Cisco TelePresence System Quick Set C20 / C20 Plus and Profiles using C20

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. Just click on them to go to the topic.

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Chapter 1

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

Products covered in this guide:
- Profile 42" 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
- Getting started guide for the TelePresence systems
- User guide for the TelePresence systems
- Administrator guides for the TelePresence systems
- Camera user guide for the PrecisionHD cameras
- API reference guides for the Codec C Series
- TC Console user guide for the Codec C Series
- Physical interfaces guides for the Codec C Series
- Regulatory compliance and safety information guides
- Legal and license information for products using TC software

Download the user documentation
Go to http://www.cisco.com/go/telepresence/docs and select your product to see the user documentation for your product.
What’s new in this version

This section provides an overview of the new and changed API commands and new features in the TC4.0 software version.

New features and improvements

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

ClearPath uses three different technologies:
- Dynamic bandwidth adaptation
- Long term reference frames
- Video aware Forward Error Correction (FEC)

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

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

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

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

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

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

RFC2833
Support for RFC 2833, out-of-band DTMF tones for SIP.

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

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

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

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

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

NOTE: Web snapshots cannot be enabled remotely. You must enable it locally either through the on-screen menus or the RS-232 serial port.
New software release for Cisco TelePresence PrecisionHD Camera - 1080p 4x

With the TC4.0.0 release, the PrecisionHD 1080p 4x camera will automatically be upgraded to camera software release ID20002. Included in this release is:

- Power saving in standby mode.
- Improved backlight compensation.

The Advanced configuration menu

New settings

- xConfiguration Conference PacketLossResilience Mode
- xConfiguration Network IPStack
- xConfiguration Network IPv6 Address
- xConfiguration Network IPv6 GateWay
- xConfiguration Network IPv6 Assignment
- xConfiguration Network IPv6 DHCPOptions
- xConfiguration Network RemoteAccess Allow
- xConfiguration NetworkServices
- xConfiguration NetworkServices SSH Mode
- xConfiguration NetworkServices SSH AllowPublicKey
- xConfiguration NetworkServices HTTPS VerifyClientCertificate
- xConfiguration Provisioning ExternalManager Domain
- xConfiguration Security Audit Server Address
- xConfiguration Security Audit Server Port
- xConfiguration Security Audit OnError Action
- xConfiguration Security Audit Logging Mode
- xConfiguration Security Session InactivityTimeout
- xConfiguration Serial Port Mode
- xConfiguration SystemUnit ContactInfo Type
- xConfiguration Video AllowWebSnapshots
- xConfiguration Video SelfviewPosition
- xConfiguration Video Layout Local Layout Family
- xConfiguration Video Layout Remote Layout Family
- xConfiguration Video OSD Login Required

Settings that have changed

- xConfiguration Network QoS
  - Removed argument ‘IPv4’
- xConfiguration SystemUnit Menu Language
  - Added arguments ‘SpanishLatin’ and ‘Turkish’

Experimental settings

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

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

Profile 42” using Codec C20
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.

Remote control
Remote Control TRCS, with AAA batteries.

Foot stand
Stand alone, wheelbase or wall mounting foot stand.

Profile 42”
System overview, continued...

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 / C20 Plus

Never before has the absolute quality of 1080p HD video been so accessible. The Quick Set C20 represents the first time a video solution with this quality and ease of use is available at a price point suited for small teams and those just starting out with video.

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.

* Available for a limited period of time.
Chapter 2

Web interface
The web interface

The web interface allows for remote administration of the system.

Connect to the codec

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

How to find the IP address:

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

Password protection of the web interface

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

Read more about user roles and how to manage users in the User management section, and about ways to password protect your codec in the Password protection chapter.
System information
From the web interface you have the following menu options:

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

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

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

Login information
Information about recent login attempts and password expiry.

System information
Information about system name, product type, software version, IP address, etc.
Making calls from the web interface

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

The Call page

How to make a call

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

Dial: Press **Dial** to initiate the call.

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

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

The call status page

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

You will find the following information on the call status page:
- Remote number
- Status: Connected
- Direction: Outgoing
- Protocol: H323/SIP
- Transmit and receive call rates
- Encryption
- Audio: Transmit and receive protocols
- Video: Transmit and receive protocols and resolutions
- Presentation: Transmit and receive protocols and resolutions
Making a snapshot

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

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

Using the on screen menu

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

Using the command line interface

Enter the following command to enable the snapshot feature:

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

How to make a snapshot

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

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

User roles

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

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

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

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

The default user account

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

Password and PIN-code

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

Security mode

If you have a JTIC labeled system, you can enable/disable the strong security mode from this page. Strong security mode sets very strict password requirements, and requires all users to change their password on next login.

How to create a new user account

1. Press **Create new user**.
2. Fill in the Username, Password and PIN code, and select the user role(s) for this user account. As a default the user have to change the password and PIN code when signing in for the first time.
3. Set the **Status** to **Active** to activate the user.
4. Press **Save** to save the changes.

How to edit user details

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

How to deactivate a user account

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

How to delete a user account

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

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

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

The password is a string with 0–255 characters.

How to change your password

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

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

File format and picture size

The picture file format for the custom wallpaper is PNG. The maximum size is 1920x1200 pixels.

Upload and activate the wallpaper

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

Upload the custom wallpaper file

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

Activate the new wallpaper

1. Move to the Advanced configuration page and enter wallpaper in the search field. From the drop down list, select Custom. The new wallpaper will be displayed on screen.
2. If the new wallpaper does not show on screen, you may have to toggle once between Wallpaper: None and Custom to make the change take effect.
Adding a logon banner
If the system administrator wants to provide initial information to all users, he can create a logon banner. A logon banner is a message that is displayed to the user before signing in. The message will be shown, whether the user sign in using the menu system, the web interface or the command line interface.

Add a logon banner
1. Enter the text message, which you want to present to the user prior to signing in, in the Logon Banner text area.
2. Press Submit Changes to activate the message.
Uploading certificates

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

The list of trusted CA certificates is a list containing the SSL certificates of all parties that your codec trusts.

Uploading the SSL certificate

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

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

Contact your system administrator to obtain the required files.

Press Browse... and locate the HTTPS certificate file (.PEM format).

Press Browse... and locate the Private key file (.PEM format)

Enter the Passphrase (optional).

Press Upload to upload the certificate to the codec.

Uploading the Trusted CA certificates list

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

- Trusted CA list file (.PEM format).

Contact your system administrator to obtain the required file.

Press Browse... and locate the file with the Trusted CA list (.PEM format).

Press Upload to upload the certificate to the codec.
Audit certificate

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

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

About audit logging

Audit logging records all login activity and configuration changes on the codec. Audit logging is disabled by default, and must be enabled using the on screen menu, the web interface or the command line interface.

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

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

Enable secure audit logging

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

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

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

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

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

Uploading the Audit certificate list

To install the audit certificate, you will need:

- Audit list file (.PEM format)

Contact your system administrator to obtain the required file.

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

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

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

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

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

The XML Files page

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

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

Command
Select Command to see an overview of the commands available to instruct the system to perform an action. The commands are issued from the API.

Directory
The Directory file will be described later.

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

Documentation
The Documentation file will be described later.
Software upgrade
From this page you can do software upgrades and add a release key and option keys.

Software versions
The C series codecs are using the TC software.

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

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


Release key
The release key is required to be able to use any of the released software.
Contact your Cisco representative to obtain the release key.

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

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

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

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

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

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

The web interface allows for remote administration of the system.

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

The system settings are further explained in the Advanced configuration settings chapter.

**The Advanced Configuration page**

Select a menu item to see the system settings.

**Changing system settings**

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

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

OK: Press ok to save the new value.

Cancel: Select cancel to leave without saving.

**The search functionality**

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

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

Clear: Press Clear to return to the main view.
Restarting the system

Restarting the system takes a few minutes.

