POLYCOM®

Polycom® QDX™ 6000 System Administrator Guide

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About This Guide

The *Administrator Guide for Polycom QDX 6000 Systems* is for administrators who need to configure, customize, manage, and troubleshoot Polycom QDX 6000 systems.

Please read the Polycom QDX 6000 system documentation before you install or operate the system. The following related documents for Polycom QDX 6000 systems are available at www.polycom.com/videodocumentation:

- *Hardware Installation Guide for Polycom QDX Systems*, which describes how to set up the hardware
- *User Guide for Polycom QDX 6000 Systems*, which describes how to perform video conferencing tasks
- *Release Notes*, which provides brief information of the release version
- *API Reference Manual for Polycom QDX 6000 Systems*, which provides API command descriptions

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

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1

Introducing the Polycom QDX 6000 Systems

Your Polycom QDX 6000 video conferencing system is a state-of-the-art visual collaboration tool. With standard definition video and crystal-clear sound, Polycom QDX 6000 systems provide natural video conferencing interaction through the most advanced video communications technology.

Polycom QDX 6000 Systems

The Polycom QDX 6000 system provides integrator-class connectors and supports multiple video and audio sources. These solutions allow integrators to create specialized, unique, and real-time video environments for their customers.

Setting Up Your System Hardware

This manual provides information to supplement the setup sheets provided with your system and its optional components. A printed copy of the system setup sheet is provided with each Polycom QDX 6000 system. PDF versions of the system setup sheets are available at www.polycom.com/videodocumentation.

Positioning the System

Positioning the Polycom QDX 6000 Systems

Polycom QDX 6000 systems are designed to be placed on a tabletop or in an equipment rack.

To position the system:

1. Install the mounting brackets on the system if you need to mount it in an equipment rack, or install the self-adhesive feet if you will place the system on a table or shelf.

2. Place the system in the desired location. Position the system so that the camera does not face toward a window or other source of bright light. Leave enough space to connect the cables easily. Place the camera and display together so that people at your site face the camera when they are looking at the display.

Powering On and Off

Connect power and power on the system after you have connected all of the equipment that you will use with it. Make sure that the system is powered off before you connect devices to it.

Powering On the Polycom QDX 6000 Systems

To power on the Polycom QDX 6000 systems:

- Press the power switch on the back of the system.

The Polycom splash screen is displayed within about 1 minute.

To power off the Polycom QDX 6000 systems:

- Press the power switch on the back of the system.

The indicator light on the front of the Polycom QDX 6000 system provides this information:

Indicator Light	System Status
Off	System is powered off.
Steady red light	System is initializing.
Blinking red light	System is updating software.
Steady green light	System is in a call.
Blinking red light against steady green light	System received an IR signal while in a call.
Steady blue light	System is awake, not in a call.
Blinking red light against steady blue light	System received an IR signal while awake and not in a call.
Blinking blue light (on 1 sec, off 1sec)	System is asleep.

Configuring the Polycom QDX 6000 System

Setup Wizard

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

The setup wizard allows you to set a room password, which allows you to limit access to the Admin Settings. The default room password is the 16-digit system serial number from the System Information screen or the back of the system.

Make sure you can recall the room password if you set one. 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.

If Security Mode is enabled, the room password is required to access the Reset System screen. If you forget the room password while the system is in Security Mode, refer to Using the Restore Button on page 12-2.

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 the Polycom QDX 6000 Web Interface. For more information about using the web interface, refer to Accessing the Polycom QDX 6000 Web Interface on page 9-1.

The setup wizard is available during initial setup, after a system update with system settings not saved, or after a system reset with system settings deleted.

Admin Settings

After you run the setup wizard, you can view or change the system's configuration by going to the Admin Settings in the system's local interface or web interface.

If you enable a security profile in the setup wizard, certain configuration settings are set and controlled automatically.

2

Networks

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

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 *Network Planning Worksheets for Video Conferencing* document, available on the Polycom web site. This document contains information you need to prepare your network.

Connecting to the LAN

You must connect the system to a LAN to:

- Make H.323 or SIP calls
- Use a Global Directory Server
- Register with a management system
- Access the web interface
- Use People+Content™ IP

Configuring LAN Properties

In IPv4/IPv6 hybrid networks, the system tries IPv6 first. If that fails, the system tries to place the call using the IPv4 address.

Points to Note about IPv6-only Network Limitations:

- Do not configure a Polycom Global Directory Server address.
- Disable IP H.323 in the Call Preference menu.
- The Polycom Global Management System™, Polycom Readi*Manager*® SE200, and Polycom CMA™ system will not be able to connect to the Polycom QDX 6000 system.

To configure LAN properties:

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

Setting	Description
IP Address (IPv4)	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.
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.
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.
Default Gateway (IPv4)	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.

Setting	Description
IP Address (IPv6)	Specifies how the system obtains an IP address. • **Obtain IP address automatically** — Select if the system gets an IP address automatically. DHCP is not currently supported for IPv6. When you choose this setting, the system uses Stateless Address Autoconfiguration (SLAAC) to obtain a global address, unique local address (ULA), or site-local address using router advertisements. The network router(s) also must be configured appropriately to provide the advertisement packets. • **Enter IP address manually** — Select if the IP address will not be assigned automatically. Changing this setting causes the system to restart.
Link-Local	Displays the IPv6 address used for local communication within a subnet.
Site-Local	Displays the IPv6 address used for communication within the site or organization.
Global Address	Displays the IPv6 internet address.
Default Gateway (IPv6)	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.

3. Select and configure these settings:

Setting	Description
Host Name	Indicates the system's DNS name. Changing this setting 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.
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. • IPv6: You can specify IPv6 DNS server addresses for IP addresses entered manually or obtained automatically (in the case of a system on a hybrid network that obtains IPv4 DNS server addresses via DHCPv4). • IPv4: You can specify IPv4 DNS server addresses only when the IPv4 address is entered manually. When the IPv4 address is obtained automatically, the DNS Server addresses are also obtained automatically. Changing this setting causes the system to restart.

Setting	Description
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. Choosing **Auto** automatically sets **Duplex Mode** to **Auto**. If you choose **10 Mbps**, or **100 Mbps** you must set **Duplex Mode** to **Half** or **Full**. **Note**: Polycom does not support **Auto** for the Polycom QDX 6000 system only or the switch only; the settings for both must be the same. 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. Choosing **Auto** automatically sets **LAN Speed** to **Auto**. **Note**: Polycom does not support **Auto** for the Polycom QDX 6000 system only or the switch only; the settings for both must be the same. Changing this setting causes the system to restart.

4. Select and configure these settings:

Setting	Description
Enable EAP/802.1X	Specifies whether EAP/802.1X network access is enabled. Polycom QDX 6000 systems support the following authentication protocols: • EAP-MD5 • EAP-PEAPv0 (MSCHAPv2) • EAP-TTLS
Identity	Specifies the system's identity used for 802.1X authentication. This setting is available only when EAP/802.1X is enabled.
Password	Specifies the system's password used for 802.1X authentication. This setting is available only when EAP/802.1X is enabled.
Enable 802.1p/Q	Specifies whether VLAN and link layer priorities are enabled.
VLAN ID	Specifies the identification of the Virtual LAN.This setting is available only when 802.1p/Q is enabled. The value can be any number from 1 to 4094.
Video Priority	Sets the link layer priority of video traffic on the LAN. Video traffic is any RTP traffic consisting of video data and any associated RTCP traffic. This setting is available only when 802.1p/Q is enabled. The value can be any number from 0 to 7, although 6 and 7 are not recommended.

Setting	Description
Audio Priority	Sets the priority of audio traffic on the LAN. Audio traffic is any RTP traffic consisting of audio data and any associated RTCP traffic. This setting is available only when 802.1p/Q is enabled. The value can be any number from 0 to 7, although 6 and 7 are not recommended.
Control Priority	Sets the priority of control traffic on the LAN. Control traffic is any traffic consisting of control information associated with a call: • H.323—H.225.0 Call Signaling, H.225.0 RAS, H.245, Far End Camera Control • SIP—SIP Signaling, Far End Camera Control, Binary Floor Control Protocol (BFCP) This setting is available only when 802.1p/Q is enabled. The value can be any number from 0 to 7, although 6 and 7 are not recommended.

Configuring IP Settings

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 on the H.323 Settings screen:

Setting	Description
Display H.323 Extension	Allows users to enter H.323 extensions separately from the gateway ID on the Place a Call screen. If your system is registered with a gatekeeper, this setting also displays your H.323 extension on the home screen. If you do not select this setting, 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. 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 on the Gatekeeper screen:

Setting	Description
Use Gatekeeper	Specifies whether to use a gatekeeper. Gateways and gatekeepers are required for calls from IP to ISDN. • **Off** — Calls do not use a gatekeeper. • **Auto** — System attempts to automatically find an available gatekeeper. • **Specify** — Calls use the specified gatekeeper. Enter the gatekeeper's IP address or name (for example, gatekeeper.companyname.usa.com, or 10.11.12.13).
H.323 Name	Specifies the name that gatekeepers 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)	Specifies the extension that gatekeepers and gateways use to identify this system. Your organization's dial plan may define the extensions you can use.
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.

3. If you chose to specify a gatekeeper, select to view **Alternate Gatekeepers** that the system can use if the primary gatekeeper is not available.

Configuring the System to Use a Gateway

A gateway performs code and protocol conversion between H.323 (IP), SIP, and H.320 (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 two or three times and configure these settings on the Gateway screen:

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 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 setting, 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 **Direct Inward Dial** is selected. Your organization's dial plan determines this number.

Specifying SIP Settings

If your network supports the Session Initiation Protocol (SIP), you can use SIP to connect IP calls. To use SIP, go to **System > Admin Settings > Network > Call Preference** and enable **SIP**.

To specify SIP Settings:

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

Setting	Description
Transport Protocol	Indicates the protocol the system uses for SIP signaling. The SIP network infrastructure in which your Polycom QDX 6000 system is operating determines which protocol is required. **Auto** enables an automatic negotiation of protocols in the following order: TLS, TCP, UDP. This is the recommended setting for most environments. **TCP** provides reliable transport via TCP for SIP signaling. **UDP** provides best-effort transport via UDP for SIP signaling. **TLS** provides secure communication of the SIP signaling. TLS is available only when the system is registered with a SIP server that supports TLS. When you choose this setting, the system ignores TCP/UDP port 5060.
Authentication Name	Specifies the name to use for authentication when registering with a SIP Registrar Server. If you leave this field blank, the User Name is used for authentication.
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.
Registrar Server	Specifies the DNS 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: 10.11.12.13:5070 If you leave this field blank, the Proxy Server address is used.
Proxy Server	Specifies the DNS name or IP address of the SIP Proxy Server. If you leave this field blank, the Registrar Server is used. If you leave both fields 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: 10.11.12.13:5070

Points to note about SIP:

The SIP protocol has been widely adapted for voice over IP communications and basic video conferencing; however, many of the advanced video conferencing capabilities are not yet standardized. Many capabilities also depend on the SIP server.

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 on the Quality of Service screen:

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 setting is selected, enter the value in the **Type of Service Value** field. • **DiffServ** — Represents a priority level between 0 and 63. If this setting 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 Control. • Audio—audio RTP traffic and associated RTCP traffic • Video—video RTP traffic and associated RTCP traffic • Control—traffic on any of the following channels: — H.323—H.225.0 Call Signaling, H.225.0 RAS, H.245, Far End Camera Control — SIP—SIP Signaling, Far End Camera Control, Binary Floor Control Protocol (BFCP)

Setting	Description
Maximum Transmission Unit Size	Specifies the Maximum Transmission Unit (MTU) size used in IP calls. If the video becomes blocky or network errors occur, packets may be too large; decrease the MTU. If the network is burdened with unnecessary overhead, packets may be too small; increase the MTU.
Enable PVEC	Allows the system to use PVEC (Polycom Video Error Concealment) if packet loss occurs.
Enable RSVP	Allows the system to use Resource Reservation Setup Protocol (RSVP) to request that routers reserve bandwidth along an IP connection path. Both the near site and far site must support RSVP in order for reservation requests to be made to routers on the connection path.

3. Select and configure these settings on the Bandwidth screen:

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 64 kbps and the system's maximum line rate.
Maximum Receive Bandwidth	Specifies the maximum receive line speed between 64 kbps and the system's maximum line rate.

Configuring the System for Use with a Firewall or NAT

A firewall protects an organization's IP 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.

