Administrator guide

For Cisco TelePresence System Quick Set C20/C20 Plus and Profile 42” using C20
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 Quick Set C20/C20 Plus and Profiles using Codec C20.
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. You can click on them to go to the topic.

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Chapter 1

Introduction
Intellectual property rights

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Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

TANDBERG is now a part of Cisco. TANDBERG® is a registered trademark belonging to Tandberg ASA.
This document provides you with the information required to administrate your product at an advanced level.

Products covered in this guide:
- Profile 42" using C20
- Quick Set C20 / C20 Plus

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
- Installation guides for the TelePresence systems
- Software release notes for the TC software
- Getting started guide for the TelePresence systems
- User guide for the TelePresence systems
  - with Touch controller
  - with Remote Control
- Quick reference guides 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 & license information for products using TC software

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

Cisco contacts
On our web site you will find an overview of the worldwide Cisco contacts.
Go to: http://www.cisco.com/web/siteassets/contacts

Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Dr.
San Jose, CA 95134 USA

Software
You can download the software for your product from the Cisco web site, go to:
http://www.cisco.com/cisco/software/navigator.html
What’s new in this version

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

Software release notes

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


Software download

For software download go to: http://www.cisco.com/cisco/software/navigator.html?&a&i=rpm

New features and improvements

New software release for Cisco TelePresence PrecisionHD Camera
With the TC4.2.0 release, the PrecisionHD 1080p camera will automatically be upgraded to camera software release ID40069. Included in this release is:
• Improvements to auto focus.
• Improvement to hot pixel correction.
• Improvements with the automatic white balance.

New features accessible from Touch panel
• Support for MultiWay conference.
• Support for restart of the codec.
• Support for factory defaulting the system.
• Support for camera presets for cameras with pan, tilt and zoom functionality.
• Support for putting someone on hold.
• Support for call transfer.
• Support for standby.

New features accessible from menu on screen
Virtual keyboard for the remote control.

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

New feature on Codec C20
When setting the Video OSD Mode to disabled, the C20 can use the additional resources usually used by the GUI to do 1080p30 at the same time as sharing a presentation. In this case the C20 must be controlled by a Cisco TelePresence Touch or an external control panel as the GUI will be disabled.

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

Support for always unmute when not in conference
The codec can be configured to allow muting of audio only when the device is in a call. This is useful when an external telephone service/audio system is connected via the codec and you want it to be available when the codec is not in a call. See the Audio Microphones Mute Enabled setting. When set to InCallOnly this will prevent the audio-system from being muted by mistake. When set to True, muting of audio is always available.

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

New settings

- Audio Microphones Mute Enabled <True/InCallOnly>
- Experimental Conference ReceiverBasedDownspeeding <Off/On>
- Experimental CapsetReduction <Auto/Reduced>
- Experimental Enable1080p60 <Off/On>
- Experimental Audio EcReferenceDelay <0..300>
- Experimental SystemUnit SoftwareUpgrade RequireAuthentication <Off/On>
- NetworkServices HTTPS OCSP URL <S: 0, 255>
- NetworkServices HTTPS OCSP Mode <Off/On>
- RTP Ports Range Start <1024..65502>
- RTP Ports Range Stop <1056..65535>
- Security Session ShowLastLogon <On/Off>
- SIP Profile DisplayName <S: 0, 255>
- SystemUnit Type <Personal/Shared>
- Video OSD AutoSelectPresentationSource <Off/On>
- Video Output HDMI [1, 2] CEC Mode <Off/On> C20

Settings that are removed

- Experimental SoftwareUpgrade Mode
- Experimental SoftwareUpgrade ServerAddress

Settings that are modified

- Network MTU
  OLD: <400..1500>
  NEW: <576..1500>
- NetworkServices NTP Mode
  OLD: <Auto/Manual>
  NEW: <Off/Auto/Manual>
- Provisioning Mode
  OLD: <Off/TMS/VCS/CallWay>
  NEW: <Off/TMS/VCS/CallWay/Auto>
- SIP Profile Authentication LoginName
  OLD: <S: 0, 50>
  NEW: <S: 0, 128>
- SIP Profile Authentication Password
  OLD: <S: 0, 50>
  NEW: <S: 0, 128>
- SystemUnit MenuLanguage
  Added menu languages: Czech and Hungarian
- Video OSD Mode (C20)
  OLD: <Off/On>
  NEW: <Off/On/Disabled>
- Video Output HDMI [1, 2] Resolution
  Added new resolutions: 1280_720_50 and 1920_1080_50
Profile 42” using Codec C20 at a glance

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

Codec C20
- Full HD video.
- High resolution data sharing.
- 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.
- 1 echo canceller.

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

Microphones
2 x Microphones.

Operating devices
Touch controller for C Series.
Remote control with AAA batteries.

Foot stand
Stand alone, wheelbase or wall mounting foot stand.
Quick Set C20 / C20 Plus

at a glance

The Quick Set C20 packs the rich user experience of larger systems into a compact room based solution. Quick Set C20 is a high definition video collaboration system that has options for 1080p30 or 720p60 resolution, while being easy to deploy, simple to manage and intuitive to use. The Quick Set C20 is uniquely positioned to enable small scale deployment of a first time video solution, as well as allowing the enterprise scale an existing video conferencing solution to hundreds of locations throughout the entire organization.

Quick Set C20

The Quick Set C20 includes a Codec C20, PrecisionHD 1080p 4X zoom camera, Performance Mic 20 and remote control. Simply add to any HD display and be ready to meet!

Quick Set C20 Plus

The Quick Set C20 includes a Codec C20, PrecisionHD 1080p 12X zoom camera, Performance Mic 20 and remote control. Simply add to any HD display and be ready to meet!

Design features

- Transforms a flat panel display into a 1080p high definition meeting space.
- Simple, intuitive connections make setup as easy as connecting a DVD player.
- Quick Set C20 provides up to 1080p30 resolution with a 4x zoom camera.
- Quick Set C20 Plus provides up to 1080p30 and 720p60 resolution with a 12x zoom camera.
- Standards-compliant 1080p solution — compatible with standards-based video without loss of features.
- Sleek, compact design.

Application features

- Share multimedia and presentations at the touch of a button.
- Basic API available over IP (Telnet or SSH).
- Dual-display option available.
- HD content sharing with 720p and WXGA.

Performance features

- Optimal definition up to 1080p30.
- H.323/SIP up to 6 Mbps.
Chapter 2

Web interface
Connecting to the video conference system

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

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

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

Starting to use the web interface

1. Open a web browser and enter the IP address of the video system in the address bar.
   To find the IP address, open the System Information page on the Touch controller. Tap the icons More > Settings, select System Information and find the IPv4 Address or IPv6 Address.

2. Enter your user name and password and click Sign In.
   The system is delivered with a default user named admin with no password (i.e. leave the Password field blank when signing in).

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

About password protection

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

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

Read more about password protection in the Password protection chapter.
The interactive menus

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

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

Menu availability and user roles

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

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

<table>
<thead>
<tr>
<th>Menu</th>
<th>ADMIN</th>
<th>AUDIT</th>
<th>USER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>System Information</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Logs</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>XML Files</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snapshot</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Advanced Configuration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallpaper</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Sign In Banner</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conference Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Call</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgrade Software</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificate Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audit Certificate</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>User Administration</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Change Password</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Restart</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 You can read more about user administration and user roles in the User administration section.

2 The illustration lists all the sub-menus. A user not possessing all user roles will only see the sub-set relevant for his type of user.
The system information page

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

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

Current log files

The current log files are time stamped event log files.

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

Historical log files

These are time stamped historical log files.