The Restart page

Restarting the system

Press *Restart now*. 
Chapter 3

Advanced configuration settings
The Audio settings

Audio SoundsAndAlerts KeyTones Mode
The system can produce a sound every time a key on the remote control is pressed.
Requires user role: USER
Value space: <On/Off>
On: There will be a sound indicator when pressing keys on the remote control.
Off: The key tone on the remote control is switched off.
Example: xConfiguration Audio SoundsAndAlerts KeyTones Mode: Off

Audio SoundsAndAlerts RingTone
Selects the ringtone for incoming calls.
Requires user role: USER
Value space: <Marbles/IceCrystals/Polaris/Alert/Fantasy/Jazz/Nordic/Echo/Rhythmic>
Select a tone from the list of ringtones.
Example: xConfiguration Audio SoundsAndAlerts RingTone: Jazz

Audio SoundsAndAlerts RingVolume
Sets the ring tone volume for an incoming call. The value goes in steps of 5 from 0 to 100 (from -34.5dB to 15dB). Volume 0 = Off.
Requires user role: USER
Value space: <0..100>
Range: Select a value from 0 to 100.
Example: xConfiguration Audio SoundsAndAlerts RingVolume: 50

Audio Volume
Set the volume on the loudspeaker. The value goes in steps of 5 from 0 to 100 (from -34.5dB to 15dB). Volume 0 = Off.
Requires user role: USER
Value space: <0..100>
Range: Select a value from 0 to 100.
Example: xConfiguration Audio Volume: 70

Description of the advanced configuration settings
In the following pages you will find a complete list of the system settings which are configured from the Advanced Configuration page on the web interface or from the Advanced configuration menu on screen - open the Home menu and go to: Settings > Advanced > Advanced configuration. The examples show either the default value or an example of a value.

The Camera settings

Cameras PowerLine Frequency
Applies to cameras supporting PowerLine frequency anti-flickering, i.e PrecisionHD 1080p cameras.
Requires user role: ADMIN
Value space: <Auto/50Hz/60Hz>
Auto: Set to Auto to enable power frequency auto detection in the camera.
50Hz/60Hz: Set to 50Hz or 60Hz.
Example: xConfiguration Cameras PowerLine Frequency: Auto

Cameras Camera [1..1] Backlight
The backlight functionality compensates for lights shining directly at the camera (usually the sun entering the window) to avoid a too dark image from the room.
Requires user role: ADMIN
Value space: <On/Off>
On: Turn on the camera backlight.
Off: Turn off the camera backlight.
Example: xConfiguration Cameras Camera 1 Backlight: Off

Cameras Camera [1..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: xConfiguration Cameras Camera 1 Mirror: Off
The Camera settings, continued...

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

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

---

**Cameras Camera [1..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:** Set to Off will disable DHCP in the camera. NOTE: When camera is not connected to a LAN, this setting should be applied.

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

---

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

---

**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:** xConfiguration 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:** xConfiguration Cameras Camera 1 Brightness Level: 1

---

**Cameras Camera [1..1] Whitebalance Mode**

Set the camera whitebalance mode.

- **Requires user role:** ADMIN
- **Value space:** <Auto/Manual>
  - **Auto:** When set to Auto, the camera will continuously adjust the whitebalance depending on the camera view.
  - **Manual:** Set to Manual to enable manual control of the camera whitebalance, e.g. the level of the whitebalance level setting will be used for the camera.

  **Example:** xConfiguration Cameras Camera 1 Whitebalance Mode: Auto

---

**Cameras Camera [1..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:** xConfiguration Cameras Camera 1 Whitebalance Level: 1
The Camera settings, continued...

**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: `xConfiguration 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: `xConfiguration 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: `xConfiguration Cameras Camera 1 Gamma Level: 0`

---

The Conference settings

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

Requires user role: **ADMIN**

Value space: `<64..6000>`

*Range*: Select a value from 64 to 6000 kbps.

Example: `xConfiguration Conference 1 MaxTransmitCallRate: 6000`

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

Requires user role: **ADMIN**

Value space: `<64..6000>`

*Range*: Select a value from 64 to 6000 kbps.

Example: `xConfiguration Conference 1 MaxReceiveCallRate: 6000`

**Conference [1..1] AutoAnswer Mode**
Set the AutoAnswer mode.

Requires user role: **ADMIN**

Value space: `<On/Off>`

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

*Off*: The incoming calls must be answered manually by pressing the OK key or the green Call key on the remote control.

Example: `xConfiguration Conference 1 AutoAnswer Mode: Off`

**Conference [1..1] AutoAnswer Mute**
Determine if the microphone shall be muted when an incoming call is automatically answered. NOTE: Requires the AutoAnswer Mode to be enabled.

Requires user role: **ADMIN**

Value space: `<On/Off>`

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

*Off*: The incoming call will not be muted.

Example: `xConfiguration Conference 1 AutoAnswer Mute: Off`
The Conference settings, continued...

Conference [1..1] AutoAnswer Delay
Define how long (in seconds) an incoming call has to wait before it is answered automatically by the system. NOTE: Requires the AutoAnswer Mode to be enabled.

Requires user role: ADMIN

Value space: <0..50>

Range: Select a value from 0 to 50 seconds.

Example: xConfiguration Conference 1 AutoAnswer Delay: 0

Conference [1..1] MicUnmuteOnDisconnect
Determine if the microphones should be unmuted automatically when all calls are disconnected. In a meeting room or other shared resource this could be done to prepare the system for the next user.

Requires user role: ADMIN

Value space: <On/Off>

On: Un-mute the microphones after the call is disconnected.
Off: If muted, let the microphones remain muted after the call is disconnected.

Example: xConfiguration Conference 1 MicUnmuteOnDisconnect: On

Conference [1..1] DoNotDisturb Mode
Determine if there should be an alert on incoming calls.

Requires user role: USER

Value space: <On/Off>

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

Example: xConfiguration DoNotDisturb Mode: Off

Conference [1..1] FarEndControl Mode
Lets you decide if the remote side (far end) should be allowed to select your video sources and control your local camera (pan, tilt, zoom).

Requires user role: ADMIN

Value space: <On/Off>

On: Set to On when you want the far end to be able to select your video sources and control your local camera (pan, tilt, zoom). You will still be able to control your camera and select your video sources as normal.
Off: When set to Off the far end can not access any of the features above on your system.

Example: xConfiguration Conference 1 FarEndControl Mode: On

Conference [1..1] FarEndControl SignalCapability
Set the far end control (H.224) signal capability mode.

Requires user role: ADMIN

Value space: <On/Off>

On: Enable the far end control signal capability.
Off: Disable the far end control signal capability.

Example: xConfiguration Conference 1 FarEndControl SignalCapability: On

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.
On: The system will only allow calls that are encrypted.
Off: The system will not use encryption.

Example: xConfiguration Conference 1 Encryption Mode: BestEffort

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

Requires user role: ADMIN

Value space: <H323/SIP>

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

Example: xConfiguration Conference 1 DefaultCall Protocol: H323

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

Requires user role: ADMIN

Value space: <64..6000>

Range: 64-6000kbps

Example: xConfiguration Conference 1 DefaultCall Rate: 768
Conference [1..1] VideoBandwidth Mode
Set the conference video bandwidth mode.
Requires user role: ADMIN
Value space: <Dynamic/Static>
  Dynamic: The available transmit bandwidth for the video channels are distributed among the currently active channels. If there is no presentation, the main video channels will use the bandwidth of the presentation channel.
  Static: The available transmit bandwidth is assigned to each video channel, even if it is not active.
Example: xConfiguration Conference 1 VideoBandwidth Mode: Dynamic

Conference [1..1] VideoBandwidth MainChannel Weight
The available transmit video bandwidth is distributed on the main channel and presentation channel according to “MainChannel Weight” and “PresentationChannel Weight”. If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.
Requires user role: ADMIN
Value space: <1..10>
  Range: 1 to 10.
Example: xConfiguration Conference 1 VideoBandwidth MainChannel Weight: 5

Conference [1..1] VideoBandwidth PresentationChannel Weight
The available transmit video bandwidth is distributed on the main channel and presentation channel according to “MainChannel Weight” and “PresentationChannel Weight”. If the main channel weight is 2 and the presentation channel weight is 1, then the main channel will use twice as much bandwidth as the presentation channel.
Requires user role: ADMIN
Value space: <1..10>
  Range: 1 to 10.
Example: xConfiguration Conference 1 VideoBandwidth PresentationChannel Weight: 5

Conference [1..1] PacketLossResilience Mode
Set the packet loss 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 packet loss resilience.
  Off: Disable the packet loss resilience.
Example: xConfiguration Conference 1 PacketLossResilience Mode: On

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: 10.0.0.1”.
  Off: The system will signal the real IP Address.
Example: xConfiguration H323 NAT Mode: Off

H323 NAT Address
Enter the external/global IP-address to the router with NAT support. Packets sent to the router will then be routed to the system.
In the router, the following ports must be routed to the system’s IP-address:
* Port 1720
* Port 5555 to 5574
* Port 2326 to 2485
Requires user role: ADMIN
Value space: <S: 0, 64>
  Format: String with a maximum of 64 characters.
Example: xConfiguration H323 NAT Address: ""

H323 Profile [1..1] PortAllocation
The H.323 Port Allocation setting affects the H.245 port numbers used for H.323 call signalling.
Requires user role: ADMIN
Value space: <Dynamic/Static>
  Dynamic: The system will allocate which ports to use when opening a TCP connection. The reason for doing this is to avoid using the same ports for subsequent calls, as some firewalls consider this as a sign of attack. When Dynamic is selected, the H.323 ports used are from 11000 to 20999. Once 20999 is reached they restart again at 11000. For RTP and RTCP media data, the system is using UDP ports in the range 2326 to 2487. Each media channel is using two adjacent ports, ie 2330 and 2331 for RTP and RTCP respectively. The ports are automatically selected by the system within the given range. Firewall administrators should not try to deduce which ports are used when, as the allocation schema within the mentioned range may change without any further notice.
  Static: When set to Static the ports are given within a static predefined range [5555 to 6555].
Example: xConfiguration H323 Profile 1 PortAllocation: Dynamic
The H323 Profile settings, continued...

