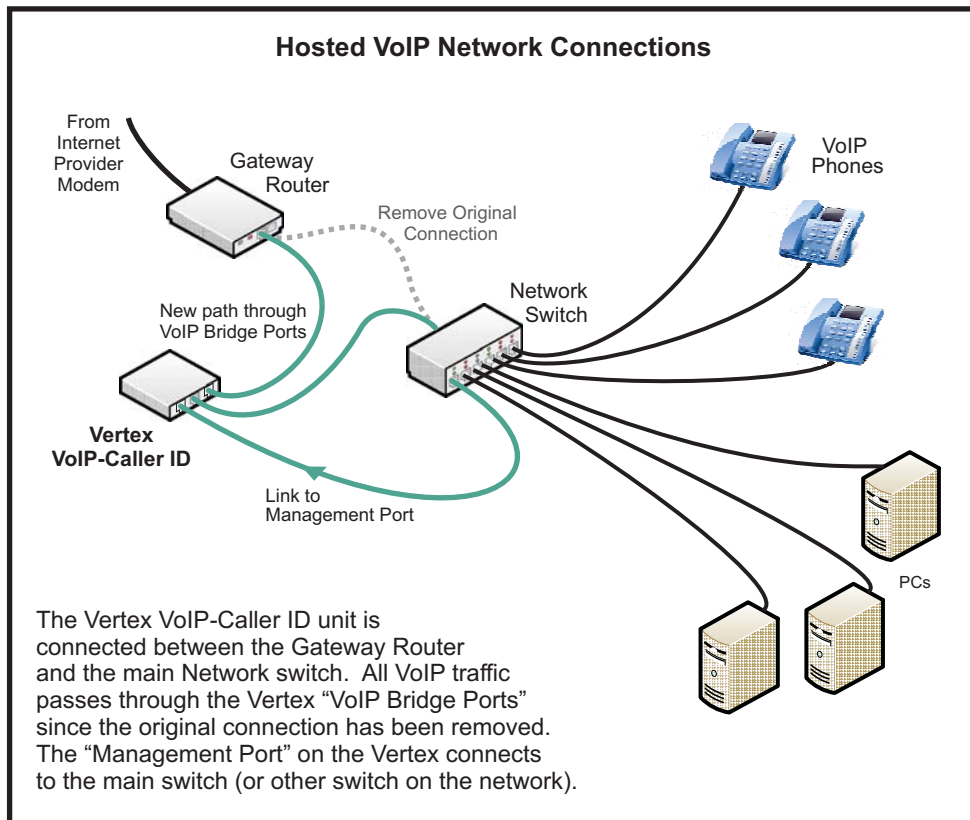
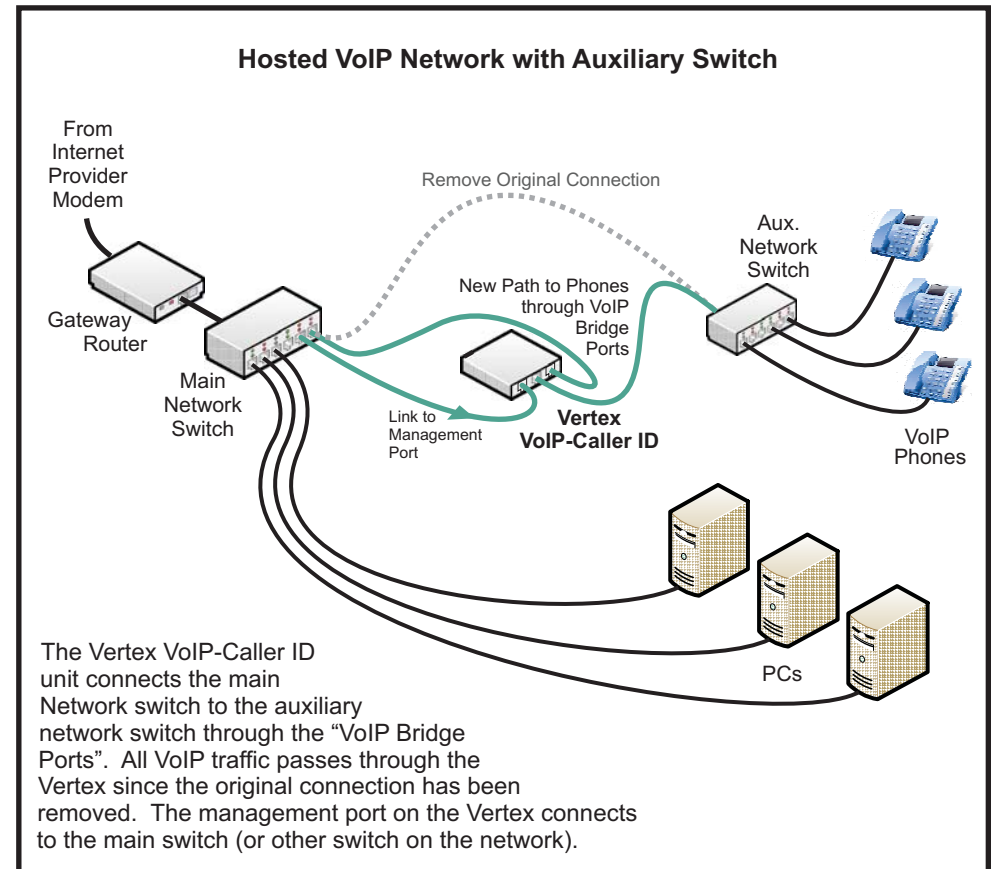


Fig. 2 - Hosted VoIP with Auxiliary Switch

For Hosted VoIP using an auxiliary network switch connection to the phones, we recommend installing the Vertex between the auxiliary switch and the main switch. Removing the original connection allows all VoIP traffic to flow through the Vertex "VoIP Bridge Ports". The Vertex "Management Port" can be connected to any switch on the network. Green lines indicate new connections below. Make sure to disconnect the original connection.

