Viasat

Business Voice

Installation Guide

June 2019

Contents

Voice Network Installation

Equipment

The Voice network equipment shown below will be installed at the customer site. Please note if the customer already has Business Hotspots and is adding Business Voice, the Voice service will use the same controller, and only the PoE injector/s, IP phone/s and Ethernet cables will be installed. The customer is responsible for providing the power strip.

Controller	PoE injector

IP phone

Up to 4 units; includes handset, phone cord, phone stand / wall mount, and BLF labels

| Blue Ethernet patch cable	Green Ethernet patch cable

Network connections

When combined with Viasat Business Internet, the satellite internet modem used will be determined by the satellite beam for the area. The VHG modem will be used for Viasat 2 beams, and the SB2+ modem is used for Viasat 1 beams. The diagrams below indicate how to connect the Voice network equipment using either modem.

VHG modem

SB2+ modem
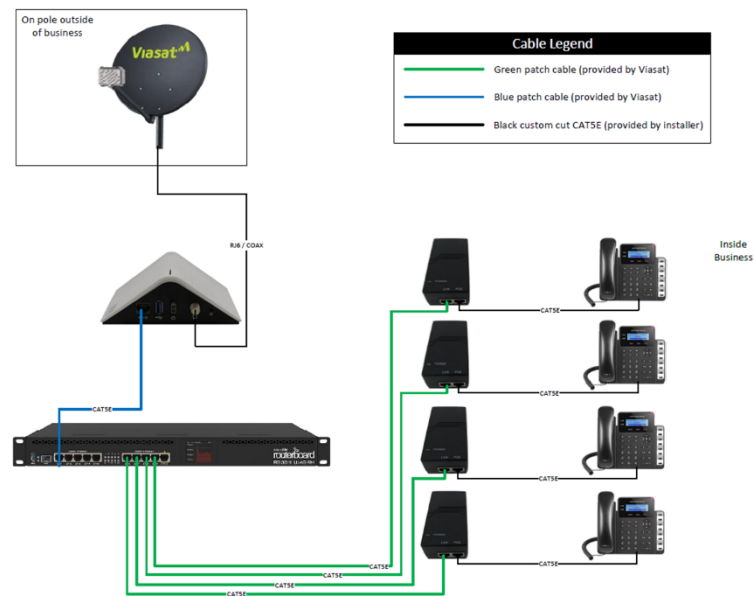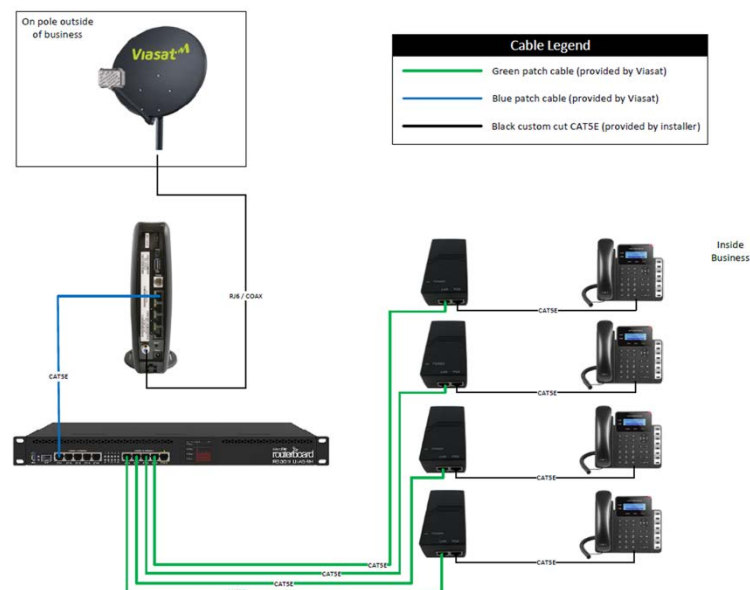
The following tools and supplies are required for installation:

- » Power drill
- » CAT5e crimping tool
- » Cable cutters
- » CAT5e color-coded Ethernet cables (included)
- » CAT5e standard Ethernet cable
- » Cable clips
- » RJ45 connectors
- » CAT5e/LAN cable tester

Installation instructions

This installation guide provides comprehensive instructions for equipment installation and documentation when adding the Business Voice network to the Viasat Satellite Internet solution.