**H323 Profile [1..1] H323Alias ID**

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

Requires user role: ADMIN

Value space: <S: 0, 49>

Format: String with a maximum of 49 characters

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

**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 to 9, * and #.

Example: xConfiguration H323 Profile 1 H323Alias E164: "90550092"

**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 dialing in order to make the H323 call.

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

Example: xConfiguration H323 Profile 1 CallSetup Mode: Gatekeeper

**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: xConfiguration H323 Profile 1 Gatekeeper Address: "192.0.2.0"
The H323 Profile settings, continued...

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

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**The Network settings**

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

- Requires user role: **ADMIN**
- Value space: `<Auto/10half/10full/100half/100full/1000full>`
  - **Auto**: Autonegotiate link speed.
  - **10half**: Force link to 10Mbps half-duplex.
  - **10full**: Force link to 10Mbps full-duplex.
  - **100half**: Force link to 100Mbps half-duplex.
  - **100full**: Force link to 100Mbps full-duplex.
  - **1000full**: Force link to 1Gbps full-duplex.

Example: `xConfiguration Network 1 Speed: Auto`

**Network [1..1] Assignment**
Define whether to use DHCP or Static IPv4 assignment.

- Requires user role: **ADMIN**
- Value space: `<Static/DHCP>`
  - **Static**: Set the network assignment to Static and configure the static IPv4 settings (IP Address, SubnetMask and Gateway).
  - **DHCP**: The system addresses are automatically assigned by the DHCP server.

Example: `xConfiguration Network 1 Assignment: DHCP`

**Network [1..1] IPStack**
Select which internet protocols the system will support.

- Requires user role: **ADMIN**
- Value space: `<IPv4/IPv6>`
  - **IPv4**: IP version 4 is supported.
  - **IPv6**: IP version 6 is supported. The IPv4 settings (IP Address, IP Subnet Mask and Gateway) will be disabled.

Example: `xConfiguration Network 1 IPStack: IPv4`

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

- Requires user role: **ADMIN**
- Value space: `<400..1500>`
  - **Range**: Select a value from 400 to 1500 bytes.

Example: `xConfiguration Network 1 MTU: 1500`
The Network settings, continued...

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

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: The IPv6 address of host name.
Example: xConfiguration Network 1 IPv6 Address: "::1"

Network [1..1] IPv6 Gateway
Define the IPv6 network gateway address. Only applicable if the Network IPv6 Assignment is set to Static.

Requires user role: ADMIN
Value space: <S: 0, 64>
Format: The IPv6 address of host name.
Example: xConfiguration Network 1 IPv6 Gateway: "::1"

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: xConfiguration Network 1 IPv6 Assignment: Autoconf

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

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

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

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

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

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

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

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

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

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

Network [1..1] QoS Diffserv Audio

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

NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

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

Range: Select a value from 0 to 63.

Example: xConfiguration Network 1 QoS Diffserv Audio: 0

Network [1..1] QoS Diffserv Data

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

NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

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

Range: Select a value from 0 to 63.

Example: xConfiguration Network 1 QoS Diffserv Data: 0

Network [1..1] QoS Diffserv Signalling

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

NOTE: Requires the Network QoS Mode to be set to Diffserv.

Requires user role: ADMIN

Value space: <0..63>

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

Range: Select a value from 0 to 63.

Example: xConfiguration Network 1 QoS Diffserv Signalling: 0

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

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

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: xConfiguration Network 1 DNS Server 1 Address: ""

Network [1..1] DNS Domain Name

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

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

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: xConfiguration Network 1 DNS Domain Name: ""

Network [1..1] IEEE8021X Mode

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

Requires user role: ADMIN

Value space: <On/Off>

On: The 802.1X authentication is enabled.

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

Example: xConfiguration Network 1 IEEE8021X Mode: Off
The Network settings, continued...

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

Requires user role: **ADMIN**
Value space: `<S: 0, 64>`
  - **Format**: String with a maximum of 64 characters.
  - **Example**: `xConfiguration Network 1 IEEE8021X AnonymousIdentity: ""

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

Requires user role: **ADMIN**
Value space: `<S: 0, 64>`
  - **Format**: String with a maximum of 64 characters.
  - **Example**: `xConfiguration Network 1 IEEE8021X Identity: ""

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

Requires user role: **ADMIN**
Value space: `<S: 0, 32>`
  - **Format**: String with a maximum of 32 characters.
  - **Example**: `xConfiguration Network 1 IEEE8021X Password: "****"

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

Requires user role: **ADMIN**
Value space: `<On/Off>`
  - **On**: The EAP-MD5 protocol is enabled (default).
  - **Off**: The EAP-MD5 protocol is disabled.
  - **Example**: `xConfiguration Network 1 IEEE8021X Eap Md5: On`

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

Requires user role: **ADMIN**
Value space: `<On/Off>`
  - **On**: The EAP-PEAP protocol is enabled (default).
  - **Off**: The EAP-PEAP protocol is disabled.
  - **Example**: `xConfiguration Network 1 IEEE8021X Eap Peap: On`

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

Requires user role: **ADMIN**
Value space: `<On/Off>`
  - **On**: The EAP-TTLS protocol is enabled (default).
  - **Off**: The EAP-TTLS protocol is disabled.
  - **Example**: `xConfiguration Network 1 IEEE8021X Eap TTLS: On`

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

Requires user role: **ADMIN**
Value space: `<On/Off>`
  - **On**: Transmit video packets at maximum 20Mbps. Can be used to smooth out bursts in the outgoing network traffic.
  - **Off**: Transmit video packets at link speed.
  - **Example**: `xConfiguration Network 1 TrafficControl: On`

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

Requires user role: **ADMIN**
Value space: `<S: 0, 255>`
  - **Format**: String with a maximum of 255 characters, comma separated IP adresses or IP range.
  - **Example**: `xConfiguration 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 3rd party into an existing call.

Multiway™ can be used in the following situations:
1) When you want to add someone else into your existing call.
2) When you are called by a 3rd party while already in a call and you want to include that person in the call.

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

Requires user role: ADMIN
Value space: <On/Off>

Format: String with a maximum of 255 characters.

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

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

Requires user role: ADMIN
Value space: <Auto/H323/SIP>

Auto: The system will select the protocol for Multiway calls.
H323: The H323 protocol will be used for Multiway calls.
SIP: The SIP protocol will be used for Multiway calls.

Example: xConfiguration NetworkServices Multiway Protocol: Auto

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

Requires user role: ADMIN
Value space: <On/Off>

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

Example: xConfiguration NetworkServices Telnet Mode: Off

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

Requires user role: ADMIN
Value space: <On/Off>

On: The SSH protocol is enabled.
Off: The SSH protocol is disabled.

Example: xConfiguration NetworkServices SSH Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>

On: The SSH public key is allowed.
Off: The SSH public key is not allowed.

Example: xConfiguration NetworkServices SSH AllowPublicKey: On

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

Requires user role: ADMIN
Value space: <On/Off>

On: The HTTP protocol is enabled.
Off: The HTTP protocol is disabled.

Example: xConfiguration NetworkServices HTTP Mode: On

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

Requires user role: ADMIN
Value space: <On/Off>

On: The HTTPS protocol is enabled.
Off: The HTTPS protocol is disabled.

Example: xConfiguration NetworkServices HTTPS Mode: On
The NetworkServices settings, continued...

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

Requires user role: ADMIN

Value space: <On/Off>

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

Off: Do not verify server certificates.

Example: xConfiguration NetworkServices HTTPS VerifyServerCertificate: Off

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

Requires user role: ADMIN

Value space: <On/Off>

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

Off: Do not verify client certificates.

Example: xConfiguration NetworkServices HTTPS VerifyClientCertificate: Off

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

Requires user role: ADMIN

Value space: <Off/ReadOnly/ReadWrite>

Off: Disable the SNMP network service.