Depending on your application software, the data output will be delivered via the Management Port connection or the serial port.



Vertex Connections (continued)

Fig. 3 - Hosted with Separate VoIP & Data Networks

This network architecture is seen with controlled POS systems that supply a separate router enabling all their equipment to reside within its own subnet. Remove the original VoIP connection (dotted line below) and route the connection carrying all VoIP traffic through the two Vertex “VoIP Bridge Ports”.

If the POS application collects Caller ID via Ethernet, connect the Vertex “Management Port” and your PC running the Vertex Config. Tool (VCT) to the Data Subnet Router, as shown in the diagram below. If the POS obtains Caller ID data through a Serial Port, connect the Management Port and your PC running VCT to the VoIP network.

If DHCP is enabled, the Data Gateway MAC is obtained automatically upon Vertex re-boot. If not, it will need to be entered manually. If the Management Port is connected to the Subnet Router, use that MAC as the Data Gateway.

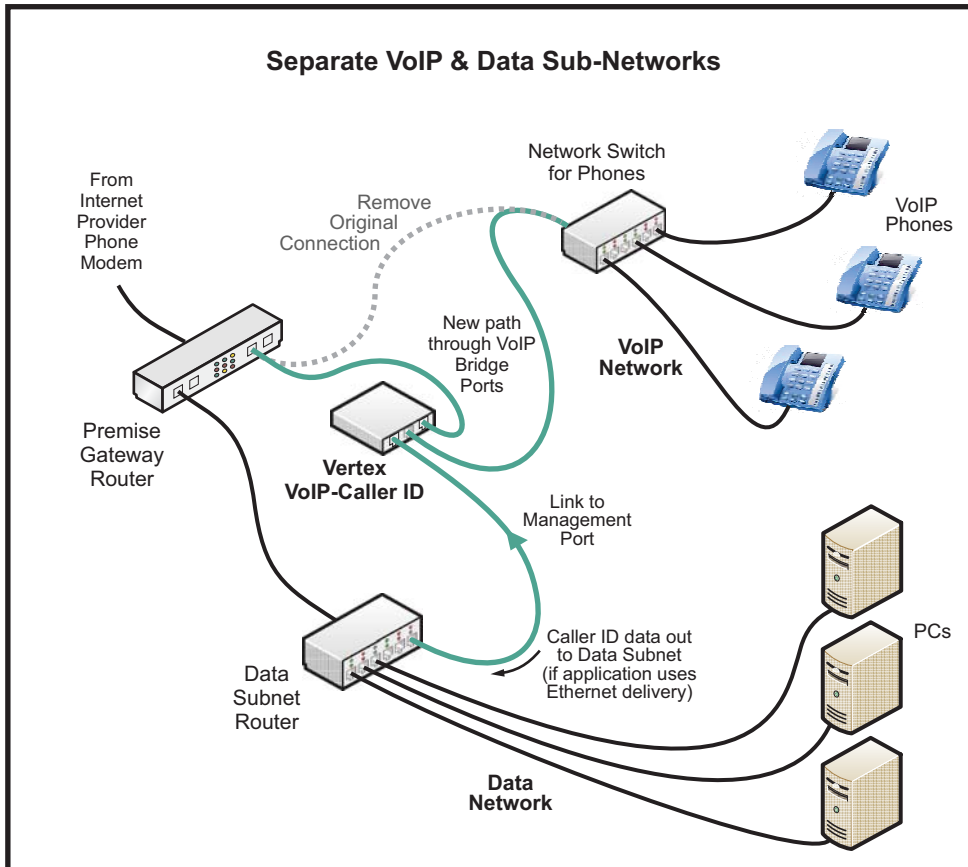


Fig. 4 - Managed VoIP

Managed VoIP involves additional equipment on site that handles most of the VoIP switching, routing, and call processing. If you have a Managed VoIP system, your IT person and/or telephone switch provider will know the details.

Managed VoIP service employs a SIP server device on site to process calls. Some SIP servers also provide the Gateway for all external VoIP traffic. The SIP server/Gateway can be an Asterisk PC or Telephone switch card fed with a SIP Trunk or ISDN PRI circuit. **An Asterisk switch is technically a Managed VoIP system. But, if the VoIP gateway is the same as the Data Gateway, refer to the Hosted VoIP diagrams.**

Re-route the connection carrying all VoIP traffic through the two Vertex “VoIP Bridge Ports”. Connect the Management Port to the Network Switch.