Firewall Settings

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 on the Firewall screen:

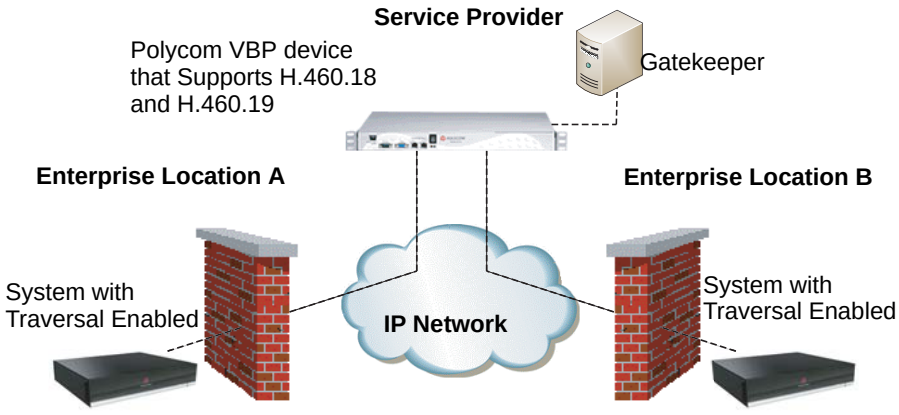
Setting	Description
Fixed Ports	Lets you specify whether to define the TCP and UDP ports. • If the firewall is not H.323 compatible, enable this setting. The Polycom QDX 6000 system assigns a range of ports starting with the TCP and UDP ports you specify. The system defaults to a range beginning with 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 setting. For IP you need 2 TCP ports per connection, 8 UDP ports per connection. For SIP you need TCP port 5060, 8 UDP ports per connection.
TCP Ports **UDP Ports**	Lets you specify the beginning value for the range of TCP and UDP ports used by the system. The system automatically sets the range of ports based on the beginning value you set. **Note**: You must also open the firewall's TCP port 1720 to allow H.323 traffic.
Enable H.460 Firewall Traversal	Allows the system to use H.460-based firewall traversal for IP calls. For more information, refer to H.460 NAT Firewall Traversal on page 2-12.
NAT Configuration	Lets you specify whether the system should determine the NAT Public WAN Address automatically. • 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 NAT that allows HTTP traffic, select **Auto**. • If the system is behind a NAT that does not allow HTTP traffic, select **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.

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

H.460 NAT Firewall Traversal

You can configure Polycom QDX 6000 systems to use standards-based H.460.18 and H.460.19 firewall traversal, which allows video systems to more easily establish IP connections across firewalls.

The following illustration shows how a service provider might provide H.460 firewall traversal between two enterprise locations. In this example the Polycom Video Border Proxy™ (VBP™) firewall traversal device is on the edge of the service provider network and facilitates IP calls between Polycom QDX 6000 systems behind different firewalls.



To use this traversal, Polycom QDX 6000 systems and firewalls must be configured as follows:

- Enable firewall traversal on the Polycom QDX 6000 system.
  a. Go to **System > Admin Settings > Network > IP > Firewall**.
  b. Select **Enable H.460 Firewall Traversal**.
- Register the Polycom QDX 6000 system to an external Polycom VBP device that supports the H.460.18 and H.460.19 standards.
- Make sure that firewalls being traversed allow Polycom QDX 6000 systems behind them to open outbound TCP and UDP connections.
  – Firewalls with a stricter rule set should allow Polycom QDX 6000 systems to open at least the following outbound TCP and UDP ports: 1720 (TCP), 14085-15084 (TCP) and 1719 (UDP), 16386-25386 (UDP).
  – Firewalls should permit inbound traffic to TCP and UDP ports that have been opened earlier in the outbound direction.

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 on the Call Preference screen:

Setting	Description
Basic Mode	Enables a limited operating mode that uses H.261 for video and G.711 for audio. This mode provides administrators with a workaround for interoperability issues that cannot be solved using other methods. The Basic Mode setting stays in effect until you change it. Basic Mode disables many system features such as content sharing, far end camera control, and advanced audio and video algorithms. Use Basic Mode only when calling systems that fail to operate properly with these advanced features.
IP H.323	Allows the system to make IP calls.
SIP	Allows the system to use SIP when connecting IP calls.
H.264	Specifies that the system should use H.264 for video.
H.239	Specifies standards-based People+Content data collaboration. Enable this option if you know that H.239 is supported by the far sites you will call. If callers experience issues when sharing content with other Polycom systems, disable this setting.
H.264 Content	If this option is enabled, the endpoint will use H.264 protocol firstly when it is sending content. Some endpoints have the content which is not compatible with H.264, enabling this option may disable the content feature. In this case, it is recommended to disable this option.
ISDN Gateway	Allows users to place IP-to-ISDN calls through a gateway.

3. Select and configure these settings on the Network Dialing screen:

Setting	Description
Preferred Dialing Method	Specifies the preferred method for dialing various call types. If set to **Auto**, calls use the configured Dialing Order. If set to **Manual**, the system prompts the user to select the call type from a list when placing a call.
Video Dialing Order	Specifies how the system places video calls to directory entries that have more than one type of number. It also specifies how the system places video calls from the Place a Call screen when the call type selection is either unavailable or set to **Auto**. If a call attempt does not connect, the system tries to place the call using the next call type in the list. This setting is available only when **Preferred Dialing Method** is set to **Auto**. For more information, refer to Configuring Dialing Order Settings on page 2-14.

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: • The Call Quality selection is either unavailable or set to **Auto** on the Place a Call screen • The call is placed from the directory 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.

Configuring Dialing Order Settings

If the call type on the home screen is set to a specific call type, the system does not attempt to place the call using a different call type, even if other types are listed in Video Dialing Order.

You can configure the Polycom QDX 6000 system so that users can choose to place IP-to-ISDN calls through a gateway.

To allow users to place an IP-to-ISDN call through a gateway:

1. Make sure the system is registered with a gatekeeper.
2. Go to **System > Admin Settings > Network > Call Preference** and enable **ISDN Gateway**.
3. If you want to allow users to place IP-to-ISDN calls through a gateway when calling from the directory, do one of the following:
   - On the Network Dialing screen, set **Preferred Dialing Method** to **Auto** and select **ISDN Gateway** as the first choice under **Video Dialing Order**. With this configuration, IP-to-ISDN calls placed from the directory will be placed through a gateway if an ISDN number and IP extension exist. IP-to-IP calls placed from the directory will be placed through a gateway if an IP address and IP extension exist.
   - On the Network Dialing screen, set **Preferred Dialing Method** to **Manual**. With this configuration, users can select **ISDN Gateway** from the list of call types that appears when placing a call from the directory.

3

Monitors and Cameras

Connecting Monitors

Make sure that the system is powered off before you connect devices.

The following table shows how you can connect monitors to a Polycom QDX 6000 system.

Video Output Number	Connector	Output Formats
1	RCA (three)	YPrPb
	RCA (yellow)	Composite
	S-Video	S-Video
2	RCA (yellow)	Composite
	S-Video	S-Video
	VGA	VGA

The Polycom QDX 6000 system user interface is displayed on Monitor 1.

For Monitor 2, the system provides RCA, S-Video, and VGA connectors. Only one at a time is active, based on the output format configured for that monitor.

Configuring Monitor Settings

To configure monitors:

1. Go to **System > Admin Settings > Monitors**.
2. Configure these settings on the Monitors screen:

Setting	Description
Number of Monitors	Specifies the number of monitors to use.
Output Upon Screen Saver Activation (Monitor 1)	Specifies the screen saver output for Monitor 1: Specifies whether black video or no signal is sent to the monitor when the system goes to sleep and the screen saver activates. Select **Black** if you want to display screen saver text. This is the recommended setting to prevent burn-in for TV monitors. Select **No Signal** if you want the display to react as if it is not connected when the system goes to sleep. This is the recommended setting for VGA monitors and projectors.
Aspect Ratio (Monitor 1)	Specifies the monitor's aspect ratio: • **4:3** — Select if you are using a regular TV monitor. • **16:9** — Select if you are using a wide-screen monitor.
PIP(Monitor 1)	Specifies PIP (Picture-in-Picture) behavior: • **On** — The PIP window stays on for the duration of the call. • **Auto** — Shows the PIP window when the user operates the remote control (the PIP window is closed when the user presses the hook at the bottom of remote control, and it is opened when the hook is released). • **Off** — The PIP window is not displayed during the call. **Note:** PIP settings are also available in the User Settings screen.
Output Upon Screen Saver Activation (Monitor 2)	Specifies the screen saver output for Monitor 2. Specifies whether black video or no signal is sent to the monitor when the system goes to sleep and the screen saver activates. Select **Black** if you want to display black video. This is the recommended setting to prevent burn-in for TV monitors. Select **No Signal** if you want the display to react as if it is not connected when the system goes to sleep. This is the recommended setting for VGA monitors and projectors.

Setting	Description
Aspect Ratio (Monitor 2)	Specifies the monitor's aspect ratio: • **4:3** — Select if you are using a regular TV monitor. • **16:9** — Select if you are using a wide-screen monitor.
Video Format (Monitor 2)	Specifies the monitor's format: • **VGA** — Select if the monitor is connected to the DVI connector using a VGA cable. • **TV** — Select if the TV is connected using a composite video cable or S-video cable.
VGA Resolution (Monitor 2)	Specifies the resolution for the monitor.

3. Select and configure these settings:

Setting	Description
People Video Adjustment, Content Video Adjustment	Specifies the adjustment made to people video and content video images. • **None**—Preserves the aspect ratio of the source video. The image is scaled (if necessary) to the largest supported resolution that fits on the display without cropping. Extra areas on the display are filled with black borders. • **Stretch**—Does not preserve aspect ratio. The image is scaled horizontally and vertically to exactly match the resolution of the display. • **Zoom**—Preserves the aspect ratio of the source video. The image is scaled to exactly match one of the display dimensions while matching or exceeding the other display dimension. The image is centered and cropped.
Display Icons in a Call	Specifies whether to display all on-screen graphics, including icons and help text, during calls.
Screen Saver Wait Time	Specifies how long the system remains awake during periods of inactivity. The default is 3 minutes. If the system requires users to log in, the screen saver timeout also logs out the current user. Setting this option to **Off** prevents the system from going to sleep. To prevent image burn-in, specify 3 minutes or less.
Color System	Specifies the color system used by your monitor. Changing this setting causes the system to restart.

Adjusting Screen Layout

In calls, you can change the current screen layout on the monitor. What you see during a call can depend on factors such as the system monitor configuration, the number of sites in the call, whether the Picture-in-Picture (PIP) is enabled and whether the content is being shared.

To change the screen layout:

- In a call, repeatedly press **PIP** on the remote control to switch among the screen layouts supported by the Polycom QDX 6000 system. These might include the following layouts:

1. Far site, full screen
2. Far and near sites, the same size, side by side
3. Far site big, near site small (only available when your monitor is configured to 16:9)
4. Far site displayed in full screen, and near site in the right-bottom small window (PIP layout, only available when your monitor is configured to 4:3)
5. Content displayed in the left big window, and far and near sites in the right small window

Specifying, Showing and Turning Off the PIP

Your system can be configured to display a Picture-in-Picture (PIP) window if your monitor is set to an aspect ratio of 4:3. You can show the PIP any time the system is not sending or receiving content.

To specify whether and when to display the PIP:

1. Select **System** from the Place a Call screen.
2. Select **User Settings** from the System screen.
3. Select to see more settings
4. Scroll to **PIP**, and select one of these settings:

Select this setting...	To set the PIP to…
On	Stay on for the duration of the call.
Auto	Be shown when the user operates the remote control and be turned off when the user puts the remote control on the table.
Off	Be turned off during the call.

To show the PIP during a call:

- Repeatedly pressing **PIP** on the remote control to switch to the PIP display. PIP can change to show the near or far site.

Adjusting the Monitor's Color Balance, Sharpness, and Brightness

In most cases, the monitor you connect to your Polycom QDX 6000 system may be set to a configuration that is appropriate for video conferencing applications. Depending on your environment and model of monitor, however, the video may exhibit one of these problems:

- Picture is too dark or too bright
- Colors appear faded
- Picture has too much of one color — for example, the picture may appear greenish
- Picture has blocky or softened edge detail

If you notice any of these problems, adjust the monitor's color balance, sharpness, and brightness until the display seems acceptable. Use the video diagnostics test as described in the following steps, or purchase a calibration program DVD tool to help you fine-tune the display settings.

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.

   The colors from left to right should be white, yellow, cyan, green, magenta, red, and blue. Make sure that the white is not tinted red, green, or blue, and that the red is not tinted pink or orange.
4. When the colors look right on the test screen, press **Near** until you see 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.