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

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

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

When administering 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>
```

Make a snapshot

Press Get snapshot. The snapshot will be displayed on the web interface.
Advanced configuration

The web interface allows for remote administration of the system.

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

Each system setting is further described in the Advanced settings chapter.

The search functionality

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

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

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

Changing the system settings

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

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

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

Cancel: Select cancel to leave without saving.
Custom wallpaper

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

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

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

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

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

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

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

Adding a sign in banner

1. Enter the text message, which you want to present to the user prior to signing in, in the Sign In Banner text area.
2. Press Submit Changes to activate the message.
Making a call from the web interface

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

Making a call

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

Dial: Press Dial to initiate the call.

Disconnect all: Press Disconnect all to end all calls.

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

The call status page

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

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

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

Software versions

This video conference system is using TC software.

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

Software release notes and upgrade files

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


Downloading new software

For software download, go to: [http://www.cisco.com/cisco/software/navigator.html](http://www.cisco.com/cisco/software/navigator.html)

Release key

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

Contact your Cisco representative to obtain the release key.

Option key

An option key is required to activate any optional functionality, and you may have several option keys in your system. The available options are:
- Premium resolution
- High definition
- Dual display

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

1. Add the release and option keys

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

   i. Enter the release key and press **Add**.
      Key format: "1TC001-1-0C22E348" (each system will have a unique key).

   ii. Enter the option key and press **Add**.
      Key format: "1N000-1-AA7A4A09" (each system will have a unique key).

   iii. If you have more than one option key, add the remaining keys.

2. Upgrade the software on the codec

   i. Before you can start the upgrade you must download the software upgrade file. The file format: "s52000tc4_0_0.pkg" (each software version has a unique file name).

   ii. Press **Browse...** and select the .PKG file.

   iii. Press the **Upgrade** button to start the installation.

   iv. Leave the system to allow the installation process to complete. You can follow the progress on this page. When the upgrade is successfully completed a message will appear. The installation process may take up to 30 minutes.
Certificate management

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

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

Uploading the SSL certificate

To install the SSL certificate, you will need the following:
- HTTPS certificate (.PEM format)
- Private key (.PEM format)
- Passphrase (optional)

Contact your system administrator to obtain the required files.

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

Uploading the trusted CA certificates list

To install the trusted CA certificates list, you will need the following:
- Trusted CA list file (.PEM format).

Contact your system administrator to obtain the required file.

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

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

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

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

About audit logging

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

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

1. **Upload the audit certificate list**

To install the audit certificate, you will need:

- Audit list file (.PEM format)

Contact your system administrator to obtain the required file.

i. Press *Browse...* and locate the file with the audit list file (.PEM format).

ii. Press *Upload* to upload the certificate to your system.

2. **Enable secure audit logging**

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

i. Navigate to Advanced Configuration > Security > Audit > Server and enter the IP address and Port number of the audit server.

ii. Navigate to Advanced Configuration > Security > Audit > Logging > Mode and set it to ExternalSecure.
User administration

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

The default user account

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

Read more about passwords in the Password protection chapter.

About user roles

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

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

It is important to note that these roles have non-overlapping rights.

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

Security mode

You can enable/disable the strong security mode from this page. Strong security mode sets very strict password requirements, and requires all users to change their password on next sign in.
Creating a new user account
1. Press Create new user.
2. Fill in the Username, Password and PIN code, and select the user role(s) for this user account.
   - As a default the user have to change the password and PIN code when signing in for the first time.
   - Do not fill in the Distinguished Name (DN) Subject field unless you want to use certificate login on https.
3. Set the Status to Active to activate the user.
4. Press Save to save the changes.

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

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

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

Deleting a user account
1. Select the name of the user to open the Editing user window.
2. Press Delete.

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

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

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

The password is a string with 0–64 characters.

Changing your password

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

2. Click Change password to change the password.

The signed in user can change his own password.
**Restarting the system**

To restart the system, press *Restart now.*

Restarting the system takes a few minutes.
Chapter 3

Advanced settings
The advanced settings

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

If you use the menu on screen, open the Home menu with the remote control and go to Settings > Administrator settings > Advanced configuration.

Overview of the advanced settings

The Audio settings

The Cameras settings

The Conference settings

The Network settings

If you use the web interface, open a web browser and enter the IP address of your system, sign in, open the Configuration tab and select Advanced Configuration.

You will find the IP address on the System Information page, which you can access either using the Touch controller (More > Settings > System Information) or using the remote control and on-screen menu (Home > Settings > System Information).
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The Audio settings

**Audio Microphones Mute Enabled**
Determine whether audio-mute is allowed or not. The default value is True.

- **Requires user role:** ADMIN
- **Value space:** <True/InCallOnly>
  - True: Muting of audio is always available.
  - InCallOnly: Muting of audio is only available when the device is in a call. When idle it is not possible to mute the microphone. This is useful when an external telephone service/audio system is connected via the codec and is to be available when the codec is not in a call. When set to InCallOnly this will prevent the audio-system from being muted by mistake.

- **Example:** Audio Microphones Mute Enabled: True

**Audio SoundsAndAlerts KeyTones Mode**
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 remote control Key Tones is switched off.

- **Example:** Audio SoundsAndAlerts KeyTones Mode: Off

**Audio SoundsAndAlerts RingTone**
Select the ring tone for incoming calls.

- **Requires user role:** USER
- **Value space:** <Marbles/IceCrystals/Polaris/Alert/Discreet/Fantasy/Jazz/Nordic/Echo/Rhythmic>
  - Range: Select a tone from the list of ring tones.

- **Example:** Audio SoundsAndAlerts RingTone: Jazz

**Audio SoundsAndAlerts RingVolume**
Sets the ring tone volume for an incoming call.

- **Requires user role:** USER
- **Value space:** <0..100>
  - Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Value 0 = Off.

- **Example:** Audio SoundsAndAlerts RingVolume: 50

**Audio Volume**
Set the volume on the loudspeaker.

- **Requires user role:** USER
- **Value space:** <0..100>
  - Range: The value goes in steps of 5 from 0 to 100 (from -34.5 dB to 15 dB). Value 0 = Off.

- **Example:** Audio Volume: 70
The Cameras settings

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

Requires user role: ADMIN
Value space: <Auto/50Hz/60Hz>
  Auto: Set to Auto to enable power frequency auto detection in the camera.
  50Hz: Set to 50 Hz.
  60Hz: Set to 60 Hz.
Example: Cameras PowerLine Frequency: Auto

Cameras Camera [1..1] Backlight
The backlight functionality compensates for light shining directly at the camera (usually the sun entering the window) to avoid a too dark image from the room.

Requires user role: ADMIN
Value space: <On/Off>
  On: Turn on the camera backlight.
  Off: Turn off the camera backlight.
Example: Cameras Camera 1 Backlight: Off

Cameras Camera [1..1] Brightness Mode
Set the camera brightness mode.

Requires user role: ADMIN
Value space: <Auto/Manual>
  Auto: The camera brightness is automatically set by the system.
  Manual: Enable manual control of the camera brightness, e.g. the level of the brightness level setting will be used for the camera.
Example: Cameras Camera 1 Brightness Mode: Auto

Cameras Camera [1..1] Brightness Level
Set the brightness level. NOTE: Requires the Camera Brightness Mode to be set to Manual.

Requires user role: ADMIN
Value space: <1..31>
  Range: Select a value from 1 to 31.
Example: Cameras Camera 1 Brightness Level: 1

Cameras Camera [1..1] Flip
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 enabled 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: Display the video on screen the normal way.
Example: Cameras Camera 1 Flip: Off

Cameras Camera [1..1] 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: Cameras Camera 1 Focus Mode: Auto

Cameras Camera [1..1] 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: Cameras Camera 1 Gamma Mode: Auto
Cameras Camera [1..1] Gamma Level
By setting the Gamma Level you can select which gamma correction table to use. This setting may be useful in difficult lighting conditions, where changes to the brightness setting does not provide satisfactory results. NOTE: Requires the Gamma Mode to be set to Manual.

Requires user role: ADMIN
Value space: <0..7>
   Range: Select a value from 0 to 7.

Example: Cameras Camera 1 Gamma Level: 0

Cameras Camera [1..1] IrSensor
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: Cameras Camera 1 IrSensor: On

Cameras Camera [1..1] 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: Cameras Camera 1 Mirror: Off

Cameras Camera [1..1] Whitebalance Mode
Set the camera whitebalance mode.

Requires user role: ADMIN
Value space: <Auto/Manual>
   Auto: The camera will continuously adjust the whitebalance depending on the camera view.
   Manual: Enables manual control of the camera whitebalance, e.g. the level of the whitebalance level setting will be used for the camera.

Example: Cameras Camera 1 Whitebalance Mode: Auto

Cameras Camera [1..1] Whitebalance Level
Set the whitebalance level. NOTE: Requires the Camera Whitebalance Mode to be set to manual.

Requires user role: ADMIN
Value space: <1..16>
   Range: Select a value from 1 to 16.

Example: Cameras Camera 1 Whitebalance Level: 1

Cameras Camera [1..1] 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: Disable DHCP in the camera. NOTE: This setting should be applied when the camera is not connected to a LAN.

