Polycom® VVX® 500 Administrators' Guide

Addendum to the Polycom® UC Software
4.0.1 Administrators' Guide

Contents

Introduction

About This Guide

The Polycom® VVX® 500 Administrator's Guide addresses changes to the *Polycom UC Software 4.0.1 Administrators' Guide* specific to the release of the Polycom® VVX® 500 Business Media Phone.

Who Should Read This Guide?

System administrators and network engineers should read this guide to learn how properly to set up VVX 500 phones. This guide describes administration-level tasks and is not intended for end users.

How This Guide is Organized

This guide is organized into five sections.

The section, Welcome to the Polycom VVX 500 Business Media Phone, introduces the Polycom VVX 500 phone.

The section, New and Enhanced Features, shows you the new and enhanced features available on the VVX 500 phones.

The section, Configuration Parameter Changes, provides a list of the configuration parameters that you can change when deploying the VVX 500 phone.

The section, Using the Polycom Web Configuration Utility, shows you how to use the phone's Web Configuration Utility to configure the phone.

The section, Multiple Key Combinations and Default Key Layout, shows you the multiple key combinations and default key layout on the VVX 500.

Recommended References

You can locate all Technical Bulletins, Feature Descriptions, and Notifications referred to in this Administrator's Guide on the Polycom Support Web site at http://support.polycom.com/PolycomService/support/us/support/voice/soundpoint_ip/VoIP_Technical_Bulletins_pub.html

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

- Quick Start Guides, which describe how to assemble phones

- Quick User Guides, which describe the basic phone features

- User Guides, which describe both basic and advanced phone features

- Web Applications Developer's Guide, which provides guidance in the development of applications that run on your phone's Web Browser

- Feature Description and Technical Notifications such as Technical Bulletins and Quick Tips that describe workarounds to existing issues and provide expanded descriptions and examples

- Release Notes, which describe the new and changed features and fixed problems in the latest version of the software

For support or service, please contact your Polycom reseller or visit support.polycom.com for software downloads, product document, product licenses, troubleshooting tips, service requests, and more.

We are constantly working to improve the quality of our documentation, and we would appreciate your feedback. Please send email to VoiceDocumentationFeedback@polycom.com.

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 500 Business Media Phone

The Polycom® VVX® 500 is a business media phone that combines advanced business telephony, real-time presence and integrated business applications into one seamless, lifelike communications experience. Some of the features include:

- 3.5-inch diagonal color touch screen

- Support for Polycom HD voice (up to 14 kHz audio)

- Robust IP telephony feature set in SIP

- Adjustable base

- Two 10/100/1000 switched Ethernet ports

- Support for IEEE 802.3af Power over Ethernet or 48 V Wall Plug Adapter. The VVX 500 phone consumes 11 W maximum, 8 W typical, and just 6 W in power saving mode.

The VVX 500 is similar to the Polycom® VVX® 1500 except for:

- Smaller footprint

- No support for video or H.323

- No support for provisioning by a Polycom® Converged Management Application™ (CMA™) system

- Different user interface

- Fewer hard keys

- Support for USB headsets

- A maximum of 500 local contacts

The new or changed features include:

- Distribution Zip File

- Voice Quality Monitoring

- Multiple Registrations

- Audio Codecs

- Power Saving

- Polycom Desktop Connector Integration

- Microsoft Exchange Calendar Integration

- Support for USB Headsets

You can make configuration file changes to support the VVX 500 phone. 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.

The default key layout for the VVX 500 phone is shown in Multiple Key Combinations and Default Key Layout.

Web Info: VVX 500 Support Documents
VVX 500 support documents are available from the VVX 500 support page on the Polycom Support Web site. These documents include: - Polycom UC Software Release Notes   - Polycom UC Software Administrators' Guide   - Polycom VVX 500 Business Media Phone Quick Start Guide   - Polycom VVX 500 Business Media Phone Quick User Guide   - Polycom VVX 500 Business Media Phone User Guide

New and Enhanced Features

The following section describes the new and enhanced features of the VVX 500 phone.

Distribution Zip File

Included with the **sip.ld** file in the software archive is a separate file for the VVX 500 phone named **3111-44500-001.sip.ld**. You can use this file to update the software specifically on your VVX 500 phones.

Voice Quality Monitoring

You can configure the VVX 500 phone to generate various quality metrics for listening and conversational quality.

Note: Activating Voice Quality Monitoring
The Voice Quality Monitoring feature requires a license key for activation. Using this feature may require purchase of a license key or activation by Polycom channels. For more information, contact your Certified Polycom Reseller.