Preventing Monitor Burn-In

Monitors and Polycom QDX 6000 systems provide display settings to help prevent image burn-in. Plasma televisions can be particularly vulnerable to this problem. Refer to your monitor's documentation or manufacturer for specific recommendations and instructions. The following guidelines help prevent image burn-in:

- For monitors that support low-power mode when no signal is present on the monitor input, set **Output upon Screen Saver Activation** to **No Signal**. For example, use the **No Signal** setting on VGA monitors and monitors provided by Polycom. Otherwise, set **Output upon Screen Saver Activation** to **Black**.
- Use the monitor's burn-in prevention features, if available.
- Ensure that static images are not displayed for long periods.
- Set the **Screen Saver Wait Time** to 3 minutes or less.
- To keep the screen clear of static images during a call, disable the following settings:
  - **Display Icons in a Call** described on page 3-3
  - **Display Time in Call** described on page 6-1
  - **Far Site Name Display Time** described on page 6-2
- Be aware that meetings that last more than an hour without much movement can have the same effect as a static image.

- Consider decreasing the monitor's sharpness, brightness, and contrast settings if they are set to their maximum values.

Connecting Cameras

Polycom QDX 6000 systems provide inputs for PTZ cameras. You can use the RS-232 serial port on the system to control supported non-Polycom cameras or cameras not connected to a main camera input.

Refer to your system's setup sheet for connection details. If you connect a supported PTZ camera, the system detects the camera type and sets the appropriate configuration. Make sure that the system is powered off before you connect devices to it.

Connecting Cameras to Polycom QDX 6000 Systems

The following table shows how you can connect video sources to a Polycom QDX 6000 system.

Video Input Number	Connector	Acceptable Input	Power	Control
1 (main camera)	S-Video	S-Video	Provided	Camera PTZ, IR Input
2 (auxiliary camera)	RCA	Composite	None	None
3 (document camera)	S-Video	S-Video	None	None
4 (VCR)	RCA	Composite	None	None
5 (VGA)	VGA	VGA	None	None

Configuring Camera Settings and Video Quality Options

To configure camera and video settings:

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

Setting	Description
Camera 1	The camera's aspect ratio: • **4:3** — You are using a regular camera. • **16:9** — You are using a camera in wide-screen mode. Polycom EagleEye SD The camera's format: **S-Video** — The camera is connected to the Polycom QDX 6000 system using an S-Video cable.
Name	Specifies a name and icon for the camera.
Video Quality	Specifies **Motion** or **Sharpness** for the video input. The default is Sharpness. • **Motion** — This setting is for showing people or other video with motion. • **Sharpness** — The picture will be sharp and clear, but moderate to heavy motion at low call rates can cause some frames to be dropped.
Camera Pan/Tile Speed	Sets the camera pan rate. • **Slow** - The camera pans at a low rate. • **Medium** - The camera pans at a medium rate. • **Fast** - The camera pans at a high rate.
Detect Camera	Detects any supported PTZ camera connected to Polycom QDX 6000 system video input 1 and configures the camera settings accordingly.

3. Select and configure these settings:

Setting	Description
Camera 2	Specifies the camera's aspect ratio: • **4:3** — Select if you are using a regular camera. • **16:9** — Select if you are using a wide-screen camera. The camera's format: **Composite** — The camera is connected to the Polycom QDX 6000 system using a composite video cable.

Setting	Description
Name	Specifies a name and icon for the camera.
Video Quality	Specifies **Motion** or **Sharpness** for the video input. • **Motion** — This setting is for showing people or other video with motion. • **Sharpness** — The picture will be sharp and clear, but moderate to heavy motion at low call rates can cause some frames to be dropped. Sharpness is available in point-to-point H.263 and H.264 calls only.

4. Select and configure these settings:

Setting	Description
Camera 3	Specifies the aspect ratio of document computer or other video source: • **4:3** — Select if you are using a computer with a standard display. • **16:9** — Select if you are using a computer with a wide-screen display. The format of document computer or other video source: **S-Video** — The document video source is connected to the Polycom QDX 6000 system using an S-Video cable.
Name	Specifies a name and icon for the document computer or video source.
Video Quality	Specifies **Motion** or **Sharpness** for the video input. • **Motion** — This setting is for showing people or other video with motion. • **Sharpness** — The picture will be sharp and clear, but moderate to heavy motion at low call rates can cause some frames to be dropped. Sharpness is available in point-to-point H.263 and H.264 calls only.

5. Select and configure these settings:

Setting	Description
Camera 4	Specifies the VCR or DVD player's aspect ratio: • **4:3** — Select if you are using a VCR or DVD player in standard mode. • **16:9** — Select if you are using a VCR or DVD player in wide-screen mode. The VCR or DVD player's format: **Composite** — The VCR or DVD player is connected to the Polycom QDX 6000 system using a composite video cable.

Setting	Description
Name	Specifies a name and icon for the VCR or DVD player.
Video Quality	Specifies **Motion** or **Sharpness** for the video input. • **Motion** — This setting is for showing people or other video with motion. • **Sharpness** — The picture will be sharp and clear, but moderate to heavy motion at low call rates can cause some frames to be dropped. Sharpness is available in point-to-point H.263 and H.264 calls only.

6. Select and configure these settingss:

Setting	Description
Camera 5	The fifth video source (VGA IN).
Name	Specifies a name and icon for the computer or video source.
Video Quality	Specifies **Motion** or **Sharpness** for the video input. • **Motion** — This setting is for showing people or other video with motion. • **Sharpness** — The picture will be sharp and clear, but motion will not be smooth. Choose this setting for document cameras. Sharpness is available in point-to-point H.263 calls only.

7. Select and configure these settings:

Setting	Description
Far Control of Near Camera	Specifies whether the far site can pan, tilt, or zoom 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 bright background. Backlight compensation is best used in situations where the subject appears darker than the background.
Primary Camera	Specifies which camera is the main camera. The primary camera is active when the Polycom QDX 6000 system powers up. Its source is automatically set to People.
Camera Pan Direction	Specifies the direction the camera moves when using the arrow buttons on the remote control.

Setting	Description
Quality Preference	Specifies the bandwidth split for People and Content video. • **People**—10% Content, 90% People • **Both**—50% Content, 50% People • **Content**—90% Content, 10% People This setting does not apply if automatic bandwidth adjustment is enabled using the API. This setting applies only to calls of 128 kbps of higher.
Power Frequency	Specifies the power line frequency for your system only when a Polycom EagleEye SD camera is connected. In most cases, the system defaults to the correct power line frequency, based on the video standard used in the country where the system is located. This setting allows you to adapt the system in areas where the power line frequency does not match the video standard used. You may need to change this setting to avoid flicker from the fluorescent lights in your conference room. Changing this setting causes the system to restart. After the system restarts, you might need to select **Detect Camera**.

Configuring Advanced Polycom EagleEye SD Camera Settings

You can use the system's web interface to configure or restore the following Polycom EagleEye SD camera settings:

- Brightness
- Black Level
- Color Saturation
- White Balance

To adjust Polycom EagleEye SD camera's brightness, black level, or color saturation:

1. Make sure that the system and camera are powered on and awake.
2. On a computer, open a web browser.
3. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
4. Go to **Admin Settings > Cameras**.

5. If Model is not set to Polycom EagleEye SD for the appropriate camera(s), click the **Detect Camera** button.
6. Click **Advanced**.
7. Select values for brightness, black level, and color saturation.
8. Click **Update**.

To restore the Polycom EagleEye SD camera's default settings:

1. Make sure that the system and camera are powered on and awake.
2. On a computer, open a web browser.
3. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
4. Go to **Admin Settings > Cameras**.
5. Click **Restore**. White Balance, Brightness, Black Level, and Color Saturation are returned to their default values.

To set the Polycom EagleEye SD white balance:

You can set the white balance to one of several fixed values, or you can set it manually.

White balance settings require particular camera and system firmware versions. For more information, contact your Polycom distributor or refer to the Knowledge Base in the Support section of the Polycom web site.

1. Make sure that the system and camera are powered on and awake.
2. On a computer, open a web browser.
3. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
4. Go to **Admin Settings > Cameras**.
5. If **Model** is not set to Polycom EagleEye SD for the appropriate camera(s), click the **Detect Camera** button.
6. Select a value for **White Balance**.
   - **Auto**: Polycom recommends this setting for most situations. It calculates the best white balance setting based on lighting conditions in the room.
   - **Pre-defined values**: Use one of the pre-defined color temperature settings to provide acceptable color reproduction.

- **Manual**: Use the Manual setting for rooms where the Auto and fixed settings do not provide acceptable color reproduction. Set the White Balance to **Manual**. Then fill the camera view with a flat white surface and click **Calibrate**.

7. Click **Update**.

Configuring Camera Presets

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

Presets allow you to:

- Automatically point a camera at pre-defined locations in a room.
- Select a video source.

If your camera supports pan, tilt, and zoom movement, you can create up to 100 preset camera positions for it. Each preset stores the camera number, its zoom level, and the direction it points (if appropriate). Presets remain in effect until you delete or change them.

To store a preset (Using remote control):

1. If you are in a call, press **Near** or **Far** then 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 **Zoom** to zoom the camera out or in.
   - Press the arrow buttons on the remote control to move the camera up, down, left, or right.
3. 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 on a Polycom QDX 6000 system (Using remote control):

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

4

Microphones and Speakers

Connecting Audio Input

Make sure that the system is powered off before you connect devices to it.

Connecting Audio Input to Polycom QDX 6000 Systems

The following table shows the acceptable input levels and video associations for the audio inputs on a Polycom QDX 6000 system.

Audio Input Number	Connector	Acceptable Input Source Levels	Video Association
Mic 1	RJ-9	Polycom microphone	None
Mic 2	RJ-9	Polycom microphone	None
Line In (Main Audio)	RCA	Line Level	None
VCR IN (VCR/DVD Player)	RCA	Mono/Stereo Line Level	Can be associated to any video source, or without association to a video source. For more information about this setting, refer to Auxiliary Audio Input Association on page 4-5.

Connecting Devices to the Polycom QDX 6000 Microphone Input

To pick up audio from your site, you must connect a microphone to the Polycom QDX 6000 system. Refer to your system's setup sheet for connection details.

The microphone picks up sound from the sides. You can connect two Polycom microphones to a Polycom QDX 6000 system.

For best audio:

- Place the microphone on a hard, flat surface (table, wall, or ceiling) away from obstructions, so the sound will be directed into the microphone elements properly.
- Place the microphone near the people closest to the monitor.
- In large conference rooms, you may need more than one microphone. Each Polycom microphone covers a 3-6 foot radius, depending on the noise level and acoustics in the room.

Polycom Microphone Lights

The following table describes the behavior of the microphone lights.

Microphone Light	Status
Off	Not in a call
Green	In a call, mute off
Red	Mute on

Connecting Audio Output

You must connect at least one speaker to Polycom QDX 6000 systems in order to hear audio. You can use the speakers built into the main monitor, or you can connect an external speaker system such as the Polycom StereoSurround kit to provide more volume and richer sound in large rooms.

Refer to your system's setup sheet for connection details. Make sure that the system is powered off before you connect devices to it.

Connecting Speakers to Polycom QDX 6000 Systems

The following table describes the audio outputs of the Polycom QDX 6000 system.

Audio Output Number	Connector	Output Type	Audio Mix Routed to the Output
Line Out (Main Audio)	RCA	Mono/Stereo	System tones and sound effects + Audio from the far site
VCR OUT (VCR/DVD Player)	RCA	Mono/Stereo	Near-site talkers + Audio from the far site

Setting the Speaker Volume

To set the volume of an external speaker system:

1. Go to **System > Diagnostics >Audio > Speaker Test.**
2. Start the speaker test.
3. Adjust the volume of the speaker system. From the center of the room the test tone should be as loud as a person speaking loudly, about 80-90 dBA on a sound pressure level meter.

Configuring Audio Settings

General Audio Settings

To configure general audio settings:

1. Go to **System > Admin Settings >Audio > Audio Settings.**
2. Configure these settings on the Audio Settings screen:

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 your microphone when auto answering incoming calls. when auto answering incoming calls, your microphone is muted by default until you press the mute button on the microphone or on the remote control.

To configure audio input/output settings:

1. Go to **System > Admin Settings >Audio > Inputs/Outputs.**
2. Configure these settings on the Audio Input screen:

Setting	Description
Microphone Level	Sets the volume level for microphone input.
Line In Level	Sets the volume level for line input.
Echo Canceller	Lets you specify whether to use the system's built-in echo canceller with line audio input. **Note:** This setting only affects line input. Typically, microphones connected to the Polycom microphone input are automatically echo cancelled.
Microphones (dB meter)	Lets you see the peak input signal level present at the microphones.
Line Input (dB meter)	Lets you see the peak input signal level present at the line input.
Echo Ccanceller (dB meter)	Lets you see the peak input signal level present at the echo canceller.

