

Software version TC4.2
JULY 2011



Cisco TelePresence System EX90/EX60 Administrator Guide

Thank you for choosing Cisco!

Your Cisco TelePresence System EX90/EX60 has been designed to give you many years of safe, reliable operation.

This part of the EX90/EX60 documentation is aimed at administrators working with the setup of the system.

Our main objective with this Administrator Guide is to address your goals and needs. Please let us know how well we succeeded!

May we recommend that you visit the Cisco web site regularly for updated versions of this guide.

The user documentation can be found on our web site. Go to:

▶ <http://www.cisco.com/go/telepresence/docs>

How to use this guide

The top menu bar and the entries in the Table of contents are all hyperlinks. You can click on them to go to the topic.

Table of contents

Introduction	3	Advanced settings	27
Intellectual property rights	4	The advanced settings	28
User documentation	5	Overview of the advanced settings	28
Software	5	The Audio settings	32
Cisco contacts	5	The Cameras settings	33
What's new in this version	6	The Conference settings	34
Software release notes	6	The H323 settings	37
Software download	6	The Network settings	39
New features and improvements	6	The NetworkServices settings	43
Advanced configuration menu changes	7	The Phonebook settings	46
EX90 system overview	8	The Provisioning settings	46
EX60 system overview	9	The RTP settings	47
		The Security settings	48
		The SerialPort settings	49
		The SIP settings	49
		The Standby settings	51
		The SystemUnit settings	51
		The Time settings	52
		The Video settings	53
		The Experimental settings	59
Using the web interface	10		
Connecting to the video conference system	11	Appendices	61
The interactive menus	12	Setting the system password	62
The system information page	13	Setting the Administrator settings menu password	62
Log files	14	Setting a root password	62
XML files	15	Optimal definition profiles	63
Advanced configuration	16	ClearPath – Packet loss resilience	64
Custom wallpaper	17	Dimensions of the EX90	65
Sign in banner	18	Wall mounting or arm mounting the EX60	66
Making a call from the web interface	19	Technical specifications for EX90/EX60	67
Upgrading the system software	20	User documentation on the Cisco web site	70
Certificate management	21		
The audit certificate list	22		
User administration	23		
Changing your password	25		
Restarting the system	26		



CHAPTER 1
INTRODUCTION

Intellectual property rights

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This document provides you with the information required to administrate your product at an advanced level.

How to install the product and the initial configurations required are described in the Installation guides and Getting started guide, respectively.

Products covered in this guide

- Cisco TelePresence System EX90
- Cisco TelePresence System EX60

User documentation

The user documentation for the Cisco TelePresence EX series includes several guides suitable for various user groups:

- Video conference room primer
- Video conference room acoustics guidelines
- Installation guides
- Getting started guide
- Software release notes for the TC software
- User guides
- Quick reference guides
- Administrator guide
- Regulatory compliance and safety information guide
- Legal & license information for products using TC software

Downloading the user documentation

We recommend you visit the Cisco web site regularly for updated versions of the user documentation. Go to: ▶ <http://www.cisco.com/go/telepresence/docs>.

Guidelines how to find the documentation on the Cisco web site are included in the ▶ [User documentation on the Cisco web site](#) appendix.

Software

You can download the software for your product from the Cisco web site, go to:

▶ <http://www.cisco.com/cisco/software/navigator.html>

Cisco contacts

On our web site you will find an overview of the worldwide Cisco contacts.

Go to: ▶ <http://www.cisco.com/web/siteassets/contacts>

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What's new in this version

This section provides an overview of the new and changed advanced settings and new features in the TC4.2 software version.

Software release notes

For a complete overview of the news and changes, we recommend reading the Software Release Notes (TC4).

Go to: http://www.cisco.com/en/US/products/ps11422/tsd_products_support_series_home.html

Software download

For software download go to: <http://www.cisco.com/cisco/software/navigator.html>

New features and improvements

New features accessible from Touch panel

- Support for MultiWay conference.
- Support for restart of the codec.
- Support for factory defaulting the system.
- Support for camera presets for cameras with pan, tilt and zoom functionality.
- Support for putting someone on hold.
- Support for call transfer.

New features for the EX Series

Support for continuous autofocus on EX60.

New web interface

- The web interface has been redesigned.
- Recommended browsers are IE8 and Firefox.

Support for CEC (Consumer Electronics Control)

The HDMI outputs now supports Consumer Electronics Control (CEC). When set to On (default is Off), and the monitor connected to the HDMI output is CEC compatible and CEC is configured, the system will use CEC to set the monitor in standby when the system enters standby. Likewise the system will wake up the monitor when the system wakes up from standby. Note that the different manufacturers uses different marketing names for CEC: Anynet+ (Samsung); Aquos Link (Sharp); BRAVIA Sync (Sony); HDMI-CEC (Hitachi); Kuro Link (Pioneer); CE-Link and Regza Link (Toshiba); RIHD (Remote Interactive over HDMI) (Onkyo); SimpLink (LG <http://en.wikipedia.org/wiki/LG_Electronics>); HDAVI Control, EZ-Sync, VIERA Link (Panasonic); EasyLink (Philips); and NetCommand for HDMI (Mitsubishi).

Support for always unmute when not in conference

The codec can be configured to allow muting of audio only when the device is in a call. This is useful when an external telephone service/audio system is connected via the codec and you want it to be available when the codec is outside a call. See the Audio Microphones Mute Enabled setting. When set to InCallOnly this will prevent the audio-system from being muted by accident. When set to True, muting of audio is always available.

Support for VCS clustering

The system can now retrieve a list of SIP registrars and/or H.323 gatekeepers by configuring the unit with the fully qualified domain name of the registrar/gatekeeper. Both NAPTR and SRV records are supported in addition to A-records using DNS. This will allow the unit to retrieve a list of up to 20 registrars/gatekeepers and try to register to them in order. If the first one is full, unavailable or does not answer the registration request, the unit will try to register to the next one in the list until a successful registration is made.

Advanced configuration menu changes

New settings

Audio Microphones Mute Enabled <True/InCallOnly>
 Experimental Conference ReceiverBasedDownspeeding <Off/On>
 Experimental CapsetReduction <Auto/Reduced>
 Experimental SystemUnit SoftwareUpgrade RequireAuthentication <Off/On>
 NetworkServices MultiWay Address <S: 0, 255>
 NetworkServices MultiWay Protocol <Auto/H323/SIP>
 NetworkServices HTTPS OCSP URL <S: 0, 255>
 NetworkServices HTTPS OCSP Mode <Off/On>
 RTP Ports Range Start <1024..65502>
 RTP Ports Range Stop <1056..65535>
 Security Session ShowLastLogon <On/Off>
 SIP Profile DisplayName <S: 0, 255>
 SystemUnit Type <Personal/Shared>
 Video OSD AutoSelectPresentationSource <Off/On>
 Video Output HDMI [1] CEC Mode <Off/On> *(EX90 only)*

Settings that are removed

Experimental SoftwareUpgrade Mode
 Experimental SoftwareUpgrade ServerAddress

Settings that are modified

Cameras Camera [1] Focus Mode *(EX60 only)*
 OLD: <Auto/Manual>
 NEW: <Auto/Manual/ContinuousAuto>
 Network MTU
 OLD: <400..1500>
 NEW: <576..1500>
 Network VLAN Voice Mode
 OLD: <Untagged/Tagged>
 NEW: <Manual/Off>
 Network VLAN Voice VlanId
 OLD: <0..4096>
 NEW: <1..4094>
 Network VLAN Data Mode
 OLD: <Untagged/Tagged>
 NEW: <Manual/Off>
 Network VLAN Data Mode
 OLD: <0..4096>
 NEW: <1..4094>
 NetworkServices NTP Mode
 OLD: <Auto/Manual>
 NEW: <Off/Auto/Manual>
 Provisioning Mode
 OLD: <Off/TMS/VCS/CallWay>
 NEW: <Off/TMS/VCS/CallWay/Auto>

SIP Profile Authentication LoginName
 OLD: <S: 0, 50>
 NEW: <S: 0, 128>

SIP Profile Authentication Password
 OLD: <S: 0, 50>
 NEW: <S: 0, 128>

Video Output HDMI [1] Resolution *(EX90 only)*
 Added new resolutions: 1280_720_50 and 1920_1080_50

Video Wallpaper (EX60, EX90)
 Added wallpaper: Wallpaper13

EX90 system overview

The system is delivered with:

- EX90 unit
- Touch screen controller with cable
- Handset with cable
- DVI-D to DVI-I cable (recommended for optimal PC image quality)
- VGA to DVI-I cable
- Stereo audio cable 3.5 mm
- Ethernet cable
- AC adapter and power cable

The camera can be tilted and used as a document camera.



EX90

Touch screen controller

EX90, rear view
(without rear cover)



Detach the rear side cover when connecting cables.

When finished, snap on the rear cover.

A handset can be mounted to the touch screen controller.



EX60 system overview

The system is delivered with:

- EX60 unit
- Touch screen controller with cable
- Handset with cable
- DVI-D to DVI-I cable (recommended for optimal PC image quality)
- VGA to DVI-I cable
- Stereo audio cable 3.5 mm
- Ethernet cable
- AC adapter and power cable

The camera can be tilted and used as a document camera.



EX60, rear view
(without rear cover)



Detach the rear side cover when connecting cables.

When finished, snap on the rear cover.

A handset can be mounted to the touch screen controller.



The Cisco TelePresence System EX90/EX60 can be configured using the touch screen controller and from the web interface.

The touch screen controller and its use are described in the EX90 and EX60 User Guides.

For full access to the configurable parameters, the web interface must be used—the touch screen controller provides access to a limited set of parameters only.



CHAPTER 2

USING THE WEB INTERFACE

Connecting to the video conference system

The web interface provides full configuration access to your video conference system.

You can connect from a computer and administer the system remotely.

This section describes the web interface functions and how you can use them for system configuration and maintenance.

Starting to use the web interface

1. Open a web browser and enter the IP address of the video system in the address bar.

To find the IP address, open the System Information page on the Touch controller. Tap the icons *More > Settings*, select *System Information* and find the *IPv4 Address* or *IPv6 Address*.

2. Enter your user name and password and click *Sign In*.

The system is delivered with a default user named *admin* with no password (i.e. leave the *Password* field blank when signing in).

3. To sign out, click your user name and select *Sign out* from the drop down menu.

About password protection

You sign in to the web interface with the same user name and password as for the video conference system.

NOTE: We strongly recommend that you set a password for the *admin* user to restrict access to system configuration.

Read more about password protection in the [Setting passwords](#) appendices in this guide.

1. Connect

Enter the IP address of the video system.

2. Sign in

Enter the user name and password and press *Sign in*.

3. Sign out

Click on your user name and select *Sign out*.

Change your password

Click on your user name and select *Change password*.

System Info			
MySystem		H323	
System name:	MySystem	Number:	123456
Software version:	TC4.2.0	ID:	firstname.lastname@company.com

The interactive menus

When you have signed in to the system the main menu appears near the top of the page.

When you hover the mouse over a menu item, the names of the related sub-menus appear. When you click a sub-menu name the corresponding web page opens. These web pages are described on the following pages.

Menu availability and user roles

A user account possesses one or more user roles. Three user roles are defined: ADMIN, AUDIT and USER. Note that the default `admin` user holds all three roles. ¹

The table below shows which menus are available for users holding the different roles.

	ADMIN	AUDIT	USER
Diagnostics			
System Information	✓	✓	✓
Logs	✓		
XML Files	✓		
Snapshot (not available for EX90/EX60)	✓		
Configuration			
Advanced Configuration	✓	✓	
Wallpaper	✓	✓	
Sign In Banner	✓		
Conference Control			
Call			✓
Maintenance			
Upgrade Software	✓		
Certificate Management	✓		
Audit Certificate		✓	
User Administration	✓		
Change Password	✓	✓	✓
Restart			✓

¹ You can read more about user administration and user roles in the [User administration](#) section.

Main menu

- Diagnostics
- Configuration
- Conference Control
- Maintenance

The signed in user

Click on your user name to change your password or sign out.

When you hover the mouse over a main menu item, the related sub-menus are shown. ²

<ul style="list-style-type: none"> Diagnostics System Information Logs XML Files Snapshot 	<ul style="list-style-type: none"> Configuration Advanced Configuration Wallpaper Sign In Banner 	<ul style="list-style-type: none"> Conference Control Call 	<ul style="list-style-type: none"> Maintenance Upgrade Software Certificate Management Audit Certificate User Administration Change Password Restart
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² The illustration lists all the sub-menus. A user *not* possessing all user roles will only see the sub-set relevant for his type of user.

The system information page

You can find an overview of your video system set-up on the System Information page.

System Info			
MySystem		H323	
System name:	MySystem	Number:	123456
Software version:	TC4.2.0	ID:	firstname.lastname@company.com
Product:	Cisco TelePresence System EX90	Gatekeeper:	192.168.1.1
Module serial number:	ABCD12345678	Status:	Registered
IP address:	192.168.1.128	SIP	
MAC address:	01:23:45:67:89:AB	Address:	firstname.lastname@company.com
Valid release key:	Yes	Proxy:	192.168.1.1
Installed options:	PremiumResolution	Status:	Registered

Login Info	
Last successful login:	Wed Jun 01 09:00:00 2011
Unsuccessful login attempts since last logon:	0
Password expires in:	Never

Security
Strong security mode: Disabled

Security information

Information about the current security mode.

Login information

Information about recent login attempts and password expiry.

System information

Information about system name, product type, software version, IP address, etc.

- Diagnostics
- System Information**
- Logs
- XML Files
- Snapshot

Log files

The log files are Cisco specific debug files which may be requested by the Cisco support organization if you need technical support.

Current log files

The current log files are time stamped event log files.

Select *Current log files*, and click on a log file to view or save the file (left or right click depending on your browser). Follow the instructions in the dialog box to save or open the file.

Historical log files

These are time stamped historical log files.

Select *Historical log files*, and click on a log file to view or save the file (left or right click depending on your browser). Follow the instructions in the dialog box to save or open the file.

The screenshot displays the 'Logs' section of the Cisco TelePresence System web interface. At the top, there is a navigation menu with the following items: Diagnostics, System Information, **Logs**, XML Files, and Snapshot. The 'Logs' section is divided into two main areas: 'Current log files' and 'Historical log files'. The 'Current log files' area shows a table of log files with the following columns: Filename, Size (KB), and Last modified. The 'Historical log files' area shows a table of compressed log files with the following columns: Filename, Size (KB), and Last modified.

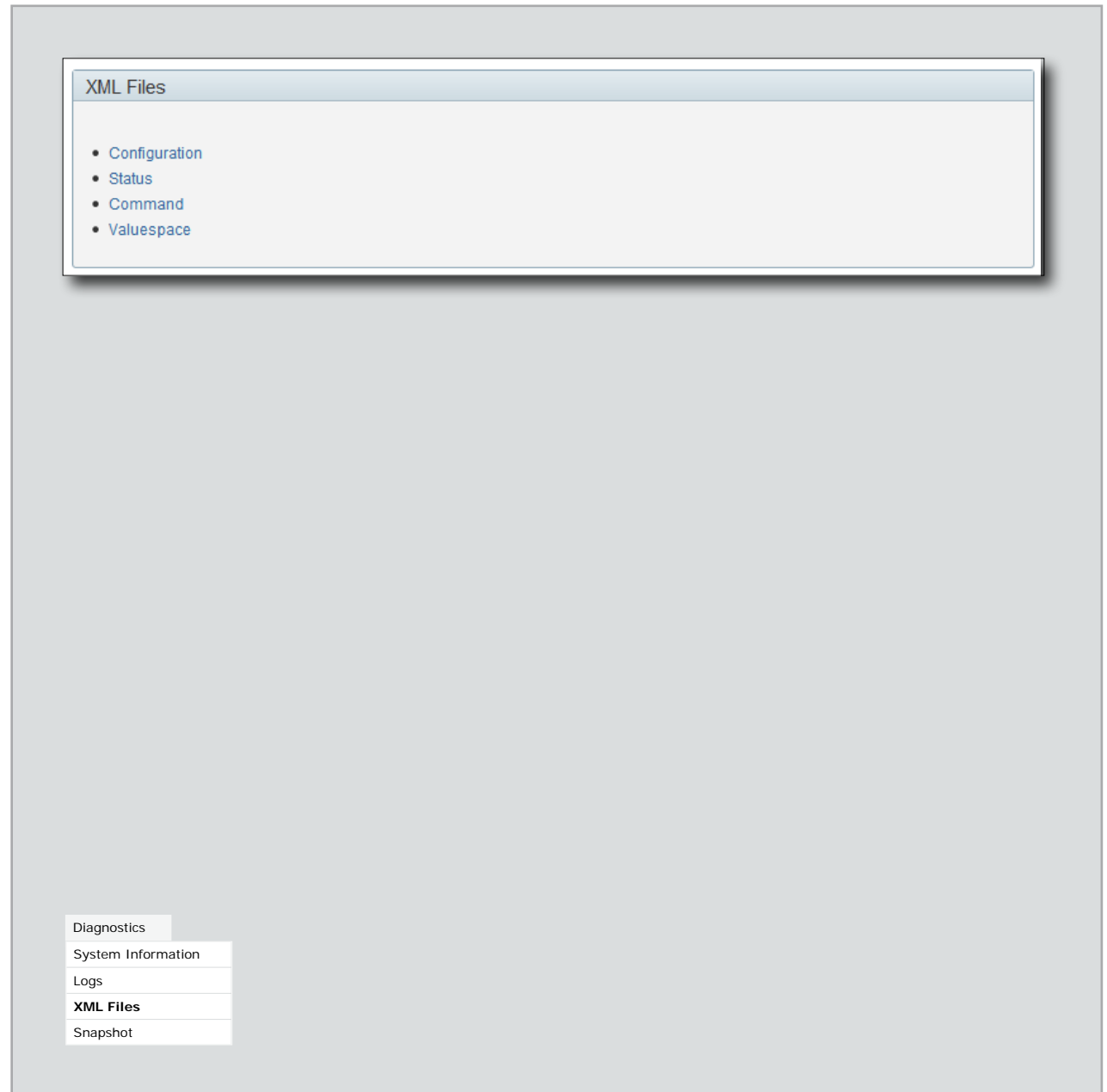
Filename	Size (KB)	Last modified
all.log	76	Thu May 26 15:57:47 2011
application.log	17	Thu May 26 15:25:44 2011
audio0.log	1	Thu May 26 15:25:21 2011
audio1.log	1	Thu May 26 15:25:21 2011
audio2.log	1	Thu May 26 15:25:21 2011
main.log	12	Thu May 26 15:57:47 2011
osd4.log	17	Thu May 26 15:25:44 2011
scriptbuffer.xml	9	Thu May 26 15:25:35 2011
statedump.xml	16	Thu May 26 15:25:35 2011
video0.log	1	Thu May 26 15:25:22 2011
video1.log	1	Thu May 26 15:25:22 2011
video2.log	1	Thu May 26 15:25:22 2011
video3.log	1	Thu May 26 15:25:34 2011
video4.log	1	Thu May 26 15:25:22 2011
videocontroller.log	2	Thu May 26 15:25:37 2011
videogw0.log	1	Thu May 26 15:25:21 2011
videogw1.log	1	Thu May 26 15:25:21 2011

Filename	Size (KB)	Last modified
log.tar.gz	390	Mon May 23 12:35:18 2011
log.tar.gz.0	510	Fri Mar 4 15:13:29 2011
log.tar.gz.1	11	Mon Apr 4 08:58:59 2011
log.tar.gz.2	41	Tue May 10 10:58:06 2011
log.tar.gz.3	390	Mon May 23 12:35:18 2011
log.tar.gz.4	42	Thu Jul 1 10:11:35 2010
log.tar.gz.5	182	Thu Jul 1 12:45:17 2010
log.tar.gz.6	41	Mon Oct 4 14:43:52 2010
log.tar.gz.7	558	Fri Oct 15 09:50:28 2010
log.tar.gz.8	323	Mon Jan 31 14:06:42 2011
log.tar.gz.9	544	Mon Feb 1 14:06:42 2011

XML files

The XML files are structured in a hierarchy building up a database of information about the codec.

- Select [Configuration](#) to see an overview of the system settings, which are controlled from the web interface or from the API (Application Programmer Interface).
- The [Status](#) information is constantly updated by the system to reflect system and process changes. The status information is normally monitored from the API.
- Select [Command](#) to see an overview of the commands available to instruct the system to perform an action. The commands are issued from the API.
- Select [Valuespace](#) to see an overview of the value spaces.