Example: Cameras Camera 1 DHCP: Off
The Conference settings

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: Conference 1 AutoAnswer Mode: Off

Conference [1..1] AutoAnswer Mute
Determine if the microphone shall be muted when an incoming call is automatically answered.
NOTE: Requires the AutoAnswer Mode to be enabled.
Requires user role: ADMIN
Value space: <On/Off>
  On: The incoming call will be muted when automatically answered.
  Off: The incoming call will not be muted.
Example: Conference 1 AutoAnswer Mute: Off

Conference [1..1] AutoAnswer Delay
Define how long (in seconds) an incoming call has to wait before it is answered automatically by the system. NOTE: Requires the AutoAnswer Mode to be enabled.
Requires user role: ADMIN
Value space: <0..50>
  Range: Select a value from 0 to 50 seconds.
Example: Conference 1 AutoAnswer Delay: 0

Conference [1..1] MicUnmuteOnDisconnect
Determine if the microphones shall be unmuted automatically when all calls are disconnected. In a meeting room or other shared resources this could be done to prepare the system for the next user.
Requires user role: ADMIN
Value space: <On/Off>
  On: Un-mute the microphones after the call is disconnected.
  Off: If muted, let the microphones remain muted after the call is disconnected.
Example: Conference 1 MicUnmuteOnDisconnect: On

Conference [1..1] DoNotDisturb Mode
Determine if there should be an alert on incoming calls.
Requires user role: USER
Value space: <On/Off>
  On: All incoming calls will be rejected, with no alert. The calling side will receive a busy signal when trying to call the codec. A message will display on screen, telling that Do not disturb is turned on, together with an option to turn off the Do not disturb. When turning off the Do not disturb mode you will see a list of the calls that have been rejected.
  Off: The incoming calls will be alerted.
Example: DoNotDisturb Mode: Off

Conference [1..1] FarEndControl Mode
Lets you decide if the remote side (far end) should be allowed to select your video sources and control your local camera (pan, tilt, zoom).
Requires user role: ADMIN
Value space: <On/Off>
  On: Allows the far end to be able to select your video sources and control your local camera (pan, tilt, zoom). You will still be able to control your camera and select your video sources as normal.
  Off: The far end is not allowed to select your video sources or to control your local camera (pan, tilt, zoom).
Example: Conference 1 FarEndControl Mode: On

Conference [1..1] FarEndControl SignalCapability
Set the far end control (H.224) signal capability mode.
Requires user role: ADMIN
Value space: <On/Off>
  On: Enable the far end control signal capability.
  Off: Disable the far end control signal capability.
Example: Conference 1 FarEndControl SignalCapability: On
Conference [1..1] Encryption Mode
Set the conference encryption mode. A padlock with the text “Encryption On” or “Encryption Off” displays on screen for a few seconds when the conference starts.

Requires user role: ADMIN
Value space: <BestEffort/On/Off>
  BestEffort: The system will use encryption whenever possible.
  > In Point to point calls: If the far end system supports encryption (AES-128), the call will be encrypted. If not, the call will proceed without encryption.
  > In MultiSite calls: In order to have encrypted MultiSite conferences, all sites must support encryption. If not, the conference will be unencrypted.
  On: The system will only allow calls that are encrypted.
  Off: The system will not use encryption.
Example: Conference 1 Encryption Mode: BestEffort

Conference [1..1] DefaultCall Protocol
Set the Default Call Protocol to be used when placing calls from the system.

Requires user role: ADMIN
Value space: <H323/Sip>
  H.323: Select H.323 to ensure that calls are set up as H.323 calls.
  Sip: Select SIP to ensure that calls are set up as SIP calls.
Example: Conference 1 DefaultCall Protocol: H323

Conference [1..1] DefaultCall Rate
Set the Default Call Rate to be used when placing calls from the system.

Requires user role: ADMIN
Value space: <64..6000>
  Range: Select a value between 64 and 6000 kbps
Example: Conference 1 DefaultCall Rate: 768

Conference [1..1] MaxTransmitCallRate
Specify the maximum transmit call rate to be used when placing or receiving calls.

Requires user role: ADMIN
Value space: <64..6000>
  Range: Select a value between 64 and 6000 kbps.
Example: Conference 1 MaxTransmitCallRate: 6000

Conference [1..1] MaxReceiveCallRate
Specify the maximum receive call rate to be used when placing or receiving calls.

Requires user role: ADMIN
Value space: <64..6000>
  Range: Select a value between 64 and 6000 kbps.
Example: Conference 1 MaxReceiveCallRate: 6000

Conference [1..1] VideoBandwidth Mode
Set the conference video bandwidth mode.

Requires user role: ADMIN
Value space: <Dynamic/Static>
  Dynamic: The available transmit bandwidth for the video channels are distributed among the currently active channels. If there is no presentation, the main video channels will use the bandwidth of the presentation channel.
  Static: The available transmit bandwidth is assigned to each video channel, even if it is not active.
Example: Conference 1 VideoBandwidth Mode: Dynamic

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

Requires user role: ADMIN
Value space: <1..10>
  Range: 1 to 10.
Example: Conference 1 VideoBandwidth MainChannel Weight: 5

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

Requires user role: ADMIN
Value space: <1..10>
  Range: 1 to 10.
Example: Conference 1 VideoBandwidth PresentationChannel Weight: 5
Conference [1..1] PacketLossResilience Mode

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

Requires user role: ADMIN

Value space: <On/Off>
- On: Enable the packetloss resilience.
- Off: Disable the packetloss resilience.

Example: Conference 1 PacketLossResilience Mode: On

The H323 settings

H323 NAT Mode

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

Requires user role: ADMIN

Value space: <Auto/On/Off>
- Auto: The system will determine if the "NAT Address" or the real IP-address should be used within signalling. This is done to make it possible to place calls to endpoints on the LAN as well as endpoints on the WAN.
- On: The system will signal the configured "NAT Address" in place of its own IP-address within Q.931 and H.245. The NAT Server Address will be shown in the startup-menu as: "My IP Address: 10.0.2.1".
- Off: The system will signal the real IP Address.

Example: H323 NAT Mode: Off

H323 NAT Address

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

In the router, the following ports must be routed to the system's IP-address:
* Port 1720
* Port 5555-5574
* Port 2326-2485

Requires user role: ADMIN

Value space: <S: 0, 64>
Format: String with a maximum of 64 characters.

Example: H323 NAT Address: ""

H323 Profile [1..1] Authentication Mode

Set the authenticatin mode for the H.323 profile.

Requires user role: ADMIN

Value space: <On/Off>
- On: If the H.323 Gatekeeper Authentication Mode is set to On and a H.323 Gatekeeper indicates that it requires authentication, the system will try to authenticate itself to the gatekeeper. NOTE: Requires the Authentication LoginName and Authentication Password to be defined on both the codec and the Gatekeeper.
- Off: If the H.323 Gatekeeper Authentication Mode is set to Off the system will not try to authenticate itself to a H.323 Gatekeeper, but will still try a normal registration.

Example: H323 Profile 1 Authentication Mode: Off
H323 Profile [1..1] Authentication LoginName
The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. NOTE: Requires the H.323 Gatekeeper Authentication Mode to be enabled.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: H323 Profile 1 Authentication LoginName: ""

H323 Profile [1..1] Authentication Password
The system sends the Authentication Login Name and the Authentication Password to a H.323 Gatekeeper for authentication. The authentication is a one way authentication from the codec to the H.323 Gatekeeper, i.e. the system is authenticated to the gatekeeper. If the H.323 Gatekeeper indicates that no authentication is required, the system will still try to register. NOTE: Requires the H.323 Gatekeeper Authentication Mode to be enabled.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: H323 Profile 1 Authentication Password:

H323 Profile [1..1] CallSetup Mode
The H.323 Call Setup Mode defines whether to use a Gatekeeper or Direct calling when establishing H323 calls.

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

Requires user role: ADMIN
Value space: <Direct/Gatekeeper>
Direct: An IP-address must be used when dialling in order to make the H323 call.
Gatekeeper: The system will use a Gatekeeper to make a H.323 call. When selecting this option the H323 Profile Gatekeeper Address and H323 Profile Gatekeeper Discovery settings must also be configured.

Example: H323 Profile 1 CallSetup Mode: Gatekeeper

H323 Profile [1..1] Gatekeeper Discovery
Determine how the system shall register to a H.323 Gatekeeper.

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

Example: H323 Profile 1 Gatekeeper Discovery: Manual

H323 Profile [1..1] Gatekeeper Address
Enter the IP address of the Gatekeeper. NOTE: Requires the H.323 Call Setup Mode to be set to Gatekeeper and the Gatekeeper Discovery to be set to Manual.

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or unvalid IP addresses (192.0.1234.0) will be rejected.

Example: H323 Profile 1 Gatekeeper Address: "192.0.2.0"

H323 Profile [1..1] H323Alias E164
The H.323 Alias E.164 defines the address of the system, according to the numbering plan implemented in the H.323 Gatekeeper. The E.164 alias is equivalent to a telephone number, sometimes combined with access codes.

Requires user role: ADMIN
Value space: <S: 0, 30>
Format: Compact string with a maximum of 30 characters. Valid characters are 0-9, * and #.

Example: H323 Profile 1 H323Alias E164: "90550092"

H323 Profile [1..1] H323Alias ID
Lets you specify the H.323 Alias ID which is used to address the system on a H.323 Gatekeeper and will be displayed in the call lists. Example: "firstname.surname@company.com", "My H.323 Alias ID"

Requires user role: ADMIN
Value space: <S: 0, 49>
Format: String with a maximum of 49 characters

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

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

Requires user role: ADMIN

Value space: <Dynamic/Static>

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

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

Example: H323 Profile 1 PortAllocation: Dynamic

The Network settings

Network [1..1] Assignment

Define whether to use DHCP or Static IPv4 assignment.

Requires user role: ADMIN

Value space: <Static/DHCP>

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

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

Example: Network 1 Assignment: DHCP

Network [1..1] DNS Domain Name

DNS Domain Name is the default domain name suffix which is added to unqualified names. Example: If the DNS Domain Name is "company.com" and the name to lookup is "MyVideoSystem", this will result in the DNS lookup "MyVideoSystem.company.com".

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 DNS Domain Name: ""

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

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

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: Network 1 DNS Server 1 Address: ""

Network [1..1] IPStack

Select which internet protocols the system will support.

Requires user role: ADMIN

Value space: <IPv4/IPv6>

IPv4: IP version 4 is supported.

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

Example: Network 1 IPStack: IPv4
Network [1..1] IPv4 Address
Enter the static IPv4 network address for the system. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or unvalid IP addresses (192.0.1234.0) will be rejected.
Example: Network 1 IPv4 Address: "192.0.2.0"

Network [1..1] IPv4 Gateway
Define the IPv4 network gateway. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: Compact string with a maximum of 64 characters.
Example: Network 1 IPv4 Gateway: "192.0.2.0"

Network [1..1] IPv4 SubnetMask
Define the IPv4 network subnet mask. Only applicable if the Network Assignment is set to Static.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: Compact string with a maximum of 64 characters.
Example: Network 1 IPv4 SubnetMask: "255.255.255.0"

Network [1..1] IPv6 Address
Enter the static IPv6 network address for the system. Only applicable if the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: The IPv6 address of host name.

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.

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).
Example: Network 1 IPv6 Assignment: Autoconf

Network [1..1] IPv6 DHCPOptions
Retrieves a set of DHCP options from a DHCPv6 server.

Requires user role: ADMIN
Value space: <On/Off>
On: Enable the retrieval of a selected set of DHCP options from a DHCPv6 server.