3. Select and enter these settings on the Audio Output screen:

Setting	Description
Line Output Mode	Specifies whether volume for a device connected to the audio line out connectors is variable or fixed. • **Variable**—Allows users to set the volume with the remote control. • **Fixed**—Sets the volume to the Audio Level specified in the system interface. **Note:** When this setting is set to **Fixed**, the remote control's volume adjustment does not affect the output level of line output.
Level	Sets the volume level for line output when **Line Output Mode** is set to **Fixed**.
Line Out (dB meter)	Lets you see the peak output signal level present at line output.

4. Select and enter these settings on the VCR/DVD screen:

Setting	Description
Line In Level	Sets the volume level for VCR or DVD input.
Line Out Level	Sets the volume level for VCR or DVD output.
Auxiliary Audio Input Association	Sets whether to associate current video source. If it is set to associate current video source, you can hear the VCR/DVD player audio through Line Output audio. If you want to play the VCR/DVD player audio through Line Output audio, do one of the following, • If current video source is the main camera, set this setting to Main Camera. • If current video source is AUX / DOC / VCR / VGA, set to corresponding video source.
VCR/DVD Audio Out Always On	Allows you to record a call using one VCR or DVD, while playing 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. If this setting is disabled, the VCR audio output is disabled when VCR is the selected camera source.
Line In Level (dB meter)	Lets you see the peak input signal level present at VCR or DVD audio input.
Line Out Level (dB meter)	Lets you see the peak output signal level present at VCR or DVD audio output.

5. Select and enter these settings on the Audio Levels screen:

Setting	Description
Master Audio Volume	Sets the volume level for audio from the far site.

StereoSurround Settings

To send or receive stereo audio, make sure your Polycom QDX 6000 system equipment is set up as described in Connecting Devices to the Polycom QDX 6000 Microphone Input on page 4-1 and Connecting Audio Output on page 4-2. Then configure the system to use Polycom StereoSurround, test the system configuration, and place a test call.

To configure stereo settings:

1. Go to **System > Admin Settings >Audio > Stereo Settings.**
2. Configure these settings on the Stereo Settings screen:

Setting	Description
Enable Polycom StereoSurround	Specifies that Polycom StereoSurround is used for all calls. To send or receive stereo audio, make sure your Polycom QDX 6000 system is set up as described in Connecting Devices to the Polycom QDX 6000 Microphone Input on page 4-1 and Connecting Audio Output on page 4-2.

Audio Meters

The audio meters in the user interface allow you to identify left and right channels. The meters also indicate peak signal levels. Set signal levels so that you see peaks between +3 dB and +7 dB with normal speech and program material. Occasional peaks of +12 dB to +16 dB with loud transient noises are acceptable. If you see +20 on the audio meter, the audio signal is 0 dBFS and the audio might be distorted.

Testing StereoSurround

After you configure the system to use Polycom StereoSurround, test the system configuration and place a test call.

To test your stereo configuration:

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

   Make sure the microphones are positioned correctly.

2. Go to **System > Admin Settings > Audio > Stereo Settings**.

   Gently blow on the left leg and right leg of each Polycom microphone while watching the Left and Right meters to identify the left and right inputs.

3. Go to **System > Admin Settings > Audio > Stereo Settings >** **.**

   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 speakers if they are reversed.

   Adjust the volume control on your external audio amplifier so that the test tone sounds as loud as a person speaking in the room. If you are using a Sound Pressure Level (SPL) meter, it should measure about 80-90 dBA in the middle of the room.

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 or keypad.

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

5

Content and Captions

You can present content during calls when you use sources such as the following:

- A VCR or DVD player connected directly to a Polycom QDX 6000 system
- People+Content IP installed on a computer, with any Polycom QDX 6000 system that has the People+Content IP option installed
- A computer connected directly to a Polycom QDX 6000 system

For more information about sharing content during a call, refer to the *User Guide for Polycom QDX 6000 Systems*.

Connecting VCR/DVDs

You can connect a VCR or DVD player to a Polycom QDX 6000 system to play videotapes or DVDs into calls.

Configuring VCR/DVD Player Settings

You can connect a VCR or DVD player to Polycom QDX 6000 systems.

Playing a Videotape or DVD

The VCR/DVD inputs are active when you select the camera source configured as VCR. The microphone inputs remain active while the VCR or DVD player is playing. Call participants may wish to mute the microphones while playing videotapes or DVDs. when you select VCR as the current video source, you can associate the VCR / DVD player audio with VCR video source. For detail setting on this, please refer to Auxiliary Audio Input Association on page 4-5.

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

1. Go to **System > Admin Settings > Audio > Inputs/Outputs >** **>** .
2. Set **Line In Level** for playback volume of the VCR/DVD player relative to other audio from the system.
3. Enable **VCR/DVD Audio Out Always On** unless you have the VCR/DVD inputs and outputs both connected to the same device to play and record.

Connecting Computers to Polycom QDX 6000 Systems

You can connect a computer directly to a Polycom QDX 6000 system. When you do this, other call participants can see everything that you see on your computer.

When you connect to video and audio from your computer, the audio is muted unless the computer is selected as a video source.

For more information about connecting computers as content video sources for Polycom QDX 6000 systems, refer to Connecting Cameras on page 3-7. Refer to your system's setup sheet for connection details.

Configuring Content Sharing

To configure the content display:

1. Go to **System > Admin Settings > Network > Call Preference**.
2. Enable **H.239**.

Setting	Description
Enable H.239	Select this option if you know that H.239 is supported by the far sites you will call. If callers experiencing issues when sharing content with other Polycom systems, disable this setting.

Configuring Content Display with People+Content IP

People+Content IP 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 from a computer. People+Content IP supports any computer desktop resolution with color set to 16-bit or higher.

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

- Download the People+Content IP software application from the Polycom web site to 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); 512 MB memory

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

To install People+Content IP on a computer:

1. On a computer with Windows XP or Windows 2000, open a web browser and go to the Polycom web site at www.polycom.com/support.
2. Navigate to your product page.
3. Download and install the People+Content IP software.

Configuring Captioning

To customize your meeting, you can define a meeting name that displays on the screen at all sites. For example, your meeting name might be Beijing Executive Team. You can also define text that all participants see moving across the screen (a "rolling caption"). For example, your rolling caption might be "For technical support, call technical support at 597-636-557".

Configuring Meeting Captions

To configure the meeting caption:

1. Go to **System > Utilities> Meeting Caption**.
2. Configure these settings on the Meeting Caption screen:

setting	description
Enable Meeting Caption	Specifies whether to display the meeting name to all sites in a call.
Meeting Name	Specifies the meeting name used for this system. Meeting names can contain up to 10 double-byte or 20 single-byte letters, numbers, symbols, and Chinese characters.
Color	Sets the display color of the meeting name.
Caption Position	Specifies the display position of the local meeting name. • **Top Left** - The meeting name is shown in the upper left corner of the screen. • **Top Right** - The meeting name is shown in the upper right corner of the screen. • **Bottom Left** - The meeting name is shown in the lower left corner of the screen. • **Bottom Right** - The meeting name is shown in the lower right corner of the screen.

Configuring Rolling Captions

To configure the rolling caption:

1. Go to **System > Utilities > Rolling Caption**.
2. Configure these settings on the Rolling Caption screen:

Setting	Description
Enable Rolling Caption	Sets whether to display a moving caption to all participants.
Color	Sets the display color of caption.
Rolling Speed	Sets the scrolling speed of the rolling caption. A scrolling speed of 1 is the slowest speed, and 3 is the fastest.
Caption Position	Sets the display position of marquee in the picture.
Rolling Caption Text	Text to display in the rolling caption. The text can contain letters, numbers, symbols, and Chinese characters.

6

Calling and Answering

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 on the Call Settings screen:

Setting	Description
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. Choosing 0 removes any limit. This setting also applies when you are viewing the Near video screen or showing content, even if you are not in a call. If the maximum time is reached while viewing Near video, the system automatically returns to the home screen. If content is being shown, the content stops.
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.

Setting	Description
Call Detail Report	Specifies whether to collect call data for the Call Detail Report and Recent Calls list. When selected, information about calls can be viewed through the Polycom QDX 6000 web interface and downloaded as a .csv file. **Note:** If this setting is disabled, applications such as the Polycom Global Management System will not be able to retrieve Call Detail Report (CDR) records.
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	Turns the far site name display on or off, or specifies the time period the far site name appears on screen when calls first connect.
Auto Answer Point-to-Point Video	Specifies whether to answer incoming point-to-point calls automatically.

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 Video** to set the answer mode for calls with one site.
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.

Configuring Directory Settings

To configure system settings:

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

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.
Localized System Name	Displays the localized system name, if you have entered one. You can enter a **Localized System Name** for Simplified Chinese on this screen using the Chinese Virtual Keyboard. You must use the Polycom QDX 6000 web interface to enter localized system names for other languages.
Preview Directory Entry Information	Specifies whether to display a preview of each entry on the Directory screen.
Allow Directory Changes	Specifies whether users can save changes to the directory or Contacts list.
Confirm Directory Deletions	Specifies whether users are prompted to confirm deletions of directory entries.
Confirm Directory Additions Upon Call Disconnect	Specifies whether users are prompted to confirm new directory entries when saving the information for the last site called.
Search	Specifies whether to auto-search correspoding entries after users inputting a letter in the text box on the Directory screen (Select **Directory**).

Creating a Localized System Name with the Polycom QDX 6000 Web Interface

Polycom QDX 6000 systems send the localized system name to the far site as the caller ID. The localized system name is displayed if the user interface of the far-site system is set to that same language. If the far-site system and localized system name are in different languages, the far-site system displays the English/Pinyin system name. The English/Pinyin name is the name used by the Global Directory Server, the gatekeeper, and other systems that do not support this feature, and it is also the name that shows up in the Recent Calls list.

To create a localized system name using the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Admin Settings > General Settings > System Settings**.
4. Enter the localized system name in the appropriate language field.

Managing Directories with the Polycom QDX 6000 Web Interface

The Polycom QDX 6000 Web Interface import/export directory feature allows you to maintain consistency of Polycom QDX 6000 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 Polycom QDX 6000 systems
- Develop directory entries on one system, save them to your computer, and then distribute them to other systems
- Create localized directory entries

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

To download a Polycom QDX 6000 system directory to your computer:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Utilities > Import/Export Directory**.
4. Click **QDX 6000—> PC** to download the .csv file from the Polycom QDX 6000 system.
5. Save the file to a location on your computer.

To upload Polycom QDX 6000 system directory entries:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Utilities > Import/Export Directory**.
4. Click **PC —> QDX 6000**.
5. Click **Browse** and browse to the location of the .csv file on your computer.
6. Click **Import Directory** to upload the .csv file to the Polycom QDX 6000 system.

To create a localized directory entry using the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Place a Call > Directory**.

Edit an entry to enter a localized directory entry name in the **Localized Name** field, and specify the language for the localized directory entry.

Configuring the Global Directory

The global directory provides a list of other systems 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.

You can configure the system to use one of the following directory servers.

Directory Servers Supported	Authentication Protocols	Global Directory Groups	Entry Calling Information
Polycom GDS	Proprietary	Not Supported	May include: H.323 IP address (raw IP address, DNS name, or H.323 extension)
LDAP with H.350 or Active Directory	Any of the following: • NTLM • Basic • Anonymous	Not Supported	May include: • H.323 IP address (raw IP address, DNS name, H.323 dialed digits, H.323 ID, or H.323 extension) • SIP address (SIP URI)
LDAP by a Polycom CMA system	NTLM only	Pre-defined groups from the LDAP directory are shown in Polycom QDX 6000 system's directory	May include: H.323 dialed digits, H.323 ID, or H.323 extension

To choose a directory server:

1. Go to **System > Admin Settings > Global Services > Directory Servers**.
2. Enable **LDAP** or **Polycom GDS**.
3. Select **Edit** to edit the connection information for the desired server.

To configure the Polycom GDS settings:

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

Setting	Description
Global Directory (GDS)	Specifies the IP address or DNS address of the Global Directory Server. You can enter up to five addresses.
Password	Lets you enter the global directory password, if there is one.
Register	Registers this system with the Global Directory Server.
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. When this setting is disabled, the system can display no more than 1,000 global directory entries. When this setting is enabled, the system can display up to 2,500 global directory entries.
Group Name	Specifies the group name used for Polycom GDS directory entries in the local directory. The default name for the Polycom GDS group is **Polycom GDS**.

To configure the LDAP settings:

1. Go to **System > Admin Settings > Global Services > Directory Servers > Edit**.
2. Configure these settings on the LDAP screen.

