



ADMINISTRATORS' GUIDE

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Polycom® VVX® Camera

Addendum to the Polycom® UC Software 4.1.0 Administrators'
Guide



Polycom® VVX® Camera Administrators' Guide

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Visit the [Polycom Voice Support Center](#) for software downloads, product documents, product licenses, troubleshooting tips, service requests, and more.

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About This Guide

The Polycom® VVX® Camera Administrators' Guide addresses changes to the Polycom UC Software 4.1.0 Administrators' Guide specific to the release of the VVX Camera that can be used with the VVX 500 and 600 phones.

Who Should Read this Guide?

System administrators and network engineers should read this guide to learn how to properly set up VVX Camera. This guide describes administration-level tasks and is not intended for end users.

How to Use this Guide

This guide is organized into the following five sections:

- [Welcome to the Polycom VVX Camera](#) , introduces the Polycom VVX Camera.
- [New and Enhanced Features](#), shows you the new and enhanced features available on the VVX 500 and 600 phones when used with the VVX Camera.
- [Configuration Parameter Changes](#), provides a list of the configuration parameters that you can change when deploying the VVX 500 and 600 phones with the VVX Camera.
- [Using the Polycom Web Configuration Utility](#), shows you how to use the phone's Web Configuration Utility to configure the phone.

What's New in This Guide

The content in this guide has been written specifically for the release of the VVX Camera.

Conventions Used in this Guide

This user guide contains terms, graphical elements, and a few typographic conventions. Familiarizing yourself with these terms, elements, and conventions will help you perform phone tasks.

Terms and Writing Conventions

This guide also uses a few writing conventions.







Writing Conventions




Convention	Description
<MACaddress>	Indicates that you must enter information specific to your installation, phone, or network. For example, when you see <MACaddress>, enter your phone's 12-digit MAC address. If you see <installed-directory> , enter the path to your installation directory.
>	Indicates that you need to select an item from a menu. For example, Settings > Basic indicates that you need to select Basic from the Settings menu.
parameter.*	Used for configuration parameters. If you see a parameter name in the form parameter.* , the text is referring to all parameters beginning with parameter. See Reading the Feature Parameter Tables in the UC Software 4.1.0 Administrators' Guide for an example.

Information Elements

The following icons are used to alert you to various types of important information in this guide:

Icons Used in this Guide

Name	Icon	Description
Note		The <i>Note</i> icon highlights information of interest or important information needed to be successful in accomplishing a procedure or to understand a concept.
Administrator Tip		The <i>Administrator Tip</i> icon highlights techniques, shortcuts, or productivity related tips.
Caution		The <i>Caution</i> icon highlights information you need to know to avoid a hazard that could potentially impact device performance, application functionality, or successful feature configuration.
Warning		The <i>Warning</i> icon highlights an action you must perform (or avoid) to prevent issues that may cause you to lose information or your configuration setup, and/or affect phone or network performance.
Web Info		The <i>Web Info</i> icon highlights supplementary information available online such as documents or downloads on support.polycom.com or other locations.
Timesaver		The <i>Timesaver</i> icon highlights a faster or alternative method for accomplishing a method or operation.

Name	Icon	Description
Power Tip		The <i>Power Tip</i> icon highlights a faster, alternative procedures for advanced administrators already familiar with the techniques being discussed.
Troubleshooting		The <i>Troubleshooting</i> icon highlights information that may help you solve a relevant problem or to refer you to other relevant troubleshooting resources.
Settings		The <i>Settings</i> icon highlights settings you may need to choose for a specific behavior, to enable a specific feature, or to access customization options.

Typographic Conventions

A few typographic conventions, listed next, are used in this guide to distinguish types of in-text information.

Typographic Conventions


Convention	Description
Bold	Highlights interface items such as menus, soft keys, file names, and directories. Also used to represent menu selections and text entry to the phone.
<i>Italics</i>	Used to emphasize text, to show example values or inputs, and to show titles of reference documents available from the Polycom Support Web site and other reference sites.
Blue	Used for cross-references to other sections, chapters, or parts in this document.
<u>Underlined Blue</u>	Used for URL links to external Web pages or documents. If you click on text in this style, you will be linked to an external document or Web page.
Blue Text	Used for cross references to other sections within this document. If you click on text in this style, you will be taken to another part of this document.
Fixed-width-font	Used for code fragments and parameter names.

Related Documents

You can find all the Feature Descriptions and Technical Notifications referred to in this document on the [Polycom Profiled UC Software Features](#) Support page and the [Feature Descriptions & Technical Notifications](#) Support page.

You can find all Polycom phone documentation on the Polycom Support Web site at <http://support.polycom.com/voice/> .

You can find Request For Comments (RFC) documents by entering the RFC number at <http://www.ietf.org/rfc.html> .

For other references, look for the Web Info icon: 

Getting Help and Support

If you need help or technical support for your phones, the following types of documents are available:

- Polycom VVX 500/600 Quick Start Guide, which describes how to set up VVX 500 and 600 phones.
- Polycom VVX 500/600 Quick User Guide, which describes basic VVX 500 and 600 phone features.
- Polycom VVX 500/600 User Guide, which describes both basic and advanced VVX 500 and 600 phone features.
- Polycom UC Software Administrators' Guide, which describes how to configure basic and advanced features on all Polycom phones that run the Polycom UC Software.
- Polycom UC Software Web Applications Developer's Guide, which describes how to develop applications that run on your phone's Web Browser.
- Feature Descriptions and Technical Notifications —such as Technical Bulletins and Quick Tips— that describe workarounds to existing issues and provide expanded descriptions and examples.
- Polycom UC Software Release Notes, which describe the new and changed features and fixed problems in the latest version of the software.

