Administrator's Guide
for the VSX Series

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Patent Information

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About this Guide

The *Administrator's Guide for the VSX Series* covers the VSX 6000, VSX 7000, and VSX 8000, collectively referred to as VSX room systems. The VSX 3000 executive desktop model is also covered. This guide is for administrators of VSX systems who need to:

- ❑ Configure the system for network environments
- ❑ Customize the behavior and appearance of the system
- ❑ Obtain information about calls
- ❑ Gather network usage and performance data
- ❑ Troubleshoot any issues

Other documents available for VSX systems include:

- ❑ *Setting Up the System*, which describes how to set up the hardware
- ❑ *Getting Started Guide for the VSX Series*, which describes how to perform video conferencing tasks
- ❑ Setup Sheets for your optional hardware
- ❑ Release Notes

For support or service, please contact your Polycom® distributor or go to Polycom Support at www.polycom.com/support.

Polycom recommends that you record the serial number and option key of your VSX system here for future reference. The serial number for the system is printed on the unit.

System Serial Number: _____

Option Key: _____

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1

Introducing the VSX Series

Your Polycom video conferencing system is a state-of-the-art visual collaboration tool. With crisp, clean video and crystal-clear sound, VSX systems provide natural video conferencing interaction through the most advanced video communications technology.

When you use a VSX system for meetings, you can exchange ideas and share documents with people anywhere in the world, as if they were all in the room with you. Everyone's productivity increases, without any travel required. The VSX series includes the following models:

VSX 3000 An all-in-one desktop appliance that includes the camera, LCD screen, speakers, and microphone.	
VSX 6000 Compact video conferencing room system for IP networks only.	

VSX 7000 Compact video conferencing room system for IP and other networks.	
VSX 8000 A compact rack-mount room system for high-end custom integration.	

For technical specifications and detailed descriptions of features available for VSX models, please refer to the product data sheets at www.polycom.com.

Key Features

Breakthrough Video Quality

- **Best for low bandwidth calls** — The H.264 standard provides twice the video quality of H.263 in calls that use lower line rates of 512k or lower.
- **Best for high bandwidth calls** — Polycom's own standards-based Pro-Motion™ 50/60 fields per second video provides television-like quality.

Industry-Leading Audio Quality

- **Polycom StereoSurround**™ — StereoSurround is standard in VSX systems. This feature enhances intelligibility by giving conference participants a better spatial understanding of far site rooms.
- **Integrated voice and video solution** — Integrate the Polycom Vortex® audio mixer with the VSX room systems for custom-designed speaker and microphone configurations that ensure the highest quality audio in all VSX system video calls.

Rich Conference Experience

- **Integrated video system and conference phone** — Get the most out of your conference room equipment by integrating your VSX video conferencing system with the SoundStation® VTX™ 1000 conference phone.
- **High resolution data collaboration** — Conference participants can share content easily from their computers with the Visual Concert™ VSX for VSX 6000 and VSX 7000 systems, and the ImageShare II™ device for VSX 8000 systems. People+Content™ IP, a software application, can also be used for sharing content.
- **See more with single-monitor systems** — Use Dual Monitor Emulation (split-screen viewing) to see both people and content on one monitor. Dual Monitor Emulation was designed for plasma displays, but it can also be used with any other type of display.
- **Single monitor VGA for VSX 8000** — Connect a VGA monitor or projector as your primary display device.

Enhanced User Experience

- **Customizable home screen** — Customize the home screen to support different types of users:
  - **Novice users** — Offer just a few options, so users need little or no training.
  - **Advanced users** — Provide a wide range of video conferencing features.
- **Customizable look and feel** — Set up the workspace to suit your environment.
  - **Screen colors and ring tones** — Change the colors and ring tones to suit the décor and environment.
  - **Camera names and icons** — Name each video source and assign it an industry-specific icon so users can easily identify it during meetings.
  - **Support for ViewStation® users** — Configure the workspace with the classic ViewStation look to build on users' experience with ViewStation video conferencing systems.
- **Call Scheduler** — Use the calendar and call scheduling feature to schedule video conferences. The system automatically calls the site you selected on the date and time you specified. For recurring calls, you can indicate whether you want the system to automatically make the call daily, weekly, or monthly.

Easy Installation

- **Firewall (UPnP™) support** — VSX systems offer support for routers that support UPnP (Universal Plug and Play) NAT traversal, extending the reach of video conferencing systems into homes and small businesses.
- **Easy configuration wizard** — The system setup wizard detects your network connections and guides you through configuring the system to work on an IP network or an ISDN.

Security

- **Use AES encryption** — Enable the AES encryption option to automatically encrypt calls to other AES-capable systems, without external encryption equipment.
- **Connect encryption equipment to the system** — Add the optional serial V.35/RS-449/RS-530 network interface module to the VSX 7000 or VSX 8000 system.
- **Use an optical dialing isolator** — The serial V.35/RS-449/RS-530 network interface module supports NSA-approved optical dialing isolators.
- **Control remote access** — The local administrator can specify which remote management interfaces can be used — FTP, Telnet, or the VSX Web interface. The local administrator may choose not to allow remote management.
- **Set the web access port** — Enhance call security by specifying the web access port to be used by VSX systems.

Remote Management

- **Room monitoring** — Administrators of VSX systems can monitor meeting rooms in or out of a call using the Web Director feature in VSX Web.
- **Language independence** — Use the VSX Web in your language to configure and administer systems running in any other language.
- **Secure remote management** — The local administrator's password on the system prevents users from changing system configuration while allowing you to manage the system remotely.
- **Remote system configuration** — Run the system setup wizard from your web browser to get the system up and running remotely.

- **Call Detail Reports** — Access the system's call history from VSX Web. You can download the data to a spreadsheet application for sorting and formatting.
- **Remote diagnostics** — Tools in VSX Web allow you to identify and correct issues that affect the user's experience.
- **SNMP Reporting** — VSX systems send SNMP reports to indicate a total of 31 conditions.

Options Available for VSX Systems

To extend what you do with your VSX system, additional options may be available. For information about ordering these options, please see your Polycom distributor.

Network

- **Quad BRI network interface module** — Connect to ISDN using up to four BRI lines.
- **PRI network interface module** — Connect to ISDN using a single PRI line.
- **Serial V.35/RS-449/RS-530 network interface module** — Connect third-party network equipment, including encryption equipment and NSA-approved optical dialing isolators. Adapter cables allow you to use the V.35 interface cables that are available for the ViewStation FX.

Content

- **People+Content data collaboration** — Share files from your computer during calls with the Visual Concert VSX for the VSX 6000 and VSX 7000, or the ImageShare II device for the VSX 8000.
- **Display graphics on a second monitor** — Connect a second monitor or a VGA projector so that you can view or make a presentation and still see the people at the far site. You can use this option in addition to the Visual Concert VSX.

Video and Audio

- **Stereo audio kit** — Experience the power of Polycom StereoSurround with speakers and a subwoofer tailored to the requirements of VSX systems.
- **Vortex audio mixer integration kit** — Connect a Polycom Vortex mixer for greater flexibility in the number and placement of microphones.
- **SoundStation VTX 1000 conference phone integration kit** — Use the VTX 1000 conference phone as the system microphone, place video calls by dialing from the VTX 1000 keypad, add a video site to a call between two VTX 1000 conference phones.
- **PowerCam™ or other additional camera** — Show a second view of the room, or show close-up views of documents and small objects by adding a Polycom PowerCam, document camera, or other S-video device. (VSX 7000 and VSX 8000 only)
- **Additional microphone pods** — Pick up voices from a larger area.

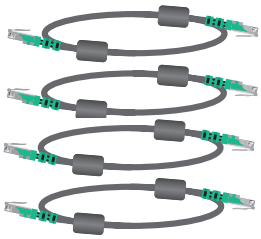
VSX Models

This section describes the standard components that come with the VSX Series systems.

Models with additional options are also available. For more information, please contact your Polycom distributor.

VSX 3000

Two models of VSX 3000 are available — IP only, and IP with ISDN.

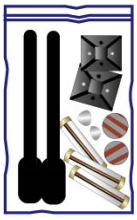
Name	Component	Description
VSX 3000		The VSX 3000 system delivers high-quality, video communication in an all-in-one appliance that includes the camera, LCD screen, speakers, and microphone.
Remote Control		The remote control is designed to make it easy to set up and operate the system — color-coded buttons correspond to system features.
LAN cable		Connect the system to the IP network with the LAN cable.
BRI cables (IP with ISDN model)		Connect the system to the ISDN with the BRI cables.
VGA cable		Save space in your office by using the VGA cable to connect your PC to the VSX 3000 17” high-resolution XGA display.

Name	Component	Description
Power supply		The power supply connects power to the system.
Documentation	 	Read Me First *Setting Up the VSX 3000 System* VSX documentation CD

VSX 6000

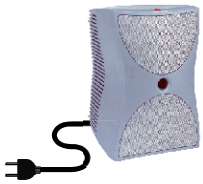
The VSX 6000 system includes the following components:

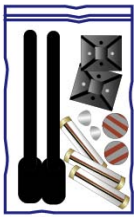
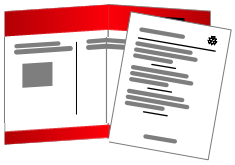
Name	Component	Description
VSX 6000		The VSX 6000 is an entry-level video conferencing system for IP networks only.
Microphone pod		The microphone pod provides audio input to the VSX 6000.
Remote Control		The remote control is designed to make it easy to set up and operate the system — color-coded buttons correspond to system features.
LAN cable		Connect the system to the IP network with the LAN cable.
Combination audio/video cable		Connect a monitor with the combination audio/video cable.
Conference link cable		Connect the microphone pod or the optional Visual Concert VSX data collaboration unit with the conference link cable.

Name	Component	Description
Hardware kit		The hardware kit includes: • Reusable cable ties • Cable tie mounts • Disks of hook-and-loop material • Vinyl feet • Batteries for the remote control
Documentation	 	Read Me First *Setting Up the VSX 6000 System* VSX Documentation Library on CD

VSX 7000

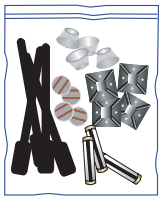
The VSX 7000 system includes the following components:

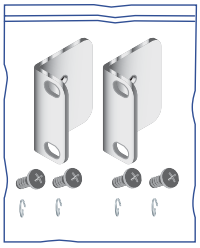
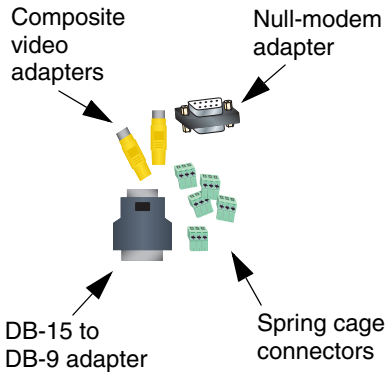
Name	Component	Description
VSX 7000		The VSX 7000 provides cutting-edge video conferencing technology for IP and other networks.
Subwoofer and power		The subwoofer provides additional depth to the sound, creating a high-quality sonic space comparable to a home theater system.
Microphone pod		The microphone pod provides audio input to the VSX 7000.
Remote Control		The remote control is designed to make it easy to set up and operate the system — color-coded buttons correspond to system features.
LAN cable		Connect the system to the IP network with the LAN cable.

Name	Component	Description
S-Video cable		Connect a monitor with the S-video cable.
Conference link cable		Connect the microphone pod or the optional Visual Concert VSX data collaboration unit with the conference link cable.
Hardware kit		The hardware kit includes: • Reusable cable ties • Cable tie mounts • Disks of hook-and-loop material • Vinyl feet • Batteries for the remote control
Documentation	 	Read Me First *Setting Up the VSX 7000 System* VSX Documentation Library on CD

VSX 8000

The VSX 8000 system includes the following components:

Name	Component	Description
VSX 8000		The VSX 8000 system is a compact rack-mount system for custom integration.
S-Video cable		Connect a monitor with the S-video cable.
S-Video adapters		Use with standard S-video cables to connect the main camera and main monitor to the system's BNC connectors.
Audio cable		Connect the system's audio output to the monitor or to an external audio system.
LAN cable		Connect the system to the IP network with the LAN cable.
Telephone cable		Connect the system to a telephone line.
Power cord		Connect the system to a power source.
Remote Control		The remote control is designed to make it easy to set up and operate the system — color-coded buttons correspond to system features.
Hardware kit		The hardware kit includes: • Reusable cable ties • Cable tie mounts • Disks of hook-and-loop material • Vinyl feet • Batteries for the remote control

Name	Component	Description
Rack-mount brackets and screws		Attach the brackets to the system if you need to mount it in a rack.
Adapters		Use the composite video adapters with VCR cables. The spring cage connectors fit the balanced audio and infrared sensor connectors on the system, and allow you to re-terminate cables if necessary. Use the null-modem adapter with a serial cable when connecting the VSX 8000 system to a modem for closed captioning. Use the DB-15 to DB-9 adapter when connecting a PowerCam to the camera 1 control connector.
Documentation		Read Me First *Setting Up the VSX 8000 System* VSX Documentation Library on CD

Other Equipment You Can Use with the VSX System

In addition to the accessories that come with your system, you can connect your choice of the following equipment:

VSX 3000

- **DVD or VCR** — Play material during a call.
- **Document camera** — You can show close-up views of documents and small objects by adding a document camera to your VSX 3000 system.
- **Headphones —** Listen privately by adding your own headphones using the 3.5 mm stereo mini jack.
- **Desktop speakers —** Obtain better audio if you place your system in a larger room.

VSX Room Systems

All Room Systems

- **DVD or VCR** — Play material during a call.
- **External speaker system** — Enhance the sound quality for calls in large rooms.

VSX 7000 and VSX 8000 Systems Only

- **DVD or VCR** — Record your video conferences. You can also connect two DVDs or VCRs to play material and record the conference at the same time.
- **Encryption devices** — Exchange information securely. The serial V.35/RS-449/RS-530 network interface module is required for external encryption equipment.
- **Stenographic equipment** — Connect stenographic equipment directly into the VSX system to add true Closed Captioning to video calls.

2

Setting Up Your System Hardware

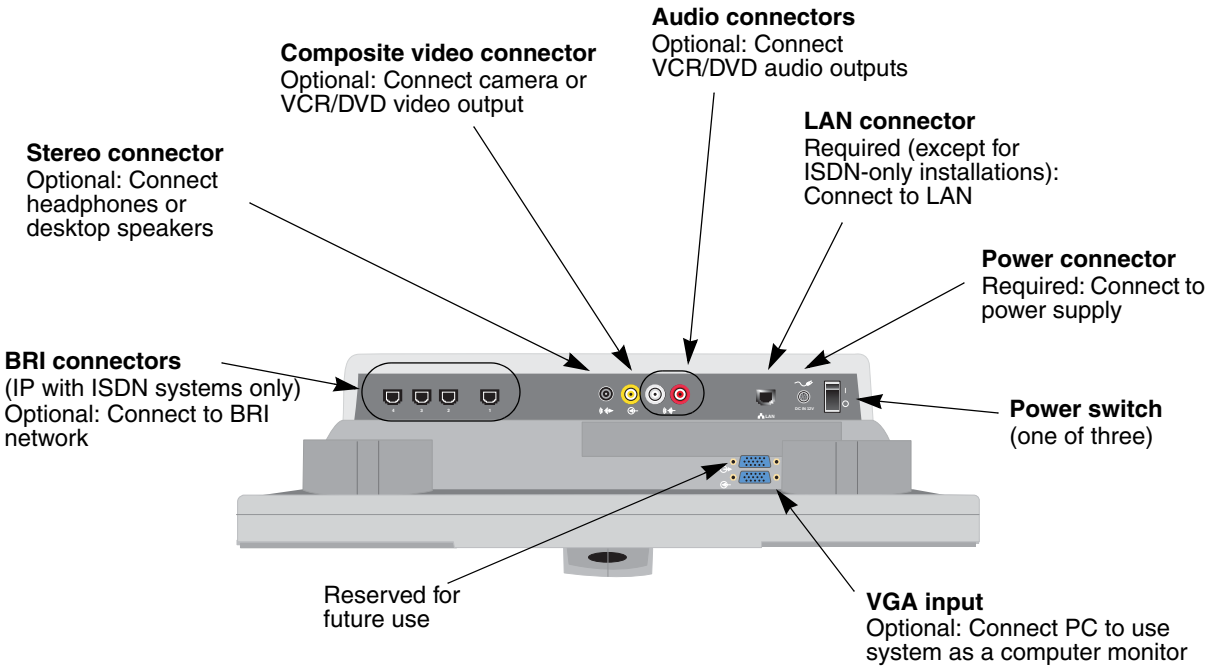
This chapter provides detailed system setup information. You can also refer to the system setup document that was provided with your system.

For optional components, you can refer to the setup sheet that was shipped with the component.

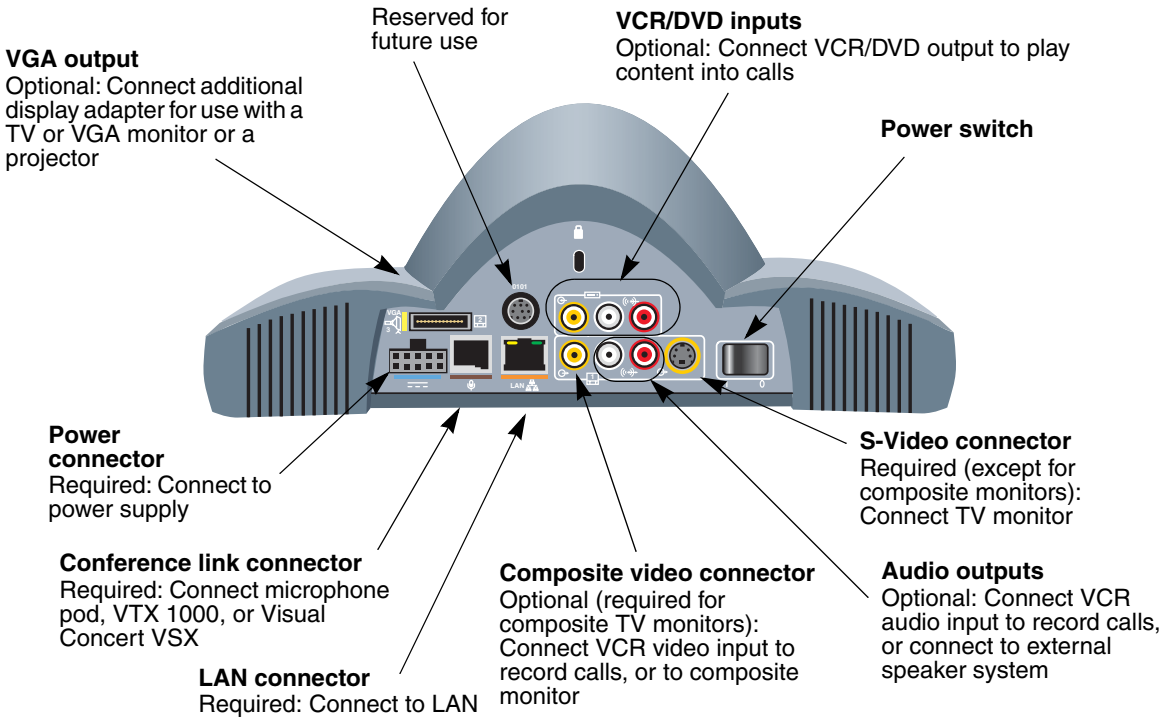
System Back Panel Views

VSX 3000 Back Panel

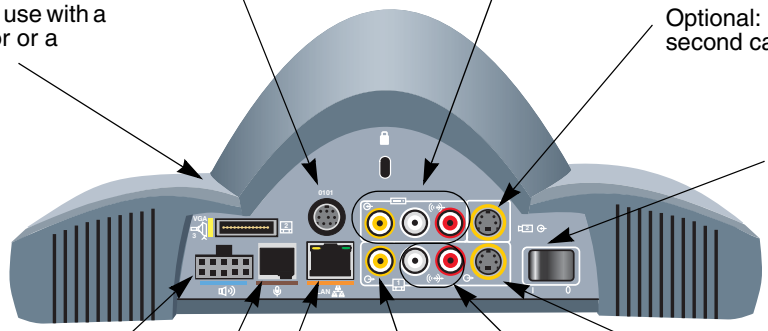
The connectors face downward on the VSX 3000 system. This is a view from underneath the system.



VSX 6000 Back Panel



VSX 7000 Back Panel



RS-232 port
Optional: Connect a touch-panel, second camera control, or other RS-232 device

VCR/DVD inputs
Optional: Connect VCR/DVD output to play content into calls

VGA output
Optional: Connect additional display adapter for use with a TV or VGA monitor or a projector

S-Video input
Optional: Connect a second camera

Power switch

Power connector
Required: Connect subwoofer

S-Video output
Required (except for composite monitors): Connect to TV monitor

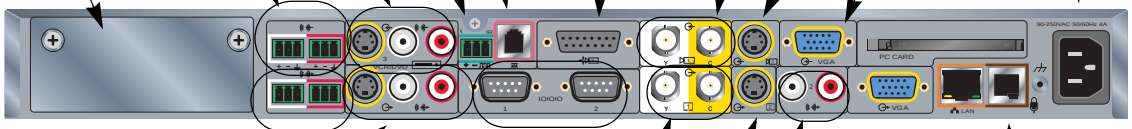
Conference link connector
Required: Connect microphone pod, VTX 1000, or Visual Concert VSX

Composite video connector
Optional (required for composite TV monitors): Connect VCR video input to record calls, or to composite monitor

Audio outputs
Optional: Connect VCR audio input to record calls, or connect to external speaker system

LAN connector
Required (except for ISDN-only installations): Connect to LAN

VSX 8000 Back Panel



IR sensor input
Optional: Connect external IR sensor

Camera 1 Y and C inputs
Required: Connect main camera

S-Video and audio inputs
Optional: Connect VCR/DVD to play

Analog phone connection
Optional: Connect analog phone line

S-Video input
Optional: Connect second camera

Balanced audio inputs
Optional: Connect mixer or powered microphones

Camera 1 control
Required: Connect camera 1 PTZ control

VGA input
Optional: Connect ImageShare II

Network interface bay
Optional: Install network interface module

Power connector
Required: Connect power cord

Balanced audio outputs
Optional: Connect mixer

Conference link connector
Required: Connect microphone pod, VTX 1000, or Visual Concert VSX

S-Video and audio outputs
Optional: Connect VCR/DVD to record

Monitor 1 Y and C outputs
Required: Connect main monitor

LAN connector
Required (except for ISDN-only installations): Connect to LAN

RS-232 ports
Optional: Connect touch-panel, camera control, or other RS-232 device

S-Video output
Optional: Connect second monitor

VGA output
Optional (required for single-monitor VGA installations): Connect VGA monitor or projector

Audio outputs
Optional: Connect external speaker system

Positioning the System

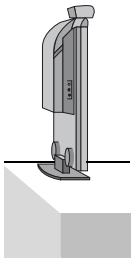
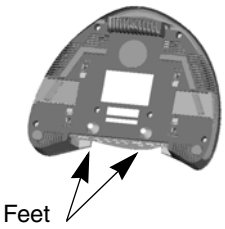
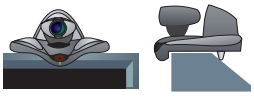
The VSX 3000 system is designed as a free-standing personal video conferencing system for the desktop. A 17-inch monitor, two microphones, and two speakers are built into the system.

The VSX 6000 and VSX 7000 systems are designed to be placed on top of a monitor.

The VSX 8000 system is designed as a tabletop or rack-mounted unit.

For best results, position the system so that the camera does not point directly at a window or other source of bright light.

To position the system:

For this system...	Do this
VSX 3000	Place the VSX 3000 on your desktop or on a table in a small conference room. Leave enough space to work, so that you can connect the cables easily. **Note:** When connecting the cables for the VSX 3000 system, keep the camera from touching the work surface. If you need to place the system face-down to connect the cables, make sure that the camera overhangs the work surface. **Note:** For information about using your VSX 3000 monitor as a PC monitor, see Connecting the VSX 3000 to a Computer on page 2-35. 
VSX 6000 VSX 7000	The hardware kit you received with the system includes a pair of self-adhesive feet. If the monitor's chassis slopes back sharply, you may need to install the feet on the bottom of the system to stabilize it. **1.** Install the feet on the system if necessary. **2.** Place the system in the desired location. Leave enough space to work, so that you can connect the cables easily. **Note:** Be sure to remove the packaging collar from around the VSX system camera before powering on the system.  

For this system...	Do this
VSX 8000	To mount the system in an equipment rack, you will need to attach the mounting brackets provided with the system. **1.** If necessary, install mounting brackets on the system.  **2.** Place the system in the desired location. Leave enough space to work, so that you can connect the cables easily. **3.** Position the camera on or near the monitor so that people look towards the camera during calls.
	To prevent injury when installing the VSX 8000 system in the Executive Collection Floor System, one person should hold the mounting tray open while a second person installs the system.

Connecting to the Network

All VSX systems can be connected to a LAN to make IP calls.

The VSX 3000 IP with ISDN system includes a Quad BRI network interface, which allows you to make ISDN calls using up to four BRI lines. The Quad BRI network interface is built in.

The following network interface modules are available with the VSX 7000 and VSX 8000 systems:

- **Quad BRI** — Allows you to connect to ISDN using up to four BRI lines.
- **PRI** — Allows you to connect to an ISDN network using a PRI line. This option is available for the VSX 7000 and the VSX 8000 systems.
- **V.35/RS-449/RS-530** — Allows you to connect to third-party network equipment, including encryption equipment and RS-366 dialers.

Connecting the System to the LAN

The VSX systems come standard with a LAN cable.

If you set up the VSX system as ISDN-only, it does not require a LAN connection to operate. You do need to connect the system to a LAN, however, to use the Global Directory Server, the VSX Web, and to update system software using the Polycom Softupdate program.

To connect the system to the LAN:

1. Connect the LAN cable to the LAN connector on the back of the system.
2. Connect the other end of the LAN cable to the LAN.

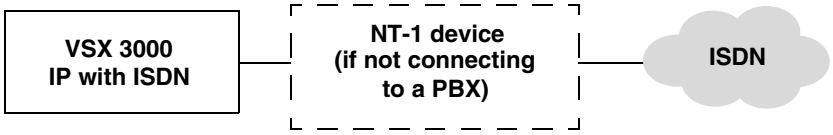
After you have finished setting up the system, you will need to configure it to work properly in your network. Refer to Configuring LAN Properties on page 3-4.

Connecting the VSX 3000 to a Quad BRI Network Interface

If you purchased the VSX 3000 IP with ISDN system, you will need:

- ❑ BRI network cables
- ❑ NT-1 device, if the system will be connected to a network that provides a U interface
- ❑ Up to 4 BRI lines that will not be shared with other equipment

The diagram below shows a general view of how to connect the VSX 3000 system to the ISDN using the Quad BRI network interface.



To connect the VSX 3000 System's Quad BRI interface:

1. Make sure the system is powered off.
2. Connect the BRI cables to the BRI connectors on the back of the system.

   If you do not connect BRI cables to all four ports, connect the ports in ascending order.
3. Connect the BRI cables to the ISDN or to the NT-1 device.
4. If you are using an NT-1 device, connect it to the ISDN.

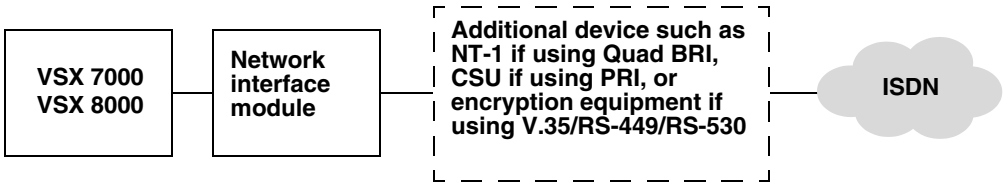
Installing and Connecting a Network Interface

If you received a network interface module with the VSX 7000 or VSX 8000 system, you may find it convenient to install it before positioning the system. In conjunction with this procedure, refer to the installation sheet that you received with the network interface module.

You will need the following network hardware if you purchased the Quad BRI, PRI, or serial V.35/RS-449/RS-530 network interface module:

If your network is...	You will need
BRI	• Quad BRI network interface module with cables • NT-1 device, if the system will be connected to a network that provides a U interface • Up to 4 BRI lines that will not be shared with other equipment **Note:** Do not use an NT-1 device if you connect the system to a PBX that provides an S/T interface.
PRI (North America)	• PRI network interface module with cable • North America: Channel Service Unit (CSU), if the system will not be connected to a PBX network • PBX crossover cable, if required for your PBX • PRI line
PRI (outside North America)	• PRI network interface module with cable • 75 W coaxial adapter, if the network connection is via a 75 W coaxial cable • PBX crossover cable, if required for your PBX • PRI line
Serial (V.35/RS-449/ RS-530)	• Serial V.35/RS-449/RS-530 network interface module • Third-party network equipment and cables

The diagram below shows a general view of how network interface modules are installed in VSX 7000 and VSX 8000 systems.



To install the network interface module:

For this system...	Do this
VSX 7000	**1.** Ensure that the system is powered off. **2.** Unplug the power cord. **3.** Loosen the captive screws holding the cover plate in place on the back of the subwoofer, and remove it. **4.** Slide the network interface module into the opening, and press firmly to seat the connector. **5.** Tighten the captive screws to secure the network interface module in the subwoofer.
VSX 8000	**1.** Ensure that the system is powered off. **2.** Unplug the power cord. **3.** Remove the screws holding the cover plate in place on the back of the system, and remove it. **4.** Slide the network interface module into the opening, and press firmly to seat the connector. **5.** Tighten the captive screws to secure the network interface module in the system.
Note: If your deployment requires additional equipment such as an NT-1 device, ensure that it is available, along with all cables required.	