Advanced configuration

The web interface allows for remote administration of the system.

The system settings are structured in a hierarchy, and you can navigate to each setting. Click a folder to open or close it, and change a value as explained to the right.

Each system setting is further described in the [Advanced settings](#) chapter.

The search functionality

When searching for words such as H323 or SIP, all settings beginning with these words, and all settings below in the hierarchy, will be shown in the list.

Search: Enter as many characters as needed to get the desired result and click the *Search* button to initiate the search.

Clear: Click the *Clear* button to return to the main view.

Changing the system settings

Edit: To change a value, click on the value to see the expanded view.

Value space: When you edit a value the value space is specified either as a drop down list or as text.

OK: Press the *ok* button to save the new value.

Cancel: Select *cancel* to leave without saving.

Custom wallpaper

If you want the company logo or a custom picture to be displayed on the main screen, you may use a custom wallpaper.

NOTE: The custom wall paper applies to the main screen only and will not appear on the Touch controller. When you choose a new predefined wallpaper on the Touch controller, it will replace your custom wall paper.

File format and picture size

The picture file format for the custom wallpaper is PNG. The maximum size is 1920 x 1280 pixels.

Uploading the custom wallpaper file

1. Press *Browse...* and locate the wallpaper file (.PNG)
2. Press *Upload* to save the file to the codec.

Activating the new wallpaper

1. Go to the *Configuration* tab and open the the *Advanced Configuration* page. Enter *wallpaper* in the search field. From the drop down list, select *Custom*. The new wallpaper will be displayed on screen.

The screenshot shows the configuration interface with two main panels. The top panel is titled "Wallpaper" and contains a message "Only .png files are supported" above a file input field with "Browse..." and "Upload" buttons. A callout box labeled "1. Upload the custom wallpaper file" points to these buttons. The bottom panel is titled "Advanced Configuration" and has a search field containing "wallpaper" with "Search" and "Clear" buttons. Below the search field is a "Video" section with a "Wallpaper:" label and a dropdown menu. The dropdown menu is open, showing options: "None", "Growing", "Summersky", "Custom" (highlighted in blue), "Wallpaper01" through "Wallpaper13". A callout box labeled "2. Activate the new wallpaper" points to the "Custom" option. At the bottom left, a navigation menu shows "Configuration", "Advanced Configuration", "Wallpaper" (highlighted), and "Sign In Banner".

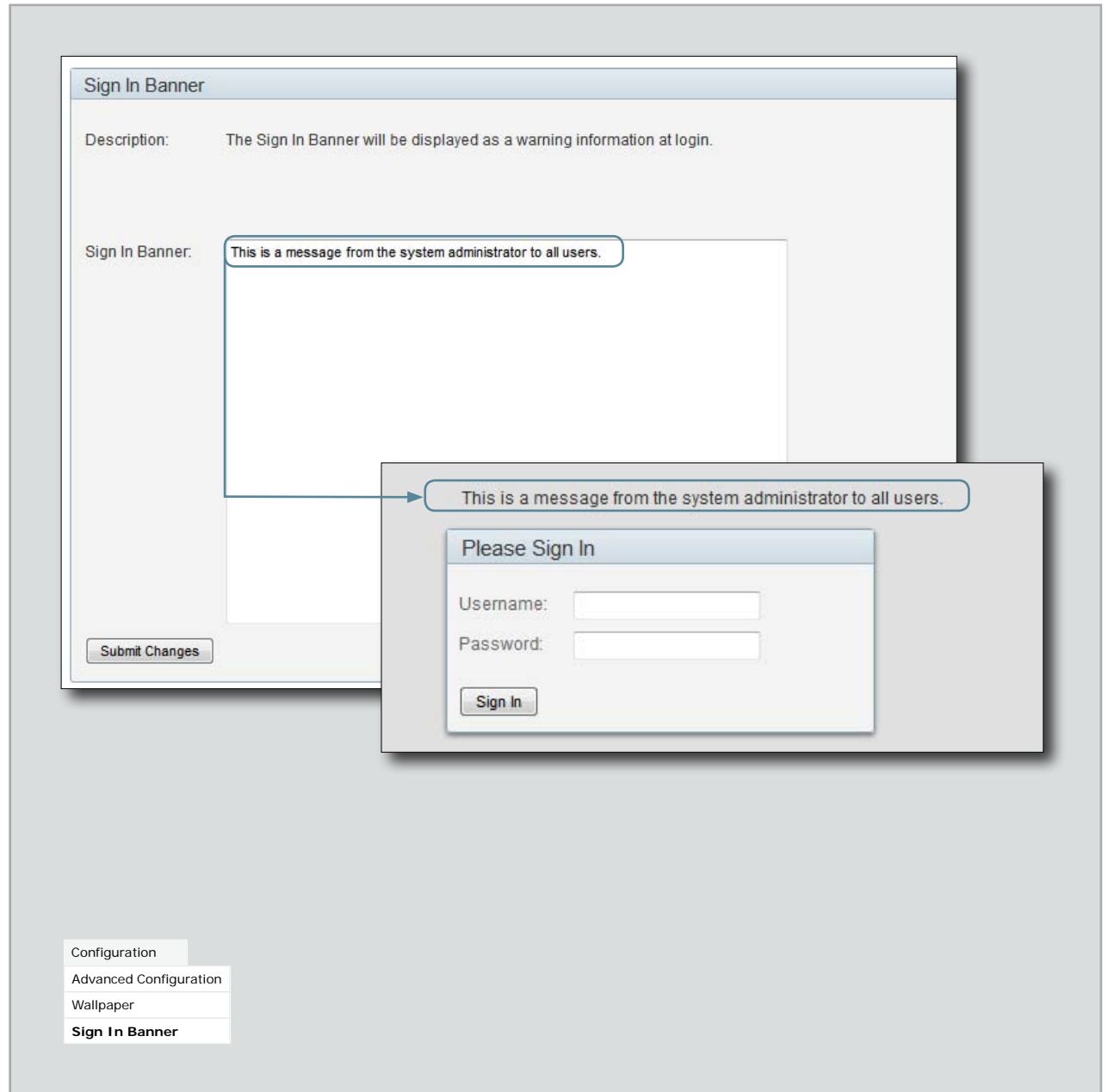
Sign in banner

If a system administrator wants to provide initial information to all users, he can create a sign in banner. A sign in banner is a message that is displayed to the user before signing in.

The message will be shown when the user signs in using the menu system, the web interface or the command line interface.

Adding a sign in banner

1. Enter the text message, which you want to present to the user prior to signing in, in the *Sign In Banner* text area.
2. Press *Submit Changes* to activate the message.



Making a call from the web interface

Sometimes, e.g. when you are configuring the system from a remote location, it is convenient to be able to make calls from the video system to ensure everything works as expected.

Making a call

Input field: Enter one or more characters in the input field until the name you want to call appears in the dynamic search list or, enter the complete name or number.

Dial: Press *Dial* to initiate the call.

Disconnect all: Press *Disconnect all* to end all calls.

Options: Click *Options* to change the bit rate for this call. Select the bit rate you want in the *Call rate* drop down list.

The call status page

You will find the following information on the call status page when you are in a call:

- Remote number
- Call direction: Incoming/Outgoing
- Call protocol: H323/SIP
- Transmit and receive call rate
- Encryption
- Audio: Transmit and receive protocols
- Video: Transmit protocol and resolution, and receive protocol and resolution
- Presentation: Transmit protocol and resolution, and receive protocol and resolution

The screenshot shows two stages of the web interface. The top stage shows a search for 'oslo.re' with a dropdown list containing 'Oslo.Reception.T1' and 'H323:Oslo.Reception.T1@tandberg.com'. The bottom stage shows a call in progress with the status 'firstname.lastname@company.com - Connected' and a detailed table of call parameters.

Remote Number: <code>firstname.lastname@company.com</code>		Audio	Transmit	Receive
Call Direction:	Outgoing	Protocol	AACLD	AACLD
Call Protocol:	h323	Video	Transmit	Receive
Transmit Call Rate:	1152 kbps	Protocol	H264	H264
Receive Call Rate:	1152 kbps	Resolution	1280x720@30p	1280x720@30p
Encryption:	None	Presentation	Transmit	Receive
		Protocol	Off	Off
		Resolution	N/A	N/A

Upgrading the system software

From the Upgrade Software page you can initiate software upgrades and add a release key and option keys.

Software versions

This video conference system is using TC software.

NOTE: Contact your system administrator if you have questions about the software version.

Software release notes and upgrade files

For a complete overview of the news and changes, we recommend reading the Software Release Notes (TC4).

Go to: http://www.cisco.com/en/US/products/ps11422/tsd_products_support_series_home.html

Downloading new software

For software download, go to: <http://www.cisco.com/cisco/software/navigator.html>

Release key

The release key is required to be able to use the released software.

Contact your Cisco representative to obtain the release key.

Option key

An option key is required to activate any optional functionality, and you may have several option keys in your system. The available options are:

- Premium resolution
- Multisite (only EX90)
- Dual display (only EX90)

Contact your Cisco representative to obtain the option key(s).

Maintenance

- Upgrade Software**
- Certificate Management
- Audit Certificate
- User Administration
- Change Password
- Restart

- 1. Add the release and option keys**

Contact your Cisco representative to obtain the required key(s). If you will add both a release key and one or more option keys, the correct procedure will be:

 - i. Enter the *release key* and press *Add*.
Key format: "1TC001-1-0C22E348" (each system will have a unique key).
 - ii. Enter the *option key* and press *Add*.
Key format: "1N000-1-AA7A4A09" (each system will have a unique key).
 - iii. If you have more than one option key, add the remaining keys.
- 2. Upgrade the software on the codec**

 - i. Before you can start the upgrade you must download the software upgrade file. The file format: "s52000tc4_0_0.pkg" (each software version has a unique file name).
 - ii. Press *Browse...* and select the .PKG file.
 - iii. Press the *Upgrade* button to start the installation.
 - iv. Leave the system to allow the installation process to complete. You can follow the progress on this page. When the upgrade is successfully completed a message will appear. The installation process may take up to 30 minutes.

Certificate management

The SSL certificate is a text file which verifies the authenticity of your video conference system. The certificate may be issued by a certificate authority (CA). Other parties can check this certificate before setting up communication with you.

The list of trusted CA certificates is a list containing the SSL certificates of all parties that you want your system to trust.

Uploading the SSL certificate

To install the SSL certificate, you will need the following:

- HTTPS certificate (.PEM format)
- Private key (.PEM format)
- Passphrase (optional)

Contact your system administrator to obtain the required files.

1. Press *Browse...* and locate the HTTPS certificate file (.PEM format).
2. Press *Browse...* and locate the Private key file (.PEM format).
3. Enter the *Passphrase*.
4. Press *Upload* to upload the certificate to your system.

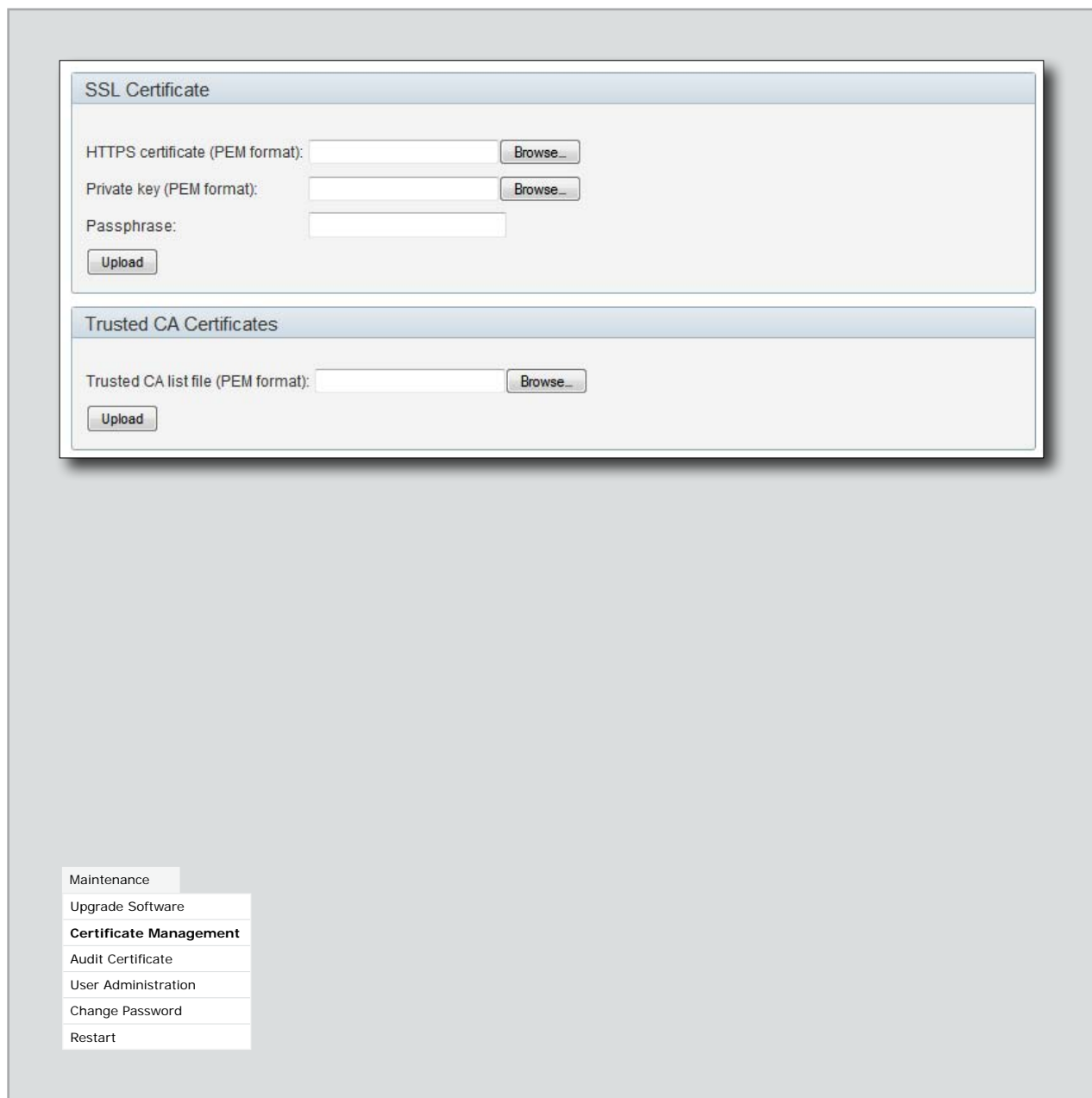
Uploading the trusted CA certificates list

To install the trusted CA certificates list, you will need the following:

- Trusted CA list file (.PEM format).

Contact your system administrator to obtain the required file.

1. Press *Browse...* and locate the file with the Trusted CA list (.PEM format).
2. Press *Upload* to upload the certificate list to your system.



The audit certificate list

If you want to use the ExternalSecure audit logging mode, you must upload a list of trusted audit certificates to the video conference system. This list covers all audit servers that your system shall trust.

In the ExternalSecure audit logging mode audit logging information will only be sent to entities holding a valid audit certificate.

NOTE: You should always upload the audit certificate list before enabling secure audit logging.

About audit logging

Audit logging records all login activity and configuration changes on the system.

Audit logging is disabled by default. You can enable audit logging using the on-screen menu or the web interface.

1. Upload the audit certificate list

To install the audit certificate, you will need:

- Audit list file (.PEM format)

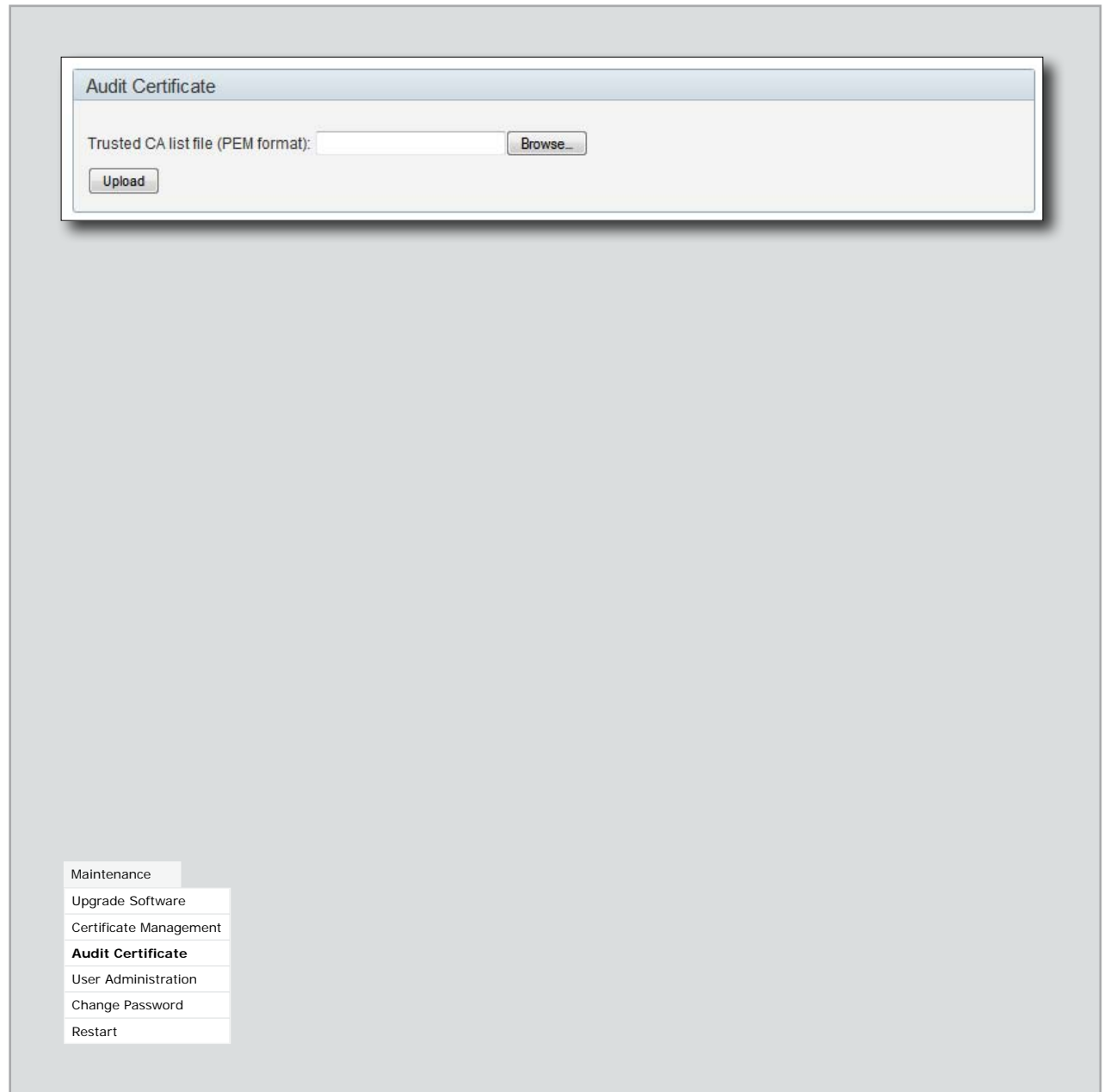
Contact your system administrator to obtain the required file.

- Press *Browse...* and locate the file with the audit list file (.PEM format).
- Press *Upload* to upload the certificate to your system.

2. Enable secure audit logging

When you have uploaded the audit certificate list you must enable secure audit logging:

- Navigate to *Advanced Configuration > Security > Audit > Server* and enter the IP address and Port number of the audit server.
- Navigate to *Advanced Configuration > Security > Audit > Logging > Mode* and set it to ExternalSecure.



User administration

From this page you can manage the user accounts of your video conference system. You can create a new user, edit the details of an existing user, and delete a user.

The default user account

The system comes with a default administrator user account with username `admin` and no password set. The `admin` user has full access rights, and it is highly recommended to set a password for this user.

Read more about passwords in the [Setting passwords](#) appendices in this guide.

About user roles

A user account must possess one or a combination of several [user roles](#). Three user roles exist, representing different rights:

- **ADMIN:** A user with admin rights can create new users and change all settings, except the security audit settings. This user cannot upload audit certificates.
- **USER:** A user with user rights can make calls and search the phonebook.
- **AUDIT:** A user with audit rights can change the security audit configurations and upload audit certificates.

It is important to note that these roles have [non-overlapping rights](#).

An administrator user account with full access rights, like the default `admin` user, must possess all the three roles.

Security mode

You can enable/disable the strong security mode from this page. Strong security mode sets very strict password requirements, and requires all users to change their password on next sign in.

