Cisco TelePresence System Administration Guide

November, 2011
CTS Software Release 1.8

CONTENTS

GLOSSARY

INDEX

What's in This Guide

Revised: November 2011, OL-21845-01

This chapter describes the following topics:

What's New

For a complete list of features for this release, see the following documentation on Cisco.com:

- *Release Notes for Cisco TelePresence System*
- *Cisco TelePresence System Software Feature Guide*

For supported software compatibility across all releases, see the following documentation:

- Cisco TelePresence Administration Software Compatibility

Before You Begin

Before beginning the tasks in this guide, familiarize yourself with the following:

CTS Assembly and Wiring Guidelines

Make sure your CTS is properly assembled and wired according to the guidelines in the Cisco TelePresence System assembly documentation. See the Cisco TelePresence System Install and Upgrade Guides for your system on Cisco.com:

- **Support > Product Support > TelePresence > TelePresence Immersive Endpoints**
    - Cisco TelePresence System 3200 Series
    - Cisco TelePresence System 3000 Series
    - Cisco TelePresence System 1300 Series
    - Cisco TelePresence System T Series
- **Support > Product Support > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
    - Cisco TelePresence System 1100
    - Cisco TelePresence System 1000
    - Cisco TelePresence System 500 Series
- **Support > Product Support > TelePresence > Cisco TelePresence Touch**
    - Cisco TelePresence Touch for C Series
    - Cisco TelePresence Touch 12

CTS Software Download Support

Make sure you have downloaded supported CTS software. Navigate to your CTS device on Cisco.com.

Step 1   Navigate to your device:

- **Product Support > TelePresence > TelePresence Immersive Endpoints**
    - Cisco TelePresence System 3200 Series
    - Cisco TelePresence System 3000 Series
    - Cisco TelePresence System 1300 Series
    - Cisco TelePresence System T Series
- **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
    - Cisco TelePresence System 1100
    - Cisco TelePresence System 1000
    - Cisco TelePresence System 500 Series
- **Support > Product Support > TelePresence > Cisco TelePresence Touch**
    - Cisco TelePresence Touch for C Series
    - Cisco TelePresence Touch 12

For example:

Products > TelePresence > TelePresence Endpoints - Immersive > Cisco TelePresence System 1300 Series > Cisco TelePresence System 1300-65 > TelePresence Software-1.8.1.1(2)

Step 2   Select software and choose whether to download now or add it to your cart. For example:

CTS.1-8-1-1-2R-K9.P1.sbn
Release Date: 09/MAY/2011
Cisco TelePresence System Software for CTS500, CTS1000, CTS1100, CTS1300, CTS3000, CTS3010, CTS3200 and CTS3210
Size: 45240.42 KB (46326180 bytes)

CTS Upgrade Order

Cisco recommends that you upgrade software for your Cisco TelePresence System and peripherals in the following order:

1. Unified CM
2. CTS endpoints
3. Cisco TelePresence Multipoint Switch (CTMS)
4. CTS-Manager

See the following documentation for support information:

- Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System
- Cisco TelePresence System Administration Guide
- Cisco TelePresence Multipoint Switch Administration Guide
- Cisco TelePresence Manager 1.8 Administration and Installation Guide

DHCP Connectivity Requirements

Provide a Dynamic Host Configuration Protocol (DHCP) server to achieve connectivity. CTS uses DHCP by default.

IP Phone Requirements

Each Cisco TelePresence/IP phone combination takes 11 units of the Unified CM unit license:

- 5 units for the Cisco Unified IP Phone 7970/7975
- 6 units for the Cisco TelePresence unit.
- CTS and the Cisco Unified IP Phone are both configured in Unified CM as a shared line.

Note   For all SCCP and SIP firmware upgrades from firmware release versions earlier than 8.3(3) to version 8.5(3) or a later release, you must first upgrade your firmware to version 8.5(2). Once you have upgraded to version 8.5(2), you can upgrade your Cisco Unified IP Phone to version 8.5(3) or a later release.

See the Installation Notes section of the *Cisco Unified IP Phone Release Notes for Firmware Release 8.5(3) (SCCP and SIP)* for download instructions.

Configure the Cisco Unified IP phone as follows:

1. If option 150 of DHCP is enabled—**Alternative TFTP=NO**

2. If you use manual entry—**Alternative TFTP=YES**

   For more information about the Cisco Unified IP Phone 7970/7975 series, refer to the
   Cisco Unified IP Phones 7900 Series Maintain and Operate Guides page at the following URL:
   http://www.cisco.com/en/US/products/hw/phones/ps379/prod_maintenance_guides_list.html

Laptop Screen Resolution Recommendation

For best results, Cisco recommends that you change your laptop screen resolution to 1024 x 768.

MAC Address Availability

Make sure the MAC address of the device you are installing is known or available:

- The MAC address comprises a unique 12-character hexadecimal number that identifies a
  Cisco Unified IP phone or other hardware device.

- Locate the MAC address number on a label on the back of the Cisco TelePresence system primary
  codec (for example, 000B6A409C405). Unified CM makes the MAC address a required field for
  Cisco Unified IP phone device configuration.

  The MAC address is also displayed on the CTS main display screen during boot-up.

> **Note** When entering the MAC address in Unified CM fields, do not use spaces or dashes, and do not
> include any other characters that may precede the MAC address on the label.

Network Time Protocol (NTP) Requirements

NTP is required to synchronize the clocks on Cisco IP telephony servers. NTP must be configured
properly to ensure that calendar events appear as expected.

See Table 3-5 in Chapter 3, "Configuring the Cisco TelePresence System" for more information about
configuring NTP and other CTS system settings.

Unified Communications Manager and MIDlets Download Support

Make sure that Unified CM is running and is using supported software for your release. For complete
Cisco TelePresence software compatibility information, see the software support matrix on the
Cisco TelePresence Administration Software page at the following URL:

http://www.cisco.com/en/US/products/ps8332/products_device_support_tables_list.html

> **Note** To enable all available features on your CTS Cisco Unified IP phone, you must download and configure
> MIDlets. The supported MIDlet version is embedded in the software files that are available when you
> click Download Software on the Cisco Unified Communications Manager Support page at the following
> URL:

http://www.cisco.com/en/US/products/sw/voicesw/ps556/tsd_products_support_series_home.html

Or navigate to **Products > Voice and Unified Communications > IP Telephony > Call Control > Cisco Unified Communications Manager (CallManager) > Cisco Unified Communications Manager Version x.x > Unified Communications Manager/CallManager Device Packages**.

Check the following:

- The Cisco TelePresence device name in Cisco Unified CM follows the following format: The characters "SEP" followed by the device MAC address. Assign the hostname so that it is resolvable by Domain Name System (DNS), for example:

    MAC address: " **00:0D:D1:23:45:A1** "

    Cisco TelePresence Host Name: " **SEP000DD12345A1** "

> ✎
>
> **Note** DNS (domain) is optional.

Unified Communications Manager and COP File Download Support

See Managing Cisco Options Package (COP) Files on the Cisco TelePresence System in the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Web Browser Support

Cisco administration interfaces are supported on Internet Explorer (IE) version 6 (recommended).

Document Organization

Information about using the Cisco TelePresence System Administration interface is provided in the following chapters:

- Glossary

- Index

Related Documents

Document Title	Related Topic
• Cisco Digital Media Players	Digital Media Player home page on Cisco.com.
• Cisco TelePresence Administration Software Release Notes home page on Cisco.com	Cisco TelePresence System (CTS) Release Notes. Describes new features and open and closed hardware and software caveats for software releases.
• Installation Notes section of the *Cisco Unified IP Phone Release Notes for Firmware Release 8.5(3) (SCCP and SIP)*	Cisco Unified IP Phone firmware download instructions.
• Cisco TelePresence Administration Software Command References home page on Cisco.com	Cisco command-line interface (CLI) information for configuring the Cisco TelePresence System.
• Cisco TelePresence Administration Software End-User Guides on Cisco.com	Cisco TelePresence User Guide and Quick Reference Card, including information about using the CTS Cisco Unified IP phone.
• Cisco TelePresence Administration Software Troubleshooting Guide	Troubleshooting the Cisco TelePresence System, including Unified CM administration and CTS Cisco Unified IP phone issues.
• Cisco TelePresence Manager home page on Cisco.com	Cisco TelePresence Manager documentation home page.
• Cisco TelePresence Multipoint Switch	Cisco TelePresence Multipoint Switch (CTMS) home page on Cisco.com.
• *Cisco TelePresence Network Systems 2.0 Design Guide*	Cisco Validated Design Program. Systems and solutions designed, tested, and documented to facilitate faster, more reliable, and more predictable customer deployments.
• Cisco TelePresence Recording Server home page on Cisco.com	Cisco TelePresence Recording Server information.
• *Cisco TelePresence Security Solutions*	Configuring security in Cisco TelePresence systems.

• **Product Support > TelePresence > TelePresence Immersive Endpoints**
 	
   – Cisco TelePresence System 3200 Series
   – Cisco TelePresence System 3000 Series
   – Cisco TelePresence System 1300 Series
   – Cisco TelePresence System T Series
 	
• **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
 	
   – Cisco TelePresence System 1100
   – Cisco TelePresence System 1000
   – Cisco TelePresence System 500 Series
	CTS Hardware installation and maintenance documentation.

• *Cisco TelePresence System Documentation Roadmap*	CTS software and hardware documentation roadmap.
• *Cisco TelePresence System Message Guide*	Cisco TelePresence System system message information.
• Cisco Unified Communications Manager (CallManager) Documentation Roadmaps	Unified CM support documentation.
• *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*	Cisco Unified CM installation with the Cisco TelePresence System.
• Cisco Unified Communications Manager Support	Cisco Unified Communications Manager Support page.
• Cisco Unified IP Phone 8900 Series	Cisco Unified IP Phone 8900 Series documentation.
• Cisco Unified IP Phones 7900 Series Maintain and Operate Guides	Cisco Unified IP Phones 7900 Series documentation.
• Cisco.com **Products > TelePresence**	Cisco TelePresence System (CTS) hardware and software documentation, including information about CTS devices.
• Download Software Select a Product page on Cisco.com: http://www.cisco.com/cisco/software/navigator.html	Cisco TelePresence administration software download page.
• *Installing and Configuring the Cisco TelePresence Touch 12* • *Cisco TelePresence Touch 12 User Guide* • *Cisco TelePresence Touch 12 Meeting Quick Reference*	Install and use the Cisco TelePresence Touch 12.
• **Products > TelePresence > TelePresence Immersive Endpoints > TelePresence System > Cisco TelePresence Administration Software** http://www.cisco.com/en/US/products/ps8332/tsd_products_support_series_home.html	CTS Administration and User Guides: Configuration, maintenance, and monitoring tasks using Cisco TelePresence administration software.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at the following URL:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.
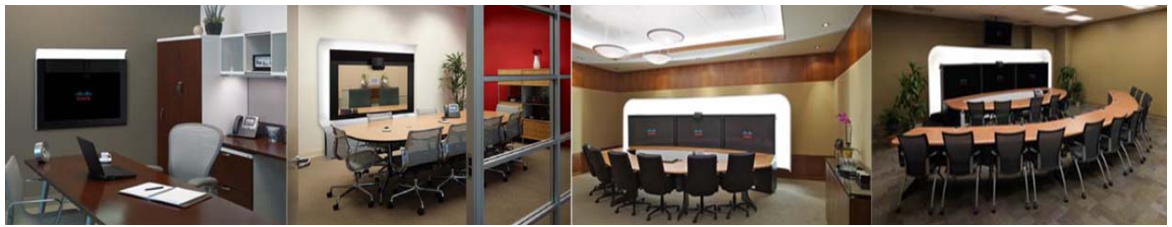
Using the Cisco TelePresence System Administration Interface

Revised: November 2011, OL-21845-01

Contents

This chapter contains the following sections:

Overview

Administrators use the Cisco TelePresence System Administration interface to maintain the Cisco TelePresence System (CTS).

Note No more than one administrator should access the CTS Administration interface at one time.

Administration tasks include the following:

- Viewing device information and detailed system status information
- Configuring system settings
- Monitoring the status of Cisco TelePresence system equipment
- Troubleshooting the system

For first-time setup instructions, refer to the Cisco TelePresence System Assembly Guide for your system on Cisco.com:

- **Product Support > TelePresence > TelePresence Immersive Endpoints**
    - Cisco TelePresence System 3200 Series

- **–** Cisco TelePresence System 3000 Series

- **–** Cisco TelePresence System 1300 Series

- **–** Cisco TelePresence System T Series

- **•** **Products** > **TelePresence** > **TelePresence Personal Endpoints** > **TelePresence Office**

- **–** Cisco TelePresence System 1100

- **–** Cisco TelePresence System 1000

- **–** Cisco TelePresence System 500 Series

Figure 1-1 shows an example of the Cisco TelePresence System Administration window. Click the task name or the arrows in the left panel to navigate to tasks.

Figure 1-1   *Main Cisco TelePresence System Administration Window*

System Status

This section contains the following system status information:

- **•** System Status Window, page 1-2
- **•** Device Status Indicators, page 1-4
- **•** Cisco Unified Communications Manager Status, page 1-5
- **•** In a Call Indicator, page 1-5

System Status Window

System status is always in view in the lower left corner of the Cisco TelePresence System Administration screen, as shown in Figure 1-2. The system administrator should closely monitor this area for changes in the status of the Cisco TelePresence system functions and equipment. The system status is updated every 60 seconds.

Note   Information provided in the System Information Details window is used by Cisco technical support personnel to assist in troubleshooting your system.

To view detailed status information in the System Status box:

Step 1   Move your mouse over the colored icons in the System Status box to display dialog boxes containing the state of each piece of equipment. For example, rolling your mouse over the green check-mark icons in Figure 1-2 will show the detailed state of the equipment.

Figure 1-2   *System Status Window*
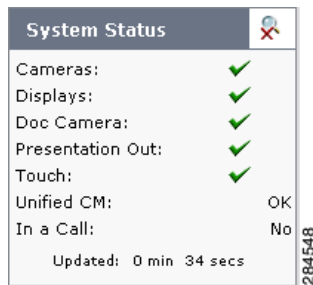
Or

Step 2   Click the magnifying glass icon in the upper right corner of the System Status box. A new window opens with the following two tabs:

- **System Information Details**—Lists detailed information about your CTS, including the camera, audio, and display.

- **Status Details**—Lists status details of CTS components and software, including the camera, projector or LCD, the Presentation Codec, and whether your Unified CM configuration is enabled and OK.

For more information, see Chapter 2, "Device Information."

Device Status Indicators

CTS devices include the following:

- Cameras
- Displays
- Document Camera
- Projector/LCD
- Room IP Phone

The System Status box shows the following icons for the camera, display, documentation camera, projector, and room IP phone for the conditions indicated.

- Ellipses or Black Dot—Microphone is not expected or microphone is not connected.

- Green check mark—Device is configured and operational.

- Hourglass—Device status is unknown or is being determined.

- Question Mark—Microphone is not expected or microphone is not connected.

- Red X with a broken pipe—Device in inaccessible. This icon is seen if the primary codec cannot communicate with a secondary codec.

- Red X—Device is not connected or device is not configured:

    - Cameras—When the video cable is not connected or is loose, or when the Ethernet cable is not connected.
    - Displays—When the video cable is not connected or the display does not have power.
    - Projectors—If the video cable is unplugged or the unit does not have power.
    - Microphones—Offline.
    - If you have specified in Cisco Unified Communications Manager (Unified CM) that a projector/LCD is present and there is not one present.

Determining Device Status Using the Troubleshooting Interface

To determine individual microphone and speaker functionality, use the hardware troubleshooting interface for your system. See the troubleshooting support document for your Cisco TelePresence system:

- Troubleshooting the CTS 500
- Troubleshooting the CTS 500-32 and CTS 500-37
- Troubleshooting the CTS 1000
- Troubleshooting the CTS 1100
- Troubleshooting the CTS 1300-65
- Troubleshooting the CTS 3000 and CTS 3200
- Troubleshooting the CTS 3010 and CTS 3210

See also the for information about updates to the CTS Administration troubleshooting interface.

Cisco Unified Communications Manager Status

The Cisco Unified Communications Manager can be in the following states:

- Enabled and OK
- Inaccessible

In a Call Indicator

The Status box tracks when the meeting room is in a call and displays the security level of active calls. When in a call, the security level is determined between the two endpoints. There are five possible levels of levels of security.

- **Yes/Encrypted**—Active call with both the signaling and the media encrypted.
- **Yes/Authenticated**—Active call with encryption on the call signaling only.
- **Yes/Non-Secure**—Active call with no authentication or encryption.
- **Yes/Not Available**—Active call but the security level of that call is unavailable.
- **No**—Not actively in a call.

Navigation

In the navigation pane at the left side of the Cisco TelePresence System Administration window, the Configuration, Troubleshooting, and Monitoring folders display lists of tasks. Lists of tasks are also displayed in the main content area of the window when you click on any of the following topics in the navigation pane:

- Configuration
- Troubleshooting
- Monitoring

You can quickly access a task by clicking the highlighted name (IP Settings, for example).

Figure 1-3 shows your choices for accessing system administration tasks.

Figure 1-3   ***Choosing Cisco TelePresence System Administration Tasks***

The following sections describe objects, functions, and information that is displayed in the windows associated with the Cisco TelePresence System Administration interface:

- Administration Window Header, page 1-7

- Content Area, page 1-7

- Typing and Selecting Information in Fields, page 1-7

- Validating Information in Fields, page 1-7

- Validating Information in Windows, page 1-7

Administration Window Header

The header at the top of all Cisco TelePresence System Administration windows contains the name of the person currently logged in and provides links for the following functions:

- **Logout**—Click to log out of the system.
- **Help**—Click to display online help for using the Cisco TelePresence System Administration.
- **About**—Click to display software version and licensing information.

Content Area

The frame on the right is the content area, and the gray bar above the content area shows the navigational path so you can quickly identify where you are at any time.

Typing and Selecting Information in Fields

To modify information in fields, use the mouse to highlight and delete existing information. Type in new information. Some fields offer drop-down menus from which you choose settings.

