

Software version TC4.0  
NOVEMBER 2010



Codec C60/C40



Profile 42"



Profile 52"



Profile 52" Dual



Profile 65"

# Administrator guide

For Cisco TelePresence System Codec C60/C40 and Profiles using C60

Thank you for choosing Cisco!

Your Cisco product has been designed to give you many years of safe, reliable operation.

This part of the product documentation is aimed at administrators working with the setup of the Codec C60/C40 and Profiles using Codec C60/C40.

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  
► <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. Just click on them to go to the topic.

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## Chapter 1

# Introduction

## Introduction

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

Products covered in this guide:

- Profile 42" / 52" / 52" Dual / 65" using C60
- Codec C60
- Codec C40

## User documentation

The user documentation for the Cisco TelePresence systems, running the **TC software**, has several guides suitable for various user groups.

- Video conference room primer
- Video conference room acoustics guidelines
- Getting started guide for the TelePresence systems
- User guide for the TelePresence systems
- Administrator guides for the TelePresence systems
- Camera user guide for the PrecisionHD cameras
- API reference guides for the Codec C Series
- TC Console user guide for the Codec C Series
- Physical interfaces guides for the Codec C Series
- Regulatory compliance and safety information guides
- Legal and license information for products using TC software

### Download the user documentation

Go to: ► <http://www.cisco.com/go/telepresence/docs> and select your product to see the user documentation for your product.

## What's new in this version

This section provides an overview of the new and changed API commands and new features in the TC4.0 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/go/telepresence/docs>

### Software download

For software download go to:  
► <http://ftp.tandberg.com/pub/software/endpoints/tc/>

### User documentation

The user documentation is available from our web site. Select a product from the list to produce an overview of the user documentation for that product.  
Go to: ► <http://www.cisco.com/go/telepresence/docs>

## New features and improvements

### ClearPath

ClearPath is a Cisco developed technology for removing negative effects of packet loss. ClearPath is turned on by default and will be used when supported on both ends.

ClearPath uses three different technologies:

- Dynamic bandwidth adaptation
- Long term reference frames
- Video aware Forward Error Correction (FEC)

The ClearPath mode is set by the xConfiguration Conference PacketLossResilience Mode command.

### Cisco branding

All web logos and GUI logo references to TANDBERG have been replaced with Cisco logo.

### IPv6

All services running are supported except Telnet. Both H.323 and SIP is supported. Dual protocol is not supported. H.323 and SIP will run on either IPv4 or IPv6.

### One additional telephone call

All systems are now able to dial one telephone call in addition to the number of video calls allowed. A system with MultiSite installed can dial 3 sites on video and one additional site on telephone. If MultiWay is configured this feature will not be available.

### Multiple dial methods in phonebook

Contacts in the phonebook can now be dialed using multiple dialing methods. For example a user may be reached in three different ways: H.323, SIP and using an E.164 alias dialing him or her through an ISDN gateway. If the user is listed with these options in the phonebook the alternatives are listed under "View dialing methods" for the given user.

### Drag and drop utility allows video layouts to be customized

Systems using the Cisco TelePresence System Codec C60 or C90 can now use the Cisco TC Console to configure custom layouts for what to be presented locally and what to send to the far end.

The Cisco TC Console can be downloaded free of charge from the Developer Zone. Go to: ► <http://developer.tandberg.com>

### Active video out on C40 when no dual option is installed

This enables the use of DVI-I output instead of of the HDMI for single screen systems.

### MultiWay support for C40, C60 and C90

Multiway™ conferencing enables video endpoint users to introduce a third party to an existing call. It can be used in the following situations:

- You want to add someone else to your existing call.
- You are called by a third party while already in a call and you want to include that person in the call.

### Configurable top banner

The top banner of the GUI which normally will display the systems URI can now be configured to display: Auto, None, IPv4 address, IPv6 address, H.323 ID, E.164 Alias, SIP URI or system name.

### Dereverberation on microphones

Dereverberation on microphones is available for the C40, C60, C90 codecs and for profile series with one of the mentioned codecs installed. Dereverberation will attempt to remove the room signature from the signal before transmitting it to the far end site.

### RFC2833

Support for RFC 2833, out-of-band DTMF tones for SIP.

### User administration on web, local user database

Added possibility to create, modify and delete users who are given access to the codec, as well as differentiating their privileges through the assignment of the roles ADMIN, USER and AUDIT. Passwords and PIN are assigned to users to give access to SSH, Telnet and Web, as well as serial port or GUI if required login on these interfaces is enabled.

### Audit logging support

All user login and login attempts and configuration changes are recorded and can be sent to an audit server, with or without encryption.

### Restrict management by IP address filtering

User access to codec via SSH, Telnet or HTTP/HTTPS can be restricted on basis of IP address or range of IP addresses.

### Mutual authentication on web

If http client certificate verification is required, a web certificate is required in order to access the codec's Web interface.

### Web snapshots

Snapshots can now be obtained from the local main camera through the web interface.

**NOTE:** Web snapshots cannot be enabled remotely. You must enable it locally either through the on-screen menus or the RS-232 serial port.

### New software release for Cisco TelePresence PrecisionHD Camera - 1080p 12x

With the TC4.0.0 release, the PrecisionHD 1080p camera will automatically be upgraded to camera software release ID40063. Included in this release is:

- Minor modifications to the sharpen filter strength at lower gain levels.
- Command Video Layout AutoMode  
xCommand Video Layout AutoModeRemote

## The Advanced configuration menu

### New settings

xConfiguration Audio Input Microphone EchoControl Dereverberation  
xConfiguration Conference PacketLossResilience Mode  
xConfiguration Network IPStack  
xConfiguration Network IPv6 Address  
xConfiguration Network IPv6 GateWay  
xConfiguration Network IPv6 Assignment  
xConfiguration Network IPv6 DHCPOptions  
xConfiguration Network RemoteAccess Allow  
xConfiguration NetworkServices  
xConfiguration NetworkServices SSH Mode  
xConfiguration NetworkServices SSH AllowPublicKey  
xConfiguration NetworkServices HTTPS VerifyClientCertificate  
xConfiguration Provisioning ExternalManager Domain  
xConfiguration Security Audit Server Address  
xConfiguration Security Audit Server Port  
xConfiguration Security Audit OnError Action  
xConfiguration Security Audit Logging Mode  
xConfiguration Security Session InactivityTimeout  
xConfiguration SerialPort Mode  
xConfiguration SystemUnit ContactInfo Type  
xConfiguration Video AllowWebSnapshots  
xConfiguration Video SelfviewPosition  
xConfiguration Video Layout LocalLayoutFamily  
xConfiguration Video Layout RemoteLayoutFamily  
xConfiguration Video OSD LoginRequired

### Settings that have changed

xConfiguration Audio Input Microphone Equalizer ID  

- Increased the number of equalizer IDs from 8 to 14.

xConfiguration GPIO Pin Mode  

- Added argument 'OutputStandbyActive'

xConfiguration Network QoS  

- Removed argument 'IPv4'

xConfiguration SystemUnit MenuLanguage  

- Added arguments 'SpanishLatin' and 'Turkish'

### Experimental settings

The Experimental settings are beta settings. These settings can be used 'as is', and are not fully documented.

**NOTE:** The Experimental settings are likely to change.

## System overview

See the installation sheet for the Profile 42" for instructions on how to install the system.

### Codec C60

- Full HD video.
- High resolution data sharing.
- Full HD Multisite.
- Rich I/O capabilities.

### PrecisionHD 1080p camera

Full HD Camera designed for visual communication with:

- 12 x optical zoom.
- Fast and precise pan, tilt and zoom.

### Monitor

42" Full HD LCD, 16:9, 1080 x 1920 resolution.

### Audio module

Wide band audio module supporting:

- 20 kHz AAC-LD.
- Full echo canceling.
- Stereo.

### Audio amplifier

Optimized DNAM for the Profile system, providing crystal clear and natural audio.

### Microphones

3 x Microphones.

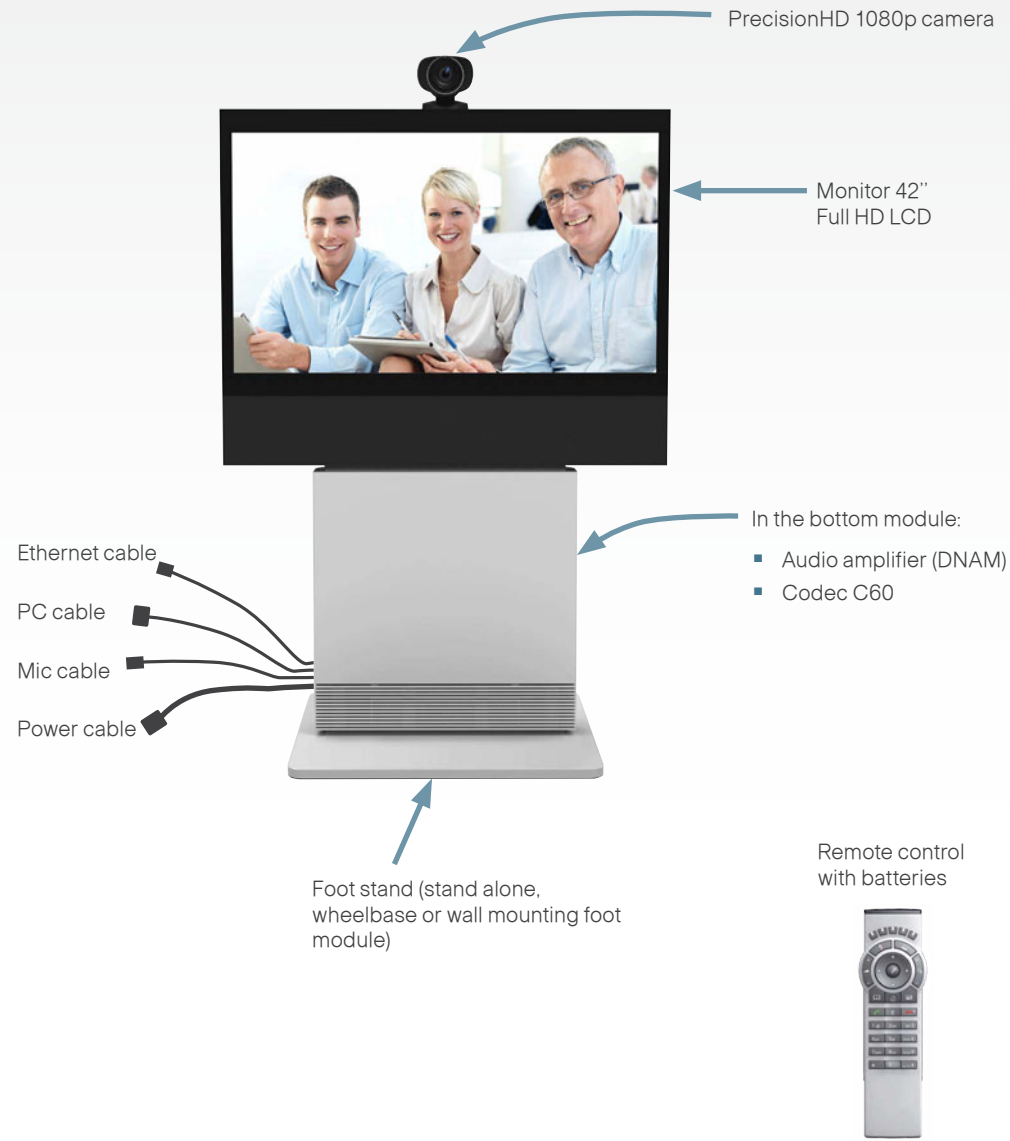
### Remote control

Remote Control TRC5, with AAA batteries.

### Foot stand

Stand alone, wheelbase or wall mounting foot stand.

## Profile 42"





## System overview, continued...

See the installation sheet for the Profile 52" for instructions on how to install the system.

### Codec C60

- Full HD video.
- High resolution data sharing.
- Full HD Multisite.
- Rich I/O capabilities.

### PrecisionHD 1080p camera

Full HD Camera designed for visual communication with:

- 12 x optical zoom.
- Fast and precise pan, tilt and zoom.

### Monitor

52" Full HD LCD, 16:9, 1080 x 1920 resolution.

### Audio module

Wide band audio module supporting:

- 20 kHz AAC-LD.
- Full echo canceling.
- Stereo.

### Audio amplifier

Optimized DNAM for the Profile system, providing crystal clear and natural audio.

### Microphones

3 x Microphones.

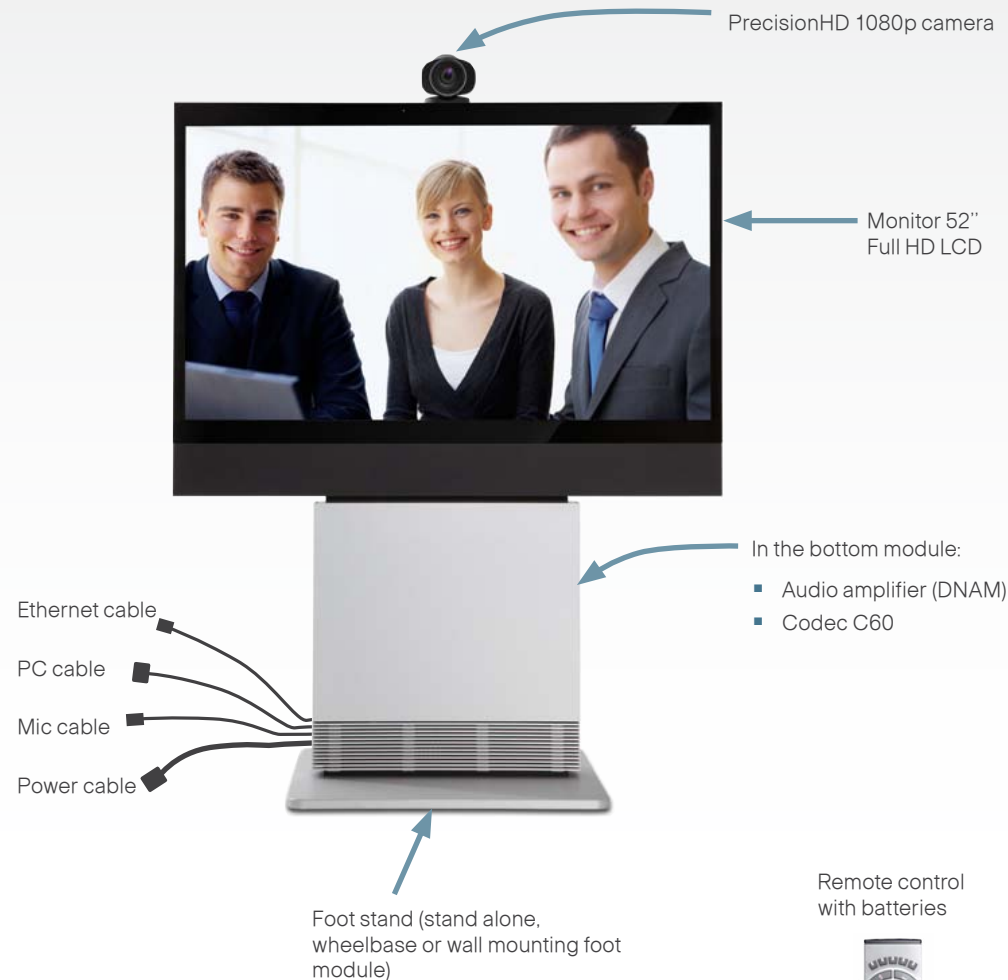
### Remote control

Remote Control TRC5, with AAA batteries.

### Foot stand

Stand alone, wheelbase or wall mounting foot stand.

## Profile 52"



## System overview, continued...

See the installation sheet for the Profile 52" for instructions on how to install the system.

### Codec C60

- Full HD video.
- High resolution data sharing.
- Full HD Multisite.
- Rich I/O capabilities.

### PrecisionHD 1080p camera

Full HD Camera designed for visual communication with:

- 12 x optical zoom.
- Fast and precise pan, tilt and zoom.

### Dual monitor

Dual 52" Full HD LCD, 16:9, 1080 x 1920 resolution.

### Audio module

Wide band audio module supporting:

- 20 kHz AAC-LD.
- Full echo canceling.
- Stereo.

### Audio amplifier

Optimized DNAM for the Profile system, providing crystal clear and natural audio.

### Microphones

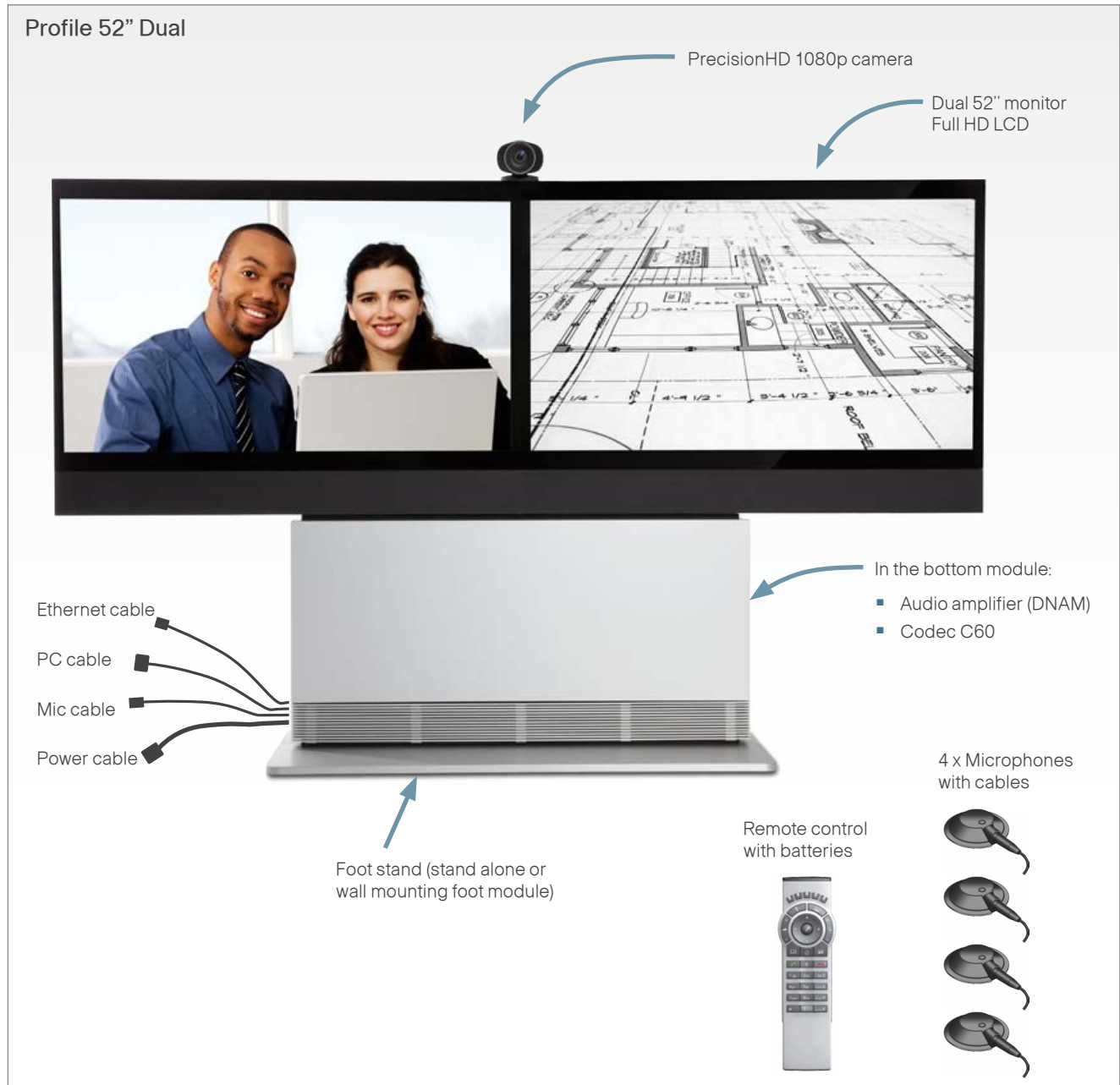
4 x Microphones.

### Remote control

Remote Control TRC5, with AAA batteries.

### Foot stand

Stand alone or wall mounting foot stand.



## System overview, continued...

See the Profile 65" Installation Sheet for instructions of how to assemble the system.

### Codec C60

- Full HD video.
- High resolution data sharing.
- Full HD Multisite.
- Rich I/O capabilities.

### PrecisionHD 1080p camera

Full HD Camera designed for Visual communication with:

- 12 x optical zoom.
- Fast and precise pan, tilt and zoom.

### Monitor 65"

65" Full HD LCD, 16:9, 1080 x 1920 resolution.

### Audio module

Wide band audio module supporting:

- 20 kHz AAC-LD.
- Full echo canceling.
- Stereo.

### Audio amplifier

Optimized DNAM for the Profile system, providing crystal clear and natural audio.

### Microphones

3 x Microphones.

### Remote control

Remote Control TRC5, with AAA batteries.

### Foot stand

Stand alone or wall mounting foot stand.



## System overview, continued...

### Codec C60 at a glance

The Codec C60 is the 1080p HD video collaboration engine. Based upon the same technology as the Codec C90, the C60 delivers Full HD video, HD collaboration and superior audio for natural communication at its finest, delivering unrivaled value.

The C60 is a standards-compliant codec for integration into team meeting rooms, boardrooms and industry projects.

- Full High Definition Video with up to 4 HD sources, and collaboration with optimal definition for the best video quality every time, regardless of environment.
- Highest Quality Audio with flexibility to add up to 4 microphones directly from the codec, and superior, full duplex audio with high quality stereo sound.
- Full APIs.
- Ensure successful, streamlined integration projects with standards-compliant professional connectors.

### Integrator package

The integrator package of the Codec C60 comes with the PrecisionHD 1080p camera, microphone and cables.