All these documents are available from the [Polycom VVX 500 support page](#) and the [Polycom VVX 600 support page](#).

Polycom recommends that you record the phone model numbers, software versions of both the Updater and UC Software, and partner platform for future reference.

Phone models: _____

Updater version: _____

UC Software version: _____

Partner Platform: _____

Welcome to the Polycom VVX Camera

The Polycom® VVX® Camera is a USB camera that provides the best-in-class personal video communications experience that complements the way you work. Your desktop device turns into a video conferencing phone with a simple plug and play capability (USB powered) and no requirement for software drivers.



Feature highlights include:

- Supported on both the Polycom VVX 500 and 600 business media phones
- Transmitted and received video is compatible with RFC 3984 - RTP Payload Format for H.264 Video, RFC 4629 - RTP Payload Format for ITU-T Rec. H.263 Video, and RFC 5168 - XML Schema for Media Control
- Supported Transmitted Frame sizes include CIF, CIF4, QCIF, SQCIF, QVGA, WQVGA, SIF, SIF4, VGA, 525 SD, 625 SD, HD 720p
- Supported Received Frame sizes include SQCIF, QCIF, QVGA, SIF, CIF
- Provisioning by Polycom® CMA® or DMA™ systems or Polycom® RealPresence® Resource Manager is not supported at this time
- Video preference and camera settings through new user interfaces screens

You can make configuration file changes to support the VVX Camera on VVX 500 and 600 phones. These are described in [Configuration Parameter Changes](#). You can also make configuration changes using the Polycom Web Configuration Utility as described in [Using the Polycom Web Configuration Utility](#).

New and Enhanced Features

The following section describes the new features of the VVX 500 and 600 phones when using the VVX camera.

Using a Polycom VVX Camera

You can plug a Polycom VVX Camera into the top-most USB port on your VVX 500 and 600 phones.

The firmware on the VVX Camera is synchronized to the phone when the phone's software is upgraded.

The LED on the front of the VVX Camera indicates its current state when plugged into the VVX 500 and 600 phones. The following table shows the LED color to camera state mapping.

Table 1: LED Color and Camera State

<i>LED Color</i>	<i>Camera State</i>
Off	<ul style="list-style-type: none">• No power to the camera• Shutter is closed (whether or not in active call)
Amber	<ul style="list-style-type: none">• Incoming call, no video or audio only• Active audio only call• Outgoing call• Muted video• Held call• Shutter open, but video not enabled and camera not selected
Green	Active video call
Flashing green	Incoming video call
Flashing green and amber	Camera firmware updating
Flashing red and green, and then off	Camera booting up

The following table shows the messages that display on the phone when a VVX Camera is attached.

Table 2: VVX Camera Messages

Message	What is happening
VVX Camera attached. Firmware sync in progress, do not remove camera.	Your camera's firmware is upgrading. Do not remove your camera during this process. You'll know the upgrade is complete when you receive either a 'firmware sync complete' or 'upgrade failed' message. For more information on the 'firmware sync complete' or 'upgrade failed' message, locate the message in this table.
VVX Camera firmware sync complete. Camera ready.	Indicates that your camera is ready to use.
VVX Camera firmware sync complete. Contact administrator to enable video.	Indicates that your camera is ready to use. However, your phone isn't enabled to send and receive video. See your system administrator.
VVX Camera firmware sync complete. Camera rebooting.	Indicates that the camera firmware sync is finished, and your camera is in the process of rebooting.
VVX Camera firmware sync complete. Video available when next idle.	Indicates that your camera is ready to use for your next video call.
VVX Camera attached, camera ready.	Indicates that your camera is ready to use.
VVX Camera attached. Contact administrator to enable video.	Indicates that your camera is ready to use. However, your phone isn't enabled to send and receive video. See your system administrator.
VVX Camera attached. Video available when next idle.	Indicates that your camera is ready to use for your next video call.
VVX Camera removed.	Indicates that you have detached your camera from your phone.
VVX Camera is not connected	Indicates that a VVX Camera is not attached to your phone, but you are accessing a feature or function that requires that the camera be attached.

The VVX 500 and 600 phone, with the VVX Camera, supports transmission of high quality video images. The video is compatible with RFC 3984 - RTP Payload Format for H.264 Video, RFC 4629 - RTP Payload Format for ITU-T Rec. H.263 Video, and RFC 5168 - XML Schema for Media Control. The VVX 500 and 600 phone supports reception of quality video images with or without the VVX Camera.



Note: No Support for G.722.1C When Using VVX Camera

While users are using the VVX Camera with their VVX 500 and 600 phones, the G.722.1C audio codecs is disabled (due to audio degradation).

The following sections show you how to update your configuration for the following video-related features:

- [Video Transmission](#)
- [Supported Video Codecs](#)
- [Support for H.323 Protocol](#)
- [Switching Between Voice and Video During Calls](#)

Video Transmission

By default, at the start of a video call, the VVX 500 or 600 phone transmits an RTP encapsulated video stream with images captured from the local camera. Users can stop and start video transmission by pressing the **Video** soft key, and then selecting the **Stop** or **Start** soft key, or by closing the privacy shutter.