The following table describes how to connect each network interface available for the VSX 7000 and VSX 8000 systems.

To connect the network interface:

For this interface...	Do this
Quad BRI 	1. Ensure that the system is powered off. 2. Connect the Quad BRI network interface module to the NT-1 device or to the ISDN, as appropriate. If you do not connect BRI lines to all four ports, connect the ports in ascending order. For example, if you use BRI lines 555-1212 through 555-1215, connect port 1 to 555-1212, line 2 to 555-1213, and so on. 3. If you are using an NT-1 device, connect it to the ISDN.
PRI 	1. Ensure that the system is powered off. 2. Connect the PRI network interface module to the ISDN network or to the CSU (North America only).
Serial V.35/RS-449/ RS-530 	1. Ensure that the system is powered off. 2. If you are using a serial V.35/RS-449/RS-530 network interface module, connect it to the appropriate terminal adapter using the appropriate cables. • If you are using the V.35 or RS-449 interface, you will need to connect an adapter cable to each port that you will use. • If you are using the RS-530 interface, you may be able to connect RS-530 cables without adapter cables. • If you use only one cable, connect it to port 1 of the network interface module and to the lowest-numbered port of the data communications equipment.

The first time you power on the system after installing a network interface module, the system displays the appropriate network configuration screen. Refer to Configuring Network Use on page 3-1 for information about the settings on the network configuration screens.

Connecting Third-Party Network Equipment

If you have installed a serial V.35/RS-449/RS-530 network interface module in your VSX 7000 or VSX 8000 system, you can connect cryptographic equipment or other third-party network equipment.

Refer to the manufacturer's documentation to connect the VSX 7000 or VSX 8000 system to third-party network equipment.

Connecting Video Equipment

Connecting a Camera

The following table shows the camera options available for VSX systems.

	VSX 3000	VSX 6000	VSX 7000	VSX 8000
Main camera	Integrated	Integrated	Integrated	Polycom PowerCam or PowerCam Plus PTZ camera
Second camera	Document	N/A	Document or second PTZ	Document or second PTZ
Other compatible cameras	N/A	N/A	NTSC • Sony® EVI-D30 • Sony EVI-D100 PAL • Sony EVI-D31 • Sony EVI-D100P	NTSC • Sony EVI-D30 • Sony EVI-D100 PAL • Sony EVI-D31 • Sony EVI-D100P

To connect Camera 1 to the VSX 8000 system:

For this camera...	Do this
PowerCam Plus 	**1.** Connect one end of the video and control cable to the S-video connector and the DB-15 connector on the PowerCam Plus camera. **2.** Connect the S-video cable connector on the free end of the cable to an S-video to BNC adapter. **3.** Connect the adapter's yellow BNC connector to the camera 1 C connector, and the white connector to the camera 1 Y connector on the system's rear panel. **4.** Connect the camera cable's DB-15 connector to the camera control connector on the rear panel of the system
PowerCam 	**1.** Connect the single end of the video and control cable to the PowerCam. **2.** Connect the S-video cable connector to an S-video to BNC adapter, and connect the adapter's yellow BNC connector to the camera 1 C connector, and the white connector to the camera 1 Y connector on the system's rear panel. **3.** Connect the camera cable's DB-9 connector to the DB-15 to DB-9 adapter. **4.** Connect the DB-15 to DB-9 adapter to the camera control connector on the rear panel of the system.
Other camera	**1.** Connect the camera's video cable to an S-video to BNC adapter. **2.** Connect the adapter's yellow BNC connector to the camera 1 C connector, and the white connector to the camera 1 Y connector on the system's rear panel. **3.** Connect the camera's PTZ cable to the camera 1 control cable. You may need to use the DB-15 to DB-9 adapter supplied with the system.

To connect a second camera:

For this system...	Do this
VSX 3000 	**1.** Connect a single RCA cable to the composite video connector on the camera and to the yellow connector on the back of the system. **2.** Connect the camera's power pack or cord to a power outlet.
VSX 7000 	**1.** Connect an S-video cable to the camera and to the camera 2 connector on the back panel of the system. or Connect a single RCA cable to the composite video connector on the camera and to the VCR/DVD video input. **2.** PTZ cameras: Connect the camera's control cable to the system's RS-232 port. **3.** Connect the camera's power pack or cord to a power outlet. **Note**: If you connect cameras or other devices to both the camera 2 S-video connector and the camera 2 composite connector, the system only accepts the signal from the S-video connector.
VSX 8000 	**1.** Connect one end of the yellow S-video cable to the camera. **2.** Connect the other end of the S-video cable to the camera 2 S-video connector on the system's rear panel. **3.** PTZ cameras: Connect the camera's control cable to one of the system's RS-232 ports. **4.** Connect the camera's power pack or cord to a power outlet.

After you have finished setting up the system, you will need to configure the camera's behavior. Refer to Configuring Camera Settings and Video Quality Options on page 4-2.

Connecting a Monitor

The VSX 3000 system comes with an integrated monitor.

If you have a VSX room system, you need to connect a monitor to the system. This may be an NTSC or PAL television monitor, depending on your system. If you have a VSX 8000 system, you may use a VGA monitor instead.

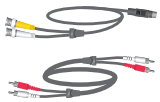
To prevent injury while positioning displays on the Executive Collection Floor System, two people should lift the display and a third person should help them to guide it into place.

If you have a VSX 6000 or VSX 7000 system, you can connect an additional television monitor to your system to view other call participants. If you want to display presentation materials from a computer, you can connect a VGA (computer) monitor instead of a second television monitor.

The VSX 8000 system allows you to connect both an additional TV monitor and a VGA monitor.

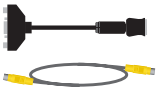
Polycom recommends using television monitors to show people. For high-resolution presentations, Polycom recommends using a VGA (computer) monitor or a projector.

To connect the main monitor to the VSX room system:

For this system...	Do this
VSX 6000  VSX 7000 	Connect the monitor to the monitor 1 S-video or composite video output. **Note**: S-video provides superior video quality, and is strongly recommended.
VSX 8000 	**1.** If you are using a television monitor, connect the S-video cable to the monitor's S-video input and to the system's Monitor 1 Y (white) and C (yellow) connectors, or If you are using a VGA monitor, connect the VGA cable to the monitor's VGA input and the system's VGA output. **2.** Use the audio cable to connect the monitor's audio inputs to the system's audio outputs.

After you have finished setting up the system, you will need to configure the monitor's behavior. Refer to Configuring Monitors on page 4-6.

To connect an additional monitor to a VSX room system:

For this system...	Do this
VSX 6000 VSX 7000 	1. Connect the additional display adapter cable option to the VGA output on the rear panel of the VSX system. The adapter allows you to connect a VGA, S-video, or composite video cable. 2. Connect the monitor to the additional display adapter cable using the appropriate cable. **Note**: You cannot connect a second television monitor directly to the system if you have already installed a VGA monitor or a projector. Only one connector on the additional display adapter can be active at any given time.
VSX 8000 	Connect the monitor to the system's monitor 2 output using an S-video cable, or Connect the VGA monitor to the system's VGA output using a VGA cable.

After you have finished setting up the system, you will need to configure the monitor's behavior. Refer to Configuring Monitors on page 4-6 and Configuring Content Display on page 4-9.

Connecting a VCR/DVD Player

You can connect a VCR or DVD to play material during a call. If you have a VSX 7000 or VSX 8000 system, you can also connect a VCR or DVD to record your video conference.

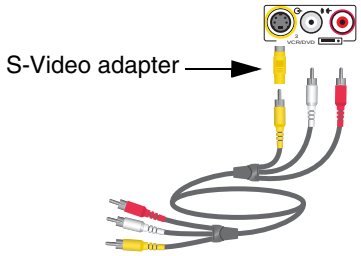
Composite video cable

Composite to S-Video adapter

To set up a VCR or DVD to play:

1. Place the VCR or DVD in a location that is easily accessible to call participants.
2. Connect the yellow, red, and white connectors of the composite video cable to the outputs on the VCR or DVD player.
3. Connect the other ends of the cable to the VCR inputs on the rear panel of the system.

If you are setting up a VSX 8000 system, you will need to connect a composite to S-video adapter to the video connector on the system end of the cable.



The VCR inputs are active when you select camera 3.

The microphone inputs remain active while the VCR/DVD is playing. Call participants may wish to mute the microphones while playing VCR/DVD content.

To connect a VCR or DVD to record:

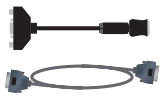
1. Connect the yellow, red, and white connectors of the audio and video cable to the inputs on the VCR or DVD player.
2. Connect the other ends of the cable to the VCR outputs on the rear panel of the system.

After you have finished setting up the system, you will need to configure the behavior of the VSX system when using a VCR or DVD player. Refer to Configuring VCR/DVD Player Settings on page 4-12.

Connecting a Projector

If you have a VSX room system, you can connect a projector to display presentation materials from a computer.

To connect a projector to a VSX room system:

For this system...	Do this
VSX 6000 VSX 7000 	**1.** Connect the additional display adapter cable option to the VGA output on the rear panel of the system. The adapter allows you to connect a VGA, S-video, or composite video cable. **2.** Connect the projector to the additional display adapter cable using the appropriate cable. **Note**: You cannot connect a VGA monitor directly to the system if you have already installed a second monitor or a projector. Only one connector on the additional display adapter can be active at any given time. You can connect a projector directly to the Visual Concert VSX unit's VGA output, instead of using the system's additional display adapter.
VSX 8000 	Connect the projector to the system's VGA output using a VGA cable.

After you have finished setting up the system, you will need to configure the projector's behavior. Refer to Configuring Content Display on page 4-9.

Connecting Audio Equipment

Connecting System Microphones

The VSX 3000 system comes with an integrated microphone.

The VSX room systems can be ordered with microphone pods or a SoundStation VTX 1000 conference phone.

Do not connect a microphone pod if you connect a SoundStation VTX 1000 conference phone to the system.

The following configurations are valid for VSX room systems:

VSX 6000, VSX 7000

VSX System → Microphone

VSX System → Microphone → Visual Concert VSX

VSX System → Visual Concert VSX → Microphone

VSX 7000 Only

VSX System → Microphone → Visual Concert VSX → Microphone

VSX System → Visual Concert VSX → Microphone → Microphone

VSX System → Microphone → Microphone → Visual Concert VSX

VSX 7000, VSX 8000

VSX System → Microphone

VSX System → Microphone → Microphone

VSX System → Microphone → Microphone → Microphone

Stereo is not available with three microphone pods connected.

Positioning Microphones

To connect microphones:

1. Connect the end of the conference link cable with a ferrite bead to the system's conference link connector.

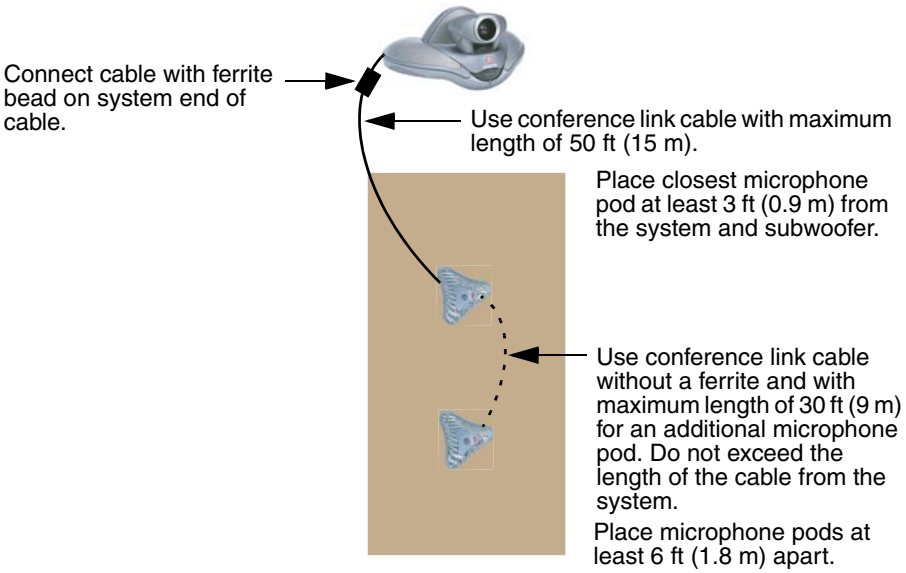
The microphone pod has two identical receptacles for cables. You may connect the conference link cable to either connector.

2. Connect the other end of the cable to the microphone pod.
3. Place the microphone pod at the end of the conference table nearest the system.
4. If you have a VSX 7000 or VSX 8000, you can connect two or three microphone pods. To connect an additional microphone pod:
   a. Connect a conference link cable to the available connector on the microphone pod that you connected in the previous step.
   b. Connect the additional microphone pod to the conference link cable.

For best audio, place microphone pods:

- ❑ On a hard, flat surface (table, wall, or ceiling) away from obstructions, so the sound will be directed into the microphone elements properly.
- ❑ Between the monitor and the seats closest to the monitor.
- ❑ In large conference rooms, it may be necessary to place the microphone pods farther away from the main camera than the closest seats.

After you have configured audio settings and tested the microphone pods as described in Designing Audio Behaviors on page 4-15, mount or fasten the microphones in place so that people will not move them during meetings.



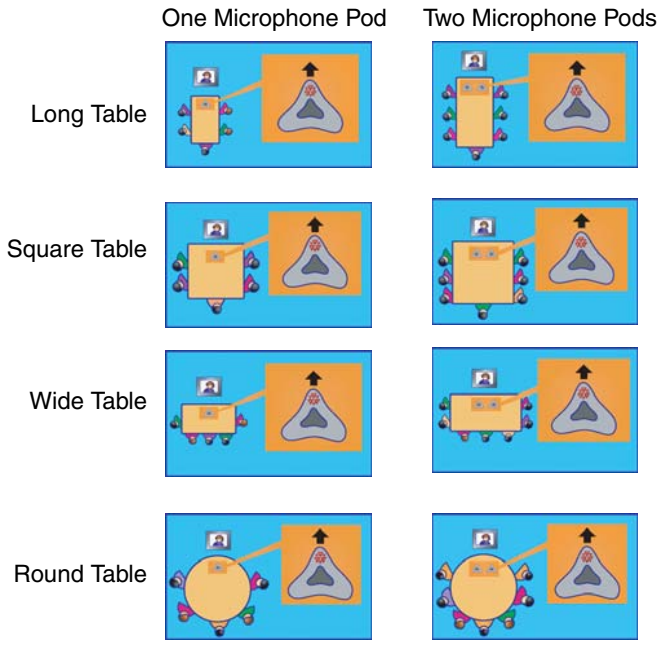
Positioning Microphones to Send Stereo

The VSX room systems allow you to send stereo using one or two microphone pods.

Polycom recommends using two microphone pods with VSX 7000 and VSX 8000 systems in large rooms.

The microphone pod contains a microphone array. If you connect a single microphone pod to the system with StereoSurround enabled, one microphone element picks up audio from the left side of the room, one picks up the right side of the room, and the third is disabled, as shown in the following diagram.

The following illustrations show microphone placement for different room types. In all room configurations, the logo on each microphone pod should be pointing toward the monitor. The microphone pod closest to the monitor should be parallel with, or in front of, the person nearest the monitor.



After you have configured audio settings and tested the microphone pods as described in Designing Audio Behaviors on page 4-15, mount or fasten the microphones in place so that people will not move them during meetings.

Connecting Speakers and Headphones

The VSX 3000 system allows you to connect desktop speakers or headphones.

To enhance the sound quality in large rooms, you can connect an external speaker system to a VSX room system.

A StereoSurround option kit designed for use with VSX systems is available from Polycom. This kit includes two speakers and a subwoofer.

Connecting Speakers or Headphones to the VSX 3000 System

You can connect desktop speakers to provide better audio for the VSX 3000 system if you place it in a large room, or you can connect headphones to listen to calls privately.

To connect desktop speakers to the VSX 3000:

1. Connect the cable from the desktop speakers to the system's audio output on the back panel. This connector provides conference audio only.
2. Connect the speakers' power supply to a power source.

To connect headphones to the VSX 3000:

>> Connect the cable from the headphones to the headphone connector on the front of the system.
If you have connected a PC to the VSX 3000 system, audio from the PC will be heard over the headphones along with the conference audio. Connecting headphones will also turn off the PC's internal speakers.

Connecting and Positioning Speakers for use with VSX Room Systems

You may connect external speakers to the VSX room system to take full advantage of Polycom's StereoSurround feature, or to enhance the sound in large rooms.

After you have finished setting up the system, you will need to configure the behavior of the external speaker system. Refer to Designing Audio Behaviors on page 4-15.

When you power on the external speaker system after completing the installation, you will need to select the audio source to which you connected the cable (CD or aux).

To connect an external speaker system and position the speakers:

1. Connect the VSX system's audio outputs to the external speaker system's CD or auxiliary line in.
2. Connect speakers to the external speaker system's speaker outputs.
3. Place the speaker or speakers near the main monitor. If you are using two speakers, place one on each side of the monitor.
4. If you are using a subwoofer, place it beside a wall or in a corner near the speakers.

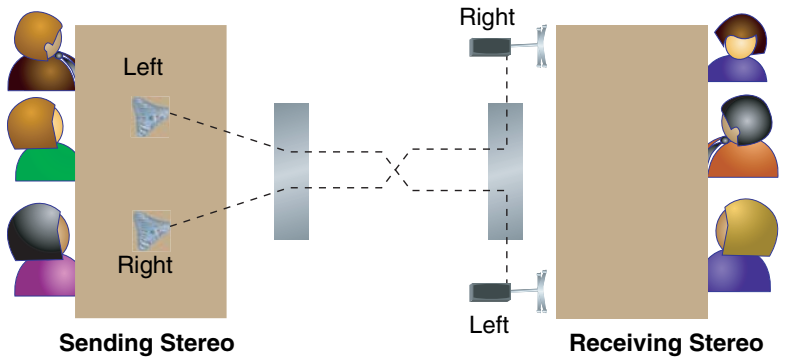
If you are not setting up the system to receive stereo, you may use a single speaker instead of two.

Connecting and Positioning Speakers to Receive Stereo

You may use your monitor's speakers to receive stereo.

You cannot receive stereo with a VSX 7000 using the system's built-in speaker.

When you set up the system for StereoSurround, the left microphone and speaker should be on the left from the local room perspective. The system reverses the left and right channels for the far site, as shown in the following illustration. This ensures that the sound comes from the appropriate side of the room.

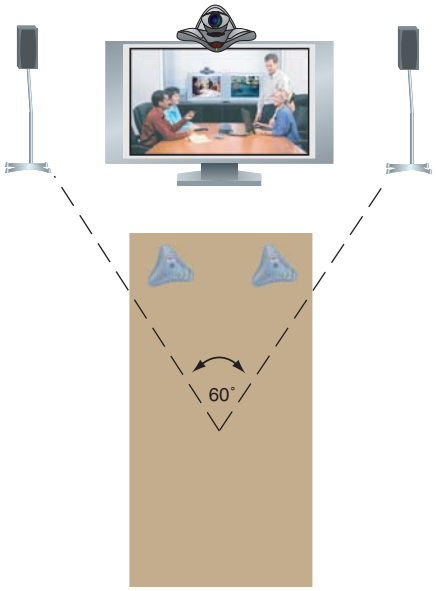


To connect an external speaker system and position the speakers to receive stereo:

1. If you are using the Polycom StereoSurround kit, connect the speakers and subwoofer as shown in the setup sheet provided with the StereoSurround kit.

   If you are using a third-party external speaker system, connect the VSX system's audio outputs to the external speaker system's CD or auxiliary line in, and connect speakers to the external speaker system's speaker outputs.

2. Place the speaker connected to the audio system's right channel on the right side of the system, and the other speaker on the left side. For best results, place the speakers about 60° apart as seen from the center of the conference table.



3. If you are using a subwoofer, place it beside a wall or in a corner near the speakers.

Setting the Volume for External Speakers

Setting the volume too high or too low can interfere with echo cancellation.

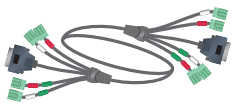
To set the volume:

>> For best echo cancellation, set the external speaker system's volume control at the level of normal speech.
To adjust the volume during calls, use the volume button on the remote control.

Connecting a Mixer and Powered Microphones

You can connect several studio-type microphones to the VSX 8000 system through an audio mixer, or you can connect two powered microphones directly to the VSX 8000 system.

The VSX 8000 is designed to work with the Polycom Vortex mixer. For this configuration, you need Vortex firmware 2.5.2 or later, Conference Composer™ version 2.7.0 or later, and VSX system software version 7.5 or later.



To connect a Vortex mixer to the VSX 8000 system:

1. Connect the mixer's Line Out C to the balanced audio left channel input (white) at the left end of the VSX 8000 system's rear panel.
2. Connect the mixer's Line In C to the balanced audio left channel (white) output.
3. Connect the mixer's Line Out D to the balanced audio right channel input (red) at the left end of the VSX 8000 system's rear panel.
4. Connect the mixer's Line In D to the balanced audio right channel (red) output.
5. Connect the mixer's RS-232 port to one of the system's RS-232 ports.

After you have finished setting up the system, you will need to configure the mixer's behavior. Refer to Designing Audio Behaviors on page 4-15.
You will also need to configure the mixer according to the documentation supplied with it.

To connect a powered microphone to the VSX 8000 system:

>> Connect the microphone to one of the system's balanced audio inputs.

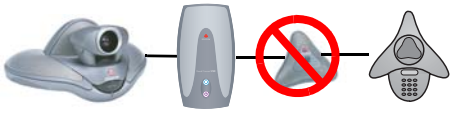
After you have finished setting up the system, you will need to configure the system to use the powered microphones. Refer to Designing Audio Behaviors on page 4-15.
You can configure the system to provide power to the microphones.

Connecting a VTX 1000 Conference Phone

If you have a VSX room system, you can connect a SoundStation VTX 1000 conference phone in place of a microphone pod.

To take advantage of the latest integration features, the VSX system requires version 7.5 or later software and the VTX 1000 requires version 1.5 or later software.

The following table shows valid and non-valid equipment configurations using the VTX 1000 conference phone.

These are valid:	These are not valid:
	
	

These are valid:	These are not valid:
	

To connect a SoundStation VTX 1000 conference phone to a VSX room system:

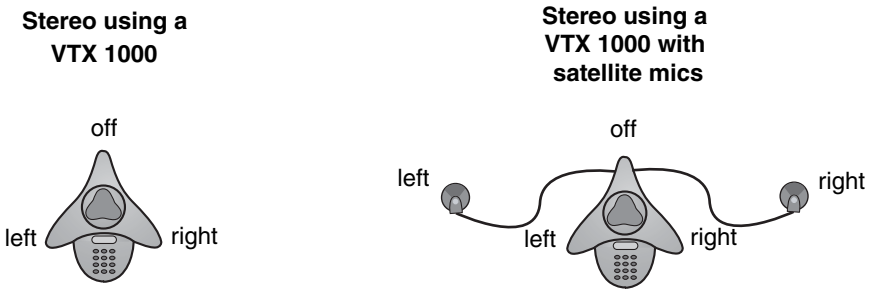
1. Do one of these things:
   - Use the long VSX to VTX cable to connect the VTX 1000 conference phone to the VSX system, or
   - Use the short VSX to VTX cable to connect the VTX 1000 conference phone to a Visual Concert VSX unit that is connected directly to a VSX 6000 or VSX 7000 system.
2. Set up the VTX 1000 conference phone according to the documentation supplied with it. Do not connect the conference phone's subwoofer.

After you have finished setting up the equipment, you will need to configure the system to work with the VTX 1000. Refer to Configuring General Audio Settings on page 4-15.

Connecting and Positioning a VTX 1000 to Send Stereo

The VSX room systems allow you to send stereo using a VTX 1000 conference phone, with or without satellite microphones.

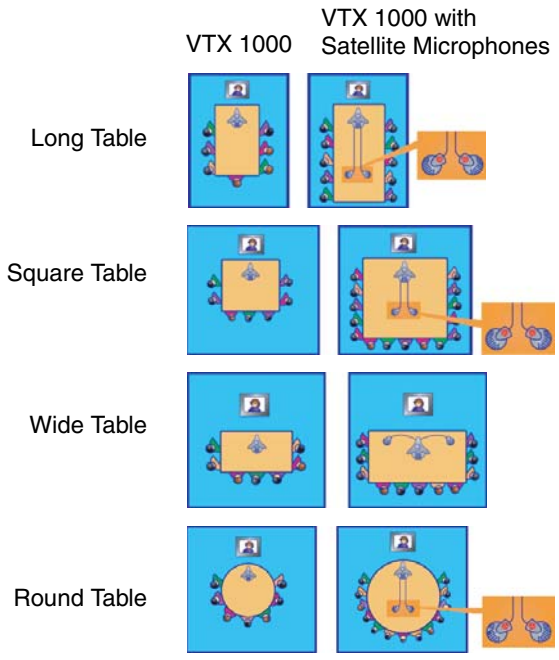
The VTX 1000 contains a microphone array. When StereoSurround is enabled, one microphone element picks up audio from the left side of the room, one picks up the right side of the room, and the third is disabled, as shown in the following diagram.



To connect and position a VTX 1000 conference phone to send stereo:

>> Position the VTX 1000 to send stereo, as shown in the following illustrations.

- The keypad should be pointing away from the monitor.
- The VTX 1000 should be parallel with, or in front of, the person nearest the monitor.



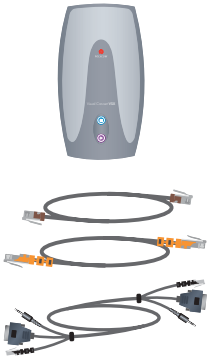
Connecting Data Collaboration Equipment

If you have a VSX 6000 or VSX 7000 system, you can share content from your computer using a Visual Concert VSX data collaboration unit.

If you have a VSX 8000 system, you can share content from your computer using an ImageShare II data collaboration unit.

After you have finished setting up the system, you will need to configure the system to work with the data collaboration equipment. Refer to Configuring Content Display on page 4-9.

Connecting a Visual Concert VSX



You may connect a Visual Concert VSX unit to the VSX 6000 or VSX 7000 system along with two microphone pods.

To connect a Visual Concert VSX data collaboration unit to the system:

1. Connect a conference link cable to the available connector on the microphone pod and to one of the conference link connectors on the Visual Concert VSX unit.

   The Visual Concert VSX and microphone pod(s) may be placed in any order.

2. Connect the LAN uplink connector on the Visual Concert VSX to the LAN. The LAN uplink connector is on the side farthest from the buttons.

   This allows the Visual Concert VSX to provide LAN connections for up to three computers.

Do not connect the Visual Concert VSX unit's LAN uplink connector to the VSX system system. The two devices require separate LAN connections.

The Visual Concert VSX provides VGA output at a screen resolution of 1024 x 768 pixels, with a refresh rate of 60 Hz.

The screen resolutions and refresh rates of the connected laptop and the Visual Concert VSX must be set the same. If they are not the same, other people may not see the entire image.

Refer to *Setting up the Visual Concert VSX* for additional set up information. The *Quick Tips for Visual Concert VSX* provides information for people using the device in meetings.

Connecting an ImageShare II

If you have purchased the ImageShare II device for use with the VSX 8000 system, connect it as follows:

To connect an ImageShare II data collaboration unit to the system:

1. Connect the VGA portion of the ImageShare II unit's cable to the VSX 8000 system's VGA input.
2. Connect the audio connector on the ImageShare II unit's cable to an audio adapter.
3. Connect the audio adapter to the VCR audio input connectors, to the left of the infrared sensor connector.
4. When you are ready to connect a PC, use the PC cable to connect the PC's VGA monitor output and headphone output to the ImageShare II unit.

You will need to change the system's audio configuration to send audio from your computer to the far site. Refer to Designing Audio Behaviors on page 4-15.

If you have connected a mixer, the VSX 8000 mixes the audio signals from the mixer and from the ImageShare II unit.

Connecting the VSX 3000 to a Computer

If you have a VSX 3000 system, you can save space in your office or conference room by connecting your computer to the VSX 3000 17-inch, high-resolution XGA display.

To connect a computer to the VSX 3000 system:

1. Connect the VGA cable from the VGA connector on the back of the VSX 3000 system to the VGA connector on your computer.
2. To use the system's built-in speakers for your computer's audio, connect an audio cable from your computer to the audio input connector on the left side of the VSX 3000 system.

Connecting Control Devices

Connecting RS-232 Devices

The VSX 7000 system provides an RS-232 port; the VSX 8000 system provides two. You can use the RS-232 interface to:

- ❑ Control the system through a touch-panel using the API
- ❑ Provide PTZ control for an additional camera
- ❑ Provide control for a Polycom Vortex mixer
- ❑ Connect a modem and use a closed captioning service
- ❑ Pass data from a device connected to your system to a device connected to the far site system

You will need to configure the RS-232 equipment according to the manufacturer's instructions, and you will need to configure the RS-232 (serial) port on the system exactly the same way.

To connect a modem to receive closed captioning:

1. Connect a null-modem adapter to the RS-232 port.
2. Connect an RS-232 cable to the modem and to the null-modem adapter.
3. Connect the modem to a phone line.