## System overview, continued...

### Codec C40 at a glance

The Codec C40 provides all the power required to transform any conference room to a HD video collaboration room. Designed for any standard HD integration project, the Codec C40 is the ideal solution for everyday video conferencing and collaboration solution. 1080p HD video, and Multisite™ features combine to make the Codec C40 ideal for a variety of applications.

The Codec C40 is ideal for standard meeting rooms, executive offices and team collaboration rooms.

- Full High Definition Video with up to 2 HD sources, and collaboration with optimal definition for the best video quality every time, regardless of environment.
- Highest Quality Audio with flexibility to add up to 2 microphones directly from the codec, and superior, full duplex audio with high quality stereo sound.
- Full APIs.
- Ensure successful, streamlined integration projects with standards-compliant professional connectors.

### Integrator package

The integrator package of the Codec C40 comes with the PrecisionHD 1080p camera, microphone and cables.



## Chapter 2

# Web interface

## The web interface

The web interface allows for remote administration of the system.

### Connect to the codec

Open a web browser and enter the *IP address* of the codec.

#### How to find the IP address:

To find the IP address, open the System Information page using the remote control. Navigate to *Home > Settings > System Information*.

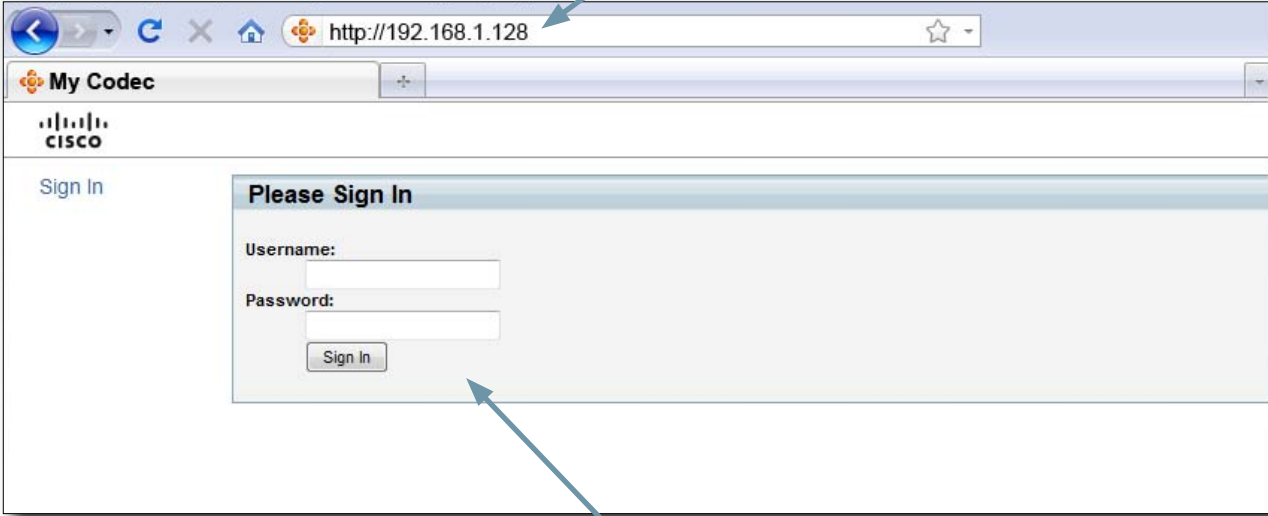
### Password protection of the web interface

In order to access the web interface you must sign in. The username and password are the same as defined for the codec. The default username is *admin* with no password set.

Read more about user roles and how to manage users in the [User management](#) section, and about ways to password protect your codec in the [Password protection](#) chapter.

Signing in

1. Enter the IP address of the codec.



2. Enter the username and password and press *Sign In*.

## System information

From the web interface you have the following menu options:

- System Information
- Call
- Snapshot
- Users
- Change Password
- Wallpaper
- Logon Banner
- Upload Certificates
- Audit Certificate
- Logs
- XML Files
- Upgrade Software
- Advanced Configuration
- Restart
- Sign Out

### The System Information page

**Current signed in user**  
Signed in : admin

**System Info**

**My Codec**

System name: My Codec  
Product: Cisco TelePresence Codec C60  
IP address: 192.168.1.128  
Valid release key: Yes

Software version: TC4.0  
Module serial number: BA9876543210  
MAC address: 00:33:66:99:CC:FF  
Installed options: NaturalPresenter, MultiSite, PremiumResolution

**H323**

Number: 1234567  
ID: firstname.lastname@company.com  
Gatekeeper: 192.168.1.1  
Status: Registered

**SIP**

Address: sip.firstname.lastname@company.com  
Proxy: 192.168.1.1  
Status: Registered

**Login Info**

Last successful login: Tue Oct 26 15:05:08 2010  
Number of unsuccessful login attempts since last login: 0  
Password expires in: Never

**Security**

Strong security mode: Disabled

**Interactive menus**  
Click on the menu items to access the pages. Which menu options are available depends on the role of the logged in user.

**Security information**  
Information about the current security mode (strong security mode available for JTIC labeled devices).

**Login information**  
Information about recent login attempts and password expiry.

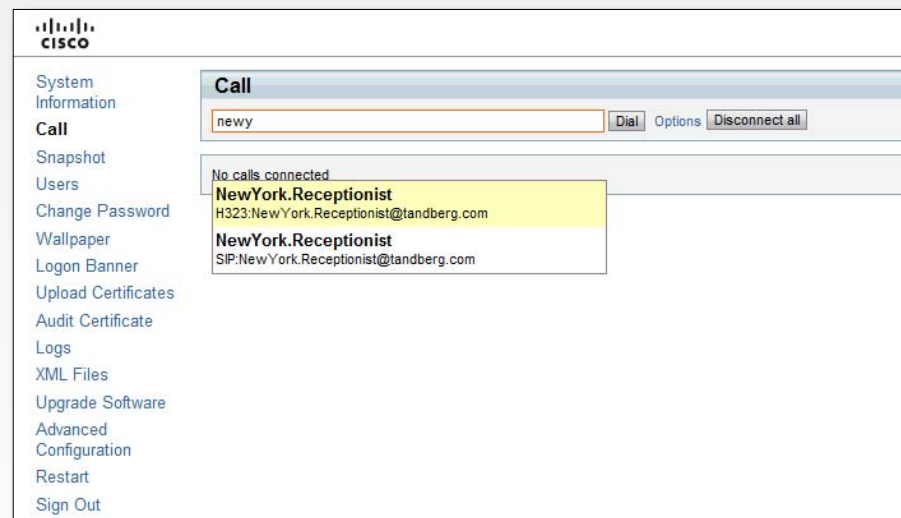
**System information**  
Information about system name, product type, software version, IP address, etc.



## Making calls 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.

### The Call page



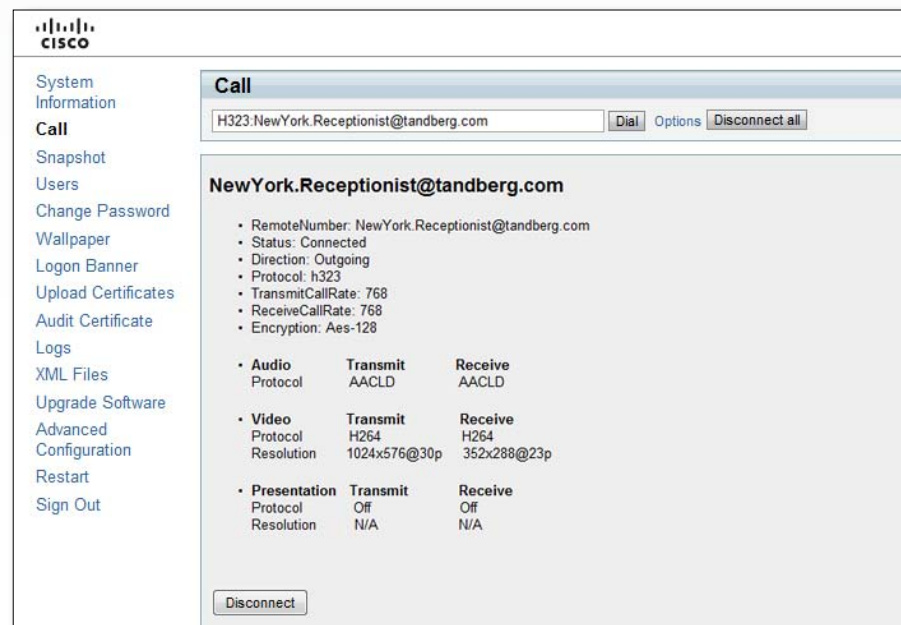
#### How to make a call

**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 **Call rate** in the drop down list.



	Transmit	Receive
<b>Audio</b>		
Protocol	AACLD	AACLD
<b>Video</b>		
Protocol	H264	H264
Resolution	1024x576@30p	352x288@23p
<b>Presentation</b>		
Protocol	Off	Off
Resolution	N/A	N/A

#### The call status page

The call status page appear when you make a call. Please allow for approximately 30 seconds after the call is up before checking call details.

You will find the following information on the call status page:

- Remote number
- Status: Connected
- Direction: Incoming/Outgoing
- Protocol: H323/SIP
- Transmit and receive call rates
- Encryption
- Audio: Transmit and receive protocols
- Video: Transmit and receive protocols and resolutions
- Presentation: Transmit and receive protocols and resolutions

## Making a snapshot

When administrating the video system from a remote location, you can use the web interface snapshot feature to check the view of the main video input source.

This feature is disabled by default. The feature can be enabled only when you have direct access to the codec, i.e. from the on screen menu or by using the command line interface via the codec serial data port.

### Using the on screen menu

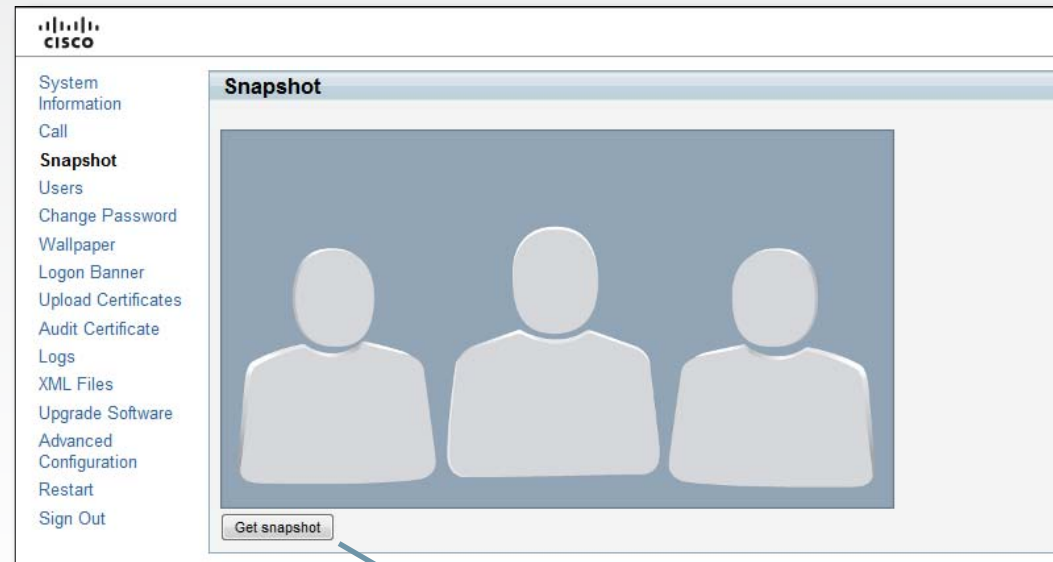
From the Advanced configuration menu, navigate to **Video > AllowWebSnapshots** and select **On** to enable the snapshot feature.

### Using the command line interface

Enter the following command to enable the snapshot feature:

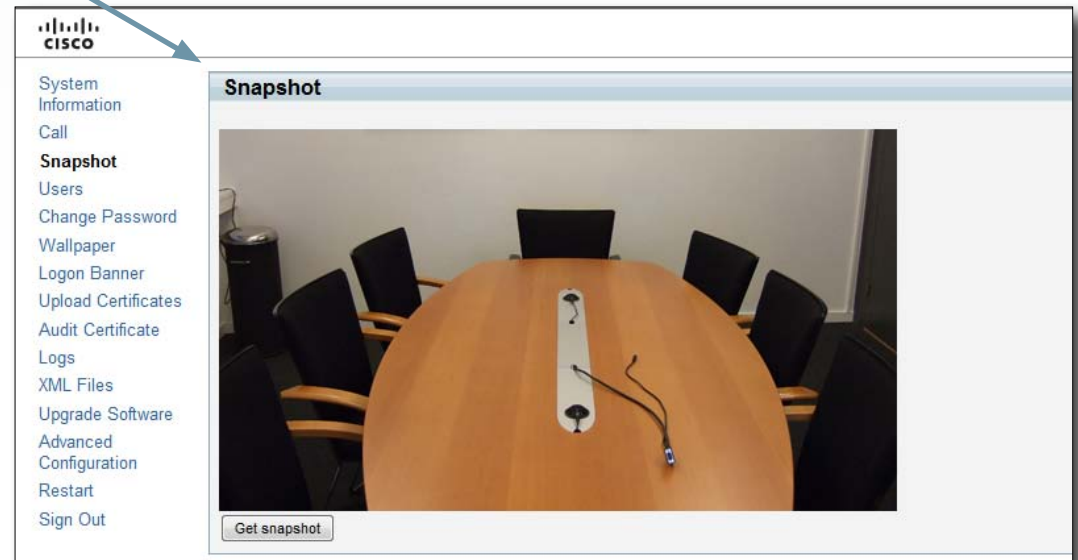
```
xConfiguration Video
AllowWebSnapshots <Off/On>.
```

### The Snapshot page



### How to make a snapshot

1. Press **Get snapshot**. The snapshot will be displayed on the web interface.



## User management

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

### User roles

You must assign one or more user roles to a user account. Three user roles, which possess different system rights, are defined:

- **ADMIN:** A user with ADMIN rights can create a new user and change all settings, except the security audit configurations. 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.

The roles ADMIN, USER and AUDIT have non-overlapping rights, but a user can be created with one or more roles to combine the rights of more than one role.

**NOTE:** It is very important that at least one user has ADMIN rights at all times.

### The default user account

The system comes with a default user account. The user name is **admin** with no password set. The **admin** user has USER, ADMIN and AUDIT roles. It is highly recommended to set a password for this user.

### Password and PIN-code

The password is used to access the command line interfaces (SSH, Telnet and serial port) and the web interface, while the PIN is used to access the on screen menus.

### Security mode

If you have a JTIC labeled system, 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 login.

### The Users page

#### How to create 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.
3. Set the **Status** to **Active** to activate the user.
4. Press **Save** to save the changes.

#### How to edit 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.

#### How to deactivate 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.

#### How to delete a user account

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

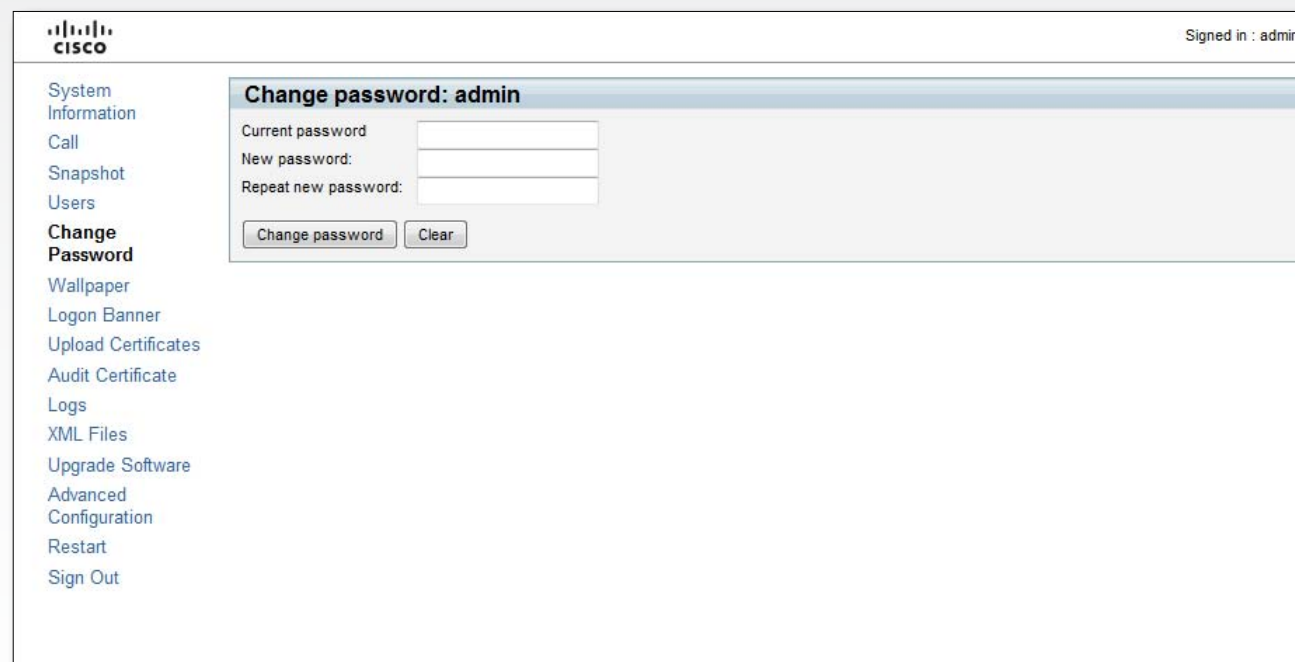
**NOTE:** Do not delete all users with ADMIN rights.

## Changing your password

When you are logged in, you can change your password.

The password is a string with 0–255 characters.

### The Change Password page



#### How to change your password

1. Enter your current password, your new password, and repeat the new password in the input fields.
2. Press **Change password** to change the password.

## Custom wallpaper

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

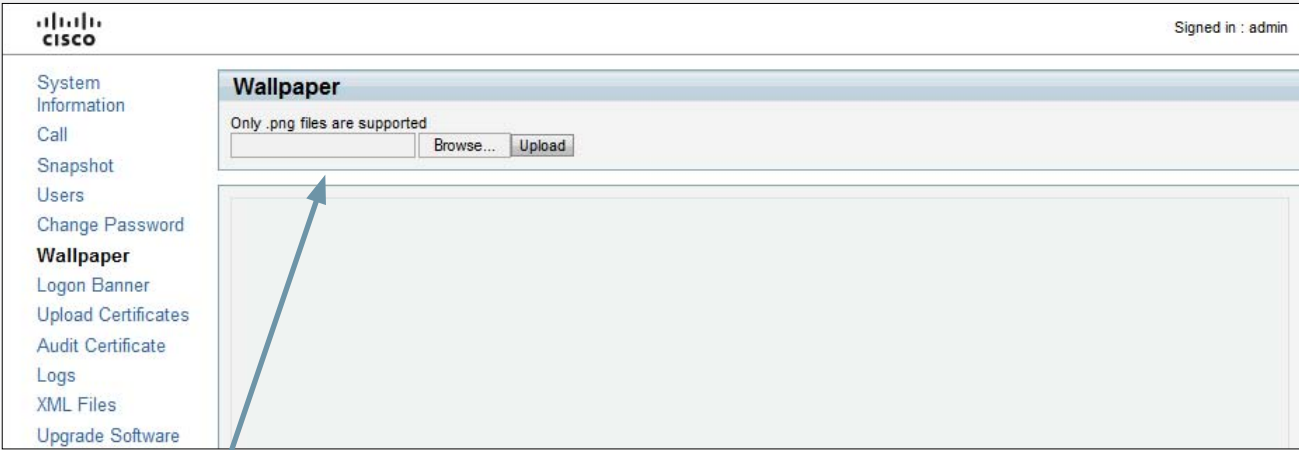
### File format and picture size

The picture file format for the custom wallpaper is PNG. The maximum size is 1920x1200pixels.

### Upload and activate the wallpaper

First you have to upload the wallpaper file to the codec, then you can activate the wallpaper.

The Wallpaper page

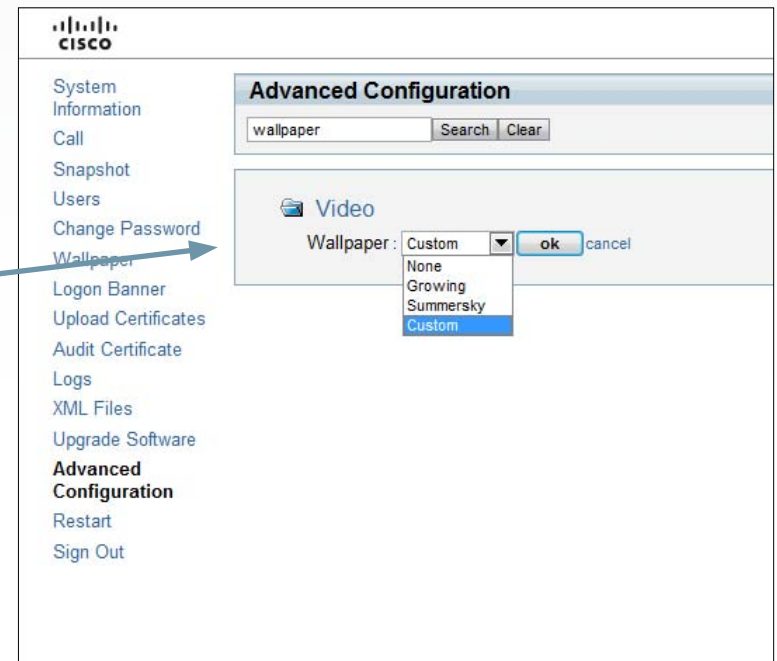


Upload the custom wallpaper file

1. Press **Browse...** and locate the wallpaper file (.PNG).
2. Press **Upload** to save the file to the codec.
3. Refresh the web page to see the wallpaper you just uploaded.