You can configure:

- [Video Transmission Parameters](#)
- [Video and Camera View Parameters](#)
- [Video Camera Parameters](#)

You can use the parameters in the following table to configure video transmission on your VVX 500 and 600 phones:

Table 3: Video Transmission Parameters

Central Provisioning Server	template > parameter
Specify if video calls should use a full screen layout	video.cfg > video.autoFullScreen
Specify when video transmission should start in a call	video.cfg > video.autoStartVideoTx
Set the call rate for a video call (can be changed on the phone)	video.cfg > video.callRate
Specify whether the phone is forced to send RTCP feedback messages to request fast update I-frames for video calls	video.cfg > video.forceRtcpVideoCodecControl
Set the maximum call rate for a video call (the maximum rate set from the phone cannot exceed this)	video.cfg > video.maxCallRate
Specify the quality of video to be shown in a call or conference	video.cfg > video.quality

Web Configuration Utility

To configure video processing options, navigate to **Preferences > Video Processing** and expand the **General** menu.

Local Phone User Interface

To configure video processing options, navigate to **Menu > Settings > Basic > Video > Video Call Settings**.

You can use the parameters in the following table to set the video and local camera view settings on your VVX 500 or 600 phones:

Table 4: Video and Camera View Parameters

Central Provisioning Server	template > parameter
Specify the view of the video window in normal viewing mode	video.cfg > video.ScreenMode
Specify the view of the video window in full screen viewing mode.....	video.cfg > video.screenModeFS
Specify if the local camera view is shown in the full screen layout.....	video.cfg > video.localCameraView.fullscreen.enabled
Determine how the local camera view is shown	video.cfg > video.localCameraView.fullscreen.mode

Web Configuration Utility

To configure the video and camera view settings, navigate to **Preferences > Video Processing**. To configure the Screen Mode, expand the **General** menu. To configure the camera view, expand the **Local Camera View Settings** menu.

Local Phone User Interface

To configure the video and camera view settings, navigate to **Menu > Settings > Basic > Video** and configure **Video Screen Mode** and **Local Camera View**.

You can use the parameters in the following to configure the video camera on your VVX 500 and 600 phones:

Table 5: Video Camera Parameters

Central Provisioning Server	template > parameter
Set the brightness level.....	video.cfg > video.camera.brightness
Set the contrast level.....	video.cfg > video.camera.constrast
Specify if flicker avoidance is automatic, suited for Europe/Asia, or North America	video.cfg > video.camera.flickerAvoidance
Set the frame rate	video.cfg > video.camera.frameRate
Set the saturation level	video.cfg > video.camera.saturation
Set the sharpness level.....	video.cfg > video.camera.sharpness

Web Configuration Utility

To set the video camera settings, navigate to **Preferences > Video Processing** and expand the **Camera Settings** menu.

Local Phone User Interface

To set the video camera settings, navigate to **Menu > Settings > Basic > Video > Camera Settings**.

Supported Video Codecs

The following table is a summary of the VVX 500 or 600 phone's video codec support:

Table 6: Video Codec Specifications

<i>Algorithm</i>	<i>MIME Type</i>	<i>Frame Size</i>	<i>Bit Rate (kbps)</i>	<i>Frame Rate (fps)</i>
H.263	H263/90000	Tx Frame size: SQCIF, QCIF, CIF, 4CIF Rx Frame size: SQCIF, QCIF, CIF	64 to 768	5 to 30
H.264	H264/90000	Tx Frame size: CIF, CIF4, QCIF, SQCIF, QVGA, WQVGA, SIF, SIF4, VGA, 525 SD, 625 SD, HD 720p Rx Frame size: SQCIF, QCIF, QVGA, SIF, CIF	64 to 2048	5 to 30

You can configure the parameters in the following table to prioritize and adjust the video codecs that your VVX 500 or 600 phone uses:

Table 7: Video Codec Parameters

Central Provisioning Server	template > parameter
Prioritize the video codecs from 1 to 4.....	video.cfg > video.codecPref.*
Adjust the parameters for the H263 and H264 codec profiles.....	video.cfg > video.profile.<codec>.*

Web Configuration Utility

To set the priority for the video codecs, navigate to **Settings > Codec Priorities**, expand the **Video Priority** menu, and use the arrow keys to re-order the codecs.

To adjust the parameters for the video codecs, navigate to **Settings > Codec Profile > Video**.

Support for H.323 Protocol

The VVX 500 and 600 phone supports telephony signaling via the H.323 protocols. This protocol enables direct communication with H.323 endpoints, gatekeepers, call servers, media servers, and signaling gateways. No license key is required to activate H.323 video on the VVX 500 and 600 phones.

The VVX 500 and 600 can support SIP and H.323 signaling simultaneously, and you can bridge both types of calls during multi-party conference calls. The phone can automatically detect the correct or optimal signaling protocol when dialing a call from the contact directory or the corporate directory. While SIP supports server redundancy and several transport options, only a single configured H.323 gatekeeper address per phone is supported. The phone does not require H.323 gatekeepers, but if H.323 gatekeepers are available, they will be used. If an H.323 gatekeeper is not configured or is unavailable, you can still enable your phone to make H.323 calls.

Support of the SIP protocol for telephony signaling can be disabled on the VVX 500 and 600 such that all calls will be routed via the H.323 protocol.

This section provides detailed information on:

- [Supported Video Standards](#)
- [Supported Polycom Interoperability](#)
- [When Using the H.323 Protocol](#)

The list of all H.323 parameters is shown in the following table.