You may need to configure the modem to answer automatically. You may also need to configure it to ignore DTR. The baud rate and flow control of the modem and VSX system should match, if the modem is configurable.

After you have finished setting up the system, you will need to configure the RS-232 port to receive closed captioning. Refer to Configuring for Use with a Modem on page 4-23.

Connecting an IR Sensor

If you install a VSX 8000 system out of the range of the remote control (for example, in a separate equipment room), you may wish to connect an external infrared (IR) sensor and place it in the conference room. This allows you to control the system without pointing the remote at the main camera.

The VSX 8000 system is compatible with the following IR sensors:

- ❑ Xantech® 480-00
- ❑ Xantech 490-90
- ❑ Xantech 780-80
- ❑ Xantech 780-90

The VSX 8000 system is not compatible with the external IR sensor for the VS4000 system.

To connect an infrared sensor to a VSX 8000 system:

>> Connect the sensor's cable to the infrared sensor input to the left of the POTS (analog phone line) connector.

Powering On the System

The VSX 3000 and VSX 6000 systems have external power supplies.

Do not use any power supply other than the one supplied with your VSX system. Using the wrong power supply will void the warranty and may damage your system.

The VSX 7000 system comes with a separate subwoofer. Power to the system is supplied through the subwoofer.

Do not connect the power cord to a wall outlet until you have connected all standard and optional equipment to the system.

To connect power and power on the system:

For this system...	Do this:
VSX 3000	**1.** Connect the power supply to the power connector on the back of the system. **2.** Connect the power cord to the power supply. **3.** Plug the power supply into an electrical outlet. **4.** Press the power switch near the connectors on the back of the system. **5.** Press the power switch on the lower back corner back of the monitor. **6.** Press the power button on the front of the monitor.
VSX 6000	**1.** Connect the power supply to the power connector on the back of the system. **2.** Connect the power cord to the power supply. **3.** Plug the power supply into an electrical outlet. **4.** Press the power switch on the back of the system.
VSX 7000	**1.** Place the subwoofer directly below the main monitor, if possible. If you install the VSX 7000 system in a cart or cabinet, ensure that the subwoofer is not enclosed behind a solid door. Placing any solid object in front of the subwoofer interferes with the sound. **2.** Connect the subwoofer cable to the power connector on the back of the system. **3.** Connect the power cord to the subwoofer. **4.** Plug the subwoofer into an electrical outlet. **5.** Press the power switch on the back of the system.
VSX 8000	**1.** Connect the power cord to the power connector on the back of the system. **2.** Plug the power cord into an electrical outlet. **3.** Press the power switch on the front of the system. The light turns green.

3

Configuring Network Use

This chapter lists the information you need to get your network ready for video conferencing. Once you've gathered that information, you can begin configuring the system's network options. Details on how to perform this configuration are also included in this chapter.

When you power on your system for the first time, the setup wizard detects the system's IP and ISDN connections and leads you through the minimum configuration steps required to place a call.

If you need to change any of the initial settings to accommodate your organization's environment, you can manually adjust them using the screens described in this chapter.

Note that if you establish an administrator's password during the setup wizard, you will need to enter it each time you wish to change administrative settings.

Getting the Network Ready

Before you begin configuring the network options, you must make sure your network is ready for video conferencing.

To begin, refer to the *Preparing Your Network for Collaboration* document, available at www.polycom.com/videodocumentation. This document contains information you need to prepare your network, such as worksheets that will help you order ISDN.

Network Connectivity Checklist

You will need this information to make and receive video calls at your site:

If...	This information:	Should be provided by your:
Your system is using a static IP address	IP address	IP Network Service Provider or system administrator
	System name	System administrator
Your network uses a gatekeeper	Gatekeeper address	IP Network Service Provider or system administrator
Your system is behind a firewall	Firewall information	IP Network Service Provider or system administrator
You are using BRI or V.35/RS-449/RS-530	ISDN address (for BRI, PRI or V.35/RS-449/RS-530 capability)	ISDN Service Provider
You are using ISDN and are in North America	SPIDs (North America only)	ISDN Service Provider
You are using ISDN	ISDN switch protocols	ISDN Service Provider

Configuring with the Setup Wizard

When you power on your system for the first time, the setup wizard detects the system's IP and ISDN connections and leads you through the minimum configuration steps required to place a call. If you need more information about these steps, refer to the corresponding sections in this chapter.

This guide covers network types used worldwide. Please note that not all network types are available in all countries.

The setup wizard allows you to set an administrator password, which allows you to limit access to the Admin Settings.

If you set an administrator password, make sure you remember it. If you forget the password, you will have to reset the system, delete the system files, and run the setup wizard again in order to access the Admin Settings and reset the password. You cannot set the administrator password from a remote location.

You can run the setup wizard or view the configuration screens in either of these two ways.

- **In the room with the system** — Use the remote control to navigate the screens and enter information. You can use the number pad on the remote control to enter text just like you can with a cell phone.
- **From a remote location** — Use a web browser to access VSX Web. To do this, you need to know the IP address of the system. Polycom recommends using Microsoft® Internet Explorer 6.0 or later.

You can use VSX Web to configure all of the system settings except the remote management settings. These settings must be configured on the local system by an administrator. For more information about VSX Web, refer to Accessing VSX Web on page 5-2.

Configuring LAN Properties

If your system is part of a LAN, use this section to configure the system to work with the LAN.

To configure LAN properties:

1. Go to **System > Admin Settings > LAN Properties**.
2. Configure these settings:

Setting	Description
Connect to my LAN	Specifies whether the system is part of the LAN. Changing this setting causes the system to restart.
Allow IP Calls	Enables the system to make and receive IP calls.
Host Name	Indicates the system's DNS name. Changing this setting causes the system to restart.
IP Address	Specifies how the system obtains an IP address. • **Obtain IP address automatically** — Select if the system gets an IP address from the DHCP server on the LAN. • **Enter IP address manually** — Select if the IP address will not be assigned automatically. Changing this setting causes the system to restart.
Your IP Address is or **Use the Following IP Address**	If the system obtains its IP address automatically, this area displays the IP address currently assigned to the system. If you selected **Enter IP Address Manually**, enter the IP address here. Changing the IP address causes the system to restart.
Domain Name	Displays the domain name currently assigned to the system. If the system does not automatically obtain a domain name, enter one here.

3. Select  and configure these settings:

Setting	Description
DNS Servers	Displays the DNS servers currently assigned to the system. If the system does not automatically obtain a DNS server address, enter up to four DNS servers here. Changing this setting causes the system to restart.
Default Gateway	Displays the gateway currently assigned to the system. If the system does not automatically obtain a gateway IP address, enter one here. Changing this setting causes the system to restart.
Subnet Mask	Displays the subnet mask currently assigned to the system. If the system does not automatically obtain a subnet mask, enter one here. Changing this setting causes the system to restart.
WINS Server	Displays the WINS server currently assigned to the system. If the system does not automatically obtain a WINS server IP address, enter one here. Changing this setting causes the system to restart.
WINS Resolution	Sends a request to the WINS server for WINS name resolution.
LAN Speed	Specify the LAN speed to use. Note that the speed you choose must be supported by the switch. Choose **Auto** to have the network switch negotiate the speed automatically. If you choose 10 Mbps or 100 Mbps, you must also select a duplex mode. **Note**: Be sure that the device and the switch settings match. Typically, selecting **Auto** for both is sufficient. The LAN speed setting for the VSX system and the router must match. Polycom strongly recommends that you do not select **Auto** for either just the VSX system or just the router; the settings for both must be the same. Typically, selecting **Auto** for both is sufficient. Changing this setting causes the system to restart.
Duplex Mode	Specify the Duplex mode to use. Note that the Duplex mode you choose must be supported by the switch. Choose **Auto** to have the network switch negotiate the Duplex mode automatically. Changing this setting causes the system to restart.

Configuring IP Network Support

Use the following sections to configure the system so that users can place and receive video calls using IP on your LAN or WAN:

- ❑ H.323 Settings, includes Gatekeeper and Gateway
- ❑ SIP Settings
- ❑ Quality of Service
- ❑ Firewall or NAT
- ❑ Streaming

Specifying H.323 Settings

If your network uses a gatekeeper, the system can automatically register its H.323 name and extension. This allows others to call the system by entering the H.323 name or extension instead of the IP address.

To specify H.323 settings:

1. Go to **System > Admin Settings > Network > IP > H.323 Settings**.
2. Configure these settings:

Setting	Description
Enable IP H.323	Specifies whether to allow IP dialing.
Display H.323 Extension	Lets users placing a gateway call enter the H.323 extension separately from the gateway ID. If you do not check this box, users make gateway calls by entering the call information in this format: gateway ID + ## + extension
H.323 Name	Specifies the name that gatekeepers and gateways use to identify this system. You can make point-to-point calls using H.323 names if both systems are registered to a gatekeeper. The H.323 Name is the same as the System Name, unless you change it. Your organization's dial plan may define the names you can use.

Setting	Description
H.323 Extension (E.164)	Lets users place point-to-point calls using the extension if both systems are registered with a gatekeeper, and specifies the extension that gatekeepers and gateways use to identify this system. The default H.323 Extension is based on the system serial number, but it can be changed. Your organization's dial plan may define the extensions you can use.

Configuring the System to Use a Gatekeeper

A gatekeeper is a "network administrator" that supervises network traffic and manages functions such as bandwidth control and admission control. The gatekeeper also handles address translation, which allows users to make calls using static aliases instead of IP addresses that may change each day.

To configure the system to use a gatekeeper:

1. Go to **System > Admin Settings > Network > IP > H.323 Settings**.
2. Select  and configure these settings:

Setting	Description
Use Gatekeeper	Specifies whether to use a gatekeeper. Gateways and gatekeepers are required for calls between IP and ISDN. • **Off** — Calls do not use a gatekeeper. • **Auto** — System automatically finds an available gatekeeper. • **Specify** — Calls use the specified gatekeeper. Enter the gatekeeper's IP address or name (for example, gatekeeper.companyname.usa.com, or 255.255.255.255).
H.323 Name	Specifies the name that gatekeepers and gateways use to identify this system. You can make point-to-point calls using H.323 names if both systems are registered to a gatekeeper. The H.323 Name is the same as the System Name, unless you change it. Your organization's dial plan may define the names you can use.
H.323 Extension (E.164)	Lets users place point-to-point calls using the extension if both systems are registered with a gatekeeper, and specifies the extension that gatekeepers and gateways use to identify this system. The default H.323 Extension is based on the system serial number, but it can be changed. Your organization's dial plan may define the extensions you can use.

Setting	Description
Outbound Call Route	For systems using a gatekeeper, specifies whether calls initiated by this system should be handled as IP calls sent through a gateway or as ISDN.
Gatekeeper IP Address	If you chose to use an automatically selected gatekeeper, this area displays the gatekeeper's IP address. If you chose to specify a gatekeeper, enter the IP address here.
Alternate Gatekeepers	If you chose to specify a gatekeeper, you can specify other gatekeepers that the system can use if the primary gatekeeper is not available.
Use PathNavigator for Multipoint Calls VSX 3000 VSX 7000 VSX 8000	Lets you specify whether multipoint calls use the system's internal multipoint capability or the PathNavigator Conference on Demand feature. This feature is available only if the system is: Configured for multipoint calling, and Registered with a PathNavigator gatekeeper.

Using PathNavigator's Conference on Demand Feature

If your organization uses Polycom's PathNavigator™, you can use PathNavigator's Conference on Demand feature to place multipoint calls with up to 10 sites.

In order to place calls using PathNavigator, you need to:

- Register your VSX system with PathNavigator.
- Configure your VSX system to use PathNavigator for multipoint calls (see Configuring the System to Use a Gatekeeper on page 3-7).
- Create a multi-site entry in the directory.

When using PathNavigator's Conference on Demand:

- Once the call begins, users cannot add another site to the call — even if the site was in the call originally.
- The MGC needs to have enough ports available to complete the call. If it does not, the call disconnects.

Configuring the System to Use a Gateway

A gateway performs code and protocol conversion between IP and ISDN, so that users on different networks can call one another. If the system is configured to use a gateway, you must also configure it to use a gatekeeper.

To configure the system to use a gateway:

1. Go to **System > Admin Settings > Network > IP > H.323 Settings.**
2. Select  three times and configure these settings:

Setting	Description
Country Code	Specifies the country code for the system's location.
Area Code	Specifies the area or city code for the system's location.
Number	Specifies the gateway's number.
H.323 Extension (E.164)	Specifies the extension that identifies this system for incoming gateway calls. The default H.323 Extension is based on the system serial number, but it can be changed.
Gateway Number Type	Specifies the number type users enter to call this system: • **Direct Inward Dial** — Users enter an internal extension to call this system directly. **Note**: If you choose this option, you must also register the number with the gatekeeper as an E.164 alias. • **Number + Extension** — Users enter the gateway number and the system's extension to call this system.
Number of Digits in DID Number	Specifies the number of digits in the DID number. The national or regional dialing plan for your location determines the standard number of digits. For instance, the US standard is 7 digits.
Number of Digits in Extension	Specifies the number of digits in the extension used when **Number + Extension** is selected. Your organization's dial plan determines this number.

3. Select  and enter a prefix or suffix for each bandwidth you want to allow for gateway calls.

Associating prefixes and suffixes with particular bandwidths on your gateway can optimize the use of bandwidth by your organization. Be sure to configure the gateway to use the same prefixes and suffixes you define for the system.

Specifying SIP Settings

If your network supports the Session Initiation Protocol (SIP), you can use SIP to connect IP calls.

To specify SIP Settings:

1. Go to **System > Admin Settings > Network > IP > SIP Settings**.
2. Configure these settings:

Setting	Description
Enable SIP	Allows the system to make calls using SIP.
Transport Protocol	Indicates the protocol the system uses for SIP signaling. The SIP network infrastructure in which your VSX system is operating determines which protocol is required. For example, if your VSX system is operating in a Microsoft Live Communication Server (LCS) SIP network, choose **TCP**. If your VSX system is operating in a Nortel Multimedia Communication Server (MCS) SIP network, choose **UDP**.
User Name	Specifies the system's SIP name. If you leave this field blank, the system's IP address is the SIP user name.
Password	Specifies the password that authenticates the system to the Registrar Server.
Proxy Server	Specifies the DNS name or IP address of the SIP Proxy Server. If you leave this field blank, no proxy server is used. By default, the SIP signaling is sent to port 5060 on the proxy server. To specify a different port, add it to the address as shown here: 255.255.255.255:5070
Registrar Server	Specifies the name or IP address of the SIP Registrar Server. By default, the SIP signaling is sent to port 5060 on the registrar server. To specify a different port, add it to the address as shown here: 255.255.255.255:5070

Specifying Quality of Service

Set the Quality of Service options for the way your network handles IP packets during video calls.

To specify Quality of Service:

1. Go to **System > Admin Settings > Network > IP > Quality of Service**.
2. Configure these settings:

Setting	Description
Type of Service	Specifies your service type and lets you choose how to set the priority of IP packets sent to the system for video, audio, and far-end camera control: • **IP Precedence** — Represents the priority of IP packets sent to the system. The value can be between 0 and 5. If this option is selected, enter the value in the **Type of Service Value** field. • **DiffServ** — Represents a priority level between 0 and 63. If this option is selected, enter the value in the Type of Service Value field.
Type of Service Value	Specifies the IP Precedence or Diffserv value for Video, Audio, and Far End Camera Control.
Enable PVEC	Allows the system to use PVEC (Polycom Video Error Concealment) if packet loss occurs.

3. Select  and configure these settings:

Setting	Description
Dynamic Bandwidth	Specifies whether to let the system automatically find the optimum line speed for a call.
Maximum Transmit Bandwidth	Specifies the maximum transmit line speed between 56 Kbps and 1920 Kbps.
Maximum Receive Bandwidth	Specifies the maximum receive line speed between 56 Kbps and 1920 Kbps.

Configuring the System for Use with a Firewall or NAT

A firewall protects an organization's network by controlling data traffic from outside the network. Unless the firewall is designed to work with H.323 video conferencing equipment, you must configure the system and the firewall to allow video conferencing traffic to pass in and out of the network.

Network Address Translation (NAT) network environments use private internal IP addresses for devices within the network, while using one external IP address to allow devices on the LAN to communicate with other devices outside the LAN. If your system is connected to a LAN that uses a NAT, you will need to enter the **NAT Public (WAN) Address** so that your system can communicate outside the LAN.

To set up the system to work with a firewall or NAT:

1. Go to **System > Admin Settings > Network > IP > Firewall**.
2. Configure these settings:

Setting	Description
Fixed Ports	Lets you specify whether to define the TCP and UDP ports. • If the firewall is not H.323 compatible, enable this option. The VSX system assigns a range of ports starting with the TCP and UDP ports you specify. The system defaults to a range beginning with port 3230 for both TCP and UDP. **Note**: You must open the corresponding ports in the firewall. You must also open the firewall's TCP port 1720 to allow H.323 traffic. • If the firewall is H.323 compatible or the system is not behind a firewall, disable this option.
TCP Ports **UDP Ports**	Lets you specify the beginning value for the range of TCP and UDP ports used by the system. **Note**: You must also open the firewall's TCP port 1720 to allow H.323 traffic.

Setting	Description
NAT Configuration	Lets you specify whether the system should determine the NAT Public WAN Address automatically. • If the system is behind a NAT that allows HTTP traffic, select **Auto**. • If the system is behind a NAT that does not allow HTTP traffic, select **Manual**. • If the system is not behind a NAT or is connected to the IP network through a Virtual Private Network (VPN), select **Off**. • If the system is behind a firewalled NAT router that is UPnP (Universal Plug and Play) certified, select **UPnP**. Many routers used in homes and small businesses support UPnP NAT traversal. If this is your situation, try selecting **UPnP** first. If this selection does not work for your router, select **Auto** or **Manual**.
NAT Public (WAN) Address	Displays the address that callers from outside the LAN use to call your system. If you chose to configure the NAT manually, enter the NAT Public Address here.
NAT is H.323 Compatible	Specifies that the system is behind a NAT that is capable of translating H.323 traffic.
Address Displayed in Global Directory	Lets you choose whether to display this system's public or private address in the Global Directory.

Systems deployed outside a firewall are potentially vulnerable to unauthorized access. Visit the Polycom Security Center at www.polycom.com for timely security information. You can also register to receive periodic email updates and advisories.

Configuring ISDN Support

You can add one optional network interface module to the VSX 7000 and VSX 8000 systems. This lets you extend the functionality of the systems so that you can:

- ❑ Make ISDN calls over a BRI network.
- ❑ Make ISDN calls over a PRI/T1 network (in North America) or PRI/E1 (outside of North America).
- ❑ Connect encryption or other third-party network equipment using a Serial V.35/RS-449/RS-530 interface.

The VSX 3000 (IP with ISDN model) systems support the Quad BRI network interface for ISDN calling.

This section describes the settings for all optional network interfaces and identifies the settings that are available only for specific network interfaces.

You can configure a network interface option only if the corresponding network interface module is installed. The system automatically detects the type of interface installed and displays only the required configuration screens.

Configuring the Quad BRI Network Interface

To configure the ISDN network interface settings:

1. Go to **System > Admin Settings > Network > ISDN**.
2. Configure these settings:

Setting	Description
Enable ISDN H.320	Allows this system to make H.320 (ISDN) calls.
Number of ISDN Channels to Dial in Parallel	Specifies how many channels to dial at one time. You can specify up to eight channels. If you experience network problems, decrease the number.
Outside Line Dialing Prefix	Specifies the ISDN dialing prefix used to call outside the network.
ISDN Switch Protocols	Specifies the protocol used by your network's switch.
ISDN Voice Algorithm	Specifies which voice algorithm (**aLaw** or **uLaw**) is used for ISDN voice calls. Do not change this setting unless you experience audio issues in all ISDN voice calls.
Auto BRI Configuration	Allows the NI-1 switch to automatically configure the directory numbers and SPIDs. This setting is only available if you have selected the NI-1 switch protocol.

3. Select and configure these settings:

Setting	Description
Area Code	Specifies the area code for this system's location.
Directory Numbers	Specifies the numbers assigned to the B1 and B2 channels for each BRI line. The two numbers for a line may be the same or different, depending on the switch protocol in use.
Enable	Specifies whether to enable the associated ISDN line. If you selected Standard ETSI Euro-ISDN protocol, you must enable all BRI lines that you expect to be active, and you must not enable lines that will not be connected. You may want to disable a particular line if there are problems with the line that generate continuing error messages.

The ISDN BRI Numbers screen also displays the country selected as the system's location and the country code used for international calls to the system. To specify the system's location, go to **System > Admin Settings > General Settings > Location**. The system automatically supplies the country code when you specify the country.

4. If you have configured the ISDN switch protocol to be AT&T 5ESS Multipoint, NI-1, or Nortel DMS-100, select and enter the ISDN BRI SPIDs provided by your service provider.

   After you enter the SPIDs, the system verifies them. If the system is unable to verify the SPIDs, make sure the system is connected and that the ISDN numbers you entered are correct.

   If you do not have the SPIDs from your service provider, you can click **Start** to Auto Detect SPIDs.

Configuring the PRI Network Interface

To use the PRI network interface, you must configure the following:

- ❑ PRI network support
- ❑ PRI channels
- ❑ PRI information

Your ISDN service provider can tell you which protocol your network uses. If you later change the Country setting, the PRI switch protocols available may also change, and you may be prompted to configure a different PRI switch protocol.

To configure the ISDN network interface settings:

1. Go to **System > Admin Settings > Network > ISDN**.
2. Configure these settings:

Setting	Description
Enable ISDN H.320	Allows this system to make H.320 (ISDN) calls.
Area Code	Specifies the area code for this system's location.
PRI Video Number	Specifies the ISDN number assigned to this system.
Outside Line Dialing Prefix	Specifies the ISDN dialing prefix used to call outside the network.
BONDING: Calling Endpoint Uses the Original ISDN Number	Specifies the use of a bonding standard. Incoming bonded calls will use the original number received to connect all remaining lines required for the call.

3. Select  and configure these settings:

Setting	Description
Line Signaling	Specifies the framing format in use. This setting is configurable for PRI E1, read-only for PRI T1.
External CSU North America only	Specifies whether this system uses an external or internal Channel Service Unit (CSU).

Setting	Description
Line Build Out PRI T1 only	For systems using an internal CSU, indicates the output attenuation in dB. Your service provider can provide you with these values. For systems using an external CSU, indicates the length (in feet) of the RJ-45 cable that connects the PRI network interface module to the CSU.
Switch Protocol	Specifies the Network switch protocol. The available choices are determined by the system's country settings. This setting is read-only for PRI E1, configurable for PRI T1.
ISDN Voice Algorithm	Specifies which voice algorithm (**aLaw** or **uLaw**) is used for ISDN voice calls. Do not change this setting unless you experience audio issues in all ISDN voice calls.

4. Select  and configure these settings:

Setting	Description
Numbering Plan	Select the appropriate numbering plan for your location, if it differs from the default.
International Dialing Prefix	Specify the dialing prefix needed for international calls.
Call-by-Call	Specifies a code that the system sends to the telephone company switch to request a special service, if such a code is required. Consult your telephone service provider to determine the proper call-by-call value.
Number of ISDN Channels to Dial in Parallel	Specifies how many channels to dial at one time. You can specify up to eight channels. If you experience network problems, decrease the number.
Restore Defaults	Resets all values on this screen. This does not affect other PRI settings.

To access PRI Information:

1. Go to **System > Admin Settings > Network > ISDN**.
2. Select three times to go to the **ISDN PRI Info** screen where you can view the following read-only information:

Setting	Description
PRI Line Type	Displays read-only information about the system and its configuration.
Number of Active Channels	
D Channel Location	
Network Mode	
Clock Source	
Terminal Endpoint ID TEI	
Line Termination PRI E1 only	

To configure the PRI channels:

1. Go to **System > Admin Settings > Network > ISDN**.
2. Select four times to go to the **ISDN PRI Status** screen.
3. Select a channel to activate or deactivate it. Active channels are represented by a green icon, and inactive channels are represented by a gray icon.

Channels should be activated and deactivated only by a knowledgeable network professional.

Configuring the Serial V.35/RS-449/RS-530 Network Interface

If you have a VSX 7000 or VSX 8000 system, the optional serial V.35/RS-449/RS-530 network interface allows you to connect to data communications equipment using a V.35, RS-449, or RS-530 serial interface.

To configure the V.35/RS-449/RS-530 network interface settings:

1. Go to **System > Admin Settings > Network > V.35/RS-449/RS-530**.
2. Configure these settings:

Setting	Description
Enable V.35/RS-449/RS-530	Allows the system to connect to a terminal adapter using a V.35, RS-449, or RS-530 connection.
V.35 Ports Used	Specifies whether one or two lines are connected.
RS-366 Dialing	Allows users to dial calls from this system. Uncheck this box if this is a dedicated connection or if another device is used for dialing calls.
Area Code **Port 1** **Port 2**	Specifies the area code and number(s) that other sites dial to reach this system. If this is a dedicated connection, leave these fields blank.

3. Select  and configure these settings:

Setting	Description
Prefix	Lets you specify the dialing prefix required to reach an outside line.
Calling Profile	Lets you specify what data communications equipment is connected to the network interface. The system automatically displays the default prefixes, suffixes, and calling speeds required by that device. If your device is not listed, select **Custom**.
Speed	Lets you define the prefixes or suffixes to use for each speed used in a Custom Calling Profile. For information about required prefixes and suffixes, see the documentation that came with the device. If you choose a predefined Calling Profile, this information is supplied for you.

4. Select  and configure these settings:

Setting	Description
ST	Lets you specify the signaling required by the external device connected to the system. Specify normal or inverted, as appropriate. In most cases, normal signaling is appropriate. If your system is connected to Ascend equipment, you may need to set CTS to **Ignore**.
RT	
RTS	
CTS	
DSR	
DCD	
DTR	
Answer on DSR	Specifies that the system should begin the call when it detects a DSR signal.
Delayed DCD Hangup	Specifies how long the system waits to end the call after a DCD signal is lost (for example, during a call via satellite).
DTR Pulse Duration (secs)	Specifies how long the DTR signal goes low after the far site hangs up. When the pulse is too short, the call may not clear. If your system is connected to ADTRAN equipment, you may need to adjust DTR pulse duration.

5. Select  and configure these settings:

Setting	Description
Crypto Resync	Allows a VSX system connected to cryptographic equipment to signal when it loses video synchronization during a call. The cryptographic equipment can then resynchronize with the far site.
Use RTS Signal for Resync Pulse	Allows the system to send the resynchronization pulse on the RTS signal. Select this setting if your data communications equipment uses the V.35 or RS-449 capability of the serial V.35/RS-449/RS-530 network interface. **Note**: When you check this box, the RTS no longer functions as the Request To Send signal.
Time Between Pulses (sec)	Specifies whether the system should set the time between resync pulses automatically or use the number of seconds you enter.
Pulse Width (millisec)	Specifies whether the system should set the pulse duration automatically or use the number of milliseconds you enter.

6. Select and configure these settings:

Setting	Description
Enable Broadcast Mode	Enables support for H.331 broadcast transmissions from the VSX system. Broadcast mode enables the system to send video and audio to many other system, such as large satellite networks.
Enable People+Content	Enables People+Content for broadcast mode.
Video Format	Specifies the resolution at which video is transmitted.
Video Protocol	Specifies the protocol used to transmit video. Choose the lowest protocol supported by all systems in the conference.
Audio Protocol	Specifies the protocol used to transmit audio.
Frame Rate	Specifies the frame rate to use.

Configuring Telephony

You can use a SoundStation VTX 1000 conference phone with the VSX 6000, VSX 7000, and VSX 8000 systems to place video calls, or to add video to audio calls.

To take advantage of the latest integration features, the VSX system requires version 7.5 or later software and the VTX 1000 requires version 1.5 or later software.

You can connect an analog phone line to the VSX 8000 to make regular telephone calls with the system or to add audio-only participants to video calls.

To configure telephony options:

1. Go to **System > Admin Settings > Network > Telephony**.
2. Configure these settings:

Setting	Description
Room Telephone Number	Enter the telephone number of the room where the system is located.
System Telephone Number VSX 8000	Specifies the analog phone number of the VSX 8000 system, including country and area codes for the system's location.

Setting	Description
VTX Telephone Number VSX 6000 VSX 7000 VSX 8000	Specifies the number of the VTX 1000 conference phone that is connected to the system.
Outside Line Dialing Prefix	Specifies the dialing prefix used to call outside the network.

To configure the analog phone line (POTS line) for the VSX 8000 system:

Go to this screen:	Configure these settings:
Telephony System > Admin Settings > Network > Telephony	Enter the **System Telephone Number** for the analog phone line.
Call Preference System > Admin Settings > Network > Call Preference	**Enable Analog Phone**.
Network Dialing System > Admin Settings > Network > Call Preference > Next	Add **Analog Phone** to the dialing order **Note**: By setting the Dialing Order, you specify the behavior of the dialing method rollover feature.

Configuring Call Preferences

Call preferences help you manage the network bandwidth used for calls. You can specify the default and optional call settings for outgoing calls. You can also limit the call speeds of incoming calls.

To choose call preferences:

1. Go to **System > Admin Settings > Network > Call Preference**.
2. Configure these settings:

Setting	Description
Enable H.239	Specifies standards-based People+Content data collaboration.
Enable IP H.323	Allows the system to make IP calls.
Enable SIP	Allows the system to use SIP when connecting IP calls.
Enable ISDN H.320	Allows the system to make ISDN calls. This selection is only available on the VSX 7000 or VSX 8000 system when a BRI or PRI network interface module is installed, and on VSX 3000 systems with a BRI network interface.
Enable Voice Over ISDN	Allows the system to make voice-only calls to phones connected to an ISDN network, such as an organization's PBX.
Enable V.35/RS-449/ RS-530	Allows the system to make calls through your third-party network equipment. This selection is only available on the VSX 7000 or VSX 8000 system when a V.35/RS-449/RS-530 network interface module is installed.
Enable Analog Phone VSX 8000	Allows the system to make voice-only calls to any phone using an analog phone line.