Activate the new wallpaper

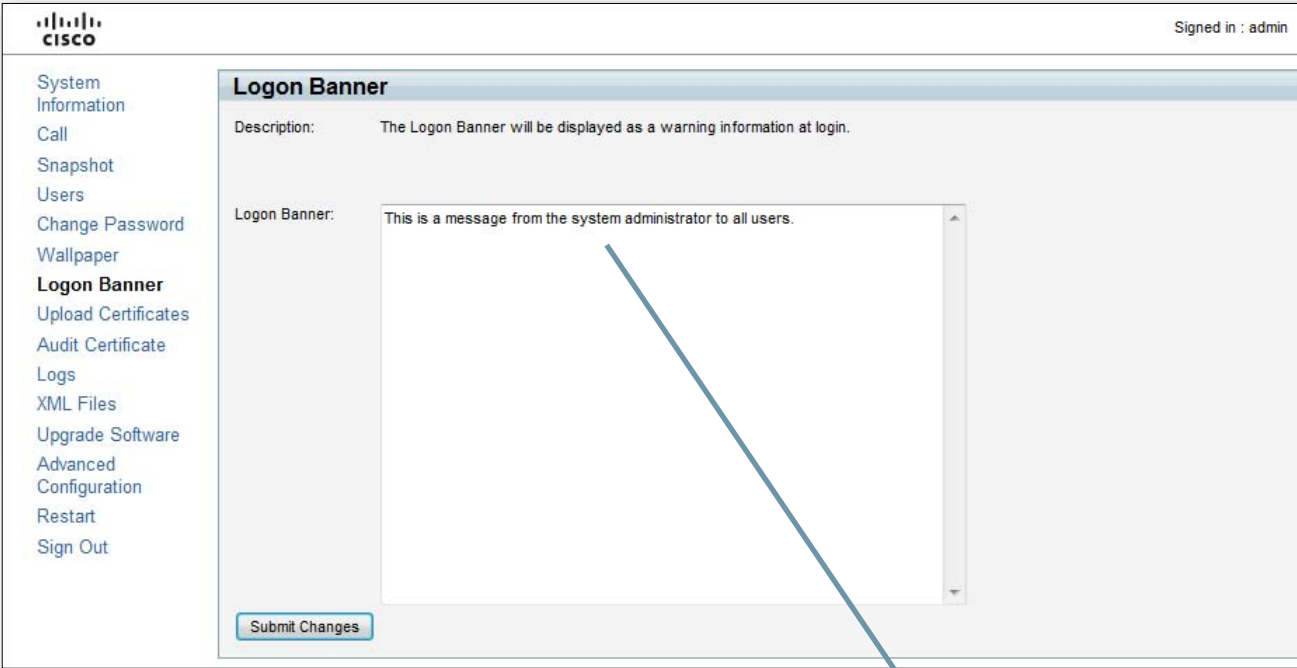
1. Move to the Advanced configuration page and enter `wallpaper` in the search field. From the drop down list, select **Custom**. The new wallpaper will be displayed on screen.
2. If the new wallpaper does not show on screen, you may have to toggle once between Wallpaper: **None** and **Custom** to make the change take effect.



## Adding a logon banner

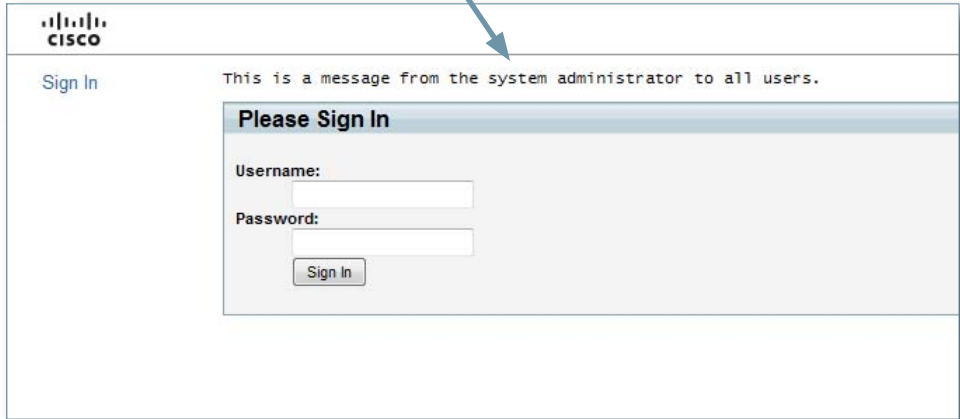
If the system administrator wants to provide initial information to all users, he can create a logon banner. A logon banner is a message that is displayed to the user before signing in. The message will be shown, whether the user sign in using the menu system, the web interface or the command line interface.

The Logon Banner page



Add a logon banner

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



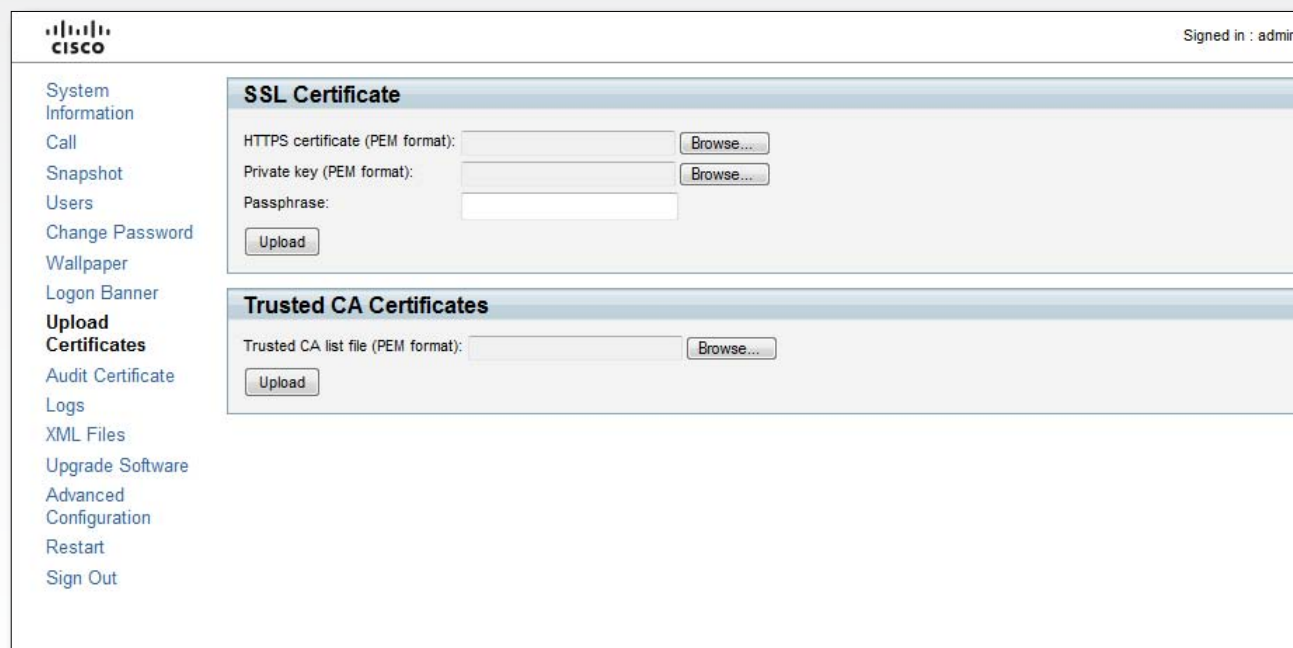


## Uploading certificates

The SSL certificate is a text file which verifies the authenticity of your codec. 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 your codec trusts.

### The Upload Certificates page



#### 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.

- Press **Browse...** and locate the HTTPS certificate file (.PEM format).
- Press **Browse...** and locate the Private key file (.PEM format)
- Enter the **Passphrase** (optional).
- Press **Upload** to upload the certificate to the codec.

#### 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.

- Press **Browse...** and locate the file with the Trusted CA list (.PEM format).
- Press **Upload** to upload the certificate to the codec.

## Audit certificate

The list of trusted audit certificates is a list containing all audit servers that your codec trusts.

If the audit logging mode is set to ExternalSecure (see below), the audit logging information will only be sent to entities holding a valid audit certificate.

### About audit logging

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

Audit logging is disabled by default, and must be enabled using the on screen menu, the web interface or the command line interface.

There are three audit logging modes: Internal, External and ExternalSecure.

See the *Administrator guide* for your product for more information about audit logging.

### Enable secure audit logging

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

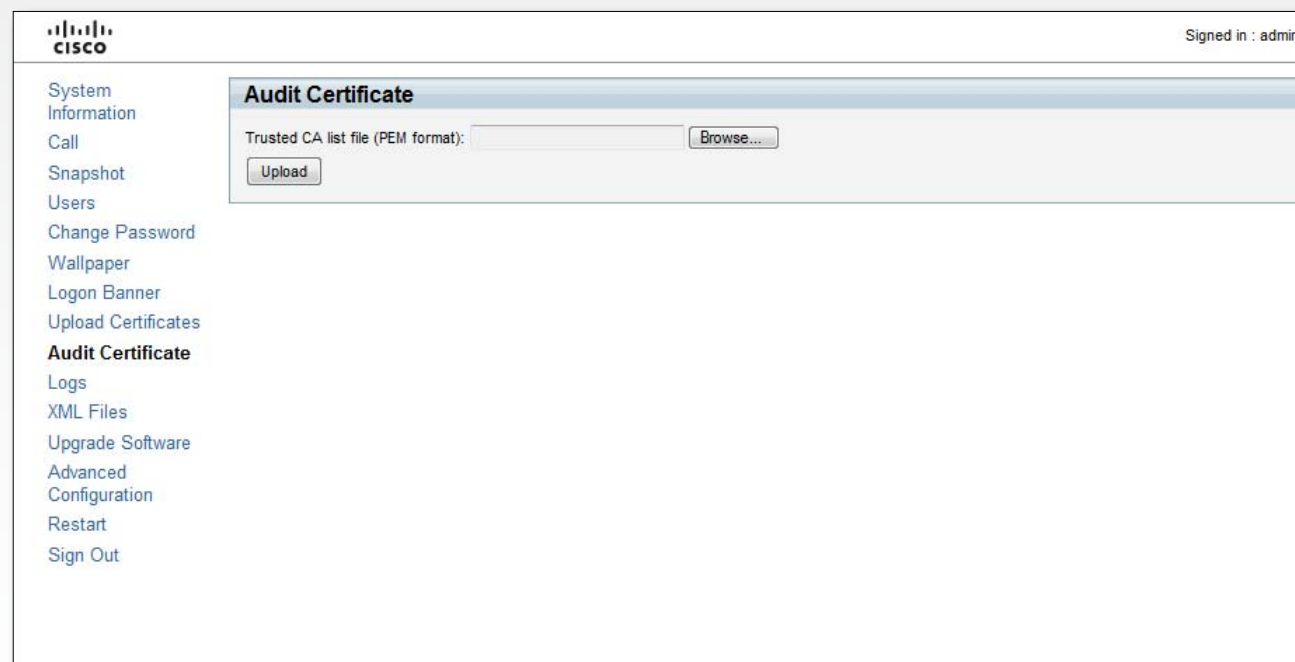
To enable secure audit logging using the web interface or on screen menu, go to Advanced Configuration and perform the following steps:

1. Navigate to **Security > Audit > Server** and enter the IP address of the audit server.
2. Navigate to **Security > Audit > Logging > Mode** and set it to ExternalSecure.

To enable secure audit logging using the command line interface, log in to the codec using SSH or Telnet and enter the following commands:

1. xConfiguration Security Audit Server Address <ip address>
2. xConfiguration Security Audit Logging Mode ExternalSecure

### The Audit Certificate page



### Uploading 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.

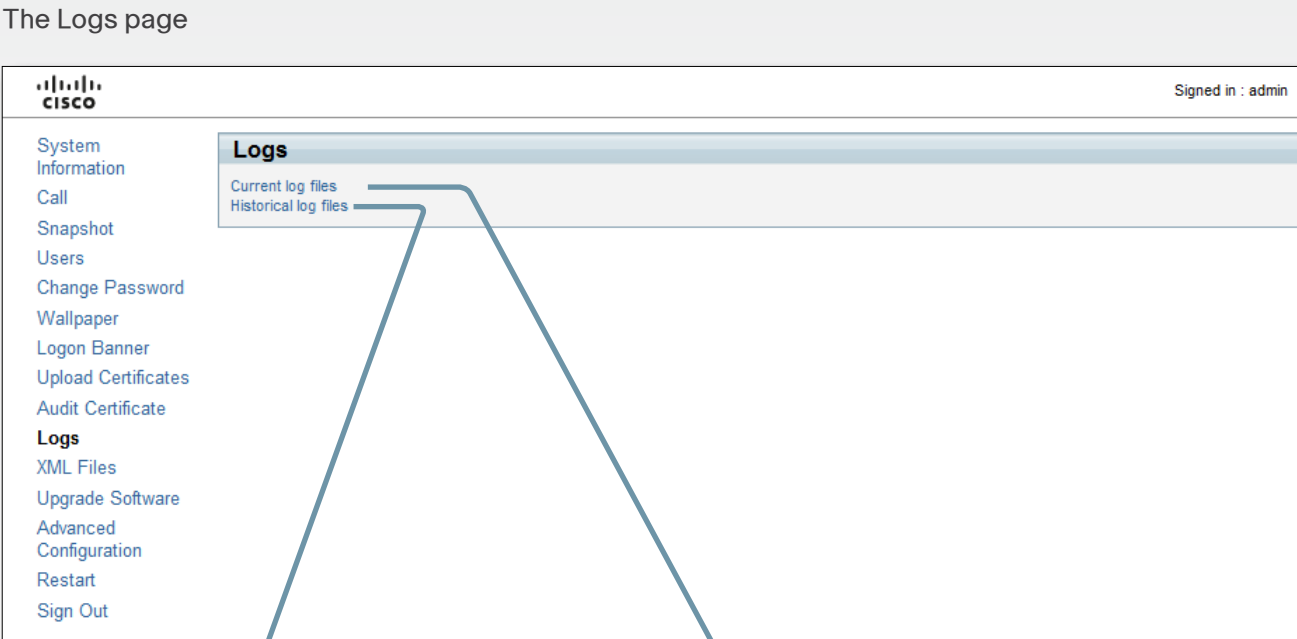
- Press **Browse...** and locate the file with the audit list file (.PEM format).
- Press **Upload** to upload the certificate to the codec.



## Support log files

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

### The Logs page



#### Historical log files

Time stamped historical log files. Select *Historical log files*, click on a file and follow the instructions in the dialog box to save the file.

Logs

[back](#)

Filename	Size (KB)	Last modified
<a href="#">log.tar.gz</a>	328	Tue Oct 5 12:16:32 2010
<a href="#">log.tar.gz.0</a>	230	Wed Sep 15 11:54:30 2010
<a href="#">log.tar.gz.1</a>	405	Thu Sep 23 14:01:40 2010
<a href="#">log.tar.gz.2</a>	385	Tue Sep 28 15:42:52 2010
<a href="#">log.tar.gz.3</a>	328	Tue Oct 5 12:16:32 2010
<a href="#">log.tar.gz.4</a>	595	Fri Jul 16 14:10:46 2010
<a href="#">log.tar.gz.5</a>	182	Tue Aug 24 09:41:00 2010
<a href="#">log.tar.gz.6</a>	45	Tue Aug 24 10:07:30 2010
<a href="#">log.tar.gz.7</a>	114	Thu Aug 26 12:59:13 2010
<a href="#">log.tar.gz.8</a>	375	Mon Sep 13 15:03:36 2010
<a href="#">log.tar.gz.9</a>	12	Mon Sep 13 15:05:58 2010

#### Current log files

Time stamped event log files. Select *Current log files* and click on a text file to view the file. Right click on a file and follow the instructions in the dialog box to save the file.

Logs

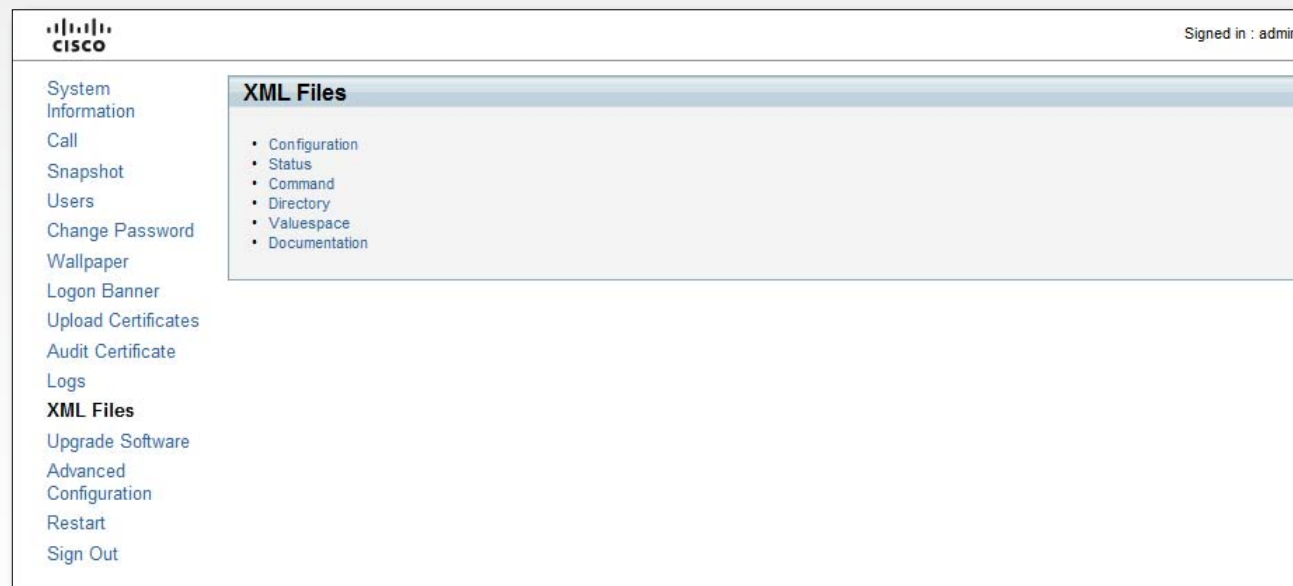
[back](#)

Filename	Size (KB)	Last modified
<a href="#">all.log</a>	6	Wed Nov 3 13:54:03 2010
<a href="#">all.log.first</a>	513	Wed Nov 3 13:41:05 2010
<a href="#">all.log.previous</a>	513	Wed Nov 3 13:41:05 2010
<a href="#">all.log.truncated</a>	0	Wed Nov 3 13:41:05 2010
<a href="#">application.log</a>	251	Wed Nov 3 13:42:59 2010
<a href="#">audio0.log</a>	2	Wed Nov 3 13:02:36 2010
<a href="#">audio1.log</a>	1	Wed Nov 3 12:40:20 2010
<a href="#">audio2.log</a>	1	Wed Nov 3 12:40:20 2010
<a href="#">audio3.log</a>	1	Wed Nov 3 12:40:20 2010
<a href="#">audio4.log</a>	1	Wed Nov 3 12:40:20 2010
<a href="#">audio5.log</a>	1	Wed Nov 3 12:40:20 2010

## Viewing XML files

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

### The XML Files page



#### Configuration

Select **Configuration** to see an overview of the system settings, which are controlled from the Advanced configuration menu, or from the API (Application Programmer Interface).

#### Status

The **Status** information is constantly updated by the system to reflect system and process changes. The status information is normally monitored from the API.

#### Command

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.

#### Directory

The **Directory** file will be described later.

#### Valuespace

Select **Valuespace** to see an overview of the value spaces.

#### Documentation

The **Documentation** file will be described later.

## Software upgrade

From this page you can do software upgrades and add a release key and option keys.

### Software versions

The C series codecs are using the TC software.

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

### Software release notes and upgrade files

Cisco recommends reading the software release notes before upgrading the software. The software release notes and upgrade files are available from the TANDBERG ftp site.

Go to: ► <http://ftp.tandberg.com/pub/software/endpoints/tc/>.

### Release key

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

Contact your Cisco representative to obtain the release key.

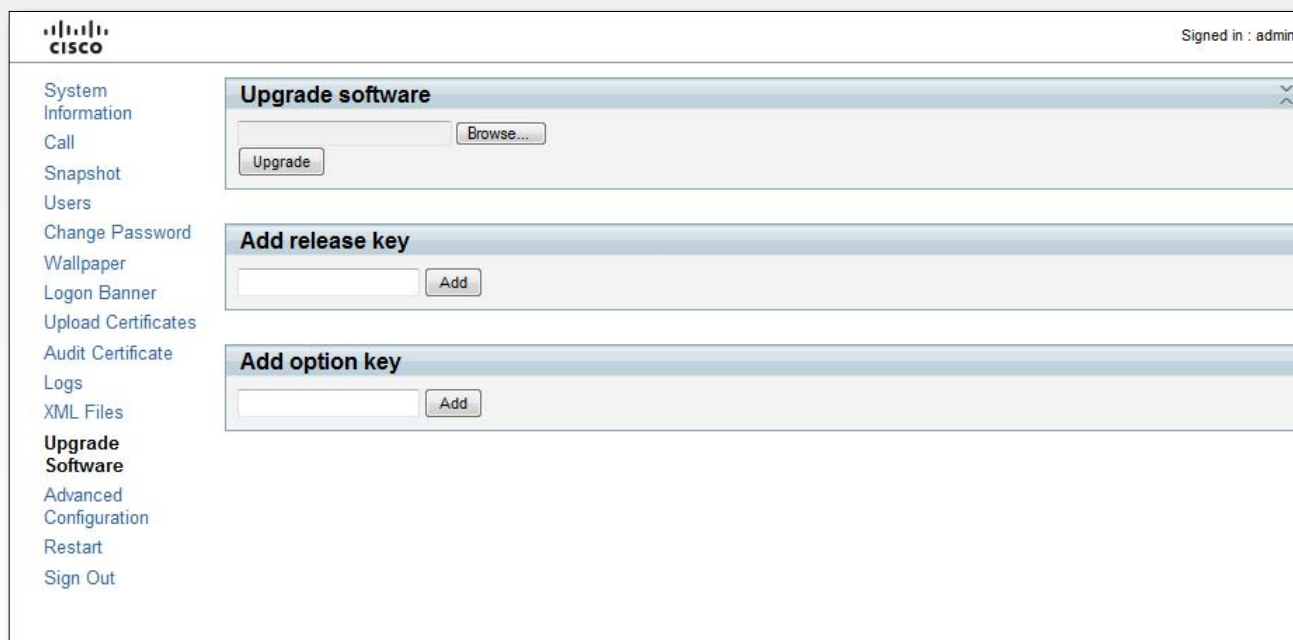
### Option key

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

- Natural presenter
- Premium resolution
- Multisite (not valid for Codec C20)
- High definition (only valid for Codec C20)
- Dual display (only valid for Codec C20/C40)

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

## The Upgrade Software page



The screenshot shows the 'Upgrade Software' page. On the left is a sidebar with the Cisco logo and a list of navigation links: System Information, Call, Snapshot, Users, Change Password, Wallpaper, Logon Banner, Upload Certificates, Audit Certificate, Logs, XML Files, Upgrade Software (highlighted), Advanced Configuration, Restart, and Sign Out. The main content area has a header 'Signed in : admin' and three sections: 'Upgrade software' with a text input and a 'Browse...' button, 'Add release key' with a text input and an 'Add' button, and 'Add option key' with a text input and an 'Add' button.