ReadOnly: Enable the SNMP network service for queries only.

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

Example: xConfiguration NetworkServices SNMP Mode: ReadWrite

The NetworkServices settings, continued...

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

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: xConfiguration NetworkServices SNMP CommunityName: "public"

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

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: xConfiguration NetworkServices SNMP SystemContact: ""

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

Requires user role: ADMIN

Value space: <S: 0, 50>

Format: String with a maximum of 50 characters.

Example: xConfiguration NetworkServices SNMP SystemLocation: ""

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

Requires user role: ADMIN

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: xConfiguration NetworkServices SNMP Host 1 Address: ""
The NetworkServices settings, continued...

**NetworkServices H323 Mode**

Determine whether the system should be able to place and receive H.323 calls. NOTE: Requires a restart of the codec.

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

**Example:** xConfiguration NetworkServices H323 Mode: On

**NetworkServices SIP Mode**

Determine whether the system should be able to place and receive SIP calls. NOTE: Requires a restart of the codec.

- **Requires user role:** ADMIN
- **Value space:** <On/Off>
  - **On:** Enable the possibility to place and receive SIP calls (default).
  - **Off:** Disable the possibility to place and receive SIP calls.

**Example:** xConfiguration NetworkServices SIP Mode: On

**NetworkServices NTP Mode**

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

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

**Example:** xConfiguration NetworkServices NTP Mode: Manual

**NetworkServices NTP Address**

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

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

**Example:** xConfiguration NetworkServices NTP Address: "1.1.1.1.uk.pool.ntp.org"
The Phonebook settings

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

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

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

The Provisioning settings

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

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

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

Provisioning HttpMethod
Select the HTTP method to be used for the provisioning.
Requires user role: ADMIN
Value space: <GET/POST>
GET: Select GET when the provisioning server supports GET.
POST: Select POST when the provisioning server supports POST.
Example: xConfiguration Provisioning HttpMethod: POST
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: xConfiguration 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: xConfiguration 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: xConfiguration Provisioning ExternalManager Path: "tms/public/
external/management/Service.asmx"
The Security settings

Security Audit Server Address

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

Requires user role: AUDIT

Value space: <S: 0, 64>

Format: String with a maximum of 64 characters.

Example: xConfiguration Security Audit Server Address: ""

Security Audit Server Port

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

Requires user role: AUDIT

Value space: <0..65535>

Range: Select a value from 0 to 65535.

Example: xConfiguration Security Audit Server Port: 514

Security Audit OnError Action

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

Requires user role: AUDIT

Value space: <Halt/Ignore>

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

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

Example: xConfiguration Security Audit OnError Action: Ignore

Security Audit Logging Mode

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

Requires user role: AUDIT

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

Off: No audit logging is performed.

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

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

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

Example: xConfiguration Security Audit Logging Mode: Off

Security Session InactivityTimeout

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

Requires user role: AUDIT

Value space: <0..10000>

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

Example: xConfiguration Security Session InactivityTimeout: 0
The Serial Port settings

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

- **Requires user role:** ADMIN
- **Value space:** <On/Off>
  - **On:** Enable the COM 1 serial port.
  - **Off:** Disable the COM 1 serial port.

Example: xConfiguration SerialPort Mode: On

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

- **Requires user role:** ADMIN
- **Value space:** <9600/19200/38400/57600/115200>
  - **Range:** Select a baud rate from the baud rates listed (bps).

Example: xConfiguration SerialPort BaudRate: 38400

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

- **Requires user role:** ADMIN
- **Value space:** <On/Off>
  - **On:** Login is required when connecting to the codec through COM port.
  - **Off:** The user can access the codec through COM port without any login.

Example: xConfiguration SerialPort LoginRequired: On

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

**SIP Profile [1..1] DefaultTransport**
Select the transport protocol to be used over the LAN.

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

Example: xConfiguration SIP Profile 1 DefaultTransport: Auto

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

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

Example: xConfiguration SIP Profile 1 TlsVerify: Off
The SIP Profile settings, continued...

**SIP Profile [1..1] Type**
Enables SIP extensions and special behaviour for a vendor or provider.

Requires user role: **ADMIN**

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

- **Standard**: Should be used when registering to standard SIP proxy like OpenSIP.
- **Alcatel**: Must be used when registering to a Alcatel-Lucent OmniPCX Enterprise R7 or later.
- **Avaya**: Must be used when registering to a Avaya Communication Manager.
- **Cisco**: Must be used when registering to a Cisco CallManager version 5 or later.
- **Microsoft**: Must be used when registering to a Microsoft LCS or OCS server.
- **Nortel**: Must be used when registering to a Nortel MCS 5100 or MCS 5200 PBX.
- **Experimental**: Can be used if auto is not working. NOTE: This mode is for testing purposes only.

Example: `xCongfiguration SIP Profile 1 Type: Standard`

**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: `xCongfiguration 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>`

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

Example: `xCongfiguration SIP Profile 1 Proxy 1 Discovery: Manual`

The SIP Profile settings, continued...

**SIP Profile [1..1] Proxy [1..4] Address**
The Proxy Address is the manually configured address for the outbound proxy. It is possible to use a fully qualified domain name, or an IP address. The default port is 5060 for TCP and UDP but another one can be provided. If Outbound is enabled, multiple proxies can be addressed.

Requires user role: **ADMIN**

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

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

Example: `xCongfiguration SIP Profile 1 Proxy 1 Address: ""`

**SIP Profile [1..1] Authentication [1..1] LoginName**
This is the user name part of the credentials used to authenticate towards the SIP proxy.

Requires user role: **ADMIN**

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

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

Example: `xCongfiguration SIP Profile 1 Authentication 1 LoginName: ""`

**SIP Profile [1..1] Authentication [1..1] Password**
This is the password part of the credentials used to authenticate towards the SIP proxy.

Requires user role: **ADMIN**

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

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

Example: `xCongfiguration SIP Profile 1 Authentication 1 Password:`
The Standby settings

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

Requires user role: **ADMIN**

Value space: <On/Off>

- **On**: Enter standby mode when the Standby Delay has timed out. NOTE: Requires the Standby Delay to be set to an appropriate value.
- **Off**: The system will not enter standby mode.

Example: `xConfiguration Standby Control: On`

**Standby Delay**
Define how long (in minutes) the system shall be in idle mode before it goes into standby mode. NOTE: Requires the Standby Control to be enabled.

Requires user role: **ADMIN**

Value space: <1..480>

- **Range**: Select a value from 1 to 480 minutes.

Example: `xConfiguration Standby Delay: 10`

**Standby 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**: After a reboot the camera position will be set to the position defined by the selected preset.
- **RestoreCameraPosition**: After a reboot the camera position will be set to the position it had before the last boot.
- **DefaultCameraPosition**: After a reboot the camera position will be set to the factory default position.

Example: `xConfiguration Standby WakeupAction: RestoreCameraPosition`

**Standby StandbyAction**
Define the camera position when going into standby mode.

Requires user role: **ADMIN**

Value space: <None/PrivacyPosition>

- **None**: No action.
- **PrivacyPosition**: Turns the camera to a sideways position for privacy.

Example: `xConfiguration Standby StandbyAction: PrivacyPosition`

The Standby settings, continued...

**Standby BootAction**
Define the camera position after a restart of the codec.

Requires user role: **ADMIN**

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

- **None**: No action.
- **Preset1 to Preset15**: After a reboot the camera position will be set to the position defined by the selected preset.
- **RestoreCameraPosition**: After a reboot the camera position will be set to the position it had before the last boot.
- **DefaultCameraPosition**: After a reboot the camera position will be set to the factory default position.

Example: `xConfiguration Standby BootAction: DefaultCameraPosition`
The SystemUnit settings

**SystemUnit Name**
Enter a System Name to define a name of the system unit. If the H.323 Alias ID is configured on the system then this ID will be used instead of the system name. The system name will be displayed:
1) When the codec is acting as an SNMP Agent.
2) Towards a DHCP server.
Requires user role: **ADMIN**
Value space: <S: 0, 50>
*Format:* String with a maximum of 50 characters.
*Example:* xConfiguration SystemUnit Name: "Meeting Room"

**SystemUnit MenuLanguage**
Select the language to be used in the menus on screen.
Requires user role: **USER**
Value space: <English/ChineseSimplified/ChineseTraditional/Danish/Dutch/Finnish/French/German/Italian/Japanese/Korean/Norwegian/Polish/PortugueseBrazilian/Russian/Spanish/SpanishLatinAmerican/Swedish/Turkish>

*Example:* xConfiguration SystemUnit MenuLanguage: English

**SystemUnit IrSensor Mode**
Both the Codec C Series and PrecisionHD camera have IR sensors, and only one of them needs to be enabled at the time. The IR sensor LED is located on the front of the codec and the camera and flickers when an IR signal is received from the remote control.
Requires user role: **ADMIN**
Value space: <On/Off/Auto>

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

*Example:* xConfiguration SystemUnit IrSensor Mode: Auto

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The SystemUnit settings, continued...

