Release Notes

Polycom HDX Systems, Version 2.0.1

Polycom is pleased to announce the release of version 2.0.1 software for Polycom® HDX systems. This document provides the latest information about the Polycom HDX systems and version 2.0.1 software.

For more information about using the features described in this document, refer to the product documentation available at www.polycom.com/videodocumentation.

Installing Version 2.0.1

To update your system software, use the web-based Software Update. Customers upgrading Polycom HDX 9000™ series systems from 1.0.x to 2.0.x must have an upgrade key. No key is needed if you are running 2.0.x.

To download the software package:

1. Go to www.polycom.com/support and navigate to your product page.

2. Download the Polycom software update package for your system.

> Do not power off the system during the software upgrade process. If the upgrade is interrupted, the system may become unusable.

3. In the browser address line, enter the system's IP address, for example, `http://10.11.12.13`, to go to the Polycom HDX 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.

4. If prompted, enter `admin` as the user name, and enter the remote access password.

5. Go to **Admin Settings > General Settings > Software Update**, and follow the instructions on the screen.

New Polycom HDX 8000™ HD System

The Polycom HDX 8000™ HD system provides high-definition (HD) voice, video, and content for medium to large conference rooms incorporating leading-edge design with elements of performance, flexibility and capabilities making it an optimal solution for meeting spaces in any organization. The Polycom HDX 8000 HD system can send and receive wide-screen, HD video in point-to-point calls.

The Polycom HDX 8000 HD system ships with a Polycom EagleEye™ HD camera, Polycom HDX microphones, and a remote control. Bundles including displays and furniture are also available.

For information about setting up this system, refer to *Setting up the Polycom HDX 8000 Series System*.

The Polycom HDX 8000 HD system has the following inputs and outputs:

- Two camera (HDCI) connectors provide input for the main camera and second camera. These inputs support multiple formats in a single connector.

- A PC video input (DVI-I) connector allows analog content sharing from a computer. When PC video input is selected, audio from the PC input (3.5mm stereo) is included in the audio mix.

- S-Video and RCA connectors provide connection for a VCR or DVD player.

- Two monitor (DVI-I) connectors deliver DVI, VGA, or component YPbPr video formats for the main monitor and second monitor.

> By default, PAL Polycom HDX 8000 HD systems output 1280 x 768 VGA video at 50 Hz to Monitor 1. Some monitors may fail to support this resolution properly, resulting in shifted, green, or black video. If this occurs, change the Polycom HDX system's output format to one that the monitor supports, such as 1024 x 768.

- Two Polycom HDX microphone (Walta) connectors for digital microphone input.

- RCA connectors provide external analog line level microphone input, such as from an external microphone mixer/processor like a Polycom Vortex® as follows:

  — One or two mono analog microphones

  — One stereo analog microphone

- Audio output (RCA) connectors provide audio output to an external speaker system or to the monitor's audio inputs.

- Additional connectors provide support for network interfaces and local control:

  — Two LAN ports

  — An analog phone connector

  — An ISDN/serial port

  — A USB host port

  — A DB-9 serial port

New Polycom HDX 4000™ Series

The Polycom HDX 4000™ series is the ultimate in desktop video conferencing, designed to allow today's professionals to be more productive and effective right from their office. With a 20.1" screen, powerful stereo speakers, and sleek design, the Polycom HDX 4000 series is much more than a communications device; it is also a fully functional monitor for your PC or Mac. The Polycom HDX 4000 series includes two models: Polycom HDX 4000 system and Polycom HDX 4000 HD system. The Polycom HDX 4000 system sends and receives up to 4 CIF video. The Polycom HDX 4000 HD system sends and receives up to 720p, HD video.

For information about setting up and using this system, refer to *Quick Start Guide for the Polycom HDX 4000 Series*.

The Polycom HDX 4000 series base system and display are connected by a special cable. The Polycom HDX 4000 series base system has the following connectors:

- A PC input (Analog VGA over DVI-I video and 3.5 mm stereo audio).

- A Polycom HDX microphone (Walta) connector for optional microphone input.

The Polycom HDX 4000 series display includes connections for a PC headset or external microphone and speakers.

What's New in Version 2.0.1

Polycom SoundStructure™ Digital Mixer Integration

Version 2.0.1 includes support for the Polycom SoundStructure™ C-Series digital mixer. The SoundStructure solution and Polycom HDX systems have been designed to work together seamlessly. When connected, each unit automatically discovers and recognizes the other, and configures itself for optimal audio quality. Fully digital audio is transmitted between the units without needing to convert to analog signals, ensuring crystal-clear sound. The SoundStructure solution also extends the benefits of StereoSurround™ and Siren™ 22, which are built into Polycom's HDX system.

What's New in Version 2.0

Polycom RSS™ 2000 Integration
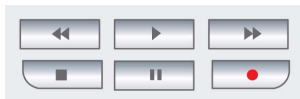
With version 2.0, you can use the Polycom HDX remote control to easily make the RSS™ 2000 rewind, play, fast forward, stop, pause, and record. This control works by sending audible DTMF tones across the call when dialed into an RSS 2000.

Higher Resolution Support for Monitor 4 on Polycom HDX 9004

When Video Format is set to VGA or DVI for Monitor 4 on a Polycom HDX 9004™ system, the choices for Resolution now include 1280 x 1024 60Hz.

Additional Support for Video Inputs

Version 2.0 adds support for DVI input from a Polycom EagleEye HD camera to the Camera 1 input on the Polycom HDX 9000 series system. To use a Polycom EagleEye HD camera in DVI mode, use the HDCI digital camera cable, part number 2457-23181-003.

Additional Support for Audio Devices

With version 2.0 software, both Polycom microphone inputs are active on Polycom HDX 8000 HD and Polycom HDX 9000 series systems.

The devices can include any one of the following combinations:

- Up to three Polycom HDX digital microphones or ceiling microphones with a Polycom HDX 4000 or HDX 8000 HD system.

- Up to four Polycom HDX digital microphones or ceiling microphones with a Polycom HDX 9000 series system.