Off: Set to Off when IPv6 Assignment is set to Static.
Example: Network 1 IPv6 Gateway: On

Network [1..1] QoS Mode
The QoS (Quality of Service) is a method which handles the priority of audio, video and data in the network. The QoS settings must be supported by the infrastructure. Diffserv (Differentiated Services) is a computer networking architecture that specifies a simple, scalable and coarse-grained mechanism for classifying, managing network traffic and providing QoS priorities on modern IP networks.

Requires user role: ADMIN
Value space: <Off/Diffserv>
Off: No QoS method is used.
Diffserv: When you set the QoS Mode to Diffserv you must configure the Diffserv sub menu settings (Audio, Data, Signalling and Video).
Example: Network 1 QoS Mode: diffserv

Network [1..1] QoS Diffserv Audio
The Diffserv Audio defines which priority Audio packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN
Value space: <0..63>
Audio: A recommended value is Diffserv Code Point (DSCP) AF41, which equals the value 34. If in doubt, contact your network administrator.
Range: Select a value from 0 to 63.
Example: Network 1 QoS Diffserv Audio: 0
Network [1..1] QoS Diffserv Data
The Diffserv Data defines which priority Data packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>
   Data: A recommended value is Diffserv Code Point (DSCP) AF23, which equals the value 22. If in doubt, contact your network administrator.
   Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Data: 0

Network [1..1] QoS Diffserv Signalling
The Diffserv Signalling defines which priority Signalling packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>
   Signalling: A recommended value is Diffserv Code Point (DSCP) AF31, which equals the value 26. If in doubt, contact your network administrator.
   Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Signalling: 0

Network [1..1] QoS Diffserv Video
The Diffserv Video defines which priority Video packets should have in an IP network. Enter a priority, which ranges from 0 to 63 for the packets. The higher the number, the higher the priority. These priorities might be overridden when packets are leaving the network controlled by the local network administrator. NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>
   Video: A recommended value is Diffserv Code Point (DSCP) AF41, which equals the value 34. If in doubt, contact your network administrator.
   Range: Select a value from 0 to 63.

Example: Network 1 QoS Diffserv Video: 0

Network [1..1] IEEE8021X Mode
The system can be connected to an IEEE 802.1X LAN network, with a port-based network access control that is used to provide authenticated network access for Ethernet networks.

Requires user role: ADMIN

Value space: <On/Off>
   On: The 802.1X authentication is enabled.
   Off: The 802.1X authentication is disabled (default).

Example: Network 1 IEEE8021X Mode: Off

Network [1..1] IEEE8021X Identity
The 802.1X Identity is the user name needed for 802.1X authentication.

Requires user role: ADMIN

Value space: <S: 0, 64>
   Format: String with a maximum of 64 characters.

Example: Network 1 IEEE8021X Identity: ""

Network [1..1] IEEE8021X Password
The 802.1X Password is the password needed for 802.1X authentication.

Requires user role: ADMIN

Value space: <S: 0, 32>
   Format: String with a maximum of 32 characters.

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

Network [1..1] IEEE8021X AnonymousIdentity
The 802.1X Anonymous ID string is to be used as unencrypted identity with EAP (Extensible Authentication Protocol) types that support different tunneled identity, like EAP-PEAP and EAP-TTLS. If set, the anonymous ID will be used for the initial (unencrypted) EAP Identity Request.

Requires user role: ADMIN

Value space: <S: 0, 64>
   Format: String with a maximum of 64 characters.

Example: Network 1 IEEE8021X AnonymousIdentity: ""

Network [1..1] IEEE8021X Eap Md5
Set the Md5 (Message-Digest Algorithm 5) mode. This is a Challenge Handshake Authentication Protocol that relies on a shared secret. Md5 is a Weak security.

Requires user role: ADMIN

Value space: <On/Off>
   On: The EAP-MD5 protocol is enabled (default).
   Off: The EAP-MD5 protocol is disabled.

Example: Network 1 IEEE8021X Eap Md5: On
Network [1..1] IEEE8021X Eap Peap
Set the Peap (Protected Extensible Authentication Protocol) mode. Authenticates LAN clients without the need for client certificates. Developed by Microsoft, Cisco and RSA Security.

Requires user role: ADMIN

Value space: <On/Off>
  On: The EAP-PEAP protocol is enabled (default).
  Off: The EAP-PEAP protocol is disabled.

Example: Network 1 IEEE8021X Eap Peap: On

Network [1..1] IEEE8021X Eap Ttls
Set the TTLS (Tunneled Transport Layer Security) mode. Authenticates LAN clients without the need for client certificates. Developed by Funk Software and Certicom. Usually supported by Agere Systems, Proxim and Avaya.

Requires user role: ADMIN

Value space: <On/Off>
  On: The EAP-TTLS protocol is enabled (default).
  Off: The EAP-TTLS protocol is disabled.

Example: Network 1 IEEE8021X Eap Ttls: On

Network [1..1] MTU
Set the Ethernet MTU (Maximum Transmission Unit).

Requires user role: ADMIN

Value space: <576..1500>
  Range: Select a value from 576 to 1500 bytes.

Example: Network 1 MTU: 1500

Network [1..1] Speed
Set the Ethernet link speed.

Requires user role: ADMIN

Value space: <Auto/10half/10full/100half/100full/1000full>
  Auto: Autonegotiate link speed.
  10half: Force link to 10 Mbps half-duplex.
  10full: Force link to 10 Mbps full-duplex.
  100half: Force link to 100 Mbps half-duplex.
  100full: Force link to 100 Mbps full-duplex.
  1000full: Force link to 1 Gbps full-duplex.

Example: Network 1 Speed: Auto

Network [1..1] TrafficControl Mode
Set the network traffic control mode to decide how to control the video packets transmission speed.

Requires user role: ADMIN

Value space: <On/Off>
  On: Transmit video packets at maximum 20 Mbps. Can be used to smooth out bursts in the outgoing network traffic.
  Off: Transmit video packets at link speed.

Example: Network 1 TrafficControl: On

Network [1..1] RemoteAccess Allow
Filter IP addresses for access to ssh/telnet/HTTP/HTTPS.

Requires user role: ADMIN

Value space: <S: 0, 255>
  Format: String with a maximum of 255 characters, comma separated IP addresses or IP range.

Example: Network 1 RemoteAccess Allow: "192.168.1.231, 192.168.1.182"
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 third 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 third party while already in a call and you want to include that person in the call.

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

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.
Example: NetworkServices Multiway Address: “h323:multiway@company.com”

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

Requires user role: ADMIN
Value space: <Auto/H323/Sip>
  Auto: The system will select the protocol for Multiway calls.
  H323: The H323 protocol will be used for Multiway calls.
  Sip: The SIP protocol will be used for Multiway calls.
Example: NetworkServices Multiway Protocol: Auto

NetworkServices H323 Mode
Determine whether the system should be able to place and receive H.323 calls or not. NOTE: Requires a restart of the codec.

Requires user role: ADMIN
Value space: <On/Off>
  On: Enable the possibility to place and receive H.323 calls (default).
  Off: Disable the possibility to place and receive H.323 calls.
Example: NetworkServices H323 Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>
  On: The HTTP protocol is enabled.
  Off: The HTTP protocol is disabled.
Example: NetworkServices HTTP Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>
  On: The HTTPS protocol is enabled.
  Off: The HTTPS protocol is disabled.
Example: NetworkServices HTTPS Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>
  On: Requires the system to verify that the server certificate is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.
  Off: Do not verify server certificates.
Example: NetworkServices HTTPS VerifyServerCertificate: Off

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

Requires user role: ADMIN
Value space: <On/Off>
  On: Requires the client to present a certificate that is signed by a trusted Certificate Authority (CA). This requires that a list of trusted CAs are uploaded to the system in advance.
  Off: Do not verify client certificates.
Example: NetworkServices HTTPS VerifyClientCertificate: Off
NetworkServices HTTPS OCSP Mode
Define the support for OCSP (Online Certificate Status Protocol) responder services. The OCSP feature allows users to enable OCSP instead of certificate revocation lists (CRLs) to check certificate status.

Requires user role: ADMIN
Value space: <On/Off>
   - On: Enable OCSP support.
   - Off: Disable OCSP support.

Example: NetworkServices HTTPS OCSP Mode: Off

NetworkServices HTTPS OCSP URL
Specify the URL of an OCSP server.

Requires user role: ADMIN
Value space: <S: 0, 255>
   Format: String with a maximum of 255 characters.

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

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

Requires user role: ADMIN
Value space: <Off/Auto/Manual>
   - Off: The system will not use an NTP server.
   - Auto: The system will use the NTP server, by which address is supplied from the DHCP server in the network. If no DHCP server is used, or the DHCP server does not provide the system with a NTP server address, the system will use the static defined NTP server address specified by the user.
   - Manual: The system will always use the static defined NTP server address specified by the user.

Example: NetworkServices NTP Mode: Manual

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

Requires user role: ADMIN
Value space: <Off/ReadOnly/ReadWrite>
   - Off: Disable the SNMP network service.
   - ReadOnly: Enable the SNMP network service for queries only.
   - ReadWrite: Enable the SNMP network service for both queries and commands.

Example: NetworkServices SNMP Mode: ReadWrite

NetworkServices SNMP Host [1..3] Address
Enter the address of up to three SNMP Managers. All traps will then be sent to the hosts listed. The system’s SNMP Agent (in the codec) responds to requests from SNMP Managers (a PC program etc.). SNMP Traps are generated by the SNMP Agent to inform the SNMP Manager about important events. Can be used to send event created messages to the SNMP agent about different events like: system reboot, system dialling, system disconnecting, MCU call, packet loss etc. Traps can be sent to multiple SNMP Trap Hosts.

Requires user role: ADMIN
Value space: <S: 0, 64>
   Format: String with a maximum of 64 characters.

Example: NetworkServices SNMP Host 1 Address: ""
NetworkServices SNMP CommunityName
Enter the name of the Network Services SNMP Community. SNMP Community names are used to authenticate SNMP requests. SNMP requests must have a password (case sensitive) in order to receive a response from the SNMP Agent in the codec. The default password is "public". If you have the Cisco TelePresence Management Suite (TMS) you must make sure the same SNMP Community is configured there too. NOTE: The SNMP Community password is case sensitive.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: NetworkServices SNMP CommunityName: "public"

NetworkServices SNMP SystemContact
Enter the name of the Network Services SNMP System Contact.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: NetworkServices SNMP SystemContact: ""

NetworkServices SNMP SystemLocation
Enter the name of the Network Services SNMP System Location.

Requires user role: ADMIN
Value space: <S: 0, 50>
Format: String with a maximum of 50 characters.
Example: NetworkServices SNMP SystemLocation: ""

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

Requires user role: ADMIN
Value space: <On/Off>
On: The SSH protocol is enabled.
Off: The SSH protocol is disabled.
Example: NetworkServices SSH Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>
On: The SSH public key is allowed.
Off: The SSH public key is not allowed.
Example: NetworkServices SSH AllowPublicKey: On

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

Requires user role: ADMIN
Value space: <On/Off>
On: The Telnet protocol is enabled.
Off: The Telnet protocol is disabled. This is the factory setting.
Example: NetworkServices Telnet Mode: Off
The Phonebook settings

Phonebook Server [1..1] ID
Enter a name for the external phonebook.
Requires user role: ADMIN
Value space: <S: 0, 64>
  Format: String with a maximum of 64 characters.
Example: Phonebook Server 1 ID: ""

Phonebook Server [1..1] Type
Select the phonebook server type.
Requires user role: ADMIN
Value space: <VCS/TMS/Callway>
  VCS: Select VCS if the phonebook is located on the Cisco TelePresence Video Communication Server.
  TMS: Select TMS if the phonebook is located on the Cisco TelePresence Management Suite server.
  Callway: Select Callway if the phonebook is to be provided by the Callway subscription service. Contact your Callway provider for more information.