3. Select  to go to the **Network Dialing** screen and specify the Dialing Order preference for the available choices.

If the sites in your directory have both IP and ISDN numbers, these settings determine your network preferences for placing the call.

4. Select  to go to the **Preferred Speeds** screens and configure these settings:

Setting	Description
Preferred Speed for Placing Calls	Determines the speeds that will be used for calls from this system when: • Call Quality is set to **Auto** on the home screen and Directory screen, or • The Call Quality option is not available for users. If the far-site system does not support the selected speed, the system automatically negotiates a lower speed.
Maximum Speed for Receiving Calls	Allows you to restrict the bandwidth used when receiving calls. If the far site attempts to call the system at a higher speed than selected here, the call is re-negotiated at the speed specified in this field.

5. Select  to go to the **Call Speeds** screen and specify the call speeds to make available to users, if you are allowing them to choose speeds on a call-by-call basis.

Configuring the Global Directory

If your organization uses the Polycom Global Management System™, you can configure your system to use the Global Directory. The Global Directory provides a list of other system that are registered with the Global Directory Server and available for calls. The other systems appear in the Directory, allowing users to place calls to other users by selecting their names.

Configuring the Directory Server Settings

To configure the Directory Server settings:

1. Go to **System > Admin Settings > Global Services > Directory Servers**.
2. Configure these settings:

Setting	Description
Global Directory (GDS)	Specifies the IP address or DNS address of the Global Directory Server. You can enter up to five addresses.
Register	Registers this system with the Global Directory Server.
Password	Lets you enter the Global Directory password, if there is one.
Display Global Addresses	Displays other registered systems in the Global Directory.
Display Name in Global Directory	Specifies whether to display the system's name in the Global Directories of other registered systems.
Save Global Directory to System	Copies the Global Directory to this local system.

Setting the Dialing Rules

If your system is connected to your organization's private network and also to a public network, you may need to specify the codes and prefixes necessary for dialing other systems.

To set the dialing rules:

1. Go to **System > Admin Settings > Global Services > Dialing Rules**.

2. Configure these settings:

Setting	Description
Always Dial Area Code	Specifies that calls to sites in the same area code must include the area code.
Dial 1+ for all USA calls	Specifies that calls to systems in the United States must include a "1" before the area code.

Placing a Test Call

When you finish configuring the system, you can use one of the sample numbers in the directory to test your setup.

To place a test call:

1. On the Place a Call screen, select **Directory**.
2. Select **Category**.
3. Select **Sample Sites** and highlight a location.
4. Press **Call** on the remote control.

You can also find a list of worldwide numbers that you can use to test your VSX system at www.polycom.com/videotest.

If you have trouble making video calls:

- ❑ Make sure the number you dialed is correct, then try the call again. For example, you may need to dial 9 for an outside line or include a long distance access code or country code.
- ❑ To find out if the problem exists in your system, ask the person you were trying to reach to call you instead.
- ❑ Find out if the system you are calling has its power turned on and is functioning properly.
- ❑ If you can make calls but not receive them, make sure that your system is configured with the correct number.

Checking System Status

The System Status screen provides detailed information about system settings, IP and ISDN connections, time server connections, and other information that is important to the functioning of the system. For an explanation of any of the status items, select the item and press on the remote.

When there is a change in system status or a potential problem, you see an alert at the bottom of the Place a Call screen.

To view System Status information:

>> Go to **System > Diagnostics > System Status**.

To get information about a status message:

>> Select the status message and press or on the remote control.

Keeping your Software Current

If you have Internet access and a software key, you can use the web-based Softupdate application to update the VSX Series software. If you do not have Internet access, your reseller can supply you with the VSX Series software update on CD-ROM.

To update your software via the Internet:

1. Before you begin, read the *Release Notes*, available at the Polycom Resource Center at www.polycom.com, for information about the latest software version.
2. Find your product page at the Polycom Product Resource Center, and download the VSX Series software update file in .zip format.
3. Double-click the software.zip file to extract the file.
4. Double-click **Softupdate.exe** to run the update program.

Do not power off the system during the software update process. If the update is interrupted, the system reverts to its original software version.

4

Customizing the VSX System

Every organization has users with different needs. With a VSX system, you can design the video conferencing experience to meet the needs of everyone.

You can customize the look and behavior of the system, and then build in the required access levels for your users, depending on how much or how little you want them to change system behaviors.

When you set up the system for the first time, the system is configured with the most commonly used settings. If you need to change any of these initial settings, you can adjust the screen settings as described in this chapter.

If you established an administrator's password during the initial configuration, you must enter it each time you change advanced settings.

Designing Video Behaviors

You can configure the following video behaviors to accommodate your environment:

- ❑ Camera Settings and Video Quality
- ❑ Monitors
- ❑ Content Display
- ❑ VCR/DVD Player Settings

Configuring Camera Settings and Video Quality Options

The Cameras and Video Quality screens let you specify camera and video settings, as appropriate for the equipment you are using.

To configure camera and video settings:

1. Go to **System > Admin Settings > Cameras**.
2. Configure these settings:

Setting	Description
Far Control of Near Camera VSX 6000 VSX 7000 VSX 8000	Specifies whether the far site can control the position of the near-site camera. When this option is selected, a user at the far site can control the framing and angle of the camera for the best view of the near site.
Backlight Compensation	Specifies whether to have the camera automatically adjust for a light background. Backlight compensation is best used in situations where the subject appears darker than the background.
Camera Brightness VSX 3000	Specifies how much light is let into the camera's iris. A low number allows in less light; a high number allows in more light.
Primary Camera	Specifies which camera is the main camera.

Setting	Description
Camera Direction VSX 6000 VSX 7000 VSX 8000	Specifies the direction the camera moves when using the arrow buttons on the remote control.
VCR/DVD Audio Out Always On VSX 8000	Allows you to record a call using one VCR or DVD, while playing recorded content into the call from a second VCR or DVD. Do not select this setting if you have only one VCR or DVD connected.

3. Select and add names and specify icons for each video source.
4. Select to go to **Video Quality**.
5. Select **Motion** or **Sharpness** for the video inputs:
   - **Motion** — Moving people or objects move smoothly, but the picture may lose some detail. This setting is best for an auxiliary camera or a VCR.
   - **Sharpness** — The picture will be sharp and clear, though motion may not be smooth. Choose this setting for document cameras.

Sharpness is available in point-to-point H.263 calls only.

6. Specify when to use Pro-Motion for video inputs set for motion. Pro-Motion™ provides 50/60 fields per second interlaced video for TV-like quality at higher bandwidths.

The VSX 3000 system offers Pro-Motion for the DVD/VCR video input only.

The VSX 6000 can receive Pro-Motion video but cannot transmit it.

To configure a second camera (VSX 3000, VSX 7000, VSX 8000):

Go to this screen:	Configure these settings:
Cameras System > Admin Settings > Cameras	• Designate this as the **Primary Camera,** if desired. • Set **Camera Direction** to specify which way the camera moves when you control it with the remote control. (VSX 7000, VSX 8000)
Camera Settings System > Admin Settings > Cameras > Next	**1.** Name the camera. **2.** Select a camera icon. **3.** If you used an RCA to mini-DIN adapter to connect the camera cable, change the **Video Format** to **Composite.** (VSX 8000)
Video Quality System > Admin Settings > Cameras > Next > Next	Set the video quality (**Motion** for people video or **Sharpness** for still images).
Serial Port VSX 7000, VSX 8000 System > Admin Settings > General Settings > Serial Port	If it is a PTZ camera: **1.** Set the **RS-232 Mode** to **Sony PTZ** camera control. **2.** Specify which camera is associated with this port.

Setting Camera Presets

Camera presets are stored camera positions that you can create ahead of time or during a call.

Presets allow users to:

- ❑ Automatically point a camera at pre-defined locations in a room.
- ❑ Select a video source such as a VCR or DVD player, a document camera, or an auxiliary camera.

If your system's main camera supports electronic pan, tilt, and zoom movement, you can create up to 100 preset camera positions for the near site. Each preset stores the camera number, its zoom level, and the direction it points (if appropriate). Near-site presets are available for VSX room systems. They remain in effect until you delete or change them.

To store a preset:

1. If you are in a call, press **Near** or **Far** on the remote control to choose a near-site or far-site camera or other video source.
2. If you selected a camera that supports electronic pan, tilt, and zoom, you can adjust the camera's position:
   - Press the arrow buttons on the remote control to move the camera up, down, to the left, or to the right.
   - Press **Zoom** to zoom the camera out or in.
3. Press **Preset** on the remote control.
4. Press and hold a number to store the preset position. To store a double-digit preset (10-99), hold the second number down.

Any existing preset stored at the number you enter is replaced.

To delete all presets:

1. If a call is connected, press **Near** to choose a near-site video source.
2. Press **Preset** on the remote control.
3. Press **Delete** to delete all presets.

Configuring Monitors

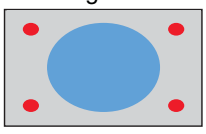
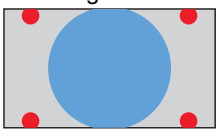
The VSX system allows you to customize displays to suit your room and equipment configuration, including choosing the monitor for presenting content.

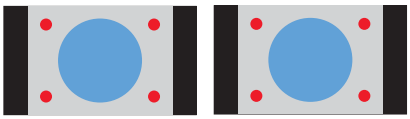
To configure monitors:

1. Do one of the following:

   - **VSX room systems**
     Go to **System > Admin Settings > Monitors > Monitors**.
   - **VSX 3000**
     Go to **System > Admin Settings > Monitor**.

2. Configure these settings:

Setting	Description
Monitor 1 VSX 6000 VSX 7000 VSX 8000	Specifies the monitor's aspect ratio and format: • **4:3** — Select if you are using a regular TV monitor. • **16:9** — Select if you are using a wide screen monitor and configuring for dual-monitor emulation. • **S-Video** — Select if the main monitor is connected to a VSX 8000 system using an S-Video cable. • **Composite** — Select if the main monitor is connected to a VSX 8000 system using a composite video cable and S-Video to RCA adapter. • **VGA** — Select if you are using a VGA monitor as the primary display device for a VSX 8000. The supported resolution is SVGA 800 x 600 at 60 Hz. If this option is selected, Monitor 2 is disabled. You can set a wide-screen monitor to 16:9 to resize the UI screens even if you do not configure it for dual-monitor emulation. The far-site video is displayed in the same way for both settings. **Note**: If you select 16:9, you will also need to set up the monitor for full-screen display. In the monitor's setup menu, choose the setting that stretches the picture uniformly without clipping the edges. Use this setting:  Not this setting: 

Setting	Description
Monitor 2 VSX 6000 VSX 7000 VSX 8000	Specifies the second monitor behavior: • **Off** — Select if you do not have a second monitor. • **4:3** — Select if you are using a regular TV monitor as the second monitor. • **S-Video** — Select if you have a second monitor connected to the system's S-Video output using an S-Video cable. • **Composite** — Select if you have a second monitor connected to the system using a composite video cable. • **VGA** — Select if you are using a VGA monitor as the second display device. If you are using any configuration with two flat panel monitors, set both monitors to 4:3 and select the JUST mode of display, so that the image is not stretched and does not clip. Even though the flat panels may be 16:9, you should select 4:3 so that both monitors look the same. 
PIP	Specifies PIP (Picture-in-Picture) behavior: • **Camera** — The PIP window is displayed when the call is first connected and when a user moves the camera, uses presets, or switches to a different camera source. • **On** — The PIP window stays on for the duration of the call. • **Off** — The PIP window is not displayed during the call. • **Auto** — The PIP window is displayed when a user picks up the remote. **Note:** PIP settings are also available in the User Settings screen. Users can turn the PIP on or off and change its location on the screen using the PIP button on the remote control.
Graphics Content Display VSX 6000 VSX 7000 VSX 8000	Specifies the monitor for displaying graphics content, when you are using two monitors. **Note:** If the far site does not have dual-stream capability, content will appear on Monitor 1 at all sites.
Display Icons in a Call	Specifies whether to display all on-screen graphics, including icons and help text, during calls.
Snapshot Timeout	Lets you choose whether to have slides and snapshots time out, after a period of four minutes. Do not use this option if you want the user to control the return to live video.
Dual Monitor Emulation	Specifies whether both sites are displayed in a split-screen mode when using one monitor.

Using Dual Monitor Emulation

Dual Monitor Emulation is designed for rooms or offices with one monitor only. Users see both near and far sites on one monitor in two different views. During presentations, users see content *and* the near and far sites.

Setting Up

On the monitor's setup menu, select the full-screen setting that stretches the picture uniformly, without clipping.

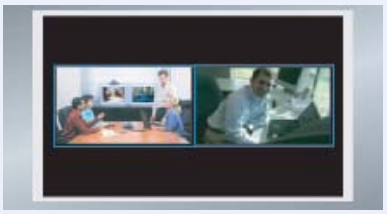
On the Monitors screen (VSX 6000, VSX 7000, VSX 8000):

1. If you are using a wide screen monitor, set Monitor 1 to **16:9**. Otherwise, set Monitor 1 to **4:3**.
2. Set Monitor 2 to **Off** to show near and far video on Monitor 1.
3. Select **Dual Monitor Emulation**.

Using in a Call

Call connects

Near and far site are the same size and appear side by side.



Far site Near site

Near site presses PIP

Size of far site window increases.

Near site presents to far site

Content, near site, and far site are displayed in dual monitor emulation mode.

Adjusting the Monitor's Color Balance

In most cases, the monitor you connect to your system provides natural color without any adjustment. Depending on your environment as well as the model of monitor, however, the video may exhibit one of these problems:

- ❑ Picture is too dark
- ❑ Colors appear faded
- ❑ Picture has too much of one color — for example, the picture may appear greenish

If you notice any of these, the monitor needs to be adjusted.

To adjust the monitor for natural color:

1. Go to **System > Diagnostics > Video**.
2. Select the **Color Bars** icon to display the color bar test screen.
3. Adjust the color using the monitor's controls for color, contrast, and brightness. Your monitor may also have controls for tint and temperature.
4. When the colors look right on the test screen, press **Near** on the remote control to stop the Color Bars test and show video of the room.
5. If the color appears natural, you do not need to make further adjustments. If the color still needs adjustment, use the monitor's controls to make small adjustments until the picture appears natural.

Configuring Content Display

You can present content during calls on a TV monitor or a high-resolution display when you use:

- ❑ People+Content IP installed on a computer connected with any VSX system
- ❑ A Visual Concert VSX data collaboration unit with a VSX 6000 or VSX 7000 system
- ❑ An ImageShare II device with a VSX 8000 system

For information about ordering the Visual Concert VSX unit, ImageShare II device, or People+Content IP option, please contact your Polycom distributor.

Configuring Content Display with People+Content IP

People+Content IP is an optional software application available for VSX systems. It enables a presenter to show content from a computer to other sites in a video conference using only an IP network connection.

The presenter can show PowerPoint® slides, video clips, spreadsheets, or any other type of content that runs on a computer. Supported resolutions include CIF, SIF, 4CIF, 4SIF, VGA, SVGA, and XGA.

Before a presenter can use a computer to show content with People+Content IP, you need to:

- ❑ Enable People+Content IP on the VSX system.

  When you purchase this option, you receive a software activation key. This key allows you to enable People+Content IP on a VSX system.

- ❑ Install the People+Content IP software application on the computer(s) that the presenter will use to show content.

  You don't need to change the computer resolutions and you don't need special cables or hardware, but the computer(s) must meet these requirements:

  - Operating System: Windows 2000, Windows XP Home, or Windows XP Professional
  - Minimum computer: 500 MHz Pentium® III (or equivalent); 256 MB memory
    Recommended computer: 1 GHz Pentium III (or equivalent); 500 MB memory

  Note that, although you use the license key on only one VSX system, you can install the presenter software on an unlimited number of computers.

- ❑ Connect the computer(s) to the IP network.

For information about purchasing the People+Content IP option, please contact your Polycom distributor.

To enable People+Content IP on a VSX system:

1. On a computer, open a web browser and go to the Polycom Resource Center Video Downloads page at http://extranet.polycom.com.
2. Enter the license number you received when you purchased the People+Content IP option.
3. Enter the serial number of the VSX system onto which you want to install People+Content IP.

You will then receive a People+Content IP software activation key.

4. Go to **System > Admin Settings > General Settings > Options** on the VSX system.
5. Enter the People+Content IP software activation key.

To install People+Content IP on a computer:

1. On the computer, open a web browser and go to the Polycom Resource Center Video Downloads page at http://extranet.polycom.com.
2. Locate the People+Content IP application and click the link to download the file locally.
3. Double-click `setup.exe`.
4. Follow the steps in the Setup Wizard to finish installing the application on the computer.

   Anyone using that computer can then double-click on the People+Content IP icon to present content during video conferences using the VSX system.

Make the application available to all users in your organization by downloading the setup.exe file to a local location that everyone can access.

Configuring Content Display with a Visual Concert VSX or ImageShare II

Configure the VSX system content display after connecting a Visual Concert VSX or ImageShare II unit as described in the section Connecting Data Collaboration Equipment on page 2-33.

To configure the content display:

1. Go to **System > Admin Settings > Monitors > Graphics VGA**.
2. Configure these settings:

Setting	Description
VGA Output with No Graphics	Indicates that the screen appears black when there is no content to display.

Setting	Description
VGA Resolution	Specifies the VGA resolution for your monitor. Select the maximum VGA resolution that your monitor or projector can support. Consult the user manual provided with the VGA monitor or projector for performance information.
Send Content When PC Connects	Specifies whether to send content automatically when the PC is connected to the Visual Concert VSX or ImageShare II. If this option is not selected, the presenter must press the Play button on the Visual Concert VSX or ImageShare II to send content to the far sites.

3. Go to **System > Admin Settings > Monitors > Monitors**.
4. Configure this setting:

Setting	Description
Graphics Content Display	Specifies the monitor for displaying graphics content, when you are using two monitors.

5. Go to **System > Admin Settings > Network > Call Preference**.
6. Configure this setting:

Settings	Description
Enable H.239	Enables H.239 People+Content. Select this option if you know that H.239 is supported by the far sites you will call. **Note:** If callers experience issues when sharing content, deselect **Enable H.239**.

7. VSX 8000—Go to **System > Admin Settings > Audio > Audio Settings**.
8. Select  three times and configure this setting:

Settings	Description
VCR Audio In Mode	Set **VCR Audio In Mode** to **Visual Concert** to share audio content.

Configuring VCR/DVD Player Settings

You can connect a VCR or DVD player to play recorded material during a call. For information about connecting a VCR, see the section Connecting a VCR/DVD Player on page 2-18.

With VSX 6000, VSX 7000, and VSX 8000 systems, you can connect a VCR or DVD player to record your video conference. You can also connect two VCRs to play material and record the conference at the same time.

The VCR inputs are active when you select camera 3.

To configure general VCR/DVD player audio settings:

1. Go to **System > Admin Settings >Audio**.
2. Select  three times and configure these settings.

Setting	Description
VCR Audio In Mode	Select **VCR** when playing a VCR into the system. Select **Visual Concert** or **ImageShare II** when sharing content using a Visual Concert VSX or ImageShare II unit.
VCR/DVD In Level	Sets the volume at which the VCR/DVD player plays, relative to other audio from the system.
VCR/DVD Out Level	Sets the volume at which the call is recorded.
VCR/DVD Audio Out Always On	Allows you to record a call using one VCR or DVD, while playing recorded content into the call from a second VCR or DVD. Do not select this setting if you have only one VCR or DVD player connected.

To configure VCR/DVD audio settings for playing a videotape or DVD:

Go to this screen:	Configure these settings:
VSX 3000	No additional configuration is required.
Audio Levels VSX 6000, VSX 7000 System > Admin Settings > Audio > Audio Settings > Next > Next	Ensure that **Midrange Speaker** is **On**.
Audio I/O VSX 6000, VSX 7000 System > Admin Settings > Audio > Audio Settings > Next	Set **Line Input (Red)** and **Line Input (White)** to **VCR**.
VCR/DVD VSX 8000 System > Admin Settings > Audio > Audio Settings > Next > Next > Next	Set **VCR Audio In** mode to **VCR**.

To configure VCR/DVD audio settings for recording a call:

Go to this screen:	Configure these settings:
Audio Levels VSX 6000, VSX 7000 System > Admin Settings > Audio > Audio Settings > Next > Next	Set **Line Outputs** to **VCR - Far and Near Audio.**
VSX 8000	No additional configuration is required.

All audio from the near-site and far-site is recorded, along with video from the system's main monitor.

Designing Audio Behaviors

This section describes how to configure the audio behavior of a VSX system, including:

- ❑ General audio settings
- ❑ Settings for Polycom StereoSurround
- ❑ Settings for the Polycom Vortex mixer
- ❑ Settings for microphones connected directly to the balanced audio inputs

Configuring General Audio Settings

The Audio Settings screens let you specify the settings appropriate for the equipment you are using.

To configure general audio settings:

1. Go to **System > Admin Settings >Audio > Audio Settings.**

The Audio screen, where you choose Audio Settings or Stereo Settings, is not present on a VSX 3000. It is available on a VSX 6000, VSX 7000, or VSX 8000 system after you have enabled the Polycom StereoSurround option.

2. Configure these settings:

Setting	Description
Sound Effects Volume	Sets the volume level of the ring tone and user alert tones.
Incoming Video Call	Specifies the ring tone used for incoming calls.
User Alert Tones	Specifies the tone used for user alerts.
Mute Auto-Answer Calls	Specifies whether to mute incoming calls. Incoming calls are muted by default until you press the Mute button on the microphone pod or on the remote control.
Enable Internal Ringer VSX 3000	Specifies an additional ring tone when receiving an incoming call. The internal ringer is built into the system and alerts you to incoming calls.

Setting	Description
Enable Polycom Microphones	Specifies whether integrated and attached Polycom microphones are enabled. You can disable this option to turn off: • VSX 3000 system's integrated microphone • VSX 6000, VSX 7000, and VSX 8000 microphone pods • VTX 1000 integrated microphones • VTX 1000 extended microphones Disable this setting in the following situations: • You have a VSX system integrated with both a Vortex mixer and a VTX 1000 conference phone. • You have an external handset, headset, or lapel microphone attached to a VSX system line input. This option is automatically disabled if a line input is set to Audio Mixer, echo cancellation is enabled on a line set for Audio Mixer, and stereo is enabled.
Enable Polycom StereoSurround	Specifies that Polycom StereoSurround is used for all calls. To send or receive stereo audio, make sure your VSX system is set up as described in Connecting Audio Equipment on page 2-21. Your system can receive stereo audio even when it cannot send stereo. **VSX 7000:** When you use an audio mixer with stereo enabled, the microphone pods are disabled. **VSX 8000:** When you use the Balanced In echo canceller with stereo enabled, the microphone pods are disabled.

3. Select  and enter line input settings:

Setting	Description
Line Input (Red) **Line Input (White)** VSX 3000 VSX 6000 VSX 7000	Specifies the equipment you are connecting to the audio input connectors on the back of the unit – an audio mixer or the audio connections for a VCR or DVD player.
Input Type VSX 8000	Specifies the type of equipment that is connected to the balanced audio inputs. Choose **Line Input** unless you have connected microphones directly to the balanced audio inputs.
Level	Sets the volume level for the line with which it is associated.

Setting	Description
Echo Canceller	Lets you specify whether to use the system's built-in echo canceller. Do not enable this option if you have connected a Polycom Vortex mixer or you are using the Polycom StereoSurround feature.
Enable Phantom Power VSX 8000	Allows the system to supply power to microphones connected directly to the balanced audio inputs. **Note**: This selection is only available when you set **Input Type** to **Microphone**.

4. Select  and enter speaker settings:

Setting	Description
Master Audio Volume	Sets the volume level for audio from the far site.
Midrange Speaker VSX 6000 VSX 7000	Specifies whether to use the system's built-in midrange speaker. You may prefer to turn off the midrange speaker if you connect the audio output to Monitor 1 or if you connect an external speaker system.
Subwoofer Speaker VSX 7000	Specifies whether to use the system's subwoofer. You may prefer to turn off the subwoofer speaker if you connect the audio output to Monitor 1. The system will not operate if you disconnect the subwoofer.
Subwoofer Level VSX 7000	Sets the volume level for the subwoofer without changing the master audio volume.
Bass	Sets the volume level for the lower frequencies without changing the master audio volume.
Treble	Sets the volume level for the higher frequencies without changing the master audio volume.
Line Outputs VSX 6000 VSX 7000	Specifies how the audio output behaves. The default selection, **Monitor - Far Site Audio**, supplies audio to the Monitor 1 audio outputs only when the system is receiving audio from the far site. If you have connected a VCR to record the conference, select **VCR - Far and Near Audio** to supply audio from both the far site and the system's microphone pods to the VCR.

Configuring StereoSurround Settings

To send or receive stereo audio, make sure your VSX system equipment is set up as described in Connecting Audio Equipment on page 2-21. Then configure the system to use Polycom StereoSurround, test the system configuration, and place a test call.

If you are in a call with a far site that is sending audio in stereo mode, you can receive in stereo. In multipoint calls where some sites can send and receive stereo and some sites cannot, any site that is set up to send or receive stereo will be able to do so.

Points to note about StereoSurround:

- Camera tracking is disabled when you enable StereoSurround.
- If you have a Vortex mixer connected to the VSX system, do not enable StereoSurround on the VSX system.
- The Audio screen, where you choose Audio Settings or Stereo Settings, is present only if stereo is enabled.

To configure systems to send and receive Polycom StereoSurround:

Go to this screen:	Configure these settings:
Audio System > Admin Settings > Audio	Enable **Polycom StereoSurround**.
Audio Input System > Admin Settings > Audio > Audio Settings > Next	Set **Echo Canceller** to **Off**.
Audio Levels System > Admin Settings > Audio > Audio Settings > Next > Next VSX 7000	Set **Subwoofer Speaker** to **Off**.

To test your stereo configuration:

Go to this screen:	Configure these settings:
Mic Placement System > Admin Settings > Audio > Stereo Settings > Next	Specify the **Table Style** and the number of microphones being used, and make sure the microphones are positioned as shown. Also refer to Positioning Microphones to Send Stereo on page 2-23 and Connecting and Positioning a VTX 1000 to Send Stereo on page 2-31.
Mic Identity System > Admin Settings > Audio > Stereo Settings	Gently blow on the microphones while watching the Left and Right meter. Identify which microphone is on the right and which is on the left, and **Swap** them if necessary.
Speaker Test System > Admin Settings > Audio > Stereo Settings > Next > Next	Test the speakers to check volume and verify that audio cables are connected. If the system is in a call, the far site hears the tone. Exchange the right and left speaker leads if the channels are reversed.

To make a test call in stereo:

>> Select **Polycom Austin Stereo** from the directory, or enter **stereo.polycom.com** in the dialing field and press **Call** on the remote control.

The Polycom Austin Stereo site demonstrates the stereo feature with an entertaining and informative presentation.

Configuring a Polycom Vortex Mixer with VSX Room Systems

Connecting a Polycom Vortex mixer to VSX room systems provides flexibility in audio set-up. For example, it allows you to provide a microphone for each call participant in a boardroom.

The VSX 8000 is designed to work with the Polycom Vortex mixer. For this configuration, you need Vortex firmware 2.5.2 or later, Conference Composer version 2.7.0 or later, and VSX system software version 7.5 or later.

The Audio screen, where you choose Audio Settings or Stereo Settings, is present only if stereo is enabled.

To configure VSX room systems to use a Polycom Vortex mixer:

Go to this screen:	Configure these settings:
Audio Input System > Admin Settings > Audio > Audio Settings	Disable the **Enable Polycom Microphones** setting if you have integrated both a Vortex and a VTX 1000 conference phone with the VSX system.
Audio Input System > Admin Settings > Audio > Audio Settings > Next	Configure Balanced In: • Set **Input type** to **Line Input**. • Disable **Echo Canceller**.
Serial Ports System > Admin Settings > General Settings > Serial Ports	Set **RS-232 Mode** to **Vortex Mixer** for the appropriate port.

Refer to the Polycom Vortex documentation for details on configuring the mixer.

Configuring Microphones Connected to Balanced Audio Inputs on a VSX 8000

You can connect powered microphones directly to the VSX 8000 system's balanced audio inputs, in addition to the microphone pod or VTX 1000 conference phone connected to the conference link.

To configure the VSX 8000 system to use microphones connected directly to the balanced audio inputs:

Go to this screen:	Configure these settings:
Audio Input System > Admin Settings > Audio > Audio Settings > Next	Configure Balanced In: • Set **Input type** to **Microphone**. • Select **Echo Canceller**. • Select **Enable Phantom Power** to supply power to microphones.

The Audio screen, where you choose Audio Settings or Stereo Settings, is not present unless stereo is enabled.

Configuring RS-232 Equipment

The VSX 7000 system provides one RS-232 port; the VSX 8000 system provides two. You can use the RS-232 port to:

- ❑ Provide control signals to a PTZ camera or a Polycom Vortex mixer
- ❑ Receive control signals from a touch-panel control
- ❑ Receive closed captions from a captioning service using a modem, or directly from a captioner's PC via Telnet
- ❑ Pass data to an RS-232 device connected to the serial port of the far-site system
- ❑ Provide a Telnet trace for debugging

On the VSX 8000 system, you can only set one RS-232 port at a time to Debug mode.