The screenshot shows the 'User management' interface. It features a list of users: 'admin - ADMIN,USER,AUDIT' and 'user1 - USER'. Below the list is a 'Create new user' button. The 'Security mode' section has two buttons: 'Enable strong security mode' and 'Disable security mode'. A callout bubble highlights the user list, with lines pointing to the 'admin' user and its roles, and the 'user1' user and its role. A legend at the bottom left shows a navigation menu with 'User Administration' selected.

Default user account
The system comes with `admin` as default user account. This user has full access rights.

User name
You can create as many user accounts as you like on your system.

User role(s)
Each user must have one or more roles.

Maintenance

- Upgrade Software
- Certificate Management
- Audit Certificate
- User Administration**
- Change Password
- Restart

Creating a new user account

1. Press *Create new user*.
2. Fill in the Username, Password and PIN code, and select the user role(s) for this user account.
As a default the user have to change the password and PIN code when signing in for the first time.
Do not fill in the Distinguished Name (DN) Subject field unless you want to use certificate login on https.
3. Set the *Status* to **Active** to activate the user.
4. Press *Save* to save the changes.

Editing user details

1. Select the name of an existing user to open the Editing user window.
2. Edit the details.
3. Press *Save* to save the changes or *Cancel* to go back one step without storing the information.

Deactivating a user account

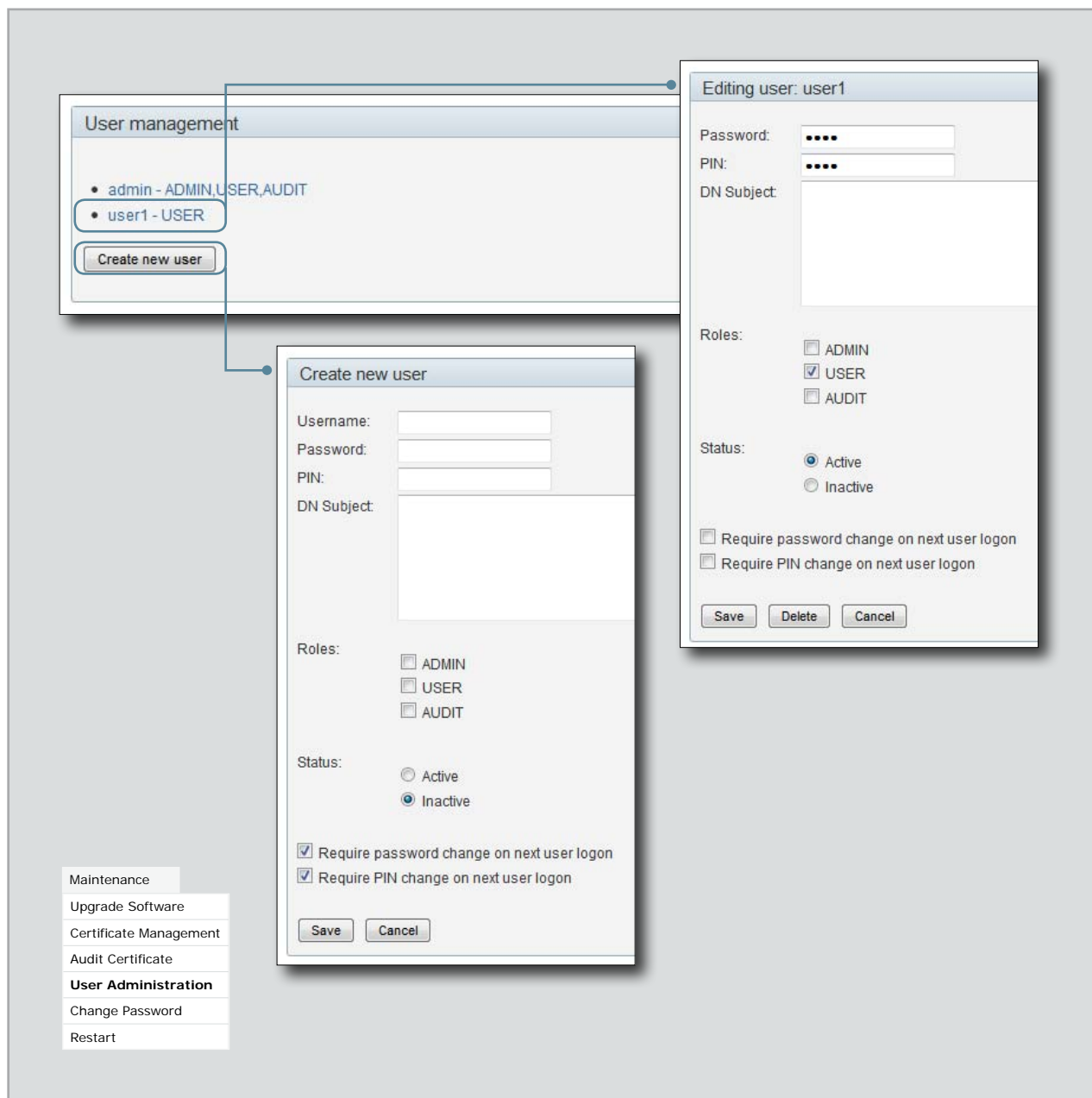
1. Select the name of an existing user to open the Editing user window.
2. Set the *Status* to **Inactive**.
3. Press *Save* to save the changes.

NOTE: Always keep at least one user with ADMIN rights **Active**.

Deleting a user account

1. Select the name of the user to open the Editing user window.
2. Press *Delete*.

NOTE: Always keep at least one user with ADMIN rights.



Changing your password

When you are signed in, you can change your password. In the example to the right, the `admin` user is signed in.

Remember, it is highly recommended to set a password for all users holding ADMIN rights.

The password is a string with 0–64 characters.

Changing your password

1. Enter your current password, your new password, and repeat the new password in the input fields.
If no password is set, leave the current password input field empty.
If you want to remove a password, leave the new password input fields empty (not recommended for users with ADMIN rights).
2. Click [Change password](#) to change the password.

The screenshot shows the Cisco TelePresence System web interface. At the top right, a dropdown menu indicates the user is 'User: admin'. Below this is a navigation bar with 'Diagnostics', 'Configuration', 'Conference Control', and 'Maintenance'. The main content area displays a 'Change password: admin' dialog box. This dialog has three input fields: 'Current password', 'New password:', and 'Repeat new password:'. Below the fields are two buttons: 'Change password' and 'Clear'. A blue box highlights the dialog box and is labeled 'Changing your password'. Another blue box highlights the 'User: admin' dropdown and is labeled 'The signed in user'. At the bottom left, a sidebar menu is visible with the following items: Maintenance, Upgrade Software, Certificate Management, Audit Certificate, User Administration, **Change Password**, and Restart.

Changing your password

The signed in user can change his own password.

The signed in user

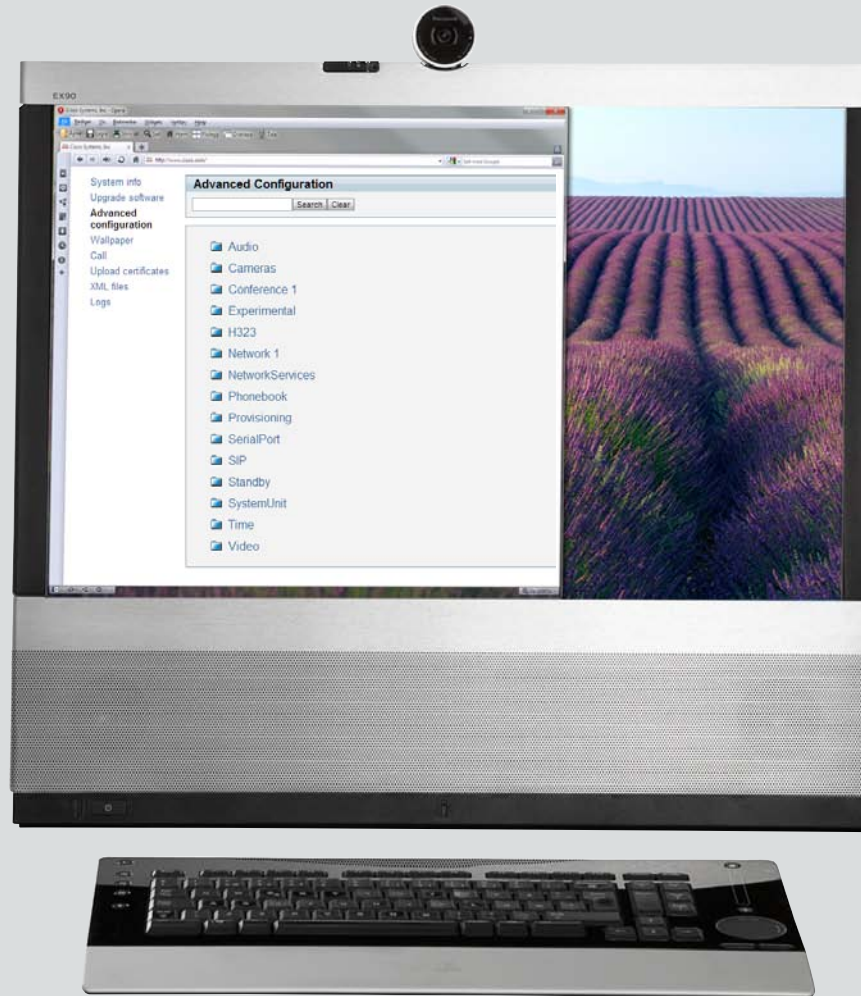
Restarting the system

To restart the system, press *Restart now*.

Restarting the system takes a few minutes.



The EX90/EX60 can be configured via the touch screen controller or via its web interface. For full access to the configurable parameters, the web interface must be used—the touch screen controller provides access to a limited set of parameters only.



CHAPTER 3

ADVANCED SETTINGS

The advanced settings

In the following pages you will find a complete list of the system settings which are configured from the Advanced configuration page on the web interface. The examples shows either the default value or an example of a value.

Open a web browser and enter the IP address of the EX90/EX60; then sign in. To find the IP address, open the System Information page on the Touch controller. Tap *More > Settings*, select *System Information* and find the *IPv4 Address* or *IPv6 Address*.

Overview of the advanced settings

The Audio settings	32	Conference [1..1] Encryption Mode	35
Audio InternalSpeaker Mode	32	Conference [1..1] FarEndControl Mode.....	35
Audio Microphones Mute Enabled	32	Conference [1..1] FarEndControl SignalCapability.....	35
Audio PreferredOutputConnector	32	Conference [1..1] IncomingMultisiteCall Mode.....	34
Audio SoundsAndAlerts KeyTones Mode	32	Conference [1..1] MaxReceiveCallRate	36
Audio SoundsAndAlerts RingTone.....	32	Conference [1..1] MaxTransmitCallRate	36
Audio SoundsAndAlerts RingVolume.....	32	Conference [1..1] MicUnmuteOnDisconnect.....	35
Audio Volume.....	32	Conference [1..1] PacketLossResilience Mode	36
Audio VolumeHandset.....	32	Conference [1..1] TelephonyPrefix.....	34
Audio VolumeHeadset.....	32	Conference [1..1] VideoBandwidth MainChannel Weight.....	36
The Cameras settings	33	Conference [1..1] VideoBandwidth Mode	36
Cameras Camera [1..1] Backlight.....	33	Conference [1..1] VideoBandwidth PresentationChannel Weight.....	36
Cameras Camera [1..1] Brightness Level.....	33	The H323 settings	37
Cameras Camera [1..1] Brightness Mode.....	33	H323 NAT Address	37
Cameras Camera [1..1] Flip	33	H323 NAT Mode	37
Cameras Camera [1..1] Focus Mode	33	H323 Profile [1..1] Authentication LoginName	37
Cameras Camera [1..1] FrameRate.....	33	H323 Profile [1..1] Authentication Mode	37
Cameras Camera [1..1] Gamma Level	33	H323 Profile [1..1] Authentication Password.....	37
Cameras Camera [1..1] Gamma Mode	33	H323 Profile [1..1] CallSetup Mode.....	37
Cameras Camera [1..1] IrSensor.....	33	H323 Profile [1..1] Gatekeeper Address	38
Cameras Camera [1..1] Mirror.....	34	H323 Profile [1..1] Gatekeeper Discovery	38
Cameras Camera [1..1] Whitebalance Level	34	H323 Profile [1..1] H323Alias E164	38
Cameras Camera [1..1] Whitebalance Mode	34	H323 Profile [1..1] H323Alias ID	38
Cameras PowerLine Frequency	33	H323 Profile [1..1] PortAllocation	38
The Conference settings	34	The Network settings	39
Conference [1..1] AutoAnswer Delay	35	Network [1..1] Assignment.....	39
Conference [1..1] AutoAnswer Mode.....	34	Network [1..1] DNS Domain Name.....	39
Conference [1..1] AutoAnswer Mute.....	34	Network [1..1] DNS Server [1..5] Address.....	39
Conference [1..1] DefaultCall Protocol.....	35	Network [1..1] IEEE8021X AnonymousIdentity	41
Conference [1..1] DefaultCall Rate.....	35	Network [1..1] IEEE8021X Eap Md5.....	41
Conference [1..1] DoNotDisturb Mode.....	35	Network [1..1] IEEE8021X Eap Peap.....	41

Network [1..1] IEEE8021X Eap Ttls	41	NetworkServices SIP Mode.....	44
Network [1..1] IEEE8021X Identity.....	41	NetworkServices SNMP CommunityName.....	45
Network [1..1] IEEE8021X Mode.....	41	NetworkServices SNMP Host [1..3] Address	44
Network [1..1] IEEE8021X Password.....	41	NetworkServices SNMP Mode.....	44
Network [1..1] IPStack.....	39	NetworkServices SNMP SystemContact.....	45
Network [1..1] IPv4 Address	39	NetworkServices SNMP SystemLocation.....	45
Network [1..1] IPv4 Gateway.....	39	NetworkServices SSH AllowPublicKey	45
Network [1..1] IPv4 SubnetMask	39	NetworkServices SSH Mode.....	45
Network [1..1] IPv6 Address	39	NetworkServices Telnet Mode	45
Network [1..1] IPv6 Assignment.....	40	The Phonebook settings	46
Network [1..1] IPv6 DHCPOptions.....	40	Phonebook Server [1..1] ID	46
Network [1..1] IPv6 Gateway.....	39	Phonebook Server [1..1] Type	46
Network [1..1] MTU.....	41	Phonebook Server [1..1] URL.....	46
Network [1..1] QoS Diffserv Audio	40	The Provisioning settings.....	46
Network [1..1] QoS Diffserv Data	40	Provisioning ExternalManager Address	47
Network [1..1] QoS Diffserv Signalling	40	Provisioning ExternalManager Domain	47
Network [1..1] QoS Diffserv Video	40	Provisioning ExternalManager Path	47
Network [1..1] QoS Mode	40	Provisioning ExternalManager Protocol	47
Network [1..1] RemoteAccess Allow	42	Provisioning HttpMethod	46
Network [1..1] Speed.....	41	Provisioning LoginName.....	46
Network [1..1] TrafficControl Mode	42	Provisioning Mode.....	46
Network [1..1] VLAN Data Mode	42	Provisioning Password	46
Network [1..1] VLAN Data Priority	42	The RTP settings	47
Network [1..1] VLAN Data VlanId.....	42	RTP Ports Range Start	47
Network [1..1] VLAN Voice Mode.....	42	RTP Ports Range Stop.....	47
Network [1..1] VLAN Voice Priority.....	42	The Security settings	48
Network [1..1] VLAN Voice VlanId.....	42	Security Audit Logging Mode.....	48
The NetworkServices settings	43	Security Audit OnError Action	48
NetworkServices H323 Mode	43	Security Audit Server Address	48
NetworkServices HTTP Mode	43	Security Audit Server Port.....	48
NetworkServices HTTPS Mode.....	43	Security Session InactivityTimeout.....	48
NetworkServices HTTPS OCSP Mode	44	Security Session ShowLastLogon.....	48
NetworkServices HTTPS OCSP URL.....	44	The SerialPort settings.....	49
NetworkServices HTTPS VerifyClientCertificate.....	43	SerialPort BaudRate	49
NetworkServices HTTPS VerifyServerCertificate.....	43	SerialPort LoginRequired.....	49
NetworkServices Multiway Address	43	SerialPort Mode	49
NetworkServices Multiway Protocol.....	43		
NetworkServices NTP Address.....	44		
NetworkServices NTP Mode.....	44		

The SIP settings	49	Video Input Source [1..3]/[1..2] Name	53
SIP Profile [1..1] Authentication [1..1] LoginName	49	Video Input Source [1..3]/[1..2] OptimalDefinition Profile	54
SIP Profile [1..1] Authentication [1..1] Password	49	Video Input Source [1..3]/[1..2] OptimalDefinition Threshold60fps	55
SIP Profile [1..1] DefaultTransport	50	Video Input Source [1..3]/[1..2] Quality	55
SIP Profile [1..1] DisplayName	49	Video Input Source [1..3]/[1..2] Type	54
SIP Profile [1..1] Outbound	50	Video Input Source [1] Connector	53
SIP Profile [1..1] Proxy [1..4] Address	50	Video Input Source [2] Connector	53
SIP Profile [1..1] Proxy [1..4] Discovery	50	Video Input Source [3] Connector	53
SIP Profile [1..1] TlsVerify	50	Video Layout LocalLayoutFamily	56
SIP Profile [1..1] Type	50	Video Layout RemoteLayoutFamily	56
SIP Profile [1..1] URI	49	Video Layout ScaleToFrame	56
The Standby settings	51	Video Layout ScaleToFrameThreshold	56
Standby BootAction	51	Video Layout Scaling	55
Standby Control	51	Video MainVideoSource	56
Standby Delay	51	Video Monitors	56
Standby StandbyAction	51	Video OSD AutoSelectPresentationSource	56
Standby WakeupAction	51	Video OSD InputMethod Cyrillic	57
The SystemUnit settings	51	Video OSD InputMethod InputLanguage	57
SystemUnit CallLogging Mode	51	Video OSD LoginRequired	57
SystemUnit ContactInfo Type	51	Video OSD Mode	56
SystemUnit IrSensor	52	Video OSD MyContactsExpanded	56
SystemUnit MenuLanguage	51	Video OSD Output	57
SystemUnit Name	51	Video OSD TodaysBookings	56
SystemUnit Type	51	Video Output HDMI [1] CEC Mode	57
The Time settings	52	Video Output HDMI [1] MonitorRole	57
Time DateFormat	53	Video Output HDMI [1] OverscanLevel	57
Time TimeFormat	53	Video Output HDMI [1] Resolution	57
Time Zone	52	Video Output Internal [3]/[2] MonitorRole	58
The Video settings	53	Video Output LCD [2]/[1] Blue	58
Video ControlPanel Brightness	55	Video Output LCD [2]/[1] Brightness	58
Video DefaultPresentationSource	55	Video Output LCD [2]/[1] Green	58
Video Input DVI [2]/[1] Type	55	Video Output LCD [2]/[1] MonitorRole	58
Video Input Source [1..3]/[1..2] CameraControl Camerald	54	Video Output LCD [2]/[1] Red	58
Video Input Source [1..3]/[1..2] CameraControl Mode	54	Video Output LCD [2]/[1] Resolution	57
		Video Selfview	58
		Video Wallpaper	59

The Experimental settings	59
Experimental Audio Panning MaxAngle	59
Experimental Audio Panning Mode	59
Experimental Audio Panning MonitorLeft.....	59
Experimental Audio Panning MonitorRight.....	59
Experimental CapsetFilter	59
Experimental CapsetReduction	60
Experimental Conference [1..1] PacketLossResilience ForwardErrorCorrection.....	60
Experimental Conference [1..1] PacketLossResilience RateAdaption.....	60
Experimental Conference [1..1] ReceiverBasedDownspeeding	60
Experimental NetworkServices UPnP Mode.....	60
Experimental NetworkServices UPnP Timeout.....	60
Experimental SystemUnit MenuType.....	60
Experimental SystemUnit SoftwareUpgrade RequireAuthentication	60
Experimental Video OSD AlertOnIncomingCall.....	60

The Audio settings

Audio PreferredOutputConnector

Select the preferred connector for the audio out. When the handset is in use the audio out goes to the handset, and when hanged up the audio out goes to the preferred output connector.

Requires user role: ADMIN

Value space: <None/HDMI/Internal/Bluetooth/Handset/Headset>

None: The default audio output is the internal speaker.

HDMI: The audio out goes to the HDMI audio channel.