Validating Information in Fields

Some Cisco TelePresence System Administration windows contain **Apply** and **Reset** buttons, which are initially disabled. Once you change or add settings in these windows, both buttons become enabled.

- Use the **Apply** button to apply new or modified information. When you click **Apply**, validation is performed for all fields in that window, and a message is displayed if there is invalid data in the fields.
- Use the **Reset** button to discard changes and restore the values shown when the window was first displayed.

Other Cisco TelePresence System Administration windows have fields containing information such as IP addresses, domain names, media port numbers (view only), and so on, that are validated when you exit the field. When information in a field is found to be invalid, a message describing the error is displayed.

Note   View only fields such as stop and start media port numbers can be configured by going to **Devices > Device Settings > SIP Profile** in the Cisco Unified CM Administration interface. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* on Cisco.com for more information.

Validating Information in Windows

When you go to the navigation pane and click a task, the Cisco TelePresence System Administration software checks data in the current window and takes an action, as follows:

- If all changes are saved, the content area displays the requested window.

- If there are unsaved changes in the current window and data is valid, a message reminds you that there are unsaved changes. An **OK** button saves the changes, and a **Cancel** button allows you to continue modifying data.

- If there are unsaved changes and the data is not valid, a message explains what to do and provides **OK** and **Cancel** buttons to assist you.

Note   If you change settings and click **Apply** in the navigation pane, the request may take a few moments to take effect. Wait until the pending request is completed before clicking a new task.

Accessing Online Help

Online help describes the Cisco TelePresence System Administration graphical user interface (GUI). Use the following information to find information in the online help screens:

-
-

Navigating Online Help

To access online help:

Step 1   In the Cisco TelePresence Administration window, click the **Help** button or click **Help** in the toolbar in the upper right corner of the Cisco TelePresence System Administration screen. The Cisco TelePresence System Administration Online Help window appears.

Step 2   Click the **Contents** tab to navigate through online help topics.

Step 3   Click the **Index** tab to navigate through the list of online help terms and topics. You can type a keyword to locate specific information.

Step 4   Click the **Favorites** tab to manage frequently used subjects within the online help.

   a.   Click on a subject in the **Contents** tab.

   b.   Select the **Favorites** tab to view the Current Topic that you selected in the Contents tab.

   c.   Click **Add** to save to Favorites.

   d.   Click **Remove** to delete from Favorites.

Step 5   Use **Hide**, **Back**, **Forward**, and **Print** to navigate through the online help windows.

Step 6   Click **Print** to print a copy of the online help page.

Accessing this Administration Guide From Online Help

Online help mirrors what you can see in the Cisco TelePresence System interface. When you need more information about a topic that you find in the online help, you can access the Cisco TelePresence System Administration Guide (this document) from the menu bar on the Cisco TelePresence System Administration screen.

To access the Cisco TelePresence System Administration Guide from Online Help:

Step 1   Choose **Help** > **View PDF**.

Step 2   Save or open the file when prompted.

Note   For the most up-to-date information, including detailed testing and troubleshooting procedures, see the *Cisco TelePresence System Administration Guide* for your release on Cisco.com.

Where to Go Next

Proceed to Chapter 2, "Device Information" to access the Cisco TelePresence System Administration interface.
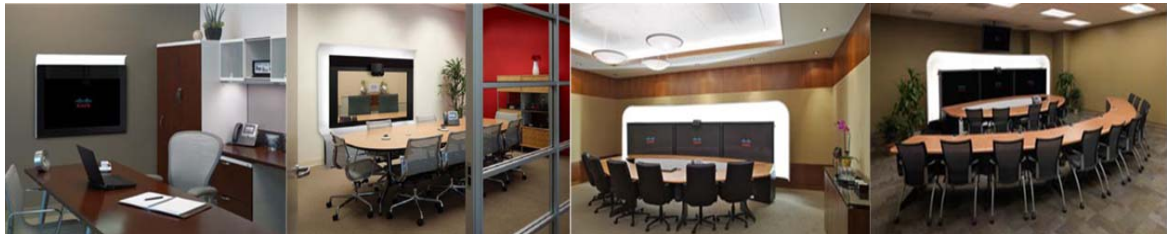
C H A P T E R **2**

Device Information

Revised: November 2011, OL-21845-01

Contents

This chapter contains the following sections:

Accessing the Device Information Window

The Device Information window is the first thing you see when you log on to the Cisco TelePresence System Administration interface. It is from this window that you can access configuration, troubleshooting, and monitoring tasks for the Cisco TelePresence System (CTS) as well as view information about the devices installed on your system.

Before You Begin

To access the Cisco TelePresence System Administration interface for the first time, complete the steps in Logging into the Cisco Unified CM Administrator section of *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

To view information about the Cisco TelePresence devices on your system:

Step 1 Log in to the Cisco TelePresence System Administration interface by completing the following steps:

a. Open an Internet Explorer browser window and type in the IP address of the system in the URL field and click **Enter**. The Cisco TelePresence Administration Login Screen appears, as shown in Figure 2-1.

Note If you need to obtain the IP address, do the following:

1. On the IP phone, locate "Manual" at the bottom of the screen and press the **Manual** soft key.

Or

2. Locate "Info" at the bottom of the screen and press the **Info** soft key.

3. Scroll down to the IP Address listing and copy the address.

Figure 2-1   *Cisco TelePresence System Administration Login Screen*
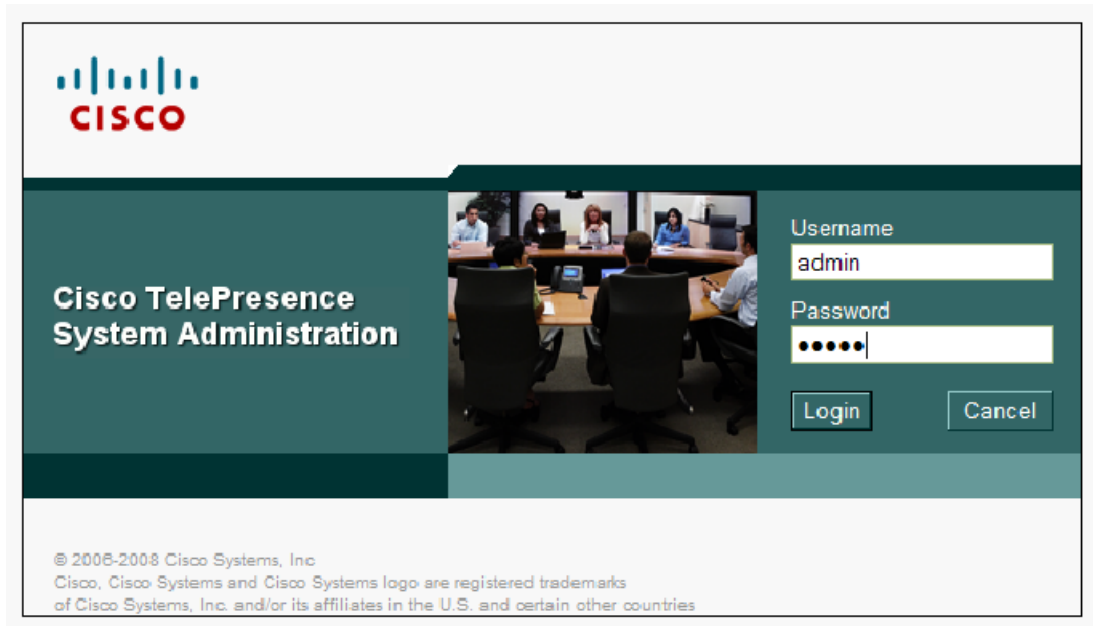
b. In the Admin field, type **admin**.

c. In the Password field, type **cisco**.

Note   You can change the default password in Unified CM. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

d. Click **Login**.

The Device Information window appears, as shown in Figure 2-2.

Figure 2-2 *Device Information Screen*

Step 2   View the information in the following sections within the Device Information window:

- Device Information Fields
- Hardware/Software Versions
- System Information and Status Tabs

Device Information Fields

The Device Information area contains details about the settings that were configured in the CTS and the Unified CM. The information in Table 2-1 describes setting descriptions in the Device Information fields.

✎
Note   The Cisco TelePresence System device type must be specifically selected before you can upgrade to CTS Software Release 1.8.0 and later releases.

Table 2-1   Device Information Fields

Field or Button	Setting or Description
System Model	Cisco TelePresence System model can be one of the following: • CTS 500 • CTS 500-32 • CTS 500-37 • CTS 1000 • CTS 1100 • CTS 1300-47 • CTS 1300-65 • CTS 3000 • CTS 3010 • CTS 3200 • CTS 3210
System Configuration	Indicates the number of high-definition displays for this system.
Phone Number	Call pattern for the IP phone as defined in Unified CM.
Meeting Room	Name of the meeting room in which this particular CTS is located as defined in Unified CM.
TelePresence MAC Address	MAC address of the primary CTS codec.
TelePresence Host Name	Host name of the primary CTS codec.
TelePresence IP Address	IP address of the primary CTS codec.
Cisco TelePresence Touch MAC Address	MAC address of the Cisco TelePresence Touch 12, if your system uses the touch device instead of the Cisco Unified IP phone for call control.
Cisco TelePresence Touch Software Version	Software version used by the Cisco TelePresence Touch 12, if your system uses the touch device instead of the Cisco Unified IP phone for call control.
IP Phone MAC Address	MAC Address of the IP phone as entered in Unified CM.
IP Phone Host Name	Host name of the IP phone as configured in Unified CM.
IP Phone IP Address	IP address of the IP phone as configured in Unified CM.
IP Phone Software Version	Version of the operating system software installed on this IP phone.

Hardware/Software Versions

Version information is collected from the hardware and software versions currently loaded in the system. In the Hardware/Software Versions area, data in bold **blue** text (with an asterisk "*") indicates which software image is currently running. Table 2-2 describes the hardware and software versions information fields.

Table 2-2   Hardware/Software Information Fields

Field or Button	Setting or Description
Unit	For Cisco TelePresence Systems with more than one codec. Indicates whether this is the left, center, right, or presentation codec.
Hardware Version	Version number of the codecs of the Cisco TelePresence System.
Slot 1 Image Slot 2 Image	The flash card is set up with three partitions for the software. Slot 1 and Slot 2 each hold a version of the codec software.
Factory Image	Software that is pre-loaded at the factory and the software that will be loaded after a factory reset.

System Information and Status Tabs

Information provided in the System Information Details window is used by Cisco technical support personnel to assist in troubleshooting your system.

To obtain a detailed report about the system:

Step 1   Log in to the Cisco TelePresence System Administration page. The Device Information window appears.

Step 2   Click on the **System Information Details** bar. A new window opens.

Step 3   Click the following tabs in the new window:

- System Information Details

- Status Details

Step 4   Click **Close** to close the window.

System Information Details

Detailed system information is displayed per codec:

- One codec—For systems with one codec, all information displayed is for the system's single codec.

- Three codecs—For systems with three codecs, hardware and software information is displayed for left, center, and right codecs.

- Presentation codec—For systems that include a presentation codec, hardware and software information for the presentation codec is also displayed.

Table 2-3 describes the fields found in the System Information Details window.

Table 2-3   System Information Details Fields

Field or Button	Setting or Description
UDI_Hardware_Ver	Unique device identifier hardware version number.
UDI_Serial	Unique device identifier serial number.
UDI_PID	Unique device identifier product identification number.
System_Up_Time	Amount of time the system has been running since last reboot.
OS_Ver	Version number of the operating system.
OS_BuildTime	Time at which operating system was built.
UBOOT_Ver	Version number of the application that controls the boot process.
CF_Model	Compact flash model number.
Camera_PID	Camera product identification number.[1]
Camera_Hardware	Camera hardware number.[1]
Camera_Firmware_Ver	Camera firmware version number.[1]
Camera_Hardware_Ver	Camera hardware version number.[1]
Camera_BuildTime	Time at which the camera firmware version was built.[1]
Document_Camera_Serial	Document camera serial number.[2]
Document_Camera_Hardware_Ver	Document camera hardware version number.[2]
Document_Camera_Model	Document camera model number.[2]
Display_Serial	Serial number of the display.
Display_Hardware_Ver	Display hardware version number.
Display_Model	Display model number.
Display_BootCode_Ver	Version number of the boot loader for AppCode. BootCode also provides upgrade feature for AppCode.
Display_AppCode_Ver	Version number for AppCode. AppCode provides monitoring, managing control, and diagnostic functionality.
FPGA_ID	Field programmable gate array identification number.
FPGA_Rev	Field programmable gate array revision number.
FPGA_BuildTime	Time at which field programmable gate array was built.
MainRx_DevID	Main camera device identification number.
MainRx_Rev	Main camera revision number.
AuxRx_DevID	Auxiliary camera (document camera or VGA input device) device identification number.
AuxRx_Rev	Auxiliary camera (document camera or VGA input device) revision number.
MainTx_DevID	Main display (plasma) device identification number.
MainTx_Rev	Main display (plasma) revision number.
AuxTx_DevID	Auxiliary display (projector) device identification number.
AuxTx_Rev	Auxiliary display (projector) revision number.

Table 2-3   System Information Details Fields (continued)

Field or Button	Setting or Description
OSD_DEVICE1_BuildTime	On screen display (device 1) build time.
OSD_DEVICE5_BuildTime	On screen display (device 5) build time.
VCODEC_encoder_Card_Ver	Video CODEC encoder card version number.
VCODEC_decoder_Card_Ver	Video CODEC decoder card version number.
Audio_Hardware_Ver	Audio version hardware version number.
Audio_CPLD_Ver	Audio complex programmable logic device version number.
Audio_DSP_BuildID	Audio DSP software version.[3]
Audio_Base_BoardID	Type of audio base board. Choices are: • 0xAD • 0xAB
Audio_Base_Board_FAB_Ver	Hardware version of the audio (base) board
Audio_Base_Board_FW_Ver	Firmware version of the audio (base) board
Audio_Extension_UnitID	Type of audio extension board. The board type is either 0xAE or is disconnected.
Audio_Extension_Unit_FAB_Ver	Hardware version of the audio extension board.
Audio_Extension_Unit_FW_Ver	Firmware version on the audio extension board.
Audio_Clock_Source	Clock source syncing the audio and video streams.
Audio_PCB_S/N	CTS 500 Series and CTS 1300 only. Unique device identification (UDI) containing serial numbers unique to that printed circuit board (PCB).
Audio_PCB_P/N	CTS 500 Series and CTS 1300 only. Unique device UDI containing part numbers unique to that PCB.
Audio_PCB_Rev	CTS 500 Series and CTS 1300 only. Unique UDI containing hardware revision information unique to that PCB.
PoE_Reset_Available	Indicates whether Power over Ethernet (PoE) Reset feature is available.
Mfg_Installed_Cert	Security certificate for encryption defined by Cisco Root Certificate Authority.
Locally_Significant_Cert	Security certificate obtained through Certificate Authority Proxy Function (CAPF), which supersedes the manufacturing installed security certificate.
Max_Security_Setting	Configured security setting.
Aux Control Unit_Model	Auxiliary control unit model.
Aux Control Unit_Ver	Auxiliary control unit system firmware version.
Aux Control Unit_UDI_Vid	Auxiliary control unit unique device identifier version identification.
Aux Control Unit_UDI_Pid	Auxiliary control unit unique device identifier product identification number.
Aux Control Unit_UDI_Sn	Auxiliary control unit unique device identifier serial number

Table 2-3   System Information Details Fields (continued)

Field or Button	Setting or Description
Projector_Model	Projector model number, if projector is installed.
Presentation Display Model	Presentation display information.
Phone_midlet_status	Displays MIDlet status.
Phone_midlet_version	Displays MIDlet version

1. CTS 1300 displays information for Center, Left, and Right cameras.

2. The document camera is not available on the CTS 1300.

3. CTS devices are backward compatible up to two CTS Software Releases. Cisco recommends that you upgrade to the latest version software.

Status Details

Detailed status information is displayed per codec:

- **•** One codec—For systems with one codec, all information displayed is for the system's single codec.

- **•** Three codecs—For systems with three codecs, hardware and software information is displayed for left, center, and right codecs.

- **•** Presentation codec—For systems that include a presentation codec, hardware and software information for the presentation codec is also displayed.

Tip   You can also view this window by returning to the Device Information window and clicking the magnifying glass icon in the upper right corner of the Status pane, which is in the lower left corner of the screen. See Figure 2-3 for an example of the magnifying glass icon and the Status pane.

Figure 2-3   CTS System Status
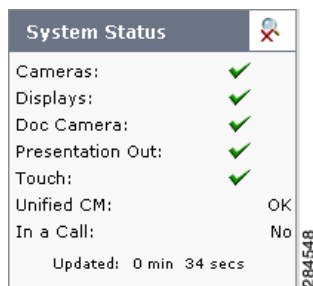
Table 2-4 contains descriptions of the Status Details fields. CTS displays a red X next to devices that are not operational or in error.

Table 2-4   *Detailed Status Information Fields*

Field	Setting or Description

Peripheral Status	**Cameras**
	
	• Video Cable Connection
	
	• Ethernet Connection
	
	Note CTS 1300 displays information for Center, Left, and Right cameras.
	
	Displays
	
	• Status
	
	Microphones
	
	• Status
	
	Note CTS 1300 displays information for the following microphones:
	
	   – Positional (Center, Left, and Right)
	
	   – Table (Center, Left, and Right)
	
	   – Not used (ellipses)
	
	Document Camera
	
	• Video Cable Connection
	
	• Power Status
	
	• Unified CM Configuration
	
	• Ethernet Connection
	
	Note The document camera is not available on the CTS 1300.
	
	Projector/LCD
	
	• Video Cable Connection
	
	• Power Status
	
	• Unified CM Configuration
	
	• Status
	
	• Lamp Age (hours)
	
	• Ambient Temperature
	
	• Lamp Temperature
	
	• LCD Temperature
	
	IP Phone
	
	• Status

Table 2-4   Detailed Status Information Fields (continued)

Field	Setting or Description
System Status	
	• Unified CM
	• In a call
	• Audio/Video Expansion Box
	• Auxiliary Control Unit
	Presentation Codec
	• Unified CM Configuration
	• Status

Note   Further status information is located in the Time Since Last Update and Microphone Status sections at the bottom of the Status Details page.