### 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 valid procedure will be:

1. Enter the **release key** and press **Add**.  
The key format: "1TC001-1-0C22E348" (each system will have a unique key).
2. Enter the **option key** and press **Add**.  
The key format: "1N000-1-AA7A4A09" (each system will have a unique key).
3. If you have more than one option key, add the remaining keys.

### Upgrade the software on the codec


4. 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).
5. Press **Browse...** and select the .PKG file.
6. Press the **Upgrade** button to start the installation.
7. 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.

## Advanced configuration

The web interface allows for remote administration of the system.

The Advanced configuration defines the system settings and are structured in a hierarchy, making up a database of system settings.

The system settings are further explained in the [Advanced configuration settings](#) chapter.



Signed in : admin

System

Information

Call

Snapshot

Users

Change Password

Wallpaper

Logon Banner

Upload Certificates

Audit Certificate

Logs

XML Files

Upgrade Software

Advanced Configuration

Restart

Sign Out

Advanced Configuration

Audio

Cameras

Conference 1

Experimental

GPIO

H323

Network 1

NetworkServices

Phonebook

Provisioning

Security

SerialPort

SIP

Standby

SystemUnit

Time

Video

Audio

Volume : 75

Input

Output

SoundsAndAlerts

RingVolume : 60

RingTone : Marbles

KeyT

Cameras

Conference

Experiment

GPIO

H323

Select a menu item to see the system settings.

The search functionality

When searching for words such as **H323** or **SIP**, all settings beginning with these characters, including all settings below in the hierarchy, will show in the list.

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

Clear: Press **Clear** to return to the main view.

Changing system settings

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


Value space: The value space is specified, either as a drop down list or as text, when you edit a value.

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

Cancel: Select **cancel** to leave without saving.

## Restarting the system

Restarting the system takes a few minutes.



System

Information

Call

Snapshot

Users

Change Password

Wallpaper

Logon Banner

Upload Certificates

Audit Certificate

Logs

XML Files

Upgrade Software

Advanced

Configuration

**Restart**

Sign Out

Signed in : admin

Restart

You may restart the system by clicking the restart button
 

Restart now

Restarting the system

Press *Restart now*.

## Chapter 3

# Advanced configuration settings

## Description of the advanced configuration 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 or from the Advanced configuration menu on screen - open the *Home* menu and go to: *Settings > Advanced > Advanced configuration*. The examples show either the default value or an example of a value.

### The Audio settings

#### Audio Input HDMI [2] Level

Define the audio level of the HDMI input connector, in steps of 1dB.

See the Audio Level tables in the Physical Interfaces Guide for the codec for a complete overview of the menu values represented in dB.

**Requires user role:** ADMIN

**Value space:** <-24..0>

*Range:* Select a value from -24 to 0dB.

**Example:** `xConfiguration Audio Input HDMI 2 Level: 0`

#### Audio Input HDMI [2] Mode

Determine if the audio channels on the HDMI input shall be enabled. The HDMI input 2 has two audio channels.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the audio channels on the HDMI input.

*Off:* Disable the audio channels on the HDMI input.

**Example:** `xConfiguration Audio Input HDMI 2 Mode: On`

#### Audio Input HDMI [2] VideoAssociation MuteOnInactiveVideo

Enable association of a video source to a HDMI audio input.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* A video source is associated, and the audio will be muted if the associated video source is not displayed.

*Off:* No video source is associated.

**Example:** `xConfiguration Audio Input HDMI 2 VideoAssociation MuteOnInactiveVideo: Off`

### The Audio settings, continued...

#### Audio Input HDMI [2] VideoAssociation VideoInputSource

Select the associated video input source.

**Requires user role:** ADMIN

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

*Range:* Select one of the three video input sources.

**Example:** `xConfiguration Audio Input HDMI 2 VideoAssociation VideoInputSource: 1`

#### Audio Input Microphone [1..8] EchoControl Dereverberation

The system has built-in signal processing to reduce the effect of room reverberation. NOTE: Requires the Echo Control Mode to be enabled for the microphone.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Turn on the dereverberation.

*Off:* Turn off the dereverberation.

**Example:** `xConfiguration Audio Input Microphone 1 EchoControl Dereverberation: On`

#### Audio Input Line [1..2] Equalizer ID

Select the audio input line equalizer ID.

**Requires user role:** ADMIN

**Value space:** <1..8>

*Range:* Select Equalizer ID 1 to 8.

**Example:** `xConfiguration Audio Input Line 1 Equalizer ID: 1`

#### Audio Input Line [1..2] Equalizer Mode

Set the audio input line equalizer mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the equalizer for the audio input line.

*Off:* No equalizer.

**Example:** `xConfiguration Audio Input Line 1 Equalizer Mode: Off`

## The Audio settings, continued...

### Audio Input Line [1..2] VideoAssociation MuteOnInactiveVideo

Enable association of a video source to a Line audio input.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* A video source is associated, and the audio will be muted if the associated video source is not displayed.

*Off:* No video source is associated.

**Example:** `xConfiguration Audio Input Line 1 VideoAssociation MuteOnInactiveVideo: Off`

### Audio Input Line [1..2] VideoAssociation VideoInputSource

Select the associated video input source.

**Requires user role:** ADMIN

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

*Range:* Select one of the three video input sources.

**Example:** `xConfiguration Audio Input Line 1 VideoAssociation VideoInputSource: 1`

### Audio Input Line [1..2] Channel

Define whether the Audio Line input is a mono signal or part of a multichannel signal.

**Requires user role:** ADMIN

**Value space:** <Left/Right/Mono>

*Left:* The Audio Line input signal is the left channel of a stereo signal.

*Right:* The Audio Line input signal is the right channel of a stereo signal.

*Mono:* The Audio Line input signal is a mono signal.

**Example:** `xConfiguration Audio Input 1 Channel: Left`

### Audio Input Line [1..2] Level

Define the audio level of the Line input connector, in steps of 1dB.

See the Audio Level labels in the Physical Interfaces Guide for the codec for a complete overview of the values represented in dB.

**Requires user role:** ADMIN

**Value space:** <0..24>

*Range:* Select a value from 0 to 24dB.

**Example:** `xConfiguration Audio Input Line 1 Level: 10`

## The Audio settings, continued...

### Audio Input Line [1..2] LoopSuppression

NOTE: Codec C40/C60 does currently not support Loop Suppression, hence Loop Suppression can be set to Off only.

**Requires user role:** ADMIN

**Value space:** <Off>

*Off:* Deactivate Loop Suppression.

**Example:** `xConfiguration Audio Input Line 1 LoopSuppression: Off`

### Audio Input Line [1..2] Mode

Set the audio input line mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the Audio Line input.

*Off:* Disable the Audio Line input.

**Example:** `xConfiguration Audio Input Line 1 Mode: On`

### Audio Input Microphone [1..2]/[1..4] EchoControl Mode

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

The echo canceller continuously adjusts itself to the audio characteristics of the room and compensate for any changes it detects in the audio environment. If the changes in the audio conditions are very significant the echo canceller may take a second or two to re-adjust.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Echo Control is normally set to On to prevent the far end from hearing their own audio. Once selected, echo cancellation is active at all times.

*Off:* Echo Control should be switched Off if external echo cancellation or playback equipment is used.

**Example:** `xConfiguration Audio Input Microphone 1 EchoControl Mode: On`



## The Audio settings, continued...

### Audio Input Microphone [1..2]/[1..4] EchoControl NoiseReduction

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

The system has a built-in noise reduction which reduces constant background noise (e.g. noise from air-conditioning systems, cooling fans etc.). In addition, a high pass filter (Humfilter) reduces very low frequency noise. NOTE: Requires the Echo Control Mode to be enabled for the microphone.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* The Noise Reduction should be enabled in the presence of low frequency noise.

*Off:* Turn off the Noise Reduction.

**Example:** `xConfiguration Audio Input Microphone 1 EchoControl NoiseReduction: On`

### Audio Input Microphone [1..2]/[1..4] Equalizer ID

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Select the audio input microphone equalizer ID.

**Requires user role:** ADMIN

**Value space:** <1..14>

*Range:* Select Equalizer ID 1 to 14.

**Example:** `xConfiguration Audio Input Microphone 1 Equalizer ID: 1`

### Audio Input Microphone [1..2]/[1..4] Equalizer Mode

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Set the audio input microphone equalizer mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the equalizer for the audio input microphone.

*Off:* No equalizer.

**Example:** `xConfiguration Audio Input Microphone 1 Equalizer Mode: Off`

## The Audio settings, continued...

### Audio Input Microphone [1..2]/[1..4] VideoAssociation MuteOnInactiveVideo

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Enable association of a video source to a microphone audio input.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* A video source is associated, and the audio will be muted if the associated video source is not displayed.

*Off:* No video source is associated.

**Example:** `xConfiguration Audio Input Microphone 1 VideoAssociation MuteOnInactiveVideo: On`

### Audio Input Microphone [1..2]/[1..4] VideoAssociation VideoInputSource

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Select the associated video input source.

**Requires user role:** ADMIN

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

*Range:* Select one of the three video input sources.

**Example:** `xConfiguration Audio Input Microphone 1 VideoAssociation VideoInputSource: 1`

### Audio Input Microphone [1..2]/[1..4] Level

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Define the audio level of the Microphone input connector, in steps of 1dB.

See the Audio Level tables in the Physical Interfaces Guide for the codec for a complete overview of the values represented in dB.

**Requires user role:** ADMIN

**Value space:** <0..24>

*Range:* Select a value from 0 to 24dB.

**Example:** `xConfiguration Audio Input Microphone 1 Level: 14`

## The Audio settings, continued...

### Audio Input Microphone [1..2]/[1..4] Mode

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Set the audio input microphone mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the microphone connector.

*Off:* Disable the microphone connector.

**Example:** `xConfiguration Audio Input Microphone 1 Mode: On`

### Audio Input Microphone [1..2]/[1..4] Type

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

The microphone connectors are intended for electret type microphones. The microphone connector can be set to line or microphone mode.

**Requires user role:** ADMIN

**Value space:** <Microphone/Line>

*Microphone:* Select Microphone when you have 48 V Phantom voltage and the pre-amplification is On.

*Line:* Select Line when you have a standard balanced line input. The phantom voltage and pre-amplification is Off.

**Example:** `xConfiguration Audio Input Microphone 1 Type: Line`

### Audio Output HDMI [1] Level

Define the output level of the HDMI output connector, in steps of 1dB.

See the Audio Level tables in the Physical Interfaces Guide for the codec for a complete overview of the values represented in dB.

**Requires user role:** ADMIN

**Value space:** <-24..0>

*Range:* Select a value from -24 to 0dB.

**Example:** `xConfiguration Audio Output HDMI 1 Level: 0`

### Audio Output HDMI [1] Mode

Determine if the audio channel on the HDMI output shall be enabled.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the audio channel on the HDMI output.

*Off:* Disable the audio channel on the HDMI output.

**Example:** `xConfiguration Audio Output HDMI 1 mode: On`

## The Audio settings, continued...

### Audio Output Line [1..2] Channel

Define whether the Audio Line output is a mono signal or part of a multichannel signal.

**Requires user role:** ADMIN

**Value space:** <Left/Right/Mono>

*Left:* The Audio Line output signal is the left channel of a stereo signal.

*Right:* The Audio Line output signal is the right channel of a stereo signal.

*Mono:* The Audio Line output signal is a mono signal.

**Example:** `xConfiguration Audio Output Line 1 Channel: Left`

### Audio Output Line [1..2] Equalizer ID

Select the audio output line equalizer ID.

**Requires user role:** ADMIN

**Value space:** <1..8>

*Range:* Select Equalizer ID 1 to 8.

**Example:** `xConfiguration Audio Output Line 1 Equalizer ID: 1`

### Audio Output Line [1..2] Equalizer Mode

Set the audio output line equalizer mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the equalizer for the audio output line.

*Off:* No equalizer.

**Example:** `xConfiguration Audio Output Line 1 Equalizer Mode: Off`

### Audio Output Line [1..2] Level

Define the output level of the Audio Output Line connector, in steps of 1db.

See the Audio Level tables in the Physical Interfaces Guide for the codec for a complete overview of the values represented in dB.

**Requires user role:** ADMIN

**Value space:** <-24..0>

*Range:* Select a value from -24 to 0dB.

**Example:** `xConfiguration Audio Output Line 1 Level: -10`

## The Audio settings, continued...

### Audio Output Line [1..2] Mode

Set the audio output line mode.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the Audio Line output.

*Off:* Disable the Audio Line output.

**Example:** `xConfiguration Audio Output Line 1 Mode: On`

### Audio Output Line [1] Type

Determine if the Audio Line output will be analog or digital type output. The digital output on the Cisco TelePresence Profile systems are identified as DNAM (Digital Natural Audio Modeule).

**Requires user role:** ADMIN

**Value space:** <Auto/SPDIF>

*Auto:* If a Digital NAM is detected then SPDIF mode will be selected, otherwise analog mode will be selected.

*SPDIF:* Set to SPDIF when you want the line output to be in digital mode.

**Example:** `xConfiguration Audio Output Line 1 Type: Auto`

### Audio Output Line [2] Type

Line output 2 is a dedicated analog output, hence type can be set to analog only.

**Requires user role:** ADMIN

**Value space:** <Analog>

*Analog:* Can be set to analog only.

**Example:** `xConfiguration Audio Output Line 1 Type: Analog`

### Audio SoundsAndAlerts KeyTones Mode

The system can produce a sound every time a key on the remote control is pressed.

**Requires user role:** USER

**Value space:** <On/Off>

*On:* There will be a sound indicator when pressing keys on the remote control.

*Off:* The key tone on the remote control is switched off.

**Example:** `xConfiguration Audio SoundsAndAlerts KeyTones Mode: Off`

## The Audio settings, continued...

### Audio SoundsAndAlerts RingTone

Selects the ringtone for incoming calls.

**Requires user role:** USER

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

*Select a tone from the list of ringtones.*

**Example:** `xConfiguration Audio SoundsAndAlerts RingTone: Jazz`

### Audio SoundsAndAlerts RingVolume

Sets the ring tone volume for an incoming call. The value goes in steps of 5 from 0 to 100 (from -34.5dB to 15dB). Volume 0 = Off.

**Requires user role:** USER

**Value space:** <0..100>

*Range:* Select a value from 0 to 100.

**Example:** `xConfiguration Audio SoundsAndAlerts RingVolume: 50`

### Audio Volume

Set the volume on the loudspeaker. The value goes in steps of 5 from 0 to 100 (from -34.5dB to 15dB). Volume 0 = Off.

**Requires user role:** USER

**Value space:** <0..100>

*Range:* Select a value from 0 to 100.

**Example:** `xConfiguration Audio Volume: 70`

## The Camera 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/60Hz:* Set to 50Hz or 60Hz.

**Example:** `xConfiguration Cameras PowerLine Frequency: Auto`

### Cameras Camera [1..7] Backlight

The backlight functionality compensates for lights 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:** `xConfiguration Cameras Camera 1 Backlight: Off`

### Cameras Camera [1..7] 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:** `xConfiguration Cameras Camera 1 Brightness Mode: Auto`

### Cameras Camera [1..7] 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:** `xConfiguration Cameras Camera 1 Brightness Level: 1`

## The Camera settings, continued...

### Cameras Camera [1..7] Flip

With Flip mode (vertical flip) you can flip the image upside down.

**Requires user role:** ADMIN

**Value space:** <Auto/On/Off>

*Auto:* When the camera is placed upside down the image is automatically flipped upside down. Use this setting with cameras that can be mounted upside down, and that can auto detect that the camera is mounted upside down.

*On:* When set to On the video on screen is flipped. This setting is used with cameras that can be mounted upside down, but cannot auto detect that the camera is mounted upside down.

*Off:* Set to Off to display the video on screen the normal way.

**Example:** `xConfiguration Cameras Camera 1 Flip: Off`

### Cameras Camera [1..7] Focus Mode

Set the camera focus mode.

**Requires user role:** ADMIN

**Value space:** <Auto/Manual>

*Auto:* When set to Auto the focus will be updated throughout the call. When moving the camera, the system will use auto focus for a few seconds to set the right focus of the new camera position. 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.

**Example:** `xConfiguration Cameras Camera 1 Focus Mode: Auto`

### Cameras Camera [1..7] Gamma Mode

Applies to cameras which supports gamma mode. The Gamma Mode setting enables for gamma corrections. Gamma describes the nonlinear relationship between image pixels and monitor brightness. The Cisco TelePresence PrecisionHD 720p camera supports gamma mode. The PrecisionHD 1080p camera does not support gamma mode.

**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:** `xConfiguration Cameras Camera 1 Gamma Mode: Auto`

## The Camera settings, continued...

### Cameras Camera [1..7] 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:** `xConfiguration Cameras Camera 1 Gamma Level: 0`

### Cameras Camera [1..7] IrSensor

The IR sensor LED is located in the front of the camera and flickers when the IR sensor is activated from the remote control. Both the Codec C Series and PrecisionHD camera have IR sensors, and only one of them needs to be enabled at the time.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable the IR sensor on the camera.

*Off:* Disable the IR sensor on the camera.

**Example:** `xConfiguration Cameras Camera 1 IrSensor: On`

### Cameras Camera [1..7] Mirror

With Mirror mode (horizontal flip) you can mirror the image on screen.

**Requires user role:** ADMIN

**Value space:** <Auto/On/Off>

*Auto:* When the camera is placed upside down the image is automatically mirrored. Use this setting with cameras that can be mounted upside down, and that can auto detect that the camera is mounted upside down.

*On:* See the selfview in mirror mode, e.g. the selfview is reversed and the experience of selfview is as seeing yourself in a mirror.

*Off:* See the selfview in normal mode, e.g. the experience of selfview is as seeing yourself as other people see you.

**Example:** `xConfiguration Cameras Camera 1 Mirror: Off`

## The Camera settings, continued...

### Cameras Camera [1..7] Whitebalance Mode

Set the camera whitebalance mode.

**Requires user role:** ADMIN

**Value space:** <Auto/Manual>

*Auto:* When set to Auto, the camera will continuously adjust the whitebalance depending on the camera view.

*Manual:* Set to Manual to enable manual control of the camera whitebalance, e.g. the level of the whitebalance level setting will be used for the camera.

**Example:** `xConfiguration Cameras Camera 1 Whitebalance Mode: auto`

### Cameras Camera [1..7] 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:** `xConfiguration Cameras Camera 1 Whitebalance Level: 1`

### Cameras Camera [1..7] DHCP

Applies to cameras which supports DHCP. The Cisco TelePresence PrecisionHD 1080p camera supports DHCP. The camera must be connected to a LAN. When set, the command enables support for SW upgrade of daisy chained cameras. It will enable the camera's DHCP function and force start of MAC and IP address retrieval. Remember to reset the DHCP when the camera is no longer connected to a LAN.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable DHCP in the camera. The camera is automatically re-booted. After re-boot the DHCP is started and the IP address will be retrieved. Run the command "xStatus Camera" for result.

*Off:* Set to Off will disable DHCP in the camera. NOTE: When camera is not connected to a LAN, this setting should be applied.

**Example:** `xConfiguration Cameras Camera 1 DHCP: Off`

## The Conference settings

### Conference [1..1] IncomingMultisiteCall Mode

Set the incoming Multisite call mode.

**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:** `xConfiguration 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 OK key or the green Call key on the remote control.

**Example:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration Conference 1 AutoAnswer Delay: 0`

## The Conference settings, continued...

### Conference [1..1] MicUnmuteOnDisconnect

Determine if the microphones should be unmuted automatically when all calls are disconnected. In a meeting room or other shared resource 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:** `xConfiguration 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:* 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:** `xConfiguration 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:* Set to On when you want 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:* When set to Off the far end can not access any of the features above on your system.

**Example:** `xConfiguration 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:** `xConfiguration Conference 1 FarEndControl SignalCapability: On`

## The Conference settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:* 64-6000kbps

**Example:** `xConfiguration 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 from 64 to 6000 kbps.

**Example:** `xConfiguration Conference 1 MaxTransmitCallRate: 6000`

## The Conference settings, continued...

### 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 from 64 to 6000 kbps.

**Example:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration Conference 1 VideoBandwidth PresentationChannel Weight: 5`

## The Conference settings, continued...

### 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:** `xConfiguration Conference 1 PacketLossResilience Mode: On`

## The GPIO settings

### GPIO Pin [1..4] Mode

NOTE: This command is not supported on Codec C40.

The four GPIO pins are configured individually. The state can be retrieved by "xStatus GPIO Pin [1..4] State". The default pin state is High (+12V). When activated as output, they are set to 0V. To activate them as input, they must be pulled down to 0V.