Internal: The audio out goes to the internal loudspeaker. NOTE: Requires the "Audio InternalSpeaker Mode" to be enabled.

Bluetooth: The audio out goes to the Bluetooth device (for future use).

Handset: The audio out goes to the handset only.

Headset: The audio out goes to the headset.

Example: Audio PreferredOutputConnector: Internal

Audio InternalSpeaker Mode

Set the internal loudspeaker mode.

Requires user role: ADMIN

Value space: <On/Off>

On: The internal speakers are enabled.

Off: The internal speakers are disabled.

Example: Audio InternalSpeaker Mode: On

Audio Microphones Mute Enabled

Determine whether audio-mute is allowed or not. The default value is True.

Requires user role: ADMIN

Value space: <True/InCallOnly>

True: Muting of audio is always available.

InCallOnly: Muting of audio is only available when the device is in a call. When Idle it is not possible to mute the microphone. This is useful when an external telephone service/audio system is connected via the codec and is to be available when the codec is not in a call. When set to InCallOnly this will prevent the audio-system from being muted by mistake.

Example: Audio Microphones Mute Enabled: True

Audio SoundsAndAlerts KeyTones Mode

Not applicable in this version.

Audio SoundsAndAlerts RingTone

Select the ring tone for incoming calls.

Requires user role: USER

Value space: <Marbles/IceCrystals/Polaris/Alert/Discreet/Fantasy/Jazz/Nordic/Echo/Rhythmic>

Range: Select a tone from the list of ring tones.

Example: Audio SoundsAndAlerts RingTone: Jazz

Audio SoundsAndAlerts RingVolume

Sets the ring tone volume for an incoming call.

Requires user role: USER

Value space: <0..100>

Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Volume 0 = Off.

Example: Audio SoundsAndAlerts RingVolume: 50

Audio VolumeHandset

Set the volume on the handset.

Requires user role: ADMIN

Value space: <0..100>

Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Value 0 = Off.

Example: Audio VolumeHandset: 70

Audio VolumeHeadset

Set the volume on the headset.

Requires user role: ADMIN

Value space: <0..100>

Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Value 0 = Off.

Example: Audio VolumeHeadset: 70

Audio Volume

Set the volume on the loudspeaker.

Requires user role: USER

Value space: <0..100>

Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Value 0 = Off.

Example: Audio Volume: 70

The Cameras settings

Cameras PowerLine Frequency

Applies to cameras supporting PowerLine frequency anti-flickering, i.e PrecisionHD 1080p cameras.

Requires user role: ADMIN

Value space: <Auto/50Hz/60Hz>

Auto: Set to Auto to enable power frequency auto detection in the camera.

50Hz: Set to 50 Hz.

60Hz: Set to 60 Hz.

Example: Cameras PowerLine Frequency: Auto

Cameras Camera [1..1] Backlight

The backlight functionality compensates for light shining directly at the camera (usually the sun entering the window) to avoid a too dark image from the room.

Requires user role: ADMIN

Value space: <On/Off>

On: Turn on the camera backlight.

Off: Turn off the camera backlight.

Example: Cameras Camera 1 Backlight: Off

Cameras Camera [1..1] Brightness Mode

Set the camera brightness mode.

Requires user role: ADMIN

Value space: <Auto/Manual>

Auto: The camera brightness is automatically set by the system.

Manual: Enable manual control of the camera brightness, e.g. the level of the brightness level setting will be used for the camera.

Example: Cameras Camera 1 Brightness Mode: Auto

Cameras Camera [1..1] Brightness Level

Set the brightness level. NOTE: Requires the Camera Brightness Mode to be set to Manual.

Requires user role: ADMIN

Value space: <1..31>

Range: Select a value from 1 to 31.

Example: Cameras Camera 1 Brightness Level: 1

Cameras Camera [1..1] Flip

Not applicable in this version.

Cameras Camera [1..1] Focus Mode

Set the camera focus mode.

Requires user role: ADMIN

Value space: <Auto/Manual/ContinuousAuto>

Auto: The camera focus will be updated throughout the call. After a few seconds auto focus is turned off to prevent continuous focus adjustments of the camera.

Manual: Turn the autofocus off and adjust the camera focus manually.

ContinuousAuto: The camera focus is updated throughout the call, without being turned off.

Example: Cameras Camera 1 Focus Mode: Auto

Cameras Camera [1..1] FrameRate

Set the frame rate frequency.

Requires user role: ADMIN

Value space: <60Hz/30Hz>

60Hz: Set the frame rate to 60 Hz.

30Hz: Set the frame rate to 30 Hz.

Example: Cameras Camera 1 FrameRate: 30Hz

Cameras Camera [1..1] Gamma Mode

The Gamma Mode setting enables for gamma corrections. Gamma describes the nonlinear relationship between image pixels and monitor brightness.

Requires user role: ADMIN

Value space: <Auto/Manual>

Auto: Auto is the default and the recommended setting.

Manual: In severe light conditions, you may switch mode to manual and specify explicitly which gamma table to use by setting the Gamma Level.

Example: Cameras Camera 1 Gamma Mode: Auto

Cameras Camera [1..1] Gamma Level

By setting the Gamma Level you can select which gamma correction table to use. This setting may be useful in difficult lighting conditions, where changes to the brightness setting does not provide satisfactory results. NOTE: Requires the Gamma Mode to be set to Manual.

Requires user role: ADMIN

Value space: <0..7>

Range: Select a value from 0 to 7.

Example: Cameras Camera 1 Gamma Level: 0

Cameras Camera [1..1] IrSensor

Not applicable in this version.

Cameras Camera [1..1] Mirror

Not applicable in this version.

Cameras Camera [1..1] Whitebalance Mode

Set the camera whitebalance mode.

Requires user role: ADMIN

Value space: <Auto/Manual>

Auto: The camera will continuously adjust the whitebalance depending on the camera view.

Manual: Enables manual control of the camera whitebalance, e.g. the level of the whitebalance level setting will be used for the camera.

Example: Cameras Camera 1 Whitebalance Mode: Auto

Cameras Camera [1..1] Whitebalance Level

Set the whitebalance level. NOTE: Requires the Camera Whitebalance Mode to be set to manual.

Requires user role: ADMIN

Value space: <1..16>

Range: Select a value from 1 to 16.

Example: Cameras Camera 1 Whitebalance Level: 1

The Conference settings

Conference [1..1] TelephonyPrefix

Enter the prefix to be used for telephony calls.

Requires user role: ADMIN

Value space: <S: 0, 80>

Format: String with a maximum of 80 characters.

Example: Conference 1 TelephonyPrefix: "520"

Conference [1..1] IncomingMultisiteCall Mode

Set the incoming Multisite call mode. The MultiSite feature allows participants from more than two locations to join a meeting – by video and/or telephone.

Requires user role: ADMIN

Value space: <Allow/Deny>

Allow: Accept incoming calls to an already active call/conference. The incoming call will be added to the MCU conference.

Deny: The system will not accept incoming calls when you are in a call. The calling side will receive a busy signal.

Example: Conference 1 IncomingMultisiteCall Mode: Allow

Conference [1..1] AutoAnswer Mode

Set the AutoAnswer mode.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable AutoAnswer to let the system automatically answer all incoming calls.

Off: The incoming calls must be answered manually by pressing the green Accept key on the touch controller.

Example: Conference 1 AutoAnswer Mode: Off

Conference [1..1] AutoAnswer Mute

Determine if the microphone shall be muted when an incoming call is automatically answered.

NOTE: Requires the AutoAnswer Mode to be enabled.

Requires user role: ADMIN

Value space: <On/Off>

On: The incoming call will be muted when automatically answered.

Off: The incoming call will not be muted.

Example: Conference 1 AutoAnswer Mute: Off

Conference [1..1] AutoAnswer Delay

Define how long (in seconds) an incoming call has to wait before it is answered automatically by the system. NOTE: Requires the AutoAnswer Mode to be enabled.

Requires user role: ADMIN

Value space: <0..50>

Range: Select a value from 0 to 50 seconds.

Example: Conference 1 AutoAnswer Delay: 0

Conference [1..1] MicUnmuteOnDisconnect

Determine if the microphones shall be unmuted automatically when all calls are disconnected. In a meeting room or other shared resources this could be done to prepare the system for the next user.

Requires user role: ADMIN

Value space: <On/Off>

On: Un-mute the microphones after the call is disconnected.

Off: If muted, let the microphones remain muted after the call is disconnected.

Example: Conference 1 MicUnmuteOnDisconnect: On

Conference [1..1] DoNotDisturb Mode

Determine if there should be an alert on incoming calls.

Requires user role: USER

Value space: <On/Off>

On: All incoming calls will be rejected, with no alert. The calling side will receive a busy signal when trying to call the codec. A message will display on screen, telling that Do not disturb is turned on, together with an option to turn off the Do not disturb. When turning off the Do not disturb mode you will see a list of the calls that have been rejected.

Off: The incoming calls will be alerted.

Example: DoNotDisturb Mode: Off

Conference [1..1] FarEndControl Mode

Lets you decide if the remote side (far end) should be allowed to select your video sources and control your local camera (pan, tilt, zoom).

Requires user role: ADMIN

Value space: <On/Off>

On: Allows the far end to be able to select your video sources and control your local camera (pan, tilt, zoom). You will still be able to control your camera and select your video sources as normal.

Off: The far end is not allowed to select your video sources or to control your local camera (pan, tilt, zoom).

Example: Conference 1 FarEndControl Mode: On

Conference [1..1] FarEndControl SignalCapability

Set the far end control (H.224) signal capability mode.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the far end control signal capability.

Off: Disable the far end control signal capability.

Example: Conference 1 FarEndControl SignalCapability: On

Conference [1..1] Encryption Mode

Set the conference encryption mode. A padlock with the text "Encryption On" or "Encryption Off" displays on screen for a few seconds when the conference starts.

Requires user role: ADMIN

Value space: <BestEffort/On/Off>

BestEffort: The system will use encryption whenever possible.

> In Point to point calls: If the far end system supports encryption (AES-128), the call will be encrypted. If not, the call will proceed without encryption.

> In MultiSite calls: In order to have encrypted MultiSite conferences, all sites must support encryption. If not, the conference will be unencrypted.

On: The system will only allow calls that are encrypted.

Off: The system will not use encryption.

Example: Conference 1 Encryption Mode: BestEffort

Conference [1..1] DefaultCall Protocol

Set the Default Call Protocol to be used when placing calls from the system.

Requires user role: ADMIN

Value space: <H323/Sip>

H.323: Select H.323 to ensure that calls are set up as H.323 calls.

Sip: Select SIP to ensure that calls are set up as SIP calls.

Example: Conference 1 DefaultCall Protocol: H323

Conference [1..1] DefaultCall Rate

Set the Default Call Rate to be used when placing calls from the system.

Requires user role: ADMIN

Value space: <64..6000>

Range: Select a value between 64 and 6000 kbps

Example: Conference 1 DefaultCall Rate: 768

Conference [1..1] MaxTransmitCallRate

Specify the maximum transmit call rate to be used when placing or receiving calls.

Requires user role: ADMIN

Value space: <64..6000>

Range: Select a value between 64 and 6000 kbps.

Example: Conference 1 MaxTransmitCallRate: 6000

Conference [1..1] MaxReceiveCallRate

Specify the maximum receive call rate to be used when placing or receiving calls.

Requires user role: ADMIN

Value space: <64..6000>

Range: Select a value between 64 and 6000 kbps.

Example: Conference 1 MaxReceiveCallRate: 6000

Conference [1..1] VideoBandwidth Mode

Set the conference video bandwidth mode.

Requires user role: ADMIN

Value space: <Dynamic/Static>

Dynamic: The available transmit bandwidth for the video channels are distributed among the currently active channels. If there is no presentation, the main video channels will use the bandwidth of the presentation channel.

Static: The available transmit bandwidth is assigned to each video channel, even if it is not active.

Example: Conference 1 VideoBandwidth Mode: Dynamic

Conference [1..1] VideoBandwidth MainChannel Weight

The available transmit video bandwidth is distributed on the main channel and presentation channel according to "MainChannel Weight" and "PresentationChannel Weight". If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.

Requires user role: ADMIN

Value space: <1..10>

Range: 1 to 10.

Example: Conference 1 VideoBandwidth MainChannel Weight: 5

Conference [1..1] VideoBandwidth PresentationChannel Weight

The available transmit video bandwidth is distributed on the main channel and presentation channel according to "MainChannel Weight" and "PresentationChannel Weight". If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.

Requires user role: ADMIN

Value space: <1..10>

Range: 1 to 10.

Example: Conference 1 VideoBandwidth PresentationChannel Weight: 5

Conference [1..1] PacketLossResilience Mode

Set the packetloss resilience mode. This configuration will only take effect for calls initiated after the configuration is set.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the packetloss resilience.

Off: Disable the packetloss resilience.

Example: Conference 1 PacketLossResilience Mode: On

The H323 settings

H323 NAT Mode

The firewall traversal technology creates a secure path through the firewall barrier, and enables proper exchange of audio/video data when connected to an external video conferencing system (when the IP traffic goes through a NAT router). NOTE: NAT does not work in conjunction with gatekeepers.

Requires user role: ADMIN

Value space: <Auto/On/Off>

Auto: The system will determine if the "NAT Address" or the real IP-address should be used within signalling. This is done to make it possible to place calls to endpoints on the LAN as well as endpoints on the WAN.

On: The system will signal the configured "NAT Address" in place of its own IP-address within Q.931 and H.245. The NAT Server Address will be shown in the startup-menu as: "My IP Address: 10.0.2.1".

Off: The system will signal the real IP Address.

Example: H323 NAT Mode: Off

H323 NAT Address

Enter the external/global IP-address to the router with NAT support. Packets sent to the router will then be routed to the system.

In the router, the following ports must be routed to the system's IP-address:

- * Port 1720
- * Port 5555-5574
- * Port 2326-2485

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: H323 NAT Address: ""

H323 Profile [1..1] Authentication Mode

Set the authentication mode for the H.323 profile.

Requires user role: ADMIN

Value space: <On/Off>

On: If the H.323 Gatekeeper Authentication Mode is set to On and a H.323 Gatekeeper indicates that it requires authentication, the system will try to authenticate itself to the gatekeeper. NOTE: Requires the Authentication LoginName and Authentication Password to be defined on both the codec and the Gatekeeper.

Off: If the H.323 Gatekeeper Authentication Mode is set to Off the system will not try to authenticate itself to a H.323 Gatekeeper, but will still try a normal registration.

Example: H323 Profile 1 Authentication Mode: Off

H323 Profile [1..1] Authentication LoginName

The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. NOTE: Requires the H.323 Gatekeeper Authentication Mode to be enabled.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: H323 Profile 1 Authentication LoginName: ""

H323 Profile [1..1] Authentication Password

The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. NOTE: Requires the H.323 Gatekeeper Authentication Mode to be enabled.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: H323 Profile 1 Authentication Password:

H323 Profile [1..1] CallSetup Mode

The H.323 Call Setup Mode defines whether to use a Gatekeeper or Direct calling when establishing H323 calls.

NOTE: Direct H.323 calls can be made even though the H.323 Call Setup Mode is set to Gatekeeper.

Requires user role: ADMIN

Value space: <Direct/Gatekeeper>

Direct: An IP-address must be used when dialling in order to make the H323 call.

Gatekeeper: The system will use a Gatekeeper to make a H.323 call. When selecting this option the H323 Profile Gatekeeper Address and H323 Profile Gatekeeper Discovery settings must also be configured.

Example: H323 Profile 1 CallSetup Mode: Gatekeeper

H323 Profile [1..1] Gatekeeper Discovery

Determine how the system shall register to a H.323 Gatekeeper.

Requires user role: ADMIN

Value space: <Manual/Auto>

Manual: The system will use a specific Gatekeeper identified by the Gatekeeper's IP-address.
Auto: The system will automatically try to register to any available Gatekeeper. If a Gatekeeper responds to the request sent from the codec within 30 seconds this specific Gatekeeper will be used. This requires that the Gatekeeper is in auto discovery mode as well. If no Gatekeeper responds, the system will not use a Gatekeeper for making H.323 calls and hence an IP-address must be specified manually.

Example: H323 Profile 1 Gatekeeper Discovery: Manual

H323 Profile [1..1] Gatekeeper Address

Enter the IP address of the Gatekeeper. NOTE: Requires the H.323 Call Setup Mode to be set to Gatekeeper and the Gatekeeper Discovery to be set to Manual.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or unvalid IP addresses (192.0.1234.0) will be rejected.

Example: H323 Profile 1 Gatekeeper Address: "192.0.2.0"

H323 Profile [1..1] H323Alias E164

The H.323 Alias E.164 defines the address of the system, according to the numbering plan implemented in the H.323 Gatekeeper. The E.164 alias is equivalent to a telephone number, sometimes combined with access codes.

Requires user role: ADMIN

Value space: <S: 0, 30>

Format: Compact string with a maximum of 30 characters. Valid characters are 0-9, * and #.

Example: H323 Profile 1 H323Alias E164: "90550092"

H323 Profile [1..1] H323Alias ID

Lets you specify the H.323 Alias ID which is used to address the system on a H.323 Gatekeeper and will be displayed in the call lists. Example: "firstname.surname@company.com", "My H.323 Alias ID"

Requires user role: ADMIN

Value space: <S: 0, 49>

Format: String with a maximum of 49 characters

Example: H323 Profile 1 H323Alias ID: "firstname.surname@company.com"

H323 Profile [1..1] PortAllocation

The H.323 Port Allocation setting affects the H.245 port numbers used for H.323 call signalling.

Requires user role: ADMIN

Value space: <Dynamic/Static>

Dynamic: The system will allocate which ports to use when opening a TCP connection. The reason for doing this is to avoid using the same ports for subsequent calls, as some firewalls consider this as a sign of attack. When Dynamic is selected, the H.323 ports used are from 11000 to 20999. Once 20999 is reached they restart again at 11000. For RTP and RTCP media data, the system is using UDP ports in the range 2326 to 2487. Each media channel is using two adjacent ports, ie 2330 and 2331 for RTP and RTCP respectively. The ports are automatically selected by the system within the given range. Firewall administrators should not try to deduce which ports are used when, as the allocation schema within the mentioned range may change without any further notice.

Static: When set to Static the ports are given within a static predefined range [5555-6555].

Example: H323 Profile 1 PortAllocation: Dynamic

The Network settings

Network [1..1] Assignment

Define whether to use DHCP or Static IPv4 assignment.

Requires user role: ADMIN

Value space: <Static/DHCP>

Static: Set the network assignment to Static and configure the static IPv4 settings (IP Address, SubnetMask and Gateway).

DHCP: The system addresses are automatically assigned by the DHCP server.

Example: Network 1 Assignment: DHCP

Network [1..1] DNS Domain Name

DNS Domain Name is the default domain name suffix which is added to unqualified names.

Example: If the DNS Domain Name is "company.com" and the name to lookup is "MyVideoSystem", this will result in the DNS lookup "MyVideoSystem.company.com".

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 DNS Domain Name: ""

Network [1..1] DNS Server [1..5] Address

Define the network addresses for DNS servers. Up to 5 addresses may be specified. If the network addresses are unknown, contact your administrator or Internet Service Provider.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 DNS Server 1 Address: ""

Network [1..1] IPStack

Select which internet protocols the system will support.

Requires user role: ADMIN

Value space: <IPv4/IPv6>

IPv4: IP version 4 is supported.

IPv6: IP version 6 is supported. The IPv4 settings (IP Address, IP Subnet Mask and Gateway) will be disabled.

Example: Network 1 IPStack: IPv4

Network [1..1] IPv4 Address

Enter the static IPv4 network address for the system. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or invalid IP addresses (192.0.1234.0) will be rejected.

Example: Network 1 IPv4 Address: "192.0.2.0"

Network [1..1] IPv4 Gateway

Define the IPv4 network gateway. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: Compact string with a maximum of 64 characters.

Example: Network 1 IPv4 Gateway: "192.0.2.0"

Network [1..1] IPv4 SubnetMask

Define the IPv4 network subnet mask. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: Compact string with a maximum of 64 characters.

Example: Network 1 IPv4 SubnetMask: "255.255.255.0"

Network [1..1] IPv6 Address

Enter the static IPv6 network address for the system. Only applicable if the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: The IPv6 address of host name.

Example: Network 1 IPv6 Address: "ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff"

Network [1..1] IPv6 Gateway

Define the IPv6 network gateway address. Only applicable if the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: The IPv6 address of host name.

Example: Network 1 IPv6 Gateway: "ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff"

Network [1..1] IPv6 Assignment

Define whether to use Autoconf or Static IPv6 assignment.