LDAP Setting	Description
Server Address	Specifies the address of the LDAP directory server. With Automatic Provisioning, this setting is configured by the server and appears as read-only.
Server Port	Specifies the port used to connect to the LDAP server. With Automatic Provisioning, this setting is configured by the server and appears as read-only.
Group Name	Specifies the group name used for LDAP directory entries in the local directory. The default name for the LDAP group is **Polycom Directory**.
Base DN (Distinguished Name)	Specifies the top level of the LDAP directory where searches will initiate. With Automatic Provisioning, this setting is configured by the server and appears as read-only.
Authentication Type	Specifies the protocol used for authentication with the LDAP server: NTLM, BASIC, or Anonymous.
Use SSL (Secure Socket Layer)	Enables SSL for securing data flow to and from the LDAP server.
Domain Name	Specifies the domain name for authentication with the LDAP server.
User Name	Specifies the user name for authentication with LDAP server.
Password	Specifies the password for authentication with the LDAP server.

Directory Groups

Having groups in the directory can help users find calling information quickly and easily. Polycom QDX 6000 systems support global groups and local groups.

Global Directory Groups

Global directory entries are assigned to a global group with the name that you specify in the Directory Server configuration. Polycom QDX 6000 systems can display up to 2,500 Polycom GDS global directory entries. Up to 100 search results can be displayed at a time from an LDAP global directory. If the Polycom QDX 6000 system is registered to an LDAP directory server by a Polycom CMA system, it can display up to 200 groups within the Polycom Directory group. Users cannot edit or delete global directory entries or global directory groups.

Local Directory Groups

The Contacts group is a local directory group that contains the types of Contacts shown in the following table. Contacts are also displayed on the Contacts home screen.

Directory Server Registration	Types of Contacts	Presence State Displayed
Polycom GDS	Directory entries created locally by the user	Unknown
	• Polycom GDS directory entries saved locally as Contacts by the user • Speed dial or sites added from the Sites screen	Online/Offline
LDAP with H.350 or Active Directory	• Directory entries created locally by the user • LDAP directory entries saved locally as Contacts by the user • Speed dial or sites added from the Sites screen	Unknown
LDAP by a Polycom CMA System	• Directory entries created locally by the user • LDAP directory entries saved locally as Contacts by the user • Default LDAP group members created in the LDAP server by the server administrator	Unknown

Users can create, edit, and delete local directory entries and local directory groups.

7

System Location, Appearance, and Tones

Configuring Regional Settings

To configure country, language, and long-distance dialing, go to **System > Admin Settings > General Settings > Location**. For more information about each setting, highlight the setting and press **Help** on the remote control.

To set the date, time, and location:

1. Go to **System > Admin Settings > Location**.
2. Select and configure these settings on the Time Zone screen:

Setting	Description
Auto Adjust for Daylight Saving Time	Specifies the daylight savings time setting. When you enable this setting, the system clock automatically changes for daylight saving time.
Time Zone	Specifies the time difference between GMT (Greenwich Mean Time) and your location.
Time Server	Specifies connection to a time server for automatic system time settings. The date and time must be manually reset every time a Polycom QDX 6000 systemrestarts, in the following cases: • **Time Server** is set to **Off** • **Time Server** is set to **Manual** or **Auto**, but the system cannot connect to a time server successfully.
Time Server Address	Specifies the address of the time server to use when **Time Server** is set to **Manual**.

3. Select and configure these settings on the Date and Time screen:

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.
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.

Customizing 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:

- Access to pre-defined numbers with one button click
- Instructions on screen

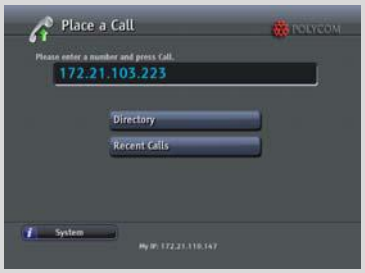
Include a short list of specific items for users to select
Use the marquee to add instructions
Disable Allow Directory Changes
Disable Contacts List as Home Screen

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 (bandwidth and call type)
- User Settings, Diagnostics, and System Information
- Speed Dial list of frequently called sites
- Alerts

Add more features as users gain experience

Users with Personal Systems

Provide options for personalizing the system:

- Access to frequently called Contacts with one button click
- Presence information for Contacts
- Availability Control

Enable Contact List as Home Screen

Enable the Availability Control

To design the home screen:

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

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.
Enter Marquee Text	Specifies the text to display when the Dialing Display is set to Display marquee.
Contact List as Home Screen	Specifies whether to display the contact list home screen.
Call Quality	Allows users to select the bandwidth for calls, as well as the call type, from the Place a Call screen. For information about enabling call types, refer to Configuring Call Preferences on page 2-13.
H.323 Extension (E.164)	Allows users to enter H.323 extensions separately from the gateway ID on the Place a Call screen. If your system is registered with a gatekeeper, this setting also displays your H.323 extension on the home screen. If you do not select this setting, users make gateway calls by entering the call information in this format: gateway ID + ## + extension
Directory	Allows users to access the directory.
System	Allows users to access the System screen, which includes User Settings, Diagnostics, and System Information. 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.
Local Date and Time	Specifies whether to display the local date and time on the home screen.
Availability Control	Displays a control on the home screen that allows users to set the system to **Available** or **Busy**.
Call Detail Report	Specifies whether to generate a report of all calls made with the system. When selected, all calls can be viewed through the Polycom QDX 6000 web interface and downloaded as a .csv file. **Note:** If this setting is disabled, applications such as the Polycom Global Management System will not be able to retrieve Call Detail Report (CDR) records.
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.

4. Select and configure these settings:

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

Displaying Contacts and Speed Dial Sites

Contacts are displayed on the Contacts home screen when the Contact List as Home Screen setting is enabled. Sites configured for speed dial are displayed on the Place a Call screen when the Sites setting is enabled. Directory entries added to the speed dial list are also added to the Contacts list. Directory entries added to the Contacts list are also added to the speed dial list, except for entries stored by the presence service.

To configure speed dial sites:

1. Make sure that the site information is entered in the directory.

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

To display Contacts on the Contacts home screen:

1. Go to **System > Admin Settings > General Settings > Home Screen Settings**.
2. Select **Contact List as Home Screen**.

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 in the Polycom QDX 6000 systeminterface:

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 Polycom QDX 6000 web interface. For some languages such as Russian, Korean, Japanese, Simplified Chinese, and Traditional Chinese, you must use the Polycom QDX 6000 web interface to add marquee text.

To enter marquee text using the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **Admin Settings > General Settings > Home Screen Settings** and enter.

- **Dialing Display** — Set to Display marquee.
- **Enter Marquee Text** — Type the text to display on the home screen.

5. Click **Update**.

Setting Ring Tones and Alert Tones

To set ring tones and alert tones:

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

Customizing 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.

To customize camera names and icons:

1. Go to **System > Admin Settings > Cameras**.
2. For each camera or video source, enter a name and choose an icon.

Screen Savers

For information about setting the Screen Saver Wait Time, refer to page 3-3.

Adding Screen Saver Text

You can customize the Polycom QDX 6000 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.

Output upon Screen Saver Activation on the Monitors screen must be set to **Black** if you want to display screen saver text.

To enter screen saver text:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **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**.

Customizing System Logos

You can customize the following logos shown on your Polycom QDX 6000 system in the on screen UI and the web interface:

- Screen Saver Logo
- Web Welcome Logo
- Splash Logo
- Embedded UI Logo
- Web Header Logo

Adding a Screen Saver Logo

You can customize the Polycom QDX 6000 system to display your own screen saver logo instead of the Polycom logo.

To upload a screen saver logo:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **Utilities > Screen Saver**, click **Next**, and follow the onscreen instructions for uploading a logo file.

Adding a Web Welcome Logo

You can customize the Polycom QDX 6000 system to display your own web welcome logo instead of the Polycom logo.

To upload a web welcome logo:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **Utilities > Customise System Logo > Web Welcome Logo**, and follow the onscreen instructions for uploading a logo file.

Adding a Splash Logo

You can customize the Polycom QDX 6000 system to display your own splash logo instead of the Polycom logo.

To upload a splash logo:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **Utilities > Customise System Logo > Splash Logo**, and follow the onscreen instructions for uploading a logo file.

Adding an Embedded UI Logo

You can customize the Polycom QDX 6000 system to display your own embedded UI logo instead of the Polycom logo.

To upload an embedded UI logo:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.

4. Click **Utilities > Customise System Logo > Embedded UI Logo**, and follow the onscreen instructions for uploading a logo file.

Adding a Web Header Logo

You can customize the Polycom QDX 6000 system to display your own web header logo instead of the Polycom logo.

To upload a web header logo:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Click **Utilities > Customise System Logo > Web Header Logo**, and follow the onscreen instructions for uploading a logo file.

Restoring the Default Logos

To restore the default logos:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Enter the user name and administrator's password, if a password has been established.
4. Do the following,
   - If you want to restore the screen saver logo, click **Utilities > Screen Saver**, click **Next**, and click .
   - If you want to restore the web welcome logo, click **Utilities > Customise System Logo > Web Welcome Logo**, and click .
   - If you want to restore the splash logo, click **Utilities > Customise System Logo > Splash Logo**, and click .
   - If you want to restore the embedded UI logo, click **Utilities > Customise System Logo > Embedded UI Logo**, and click .
   - If you want to restore the web header logo, click **Utilities > Customise System Logo > Web Header Logo**, and click .

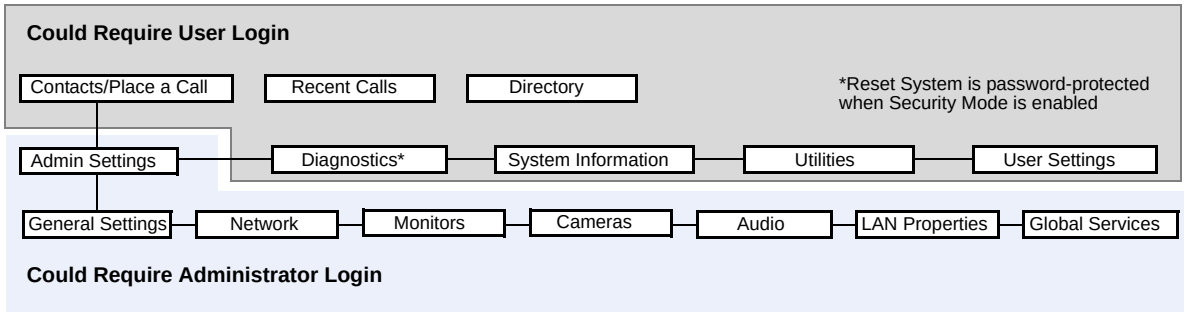
8

Security

Screens that Require a Password for Access

You can configure Polycom QDX 6000 systems to provide two levels of access for people who are in the room with the system. You can require a user login to use the system. In addition, you can require an administrator login to configure system Admin Settings.

The following illustration shows which screens could require a user login and which screens could require an administrator login.



You can set a remote access password to restrict who can upgrade the Polycom QDX 6000 system software or perform other remote management from a computer.

Configuring Security Options

To set passwords and security options:

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

Setting	Description
Security Mode	Specifies whether the system uses Security Mode, which prevents unsecured access to the system. Every time you enable Security Mode, you must configure a new password for the system.
Security Profile	If set to DoD DSN, the Security Profile sets and controls particular security settings in order to meet DoD DSN requirements. This setting is visible only if the Security Profile was configured in the setup wizard.
Use Room Password for Remote Access	Specifies whether the room password used for local login is also used for the remote login.
Admin ID	Specifies the ID for the administrator account.
Room Password	Specifies the password for administrator access when logging in to the system locally. When the room password is set, you must enter it to configure the system Admin Settings using the remote control. The room password must not contain spaces.
Remote Access Password	Specifies the password for administrator access when logging in to the system remotely. When the remote access password is set, you must enter it to upgrade the software or manage the system from a computer. The remote access password must not contain spaces.

3. Select and configure these settings:

Setting	Description
Require Login for System Access	Specifies whether the system automatically prompts users to log in when the system comes out of sleep mode. Enabling this setting requires a login to use the system.
User ID	Specifies the ID for the user account.
User Password	Specifies the password for the user account. To enter numbers, use the number buttons on the remote or keypad. To enter letters, press **Keyboard** on the remote or keypad.

4. Select and configure these settings:

Setting	Description
Enable Remote Access	Specifies whether to allow remote access to the system by: • 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. This setting does not deactivate the associated port, only the application. Use **Web Access Port** to disable the port.
AES Encryption	Specifies how to encrypt calls with other sites that support AES encryption. • **Off**—AES Encryption is disabled. • **When Available**—AES Encryption is used with any endpoint that supports it, even if the other endpoints in the call don't support it. • **Required for All Calls**—AES Encryption is used for all video endpoints in the call. All endpoints must support AES Encryption to participate in the call.