Multiple Registrations

The VVX 500 phone supports a maximum of 12 registrations.

If the phone is unable to register with the call server, the unregistered line key icon, , displays.

Once the phone is able to register, the registered line key icon, , displays.

Audio Codecs

The following table lists the supported audio codecs and corresponding priorities for the VVX 500 phone:

Table 1: Supported Audio Codecs

Supported Audio Codecs	Priority
G.711u-law	6
G.711a-law	7
G.722	4
G.722.1 (32kbps)	5
G.722.1C (48kbps)	2
G.729AB	8
iLBC (13.33kbps, 15.2kbps)	0, 0

The following table lists summarizes of the supported audio codecs and their corresponding properties:

Table 2: Audio Codec Summary

Algorithm	Reference	Raw Bit Rate	IP Bit Rate	Sample Rate	Default Payload Size	Effective Audio bandwidth
G.711u-law	RFC 1890	64 Kbps	80 Kbps	8 Ksps	20 ms	3.5 KHz
G.711a-law	RFC 1890	64 Kbps	80 Kbps	8 Ksps	20 ms	3.5 KHz
G.722	RFC 1890	64 Kbps	80 Kbps	16 Ksps	20 ms	7 KHz
G.722.1	RFC 3047	16 Kbps 24 Kbps 32 Kbps	32 Kbps 40 Kbps 48 Kbps	16 Ksps	20 ms	7 KHz
G.722.1C	G7221C	224 Kbps 32 Kbps 48 Kbps	40 Kbps 48 Kbps 64 Kbps	32 Ksps	20 ms	14 KHz
G.729AB	RFC 1890	8 Kbps	24 Kbps	8 Ksps	20 ms	3.5 KHz
iLBC	RFC 3951	13.33Kbps 15.2Kbps	31.2 Kbps 24 Kbps	8 Ksps	30 ms 20 ms	3.5 KHz

<table>
<tr><td>Note: Network Bandwidth</td></tr>
</table>

> **Note: Network Bandwidth**
>
> The network bandwidth necessary to send the encoded voice is typically 5 to 10 percent higher than the encoded bit rate due to packetization overhead. For example, a G.722.1C call at 48 kbps consumes roughly 100 kbps of network bandwidth (two-way audio).

You can perform configuration changes centrally at the provisioning server or locally using the Web Configuration Utility as indicated in Table 3.

Table 3: Configuring Audio Codecs

Central Provisioning Server	template > parameter
Specify codec priority, preferred payload sizes, and jitter buffer tuning parameters .... **site.cfg** > Codec Preferences <codecPref/>	

Web Configuration Utility
Specify codec priority, preferred payload sizes, and jitter buffer tuning parameters.
Navigate to http://<*phoneIPAddress*>, and select **Settings** > **Codec Profiles**.
These changes are saved to the flash file system and are backed up to **<*MAC address*>-web.cfg** on the provisioning server.
These changes will override global settings unless deleted through the **Reset to Default** button.
*Note: These changes can also be deleted on the phone by pressing the **Menu** key, and then selecting **Settings** > **Advanced** > **Administration Settings** > **Reset to Defaults** > **Reset Web Configuration**.*

Power Saving

By default, the power-saving feature on the VVX 500 phone is turned off. For more information about the feature and how to set power saving parameters, see the *Polycom UC Software 4.0.1 Administrators' Guide*.

Polycom Desktop Connector Integration

With the Polycom® Desktop Connector™ application installed on a computer, you can use your mouse and keyboard to enter information and navigate screens on your VVX 500 phone running Polycom UC Software 4.0.1. This feature enables users to enter phone numbers or to select screen objects without having to use the phone's keypad or touch screen. To use this feature, the phone and computer must be on the same network or directly connected through the phone's PC port.

You will need to download and install the Polycom Desktop Connector application from the Polycom Web site at http://www.polycom.com/products/voice/applications/index.html. Polycom Desktop Connector is compatible with computers running Microsoft® Windows XP®, Windows Vista®, and Windows® 7.

For information on configuring Polycom Desktop Connector, see the *Polycom UC Software 4.0.1 Administrators' Guide* and *Feature Profile 52855: Extend Your PC to Your Phone with the Polycom Desktop Connector*.

Microsoft Exchange Calendar Integration

Users can view their Microsoft Exchange 2007 and 2010 calendar on their VVX 500 phones. The user has quick access to meeting information and can dial into conference calls with one selection.

Users can launch the feature by touching the Calendar icon, , on the phone's Home screen. Users must have valid Microsoft Windows credentials to access the Microsoft Exchange Calendar information on their phone.