Requires user role: ADMIN

Value space: <Static/Autoconf>

Static: Set the network assignment to Static and configure the static IPv6 settings (IP Address and Gateway).

Autoconf: Enable IPv6 stateless autoconfiguration of the IPv6 network interface. See RFC4862 for a detailed description.

Example: Network 1 IPv6 Assignment: Autoconf

Network [1..1] IPv6 DHCPOptions

Retrieves a set of DHCP options from a DHCPv6 server.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the retrieval of a selected set of DHCP options from a DHCPv6 server.

Off: Set to Off when IPv6 Assignment is set to Static.

Example: Network 1 IPv6 Gateway: On

Network [1..1] QoS Mode

The QoS (Quality of Service) is a method which handles the priority of audio, video and data in the network. The QoS settings must be supported by the infrastructure. Diffserv (Differentiated Services) is a computer networking architecture that specifies a simple, scalable and coarse-grained mechanism for classifying, managing network traffic and providing QoS priorities on modern IP networks.

Requires user role: ADMIN

Value space: <Off/Diffserv>

Off: No QoS method is used.

Diffserv: When you set the QoS Mode to Diffserv you must configure the Diffserv sub menu settings (Audio, Data, Signalling and Video).

Example: Network 1 QoS Mode: diffserv

Network [1..1] QoS Diffserv Audio

The Diffserv Audio defines which priority Audio packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

Audio: A recommended value is Diffserv Code Point (DSCP) AF41, which equals the value 34. If in doubt, contact your network administrator.

Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Audio: 0

Network [1..1] QoS Diffserv Data

The Diffserv Data defines which priority Data packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

Data: A recommended value is Diffserv Code Point (DSCP) AF23, which equals the value 22. If in doubt, contact your network administrator.

Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Data: 0

Network [1..1] QoS Diffserv Signalling

The Diffserv Signalling defines which priority Signalling packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

Signalling: A recommended value is Diffserv Code Point (DSCP) AF31, which equals the value 26. If in doubt, contact your network administrator.

Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Signalling: 0

Network [1..1] QoS Diffserv Video

The Diffserv Video defines which priority Video packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

Video: A recommended value is Diffserv Code Point (DSCP) AF41, which equals the value 34. If in doubt, contact your network administrator.

Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Video: 0

Network [1..1] IEEE8021X Mode

The system can be connected to an IEEE 802.1X LAN network, with a port-based network access control that is used to provide authenticated network access for Ethernet networks.

Requires user role: ADMIN

Value space: <On/Off>

On: The 802.1X authentication is enabled.

Off: The 802.1X authentication is disabled (default).

Example: Network 1 IEEE8021X Mode: Off

Network [1..1] IEEE8021X Identity

The 802.1X Identity is the user name needed for 802.1X authentication.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 IEEE8021X Identity: ""

Network [1..1] IEEE8021X Password

The 802.1X Password is the password needed for 802.1X authentication.

Requires user role: ADMIN

Value space: <S: 0, 32>

Format: String with a maximum of 32 characters.

Example: Network 1 IEEE8021X Password: "****"

Network [1..1] IEEE8021X AnonymousIdentity

The 802.1X Anonymous ID string is to be used as unencrypted identity with EAP (Extensible Authentication Protocol) types that support different tunneled identity, like EAP-PEAP and EAP-TTLS. If set, the anonymous ID will be used for the initial (unencrypted) EAP Identity Request.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 IEEE8021X AnonymousIdentity: ""

Network [1..1] IEEE8021X Eap Md5

Set the Md5 (Message-Digest Algorithm 5) mode. This is a Challenge Handshake Authentication Protocol that relies on a shared secret. Md5 is a Weak security.

Requires user role: ADMIN

Value space: <On/Off>

On: The EAP-MD5 protocol is enabled (default).

Off: The EAP-MD5 protocol is disabled.

Example: Network 1 IEEE8021X Eap Md5: On

Network [1..1] IEEE8021X Eap Peap

Set the Peap (Protected Extensible Authentication Protocol) mode. Authenticates LAN clients without the need for client certificates. Developed by Microsoft, Cisco and RSA Security.

Requires user role: ADMIN

Value space: <On/Off>

On: The EAP-PEAP protocol is enabled (default).

Off: The EAP-PEAP protocol is disabled.

Example: Network 1 IEEE8021X Eap Peap: On

Network [1..1] IEEE8021X Eap Ttls

Set the TTLS (Tunneled Transport Layer Security) mode. Authenticates LAN clients without the need for client certificates. Developed by Funk Software and Certicom. Usually supported by Agere Systems, Proxim and Avaya.

Requires user role: ADMIN

Value space: <On/Off>

On: The EAP-TTLS protocol is enabled (default).

Off: The EAP-TTLS protocol is disabled.

Example: Network 1 IEEE8021X Eap Ttls: On

Network [1..1] MTU

Set the Ethernet MTU (Maximum Transmission Unit).

Requires user role: ADMIN

Value space: <576..1500>

Range: Select a value from 576 to 1500 bytes.

Example: Network 1 MTU: 1500

Network [1..1] Speed

Set the Ethernet link speed.

Requires user role: ADMIN

Value space: <Auto/10half/10full/100half/100full/1000full>

Auto: Autonegotiate link speed.

10half: Force link to 10 Mbps half-duplex.

10full: Force link to 10 Mbps full-duplex.

100half: Force link to 100 Mbps half-duplex.

100full: Force link to 100 Mbps full-duplex.

1000full: Force link to 1 Gbps full-duplex.

Example: Network 1 Speed: Auto

Network [1..1] TrafficControl Mode

Set the network traffic control mode to decide how to control the video packets transmission speed.

Requires user role: ADMIN

Value space: <On/Off>

On: Transmit video packets at maximum 20 Mbps. Can be used to smooth out bursts in the outgoing network traffic.

Off: Transmit video packets at link speed.

Example: Network 1 TrafficControl: On

Network [1..1] RemoteAccess Allow

Filter IP addresses for access to ssh/telnet/HTTP/HTTPS.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters, comma separated IP addresses or IP range.

Example: Network 1 RemoteAccess Allow: "192.168.1.231, 192.168.1.182"

Network [1..1] VLAN Data Mode

Set the VLAN data mode.

Requires user role: ADMIN

Value space: <Manual/Off>

Manual: The data packets in the VLAN network are manually tagged with VlanId and Priority.

Off: The data packets in the VLAN network are untagged.

Example: Network 1 VLAN Data Mode: Off

Network [1..1] VLAN Data VlanId

Set the VLAN data ID.

Requires user role: ADMIN

Value space: <1..4094>

Range: Select a value from 1 to 4094.

Example: Network 1 VLAN Data VlanId: 1

Network [1..1] VLAN Data Priority

Set the VLAN data priority.

Requires user role: ADMIN

Value space: <0..7>

Range: Select a value from 0 to 7.

Example: Network 1 VLAN Data Priority: 0

Network [1..1] VLAN Voice Mode

Set the VLAN voice mode.

Requires user role: ADMIN

Value space: <Manual/Off>

Manual: The voice packets in the VLAN network are manually tagged with VlanId and Priority.

Off: The voice packets in the VLAN network are untagged.

Example: Network 1 VLAN Voice Mode: Off

Network [1..1] VLAN Voice VlanId

Set the VLAN voice ID.

Requires user role: ADMIN

Value space: <1..4094>

Range: Select a value from 1 to 4094.

Example: Network 1 VLAN Voice VlanId: 1

Network [1..1] VLAN Voice Priority

Set the VLAN voice priority.

Requires user role: ADMIN

Value space: <0..7>

Range: Select a value from 0 to 7.

Example: Network 1 VLAN Voice Priority: 0

The NetworkServices settings

NetworkServices Multiway Address

The Multiway address must be equal to the Conference Factory Alias, as configured on the Video Communication Server. The Multiway™ conferencing enables video endpoint users to introduce a 3rd party into an existing call.

Multiway™ can be used in the following situations:

- 1) When you want to add someone else in to your existing call.
- 2) When you are called by a 3rd party while already in a call and you want to include that person in the call.

Requirements: The Codec C20 must be running TC3.0 (or later), Codec C90/C60/C40 must be running TC4.0 (or later), EX90/EX60/MX200 must be running TC4.2 (or later), Video Communication Server (VCS) version X5 (or later) and Codian MCU version 3.1 (or later). Endpoints invited to join the Multiway™ conference must support the H.323 routeToMC facility message if in an H.323 call, or SIP REFER message if in a SIP call.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters.

Example: NetworkServices Multiway Address: "h323:multiway@company.com"

NetworkServices Multiway Protocol

Determine the protocol to be used for Multiway calls. NOTE: Requires a restart of the codec.

Requires user role: ADMIN

Value space: <Auto/H323/Sip>

Auto: The system will select the protocol for Multiway calls.

H323: The H323 protocol will be used for Multiway calls.

Sip: The SIP protocol will be used for Multiway calls.

Example: NetworkServices Multiway Protocol: Auto

NetworkServices H323 Mode

Determine whether the system should be able to place and receive H.323 calls or not. NOTE: Requires a restart of the codec.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the possibility to place and receive H.323 calls (default).

Off: Disable the possibility to place and receive H.323 calls.

Example: NetworkServices H323 Mode: On

NetworkServices HTTP Mode

Set the HTTP mode to enable/disable access to the system through a web browser. The web interface is used for system management, call management such as call transfer, diagnostics and software uploads.

Requires user role: ADMIN

Value space: <On/Off>

On: The HTTP protocol is enabled.

Off: The HTTP protocol is disabled.

Example: NetworkServices HTTP Mode: On

NetworkServices HTTPS Mode

HTTPS is a web protocol that encrypts and decrypts user page requests as well as the pages that are returned by the web server.

Requires user role: ADMIN

Value space: <On/Off>

On: The HTTPS protocol is enabled.

Off: The HTTPS protocol is disabled.

Example: NetworkServices HTTPS Mode: On

NetworkServices HTTPS VerifyServerCertificate

When the system connects to an external HTTPS server (like a phonebook server or an external manager), this server will present a certificate to the system to identify itself.

Requires user role: ADMIN

Value space: <On/Off>

On: Requires the system to verify that the server certificate is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.

Off: Do not verify server certificates.

Example: NetworkServices HTTPS VerifyServerCertificate: Off

NetworkServices HTTPS VerifyClientCertificate

When the system connects to a HTTPS client (like a web browser), the client can be asked to present a certificate to the system to identify itself.

Requires user role: ADMIN

Value space: <On/Off>

On: Requires the client to present a certificate that is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.

Off: Do not verify client certificates.

Example: NetworkServices HTTPS VerifyClientCertificate: Off

NetworkServices HTTPS OCSP Mode

Define the support for OCSP (Online Certificate Status Protocol) responder services. The OCSP feature allows users to enable OCSP instead of certificate revocation lists (CRLs) to check certificate status.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable OCSP support.

Off: Disable OCSP support.

Example: NetworkServices HTTPS OCSP Mode: Off

NetworkServices HTTPS OCSP URL

Specify the URL of an OCSP server.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters.

Example: NetworkServices HTTPS OCSP URL: "http://ocspserver.company.com:81"

NetworkServices NTP Mode

The Network Time Protocol (NTP) is used to synchronize the time of the system to a reference time server. The time server will subsequently be queried every 24th hour for time updates. The time will be displayed on the top of the screen. The system will use the time to timestamp messages transmitted to Gatekeepers or Border Controllers requiring H.235 authentication. The system will use the time to timestamp messages transmitted to Gatekeepers or Border Controllers that requires H.235 authentication. It is also used for timestamping Placed Calls, Missed Calls and Received Calls.

Requires user role: ADMIN

Value space: <Off/Auto/Manual>

Off: The system will not use an NTP server.

Auto: The system will use the NTP server, by which address is supplied from the DHCP server in the network. If no DHCP server is used, or the DHCP server does not provide the system with a NTP server address, the system will use the static defined NTP server address specified by the user.

Manual: The system will always use the static defined NTP server address specified by the user.

Example: NetworkServices NTP Mode: Manual

NetworkServices NTP Address

Enter the NTP Address to define the network time protocol server address. This address will be used if NTP Mode is set to Manual, or if set to Auto and no address is supplied by a DHCP server.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: NetworkServices NTP Address: "1.ntp.tandberg.com"

NetworkServices SIP Mode

Determine whether the system should be able to place and receive SIP calls or not. NOTE: Requires a restart of the codec.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the possibility to place and receive SIP calls (default).

Off: Disable the possibility to place and receive SIP calls.

Example: NetworkServices SIP Mode: On

NetworkServices SNMP Mode

SNMP (Simple Network Management Protocol) is used in network management systems to monitor network-attached devices (routers, servers, switches, projectors, etc) for conditions that warrant administrative attention. SNMP exposes management data in the form of variables on the managed systems, which describe the system configuration. These variables can then be queried (set to ReadOnly) and sometimes set (set to ReadWrite) by managing applications.

Requires user role: ADMIN

Value space: <Off/ReadOnly/ReadWrite>

Off: Disable the SNMP network service.

ReadOnly: Enable the SNMP network service for queries only.

ReadWrite: Enable the SNMP network service for both queries and commands.

Example: NetworkServices SNMP Mode: ReadWrite

NetworkServices SNMP Host [1..3] Address

Enter the address of up to three SNMP Managers. All traps will then be sent to the hosts listed.

The system's SNMP Agent (in the codec) responds to requests from SNMP Managers (a PC program etc.). SNMP Traps are generated by the SNMP Agent to inform the SNMP Manager about important events. Can be used to send event created messages to the SNMP agent about different events like: system reboot, system dialling, system disconnecting, MCU call, packet loss etc. Traps can be sent to multiple SNMP Trap Hosts.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: NetworkServices SNMP Host 1 Address: ""

NetworkServices SNMP CommunityName

Enter the name of the Network Services SNMP Community. SNMP Community names are used to authenticate SNMP requests. SNMP requests must have a password (case sensitive) in order to receive a response from the SNMP Agent in the codec. The default password is "public". If you have the Cisco TelePresence Management Suite (TMS) you must make sure the same SNMP Community is configured there too. NOTE: The SNMP Community password is case sensitive.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: NetworkServices SNMP CommunityName: "public"

NetworkServices SNMP SystemContact

Enter the name of the Network Services SNMP System Contact.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: NetworkServices SNMP SystemContact: ""

NetworkServices SNMP SystemLocation

Enter the name of the Network Services SNMP System Location.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: NetworkServices SNMP SystemLocation: ""

NetworkServices SSH Mode

SSH (or Secure Shell) protocol can provide secure encrypted communication between the codec and your local computer.

Requires user role: ADMIN

Value space: <On/Off>

On: The SSH protocol is enabled.

Off: The SSH protocol is disabled.

Example: NetworkServices SSH Mode: On

NetworkServices SSH AllowPublicKey

Secure Shell (SSH) public key authentication can be used to access the codec.

Requires user role: ADMIN

Value space: <On/Off>

On: The SSH public key is allowed.

Off: The SSH public key is not allowed.

Example: NetworkServices SSH AllowPublicKey: On

NetworkServices Telnet Mode

Telnet is a network protocol used on the Internet or Local Area Network (LAN) connections.

Requires user role: ADMIN

Value space: <On/Off>

On: The Telnet protocol is enabled.

Off: The Telnet protocol is disabled. This is the factory setting.

Example: NetworkServices Telnet Mode: Off

The Phonebook settings

Phonebook Server [1..1] ID

Enter a name for the external phonebook.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Phonebook Server 1 ID: ""

Phonebook Server [1..1] Type

Select the phonebook server type.

Requires user role: ADMIN

Value space: <VCS/TMS/Callway>

VCS: Select VCS if the phonebook is located on the Cisco TelePresence Video Communication Server.

TMS: Select TMS if the phonebook is located on the Cisco TelePresence Management Suite server.

Callway: Select Callway if the phonebook is to be provided by the Callway subscription service. Contact your Callway provider for more information.

Example: Phonebook Server 1 Type: TMS

Phonebook Server [1..1] URL

Enter the address (URL) to the external phonebook server.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters.

Example: Phonebook Server 1 URL: "http://tms.company.com/tms/public/external/phonebook/phonebookservice.asmx"

The Provisioning settings

Provisioning Mode

Provides the possibility of managing the codec (endpoint) by using an external manager/management system.

Requires user role: ADMIN

Value space: <Off/TMS/VCS/CallWay/Auto>

Off: The system will not try to register to any management system.

TMS: If set to TMS (Cisco TelePresence Management System) the system will try to register with a TMS server. Contact your Cisco representative for more information.

VCS: If set to VCS (Cisco TelePresence Video Communication Server) the system will try to register with a VCS. Contact your Cisco representative for more information.

Callway: If set to Callway the system will try to register with the Callway subscription provider. Contact your Callway provider for more information.

Auto: The provisioning server will automatically be selected by the system.

Example: Provisioning Mode: TMS

Provisioning LoginName

Enter the user id provided by the provisioning server. This is the user name part of the credentials used to authenticate towards the HTTP server when using HTTP provisioning.

Requires user role: ADMIN

Value space: <S: 0, 80>

Format: String with a maximum of 80 characters.

Example: Provisioning LoginName: ""

Provisioning Password

Enter the password provided by the provisioning server. This is the password part of the credentials used to authenticate towards the HTTP server when using HTTP provisioning.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Provisioning Password: ""

Provisioning HttpMethod

Select the HTTP method to be used for the provisioning.

Requires user role: ADMIN

Value space: <GET/POST>

GET: Select GET when the provisioning server supports GET.

POST: Select POST when the provisioning server supports POST.

Example: Provisioning HttpMethod: POST

Provisioning ExternalManager Address

Enter the IP Address to the External Manager/Management system. If an External Manager address and a path is configured, the system will post an HTTP message to this address when starting up. When receiving this HTTP posting the External Manager (typically a management system) can return configurations/commands to the unit as a result. If the DHCP Option 242 is returned in the DHCP response from the DHCP server the system will interpret this as the External Manager address to use.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or invalid IP addresses (192.0.1234.0) will be rejected.

Example: Provisioning ExternalManager Address: ""

Provisioning ExternalManager Protocol

Determine whether or not to use secure management.

Requires user role: ADMIN

Value space: <HTTP/HTTPS>

HTTP: Set to HTTP to disable secure management. Requires HTTP to be enabled in the xConfiguration NetworkServices HTTP Mode setting.

HTTPS: Set to HTTPS to enable secure management. Requires HTTPS to be enabled in the xConfiguration NetworkServices HTTPS Mode setting.

Example: Provisioning ExternalManager Protocol: HTTP

Provisioning ExternalManager Path

Set the path to the External Manager/Management system. If an External Manager address and a path is configured, the system will post an HTTP message to this address when starting up. When receiving this HTTP posting the External Manager (typically a management system) can return configurations/commands to the unit as a result. If the DHCP Option 242 is returned in the DHCP response from the DHCP server the system will interpret this as the External Manager address to use.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters.

Example: Provisioning ExternalManager Path: "tms/public/external/management/SystemManagementService.asmx"

Provisioning ExternalManager Domain

Enter the SIP domain for the provisioning server.

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Provisioning ExternalManager Domain: "any.domain.com"

The RTP settings

RTP Ports Range Start

Specify the first port in the range of RTP ports. See also the "H323 Profile [1..1] PortAllocation" command.

Requires user role: USER

Value space: <1024..65502>

Range: Select a value from 1024 to 65502.

Example: RTP Ports Range Start: 2326

RTP Ports Range Stop

Specify the last RTP port in the range. See also the "H323 Profile [1..1] PortAllocation" command.

Requires user role: USER

Value space: <1056..65535>

Range: Select a value from 1056 to 65535.

Example: RTP Ports Range Stop: 2486

The Security settings

Security Audit Server Address

Enter the external/global IP-address to the audit syslog server.

Requires user role: AUDIT

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Security Audit Server Address: ""

Security Audit Server Port

Enter the port of the syslog server that the system shall send its audit logs to. A user with AUDIT rights is required to change this setting.

Requires user role: AUDIT

Value space: <0..65535>

Range: Select a value from 0 to 65535.

Example: Security Audit Server Port: 514

Security Audit OnError Action

Describes what actions will be taken if connection to the syslog server is lost. A user with AUDIT rights is required to change this setting.

Requires user role: AUDIT

Value space: <Halt/Ignore>

Halt: If the connection to the syslog server is lost for more than a few seconds, the system will reboot and try to establish connection. If connection is restored, the audit logs are respooled to the syslog server, and the system starts up again.