Table 8: H.323 Protocol Parameters

Central Provisioning Server	template > parameter
Specify if the user is presented with protocol routing choices	reg-advanced.cfg and site.cfg > up.manualProtocolRouting
Set soft keys for protocol routing	reg-advanced.cfg and site.cfg > up.manualProtocolRouting.softKeys
Enable or disable auto-answer for all H.323 calls.....	reg-advanced.cfg and h323.cfg > call.autoAnswer.H323
Specify if the phone can make calls using H.323 even if an H.323 gatekeeper is not configured or is unavailable	sip-interop.cfg > call.enableOnNotRegistered
Specify if video should begin immediately after a call is auto-answered.....	reg-advanced.cfg > call.autoAnswer.videoMute
Specify whether SIP or H.323 is the preferred call protocol	video.cfg > call.autoRouting.preferredProtocol
Specify if calls should be routed by line or by protocol	sip-interop.cfg > call.autoRouting.preference
Enable or disable H.323 signaling for the line registration.....	sip-interop.cfg > reg.x.protocol.H323
Specify the H.323 server settings for a specific registration.....	site.cfg > reg.x.server.H323.*
Specify the H.323 protocol settings	h323.cfg > volpProt.H323.*
Specify the H.323 server settings	h323.cfg > volpProt.server.H323.*
Configure the H.323 media encryption parameters	site.cfg > sec.H235.mediaEncryption.*

Web Configuration Utility

To configure auto answer and protocol routing, navigate to **Preferences > Additional Preferences** and expand the **Auto Answer** and **Protocol Routing** menus.

To specify the global H.323 settings, navigate to **Settings > H.323**.

To specify the H.323 settings for a specific registration, navigate to **Settings > Lines**, choose a line from the left pane, and expand the **H.323 Settings** menu.

To specify the global H.323 Line Settings, navigate to Simple Setup and expand the **H.323 Line Settings**, **H.323 Global Gatekeeper Settings**, and **H.323 Local Port Settings** menus.

Local Phone User Interface

To specify the global H.323 settings, navigate to **Menu > Settings > Advanced > Call Server Configuration > H.323**.

To specify the per-registration H.323 settings, navigate to **Menu > Settings > Advanced > Line Configuration > Line X > H.323 Protocol**.

Supported Video Standards

The following table shows which standards are supported by the H.323 feature.

Table 9: Supported Video Standards

<i>Standard</i>	<i>Description</i>
ITU-T Recommendation H.323 (2003)	Packet-based multimedia communications systems
ITU-T Recommendation Q.931 (1998)	ISDN user-network interface layer 3 specification for basic call control
ITU-T Recommendation H.225.0 (2003)	Call signaling protocols and media stream packetization for packet-based multimedia communications systems
ITU-T Recommendation H.245 (5/2003)	Control protocol for multimedia communication
ITU-T Recommendation H.235.0 - H.235.9 (2005)	Security and encryption for H Series (H.323 and other H.245 based) multimedia terminals
ITU-T Recommendation H.350.1 (8/2003)	Directory services architecture for H.323 (through a Polycom CMA system only)

Supported Polycom Interoperability

Video calls are supported by the Polycom endpoints/bridges/call servers (or gatekeepers)/media servers listed in the following table.

Table 10: Supported Polycom Interoperability

<i>Gatekeepers and Endpoints</i>	<i>Protocol</i>	<i>Software Version</i>
Polycom Distributed Media Application™ (DMA™) 7000 System	H.323	SW 5.2
Polycom RealPresence® Group Series	SIP/H.323	SW 4.0.1
Polycom Quality Definition Experience™ (QDX™) 6000	H.323	SW 4.0.3
Polycom Polycom® Converged Management Application™ (CMA™) Desktop	SIP/H.323	5.2.3
Polycom PVX™	SIP/H.323	8.0.16
Polycom RealPresence® Desktop	SIP/H.323	2.0
Polycom RealPresence® Mobile	SIP/H.323	2.0
Polycom RealPresence® M100	SIP/H.323	1.0.4



Web Info: Viewing an Updated List of Polycom Video Support with Third Party Products

See the *UC Software Release Notes* on [Latest Polycom UC Software Release](#) for the latest list of supported Polycom endpoints/bridges/call servers (or gatekeepers)/media servers and any supported third party products. Any issues (and possible workarounds) with any of the above-mentioned products are also documented in the *Release Notes*.

When Using the H.323 Protocol

The following information should be noted:

- If the phone has only the H.323 protocol enabled, it cannot be used to answer SIP calls.
- If the phone has only the SIP protocol enabled, it cannot be used to answer H.323 calls.
- If both SIP and H.323 protocols are disabled by mistake, the phone will continue to work as a SIP-only phone; however, the phone is not registered (you are able to send and receive SIP URL calls).
- The phone will store the protocol used to place a call in the placed call list.

- The protocol to be used when placing a call from the user's local contact directory is unspecified by default. The user can select SIP or H.323.
- The protocol that is used when placing a call from the user's corporate directory depends on the order of the attributes in the corporate directory. If only SIP_address is defined, then the SIP protocol is used. If only H323_address is defined, then the H.323 protocol is used. If both are defined, then the one that is defined first is used. For example, if dir.corp.attribute.4.type is SIP_address and dir.corp.attribute.5.type is H323_address, then the SIP protocol is used.
- By default, when more than one protocol is available, each protocol displays as a soft key and the user can choose which protocol to use.
- Calls made using H.323 cannot be forwarded or transferred.
 - The **Transfer** and **Forward** soft keys are not displayed during an H.323 call on a VVX 500 and 600 phone. The **Forward** soft key is not displayed on the idle display of a VVX 500 and 600 phone if the primary line is an H.323 line.
 - The auto-divert field in the local contact directory entry is ignored when a call is placed to that contact using H.323.
 - If a conference host ends a three-way conference call and one of the parties is connected by H.323, that party is not transferred to the other party that was part of the conference call.