Time Since Last Update

A running timer is located at the bottom of the Status Details page that displays elapsed time since last update.

Microphone Status

A roadmap of microphone status information icons is displayed at the bottom of the Status Details page.

• Ellipses—Not Expected / Not Connected.

• • •

• Green Check Mark—Connected.

✔

• Question Mark—Not Expected / Not Connected.

?

• Red X—Not connected.

✗

Note   To determine individual microphone and speaker functionality, use the hardware troubleshooting interface for your system. See Where to Go Next to locate the troubleshooting support document for your Cisco TelePresence system.

Where to Go Next

Proceed to the following Cisco TelePresence system administration tasks from the Device Information window:

Configure

- Configuring the Cisco TelePresence System, page 3-1

Troubleshoot

Platform-specific troubleshooting:

- Troubleshooting the CTS 500
- Troubleshooting the CTS 500-32 and CTS 500-37
- Troubleshooting the CTS 1000
- Troubleshooting the CTS 1100
- Troubleshooting the CTS 1300-65
- Troubleshooting the CTS 3000 and CTS 3200
- Troubleshooting the CTS 3010 and CTS 3210

Monitor

- Monitoring the Cisco TelePresence System, page 12-1

Configuring the Cisco TelePresence System

Revised: December 2011, OL-21845-01

Contents

This chapter contains the following sections:

First Time Setup Wizard for the CTS 500-32 and CTS 500-37

Because the CTS 500-32 and CTS 500-37 use a first-time setup wizard, the configuration process is somewhat different than other CTS models. See First Time Setup section of the following documentation for complete instructions:

- *Cisco TelePresence System 500-32 Assembly, Use & Care, and Field-Replaceable Unit Guide*
- *Cisco TelePresence System 500-37 Assembly, Use & Care, and Field-Replaceable Unit Guide*

First Time Setup for All Other CTS Models

To set up your Cisco TelePresence System (CTS) for the first time, you must first load the CTS Administration software and bootup the system.

This section contains the following information:

- Loading CTS Administration Software, page 3-2
- Logging In To the Cisco TelePresence System Administration Interface Directly, page 3-3
- Configuring a Static IP Address for Networks That Do Not Use DHCP, page 3-4
- Configuring an Alternate TFTP Server (Optional), page 3-7
- Configuring Your System After Initial Bootup, page 3-7

Loading CTS Administration Software

CTS Administration Software is factory-installed on each codec and loads during initial bootup. To boot up CTS Administration Software:

Step 1 Power on the PDU that is on the bottom of the CTS cabinet by turning the switch to the **On** position.

Step 2 Turn on the codecs that are associated with your CTS device. The displays associated with each codec become active. CTS displays green check marks on all displays to show bootup progress. Bootup is complete when the system displays six check marks, as shown in Figure 3-1.

Tip Ignore any messages that indicate a communication error with the camera; this message indicates that the system has not yet downloaded the correct software or firmware.

Figure 3-1   *Bootup Completed*

Note   If the last check mark displayed is a red "X," there has been a compact flash error. If you receive this error, contact Cisco Technical Support.

Step 3   After bootup completes, make a note of the IP and MAC address that displays on the center of the screen, as shown in Figure 3-2. Use this information to log in to the Cisco TelePresence System Administration interface. This IP address displays until you log in to Cisco TelePresence System Administration or use Secure Shell (SSH) to log in to your CTS device.

Figure 3-2   System IP Address
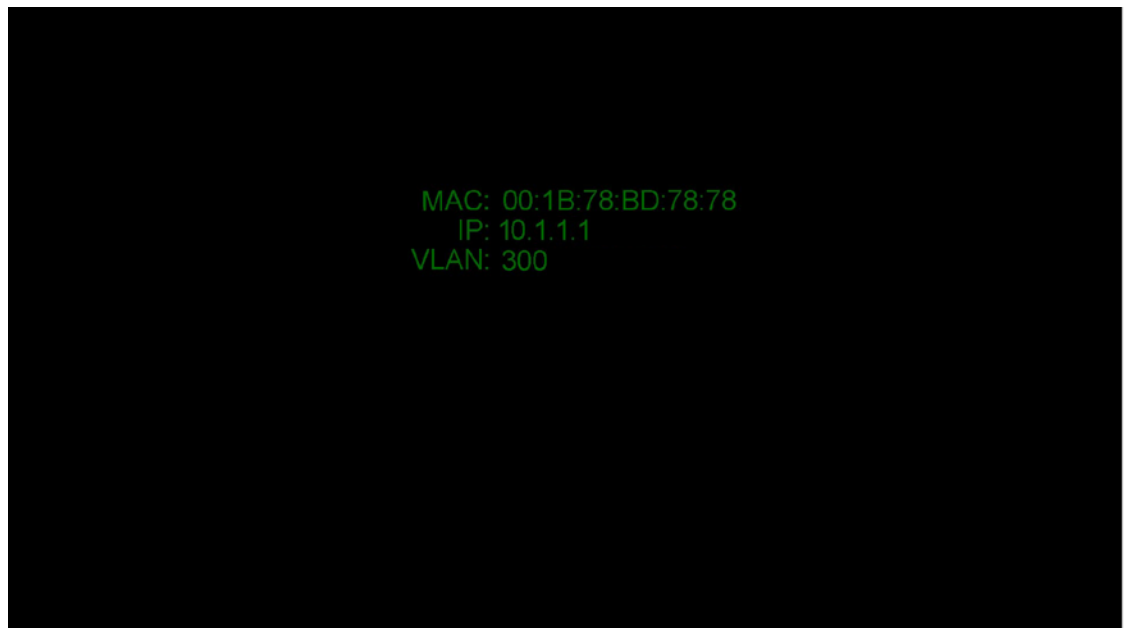
Note   If the IP address that displays is 192.168.100.2, the CTS device could not contact the DHCP server or your system does not use DHCP. Do one of the following:

1. If your network does not use DHCP, navigate to **Configuration > IP Settings**, change the DHCP Enabled setting to **No**, and specify a static IP address, subnet mask, gateway, and DNS server. Remember to reboot your codec after you configure a static IP address.

2. Set up a Cisco TelePresence system for a network that does not use DHCP by completing the procedure in the "Network Settings" section on page 3-11

3. Log into the CTS Administration interface directly by following the steps in Logging In To the Cisco TelePresence System Administration Interface Directly.

Logging In To the Cisco TelePresence System Administration Interface Directly

If your CTS cannot contact the DHCP server, of if your network does not use DHCP, log in to the Cisco TelePresence System Administration directly by following these steps:

Step 1 Connect an Ethernet cable between your PC and the Camera Ethernet connection on the codec.

For more information, see the First Time Setup Guide for your system on Cisco.com:

- **Product Support > TelePresence > TelePresence Immersive Endpoints**
  - Cisco TelePresence System 3200 Series
  - Cisco TelePresence System 3000 Series
  - Cisco TelePresence System 1300 Series
  - Cisco TelePresence System T Series
- **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
  - Cisco TelePresence System 1100
  - Cisco TelePresence System 1000
  - Cisco TelePresence System 500 Series

Step 2 Make a note of the IP address that was assigned to your Ethernet LAN adapter.

Step 3 Open a browser and type in the IP address and press **Enter**. The Cisco TelePresence System Administration login screen displays.

Step 4 In the Admin field, type **admin**.

Step 5 In the Password field, type **cisco**.

Step 6 Click **Login**.

Step 7 Make network and DHCP changes to the CTS configuration as required.

Tip If your network does not use DHCP, navigate to **Configuration > IP Settings**, change the DHCP Enabled setting to **No**, and specify a static IP address, subnet mask, gateway and DNS server. You must reboot your codec after you configure a static IP address.

Configuring a Static IP Address for Networks That Do Not Use DHCP

If your network does not use DHCP, complete one of the following procedures to configure a static IP address for your Cisco TelePresence system.

See the following sections to manage static IP addresses:

- Configuring a Static IP Address Using the Cisco TelePresence System GUI, page 3-4
- Configuring a Static IP Address Using Command-Line Interface Commands, page 3-6
- Command Example, page 3-6

Configuring a Static IP Address Using the Cisco TelePresence System GUI

To configure a static IP address using the Cisco TelePresence system GUI:

Step 1 Connect a DHCP-enabled PC to the secondary camera port of the primary codec. This connection is listed as the auxiliary network port in Figure 3-3.

Figure 3-3   *Auxiliary Network Port Location*
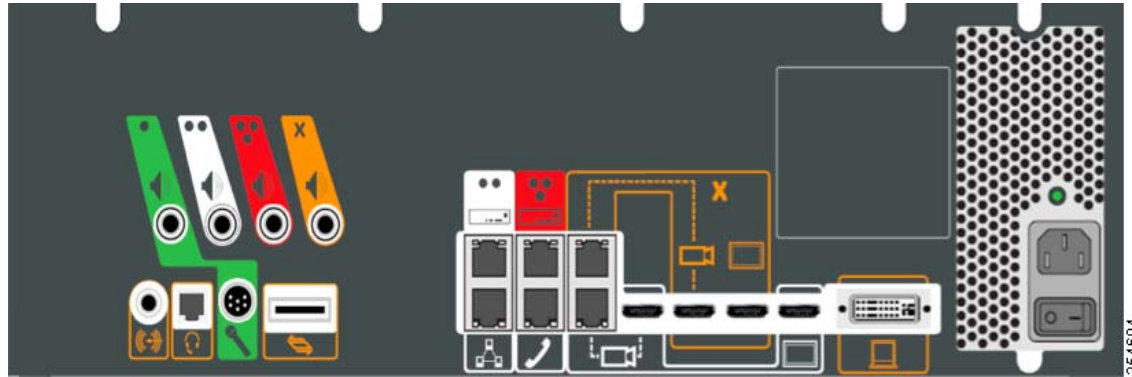
Step 2   Determine the IP address that the Cisco TelePresence system provided for your session.

Tip   For Windows-based systems, you can see the IP address in the Support tab in the Local Area Connection Status window.

Step 3   Using Secure Shell SSH or another secure client program, start a CLI session with the Cisco TelePresence system using the IP address *xxx.xxx.xxx*.1,

Where:
xxx.xxx.xxx is the IP address that Cisco TelePresence provided for your session.

For example, if your determine that the Cisco Telepresence system provided an IP address of 10.1.0.2, enter the address 10.1.0.1.

By default, the username is **admin** and the password is **cisco**.

Step 4   Network services are started automatically. If needed, enter the following command to start network services:

utils service start Calling_Services

Step 5   Using a supported Internet browser, log in to the Cisco TelePresence system GUI with the IP address that you used in Step 3.

Step 6   Enter the username and password when prompted. By default, the user is **admin** and the password is **cisco**.

Step 7   Navigate to **Configuration > IP Settings**.

Step 8   Change the DHCP Enabled setting to **No**.

Step 9   Enter a static IP address, subnet mask, and IP gateway for your system into the fields. Optionally, enter DNS server(s) and the network domain name. Your system saves the changes and automatically restarts.

Configuring a Static IP Address Using Command-Line Interface Commands

To configure a static IP address using command-line commands:

Step 1 Connect a DHCP-enabled PC to the secondary camera port of the primary codec. This connection is listed as the auxiliary network port in Figure 3-3.

Step 2 Determine the IP address that the Cisco TelePresence system provided for your session.

Tip For Windows-based systems, you can see the IP address in the Support tab in the Local Area Connection Status window.

Step 3 Using Secure Shell SSH or another secure client program, start a CLI session with the TelePresence system using the IP address *xxx.xxx.xxx*.1,

Where:
xxx.xxx.xxx is the IP address that Cisco TelePresence provided for your session.

For example, if your determine that the Cisco Telepresence system provided an IP address of 10.1.0.2, enter the address 10.1.0.1.

By default, the username is **admin** and the password is **cisco**.

Step 4 Enter the following command to configure a static network IP address:

set network IP static *ip-address ip-subnet ip-gateway* [*dns-address*1][*dns-address2*][*domain-name*]

Where:

ip-address is the IP address of the system

ip-subnet is the IP subnet mask of the system

ip-gateway is the IP gateway of the system

dns-address1 is the IP address of DNS server 1 (Optional)

dns-address2 is the IP address of DNS server 2 (Optional)

domain-name is the domain name for the network (Optional)

Command Example

The following example gives the Cisco TelePresence system with an IP address of 10.0.0.2, a subnet of 255.255.255.0, a gateway of 10.0.0.1, a DNS server of 172.16.1.5, and a domain name of cisco.com:

```
admin:set network IP static 10.0.0.2 255.255.255.0 10.0.0.1 172.16.1.5 cisco.com
ip address successfully set
system restarting...
```

Configuring an Alternate TFTP Server (Optional)

If you need to use an alternative TFTP server, configure the parameters for the alternative TFTP server and related Cisco IP phone parameters in Unified CM on the Cisco Unified Communications Manager IP Phone Device page. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

> **Note** If you are using the TFTP address that DHCP supplies for Cisco Unified Communications Manager, do not perform this action.

Configuring Your System After Initial Bootup

After successful bootup, the CTS Administration Software loads. When the CTS Administration software completes loading, the Cisco Unified IP phone displays a welcome message that shows the system IP address. The welcome screen only appears the first time the system is booted up after initial installation or after a factory reset.

> **Note** The telephone displays a directory number of 7000, but the telephone is not yet registered and does not function.

Before You Begin

If you have not already done so, configure Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

To continue your initial setup:

Step 1   From the CTS Cisco Unified IP phone welcome page, press **Next**. The system reboots.

> **Note** The system might reboot several times during the initial startup process.

Step 2   Open a browser on a computer that is connected to the network.

Step 3   In the URL field, type in your IP address and press **Enter**. The browser launches the Cisco TelePresence System Administration interface.

> **Note** If you need to obtain the IP address, complete the following steps:
>
> **a.** On the CTS Cisco Unified IP phone, press the **Manual** softkey at the bottom of the screen.
>
> **b.** Locate "Info" at the bottom of the screen and press the **Info** soft key.
>
> **c.** Scroll down to the IP Address listing and copy the address.

Step 4   Log in to the system by entering the following information:

- Username: **admin** (case sensitive)
- Password: **cisco** (case sensitive)

✎   **Note**   You can change your password in Unified CM. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Step 5   Click **Login**. The Device Information window appears, as shown in Figure 3-4.

Figure 3-4   *Device Information Screen*

✎   **Note**   See the "Upgrading CTS Codec Firmware" section on page 3-24 for information about upgrading to new CTS firmware releases.

Step 6   Navigate to the following to continue configuring your system:

- IP Settings, page 3-9

- Network Settings, page 3-11

- Cisco Unified Communications Manager Settings, page 3-12

- Address Book, page 3-14

- Telephony Settings, page 3-15

- SNMP Settings, page 3-17

- System Settings, page 3-19

IP Settings

This section contains the following topics:

- Viewing IP Settings, page 3-9

Viewing IP Settings

✎
Note   Use Unified CM to make changes in the IP Settings window. See the
Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System.

The IP Settings window displays the Cisco TelePresence System (CTS) MAC address and hostname and
you can view and manage the following:

- DHCP—Select a static IP address, which allows the Cisco IP phone to be configured so that the
  system recognizes it as a device in the network, rather than a router.
- Domain name
- IP Address
- Default gateway
- DNS servers.

To view and manage IP settings:

Step 1   Choose **Configuration > IP Settings**. The IP Settings window appears, as shown in Figure 3-5 (DHCP
Enabled) and Figure 3-5 (DHCP Not Enabled).

Figure 3-5   *CTS IP Settings - DHCP Enabled*

Figure 3-6   *CTS IP Settings - DHCP Not Enabled*

Step 2   Configure settings for the Cisco TelePresence System uplink to your network using the information in Table 3-1 as a guide. The Cisco TelePresence System can be configured in the following ways:

- Pure dynamic—Uses DHCP for everything.
- Pure static—Uses static settings for everything.
- Hybrid—Uses static settings for the IP Address, Netmask and gateway, but uses DHCP for name servers and other options like Option 150 for the Unified CM TFTP servers.

Tip   When you make a change in any of the **Configuration** > **IP Settings** fields, the **Apply** and **Reset** buttons are activated.

Step 3   Click **Apply** to register new or modified settings.

Step 4   Click **Reset** to restore the original settings.

Note   All codecs on the system must be connected and enabled for the factory reset to complete. To register a device, see the "Optional Hardware" section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Table 3-1   *IP Settings*

Field or Button	Setting
MAC Address:	MAC address of the CTS primary codec. For example, " **00:0D:D1:23:45:A1** "
Host Name:	Host name of the CTS primary codec. For example, " **SEP000DD12345A1** "

Table 3-1 **IP Settings**

Field or Button	Setting

DHCP Enabled:	Indicates whether Dynamic Host Configuration Protocol (DHCP) has been enabled for the CTS primary codec.
	
	• If you select the **No** radio button in the DHCP Enabled field, you can update the following available fields:
	
	  – Domain Name
	  – IP Address
	  – Subnet Mask
	  – Default Gateway
	  – DNS Server 1
	  – DNS Server 2
	
	• If you select the **Yes** radio button in the DHCP Enabled field, no configurable fields are available unless you click the **Yes** radio button to Use Static IP Address.

Domain Name:	Indicates the domain name for the primary codec. This field is configurable only if you select the **No** radio button for DHCP Enabled.
Use Static IP Address:	Indicates whether the CTS primary codec is configured to use a static IP address. Static IP address is disabled by default. Click the **Yes** radio button to update the following fields: • IP Address • Subnet Mask
IP Address	IP address for the Cisco TelePresence system. This field is configurable only if you select the **No** radio button for DHCP Enabled.
Subnet Mask	Subnet mask used for the IP address supplied. This field is configurable only if you select the **No** radio button for DHCP Enabled.
Default Gateway	Default gateway for the CTS primary codec. This field is configurable only if you select the **No** radio button for DHCP Enabled.
DNS Server 1 and 2	IP addresses of the Domain Name System (DNS) servers. This field is configurable only if you select the **No** radio button for DHCP Enabled.