Ignore: The system will continue its normal operation, and rotate internal logs when full. When connection is restored it will again send its audit logs to the syslog server.

Example: Security Audit OnError Action: Ignore

Security Audit Logging Mode

Describes where the audit logs are recorded or transmitted. A user with AUDIT rights is required to change this setting.

Requires user role: AUDIT

Value space: <Off/Internal/External/ExternalSecure>

Off: No audit logging is performed.

Internal: The system records the audit logs to internal logs, and rotates logs when they are full.

External: The system sends the audit logs to an external audit server.

ExternalSecure: The system sends the audit logs to an external audit server that is verified by the Audit CA list.

Example: Security Audit Logging Mode: Off

Security Session ShowLastLogon

When logging in to the system using SSH or Telnet you will see the UserId, time and date of the last session that did a successful login.

Requires user role: ADMIN

Value space: <Off/On>

On: Set to On to enable the possibility to show information about the last session.

Off: Set to Off to disable the possibility to show information about the last session.

Example: Security Session ShowLastLogon: Off

Security Session InactivityTimeout

Determines how long the system will accept inactivity from the user before he is automatically logged out.

Requires user role: ADMIN

Value space: <0..10000>

Range: Select a value from 0 to 10000 seconds. 0 means that inactivity will not enforce automatically logout.

Example: Security Session InactivityTimeout: 0

The SerialPort settings

SerialPort Mode

Set the COM 1 serial port to be enabled/disabled.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the COM 1 serial port.

Off: Disable the COM 1 serial port.

Example: SerialPort Mode: On

SerialPort BaudRate

Specify the baud rate (data transmission rate, bits per second) for the COM 1 port on the codec. The default value is 38400.

Connection parameters for the COM port: Data bits: 8; Parity: None; Stop bits: 1; Flow control: None.

Requires user role: ADMIN

Value space: <9600/19200/38400/57600/115200>

Range: Select a baud rate from the baud rates listed (bps).

Example: SerialPort BaudRate: 38400

SerialPort LoginRequired

Determine if login shall be required when connecting to the COM 1 port at the codec.

Requires user role: ADMIN

Value space: <On/Off>

On: Login is required when connecting to the codec through COM 1 port.

Off: The user can access the codec through COM 1 port without any login.

Example: SerialPort LoginRequired: On

The SIP settings

SIP Profile [1..1] URI

The SIP URI or number is used to address the system. This is the URI that is registered and used by the SIP services to route inbound calls to the system. A Uniform Resource Identifier (URI) is a compact string of characters used to identify or name a resource.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: Compact string with a maximum of 255 characters.

Example: SIP Profile 1 URI: "sip:firstname.lastname@company.com"

SIP Profile [1..1] DisplayName

When configured the incoming call will report the DisplayName instead of the SIP URI.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: String with a maximum of 255 characters.

Example: SIP Profile 1 DisplayName: ""

SIP Profile [1..1] Authentication [1..1] LoginName

This is the user name part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN

Value space: <S: 0, 128>

Format: String with a maximum of 128 characters.

Example: SIP Profile 1 Authentication 1 LoginName: ""

SIP Profile [1..1] Authentication [1..1] Password

This is the password part of the credentials used to authenticate towards the SIP proxy.

Requires user role: ADMIN

Value space: <S: 0, 128>

Format: String with a maximum of 128 characters.

Example: SIP Profile 1 Authentication 1 Password:

SIP Profile [1..1] DefaultTransport

Select the transport protocol to be used over the LAN.

Requires user role: ADMIN

Value space: <UDP/TCP/Tls/Auto>

UDP: The system will always use UDP as the default transport method.

TCP: The system will always use TCP as the default transport method.

Tls: The system will always use TLS as the default transport method. For TLS connections a SIP CA-list can be uploaded using the web interface. If no such CA-list is available on the system then anonymous Diffie Hellman will be used.

Auto: The system will try to connect using transport protocols in the following order: TLS, TCP, UDP.

Example: SIP Profile 1 DefaultTransport: Auto

SIP Profile [1..1] TlsVerify

For TLS connections a SIP CA-list can be uploaded using the web interface.

Requires user role: ADMIN

Value space: <On/Off>

On: Set to On to verify TLS connections. Only TLS connections to servers, whom x.509 certificate is validated against the CA-list, will be allowed.

Off: Set to Off to allow TLS connections without verifying them. The TLS connections are allowed to be set up without verifying the x.509 certificate received from the server against the local CA-list. This should typically be selected if no SIP CA-list has been uploaded.

Example: SIP Profile 1 TlsVerify: Off

SIP Profile [1..1] Outbound

The client initiated connections mechanism for firewall traversal, connection reuse and redundancy. The current version supports <http://tools.ietf.org/html/draft-ietf-sip-outbound-20>.

Requires user role: ADMIN

Value space: <On/Off>

On: Set up multiple outbound connections to servers in the Proxy Address list.

Off: Connect to the single proxy configured first in Proxy Address list.

Example: SIP Profile 1 Outbound: Off

SIP Profile [1..1] Proxy [1..4] Address

The Proxy Address is the manually configured address for the outbound proxy. It is possible to use a fully qualified domain name, or an IP address. The default port is 5060 for TCP and UDP but another one can be provided. If Outbound is enabled, multiple proxies can be addressed.

Requires user role: ADMIN

Value space: <S: 0, 255>

Format: Compact string with a maximum of 255 characters. An IP address that contains letters (192.a.2.0) or unvalid IP addresses (192.0.1234.0) will be rejected.

Example: SIP Profile 1 Proxy 1 Address: ""

SIP Profile [1..1] Proxy [1..4] Discovery

Select if the SIP Proxy address is to be obtained manually or by using Dynamic Host Configuration Protocol (DHCP).

Requires user role: ADMIN

Value space: <Auto/Manual>

Auto: When Auto is selected, the SIP Proxy address is obtained using Dynamic Host Configuration Protocol (DHCP).

Manual: When Manual is selected, the manually configured SIP Proxy address will be used.

Example: SIP Profile 1 Proxy 1 Discovery: Manual

SIP Profile [1..1] Type

Enables SIP extensions and special behaviour for a vendor or provider.

Requires user role: ADMIN

Value space: <Standard/Alcatel/Avaya/Cisco/Microsoft/Nortel>

Standard: To be used when registering to standard SIP Proxy (tested with Cisco TelePresence VCS and Broadsoft)

Alcatel: To be used when registering to Alcatel-Lucent OmniPCX Enterprise. NOTE: This mode is not fully supported.

Avaya: To be used when registering to Avaya Communication Manager. NOTE: This mode is not fully supported.

Cisco: To be used when registering to Cisco Unified Communication Manager.

Microsoft: To be used when registering to Microsoft LCS or OCS. NOTE: This mode is not fully supported.

Nortel: To be used when registering to Nortel MCS 5100 or MCS 5200 PBX. NOTE: This mode is not fully supported.

Example: SIP Profile 1 Type: Standard

The Standby settings

Standby Control

Determine whether the system should go into standby mode or not.

Requires user role: ADMIN

Value space: <On/Off>

On: Enter standby mode when the Standby Delay has timed out. NOTE: Requires the Standby Delay to be set to an appropriate value.

Off: The system will not enter standby mode.

Example: Standby Control: On

Standby Delay

Define how long (in minutes) the system shall be in idle mode before it goes into standby mode.

NOTE: Requires the Standby Control to be enabled.

Requires user role: ADMIN

Value space: <1..480>

Range: Select a value from 1 to 480 minutes.

Example: Standby Delay: 10

Standby BootAction

Not applicable in this version.

Standby StandbyAction

Not applicable in this version.

Standby WakeupAction

Not applicable in this version.

The SystemUnit settings

SystemUnit Name

Enter a System Name to define a name of the system unit. If the H.323 Alias ID is configured on the system then this ID will be used instead of the system name. The system name will be displayed:

1) When the codec is acting as an SNMP Agent.

2) Towards a DHCP server.

Requires user role: ADMIN

Value space: <s: 0, 50>

Format: String with a maximum of 50 characters.

Example: SystemUnit Name: "Meeting Room"

SystemUnit MenuLanguage

Select the language to be used in the menus on screen.

Requires user role: USER

Value space: <English>

Example: SystemUnit MenuLanguage: English

SystemUnit ContactInfo Type

Not applicable in this version.

SystemUnit Type

Select whether the video system is for personal use or to be used in a multiuser environment. It is highly recommended not to use the default setting.

Requires user role: ADMIN

Value space: <Personal/Shared>

Personal: Set to Personal when the system is for personal use.

Shared: Set to Shared when the system is used in a multiuser environment.

Example: SystemUnit Type: Personal

SystemUnit CallLogging Mode

Set the call logging mode for calls that are received or placed by the system. The call logs may then be viewed via the web interface or using the xHistory command.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable logging.

Off: Disable logging.

Example: SystemUnit CallLogging Mode: On

SystemUnit IrSensor

Not applicable in this version.

The Time settings

Time Zone

Set the time zone where the system is located, using Windows time zone description format.

Requires user role: USER

Value space: <GMT-12:00 (International Date Line West)/GMT-11:00 (Midway Island, Samoa)/GMT-10:00 (Hawaii)/GMT-09:00 (Alaska)/GMT-08:00 (Pacific Time (US & Canada); Tijuana)/GMT-07:00 (Arizona)/GMT-07:00 (Mountain Time (US & Canada))/GMT-07:00 (Chihuahua, La Paz, Mazatlan)/GMT-06:00 (Central America)/GMT-06:00 (Saskatchewan)/GMT-06:00 (Guadalajara, Mexico City, Monterrey)/GMT-06:00 (Central Time (US & Canada))/GMT-05:00 (Indiana (East))/GMT-05:00 (Bogota, Lima, Quito)/GMT-05:00 (Eastern Time (US & Canada))/GMT-04:30 (Caracas)/GMT-04:00 (La Paz)/GMT-04:00 (Santiago)/GMT-04:00 (Atlantic Time (Canada))/GMT-03:30 (Newfoundland)/GMT-03:00 (Buenos Aires, Georgetown)/GMT-03:00 (Greenland)/GMT-03:00 (Brasilia)/GMT-02:00 (Mid-Atlantic)/GMT-01:00 (Cape Verde Is.)/GMT-01:00 (Azores)/GMT (Casablanca, Monrovia)/GMT (Coordinated Universal Time)/GMT (Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London)/GMT+01:00 (West Central Africa)/GMT+01:00 (Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna)/GMT+01:00 (Brussels, Copenhagen, Madrid, Paris)/GMT+01:00 (Sarajevo, Skopje, Warsaw, Zagreb)/GMT+01:00 (Belgrade, Bratislava, Budapest, Ljubljana, Prague)/GMT+02:00 (Harare, Pretoria)/GMT+02:00 (Jerusalem)/GMT+02:00 (Athens, Istanbul, Minsk)/GMT+02:00 (Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius)/GMT+02:00 (Cairo)/GMT+02:00 (Bucharest)/GMT+03:00 (Nairobi)/GMT+03:00 (Kuwait, Riyadh)/GMT+03:00 (Moscow, St. Petersburg, Volgograd)/GMT+03:00 (Baghdad)/GMT+03:30 (Tehran)/GMT+04:00 (Abu Dhabi, Muscat)/GMT+04:00 (Baku, Tbilisi, Yerevan)/GMT+04:30 (Kabul)/GMT+05:00 (Islamabad, Karachi, Tashkent)/GMT+05:00 (Ekaterinburg)/GMT+05:30 (Chennai, Kolkata, Mumbai, New Delhi)/GMT+05:45 (Kathmandu)/GMT+06:00 (Sri Jayawardenepura)/GMT+06:00 (Astana, Dhaka)/GMT+06:00 (Almaty, Novosibirsk)/GMT+06:30 (Rangoon)/GMT+07:00 (Bangkok, Hanoi, Jakarta)/GMT+07:00 (Krasnoyarsk)/GMT+08:00 (Perth)/GMT+08:00 (Taipei)/GMT+08:00 (Kuala Lumpur, Singapore)/GMT+08:00 (Beijing, Chongqing, Hong Kong, Urumqi)/GMT+08:00 (Irkutsk, Ulaan Bataar)/GMT+09:00 (Osaka, Sapporo, Tokyo)/GMT+09:00 (Seoul)/GMT+09:00 (Yakutsk)/GMT+09:30 (Darwin)/GMT+09:30 (Adelaide)/GMT+10:00 (Guam, Port Moresby)/GMT+10:00 (Brisbane)/GMT+10:00 (Vladivostok)/GMT+10:00 (Hobart)/GMT+10:00 (Canberra, Melbourne, Sydney)/GMT+11:00 (Magadan, Solomon Is., New Caledonia)/GMT+12:00 (Fiji, Kamchatka, Marshall Is.)/GMT+12:00 (Auckland, Wellington)/GMT+13:00 (Nuku alofa)>

Range: Select a time zone from the list time zones. If using a command line interface; watch up for typos.

Example: Time Zone: "GMT (Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London)"

Time TimeFormat

Set the time format.

Requires user role: USER

Value space: <24H/12H>

24H: Set the time format to 24 hours.

12H: Set the time format to 12 hours (AM/PM).

Example: Time TimeFormat: 24H

Time DateFormat

Set the date format.

Requires user role: USER

Value space: <DD_MM_YY/MM_DD_YY/YY_MM_DD>

DD_MM_YY: The date January 30th 2010 will be displayed: 30.01.10

MM_DD_YY: The date January 30th 2010 will be displayed: 01.30.10

YY_MM_DD: The date January 30th 2010 will be displayed: 10.01.30

Example: Time DateFormat: DD_MM_YY

The Video settings

Video Input Source [1..3]/[1..2] Name

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

Enter a name for the video input source.

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: Video Input Source 1 Name: ""

Video Input Source [1] Connector

NOTE: EX90 has Video Input Source [1..3]. EX60 has Video Input Source [1..2].

Select which video input connector to be active on video input source 1.

Requires user role: ADMIN

Value space: <HDMI>/<DVI>

HDMI (EX90): Select HDMI when you want to use the HDMI as the video input source 1.

DVI (EX60): Select DVI when you want to use the DVI as the video input source 1.

Example: Video Input Source 1 Connector: HDMI

Video Input Source [2] Connector

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

Select which video input connector to be active on video input source 2.

Requires user role: ADMIN

Value space: <DVI>/<CAMERA>

DVI (EX90): Select DVI when you want to use the DVI-I as input source 2.

CAMERA (EX60): Select CAMERA when you want to use the camera as input source 2.

Example: Video Input Source 2 Connector: DVI

Video Input Source [3] Connector

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2] only.

Select which video input connector to be active on video input source 3.

Requires user role: ADMIN

Value space: <CAMERA>

CAMERA (EX90): Select CAMERA when you want to use the camera as input source 3.

Example: Video Input Source 3 Connector: CAMERA

Video Input Source [1..3]/[1..2] Type

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

Set which type of input source is connected to the video input.

Requires user role: ADMIN

Value space: <other/camera/PC/DVD/document_camera>

Other: Select Other when some other type of equipment is connected to the selected video input.

Camera: Select Camera when you have a camera connected to the selected video input.

PC: Select PC when you have a PC connected to the selected video input.

DVD: Select DVD when you have a DVD player connected to the selected video input.

Document_Camera: Select Document_Camera when you have a document camera connected to the selected video input.

Example: Video Input Source 1 Type: PC

Video Input Source [1..3]/[1..2] CameraControl Mode

Not applicable in this version.

Video Input Source [1..3]/[1..2] CameraControl Camerald

Not applicable in this version.

Video Input Source [1..3]/[1..2] OptimalDefinition Profile

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

Adjust how rapidly the system will increase the transmitted resolution when increasing the bandwidth. NOTE: Requires that the Video Input Source Quality is set to Motion.

NOTE: The default transmit frame rate is set to 30 fps which is recommended for normal light conditions. In good light conditions you can also consider to allow 60 fps. To do this you need to enable 60 Hz capture frequency on the camera, which is done with the Cameras Camera 1 FrameRate setting (Cameras Camera 1 FrameRate: 60Hz).

Normal: Use this setting for normal to poorly lit environment. If the source is a camera with 1920x1080p60, the system will transmit 720p60 at about 2.2 Mb/sec and above when the Video Input Source [1..3]/[1..2] OptimalDefinition Threshold60fps is set to 1280_720 or lower.

Medium: Requires better than normal and consistent lighting and good quality video inputs. If the source is a camera with 1920x1080p60, the system will transmit 720p60 at about 1.9 Mb/sec and above when the Video Input Source [1..3]/[1..2] OptimalDefinition Threshold60fps is set to 1280_720 or lower.

High: Requires good lighting conditions for a good overall experience and good quality video inputs. If the source is a camera with 1920x1080p60, the system will transmit 720p60 at about 1.1 Mb/sec and above when the Video Input Source [1..3]/[1..2] OptimalDefinition Threshold60fps is set to 1280_720 or lower.

Requires user role: ADMIN

Value space: <Normal/Medium/High>

Ref: Table 1 and Table 2.

Example: Video Input Source 1 OptimalDefinition Profile: Normal

	w288p30	w448p30	w576p30	720p30	1080p30
Normal	256 kbit/s	512 kbit/s	768 kbit/s	1152 kbit/s	2560 kbit/s
Medium	128 kbit/s	384 kbit/s	512 kbit/s	1152 kbit/s	1920 kbit/s
High	128 kbit/s	256 kbit/s	512 kbit/s	768 kbit/s	1472 kbit/s

	w144p60	w288p60	w448p60	w576p60	720p60
Normal	128 kbit/s	512 kbit/s	1152 kbit/s	1472 kbit/s	2240 kbit/s
Medium	128 kbit/s	384 kbit/s	768 kbit/s	1152 kbit/s	1920 kbit/s
High	128 kbit/s	256 kbit/s	512 kbit/s	768 kbit/s	1152 kbit/s

Video Input Source [1..3]/[1..2] OptimalDefinition Threshold60fps

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

For each video input, this setting tells the system the lowest resolution where it should transmit 60 fps. So for all resolutions lower than this, the maximum transmitted frame rate would be 30 fps, while above this resolution 60 fps would also be possible, if the available bandwidth is adequate.

NOTE: The default transmit frame rate is set to 30 fps which is recommended for normal light conditions. In good light conditions you can also consider to allow 60 fps. To do this you need to enable 60 Hz capture frequency on the camera, which is done with the Cameras Camera 1 FrameRate setting (Cameras Camera 1 FrameRate: 60Hz).

Requires user role: ADMIN

Value space: <512_288/768_448/1024_576/1280_720/Never>

512_288: Set the threshold to 512x288.

768_448: Set the threshold to 768x448.

1024_576: Set the threshold to 1024x576.

1280_720: Set the threshold to 1280x720.

Never: Do not set a threshold for transmitting 60fps.

Example: Video Input Source 1 OptimalDefinition Threshold60fps: 1280_720

Video Input Source [1..3]/[1..2] Quality

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

When encoding and transmitting video there will be a trade-off between high resolution and high frame rate. For some video sources it is more important to transmit high frame rate than high resolution and vice versa. The Quality setting specifies whether to give priority to high frame rate or to high resolution for a given source.

Requires user role: ADMIN

Value space: <Motion/Sharpness>

Motion: Gives the highest possible framerate. Used when there is a need for higher frame rates, typically when a large number of participants are present or when there is a lot of motion in the picture.

Sharpness: Gives the highest possible resolution. Used when you want the highest quality of detailed images and graphics.

Example: Video Input Source 1 Quality: Motion

Video DefaultPresentationSource

NOTE: EX90 has Video Input Source [1..3] and EX60 has Video Input Source [1..2].

Define which video input source shall be used as the default presentation source (when you tap Presentation followed by Present on the touch controller). The input source is configured to a video input connector.

Requires user role: USER

Value space: <1..3>/<1..2>

Range: Select the video source to be used as the presentation source.

Example: Video DefaultPresentationSource: 1

Video Input DVI [2]/[1] Type

NOTE: EX90 has the DVI 2 input connector and EX60 has the DVI 1 input connector.

The official DVI standard supports both digital and analog signals. In most cases the default AutoDetect setting can detect whether the signal is analog RGB or digital. However, in some rare cases when DVI-I cables are used (these cables can carry both the analog and digital signals) the auto detection fails. This setting makes it possible to override the AutoDetect and select the correct DVI video input.

Requires user role: ADMIN

Value space: <AutoDetect/Digital/AnalogRGB/AnalogYPbPr>

AutoDetect: Set to AutoDetect to automatically detect if the signal is analog RGB or digital.

Digital: Set to Digital to force the DVI video input to Digital when using DVI-I cables with both analog and digital pins and AutoDetect fails.