**SystemUnit ContactInfo Type**
Describes what parameter to put in the status field in the upper left corner on the screen display. The information can also be read with the command `xStatus SystemUnit ContactInfo`.
Requires user role: **ADMIN**
Value space: <Auto/None/IPv4/IPv6/H323Id/E164Alias/SipUri/SystemName>

*Auto:* Shows the address which another system can dial to reach this system, depending on the default call protocol and system registration.
*None:* Do not show any contact information.
*IPv4:* Shows the IPv4 address as the contact information.
*IPv6:* Shows the IPv6 address as the contact information.
*H323Id:* Shows the H323 ID as the contact information.
*E164Alias:* Shows the H323 E164 Alias as the contact information.
*SipUri:* Shows the SIP URI as the contact information.
*SystemName:* Shows the system name as the contact information.

*Example:* xConfiguration SystemUnit ContactInfo Type: Auto

**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:* xConfiguration SystemUnit CallLogging Mode: On
The Time settings

Time Zone

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

Requires user role: USER

Value space:

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

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

The Time settings, continued...

Time Time Format

Set the time format.

Requires user role: USER

Value space: <24H/12H>

24H: Set the time format to 24 hours.
12H: Set the time format to 12 hours (AM/PM).

Example: xConfiguration Time Time Format: 24H

Time Date Format

Set the date format.

Requires user role: USER

Value space: <DD _ MM _ YY/MM _ DD _ YY/YY _ MM _ DD>

DD_MM_YY: The date January 30th 2010 will be displayed: 30.01.10
MM_DD_YY: The date January 30th 2010 will be displayed: 01.30.10
YY_MM_DD: The date January 30th 2010 will be displayed: 10.01.30

Example: xConfiguration Time Date Format: DD _ MM _ YY
The Video settings

Video AllowWebSnapshots

Allows web snapshots to be taken from the web interface.

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

Requires user role: ADMIN

Value space: <On/Off>

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

Off: The generation of web snapshots is not allowed.

Example: xConfiguration Video AllowWebSnapshots: Off

Video SelfviewPosition

Select where the small selfview picture will appear on screen.

Requires user role: USER

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

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

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

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

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

Example: xConfiguration Video SelfviewPosition: LowerRight

Video Selfview

Determine if the selfview picture shall be displayed on screen.

Requires user role: ADMIN

Value space: <On/Off>

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

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

Example: xConfiguration Video Selfview: On

Video Wallpaper

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

Requires user role: USER

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

None: No wallpaper will be displayed on screen.

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

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

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

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

3) On the video system: Open the menu on screen and go to Home > Settings > Wallpaper > Custom. Give it a few seconds to display the new picture. If the picture does not show, toggle once between “None” and “Custom” wallpaper to make the change take effect.

Example: xConfiguration Video Wallpaper: Summersky

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: xConfiguration Video MainVideoSource: 1

Video DefaultPresentationSource

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

Example: xConfiguration Video DefaultPresentationSource: 2
The Video settings, continued...

Video Monitors
Set the monitor layout mode.
Requires user role: ADMIN
Value space: <Single/Dual/DualPresentationOnly>
  - Single: The same layout is shown on all monitors.
  - Dual: The layout is distributed on two monitors.
  - DualPresentationOnly: All participants in the call will be shown on the first monitor, while the presentation (if any) will be shown on the second monitor.
Example: xConfiguration Video Monitors: Single

Video Input Source [1..2] Name
Enter a name for the video input source 1 to 2.
Requires user role: ADMIN
Value space: <S: 0, 50>
  Format: String with a maximum of 50 characters.
Example: xConfiguration Video Input Source 1 Name: ""

Video Input Source 1 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: xConfiguration 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 as input source 2.
Example: xConfiguration Video Input Source 2 Connector: DVI

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 framerate or to high resolution for a given source.
Requires user role: ADMIN
Value space: <Motion/Sharpness>
  - Motion: Gives the highest possible framerate. Used when there is a need for higher frame rates, typically when a large number of participants are present or when there is a lot of motion in the picture.
  - Sharpness: Gives the highest possible resolution. Used when you want the highest quality of detailed images and graphics.
Example: xConfiguration Video Input Source 1 Quality: Motion

Video Input Source [1..2] CameraControl Mode
Set the camera control mode for the camera associated with the video source 1 to 2.
Requires user role: ADMIN
Value space: <On/Off>
  - On: Enable camera control.
  - Off: Disable camera control.
Example: xConfiguration Video Input Source 1 CameraControl Mode: On

Video Input Source [1..2] CameraControl CameraId
Select the ID of the camera. NOTE: Requires the Video Input Source CameraControl Mode to be enabled.
Requires user role: ADMIN
Value space: <1>
  Set the ID of the camera.
Example: xConfiguration Video Input Source 1 CameraControl CameraId: 1
The Video settings, continued...

**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 environments. If the source is a camera with 1920x1080p60, the system will transmit 1920x720p60 at about 2.2Mb/sec and above with this setting set to normal.

**Medium:** Requires better than normal and consistent lighting and good quality video inputs. If the source is a camera with 1920x1080p60, the system will transmit 1920x720p60 at about 1.4Mb/sec and above with this setting set to medium.

**High:** Requires good lighting conditions for a good overall experience and good quality video inputs. If the source is a camera with 1920x1080p60, the system will transmit 1920x720p60 at about 1.1Mb/sec and above with this setting set to high.

**Requires user role:** ADMIN

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

*Ref. Table 1 and Table 2.*

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

---

**Table 1: Optimal definition, for systems supporting 1080p**

<table>
<thead>
<tr>
<th>Profile</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>Profile</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>

---

The Video settings, continued...

**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>

- **512 _ 288:** Set the threshold to 512x288.
- **768 _ 448:** Set the threshold to 768x448.
- **1024 _ 576:** Set the threshold to 1024x576.
- **1280 _ 720:** Set the threshold to 1280x720.
- **Never:** Do not set a threshold for transmitting 60fps.

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

**Video Input 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:** USER

**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:** xConfiguration Video Input DVI 2 Type: AutoDetect
The Video settings, continued...

**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_60/1920_1080_60/1280_768_60/1360_768_60/1366_768_60/1600_1200_60/1920_1200_60>

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

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

**Video Output HDMI [1..2] OverscanLevel**
Some TVs or other monitors may not display the whole image sent out on the systems video output, but cuts the outer parts of the image. In this case this setting can be used to let the system not use the outer parts of video resolution. Both the video and the OSD menu will be scaled in this case.

**Requires user role:** ADMIN

**Value space:** <Medium/High/None>

- **Medium:** The system will not use the outer 3% of the output resolution.
- **High:** The system will not use the outer 6% of the output resolution
- **None:** The system will use all of the output resolution.

**Example:** xConfiguration Video Output HDMI 1 OverscanLevel: None

**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:** xConfiguration Video Output HDMI 1 MonitorRole: First

---

The Video settings, continued...

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

**Requires user role:** ADMIN

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

- **On:** Let the system automatically adjust aspect ratio.
- **Off:** No adjustment of the aspect ratio.

**Example:** xConfiguration Video Layout Scaling: On

**Video Layout ScaleToFit**
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 ScaleToFitThreshold configuration (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.
- **MaintainAspectRatio:** Will maintain the aspect ratio of the input source, and fill in black in the rest of the frame (letter boxing or pillar boxing).
- **StretchToFit:** Will stretch (horizontally or vertically) the input source to fit into the image frame.

**Example:** xConfiguration Video Layout ScaleToFit: MaintainAspectRatio

**Video Layout ScaleToFitThreshold**
Only applicable if the ScaleToFit 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 ScaleToFitThreshold configuration (in percent), the image is stretched to fit. If not, the system will maintain the original aspect ratio.

**Requires user role:** ADMIN

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

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

**Example:** xConfiguration Video Layout ScaleToFitThreshold: 5
The Video settings, continued...

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

Requires user role: **ADMIN**

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

- **Auto**: The default layout family, as given by the layout database, will be used as the local layout. For more information about the layout database, see the command: `xCCommand Video Layout LoadDb`.
- **FullScreen**: The FullScreen layout family will be used as the local layout.
- **Equal**: The Equal layout family will be used as the local layout.
- **PresentationSmallSpeaker**: The PresentationSmallSpeaker layout family will be used as the local layout.
- **PresentationLargeSpeaker**: The PresentationLargeSpeaker layout family will be used as the local layout.