Configuring for Use with a Touch Panel Control

The VSX 7000 and VSX 8000 systems have a serial port that you can configure for use with a touch panel control.

To configure the serial port for a touch panel:

1. Go to **System > Admin Settings > General Settings > Serial Port**.
2. Configure these settings:

Setting	Description
Baud Rate	Set the baud rate to the same value that it is set on the touch panel control.
RS-232 Mode	Select **Control**. This allows any device connected to the RS-232 port to control the system.

For a list of all available API commands, see the *Integrator's Reference Manual for the VSX Series*, available at www.polycom.com/videodocumentation.

Configuring for Use with a Modem

The VSX 7000 and VSX 8000 systems can receive closed captions from a captioning service via modem.

To configure the system to work with a modem:

1. Go to **System > Admin Settings > General Settings > Serial Port**.
2. Configure these settings:

Setting	Description
Baud Rate	Set the baud rate to the same value as the modem.
RS-232 Mode	Select Closed Caption.

3. Configure the modem for 8 bits, no parity.

You may also need to configure the modem to ignore DTR and to answer automatically.

Designing the User Experience

You can configure the following general system behaviors to accommodate the needs of your organization:

- ❑ User Access to Settings and Features
- ❑ Passwords and Security Options
- ❑ AES Encryption
- ❑ Call Settings
- ❑ Call Answer Mode
- ❑ Multipoint Calling
- ❑ Directory Settings
- ❑ Date, Time, and System Location
- ❑ Workspace Appearance
- ❑ Remote Control Behavior

Managing User Access to Settings and Features

You can manage user access to settings and features by using passwords and by configuring the system to show only those options you want your users to see.

To maintain this security level:	You can allow users to:
High (Kiosk mode)	Call only the numbers you specify on the home screen. See Using the System for Specialized Applications on page 4-28 and Designing the Home Screen on page 4-39.
Medium	Place calls using the restrictions you specify for length of call, type of call, and use of the directory. See Limiting What Users Can Do With the System on page 4-27.
Low	Configure user settings. See Letting Users Customize the Workspace on page 4-26.
Very low	Configure all system settings.

Setting the Admin Password

Set an administrator's password to restrict who can:

- ❑ Make changes other than those in the User Settings screen
- ❑ Upgrade the VSX Series system software
- ❑ Perform remote management using the VSX Web

To set or change the Admin Password:

1. Go to **System > Admin Settings > General Settings > Security.**
2. Enter or change the password.

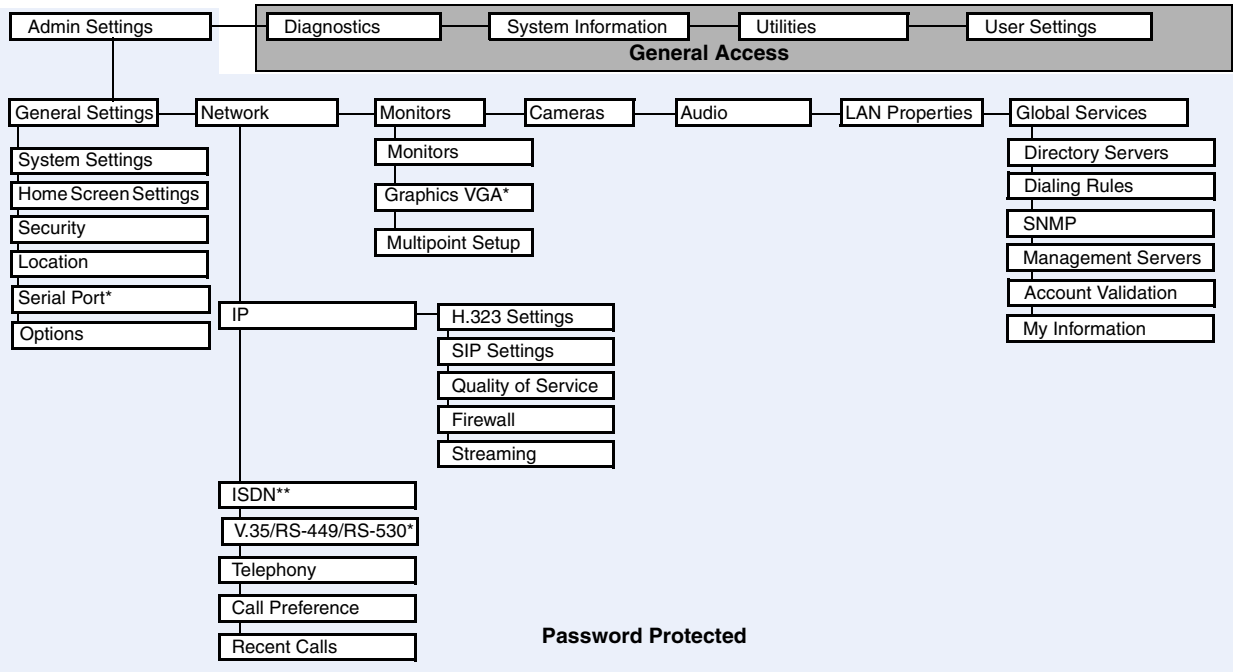
To reset a forgotten Admin Password:

1. Get the system's serial number from the system or from the System Information screen.
2. Go to **System >Diagnostics > Reset System.**
3. Enter the system's serial number and select **Delete System Settings.**
4. Select **Reset System.**

When the system completes the reset, it leads you through the setup wizard. You can enter a new Admin Password when you set up the system.

Screens that Require the Admin Password for Access

Only screens within Admin Settings require the administrator's password.



* VSX 7000 and VSX 8000 only
** VSX 3000, VSX 7000, and VSX 8000 only

Letting Users Customize the Workspace

You can allow users to change common user preferences by providing access to the User Settings screen.

To allow users to customize the workspace:

1. Go to **System > Admin Settings > General Settings > Security**.
2. Check the **Allow Access to User Settings** option to make the **User Settings** button available to users on the System screen.

User Settings contains the following options:

- Backlight Compensation
- Camera Brightness (VSX 3000)
- Far Control of Near Camera
- Meeting Password

- Auto-Answer Point to Point
- Auto-Answer Multipoint
- Mute Auto-Answer Calls
- PIP
- Keypad Audio Confirmation
- Color Scheme
- Far Site Name Display Time
- Dual Monitor Emulation
- Allow Video Display on Web

These options are also available to administrators on the Admin Settings screens.

Limiting What Users Can Do With the System

You can limit what you allow users to do with the system by configuring the following:

- **Maximum Time in Call** — If you want to specify the maximum time a call can last, go to **System > Admin Settings > General Settings > System Settings > Call Settings** and enter the maximum call length allowed.
- **Allow Mixed IP and ISDN Calls** — (VSX 3000, VSX 7000, VSX 8000) If you do not want to allow mixed protocol calls on your system, go to **System > Admin Settings > General Settings > System Settings > Call Settings** and clear this option.
- **Allow Directory Changes** — If you do not want users to save changes to the local directory of the system, go to **System > Admin Settings > General Settings > System Settings > Directory** and clear this option.

Using the System for Specialized Applications

You can customize the system to show only a specific set of numbers to call. This mode, also known as "kiosk mode," can be used for specialized applications, such as customer query stations or systems used for calling the same numbers on a regular basis. Kiosk mode requires little or no training and instructions can be incorporated into the screen design.

See Designing the Home Screen on page 4-39 for more details about the kiosk mode and its applications.

Setting Passwords and Security Options

You can enter or change the administrator and meeting passwords as well as specify whether to allow remote access to the system.

To set passwords and security options:

1. Go to **System > Admin Settings > General Settings > Security**.
2. Configure these settings:

Setting	Description
Admin Password	Enter or change the Admin Password. When the Admin Password is set, you must enter this password to: • Make configuration changes not in the User Settings screen. • Update the software. • Manage the system using the VSX Web.
Meeting Password	Specifies the password users must supply to join multipoint calls on this system if the call uses the internal multipoint option, rather than an external MCU. This field can also be used to store a password required by another system that this system calls. If a password is stored in this field, you do not need to enter it at the time of the call; the VSX system supplies it to the system that requires it.
Allow Access to User Settings	Specifies whether the User Settings screen is accessible to users via the System screen. Uncheck this option if you do not want users to change environmental settings.
AES Encryption	Specifies whether to encrypt calls with other sites that support AES encryption.

3. Select and configure these settings:

Setting	Description
Enable Remote Access	Specifies whether to allow remote access to the system by: • FTP • Web • Telnet • SNMP You may select any of these, or any combination of them. **Note:** The system restarts if you change the remote access settings.
Web Access Port	Specifies the port to use when accessing the system using VSX Web. If you change this from the default (port 80), specify a port number of 1025 or higher, and make sure the port is not already in use. You will need to include the port number with the IP address when you use VSX Web to access the system. This makes unauthorized access more difficult. **Note:** The system restarts if you change the web access port.
Allow Video Display on Web	Specifies whether to allow administrators to view the room where the system is located, or video of calls in which the system participates, using VSX Web.

Enabling AES Encryption

AES encryption is a standard feature on all VSX systems. When it is enabled, the system automatically encrypts calls to other AES-capable systems.

To enable AES encryption:

>> Go to **System > Admin Settings > General Settings > Security** and select **AES Encryption**.

Configuring Call Settings

The Call Settings screens provide access to high-level options for the entire system. For convenience, some of the User Settings options are repeated on these screens.

To configure call settings:

1. Go to **System > Admin Settings > General Settings > System Settings > Call Settings**.
2. Configure these settings:

Setting	Description
Allow Mixed IP and ISDN Calls VSX 3000 VSX 7000 VSX 8000	Specifies whether users can make multipoint calls that include both IP and ISDN sites. Unchecking this option provides extra security for systems requiring LAN connectivity while placing encrypted calls over ISDN lines. If you clear this selection, IP endpoints cannot join ISDN calls.
Maximum Time in Call	Enter the maximum number of minutes allowed for call length. When that time has expired, you see a message asking you if you want to hang up or stay in the call. If you do not answer within one minute, the call automatically disconnects. If you choose to stay in the call at this time, you will not be prompted again.
Auto-Answer Point to Point	Specifies whether to answer incoming point-to-point calls automatically.
Auto-Answer Multipoint VSX 3000 VSX 7000 VSX 8000	Specifies whether to answer incoming multipoint calls automatically.

3. Select  and configure these settings:

Setting	Description
Display Time in Call	Specifies whether to display the elapsed time or the local time during a call. You can also choose not to display the time.
Call Detail Report	Specifies whether to generate a report of all calls made with the system. When selected, details for all calls can be viewed via the VSX Web and downloaded as a .csv file.

Setting	Description
Recent Calls	Specifies whether to display the **Recent Calls** button on the home screen. The Recent Calls screen lists the site number or name, the date and time, and whether the call was incoming or outgoing. **Note:** If the Call Detail Report option is not selected, the Recent Calls option is not available.
Far Site Name Display Time	Specifies the time period the far-site name appears on screen when calls first connect.

Setting the Call Answering Mode

To set the call answering mode:

1. Go to **System > Admin Settings > General Settings > System Settings > Call Settings**.
2. Select **Auto-Answer Point to Point** to set the answer mode for calls with one site, or select **Auto-Answer Multipoint** (VSX 3000, VSX 7000, and VSX 8000 only) to set the mode for calls with two or more other sites.
3. Select one of the following:
   - **Yes** – Answers calls automatically.
   - **No** – Enables you to answer calls manually.
   - **Do Not Disturb** – Refuses incoming calls automatically. The caller receives a message that the site is unavailable.

If you have a VSX 3000 system that you are using as your PC monitor, Polycom recommends that you set up the system so that you have to answer calls manually.

If you receive a call while using the system as a PC, you hear a ringing sound and you can switch to video to answer the call manually. Alternatively, you can ignore the call and it will not connect, thereby preventing the caller from seeing or hearing you at your desk.

Configuring Multipoint Calling

You can use your VSX system to participate in multipoint conferences. Multipoint conferences include multiple video sites (IP and ISDN) and can also include voice-only sites.

During a multipoint call, a multipoint conferencing unit (MCU) enables the video to switch to the various sites so that you can see and hear the other conference participants.

VSX room systems have internal MCUs and can initiate multipoint calls. These systems can also use the Conference on Demand feature of Polycom's Path Navigator for multipoint calling. The VSX 6000 system does not have an internal MCU and can participate in a multipoint call but cannot initiate one.

Depending on your VSX system model, you may need to enter a multipoint option key to enable multipoint calling.

Entering a Multipoint Software Registration Key

Before placing multipoint calls, you may need to enter a multipoint software registration key.

To enter the multipoint software registration key:

1. Go to **System > Admin Settings > General Settings > Options**.
2. Enter the multipoint key provided.

For information about purchasing the multipoint call option, please contact your Polycom distributor.

Configuring Multipoint Settings

You can customize the way video is handled in multipoint calls to best support the types of calls your organization is making.

To configure multipoint video:

1. Go to **System > Admin Settings > Monitors > Multipoint Setup**.
2. Configure these settings:

Setting	Description
Auto-Answer Multipoint VSX 3000 VSX 7000 VSX 8000	Specifies whether to accept incoming multipoint calls automatically.
Multipoint Mode VSX 3000 VSX 7000 VSX 8000	 **Auto** — The view switches between Full Screen mode and Discussion mode, depending on the interaction between the sites. If multiple sites are talking at the same time, Discussion mode is used. If one site is talking uninterrupted for at least 15 seconds, the speaker appears full screen.  **Discussion** — All sites are displayed at the same time in separate windows on the display. This mode is also called continuous presence.  **Presentation** — The speaker sees all other sites in discussion mode while the other sites see the speaker in full screen mode.  **Full Screen** — The site that is speaking is shown in full screen to all other sites. This mode is also called voice-activated switching.

Configuring with PathNavigator's Conference on Demand Feature

If your organization uses Polycom's PathNavigator, you can use PathNavigator's Conference on Demand feature to place multipoint calls with up to 10 sites, including the site that places the call.

In order to place calls using PathNavigator, you need to:

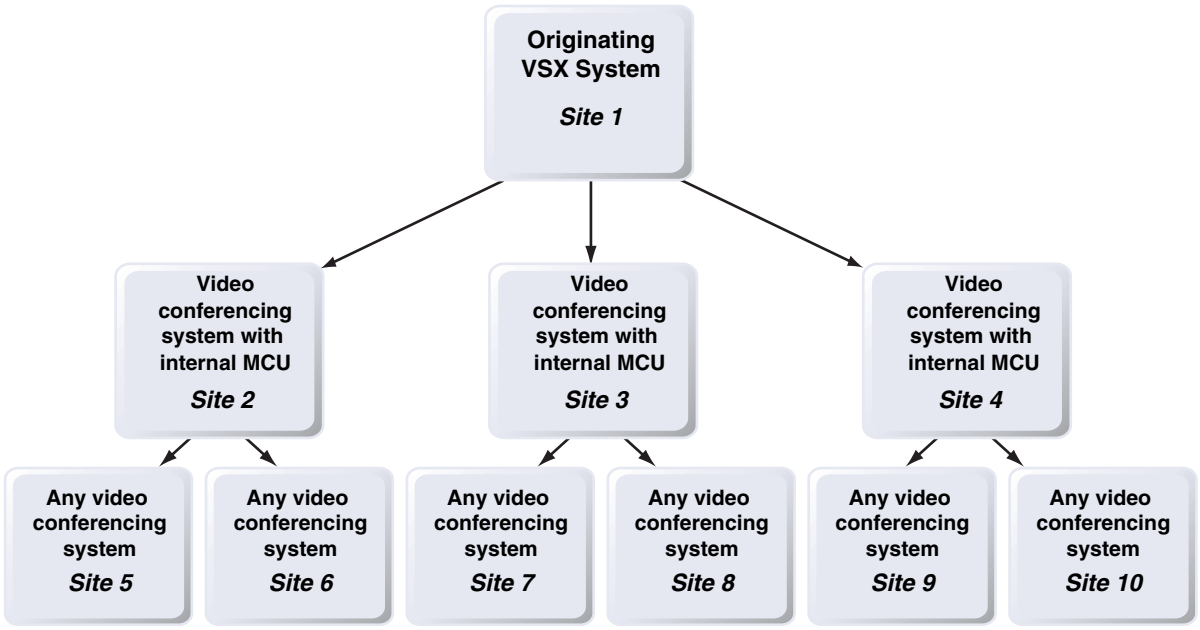
- ❑ Register your VSX system with PathNavigator,
- ❑ Configure your VSX system to use PathNavigator for multipoint calls (see Configuring the System to Use a Gatekeeper on page 3-7), and
- ❑ Create a multi-site entry in the Directory that can be used to place the multipoint call.

Things to Note when Using PathNavigator's Conference on Demand

- ❑ Once the call begins, users cannot add another site to the call — even if the site was in the call originally and is attempting to rejoin. Because of this, you cannot place cascaded multipoint calls through PathNavigator.
- ❑ The MGC needs to have enough ports available to complete the call. The system displays a message if the MGC does not have enough ports available to connect all the sites.

Including More Than Three Other Sites in a Cascaded Call

You can include up to ten sites in a call if the sites you call have the internal MCU capability. The following diagram shows how to do this.



To place a cascaded call:

1. Create and call a multiple-site entry from the Directory, or place calls one at a time to up to three other sites.
2. Ask each far site to call up to two additional sites. Along with these two sites, each far site in the original multipoint call can add an audio-only site.

Configuring Directory Settings

You can customize the behavior of the Directory on the Directory screen.

To configure system settings:

1. Go to **System > Admin Settings > General Settings > System Settings > Directory**.
2. Configure these settings:

Setting	Description
System Name	Enter or change the system name in this field. This name appears on the screen for the far site when you are making calls.
Allow Directory Changes	Specifies whether users can save changes they make to the directory.
Confirm Directory Additions	Specifies whether users are prompted to confirm new directory entries when saving the information for the last site called.
Confirm Directory Deletions	Specifies whether users are prompted to confirm deletions of directory entries.

Setting Date, Time, and Location

You can update the system with regional settings, including the location-specific language and calling parameters.

To set the date, time, and location:

1. Go to **System > Admin Settings > General Settings > Location**.
2. Configure these settings:

Setting	Description
Country	Specifies the country where the system is located. Changing the country automatically adjusts the country code associated with your system number.
Language	Sets the language for the user interface.
Country Code	Specifies the country code for the system location.
Area Code Required	Specifies if an area code is required to place ISDN calls in the specified country.

Setting	Description
ISDN International Access VSX 3000 VSX 7000 VSX 8000	Specifies the international code required for placing ISDN calls from the system location to another country.
Room Telephone Number	Indicates the telephone number of the room where the system is located.

3. Select  and configure these settings:

Setting	Description
Date Format and Time Format	Specifies your format preference for the date and time display and lets you enter your local date and time.
Daylight Saving Time	Specifies daylight savings time. When you enable this option, the system clock moves ahead one hour. When you disable this option, the system clock moves back one hour.
Time Difference from GMT	Specifies the time difference between GMT (Greenwich Mean Time) and your location.
Display Time in Call	Specifies the time display in a call: • **Elapsed Time** – Displays the amount of time in the call. • **Local Time** – Displays the local time on the screen during a call. • **Off** – Time is not displayed.
Time Server	Specifies connection to a time server for automatic system time settings.

Customizing the Workspace Appearance

You can customize your VSX system workspace appearance to suit the users' environment functionally and aesthetically.

For example, by customizing the home screen into kiosk mode, users only have to select a site and press the  **Call** button on the remote control to place a call.

Use the following sections to configure the general appearance of the system:

- ❑ Designing the Home screen
- ❑ Adding Sites to the Home screen
- ❑ Adding On-screen Instructions
- ❑ Changing Color Schemes
- ❑ Customizing Camera Names and Icons
- ❑ Setting Ring Tones and Alert Tones

Designing the Home Screen

Customize the system functionality according to your users' needs, skill levels, and environments.

Infrequent Users (Kiosk Mode)
Provide a simple workspace so no training is needed:

- Let users make calls to pre-defined numbers with one button click.
- Include instructions on screen.

Use the marquee to add instructions

Include a short list of specific items for users to select

New Users
Provide more options but keep it simple:

- Dialing entry field
- Directory numbers
- Recent Calls

Add features for users as needed

Advanced Users
Provide additional options for advanced video conferencing users:

- Call Quality
- Multipoint dialing
- User Settings, Diagnostics, and System Information
- Speed Dial list of frequently called sites

Add more features as users gain experience

To design the home screen:

1. Go to **System > Admin Settings > General Settings > Home Screen Settings**.
2. Configure these settings:

Setting	Description
Dialing Display	Specifies which dialing option to display: • **Dialing entry field** — Allows users to enter numbers manually. • **Display marquee** — Displays text in the dialing entry field. Can be used to display user instructions. Users cannot enter numbers manually when this option is selected. • **None** — Removes the dialing entry field from the screen.
Call Quality	Allows users to select the bandwidth for calls.
H.323 Extension (E.164)	Allows users to enter extensions on the home screen.
Directory	Allows users to access the directory.
System	Allows users to access the System screen, which includes User Settings, Diagnostics, and System Information.
Multipoint VSX 3000 VSX 7000 VSX 8000	Allows users to access the multipoint dialing screen via a **Multipoint** button on the home screen.

If you remove the System button, you can still access the System screen by navigating to the home screen, pressing on the remote, and selecting **System**.

3. Select  and configure these settings:

Setting	Description
System Name	Specifies whether to display the name of the system on the home screen above the PIP window.
IP or ISDN Information VSX 3000 VSX 7000 VSX 8000	Specifies whether to display the system's IP address, ISDN number, or both on the home screen.
Local Date and Time	Specifies whether to display the local date and time on the home screen.
Do Not Disturb Icon	Allows users to set the system to automatically accept or ignore incoming calls using the **Do Not Disturb** button on the home screen.

Setting	Description
Call Detail Report	Specifies whether to generate a report of all calls made with the system. When selected, all calls can be viewed through VSX Web and downloaded as a .csv file.
Recent Calls	Allows users to access a list of recent calls made with the system by displaying the **Recent Calls** button on the home screen. If the Call Detail Report option is not selected, the Recent Calls option is not available.

4. Select and configure these settings:

Setting	Description
Sites	Allows users to access any pre-defined sites from a My Contacts/Speed Dial list on the home screen.
Last Number Dialed	Specifies whether to display the last number dialed or clear the dialing field on the home screen.

Adding Sites to the Home Screen

Creating Site buttons on the home screen makes it easy for users to place calls to sites that they call on a regular basis.

Sites can appear as individual buttons or as part of a list called **Speed Dial** or **My Contacts**.

You must enter the site information in the directory before creating specific Site buttons for the Home screen.

To add sites to the Home screen:

1. Go to **System > Admin Settings > General Settings > Home Screen Settings**.
2. Select three times to access the Sites screen.
3. Select **Add** and choose the sites to add from the directory.
4. Select either **Speed Dial** or **Contacts** as the name you want to appear on the button.

Adding Marquee Text

You can create marquee text to display in the dialing entry field on the home screen. You can create context-specific instructions for your users or, if the home screen has Site buttons, the marquee text can provide information that helps users choose which site to call.

To enter marquee text:

1. Go to **System > Admin Settings > General Settings > Home Screen Settings**.
2. In **Dialing Display**, select **Display marquee** and enter the text.

You can also add marquee text through the VSX Web.

Marquee text does not support double-byte characters.

Adding Screen Saver Text

You can customize the VSX system to display text when the system is in sleep mode. For instance, you can display on-screen instructions to assist users with what steps they should take next.

To enter screen saver text:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **System Setup > Utilities > Screen Saver** and enter:
   - **Screen Saver Text** — Appears as scrolling text when the system is in sleep mode. You can use this scrolling text to provide instructions or next steps for users of the system.
   - **Logo Screen Text** — Appears underneath the logo before the system goes into sleep mode.
5. Click **Update**.

Adding a Screen Saver Logo

You can customize the VSX system to display your own logo instead of the Polycom logo.

To upload a screen saver logo:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **System Setup > Utilities > Screen Saver**, click **Next**, and follow the onscreen instructions for uploading a logo file.

Adding a Screen Saver News Feed

You can customize the VSX system to display a news feed when the system is in sleep mode.

To configure a screen saver news feed:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **System Setup > Utilities > Screen Saver**, and click **News Feed**.
5. Select a stream content, click **Submit**, and close the stream content window.
6. Click **Update**.

Changing System Appearance

Different system appearance options are available, allowing you to coordinate the system interface with the meeting room décor.

To change the system appearance:

1. Go to **System > Admin Settings > General Settings > System Settings > Appearance**.
2. Configure these settings:

Setting	Description
Color Scheme	Customizes the look of your system with different color schemes.
Screen Saver Wait Time	Specifies how long the system remains awake during periods of inactivity. The default is 3 minutes. Setting this option to **Off** prevents the system from going to sleep.

You can allow users to change color schemes by allowing user access to the User Settings screen.

Customizing Camera Names and Icons

To customize camera names and icons:

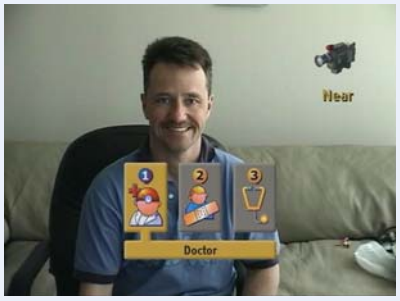
1. Go to **System > Admin Settings > Cameras**, then select  to go to **Camera Settings**.
2. Enter camera names and select the appropriate icon for each video source.

Using Customized Camera Names and Icons

Customizing the way cameras appear on screen helps users select the correct camera input during a call. You can enter camera names and assign icons. You can choose camera icons from categories including Corporate, Education, Justice, Manufacturing, and Medical.

Using in a Call

With customized camera names and icons, users can select the correct camera source during a call, quickly and without rehearsal or experimentation.



Select icons that make sense in the users' environment or industry.

Setting Ring Tones and Alert Tones

To set ring tones and alert tones:

1. Go to **System > Admin Settings > Audio**.
2. Select a tone, as desired.

To set the VSX 3000 system's internal ringer:

1. Go to **System > Admin Settings > Audio**.
2. Select **Enable Internal Ringer** to specify an additional ring tone when receiving an incoming call.

The ringer is built into the system and will alert you to incoming calls.

Configuring Remote Control Behavior

You can customize the behavior of the remote control to support the users' environment.

To configure remote control behavior:

1. Go to **System > Admin Settings > General Settings > System Settings > Remote Control**.
2. Configure these settings:

Setting	Description
Keypad Audio Confirmation	Specifies whether to play a voice confirmation of numbers selected with the remote control.
Remote Control Keypad	Specifies whether the camera moves to presets or creates DTMF tones when the remote control keypad buttons are pressed.
Snap Button Option	Specifies alternative uses for the **Snap** button on the remote control. Choose from **Calendar**, **Recent Calls**, **System Info**, **Call Statistics**, or **Off**.

Configuring Streaming Calls

You can configure the system to allow users to stream audio and video from one to many viewers. Viewers watch the presentation or meeting from their PC, as the meeting is taking place.

Things to note about streaming:

- ❑ You can start streaming before or during a call.
- ❑ If a password is set on the system, streaming participants will need to enter it before receiving the stream.
- ❑ Participants must have the Apple QuickTime player installed on their PC to view the stream.
- ❑ To send a stream across a subnet, multicasting must be enabled on the network or you must unicast to a particular IP address, which will forward the stream to that IP address regardless of the location destination.

To configure the system for a streaming call:

1. Go to **System > Admin Settings > Network > IP > Streaming**.
2. Configure these settings:

Setting	Description
Allow Streaming	Specifies whether users can start streaming from the system by making the Start Streaming option available on the Utilities screen.
Enable Streaming Announcement	Specifies whether the names of users logged on to the streaming system are displayed on screen.
Speed	Specifies the speed used for the streaming call.
Number of Router Hops	Specifies the number of routers the data can traverse before it is no longer passed on. For example, when set to 1, the data stays within a subnet.
Audio Port	Specifies the fixed port used for audio. This can be changed if you need to go through a firewall.
Video Port	Specifies the fixed port used for video. This can be changed if you need to go through a firewall.
IP Multicast Address	Specifies the multicast address used for the stream. The default address is based on your system serial number but can be changed, if required.

To stream a conference:

1. Go to **System > Utilities > Streaming**.
2. Select the **Start Streaming** option to begin streaming.
3. Place the video call to other participants.

You can also start streaming after you place the call.

To stop streaming a conference:

1. Go to **System > Utilities> Streaming**.
2. Clear the **Start Streaming** selection.

To view a streamed conference:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Click **Streaming**.
4. If prompted, enter the user name and password.
   The stream starts automatically.

Participants must have the QuickTime player installed on their system to view the stream.

These instructions for viewing streams are available for meeting participants in the *Getting Started Guide for the VSX Series*.

To stop viewing the streamed conference:

>> Close the web browser.
   This stops the stream but does not end the call.

Configuring Closed Captioning

You can provide real-time text transcriptions or language translations of the video conference by displaying closed captions on your system. When you provide captions for a conference, the captioner uses a web browser to listen to the conference audio and enter the caption text in the system's web interface. When the captioner sends a unit of text, all sites see it on the main monitor for 15 seconds. The text then disappears automatically.

Closed captions are supported between VSX systems with software version 7.0 or later.