**Requires user role:** ADMIN

**Value space:** <InputNoAction/OutputManualState/OutputInCall/OutputMicrophonesMuted/OutputPresentationOn/OutputAllCallsEncrypted/OutputStandbyActive/InputMuteMicrophones>

*InputNoAction:* The pin state can be set, but no operation is performed.

*OutputManualState:* The pin state can be set by "xCommand GPIO ManualState Set PinX: <High/Low>" (to +12V or 0V, respectively).

*OutputInCall:* The pin is activated when in call, deactivated when not in call.

*OutputMicrophonesMuted:* The pin is activated when microphones are muted, deactivated when not muted.

*OutputPresentationOn:* The pin is activated when presentation is active, deactivated when presentation is not active.

*OutputAllCallsEncrypted:* The pin is activated when all calls are encrypted, deactivated when one or more calls are not encrypted.

*OutputStandbyActive:* The pin is activated when the system is in standby mode, deactivated when no longer in standby.

*InputMuteMicrophones:* When the pin is activated (0V), the microphones will be muted. When deactivated (+ 12V), the microphones are unmuted.

**Example:** `xConfiguration GPIO Pin 1 Mode: InputNoAction`



## 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration H323 Profile 1 Authentication Mode: Off`

## The H323 settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration H323 Profile 1 CallSetup Mode: Gatekeeper`

## The H323 settings, continued...

### 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:** `xConfiguration 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 invalid IP addresses (192.0.1234.0) will be rejected.

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

## The H323 settings, continued...

### 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:** `xConfiguration 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:** xConfiguration 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:** xConfiguration 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:** xConfiguration 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:** xConfiguration Network 1 IPStack: IPv4

## The Network settings, continued...

### Network [1..1] IPv4 Address

Enter the static IP 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:** xConfiguration Network 1 IPv4 Address: "192.0.2.0"

### Network [1..1] IPv4 Gateway

Define the IP 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:** xConfiguration Network 1 IPv4 Gateway: "192.0.2.0"

### Network [1..1] IPv4 SubnetMask

Define the IP 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:** xConfiguration 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:** xConfiguration Network 1 IPv6 Address: "ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff"

## The Network settings, continued...

### 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:** xConfiguration Network 1 IPv6 Gateway: "ffff:ffff:ffff:ffff:ffff:ffff:ff: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:** xConfiguration 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:** xConfiguration 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:** xConfiguration Network 1 QoS Mode: diffserv

## The Network settings, continued...

### 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:** xConfiguration 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:** xConfiguration 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:** xConfiguration Network 1 QoS Diffserv Signalling: 0

## The Network settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration Network 1 IEEE8021X Password: ""`

## The Network settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration Network 1 IEEE8021X Eap TTLS: On`

## The Network settings, continued...

### Network [1..1] MTU

Set the Ethernet MTU (Maximum Transmission Unit).

**Requires user role:** ADMIN

**Value space:** <400..1500>

*Range:* Select a value from 400 to 1500bytes.

**Example:** xConfiguration 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 10Mbps half-duplex.

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

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

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

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

**Example:** xConfiguration 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 20Mbps. Can be used to smooth out bursts in the outgoing network traffic.

*Off:* Transmit video packets at link speed.

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

## The Network settings, continued...

### Network [1..1] VLAN Voice Mode

Set the VLAN voice mode.

**Requires user role:** ADMIN

**Value space:** <Tagged/Untagged>

*Tagged:* The voice packets in the VLAN network are tagged with VlanId and Priority.

*Untagged:* The voice packets in the VLAN network are untagged.

**Example:** xConfiguration Network 1 VLAN Voice Mode: Untagged

### Network [1..1] VLAN Voice VlanId

Set the VLAN voice ID.

**Requires user role:** ADMIN

**Value space:** <0..4096>

*Range:* Select a value from 0 to 4096.

**Example:** xConfiguration Network 1 VLAN Voice VlanId: 0

### 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:** xConfiguration 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: Codec C60/C40 must be running TC4.0 (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:** `xConfiguration 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:** `xConfiguration NetworkServices Multiway Protocol: Auto`

### NetworkServices H323 Mode

Determine whether the system should be able to place and receive H.323 calls. 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:** `xConfiguration NetworkServices H323 Mode: On`

## The NetworkServices settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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 list of trusted CA's are uploaded to the system in advance.

*Off:* Do not verify server certificates.

**Example:** `xConfiguration 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 list of trusted CA's are uploaded to the system in advance.

*Off:* Do not verify client certificates.

**Example:** `xConfiguration NetworkServices HTTPS VerifyClientCertificate: Off`



## The NetworkServices settings, continued...

### 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:** <Auto/Manual>

*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:** `xConfiguration 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:** `xConfiguration NetworkServices NTP Address: "1.tandberg.pool.ntp.org"`

### NetworkServices SIP Mode

Determine whether the system should be able to place and receive SIP calls. 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:** `xConfiguration NetworkServices SIP Mode: On`

## The NetworkServices settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration NetworkServices SNMP CommunityName: "public"`



## The NetworkServices settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration NetworkServices SSH AllowPublicKey: On`

## The NetworkServices settings, continued...

### 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration 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:** `xConfiguration Phonebook Server 1 URL: "http://tms.company.com/tms/public/external/phonebook/phonebook.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/Callway>

*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.

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

**Example:** `xConfiguration Provisioning Mode: TMS`

### 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:** `xConfiguration Provisioning ExternalManager Address: ""`

### 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:** `xConfiguration Provisioning ExternalManager Domain: "any.domain.com"`

## The Provisioning settings, continued...

### 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:** xConfiguration Provisioning ExternalManager Path: "tms/public/external/management/SystemManagementService.asmx"

### 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:** xConfiguration Provisioning ExternalManager Protocol: HTTP

### 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:** xConfiguration 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:** xConfiguration Provisioning Password: ""

## The Provisioning settings, continued...

### 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:** xConfiguration Provisioning HttpMethod: POST

## 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:** `xConfiguration 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:** `xConfiguration 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 sends its audit logs to the syslog server.

**Example:** `xConfiguration 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:** `xConfiguration Security Audit Logging Mode: Off`

## The Security settings, continued...

### Security Session InactivityTimeout

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

**Requires user role:** AUDIT

**Value space:** <0..10000>

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

**Example:** `xConfiguration 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:** xConfiguration SerialPort Mode: On

### SerialPort BaudRate

Specify the baud rate (data transmission rate, bits per second) for the COM 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:** xConfiguration SerialPort BaudRate: 38400

### SerialPort LoginRequired

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

**Requires user role:** ADMIN

**Value space:** <On/Off>

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

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

**Example:** xConfiguration SerialPort LoginRequired: On

## The SIP settings

### 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, 50>

*Format:* String with a maximum of 50 characters.

**Example:** xConfiguration 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, 50>

*Format:* String with a maximum of 50 characters.

**Example:** xConfiguration 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:** xConfiguration 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:** xConfiguration SIP Profile 1 TlsVerify: Off

## The SIP settings, continued...

### 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:** `xConfiguration 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 invalid IP addresses (192.0.1234.0) will be rejected.

**Example:** `xConfiguration 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>

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

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

**Example:** `xConfiguration SIP Profile 1 Proxy 1 Discovery: Manual`

## The SIP settings, continued...

### 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/Experimental/Siemens>

*Standard:* Should be used when registering to standard SIP proxy like OpenSer.

*Alcatel:* Must be used when registering to a Alcatel-Lucent OmniPCX Enterprise R7 or later.

*Avaya:* Must be used when registering to a Avaya Communication Manager.

*Cisco:* Must be used when registering to a Cisco CallManager version 5 or later.

*Microsoft:* Must be used when registering to a Microsoft LCS or OCS server.

*Nortel:* Must be used when registering to a Nortel MCS 5100 or MCS 5200 PBX.

*Experimental:* Can be used if auto is not working. NOTE: This mode is for testing purposes only.

**Example:** `xConfiguration SIP Profile 1 Type: Standard`

### 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:** `xConfiguration SIP Profile 1 URI: "sip:firstname.lastname@company.com"`

## 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:** `xConfiguration 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:** `xConfiguration Standby Delay: 10`

### Standby BootAction

Define the camera position after a restart of the codec.

**Requires user role:** ADMIN

**Value space:** <None/Preset1/Preset2/Preset3/Preset4/Preset5/Preset6/Preset7/Preset8/Preset9/Preset10/Preset11/Preset12/Preset13/Preset14/Preset15/RestoreCameraPosition/DefaultCameraPosition>

*None:* No action.

*Preset1 to Preset15:* After a reboot the camera position will be set to the position defined by the selected preset.

*RestoreCameraPosition:* After a reboot the camera position will be set to the position it had before the last boot.

*DefaultCameraPosition:* After a reboot the camera position will be set to the factory default position.

**Example:** `xConfiguration Standby BootAction: DefaultCameraPosition`

### Standby StandbyAction

Define the camera position when going into standby mode.

**Requires user role:** ADMIN

**Value space:** <None/PrivacyPosition>

*None:* No action.

*PrivacyPosition:* Turns the camera to a sideways position for privacy.

**Example:** `xConfiguration Standby StandbyAction: PrivacyPosition`

## The Standby settings, continued...

### Standby WakeupAction

Define the camera position when leaving standby mode.

**Requires user role:** ADMIN

**Value space:** <None/Preset1/Preset2/Preset3/Preset4/Preset5/Preset6/Preset7/Preset8/Preset9/Preset10/Preset11/Preset12/Preset13/Preset14/Preset15/RestoreCameraPosition/DefaultCameraPosition>

*None:* No action.

*Preset1 to Preset15:* When leaving standby the camera position will be set to the position defined by the selected preset.

*RestoreCameraPosition:* When leaving standby the camera position will be set to the position it had before entering standby.

*DefaultCameraPosition:* When leaving standby the camera position will be set to the factory default position.

**Example:** `xConfiguration Standby WakeupAction: RestoreCameraPosition`

## 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:** `xConfiguration SystemUnit Name: "Meeting Room"`

### SystemUnit MenuLanguage

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

**Requires user role:** USER

**Value space:** <English/ChineseSimplified/ChineseTraditional/Danish/Dutch/Finnish/French/German/Italian/Japanese/Korean/Norwegian/Polish/PortugueseBrazilian/Russian/Spanish/SpanishLatinAmerican/Swedish/Turkish>

**Example:** `xConfiguration SystemUnit MenuLanguage: English`

### SystemUnit ContactInfo Type

Describes what parameter to put in the status field in the upper left corner on the screen display. The information can also be read with the command `xStatus SystemUnit ContactInfo`.

**Requires user role:** ADMIN

**Value space:** <Auto/None/IPv4/IPv6/H323Id/E164Alias/SipUri/SystemName>

*Auto:* Shows the address which another system can dial to reach this system, depending on the default call protocol and system registration.

*None:* Do not show any contact information.

*IPv4:* Shows the IPv4 address as the contact information.

*IPv6:* Shows the IPv6 address as the contact information.

*H323Id:* Shows the H323 ID as the contact information.

*E164Alias:* Shows the H323 E164 Alias as the contact information.

*SipUri:* Shows the SIP URI as the contact information.

*SystemName:* Shows the system name as the contact information.

**Example:** `xConfiguration SystemUnit ContactInfo Type: Auto`

## The SystemUnit settings, continued...

### 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 menus on screen or using the `xHistory` command.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable logging.

*Off:* Disable logging.

**Example:** `xConfiguration SystemUnit CallLogging Mode: On`

### SystemUnit IrSensor Mode

Both the Codec C Series and PrecisionHD camera have IR sensors, and only one of them needs to be enabled at the time. The IR sensor LED is located on the front of the codec and the camera and flickers when an IR signal is received from the remote control.

**Requires user role:** ADMIN

**Value space:** <On/Off/Auto>

*On:* Enable the IR sensor on the codec.

*Off:* Disable the IR sensor on the codec.

*Auto:* The system will automatically disable the IR sensor on the codec if the IR sensor at camera is enabled. Otherwise, the IR sensor on the codec will be enabled.

**Example:** `xConfiguration SystemUnit IrSensor Mode: Auto`



## The Time settings

### 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:** xConfiguration Time DateFormat: DD\_MM\_YY

### 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:** xConfiguration Time TimeFormat: 24H

## The Time settings, continued...

### 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:** xConfiguration Time Zone: "GMT (Greenwich Mean Time : Dublin, Edinburgh, Lisbon, London)"

## The Video settings

### Video DefaultPresentationSource

Define which video input source shall be used as the default presentation source (e.g. when you press the Presentation key on the remote control). The input source is configured to a video input connector.

**Requires user role:** USER

**Value space:** <1..3>

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

**Example:** `xConfiguration Video DefaultPresentationSource: 3`

### Video Input DVI [3]/[2..3] Type

NOTE: Codec C40 has one DVI input (DVI-I 3). Codec C60 has two DVI inputs (DVI-I 2 and 3).

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.

This setting should also be used if the video input is an analog component (YPbPr) type signal. This is used by some cameras (Sony EVI-HD1) and DVD/Blu-ray players. Since it is not possible to auto detect the difference between AnalogRGB and AnalogYPbPr, the AnalogYPbPr setting must be selected.

**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:** `xConfiguration Video Input DVI 3 Type: AutoDetect`

### Video Input Source 1 Connector

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

**Requires user role:** ADMIN

**Value space:** <HDMI>

*HDMI:* Select HDMI when you want to use the HDMI 1 as input source 1.

**Example:** `xConfiguration Video Input Source 1 Connector: HDMI`

## The Video settings, continued...

### Video Input Source 2 Connector

NOTE: Codec C40 has one DVI input (DVI-I 3). Codec C60 has two DVI inputs (DVI-I 2 and 3).

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

**Requires user role:** ADMIN

**Value space:** <HDMI/DVI>

*HDMI:* Select HDMI when you want to use the HDMI 2 as input source 2.

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

**Example:** `xConfiguration Video Input Source 2 Connector: HDMI`

### Video Input Source 3 Connector

NOTE: Codec C40 has one DVI input (DVI-I 3). Codec C60 has two DVI inputs (DVI-I 2 and 3).

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

**Requires user role:** ADMIN

**Value space:** <DVI/Composite/YC>

*DVI:* Select DVI-I when you want to use the DVI-I 3 as input source 3.

*Composite:* Select Composite when you want to use the Composite as input source 3.

*YC:* Select YC when you want to use the S-Video (YC) as input source 3. Connect to the two connectors marked Y/Comp and C.

**Example:** `xConfiguration Video Input Source 3 Connector: DVI`

### Video Input Source [1..3] Name

Enter a name for the video input source 1 to 3.

**Requires user role:** ADMIN

**Value space:** <S: 0, 50>

*Format:* String with a maximum of 50 characters.

**Example:** `xConfiguration Video Input Source 1 Name: ""`

### Video Input Source [1..3] CameraControl Mode

Set the camera control mode for the camera associated with the video source 1 to 3.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Enable camera control.

*Off:* Disable camera control.

**Example:** `xConfiguration Video Input Source 1 CameraControl Mode: On`

## The Video settings, continued...

### Video Input Source [1..5] CameraControl Camerald

Select the ID of the camera in the Visca chain that is connected to this camera source. The Camerald setting represents the camera's position in the Visca chain.

**Requires user role:** ADMIN

**Value space:** <1..5>

**Range:** Select the ID of the camera in the Visca chain.

**Example:** `xConfiguration Video Input Source 1 CameraControl CameraId: 1`

### Video Input Source [1..3] OptimalDefinition Profile

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.

Normal: Use this setting for normal to poorly lit environment. If the source is a camera with 1920x1080p60, the system will transmit 1920x720p60 at about 2.2Mb/sec and above with this setting set to normal.

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 1920x720p60 at about 1.4Mb/sec and above with this setting set to medium.

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 1920x720p60 at about 1.1Mb/sec and above with this setting set to high.

**Requires user role:** ADMIN

**Value space:** <Normal/Medium/High>

Ref. Table 1 and Table 2.

**Example:** `xConfiguration Video Input Source 1 OptimalDefinition Profile: 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

## The Video settings, continued...

### Video Input Source [1..3] OptimalDefinition Threshold60fps

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

**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:** `xConfiguration Video Input Source 1 OptimalDefinition Threshold60fps: 1280 _ 720`

### Video Input Source [1..3] Quality

When encoding and transmitting video there will be a tradeoff between high resolution and high framerate. For some video sources it is more important to transmit high framerate 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:** `xConfiguration Video Input Source 1 Quality: Motion`

### 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:** `xConfiguration Video Layout Scaling: On`

## The Video settings, continued...

### 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.

**Example:** `xConfiguration 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:** `xConfiguration Video Layout ScaleToFrameThreshold: 5`

### Video SelfviewPosition

Select where the small selfview PiP (Picture-in-Picture) will appear on screen.

**Requires user role:** USER

**Value space:** <UpperLeft/UpperRight/LowerLeft/LowerRight>

*UpperLeft:* The selfview PiP will appear in the upper left corner of the screen.

*UpperRight:* The selfview PiP will appear in the upper right corner of the screen.

*LowerLeft:* The selfview PiP will appear in the lower left corner of the screen.

*LowerRight:* The selfview PiP will appear in the lower right corner of the screen.

**Example:** `xConfiguration Video SelfviewPosition: LowerRight`

## The Video settings, continued...

### 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:** `xConfiguration Video 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:** `xConfiguration Video Video Layout RemoteLayoutFamily: Auto`

### Video MainVideoSource

Define which video input source shall be used as the main video source.

**Requires user role:** USER

**Value space:** <1..3>

*Range:* Select the source to be used as the main video source.

**Example:** `xConfiguration Video MainVideoSource: 1`

## The Video settings, continued...

### 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:** `xConfiguration Video Monitors: Single`

### Video OSD Mode

The Video OSD (On Screen Display) Mode lets you define if information and icons should be displayed on screen.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Show the on screen menus, icons and indicators.

*Off:* Hide the on screen menus, icons and indicators.

**Example:** `xConfiguration Video OSD Mode: On`

### Video OSD TodaysBookings

This setting can be used to display the systems bookings for today on the main OSD menu. This requires that the system is bookable by an external booking system, like Cisco TelePresence Management Suite (TMS).

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Displays information about this systems bookings on screen.

*Off:* Do not display todays bookings.

**Example:** `xConfiguration Video OSD TodaysBookings: Off`

### Video OSD MyContactsExpanded

Set how the local contacts will be displayed in the phone book dialog in the OSD (On Screen Display).

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* The local contacts in the phone book will be shown in the top level of the phonebook dialog.

*Off:* The local contacts will be placed in a separate folder called MyContacts in the phonebook dialog.

**Example:** `xConfiguration Video OSD MyContactsExpanded: Off`

## The Video settings, continued...

### Video OSD Output

The Video OSD (On Screen Display) Output lets you define which monitor should display the on screen menus, information and icons. By default the OSD is sent to the monitor connected to the Video OSD Output 1. If you cannot see the OSD on screen, then you must re-configure the OSD Output. You can do this by entering a key sequence on the remote control, from the web interface, or by a command line interface.

Using the remote control: Press the Disconnect key followed by: \* # \* # 0 x # (where x is output 1 to 2).

Using the web interface: Open a web browser and enter the IP address of the codec. Open the Advanced menu and navigate to Video OSD Output and select the video output.

Using a command line interface: Open a command line interface and connect to the codec (if in doubt of how to do this, see the API Guide for the codec). Enter the command: `xConfiguration Video OSD Output [1..2]` (select the OSD Output)

**Requires user role:** ADMIN

**Value space:** <1..2>

*Range:* Select 1 for HDMI 1 output, or select 2 for DVI-I 2 output.

**Example:** `xConfiguration Video OSD Output: 1`

### Video OSD InputMethod InputLanguage

The codec can be enabled for Cyrillic input characters in the menus on screen. NOTE: Requires that `xConfiguration Video OSD InputMethod Cyrillic` is set to On.

**Requires user role:** ADMIN

**Value space:** <Latin/Cyrillic>

*Latin:* Latin characters can be entered when using the remote control (default).

*Cyrillic:* Cyrillic characters can be entered using the remote control. NOTE: Requires a Cisco TelePresence Remote Control TRC5 with Cyrillic fonts.

**Example:** `xConfiguration Video OSD InputMethod InputLanguage: Latin`

### Video OSD InputMethod Cyrillic

Set the Cyrillic mode for the menu input language in the menus on screen.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* Cyrillic mode is available as a menu input language in the menus on screen. This will enable the setting `xConfiguration Video OSD InputMethod InputLanguage`.

*Off:* Cyrillic mode is NOT available as a menu input language in the menus on screen.

**Example:** `xConfiguration Video OSD InputMethod Cyrillic: Off`

## The Video settings, continued...

### Video OSD LoginRequired

Determine if the system should require the user to login before accessing the On Screen Display (OSD). If enabled, the user must enter his username and his PIN. After the user has logged in he can only execute to the configurations changes and commands allowed by his Role.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* The user must log in to access the On Screen Display (OSD).

*Off:* No login to the OSD is required.

**Example:** xConfiguration Video OSD LoginRequired: Off

### Video Output HDMI [1] MonitorRole

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:** xConfiguration Video Output HDMI 1 MonitorRole: First

### Video Output HDMI [1] OverscanLevel

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. Both the video and the OSD menu 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:** xConfiguration Video Output HDMI 1 OverscanLevel: None

## The Video settings, continued...

### Video Output HDMI [1] Resolution

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\_60/1920\_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@60p, 1920x1080@60p, 1280x768@60p, 1360x768@60p, 1366x768@60p, 1600x1200@60p, 1920x1200@60p

**Example:** xConfiguration Video Output HDMI 1 Resolution: 1920\_1080\_60

### Video Output DVI [2] MonitorRole

The DVI monitor role describes what video stream will be shown on the monitor connected to the video output DVI-I 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:** xConfiguration Video Output DVI 2 MonitorRole: Second

### Video Output DVI [2] OverscanLevel

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. Both the video and the OSD menu 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:** xConfiguration Video Output DVI 2 OverscanLevel: None



## The Video settings, continued...

### Video Output DVI [2] Resolution

Select the preferred resolution for the monitor connected to the video output DVI-I 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 \_ 60/1920 \_ 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@60p, 1920x1080@60p, 1280x768@60p, 1360x768@60p, 1366x768@60p, 1600x1200@60p, 1920x1200@60p

**Example:** xConfiguration Video Output DVI 2 Resolution: 1024 \_ 768 \_ 60

### Video Output Composite [3] MonitorRole

NOTE: This command is not supported on Codec C40.