Example: `xConfiguration Video Video Layout LocalLayoutFamily: Auto`

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

Requires user role: **ADMIN**

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

- **Auto**: The default layout family, as given by the local layout database, will be used as the remote layout. For more information about the layout database, see the command: `xCCommand Video Layout LoadDb`.
- **FullScreen**: The FullScreen layout family will be used as the remote layout.
- **Equal**: The Equal layout family will be used as the remote layout.
- **PresentationSmallSpeaker**: The PresentationSmallSpeaker layout family will be used as the remote layout.
- **PresentationLargeSpeaker**: The PresentationLargeSpeaker layout family will be used as the remote layout.

Example: `xConfiguration Video Video Layout RemoteLayoutFamily: Auto`

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

Requires user role: **ADMIN**

Value space: `<On/Off>`

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

Example: `xConfiguration Video OSD Mode: On`

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

Requires user role: **ADMIN**

Value space: `<On/Off>`

- **On**: Displays information about this systems bookings on screen.
- **Off**: Do not display todays bookings.

Example: `xConfiguration Video OSD TodaysBookings: Off`

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

Requires user role: **ADMIN**

Value space: `<On/Off>`

- **On**: The local contacts in the phone book will be shown in the top level of the phonebook dialog.
- **Off**: The local contacts will be placed in a separate folder called MyContacts in the phonebook dialog.

Example: `xConfiguration Video OSD MyContactsExpanded: Off`

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

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

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

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

Video OSD LoginRequired

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

Requires user role: ADMIN

Value space: <On/Off>
  On: The user must login to access the On Screen Display (OSD).
  Off: No login to the OSD is required.

Example: xConfiguration Video OSD LoginRequired: Off

Video OSD InputMethod InputLanguage

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

Requires user role: ADMIN

Value space: <Latin/Cyrillic>
  Latin: Latin characters can be entered when using the remote control (default).
  Cyrillic: Cyrillic characters can be entered using the remote control. NOTE: Requires a Cisco TelePresence Remote Control TRC5 with Cyrillic fonts.

Example: xConfiguration Video OSD InputMethod InputLanguage: Latin

Video OSD InputMethod Cyrillic

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

Requires user role: ADMIN

Value space: <On/Off>
  On: Cyrillic mode is available as a menu input language in the menus on screen. This will enable the setting xConfiguration Video OSD InputMethod InputLanguage.
  Off: Cyrillic mode is NOT available as a menu input language in the menus on screen.

Example: xConfiguration Video OSD InputMethod Cyrillic: Off

The Experimental menu

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

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

Experimental CapsetFilter

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

Requires user role: ADMIN

Value space: <S: 0, 100>

Example: xConfiguration Experimental CapsetFilter: ""

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

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

Requires user role: ADMIN

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

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

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

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

Requires user role: ADMIN

Value space: <S: 0, 255>

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

Experimental Conference [1..1] PacketLossResilience ForwardErrorCorrection

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

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

Requires user role: ADMIN

Value space: <On/Off>

Example: xConfiguration Experimental Conference 1 PacketLossResilience ForwardErrorCorrection: On
Experimental Conference [1..1] PacketLossResilience RateAdaption

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings are likely to change.
Will use a RateAdaption algorithm adapted to the PacketLossResilience mechanism. Default value is On.
On: RateAdaption will be used as part of the PacketLossResilience mechanism.
Off: RateAdaption will NOT be used as part of the PacketLossResilience mechanism.
Requires user role: ADMIN
Value space: <On/Off>
Example: xConfiguration Experimental Conference 1 PacketLossResilience RateAdaption: On

Experimental SoftwareUpgrade Mode

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings are likely to change.
Requires user role: ADMIN
Value space: <Auto/Manual>
Example: xConfiguration Experimental SoftwareUpgrade Mode: Auto

Experimental SoftwareUpgrade ServerAddress

NOTE: This Experimental command can be used 'as is' and will not be further documented. The Experimental settings are likely to change.
Requires user role: ADMIN
Value space: <S: 0, 255>
Example: xConfiguration Experimental SoftwareUpgrade ServerAddress: "http://csupdate.tandberg.com/getswlist.py"
Chapter 4

Password protection
Password protection

The system can be password protected in the following ways:

- The Advanced menu can be password protected with a menu password.
- The Codec is password protected. You always need to enter a username to log in.

The same username and password is used for the web and command line interfaces.
You can also configure the codec to prompt for a PIN-code before accessing all the on screen menus.

» The default username is admin with no password set.

**NOTE:** We recommend to set a password for the admin user - see how to Change the codec password to the right.

You can protect the File system of the codec by setting a password for the root user. The root user is disabled by default.

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

Setting the Advanced menu password

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

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

Log in to the Advanced menu

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

How to change the Advanced menu password

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

How to deactivate the Advanced menu password

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

Changing the codec password

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

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

Changing the password using the web interface:

1. Log in to the web interface with your username and current password.
2. Go to the Change password page.
3. Enter the current password, the new password, and repeat the new password in the appropriate input fields.
   The password format is a string with 0–255 characters.
4. Click Save.

Changing the password using the command line interface:

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

   The password format is a string with 0–255 characters.
Changing a user password
All users can change their own codec password as described on the previous page.
If you have ADMIN rights, you can change all users’ passwords by performing the following steps:

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

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

Setting a root password
If you log in to the command line interface as root, you can access the codec’s file system.

The root user is disabled by default.

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

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

**NOTE:** The root password is not the same as the administrator password.
Chapter 5

Appendices
About monitors when you have a Codec 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.
Optimal definition profiles

Under ideal lighting conditions the bandwidth requirements can be substantially reduced with the optimal definitions profiles. Generally, we recommend the Optimal Definition set at Normal. If lighting conditions are good we recommend that you test the endpoint on the various Optimal Definition settings before deciding on a profile.

Go to Advanced configuration (menu on screen or web interface) to set the optimal definition profile:

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

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

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

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

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

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

- Navigate to Video > Input > Source [1..n] > Quality and set the video quality parameter.

You can read more about the video settings in the Advanced configuration settings chapter. Go to Advanced configuration

<table>
<thead>
<tr>
<th>High (720p60)</th>
<th>Medium (w576p60)</th>
<th>Normal (w448p60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typically used in dedicated video conferencing rooms. Requires good lighting conditions for a good overall experience. Under ideal conditions the bandwidth requirements can be reduced by up to 50%.</td>
<td>Typically used in rooms with better than normal, and consistent lighting. The bandwidth requirements can be reduced by up to 25%.</td>
<td>This setting is typically used in office environments where the environment is normal to poorly lit. Generally, we recommend the Optimal Definition set at Normal.</td>
</tr>
</tbody>
</table>

### Optimal definition profiles for systems supporting 1080p

<table>
<thead>
<tr>
<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>
</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>
</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>
</tr>
</tbody>
</table>

### Optimal definition profiles for systems supporting 720p60

<table>
<thead>
<tr>
<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>
</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>
</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>
</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 in a lot of effort to minimize the camera to screen delay on our TelePresence endpoints.

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

The echo canceller in the Cisco endpoints can handle such delay up to 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 Quick Set C20/C20 Plus physical interface is described in this guide. The connectors used in a basic setup are highlighted in **bold**.

![Codec C20 rear panel diagram]

### Microphone 1–2

Micro-Jack 3.5 mm, 4-pole connector. Connect the microphone to Mic 1, which is the main connector.

### Audio input

RCA sockets, mixed to mono. Used when connecting to PC and external playback devices, such as VCR’s or DVD players.

### Audio output

RCA sockets, mono. Used when connecting to a local loudspeaker system.

### Network connector

Ethernet interface, 1 × 10 Mb/100 Mb/1 Gigabit Ethernet LAN (RJ-45 Jack) interface.

### USB

For future use.

### Camera Control port

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.

### DVI-I input for PC

DVI-I socket, digital/analog video input for PC presentations.

### HDMI input for camera

HDMI socket, digital video input for camera.

### HDMI output for the main monitor

HDMI socket, digital video and audio output for the main monitor.

### HDMI output for the second monitor

HDMI socket, digital video output for the second monitor.

### Power socket

The power socket accepts +12 V / 5 A (max) from the external adapter.

The external adapter accepts 100/240 V 50/60 Hz and the maximal load is 75 W.

### Camera Control (RS-232) port

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.