Setting	Description
Allow Video Display on Web	Specifies whether to allow viewing of the room where the system is located, or video of calls in which the system participates, using the Polycom QDX 6000 web interface. **Note:** This feature activates both near site and far site video displays in Web Director.
Web Access Port (http)	Specifies the port to use when accessing the system using the Polycom QDX 6000 web interface. 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 the Polycom QDX 6000 web interface to access the system. This makes unauthorized access more difficult. **Note:** The system restarts if you change the web access port.
Allow Access to User Settings	Specifies whether the User Settings screen is accessible to users via the System screen. Select this option if you want to allow users to change limited environmental settings.

5. Select and configure this setting:

Setting	Description
Enable Security Banner	Specifies the security banner to display when the system wakes up or a user logs in. • **Off** — Disables the security banner. • **Custom** — Allows you to enter text to use for the banner. You can enter up to ten lines of text, each of which can contain up to 128 single-byte characters. • **DoD** — Specifies that the system displays a default U.S. Department of Defense security banner.

Configuring Security Mode

You can configure Polycom QDX 6000 systems to use Security Mode, which provides secure access to the system. Security Mode utilizes TLS, HTTPS, AES, digital signatures, and other security protocols, algorithms, and mechanisms to put the system into a secure mode. These protocols encrypt management communication over IP, preventing access by unauthorized users.

Every time you enable Security Mode, you must configure a new password for the system. The password cannot be blank and it cannot be the default value (serial number).

Security Mode requires secure access and a password for Web access.

When you enable Security Mode, the following settings are set and controlled by the system:

Setting	Restriction
AES Encryption	Set to **Required for Video Calls Only** (or **When Available** after an upgrade), configurable
Enable Remote Access: Telnet	Disabled for port 23 and 24, read-only
Enable Remote Access: SNMP	Disabled, read-only
Web Access Port	Port 80 disabled with no redirect to port 443, read-only Port 443: Available for HTTPS, read-only
Allow Video Display on Web	Disabled, configurable
Auto Answer Settings	Auto Answer Point-to-Point: Disabled, configurable
User Settings	Mute Auto-Answer Calls: Hidden Allow Video Display on Web: Hidden Far Control of Near Camera: Hidden
Minimum Password Length	Set to 1, must be at least 1

To configure the system to use Security Mode:

1. Go to **System > Admin Settings > General Settings > Security > Security Settings**.
2. Enable **Security Mode**.

When you change this setting, the Polycom QDX 6000 system restarts. Every time a Polycom QDX 6000 system is powered on or restarts in Security Mode, it verifies that the system software is authentic Polycom software.

Points to note about Security Mode:

- SNMP access is not available in Security Mode.
- Global Management System, Readi*Manager* SE200, and Polycom CMA systems cannot monitor Polycom QDX 6000 systems in Security Mode.
- If Security Mode is enabled, you must enter the room password to reset the system (**System > Diagnostics > Reset System**). If you forget the room password while the system is in Security Mode, refer to Using the Restore Button on page 12-2.
- The web interface allows only HTTPS connections using TLS when Security Mode is enabled. Make sure that your web browser has TLS capabilities enabled.

To access a Polycom QDX 6000 system in Security Mode using the Polycom QDX 6000 web interface:

1. Enter the IP address of the system using secure HTTPS access, for example, `https://10.11.12.13`.
2. Click **Yes** in the security dialogs that appear. This access uses port 443.
3. To access Admin Settings using the Polycom QDX 6000 web interface when a remote access password is set, enter the administrator account ("admin" is default).

Enabling a Security Profile

You can configure a Security Profile in the setup wizard only. If set to **DoD DSN**, the Security Profile sets and controls particular security settings in order to meet DoD DSN requirements. For a list of pre-defined values and additional restrictions applied by the Security Profile, refer to the *U.S. DoD DSN Deployment Guide* available on the Polycom web site.

To enable a Security Profile:

- In the setup wizard, enable **Security Mode** and set **Security Profile** to **DoD DSN**.

To view the Security Profile setting:

- Go to **System > Admin Settings > General Settings > Security > Security Settings**.

  If you do not see the Security Profile setting, it is set to **None** and no settings are controlled by the Security Profile.

Enabling AES Encryption

AES encryption is a standard feature on all Polycom QDX 6000 systems. When it is enabled, the system automatically encrypts calls to other systems that have AES encryption enabled.

To enable AES encryption:

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

Points to note about AES Encryption:

- AES Encryption is not supported in Basic Mode.
- AES Encryption is not supported on systems registered to an Avaya H.323 gatekeeper.

Setting Password Policies

This version allows you to set up password policies, which are requirements that must be met when creating new passwords. These password settings can ensure that strong passwords are used.

To configure password policies:

1. Go to **System > Admin Settings > General Settings > Security > Password Settings** in the local system interface.
2. Select **Room**, **User**, or **Remote Access**.

When **Use Room Password for Remote Access** is enabled, the room password policy is applied to both room and remote access passwords.

3. Configure these settings:

Setting	Description
Minimum Length	Specifies the minimum number of characters required for a valid password.
Can Contain ID or Its Reverse Form	Specifies whether the associated ID or the reverse of the ID can be part of a valid password. If this setting is enabled and the ID is “admin”, passwords “admin” and “nimda” are allowed.

Setting	Description
Require Lower Case Letters	Specifies whether a valid password must contain one or more lower-case letters.
Require Upper Case Letters	Specifies whether a valid password must contain one or more upper-case letters.
Require Numbers	Specifies whether a valid password must contain one or more numbers.
Require Special Characters	Specifies whether a valid password must contain one or more special characters. Supported characters include: @ - _ ! ; $, \ / & . # *

4. Select and configure these settings:

Setting	Description
Do Not Allow Previous Passwords	Specifies the number of most recent passwords that cannot be reused. If set to **Off**, all previous passwords can be reused.
Minimum Password Age in Days	Specifies the minimum number of days that must pass before the password can change.
Maximum Password Age in Days	Specifies the maximum number of days that can pass before the password must change.
Password Expiration Warning in Days	Specifies how far in advance the system displays a warning that the password will soon expire, if a maximum password age is set.
Minimum Changed Characters	Specifies the number of characters that must be different or change position in a new password. If this is set to 3, “123abc” can change to “345cde”, or to “234bcd”.
Maximum Consecutive Repeated Characters	Specifies the maximum number of consecutive repeated characters in a valid password. If this is set to 3, “aaa123” is a valid password but “aaaa123” is not.

Setting the Room and Remote Access Passwords

You can set the room password to restrict who can configure system Admin Settings using the remote control. You can set the remote access password to restrict who can upgrade the Polycom QDX 6000 system software or perform other remote management from a computer.

All passwords appear as a series of asterisks as you type them in a configuration or login screen. To enter numbers in a password field, use the remote or keypad number buttons. To enter letters in a password field, press **Keyboard** on the remote or keypad.

To set or change the room password:

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

The default room password is the 16-digit system serial number.

To set or change the remote access password:

1. Go to **System > Admin Settings > General Settings > Security > Security Settings.**
2. Clear the **Use Room Password for Remote Access** setting if it is selected. By default, the remote access password is the same as the room password.
3. Enter a **Remote Access** password.

To use the same password for both local and remote access:

1. Go to **System > Admin Settings > General Settings > Security > Security Settings**.
2. Select **Use Room Password for Remote Access**.

To reset a forgotten password:

1. Get the system's serial number from the system or from the System Information screen.
2. Go to **System >Diagnostics > Reset System.**

If Security Mode is enabled, the room password is required to access the Reset System screen. If you forget the room password while the system is in Security Mode, refer to Using the Restore Button on page 12-2.

3. Enter the system's serial number and select **Delete System Settings.**
4. Select **Reset System.**

After the system resets, it leads you through the setup wizard. You can enter a new password when you set up the system.

Setting an Account Lockout

You can configure and enforce an account lockout if someone fails to log in correctly. After a certain number of failed login attempts, the account is locked for an amount of time specified by the administrator.

To configure the account lockout feature:

1. Go to **System > Admin Settings > General Settings > Security > Account Management**.
2. Select **Admin Account** or **User Account**.
3. Configure these settings on the Admin Account or User Account screen:

Setting	Description
Lock Account after Failed Logins	Specifies the number of failed login attempts allowed before the system locks the account. If set to **Off**, the system will not lock the user account due to failed login attempts.
Account Lock Duration in Minutes	Specifies the amount of time that the account remains locked due to failed login attempts.

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.

Security Level	Restrictions
High (Kiosk mode)	An administrator login is required to configure system Admin Settings. Users can call only the numbers you specify on the home screen. See Customizing the Home Screen on page 7-3.
High (User login mode)	An administrator login is required to configure system Admin Settings. A user login is required to use the system.

Security Level	Restrictions
Medium	An administrator login is required to configure system Admin Settings. Users can place calls using the restrictions you specify for length of call, type of call, and use of the directory.
Low	An administrator login is required to configure system Admin Settings. However, Allow Access to User Settings is enabled so that users can configure some settings.
Very low	No administrator login is required to configure system Admin Settings. Users can configure all system settings.

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 > Security Settings >** **>** .
2. Select 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, which are also available to administrators on the Admin Settings screens:

- Backlight Compensation
- Far Control of Near Camera
- Auto Answer Point-to-Point Video
- Mute Auto-Answer Calls
- PIP
- Keypad Audio Confirmation
- Far Site Name Display Time
- Allow Video Display on Web

9

Managing the System Remotely

You can configure, manage, and monitor the system from a computer using the system's web interface. You can also use Polycom CMA, SNMP, or the API commands.

- The Polycom QDX 6000 Web Interface requires only a web browser.
- Polycom CMA requires the management 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 *API Reference Manual for Polycom QDX 6000 Systems*.

Using the Polycom QDX 6000 Web Interface

You can use the Polycom QDX 6000 web interface to perform most of the calling and configuration tasks you can perform on the local system.

Accessing the Polycom QDX 6000 Web Interface

To configure your browser to use the Polycom QDX 6000 web interface:

1. Be sure that you use Microsoft Internet Explorer 6.x, 7.x,or 8.x as your web browser.
2. Configure the browser to allow cookies.

To access the system using the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's host name or IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.

   If Security Mode is enabled on the system, you must use secure HTTPS access, for example, `https://10.11.12.13`. Click **Yes** in the security dialog boxes that appear.
3. If prompted, enter the administrator account ("admin" is default), and enter the remote access password.

Monitoring a Room or Call with the Polycom QDX 6000 Web Interface

The monitoring feature within the Polycom QDX 6000 web interface allows administrators of Polycom QDX 6000 systems to view a call or the room where the system is installed.

To enable room and call monitoring:

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

To view a room or call:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **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 selecting **Tools > Remote Monitoring**.

Managing System Profiles with the Polycom QDX 6000 Web Interface

Administrators managing systems that support multiple applications can change system settings quickly and easily using profiles. You can store a Polycom QDX 6000 system profile on a computer as a .profile file using the Polycom QDX 6000 web interface. There is no limit to the number of profiles you can save.

The following settings are included in a profile:

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

Passwords are not included when you store a profile.

Polycom recommends using profiles only as a way to back up system settings. Attempting to edit a stored profile or upload it to more than one system on the network can result in instability or unexpected results.

To store a profile:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Utilities > Profile Center**.
4. Click **QDX 6000—> PC** to download the profile file from the Polycom QDX 6000 system.
5. Save the file to a location on your computer.

To upload a profile:

1. Reset the Polycom QDX 6000 system to restore default settings.
2. On a computer, open a web browser.
3. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
4. Go to **Utilities > Profile Center**.
5. Click **Browse** and browse to the location of the profile file on your computer.
6. Click **PC —> QDX 6000** to upload the .profile file to your system.

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 Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default)., and enter the admin password.
4. Go to **Diagnostics > Send a Message**.
5. In the Send a Message page, enter a message (up to 100 characters in length), then click **Send**.

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

Setting Up SNMP

The Polycom QDX 6000 system sends SNMP (Simple Network Management Protocol) reports to indicate conditions, including the following:

- All alert conditions found on the Polycom QDX 6000 system alert page
- Details of jitter, latency, and packet loss
- Low battery power is detected in the remote control
- A system powers on
- 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

Polycom QDX 6000 systems are compatible with SNMP versions 1 and 2c.

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 the Polycom QDX 6000 web interface.

To download the Polycom MIBs:

1. On a computer, open a web browser.
2. In the browser address line, enter the IP address of the system, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Admin Settings > Global Services > SNMP**.
4. Click **Download MIB** and follow the onscreen instructions.