Step 1 | Determine equipment location

Select a secure, climate-controlled location near the satellite modem and a power source for installing the controller and PoE injector/s.

Discuss with the customer where they want the phone/s to be installed and if they want them placed on a desk or mounted on a wall.

Step 2 | Set up phone

The phone can be mounted on a desk or table top using the stand or mounted on a wall using the inverted stand.

| Phone stand |
|---|
| 1   Insert the hooks on top of the stand into the slots using either upper or lower slots. |
| 2   Firmly slide the stand upward to lock it in place. |
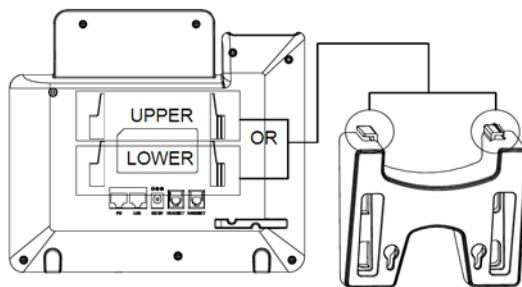
Wall mount

1   Attach the wall mount (inverted stand) to the wall using screws.


Wall mount holes are available on stand

2   Slide the wall mount up and pull away from the wall over the screws to remove.

3   With the wider end of the stand at the bottom, insert all four hooks located in the front of the wall mount into the slots on the back of the phone.
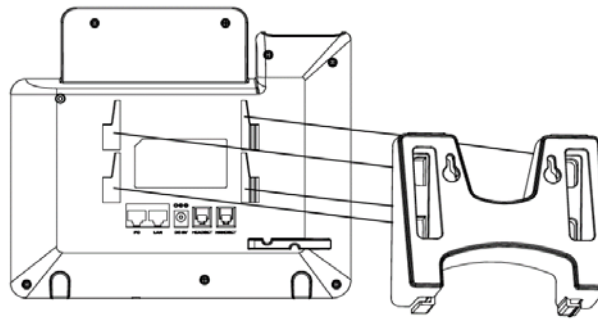
4   Firmly slide the wall mount upward to lock it in place.

5   Pull out and rotate the tab from the handset rest to hold the handset while the phone is mounted on the wall.

6   Place the wall mount over the screws and slide down to secure.

Step 3 | Install BLF (busy lamp field) paper label

1   Align the cutouts on the paper label with the plastic notches on the phone and gently lay the paper down on the phone surface.

2   Install the plastic cover over the paper label by inserting the non-cutout side of the panel. Adjust the plastic cover in an up/down direction to make the three cutouts on the right side align with the plastic notches.

3   Slightly pull the plastic cover upward.

Non-Cutout side

Cover

Label
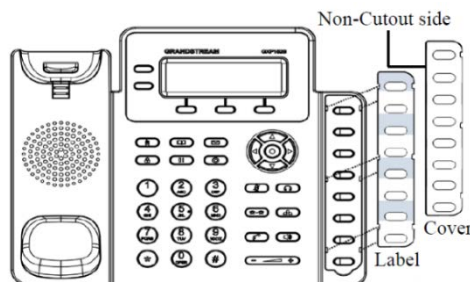
Step 4 | Connect the handset

    1   Connect one end of the phone cord to the handset.
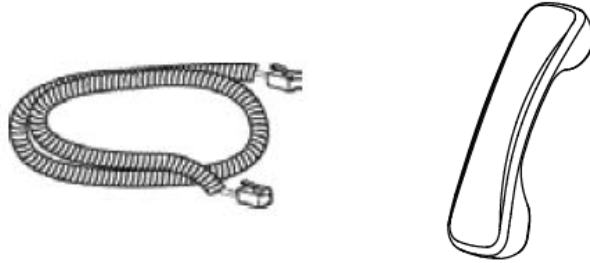
    2   Connect the other end of the phone cord to the handset port on the back of the phone.

Handset Port

Step 5 | Install CAT5e cable

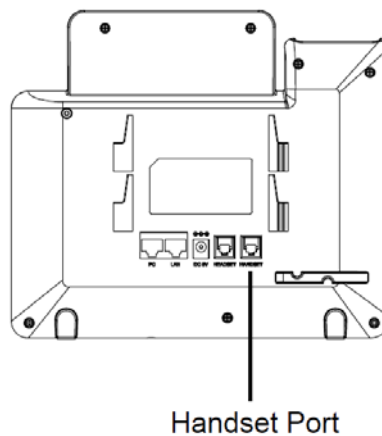For each IP phone, cut to length (1) standard CAT5e Ethernet cable from the controller to the location the phone will be installed. Terminate the ends and test each cable with a CAT5e cable tester.