Example: Phonebook Server 1 Type: TMS

Phonebook Server [1..1] URL
Enter the address (URL) to the external phonebook server.
Requires user role: ADMIN
Value space: <S: 0, 255>
  Format: String with a maximum of 255 characters.

The Provisioning settings

Provisioning Mode
Provides the possibility of managing the codec (endpoint) by using an external manager/management system.
Requires user role: ADMIN
Value space: <Off/TMS/VCS/CallWay/Auto>
  Off: The system will not try to register to any management system.
  TMS: If set to TMS (Cisco TelePresence Management System) the system will try to register with a TMS server. Contact your Cisco representative for more information.
  VCS: If set to VCS (Cisco TelePresence Video Communication Server) the system will try to register with a VCS. Contact your Cisco representative for more information.
  Callway: If set to Callway the system will try to register with the Callway subscription provider. Contact your Callway provider for more information.
  Auto: The provisioning server will automatically be selected by the system.
Example: Provisioning Mode: TMS

Provisioning LoginName
Enter the user id provided by the provisioning server. This is the user name part of the credentials used to authenticate towards the HTTP server when using HTTP provisioning.
Requires user role: ADMIN
Value space: <S: 0, 80>
  Format: String with a maximum of 80 characters.
Example: Provisioning LoginName: ""

Provisioning Password
Enter the password provided by the provisioning server. This is the password part of the credentials used to authenticate towards the HTTP server when using HTTP provisioning.
Requires user role: ADMIN
Value space: <S: 0, 64>
  Format: String with a maximum of 64 characters.
Example: Provisioning Password: ""

Provisioning HttpMethod
Select the HTTP method to be used for the provisioning.
Requires user role: ADMIN
Value space: <GET/POST>
  GET: Select GET when the provisioning server supports GET.
  POST: Select POST when the provisioning server supports POST.
Example: Provisioning HttpMethod: POST
Provisioning ExternalManager Address
Enter the IP Address to the External Manager/Management system. If an External Manager address and a path is configured, the system will post an HTTP message to this address when starting up. When receiving this HTTP posting the External Manager (typically a management system) can return configurations/commands to the unit as a result. If the DHCP Option 242 is returned in the DHCP response from the DHCP server the system will interpret this as the External Manager address to use.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: Only the valid IP address format is accepted. An IP address that contains letters (192.a.2.0) or unvalid IP addresses (192.0.1234.0) will be rejected.
Example: Provisioning ExternalManager Address: ""

Provisioning ExternalManager Protocol
Determine whether or not to use secure management.

Requires user role: ADMIN
Value space: <HTTP/HTTPS>
HTTP: Set to HTTP to disable secure management. Requires HTTP to be enabled in the xConfiguration NetworkServices HTTP Mode setting.
HTTPS: Set to HTTPS to enable secure management. Requires HTTPS to be enabled in the xConfiguration NetworkServices HTTPS Mode setting.
Example: Provisioning ExternalManager Protocol: HTTP

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

Requires user role: ADMIN
Value space: <S: 0, 255>
Format: String with a maximum of 255 characters.
Example: Provisioning ExternalManager Path: "tms/public/external/management/SystemManagementService.asmx"

Provisioning ExternalManager Domain
Enter the SIP domain for the provisioning server.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: String with a maximum of 64 characters.
Example: Provisioning ExternalManager Domain: "any.domain.com"

The RTP settings

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

Requires user role: USER
Value space: <1024..65502>
Range: Select a value from 1024 to 65502.
Example: RTP Ports Range Start: 2326

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

Requires user role: USER
Value space: <1056..65535>
Range: Select a value from 1056 to 65535.
Example: RTP Ports Range Stop: 2486
The Security settings

Security Audit Server Address
Enter the external/global IP-address to the audit syslog server.

Requires user role: AUDIT
Value space: <S: 0, 64>
Format: String with a maximum of 64 characters.
Example: Security Audit Server Address: ""

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

Requires user role: AUDIT
Value space: <0..65535>
Range: Select a value from 0 to 65535.
Example: Security Audit Server Port: 514

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

Requires user role: AUDIT
Value space: <Halt/Ignore>
Halt: If the connection to the syslog server is lost for more than a few seconds, the system will reboot and try to establish connection. If connection is restored, the audit logs are ressپooled to the syslog server, and the system starts up again.
Ignore: The system will continue its normal operation, and rotate internal logs when full. When connection is restored it will again send its audit logs to the syslog server.
Example: Security Audit OnError Action: Ignore

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

Requires user role: AUDIT
Value space: <Off/Internal/External/ExternalSecure>
Off: No audit logging is performed.
Internal: The system records the audit logs to internal logs, and rotates logs when they are full.
External: The system sends the audit logs to an external audit server.
ExternalSecure: The system sends the audit logs to an external audit server that is verified by the Audit CA list.
Example: Security Audit Logging Mode: Off

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

Requires user role: ADMIN
Value space: <Off/On>
On: Set to On to enable the possibility to show information about the last session.
Off: Set to Off to disable the possibility to show information about the last session.
Example: Security Session ShowLastLogon: Off

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

Requires user role: ADMIN
Value space: <0..10000>
Range: Select a value from 0 to 10000 seconds. 0 means that inactivity will not enforce automatically logout.
Example: Security Session InactivityTimeout: 0
The SerialPort settings

SerialPort Mode
Set the COM 1 serial port to be enabled/disabled.
Requires user role: ADMIN
Value space: <On/Off>
   On: Enable the COM 1 serial port.
   Off: Disable the COM 1 serial port.
Example: SerialPort Mode: On

SerialPort BaudRate
Specify the baud rate (data transmission rate, bits per second) for the COM 1 port on the codec. The default value is 38400.
Connection parameters for the COM port: Data bits: 8; Parity: None; Stop bits: 1; Flow control: None.
Requires user role: ADMIN
Value space: <9600/19200/38400/57600/115200>
   Range: Select a baud rate from the baud rates listed (bps).
Example: SerialPort BaudRate: 38400

SerialPort LoginRequired
Determine if login shall be required when connecting to the COM 1 port at the codec.
Requires user role: ADMIN
Value space: <On/Off>
   On: Login is required when connecting to the codec through COM 1 port.
   Off: The user can access the codec through COM 1 port without any login.
Example: SerialPort LoginRequired: On

The SIP settings

SIP Profile [1..1] URI
The SIP URI or number is used to address the system. This is the URI that is registered and used by the SIP services to route inbound calls to the system. A Uniform Resource Identifier (URI) is a compact string of characters used to identify or name a resource.
Requires user role: ADMIN
Value space: <S: 0, 255>
   Format: Compact string with a maximum of 255 characters.
Example: SIP Profile 1 URI: "sip:firstname.lastname@company.com"

SIP Profile [1..1] DisplayName
When configured the incoming call will report the DisplayName instead of the SIP URI.
Requires user role: ADMIN
Value space: <S: 0, 255>
   Format: String with a maximum of 255 characters.
Example: SIP Profile 1 DisplayName: ""

SIP Profile [1..1] Authentication [1..1] LoginName
This is the user name part of the credentials used to authenticate towards the SIP proxy.
Requires user role: ADMIN
Value space: <S: 0, 128>
   Format: String with a maximum of 128 characters.
Example: SIP Profile 1 Authentication 1 LoginName: ""

SIP Profile [1..1] Authentication [1..1] Password
This is the password part of the credentials used to authenticate towards the SIP proxy.
Requires user role: ADMIN
Value space: <S: 0, 128>
   Format: String with a maximum of 128 characters.
Example: SIP Profile 1 Authentication 1 Password:
SIP Profile [1..1] DefaultTransport
Select the transport protocol to be used over the LAN.

Requires user role: ADMIN

Value space: <UDP/TCP/Tls/Auto>
- UDP: The system will always use UDP as the default transport method.
- TCP: The system will always use TCP as the default transport method.
- Tls: The system will always use TLS as the default transport method. For TLS connections a SIP CA-list can be uploaded using the web interface. If no such CA-list is available on the system then anonymous Diffie Hellman will be used.
- Auto: The system will try to connect using transport protocols in the following order: TLS, TCP, UDP.

Example: SIP Profile 1 DefaultTransport: Auto

SIP Profile [1..1] TlsVerify
For TLS connections a SIP CA-list can be uploaded using the web interface.

Requires user role: ADMIN

Value space: <On/Off>
- On: Set to On to verify TLS connections. Only TLS connections to servers, whom x.509 certificate is validated against the CA-list, will be allowed.
- Off: Set to Off to allow TLS connections without verifying them. The TLS connections are allowed to be set up without verifying the x.509 certificate received from the server against the local CA-list. This should typically be selected if no SIP CA-list has been uploaded.

Example: SIP Profile 1 TlsVerify: Off

SIP Profile [1..1] Outbound

Requires user role: ADMIN

Value space: <On/Off>
- On: Set up multiple outbound connections to servers in the Proxy Address list.
- Off: Connect to the single proxy configured first in Proxy Address list.

Example: SIP Profile 1 Outbound: Off

SIP Profile [1..1] Proxy [1..4] Discovery
Select if the SIP Proxy address is to be obtained manually or by using Dynamic Host Configuration Protocol (DHCP).

Requires user role: ADMIN

Value space: <Auto/Manual>
- Auto: When Auto is selected, the SIP Proxy address is obtained using Dynamic Host Configuration Protocol (DHCP).
- Manual: When Manual is selected, the manually configured SIP Proxy address will be used.

Example: SIP Profile 1 Proxy 1 Discovery: Manual

SIP Profile [1..1] 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: SIP Profile 1 Proxy 1 Address: ""
The Standby settings

Standby Control
Determine whether the system should go into standby mode or not.
Requires user role: ADMIN
Value space: <On/Off>
   On: Enter standby mode when the Standby Delay has timed out. NOTE: Requires the Standby Delay to be set to an appropriate value.
   Off: The system will not enter standby mode.
Example: Standby Control: On

Standby Delay
Define how long (in minutes) the system shall be in idle mode before it goes into standby mode.
NOTE: Requires the Standby Control to be enabled.
Requires user role: ADMIN
Value space: <1..480>
   Range: Select a value from 1 to 480 minutes.
Example: Standby Delay: 10

Standby BootAction
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: 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: Standby StandbyAction: PrivacyPosition

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: 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: 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/Czech/Danish/Dutch/Finnish/French/German/Hungarian/Italian/Japanese/Korean/Norwegian/Polish/PortugueseBrazilian/Russian/Spanish/SpanishLatin/Swedish/Turkish>
Example: SystemUnit MenuLanguage: English

SystemUnit ContactInfo Type
Describes which 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: SystemUnit ContactInfo Type: Auto

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

Requires user role: ADMIN
Value space: <Personal/Shared>
Personal: Set to Personal when the system is for personal use.
Shared: Set to Shared when the system is used in a multiuser environment.
Example: SystemUnit Type: Shared

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

Requires user role: ADMIN
Value space: <On/Off>
On: Enable logging.
Off: Disable logging.
Example: SystemUnit CallLogging Mode: On

SystemUnit IrSensor
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: SystemUnit IrSensor: Auto
The Time settings

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

Requires user role: USER

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

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

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

Time TimeFormat
Set the time format.

Requires user role: USER

Value space: <24H/12H>

24H: Set the time format to 24 hours.