Configuring for SNMP Management

To configure the Polycom QDX 6000 system for SNMP Management:

1. Access the SNMP configuration screen either in the Polycom QDX 6000 web interface or on the Polycom QDX 6000 system.
   - In the Polycom QDX 6000 web interface go to **Admin Settings > Global Services > SNMP**.
   - On the Polycom QDX 6000 system go to **System > Admin Settings > Global Services > SNMP**.
2. Configure these settings on the SNMP screen:

Setting	Description
Enable SNMP	Allows administrators to manage the system remotely using SNMP.
Trap Version	Specifies the trap protocol that the system uses. • **v2c**—System uses the v2c trap. • **v1**—System uses the v1 trap.
Read-Only Community	Specifies the SNMP management community in which you want to enable this system. The default community is **public**. **Note:** Polycom does not support SNMP write operations for configuration and provisioning; the read-only community string is used for both read operations and outgoing SNMP traps.
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.

Keeping your Software Current

If you have Internet access and a software key, you can update the Polycom QDX 6000 system software. If you do not have Internet access, your reseller can supply you with the Polycom QDX 6000 system software update on CD-ROM.

Refer to the *Release Notes for Polycom QDX 6000 Systems* for information about the latest software version. Refer to *Installing Polycom QDX 6000 Software* for detailed information about obtaining software key codes and installing software upgrade.

10

Control Devices

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 on the Remote Control screen:

Setting	Description
Keypad Audio Confirmation	Specifies whether to play a voice confirmation of numbers selected with the remote control or keypad.
Numeric Keypad Function	Specifies whether pressing number buttons on the remote control or keypad moves the camera to presets or generates touch tones (DTMF tones). If this is set to **Presets**, users can generate DTMF tones by pressing # while on a video screen.

Configuring RS-232 Serial Port Settings

To configure RS-232 serial port settings:

1. Go to **System > Admin Settings > General Settings > Serial Port**s.
2. Configure these settings for a Polycom QDX 6000 system:

Setting	Description
RS-232 Mode	Specifies the mode used for the serial port. • **Off**—Disables the serial port. • **Control**—Receives control signals from a touch-panel control. Allows any device connected to the RS-232 port to control the system using API commands. • **Pass Thru**—Passes data to an RS-232 device connected to the serial port of the far-site system.
Baud Rate, Parity, Data Bits, Stop Bits	Set these to the same values that they are set to on the serial device.
RS-232 Flow Control	When a Vortex is connected to an RS-232 connector on the Polycom QDX 6000 system, set both to **Hardware**.

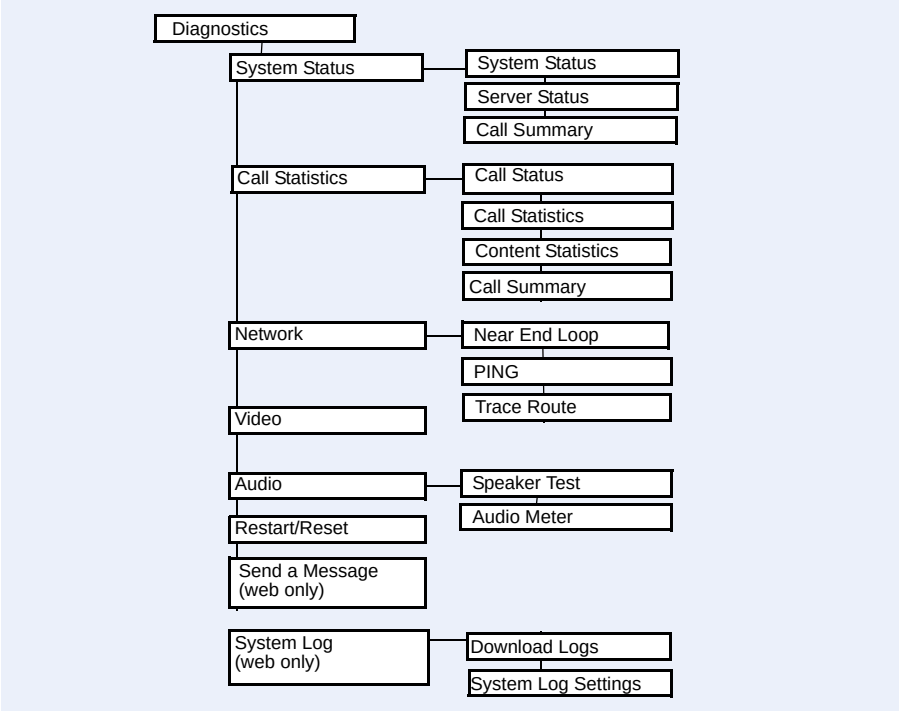
11

Statistics and Diagnostics

The Polycom QDX 6000 system provides various screens that allow you to review information about calls made by the system and to review network usage and performance.

Diagnostic Screens

The following Diagnostics screens are available on the system and in the Polycom QDX 6000 web interface.



To access the Diagnostics screens on the system:

- Go to **System > Diagnostics.**

To access the Diagnostics screens from the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default), and enter the admin password.
4. Click **Diagnostics** from any page in the Polycom QDX 6000 web interface.

System Status

Diagnostic Screen	Description
System Status	Displays system status information, including auto-answer point to point, remote control battery, system serial number, and IP network. 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 home screen.

Server Status

Diagnostic Screen	Description
Server Status	Displays server status information, including time server, global directory, gatekeeper, and registrar server. For an explanation of any of the status items, select the item and press on the remote. When there is a change in server status or a potential problem, you see an alert at the bottom of the home screen.

Call Statistics

Diagnostic Screen	Description
Call Statistics	Displays information about the call in progress. View Call Statistics during a call by pressing **Help** on the remote. Call Statistics (1) • Call speed (transmit and receive) • Video protocol, and format in use (transmit and receive). • 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 Content Statistics The Content Statistics screen shows statistics for content shared during a call.
Call Summary (system only)	Displays calling information, such as: • Duration of the last call • Total number of IP calls • Total time of IP calls

Network

Diagnostic Screen	Description
Near End Loop	Tests the internal audio encoders and decoders, the external microphones and speakers, the internal video encoders and decoders, and the external cameras and monitors. 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.
PING	Tests whether the system can establish contact with a far-site IP address that you specify. PING returns abbreviated Internet Control Message Protocol results. It returns H.323 information only if the far site is configured for H.323. It returns SIP information only if the far site is configured for SIP. If the test is successful, the Polycom QDX 6000 system displays a message indicating that the IP address under test is available.
Trace Route	Tests the routing path between the local system and the IP address entered. If the test is successful, the Polycom QDX 6000 system lists the hops between the system and the IP address you entered.

Video

Diagnostic Screen	Description
Video Diagnostics	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.

Audio

Diagnostic Screen	Description
Speaker Test	Tests the audio cable connections. A 473 Hz audio tone indicates that the local audio connections are correct. If you run the test from the system during a call, the far site will also hear the tone. If you run the test from the Polycom QDX 6000 web interface during a call, the people at the site you are testing will hear the tone, but you will not.
Audio Meter	Measures the strength of audio signals from microphone(s), far-site audio, VCR audio, and any device connected to the audio line in. • To check the microphone(s), speak into the microphone. • To check far-site audio, ask a participant at the far site to speak or call a phone in the far-site room to hear it ring. • To check a VCR or DVD, connect it to the VCR inputs and play the VCR or DVD to test the audio. The Audio Meters indicate peak signal levels. Set signal levels so that you see peaks between +3dB and +7dB with normal speech and program material. Occasional peaks of +12dB to +16dB with loud transient noises are considered acceptable. A meter reading of +20dB corresponds to 0dBFS in the Polycom QDX 6000 system audio. A signal at this level is likely clipping the audio system. Meters function only when the associated input is enabled. **Note:** Some audio meters are unavailable when a SoundStructure digital mixer is connected to the Polycom QDX 6000 system.

Reset or Restart System

Diagnostic Tool	Description
Restart (web only) Reset System (system only)	Restart in the web interface cycles power to the system. **Note:** If Security Mode is enabled, you must enter the room password to reset the system. When you choose Reset 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. System reset does not affect the global directory. You may wish to download the CDR and CDR archive before you reset the system. See Call Detail Report (CDR) on page 11-7.

Recent Calls

When the **Call Detail Report** setting is enabled, Recent Calls shows a list of up to 99 calls made by the system. It includes the following information:

- Site name or number
- Date and 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 Customizing the Home Screen on page 7-3.

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.

If you need even more detail about calls, you can view or download the Call Detail Report (CDR) from the Polycom QDX 6000 web interface. For more information about the CDR, see Call Detail Report (CDR).

Call Detail Report (CDR)

When enabled, the Call Detail Report (CDR) provides the system's call history. You can view the CDR from the Polycom QDX 6000 web interface. Within 5 minutes of the end of the call, the CDR is written to memory and then you can download the data in CSV format for sorting and formatting.

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.

The CDR does not include incoming calls that the Polycom QDX 6000 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 the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default), and enter the admin password.
4. Click **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.
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.

Data	Description
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.323 (IP) or SIP.
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.
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 G.722.1.
Audio Protocol (Rx)	The audio protocol received from the far site, such as G.728 or G.722.
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.

Data	Description
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.
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 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.

The 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 view and download a CDR archive via the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default), and enter the admin password.
4. Click **Utilities > Call Detail Report** to view the details of the file.
5. Click **Save Archive** and then specify a location on your computer to save the file.

System Logs

You can use the Polycom QDX 6000 system local interface or web interface to download system logs.

Downloading System Logs from the Polycom QDX 6000 Web Interface

The support information package contains logs, configuration settings, and other diagnostic information.

To download a system log via the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default), and enter the admin password.
4. Click **Diagnostics > System Log > Download Logs**.
5. Click **Download support information package** and then specify a location on your computer to save the file.

System Log Settings in the Polycom QDX 6000 Web Interface

To configure system log settings via the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. If prompted, enter the administrator account ("admin" is default), and enter the admin password.
4. Click **Diagnostics > System Log > System Log Settings**.
5. Configure these settings:

Setting	Description
Log Level	Sets the minimum log level of messages stored in the Polycom QDX 6000 system flash memory. DEBUG logs all messages. WARNING logs the fewest number of messages. Polycom recommends leaving this setting at the default value of DEBUG.
Remote Logging Enabled	Specifies whether remote logging is enabled. Enabling this setting causes the Polycom QDX 6000 system to send each log message to the specified server in addition to logging it locally. The system immediately begins forwarding its log messages when you click **Update**. Encryption is not supported for remote logging, so Polycom recommends remote logging only for secure, local networks.
Remote Log Server	Specifies the domain name or IP address of the syslog server. The server must support the standard syslog protocol (RFC 3164).
Enable H.323 Trace	Logs additional H.323 connectivity information.

12

Troubleshooting

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 home screen, select **Directory** from the remote control.
2. Select **Group**.
3. Select **Sample Sites** and highlight a location.
4. Press **Call** on the remote control or keypad.

You can also find a list of worldwide numbers that you can use to test your Polycom QDX 6000 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.

Enabling Basic Mode

Basic Mode is a limited operating mode that uses H.261 for video and G.711 for audio. It provides administrators with a workaround for interoperability issues that cannot be solved using other methods. The Basic Mode setting stays in effect until you change it.

Basic Mode disables many system features such as content sharing, far end camera control, AES encryption, and advanced audio and video algorithms. Use Basic Mode only when calling systems that fail to operate properly with these advanced features.

To enable Basic Mode in the Polycom QDX 6000 system interface:

1. Go to **System > Admin Settings > Network > Call Preference**.
2. Select **Basic Mode**.

To enable Basic Mode using the Polycom QDX 6000 web interface:

1. On a computer, open a web browser.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom QDX 6000 web interface.
3. Go to **Admin Settings > Network > Call Preference**.
4. Select **Enable Basic Mode**.

Using the Restore Button

You can use the hardware restore button on the Polycom QDX 6000 system to reset the system in `this` way:

Factory restore—Completely erases the system and restores it to:

- Its original factory 4.0 software version and default configuration, or
- The last 4.0 software version that was loaded to the system using 3.0 to 4.0 upgrade procedure.

The restore button is on the front of the Polycom QDX 6000 system, as shown in the following figure.

Factory Restore

If the Polycom QDX 6000 system will not start up or develops serious problems after a software update, you can use the restore button to restart the system with its original factory software. This operation completely erases the system's flash memory and reinstalls the original factory software.

The following items are *not* saved:

- Software updates
- All system settings
- Directory entries
- CDR data and logs

To reset the system to its original factory software using the restore button:

1. While the system is powered off, press and hold the restore button.
2. While holding the restore button, press the power button once.
3. Keep holding the restore button for 5 more seconds, then release it.