NOTE: Wait to tie down the cables until after all equipment is installed and tested.

Step 6 | Install network equipment

Install the controller and PoE injector/s in a secure location near the satellite modem and a power outlet. Do not place equipment on top of the controller.

NOTE: Ensure the equipment is easily accessible for future support. Avoid installing near a microwave, as this will cause interference with the signal.

Modem to controller

NOTE: If the customer already has Business Hotspots, skip this step. Proceed to **Controller to PoE Injector**.

1 Place the controller near the satellite modem.
2 Connect the blue Ethernet patch cable from the modem to Port 1 on the controller.

   NOTE: When using the SB2+ modem, the controller must be plugged in to Port 1 (next to the white phone port).
3 Plug in the power cable for the controller into the power source.

VHG Modem

CAT5E

OR

SB2+ Modem

CAT5E

Controller to PoE injector

1 Connect one end of a green Ethernet patch cable into one of Ports 6-9 on the controller.
2 Then connect the other end into the LAN port on the PoE injector. Repeat this step for each additional PoE injector.

CAT5E

PoE injector to IP phone

1 Connect one end of the standard Ethernet cable into the POE port on the PoE injector.
2 Then connect the other end of the cable into the LAN port on the back of the IP phone.
3 Plug the PoE injector into the power source.
4 Repeat this step for each additional IP phone.

POWER

LAN   POE

CAT5E

Auto-provisioning

When connected to power and internet (data), the phone screen will display provisioning or firmware upgrade information. The phone will reboot several times during this process.

The provisioning process takes approximately 8-10 minutes. Once complete, the date and time, phone number, and network status icon appear on the screen.

NOTE: Do not interrupt the power or internet connection when the LED lights are flashing during system boot up or firmware upgrade, as this may corrupt firmware images and cause the unit to malfunction.

GRANDSTREAM

03-20-2019   12:44PM

NextScr | FwdAll | More
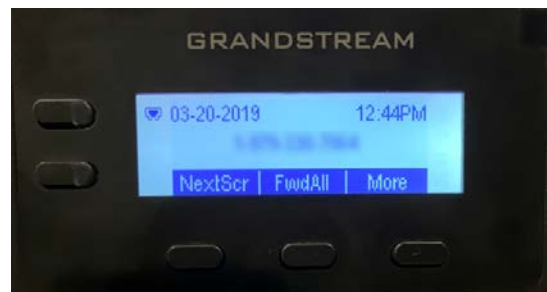
⚠️ **WARNING! If the power adapter for the phone was not removed prior to shipment, please remove it and do not provide it to the customer. If the power adapter is used in conjunction with the PoE Injector, it will damage the phone and could pose a potential fire hazard. To ensure the power adapter is not accidentally used with the IP phone, the DC port on the back of each phone will be covered with a black label. In addition, the power adapter will be labeled to indicate it is to be used only for the controller.**

Step 7 | Test service

After the phone has completed the provisioning process, test the IP phone to confirm it is working properly. Confirm the network icon status on the phone display is solid, indicating it has registered with the network. Verify that the phone and call out and receive calls.

Step 8 | Tie down cables

Once the equipment has been tested, tie down the cables.

Step 9 | Basic troubleshooting

If the phone does not provision or register properly, follow the troubleshooting steps in the table below.

Basic network troubleshooting	
Phone will not power up	› Ensure the PoE injector is plugged into the power supply and the power LED is illuminated. › Ensure the Ethernet cable is plugged securely from the LAN port on the back of the phone to the POE port on the PoE injector. › Ensure the green Ethernet patch cable from the controller is securely plugged into the LAN port on the PoE injector.
Phone will not provision	› Reboot the phone by unplugging the Ethernet cable from the POE port of the PoE injector and plugging it back in. › If that doesn't resolve the issue, reset the phone: • Press the menu button. • Scroll down to **system** and select. • Scroll down to **factory reset** and select. • Select **ok** softkey to confirm. • Select **ok** softkey to confirm again. The phone should reset and start the auto-provisioning process again.
Phone will not register	› Contact installer Relations at **(888) 278-6869, Option 1** for assistance. Provide the MAC address found on the back of the phone to determine if the correct MAC address was associated with the phone number.