- A SoundStructure C-Series digital mixer, in addition to other microphones.

The following figure shows several connection examples.
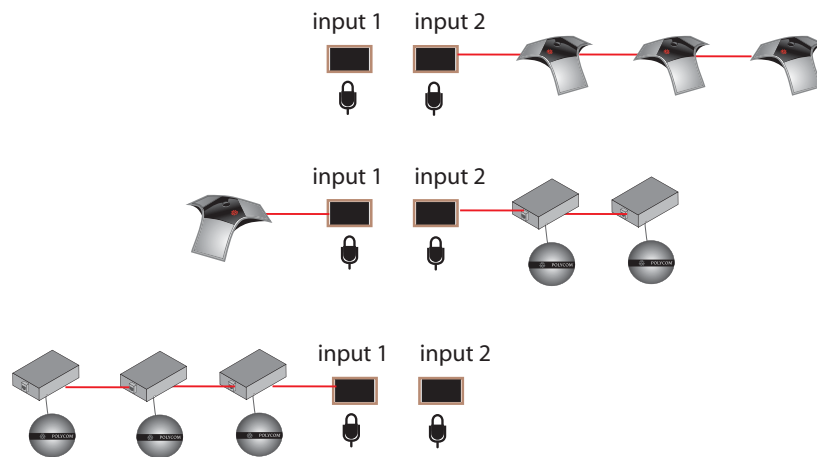
Sophisticated Configuration for Stereo Audio Inputs

You can select Autorotation for each individual Polycom microphone that is connected to the system.

You can also control the left and right Stereo setting for each input.

Support for Avaya Communication Manager 5.0

Version 2.0 of the Polycom HDX software provides support for the Avaya® Video Telephony Solution. For more information about the Avaya Video Telephony Solution, refer to the Avaya web site, www.avaya.com.

New Avaya Video Telephony Solution features supported with Polycom HDX software version 2.0 and Communication Manager 5.0 include the following:

• Support for Polycom HDX Series HD video systems.

• Support for Avaya Communication Manager 5.0 Bandwidth Management enhancements. Refer to the Avaya Communication Manager documentation for more information.

• Improved SNMP support for Avaya Integrated Management.

• Support for 8-way calling with a Polycom HDX 9004, when configured with the 8-port MP key.

Polycom HDX systems with an Avaya option key can operate over an Avaya telephony network. The following telephony features are supported:

• Call forwarding (all, busy, no answer)—Configured by the Avaya Communication Manager administrator and implemented by the user.

• Call coverage—Configured by the Avaya Communication Manager administrator.

• Transfer—Implemented via flash hook and dialing digits.

• Audio conference—Implemented via flash hook and dialing digits.

• Call park.

• Answer back.

• DTMF tones for Avaya functions.

For more information about enabling the Avaya option key and registering with the Avaya Communication Manager, refer to the *Administrator's Guide for Polycom HDX Systems*. For more information about using these features, refer to the Avaya documentation and the *User's Guide for Polycom HDX Room Systems*.

New USB Software Upgrade

After version 2.0 is installed on a Polycom HDX system, future software installations can be initiated using the USB port on the system. For more information, refer to the *Administrator's Guide for Polycom HDX Systems* or *Installing Polycom HDX Software and Options*, which are available on the Polycom web site.

New Software Options

The following software options are new for version 2.0.

Additional HD Video I/O

This option activates the HDCI connector for the Camera 2 input and the DVI connector for the Monitor 2 output on a Polycom HDX 8000 HD system.

8 Mbps Line Rate

This option allows the Polycom HDX 9004 system to use 1 Mbps per connection for an 8-way multipoint call. It replaces the 6 Mbps MP option.

> If you already have the 6 Mbps Line Rate option, it automatically converts to an 8 Mbps Line Rate license when you upgrade to version 2.0.

People+Content™

The People+Content™ option adds the following capabilities on Polycom HDX 4000 HD and 8000 HD systems:

- Allows the system to send dual streams, people and content.

- Enables unrestricted use of People+Content IP.

All Polycom HDX 9000 series systems include the People+Content option.

HD Multipoint Support

With version 2.0, the MPplus 4 Port option, and the 4 Mbps Line Rate option, Polycom HDX 9002™ and 9004 systems can host HD multipoint calls that include up to four sites. With version 2.0, the MPplus 8 Port option, and the 8 Mbps Line Rate option, Polycom HDX 9004 systems can host HD multipoint calls that include up to eight sites.

In HD multipoint calls using Discussion display mode, up to eight sites can be displayed at the same time. In Discussion mode, the current speaker is highlighted with an orange border, as shown in the following illustration.

Discussion Mode Stereo Audio in Multipoint Calls

Version 2.0 provides a new stereo effect in multipoint calls. With this feature, a far site's audio is mapped to its location on the display. For example, audio from participants shown in the top left corner of a multipoint display will come out of the left speaker. If the multipoint call is hosted by a Polycom HDX system and configured for a display mode other than Full Screen, all Polycom HDX and VSX® systems produce this stereo effect. Discussion mode stereo provides the following benefits:

- Positional audio for all participants in the call.

- Improved speaker identification.

- Improved intelligibility when multiple sites speak simultaneously.

Lost Packet Recovery and DBA 3

Version 2.0 provides improved dynamic bandwidth allocation (DBA) and new error concealment for PVEC (Polycom Video Error Concealment) using Lost Packet Recovery (LPR). The new DBA algorithm downspeeds the call to reduce packet loss to a manageable level under normal operating environments. This allows LPR to recreate the remaining lost packets. The combination of DBA and LPR provides virtually error-free video. On average, visible video disruptions can be expected only once every 5 minutes for average packet loss scenarios of 3% or less, and more often for packet loss scenarios higher than 3%.

New White Balance Settings for the Polycom EagleEye HD Camera

If you have version 2.0 software, additional white balance settings are available for Polycom EagleEye HD cameras through the Polycom HDX system's web interface. You can set the white balance to one of several pre-defined values, or you can set it manually. Use the Manual setting for rooms where the Auto and fixed temperature settings do not provide acceptable color reproduction.