The Composite monitor role describes what video stream will be shown on the monitor connected to the video output Composite connector. Applicable only if the monitor 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:** xConfiguration Video Output Composite 3 MonitorRole: First

### Video Output Composite [3] OverscanLevel

NOTE: This command is not supported on Codec C40.

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. Both the video and the OSD menu 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:** xConfiguration Video Output Composite 3 OverscanLevel: None

## The Video settings, continued...

### Video Output Composite [3] Resolution

NOTE: This command is not supported on Codec C40.

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

**Requires user role:** ADMIN

**Value space:** <PAL/NTSC>

**Range:** PAL, NTSC

**Example:** xConfiguration Video Output Composite 3 Resolution: NTSC

### Video Selfview

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

**Requires user role:** ADMIN

**Value space:** <On/Off>

**On:** Set to On when you want selfview to be displayed on screen.

**Off:** Set to Off when you do not want selfview to be displayed on screen.

**Example:** xConfiguration Video Selfview: On

### Video WallPaper

Determine if a background picture shall be displayed on screen when idle.

**Requires user role:** USER

**Value space:** <None/Growing/Summersky/Custom>

**None:** No wallpaper will be displayed on screen.

**Summersky, Growing:** Select one of the predefined wallpapers to be displayed on screen.

**Custom:** Custom: The custom wallpaper must be uploaded to the codec from the web interface.

**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 video system:** Open the menu on screen and go to Home > Settings > Wallpaper > 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.

**Example:** xConfiguration Video Wallpaper: Summersky

## The Video settings, continued...

### Video AllowWebSnapshots

Allows web snapshots to be taken from the web interface.

NOTE: This is a local setting which is available only from the On Screen Display (OSD) and when connected directly to the serial port (COM port) on the codec.

**Requires user role:** ADMIN

**Value space:** <On/Off>

*On:* If set to on, a web snapshot can be generated and displayed on the web page under "Snapshot".

*Off:* The generation of web snapshots is not allowed.

**Example:** `xConfiguration Video AllowWebSnapshots: Off`

## The Experimental menu

The Advanced configuration menu has an option called Experimental. The Experimental settings are beta settings. These settings can be used 'as is', and are not fully documented.

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

### Experimental CustomSoftbuttons State [1..2] Softbutton [1..5] Type

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

**Requires user role:** ADMIN

**Value space:** <NotSet/MainSource/PresentationSource/CameraPreset/Actions/SpeedDial>

**Example:** `xConfiguration Experimental CustomSoftbuttons State 1 Softbutton 1 Type: NotSet`

### Experimental CustomSoftbuttons State [1..2] Softbutton [1..5] Value

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

**Requires user role:** ADMIN

**Value space:** <S: 0, 255>

**Example:** `xConfiguration Experimental CustomSoftbuttons State 1 Softbutton 1 Value: ""`

### Experimental SystemUnit Controller Address

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

**Requires user role:** ADMIN

**Value space:** <S: 0, 255>

**Example:** `xConfiguration Experimental SystemUnit Controller Address: ""`

### Experimental Conference [1..1] PacketLossResilience ForwardErrorCorrection

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings are likely to 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:** `xConfiguration Experimental Conference 1 PacketLossResilience ForwardErrorCorrection: On`



## The Experimental menu, continued...

### Experimental Conference [1..1] PacketLossResilience RateAdaption

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings are likely to 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:** xConfiguration Experimental Conference 1 PacketLossResilience RateAdaption: On

### Experimental SoftwareUpgrade Mode

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

**Requires user role:** ADMIN

**Value space:** <Auto/Manual>

**Example:** xConfiguration Experimental SoftwareUpgrade Mode: Auto

### Experimental SoftwareUpgrade ServerAddress

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

**Requires user role:** ADMIN

**Value space:** <S: 0, 255>

**Example:** xConfiguration Experimental SoftwareUpgrade ServerAddress: "http://cupdate.tandberg.com/getswlist.py"

### Experimental CapsetFilter

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

**Requires user role:** ADMIN

**Value space:** <S: 0, 100>

**Example:** xConfiguration Experimental CapsetFilter: ""

## The Experimental menu, continued...

### Experimental Audio Input Microphone [1..4] EchoControl HighPassFilter

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

**Requires user role:** ADMIN

**Value space:** <On/Off>

**Example:** xConfiguration Experimental Audio Input Microphone 1 EchoControl HighPassFilter: Off

### Experimental Audio Input Microphone [1..4] Channel

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

NOTE: Codec C40 has two microphone connectors. Codec C60 has four microphone connectors.

Defines whether the signal from the microphone is a mono signal or part of a multichannel signal.

**Requires user role:** ADMIN

**Value space:** <Left/Right/Mono>

**Left:** The Audio Microphone input signal is the left channel of a stereo signal.

**Right:** The Audio Microphone input signal is the right channel of a stereo signal.

**Mono:** The Audio Microphone input signal is a mono signal.

**Example:** xConfiguration Experimental Audio Input Microphone 1 Channel: Left

### Experimental Audio MicrophoneReinforcement Gain

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

Microphone reinforcement is local amplification of one or several input connectors, directly to one or several output connectors, with minimum delay.

For software version TC4.0: Microphone reinforcement should not be enabled on a codec that is also configured using the Audio Console application.

This setting configures the gain of this path, from -53 dB to +15 dB. The value -54 corresponds to mute.

**Requires user role:** ADMIN

**Value space:** <-54..15>

**Example:** xConfiguration Experimental Audio MicrophoneReinforcement Gain: -19

## The Experimental menu, continued...

### Experimental Audio MicrophoneReinforcement AGC

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

Microphone reinforcement is local amplification of one or several input connectors, directly to one or several output connectors, with minimum delay.

For software version TC4.0: Microphone reinforcement should not be enabled on a codec that is also configured using the Audio Console application.

This setting controls an AGC on the mix of all input connectors attached to the Microphone reinforcement.

**Requires user role:** ADMIN

**Value space:** <On/Off>

**Example:** `xConfiguration Experimental Audio MicrophoneReinforcement AGC: Off`

### Experimental Audio MicrophoneReinforcement Input Microphone [1..4] Mode

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

Microphone reinforcement is local amplification of one or several input connectors, directly to one or several output connectors, with minimum delay.

For software version TC4.0: Microphone reinforcement should not be enabled on a codec that is also configured using the Audio Console application.

Configuring this setting to On for a microphone, means to attach it to the microphone reinforcement for local amplification. This is done in parallel to the microphone's existing connections, and will not affect any of these.

**Requires user role:** ADMIN

**Value space:** <On/Off>

**Example:** `xConfiguration Experimental Audio MicrophoneReinforcement Input Microphone 1 Mode: On`

## The Experimental menu, continued...

### Experimental Audio MicrophoneReinforcement Output Line [1..2] Mode

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

Microphone reinforcement is local amplification of one or several input connectors, directly to one or several output connectors, with minimum delay.

For software version TC4.0: Microphone reinforcement should not be enabled on a codec that is also configured using the Audio Console application.

Configuring this setting to On for an output line, means to attach that output connector to the microphone reinforcement for local amplification. If the output connector already is attached to a Local Output, it will first be detached from that before being attached to the Microphone reinforcement. When this setting is On, the output connector cannot be attached to any Local Output.

**Requires user role:** ADMIN

**Value space:** <On/Off>

**Example:** `xConfiguration Experimental Audio MicrophoneReinforcement Output Line 1 Mode: On`

### Experimental Audio Panning Mode

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

**Requires user role:** ADMIN

**Value space:** <Off/Auto>

**Example:** `xConfiguration 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 are likely to change.

**Requires user role:** ADMIN

**Value space:** <0..90>

**Example:** `xConfiguration Experimental Audio Panning MaxAngle: 0`

## The Experimental menu, continued...

### Experimental Audio Panning MonitorLeft

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

**Requires user role:** ADMIN

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

**Example:** `xConfiguration 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 are likely to change.

**Requires user role:** ADMIN

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

**Example:** `xConfiguration Experimental Audio Panning MonitorRight: 1`

## Chapter 4

# Password protection

## Password protection

The system can be password protected in the following ways:

- The **Advanced menu** can be password protected with a menu password.
- The **Codec** is password protected. You always need to enter a username to log in.  
The same username and password is used for the web and command line interfaces.  
You can also configure the codec to prompt for a PIN-code before accessing all the on screen menus.
  - » The default username is **admin** with no password set.  
**NOTE:** We recommend to set a password for the **admin** user - see how to **Change the codec password** to the right.
  - » New user accounts with username and password can be created using the web interface.  
Read more about how to create users with passwords and PIN codes in the Administrator guide for your product.
- You can protect the **File system** of the codec by setting a password for the **root** user. The root user is disabled by default.

**NOTE:** When a new administrator password has been defined make sure you keep a copy of the password in a safe place. Contact your Cisco representative if you have forgotten the password.

## Setting the Advanced menu password

Perform the following steps to define a password for the Advanced menu:

1. In the on screen menu, go to **Home > Settings > Advanced > Set menu password**.  
The password format is a string with 0–255 characters.
2. Enter the new password in the **Set password** menu.
3. Press **Save**.

### Log in to the Advanced menu

When a password is set, the password is required to get access to the Advanced menu on screen.

### How to change the Advanced menu password

1. To change the password, go to **Home > Settings > Advanced > Set menu password**.
2. Enter the new password in the **Set password** menu.
3. Press **Save**.

### How to deactivate the Advanced menu password

1. To deactivate the password, go to **Home > Settings > Advanced > Set menu password**.
2. Leave the input field empty in the **Set password** menu.
3. Press **Save** to save the blank password. This will deactivate the Advanced menu password.

## Changing the codec password

A user, including the default **admin** user, can change his codec password using the web interface or the command line interface.

If a password is not currently set, use the procedure below with a blank current password.

### Changing the password using the web interface:

1. Log in to the web interface with your username and current password.
2. Go to the **Change password** page.
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 0–255 characters.
4. Click **Save**.

### Changing the password using the command line interface:

1. Connect to the codec through the network or the serial data port, using a command line interface (SSH or Telnet).
2. Log in to the codec with your username and current password.
3. Run the following API command and when prompted enter the current password, the new password, and confirm the new password:

```
systemtools passwd
```

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

## Changing a user password

All users can change their own codec password as described on the previous page.

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

1. Log in to the web interface with username and password.
2. Go to the **Users** page.
3. Select the appropriate user from the list.
4. Enter a new password and PIN code.
5. Click **Save**.

Read more about user rights and how to add, edit and delete a user account in the [User management](#) section.

## Setting a root password

If you log in to the command line interface as **root**, you can access the codec's file system.

The root user is disabled by default.

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

1. Connect to the codec through the network or the serial data port, using a command line interface (SSH or Telnet).
2. Log in to the codec with the username (**admin**) and password. You need ADMIN rights.
3. Run the following API command:

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

**NOTE:** The root password is not the same as the administrator password.

## Chapter 5

# Appendices

## About monitors when you have a Codec C60

### The main monitor

The monitor can be connected to any of the video outputs HDMI 1 (the default connector for the main monitor) or DVI-I 2.

#### Connecting to HDMI 1

The HDMI 1 output is, by default, defined as the main monitor connector. When you connect the main monitor to this output the menu and icons (OSD - on screen display) will show on this monitor.

#### Connecting to DVI-I 2

When connecting the main monitor to the DVI-I 2 output, you must move the OSD to this output.

If you cannot see any menu on screen you must run a key sequence on the remote control. The menu on screen, icons and other information (OSD - on screen display) will be moved to the selected output. At the same time, the resolution will be set to the default value, which is 1024x768@60Hz for DVI (and 1280x720@60Hz for HDMI).

#### Moving the OSD using the remote control

If the main monitor is connected to DVI-I 2 video output, and the OSD is on HDMI 1 output, you must run the following shortcut or key sequence on the remote control.

- Disconnect \* \* \* # 0 x # x=1 (HDMI 1) x=2 (DVI-I 2)

Example: Set DVI-I 2 as the OSD output:

 - \* - # - \* - # - 0 - 2 - #

The video outputs at Codec C60



#### Moving the OSD using the web interface

Go to the Advanced Configuration page and navigate to **Video > OSD > Output** and select the video output connector for the main monitor.

#### Moving the OSD using API commands

You can also set the resolution and the OSD output by setting up a serial port connection and run API commands. See the API Guide for the codec for information about API commands.

### Dual monitors

When you want to run a dual monitor setup, connect the second monitor to video output DVI-I 2 video output on codec.

#### Dual monitor configuration

Go to Advanced configuration (menu on screen or web interface) to set the monitor to dual:

1. Navigate to **Video > Output > Monitor** and set the Monitor to **Dual**.



## About monitors when you have a Codec C40

### The main monitor

The monitor can be connected to any of the video outputs HDMI 1 (the default connector for the main monitor) or DVI-I 2.

#### Connecting to HDMI 1

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#### Moving the OSD using the remote control

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- Disconnect \* \* \* # 0 x # x=1 (HDMI 1) x=2 (DVI-I 2)

Example: Set DVI-I 2 as the OSD output:

- \* - # - \* - # - 0 - 2 - #

The video outputs at Codec C40



#### Moving the OSD using the web interface

Go to the Advanced Configuration page and navigate to **Video > OSD > Output** and select the video output connector for the main monitor.

#### Moving the OSD using API commands

You can also set the resolution and the OSD output by setting up a serial port connection and run API commands. See the API Guide for the codec for information about API commands.

### Dual monitors

When you want to run a dual monitor setup, connect the second monitor to video output DVI-I 2 video output on codec.

#### Dual monitor configuration

Go to Advanced configuration (menu on screen or web interface) to set the monitor to dual:

1. Navigate to **Video > Output > Monitor** and set the Monitor to **Dual**.

## TC console

The term 'layouts' can be used to describe the various ways a video conversation appear on screen. Different types of meetings would require different layouts.

The TC Console tool lets you customize different parts of the Codecs C90, C60 and C40 by use of simple drag and drop technique.

It will let you create setup profiles that can be applied to the codec at a later time or you can configure the system in real time without having to program the codec.

Read more about the TC Console functionality in the TC Console user guide.

## Video compositor



The Video compositor allows you to modify the default video compositing behavior of the codec without the need for any programming.

You can add new layouts, change the automatically selected layouts and control what will be shown to the users depending on the state of the codec. A layout is a composition of one or more frames, typically differing in size.

## Audio console



The Audio console helps you configure the audio system of the codec. It will allow you to change the default mixing, routing and equalization as well as allow you to set various input and output connector properties.

## 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 (menu on screen or web interface) to set the optimal definition profile:

- Navigate to **Video > Input > Source [1..n] > OptimalDefinition > Profile** and select a profile.

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

Go to Advanced configuration (menu on screen or web interface) to set the threshold:

- Navigate to **Video > Input > Source [1..n] > OptimalDefinition > Threshold60fps** and select a threshold.

The video input quality settings must be set to Motion to ensure 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 (menu on screen or web interface) to set the input quality:

- 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 configuration settings chapter. Go to: [Advanced configuration](#)



### 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.

#### Optimal definition profiles 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

#### Optimal definition profiles 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.

We recommend that you enable ClearPath on your video system.

Go to **Advanced configuration** (menu on screen or web interface) to switch on ClearPath:

- Navigate to **Conference 1 > PacketLossResilience > Mode** and select **On**.

## Requirements for speaker systems connected to a Cisco TelePresence C-series codec

Cisco has put in a lot of effort to minimize the camera to screen delay on our TelePresence endpoints.

New consumer TVs are usually equipped with "Motion Flow" or similar technology to insert new video frames between standard frames to create smoother images. This processing takes time and to maintain lip synchronization, the TV will delay the audio so that the audio and video arrives at the same time.

The echo canceller in the Cisco endpoints can handle such delay up to 30 ms. Many consumer TVs are not made for real time video communication and may introduce more than 30 ms of delay.

If you use such a TV together with a C-series codec it is recommended that you turn off "Motion Flow", "Natural Motion" or any other video processing that introduces additional delay.

Some consumer TVs also support advanced audio processing like "Virtual Surround" effects and "Dynamic Compression" to improve the TV experience. Such processing will make any acoustic echo canceller malfunction and should hence be switched off.

Some monitors are equipped with a setting called 'Game Mode'. This mode is specifically designed to help reduce the response time and will usually help to reduce the delay.

## DNAM for Profile 42"/52"

The DNAM – Digital Natural Audio Module – is built on two specially designed and separate modules, the amplifier and the loudspeaker cabinet.

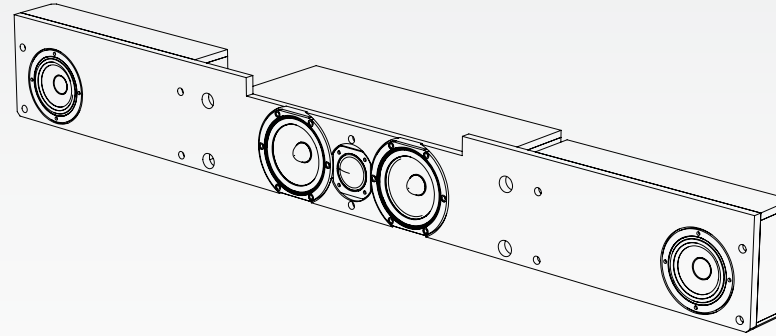
### The DNAM Loudspeaker

- 3-way Center Loudspeaker system
- Frequency range 50 Hz - 20 kHz
- 2 x 100 mm low- and midrange loudspeaker 8 Ohms nominal, excellent quality (SEAS Prestige series)
- 1 x 25 mm dome tweeter, 6 ohms nominal, excellent quality
- Active crossover filtered audio signals received from DNAM amplifier
- Long time max power 70 Watt on all loudspeakers
- Enclosed MDF loudspeaker cabinet

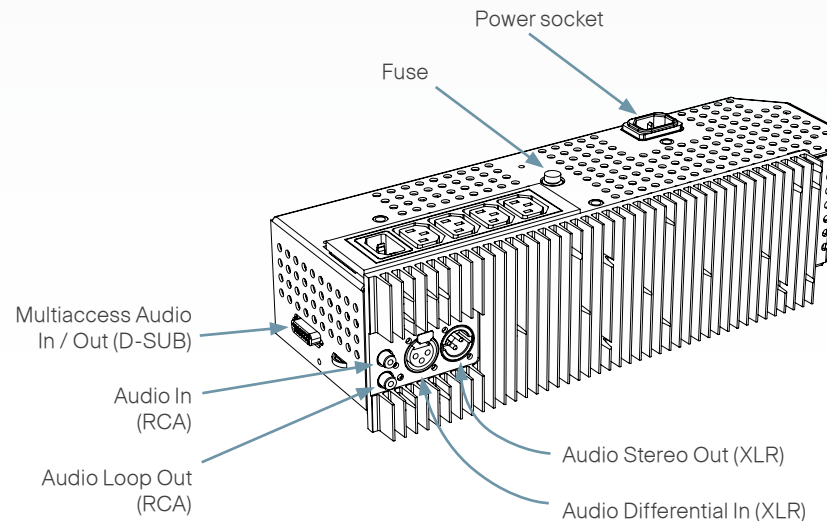
Integrated Left / Right Stereo Loudspeaker Stereo Loudspeaker System, each side has:

- 1 x 90 mm fullrange loudspeaker, 8 Ohms nominal, excellent quality
- Frequency range 70 Hz - 20 kHz
- Enclosed MDF Loudspeaker cabinet

DNAM Loudspeaker



DNAM Amplifier



### The DNAM Amplifier

- 3 x 50 W continuous average Center Output Power (load specified by DNAM Center Loudspeakers)
- 2 x 50 W continuous average Stereo Output Power (load specified by DNAM Stereo Loudspeakers)
- Full dynamic range for audio (20 Hz–20 kHz)
- Digital Signal Processing and Filtering on all channels for best audio detail clarity
- Digital Crossover Filtering on center channels
- In/out:  
Audio In - SPDIF (stereo) or Analog (mono), using the same connector.  
Audio Differential In - (female XLR pinout: 1 - GND, 2 - Signal (+), 3 - Signal (-))  
Audio Loop Out - line out directly from the input, always analog even with SPDIF in.  
Audio Stereo Out - (male XLR, common GND configuration)
- Fuse 2 A 250 V Slow, 5 x 20 mm, Littelfuse type 215002. Push and twist anti-clockwise to release.

## DNAM for Profile 65"

The DNAM (Digital Natural Audio Module) used in Profile 65", is built on two specially designed and separate modules, which is the amplifier and the loudspeaker cabinet.