During the factory restore process, the system displays the Polycom startup screen on component monitors. Other types of monitors will be blank. Do not power off the system during the factory restore process. The system restarts automatically when the process is complete.

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 your Polycom distributor or Polycom Technical Support.

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 16-digit serial number from the System Information screen or the back of the system
- The software version (from the home screen, select **System > System Information**)
- Information about your network
- Troubleshooting steps you have already tried

Regulatory 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. • If the system or any accessories are installed in an enclosed space such as a cabinet, ensure that the air temperature in the enclosure does not exceed 40°C (104° F). You may need to provide forced cooling to keep the equipment within its operating temperature range. • Do not use this product near water. • Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lighting. SAVE THESE INSTRUCTIONS.

Electrical Specifications
Polycom QDX 6000 system: 100-240 VAC, 50-60 Hz, 1.5A

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- 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
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Regulatory Notices

USA and Canadian Regulatory Notices

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

Cet appareil numérique de la classe [A] est conforme à la norme NMB-003 du Canada

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: This device may not cause harmful interference, and this device must accept any interference received, including interference that may cause undesired operation

NOTE: 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 the equipment.

EU Regulatory Notices

This QDX6000 has been marked with the CE mark. This mark indicates compliance with EEC Directives 2006/95/EC and 2004/108/EC. A full copy of the Declaration of Conformity can be obtained from Polycom Ltd, 270 Bath Road, Slough, Berkshire, SL1 4DX, UK.

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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)

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Regulatory Notices

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.

Electrical safety advisory

We recommend that you install an AC surge arrestor in the AC outlet to which this device is connected. This action will help to avoid damage to the equipment caused by local lightning strikes and other electrical surges.

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.

Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips)."

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.

Lithium coin cell warning

This equipment contains a Lithium coin cell which is not user serviceable. Refer servicing to qualified service personnel only. Do not attempt to open the case of this product.

Caution

Danger of Explosion if Battery is incorrectly replaced.

Replace only with the same or equivalent type

Recommended by the manufacturer.

Dispose of used batteries according to the manufacturer's instructions

ADVARSEL!
Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage tilleverandøren.

A

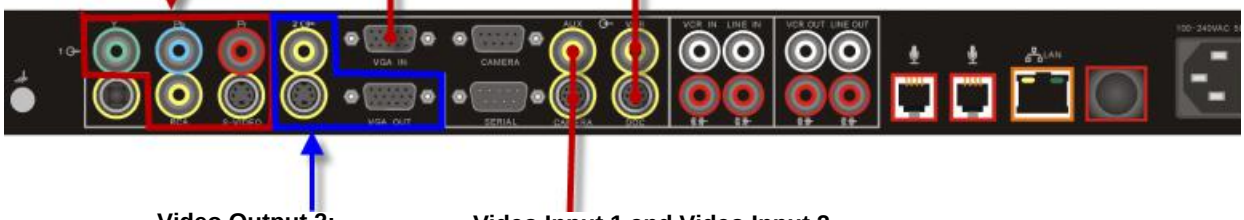
System Back Panel Views and Cables

Video Inputs and Outputs

Video Output 1:
YPrPb, RCA, and S-Video
for the main monitor

Video Input 5:
VGA for playing content
from a computer into calls

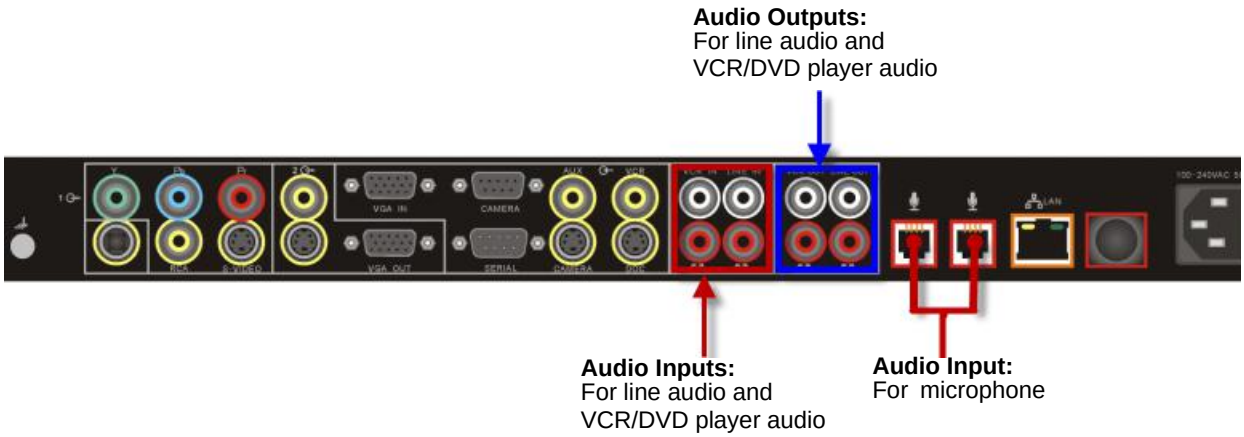
Video Input 3 and Video Input 4:
S-Video for document camera
RCA for VCR/DVD to play content into calls



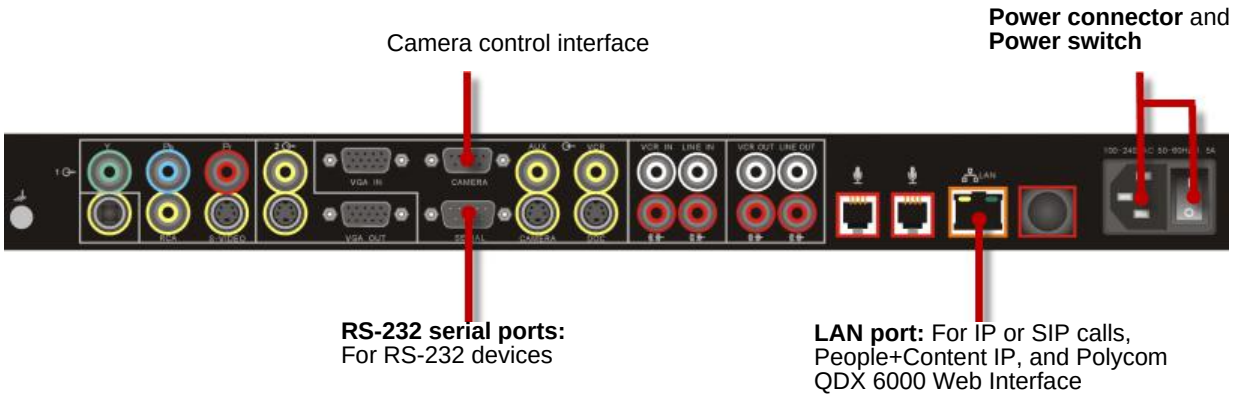
Video Output 2:
RCA, S-Video and VGA
for the second monitor

Video Input 1 and Video Input 2 :
S-Video for main camera
RCA for auxiliary camera

Audio Inputs and Outputs



Network/Power Inputs and Outputs



System Cables

Cable	Part Number and Description
	2457-08343-001 LAN Cable
	2457-30836-001 YPbPr Cable
	2457-32613-001 VGA Cable
	2457-08674-002 Quade Cable
	1456-00286-001 Power cable
	2457-30821-001 Camera Cable

The appearance of your system cables may differ slightly from the cables in this table. The figures here are for illustration purposes only.

B

Port Usage

You may need port usage information when you configure your network equipment for video conferencing.

The following table shows IP port usage.

Port	Function
23	(Telnet) For diagnostics
24	Polycom API
80	(HTTP) Pulling Polycom QDX 6000 system information (HTTP) Software upgrades Static - TCP HTTP interface (optional)
123	UPD Network time protocol (NTP)
161-162	TCP/UDP SNMP
389	LDAP and ILS Static - TCP/UDP ILS registration (LDAP)
443	TCP HTTPS
514	UDP syslog
636	Secure LDAP communication (LDAPS)
1024-65535	Dynamic TCP H245. Can be set to “Fixed Ports” on Polycom systems. Dynamic UDP - RTP (video data). Can be set to “Fixed Ports” on Polycom systems. Dynamic UDP - RTP (audio data). Can be set to “Fixed Ports” on Polycom systems. Dynamic UDP - RTCP (control information). Can be set to “Fixed Ports” on Polycom systems.
1503-Static	TCP T.120
1718-Static	TCP Gatekeeper discovery (must be bidirectional)
1719-Static	TCP Gatekeeper RAS (must be bidirectional)

Port	Function
1720-Static	TCP H.323 call setup (must be bidirectional)
1731-Static	TCP Audio call control (must be bidirectional)
3601	TCP (Proprietary - data traffic) - Global directory data
5001	TCP/UDP People+Content IP
5060-Static	TCP/UDP SIP call setup (must be bidirectional)
8080-Static	TCP HTTP server push (optional)

C

Installing Polycom QDX 6000 Software

By upgrading your Polycom QDX 6000 software , your organization continues to benefit from the latest video conferencing technology. This document describes how to upgrade your software.

To activate and install Polycom video software upgrades:

1. Collect your license numbers and system serial numbers.
2. Obtain key codes from the Polycom web site.
3. Download the software update file from the Polycom web site.
4. Install the software.

Each of these steps is described in the following sections.

Collecting License Numbers and System Serial Numbers

Make a note of your system serial number and license number. You will need to provide them in order to get the key codes that activate software upgrades.

- The 16-digit *serial number* is the unique number that identifies your system. You can find it on a label on the back of the system and on the System Information screen (Go to **System > System Information**).
- The *license number* is the number that you receive when you purchase a software upgrade. License numbers have the following format:

  U000-0000-0000-0000-0000

If your software upgrades are covered by a software warranty or service agreement, you only need to provide a serial number.
If you are running a major or minor software version (*x.y*), you can upgrade to a patch version (*x.y.z*) without a license.

Obtaining Key Codes for Software Upgrades

Before you run the software update, you need a *key code*. A key code is the number that activates software on a specific system. Polycom generates a key code when you submit the license number and system serial number information.

- A key code is valid only on the system for which it is generated.
- Software key codes are valid for the software release you are installing as well as for any patch releases that may later become available.

To obtain software key codes for a system:

1. On a computer, open Internet Explorer version 6.x, 7.x, or 8.x.
2. Log in at www.polycom.com/support/login.

   Note that you will need to set up an account if you don't already have one.
3. Click **Activate Your Product**.
4. Do one of the following:
   - If your system is covered by a software warranty or service agreement, click **Retrieve Software Key Code**. Enter your system serial number and the version number of the software you want to install and click **Retrieve**.
   - If you purchased an upgrade license, enter your system serial number and license number and click **Generate**.

   The key code displays on the screen. Make a note of this number for use during installation.

Downloading the Software

To download the software

1. On a computer, open Internet Explorer version 6.x, 7.x, or 8.x.
2. Go to www.polycom.com/support.
3. Navigate to your product software.
4. Do one of the following:
   - If current software version is 3.x, and please download the .exe file.
   - If your current software version is 4.0, please download the .pup file.

Installing Software

Installing a Software Upgrade on a System

To update system software from 3.x to 4.0:

- Double click the .exe, and follow the instructions on the screen.

System will reboot to 4.0. The reboot can take about 20 minutes. During this time, the indicator light will blink red. Do not power down the system during the reboot.

To update system software between 4.0 software versions:

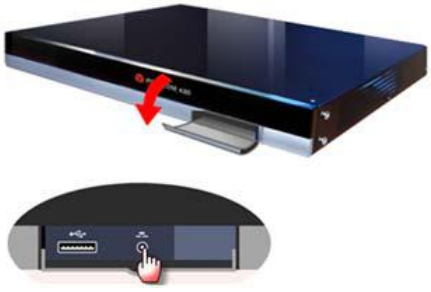
1. On a computer, open Internet Explorer version 6.x, 7.x, or 8.x.
2. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to Polycom QDX 6000 web interface.
3. Go to **Admin Settings > General Settings > Software Update**, and follow the instructions on the screen.

Installing a Software Downgrade on a System from 4.0 to 3.x

To downgrade from 4.0 software to 3.x software, you must put the Polycom QDX 6000 system in 3.0 rescue mode.

To downgrade from 4.0 software to 3.x software:

1. Telnet to port 24 on Polycom QDX 6000 system, type **ubootconfig v3**.
2. Power off the Polycom QDX 6000 system.
3. Hold the rescue mode button for 5 seconds after switching on. Polycom QDX 6000 system will go into the 3.0 rescue mode.



4. At this point, you can follow the normal 3.0 software upgrade procedure to load a 3.0 software to the Polycom QDX 6000 system.

You need to use a 3.0 software upgrade key.