> White balance settings require particular camera and system firmware versions. Contact your Polycom distributor for more information.

Adjustable VGA Input Settings

In addition to adjusting the horizontal position and phase used for VGA input, version 2.0 allows you to adjust the vertical position as well.

Live Music Mode

Version 2.0 includes the Live Music Mode feature. This feature, when enabled, disables audio pre-processing that is not appropriate for music. For example, noise suppression and automatic gain control are disabled when this setting is enabled. Live Music Mode also gives more call bandwidth to audio and less to video, improving audio quality at the expense of video quality.

Keyboard Noise Reduction

Version 2.0 includes the Keyboard Noise Reduction feature. This feature, when enabled, mutes the audio sent to the far site when only keyboard tapping sounds are detected at the near site.

People On Content™ Enhancements

To improve People on Content™ presentations, version 2.0 includes a new, two-step calibration process. In addition to calibrating the camera's position and chroma key, it now calibrates the camera's focus as well.

Video Scaling Adjustments

For added flexibility, version 2.0 replaces the Zoom People Video to Fit checkbox with two new configurable settings: People Video Adjustment and Content Video Adjustment.

Additional Camera Support

Version 2.0 adds support for the following non-Polycom cameras:

*   Vaddio WallVIEW 50i/Canon VC-C50i—requires the VISCA control interface, detected as a Sony D-30/31.

*   Sony BRC-H700 with XGA interface board, HFBK-XG1—requires use of the 15-pin D-Sub connector labeled "Monitor" on the HFBK-XG1 board, not the camera's 15-pin D-Sub connector labeled "RGB/Component." Do not attempt to adjust the video output resolution (VGA, XGA, etc.) using the DIP switch on the HFBK-XG1; the Polycom HDX system automatically sets the resolution to XGA only for version 2.0.

*   Sony EVI-HD1—supported on video input 1 and 2 for Polycom HDX 8000 HD systems, and input 1, 2, or 3 for Polycom HDX 9000 series systems.

The following table describes the support for Sony BRC-H700 and EVI-HD1 cameras.

Camera	Video Input	Camera Resolutions	System Input Resolution	System Aspect Ratio
BRC-H700	4 or 5 (Polycom HDX 9004) 4 (Polycom HDX 9001™/9002, 8000 HD)	XGA (4:3)	XGA	4:3 or 16:9
EVI-HD1	1 or 2 (Polycom HDX 8000 HD) 1, 2, or 3 (Polycom HDX 9000 series)	720p60	720p	16:9
		NTSC (letter box)	480i	16:9
		NTSC (cropped)	480i	4:3
		720p50	720p	16:9
		PAL (letter box)	576i	16:9
		PAL (cropped)	576i	4:3

For more information about using these cameras with a Polycom HDX system, refer to the *Integrator's Reference Manual for Polycom HDX Systems*.

New API Commands

The following API commands are new or expanded for version 2.0.

Command	Description
`autoshowcontent <on|off>`	Get/set whether content is sent automatically when a computer is connected to the system.
`calldetail <"Nth_item"|all>`	View the Nth call detail record or all call detail records.
`calldetail range`	View the valid calldetail range, the number of rows in the CDR.
`configparam camera_video_quality <1|2|3|4> get`	Get the Video Quality value (Motion or Sharpness) for the specified camera.
`configparam camera_video_quality <1|2|3|4> set <motion|sharpness>`	Set the specified camera's Video Quality to Motion or Sharpness.
`enablekeyboardnoisereduction <get|yes|no>`	Get/set Keyboard Noise Reduction.
`enablelivemusicmode <get|yes|no>`	Get/set Live Music Mode.
`enablepvec <get|yes|no>`	Get/set the PVEC setting on the system.
`snmptrapversion get`	Get the SNMP traps version.
`snmptrapversion set <v1|v2c>`	Set the SNMP traps version.
`vgaqualitypreference get`	Get the current bandwidth split for people and content video.
`vgaqualitypreference <content|people|both>`	Set the VGA quality preference.
`videocallorder <isdn|h323|sip|gateway323> <1|2|3|4>`	Set the specified protocol to the specified call order.
`voicecallorder <isdn_phone|POTS> <1|2|3|4>`	Set the specified protocol to the specified call order.

For more information about using these commands, refer to the *Integrator's Reference Manual for Polycom HDX Systems*.

Removed API Commands

dir

telecountrycode

Corrected Issues in 2.0.1

The following table lists corrected issues in version 2.0.1.

Issue	Description
Content	Black or frozen content was sometimes seen on a Polycom HDX 8000 HD system, which required content to be restarted. This issue has been corrected.
Interoperability Microsoft	Content can be sent to Microsoft Office Communicator from a Polycom HDX 8000 HD system.
Monitors	On PAL Polycom HDX 8000 HD systems, you no longer need to disable Monitor 2 if you want to activate Monitor 3.
	On Polycom HDX 8000 HD systems, you no longer need to restart the system after changing between composite and S-Video before the changes take effect.
Network	When you configure a Polycom HDX 9001 system to use a static IP address, the system no longer restarts as soon as you change one of the IP-related settings.

Corrected Issues in 2.0

The following table lists corrected issues in version 2.0.

Issue	Description
API	The `configdisplay monitor2` commands now work as expected.
	The `dial addressbook` command was not locating global directory entries. This problem has been corrected.
	The API command `soundeffectsvolume test` did not work properly. This issue has been corrected.
	The Polycom HDX system no longer responds slowly in high-speed H.320 calls when the serial port is configured for 9600 baud rate and control and the system has registered for callstate notifications.
	When a camera name includes spaces, `vidsourcechange` notifications are no longer formatted with quotation marks in the wrong location.
Cameras	Systems sometimes restarted after switching between people and content camera sources. This issue has been corrected.
Encryption	In multipoint calls that included a Voice over ISDN or POTS connection, endpoint statistics may have incorrectly shown that encryption was enabled even though the ISDN or POTS connection was not encrypted. This issue has been corrected.
Gatekeepers	Placing a call using the far-site gatekeeper IP address and extension now works as expected.
Interoperability LifeSize	HD calls to LifeSize systems connected at 4SIF. This issue has been corrected.
Interoperability Microsoft	When a system status was "Be Right Back" or "Away" in Office Communicator, other systems registered to Microsoft Live Communications Server did not see a presence icon for that system. This issue has been corrected.
Interoperability Polycom RPX™	Excessive Transmit and Receive packet loss in point-to-point calls between Polycom RPX systems has been corrected.
Interoperability PVX™	In calls between Polycom HDX systems and PVX systems version 8.0.2 and earlier, Polycom HDX statistics sometimes showed the received video algorithm in green even though there was no packet loss. PVX version 8.0.4 resolves this issue.