Audio Options for Closed Captioners

When you provide captions for a conference, the captioner may be present, or may use a telephone or web browser to listen to the conference audio.

The captioner will need to receive all audio from the conference by:

- Attending one of the conferences sites,
- Participating in the conference as an audio site,
- Listening to the conference via VSX Web, or
- Listening to the conference via a speakerphone in the room at one of the sites.

Providing Closed Captions for Conferences

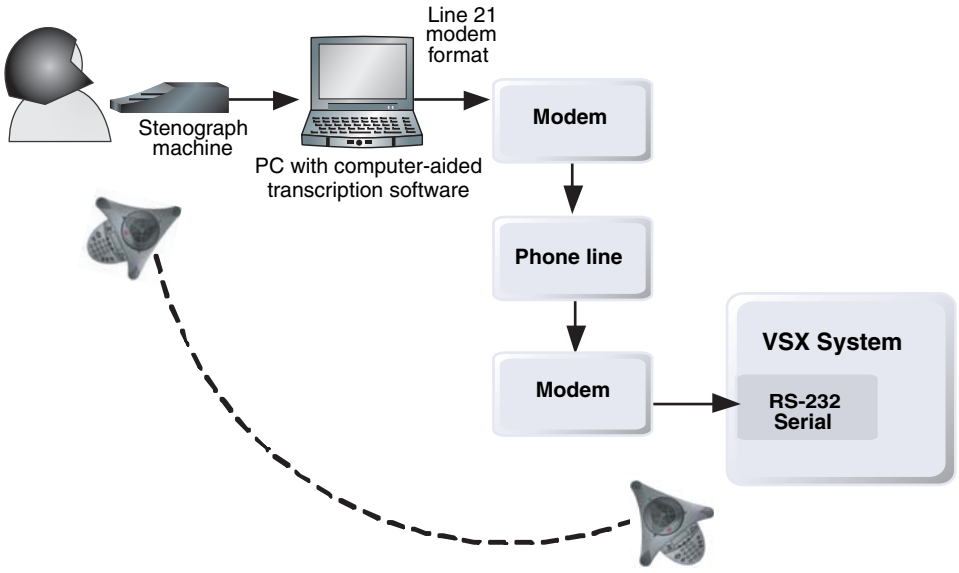
Captions may be provided in any language that uses the Latin alphabet.

The captioner may enter caption text:

- Remotely, via a dial-up connection to the system's serial RS-232 port,
- In the room using equipment connected directly to the serial port,
- In the room or remotely, using VSX Web, or
- In the room or remotely, using a Telnet session.

Via a Dial-Up Connection to the Systems' Serial RS-232 Port

Closed captioners can provide captions from inside the conference room, or from a remote location, via a dial-up connection to the serial port of the VSX system, as shown in the following diagram.

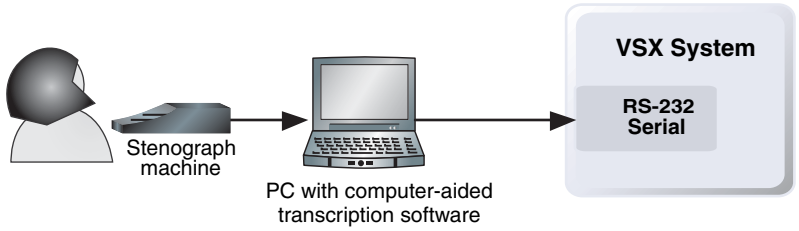


To supply closed captions via a dial-up connection:

1. Ensure that the PC and the VSX system are configured to use the same baud rate and parity settings.
2. Go to **System > Admin Settings > General Settings > Serial Port** and set the RS-232 Mode to **Closed Caption**.
3. Establish a dial-up connection between the PC and the VSX system.
4. On the PC, start the transcription application.
5. Enter text using the stenographic machine connected to the PC.
6. To stop sending closed captions, close the transcription application.

Via the System's Serial RS-232 Port

Closed captioners can provide captions from inside the conference room, using equipment connected directly to the serial port of the VSX system, as shown in the following diagram.

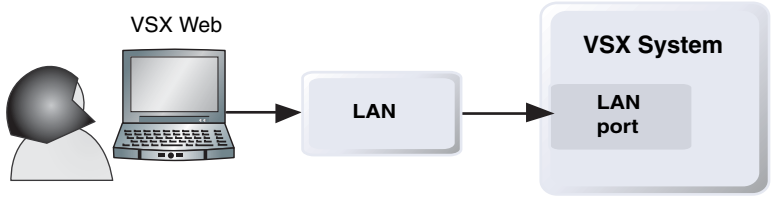


To supply closed captions using equipment connected directly to the serial port:

1. Ensure that the PC and the VSX system are configured to use the same baud rate and parity settings.
2. Go to **System > Admin Settings > General Settings > Serial Port** and set the RS-232 mode to **Closed Caption**.
3. On the PC, start the transcription application.
4. Enter text using the stenographic machine connected to the PC.
5. To stop sending closed captions, close the transcription application.

Via VSX Web

Closed captioners can provide captions from inside the conference room, or from a remote location, by entering the captions directly into VSX Web, as shown in the following diagram.



To supply closed captions for a conference using VSX Web:

1. On a PC, open a web browser.
2. In the browser address line, enter the IP address of the system, for example, `http://255.255.255.255`, to go to the system's web interface.

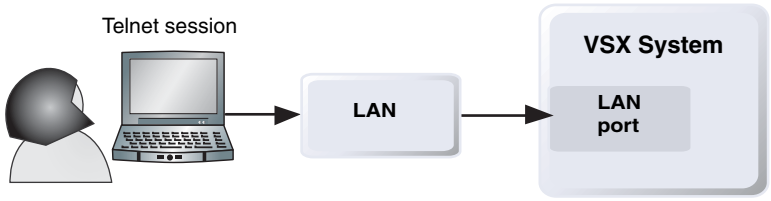
3. Go to **System Setup > Utilities > Closed Caption**.
4. Log in using this information:

   User Name: Your name.

   Password: Meeting password defined for your video conferencing system.
5. In the Closed Caption screen, type the caption text into the text field. Text wraps to the next line after 59 characters.
6. Press **Enter** to send the text to the sites in the conference.

Via a Telnet Session

Closed captioners can provide captions from inside the conference room, or from a remote location, by entering captions via a Telnet session, as shown in the following diagram.



To supply closed captions for a conference via a Telnet session:

1. On a PC, open a command line interface.
2. Start a Telnet session using the VSX system IP address and port 24 — for example, `telnet 255.255.255.255 24`.
3. Enter the command `cc` to start captioning.
4. Press **Enter** to send the text.
5. To stop sending closed captions, enter **Ctrl-z**.

Helping Users Get Started

The system is installed and you've finished the network configuration and designed the behaviors. Now it's time for the users to start placing calls. You may want to spend time helping your users become familiar with basic calling tasks.

The following resources are available for users:

- *Getting Started Guide for the VSX Series*— This guide is for all users, from beginners to the more experienced. It covers meeting basics, different ways to place calls, how to use the remote control, and how to deliver presentations.

  It is included on the VSX system documentation CD and is also available on the web. Print out copies to hand out in training classes, post it on your Intranet, or email it to everyone in your organization who meets via video.

- *Using Your Polycom VSX Room System* — This colorful brochure is designed to give users a quick overview of basic meeting tasks.

  It is included on the VSX system documentation CD and is also available on the web. Print out copies to put in conference rooms, post it on your Intranet, or email it to everyone in your organization who meets via video.

- *Visual Concert VSX Quick Tips* — This two-page guide shows users how to present content with the Visual Concert VSX.

  It is included on the VSX 6000 or VSX 7000 documentation CD and is also available on the web. Email it to your users so they can print a copy whenever they are presenting content with the Visual Concert VSX.

- Screen Help — The home and Directory screens have context-specific help. Users can press on the remote control to access help topics.

- www.polycom.com/videodocumentation — Refer to the video documentation page on the Polycom website for the latest documents supporting these products.

5

Managing the System Remotely

You configure, manage, and monitor the system from a remote computer using the system's web interface, VSX Web. You can also use the Polycom Global Management System™, SNMP, or the API commands.

Your choice of management tool depends on your network environment:

- ❑ VSX Web requires only a web browser to control the system.
- ❑ Polycom Global Management System requires the GMS application to be installed on your network.
- ❑ SNMP requires network management software on your network management station.
- ❑ For more information about the API commands, refer to the *Integrator's Reference Manual for the VSX Series*.

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Configuring Global Services	5-6
Setting Up SNMP	5-9

Using VSX Web

You can use VSX Web to perform most of the calling and configuration tasks you can perform on the local system.

Accessing VSX Web

To configure your browser to use VSX Web:

1. Be sure that you use Microsoft Internet Explorer 6.0 or later as your web browser.
2. Configure these settings:
   - Allow cookies: Enabled
   - Force pages to reload on every visit to a page: Enabled

To access the system using VSX Web:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Enter `admin` as the user name, and the admin password, if a password has been established.

You can use VSX Web to configure all of the system settings except the remote management settings. For security reasons, these settings must be configured on the local system by an administrator.

Room and Call Monitoring with VSX Web

The monitoring feature within VSX Web allows administrators of VSX systems to view a call or the room where the system is installed.

For security reasons, this feature can only be enabled on the local system by an administrator.

To enable room and call monitoring:

1. Go to **System > Admin Settings > General Settings > Security**.
2. Select **Allow Video Display on Web** to allow the room or call to be viewed remotely.

To view a room or call:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Go to **System Setup > Utilities > Web Director**.
4. Perform any of the following tasks:
   - Place or end a call
   - View near and far sites
   - Change camera sources
   - Adjust camera position
   - Zoom cameras
   - Adjust system volume settings
   - Mute and unmute the microphones

You can view near and far sites without opening Web Director by clicking on **System Setup** then clicking on the monitor icon in the top right corner of the browser window.

Managing System Profiles with VSX Web

The customization options for VSX systems have been extended with the ability to store your system settings as separate profiles. Profiles can be stored on your PC as a .csv file using VSX Web. There is no limit to the number of profiles you can save.

This is particularly useful for administrators managing systems that support multiple applications. Changing the interface and behaviors of the VSX system can be done quickly and easily.

The following settings are included in a profile:

- Home Screen settings
- User access levels
- Icon selections
- Option keys
- System behaviors

Polycom recommends using profiles as a way to back up system settings. Attempting to edit a stored profile or upload it to a different system can result in unexpected problems.

To store a profile:

1. In VSX Web, go to **System Setup > Utilities > Profile Center**.
2. Click **VSX —> PC** to download the .csv file from the VSX system.
3. Save the file to a location on your PC.

To upload a profile:

1. Reset the VSX system to restore default settings.
2. In VSX Web, go to **System Setup > Utilities > Profile Center**.
3. Click **Browse** and browse to the location of the .csv file on your PC.
4. Click **PC —> VSX** to upload the .csv file to your system.

Managing Directories with VSX Web

VSX Web's import/export directory feature allows you to maintain consistency of VSX system directories in your organization efficiently. It is particularly useful for administrators managing multiple systems that call the same locations. You can:

- ❑ Transfer existing directory entries between VSX systems
- ❑ Develop directory entries on one system, save them to your PC, and then distribute them to other systems

Only local directories can be downloaded. The directory file is in .csv format.

To download a VSX system directory to your PC:

1. In VSX Web, go to **System Setup > Utilities > Import Directory**.
2. Click **VSX —> PC** to download the .csv file from the VSX system.
3. Save the file to a location on your PC.

To upload VSX system directory entries:

1. In VSX Web, go to **System Setup > Utilities > Import Directory**.
2. Click **PC —> VSX**.
3. Click **Browse** and browse to the location of the .csv file on your PC.
4. Click **Export Directory** to upload the .csv file to the VSX system.

Configuring Global Services

If your organization uses the Polycom Global Management System, you can configure, manage, and monitor the VSX system using the Global Management System (GMS) server. GMS is a web-based client/server software tool that allows administrators to manage a network of video conferencing systems.

To use global services for the system, configure the following:

- ❑ Management Servers
- ❑ Account Numbers
- ❑ My Information

Viewing the Management Servers List

On networks managed by the Global Management System, several Global Servers may be configured to manage this system remotely. The system also has a primary Global Management System server that performs account validation. You can view information about these servers, but this information can only be changed by the GMS Administrator.

To view the management servers list:

>> Go to **System > Admin Settings > Global Services > Management Servers.**

Requiring an Account Number for Calls

If your system is set up for use with the Global Management System, the system can prompt the user to enter an account number before placing a call. The account number is added to the Global Management System's Call Detail Record (CDR) and the system's local CDR file (localcdr.csv), and this information can be used for call tracking and billing purposes.

If you configure the system to validate the account number, calls placed without a valid account number are not completed. If you do not configure the system to validate account numbers, calls are completed regardless of whether the account number is valid. Account numbers are set up in GMS by the GMS administrator.

For more information about account validation, please contact your GMS administrator.

To require an account number for calls:

1. Go to **System > Admin Settings > Global Services > Account Validation**.
2. Specify whether to require an account number for placing calls and whether that number should be validated by the GMS server.

Adding My Information

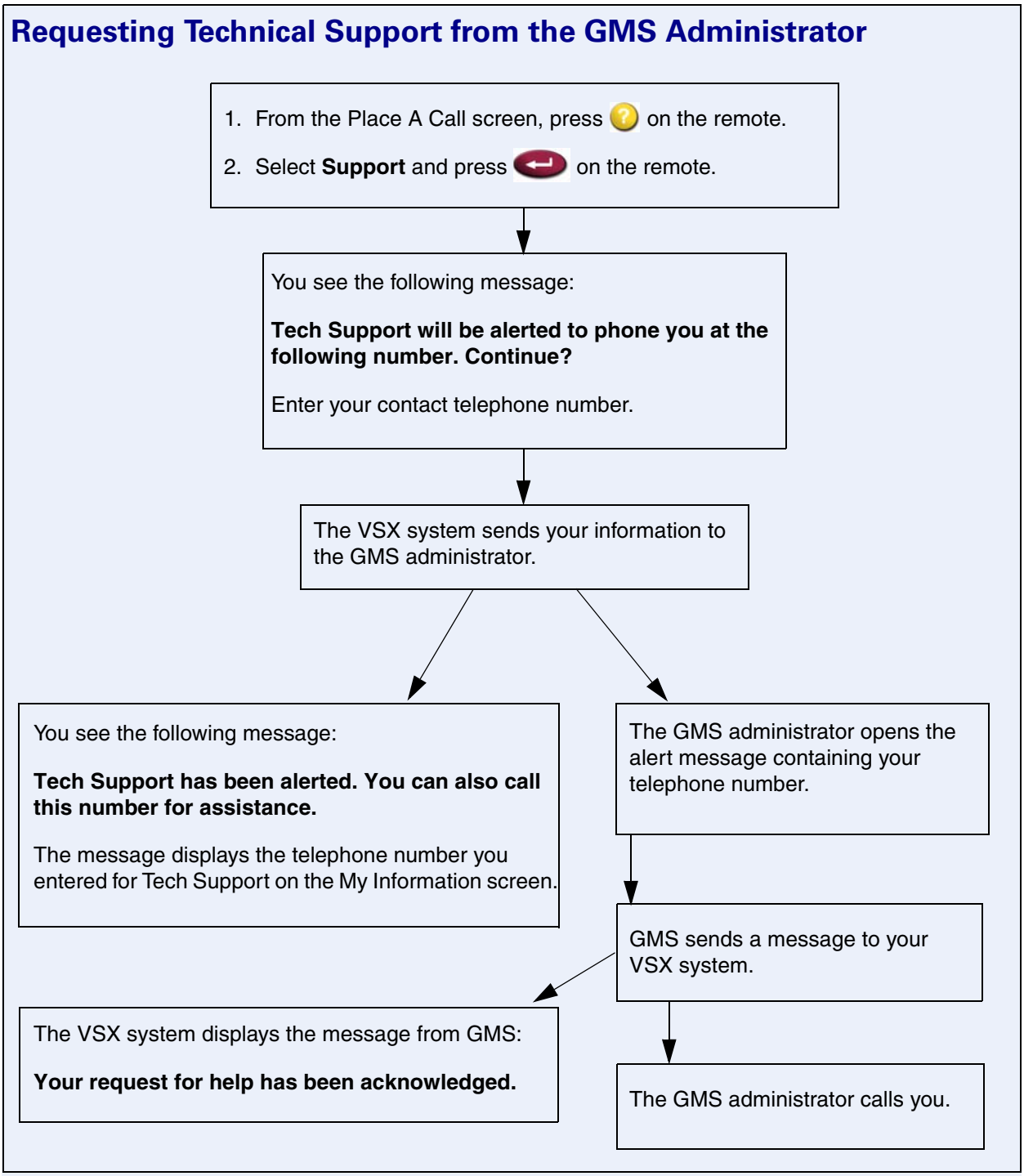
If your system is managed by GMS, you can configure the VSX system so that users can request help from the GMS administrator.

To configure Global Management contact information:

1. Go to **System > Admin Settings > Global Services > My Information**.
2. Enter the contact information for the GMS administrator for technical support.

The following section illustrates the interaction between GMS and the system you are configuring.

Requesting Technical Support from the GMS Administrator



Setting Up SNMP

The VSX system sends SNMP (Simple Network Management Protocol) reports to indicate a total of 31 conditions, including the following:

- ❑ All alert conditions found on the VSX system's alert page
- ❑ Details of jitter, latency, and packet loss
- ❑ Low battery power is detected in the remote control
- ❑ A system powers on after a long period powered off
- ❑ Administrator logon is successful or unsuccessful
- ❑ A call fails for a reason other than a busy line
- ❑ A user requests help
- ❑ A telephone or video call connects or disconnects

VSX systems are compatible with SNMP version 1.

Downloading MIBs

In order to allow your SNMP management console application to resolve SNMP traps and display human readable text descriptions for those traps, you need to install Polycom MIBs (Management Information Base) on the computer you intend to use as your network management station.

The MIBs are available for download from VSX Web.

To download the Polycom MIBs:

1. On a PC, open a web browser.
2. In the browser address line, enter the IP address of the system, for example, `http://255.255.255.255`, to go to VSX Web.
3. Go to **System Setup > Admin Settings > Global Services > SNMP**.
4. Click **Download MIB** and follow the onscreen instructions.

Configuring for SNMP Management

To configure the VSX system for SNMP Management:

1. Access the SNMP configuration screen either in VSX Web or on the VSX system. In VSX Web go to **System Setup > Admin Settings > Global Services > SNMP**. On the VSX system go to **Admin Settings > Global Services > SNMP**.

2. Configure these settings:

Setting	Description
Enable SNMP	Allows administrators to manage the system remotely using SNMP.
Community	Specifies the SNMP management community in which you want to enable this system. The default community is *public*.
Contact Name	Specifies the name of the person responsible for remote management of this system.
Location Name	Specifies the location of the system.
System Description	Specifies the type of video conferencing device.
Console IP Address	Specifies the IP address of the computer you intend to use as your network management station and to which SNMP traps will be sent.

6

System Usage and Statistics

The VSX system provides various screens that allow you to review information about calls made by the system and to review network usage and performance.

Call Summary

The Call Summary screen provides details about the calls placed by the system, including:

- Duration of the last call
- Total number of calls placed and received
- Number, total time, and percentage of IP calls
- Number, total time, and percentage of ISDN calls

To view the Call Summary screen:

>> Go to **System > Diagnostics > Call Statistics** and then select three times.

You can view Call Statistics and Call Summary during a call by pressing **Help** on the remote.

Call Statistics

The two Call Statistics screens provide information about the call in progress, including:

This screen:	Displays this information:
Call Statistics (1)	• Call speed (transmit and receive) • Video protocol, annexes, and format in use (transmit and receive). The video protocol is shown in green if the system is currently using error concealment. • Audio protocol in use (transmit and receive) • Number of packets lost and percentage packet loss (transmit and receive) in IP calls • Encryption type, key exchange algorithm type, and key exchange check code (if the encryption option is enabled and the call is encrypted) • Far site details and call type
Call Statistics (2)	• Audio and video data rates specified (transmit and receive) • Video data rate and frame rate in use (transmit and receive) • Video packet loss and jitter in IP calls • Audio packet loss and jitter in IP calls • Far site details and call type

To view the Call Statistics screen:

>> Go to **System > Diagnostics > Call Statistics** and then select .

You can view Call Statistics and Call Summary during a call by pressing  **Help** on the remote.

Call Status

The Call Status screen provides call connection information. The spheres on the screen provide details for each line. When you place a call, you'll see the status change as the call connects.

To view the Call Status screen:

>> Go to **System > Diagnostics > Call Statistics**.

You can highlight the spheres on this screen to see the number dialed, the relevant status code, and details of any errors.

You can view **Call Status** during a call by pressing **Help** on the remote.

Recent Calls

Recent Calls shows a list of up to 99 calls made by the system. It includes the following information:

- Site name or number
- Date
- Time
- Call In or Out

The Recent Calls list shows incoming and outgoing calls that connect, as well as outgoing calls that do not connect.

If Do Not Disturb has been enabled, any incoming calls attempted by other sites will not be listed.

The Home screen can be configured to include Recent Calls. For more information about including the Recent Calls list on the home screen, see Designing the Home Screen on page 4-39.

To view the Recent Calls screen:

>> Go to **System > Admin Settings > Network > Recent Calls.**

You can see more detail about any call by highlighting an entry and pressing  **Help** on the remote. Information includes the far site's number and name, and the type, speed (bandwidth), and duration of the call.

You can call any site on the Recent Calls list by highlighting the entry and pressing  **Call** or  **Select** on the remote to place the call.

If you need even more detail about calls, you can download the Call Detail Report (CDR) from VSX Web. For more information about the CDR, see Call Detail Report on page 6-6.

Call Detail Report

The Call Detail Report (CDR) provides the system's call history. You can view the CDR from VSX Web, and you can download the data in CSV format for sorting and formatting.

CSV stands for Comma Separated Value. CSV files can be imported into spreadsheet and database programs.

Every call that connects is added to the CDR, whether it is a call that you make or that you receive. If a call does not connect, the report shows the reason. In multipoint calls, each far site is shown as a separate call, but all have the same conference number.

The CDR does not include incoming calls that the VSX system does not answer, so if calls were missed while Do Not Disturb was enabled, details will not be included in the CDR.

To view and download the CDR via VSX Web:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Enter `admin` as the user name, and the admin password, if a password has been established.
4. Click **System Setup > Utilities > Call Detail Report** to view the details of the file.
5. Click **Save** and then specify a location on your computer to save the file.

Information in the CDR

The following table describes the data fields in the CDR.

Data	Description
Row ID	Each call is logged on the first available row. A call is a connection to a single site, so there may be more than one call in a conference.
Start Date	The call start date, in the format dd-mm-yyyy.
Start Time	The call start time, in the 24-hour format hh:mm:ss.

Data	Description
End Date	The call end date.
End Time	The call end time.
Call Duration	The length of the call.
Account Number	If Require Account Number to Dial is enabled on the system, the value entered by the user is displayed in this field.
Remote System Name	The far site's system name.
Call Field Number 1	The number dialed from the first call field, not necessarily the transport address. For incoming calls — The caller ID information from the first number received from a far site.
Call Field Number 2 (If applicable for call)	For outgoing calls — The number dialed from the second call field, not necessarily the transport address. For incoming calls — The caller ID information from the second number received from a far site.
Transport Type	The type of call — Either H.320 (ISDN) or H.323 (IP).
Call Rate	The bandwidth negotiated with the far site.
System Manufacturer	The name of the system manufacturer, model, and software version, if they can be determined.
Call Direction	In — For calls received. Out — For calls placed from the system.
Conference ID	A number given to each conference. A conference can include more than one far site, so there may be more than one row with the same conference ID.
Call ID	Identifies individual calls within the same conference.
Total H.320 Channels Used	The total number of ISDN B channels used in the call. For example, a 384K call would use six B channels.
Endpoint Alias	The alias of the far site.
Endpoint Additional Alias	An additional alias of the far site.
Endpoint Type	Terminal, gateway, or MCU.
Endpoint Transport Address	The actual address of the far site (not necessarily the address dialed).
Audio Protocol (Tx)	The audio protocol transmitted to the far site, such as G.728 or Siren™ 14.
Audio Protocol (Rx)	The audio protocol received from the far site, such as G.728 or G.722.

Data	Description
Video Protocol (Tx)	The video protocol transmitted to the far site, such as H.263 or H.264.
Video Protocol (Rx)	The video protocol received from the far site, such as H.261 or H.263.
Video Format (Tx)	The video format transmitted to the far site, such as CIF or SIF.
Video Format (Rx)	The video format received from the far site, such as CIF or SIF.
Disconnect Reason	The description of the Q.850 (ISDN) cause code showing how the call ended.
Q.850 Cause Code	The Q.850 cause code showing how the call ended.
Total H.320 Errors	The number of errors during an H.320 call.
Average Percent of Packet Loss (Tx)	The combined average of the percentage of both audio and video packets transmitted that were lost during the 5 seconds preceding the moment at which a sample was taken. This value does not report a cumulative average for the entire H.323 call. However, it does report an average of the sampled values.
Average Percent of Packet Loss (Rx)	The combined average of the percentage of both audio and video packets received that were lost during the 5 seconds preceding the moment at which a sample was taken. This value does not report a cumulative average for the entire H.323 call. However, it does report an average of the sampled values.
Average Packets Lost (Tx)	The number of packets transmitted that were lost during an H.323 call.
Average Packets Lost (Rx)	The number of packets from the far site that were lost during an H.323 call.
Average Latency (Tx)	The average latency of packets transmitted during an H.323 call based on round-trip delay, calculated from sample tests done once per minute.
Average Latency (Rx)	The average latency of packets received during an H.323 call based on round-trip delay, calculated from sample tests done once per minute.
Maximum Latency (Tx)	The maximum latency for packets transmitted during an H.323 call based on round-trip delay, calculated from sample tests done once per minute.
Maximum Latency (Rx)	The maximum latency for packets received during an H.323 call based on round-trip delay, calculated from sample tests done once per minute.
Average Jitter (Tx)	The average jitter of packets transmitted during an H.323 call, calculated from sample tests done once per minute.
Average Jitter (Rx)	The average jitter of packets received during an H.323 call, calculated from sample tests done once per minute.

Data	Description
Maximum Jitter (Tx)	The maximum jitter of packets transmitted during an H.323 call, calculated from sample tests done once per minute.
Maximum Jitter (Rx)	The maximum jitter of packets received during an H.323 call, calculated from sample tests done once per minute.

Call Detail Report (CDR) Archives

Calls are added to the CDR until the file size reaches 50 KB, which is equivalent to about 150 calls. The system then automatically archives the CDR and creates a new CDR file. If an archive is already present, the new archive overwrites it.

Each CDR starts with Row 1, but the conference numbers continue from the file most recently archived. Conference numbering restarts at 1 after the system assigns conference number 100,000.

To get an archived CDR:

1. From your computer, open an FTP client.
2. FTP into the VSX system.
3. Enter this FTP command:
   `GET localcdr_archive.csv`
4. Close your FTP session.

7

Diagnostics and General Troubleshooting

This chapter covers the diagnostic screens of the VSX system. It is organized by category to help you troubleshoot any issue.

Diagnostic tools are available via the system itself an VSX Web. To connect to VSX Web, enter your system's IP address in a web browser and browse to the required diagnostic tool.

Sending a Message

If you are experiencing difficulties with connectivity or audio, you may want to send a message to the system that you are managing.

Only the near site can see the message; it is not broadcast to all the sites in the call.

To send a message via the VSX Web:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Click **System Setup**.
4. Enter `admin` as the user name, and the admin password, if a password has been established.
5. Go to **Diagnostics > Send a Message**.
6. In the Send a Message page, enter a message (up to 100 characters in length), then click **Send Message**.

   The message is displayed for 15 seconds on the screen of the system that you are managing.

System Screens Quick Reference

These screens allow you to view information about the system, configure the system, and diagnose performance issues if they arise. They are available on the system and through the VSX Web.

To view information about the system, go to the home screen and select **System**. Then choose the type of information you need:

This choice:	Presents this information or capability:
Admin Settings	User interface customization, system customization, security, dialing requirements and network configuration, key-enabled options, Global Management System information.
Diagnostics	System status and performance and system tests. The VSX Web also offers the Send Message function and provides access to the Call Detail Report.
System Information	Identifying information.
Utilities	Call scheduler and calendar. VSX 6000, VSX 7000, and VSX 8000 systems also include a streaming utility.
User Settings	System behavior and appearance.

Diagnostic Screens

You can view network statistics and perform diagnostic tests from the VSX system's Diagnostics screens.

To access the Diagnostics screens on the system:

>> Go to **System > Diagnostics.**

To access the Diagnostics screens from the VSX Web:

1. On a PC, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://255.255.255.255`, to go to VSX Web.
3. Click **System Setup**.
4. Enter `admin` as the user name, and the admin password, if a password has been established.
5. Click **Diagnostics** from any page in VSX Web.

The following diagnostic screens and tools are available:

Status Tools		
Diagnostic Tool	**In the system's user interface**	**In the VSX Web**
System Status screen Displays system status information, including auto-answer point to point, remote control battery, time server, Global Directory, IP network, gatekeeper, and ISDN BRI lines.	On the Diagnostics screen, select **System Status**.	Select **Diagnostics > System Status**.
Call Summary screen Displays calling information, such as time spent in calls, total number of IP and ISDN calls, and percentage of time spent in IP and ISDN calls.	1. On the Diagnostics screen, select **System Status**. 2. Select  to go to the Call Summary screen.	Select **Diagnostics > System Status > Call Summary**.
	For more information about this screen, see Call Summary on page 6-2.	