### The DNAM Loudspeaker

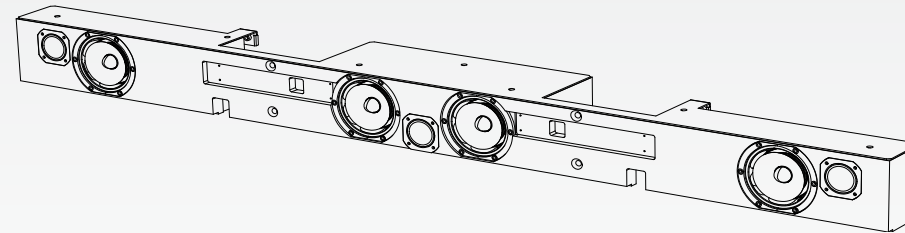
- 3-way Center Speaker system
- Frequency range 50 Hz - 20 kHz
- 2 x 100 mm low- and midrange loudspeakers, 8 ohms nominal, reference quality (SEAS Excel series)
- 1 x 25 mm dome tweeter, 6 ohms nominal, excellent quality
- Crossover filtered audio signals received from DNAM amplifier
- Long time max power 70 Watt on all loudspeakers
- Enclosed MDF speaker cabinet

### Integrated Stereo Speaker

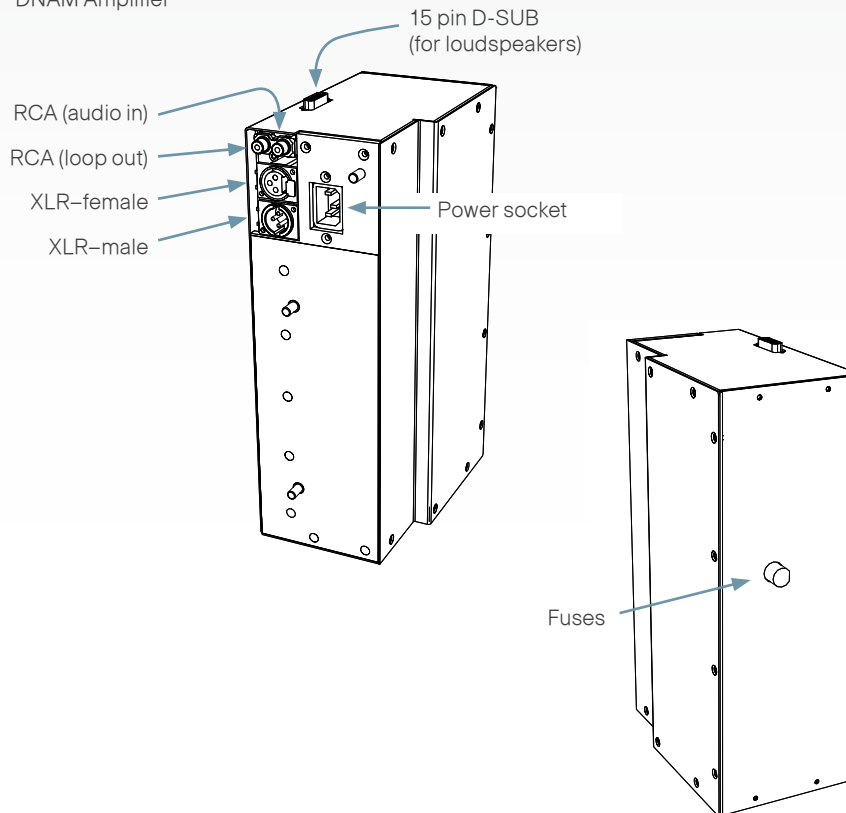
2-way Stereo Speaker System, each side has:

- 1 x 100 mm low- and midrange loudspeaker, 8 ohms nominal, reference quality (SEAS Excel series)
- 1 x 25 mm dome tweeter, 6 ohms nominal, excellent quality
- Passive crossover filter
- Frequency range 70 Hz - 20 kHz
- Long time max power 70 Watt
- Enclosed MDF speaker cabinet

DNAM Loudspeaker



DNAM Amplifier



### The DNAM Amplifier

- 3 x 50 W continuous average Center Output Power (load specified by DNAM Center Speakers).
- 2 x 50 W continuous average Stereo Output Power (load specified by Loudspeaker Stereo Kit).
- Full dynamic range for audio (high fidelity range) or Integrated stereo speakers.
- Digital Signal Processing and Filtering on all channels for best audio detail clarity.
- Digital Crossover Filtering on center channels.
- In/out:
  - Audio In - SPDIF (stereo) or Analog (mono), using the same connector.
  - Differential In - (female XLR pinout: 1 - GND, 2 - Signal (+), 3 - Signal (-))
  - Loop Out - line out directly from the input, always analog even with SPDIF in.
  - Stereo Out - (male XLR, common GND configuration)
- Fuse 2A 250 V Slow, 5 x 20 mm, Littelfuse type 215002.



## Technical specifications

### Profile 42"/52" using C60

#### UNIT DELIVERED COMPLETE WITH:

Full HD LCD display, Codec C60, remote control, PrecisionHD 1080p Camera, microphone (3x with single screen, 4x with dual screen), Digital Audio Module, integrated speakers and integrated cabling.

Choice of installation configuration: floor stand, wheel base or wall mount on pedestal.

Choice of screen size and configuration.

#### MONITOR Available with:

52" Full HD LCD, 16:9, 1080x1920 resolution

42" Full HD LCD, 16:9, 1080x1920 resolution

#### BASE Available with:

Floor standing foot plate

Wheel base (not available on 52" dual)

Wall mount on pedestal

#### BANDWIDTH

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

H.323/SIP up to 10 Mbps Multisite\*

#### FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology

H.460.18, H.460.19 Firewall Traversal

SIP ICE

#### VIDEO STANDARDS

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

#### VIDEO FEATURES

Native 16:9 Widescreen

Advanced Screen Layouts

Intelligent Video Management

Local Auto Layout

#### VIDEO INPUTS (5 INPUTS)

2 X HDMI inputs, supported formats:

1920 x 1080@60, 59.94 Hz (1080p60)

1920 x 1080@50 Hz (1080p50)

1920 x 1080@30, 29.97 Hz (1080p30)

1920 x 1080@25 Hz (1080p25)

1920 x 1080@24, 23.97 Hz (1080p24)

1920 x 1200@50 Hz (WUXGA)

1680 x 1050@60 Hz (WSXGA+)

1600 x 1200@50, 60 Hz (UXGA)

1440 X 900@60 Hz (WXGA+)

1400 x 1050@60, 75 Hz

1366 x 768@60 Hz

1360 x 768@60 Hz

1280 x 1024@60, 75, 85 Hz (SXGA)

1280 x 960@60, 85 Hz

1280 x 800@60 Hz (WXGA)

1280 x 768@60, 75, 85 Hz (WXGA)

1280 x 720@60, 59.94 Hz (720p60)

1280 x 720@50 Hz (720p50)

1152 x 864@75 Hz

1024 x 768@60, 70, 75, 85 Hz (XGA)

848 x 480@60 Hz

800 x 600@56, 60, 72, 75, 85 Hz (SVGA)

720 x 576@50 Hz (576p50)

720 x 480@60, 59.94 Hz (480p60)

640 x 480@60, 72, 75, 85 Hz (VGA)

2 x DVI-I inputs, supported formats:

Digital (DVI-D):

Same as HDMI, ref. above.

Analog RGB (DVI-A):

1920 x 1080@60 Hz (1080p60)

1920 x 1200@50 Hz (WUXGA)

1680 x 1050@60 Hz (WSXGA+)

1600 x 1200@60 Hz (UXGA)

1440 x 900@60 Hz (WXGA+)

1400 x 1050@60, 75 Hz

1366 x 768@60 Hz

1360 x 768@60 Hz

1280 x 1024@60, 75, 85 Hz (SXGA)

1280 x 960@60, 85 Hz

1280 x 800@60 Hz (WXGA)

1280 x 768@60, 75, 85 Hz (WXGA)

1280 x 720@60 Hz (720p60)

1152 x 864@75 Hz

1024 x 768@60, 70, 75, 85 Hz (XGA)

848 x 480@60 Hz

800 x 600@56, 60, 72, 75, 85 Hz (SVGA)

720 x 576@50 Hz

720 x 480@60, 59.94 Hz (480p60)

640 x 480@60, 72, 75, 85 Hz (VGA)

Analog YPbPr (DVI-A):

1920 x 1080@60 Hz (1080p60)

1920 x 1080@50 Hz (1080p50)

1920 x 1080@30 Hz (1080p30)

1920 x 1080@25 Hz (1080p25)

1280 x 720@60 Hz (720p60)

1280 x 720@50 Hz (720p50)

1280 x 720@30 Hz (720p30)

720 x 576@50 Hz (576p50)

720 x 480@60 Hz (480p60)

Extended Display Identification Data (EDID)

1 X Composite input (BNC connector), supported formats:

PAL/NTSC

#### VIDEO OUTPUTS (2 OUTPUTS)

1 X HDMI output, 1 X DVI-I output, supported formats:

1920 x 1080@60 Hz (1080p60)

1920 x 1200@60Hz (WUXGA)

1600 x 1200@60 Hz (UXGA)

1366 x 768@60 Hz

1360 x 768@60 Hz

1280 x 720@60 Hz (720p60)

1280 x 1024@60 Hz (SXGA)

1280 x 768@60 Hz (WXGA)

1024 x 768@60 Hz (XGA)

800 x 600@60 Hz (SVGA)

640 x 480@60 Hz (VGA)

VESA Monitor Power Management

1 X Composite output (BNC connector), supported formats:

PAL/NTSC

#### LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

176 x 144@30 fps (QCIF)

352 x 288@30 fps (CIF)

512 x 288@30 fps (w288p)

576 x 448@30 fps (448p)

768 x 448@30 fps (w448p)

704 x 576@30 fps (4CIF)

1024 x 576@30 fps (w576p)

640 x 480@30 fps (VGA)

800 x 600@30 fps (SVGA)

1024 x 768@30 fps (XGA)

1280 x 1024@30 fps (SXGA)

1280 x 720@30 fps (720p30)

1920 x 1080@30 fps (1080p30)\*

1280 x 768@30 fps (WXGA)

1440 x 900@30 fps (WXGA+)

1680 x 1050@30 fps (WSXGA+)

1600 x 1200@30 fps (UXGA)

512 x 288@60 fps (w288p60)\*

768 x 448@60 fps (w448p60)\*

1024 x 576@60 fps (w576p60)\*

1280 x 720@60 fps (720p60)\*

1920x1200@20fps (WUXGA)

#### AUDIO STANDARDS

G.711, G.722, G.722.1, 64 bit & 128 bit MPEG4 AAC-LD, AAC-LD Stereo

#### AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo

Four separate acoustic echo cancellers

4-port Audio mixer

Automatic Gain Control (AGC)

Automatic Noise Reduction

Active lip synchronization

ALD (Assistive Listening Devices) support with acoustic echo cancellation

#### AUDIO INPUTS (7 INPUTS)

4 x microphone, 48 V phantom powered, XLR connector each with separate echo cancellers and noise reduction, all microphones can be set for balanced line level

2 x RCA/Phono, Line Level: Stereo PC input, configurable to 2 x RCA/Phono, Line Level: Mono auxiliary/DVD input

1 x HDMI, digital: Stereo PC/DVD inputs

#### AUDIO OUTPUTS (3 OUTPUTS)

2 x RCA/Phono, line level, stereo main audio, configurable to S/PDIF or 2 x RCA/Phono, line level, mono to recording device

1 x HDMI, digital, stereo main audio

#### DUAL STREAM

H.239 (H.323) dual stream

BFCP (SIP) dual stream

Support for resolutions up to 1080p30 in both main stream and dual stream simultaneously

#### MULTISITE FEATURES\*

4-way 720p30 High Definition SIP/H.323 MultiSite

Full individual audio and video transcoding

Individual layouts in MultiSite CP (Takes out SelfView)

H.323/SIP/VoIP in the same conference

Best Impression (Automatic CP Layouts)

H.264, Encryption, Dual Stream from any site

IP Downsampling

Dial in/Dial out

Conference rates up to 10 Mbps



## Profile 42"/52" using C60, continued...

### PROTOCOLS

H.323  
SIP

### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

### IP NETWORK FEATURES

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 via NTP  
Packet Loss based Downsampling  
URI Dialing  
TCP/IP  
DHCP  
Direct DNS dialing  
802.1x network authentication

### SECURITY FEATURES

Management via HTTPS and SSH  
IP Administration Password  
Menu Administration Password  
Disable IP services  
Network Settings protection

### NETWORK INTERFACES \*\*

1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit

### GPIO

GPIO—General purpose Input/Output

### OTHER INTERFACES

USB host for future usage  
USB device for future usage

### PRECISIONHD 1080P CAMERA

1/3" CMOS  
12 x zoom  
+15°/-25° tilt, +/- 90° pan

43.5° vertical field of view  
72° horizontal field of view  
Focus distance 0.3m–infinity  
1920 x 1080 pixels progressive @ 60fps  
Other formats supported (configurable through Dip-switch):  
1920 x 1080@60 Hz (HDMI only)  
1920 x 1080@50 Hz (HDMI only)  
1920 x 1080@30 Hz  
1920 x 1080@25 Hz  
1280 x 720@60 Hz  
1280 x 720@50 Hz  
1280 x 720@30 Hz  
1280 x 720@25 Hz  
Automatic or manual focus/brightness/white balance  
Far-end camera control  
Daisy-chain support (Visca protocol camera)  
Dual HDMI and HD-SDI output  
Upside-down mounting with automatic flipping of picture

### SYSTEM MANAGEMENT

Support for the Cisco TelePresence Management Suite  
Total management via embedded SNMP, Telnet, SSH, XML, SOAP  
Remote software upload: via web server, SCP, HTTP, HTTPS  
1 x RS-232 for local control and diagnostics  
Remote control and on-screen menu system

### DIRECTORY SERVICES

Support for Local directories (My Contacts)  
Corporate Directory  
Unlimited entries using Server directory supporting LDAP and H.350  
Unlimited number for Corporate directory (through Cisco TelePresence Management Suite)  
200 number local directory  
Received Calls with Date and Time  
Placed Calls with Date and Time  
Missed Calls with Date and Time

### POWER

**Profile 42"**  
Auto-sensing power supply  
100-120/200-240 VAC, 60/50Hz, 4.5A max  
Maximum power rating 365 W  
**Profile 52"**  
Auto-sensing power supply  
100-120/200-240 VAC, 60/50Hz, 6A max

Maximum power rating 526 W

### Profile 52" Dual

Auto-sensing power supply  
100-120/200-240 VAC, 60/50Hz, 10/5A max  
Maximum power rating 870 W

### OPERATING TEMPERATURE AND HUMIDITY

0° C to 35° C (32° F to 95° F) ambient temperature  
10% to 90% Relative Humidity (RH)

### STORAGE AND TRANSPORT TEMPERATURE

-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

### APPROVALS

#### EU/EEC

Directive 2006/95/EC (Low Voltage Directive)  
– Standard EN60950-1, 2nd ed.  
Directive 2004/108/EC (EMC Directive)  
– Standard EN55022, Class A  
– Standard EN55024  
– Standard EN61000-3-2/-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 UL60950-1 2nd ed.  
Complies with FCC15B Class A

#### 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.

### DIMENSIONS

#### Profile 42"

Height: 63.78in/162cm  
Width: 38.58in/98cm  
Depth: 6.7in/17cm

#### Profile 52"

Height: 63.78in/162cm  
Width: 47.25in/120cm  
Depth: 6.7in/17cm

### Profile 52" Dual

Height: 63.5in/161.3cm  
Width: 95in/241.2cm  
Depth: 6.7in/17cm

### WEIGHT

#### Profile 42"

With foot base: 220.5lbs/100kg  
With wheel base: 200.6lbs/91kg

#### Profile 52"

With foot base: 253.5lbs/115kg  
With wheel base: 229.3lbs/104kg

#### Profile 52" Dual

With foot base: 515.9lbs/234kg

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All other trademarks are property of their respective owners.

### 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

November 2010

\* requires option

\*\* only one LAN/Ethernet interface supported

# Technical specifications

## Profile 65" using C60

### UNIT DELIVERED COMPLETE WITH:

Full HD LCD display, Codec C60, remote control, PrecisionHD 1080p Camera, microphone, Digital Audio Module, integrated speakers and integrated cabling.

### MONITOR Available with:

65" Full HD LCD, 16:9, 1080x1920 resolution

### BASE Available with:

Floor standing foot plate  
Wall mount on pedestal

### BANDWIDTH

H.323/SIP up to 6 Mbps point-to-point  
H.323/SIP up to 10 Mbps Multisite\*

### FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology  
H.460.18, H.460.19 Firewall Traversal  
SIP ICE

### VIDEO STANDARDS

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

### VIDEO FEATURES

Native 16:9 Wide screen  
Advanced Screen Layouts  
Intelligent Video Management  
Local Auto Layout

### VIDEO INPUTS (5 INPUTS)

#### 2 X HDMI inputs, supported formats:

1920 x 1080@60, 59.94 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30, 29.97 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1920 x 1080@24, 23.97 Hz (1080p24)  
1920 x 1200@50 Hz (WUXGA)  
1680 x 1050@60 Hz (WSXGA+)  
1600 x 1200@50, 60 Hz (UXGA)  
1440 X 900@60 Hz (WXGA+)  
1400 x 1050@60, 75 Hz  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 1024@60, 75, 85 Hz (SXGA)

1280 x 960@60, 85 Hz  
1280 x 800@60 Hz (WXGA)  
1280 x 768@60, 75, 85 Hz (WXGA)  
1280 x 720@60, 59.94 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1152 x 864@75 Hz  
1024 x 768@60, 70, 75, 85 Hz (XGA)  
848 x 480@60 Hz  
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)  
720 x 576@50 Hz (576p50)  
720 x 480@60, 59.94 Hz (480p60)  
640 x 480@60, 72, 75, 85 Hz (VGA)

#### 2 x DVI-I inputs, supported formats:

##### Digital (DVI-D):

Same as HDMI, ref. above.

##### Analog RGB (DVI-A):

1920 x 1080@60 Hz (1080p60)  
1920 x 1200@50 Hz (WUXGA)  
1680 x 1050@60 Hz (WSXGA+)  
1600 x 1200@60 Hz (UXGA)  
1440 x 900@60 Hz (WXGA+)  
1400 x 1050@60, 75 Hz  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 1024@60, 75, 85 Hz (SXGA)  
1280 x 960@60, 85 Hz  
1280 x 800@60 Hz (WXGA)  
1280 x 768@60, 75, 85 Hz (WXGA)  
1280 x 720@60 Hz (720p60)  
1152 x 864@75 Hz  
1024 x 768@60, 70, 75, 85 Hz (XGA)  
848 x 480@60 Hz  
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)  
720 x 576@50 Hz  
720 x 480@60, 59.94 Hz (480p60)  
640 x 480@60, 72, 75, 85 Hz (VGA)

##### Analog YPbPr (DVI-A):

1920 x 1080@60 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1280 x 720@60 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1280 x 720@30 Hz (720p30)  
720 x 576@50 Hz (576p50)  
720 x 480@60 Hz (480p60)

Extended Display Identification Data (EDID)

#### 1 X Composite input (BNC connector), supported formats:

PAL/NTSC

### VIDEO OUTPUTS (2 OUTPUTS)

1 X HDMI output, 1 X DVI-I output, supported formats:

1920 x 1080@60 Hz (1080p60)  
1920 x 1200@60Hz (WUXGA)  
1600 x 1200@60 Hz (UXGA)  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 720@60 Hz (720p60)  
1280 x 1024@60 Hz (SXGA)  
1280 x 768@60 Hz (WXGA)  
1024 x 768@60 Hz (XGA)  
800 x 600@60 Hz (SVGA)  
640 x 480@60 Hz (VGA)

VESA Monitor Power Management

#### 1 X Composite output (BNC connector), supported formats:

PAL/NTSC

### LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

176 x 144@30 fps (QCIF)  
352 x 288@30 fps (CIF)  
512 x 288@30 fps (w288p)  
576 x 448@30 fps (448p)  
768 x 448@30 fps (w448p)  
704 x 576@30 fps (4CIF)  
1024 x 576@30 fps (w576p)  
640 x 480@30 fps (VGA)  
800 x 600@30 fps (SVGA)  
1024 x 768@30 fps (XGA)  
1280 x 1024@30 fps (SXGA)  
1280 x 720@30 fps (720p30)  
1920 x 1080@30 fps (1080p30)\*  
1280 x 768@30 fps (WXGA)  
1440 x 900@30 fps (WXGA+)  
1680 x 1050@30 fps (WSXGA+)  
1600 x 1200@30 fps (UXGA)  
512 x 288@60 fps (w288p60)\*  
768 x 448@60 fps (w448p60)\*  
1024 x 576@60 fps (w576p60)\*  
1280 x 720@60 fps (720p60)\*  
1920x1200@20fps (WUXGA)

### AUDIO STANDARDS

G.711, G.722, G.722.1, 64 bit & 128 bit MPEG4 AAC-LD, AAC-LD Stereo

### AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo  
Four separate acoustic echo cancellers  
4-port Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Active lip synchronization  
ALD (Assistive Listening Devices) support with acoustic echo cancellation

### AUDIO INPUTS (7 INPUTS)

4 x microphone, 48 V phantom powered, XLR connector each with separate echo cancellers and noise reduction, all microphones can be set for balanced line level

2 x RCA/Phono, Line Level: Stereo PC input, configurable to 2 x RCA/Phono, Line Level: Mono auxiliary/DVD input

1 x HDMI, digital: Stereo PC/DVD inputs

### AUDIO OUTPUTS (3 OUTPUTS)

2 x RCA/Phono, line level, stereo main audio, configurable to S/PDIF or 2 x RCA/Phono, line level, mono to recording device

1 x HDMI, digital, stereo main audio

### DUAL STREAM

H.239 (H.323) dual stream

BFCP (SIP) dual stream

Support for resolutions up to 1080p30 in both main stream and dual stream simultaneously

### MULTISITE FEATURES\*

4-way 720p30 High Definition SIP/H.323 MultiSite  
Full individual audio and video transcoding  
Individual layouts in MultiSite CP (Takes out SelfView)  
H.323/SIP/VoIP in the same conference  
Best Impression (Automatic CP Layouts)  
H.264, Encryption, Dual Stream from any site  
IP Downsampling  
Dial in/Dial out  
Conference rates up to 10 Mbps

### PROTOCOLS

H.323  
SIP

## Profile 65”, continued...

### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

### IP NETWORK FEATURES

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 via NTP  
Packet Loss based Downspeeding  
URI Dialing  
TCP/IP  
DHCP  
Direct DNS dialing  
802.1x network authentication

### SECURITY FEATURES

Management via HTTPS and SSH  
IP Administration Password  
Menu Administration Password  
Disable IP services  
Network Settings protection

### NETWORK INTERFACES \*\*

1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit

### GPIO

GPIO—General purpose Input/Output

### OTHER INTERFACES

USB host for future usage  
USB device for future usage

### PRECISIONHD 1080P CAMERA

1/3”CMOS  
12 x zoom  
+15°/-25° tilt, +/- 90° pan  
43.5° vertical field of view  
72° horizontal field of view  
Focus distance 0.3m–infinity  
1920 x 1080 pixels progressive @ 60fps

Other formats supported (configurable through Dip-switch):

1920 x 1080@60 Hz (HDMI only)  
1920 x 1080@50 Hz (HDMI only)  
1920 x 1080@30 Hz  
1920 x 1080@25 Hz  
1280 x 720@60 Hz  
1280 x 720@50 Hz  
1280 x 720@30 Hz  
1280 x 720@25 Hz

Automatic or manual focus/brightness/white balance  
Far-end camera control  
Daisy-chain support (Visca protocol camera)  
Dual HDMI and HD-SDI output  
Upside-down mounting with automatic flipping of picture

### SYSTEM MANAGEMENT

Support for the Cisco TelePresence Management Suite  
Total management via embedded SNMP, Telnet, SSH, XML, SOAP  
Remote software upload: via web server, SCP, HTTP, HTTPS  
1 x RS-232 for local control and diagnostics  
Remote control and on-screen menu system

### DIRECTORY SERVICES

Support for Local directories (My Contacts)  
Corporate Directory  
Unlimited entries using Server directory supporting LDAP and H.350  
Unlimited number for Corporate directory (through Cisco TelePresence Management Suite)  
200 number local directory  
Received Calls with Date and Time  
Placed Calls with Date and Time  
Missed Calls with Date and Time

### POWER

Auto-sensing power supply  
100-120/200-240 VAC, 60/50Hz  
Maximum power rating 800 Watt  
Normal operation 650 Watt

### OPERATING TEMPERATURE AND HUMIDITY

0° C to 35° C (32° F to 95° F) ambient temperature  
10% to 90% Relative Humidity (RH)

### STORAGE AND TRANSPORT TEMPERATURE

-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

### APPROVALS

#### EU/EEC

Directive 2006/95/EC (Low Voltage Directive)  
– Standard EN 60950-1  
Directive 2004/108/EC (EMC Directive)  
– Standard EN 55022, Class B  
– Standard EN 55024  
– Standard EN 61000-3-2/-3-3

#### USA

Approved according to UL 60950-1  
Complies with FCC15B Class B

#### Canada

Approved according to CAN/ CSA-C22.2 No. 60950-1  
This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### DIMENSIONS

• Height: 65.6in/167 cm  
• Width: 60.3in/153 cm  
• Depth: 6.8in/17 cm

### WEIGHT

With foot base: 330lbs/150kg

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All other trademarks are property of their respective owners.