Issue	Description
Interoperability RMX 2000™	Calls made from RMX 2000 to a Polycom HDX system at 128 kbps connected in audio-only mode. This issue has been corrected.
	When dialing into an Entry Queue on an RMX 2000 configured for PSTN access, Polycom HDX systems did not receive the first few seconds of audio messages. This issue has been corrected.
MGC™	When calling into an Interactive Voice Response conference on MGC, you had to enter the meeting password manually when prompted rather than including it in the dialing string. This issue has been corrected.
	You do not need to disable transcoding on Polycom HDX systems when connecting with a Continuous Presence conference using MGC 8.0 and later.
	Video latency and lip sync issues sometimes occurred when a Polycom HDX 9004 placed multiple IP-to-ISDN calls through an MGC gateway. MGC version 8.0 addresses this issue.
	Polycom HDX systems sometimes experienced video quality problems in encrypted H.320 Continuous Presence classic view conferences with H.239. This issue has been corrected.
	In conferences with MGC version 8 set to 384 kbps or lower, Polycom HDX systems transmit 15 frames. This issue is corrected in MGC version 9.0.
Monitors	After restarting due to a system setting change, systems sometimes displayed video on a small portion of the monitor. This issue has been corrected.
	On a VGA display, thin vertical green lines could appear on both left and right edges. This issue has been corrected.
	On Polycom HDX systems hosting a multipoint call, Discussion Mode video was cropped to 4x3 on a 16x9 monitor. This issue has been corrected.
	A PAL system with a DVI monitor briefly displayed distorted video on startup. This issue has been corrected.
Multipoint	In an internal multipoint call with Zoom People Video to Fit Screen enabled, video is no longer stretched.
	A Polycom HDX 9004 system in 6-way, IP, encrypted, multipoint calls at 4 Mbps sometimes displayed a delay of its own video and all other sites. This issue has been corrected.

Issue	Description
Profiles	If you uploaded a profile from the web interface that contained a configuration change that required the system to restart, the system would restart automatically without any warning in the web interface. This issue has been corrected.
Software Update	Software Update used port 80 even if the Web Access Port was set to a different value. This issue has been corrected.
	Software Update provided no warning and locked up the system if you ran it while the system was in a call. This issue has been corrected.
	When running Software Update, the web browser did not correctly display the update progress. This issue has been corrected.
User Interface	The Hang Up screen could appear over the home screen after hanging up a multipoint call. This issue has been corrected.
	In multipoint H.320 calls, far sites correctly display Polycom HDX systems on the Call Statistics screen.
Video	Problems with intermittent video freezing have been corrected.
	Version 2.0 adds a deinterlacing filter for use with video sent from an interlaced source and for displaying interlaced video on a progressive scan monitor. Deinterlacing reduces visible artifacts in the following cases: • When an interlaced video source (such as 480i) is displayed on a progressive monitor (such as VGA or 720p display). • When decoding interlaced coded video using H.263 60/50 field ProMotion and displaying on a progressive monitor. • When an interlaced video source is coded with H.264 Baseline profile. Deinterlacing is not supported with content video or with People On Content.
	Systems could take up to 10 or 15 seconds to restore video after packet loss occurred. This issue has been corrected.

Issue	Description
Web Interface	Very rarely, the web interface of a Polycom HDX system monitored by Global Management System™ or Readi*Manager*® SE200 could become unresponsive. This issue has been corrected.
	The web interface provided a call type choice ISDN rather than the more appropriate term, V.35, on the Place a Call page for systems with V.35 installed. This issue has been corrected.
	The Location page in the web interface did not include the Area Code setting. This issue has been corrected.

Feature Limitations

The following table lists the known feature limitations for the version 2.0.1 release. If a workaround is available, it is noted in the table.

Feature	Limitation
Analog Phone	Do not use the analog phone connector if you are using the Polycom HDX system in Hong Kong or South Africa.
	For information about whether you need to use the telephone adapter in your area, refer to the telephone adapter setup sheet that came with the Polycom HDX system.
API	The `dir` command is not supported.
	The `remotecontrol enable all` command does not work after disabling the remote. Use `remotecontrol disable none` to enable the remote control buttons.
	The `sysinfo get` command does not return information as stated in the *Integrator's Reference Manual for Polycom HDX Systems*. Instead, it returns `sysinfo registered` or `sysinfo unregistered`.

	API sessions that are registered for call state notifications using the `callstate register` command will receive a notification with word `BONDING` for IP calls. The panel code should ignore it as that state will be dropped in the next release. Example from 1.0.2 API session:
	`-> dial manual 512 172.26.48.42 h323`
	`dialing manual`
	`cs: call[38] chan[0] dialstr[172.26.48.42]`
	`state[ALLOCATED]`
	`cs: call[38] chan[0] dialstr[172.26.48.42] state[RINGING]`
	`cs: call[38] chan[0] dialstr[172.26.48.42] state[BONDING]`
	`cs: call[38] chan[0] dialstr[172.26.48.42] state[COMPLETE]`
	`active: call[38] speed[512]`
	The notification in boldface is not applicable to calls made to/received from IP end points.

	The `gatekeeperip get` command feedback may include extraneous data after the IP address.
Audio	If you establish multiple calls between the same two systems, you may experience audio feedback. Hang up one of the calls.
	Incoming voice calls do not work in a password-protected conference.