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

Example: Time TimeFormat: 24H

Time DateFormat
Set the date format.

Requires user role: USER

Value space: <DD_MM_YY/MM_DD_YY/YY_MM_DD>

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

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

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

Example: Time DateFormat: DD_MM_YY
The Video settings

**Video Input Source [1..2] Name**
Enter a name for the video input source.

**Requires user role:** ADMIN

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

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

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

**Video Input Source [1] Connector**
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 as input source 1.

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

**Video Input Source [2] Connector**
Select which video input connector to be active on video input source 2.

**Requires user role:** ADMIN

**Value space:** `<DVI>`

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

**Example:** Video Input Source 2 Connector: DVI

**Video Input Source [1..2] Type**
Set which type of input source is connected to the video input.

**Requires user role:** ADMIN

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

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

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

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

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

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

**Example:** Video Input Source 1 Type: PC

**Video Input Source [1..2] CameraControl Mode**
Set the camera control mode for the camera associated with the video source.

**Requires user role:** ADMIN

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

*On:* Enable camera control.

*Off:* Disable camera control.

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

**Video Input Source [1..2] CameraControl Id**
Select the ID of the camera in the Visca chain that is connected to this camera source. The CameraId setting represents the camera’s position in the Visca chain.

**Requires user role:** ADMIN

**Value space:** `<1>`

*Range:* Set the ID of the camera.

**Example:** Video Input Source 1 CameraControl CameraId: 1
Video Input Source [1..2] 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: Video Input Source 1 OptimalDefinition Profile: Normal

Table 1: Optimal definition for systems supporting 1080p

<table>
<thead>
<tr>
<th>Quality</th>
<th>w288p30</th>
<th>w448p30</th>
<th>w576p30</th>
<th>720p30</th>
<th>1080p30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>256 kbit/s</td>
<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
<td>2560 kbit/s</td>
</tr>
<tr>
<td>Medium</td>
<td>128 kbit/s</td>
<td>384 kbit/s</td>
<td>512 kbit/s</td>
<td>1152 kbit/s</td>
<td>1920 kbit/s</td>
</tr>
<tr>
<td>High</td>
<td>128 kbit/s</td>
<td>256 kbit/s</td>
<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1472 kbit/s</td>
</tr>
</tbody>
</table>

Table 2: Optimal definition for systems supporting 720p60

<table>
<thead>
<tr>
<th>Quality</th>
<th>w144p60</th>
<th>w288p60</th>
<th>w448p60</th>
<th>w576p60</th>
<th>720p60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>128 kbit/s</td>
<td>512 kbit/s</td>
<td>1152 kbit/s</td>
<td>1472 kbit/s</td>
<td>2240 kbit/s</td>
</tr>
<tr>
<td>Medium</td>
<td>128 kbit/s</td>
<td>384 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
<td>1920 kbit/s</td>
</tr>
<tr>
<td>High</td>
<td>128 kbit/s</td>
<td>256 kbit/s</td>
<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
</tr>
</tbody>
</table>

Video Input Source [1..2] 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>

Example: Video Input Source 1 OptimalDefinition Threshold60fps: 1280_720

Video Input Source [1..2] 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: Video Input Source 1 Quality: Motion

Video DefaultPresentationSource

Define which video input source shall be used as the default presentation source (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..2>

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

Example: Video DefaultPresentationSource: 2

Video Input DVI [2] Type

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

Requires user role: ADMIN

Value space: <AutoDetect/Digital/AnalogRGB>

- 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.

Example: Video Input DVI 2 Type: AutoDetect
Video Layout Scaling
Define how the system shall adjust the aspect ratio for images or frames when there is a difference between the image and the frame it is to be placed in.

Requires user role: ADMIN

Value space: <On/Off>
  On: Let the system automatically adjust aspect ratio.
  Off: No adjustment of the aspect ratio.

Example: Video Layout Scaling: On

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

Requires user role: ADMIN

Value space: <Manual/MaintainAspectRatio/StretchToFit>
  Manual: If the difference in aspect ratio between the video input source and the target image frame is less than the ScaleToFrameThreshold configuration (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.
  MaintainAspectRatio: Will maintain the aspect ratio of the input source, and fill in black in the rest of the frame (letter boxing or pillar boxing).
  StretchToFit: Will stretch (horizontally or vertically) the input source to fit into the image frame. NOTE: The general limitation is that you cannot upscale in one direction and at the same time downscale in the other direction. In such situations the codec will apply letterboxing.

Example: Video Layout ScaleToFrame: MaintainAspectRatio

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

Requires user role: ADMIN

Value space: <0..100>
  Range: Select a value from 0 to 100 percent.

Example: Video Layout ScaleToFrameThreshold: 5

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

Requires user role: ADMIN

Value space: <UpperLeft/UpperRight/LowerLeft/LowerRight/CenterRight>
  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.
  CenterRight: The selfview PiP will appear in the right side of the screen, in center.

Example: Video SelfviewPosition: LowerRight

Video Layout LocalLayoutFamily
Select which video layout family to be used locally.

Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker>
  Auto: The default layout family, as given by the layout database, will be used as the local layout. For more information about the layout database, see the command: xCommand Video Layout LoadDb.
  FullScreen: The FullScreen layout family will be used as the local layout.
  Equal: The Equal layout family will be used as the local layout.
  PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the local layout.
  PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the local layout.

Example: Video Layout LocalLayoutFamily: Auto

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

Requires user role: ADMIN

Value space: <Auto/FullScreen/Equal/PresentationSmallSpeaker/PresentationLargeSpeaker>
  Auto: The default layout family, as given by the local layout database, will be used as the remote layout. For more information about the layout database, see the command: xCommand Video Layout LoadDb.
  FullScreen: The FullScreen layout family will be used as the remote layout.
  Equal: The Equal layout family will be used as the remote layout.
  PresentationSmallSpeaker: The PresentationSmallSpeaker layout family will be used as the remote layout.
  PresentationLargeSpeaker: The PresentationLargeSpeaker layout family will be used as the remote layout.

Example: Video Layout RemoteLayoutFamily: Auto
**Video MainVideoSource**

Define which video input source shall be used as the main video source. The video input source is configured with the "Video Input Source [1..2] Connector" setting.

**Requires user role:** USER

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

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

**Example:** Video MainVideoSource: 1

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**Video Monitors**

Set the monitor layout mode.

**Requires user role:** ADMIN

**Value space:** <Single/Dual/DualPresentationOnly>

- **Single:** The same layout is shown on all monitors.
- **Dual:** The layout is distributed on two monitors.
- **DualPresentationOnly:** All participants in the call will be shown on the first monitor, while the presentation (if any) will be shown on the second monitor.

**Example:** Video Monitors: Single

---

**Video OSD Mode**

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/Disabled>

- **On:** Display the on screen menus, icons and indicators.
- **Off:** Hide the on screen menus, icons and indicators.
- **Disabled:** When set to disabled, the C20 can use the additional resources usually used by the GUI to do 1080p30 at the same time as sharing a presentation. The C20 must then be controlled by a Cisco TelePresence Touch or an external control panel as the GUI will be disabled.

**Example:** Video OSD Mode: On

---

**Video OSD AutoSelectPresentationSource**

Determine if the presentation source should be automatically selected.

**Requires user role:** ADMIN

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

- **On:** Enable automatic selection of the presentation source.
- **Off:** Disable automatic selection of the presentation source.

**Example:** Video OSD AutoSelectPresentationSource: Off

---

**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:** 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:** Video OSD MyContactsExpanded: Off

---

**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 Configuration 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 output, or select 2 for DVI-I output.

**Example:** 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 with Cyrillic fonts.

Example: 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: Video OSD InputMethod Cyrillic: Off

**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: Video OSD LoginRequired: Off

**Video AllowWebSnapshots**

Set if the system shall be allowed to generate a web snapshot of the video input main source. To generate and view the snapshot you must open a web browser, enter the IP address of the codec, login to the Web interface, select Snapshot from the left menu, and press the button "Get snapshot".

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 1 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: Video AllowWebSnapshots: Off

**Video Output HDMI [1..2] CEC Mode**

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

Requires user role: ADMIN

Value space: <On/Off>
- On: Enable CEC control.
- Off: Disable CEC control.

Example: Video Output HDMI 1 CEC Mode: Off

**Video Output HDMI [1..2] 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: Video Output HDMI 1 MonitorRole: First
**Video Output HDMI [1..2] OverscanLevel**

Some TVs or other monitors may not display the whole image sent out on the system's 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:* Video Output HDMI 1 OverscanLevel: None

**Video Output HDMI [1..2] 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_50/1280_720_60/1920_1080_50/1920_1080_60/1280_768_60/1360_768_60/1366_768_60/1600_1200_60/1920_1200_60>

- **Auto:** The system will automatically try to set the optimal resolution based on negotiation with the connected monitor.
- **Range:** 640x480@60p, 800x600@60p, 1024x768@60p, 1280x1024@60p, 1280x720@50p, 1280x720@60p, 1920x1080@50p, 1920x1080@60p, 1280x768@60p, 1360x768@60p, 1366x768@60p, 1600x1200@60p, 1920x1200@60p

*Example:* Video Output HDMI 1 Resolution: 1920_1080_60

**Video Selfview**

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

*Requires user role: USER*

*Value space:* <On/Off>

- **On:** Display selfview on screen.
- **Off:** Do not display selfview on screen.

*Example:* Video Selfview: On

**Video Wallpaper**

Determine if a background picture should 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:** The custom wallpaper must be uploaded to the codec from the web interface before selecting Custom. The maximum supported resolution is 1920x1280.
  1) **On the video system:** Find the IP address of the codec. Open the menu on screen and go to Home > Settings > System information to find the IP Address.
  2) **On your computer:** Open a web browser and enter the IP address of the codec. Select "Wallpaper" from the menu, browse for the file, and press the "Upload" button.
  3) **On the 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:* Video Wallpaper: Summersky
The Experimental settings

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

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

Experimental Audio EcReferenceDelay

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

Requires user role: ADMIN
Value space: <0..300>
Example: Experimental Audio EcReferenceDelay: 0

Experimental CapsetFilter

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

Requires user role: ADMIN
Value space: <S: 0, 100>
Example: Experimental CapsetFilter: ""

Experimental CapsetReduction