For information on configuring the calendaring feature, see the *Polycom UC Software 4.0.1 Administrators' Guide* and *Engineering Advisory 66940: Integrating the Calendar and Instant Messaging/Presence Features on Polycom® Phones*.

Support for USB Headsets

The VVX 500 phone supports the use of USB headsets. The following USB headsets are compatible with the VVX 500:

- Jabra Pro 9465-Duo
- Jabra Pro 9470
- Plantronics Voyager Pro UC

You can perform USB headset configuration changes centrally at the provisioning server or locally using the template parameters listed in Table 4.

Table 4: Configuring USB Headset Behavior

Central Provisioning Server	template > parameter
Specify how phone and the USB headset interact .... **site.cfg** >	up.headset.phoneVolumeControl
Specify if the USB headset volume persist between calls .... **site.cfg** >	voice.volume.persist.headset

	Note: Sound Effects Mixed with Active Audio

On the VVX 500, there are two cases where sound effects are mixed in with the active audio termination instead of being routed to the location designated by `se.destination`:

- When `se.destination=headset` and there is active audio on the handset, then sound effects are mixed with the active audio on the handset.
- When `se.destination=handset` and there is active audio on the headset, then sound effects shall be mixed with the active audio on the headset.

This audio mixing occurs due to a phone hardware limitation.

Configuration Parameter Changes

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

- Codec Preferences
- Security
- User Preferences
- Voice

Codec Preferences

The following parameters specify the audio codec preferences for the VVX 500 phone.

Table 5: Codec Preference Parameters

Parameter	Permitted Values	Default
voice.codecPref.G711_A	Null, 0 to 27	7
voice.codecPref.G711_Mu		6
voice.codecPref.G722		4
voice.codecPref.G7221.16kbps		0
voice.codecPref.G7221.24kbps		0
voice.codecPref.G7221.32kbps		5
voice.codecPref.G7221C.24kbps		0
voice.codecPref.G7221C.32kbps		0
voice.codecPref.G7221C.48kbps		2
voice.codecPref.G729AB		8
voice.codecPref.iLBC.13_33kbps		0
voice.codecPref.iLBC.15_2kbps		0
voice.codecPref.Lin16.16ksps	Null, 0 to 27	0
voice.codecPref.Lin16.32ksps		0

Parameter	Permitted Values	Default
voice.codecPref.Lin16.44_1ksps		0
voice.codecPref.Lin16.48ksps		0
voice.codecPref.Lin16.8ksps		0

> **Note: Choosing Codecs for Your Deployment**
>
> Codecs with a default of 0 are available for test purposes only and are not expected to be used in your deployment.

Security

This parameter affects the security features of the phone. This new configuration parameter is defined as follows:

Table 6: File Encryption Parameters

Parameter	Permitted Values	Default
sec.encryption.upload.callLists[1]	**0 or 1**	**0**

The encryption on the phone-specific call lists that is uploaded to the provisioning server.
If 0, the call list is uploaded unencrypted regardless of how it was downloaded, the directory replaces whatever phone-specific call list is on the server, even if the file on the server is encrypted.
If 1, the call list is uploaded encrypted regardless of how it was downloaded. The file replaces any existing phone-specific call lists file on the server.

1   Change causes phone to restart or reboot.

User Preferences

This parameter provides user preferences for certain aspects of the phones. These new configuration parameters are defined as follows:

Table 7: User Preferences Parameters

Parameter	Permitted Values	Default
up.headset.phoneVolumeControl[1]	disable, enable, auto	auto

When a headset is connected to the phone, the phone's behavior with respect to volume control events from certain headsets is different.

enable – The phone responds to volume up/down events from the headset by displaying the volume widget in the phone's user interface and adjusting the phone's internal volume.

disable – The phone shall ignore volume up/down events from the headset; pressing the headset's volume controls has no effect on the phone.

auto – The phone shall automatically select which of the above two behaviors to apply, based upon the type and model version of headset that is attached.

up.idleStateView[1]	0 or 1	0

Sets the default view on the phone.

If 0, The call/line view is the default view. If 1, the Home screen is the default view.

1   Change causes phone to restart or reboot.

Voice

The parameter controls the settings related to the audio on the phone. This new configuration parameter is defined as follows:

Table 8: Voice Parameters

Parameter	Permitted Values	Default
voice.volume.persist.headset[1]	0 or 1	0

If 0, the USB headset receive volume will automatically rest to a nominal level after each call. If 1, the volume for each call will be the same as the previous call.