Feature	Limitation
Calling	Calls dialed using analog voice lines will not roll over to other call types if the call is busy or otherwise fails.
	Do not mix unrestricted (speeds that are a multiple of 64 kbps) and restricted (multiple of 56 kbps) participants in an internal multipoint conference.
Cameras	Polycom HDX 9000 series systems support 1280 x 720 VGA sources that provide SMPTE timing. They do not support 1280 x 720 VGA sources that use other timing.
	You may see a few seconds of blue video while the Polycom HDX camera wakes up. The camera may also take a few seconds to focus after waking up.
	If you downgrade the software from version 2.0 to an earlier version, you may need to disconnect and reconnect a Polycom EagleEye HD camera to restore the white balance.
	Polycom HDX 8000 HD systems do not support 1280 x 720 on camera 4.
	The Polycom EagleEye HD camera might not always return to its programmed preset position when the system wakes up. If this occurs, manually select camera preset 0.
	When you use a serial port for camera control, the system will automatically determine the correct parity setting.
	If you attach a DVI source to a Polycom HDX 8000 HD system, the system may subsequently fail to detect VGA sources. If this occurs, restart the system.
Closed Captions	When providing closed captions over a serial connection, you must manually go to near video before entering text.
	Closed captioning (sent via either the serial port or the web interface) is limited to 31 characters per line.

Feature	Limitation
Content	Some DVI video sources (such as certain laptops) do not correctly support the hot plug detect pin (HPD). This can result in the source sending video in the wrong format for Polycom HDX video in ports 4 and 5. Please consult your equipment manuals to find out the behavior of the HPD pin.
	Presets support switching from one People source to another. Presets do not support switching from a People source to a Content source or from one Content source to another.
	Content at a resolution of 1280 x 1024 is scaled and sent to the far site in 1024 x 768 format unless the far site can display it at 1280 x 1024.
	If content is sent using People+Content IP but is not received, stop and start sending content again.
	You cannot send content from a Polycom HDX 4000 system using the Content button on an HDX remote control. You must use the built-in keypad button.
	If you have a computer connected to the Polycom HDX 4000 monitor when you install the People+Content option key, the Camera 2 setting does not change from People to Content. In this case you must go to the Cameras screen for Camera 2 and set **Source** to **Content** in order to send dual streams.
Directory	When the directory does not have enough entries, starting at the letter specified, to fill the screen, it shows earlier entries as well to fill the screen.
	When creating a multiple site entry in the directory, existing numbers in that entry may disappear as you add new numbers.
	When navigating through entries in the directory, you may see both a solid yellow highlight and an outlined yellow highlight.
	Directory entries do not successfully connect calls to sites dialed over ISDN voice. Add voice sites manually.
	When a directory entry has both an ISDN and IP address, calls placed as IP connect at the designated call rate for ISDN.
Encryption	If remote participants dial in over ISDN to an encrypted multipoint conference hosted on a Polycom HDX system that requires downspeeding, some endpoints may fail to negotiate encryption. To avoid this issue, dial calls outbound from the MCU or have participants dial in at a rate that does not require downspeeding.
Gatekeepers	Registering to a gatekeeper may change the dialing order configured on the system.

Feature	Limitation
Global Management System	Global Management System shows Polycom HDX systems as being active even if they are powered off.
	The Netstats page on Global Management System reports the wrong call type for Polycom HDX systems.
Interoperability Aethra	Polycom HDX systems are not able to send HD video to the Aethra X7 M11.1.4 HD unit.
Interoperability Avaya	AES Encryption is not supported while registered to the Avaya Communication Manager.
	When a Polycom HDX system attempts to call another Polycom system through Avaya Communication Manager, the near-site system continues to ring if the far site rejects the call.
	NAT is not supported for systems registered to the Avaya Communication Manager.
	While connected to the Avaya Communication Manager, telephony features are not supported to systems behind a neighboring gatekeeper.
	The Avaya Communication Manager version 4 supports wideband audio over trunk calls. However, Avaya Communication Manager version 4 will not support wideband audio over a trunk to PathNavigator.
	Cisco PIX does not pass through Annex H which is required by the Avaya Communication Manager. Polycom HDX systems will not connect calls across a Firewall that does not pass Annex H.
	Avaya's IP Softphone (IPSP) with video set to manual will not negotiate video with endpoints registered to a neighboring gatekeeper.
	In calls placed from a Polycom HDX system, the far-site system name may show a neighboring gatekeeper, such as "PathNavigator," instead of the actual system name.
	G728 k and G722.1-16 k audio codecs are not available when registered to the Avaya Communication Manager.
	Internal MCU calls from an iPower system to an Avaya IP Softphone (IPSP) or Polycom HDX system do not connect.
	Avaya Communication Manager Telephony features and IPSP video mute are not supported with Polycom HDX, V500, VSX, iPower, or ViewStation FX systems behind PathNavigator.
	iPower IMCU calls to Polycom HDX systems using Avaya do not connect.
	The Avaya Communication Manager does not support Siren™ 22 audio or Siren 22 stereo.
Interoperability Cisco PIX	Cisco PIX does not support H.239. Disable H.239 on the endpoints.