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

Requires user role: ADMIN
Value space: <Auto/Reduced>
Example: Experimental CapsetReduction: Auto

Experimental Conference [1..1] PacketLossResilience ForwardErrorCorrection

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

Will enable ForwardErrorCorrection (RFC5109) mechanism as part of the PacketLossResilience mechanism. Default value is On.
On: Forward error correction will be used as part of the PacketLossResilience mechanism.
Off: Forward error correction will NOT be used as part of the PacketLossResilience mechanism.

Requires user role: ADMIN
Value space: <On/Off>
Example: Experimental Conference 1 PacketLossResilience ForwardErrorCorrection: On

Experimental Conference [1..1] ReceiverBasedDownspeeding

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

Requires user role: ADMIN
Value space: <On/Off>
Example: Experimental Conference 1 ReceiverBasedDownspeeding: Off

Experimental 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 WILL change.

Requires user role: ADMIN
Value space: <NotSet/MainSource/PresentationSource/CameraPreset/Actions/SpeedDial>
Example: 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 WILL change.

Requires user role: ADMIN
Value space: <S: 0, 255>
Example: Experimental CustomSoftbuttons State 1 Softbutton 1 Value: ""

Experimental NetworkServices UPnP Mode

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

Requires user role: ADMIN
Value space: <On/Off>
Example: Experimental NetworkServices UPnP Mode: Off
**Experimental NetworkServices UPnP Timeout**

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

Requires user role: ADMIN  
Value space: <0..3600>  
Example: Experimental NetworkServices UPnP Timeout: 0

**Experimental SystemUnit MenuType**

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

Requires user role: ADMIN  
Value space: <Indicators/Full>  
Example: Experimental SystemUnit MenuType: Full

**Experimental SystemUnit SoftwareUpgrade RequireAuthentication**

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

Requires user role: ADMIN  
Value space: <On/Off>  
Example: Experimental SystemUnit SoftwareUpgrade RequireAuthentication: Off
Chapter 4

Password protection
Password protection

The system is password protected in the following ways:

- The System/Codec is password protected. You always need to enter a username to sign in to the web and command line interfaces.
  You can also configure the system/codec to prompt for a PIN-code before accessing all the on screen menus.

- The Administrator settings menu can be password protected with a menu password.

- 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: We strongly recommend that you set the passwords to protect your video conference system.

Changing the system/codec password

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

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

Make sure to keep a copy of the password in a safe place.
You have to contact your Cisco representative if you have forgotten the admin password.
A user can change his system/codec password using the web interface or the command line interface.

Changing the password using the web interface

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

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

Changing the password using the command line interface

If a password is currently not set, use a blank current password; to remove a password, leave the new password entries blank.

1. Connect to the system/codec through the network or the serial data port, using a command line interface (SSH or Telnet).
2. Sign 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 0–64 characters.

Changing another user’s password

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

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

You can read more about creating user accounts in the User administration section.

Password protection

The system is password protected in the following ways:

- The System/Codec is password protected. You always need to enter a username to sign in to the web and command line interfaces.
- You can also configure the system/codec to prompt for a PIN-code before accessing all the on screen menus.

- The Administrator settings menu can be password protected with a menu password.

- 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: We strongly recommend that you set the passwords to protect your video conference system.
Setting the Administrator settings menu password

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

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

When you set a password for the Administrator settings menu, all users must enter the password to get access to this menu, either on screen when using the remote control, or on the touch screen if you are using a Touch controller.

The menu password can be set from the on-screen menu, using the remote control or from the command line interface; you neither can use a Touch controller nor the web interface.

### Setting the menu password using the remote control

1. In the on screen menu, go to **Home > Settings > Administrator settings > Set menu password**.

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

   To deactivate the password leave the password input field empty.

2. Enter the menu password in the input field. The password you enter is hidden; each character is replaced with a star (*).

   On the remote control, press the # key to toggle between lower or upper case characters and numbers: abc/ABC/123.

3. Select **Save** to save the changes, or **Cancel** to leave without saving.

4. Press Home (主页) to exit.

### Setting the menu password from a command line interface

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

2. Type the following command:

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

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

   To deactivate the password leave the password field empty.

### Setting a root password

If you sign in to the command line interface as root, you can access the system/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 system/codec through the network or the serial data port, using a command line interface (SSH or Telnet).

2. Sign in to the system/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
Connecting the Cisco TelePresence Touch controller to Codec C20

A C Series codec running software version TC4.1 or later can be controlled using the Cisco TelePresence Touch controller (instead of using the remote control).

Connecting and setting up the Touch controller

The Touch controller must be connected to Codec C20 via LAN. Once the unit is connected to power, the set-up procedure begins. Follow the instructions on screen.

You have to select which codec to associate the Touch controller with. This process is called pairing.

**NOTE:** The codec signals that it is available for pairing only for 30 minutes after it is switched on.

If your codec is not in the list of available codecs displayed on the Touch controller, you can select a codec manually by entering its IP address.

If the Touch controller needs software upgrade, new software will be downloaded from the codec and installed on the unit automatically as part of the set-up procedure. The Touch controller restarts after the upgrade.

You can verify that the Touch controller is successfully paired to your codec by checking that the codec address is displayed in the top banner.

If you want more details on Touch installation, please read the *Cisco TelePresence Touch for C Series Installation Guide*, which you will find on the Cisco web site.
About monitors when you have a Codec C20

Connecting the monitor

The monitor can be connected to video output HDMI 1 (default) or HDMI 2*. The default resolution for HDMI is 1280x720@60Hz.

Connecting to HDMI 1
When connecting the monitor to HDMI 1, which is the default video output on Codec C20, the menu, icons and other information on screen (OSD - on screen display) will be displayed on this monitor.

Connecting to HDMI 2
When connecting the monitor to HDMI 2* output on Codec C20 the menus and icons is not automatically displayed on screen. The OSD must be moved to this output by running a key sequence on the remote control.

NOTE: There is no audio on HDMI 2.

Moving the OSD using the remote control

When connecting the main monitor to the HDMI 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.

Check which connector the monitor is connected to, and run the following key sequence on the remote control.

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

Example 1: Set HDMI 1 as the OSD output:

-#-#-#-#-0-1-

Example 2: Set HDMI 2 as the OSD output:

-#-#-#-#-0-2-

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.

Dual monitors

NOTE: Requires the Dual Display option.

When you want to run a dual monitor setup, connect the main monitor to video output HDMI 1 and the second monitor to video output HDMI 2 on Codec C20.

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.

* Use of HDMI 2 requires the Dual Display option.
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 settings chapter.

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<th>w448p30</th>
<th>w576p30</th>
<th>720p30</th>
<th>1080p30</th>
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<tbody>
<tr>
<td>Normal</td>
<td>256 kbit/s</td>
<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
<td>2560 kbit/s</td>
</tr>
<tr>
<td>Medium</td>
<td>128 kbit/s</td>
<td>384 kbit/s</td>
<td>512 kbit/s</td>
<td>1152 kbit/s</td>
<td>1920 kbit/s</td>
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<tr>
<td>High</td>
<td>128 kbit/s</td>
<td>256 kbit/s</td>
<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1472 kbit/s</td>
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<table>
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<tr>
<th>Optimal definition profiles for systems supporting 720p60</th>
<th>w144p60</th>
<th>w288p60</th>
<th>w448p60</th>
<th>w576p60</th>
<th>720p60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>128 kbit/s</td>
<td>512 kbit/s</td>
<td>1152 kbit/s</td>
<td>1472 kbit/s</td>
<td>2240 kbit/s</td>
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<tr>
<td>Medium</td>
<td>128 kbit/s</td>
<td>384 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
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<td>512 kbit/s</td>
<td>768 kbit/s</td>
<td>1152 kbit/s</td>
</tr>
</tbody>
</table>
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.
Requirement for speaker systems connected to a Cisco TelePresence C Series codec

Cisco has put 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 30ms. Many consumer TVs are not made for real time video communication and may introduce more than 30ms 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.
Codec C20 – The physical interface

The front panel LEDs

The LED in front of the codec indicates the status of the codec.

• When the LED is off the codec is Off.
• The LED flashes green during the boot up and shut down of the codec.
• The LED pulses green when the infrared (IR) port is activated. This will occur when the remote control is in use.
• The LED is steady green when the codec is On, in Standby mode or in Presentation mode.
• When the LED is red this indicates an Error has occurred.
Codec C20 – The physical interface, continued...

The rear panel

The connectors used in a basic setup are highlighted in bold.

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<th>Audio output</th>
<th>Camera Control port</th>
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<tr>
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<td>RCA sockets, mixed to mono. Used when connecting to PC and external playback devices, such as VCR's or DVD players.</td>
<td>RCA sockets, mono. Used when connecting to a local loudspeaker system.</td>
<td>Camera Control (RS-232) port for power and camera control (pan, tilt, zoom) using the VISCA™ protocol. The Pin No. 4 on the Camera Control port provides 12 V DC / 1 A to the main camera.</td>
<td>The power socket accepts +12 V / 5 A (max) from the external adapter.</td>
<td>The power switch (push button) is located on the rear side.</td>
</tr>
<tr>
<td>DVI-I input for PC</td>
<td>DVI-I socket, digital/analog video input for PC presentations.</td>
<td>HDMI input for camera</td>
<td>HDMI socket, digital video input for camera.</td>
<td>The external adapter accepts 100/240 V 50/60 Hz and the maximal load is 75 W.</td>
<td>• Push the button to boot up the codec.</td>
</tr>
<tr>
<td>HDMI output for the main monitor</td>
<td>HDMI socket, digital video and audio output for the main monitor.</td>
<td>HDMI output for the second monitor</td>
<td>HDMI socket, digital video output for the second monitor.</td>
<td>• Push and hold the button for 1 second to shut down the codec.</td>
<td></td>
</tr>
<tr>
<td>USB</td>
<td>For future use.</td>
<td></td>
<td></td>
<td>• Push and hold the button for 7 seconds to force a shut down of the codec.</td>
<td></td>