Network Settings

You can view or configure the following settings in the Network Settings window:

Operational VLAN ID

This field shows a display-only VLAN ID that is standard for networks with a Cisco Unified IP phone.

Administrative VLAN ID

The CTS must have a VLAN membership ID before it can proceed with a DHCP request for an IP address.

To view or configure the administrative VLAN ID:

Step 1   Choose **Configuration > Network Settings**.

Step 2   Enter an administrative VLAN ID for Cisco TelePresence in this field.

> **Note**   The **Apply** and **Reset** buttons become active when a value is entered in this field.

Step 3   Click **Apply** to register a new or modified setting.

Step 4   Click **Reset** to restore the administrative VLAN ID setting displayed when you opened this window.

Syslog Address

This field shows the display-only syslog address that is standard for networks with a Cisco Unified IP phone, as shown in Figure 3-7.

Figure 3-7   Network Settings Syslog Address
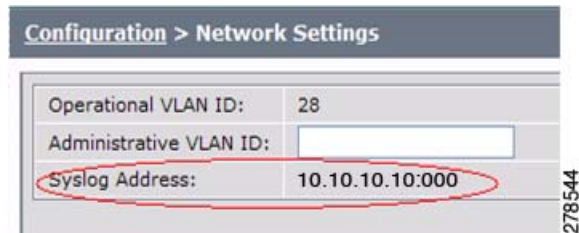
> **Note**   You must also configure the External Syslog Address in the Product Specific Configuration Layout field for your CTS. See the *Cisco Unified Communications Configuration Guide for the Cisco TelePresence System*.

Cisco Unified Communications Manager Settings

To specify TFTP server locations and view a list of available settings for this Cisco TelePresence system:

Step 1   Choose **Configuration > Cisco Unified Communications Manager Settings**. The Cisco Unified Communications Manager Settings window appears, as shown in Figure 3-8.

Figure 3-8 **Cisco Unified Communications Manager Settings**

Step 2   Configure Unified CM settings using the information in Table 3-2.

Note   The **Apply** and **Reset** buttons become active when a value is entered in this field.

Table 3-2 **Cisco Unified Communications Manager Settings**

Field	Settings
Use Configuration TFTP Server	• Click **Automatic** to set the default condition, which is that the TFTP server will reply to DHCP requests for option 150, or for a list of TFTP servers that indicate to endpoints in the network where to find Unified CM configuration files. • Click **Specify** to manually supply IP addresses of TFTP servers in the interactive fields provided.
TFTP Server 1 through 5	Click **Specify** at Use Configuration TFTP Server to activate interactive fields that are provided for entering TFTP server IP addresses.
Cisco Unified Communications Manager 1 through 5	Display-only report that shows the names of up to five Cisco Unified Communications Managers.
CAPF Authentication String	Enter the Certificate Authority Proxy Function authentication string. The characters entered in this field must match the CAPF Authentication string entered in Unified CM.
Certificate Trust List (CTL)	The Delete CTL button becomes active when the CTS is provided with a CTL by a Unified CM configured in mixed authentication mode. Click **Delete CTL** to delete all entries on the CTL.

Step 3   Click **Apply** to register new or modified settings.

Step 4   Click **Reset** to restore the original settings.

> **Note** All codecs on the system must be connected and enabled for the factory reset to complete. To register a device, see the "Optional Hardware" and "Troubleshooting the Cisco TelePresence Configuration" sections of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Related Information

See the following documentation for more information about Unified CM:

- *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*
- Cisco Unified Communications Manager (CallManager) Documentation Roadmaps

Address Book

The Address Book window displays read-only entries that have been set during Cisco Unified Communications Manager (Unified CM) configuration. You can create listings for up to 40 meeting rooms.

To view the phone list of Cisco TelePresence system-enabled meeting rooms:

Step 1   Choose **Configuration > Address Book**. The Address Book window appears, as shown in Figure 3-9.

Figure 3-9   CTS Address Book

Step 2   Use Unified CM to make changes to the Address Book. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Telephony Settings

The Telephony Settings window displays read-only information about the telephony settings for the Cisco TelePresence System that were set in the Unified CM.

To view entries in the Telephony Settings window:

Step 1   Choose **Configuration > Telephony Settings**. The Telephony Settings window appears, as shown in

Figure 3-10   CTS Telephony Settings

Configuration > Telephony Settings	
Auto Answer:	Yes
Maximum Call Length (mins):	0
DSCP For Audio:	EF DSCP (101110)
DSCP For Video:	AF41 DSCP (100010)
Start Media Port:	16384
End Media Port:	32766
Note: Use Unified CM to change these settings.	

Step 2   View the telephony settings described in Table 3-3.

Table 3-3   Telephony Settings

Field	Settings
Auto Answer	Displays the automatic answering capability on the phone. • **Yes** indicates that automatic answering has been enabled. • **No** indicates that automatic answering has been disabled.
Maximum Call Length (mins)	Displays the defined limit to the number of minutes allowed for a call. The default setting is 0 minutes, which means no limit to call duration is set. The maximum number of minutes that can be set is 10080 (7 days). The call will automatically end at the number of minutes set. When the default setting is used, the call is never ended automatically.

Table 3-3   Telephony Settings (continued)

Field	Settings
DSCP For Audio DSCP For Video	Displays the traffic queuing techniques that define per-hop behavior based on the Differentiated Services Code Point (DSCP) value in the IP header of a packet. The following DSCP settings apply for both audio and video traffic: • AF11 DSCP (001010) • AF12 DSCP (001100) • AF13 DSCP (001110) • AF21 DSCP (010010) • AF22 DSCP (010100) • AF23 DSCP (010110) • AF31 DSCP (011010) • AF32 DSCP (011100) • AF33 DSCP (011110) • AF41 DSCP (100010)—Recommended value • AF42 DSCP (100100) • AF43 DSCP (100110) • CS1 (precedence 1) DSCP (001000) • CS2 (precedence 2) DSCP (010000) • CS3 (precedence 3) DSCP (011000) • CS4 (precedence 4) DSCP (100000) • CS5 (precedence 5) DSCP (101000) • CS6 (precedence 6) DSCP (110000) • CS7 (precedence 7) DSCP (111000) • Default DSCP (000000) • EF DSCP (101110)
Start Media Port	Must be in the range from 16384 to 32766, and must be lower than the End Media Port settings.
End Media Port	Must be in the range from 16384 to 32766, and must be higher than the Start Media Port settings.

Step 3   Use Unified CM to make changes to Telephony Settings. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

SNMP Settings

The Simple Network Management Protocol (SNMP) Settings window displays read-only information about the SNMP settings for the Cisco TelePresence System that were set in Unified CM configuration.

To view SNMP settings:

Step 1   Choose **Configuration > SNMP Settings**. The SNMP Settings window appears, as shown in Figure 3-11.

Figure 3-11   **Verify SNMP Settings**

Step 2   View the SNMP settings fields described in Table 3-4.

Table 3-4   SNMP Settings

Field	Settings
Engine ID	Identifies the local or remote SNMP engine. The remote agent SNMP engine ID and user password are used to compute authentication and privacy digests.
SNMP Configuration	Parameters that access the SNMP server associated with this Cisco TelePresence System. Unified CM for CTS supports SNMP Version 2c and Version 3. SNMP fields displayed in this window reflect the configured SNMP version. The following fields are included: • SNMP Enabled • User ID • Security Level • Authentication Algorithm • Encryption • System Location • System Contact • Read-Only Community String • Read-Write Community String
Trap Receiver Configuration	SNMP settings for the receiver to which this Cisco TelePresence system will send traps. The following information is shown for Traps 1 through 5: • Trap Receiver • IP Address • User ID • Security Level • Authentication Algorithm • Encryption • Community String

Step 3   Use Unified CM to make changes to the SNMP settings. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Related Information

For more information about SNMP, see the following information on Cisco.com:

• MIBs, RFCs, and SNMP Trap Messages for the Cisco TelePresence System

• Simple Network Management Protocol (SNMP) home page.

System Settings

The System Settings window displays read-only information about the system settings for the Cisco TelePresence System that were set in Unified CM configuration.

To view system settings:

Step 1   Choose **Configuration > System Settings**. The System Settings window appears, as shown in Figure 3-12.

Figure 3-12   **CTS System Settings**

Step 2   View the system settings information described in Table 3-5.

Table 3-5   **System Settings**

Field	Description or Setting
Username/Password Configuration	
User ID	Displays username and password.
New Password New Password (verify)	**Note** Usernames and passwords must be at least 4 characters, but not more than 64 characters in length, and can contain upper and lower case alphanumeric characters and the underscore and dash characters. The following usernames are not allowed: apache, daemon, nobody, operator, and shutdown.

Table 3-5   *System Settings (continued)*

Field	Description or Setting
Quality Configuration	
Overall System Quality	This field displays the system bandwidth and screen resolution. The bandwidth is the maximum negotiated video bandwidth for a CTS call. A higher bandwidth increases video quality.
	Choose from the following:
	• Highest Detail, Best Motion: 4Mbps 1080p (default)
	• Highest Detail, Better Motion: 3.5Mbps, 1080p
	• Highest Detail, Good Motion: 3Mbps, 1080p
	• High Detail, Best Motion: 3Mbps, 720p
	• High Detail, Better Motion: 2Mbps, 720p
	• High Detail, Good Motion: 1Mbps, 720p
	• High Detail, Limited Motion: 720p (Lite)
Locale Configuration	
Time Zone	Displays the configured time zone for your area of the world from the drop-down menu.
Language	Displays the configured language for CTS.
Cisco TelePresence System Configuration	
System Type	Identifies the CTS model. Choose from the following:
	• Cisco TelePresence 500 Series
	• Cisco TelePresence 1000
	• Cisco TelePresence 1100
	• Cisco TelePresence 1300 Series
	• Cisco TelePresence 3000
	• Cisco TelePresence 3010
	• Cisco TelePresence 3200
	• Cisco TelePresence 3210
	Note You must select the CTS device type specifically to upgrade your CTS software.
Days Display Not Active	Specifies the days of the week that the Cisco TelePresence system display remains off by default. Choose Monday through Sunday. Default is Sunday and Saturday.
Display On Time	Specifies the time of day that the Cisco TelePresence system display(s) will remain on after being turned on, if CCM is configured. Times are displayed in a 24-hour format where 00:00 indicates 12:00 midnight and 23:59 indicates 11:59 pm. Default is 07:30.
	If you clear the default value so that the field is blank, the display(s) will turn off after the completion of each call.

Table 3-5   ***System Settings (continued)***

Field	Description or Setting
Display On Duration	Specifies the length of time the Cisco TelePresence system display(s) will remain on if a "Display On Time" value is defined. Times are displayed in a 24-hour format, where 1:30 indicates one hour and thirty minutes; the maximum value is 24:00 (24 hours). Default is 10:30. If you clear the default value so that the field is blank, then the display will turn off at 11:59 pm.
Note If your version of Unified CM does not allow you to configure values for Days Display Not Active, Display On Time or Display On Duration, the system uses the default values for these features.	
NTP Servers	
NTP Server 1 through 5	Required. Network Time Protocol (NTP) is used to synchronize the clocks on Cisco IP telephony servers with an external network time server that uses NTP. You can have up to five IP addresses for Network Time Protocol servers. **Note** NTP must be configured properly to ensure that calendar events appear as expected.

Step 3   Use Unified CM to make changes to the system settings. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Troubleshooting Your Configuration

Use the information in Table 3-6 to help you troubleshoot your configuration.

Before You Begin

First check that the following conditions have been met:

- Power has been applied.
- The Cisco TelePresence System has been installed and configured according to the instructions in Cisco TelePresence System Assembly Guides.
- Unified CM has been configured to support the Cisco TelePresence System as described in the *Cisco Unified Communications Manager Configuration Guide for Cisco TelePresence System.*

Table 3-6   Troubleshooting the Cisco TelePresence Configuration

Problem	Possible Cause	Possible Solutions
Selecting the Test Connection function on the Unified CM web page results in an error.	Incorrect Cisco TelePresence Manager Application User credentials: • Cisco TelePresence Manager Application User is missing required roles.	1. **Check User Credentials**—Correct the user credentials. 2. **Check Cisco TelePresence Manager Application**—See the Cisco TelePresence Manager documentation home page for information about using the Cisco TelePresence Manager.
The Cisco TelePresence unit does not register.	Cisco TelePresence System could be unknown: • Unified CM does not know about the CTS. • CTS is not registered because it is unplugged. • CTS MAC address is entered incorrectly.	1. **Test Codec Connection**—Test the network connection to the master codec by plugging the codec network cable directly into the IP phone. If the IP address displays, the problem is with the codec. 2. **Verify Phone Registration**—Log in to the Unified CM administration interface. Click on the IP address and verify phone registration.
The Cisco Unified IP Phone 7975 does not register.	Phone could be unknown: • Unified CM does not know about it. • CTS is not registered because it is unplugged. • CTS MAC address is entered incorrectly. • The incorrect device type was configured in Unified CM.	**Verify Phone Registration**—Log in to the Unified CM administration interface. Click on the IP address and verify phone registration. • Confirm that a 7970 or 7975 respectively, device type has been configured in Unified CM.
The phone does not display the Cisco TelePresence idle screen.	• Phone could be unknown: – Unified CM does not know about it – CTS is not registered because it is unplugged. – The phone did not receive an IP address. • There could be errors in the Cisco Unified Communications Manager Phone Configuration window: – Incorrect IP address – Typos in the external location URLs	1. **Verify Phone Registration**—Log in to the Unified CM administration interface. Click on the IP address and verify phone registration. 2. **Verify Phone in the System**—Log in to the Cisco TelePresence System Administration interface verify that the system can detect the phone. 3. **Correct Typos in URL**—See "Managing Cisco Unified IP Phones" in the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for information about configuring external URLs.

Table 3-6   *Troubleshooting the Cisco TelePresence Configuration*

Problem	Possible Cause	Possible Solutions

CTS does not auto answer	• An incoming conference call is ringing and the CTS does not auto answer immediately.
	
	• The call is connected but there is no video
		The CTS rings and auto-answers a call based on how these features were configured in Unified CM.
		
		If the call is connected as audio only, check your IP phone configuration and make sure the "Disable Speaker/Headset" box is checked.
		
		To disable the IP phone speaker/headset:
		1. Logon to the CUCM
		2. Search for your directory number (DN). Two devices are displayed: CTS and Cisco Unified IP Phone.
		3. Click on the IP_Phone device.
		4. Scroll down to the Product Specific Configuration Layout window.
		5. Verify that the following check-boxes are checked in the Product Specific Configuration Layout window:
		   – Disable Speakerphone
		   – Disable Speakerphone and Headset
		6. Apply and Save the configuration.
		7. Reset the device.
		
		See the *Cisco Unified Communications Manager Configuration Guide for Cisco TelePresence System* for more information.

Call terminates prematurely	DSP failure due to incompatible CTS software version.	CTS devices are backward compatible up to two CTS Software Releases. You may want to upgrade your software.
• Conference room is deleted from future meeting schedule in CTS Manager. • Lost ability to invite expected conference room into a call. • Studio Mode recording is not working. • SD InterOp feature is not working. • HD InterOp feature is not working.	The Cisco TelePresence Recording Server (CTRS) Studio Mode recording feature is not working and the room has been unsubscribed. One or more of the rooms in a conference does not support the feature.	Check Room View on CTS-Man to verify whether a CTS device is capable of supporting the features in a specific room. Then check your Unified CM configuration settings to configure the device. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Upgrading CTS Codec Firmware

> ✎
> **Note**   Upgrades should only be performed at night or during minimal Cisco TelePresence usage times. An upgrade takes up to 30 minutes to complete.

The procedure to upgrade CTS firmware is the same as the firmware upgrade procedure for the Cisco Unified CM IP phones. See the Uploading Files to the Cisco Unified CM TFTP Directory section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for complete instructions.

To download CTS firmware:

Step 1   Log into the Download Software Select a Product page on Cisco.com:

http://www.cisco.com/cisco/software/navigator.html

The Tools & Resources Download Software appears.

Step 2   Expand the **Cisco TelePresence System** folder and open the **Cisco TelePresence System** sub folder. A list of CTS devices appears.

Step 3   Select your CTS device

Step 4   Upload the firmware file to the TFTP directory of your Unified CM TFTP server.

Step 5   Restart the TFTP server.

Step 6   Change the firmware filename for the system(s) that you want to upgrade (either via the Device Defaults page, or on a per system basis) in the Cisco Unified CM Administration interface.

Step 7   Click the **Restart** button in Unified CM for the device(s) that you want to upgrade.

Upgrading Software for Cisco TelePresence Touch 12

See the following important software upgrade information in the Upgrading From a Cisco Unified IP Phone to a Cisco TelePresence Touch 12 document at the following URL:

http://www.cisco.com/en/US/docs/telepresence/peripherals/cisco_touch/installation/cisco_touch_installation_upgrade.html

Managing Passwords

This section contains the following information about managing and troubleshooting password issues on the Cisco TelePresence System (CTS):

-
-

Resetting Your CTS Codec Password

Note   You must be in the Cisco TelePresence room to read the newly requested passcode that shows on the main display.

At each point where the **pwrecovery** account requires input, the program will wait up to 60 seconds. If nothing is entered, the system will inform you that the entry took too long and will exit.

If you encounter any difficulty, open a case with Technical Assistance Center (TAC) via the Internet at http://tools.cisco.com/ServiceRequestTool/create/, or contact your Cisco technical support representative and provide the representative with the information you have gathered about the problem.

Before You Begin

Make sure that the CTS is not in a call, and that there is only one instance of someone trying to reset the password, otherwise the session will abort.

Procedure

To reset your CTS codec password:

Step 1   SSH into the codec from your laptop.