Feature	Limitation
Interoperability iPower™	Polycom HDX systems transmit and receive H.263 content rather than H.264 content in calls with iPower 9000 systems running 6.2.0.
Interoperability LifeSize	In SIP calls between Polycom HDX and LifeSize 2.6 systems, Polycom HDX systems do not receive 720HD.
	In SIP calls between Polycom HDX and LifeSize 2.6 systems, neither system has far-site camera control.
	In SIP calls between Polycom HDX and LifeSize systems, Polycom HDX systems send 711u audio.
	In a SIP multipoint HD call with a Polycom HDX 9004 system as the host, you cannot dial out to the second HD endpoint when LifeSize is connected as the first endpoint in the call.
	LifeSize systems may experience poor audio in SIP calls with Polycom HDX systems.
Interoperability Microsoft	When **People Video Adjustment** is set to **Stretch** on a Polycom HDX 8000 HD system in a call with Microsoft Office Communicator, Office Communicator displays black video.
Interoperability PathNavigator™	When registered to Polycom PathNavigator, directory entries with Speed set to Auto will fail.
	Set **Use PathNavigator for Multipoint Calls** to **Always** if you want to automatically use PathNavigator Conference on Demand to place multipoint calls.
	When using PathNavigator Conference on Demand to place multipoint calls to VSX systems using ISDN, the conference may connect with audio only. MGC 9.0 resolves this issue.
	If your organization uses Polycom's PathNavigator, you can use PathNavigator's Conference on Demand feature to place multipoint calls with up to 10 sites, including the site that places the call. When using Conference on Demand, do not create directory entries that contain more than 9 sites.
Interoperability PVX	When H.239 is disabled, Polycom HDX systems transmit and receive H.263 content (instead of H.264 content) in calls with PVX. To resolve this issue, enable H.239.
Interoperability RADVISION	In calls using a RADVISION viaIP gateway, Polycom HDX 9004 H.323 systems report packet loss on the transmit side, even though there might not be any packet loss.
	Polycom HDX 9004 systems cannot send dual streams to a Polycom HDX 9001 system in IP-to-ISDN calls made through the RADVISION viaIP gateway.

Feature	Limitation
Interoperability Readi*Manager*® SE200	SE200 administrators can manually add Polycom HDX 8000 HD or HDX 4000 series systems using SE200 version 3.0, but not version 2.0. With version 2.0, administrators can add those systems by registering to the gatekeeper or Global Directory Server.
	SE200 does not support account validation.
Interoperability RSS™ 2000	RSS 2000 supports a maximum call speed of 1024 kbps. To record a conference in HD using RSS 2000, make sure that the Polycom HDX is configured for sharpness.
	Polycom HDX systems display blocky, gray video for a few seconds after leaving the RSS 2000 menu.
	In calls using an RSS 2000, audio is transmitted using G.722.1 Annex C.
Interoperability Sony	H.323 encrypted calls between a Polycom HDX system and Sony PCS-1 produce a constant audio screeching. To work around this issue, disable AES Encryption.
	Sony PCS-G50 systems do not receive content from Polycom HDX systems in H.320 calls if one side has encryption configured on and the other has encryption configured off. To address this issue, configure encryption the same on both systems.
	Polycom HDX systems are not able to receive video in an AES HD call from HG90.
	Content sent from Sony PCS-1 or PCS-G50 systems to Polycom HDX systems may display video artifacts.
	Content received on a Sony PCS-1 is not legible if **Content Video Adjustment** is set to **Stretch** on the Polycom HDX system. To work around this issue, set **Content Video Adjustment** to **None**.
Interoperability SoundStructure	You can use either the SoundStructure or Polycom HDX system volume controls to adjust the volume. Changes made on one system, however, will not change the visual representation of volume on the other system.
	Configurations that include Polycom HDX systems and SoundStructure do not support digital Polycom HDX microphones. Use analog microphones instead.

Feature	Limitation
Interoperability TANDBERG	Polycom HDX systems are not able to send HD video to TANDBERG 6000 MXP systems.
	In a multipoint H.320 call with a TANDBERG MXP F5.0, a Polycom HDX system stops receiving people video when the Polycom HDX system sends content.
	TANDBERG and Polycom products use different techniques to generate the AES checksum shown on the Statistics screen. As a result, these numbers will not agree in calls between Tandberg and Polycom systems.
	In H.323 calls at 512 kbps and higher, TANDBERG MXP systems receive video artifacts from Polycom HDX systems. TANDBERG version F6.2 corrects this issue.
	Polycom HDX 9004 systems transmit H.263 video to TANDBERG 6000 MXP systems in 4 Mbps H.323 calls if either system has H.239 disabled. To work around this issue, make sure H.239 is enabled on both systems.
Interoperability VCON	The Polycom HDX 9001 system does not negotiate H.264 video with the VCON HD3000 system if H.239 is enabled in the call. H.263 video is negotiated instead.
	VCON HD3000 systems may display poor video in calls with a Polycom HDX system.
	Do not place or receive H.323 calls between VCON HD3000 and Polycom HDX 4000 systems.
Interoperability ViewStation®	In calls between Polycom HDX systems and ViewStation systems with Basic Mode enabled, the ViewStation system does not receive video. To address this issue, turn off Basic Mode.
	ViewStation EX/FX v6.0.5 does not support People+Content™ in calls with Polycom HDX systems. ViewStation EX/FX version 6.0.5.20 addresses this issue.
	Polycom HDX systems do not receive graphics from ViewStation systems.
	In 4-way H.320 calls that include ViewStation as a far site, sending content from a Polycom HDX system may cause ViewStation to display frozen video.
	ISDN internal MCU calls from Polycom HDX systems to ViewStation FX systems that experience downspeeding may result in the ViewStation FX system not receiving video. To work around this issue, place calls at the final conference rate.

Feature	Limitation
Interoperability VSX Systems	VSX version 8.5.1 will not activate PVEC (Polycom Video Error Concealment) in a call with a Polycom HDX system that experiences network errors. VSX version 8.5.2 addresses this issue.
	Calls from a VSX system version 8.7 do not connect when using the UDP transport protocol.
Interoperability Westinghouse	When using a Polycom remote control with the default channel ID of 3, the remote control signal can interfere with a Westinghouse LCD HD monitor. To work around this issue, change the channel ID of the remote control and Polycom HDX system.
Localization	Polycom HDX systems accept 21 double-byte characters for Localized System Name. Polycom recommends limiting a Localized System Name to 15 double-byte characters so that it is displayed properly in the user interface.
	A long text string entered in the Enter Marquee Text field is truncated to 21 double-byte characters with a backslash appended. Polycom recommends limiting these fields to 21 double-byte characters. If you enter more than 21 double-byte characters, the Home Screen Settings page of the web interface might become inaccessible. To work around this issue, remove the string on the Home Screen Settings screen of the local user interface.
	Long text strings entered in the Screen Saver Text or Logo Screen Text fields are truncated to 21 double-byte characters per line with a backslash appended. Polycom recommends limiting these fields to 21 double-byte characters.
	Polycom HDX systems accept 25 double-byte characters for Localized Name. Polycom recommends limiting a Localized Name to 16 double-byte characters so that it is displayed properly in the user interface.
	Polycom HDX systems accept 25 double-byte characters for Localized Meeting Name. Polycom recommends limiting a Localized Meeting Name to 16 double-byte characters so that it is displayed properly in the user interface.