**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

- **External view of socket**

### DVI-I pin-out

- **External view of socket**

### RS232 9 pin D-SUB pin-out

- **External view of socket**

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

### RCA pin-out

#### Pin-out—VISCA™ camera control

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal name</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>+12 V (presence 2.8 mA current source when connected in daisy chain)</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>6</td>
<td>TXD (out)</td>
</tr>
<tr>
<td>5</td>
<td>NC (no connect)</td>
</tr>
<tr>
<td>4</td>
<td>NC (no connect)</td>
</tr>
<tr>
<td>3</td>
<td>RXD (in)</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
</tr>
<tr>
<td>1</td>
<td>+12 V</td>
</tr>
</tbody>
</table>

#### Pin-out—Camera cable

<table>
<thead>
<tr>
<th>Signal name</th>
<th>RJ-45 pin</th>
<th>D-SUB pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>+12 V DC</td>
<td>1</td>
<td>Twisted pair 4</td>
</tr>
<tr>
<td>GND</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>RX</td>
<td>3</td>
<td>Twisted pair 2</td>
</tr>
<tr>
<td>TX</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>NC</td>
<td>4</td>
<td>Twisted pair 1</td>
</tr>
<tr>
<td>NC</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>GND</td>
<td>7</td>
<td>Twisted pair 5</td>
</tr>
<tr>
<td>+12 V DC</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Codec C20 audio connectors

<table>
<thead>
<tr>
<th>Connector pin</th>
<th>Jack Mic input</th>
<th>RCA line input</th>
<th>RCA line output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip = Hot</td>
<td>Pin = Signal</td>
<td>Pin = Signal</td>
<td></td>
</tr>
<tr>
<td>Ring 1 = Cold</td>
<td>Shield = GND</td>
<td>Shield = GND</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal type</th>
<th>Balanced</th>
<th>Unbalanced</th>
<th>Unbalanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal type</td>
<td>Balanced</td>
<td>Unbalanced</td>
<td>Unbalanced</td>
</tr>
<tr>
<td>Connector (codec)</td>
<td>Mini Jack 3.5 mm</td>
<td>Female RCA/ phono</td>
<td>Female RCA/ phono</td>
</tr>
<tr>
<td>Input impedance</td>
<td>1.5xOhm/leg</td>
<td>18k Ohm</td>
<td></td>
</tr>
<tr>
<td>Output impedance</td>
<td></td>
<td></td>
<td>100 Ohm</td>
</tr>
<tr>
<td>Maximum input level</td>
<td>-18.3dBu +/-4dB</td>
<td>9.0dBu +/-4dB</td>
<td></td>
</tr>
<tr>
<td>Maximum output level</td>
<td></td>
<td></td>
<td>8.2dBu +/-2dB</td>
</tr>
<tr>
<td>Phantom power</td>
<td>12.0V +/-1V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phantom power resistor pin “tip”</td>
<td>1.7xOhm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phantom power resistor pin “ring 1”</td>
<td>1.7xOhm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency response</td>
<td>20Hz-20kHz +/-1dB</td>
<td>20Hz-20kHz +/-1dB</td>
<td>20Hz-20kHz +/-1dB</td>
</tr>
<tr>
<td>Signal to Noise Ratio</td>
<td>-85dB</td>
<td>-95dB</td>
<td>-95dB</td>
</tr>
</tbody>
</table>
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.
The DNAM Amplifier

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

The DNAM Loudspeaker

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

Integrated Left / Right Stereo Loudspeaker

Stereo Loudspeaker System, each side has:
- 1 x 90 mm fullrange loudspeaker, 8 ohms nominal, excellent quality.
- Frequency range 70 Hz - 20 kHz.
- Enclosed MDF Loudspeaker cabinet.
Technical specifications

Quick Set C20/C20 Plus

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

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

FIREWALL TRAVERSAL
TANDERG 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 Hz (1080p60)
1920 x 1200@50 Hz (UXGA)
1280 x 720@60 Hz (720p60)
1280 x 1024@30 Hz (SXGA)
1024 x 768@60 Hz (XGA)
848 x 480@60 Hz (VGA)
Extended Display Identification Data (EDID)

VIDEO OUTPUTS (2 OUTPUTS)
2 X HDMI output, supported formats:
1920 x 1080@60 Hz (1080p60)
1920 x 1200@50 Hz (UXGA)
1600 x 1200@60 Hz (UXGA)
1360 x 768@60 Hz
1280 x 720@60 Hz (720p60)
1024 x 768@60 Hz (XGA)
800 x 600@60 Hz (SVGA)
640 x 480@60 Hz (VGA)

VESA Monitor Power Management

LIVE VIDEO RESOLUTIONS (ENCODE/DECODE)
176 x 144@30 fps (CIF)
352 x 288@30 fps (CIF)
512 x 288@30 fps (w288p)
576 x 448@30 fps (448p)
704 x 576@30 fps (w576p)
1024 x 768@30 fps (w768p)
800 x 600@30 fps (SVGA)
1024 x 768@30 fps (XGA)
1280 x 1024@30 fps (SXGA)
1024 x 768@30 fps (XGA)
848 x 480@30 fps (VGA)
1280 x 960@30 fps (WXGA+)
1440 x 900@30 fps (WXGA+)
1600 x 1200@30 fps (UXGA)
1920 x 1200@30 fps (UXGA)
1680 x 1050@30 fps (WXGA+)
1440 X 900@30 fps (WXGA+)
1024 x 768@30 fps (XGA)
1280 x 720@30 fps (720p30)
1024 x 768@30 fps (XGA)
1280 x 1024@30 fps (SXGA)
1024 x 768@30 fps (XGA)
1280 x 960@30 fps (WXGA+)
1440 x 900@30 fps (WXGA+)
1600 x 1050@30 fps (WXGA+)
1920 x 1200@30 fps (UXGA)
512 x 288@30 fps (w288p) **
768 x 448@30 fps (w448p) **
1024 x 768@30 fps (w768p) **
1280 x 720@30 fps (720p30) **
1024 x 768@30 fps (w768p) **

AUTO 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

DUAL STREAM
H.239 (H.323) dual stream
BFCP (SIP) dual stream
Support resolutions up to WXGA (1280 x 768)

PROTOCOLS
H.323
SIP
EMBEDDED ENCRYPTION
H.323 SIP point-to-point
Standards-based: H.235 v2 & v3 and AES
Automatic key generation and exchange
Supported in Dual Stream

IP NETWORK FEATURES
DNS lookup for service configuration
Differentiated Services (QoS)
IP adaptive bandwidth management (including flow control)
Auto gatekeeper discovery
Dynamic playout and lip-sync buffering
H.245 DTMF tones in H.323
Date and Time support via NTP
Packet Loss based Downsizing
URI Dialing
TCP/IP
DHCP
Direct DNS dialing
802.1x network authentication

SECURITY FEATURES
Management via HTTPS and SSH
IP Administration Password
Menu Administration Password
Disable IP services
Network Settings protection

Automatic Noise Reduction
Active Lip Synchronization

Cisco TelePresence System Quick Set C20 / C20 Plus and Profiles using C20
Quick Set C20/C20 Plus, continued...

NETWORK INTERFACES
1 x LAN/Ethernet (RJ-45) 10/100/1000 Mb/s

OTHER INTERFACES
USB port for future usage

PRECISIONHD 1080P 12X CAMERA
1/3” CMOS
12 x zoom
+15°/-25° tilt, +/- 90° pan
72° horizontal field of view
Focus distance 0.3m–infinity
1920 x 1080 pixels progressive @ 60fps
Other formats supported (configurable through Dip-switch):
1920 x 1080@60 Hz (HDMI only)
1920 x 1080@50 Hz (HDMI only)
1280 x 720@60 Hz
1280 x 720@50 Hz
1280 x 720@30 Hz
1280 x 720@25 Hz
Automatic or manual focus/brightness/white balance
Far-end camera control
Dual HDMI and HD-SDI output
Upside-down mounting with automatic flipping of picture

OTHER INTERFACES
4 x optical zoom
1 x LAN/Ethernet (RJ-45) 10/100/1000 Mb/s
USB host for future usage

POWER
Auto-sensing power supply
100–240 VAC, 50/60 Hz
45 watts max. for codec and main camera

OPERATING TEMPERATURE AND HUMIDITY
0° C to 35° C (32° F to 95° F) ambient temperature
10% to 90% Relative Humidity (RH)

STORAGE AND TRANSPORT TEMPERATURE
-20° C to 60° C (-4° F to 140° F) at RH 10%–90% (non-condensing)

APPROVALS
EU/EEC
Directive 2006/95/EC (Low Voltage Directive)
– Standard EN 60950-1
Camera Rev.03 (rating label):
EU/EEC
– Standard EN 55022, Class A
– 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
Canada
Approved according to CAN/CSA-C22.2 No. 60950-1
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

DIMENSIONS
Codec C20:
Length: 15.35 in/39.0 cm
Height: 1.18 in/3.0 cm
Depth: 5.0 in/12.7 cm

WEIGHT
Codec C20:
Weight: 4.0 lbs/1.8 kg

All specifications are subject to change without notice, system specifics may vary.
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All other trademarks are property of their respective owners.