AnalogRGB: Set to AnalogRGB to force the DVI video input to AnalogRGB when using DVI-I cables with both analog and digital pins and AutoDetect fails.

AnalogYPbPr: Set to AnalogYPbPr to force the DVI video input to AnalogYPbPr, as the component (YPbPr) signal cannot be auto detected.

Example: Video Input DVI 2 Type: AutoDetect

Video ControlPanel Brightness

Set the brightness level for the touch screen.

Requires user role: ADMIN

Value space: <S: 0, 100>

Range: Select a value from 0 to 100.

Example: Video ControlPanel Brightness: 100

Video Layout Scaling

Define how the system shall adjust the aspect ratio for images or frames when there is a difference between the image and the frame it is to be placed in.

Requires user role: ADMIN

Value space: <On/Off>

On: Let the system automatically adjust aspect ratio.

Off: No adjustment of the aspect ratio.

Example: Video Layout Scaling: On

Video Layout ScaleToFrame

Define what to do if the aspect ratio of a video input source doesn't match the aspect ratio of the corresponding image frame in a composition. For example if you have a 4:3 input source (like XGA) to be displayed on a 16:9 output (like HD720).

Requires user role: ADMIN

Value space: <Manual/MaintainAspectRatio/StretchToFit>

Manual: If the difference in aspect ratio between the video input source and the target image frame is less than the ScaleToFrameThreshold configuration (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.

MaintainAspectRatio: Will maintain the aspect ratio of the input source, and fill in black in the rest of the frame (letter boxing or pillar boxing).

StretchToFit: Will stretch (horizontally or vertically) the input source to fit into the image frame.

NOTE: The general limitation is that you cannot upscale in one direction and at the same time downscale in the other direction. In such situations the codec will apply letterboxing.

Example: Video Layout ScaleToFrame: MaintainAspectRatio

Video Layout ScaleToFrameThreshold

Only applicable if the ScaleToFrame configuration is set to manual. If the difference in aspect ratio between the video input source and the target image frame is less than the ScaleToFrameThreshold configuration (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.

Requires user role: ADMIN

Value space: <0..100>

Range: Select a value from 0 to 100 percent.

Example: Video Layout ScaleToFrameThreshold: 5

Video Layout LocalLayoutFamily

Select which video layout family to be used locally.

Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker>

Auto: The default layout family, as given by the layout database, will be used as the local layout. For more information about the layout database, see the command: xCommand Video Layout LoadDb.

FullScreen: The FullScreen layout family will be used as the local layout.

Equal: The Equal layout family will be used as the local layout.

PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the local layout.

PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the local layout.

Example: Video Layout LocalLayoutFamily: Auto

Video Layout RemoteLayoutFamily

Select which video layout family to be used for the remote participants.

Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker>

Auto: The default layout family, as given by the local layout database, will be used as the remote layout. For more information about the layout database, see the command: xCommand Video Layout LoadDb.

FullScreen: The FullScreen layout family will be used as the remote layout.

Equal: The Equal layout family will be used as the remote layout.

PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the remote layout.

PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the remote layout.

Example: Video Layout RemoteLayoutFamily: Auto

Video MainVideoSource

Not applicable in this version.

Video Monitors

Set the monitor layout mode.

Requires user role: ADMIN

Value space: <Single/Dual/DualPresentationOnly>

Single: The same layout is shown on all monitors.

Dual: The layout is distributed on two monitors.

DualPresentationOnly: All participants in the call will be shown on the first monitor, while the presentation (if any) will be shown on the second monitor.

Example: Video Monitors: Single

Video OSD Mode

Not applicable in this version.

Video OSD AutoSelectPresentationSource

Not applicable in this version.

Video OSD TodaysBookings

Not applicable in this version.

Video OSD MyContactsExpanded

Not applicable in this version.

Video OSD Output

Not applicable in this version.

Video OSD InputMethod InputLanguage

Not applicable in this version.

Video OSD InputMethod Cyrillic

Not applicable in this version.

Video OSD LoginRequired

Not applicable in this version.

Video Output HDMI [1] CEC Mode

The HDMI outputs support Consumer Electronics Control (CEC). When set to on (default is off), and the monitor connected to the HDMI output is CEC compatible and CEC is configured, the system will use CEC to set the monitor in standby when the system enters standby. Likewise the system will wake up the monitor when the system wakes up from standby. Please note that the different manufacturers uses different marketing names for CEC: Anynet+ (Samsung); Aquos Link (Sharp); BRAVIA Sync (Sony); HDMI-CEC (Hitachi); Kuro Link (Pioneer); CE-Link and Regza Link (Toshiba); RIHD (Onkyo); SimpLink (LG); HDAVI Control, EZ-Sync, VIERA Link (Panasonic); EasyLink (Philips); and NetCommand for HDMI (Mitsubishi).

Requires user role: ADMIN

Value space: <On/Off>

On: Enable CEC control.

Off: Disable CEC control.

Example: Video Output HDMI 1 CEC Mode: Off

Video Output HDMI [1] MonitorRole

NOTE: Applies to EX90.

The HDMI monitor role describes what video stream will be shown on the monitor connected to the video output HDMI connector. Applicable only if the "Video > Monitors" configuration is set to dual.

Requires user role: ADMIN

Value space: <First/Second/PresentationOnly>

First: Show main video stream.

Second: Show presentation video stream if active, or other participants.

PresentationOnly: Show presentation video stream if active, and nothing else.

Example: Video Output HDMI 1 MonitorRole: First

Video Output HDMI [1] OverscanLevel

NOTE: Applies to EX90 only.

Some TVs or other monitors may not display the whole image sent out on the systems video output, but cuts the outer parts of the image. In this case this setting can be used to let the system not use the outer parts of video resolution. The video will be scaled in this case.

Requires user role: ADMIN

Value space: <Medium/High/None>

Medium: The system will not use the outer 3% of the output resolution.

High: The system will not use the outer 6% of the output resolution

None: The system will use all of the output resolution.

Example: Video Output HDMI 1 OverscanLevel: None

Video Output HDMI [1] Resolution

NOTE: Applies to EX90.

Select the preferred resolution for the monitor connected to the video output HDMI connector. This will force the resolution on the monitor.

Requires user role: ADMIN

Value space: <Auto/640_480_60/800_600_60/1024_768_60/1280_1024_60/1280_720_50/1280_720_60/1920_1080_50/1920_1080_60/1280_768_60/1360_768_60/1366_768_60/1600_1200_60/1920_1200_60>

Auto: The system will automatically try to set the optimal resolution based on negotiation with the connected monitor.

Range: 640x480@60p, 800x600@60p, 1024x768@60p, 1280x1024@60p, 1280x720@50p, 1280x720@60p, 1920x1080@50p, 1920x1080@60p, 1280x768@60p, 1360x768@60p, 1366x768@60p, 1600x1200@60p, 1920x1200@60p

Example: Video Output HDMI 1 Resolution: 1920_1080_60

Video Output LCD [2]/[1] Resolution

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the screen resolution.

Requires user role: ADMIN

Value space: <1920_1200_60>

Range: The screen resolution is 1920 x 1200 60 Hz.

Example: Video Output LCD 2 Resolution: 1920_1200_60

Video Output LCD [2]/[1] MonitorRole

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the LCD monitor role.

It is highly recommended to use the default setting. NOTE: The settings made here will be overruled by the touch controller.

Requires user role: ADMIN

Value space: <First/Second/PresentationOnly/InternalSetup>

First: Show main video stream.

Second: Show presentation video stream if active, or other participants.

PresentationOnly: Show presentation video stream if active, and nothing else.

InternalSetup: Internal setup from the touch controller will be used.

Example: Video Output LCD 1 MonitorRole: InternalSetup

Video Output LCD [2]/[1] Brightness

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the brightness level for the monitor.

Requires user role: ADMIN

Value space: <S: 0, 100>

Range: Select a value from 0 to 100.

Example: Video Output LCD 1 Brightness: 50

Video Output LCD [2]/[1] Red

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the Red color level for the monitor.

Requires user role: ADMIN

Value space: <S: 0, 100>

Range: Select a value from 0 to 100.

Example: Video Output LCD 1 Red: 50

Video Output LCD [2]/[1] Green

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the Green color level for the monitor.

Requires user role: ADMIN

Value space: <S: 0, 100>

Range: Select a value from 0 to 100.

Example: Video Output LCD 1 Green: 50

Video Output LCD [2]/[1] Blue

NOTE: EX90 has the LCD 2 connector and EX60 has the LCD 1 connector.

Set the Blue color level for the monitor.

Requires user role: ADMIN

Value space: <S: 0, 100>

Range: Select a value from 0 to 100.

Example: Video Output LCD 1 Blue: 50

Video Output Internal [3]/[2] MonitorRole

NOTE: Difference between EX90 and EX60.

Determine the role of the internal monitor and select where to show the video stream and presentation.

It is highly recommended to use the default setting.

Requires user role: ADMIN

Value space: <First/Second/PresentationOnly>

First: Show the main video stream.

Second: Show presentation video stream if active, or other participants.

PresentationOnly: Show presentation video stream if active, and nothing else.

Example: Video Output Internal 2: First

Video Selfview

Determine if the main video source (selfview) shall be displayed on screen.

Requires user role: USER

Value space: <On/Off>

On: Display selfview on screen.

Off: Do not display selfview on screen.

Example: Video Selfview: On

Video Wallpaper

Determine which background picture to show on the touch screen and main screen when idle. It is recommended to use Wallpaper01 to Wallpaper12.

Requires user role: USER

Value space: <None/Growing/Summersky/Custom/Wallpaper01/Wallpaper02/Wallpaper03/Wallpaper04/Wallpaper05/Wallpaper06/Wallpaper07/Wallpaper08/Wallpaper09/Wallpaper10/Wallpaper11/Wallpaper12/Wallpaper13>

Wallpaper01 to Wallpaper13: Select one of the predefined wallpapers to be displayed on the main screen and touch screen. The wallpaper will be shown on both screens.

None: No wallpaper will be displayed on the main screen. NOTE: When you change the wallpaper on the touch screen, it will also set the wallpaper for the main screen.

Summersky, Growing: Select one of the predefined wallpapers to be displayed on the main screen. It will not be displayed on the touch screen. NOTE: When you change the wallpaper on the touch screen, it will also change the wallpaper for the main screen.

Custom: The custom wallpaper will only show on the main screen, not the touch screen. It must be uploaded to the codec from the web interface before selecting Custom. The maximum supported resolution is 1920x1280.

1) *On the video system:* Find the IP address of the codec. Open the menu on screen and go to Home > Settings > System information to find the IP Address.

2) *On your computer:* Open a web browser and enter the IP address of the codec. Select "Wallpaper" from the menu, browse for the file, and press the "Upload" button.

3) *On the web interface:* Log in and go to Advanced Configuration > Video > Wallpaper and select Custom. Give it a few seconds to display the new picture. If the picture does not show, toggle once between "None" and "Custom" wallpaper to make the change take effect. NOTE: When you change the wallpaper on the touch screen, it will also change the wallpaper for the main screen.

Example: Video Wallpaper: Wallpaper01

The Experimental settings

The Experimental settings are beta preview features and can be used 'as is'. They are not fully documented.

NOTE: The Experimental settings are likely to change without further notice.

Experimental Audio Panning Mode

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <Off/Auto>

Example: Experimental Audio Panning Mode: Off

Experimental Audio Panning MaxAngle

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <0..90>

Example: Experimental Audio Panning MaxAngle: 0

Experimental Audio Panning MonitorLeft

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <1/2/3/4/5>

Example: Experimental Audio Panning MonitorLeft: 1

Experimental Audio Panning MonitorRight

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <1/2/3/4/5>

Example: Experimental Audio Panning MonitorRight: 1

Experimental CapsetFilter

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <S: 0, 100>

Example: Experimental CapsetFilter: ""

Experimental CapsetReduction

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <Auto/Reduced>

Example: Experimental CapsetReduction: Auto

Experimental Conference [1..1] PacketLossResilience ForwardErrorCorrection

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Will enable ForwardErrorCorrection (RFC5109) mechanism as part of the PacketLossResilience mechanism. Default value is On.

On: Forward error correction will be used as part of the PacketLossResilience mechanism.

Off: Forward error correction will NOT be used as part of the PacketLossResilience mechanism.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental Conference 1 PacketLossResilience ForwardErrorCorrection: On

Experimental Conference [1..1] PacketLossResilience RateAdaption

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Will use the a RateAdaption algorithm adapted to the PacketLossResilience mechanism. Default value is On.

On: RateAdaption will be used as part of the PacketLossResilience mechanism.

Off: RateAdaption will NOT be used as part of the PacketLossResilience mechanism.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental Conference 1 PacketLossResilience RateAdaption: On

Experimental Conference [1..1] ReceiverBasedDownspeeding

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental Conference 1 ReceiverBasedDownspeeding: Off

Experimental NetworkServices UPnP Mode

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental NetworkServices UPnP Mode: Off

Experimental NetworkServices UPnP Timeout

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <0..3600>

Example: Experimental NetworkServices UPnP Timeout: 0

Experimental SystemUnit MenuType

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <Indicators/Full>

Example: Experimental SystemUnit MenuType: Full

Experimental SystemUnit SoftwareUpgrade RequireAuthentication

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental SystemUnit SoftwareUpgrade RequireAuthentication: Off

Experimental Video OSD AlertOnIncomingCall

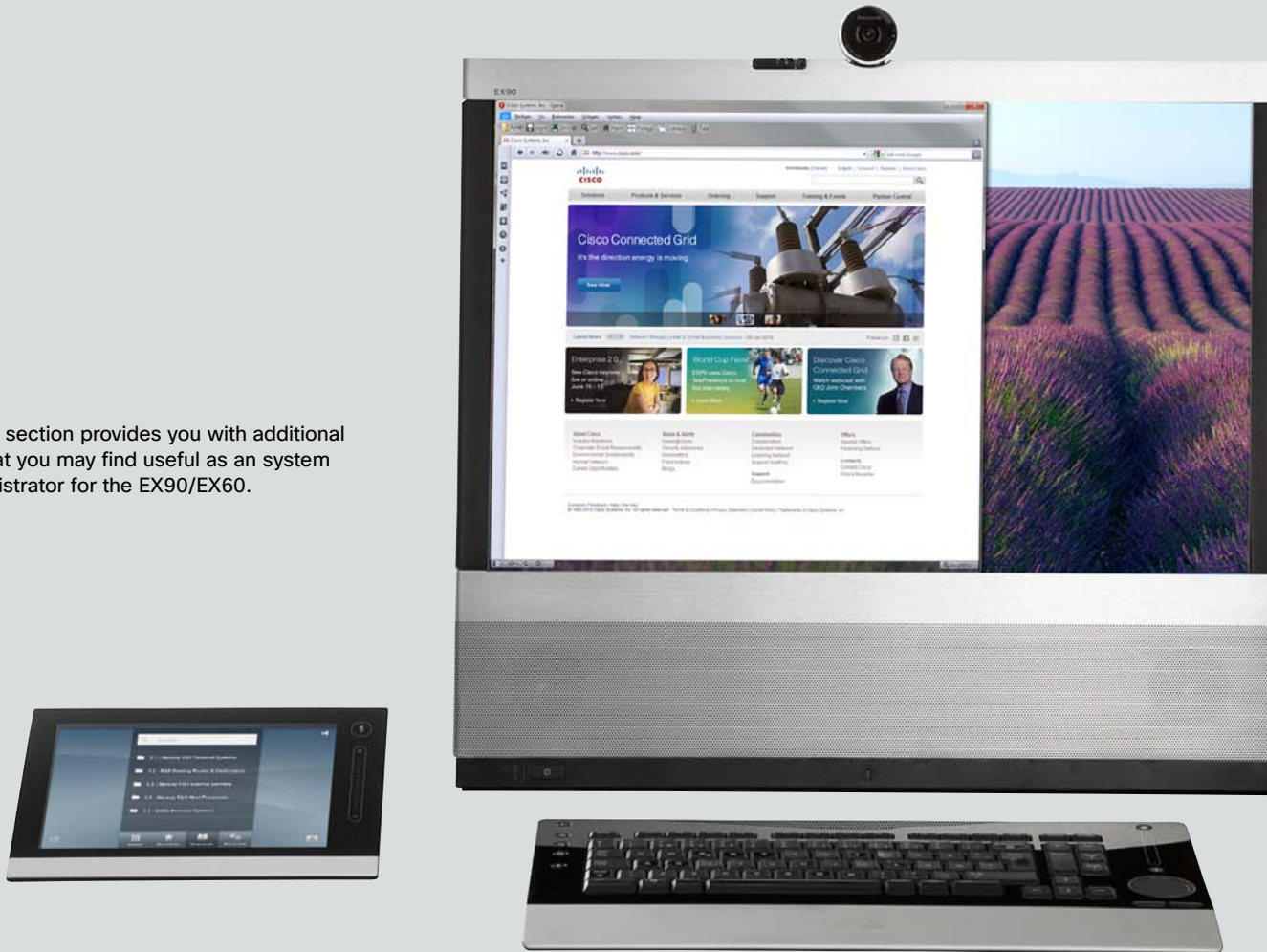
NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings WILL change.

Requires user role: ADMIN

Value space: <On/Off>

Example: Experimental Video OSD AlertOnIncomingCall: On

The appendices section provides you with additional information that you may find useful as a system administrator for the EX90/EX60.



CHAPTER 4 APPENDICES

Setting the system password

You need a username and password to sign in to the web and command line interfaces of your system.

The video conference system is delivered with a default user account with username `admin` and no password set. This user has full access rights to the system.

NOTE: We strongly recommend that you set a password for the `admin` user to restrict access to system configuration.

Make sure to keep a copy of the password in a safe place. You have to contact your Cisco representative if you have forgotten the password.

Changing your system password

Perform the following steps to change the system password.

If a password is currently not set, use a blank *Current password*; to remove a password, leave the *New password* fields blank.

1. Sign in to the web interface with your username and current password.
2. Go to the *Maintenance* tab and select *Change Password*.
3. Enter the *Current password*, the *New password*, and repeat the new password in the appropriate input fields.
The password format is a string with 0-64 characters.
4. Click *Change password*.

Changing another user's system password

Read more about creating more user accounts in the [User management](#) section.

If you have ADMIN rights, you can change all users' passwords by performing the following steps:

1. Sign in to the web interface with your username and password.
2. Go to the *Maintenance* tab and select *User administration*.
3. Select the appropriate user from the list.
4. Enter a new password and PIN code.
5. Click *Save*.

Setting the Administrator settings menu password

When starting up the system for the first time the Administrator Settings menu password is not set.

NOTE: We strongly recommend that you define a password to protect the Administrator Settings menu on the Touch controller, since these settings affect the behavior of the video conference system.

You need to use a command line interface to set the Administrator Settings menu password; you neither can use the Touch controller nor the web interface.

Setting the Administrator Settings menu password

1. Connect to the system through the network or the serial data port, using a command line interface (SSH or Telnet).
2. Type the following command:

```
xCommand SystemUnit MenuPassword Set
Password: <password>
```

The password format is a string with 0-255 characters.

Setting a root password

You can also protect the file system of your video system by setting a password for the root user. The root user is disabled by default. You have to use the command line interface to enable the root user and set a root password.

Setting a root password

Perform the following steps to activate the root user and set a password for it:

1. Connect to the system through the network or the serial data port, using a command line interface (SSH or Telnet).
2. Sign in to the system with username and password. The user needs ADMIN rights.
3. Type the following command:

```
systemtools rootsettings on <password>
```

NOTE: The root password is not the same as the system (admin) password.

Optimal definition profiles

Under ideal lighting conditions the bandwidth requirements can be substantially reduced with the optimal definitions profiles.

Generally, we recommend the Optimal Definition set at Normal.

If lighting conditions are good we recommend that you test the endpoint on the various Optimal Definition settings before deciding on a profile.

Go to Advanced Configuration on the web interface and navigate to *Video > Input > Source [1..n] > OptimalDefinition > Profile* and select the optimal definition profile.

You can set a resolution threshold below which the maximum frame rate will be 30 fps.

Go to Advanced Configuration on the web interface and navigate to *Video > Input > Source [1..n] > OptimalDefinition > Threshold60fps* and select a threshold.

The video input quality settings must be set to Motion for the Optimal Definition to work. With the video input quality set to Sharpness, the endpoint will transmit the highest resolution possible, regardless of frame rate.

Go to Advanced Configuration on the web interface and navigate to *Video > Input > Source [1..n] > Quality* and set the video quality parameter.