Feature	Limitation
MGC	Polycom HDX systems in high-speed, video-switched conferences with Pro-Motion™ on MGC may experience video artifacts when sending content. MGC 8.0.0.26 resolves this issue.
	Polycom HDX 9004 systems connect as audio only in H.320 Pro-Motion conferences on MGC-100 v7.5.1.6.
	Configure Polycom HDX system video content sources for motion when connecting with a video-switched sharpness conference on MGC v7.5.
	Enable H.239 on Polycom HDX systems when connecting into an MGC conference configured for H.239.
	If you are using Conference on Demand with a Polycom HDX system, configure this feature to use Continuous Presence or Transcoding instead of Video Switched.
	When People Video Adjustment is set to zoom, Polycom HDX systems may crop some messages sent by MGC.
	Polycom HDX systems with H.323 that do not have H.239 enabled on them do not receive content in video switching and continuous presence H.239/People+Content conferences with MGC version 9.0.1.5. To address this issue, enable H.239 on the Polycom HDX system.
	Polycom HDX systems with H.239 and encryption enabled cannot connect to H.261 conferences via H.320. To work around this issue, disable H.239 on the Polycom HDX system.

Feature	Limitation
Monitors	You may observe user interface distortion if you attempt to configure a monitor with a 4:3 aspect ratio for a resolution of 1280 x 720.
	You may observe distorted video in a multipoint call between PAL and NTSC systems if Zoom People Video to Fit Screen is enabled.
	Borders are clipped when using Discussion mode in a multipoint call with a DVI monitor set to 1280 x 720 resolution.
	When Dual Monitor Emulation is enabled, the composite video in multipoint calls with five or more sites is clipped on the left and right sides.
	A Polycom HDX system provides the option to output black video or no signal when the system goes to sleep. Select the setting that works best for the system. Note that you may also need to adjust the monitor's configuration to achieve optimal results.
	If Monitor 1 is connected to the system using a different format than what is configured in the user interface, you may get a blank screen. To work around this issue, press and hold the **Display** button on the remote control, then select the appropriate format in the remote control window. Or if you know the system's IP address, you can change the monitor format using the web interface.
	Video from some computers may be slightly clipped on the left side when viewed on a Polycom HDX 4000 series display.
	By default, PAL Polycom HDX 8000 HD systems output 1280 x 768 VGA video at 50 Hz. Some monitors may fail to support this resolution properly, resulting in shifted, green, or black video. If this occurs, change the Polycom HDX system's output format to one that the monitor supports, such as 1024 x 768.
Network	Starting a Polycom HDX system without a LAN connection and subsequently connecting the LAN may cause the LAN interface to fail to come up. If this occurs, restart the system with the LAN connected.
Profiles	Profiles do not save Monitor 2 settings.
	If the profile you upload to a Polycom HDX system includes registration with multiple Global Management System servers, only the first server is registered after the system restarts. To work around this issue, manually register with the other servers.
Remote Control	When the Display button is held down, the Polycom HDX remote control displays some video output formats that are not available for Polycom HDX 4000 and 8000 HD systems.

Feature	Limitation
Security	The Security page in both the local and web interface does not correctly report Telnet, SNMP and Web connections.
	When Security Mode is enabled on a Polycom HDX system, attempting to enable or disable Telnet access from the Security page causes the system to restart.
	Polycom HDX systems do not issue an SNMP alert for failed or successful attempts to log in via Telnet.
	When a Meeting Password is set on a Polycom HDX 8000 HD system and multiple sites call it and enter the password in rapid succession, the Polycom HDX 8000 HD system displays blue video. To work around this issue, press **Home** then **Near** on the remote control.
SIP	SIP conferences do not support a meeting password. Do not configure a meeting password if you are using SIP.
	Don't change between H.323 and SIP within a call.
SNMP	The Main Camera Up trap is not sent when a Polycom HDX system starts up.
Software Update	Polycom HDX systems do not time out in software update mode if they are waiting for user response.
	When running a software update, you may see video artifacts on secondary monitors. The primary monitor will display the Software Update status screen.
	Use the local user interface or web interface to change monitor settings rather than the configuration screens provided with Software Update.
	When updating a Polycom HDX system that is behind a Linksys router, the update stalls unless the computer you are using to run the update is configured as host on the network.
	When updating a Polycom HDX system using the USB port, the root of the USB stick should have a single `.pup` file and single `.txt` file.
	If the Software Update page does not load after a few seconds, click the browser's Refresh button.
	While a software update is in progress, additional browser sessions that attempt to connect to the system may fail to do so, even though the update is preceding normally.
	Disable security mode before downgrading the system software from 2.0 to 1.0.x

Feature	Limitation
Transcoding	Polycom HDX systems may transmit lower frame rates when downspeeding due to transcoding. To work around this issue, dial calls at a rate that does not require downspeeding as sites are added.
	Due to the increased functionality of the Polycom HDX multipoint software, Transcoding is now enabled by default.
User Interface	When the trace route diagnostic screen lists more than one line in the results, you must use the **Back** button on the remote control to exit the screen.
	No warning appears in the user interface when changing the settings for content display in the web interface.
	Although the user interface allows you to set the audio Input Type to Line Input or Microphone, Polycom HDX 8000 HD systems support only Line Input.
	On the Call Statistics screen, the video rate used may appear to exceed the negotiated video rate. This is only a statistics issue and does not reflect what is actually happening on the network.
	If you do not configure Polycom HDX 8000 HD systems to use a time server, you will have to reset the time manually whenever the system restarts.
	It may take several minutes for the LAN status indicator to update after the LAN has been reactivated.
	The user interface may fail to redraw properly after repeated changes to the configuration of Monitor 1. If this occurs, navigate to another user interface screen and then return to the original screen. If this does not resolve the issue, restart the system.
V.35	Polycom HDX 9004 systems allow IP calls when in a V.35 direct call.