MTBF PRODUCT RELIABILITY/MTBF
The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours: Power On Hours (POH) > 69,000 hours
Useful Life Cycle > 6 years
ISO 9001 certificate is available upon request

November 2010

** Requires option
### Technical specifications

**Profile 42” using C20**

#### UNIT DELIVERED COMPLETE WITH:
- Full HD LCD display. Codec C20, remote control.
- PrecisionHD 1080p Camera. Performance Microphone
- 20 and choice of installation configuration: floor stand, wheel base or wall mount on pedestal.

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

#### FIREWALL TRAVERSAL
- TANDBERG Expressway™ Technology
- H.460.18, H.460.19 Firewall Traversal

#### VIDEO STANDARDS
- H.261, H.263, H.263+, H.264

#### VIDEO FEATURES
- Native 16:9 Widescreen
- Advanced Screen Layouts
- Intelligent Video Management
- Local Auto Layout

#### VIDEO INPUTS (2 INPUTS)

1 X HDMI input, supported formats:
- 1920 x 1080p60 Hz (1080p60)
- 1920 x 1200p60 Hz (WXGA)
- 1600 x 1200p60 Hz (UXGA)
- 1680 x 1050p60 Hz (WXGA+)
- 1600 x 1200p60 Hz (UXGA)
- 1440 x 900p60 Hz (WXGA+)
- 1400 x 1050p60, 75 Hz
- 1366 x 768p60 Hz
- 1360 x 768p60 Hz
- 1280 x 1024p60, 75, 85 Hz (SXGA)
- 1280 x 960p60 Hz
- 1280 x 800p60 Hz (WXGA)
- 1280 x 720p60, 59.94 Hz (720p50)
- 1280 x 720p60, 75 Hz (720p50)

#### VIDEO OUTPUTS (2 OUTPUTS)

2 X HDMI output, supported formats:
- 1920 x 1080p60 Hz (1080p60)
- 1920 x 1200p60 Hz (WXGA)
- 1600 x 1200p60 Hz (UXGA)
- 1366 x 768p60 Hz
- 1360 x 768p60 Hz
- 1280 x 1024p60, 75, 85 Hz (SXGA)
- 1280 x 960p60 Hz
- 1280 x 800p60 Hz (WXGA)
- 1280 x 720p60, 59.94 Hz (720p50)
- 1280 x 720p60, 75 Hz (720p50)

#### VIDEO RESOLUTIONS (ENCODE/DECODE)

- 176 x 144@30 fps (QCIF)
- 352 x 288@30 fps (CIF)
- 512 x 288@30 fps (w288p)
- 704 x 480@30 fps (w448p)
- 768 x 480@30 fps (w448p)
- 1024 x 576@30 fps (w576p)
- 480@30 fps (VGA)
- 640@30 fps (SVGA)
- 800@30 fps (SVGA)
- 1024@30 fps (SXGA)
- 1280@30 fps (WXGA+)
- 1680@30 fps (WXGA+)
- 1920@30 fps (1080p30)
- 1280@30 fps (720p30)
- 1024@30 fps (720p)
- 768@30 fps (w448p)
- 576@30 fps (448p)
- 512@30 fps (w288p)
- 352@30 fps (QCIF)
- 176@30 fps (QCIF)

#### AUDIO STANDARDS
- G.711, G.722, G.722.1, 64 bit & 128 bit 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

#### SUPPORTED IN DUAL STREAM
- H.239 (H.323) dual stream
- BFCP (SIP) dual stream
- Support resolutions up to WXGA (1280 x 768)

#### PROTOCOLS
- H.323
- SIP

#### EMBEDDED ENCRYPTION
- H.323/SIP point-to-point
- Standards-based: H.235 v2 & v3 and AES
- Automatic key generation and exchange
- Supported in Dual Stream

#### IP NETWORK FEATURES
- DNS lookup for service configuration
- Differentiated Services (GoS)
- IP adaptive bandwidth management (including flow control)
- Auto gatekeeper discovery
- Dynamic playout and lip-sync buffering
- H.245 DTMF tones in H.323
- Date and Time support via NTP
- Packet Loss based Downsampling
- URI Dialing
- TCP/IP
- DHCP
- Direct DNS dialing
- 802.1x network authentication

#### SECURITY FEATURES
- Management via HTTPS and SSH
- IP Administration Password
- Menu Administration Password
- Disable IP services
- Network Settings protection
Profile 42”/52”, continued...

<table>
<thead>
<tr>
<th>NETWORK INTERFACES</th>
<th>OTHER INTERFACES</th>
<th>PRECISION HD 1080P 12X CAMERA</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit</td>
<td>USB host for future usage</td>
<td>1/3” CMOS</td>
<td>Auto-sensing power supply</td>
</tr>
<tr>
<td>12 x zoom</td>
<td>+15°/-25° tilt, +/- 90° pan</td>
<td>43.5° vertical field of view</td>
<td>100-120/200-240 VAC, 60/50 Hz, 4.5 A max</td>
</tr>
<tr>
<td>Focus distance 0.3m—infinity</td>
<td>72° horizontal field of view</td>
<td>1920 x 1080 pixels progressive @ 60fps</td>
<td>Maximum power consumption: 390 W</td>
</tr>
</tbody>
</table>

Other formats supported (configurable through Dip-switch):
- 1920 x 1080@60 Hz (HDMI only)
- 1920 x 1080@50 Hz (HDMI only)
- 1920 x 1080@30 Hz
- 1920 x 1080@25 Hz
- 1280 x 720@60 Hz
- 1280 x 720@50 Hz
- 1280 x 720@30 Hz
- 1280 x 720@25 Hz

Automatic or manual focus/brightness/white balance
Far-end camera control
Dual HDMI and HD-SDI output

<table>
<thead>
<tr>
<th>SYSTEM MANAGEMENT</th>
<th>NETWORK INTERFACES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for the Cisco TelePresence Management Suite</td>
<td>1 x LAN/Ethernet (RJ-45) 10/100/1000 Mbit</td>
</tr>
<tr>
<td>Total management via embedded SNMP, Telnet, SSH, XML, SOAP</td>
<td>12 x zoom</td>
</tr>
<tr>
<td>Remote software upload: via web server, SCP, HTTP, HTTPS</td>
<td>43.5° vertical field of view</td>
</tr>
<tr>
<td>Remote control and on-screen menu system</td>
<td>72° horizontal field of view</td>
</tr>
</tbody>
</table>

**DIRECTORY SERVICES**
- Support for Local directories (My Contacts)
- Corporate Directory
- Unlimited entries using Server directory supporting LDAP and H.350
- Unlimited number for Corporate directory (through Cisco TelePresence Management Suite)
- 200 number local directory
- Received Calls with Date and Time
- Placed Calls with Date and Time
- Missed Calls with Date and Time

**OPERATING TEMPERATURE AND HUMIDITY**
0° C to 35° C (32° F to 95° F) ambient temperature
10% to 90% Relative Humidity (RH)

**STORAGE AND TRANSPORT TEMPERATURE**
-20° C to 60° C (-4° F to 140° F) at RH 10–90% (non-condensing)

**APPROVALS**
- EU/EEC
  - Directive 2006/95/EC (Low Voltage Directive)
    - Standard EN 60950-1, 2ed
    - Standard EN 55022, Class A
    - Standard EN 55024
    - Standard EN 61000-3-2/-3-3

**USA**
Approved according to UL 60950-1
Complies with FCC15B Class A

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

**DIMENSIONS**
- Height: 63.78” / 162 cm
- Width: 38.58” / 98 cm
- Depth: 6.7” / 17 cm

**WEIGHT**
- Weight: 202.8 lbs / 92 kg

All specifications are subject to change without notice, system specifics may vary.
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**MTBF PRODUCT RELIABILITY/MTBF**
The predicted reliability is expressed in the expected random Mean Time Between Failures (MTBF) for the electronic components based on the Power On Hours:
- Power On Hours (POH) > 69,000 hours
- Useful Life Cycle > 6 years

ISO 9001 certificate is available upon request

November 2010

* requires option
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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