Step 2   Login with the following:

- Username: **pwrecovery**
- Password: **pwreset**

The following message appears in the SSH client window:

Example 3-1   Welcome to Password Reset

```
dhcp-249:~ $ ssh pwrecovery@10.00.00.100
pwrecovery@10.00.00.100's password:

***********************************************
***********************************************
**                                           **
**      Welcome to password reset            **
**                                           **
***********************************************
***********************************************


Do you want to continue ? (y/n):y
Preparing the system...
Please enter the passcode:
```

Step 3   The system will ask whether you want to continue. Type **Y** then **return** to continue

> **Note**   If desired, type any other key then **return** to exit.

This system will now prepare for password reset and prompt you for a passcode. The new passcode is displayed on the CTS main display, as shown in the following example:

> Password reset is now being run
>
> Passcode: 919175

> **Note**   The passcode is a randomly generated number and will be different for each login attempt. If you enter the wrong passcode, the system will inform you that the passcode was incorrect and will exit, as shown in the following example. If this happens, repeat .

Example 3-2   Invalid Password Reset Request

```
Do you want to continue ? (y/n):y
Preparing the system...
Please enter the passcode:12345
Sorry that was an invalid passcode...
Logging off
Connection to 10.00.00.100 closed.
dhcp-249:~ $
```

When you enter the correct passcode, the CTS will then reset the administration account name and password to the system defaults. The following example shows successful password reset information:

Example 3-3   Successful Password Reset Request

```
Please enter the passcode:507530
resetting admin name and password
stopping any existing admin session
admin account and password reset to default
success in applying security rules
Logging off
Connection to 10.00.00.100 closed.
dhcp-249:~ $
```

> **Note**   If you are using the CTS with a Cisco Unified Communications Manager, the next time you perform a "Refresh" or "Reset" from the Unified CM, the administration account name and password will be reconfigured to the values specified in the Unified CM device page.

Restoring Connectivity to the Codec

If you lose connectivity to the codec, refer to the Cisco TelePresence System Assembly, Use & Care, and Field-Replaceable Unit Guide for your system on Cisco.com:

- **Product Support** > **TelePresence** > **TelePresence Immersive Endpoints**
  - Cisco TelePresence System 3200 Series

- – Cisco TelePresence System 3000 Series

- – Cisco TelePresence System 1300 Series

- – Cisco TelePresence System T Series

- **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**

- – Cisco TelePresence System 1100

- – Cisco TelePresence System 1000

- – Cisco TelePresence System 500 Series

Where to Go Next

Proceed to the following chapters to troubleshoot your CTS:

- Chapter 4, "Troubleshooting the CTS 500"
- Chapter 5, "Troubleshooting the CTS 500-32 and CTS 500-37"
- Chapter 6, "Troubleshooting the CTS 1000"
- Chapter 7, "Troubleshooting the CTS 1100"
- Chapter 8, "Troubleshooting the CTS 1300-65"
- Chapter 10, "Troubleshooting the CTS 3000 and CTS 3200"
- Chapter 11, "Troubleshooting the CTS 3010 and CTS 3210"

C H A P T E R 4

Troubleshooting the CTS 500

Revised: November, 2011, OL-21845-01

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting CTS 500 hardware and software.

Before You Begin

1. Obtain your IP address in one of the following ways:

   – From the CTS Cisco Unified IP phone touch the following softkeys:

   Manual > more > Info

   ○

   Tip If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

   – From the Cisco TelePresence Touch 12 tap the following:

   More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

✎

Note You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

Managing CTS 500 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 4-20.

Figure 4-1 shows the Cisco TelePresence System administration tools available to assist you with troubleshooting tasks.

Figure 4-1   Troubleshooting Window
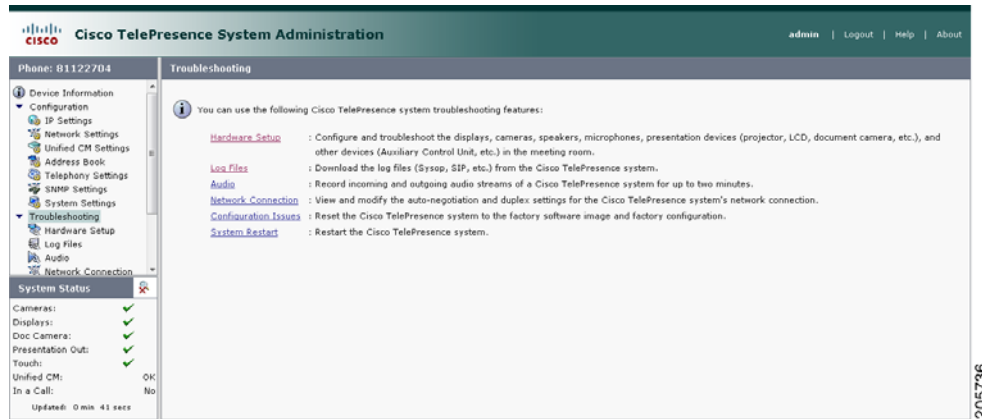
Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note   Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 4-3
- Adjusting Your Display, page 4-4
- Troubleshooting Displays, page 4-6
- Related Information, page 4-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)
- 5000 K

- 6500 K
- 7500 K

Tip   In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip   It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 4-2.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 4-2   Color Temperature Test Screen
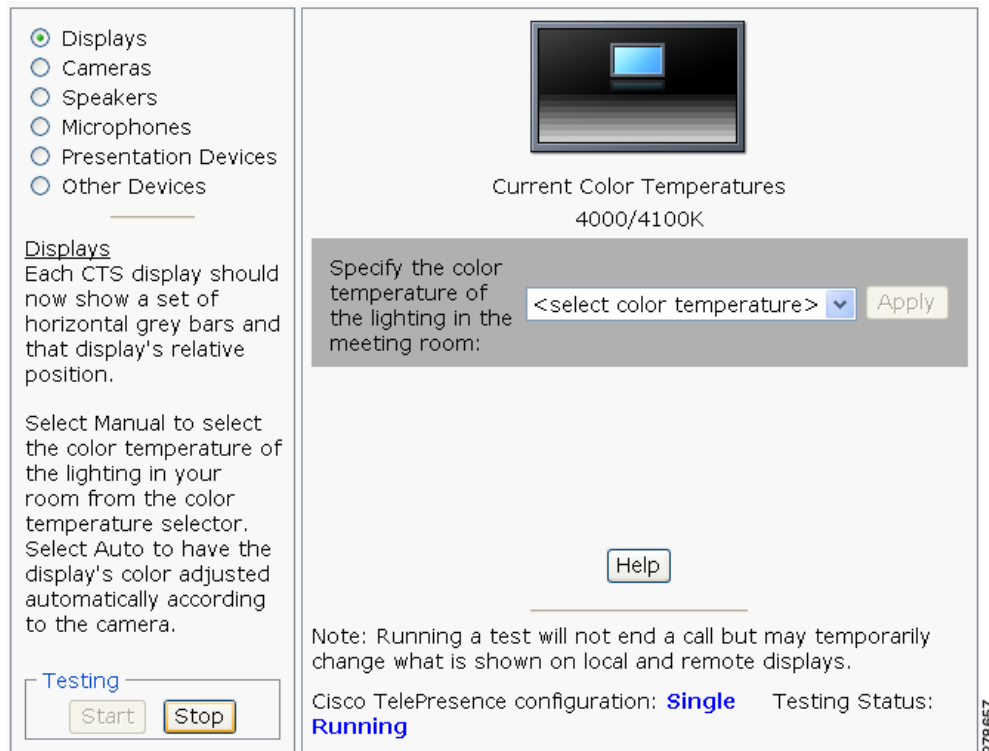
Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 4-1 to troubleshoot images on the displays.

Table 4-1   Troubleshooting Displays

Problem	Possible Cause	Action
No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Cable is not connected or is connected to the wrong HDMI port in the display	Confirm that the HDMI cable is plugged into the Main input (white) and not the Auxiliary input (orange). Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide.*

Related Information

- For more information about setting up and testing displays, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

Note   You must use the camera Auto Adjust feature before you can auto focus the camera. See the "Auto Adjusting the Camera" section on page 4-13.

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the CTS 500 Camera, page 4-7
- Troubleshooting Cameras, page 4-19
- Related Information, page 4-19

> **Note**   The camera hood comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 500 Camera

The following sections describe how to set up the CTS 500 camera for testing:

- Removing the Camera Hood, page 4-7
- Setting up the Camera Targets, page 4-7
- Testing the Camera, page 4-7
- Auto Adjusting the Camera, page 4-13
- Focusing the Camera, page 4-14
- Saving Your Settings
- Reattaching the Camera Haze and Replacing the Hood, page 4-18

Removing the Camera Hood

Removing the camera hood provides access to the zoom and focus rings for the camera. The entire camera hood and speaker cover attachment comes off in one piece. To remove the camera hood.

Step 1   Pull the top of the hood towards you until that portion of the hood snaps open.

Step 2   Pull the bottom of the hood until the entire unit snaps off of the camera.

Setting up the Camera Targets

To set up the camera target:

Step 1   Prepare the large camera target and place it on the easel.

Step 2   Set the easel and large target in the position that the user will occupy. Use the distance measured from the camera to the head of the user to position the target. If the distance is unknown, use 1.5 meters (5 feet).

Testing the Camera

To set up the camera for testing.

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Cameras** radio button.

Step 4   Click **Start**. The display enters loopback mode. In loopback mode, the display shows images from the camera. The Camera Target testing options appear, as shown in Figure 4-3.

Figure 4-3   *Cameras Screen*
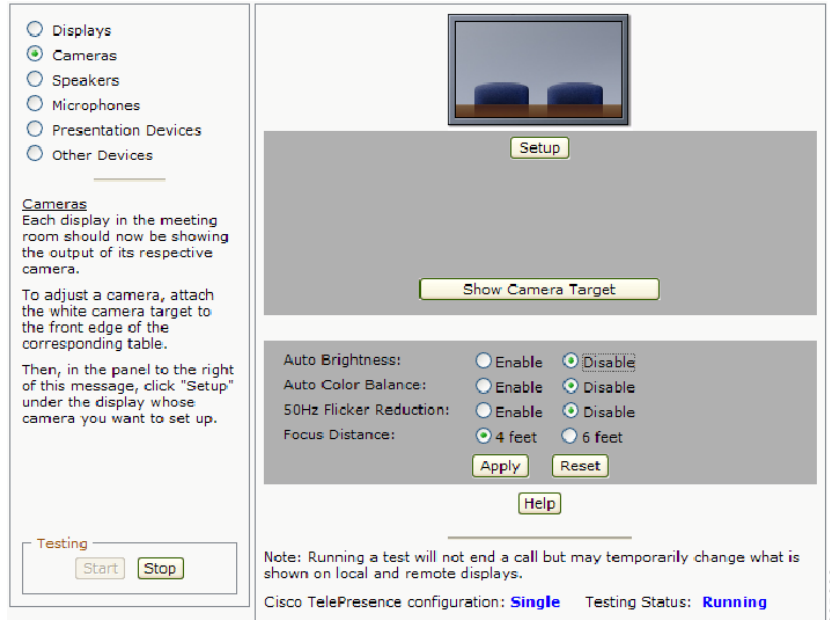
Step 5   Click **Show Camera Target**. A red + appears on the test screen, as shown in Figure 4-4.

Figure 4-4   *Show Camera Target*
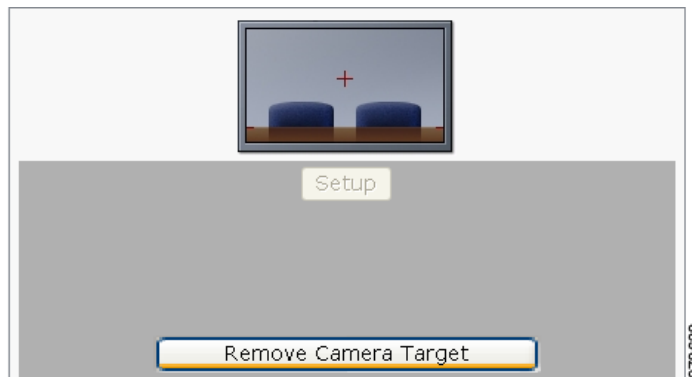
Step 6   Prepare the large camera target and place it on the easel.

Step 7   Set the easel and large target in the position that the user will occupy. Use the distance measured from the camera to the head of the user to position the target. If the distance is unknown, use 1.5 meters (5 feet).

Note   The user must be at least 4 feet (1.2 meters) away from the display for all CTS 500 installations.

Figure 4-5 shows a pedestal stand-mounted CTS 500. Use the same method for all types of CTS 500 installations.

Figure 4-5   ***Camera Target Placement***
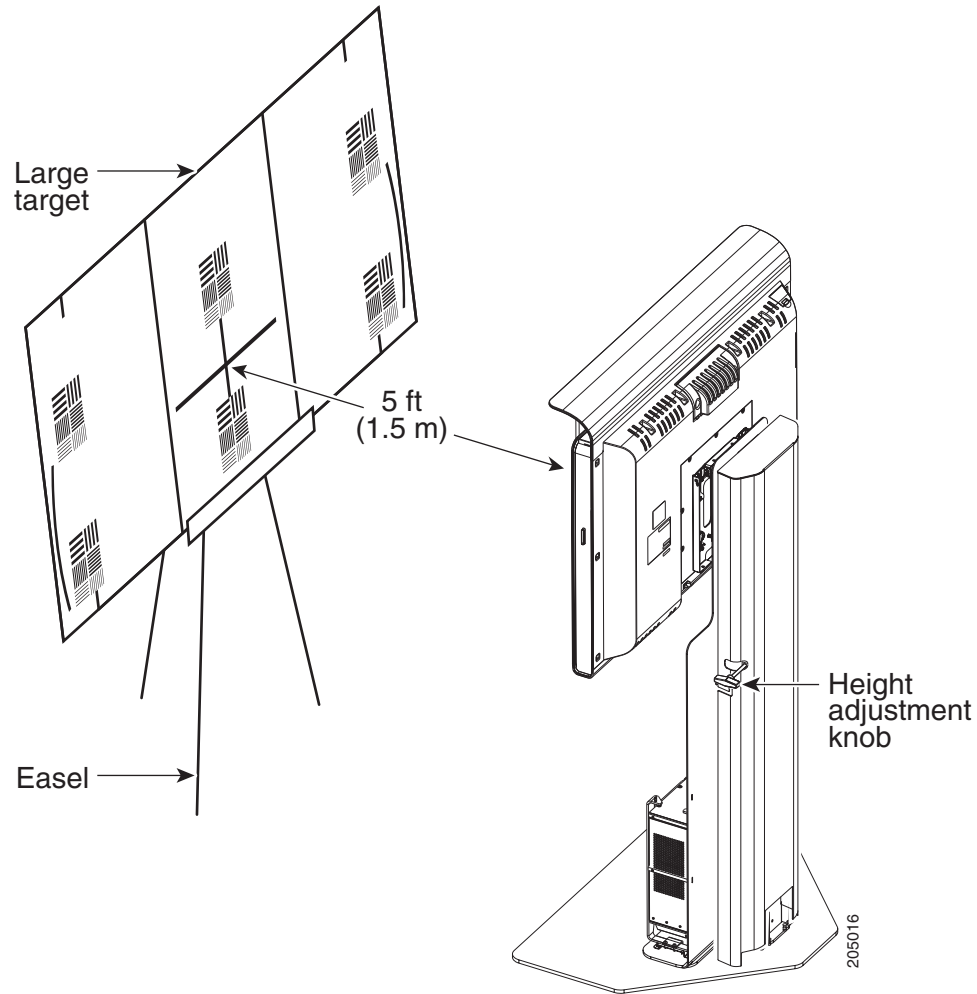
Step 8   Raise or lower the CTS 500 so that the green rectangle that displays on the screen is at the approximate eye level of the CTS 500 user.

Note   If you have a wall-mounted CTS 500, skip this step.

Use the following guidelines when raising and lowering the stand (see Figure 4-6 and Figure 4-7):

- Do not grasp the light reflector, or any part of the CTS 500 but the monitor.
- Use two hands.
- Do not lift using only one side.
- Apply equal pressure from each side.