Feature	Limitation
Web Interface	If an incorrect logo file type is loaded via the web interface, the logo does not show up and no error message is displayed.
	Logs cannot be downloaded from the web interface while in a call.
	When multipoint directory entries are edited in the web interface, the Call Quality changes to Auto. You can manually change the entry back to the desired speed.
	Entering single quotes or commas in the Enter Marquee Text field of the Home Screen Settings page causes the web page to stop displaying correctly.
	The web interface prompts you to confirm a change to the video format, even when a change is not possible.
	Maximum Transmit Bandwidth and Maximum Receive Bandwidth (QoS) settings incorrectly display 4096 kbps as a choice when the 4 Mbps software option is not installed.
	The web interface allows duplicate Directory groups to be created without displaying a warning.
	Accessing the Directory page in the web interface using https causes the interface to freeze.
	In the web interface, call statistics may not always be displayed during multipoint 4096 kbps calls. To work around this issue, click the refresh button in your browser.
	If you do not know the system's IP address due to a software update or some other reason, you can access the web interface using the Host Name. For example, you would enter something like `http://systemhostname` in the web browser. To access the web interface before a Host Name is configured (such as during initial setup), use the default Host Name, which is "`hdx`" plus the serial number. For example, you would enter something like `http://hdx82071908B008CH` in the web browser.
	Although the web interface allows you to set the audio Input Type to Line Input or Microphone, Polycom HDX 8000 HD systems support only Line Input.
	The web interface shows sample sites even after they are removed through a software update process. To work around this issue, close your browser and open a new browser session.
	When moving a camera to a different preset from the web interface, the Web Director progress bar may hang.

Feature	Limitation
Web Interface	Web Director and remote monitoring do not display video when connected to a system that has Monitor 2 set to a resolution of 1024x768 and Monitor 3 enabled.
	When setting up the system's initial configuration using the web interface, the **Security Mode** checkbox might not be displayed. Refresh the web page to work around this issue.
	Entering single quotes in the SIP User Name field of the IP Network page causes the Directory Servers web page to stop displaying correctly.
	If the system is registered with Microsoft LCS, you cannot view logs in the web interface.
	Local multiple-site directory entries may not be displayed in the web interface list of Sites. To work around this issue, use the multiple-site entry in the web interface directory.
	Polycom HDX 8000 HD systems may restart if you change monitor configurations via the web interface while the system is in screen saver mode.
	When changing monitor settings on Polycom HDX 8000 HD systems via the web interface, you must turn off monitor 3 before changing monitor 2 settings. If desired, turn monitor 3 back on after completing the changes to monitor 2.

Hardware and Software Requirements

To use the web interface, you need Microsoft Internet Explorer 6.0 or later.

Interoperability

The following PTZ cameras are supported for use with Polycom HDX systems:

- Polycom EagleEye HD
- Polycom PowerCam™ Plus
- Polycom PowerCam
- Sony EVI-D30/31
- Sony EVI-D70/Vaddio WallVIEW 70
- Sony EVI-D100/Vaddio WallVIEW 100
- Sony BRC-300/Vaddio WallVIEW 300

- Elmo PTC-100S/110R/150S/160R

- Canon VC-C50i/Vaddio WallVIEW 50i (requires VISCA shoe)

- Sony BRC-H700

- Sony EVI-HD1

Polycom HDX systems are tested extensively with a wide range of products. The following list is not a complete inventory of compatible equipment; it simply indicates the products that have been tested for compatibility with the 2.0 release.

Video conferencing systems use a variety of algorithms to compress audio and video. In a call between two systems, each end transmits audio and video using algorithms supported by the other end. In some cases, a system may transmit a different algorithm than it receives. This process occurs because each system independently selects the optimum algorithms for a particular call, and different products may make different selections. This process should not affect the quality of the call.

Type	Product	Version
NAT/Firewall/Border Controller	Cisco PIX 515	7.2.1
	Cisco Router QoS	12.3
	Fortinet FortiWifi-60A	2.8
	Linksys BEFVP41	1.01.04
	NETGEAR FR114P	1.5 Release 14
	SMC7004ABR	1.42.012
	Polycom V²IU™ 5300 E/S	7.2.2
	Polycom V²IU 4350	7.2.2
Management Systems and Recorders	Polycom Global Management System	7.1.003, 7.1.1.107
	Polycom RSS 2000	2.0
	Polycom VMC1000	1.0-b001

Type	Product	Version
Gatekeeper, Gateways, External MCU, Bridges, Call Managers	Cisco CallManager	4.5
	Cisco Multimedia Conference Manager	12.4
	Microsoft Office Live Communications Server 2005	SP1 standard on Windows 2003
	Polycom Readi*Manager* SE200	2.0 ER29
	Polycom PathNavigator	7.00.03
	Polycom RMX 2000	2.0.0.56
	Polycom MGC	8.0.0.27, 9.0.1.8
	RADVISION ECS	4.1.0.0
	TANDBERG Gateway	G3.2
	TANDBERG MPS	J3.2
Endpoints	Aethra VegaStar Gold	6.0.49
	Cisco Unified Video Advantage	2.02
	DSTMedia Broad5	2.0.0
	DSTMedia K60	2.0.1
	LifeSize Room	3.0
	Polycom HDX 8000 series	2.0
	Polycom HDX 9001	2.0
	Polycom HDX 9004	2.0
	Polycom iPower 9000	6.2.0.1208
	Polycom PVX	8.0.2.4
	Polycom V500™	8.7
	Polycom ViewStation 512	7.5.4.10
	Polycom ViewStation FX	6.0.5.17
	Polycom SoundPoint® IP 601	2.2
	Polycom SoundPoint IP 650	2.2
	Polycom VSX 3000, VSX 5000, VSX 6000, VSX 7000, VSX 7000e, VSX 8000	8.7
	Sony PCS-G70	02.41
	TANDBERG 6000 MXP	F6.1

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