[1] Changes causes phone to restart or reboot.

Using the Polycom Web Configuration Utility

After you set up your VVX 500 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://<*phone IP address*> for example. For users, log in as a **User** and enter the user password, which is *123* by default. For administrators, log in as an **Admin** and enter the administrative password, which is *456* by default.

	Troubleshooting: I Cannot Enable Certain Features Using the Web Configuration Utility
	You cannot enable/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 deleted through the **Reset Web Configuration** menu selection or configured using the `<device/>` parameters. Local configuration changes—made through the phone's user interface—will continue to override the provisioning server-derived configuration until deleted through the **Reset Local Configuration** menu selection or configured using the `<device/>` parameters.

To configure the phone through the Web Configuration Utility, follow these steps:

1 Obtain your phone's IP address.

To see the phone's IP address, touch [Settings] from the phone's Home screen, and then select **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.
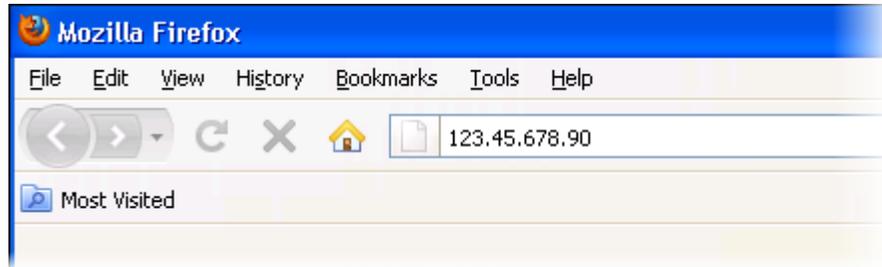
3 Press the **Enter** key. The Utility login screen displays, as shown next.
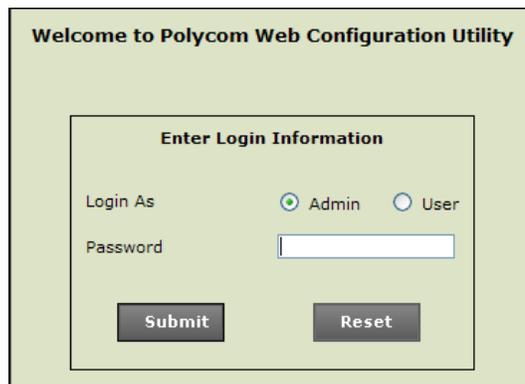
4 Select **Admin** or **User**, and then enter the appropriate password.

The default password for an administrator is *456*. The default password for a user is *123*. The Utility's Home screen displays.

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, see the Web Configuration Utility User Guide on the Polycom Support web site.

Multiple Key Combinations and Default Key Layout

Multiple Key Combinations on the VVX 500 Phone

Pressing multiple key combinations enable you to perform certain operation on the VVX 500 phone. The multiple key combinations on the VVX 500 phone are as follows:

- **Reboot the Phone**—Press and hold **0**, **1**, and **3** dial pad keys simultaneously until a confirmation tone is heard or for about three seconds.

- **Restore Factory Defaults**—Press and hold the **1**, **3**, and **5** dial pad keys simultaneously during the countdown process in the Updater until the password prompt appears. Enter the administrator password to initiate the reset. Resetting to factory defaults will also reset the administrator password (factory default password is 456).

- **Upload Log Files**—Press and hold the **1**, **5**, and **9** dial pad keys simultaneously until you hear a three-second confirmation tone.

Default Key Layout on the VVX 500 Phone

The illustration of the VVX 500 is followed by Table 9: Default Key ID by Function, which shows the available phone key functions.

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Table 9: Default Key ID by Function[1]

ID	Function	ID	Function	ID	Function	ID	Function
1	Dialpad1	12	Headset	23	Dialpad0	34	n/a
2	Dialpad2	13	n/a	24	DialpadPound	35	n/a
3	VolDown	14	n/a	25	n/a	36	n/a
4	VolUp	15	Dialpad7	26	Home	37	n/a
5	Dialpad3	16	Dialpad8	27	n/a	38	n/a
6	n/a	17	Dialpad9	28	n/a	39	n/a
7	n/a	18	MicMute	29	n/a	40	Dialpad6
8	Dialpad4	19	n/a	30	n/a	41	n/a
9	Dialpad5	20	n/a	31	n/a	42	n/a
10	n/a	21	n/a	32	n/a		
11	Handsfree	22	DialpadStar	33	n/a		

[1] IDs with the no function are listed as n/a