The next graphic shows an example of a **sip-h323.cfg** file and the parameters you will need to configure:

- To configure both SIP and H.323 protocols.
- To set up a SIP and H.323 dial plan—Numbers with the format *0xxx* are placed on a SIP line and numbers with the format *33xx* are placed on an H.323 line.
- To set up manual protocol routing using soft keys—If the protocol to use to place a call cannot be determined, the **Use SIP** and **Use H.323** soft keys appear, and the user must select one for the call to be placed.
- To configure auto-answering on H.323 calls only.
- To set the preferred protocol to SIP.
- To set to configure one SIP line, one H.323 line, and a dual protocol line—both SIP and H.323 can be used.
- To set the preferred protocol for off-hook calls on the third (dual protocol) line to SIP.

phone	
voIpProt	
SIP	
voIpProt.SIP.enable	1
H323	
voIpProt.H323.enable	1
dialplan	
digitmap	
dialplan.digitmap	0xxxS 33xxH
user_preferences	
up.manualProtocolRouting	1
up.manualProtocolRouting.softKeys	1
call	
call.autoAnswer.SIP	0
call.autoAnswer.H323	1
call.autoAnswer.micMute	1
call.autoAnswer.videoMute	0
call.autoRouting.preference	line
call.autoRouting.preferredProtocol	SIP
call.autoOffHook.3.protocol	SIP
reg	
reg.1.address	1301
reg.1.server.1.address	sipserver.polycom.com
reg.1.protocol.SIP	1
reg.1.protocol.H323	0
reg.1.label	1301S
reg.2.address	1302
reg.2.server.1.address	172.88.2.123
reg.2.protocol.SIP	0
reg.2.protocol.H323	1
reg.2.label	1302H
reg.3.address	1303
reg.3.server.1.address	sipserver.polycom.com
reg.3.server.2.address	172.88.2.123
reg.3.protocol.SIP	1
reg.3.protocol.H323	1
reg.3.label	1303D

Switching Between Voice and Video During Calls

You can enable VVX 500 and 600 phones to switch between voice and video during calls. Use the following table to locate the available parameters. If this feature is enabled, users can switch between audio-only calls, and calls with audio and video. Users can make audio calls by default, and select a **Voice/Video** if they want to add video to the call. Once a video call has ended, the phone will switch back to audio-only.

Table 11: Voice and Video Toggle Parameters

Central Provisioning Server	template > parameter
Enable or disable the audio/video toggle feature.....	features.cfg > feature.audioVideoToggle.enabled
Allow the user to select the call mode to use when using SIP protocol only.....	video.cfg > video.callMode.default

Configuration Parameter Changes

The following configuration parameter changes and additions were made to support the VVX 500 and 600 phones:

- [Call <call/>](#)
- [Feature <feature/>](#)
- [Registration <reg/>](#)
- [Security <sec/>](#)
- [User Preferences <up/>](#)
- [Video <video/>](#)
- [Voice Over Internet Protocol <volpProt/>](#)

Call <call/>

The following parameters specify the per-registration call parameters for the VVX 500 and 600 phones.

Table 12: Call Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
call.autoAnswer.H323	0 or 1	0
If 0, auto-answer is disabled for H.323 calls. If 1, auto-answer is enabled for all H.323 calls.		
call.autoAnswer.videoMute	0 or 1	0
If 0, video begins transmitting (video Tx) immediately after a call is auto-answered. If 1, video transmission (video Tx) is initially disabled after a call is auto-answered.		
call.autoRouting.preference	line or protocol	line
If set to line , calls are placed via the first available line, regardless of its protocol capabilities. If the first available line has both SIP and H.323 capabilities, the preferred protocol will be used (call.autoRouting.preferredProtocol).		
If set to protocol , the first available line with the preferred protocol activated is used, if available. If not available, the first available line will be used.		
<i>Note: Auto-routing is used when manual routing selection features (up.manualProtocolRouting) are disabled.</i>		
call.autoRouting.preferredProtocol	SIP or H323	SIP
If set to SIP , calls are placed via SIP if available, or via H.323 if SIP is not available. If set to H323 , calls are placed via H.323 if available, or via SIP if H.323 is not available.		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
call.enableOnNotRegistered¹	0 or 1	1

If 1, users can make calls when the phone is not registered. If 0, calls are not permitted without registration.

Note: Setting this parameter to 1 can allow Polycom VVX 600 phones to make calls using the H.323 protocol even though an H.323 gatekeeper is not configured.

¹ Changes cause the phone to restart or reboot.

Feature <feature/>

The feature parameters control the activation or deactivation of a feature at run time.

Table 13: Feature Activation/Deactivation Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
feature.audioVideoToggle.enabled	0 or 1	0

If 0, the audio/video toggle feature is disabled. If 1, the feature is enabled.

Registration <reg/>

The following parameters specify the registration parameters for the VVX 500 and 600 phone.

Table 14: Registration Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
reg.x.protocol.H323	0 or 1	0
If 0, H.323 signaling is not enabled for registration x. If 1, H.323 signaling is enabled.		
reg.x.server.H323.y.address	dotted-decimal IP address or hostname	Null
Address of the H.323 gatekeeper.		
reg.x.server.H323.y.port	0 to 65535	0
Port to be used for H.323 signaling. If set to Null, 1719 (H.323 RAS signaling) is used.		
reg.x.server.H323.y.expires	positive integer	3600
Desired registration period.		

Security <sec/>

The following parameters specify the security parameters for the H.235 media encryption on the VVX 500 and 600 phones.