Figure 4-6   *Height Adjustment Guidelines—Pedestal Stand-Mounted CTS-500*
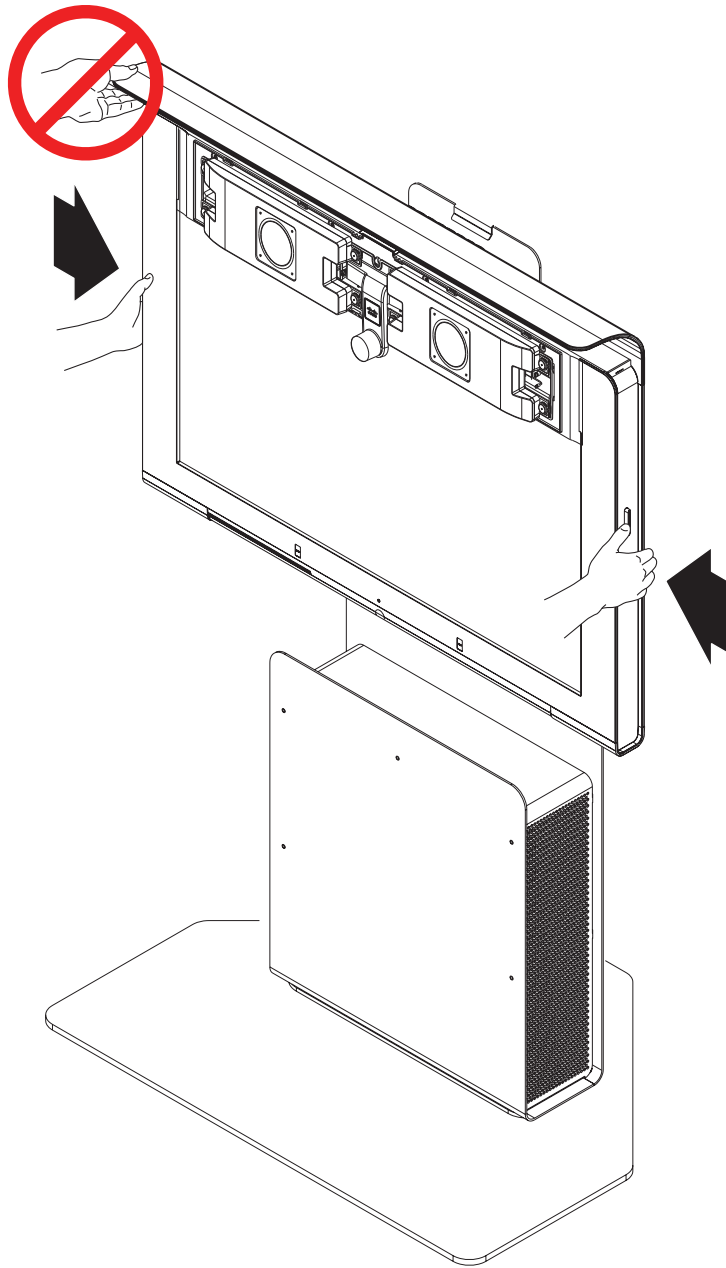
Figure 4-7   *Height Adjustment Guidelines—Table Stand-Mounted CTS 500*

205651
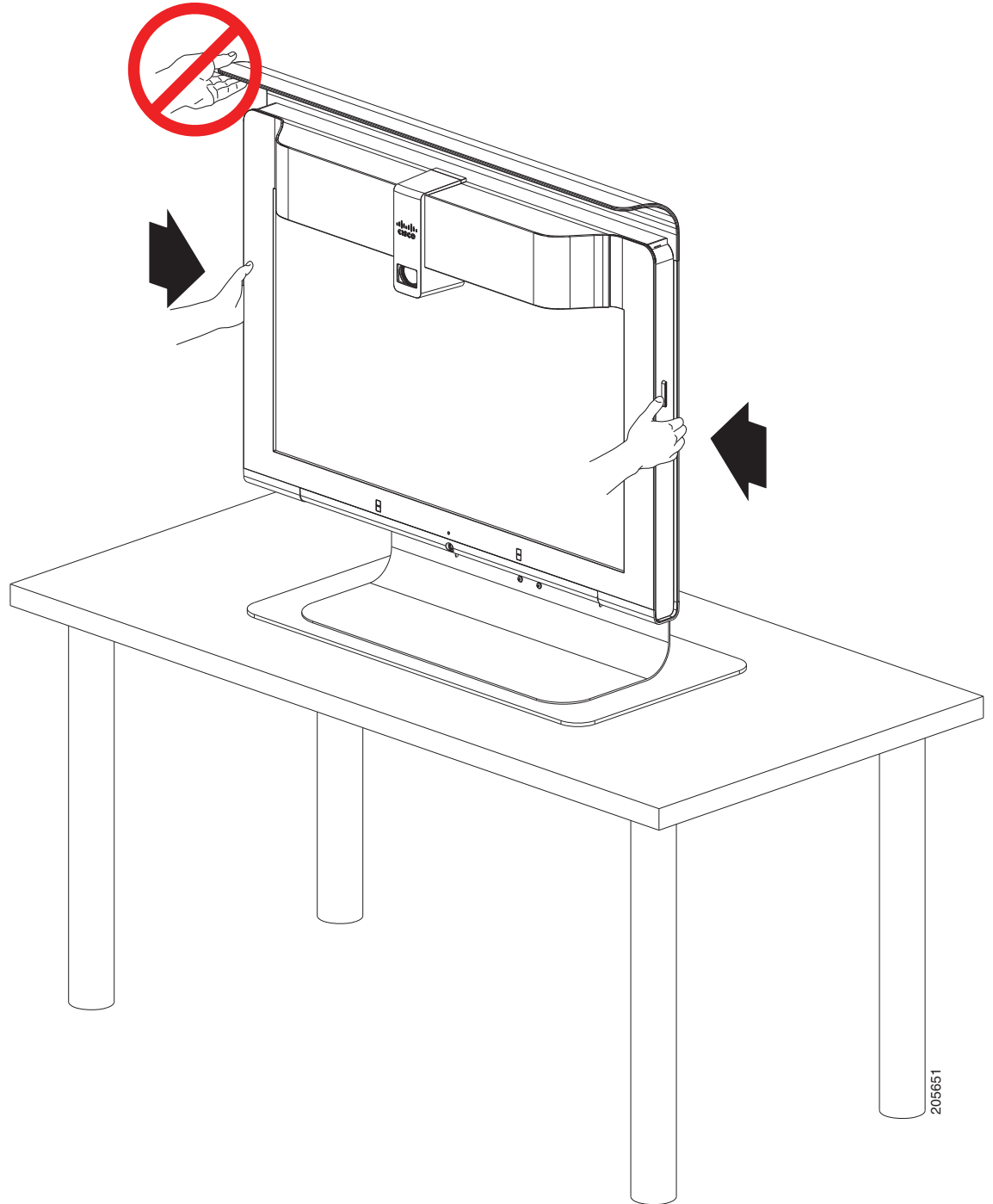
> ![Note icon]
>
> **Note**   If the user is available, use them to position the CTS 500. If the user is not available, or if the CTS 500 will be used by multiple people, use an average eye level height.

Tip   If you have a pedestal stand-mounted CTS 500 and applied the height sticker, you can use it to choose an approximate height. For more information about the height sticker, see the "Assembling a Pedestal Stand-Mounted CTS 500" chapter in the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replaceable Unit Guide*.

Step 9   Position the easel so the black plus sign (**+**) of the target is in the same position as the red plus sign (**+**) on the display.

Step 10   Adjust the camera so that the red **+** is centered on the white target and the hash marks at each side are aligned to the top of the table.

Tip   You can raise and lower the large target by adjusting the legs of the easel or move the target slightly from side to side. However, do not move the easel from the position that the user will occupy. If possible, move the camera to accommodate the position of the easel.

Figure 4-8 shows a camera correctly adjusted.

Figure 4-8   *Camera Adjustment*
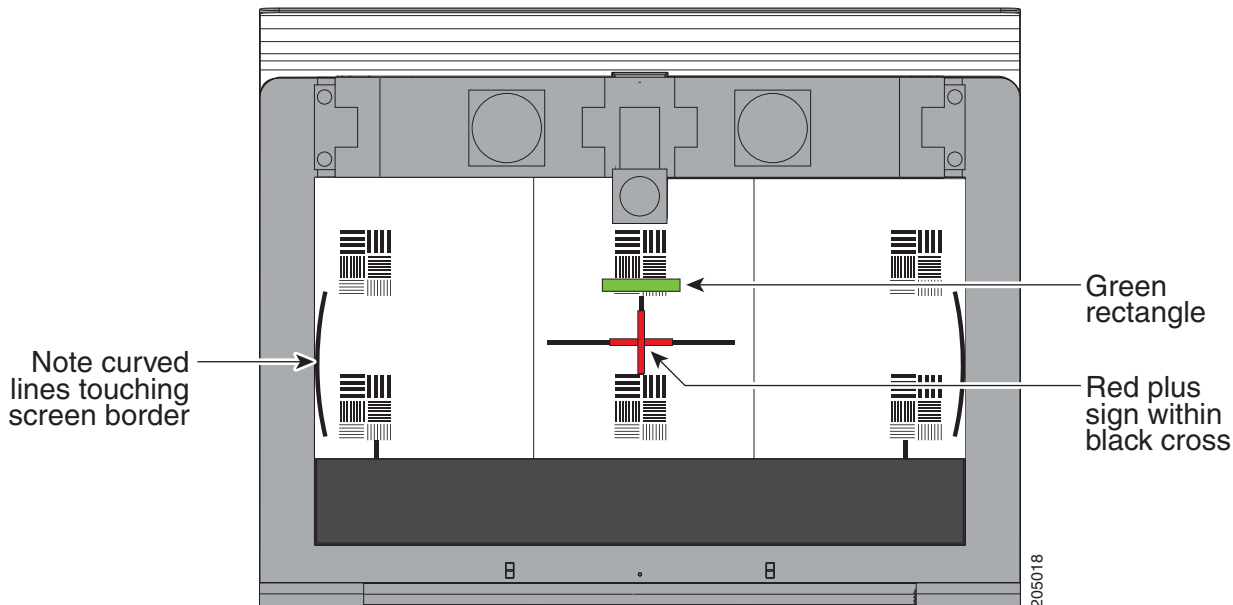
Step 11   Loosen the thumbscrew on the camera and twist the zoom ring on the lens until the curved lines on the left and right are just touching the left and right borders of the screen. Make sure the black plus sign (**+**) is still in the same position as the red plus sign (**+**). Tighten the thumbscrew when the adjustment is complete.

See Figure 4-8 for an example of correct zoom adjustment.

Step 12   Click **Remove Camera Target** to stop the test.

Auto Adjusting the Camera

To tune the camera for brightness, color balance, and distance complete the steps in the following sections:

- Fixed Artificial Lighting, page 4-13
- Outside Lighting, page 4-13
- Understanding Camera Setup Choices for Room Lighting, page 4-14

✎
Note   For more information about room lighting, see the "Testing the CTS 500 Camera" section on page 4-7.

Fixed Artificial Lighting

If the room uses fixed artificial lighting:

Step 1   Click the **Disable** radio button for the following:

- Camera Auto Brightness
- Camera Auto Color Balance

Step 2   Click **Setup**. A selection of options appear.

Step 3   Click **Auto Adjust** to automatically adjust the lighting and color balance.

✎
Note   Make sure that the large target is still in place and that nothing is between the large target and the camera.

The camera calibrates and saves the settings. This process takes approximately 20 seconds.

✎
Note   If the test fails, you may need to add more light to the room.

Step 4   Click **Show Focus Target**. Red and green targets appear on the test screen.

✎
Note   To remove the targets, click **Hide Focus Target**.

Step 5   With both white targets set up, adjust the camera focus so that the long red and green line are the same length.

Step 6   Click **Done** when you are finished making adjustments.

Step 7   If you require further adjustments to the room brightness, click the **Enable** radio button for the Camera Auto Brightness and Camera Auto Color Balance choices, then select a choice from the Luminance drop-down list until the brightness and contrast are at acceptable levels.

Outside Lighting

If the room uses outside lighting, or has any other conditions that could cause variable room lighting:

Step 1   Click the **Enable** radio button for the following:

- Camera Auto Brightness
- Camera Auto Color Balance

✎

Note   Auto Color Balance can produce undesirable results if the colors of the walls in your room are not white or gray.

Step 2   To make additional adjustments to the camera brightness and contrast levels, select a choice from the **Luminance** drop-down list.

Step 3   In the **50 Hz Flicker Reduction** field, click the **Disable** radio button.

✎

Note   If you are in country that uses a 50 Hertz (Hz) power frequency (a country other than the USA, Canada or Mexico) and there is a noticeable flicker on the screen, click the **Enable** radio button in this field. If you enable the flicker reduction feature, the flicker is reduced or eliminated, but the image quality is reduced. To eliminate the flicker at its source, you can use an electronic ballast instead of a magnet ballast for the fluorescent lights at your installation. After you change the ballast for the fluorescent lights, you can click the **Disable** radio button in the **50 Hz Flicker Reduction** field.

Understanding Camera Setup Choices for Room Lighting

If your room has windows that contribute a significant amount of natural light, you can set your CTS to automatically compensate for variable lighting conditions. This compensation is an average adjustment and will not be as accurate as the color settings you select for a room that uses fixed, artificial room lighting.

Table 4-2 contains recommendations for desirable display and camera settings when you set up the display and camera. See the "Testing the CTS 500 Camera" section on page 4-7 for more information.

Table 4-2   Room Configuration and Camera Setup Choices

Physical Room Configuration	Camera Auto Brightness and Camera Auto Color Balance Setup Choices
No windows	Disable
• One window • Two adjacent windows (corner office configuration) • Two opposing windows • Windows on three sides • Windows on four sides	Enable

Focusing the Camera

The CTS 500 camera has vertical height, zoom, and focus adjustments. Adjust the camera using the following guidelines:

- Using the camera test images that display on the screen, adjust the camera vertical height to set the eye level of the user at 70 percent of the total vertical height of the screen.

- Using the large and small (far and near) targets that you set up in Setting up the Camera Targets, adjust the camera focus.

To focus the camera:

Step 1   Adjust the Focus Distance using these guidelines:

- If the user is 1.2 meters to 1.5 meters (4 to 5 feet) away from the display, click **4 feet**.

- If the user is farther than 1.5 meters (5 feet) away, click **6 feet**.

Step 2   Click **Apply**.

Step 3   Click **Show Focus Targets**.

Step 4   Reposition the targets by completing the following steps:

- **a.** Lean the large target against a chair or other surface so that it is taller than it is wide.

- **b.** Move the large target 6 to 8 feet (1.8288 to 2.4384 meters) from the camera so that the red box encloses some of the patterns on the large target when you view the display, as shown in Figure 4-9.

- **c.** Use the easel to support the small target, as shown in Figure 4-9.

- **d.** Place the small target approximately 0.9 meters (3 feet) in front of the camera so that the green box encloses some of the patterns on the small target when you view the display, as shown in Figure 4-10.

Note   Make that there are no objects between the targets and the camera.

Figure 4-9   *Setting Up Focus Targets*
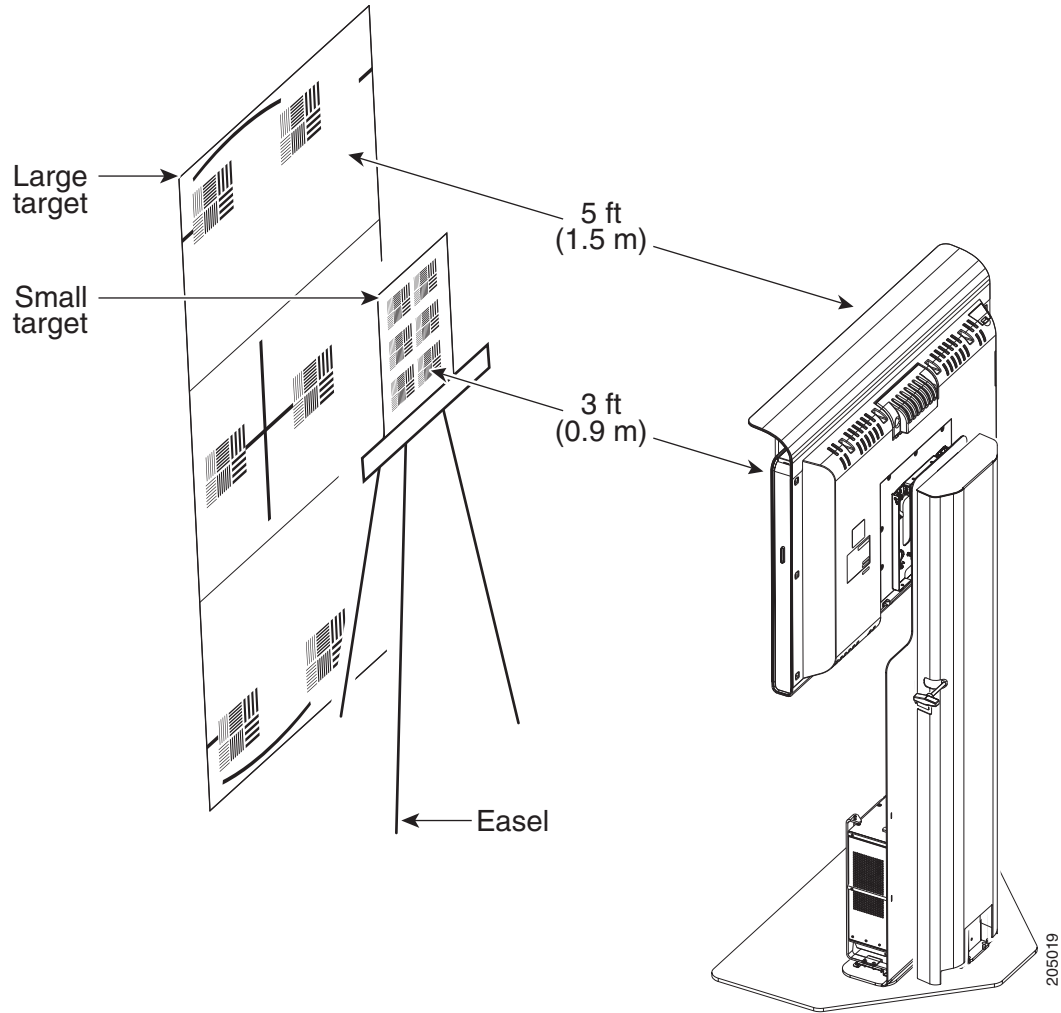
Figure 4-10   ***Setting Up Focus Targets and Aligning Horizontal Bars***

Step 5   Loosen the thumbscrew on the lens focus ring.

Step 6   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

Step 7   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

Step 8   Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 4-10 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

Note   The red and green bars do not have to be exactly the same length. Get them as close as you can.

Step 9   Without moving the focus ring, tighten its thumbscrew.

Step 10   Click **Done**.

Step 11   Click **Stop** to stop the test.

Saving Your Settings

When you have configured all your settings:

Step 1   Click **Apply** to register new or modified settings.

Step 2   Click **Reset** to restore the original settings.

For more information about testing and troubleshooting the CTS 500 camera, see the Setting Up the Cameras section in the First-Time Setup chapter of the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replaceable Unit Guide*.

Reattaching the Camera Haze and Replacing the Hood

Step 1   Attach the camera haze cover to the front of the camera lens. The haze cover is the cover with the square edges that goes over the lens as shown in Figure 4-11.

Step 2   Snap the camera hood back into place.