</tr>
</tbody>
</table>

*VISCA™ is a trademark of Sony Corporation
Pin-out schemes

This page gives an overview of the pin-out schemes for C20.

**HDMI pin-out**

Pin assignment:
- Pin 1: T.M.D.S. Data 2+
- Pin 2: T.M.D.S. Data 2 Shield
- Pin 3: T.M.D.S. Data 2–
- Pin 4: T.M.D.S. Data 1
- Pin 5: T.M.D.S. Data 1 Shield
- Pin 6: T.M.D.S. Data 1–
- Pin 7: T.M.D.S. Data 0
- Pin 8: T.M.D.S. Data 0 Shield
- Pin 9: T.M.D.S. Data 0–
- Pin 10: T.M.D.S. Clock+
- Pin 11: T.M.D.S. Clock Shield
- Pin 12: T.M.D.S. Clock–
- Pin 13: CEC
- Pin 14: Reserved (N.C. on device)
- Pin 15: SCL
- Pin 16: SDA
- Pin 17: DDC/CEC Ground
- Pin 18: +5 V Power (max 50 mA)
- Pin 19: Hot Plug Detect
- Pin 20: +12 V

**DVI-I pin-out**

Pin assignment:
- Pin 1: T.M.D.S. Data 2+
- Pin 2: T.M.D.S. Data 2 Shield
- Pin 3: T.M.D.S. Data 2–
- Pin 4: T.M.D.S. Data 1
- Pin 5: T.M.D.S. Data 1 Shield
- Pin 6: T.M.D.S. Data 1–
- Pin 7: T.M.D.S. Data 0
- Pin 8: T.M.D.S. Data 0 Shield
- Pin 9: T.M.D.S. Data 0–
- Pin 10: T.M.D.S. Clock+

**RS232 9 pin D-SUB pin-out**

Pin assignment:
- Pin 1: T.M.D.S. Data 2+
- Pin 2: T.M.D.S. Data 2 Shield
- Pin 3: T.M.D.S. Data 2–
- Pin 4: T.M.D.S. Data 1
- Pin 5: T.M.D.S. Data 1 Shield
- Pin 6: T.M.D.S. Data 1–
- Pin 7: T.M.D.S. Data 0
- Pin 8: T.M.D.S. Data 0 Shield
- Pin 9: T.M.D.S. Data 0–
- Pin 10: T.M.D.S. Clock+

**Microphone, 3.5 mm Mini-Jack, 4 pole**

Pin assignment:
- Pin 1: Signal
- Pin 2: Ground
- Pin 3: Audio– Hot
- Pin 4: Audio– Cold

**Codec C20 audio connectors**

Jack Mic input:
- Tip = Hot
- Ring 1 = Cold
- Ring 2 = Mic. control
- Shield = GND

RCA line input:
- Pin = Signal
- Shield = GND

RCA line output:
- Pin = Signal
- Shield = GND

**Pin-out–VISCA™ camera control**

Pin assignment:
- Pin 8: +12 V (presence 2.8 mA current source when connected in daisy chain)
- Pin 7: GND
- Pin 6: TXD (out)
- Pin 5: NC (no connect)
- Pin 4: NC (no connect)
- Pin 3: RXD (in)
- Pin 2: GND
- Pin 1: +12 V

**Pin-out–Camera cable**

Signal assignment:
- Signal name: GND
- Pin assignments:
  - +12 V DC
  - GND
  - RX
  - TX
  - NC
  - NC
  - GND
  - +12 V DC

D-SUB pin assignment:
- Pin 1: Twisted pair
- Pin 2: Twisted pair
- Pin 3: Twisted pair
- Pin 4: Twisted pair

**RCA pin-out**

Pin assignment:
- Pin 1: Signal
- Pin 2: Ground
- Pin 3: Audio– Hot
- Pin 4: Audio– Cold
Quick Set C20 – Cable configuration

The illustration shows you the basic setup when connecting the monitor, PC, PrecisionHD 1080p 4X camera, microphone, loudspeakers (if applicable), LAN and line voltage to the Codec C20.

**NOTE:** The early shipments of the Quick Set C20 came with an interim version of the PrecisionHD 1080p 4X camera (the PrecisionHD 1080p 4X* camera). For cable configurations of the interim PrecisionHD 1080p 4X* camera, see next page.

**CAUTION:** In order to be able to use the system for video calls, all orange colored sockets must be connected.

The codec must be switched off and disconnected from the line voltage whenever connecting or disconnecting other equipment.
Quick Set C20 Plus — Cable configuration

The illustration shows you the basic setup when connecting the monitor, PC, PrecisionHD 1080p 12X camera, microphone, loudspeakers (if applicable), LAN and line voltage to the Codec C20.

**CAUTION:** In order to be able to use the system for video calls, all orange colored sockets must be connected.

The codec must be switched off and disconnected from the line voltage whenever connecting or disconnecting other equipment.
DNAM for Profile 42”
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 50Hz - 20kHz
- 2 x 100mm low- and midrange loudspeaker 8 Ohms nominal, excellent quality (SEAS Prestige series)
- 1 x 25mm dome tweeter, 6 Ohms nominal, excellent quality
- Active crossover filtered audio signals received from DNAM amplifier
- Long time max power 70Watt on all loudspeakers
- Enclosed MDF loudspeaker cabinet

Integrated Left / Right Stereo Loudspeaker
Stereo Loudspeaker System, each side has:
- 1 x 90mm fullrange loudspeaker, 8 Ohms nominal, excellent quality
- Frequency range 70Hz - 20kHz
- Enclosed MDF Loudspeaker cabinet

The DNAM Amplifier
- 3 x 50W continuous average Center Output Power (load specified by DNAM Center Loudspeakers)
- 2 x 50W continuous average Stereo Output Power (load specified by DNAM Stereo Loudspeakers)
- Full dynamic range for audio (20Hz-20kHz).
- 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 Loop Out - line out directly from the input, always analog even with SPDIF in
  Audio Differential In - female XLR pinout: 1 - GND, 2 - Signal (+), 3 - Signal (-)
  Audio Stereo Out - male XLR, common GND configuration
- Loudspeaker Out - female D-SUB 15p
- Fuse 2A 250V Slow, 5 x 20mm, Littelfuse type 215002. Push and twist counter-clockwise to release
### Technical specifications

**Quick Set C20 / C20 Plus**

**SET DELIVERED COMPLETE WITH:**
Codec C20, PrecisionHD 1080p 4x or 12x camera, Precision MIC 20, remote control, cables and power supply

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

**FIREWALL TRAVERSAL**
Cisco TelePresence 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 (2 INPUTS)**
1 x HDMI input, supported formats:
1920 x 1080@60 fps (1080p60)
1280 x 720@60 fps (720p60)
1366 x 768@60 fps (WXGA)
1280 x 768@60 fps (WXGA)
1280 x 1024@60 fps (SXGA)
1024 x 768@60 fps (XGA)
800 x 600@60 fps (SVGA)
640 x 480@60 fps (VGA)

**VIDEO OUTPUTS (2 OUTPUTS)**
2 x HDMI output, supported formats:
1920 x 1080@60 fps (1080p60)
1280 x 720@60 fps (720p60)
1366 x 768@60 fps (WXGA)
1280 x 768@60 fps (WXGA)
1280 x 1024@60 fps (SXGA)
1024 x 768@60 fps (XGA)
800 x 600@60 fps (SVGA)
640 x 480@60 fps (VGA)

**DUAL STREAM**
H.239 (H.323) dual stream
H.239 (H.323) dual stream

**AUDIO STANDARDS**
G.711, G.722, G.722.1, 64 kbps MPEG4 AAC-LD

**AUDIO FEATURES**
CD-Quality 20KHz Mono
1 x Acoustic echo canceller
Automatic Gain Control (AGC)
Automatic Noise Reduction
Active lip synchronization

**AUDIO INPUTS (4 INPUTS)**
2 x Microphone, 4 pin MiniJack
2 x RCA/Phono (mixed to mono)

**AUDIO OUTPUTS (3 OUTPUTS)**
2 x RCA/Phono (dual mono)
1 x HDMI (digital main audio)

**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
ClearPath

**IPV6 NETWORK SUPPORT**
Single call stack support for both H323 and SIP
Dual-stack IPv4 and IPv6 for DHCP, SSH, HTTP, HTTPS, DNS, DiffServ
Support for both Static and Autoconfig (stateless address auto configuration)

**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

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Digital (DVI-D):
Same as HDMI, ref. above.

**VIDEO RESOLUTIONS (ENCODE/DECODE)**

<table>
<thead>
<tr>
<th>Format</th>
<th>Resolution</th>
<th>Frame Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCIF</td>
<td>176 x 144, 60 fps</td>
<td></td>
</tr>
<tr>
<td>CIF</td>
<td>352 x 288, 60 fps</td>
<td></td>
</tr>
<tr>
<td>4CIF</td>
<td>512 x 384, 60 fps</td>
<td></td>
</tr>
<tr>
<td>w448p</td>
<td>576 x 448, 60 fps</td>
<td></td>
</tr>
<tr>
<td>w576p</td>
<td>768 x 576, 60 fps</td>
<td></td>
</tr>
<tr>
<td>w720p</td>
<td>1024 x 768, 60 fps</td>
<td></td>
</tr>
<tr>
<td>w768p</td>
<td>1280 x 768, 60 fps</td>
<td></td>
</tr>
</tbody>
</table>

**LIVE VIDEO SETTINGS**

- **Codec:** Codec C20, PrecisionHD
- **Audio:** Codec C20, PrecisionHD
- **Video:** Codec C20, PrecisionHD
- **Audio Output:** Codec C20, PrecisionHD
- **Video Output:** Codec C20, PrecisionHD

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**OTHER INTERFACE:**
USB device for future usage
Quick Set C20/C20 Plus, continued...

**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
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)
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, 60/50 Hz
75 W 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) (non-condensing)

**DIMENSIONS**
Codec C20:
Length: 13.8 in. / 35.0 cm
Height: 1.2 in. / 3.0 cm
Depth: 5 in. / 12.7 cm
Weight: 4 lbs / 1.8 kg

* Requires option

**APPROVALS**
EU/EEC
- Directive 2006/95/EC (Low Voltage Directive)
- Standard EN 60950-1
- 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 A
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense

Canada
Approved according to CAN/CSA-C22.2 No. 60950-1
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

**MTBF PRODUCT RELIABILITY/MTBF**
The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours:
Power On Hours (POH) > 69 000 hours
Useful Life Cycle > 6 years

ISO 9001 certificate is available upon request

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All specifications are subject to change without notice, system specifics may vary.
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June 2011
Profile 42" using C20

UNIT DELIVERED COMPLETE WITH:
Full HD LCD display, Codec C20, Touch screen, Ul, remote control, PrecisionHD Camera (1080p), Precision MIC 20 and choice of installation configuration: floor stand, wheel base or wall mount on pedestal.

MONITOR
Full HD LCD, 16:9, 1080x1920 resolution

BASE
Floor standing footplate
Wheel base
Wall mount on pedestal

BANDWIDTH
The same as QuickSet C20/C20 Plus

FIREWALL TRAVERSAL
The same as QuickSet C20/C20 Plus

VIDEO STANDARDS
The same as QuickSet C20/C20 Plus

VIDEO FEATURES
The same as QuickSet C20/C20 Plus

VIDEO INPUTS (2 INPUTS)
The same as QuickSet C20/C20 Plus

VIDEO OUTPUTS (2 OUTPUTS)
The same as QuickSet C20/C20 Plus

LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)
The same as QuickSet C20/C20 Plus

AUDIO STANDARDS
The same as QuickSet C20/C20 Plus

AUDIO FEATURES
The same as QuickSet C20/C20 Plus

AUDIO INPUTS (4 INPUTS)
The same as QuickSet C20/C20 Plus

AUDIO OUTPUTS (3 OUTPUTS)
The same as QuickSet C20/C20 Plus

DUAL STREAM
The same as QuickSet C20/C20 Plus

PROTOCOLS
The same as QuickSet C20/C20 Plus

EMBEDDED ENCRYPTION
The same as QuickSet C20/C20 Plus

IP NETWORK FEATURES
The same as QuickSet C20/C20 Plus

IPV6 NETWORK SUPPORT
The same as QuickSet C20/C20 Plus

SECURITY FEATURES
The same as QuickSet C20/C20 Plus

NETWORK FEATURES
The same as QuickSet C20/C20 Plus

OTHER INTERFACES
The same as QuickSet C20/C20 Plus

PRECISIONHD 1080P 12x CAMERA
The same as QuickSet C20/C20 Plus

SYSTEM MANAGEMENT
The same as QuickSet C20/C20 Plus, as well as Cisco TelePresence Touch for C-series user interface device

DIRECTORY SERVICES
The same as QuickSet C20/C20 Plus

POWER
Auto-sensing power supply
100-120/200-240 VAC, 60/50 Hz, 6 A max
75 W max for codec and main camera
Maximum power rating (complete system) 265 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)

DIMENSIONS
Height: 63.78 in. / 162 cm
Width: 38.58 in. / 98 cm
Depth: 6.7 in. / 17 cm
Weight: 202.8 lbs / 92 kg

APPROVALS
EU/EEC
Directive 2006/95/EC (Low Voltage Directive)
-Standard EN 60950-1, 2ed
-Standard EN 55022, Class A
- Standard EN 55024
- Standard EN 61000-3-2/-3-3
Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

USA
Approved according to UL 60950-1
Complies with FCC15B Class A
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to take adequate measures.

Canada
Approved according to CAN/CSA C22.2 No. 60950-1
Approved according to UL 60950-1
Complies with IEC60950-1
Complies with Canadian ICES-003.
This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

MTBF PRODUCT RELIABILITY/MTBF
The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours:
Power On Hours (POH) > 69 000 hours
Useful Life Cycle > 6 years

ISO 9001 certificate is available upon request
User documentation on the Cisco web site

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

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

MX200:
   TelePresence Endpoints - Multipurpose
      > Cisco TelePresence MX200 Series

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

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

Codec C Series:
   TelePresence Solutions Platform
      > TelePresence Integrator Products
         > Cisco TelePresence System Integrator C Series

Quick Set C20:
   TelePresence Solutions Platform
      > TelePresence Quick Set
         > Cisco TelePresence System Quick Set C Series

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

User guides:
   Maintain and Operate | End-User Guides

Quick reference guides:
   Maintain and Operate | End-User Guides

Installation guides:
   Install and Upgrade | Install and Upgrade Guides

Getting started guide:
   Install and Upgrade | Install and Upgrade Guides

Administrator guides:
   Maintain and Operate | Maintain and Operate Guides

API reference guides:
   Reference Guides | Command references

Physical interface guides:
   Maintain and Operate | End-User Guides

Regulatory compliance and safety information:
   Install and Upgrade | Install and Upgrade Guides

TC software release notes:
   Release and General Information | Release Notes

TC software licensing information:
   Release and General Information | Licensing Information

Video conferencing room guidelines:
   Design | Design Guides

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

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

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

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San Jose, CA 95134 USA