Table 15: Security Parameters

Parameter	Permitted Values	Default
sec.H235.mediaEncryption.enabled¹	0 or 1	1
If 0, H.235 Voice Profile RTP media encryption will be disabled. If 1, H.235 media encryption will be enabled and negotiated when such encryption is requested by the far end.		
sec.H235.mediaEncryption.offer¹	0 or 1	0
If 0, media encryption negotiations will not be initiated with the far end. If 1 and sec.H235.mediaEncryption.enabled is also 1, media encryption negotiations will be initiated with the far end; however, successful negotiations are not a requirement for the call to complete.		
sec.H235.mediaEncryption.require¹	0 or 1	0
If 0, media encryption negotiations will not be required. If 1 and sec.H235.mediaEncryption.enabled is also 1, media encryption negotiations will be initiated or completed with the far end, and if negotiations fail, the call will be dropped.		
sec.srtp.lifetime¹	0, positive integer minimum 1024 or power of 2 notation	0
The lifetime of the master key used for the cryptographic parameter in SDP. The value specified is the number of SRTP packets. If 0, the master key lifetime is not set. If set to a valid value (at least 1024, or a power such as 2 ¹⁰), the master key lifetime is set. When the lifetime is set, a re-invite with a new key will be sent when the number or SRTP packets sent for an outgoing call exceeds half the value of the master key lifetime.		
<i>Note: Setting this parameter to a non-zero value may affect the performance of the phone. If you are using a VVX Camera on a VVX 500 and 600 phone, set to 2³¹.</i>		

¹ Changes cause the phone to restart or reboot.

User Preferences <up/>

These parameters provide user preferences for certain aspects of the phones. The VVX 500 and 600 phones introduce new user preference parameters.

Table 16: User Preferences Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
up.manualProtocolRouting	0 or 1	1
If 1, the user is presented with a protocol routing choice in situations where a call can be placed using either protocol (for example, with SIP and H.323 protocols). If 0, the default protocol is used and the user does not choose.		
up.manualProtocolRouting.softKeys	0 or 1	1
Choose whether you want to display soft keys that control Manual Protocol Routing options. When Soft Key Control is enabled, you can use soft keys to choose between the SIP or H.323 protocol. When disabled, soft keys for protocol routing will not display. The soft keys are enabled by default.		

¹ Changes cause the phone to restart or reboot.

Video <video/>

These parameters control the settings related to the video on the VVX 500 and 600 phone.