Figure 4-11   *Attaching Camera Haze Cover Camera Lens*
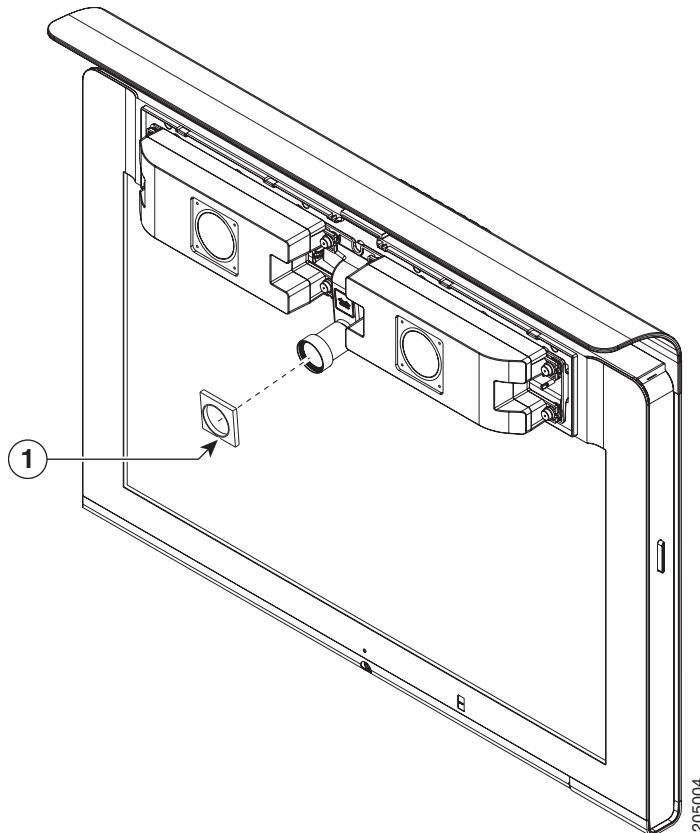
Troubleshooting Cameras

Use the information in Table 4-3 to troubleshoot cameras.

Table 4-3   Troubleshooting Cameras

Problem	Possible Cause	Action
Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.
Image colors are incorrect.	• Video cable is only partially connected. • Color settings are not correct.	• Tug on the plug to see if it is fully plugged in. • See the Routing Power and Signal Cables section in the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide.*
No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 4-20
- Troubleshooting Speakers, page 4-21
- Related Information, page 4-21

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test. The speaker test screen appears, as shown in Figure 4-12

Figure 4-12   Speaker Test Screen
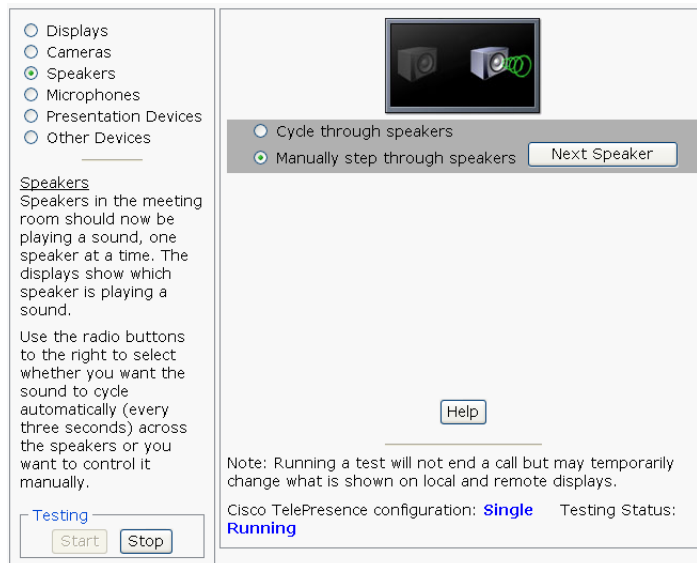
Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker. The **Next Speaker** button is activated.

Step 7   Click **Next Speaker** to progress to the next speaker.

Step 8   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 4-4 to troubleshoot speakers.

Table 4-4   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test.

Note   The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

- CTS 500—1 microphone with a single audio meter displayed on a single test screen.

Testing Microphones

Go to the following sections to test microphones:

Testing Microphones on the CTS 500

To test microphones on the CTS 500:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Microphones** radio button.

Step 4   Click **Start** in the Testing box to begin the test.

Step 5   Lightly tap each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 6   Click **Stop** to end the test.

Troubleshooting Microphones

Use the information in Table 4-5 to troubleshoot microphones.

Table 4-5   Troubleshooting Microphones

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	• Move objects away from the microphone. • Confirm the laptop is not open and in-between the user and the microphone
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays. 	• Microphone is not connected. • One of the microphones is unplugged.	Check that the microphone is properly plugged in.

Table 4-5   Troubleshooting Microphones (continued)

Problem	Possible Cause	Possible Solution
Sound is hollow and echoes.	Room is not acoustically treated or has many hard surfaces.	• Adjust the position of the CTS 500. • Add acoustic treatment to the walls and windows in the room
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing displays, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Presentation Devices

The output for presentations is handled by alternate displays, projectors, alternate devices, or LCDs. Input one of these devices can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer) or through a document camera.

Note   You should run this test only if you have presentation display devices installed.

Table 4-6 contains supported presentation devices listed by system.

Table 4-6   Supported Presentation Devices

Presentation Device		
	Included in Cisco TelePresence System	**Optional in Cisco TelePresence System**
Alternate Display	—	• CTS 500
Document Camera	—	• CTS 500

This section contains the following information:

• Checking External Presentation Devices, page 4-25

Checking External Presentation Devices

The alternate display is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

Tip   When troubleshooting presentation devices, start with the alternate display test pattern to see if it is set up correctly and then proceed through VGA and document camera input tests as necessary.

By default, presentations are displayed as presentation-in-picture (PiP) on the main display screen. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP. This external display is attached to the External Presentation Display HD video connection on the codec. See the *Cisco TelePresence System 500 Assembly, Use & Care, and Field-Replaceable Unit Guide* for more information.

Note   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 500 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

Procedure

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click **Presentation Devices**. The presentation devices test screen appears, as shown in Figure 4-13.

Figure 4-13   Presentation Devices Test Screen
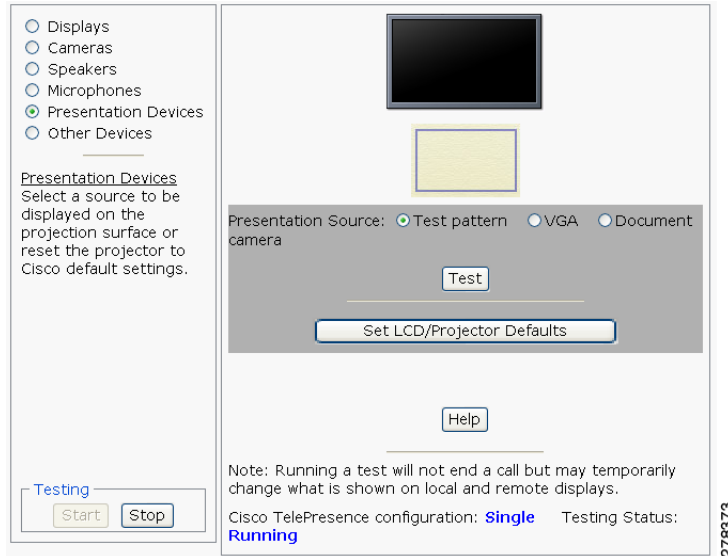
Proceed to the following sections to test presentation devices:

- Checking the Test Pattern, page 4-26
- Checking the VGA, page 4-27
- Checking the Document Camera, page 4-28.

Checking the Test Pattern

To check the test pattern:

Step 1   Choose **Troubleshooting** > **Hardware Setup**.

Step 2   Click **Start** to begin the test. In Presentation Source window, the **Test Pattern** radio button is selected by default.

Step 3   Click **Test**. The test pattern displays, as shown in Figure 4-14.

Figure 4-14   Presentation Devices Test Pattern
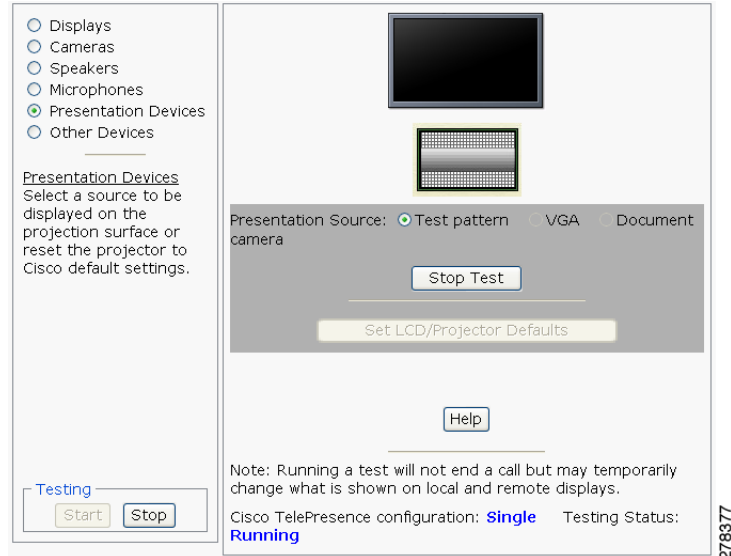
It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

   a. Click **Set LCD/Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

       For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

   b. **Picture adj**: **Overscan** should be set to **0**

   c. **Screen**: **Normal**

Step 4   Click **Stop Test** to end the test pattern testing.

Step 5   Click **Set Projector Defaults** to reset the projector to the default settings, if necessary.

Step 6   Click **Stop** in the Testing box to end all testing.

Step 7   Proceed to Checking the VGA.

Checking the VGA

To check the VGA:

Step 1   Choose **Troubleshooting** > **Hardware Setup**.

Step 2   Click the **Presentation Devices** radio button.

Step 3   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 4   Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 5   Click **Stop Test** to end the test.

Step 6   Click **Set Projector Defaults** to reset the projector to the default settings, if necessary.

Step 7   Click **Stop** in the Testing box to end all testing.

Checking the Document Camera

To test input from the document camera:

Step 1   Choose **Troubleshooting > Hardware Setup**.

Step 2   Click the **Presentation Devices** radio button.

Step 3   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 4   Select **Document Camera** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 5   Click **Stop Test** to end the test.

Step 6   Click **Set Projector Defaults** to reset the projector to the default settings, if necessary.

Step 7   Click **Stop** in the Testing box to end all testing.

Resetting the Projector

To reset the projector:

Step 1   Choose **Troubleshooting** > **Hardware Setup**.

Step 2   Click the **Presentation Devices** radio button.

Step 3   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 4   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 5   Click **Stop** in the Testing box to complete the task.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

- Multiple Input Devices, page 4-29
- Presentation Devices, page 4-29

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the alternate display shows the input from the last presentation device that sent information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in.
- Document cameras—Turn the camera off, wait 5 seconds, and restart the device.

Presentation Devices

Use the information in Table 4-6 to troubleshoot presentation devices.

Table 4-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector or alternate display power switch is off.	• Check projector or alternate display power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector, alternate display, or to the CTS primary unit.	• Check that the video cable is plugged into the projector or alternate display and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.

Table 4-7   ***Troubleshooting Presentation Devices***

Problem	Possible Cause	Possible Solution
	Projector or alternate display is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector or alternate display.	Remove any objects blocking the projector or alternate display lens.
	HD Video connector is not securely seated in the projector or alternate display.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.

	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the Cisco TelePresence System Assembly, Use & Care, and Field Replacement Unit Guide for your system on Cisco.com:
		
		• **Product Support > TelePresence > TelePresence Immersive Endpoints**
		
		  – Cisco TelePresence System 3200 Series
		
		  – Cisco TelePresence System 3000 Series
		
		  – Cisco TelePresence System 1300 Series
		
		  – Cisco TelePresence System T Series
		
		• **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
		
		  – Cisco TelePresence System 1100
		
		  – Cisco TelePresence System 1000
		
		  – Cisco TelePresence System 500 Series

Caution pop-up: No VGA (DVI) input received.	• VGA cable is not plugged into your laptop. • XGA output settings are not optimized.	Verify the following: **1.** The VGA connector in the meeting room is plugged into your computer. **2.** You have enabled VGA (XGA 1024 x 768) output on your computer. Click **OK** to close the window.
Caution pop-up: No input received from document camera.	Cables are not connected properly.	Check that all cables are connected and all connectors are plugged in completely. Click **OK** to close the window.

Table 4-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
	Projector or alternate display is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector or alternate display.	Remove any objects blocking the projector or alternate display lens.
	HD Video connector is not securely seated in the projector or alternate display.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.

	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the Cisco TelePresence System Assembly, Use & Care, and Field Replacement Unit Guide for your system on Cisco.com:
		• **Product Support > TelePresence > TelePresence Immersive Endpoints**
		  – Cisco TelePresence System 3200 Series
		  – Cisco TelePresence System 3000 Series
		  – Cisco TelePresence System 1300 Series
		  – Cisco TelePresence System T Series
		• **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
		  – Cisco TelePresence System 1100
		  – Cisco TelePresence System 1000
		  – Cisco TelePresence System 500 Series

Caution pop-up: No VGA (DVI) input received.	• VGA cable is not plugged into your laptop. • XGA output settings are not optimized.	Verify the following: 1. The VGA connector in the meeting room is plugged into your computer. 2. You have enabled VGA (XGA 1024 x 768) output on your computer. Click **OK** to close the window.
Caution pop-up: No input received from document camera.	Cables are not connected properly.	Check that all cables are connected and all connectors are plugged in completely. Click **OK** to close the window.

Table 4-7   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
	Projector or alternate display is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector or alternate display.	Remove any objects blocking the projector or alternate display lens.
	HD Video connector is not securely seated in the projector or alternate display.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.

	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the Cisco TelePresence System Assembly, Use & Care, and Field Replacement Unit Guide for your system on Cisco.com:
		
		 • **Product Support > TelePresence > TelePresence Immersive Endpoints**
		   – Cisco TelePresence System 3200 Series
		   – Cisco TelePresence System 3000 Series
		   – Cisco TelePresence System 1300 Series
		   – Cisco TelePresence System T Series
		 • **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
		   – Cisco TelePresence System 1100
		   – Cisco TelePresence System 1000
		   – Cisco TelePresence System 500 Series

Caution pop-up: No VGA (DVI) input received.	• VGA cable is not plugged into your laptop. • XGA output settings are not optimized.	Verify the following: 1. The VGA connector in the meeting room is plugged into your computer. 2. You have enabled VGA (XGA 1024 x 768) output on your computer. Click **OK** to close the window.
Caution pop-up: No input received from document camera.	Cables are not connected properly.	Check that all cables are connected and all connectors are plugged in completely. Click **OK** to close the window.

Table 4-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing presentation devices, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

- Auxiliary Control Unit, page 4-34
- Auxiliary LCD Displays, page 4-35
- Shroud Light, page 4-35
- Digital Media Player, page 4-36
- Troubleshooting Other Devices, page 4-38
- Related Information, page 4-39

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms, which allows the CTS to receive projector or alternate display status information and restore projector or alternate display defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed by default. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5, as shown in Figure 4-15.

Figure 4-15   CTS 500 ACU Testing
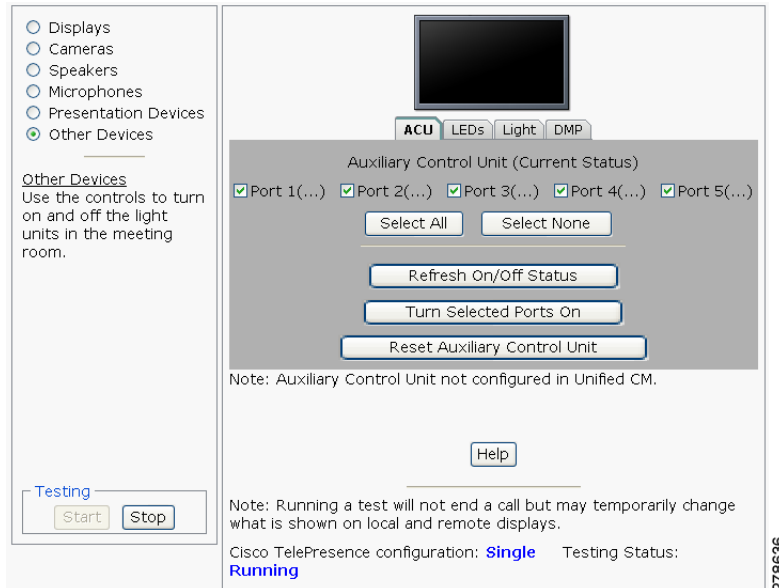
Step 5   Check a box to select a specific port number.

Or

Step 6   Click **Select All** to select all ports (and all light units) or **Select None**.

Step 7   Click the **Refresh On/Off Status** button to update the on/off status of each port.

Step 8   Click the **Turn Selected Ports On** button.

Step 9   Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 10   Click **Stop** to end the test.

Auxiliary LCD Displays

Each CTS 500 has five LEDs located around the outside edges of the screen. If the user can see these LEDs, the user is not sitting directly in front of the camera. This troubleshooting feature lets you view and change the current state of the LEDs.

To test the LEDs:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Select the **LEDs** tab.

Step 5   Click **Start** in the Testing box. The LED status is displayed, as shown in Figure 4-16.

Figure 4-16   *CTS 500 LED Status*
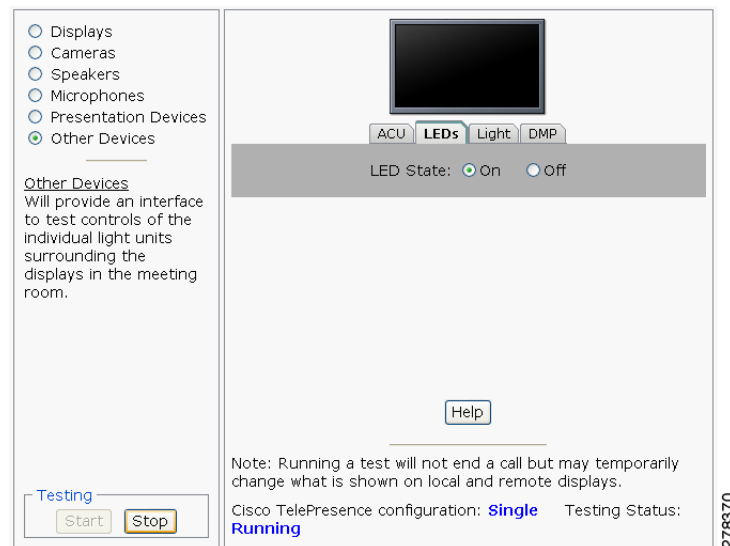
- If the LED feature is enabled, the **LED State On** button is highlighted.
- If the LED feature is disabled, the **LED State Off** button is highlighted.