<table>
<tr><th colspan="3">Status Tools</th></tr>
<tr><th>Diagnostic Tool</th><th>In the system's user interface</th><th>In the VSX Web</th></tr>
<tr><td rowspan="2">Call Status screen

Displays call type, data speed, and number dialed for the current call.

In ISDN calls, this screen also displays connection status for each channel. Selecting a channel call progress indicator displays its ISDN number.

In VSX 7000 and VSX 8000 calls placed through the V.35/RS-449/RS-530 network interface, this screen displays the states of these signals:
• DTR
• RTS
• CTS
• DSR
• DCD
• RI

Bright indicators show high signals; dim indicators show low signals.</td><td>On the Diagnostics screen, select Call Statistics.</td><td>Not available.</td></tr>
<tr><td colspan="2">For more information about this screen, see Call Status on page 6-4.</td></tr>
<tr><td rowspan="2">Call Statistics screen (VSX 6000, VSX 7000 and VSX 8000)

Displays call speed, audio and video protocols, annexes, and error count for the call in progress.

In multipoint calls, the Call Statistics screen shows most of this information for all systems in the call.</td><td>1. On the Diagnostics screen, select Call Statistics.
2. Select  to go to the Call Statistics screen.</td><td>Select Diagnostics > Call Statistics.</td></tr>
<tr><td colspan="2">For more information about this screen, see Call Statistics on page 6-3.</td></tr>
<tr><td rowspan="2">Call Detail Report screen

Displays the current Call Detail Report (CDR) and provides access to the archived CDR.</td><td>Not available.</td><td>Select Utilities > Call Detail Report.</td></tr>
<tr><td colspan="2">For more information about this screen, see Call Detail Report on page 6-6.</td></tr>
</table>

Network Tools		
Diagnostic Tool	**In the system's user interface**	**In the VSX Web**
Near End Loop test Tests whether your system is able to make IP calls successfully. Monitor 1 displays the video and plays the audio that would be sent to the far site in a call. This test is not available when you are in a call.	1. On the **Diagnostics** screen, select **Network**. 2. Select **Near End Loop** to start the test. 3. Press any button on the remote control to stop the test.	1. Select **Diagnostics > Network** > **Near End Loop**. 2. Click **Near End Loop** to start the test. 3. Click **Near End Loop** again to end the test.
PING test Tests whether the system can establish contact with a far-site IP address that you specify.	1. On the **Diagnostics** screen, select **Network** > **PING**. 2. Enter the IP address that you wish to test. 3. Select **Start**. If the test is successful, the system displays a message indicating that the IP address under test is available.	1. Select **Diagnostics > Network > PING**. 2. Enter the IP address that you wish to test. 3. Click the **PING** icon. If the test is successful, the system displays a message indicating that the IP address under test is available.
Trace Route test Tests the routing path between the local system and the IP address entered.	1. On the **Diagnostics** screen, select **Network > Trace Route**. 2. Enter the IP address that you wish to trace. 3. Select **Start**. If the test is successful, the system lists the hops between the system and the IP address you entered.	1. Select **Diagnostics > Network > Trace Route**. 2. Enter the IP address that you wish to test. 3. Click **Trace Route**. If the test is successful, the system lists the hops between your PC and the IP address you entered.
V.35/RS-449/RS-530 Serial Status screen (VSX 7000 and VSX 8000) Displays the states of these signals: • DTR • RTS • CTS • DSR • DCD • RI	On the **Diagnostics** screen, select **Network > V.35/RS-449/RS-530**. Bright indicators show high signals; dim indicators show low signals.	Not available.
Error Log files Created if the system restarts due to problems. These files contain information that can be used by Polycom Support personnel to troubleshoot system issues.	Not available.	A Polycom Support representative will provide instructions if the error log is needed.

Video and Audio Tools		
Diagnostic Tool	**In the system's user interface**	**In the VSX Web**
Color Bar test Tests the color settings of your monitor for optimum picture quality. If the color bars generated during the test are not clear, or the colors do not look correct, the monitor needs to be adjusted.	1. On the **Diagnostics** screen, select **Video**. 2. Select the **Color Bars** icon. 3. Press any button on the remote control to stop the test.	1. Select **Diagnostics > Video**. 2. Click the **Color Bars** icon to start the test. 3. Click the **Color Bars** icon again to end the test.
Speaker test Tests the audio cable connections. A 400 Hz audio tone indicates that the local audio connections are correct.	1. On the **Diagnostics** screen, select **Audio**. 2. Select the **Speaker Test** to go to the Speaker Test screen. 3. Select the **Speaker Test** icon. 4. Press any button on the remote control to stop the test. If you are in a call, the far site will also hear the tone.	1. Select **Diagnostics > Audio > Speaker Test**. 2. Click the **Speaker Test** icon to start the test. 3. Click the **Speaker Test** icon again to end the test. The people at the site you are testing will hear the tone, but you will not. You can send a message to tell them how to notify you when they hear the speaker test.
Audio Meter test Measures the strength of audio signals from: • Microphone(s) • Far-site audio • VCR audio • Any device connected to the audio line in	1. On the **Diagnostics** screen, select **Audio**. 2. Select **Audio Meter.** The audio meter should register between 0 and 15 dB for each active input. 3. To check the microphone(s), speak into the microphone. 4. To check far-site audio, ask a participant at the far site to speak. 5. To check a VCR or DVD, connect it to the VCR inputs and play the VCR or DVD to test the audio.	Select **Diagnostics > Audio** > **Audio Meter** to start the test.

Reset and Restart		
Diagnostic Tool	**In the system's user interface**	**In the VSX Web**
Reset System Cycles power to the system. When you reset the system using the remote control, the system's user interface allows you to: • Keep your system settings (such as system name and network configuration) or restore factory settings. • Keep or delete the directory stored on the system.	1. On the **Diagnostics** screen, select **Reset System**. 2. Enter the system's serial number. 3. If you wish to restore the original factory settings, select **Delete System Settings**. This deletes the administrator's password, CDR, and CDR archive along with the other system settings. You may wish to download the CDR and CDR archive before you reset the system. See Call Detail Report on page 6-6. If you delete system settings, the setup wizard will lead you through the initial configuration after the system restarts. 4. If you wish to remove the directory, select **Delete Directory Entries**. This only deletes the system's local directory. System reset does not affect the Global Directory. 5. Select **Reset System**.	1. Select **Diagnostics > Reset System**. 2. Click the **Reset System** icon.

General Troubleshooting

This section presents problems, likely causes, and corrective actions. Problems are grouped as follows:

- Power and Start-up
- Controls
- Access to Screens and Systems
- Calling
- Displays
- Cameras
- Audio
- Error Indications
- System Lights
- Network Interface Lights

Power and Start-up

Symptom	Problem	Corrective action
The system does not start or respond in any way.	The power switch is off. Note: VSX 3000 systems have three power switches.	Turn on the power switches for the system and all equipment connected to it.
	The power cord is not connected.	VSX 3000, VSX 6000: Make sure the power pack is connected to a power outlet, and that its power cords are seated securely. VSX 7000: Make sure that the system is connected to the subwoofer and that the subwoofer is connected to a power outlet. The power for the system is supplied by the subwoofer, so it must be connected in order for the system to work. VSX 8000: Make sure that the system's power cord is in place, and that it is connected to a power outlet.
	The power outlet is not active, or the system's power supply is not operating properly.	Check the power outlet by unplugging the system and plugging in a lamp, radio, or other small appliance. If it does not operate, the outlet is not active — connect the system to a different outlet. If the outlet is active, the problem is in the system's power supply. In this case, call Polycom Technical Support and arrange to return the system for service.
The system starts in the software update screen.	The system software is corrupted or not loaded properly.	Load the system software from your PC. For instructions on how to do this, refer to Keeping your Software Current on page 3-27.
The system restarts over and over.	The power supply is bad.	Return the system for service.
	The socket is corroded.	Unplug and reseat the power plug 5 times.

Controls

Symptom	Problem	Corrective action
The system does not respond to the remote control.	No batteries in the remote control.	Install batteries in the remote control.
	The batteries are installed incorrectly in the remote control.	Insert the batteries in the correct +/- position.
	The room lights operate in the 38 Khz range and interfere with the remote control signals.	Turn off the lights in the room and try the remote control again.
	The infrared sensor is not receiving signals from the remote control.	Make sure the transparent protective strip has been removed from the infrared sensor on the front of the system. Make sure you are pointing the remote control at the infrared sensor on the front of the system or the camera.
	VSX 8000: The external infrared sensor is not operating properly.	Check the connections between the rear panel, cable adapter, and infrared sensor cable.
The monitor screen remains blank when you pick up the remote control.	The monitor's power cord is not plugged in.	Connect the monitor's power cord and then power on the monitor.
	The monitor is powered off.	Power on the monitor.
	The monitor is not connected correctly to the system.	Verify that the monitor is connected correctly according to the installation procedures in the section Connecting a Monitor on page 2-16.
The remote control does not work in voice-only calls using the VTX 1000 conference phone.	This is normal.	Use the VTX 1000 conference phone's controls in voice-only calls.
The system does not respond to the touch-panel control.	The RS-232 port is not configured as a touch-panel input.	Go to **Admin Settings > General Settings > Serial Port** and verify the following: • **Baud Rate** is set to the same value on the system as on the touch-panel. • **RS-232 Mode** is set to **Control**. • VSX 8000: The touch-panel is connected to the port that is configured as a touch-panel port.

Access to Screens and Systems

Symptom	Problem	Corrective action
Cannot navigate to Admin screens — System button is not displayed.	The Home screen is not configured to display the **System** button.	Access the system remotely using VSX Web, FTP, Telnet, or SNMP. From VSX Web, you can add the **System** button back to the Home screen. Click **System Setup** and navigate to **Admin Settings > General Settings > Home Screen Settings**, then select **System**. The change takes effect after you navigate away from the Home screen and then back again on the system.
Cannot navigate to Admin screens without a password.	The system administrator has set a password, or The default password was not deleted.	Enter the password. The default password is the system's serial number.
Cannot access the system remotely.	The system does not allow remote access.	On the system, go to **Admin Settings > General Settings > Security** and enable web access.
	The system or your computer is not connected to the LAN.	Check the LAN cable to the LAN port on the rear of the system. Check the LAN cable to your computer.
	The LAN cable to the system or to your computer is bad. To verify this, check the lights on the system. There should be a steady green light indicating a connection to the LAN, and a flashing orange light indicating LAN traffic if the cable is good.	Replace the appropriate LAN cable.
	DHCP Client is ON and no DHCP server is available.	Contact your network administrator.
	There is a firewall between your PC and your system.	Contact your network administrator.
	Your PC is on a different subnet and there is a router between you and your system.	Place your PC and system on the same subnet. If this corrects the problem, check your router configuration. If it does not, contact your network service provider.

Symptom	Problem	Corrective action
Cannot manage the system remotely.	You have not entered the correct password.	Enter the correct user name and password. **Note**: The user name is **admin**, and the default password is the unit's serial number.
	Too many managers are logged into the system.	Only five system managers are allowed at any one time. To log everyone out, restart your system.

Calling

Symptom	Problem	Corrective action
Error message occurs when placing an IP (H.323) call.	The system is not connected to the LAN.	Verify that the LAN cable is connected properly.
	The system's LAN cable is bad.	Replace the system's LAN cable.
	The far site is not connected.	Use the PING test (**System > Diagnostics > Network > PING**) to determine whether the far site is accessible to your system. If the test fails, the far site system is unavailable.
	The system is not configured correctly for the network.	Check your IP configuration.
	The IP Gateway/Gatekeeper is not operating or is not configured correctly.	Contact the gatekeeper/gateway administrator.
System displays a message indicating network congestion when placing an ISDN call immediately after starting the system.	This can occur if the system uses a PRI E1 network interface module that is connected to an Adtran Atlas 800 Plus module. After power on, the Adtran module must complete channel restarts before the system can complete ISDN calls.	Wait about three minutes and try the call again.

Symptom	Problem	Corrective action
ISDN: Line Status icons do not go away so video calls cannot be made.	The system is not connected to an ISDN.	Check the ISDN line connections.
	The ISDN number is entered incorrectly.	Check the ISDN numbers with your service provider.
	The ISDN line is provisioned incorrectly by the ISDN service provider.	Check that your ISDN line is provisioned for Voice/Data.
	The VSX system is in an unknown state.	Power off the system, wait five seconds, and power on the system.
	The Quad BRI network interface is directly connected to a U interface.	Install an NT-1 device between your network interface module and the ISDN connection.
	The Quad BRI network interface is connected to an NT-1 then to a PBX.	You do not need an NT-1device when connecting to a PBX. Connect the system directly to the PBX S/T connection.
	The system was not able to auto-detect SPIDs, or the SPID numbers are entered incorrectly. **Note**: The AT&T point-to-point protocol does not require SPIDs.	Select the **Clear** icon on the **Auto Detect SPIDs** page, and then select the **Start** icon to automatically detect the new SPIDs. Make sure your ISDN numbers are entered correctly. Check with your ISDN service provider and enter the SPIDs and switch protocol manually. **Note**: The AT&T point-to-point protocol does not require SPIDs.
ISDN: When placing a call, progress indicators do not turn green.	The call does not connect properly.	Try the call again.

Symptom	Problem	Corrective action
Error message occurs when placing an ISDN (H.230) call.	An ISDN cause code is received from the ISDN line.	Try the call again. For more information, please refer to Q.850 Cause Codes on page Appendix-6.
	The highest-numbered channel did not connect. The system cannot make a call if this channel does not connect.	Be sure you are calling the correct number. The number may need to include: • A digit for an outside line • A long distance access code • An international access code • A country code • An area code or city code Check that all network cables are properly connected. Power off the system, wait five seconds, and power on the system. Then wait about two minutes to allow the ISDN lines to resynchronize. Ask the person at the far site to call your system.
	The ISDN switch type is not configured correctly on the VSX system.	Check the ISDN configuration and verify with your ISDN service provider that the system is configured correctly.
	The network interface module is not connected properly.	Check the cables to the network interface module.
The PBX does not accept calls of type “unknown” from the PRI network interface module.	The PRI network interface is not configured correctly.	Verify that you have configured the system’s PRI network interface correctly. For detailed instructions, see Configuring the PRI Network Interface on page 3-16.
Cannot complete calls to sites that do not use encryption.	The system displays a message stating that encryption is required.	Your system is configured to require all calls to be encrypted, and encryption is not available at the far site.
A system using a V.35/RS-449/RS-530 interface cannot receive calls at certain speeds.	V.35/RS-449/RS-530 systems cannot determine how to allocate bandwidth for call speeds that are divisible by both 56 and 64 (such as 448K: 8 x 56K), so the call cannot be connected correctly.	Call the far site, or have the caller try again at a different call speed.
Cannot dial remote system in bonding 384 K calls. (The call progress circles only show blue or yellow.)	Switch protocol issue.	Start by calling the far site at 1x56, 1x64, 2x56, or 2x64K, as appropriate. This will verify the primary number. If these calls complete, try 256K, then 384K. Being able to dial non-bonded but unable to dial bonded to all locations is usually a switch protocol issue. Verify your ISDN provisioning with the telephone service provider.

Symptom	Problem	Corrective action
Dialing a remote site in calls above some particular speed does not work. (The call progress circles do not turn green, or remain blue after the first channel connects.)	The far site may be unable to accept calls above this speed.	Go to the **Call Status** screen. Highlight each of the circles for each of the channels dialed. The number dialed for each channel will be displayed as you highlight the corresponding circle. Make sure that the far site has entered the number for each of its ISDN lines correctly. The numbers for Line 1 - Line 4 should correspond to connections 1 - 4 on the Quad BRI network interface module.
Cannot select the desired speeds for bonding calls from the speed selection.	Speeds do not show when selecting the speed icon.	1. Go to **Admin Settings > Network > Call Preference** and select four times to go to the **Call Speeds** screen. 2. Select the desired call speeds.
Multipoint calls downspeed when a voice-only call is added.	This is normal.	No action is necessary.
Voice-only calls cannot be placed using the VSX system.	This is normal.	Place voice-only calls using the VTX 1000 conference phone.
Hanging up the VTX 1000 conference phone does not end the video call.	This is normal.	Use the VTX 1000 conference phone's **EndVideo** soft key or the VSX system remote control to end video calls.
Call streaming to the Web does not work.	You may be attempting to stream to a different subnet and the router is not set to allow multicasting.	Make sure the network is configured to allow streaming. To send a stream across a subnet, enable multicasting on the network or unicast to a particular IP address, which will forward the stream to that IP address regardless of the location destination.

Displays

Symptom	Problem	Corrective action
Screen is blank; start music plays and Polycom logo appears briefly.	The system is starting. This is normal.	No action required.
Monitor goes blank after displaying the splash screen.	The system goes to "sleep" after a period of inactivity.	The system is sleeping. The system wakes up on any action from the remote control or on an incoming call.
Picture is blank on the main monitor.	The system is sleeping. This is normal.	Pick up the remote control to wake up the system.

Symptom	Problem	Corrective action
The monitor screen remains blank when you pick up the remote control.	The monitor's power cord is not plugged in.	Connect the monitor's power cord and then power on the monitor.
	The monitor is powered off.	Power on the monitor.
	The monitor is not connected correctly to the system.	Verify that the monitor is connected correctly according to the installation procedures in the section Connecting a Monitor on page 2-16.
The call connects but you cannot see or hear people the far site although they can see and hear you.	The system is configured for use with a NAT but is not behind a NAT.	Go to **Admin Settings > Network > IP > Firewall** and ensure that **NAT Configuration** is **Off**.
When using two monitors, the second monitor or projector is blank.	VSX 6000, VSX 7000, VSX 8000: Only one monitor is enabled.	Enable the system for two monitors on the **Admin Settings > Monitors > Monitors** screen.
When using two monitors, the same picture is seen on the first and second monitor.	The second monitor is connected to the VCR video output.	Connect Monitor 2 to the Monitor 2 connection on the rear panel of the system.
	You are the only participant in a call placed through an external MCU.	Wait for others to join the conference.
	The system is performing a Near End Loop test.	Press  **Select** on the remote to end the test.
The people at the far site cannot see you.	VSX 3000: The privacy shutter is closed.	Open the privacy shutter.
	VSX 7000, VSX 8000: You have selected a camera that is not connected.	Select the main camera.
The people at your site show up in silhouette in the PIP.	The camera is pointing toward a source of bright light, such as a window.	If it is practical to do so, have the call participants sit in a location where there is no light source behind them. Otherwise, go to **Admin Settings > Cameras** and select **Backlight Compensation**.
Video from your site is too dark or too light in the PIP.	Lighting at your site has changed within the past few minutes. During calls, the camera adjusts for the lighting at five-minute intervals.	Pan the camera. It adjusts for the lighting whenever it is moved.

Symptom	Problem	Corrective action
The system does not receive closed captions correctly.	The modem is not connected correctly, or is not configured correctly.	Verify that the modem is connected correctly according to the installation procedure in the section Connecting RS-232 Devices on page 2-36. Go to **Admin Settings > General Settings > Serial Port** and verify that **RS-232 Mode** is set to **Closed Caption**. Verify that the modem is configured for 8 bits, no parity.
Graphics are displayed on Monitor 1 at all sites even if Monitor 2 has been specified for content.	At least one site does not have dual-stream capability. This can occur in calls to ViewStation systems using version 4.2 and earlier software.	ViewStation owners can upgrade to the latest version of software.
Edges of picture are cut off when viewing graphics.	Graphics from the far site are displayed on an NTSC monitor. This problem may occur in multipoint calls using a RADVision MCU.	Use a VGA monitor to display graphics.
	The laptop's display resolution or refresh rate does not match the settings for the Visual Concert VSX.	Be sure the laptop's refresh rate is set to 60 Hz, and that the laptop and the Visual Concert VSX use the same display resolution.
Call participants cannot see or hear what is being played on the VCR or DVD.	The VCR or DVD is not selected.	Select the VCR (Camera 3): Press **Camera**, then press 3.
	The VCR or DVD is not set up correctly.	Check that the VCR or DVD is connected according to the instructions in the section Connecting a VCR/DVD Player on page 2-18. Refer to the manufacturer's instructions to set up the VCR or DVD correctly.
The far site cannot view slides properly; they appear momentarily, but do not remain on-screen.	The far site does not support Annex D high-resolution graphics.	Advise the far site participants that their system does not support this feature, and continue the call without presenting slides.
Picture freezes frequently during an IP call.	There is too much traffic on the LAN. Check the error count on the Call Statistics screen.	Go to **Admin Settings > Network > IP > Quality of Service** and enable dynamic bandwidth.

Symptom	Problem	Corrective action
Picture freezes frequently during an ISDN call.	Too many network line transmission errors. Check the error count on the **Diagnostics > Call Statistics** screen to verify this.	Try the call again.
	Network interface cable or cables may be bad.	Replace the cable or cables.
Picture is slow or jerky.	The system is receiving video that includes a large amount of motion.	A background with less motion provides a better, smoother video picture.
	Too many network line transmission errors. Check the error count on the **Diagnostics > Call Statistics** screen to verify this.	Try the call again.
	Only one 64 Kbps channel is connecting in your call.	Check the ISDN number of the far site. Ask the far site to call your site.
The system is not using Pro-Motion video.	The call speed is lower than the minimum speed you have configured for Pro-Motion video.	Try the call again at a higher speed, or Go to **System > Admin > Cameras >** **>** **> Video Quality.** Change the **Pro-Motion Video** setting to the desired minimum call speed.
	VSX 3000 and VSX 6000 systems send Pro-Motion video for content only.	This is normal.
No picture in the PIP window.	The lens cover is closed.	Open the lens cover.

Symptom	Problem	Corrective action
Blue screen in the PIP window.	The VCR input is selected and the VCR is not running. Most VCRs generate a blue screen when the tape is not playing.	Select a different camera or play a tape on the VCR.
	The camera selection is incorrect.	Select the appropriate camera: Press **Camera** on the remote, then press the number of the camera you wish to use.
	No video input.	Check that there is a video source connected to the selected input.
PIP goes out of focus when there is no motion for several minutes.	The camera is pointing at an area with no contrasting features. To focus properly, the camera must be able to detect an edge.	Point the camera at an object with well-defined edges.

Cameras

Symptom	Problem	Corrective action
Camera does not pan or tilt.	You are attempting to move a camera that does not have pan/tilt/zoom capabilities.	Make sure you have selected a pan/tilt/zoom camera.
	Camera control cable is not connected properly.	Check that the camera is connected according to the instructions in the section Connecting a Camera on page 2-13.
	The RS-232 port is not configured for camera control.	Go to **Admin Settings > General Settings > Serial Port** and verify that **RS-232 Mode** is set to **Sony PTZ**.
Separate camera does not work.	The camera is not connected correctly or its power pack is not plugged in.	Check that the camera is connected according to the instructions in the section Connecting a Camera on page 2-13.

Symptom	Problem	Corrective action
The camera does not track to the person who is speaking.	Stereo is enabled in the user interface. This is possible even when you have not set up the system to use stereo. Camera tracking and stereo cannot be used together.	Clear the **Enable Polycom StereoSurround** selection on the **Admin Settings > Audio > Audio Settings** screen. Use the remote control to move the camera.
	Participants at the far site have been controlling your camera.	Camera tracking is turned off when the near or far site moves your camera. Press **Auto** on the remote control to restore tracking.
	At least one person at the far site is speaking, or the far site is noisy.	The camera stops tracking when participants at the far site begin speaking. This prevents the camera from pointing to your monitor or audio system. If the problem is background noise at the far site, try setting the system to track to camera presets.
	More than one person at the near site is speaking, or the near site is noisy.	Reduce the noise in the room.
	The person who is speaking is moving around the room.	Ask participants to remain in one place when speaking.
	The camera is tracking to presets that are at similar angles — for example, a view of the whole room and a close-up view of a seat in the center of the room.	Clear the presets. When setting new presets, do not set them at similar pan angles.
	The room setup interferes with voice tracking. Large windows, uncarpeted floors, and the way the unit is mounted on a wall or alcove can interfere with voice tracking.	Consider room treatments that provide acoustic damping, such as carpeting and curtains.
One site cannot control the other site's camera.	Far-site camera control is not enabled.	Ask the participants at the far site to aim the camera.
	One of the systems does not have the far-site camera control capability.	Ask the participants at the far site to aim the camera.

Audio

Symptom	Problem	Corrective action
No audio at your site	The far site is muted.	Look for the far site **Mute** icon. Ask the far site to unmute the microphone. **Note**: The far site's microphone may be muted even if you do not see a far site **Mute** icon.
	The volume may be turned all the way down.	Use the remote control to turn up the volume. Check the monitor's or external audio system's volume setting. Then check the system's audio output using the **Speaker Test** screen under **Diagnostics > Audio**. You should hear a 400 Hz tone.
	VSX 7000: The midrange speaker and subwoofer may be turned off. This happens if stereo is enabled. This is possible even when you have not set up the system to use stereo.	Go to **System > Admin > Audio Settings** and select twice. Make sure that **Midrange Speaker** and **Subwoofer Speaker** are both On.
	The far site's microphones are not placed correctly.	Ensure that each person who speaks is facing a microphone and is close enough to it.
	The far site's microphone is not connected or does not have power.	Ask the far site to check the cable to the microphone.
	Too many line errors.	Try the call again later.
	ISDN voice algorithm is incorrect.	Go to **System > Admin > Network > ISDN.** Change the **ISDN Voice Algorithm** selection (**aLaw** or **uLaw**).
	The volume is turned all the way down on the monitor or external audio system.	Turn up the volume on the appropriate device. After that, you can use the remote control to adjust the volume.
	The monitor's audio inputs are not connected properly.	Check audio output using the **Speaker Test** screen under **Diagnostics > Audio**. You should hear a 400 Hz tone. Ask someone at the far site to speak into the microphone, and check the **Far Site Audio** meter on the **Audio Meter** screen under **Diagnostics > Audio** to determine whether your system is receiving audio.
	The system's audio outputs are not connected properly.	Check the system's audio connections to the monitor, or to the external audio system if one is connected. Verify that the system is connected to the correct audio connectors on the monitor.

Symptom	Problem	Corrective action
The people at the far site cannot hear you.	The people at your site are too far from the microphone.	Move closer to the microphone.
	Your system's microphone is muted.	Check your system for one or more of these mute indications: • Near site mute icon on the screen • VSX 3000: System indicator is red • VSX room system: Microphone pod's mute light is on To unmute the system, press the  **Mute** button on the remote control.
	VSX 6000, VSX 7000, VSX 8000: No power to near site microphone pod.	Check that the conference link cable is properly seated. Replace the conference link cable if the people at the far site still cannot hear you.
	VSX 6000, VSX 7000, VSX 8000: Your system's microphone is not connected, or is connected incorrectly.	Check to be sure the microphone is installed correctly.
	Your system's microphone does not work.	Contact your Polycom reseller.
Not enough volume during a call.	The people at the far site are too far from the microphone.	Ask the people at the far site to move closer to the microphone.
	The volume is set too low on the system.	Turn up the volume using the remote control.
	VSX 6000, VSX 7000, VSX 8000: The volume is set too low on the monitor.	Turn up the volume on your monitor or external audio system.
Sound effects such as the incoming call ring are too loud or too soft.	The sound effects volume is not set at desired level.	Adjust the sound effects volume on the **Audio Settings** screen. If you do not want to hear sound effects, set the volume to 0.
You hear the incoming call ring when you have set sound effects volume to 0.	VSX 3000: The internal ringer is enabled.	On the **Audio Settings** screen, clear the **Enable Internal Ringer** option.
Audio sounds raspy in ISDN calls.	ISDN voice algorithm is incorrect.	Go to **System > Admin > Network > ISDN.** Change the **ISDN Voice Algorithm** selection (**aLaw** or **uLaw**).

Symptom	Problem	Corrective action
You can hear yourself on your system's monitor or external audio system.	The far site microphone is too close to the system's audio speaker. (Far-site systems with separate microphones only)	At the far site, make sure the microphone is placed away from the system's audio speaker.
	The far site audio volume may be too loud.	Turn down the audio volume at the far site.
	VSX 6000, VSX 7000, VSX 8000: The monitor or external audio system is connected to the VCR audio output.	Verify that all equipment is connected correctly according to the installation procedures in Setting Up Your System Hardware on page 2-1.
There is audio feedback when a VCR is connected.	A single VCR is connected so that it can play or record, no tape is present, and **VCR - Far and Near Audio** (VSX 7000) or **VCR Audio Out Always On** (VSX 8000) is selected.	Place a tape in the VCR.
Startup music plays through the built-in speaker but not through the monitor speakers.	The audio system or monitor speakers are not properly connected.	Check audio connections and volume level on your monitor.
	The monitor's volume is turned all the way down.	Turn up the volume on the monitor.
When music is played during the call, it sounds distorted at the other sites.	The music source is not connected to the system. The system's echo cancellation and noise suppression features may interfere with music that the microphone picks up.	Connect the music source to the system's audio input.
	The network is experiencing packet loss.	Turn off the music. Retry the call.