Table 17: Video Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
video.autoFullScreen	0 or 1	0
If 0, video calls only use the full screen layout if it is explicitly selected by the user. If 1, video calls use the full screen layout by default, such as when a video call is first created or when an audio call transitions to a video call)		
video.autoStartVideoTx	0 or 1	1
When enabled, video transmission to the far side begins when you start a call. When disabled, video transmission does not begin until you press the Video > Start Video soft keys. This parameter controls video sent to the far side. Video from the far side will always be displayed if it is available, and far side users can control when to send video.		
video.callMode.default	audio or video	audio
Allows the user to select the mode to use when using SIP protocol only.		
video.callRate	128 to 2048	512
The default call rate (in kbps) to use when initially negotiating bandwidth for a video call.		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
video.camera.brightness	0 to 6	3
Set brightness level. The value range is from 0 (Dimmest) to 6 (Brightest).		
video.camera.contrast	0 to 4	0
Set contrast level. The value range is from 0 (No contrast increase) to 3 (Most contrast increase), and 4 (Noise reduction contrast).		
video.camera.flickerAvoidance	1 to 2	1
Set flicker avoidance. If set to 1, 50Hz AC power frequency flicker avoidance (Europe/Asia). If set to 2, 60Hz AC power frequency flicker avoidance (North America).		
video.camera.frameRate	5 to 30	25
Set target frame rate (frames per second). Values indicate a fixed frame rate, from 5 (least smooth) to 30 (most smooth). <i>Note:</i> If video.camera.frameRate is set to a decimal number, the value 25 is used.		
video.camera.saturation	0 to 6	3
Set saturation level. The value range is from 0 (Lowest) to 6 (Highest).		
video.camera.sharpness	0 to 6	3
Set sharpness level. The value range is from 0 (Lowest) to 6 (Highest).		
video.codecPref.H264¹	1 to 4	1
video.codecPref.H263¹		3
Specifies the video codec preferences for the VVX 600 phone.		
video.dynamicControlMethod	0 or 1	0
If 1, the first I-Frame request uses the method defined by video.forceRtcpVideoCodecControl and subsequent requests alternate between RTCP-FB and SIP INFO.		
video.enable	0=Disable, 1=Enable	0
If 0, video is not enabled and all calls—both sent and received—are audio-only. If 1, video is sent in outgoing calls and received in incoming calls if the other device supports video.		
video.forceRtcpVideoCodecControl¹	0 or 1	0
If set to 1, the VVX 600 is forced to send RTCP feedback messages to request fast update I-frames for all video calls (the phone includes a=rtcp-fb in the SDP. If 0, RTCP feedback messages are not forced.		
video.iFrame.delay¹	0 to 10, seconds	0
When non-zero, an extra I-frame is transmitted after video starts. The amount of delay from the start of video until the I-frame is sent is configurable up to 10 seconds. Use a value of 2 seconds if you are using this parameter in a Microsoft Lync environment.		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
video.iFrame.minPeriod	1 - 60	2
After sending an I-frame, the phone will always wait at least this amount of time before sending another I-frame in response to requests from the far end.		
video.iFrame.onPacketLoss	0 or 1	0
If 1, an I-frame is transmitted to the far end when a received RTCP report indicates that video RTP packet loss has occurred.		
video.localCameraView.fullscreen.enabled	0 or 1	1
Determines whether the local camera view is shown in the full screen layout. If set to 0, the local camera view is not shown. If set to 1, the local camera view is shown.		
video.localCameraView.fullscreen.mode	pip, side-by-side	pip
Determines how the local camera view is shown. If set to pip, the local camera view displays as a picture-in-picture with the far end window. If set to side-by-side, the local camera view displays side-by-side with the far end window.		
video.maxCallRate¹	128 to 2048 kbps	768
The maximum call rate allowed. This allows the administrator to limit the maximum call rate that the users can select. If video.callRate exceeds this value, this value will be used as the maximum.		
video.profile.H263.CifMpi¹	1 to 32	1
Specify the frame rate divider that the phone uses when negotiating Quarter CIF resolution for a video call. You can enter a value between 0-4. To disable, enter '0'.		
video.profile.H263.jitterBufferMax¹	(video.profile.H263.jitter BufferMin + 500ms) to 2500ms	2000ms
video.profile.H264.jitterBufferMax¹	(video.profile.H264.jitter BufferMin + 500ms) to 2500ms	
The largest jitter buffer depth to be supported (in milliseconds). Jitter above this size will always cause lost packets. This parameter should be set to the smallest possible value that will support the expected network jitter.		
video.profile.H263.jitterBufferMin¹	33ms to 1000ms	150ms
video.profile.H264.jitterBufferMin¹		
The smallest jitter buffer depth (in milliseconds) that must be achieved before play out begins for the first time. Once this depth has been achieved initially, the depth may fall below this point and play out will still continue. This parameter should be set to the smallest possible value which is at least two packet payloads, and larger than the expected short term average jitter.		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
video.profile.H263.jitterBufferShrink¹ video.profile.H264.jitterBufferShrink¹	33ms to 1000ms	70ms
The absolute minimum duration time (in milliseconds) of RTP packet Rx with no packet loss between jitter buffer size shrinks. Use smaller values (33 ms) to minimize the delay on known good networks. Use larger values (1000ms) to minimize packet loss on networks with large jitter (3000 ms).		
video.profile.H263.payloadType¹ video.profile.H264.payloadType¹	96 to 128 96 to 128	34 109
RTP payload format type for H263 MIME type. RTP payload format type for H264/90000 MIME type.		
video.profile.H264.profileLevel¹	1, 1b, 1.1, 1.2, and 1.3 (1 to 2)	1.3
Specify the highest profile level within the Baseline profile supported in video calls. The phone supports the following levels: 1, 1b, 1.1, 1.2, 1.3. The default level is 1.3. For more information, refer to ITU-T H.264.		
video.profile.H263.QcifMpi¹	1 to 32	1
Specify the frame rate divider that the phone uses when negotiating Quarter CIF resolution for a video call. You can enter a value between 0-32. To disable, enter '0'.		
video.profile.H263.SqcifMpi¹	1 to 32	1
Specify the frame rate divider that the phone uses when negotiating Sub Quarter CIF resolution for a video call. You can enter a value between 0-32. To disable, enter '0'.		
video.quality¹	motion, sharpness	Null
The optimal quality for video that you send in a call or a conference. Use motion if your outgoing video will have motion or movement. Use sharpness or Null if your outgoing video will have little or no movement. <i>Note:</i> If motion is not selected, moderate to heavy motion can cause some frames to be dropped.		
video.screenMode	normal, full, crop	normal
The screen mode for the video window shown in non-full screen mode. If set to normal or Null, the entire view is displayed and horizontal or vertical black bars may appear on the edges to maintain the correct aspect ratio. If set to full, the entire view is stretched linearly and independently to fill the video frame. If set to crop, black bars are not shown, the image is re-sized and enlarged to cover the entire video frame, and parts of the image that do not fit in the display are cropped (removed).		
video.screenModeFS	normal, full, crop	normal
The screen mode for the video window shown in full screen mode. If set to normal or Null, the entire view is displayed and horizontal or vertical black bars may appear on the edges to maintain the correct aspect ratio. If set to full, the entire view is stretched linearly and independently to fill the screen. If set to crop, black bars are not shown, the image is re-sized and enlarged to cover the entire screen, and parts of the image that do not fit in the display are cropped (removed).		

¹ Changes cause the phone to restart or reboot.

Voice Over Internet Protocol <volpProt/>

These parameters control the call server and DTMF signaling settings on the VVX 600 phone.