If you encounter issues that cannot be resolved by the troubleshooting steps listed above, contact Viasat Installer Relations at **(888) 278-6869, Option 1** for Voice technical assistance.

Step 10 | Complete documentation

After installation, document all points of the installation in LiveQC, a video chat service that is accessed through FSTechSupport, available in the Android and Apple app stores.

1. Log in to the FSTechSupport app using your tech ID and password.

2. Enter the job number and select LiveQC to be placed in queue for the next available agent.

3. The agent will request the FSM ID, Tech ID, customer name, address and phone number, service region, account number, work order type, and work order close reason.

4. Next the agent will request video inspection of different aspects of the installation to indicate on their form if it passes, fails, or is not applicable.

    The agent may request the following information:
    - » Approved cable use and aesthetics
    - » Equipment
    - » If the technician followed proper procedures:
        - Pre-install customer experience procedures
        - Cable routing
        - System provisioning

5. Finally, pictures will be uploaded to LiveQC:
    - » Location
    - » Cable run
    - » Cable type
    - » Any other requested images

6. Any additional notes or comments may be added as needed.

Step 11 | Review Quick Start Guide with customer

A Business Voice Quick Start Guide for the customer is included with the network equipment. Review the guide with the customer to ensure they are aware of key information about their voice network:

- » Basic features of the service
- » Basic functions of the phone and keypad
- » How to access the Viasat Voice Pro mobile dialer
- » How to contact customer support

Need help? Contact Viasat Installer Relations at (888) 278-6869, Option 1 for Voice technical assistance.

Terminating Ethernet cable

This section outlines step-by-step procedures for terminating Ethernet cable using a crimping tool, UTP cable stripper, and RJ45 connector. Also see the Ethernet Cable Prep Job Aid located in the eGuide.

Step 1 | Trim cable

Using a crimping tool, trim the end of the cable you're terminating to ensure that the ends of the conducting wires are even.

Step 2 | Strip jacket

Being careful not to damage the inner conducting wires, strip off approximately 1 inch of the cable's jacket, using a modular crimping tool or cable stripper.

Step 3 | Separate wires

Separate the 4 twisted wire pairs from each other, and then unwind each pair, so that you end up with 8 individual wires. Flatten the wires out as much as possible, since they'll need to be very straight for proper insertion into the connector.

Step 4 | Arrange wires

Holding the cable with the wire ends facing away from you. Moving from left to right, arrange the wires in a flat, side-by-side ribbon formation, placing them in the following order: white/orange, solid orange, white/green, solid blue, white/blue, solid green, white/brown, solid brown.

Step 5 | Insert wires

Holding the RJ45 connector so that its pins are facing away from you and the plug-clip side is facing down, carefully insert the flattened, arranged wires into the connector, pushing through until the wire ends emerge from the pins. For strength of connection, also push as much of the cable jacket as possible into the connector.

Step 6 | Confirm proper formation

Check to make sure that the wire ends coming out of the connector's pin side are in the correct order; if not, remove them from the connector, rearrange into proper formation, and re-insert.

Remember, once the connector is crimped onto the cable, it's permanent. If you realize that a mistake has been made in wire order after termination, you'll have to cut the connector off and start over.
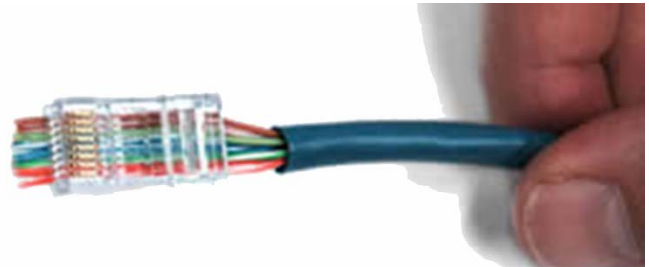
Step 7 | Crimp plug

Insert the prepared connector/cable assembly into the RJ45 slot in your crimping tool. Firmly squeeze the crimper's handles together until you can't go any further. Release the handles and repeat this step to ensure a proper crimp.

Step 8 | Repeat

After the first termination is complete, repeat process on the opposite end of your cable.

View online at http://www.cableorganizer.com/learning-center/how-to/how-to-terminate-RJ45.htm