You can read more about the video settings in the [▶ Advanced settings](#) chapter.

Optimal definition profile



High (720p60)

Typically used in dedicated video conferencing rooms. Requires good lighting conditions for a good overall experience.

Under ideal conditions the bandwidth requirements can be reduced by up to 50%.



Medium (w576p60)

Typically used in rooms with better than normal, and consistent lighting.

The bandwidth requirements can be reduced by up to 25%.



Normal (w448p60)

This setting is typically used in office environments where the environment is normal to poorly lit.

Generally, we recommend the Optimal Definition set at Normal.

Table 1: Optimal definition for systems supporting 1080p

	w288p30	w448p30	w576p30	720p30	1080p30
Normal	256 kbit/s	512 kbit/s	768 kbit/s	1152 kbit/s	2560 kbit/s
Medium	128 kbit/s	384 kbit/s	512 kbit/s	1152 kbit/s	1920 kbit/s
High	128 kbit/s	256 kbit/s	512 kbit/s	768 kbit/s	1472 kbit/s

Table 2: Optimal definition for systems supporting 720p60

	w144p60	w288p60	w448p60	w576p60	720p60
Normal	128 kbit/s	512 kbit/s	1152 kbit/s	1472 kbit/s	2240 kbit/s
Medium	128 kbit/s	384 kbit/s	768 kbit/s	1152 kbit/s	1920 kbit/s
High	128 kbit/s	256 kbit/s	512 kbit/s	768 kbit/s	1152 kbit/s

ClearPath – Packet loss resilience

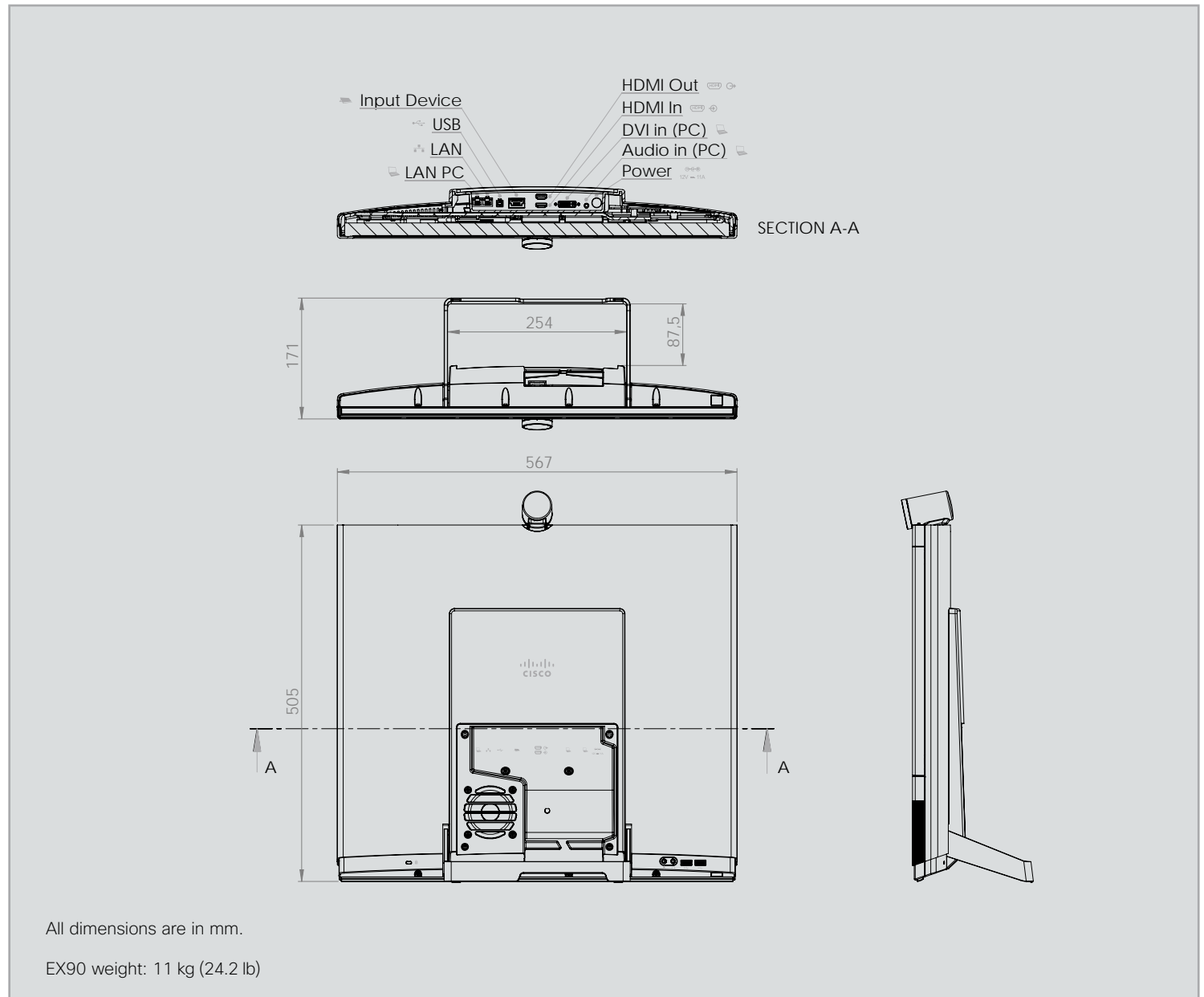
ClearPath introduces advanced packet loss resilience mechanisms that increase the experienced quality when you use your video system in an error prone environment.

To configure ClearPath select *Advanced Configuration* on the web interface and navigate to *Conference 1 > PacketLossResilience > Mode*. Select *Off* to disable ClearPath and select *On* to enable ClearPath.

We recommend that you keep ClearPath enabled on your video system.

Dimensions of the EX90

The illustration shows the EX90 dimensions.

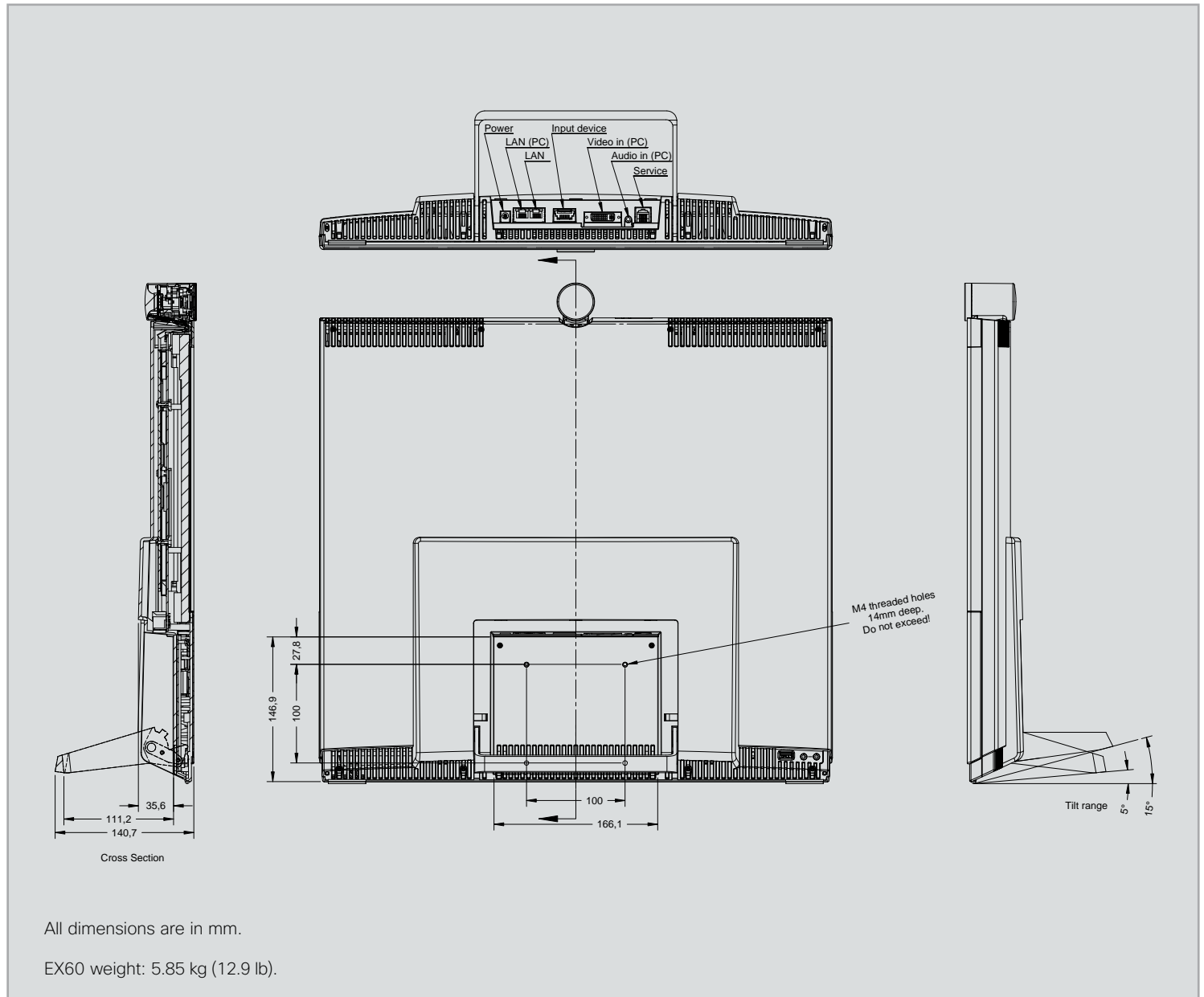


Wall mounting or arm mounting the EX60

The EX60 can be attached to a variety of 100 mm x 100 mm VESA compatible wall mounts and arms.

When choosing a mounting solution, consider the mounting pattern, the EX60 dimensions and obstructions.

NOTE: Not all VESA compatible products will easily fit with the EX60.



Technical specifications for EX90/EX60

The EX90/EX60 units are delivered with a fully integrated codec, display, camera, microphone and loudspeakers, and a touch screen controller with a detachable wideband handset.

PRODUCT COMPATIBILITY

- Fully compatible with standards-compliant telepresence and video systems

SOFTWARE COMPATIBILITY

EX90:

- Cisco TelePresence Software Version TC3.1 or later

EX60:

- Cisco TelePresence Software Version TC4.0 or later

COMPONENTS

- Fully integrated unit including codec, display, camera, microphone and loudspeakers
- Cables including: DVI-I-to-VGA cable, DVI-D cable, 3.5 mm jack audio cable, LAN cable, power adapter, and power cable

DISPLAY

EX90:

- 24 in. LCD monitor
- Resolution: 1920 × 1200 (16:9)
- Contrast ratio: 1000:1
- Viewing angle: 160°
- Response time: 5 ms
- Brightness: 300 cd/m²
- 5° - 15° tilt

EX60:

- 21 in. LCD monitor (with LED backlight)
- Resolution: 1920 × 1080 (16:9)
- Contrast ratio: 1000:1
- Viewing angle: 170°
- Response time: 5 ms
- Brightness: 225 cd/m²

PC AND SECOND SOURCE VIDEO INPUTS

EX90:

- DVI-I
- HDMI In

EX60:

- DVI-I

SUPPORTED PC INPUT RESOLUTIONS

EX90:

- SVGA (800 × 600) to WUXGA (1920 × 1200)

EX60:

- SVGA (800 × 600) to 1080p (1920 × 1080)

AUDIO SYSTEM

- Two stereo front speakers
- Integrated full-range microphone
- One 3.5 mm line-in jack for PC or other audio source
- Two 3.5 mm jack for headset
- Wideband handset
- Bluetooth-ready

EX90 only:

- Integrated subwoofer
- Support for Performance Mic 20
- HDMI audio input/output

CAMERA

- Cisco TelePresence PrecisionHD design
- Resolutions: 1080p30 and 720p60
- Auto focus
- Integrated privacy shutter
- Document camera mode
- Multicoated all-glass optics
- 1/3-in., 2.1 megapixel CMOS sensor

EX90:

- Horizontal field of view: 45° -65°
- Vertical field of view: 40° -27°
- Focus distance 0.3-infinity
- Optical, motorized zoom

EX60:

- Horizontal field of view: 50°
- Vertical field of view: 29°
- Focus distance 0.1-infinity

USER INTERFACE

- Cisco TelePresence Touch screen
- Eight-inch projected capacitive touch screen
- Resolution: 480 × 800

LANGUAGE SUPPORT

- English

MAIN UNIT DIMENSIONS

EX90:

- Height: 54.5 cm (21.4")
- Length: 56.7 cm (22.3")
- Depth: 17.3 cm (6.8")
- Weight: 11.0 kg (24.2 lb)

EX60:

- Height: 50.8 cm (20.0")
- Length: 52.0 cm (20.5")
- Depth: 13.8 cm (5.4")
- Weight: 5.85 kg (12.9 lb)

TOUCH SCREEN DIMENSIONS

Without handset:

- Height: 4.4 cm (1.7")
- Length: 22.8 cm (9.0")
- Depth: 14.5 cm (5.7")
- Weight: 0.64 kg (1.4 lb)
- Cable length: 120 cm (47")

With handset:

- Height: 7.7 cm (3.0")
- Length: 29.0 cm (11.4")
- Depth: 18.7 cm (7.4")
- Weight: 0.94 kg (2.1 lb)
- Cable length: 120 cm (47")

POWER

- Autosensing power supply
- 100-240 VAC, 50/60 Hz
- 150 watts max

OPERATING TEMPERATURE AND HUMIDITY

- Ambient temperature: 32° F to 95° F (0° C to 35° C)
- Relative Humidity (RH): 10 to 90%
- Storage and transport temperature at RH 10-90% (non-condensing): -20° C to 60° C (-4° F to 140° F)

BANDWIDTH

- H.323/SIP up to 6 Mbps point-to-point

VIDEO STANDARDS

- H.261, H.263, H.263+, H.264

VIDEO FEATURES

- Widescreen: 16:9
- Advanced screen layouts
- Intelligent video management
- Local auto layout

LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

- 176 × 144@30 fps (QCIF)
- 352 × 288@30 fps (CIF)
- 512 × 288@30 fps (w288p)
- 576 × 448@30 fps (448p)
- 768 × 448@30 fps (w448p)
- 704 × 576@30 fps (4CIF)
- 1024 × 576@30 fps (w576p)
- 640 × 480@30 fps (VGA)
- 800 × 600@30 fps (SVGA)
- 1024 × 768@30 fps (XGA)
- 1280 × 1024@30 fps (SXGA)
- 1280 × 720@30 fps (720p30)
- 1280 × 768@30 fps (WXGA)
- 1920 × 1080@30 fps (1080p30)*
- 1440 × 900@30 fps (WXGA+)*
- 1680 × 1050@30 fps (WSXGA+)*
- 1600 × 1200@30 fps (UXGA)*
- 512 × 288@60 fps (w288p60)*
- 768 × 448@60 fps (w448p60)*
- 1024 × 576@60 fps (w576p60)*
- 1280 × 720@60 fps (720p60)*

EX90 only:

- 1920 × 1200@25fps (WUXGA)*

* Requires premium resolution option

AUDIO STANDARDS

- G.711, G.722, G.722.1, 64/128 kbps MPEG4 AAC-LD, AAC-LD stereo

AUDIO FEATURES

- CD-quality 20 kHz stereo
- Acoustic echo canceling
- Automatic gain control
- Automatic noise reduction
- Active lip synchronization

DUAL STREAM

- H.239 (H.323) dual stream
- BFCP (SIP) dual stream

EX90:

- Supports resolutions up to 1080p in both main stream and dual stream simultaneously

EX60:

- Supports resolutions up to 720p in both main stream and dual stream simultaneously

PROTOCOLS

- H.323
- SIP

NETWORK INTERFACES

- Internal 2-port Ethernet switch
- 1 × LAN/Ethernet (RJ-45) 10/100/1000 Mbit for PC
- 1 × LAN/Ethernet (RJ-45) 10/100/1000 Mbit for LAN

OTHER INTERFACES

- Bluetooth for future applications

EX90:

- 2 × USB device for future applications

EX60:

- 1 × USB device for future applications

IP NETWORK FEATURES

- Domain Name System (DNS) lookup for service configuration
- Differentiated Services (QoS)
- IP adaptive bandwidth management (including flow control)
- Auto gatekeeper discovery
- Dynamic playout and lip-sync buffering
- H.245 DTMF tones in H.323
- Date and time support with Network Time Protocol (NTP)
- Packet loss based downspeeding
- DNS-based URI dialing
- TCP/IP
- Dynamic Host Configuration Protocol (DHCP)
- IEEE 802.1x network authentication
- IEEE 802.1q VLAN

FIREWALL TRAVERSAL

- Cisco TelePresence Expressway Technology
- H.460.18 and H.460.19 Firewall Traversal

EMBEDDED ENCRYPTION

- H.323/SIP point-to-point
- Standards-based: H.235 v2 and v3 and Advanced Encryption Standard (AES)
- Automatic key generation and exchange
- Supported in dual stream

SECURITY FEATURES

- Management via Secure HTTP (HTTPS) and Secure Shell (SSH) protocol
- IP administration password
- Menu administration password
- Disable IP services
- Network settings protection

MULTISITE

EX90 only:

- 4-way 720p30 Continuous Presence (CP) MultiSite
- Full individual audio and video transcoding
- Individual layouts for each participant (CP layout without self view)
- H.323/SIP/VoIP in the same conference
- Best Impression (Automatic CP layouts)
- H.264, encryption and dual stream from any site
- IP downspeeding
- Dial in/Dial out

SYSTEM MANAGEMENT

- Support for the Cisco TelePresence Management Suite
- Total management through embedded Simple Network Management Protocol (SNMP), Telnet, SSH, XML, and Simple Object Access Protocol (SOAP)
- Remote software upload: through web server, Secure Copy Protocol (SCP), HTTP, and HTTPS

DIRECTORY SERVICES

- Support for local directories (My Contacts)
- Corporate directory
- Unlimited entries using server directory supporting
- Lightweight Directory Access Protocol (LDAP) and H.350
- Unlimited number for corporate directory (available with Cisco TelePresence Management Suite)
- Received calls with date and time
- Placed calls with date and time
- Missed calls with date and time

APPROVALS**EU/EEC**

Directive 2006/95/EC (Low Voltage Directive)

- Standard EN 60950-1

Directive 2004/108/EC (EMC Directive)

- Standard EN 55022, Class A
- Standard EN 55024
- Standard EN 61000-3-2/-3-3

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

USA

Approved according to UL 60950-1

Complies with FCC15B Class A

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

Canada

Approved according to CAN/CSA C22.2 No. 60950-1

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

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

MTBF PRODUCT RELIABILITY/MTBF

The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours:

- Power On Hours (POH) > 69 000 hours.
- Useful Life Cycle > 6 years.

ISO 9001 certificate is available upon request

All specifications are subject to change without notice, system specifics may vary.

All images in these materials are for representational purposes only, actual products may differ.

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July 2011

User documentation on the Cisco web site

User documentation for Cisco TelePresence products can be found on [▶ http://www.cisco.com/go/telepresence/docs](http://www.cisco.com/go/telepresence/docs).

Depending on which product you have got, select the following in the right pane:

MX200:

TelePresence Endpoints - Multipurpose
> *Cisco TelePresence MX200 Series*

Profile Series:

TelePresence Endpoints - Multipurpose
> *Cisco TelePresence System Profile Series*

EX Series:

TelePresence Endpoints - Personal
> *TelePresence Desktop*
> *Cisco TelePresence System EX Series*

Codec C Series:

TelePresence Solutions Platform
> *TelePresence Integrator Products*
> *Cisco TelePresence System Integrator C Series*

Quick Set C20:

TelePresence Solutions Platform
> *TelePresence Quick Set*
> *Cisco TelePresence System Quick Set C Series*

Document categories

For each product you will find the documents under the following categories:

User guides:

Maintain and Operate | End-User Guides

Quick reference guides:

Maintain and Operate | End-User Guides

Installation guides:

Install and Upgrade | Install and Upgrade Guides

Getting started guide:

Install and Upgrade | Install and Upgrade Guides

Administrator guides:

Maintain and Operate | Maintain and Operate Guides

API reference guides:

Reference Guides | Command references

Physical interface guides:

Maintain and Operate | End-User Guides

Regulatory compliance and safety information:

Install and Upgrade | Install and Upgrade Guides

TC software release notes:

Release and General Information | Release Notes

TC software licensing information:

Release and General Information | Licensing Information

Video conferencing room guidelines:

Design | Design Guides

NOTE: All products do not have all types of user documentation.