Table 18: Voice Parameters

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
volpProt.H323.autoGateKeeperDiscovery¹	0 or 1	1
<p>If set to 1, the phone will attempt to discover an H.323 gatekeeper address via the standard multicast technique, provided that a statically configured gatekeeper address is not available. If set to 0, the phone will not send out any gatekeeper discovery messages.</p>		
volpProt.H323.blockFacilityOnStartH245¹	0 or 1	0
<p>If set to 1, facility messages when using H.245 are removed.</p>		
volpProt.H323.dtmfViaSignaling.enabled¹	0 or 1	1
<p>If set to 1, the phone will use the H.323 signaling channel for DTMF key press transmission.</p>		
volpProt.H323.dtmfViaSignaling.H245alphanumericMode¹	0 or 1	1
<p>If set to 1, the phone will support H.245 signaling channel alphanumeric mode DTMF transmission. <i>Note:</i> If both alphanumeric and signal modes can be used, the phone gives priority to DTMF.</p>		
volpProt.H323.dtmfViaSignaling.H245signalMode¹	0 or 1	1
<p>If set to 1, the phone will support H.245 signaling channel signal mode DTMF transmission.</p>		
volpProt.H323.enable¹	0 or 1	0
<p>A flag to determine if the H.323 protocol is used for call routing, dial plan, DTMF, and URL dialing. If set to 1, the H.323 protocol is used.</p>		
volpProt.H323.local.port¹	1 to 65535	1720
<p>Local port to be used for H.323 signaling. Local port for sending and receiving H.323 signaling packets. If set to 0, 1720 is used for the local port but is not advertised in the H.323 signaling. If set to some other value, that value is used for the local port and it is advertised in the H.323 signaling.</p>		
volpProt.H323.local.RAS.port¹	1 to 65535	1719
<p>Local port for RAS signaling.</p>		
volpProt.server.H323.x.address	dotted-decimal IP address or hostname	Null
<p>Address of the H.323 gatekeeper. <i>Note:</i> Only one H.323 gatekeeper per phone is supported; if more than one is configured, only the first is used.</p>		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
volpProt.server.H323.x.port	0 to 65535	1719
Port to be used for H.323 signaling. <i>Note:</i> The H.323 gatekeeper RAS signaling uses UDP, while the H.225/245 signaling uses TCP.		
volpProt.server.H323.x.expires	positive integer	3600
Desired registration period.		

¹ Changes cause the phone to restart or reboot.

Using the Polycom Web Configuration Utility

After you set up your VVX 600 phones on the network, users will be able to place and answer calls using the default configuration. The Web Configuration Utility enables you and your phone users to optimize or customize individual phones.

You and your users can perform configuration changes on a per-phone basis with the Web Configuration Utility. You can use the Web Configuration Utility as the sole configuration method or in addition to central provisioning. Any configuration changes made to individual phones using the Web Configuration Utility will override configuration settings made with central provisioning. Configuration changes made manually using a phone's user interface will override changes made using the Web Configuration Utility.

You can access the utility by entering the phone's IP address in a Web browser, such as `http://123.456.789.012`. For administrators, log in as an **Admin** and enter the administrative password, which is `456` by default.



Troubleshooting: I Can't Enable Certain Features Using the Web Configuration Utility

You can't enable or disable all features through the Web Configuration Utility. You must make changes for these features through the configuration files.

Changes made through the Web Configuration Utility or the phone's user interface are stored internally as overrides. These overrides take precedence over settings contained in the configuration obtained from the provisioning server.

If the provisioning server permits uploads, these override settings will be saved in a file called **<MAC Address>-web.cfg** and **<MAC Address>-phone.cfg** on the provisioning server as well as in the phone's device settings.



Caution: Web Configuration Changes Override Provisioning Server Configurations

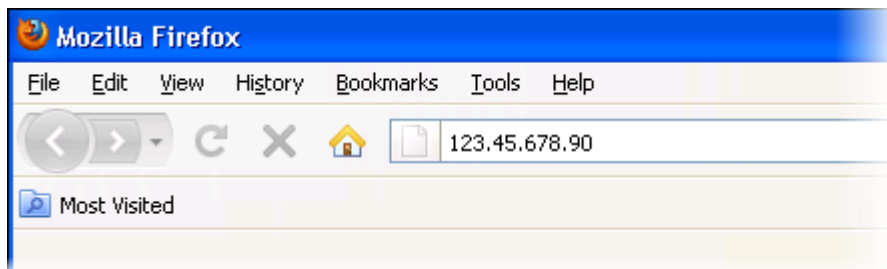
Web configuration changes will continue to override the provisioning server-derived configuration until you delete them by selecting **Reset Web Configuration** in the utility, or you configure `<device/>` parameters. Local configuration changes—made through the phone's user interface—will continue to override the provisioning server-derived configuration until you delete them by selecting **Reset Local Configuration** from the phone's menu, or configure `<device/>` parameters. For instructions on how to reset web and local configurations and more information on `<device/>` parameters, see the latest *Polycom UC Software Administrators' Guide*.

To configure the phone through the Web Configuration Utility:

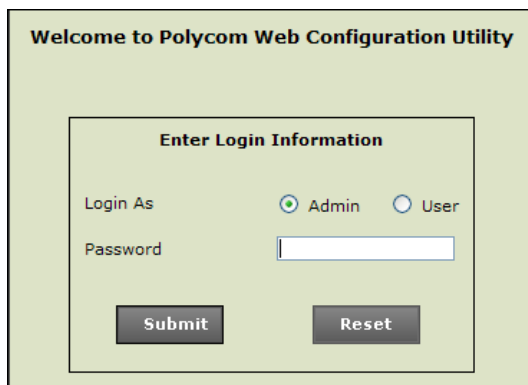
- 1 Obtain your phone's IP address.

To see the phone's IP address, tap  from the phone's Home view, and tap **Status > Platform > Phone**. Scroll down to see the IP address.

- 2 Enter the phone's IP address in the Web browser's address bar. The following figure shows a sample IP address in the Web browser's address bar.



- 3 Press the **Enter** key. The Utility login screen displays, as shown next.



- 4 Select **Admin** or **User**, and enter the appropriate password. The Utility's Home screen displays.
The default password for an administrator is *456*. The default password for a user is *123*.
- 5 Make the desired configuration changes to the phone's configuration.
- 6 Press **Save**.
- 7 Log out of the Web Configuration Utility.

For more information on using the utility, see the [Web Configuration Utility User Guide](#) on the Polycom Support web site.