Symptom	Problem	Corrective action
Audio is not in stereo.	Microphones at the sending site are not placed correctly.	Be sure the microphones are set up as described in Connecting Audio Equipment on page 2-21. Microphones must be at least 3 ft. (0.9 m) apart. Move the microphones farther apart for clearer stereo imaging. Small changes in distance can have large effects on sound reproduction.
	Speakers at the receiving site are not placed correctly.	Ensure the speakers are about 60° apart as seen from the middle of the seating area.
	Speakers at the receiving site are not connected correctly.	Test both speakers using the test on **Diagnostics > Audio > Speaker Test**. If you do not hear the 400 Hz tone from both speakers, check the speaker wires and other external audio connections.
	The receiving site is not set up for stereo sound.	Advise the people at the receiving site that the sound will be in stereo only if the system is set up for stereo as described in Connecting Audio Equipment on page 2-21 and Configuring StereoSurround Settings on page 4-18.
	Stereo is not enabled at the receiving site.	Check whether stereo is enabled on the **Admin Settings > Audio Settings** screen.
	Echo cancellation is enabled on the balanced audio input. This disables the stereo feature.	If you are not using the audio mixer, clear the **Echo Canceller** selection on the second **Admin Settings > Audio Settings** screen.
	The call speed is too low. The system only sends stereo audio in calls placed at 256 Kbps and higher.	Try the call at a higher speed.
Stereo audio comes from the wrong speaker.	VSX 7000, VSX 8000: Microphones are incorrectly identified in the system.	Swap the microphones on the **Admin Settings > Audio Settings** screen.
	Speakers are connected incorrectly.	Connect the speaker on the left to the system's white audio output connector, and the speaker on the right to the red audio output connector.

Symptom	Problem	Corrective action
The VTX 1000 conference phone's controls do not adjust volume in video calls.	This is normal.	Use the VSX system remote control to adjust the system in video calls.
The **Audio Meter** screen shows a reading for **Polycom Mic** but no microphone pod is connected - the system receives local audio from a mixer.	Echo cancellation is in use. The system displays the audio line input level in this case.	This is normal.

Error Indications

Symptom	Problem	Corrective action
The **System Information** screen shows "waiting" in the IP Video Number field.	The LAN is not working.	Check the LAN connection. Contact your network administrator.
	The DHCP server is not available.	Contact your network administrator to correct the problem with the server or to assign a static IP address.
System displays a message indicating network congestion when placing an ISDN call immediately after starting the system.	This can occur if the system uses a PRI E1 network interface module that is connected to an Adtran Atlas 800 Plus module. After power on, the Adtran module must complete channel restarts before the system can complete ISDN calls.	Wait about three minutes and try the call again.
The system displays a message stating that there are too many Global Directory entries.	The system's Global Directory display is limited to 4000 entries.	1. Go to **System Information** > > > **System Status**, highlight Global Directories, and press the **Help** button. The system lists the Global Directory servers to which it is registered, and the number of directory entries from each. 2. Unregister the system from one or more of the Global Directory servers.
Low battery icon on the screen.	Low batteries in the remote control.	Replace the batteries in the remote control with 3 AAA batteries.

Symptom	Problem	Corrective action
The monitor displays an error icon during an ISDN call. 	The system has received more than the acceptable number of CRC errors or FEC errors within one second.	Retry the call if the video or audio quality becomes unacceptable to the call participants.
The monitor displays an error icon during an IP call. 	The system has detected packet loss above the acceptable level set for the system.	Retry the call if the video or audio quality becomes unacceptable to the call participants.

System Lights

The system lights are located on the front of your VSX system.

Model	When the VSX system...	It means...
VSX 3000 VSX 6000 VSX 7000	Indicators are off	No power to the system.
	Green indicator blinks slowly	The system is sleeping.
	Green indicator flashes when you use the remote control	The system is not in a call, and is receiving signals from the remote control.
	Amber indicator flashes when you use the remote control	The system is in a call, and is receiving signals from the remote control.
	Green indicator is on	The system is ready to make a call.
	Amber indicator is on	The system is in a call.
	VSX 3000: Red indicator is on VSX 6000, VSX 7000: Mute indicator on the microphone pod is red	The system microphone is muted.
VSX 8000	Blue indicator is on	The system is connected to power but powered off.
	Green indicator is on	The system is powered on.
	Green indicator blinks	The remote control has been picked up or set down.
	Red indicator turns on momentarily	The system is powering off.
	Mute indicator on the microphone pod is red	The system microphone is muted.

Network Interface Lights

On VSX 7000 and VSX 8000 systems, the Quad BRI network interface lights are located on the network interface module. On the VSX 3000 system, the lights are located on the back of the system near the BRI connectors.

When the BRI network interface...	It means...
Indicators are off	• No power to the system, or • The system is not connected to the network, or • The system is not receiving a clock signal from the network, or • The system is restarting.
Green indicator is on	The system is receiving a clock signal from the network.
Yellow indicator is on	The system is able to make a call.
Green and yellow indicators are on	• The system is receiving a software update, or • The system is operating normally.

The PRI network interface module is available for VSX 7000 and VSX 8000 systems.

When the PRI network interface...	It means...
Indicators are off	No power to the system.
Red indicator is on or blinking	The system is not connected to the ISDN network, or there is a problem with the ISDN line.
Yellow indicator is on or blinking	There is a problem with the ISDN line.
Green indicator is on	The system is able to make and receive calls.

The serial V.35/RS-449/RS-530 network interface module is available for VSX 7000 and VSX 8000 systems.

When the serial V.35/RS-449/RS-530 network interface...	It means...
Indicators are off	• No power to the system, or • The system is not communicating with the network, or • The system is restarting.
Yellow indicator is on	The system is receiving a clock signal from the network (able to make a call).
Yellow and green indicators are on	The system is in a call.

How to Contact Technical Support

If you are not able to make test calls successfully and you have verified that the equipment is installed and set up correctly, contact Polycom Technical Support by telephone or Internet as described below.

By Telephone

Before calling Polycom Technical Support, please have the following information ready. We also suggest that you go to **System > System Information** so that you will have the System Information screen showing when you call for help.

- ❑ Description of the issue – What is happening or not happening, and any related events you may be able to notice
- ❑ The 14-digit serial number in the System Information screen (also present on the bottom of the system)

Contact Polycom Technical Support at 1-800-POLYCOM.

By Internet

To contact Polycom Technical Support, go to www.polycom.com/support.

Enter the following information, then ask a question or describe the problem. This information helps us to respond faster to your issue:

- ❑ The 14-digit serial number in the System Information screen (also present on the bottom of the system)
- ❑ The software version (from the home screen, select **System > System Information**)
- ❑ Information about your network
- ❑ Troubleshooting steps you have already tried

Appendix

This appendix provides the following technical details about the VSX system:

- ❑ Graphics Displays
- ❑ Multipoint Dialing Speed Information
- ❑ Actions that Cause the System to Restart
- ❑ Port Usage
- ❑ Q.850 Cause Codes
- ❑ PathNavigator Error Codes

Graphics Displays

The following table describes what you see when you share graphics on a VSX 6000, VSX 7000, or VSX 8000 system with more than one monitor.

If graphics are directed to:	Monitor 1 shows:	Monitor 2 (S-Video or composite) shows:	VGA monitor shows:	Projector shows:	PIP shows:
Monitor 1	Graphics	Near video	None	Graphics	Far video
Monitor 2	Far video	Graphics	Graphics	Graphics	Near video
Projector	Far video	Near video	None	Graphics	None

Multipoint Dialing Speed Information

In a multipoint call, all parties must be connected at the same speed.

The following table shows the maximum allowable dialing speeds for the number of sites, including the main site, in a call.

Network Interface	Number of Sites in a Call	Maximum Speed for Each Party in the Call (Kbps)	
		H.320	H.323
BRI	2 with 2 lines	256	1920
	2 with 3 lines	384	1920
	2 with 4 lines	512	1920
	3 with 2 lines	128	512
	3 with 3 lines	192	512
	3 with 4 lines	256	512
	4 with 2 lines	64	384
	4 with 3 lines	128	384
	4 with 4 lines	128	384
H.323 Only		Refer to H.323 speeds in this table.	

For calls using the VSX 7000 or VSX 8000 system's serial V.35/RS-449/RS-530 network interface, the maximum dialing speeds depend on the capabilities of the third-party network equipment.

Actions that Cause the System to Restart

The VSX system restarts in the following situations:

- ❑ Changing Monitor 1 configuration from non-VGA to VGA, or from VGA to non-VGA.
- ❑ Changing any of the following settings in the **LAN Properties** screens:
  - **Connect to My LAN**
  - **Host Name**
  - **IP Address** — Changing how the system obtains an IP address or changing the address that you have entered manually
  - **DNS Servers**
  - **Default Gateway**
  - **Subnet Mask**
  - **WINS Server**
  - **LAN Speed**
  - **Duplex Mode**
- ❑ Changing any setting under **Enable Remote Access**, on the **Security** screen:
  - **FTP**
  - **Web**
  - **Telnet**
  - **SNMP**
- ❑ Changing the **Web Access Port** on the **Security** screen
- ❑ Changing any setting on the **SNMP** screen:
  - **Enable SNMP**
  - **Community**
  - **Contact Name**
  - **Location Name**
  - **System Description**
  - **Console IP Address**

Port Usage

The tables in this section list VSX system port usage. You may need this information when you configure your network equipment for video conferencing.

The following table shows H.323 port usage.

Port	Function
80-Static	TCP HTTP interface (optional)
389-Static	TCP ILS registration (LDAP)
1503-Static	TCP T.120
1718-Static	TCP Gatekeeper discovery (must be bidirectional)
1719-Static	TCP Gatekeeper RAS (must be bidirectional)
1720-Static	TCP H.323 call setup (must be bidirectional)
1731-Static	TCP Audio call control (must be bidirectional)
8080-Static	TCP HTTP server push (optional)
1024-65535	Dynamic TCP H245. Can be set to "Fixed Ports" on Polycom systems.
1024-65535	Dynamic UDP - RTP (video data). Can be set to "Fixed Ports" on Polycom systems.
1024-65535	Dynamic UDP - RTP (audio data). Can be set to "Fixed Ports" on Polycom systems.
1024-65535	Dynamic UDP - RTCP (control information). Can be set to "Fixed Ports" on Polycom systems.

The following table shows GMS port usage.

Port	Function
21	(FTP) Software upgrades and provisioning for VSX systems and ViewStations
24	(FTP) FTP Telnet trace log
80	(HTTP) Pulling VSX system, ViewStation, and VS4000 information
80	(HTTP) Software upgrades iPower & Provisioning iPower
3601	(Proprietary) (Data Traffic) - GAB data
3603	TCP - Pulling ViaVideo info (since might be non-web server PC)
389	LDAP and ILS
1002	ILS

The following table shows other VSX port usage.

Port	Function
21	(FTP) Software upgrades and GMS provisioning
23	(Telnet) For diagnostics
24	(FTP) API control

Q.850 Cause Codes

The following table describes codes that the ISDN switch sends to the VSX system to indicate call status. Although the codes are standardized, each ISDN service provider defines them differently. Because of this, the definitions in the table may not exactly match the messages that you see.

Code	Cause	Definition
1	Unassigned number	The switch received the sent ISDN number in the correct format, but no destination equipment uses the number.
2	No route to specified transit network	The ISDN exchange does not recognize the intermediate network through which to route the call.
3	No route to destination	The intermediate network through which the call is routed does not serve the destination address.
6	Channel unacceptable	The specified channel does not provide adequate service quality to accept the requested connection.
7	Call awarded and delivered	The user is assigned an incoming call that is being connected to a call channel that has already been established for this user and this type of call.
16	Normal call clearing	The originator or receiver of the call has requested that it be cleared.
17	User busy	All B channels are in use; the called system acknowledges the connection request, but is unable to accept the call.
18	No user responding	The destination equipment does not respond to the call, so the connection cannot be completed.
19	No answer from user (user alerted)	The destination equipment did not complete the connection within the prescribed time after responding to the connection request. The problem is at the remote end of the connection.
21	Call rejected	The destination equipment is capable of accepting the call, but has rejected it for an unknown reason.
22	Number changed	The ISDN number used to set up the call is no longer valid. (The diagnostic field of the message may return an alternate address assigned to the called equipment.)
26	Non-selected user clearing	The destination is capable of accepting the call, but did not assign it to the user.
27	Destination out of order	A signaling message cannot be delivered because the interface is not functioning correctly, and the destination cannot be reached. This condition might be temporary; for example, remote equipment might be turned off.

Code	Cause	Definition
28	Invalid number format	Destination address was incomplete or presented in an unrecognizable format, which prevented the connection from being established.
29	Facility rejected	The network cannot provide the facility requested by the user.
30	Response to STATUS INQUIRY	The equipment returns this message when it receives a STATUS INQUIRY message.
31	Normal, unspecified	A normal event has occurred with no standard cause applying. No resulting action is required.
34	No circuit/channel available	The call cannot be taken because no appropriate channel is available to establish the connection.
38	Network out of order	A network problem prevented the call from reaching its destination. Attempts to reconnect will probably fail until the network problem is corrected.
41	Temporary failure	A network error occurred. The problem will be resolved shortly. Attempts to reconnect may succeed.
42	Switching equipment congestion	The destination cannot be reached because the network switching equipment is temporarily overloaded.
43	Access information discarded	The requested access information cannot be provided by the network. The diagnostic message may explain the problem.
44	Requested circuit/channel not available	The remote equipment cannot provide the requested channel. This may be temporary.
47	Resource unavailable, unspecified	An unknown problem prevents the remote equipment from providing the requested resource.
49	Quality of service unavailable	The network cannot provide the requested quality of service (as defined by CCITT recommendation X.213). This may be a subscription problem.
50	Requested facility not subscribed	The remote equipment is capable of providing the requested supplementary service, but is not subscribed to it.
57	Bearer capability not authorized	The caller has requested a bearer capability that the network can provide, but the user is not authorized to use. This may be a subscription problem.
58	Bearer capability not presently available	The network normally provides the requested bearer capability, but cannot provide it now. This may be a temporary network problem or a subscription problem.
63	Service or option not available, unspecified	An unspecified problem prevents the network or remote equipment from providing the requested service or option. This might be a subscription problem.

Code	Cause	Definition
65	Bearer capability not implemented	The network is not capable of providing the bearer capability requested by the user.
66	Channel type not implemented	The requested channel type is not supported by the equipment sending this code.
69	Requested facility not implemented	The remote equipment is not capable of providing the requested supplementary service.
70	Only restricted digital information bearer is available	The network is unable to provide unrestricted digital information over bearer capability.
79	Service or option not available, unspecified	The network or remote equipment is unable to provide the requested service option for an unspecified reason. This might be a subscription problem.
81	Invalid call reference value	The remote equipment received a call with a call reference that is not currently in use on the user-network interface.
82	Identified channel does not exist	The receiving equipment is requested to use a channel that is not activated on the interface for calls.
83	A suspended call exists but this call identity does not	The network received a call resume request that contained a call identity information element that does not match any suspended call.
84	Call identity in use	The network received a call suspend request that contained a call identity information element for a call that is already suspended.
85	No call suspended	The network received a call resume request when there was not a suspended call pending. This might be a transient error that will be resolved by successive call retries.
86	Call having requested call identity has been cleared	The network received a call resume request containing a call identity information element for a call that was cleared while suspended, either by timeout or by the remote user.
88	Incompatible destination	Indicates that an attempt was made to connect to non-ISDN equipment, such as an analog line.
91	Invalid transit network specified	The ISDN exchange was asked to route the call through an unrecognized intermediate network.
95	Invalid message, unspecified	An invalid message was received, for an unknown reason. This is usually due to a D-channel error. If this error occurs systematically, report it to your ISDN service provider.
96	Mandatory information element is missing	The equipment received a message that did not include one of the mandatory information elements. This is usually due to a D-channel error. If this error occurs systematically, report it to your ISDN service provider.

Code	Cause	Definition
97	Message type nonexistent or not implemented	The equipment received a message of a type that is invalid or not supported. This code indicates either a problem with the remote configuration or a problem with the local D channel.
98	Message incompatible with call state or message type nonexistent	The equipment received a message that is not valid in the current call state. Cause 98 is usually due to a D-channel error. If this error occurs systematically, report it to your ISDN service provider.
99	Information element nonexistent or not implemented	The equipment received a message that includes information elements which were not recognized. This is usually due to a D-channel error. If this error occurs systematically, report it to your ISDN service provider.
100	Invalid information element contents	The equipment received a message that includes invalid information in the information element. This is usually due to a D-channel error.
101	Message not compatible with call state	The remote equipment received a message that does not correspond to the current state of the connection. This is usually due to a D-channel error.
102	Recovery on timer expiry	A time-out has triggered an error-handling (recovery) procedure. This problem is typically temporary.
111	Protocol error, unspecified	An unspecified D-channel error when no other standard cause applies.
127	Interworking, unspecified	An event occurred within a network that does not provide causes for the action that it takes. The precise problem is unknown.
145	ISDN layer 1 and/or 2 link not established	User needs to check cabling, ISDN adapter status and network connections.
146	ISDN layer 3 connection to the ISDN switch/network inactive	There is either a switch protocol error, or (in the United States or Canada) a SPID assignment problem.
255	ISDN command processing error	The ISDN signaling code has encountered an error processing an ISDN action. ISDN adapter busy-wait and retry.

PathNavigator Error Codes

The following table lists PathNavigator error codes.

Code	Cause	Description
150	No Network Resources	The network does not have enough resources to complete your call. Try calling at a lower rate, or try the call again later.
151	No Network Resources	The network does not have enough resources to complete your call. Try calling at a lower rate, or try the call again later.
152	Gatekeeper Problems	Your call could not be completed because of an internal error in the gatekeeper or endpoint. Contact the gatekeeper or endpoint vendor for assistance.
153	Incorrect Address	Your call could not be completed because of an internal error in the gatekeeper or endpoint. Contact the gatekeeper or endpoint vendor for assistance.
154	Gatekeeper Problems	Your call could not be completed because of an internal error in the gatekeeper or endpoint. Contact the gatekeeper or endpoint vendor for assistance.
155	Gatekeeper Problems	Your call could not be completed because of an internal error in the gatekeeper or endpoint. Contact the gatekeeper or endpoint vendor for assistance.
156	Gatekeeper Problems	Your call was rejected by the gatekeeper. Contact your Network Administrator for assistance.
157	Gatekeeper Problems	Your call could not be completed because of an internal error in the gatekeeper or endpoint. Contact the gatekeeper or endpoint vendor for assistance.
158	Gatekeeper Problems	Your call could not be completed due to gatekeeper problems. Try the call again later.
159	System Not Registered with Gatekeeper	Your system must be registered with the gatekeeper before you can place a call. Contact your Network Administrator for assistance.
160	Far Site Not Registered with Gatekeeper	The system you are trying to call is not registered with the gatekeeper.
164	Far Site Busy	The system you called is busy. Try the call again later.
167	System Not Registered with Gatekeeper	Your system must be registered with the gatekeeper before you can place a call. Contact your Network Administrator for assistance.
168	Unknown Issues	Your call could not be completed due to an unknown problem. Try the call again later.

Code	Cause	Description
169	Call Rejected by Gatekeeper.	Your call was rejected by the gatekeeper. Contact your Network Administrator for assistance.
172	No Network Resources	The network does not have the necessary resources to complete your call. Try the call again later.
173	Site Not Found	The site you called could not be located. Check the calling information and try again.
174	Security/Permission Denial	Your call could not be completed because of security or permission issues. Contact your Network Administrator for assistance.
175	QoS Not Supported	The network cannot provide sufficient Quality of Service for your call. Contact your Network Administrator for assistance.
176	No Network Resources	The network does not have the necessary resources to complete your call. Try the call again later.
179	QoS Not Supported	The network cannot provide sufficient Quality of Service for your call. Contact your Network Administrator for assistance.
180	Invalid Address	The address you entered is not valid. Check the calling information and try again.
203	Call Rejected	The far site system did not accept the call. Check the calling information and try again.
204	Connection Problem	Your call cannot be completed because the far-end system is not compatible with the H.323 communication standards used by this system.
208	Invalid Address	The address you entered is not valid. Check the calling information and try again.
221	Far Site Busy	The system you called is busy. Try the call again later.
222	Site Not Responding	The site you called did not answer. Try the call again later.
255	ISDN command processing error	The ISDN signaling code has encountered an error processing an ISDN action. ISDN adapter busy-wait and retry.
516	Invalid Address	The address you entered is not valid. Check the calling information and try again.
518	Invalid Address	The address you entered is not valid. Check the calling information and try again.
521	Gatekeeper Problems	Your call could not be completed due to gatekeeper problems. Try the call again later.
531	Invalid Address	The address you entered is not valid. Check the calling information and try again.

Code	Cause	Description
534	Gatekeeper Problems	Your call could not be completed due to gatekeeper problems. Try the call again later.
551	Invalid Address	The address you entered is not valid. Check the calling information and try again.
552	Invalid Address	The address you entered is not valid. Check the calling information and try again.
553	Invalid Address	The address you entered is not valid. Check the calling information and try again.
554	Invalid Address	The address you entered is not valid. Check the calling information and try again.
576	Invalid Address	The address you entered is not valid. Check the calling information and try again.
595	Invalid Address	The address you entered is not valid. Check the calling information and try again.
596	Invalid Address	The address you entered is not valid. Check the calling information and try again.
621	Invalid Address	The address you entered is not valid. Check the calling information and try again.
626	Invalid Address	The address you entered is not valid. Check the calling information and try again.
627	Invalid Address	The address you entered is not valid. Check the calling information and try again.
648	No Network Resources	The network does not have the necessary resources to complete your call. Try the call again later.
681	No Network Resources	The network does not have the necessary resources to complete your call. Try the call again later.

Safety and Legal Notices

Important Safeguards

Read and understand the following instructions before using the system:

- Close supervision is necessary when the system is used by or near children. Do not leave unattended while in use.
- Only use electrical extension cords with a current rating at least equal to that of the system.
- Always disconnect the system from power before cleaning and servicing and when not in use.
- Do not spray liquids directly onto the system when cleaning. Always apply the liquid first to a static free cloth.
- Do not immerse the system in any liquid or place any liquids on it.
- Do not disassemble this system. To reduce the risk of shock and to maintain the warranty on the system, a qualified technician must perform service or repair work.
- Connect this appliance to a grounded outlet.
- Only connect the system to surge protected power outlets.
- Keep ventilation openings free of any obstructions.
- SAVE THESE INSTRUCTIONS.

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LIMITED WARRANTY. Polycom warrants to the end user (“Customer”) that the product will be free from defects in workmanship and materials, under normal use and service, for one year, or such longer period as Polycom may announce publicly from time to time for particular products, from the date of purchase from Polycom or its authorized reseller.

Polycom’s sole obligation under this express warranty shall be, at Polycom’s option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, Polycom may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of Polycom. Replacement products or parts may be new or reconditioned. Polycom warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

Products returned to Polycom must be sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to Polycom until the returned item is received by Polycom. The repaired or

replaced item will be shipped to Customer, at Polycom's expense, not later than thirty (30) days after Polycom receives the defective product, and Polycom will retain risk of loss or damage until the item is delivered to Customer.

EXCLUSIONS. Polycom will not be liable under this limited warranty if its testing and examination disclose that the alleged defect or malfunction in the product does not exist or results from:

Failure to follow Polycom's installation, operation, or maintenance instructions.

Unauthorized product modification or alteration.

Unauthorized use of common carrier communication services accessed through the product.

Abuse, misuse, negligent acts or omissions of Customer and persons under Customer's control; or

Acts of third parties, acts of God, accident, fire, lighting, power surges or outages, or other hazards.

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GOVERNING LAW. This Limited Warranty and Limitation of Liability shall be governed by the laws of the State of California, U.S.A., and by the laws of the United States, excluding their conflicts of laws principles. The United Nations Convention on Contracts for the International Sale of Goods is hereby excluded in its entirety from application to this Limited Warranty and Limitation of Liability.

Warning

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

USA and Canadian Regulatory Notices

FCC Notice

Class A Digital Device or Peripheral

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

In accordance with Part 15 of the FCC rules, the user is cautioned that any changes or modifications not expressly approved by Polycom Inc. could void the user's authority to operate this equipment.

The socket outlet to which this apparatus is connected must be installed near the equipment and must always be readily accessible.

Part 15 FCC Rules

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and

2) this device must accept any interference received, including interference that may cause undesired operation.

Part 68 FCC Rules

This equipment complies with part 68 of the FCC rules and the rules adopted by the ACTA. On the Network Interface Module of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ#TXXX. If requested, this number must be provided to the telephone company.

This equipment may not be used on a coin service or party line.

If you experience trouble with your VSX system, disconnect it from the telephone line to determine if the registered equipment is malfunctioning. For repair or warranty information, please contact Polycom Inc. at 1-888-248-4143 or 4750 Willow Road, Pleasanton, CA 94588-2708, USA. Contact information may also be found at http://www.polycom.com. If the system is causing harm to the network, the telephone company may request that you disconnect it until the problem is corrected.

If your VSX system causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. However, if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC if you believe it is necessary.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of your equipment. If they do, you will be given advance notice so that you may make any changes necessary to maintain uninterrupted service.

The REN is useful to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs of all devices that may be connected to a line, is determined by the total RENs, contact the local telephone company.

FCC compliant telephone cords and modular plugs are provided with this equipment. This equipment is designed to be connected to the telephone network or premises' wiring using a compatible modular jack, which is Part 68 compliant. See installation instructions for details.

WHEN PROGRAMMING EMERGENCY NUMBERS AND/OR MAKING TEST CALLS TO EMERGENCY NUMBERS:

1) Remain on the line and briefly explain to the dispatcher the reason for the call.

2) Perform such activities in the off-peak hours, such as early morning or late evening.

Industry Canada (IC)

This Class [A] digital apparatus complies with Canadian ICES-003.

Cet appareil numerique de la Classe [A] est conforme à la norme NMB-003 du Canada.

The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Number (REN) assigned to each relevant terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed 5.

The REN of this equipment is either marked on the unit or included in the new style USA FCC registration number. In the case that the REN is included in the FCC number, the user should use the following key to determine the value:

- The FCC number is formatted as US:AAAEQ#TXXX.
- # is the Ringer Equivalence Number without a decimal point (e.g. REN of 1.0 will be shown as 10, REN of 0.3 will be shown as 03). In the case of a Z ringer, ZZ shall appear. In the case of approved equipment without a network interface or equipment not to be connected to circuits with analog ringing supplied, NA shall appear.

EEA Regulatory Notices

CE Mark R & TTE Directive

This VSX system has been marked with the CE mark. This mark indicates compliance with EEC Directives 89/336/EEC, 73/23/EEC 1999/5/EC. A full copy of the Declaration of Conformity can be obtained from Polycom Ltd., 270 Bath Road, Slough UK SL1 4DX.

Declaration of Conformity:

Hereby, Polycom Ltd. declares that this VSX system is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Konformitetserklæring:

Hermed erklærer Polycom Ltd., at indestående VSX system er i overensstemmelse med de grundlæggende krav og de relevante punkter i direktiv 1999/5/EF.

Konformitätserklärung:

Hiermit erklärt Polycom Ltd., dass der VSX system die grundlegenden Anforderungen und sonstige maßgebliche Bestimmungen der Richtlinie 1999/5/EG erfüllt.

Δήλωση Συμμόρφωσης:
Δια του παρόντος, η εταιρεία Polycom Ltd. δηλώνει ότι η παρούσα συσκευή (δρομολογητής) VSX System; πληροί τις βασικές απαιτήσεις και άλλες βασικές προϋποθέσεις της Οδηγίας 1999/5/ΕΚ.

Vaatimustenmukaisuusvakuutus:

Polycom Ltd. vakuuttaa täten, että VSX system on direktiivin 1999/5/EC keskeisten vaatimusten ja sen muiden tätä koskevien säännösten mukainen.

Déclaration de conformité:

Par la présente, Polycom Ltd. déclare que ce VSX system est conforme aux conditions essentielles et à toute autre modalité pertinente de la Directive 1999/5/CE.

Dichiarazione di conformità:

Con la presente Polycom Ltd. dichiara che il VSX system soddisfa i requisiti essenziali e le altre disposizioni pertinenti della direttiva 1999/5/CE.

Verklaring van overeenstemming:

Hierbij verklaart Polycom Ltd. dat diens VSX system voldoet aan de basisvereisten en andere relevante voorwaarden van EG-richtlijn 1999/5/EG.

Declaração de Conformidade:

Através da presente, a Polycom Ltd. declara que este VSX system se encontra em conformidade com os requisitos essenciais e outras disposições relevantes da Directiva 1999/5/CE.

Declaración de conformidad:

Por la presente declaración, Polycom Ltd. declara que este VSX system cumple los requisitos esenciales y otras cláusulas importantes de la directiva 1999/5/CE.

Överensstämmelseförklaring:

Polycom Ltd. förklarar härmed att denna VSX system överensstämmer med de väsentliga kraven och övriga relevanta stadganden i direktiv 1999/5/EG.

CE Mark LVD and EMC Directive

This VSX system has been marked with the CE mark. This mark indicates compliance with EEC Directives 89/336/EEC and 73/23/EEC. A full copy of the Declaration of Conformity can be obtained from Polycom Ltd., 270 Bath Road, Slough UK SL1 4DX, UK.

Mains Powered POTS Voice Telephony Without Emergency 000 Dialing

Warning: This equipment will be inoperable when mains power fails.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

声　明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

A급 기기 (업무용 정보통신기기)

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이 점을 주의하시기 바라며, 만약 잘못판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

Underwriters Laboratories Statement

The system is intended to be powered only by the supplied power supply unit.

Special Safety Instructions

Follow existing safety instructions and observe all safeguards as directed.

Installation Instructions

Installation must be performed in accordance with all relevant national wiring rules.

Plug Acts as Disconnect Device

The socket outlet to which this apparatus is connected must be installed near the equipment and must always be readily accessible.

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