### 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

November 2010

\* requires option

\*\* only one LAN/Ethernet interface supported

## Technical specifications

### Codec C60

#### UNIT DELIVERED COMPLETE WITH:

Video conferencing codec, remote control, rack mounting rails, LAN cable, power cable

#### BANDWIDTH

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

#### FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology  
H.460.18, H.460.19 Firewall Traversal

#### VIDEO STANDARDS

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

#### VIDEO FEATURES

Native 16:9 Widescreen  
Advanced Screen Layouts  
Intelligent Video Management  
Local Auto Layout

#### VIDEO INPUTS (5 INPUTS)

##### 2 X HDMI inputs, supported formats:

1920 x 1080@60, 59.94 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30, 29.97 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1920 x 1080@24, 23.97 Hz (1080p24)  
1920 x 1200@50 Hz (WUXGA)  
1680 x 1050@60 Hz (WSXGA+)  
1600 x 1200@50, 60 Hz (UXGA)  
1440 X 900@60 Hz (WXGA+)  
1400 x 1050@60, 75 Hz  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 1024@60, 75, 85 Hz (SXGA)  
1280 x 960@60, 85 Hz  
1280 x 800@60 Hz (WXGA)  
1280 x 768@60, 75, 85 Hz (WXGA)  
1280 x 720@60, 59.94 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1152 x 864@75 Hz  
1024 x 768@60, 70, 75, 85 Hz (XGA)  
848 x 480@60 Hz  
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)

720 x 576@50 Hz (576p50)  
720 x 480@60, 59.94 Hz (480p60)  
640 x 480@60, 72, 75, 85 Hz (VGA)

##### 2 x DVI-I inputs, supported formats:

##### Digital (DVI-D):

Same as HDMI, ref. above.

##### Analog RGB (DVI-A):

1920 x 1080@60 Hz (1080p60)  
1920 x 1200@50 Hz (WUXGA)  
1680 x 1050@60 Hz (WSXGA+)  
1600 x 1200@60 Hz (UXGA)  
1440 x 900@60 Hz (WXGA+)  
1400 x 1050@60, 75 Hz  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 1024@60, 75, 85 Hz (SXGA)  
1280 x 960@60, 85 Hz  
1280 x 800@60 Hz (WXGA)  
1280 x 768@60, 75, 85 Hz (WXGA)  
1280 x 720@60 Hz (720p60)  
1152 x 864@75 Hz  
1024 x 768@60, 70, 75, 85 Hz (XGA)  
848 x 480@60 Hz  
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)  
720 x 576@50 Hz  
720 x 480@60, 59.94 Hz (480p60)  
640 x 480@60, 72, 75, 85 Hz (VGA)

##### Analog YPbPr (DVI-A):

1920 x 1080@60 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1280 x 720@60 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1280 x 720@30 Hz (720p30)  
720 x 576@50 Hz (576p50)  
720 x 480@60 Hz (480p60)

Extended Display Identification Data (EDID)

##### 1 X Composite input (BNC connector), supported formats:

PAL/NTSC

#### VIDEO OUTPUTS (2 OUTPUTS)

1 X HDMI output, 1 X DVI-I output, supported formats:  
1920 x 1080@60 Hz (1080p60)  
1920 x 1200@60Hz (WUXGA)

1600 x 1200@60 Hz (UXGA)  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 720@60 Hz (720p60)  
1280 x 1024@60 Hz (SXGA)  
1280 x 768@60 Hz (WXGA)  
1024 x 768@60 Hz (XGA)  
800 x 600@60 Hz (SVGA)  
640 x 480@60 Hz (VGA)

VESA Monitor Power Management

##### 1 X Composite output (BNC connector), supported formats:

PAL/NTSC

#### LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

176 x 144@30 fps (QCIF)  
352 x 288@30 fps (CIF)  
512 x 288@30 fps (w288p)  
576 x 448@30 fps (448p)  
768 x 448@30 fps (w448p)  
704 x 576@30 fps (4CIF)  
1024 x 576@30 fps (w576p)  
640 x 480@30 fps (VGA)  
800 x 600@30 fps (SVGA)  
1024 x 768@30 fps (XGA)  
1280 x 1024@30 fps (SXGA)  
1280 x 720@30 fps (720p30)  
1920 x 1080@30 fps (1080p30)\*  
1280 x 768@30 fps (WXGA)  
1440 x 900@30 fps (WXGA+)  
1680 x 1050@30 fps (WSXGA+)  
1600 x 1200@30 fps (UXGA)  
512 x 288@60 fps (w288p60)\*  
768 x 448@60 fps (w448p60)\*  
1024 x 576@60 fps (w576p60)\*  
1280 x 720@60 fps (720p60)\*  
1920x1200@20fps (WUXGA)

#### AUDIO STANDARDS

G.711, G.722, G.722.1, 64 bit & 128 bit MPEG4 AAC-LD, AAC-LD Stereo

#### AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo  
Four separate acoustic echo cancellers  
4-port Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction

Active lip synchronization

ALD (Assistive Listening Devices) support with acoustic echo cancellation

#### AUDIO INPUTS (7 INPUTS)

4 x microphone, 48 V phantom powered, XLR connector each with separate echo cancellers and noise reduction, all microphones can be set for balanced line level

2 x RCA/Phono, Line Level: Stereo PC input, configurable to 2 x RCA/Phono, Line Level: Mono auxiliary/DVD input  
1 x HDMI, digital: Stereo PC/DVD inputs

#### AUDIO OUTPUTS (3 OUTPUTS)

2 x RCA/Phono, line level, stereo main audio, configurable to S/PDIF or 2 x RCA/Phono, line level, mono to recording device

1 x HDMI, digital, stereo main audio

#### DUAL STREAM

H.239 (H.323) dual stream

BFCP (SIP) dual stream

Support for resolutions up to 1080p30 in both main stream and dual stream simultaneously

#### MULTISITE FEATURES\*

4-way 720p30 High Definition SIP/H.323 MultiSite  
Full individual audio and video transcoding  
Individual layouts in MultiSite CP (Takes out SelfView)  
H.323/SIP/VoIP in the same conference  
Best Impression (Automatic CP Layouts)  
H.264, Encryption, Dual Stream from any site  
IP Downsampling  
Dial in/Dial out  
Conference rates up to 10 Mbps

#### PROTOCOLS

H.323  
SIP

#### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

#### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

## Codec C60, continued...

### IP NETWORK FEATURES

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 via NTP  
Packet Loss based Downsampling  
URI Dialing  
TCP/IP  
DHCP  
Direct DNS dialing

### SECURITY FEATURES

Management via HTTPS and SSH  
IP Administration Password  
Menu Administration Password  
Disable IP services  
Network Settings protection

### NETWORK INTERFACES \*\*

1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit

### GPIO

GPIO—General purpose Input/Output

### OTHER INTERFACES

USB host for future usage  
USB device for future usage

### PRECISIONHD 1080P CAMERA

1/3" CMOS  
12 x zoom  
+15°/-25° tilt, +/- 90° pan  
43.5° vertical field of view  
72° horizontal field of view  
Focus distance 0.3m–infinity  
1920 x 1080 pixels progressive @ 60fps  
Other formats supported (configurable through Dip-switch):  
1920 x 1080@60 Hz (HDMI only)  
1920 x 1080@50 Hz (HDMI only)  
1920 x 1080@30 Hz  
1920 x 1080@25 Hz  
1280 x 720@60 Hz

1280 x 720@50 Hz  
1280 x 720@30 Hz  
1280 x 720@25 Hz  
Automatic or manual focus/brightness/white balance  
Far-end camera control  
Daisy-chain support (Visca protocol camera)  
Dual HDMI and HD-SDI output  
Upside-down mounting with automatic flipping of picture

### SYSTEM MANAGEMENT

Support for the Cisco TelePresence Management Suite  
Total management via embedded SNMP, Telnet, SSH, XML, SOAP  
Remote software upload: via web server, SCP, HTTP, HTTPS  
1 x RS-232 for local control and diagnostics  
Remote control and on-screen menu system

### DIRECTORY SERVICES

Support for Local directories (My Contacts)  
Corporate Directory  
Unlimited entries using Server directory supporting LDAP and H.350  
Unlimited number for Corporate directory (through Cisco TelePresence Management Suite)  
200 number local directory  
Received Calls with Date and Time  
Placed Calls with Date and Time  
Missed Calls with Date and Time

### POWER

Auto-sensing power supply  
100–240 VAC, 50/60 Hz  
175 watts max. for codec and main camera

### OPERATING TEMPERATURE AND HUMIDITY

0° C to 35° C (32° F to 95° F) ambient temperature  
10% to 90% Relative Humidity (RH)

### STORAGE AND TRANSPORT TEMPERATURE

-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

### APPROVALS

EU/EEC  
Directive 2006/95/EC (Low Voltage Directive)  
– Standard EN 60950-1  
Directive 2004/108/EC (EMC Directive)  
– Standard EN 55022, Class B  
– Standard EN 55024  
– Standard EN 61000-3-2/-3-3

### USA

Approved according to UL 60950-1  
Complies with FCC15B Class B

### Canada

Approved according to CAN/CSA C22.2 No. 60950-1  
This Class B digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### DIMENSIONS

Length: 17.36"/44.1 cm  
Height: 3.67"/9.3 cm  
Depth: 11.8"/30 cm

### WEIGHT

Weight: 11.22 lbs/5.1 kg

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

November 2010

\* requires option

\*\* only one LAN/Ethernet interface supported



## Technical specifications

### Codec C40

#### UNIT DELIVERED COMPLETE WITH:

Video conferencing codec, remote control, rack mounting rails, LAN cable, power cable

#### BANDWIDTH

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

#### FIREWALL TRAVERSAL

TANDBERG Expressway™ Technology  
H.460.18, H.460.19 Firewall Traversal

#### VIDEO STANDARDS

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

#### VIDEO FEATURES

Native 16:9 Widescreen  
Advanced Screen Layouts  
Intelligent Video Management  
Local Auto Layout

#### VIDEO INPUTS (4 INPUTS)

##### 2 X HDMI inputs, supported formats:

1920 x 1080@60, 59.94 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30, 29.97 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1920 x 1080@24, 23.97 Hz (1080p24)  
1920 x 1200@50, 60 Hz (WUXGA)  
1680 x 1050@60 Hz (WSXGA+)  
1600 x 1200@50, 60 Hz (UXGA)  
1440 x 900@60 Hz (WXGA+)  
1280 x 1024@60, 75, 85 Hz (SXGA)  
1280 x 768@60, 75, 85 Hz (WXGA)  
1280 x 720@60, 59.94 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1024 x 768@60, 70, 75, 85 Hz (XGA)  
800 x 600@56, 60, 72, 75, 85 Hz (SVGA)  
720 x 480@60, 59.94 Hz (480p60)  
640 x 480@60 Hz (480p60)  
640 x 480@60, 72, 75, 85 Hz (VGA)

1 x DVI-I inputs, supported formats:

##### Digital (DVI-D):

Same as HDMI, ref. above.

##### Analog (VGA):

x1920 x 1080@60 Hz (1080p60)  
x1920 x 1200@50 Hz (WUXGA)  
x1680 x 1050@60 Hz (WSXGA+)  
x1600 x 1200@60 Hz (UXGA)  
x1440 x 900@60 Hz (WXGA+)  
x1280 x 1024@60, 75, 85 Hz (SXGA)  
x1280 x 960@60, 85 Hz  
x1280 x 800@60 Hz (WXGA)  
x1280 x 768@60, 75, 85 Hz (WXGA)  
x1280 x 720@60 Hz (720p60)  
1152 x 864@75 Hz  
x1024 x 768@60, 70, 75, 85 Hz (XGA)

##### Analog (YPbPr):

1920 x 1080@60 Hz (1080p60)  
1920 x 1080@50 Hz (1080p50)  
1920 x 1080@30 Hz (1080p30)  
1920 x 1080@25 Hz (1080p25)  
1280 x 720@60 Hz (720p60)  
1280 x 720@50 Hz (720p50)  
1280 x 720@30 Hz (720p30)  
720 x 576@50 Hz (576p50)  
720 x 480@60 Hz (480p60)

Extended Display Identification Data (EDID)

##### 1 X Composite input (BNC connector), supported formats:

PAL/NTSC

#### VIDEO OUTPUTS (2 OUTPUTS)

1 X HDMI output, 1 X DVI-I output, supported formats:

1920 x 1080@60 Hz (1080p60)  
1280 x 720@60 Hz (720p60)  
1920 x 1200@60Hz (WUXGA)  
1600 x 1200@60 Hz (UXGA)  
1366 x 768@60 Hz  
1360 x 768@60 Hz  
1280 x 1024@60 Hz (SXGA)  
1280 x 768@60 Hz (WXGA)  
1024 x 768@60 Hz (XGA)  
800 x 600@60 Hz (SVGA)  
640 x 480@60 Hz (VGA)

VESA Monitor Power Management

Extended Display Identification Data (EDID)

#### LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)

176 x 144@30 fps (QCIF)  
352 x 288@30 fps (CIF)  
512 x 288@30 fps (w288p)  
576 x 448@30 fps (448p)  
768 x 448@30 fps (w448p)  
704 x 576@30 fps (4CIF)  
1024 x 576@30 fps (w576p)  
640 x 480@30 fps (VGA)  
800 x 600@30 fps (SVGA)  
1024 x 768@30 fps (XGA)  
1280 x 1024@30 fps (SXGA)  
1280 x 720@30 fps (720p30)  
1920 x 1080@30 fps (1080p30)\*  
1280 x 768@30 fps (WXGA)  
1440 x 900@30 fps (WXGA+)  
1680 x 1050@30 fps (WSXGA+)  
1600 x 1200@30 fps (UXGA)  
512 x 288@60 fps (w288p60)\*  
768 x 448@60 fps (w448p60)\*  
1024 x 576@60 fps (w576p60)\*  
1280 x 720@60 fps (720p60)\*  
1920x1200@20fps (WUXGA)

#### AUDIO STANDARDS

G.711, G.722, G.722.1, 64 bit & 128 bit MPEG4 AAC-LD, AAC-LD Stereo

#### AUDIO FEATURES

CD-Quality 20KHz Mono and Stereo  
Two separate acoustic echo cancellers  
2-port Audio mixer  
Automatic Gain Control (AGC)  
Automatic Noise Reduction  
Active lip synchronization  
ALD (Assistive Listening Devices) support with acoustic echo cancellation

#### AUDIO INPUTS (5 INPUTS)

2 x microphone, 48 V phantom powered, XLR connector each with separate echo cancellers and noise reduction, all microphones can be set for balanced line level  
2 x RCA/Phono, Line Level: Stereo PC input, configurable to 2 x RCA/Phono, Line Level: Mono auxiliary/DVD input  
1 x HDMI, digital: Stereo PC/DVD inputs

#### AUDIO OUTPUTS (3 OUTPUTS)

2 x RCA/Phono, line level, stereo main audio, configurable to S/PDIF or 2 x RCA/Phono, line level, mono to recording device  
1 x HDMI, digital, stereo main audio

#### DUAL STREAM

H.239 (H.323) dual stream  
BFCP (SIP) dual stream  
Support for resolutions up to 1080p30 in both main stream and dual stream simultaneously

#### MULTISITE FEATURES

4-way SIP/H.323 MultiSite. Resolution up to w576p30  
Full individual audio and video transcoding  
Individual layouts in MultiSite CP (Takes out SelfView)  
H.323/SIP/VoIP in the same conference  
Support for Presentation (H.239/BFCP) from any participant at resolutions up to WXGAp30  
Best Impression (Automatic CP Layouts)  
H.264, Encryption, Dual Stream from any site  
IP Downsampling  
Dial in/Dial out  
Conference rates up to 10 Mbps

#### PROTOCOLS

H.323  
SIP

#### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

#### EMBEDDED ENCRYPTION

H.323/SIP point-to-point  
Standards-based: H.235 v2 & v3 and AES  
Automatic key generation and exchange  
Supported in Dual Stream

## IP NETWORK FEATURES

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 via NTP  
Packet Loss based Downspeeding  
URI Dialing  
TCP/IP  
DHCP  
802.1x Network authentication

## SECURITY FEATURES

Management via HTTPS and SSH  
IP Administration Password  
Menu Administration Password  
Disable IP services  
Network Settings protection

## NETWORK INTERFACES\*\*

1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit

## OTHER INTERFACES

USB device for future usage

## PRECISIONHD 1080P CAMERA

1/3" CMOS  
12 x zoom / 4 x zoom  
+15°/-25° tilt, +/- 90° pan  
43.5° vertical field of view  
72° horizontal field of view  
Focus distance 0.3m–infinity  
1920 x 1080 pixels progressive @ 60fps (12 x version)  
1920 x 1080 pixels progressive @ 30fps (4 x version)  
Other formats supported (configurable through Dip-switch):  
1920x1080@60fps (HDMI only)\*\*\*  
1920x1080@50fps (HDMI only)\*\*\*  
1920x1080@30fps  
1920x1080@25fps  
1280x720@60fps\*\*\*  
1280x720@50fps\*\*\*  
1280x720@30fps  
1280x720@25fps  
Automatic or manual focus/brightness/white balance  
Far-end camera control

Daisy-chain support (Visca protocol camera)\*\*\*  
Dual HDMI and HD-SDI output  
Upside-down mounting with automatic flipping of picture

## SYSTEM MANAGEMENT

Support for the Cisco TelePresence Management Suite  
Total management via embedded SNMP, Telnet, SSH, XML, SOAP  
Remote software upload: via web server, SCP, HTTP, HTTPS  
1 x RS-232 for local control and diagnostics  
Remote control and on-screen menu system

## DIRECTORY SERVICES

Support for Local directories (My Contacts)  
Corporate Directory  
Unlimited entries using Server directory supporting LDAP and H.350  
Unlimited number for Corporate directory (through Cisco TelePresence Management Suite)  
200 number local directory  
Received Calls with Date and Time  
Placed Calls with Date and Time  
Missed Calls with Date and Time

## POWER

Auto-sensing power supply  
100–240 VAC, 50/60 Hz  
175 watts max. for codec and main camera

## OPERATING TEMPERATURE AND HUMIDITY

0° C to 35° C (32° F to 95° F) ambient temperature  
10% to 90% Relative Humidity (RH)

## STORAGE AND TRANSPORT TEMPERATURE

-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

## APPROVALS

### EU/EEC

Directive 2006/95/EC (Low-Voltage Directive)  
– Standard EN 60950-1  
Directive 2004/108/EC (EMC Directive)  
– Standard EN 55022, Class B  
– Standard EN 55024  
– Standard EN 61000-3-2/-3-3

### USA

Approved according to UL 60950-1  
Complies with FCC15B Class B

### Canada

Approved according to CAN/CSA C22.2 No. 60950-1  
This Class B digital apparatus complies with Canadian ICES-003.

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

## DIMENSIONS

Length: 17.4 in/44.1 cm  
Height: 1.7 in/4.4 cm  
Depth: 10.9 in/27.8 cm

## WEIGHT

Weight: 8.8 lbs/4 kg

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## 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

November 2010



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