Step 6   Click the **LED State On** or **Off** button to change the current state of the LEDs.

Step 7   Click **Stop** to end the test.

Shroud Light

Each CTS 500 has a separate shroud light. This troubleshooting feature lets you view or change the status of the shroud light.

To test the shroud light:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Select the **Light** tab.

Step 5   Click **Start** in the Testing box. The CTS 500 light status is displayed, as shown in Figure 4-17.

Figure 4-17   *CTS 500 Light Status*
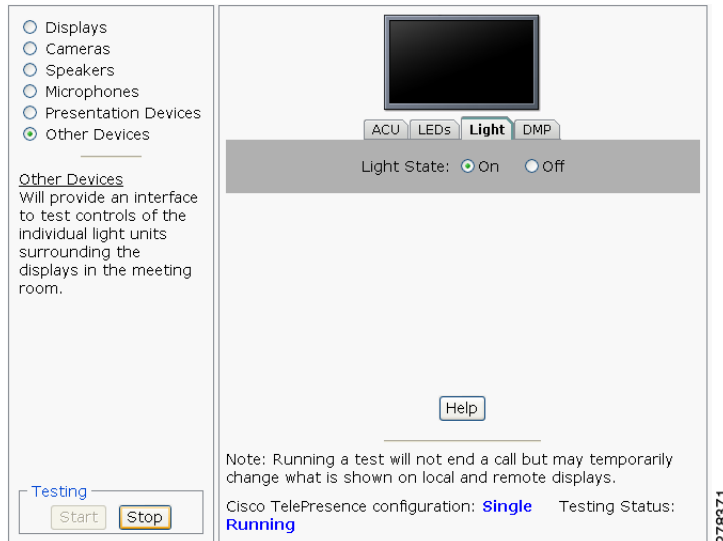
- If the shroud light feature is enabled, the Light State On button will be highlighted.
- If the shroud light feature is disabled, the Light State Off button will be highlighted.

Step 6   Click the **Light State On** or **Light State Off** button to change the current state of the shroud light.

Step 7   Click **Stop** to end the test. The state of the light reverts to its default setting as it was configured in the Unified CM.

Digital Media Player

The Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Select the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input. The DMP status is displayed, as shown in Figure 4-18.

Figure 4-18   CTS 500 DMP Status

- If you have a PC attached, the **Secondary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 4-8 to troubleshoot Other Devices.

Table 4-8   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player DMP audio is playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: • If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. • If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.
Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.
CTS 500 shroud light does not function properly.	The Auxiliary Control Unit option is not checked in the Optional Hardware Devices box of the Cisco Unified Communications Manager configuration interface.	The Auxiliary Control Unit check-box must be selected for the lights to function. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Tip   Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing other devices, see the *Cisco TelePresence System 500 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

-
-
-

Sysop Log

To manage System Operation (Sysop) Log messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view system operation messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3   Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

a.   Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

Or

b.   Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem Type**—Drop-down menu contains the following:
  - Audio (speakers, microphones)
  - Video (displays, cameras)
  - Projector (or alternate display), LCD, document camera
  - Phone
  - Recording
  - Other/Unknown

Figure 4-19 shows the problem types that you can select when downloading log files.

Figure 4-19   Select Problem Type Drop-Down Menu
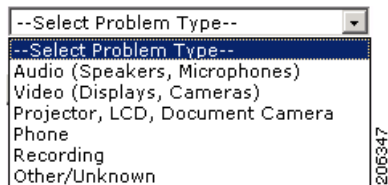
Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 4-20 shows the log download radio button options.
- **Download existing log files**—You must select this radio button to download logs.
- **Capture New Log Files—**The system will capture but not download the log files.

✎

Note   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 4-20   *Downloading Log Files*

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

   – Audio (speakers, microphones)

   – Video (displays, cameras)

   – Projector, alternate display, LCD, document camera

   – Phone

   – Recording

   – Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 4-9 and Table 4-10 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

    a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

    Or

    b.   Select the message type from the drop-down menu. The Filter button is activated.

    c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1   Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

    Or

Step 2   Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1   Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2   Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 4-42
- SIP Response Categories, page 4-43

SIP Requests and Methods

Table 4-9 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 4-9   Supported SIP Requests and Methods

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 4-9.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 4-9 using the response categories described in Table 4-10.

Table 4-10   SIP Response Categories

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3 If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4 Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5 Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

Note Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1 Choose **Troubleshooting > Audio**.

Step 2 Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

Note Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3 Click **Stop Audio Recording** to stop recording.

Step 4 After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or Off radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 4-21.

Figure 4-21   ***Auto Negotiate On***

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Step 3   Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

Caution Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1 Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2 Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

Note If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

⚠

Caution   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting** > **System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 4-11 to troubleshoot the video picture on the displays.

Table 4-11   Troubleshooting Cisco TelePresence Screen Resolution

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

Note   See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- An Ethernet cable (RJ-45) connects the primary codec to the user network.

For detailed cabling information, see the Routing Power and Signal Cables section in the Cisco TelePresence System Assembly, Use & Care, and Field Replacement Unit Guide for your system on Cisco.com:

- **Product Support > TelePresence > TelePresence Immersive Endpoints**
  - Cisco TelePresence System 3200 Series
  - Cisco TelePresence System 3000 Series
  - Cisco TelePresence System 1300 Series
  - Cisco TelePresence System T Series
- **Products > TelePresence > TelePresence Personal Endpoints > TelePresence Office**
  - Cisco TelePresence System 1100
  - Cisco TelePresence System 1000
  - Cisco TelePresence System 500 Series

Table 4-12 contains problem scenarios and troubleshooting solutions for network cabling.

Table 4-12   *Troubleshooting Cisco TelePresence Network Cabling*

Problem	Possible Cause	Actions
Cisco Unified IP Phone is off.	- Power to the primary unit is off. - Phone is not connected to the phone port on the primary unit. - The system does not recognize the phone or it is unregistered. - The network is down.	- Check the power connection to the Cisco TelePresence System, and verify that the system is turned on. - Check the cable connection from the primary unit to the Cisco Unified IP Phone. See the assembly guide for your Cisco TelePresence system for correct cabling. - Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
Cisco IP Phone does not register with the IP network.	- The network cable is not connected to the primary unit. - The network configuration has not been done or has been done incorrectly.	- Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.

Table 4-12   Troubleshooting Cisco TelePresence Network Cabling (continued)

Problem	Possible Cause	Actions
Cisco IP Phone does not register with the IP network.	• Cisco Unified Communications Manager is down or disabled. • The network is down.	• Check the cable connection from the primary unit to the network. See the assembly guide for your Cisco TelePresence system for correct cabling. • Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions. • Restart the network.
Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface. • Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Note   For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

CTS 500 32″ Troubleshooting
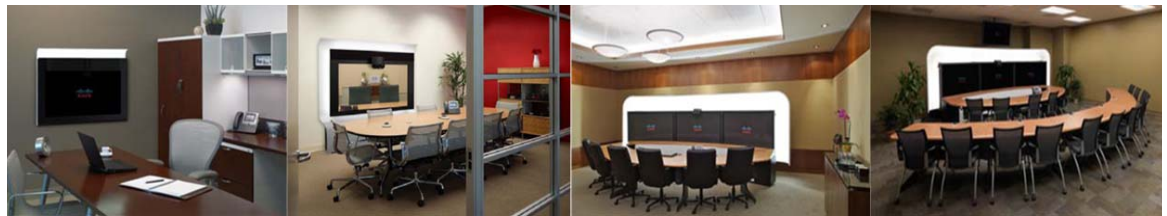
Because the CTS 500 32" uses a first-time setup wizard, configuring and troubleshooting tasks are somewhat different than other CTS models. Refer to Troubleshooting the CTS 500-32 and CTS 500-37 in this guide and to the following support documentation on Cisco.com:

- *Cisco TelePresence System 500 32" Assembly, Use & Care, and Field-Replaceable Unit Guide*

Where to Go Next

See the Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

Troubleshooting the CTS 500-32 and CTS 500-37

Revised: November 2011, OL-21845-01

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting CTS 500-32 or CTS 500-37 hardware and software.

Before You Begin

1. Obtain your IP address in one of the following ways:

    – From the CTS Cisco Unified IP phone touch the following softkeys:

      Manual > more > Info

Tip   If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

    – From the Cisco TelePresence Touch 12 tap the following:

      More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

Note   You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

- Adjusting the Camera, page 5-2
- Testing the Display, page 5-2
- Verifying Speaker Function, page 5-3
- Verifying Microphone Function, page 5-4
- Testing the Light Fixture, page 5-5
- Testing Digital Media Player Audio, page 5-5
- Troubleshooting the CTS 500-32 and CTS 500-37, page 5-6
- Where to Go Next, page 5-7

Note   The display used in this product contains mercury. Dispose of according to local, state, and federal laws.

Adjusting the Camera

Refer to the following documents for complete camera management information:

- *Cisco TelePresence System 500-32 Assembly, Use & Care, and Field-Replaceable Unit Guide*
- *Cisco TelePresence System 500-37 Assembly, Use & Care, and Field-Replaceable Unit Guide*

Testing the Display

Different light sources and the amount of light in terms of lumens or watts produces different color temperatures. These color temperatures are sometimes expressed using terms such as cool, warm, or daylight, but can be expressed more precisely in kelvins (K) as a numeric value.

Note   Cisco recommends that you use lighting with a color temperature of 4000 to 4100 K.

Tip   In many cases, the color temperature is printed on the light bulb.

Note   If you are unable to determine the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike. Each time you change the setting and click **Apply**, the color temperature in the display changes. You cannot see these changes until you enter loopback mode for the camera. See "Verifying Speaker Function" section on page 5-3 to enter loopback mode.

To adjust a display:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 5-1.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 5-1 **Color Temperature Test Screen**
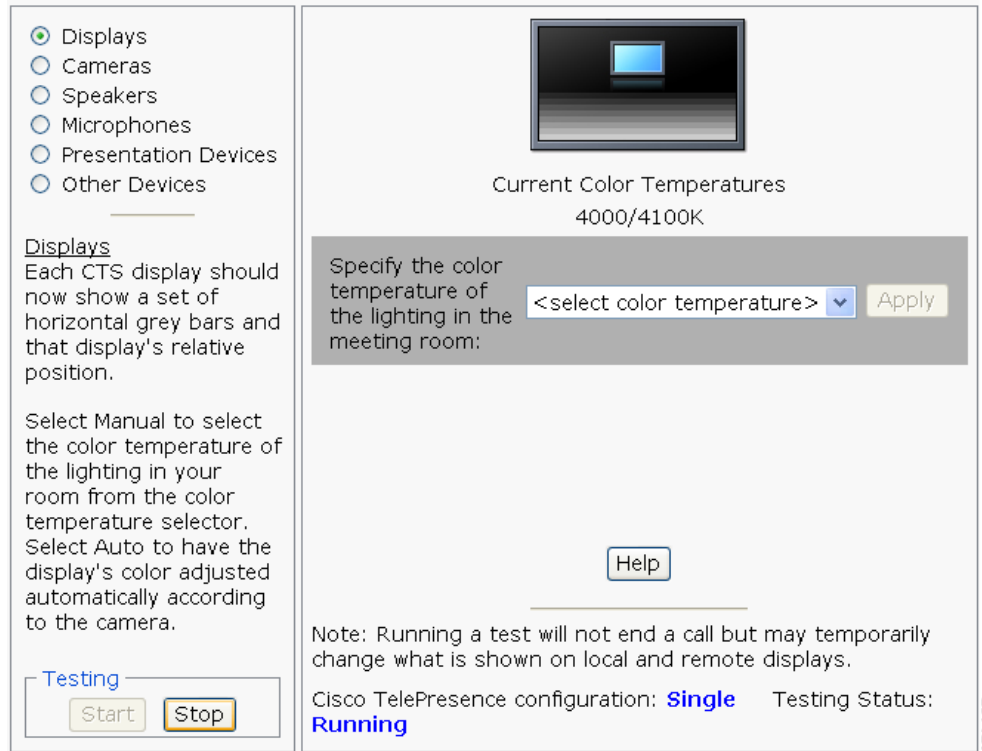
Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Verifying Speaker Function

To verify that the speakers are working properly and that the left and right speakers are not switched:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Speakers**.

Step 3   Click **Start** to begin the speaker test. The speaker test screen appears, as shown in Figure 5-2

Figure 5-2   **Speaker Test Screen**
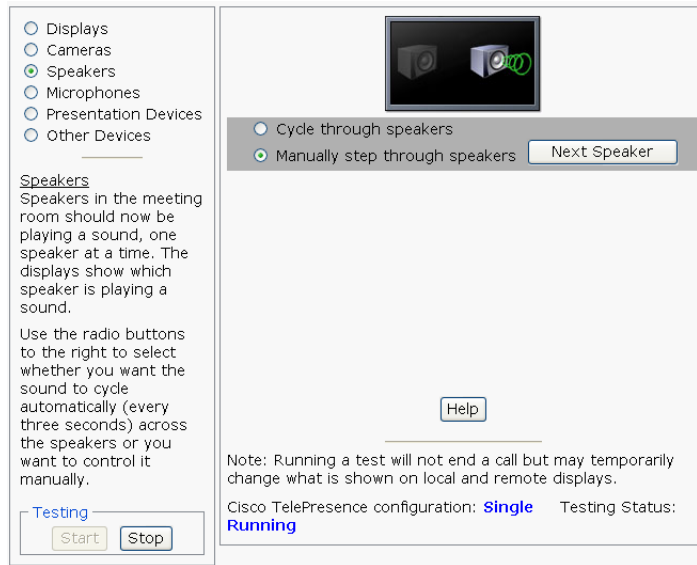
Step 4   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 5   Listen carefully as the sound moves from the left to the right speaker and watch the speaker icons on the display.

Step 6   Make sure the sound from the speakers corresponds with the left and right speaker icons on the display.

Note   You might have to move close to the display to determine the source of the sound.

Step 7   Click **Stop** to end testing.

Verifying Microphone Function

Tip   During a call, the CTS 500-32 or CTS 500-37 microphone can transmit ambient noise in the surrounding area, such as other people talking in or near the same area. Make every effort to reduce or eliminate background noise before you begin the test call.

To verify that the CTS 500-32 or CTS 500-37 microphone array is working properly:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Microphones**.

Step 3   Click **Start** to begin the test.

Step 4   Lightly tap the microphone on the underside of the display and watch the audio meter on the display to make sure that the sound registers.

Step 5   Click **Stop** to end the test.

Testing the Light Fixture

Use the following information to check the LEDs, light fixture, and configure the audio for the digital media player (DMP).

Light

Each CTS 500-32 or CTS 500-37 has a built-in light fixture. This troubleshooting feature lets you see or change the status of the light.

Step 1   Navigate to **Troubleshooting > Hardware Setup > Other Devices**.

Step 2   Click the **Light** tab.

Step 3   Click the **Start** radio button to begin testing the light. If the light feature is enabled, the **Light State On** button is highlighted. If the light feature is disabled, the **Light State Off** button is highlighted. Click the **Light State On or Light State Off** button to change the current state of the light.

Step 4   To end the test, click **Stop**.

When you end the testing, the state of the light reverts to its default setting as specified in Cisco Unified Communications Manager.

Testing Digital Media Player Audio

When you are not in a Cisco TelePresence call, the DMP feature allows you to use the DMP audio as the secondary audio input source.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To configure and test the DMP audio:

Step 1   Connect the DMP to the codec and display as follows:

- Connect the DMP HD video cable to the HD Video input marked as "Auxiliary Input (ex. DMP)" on the codec.

- Connect the DMP audio cable to the Auxiliary PC Audio input on the codec.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Other Devices**.

Step 3   Click the **DMP** tab.

Step 4   Click the **Start** button.

Step 5   Select one of the following radio buttons:

- Select the **DMP** radio button if the audio that you connected to the codec is coming from a DMP.

- If you are using a non-DMP source, select the **PC** radio button.

When **Secondary Audio Input Source** is set to **DMP**, audio input is active only when:

- The CTS 500-32 or CTS 500-37 is not in a call
- The time period is during normal business hours

✎

Note Define normal business hours with the Display on Time and Display on Duration fields in Cisco Unified Communications Manager. For information about configuring normal business hours for your CTS 500-32 or CTS 500-37, see the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

When **Secondary Audio Input Source** is set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

Step 6 To end DMP audio configuration or testing, click **Stop**.

The CTS 500-32 or CTS 500-37 retains the setting that you just set.

Troubleshooting the CTS 500-32 and CTS 500-37

Table 5-1   Troubleshooting the CTS 500-32 or CTS 500-37

Problem	Possible Cause	Actions
Phone verification fails during first-time setup.	The DHCP has dynamically allocated a TFTP server address that is different than the actual TFTP address of the Unified Communications Manager server for your system.	To fix this problem, complete the following steps: **1.** Run the first-time setup wizard until you reach the System Verification Complete Screen. **2.** Click the **CTS Admin UI** button to go to the Cisco TelePresence Administration interface. **3.** Enter your username and password. **Tip** By default, the username is **admin** and the password is **cisco**. **4.** Navigate to **Unified CM Settings**. **5.** Click the **Specify** radio button, which allows you to change the TFTP server IP address. **6.** Change the TFTP server to the valid TFTP server address for your system. **7.** Click **Apply**.
When running the First Time Setup Wizard, the Eye Height check box is not checked.	The check box for the Eye Height Setup checklist on the left side of the first-time setup wizard should be checked. In some cases, however, the box does not get checked.	This does not note a problem with the system. No action is required.
Camera setup or troubleshooting fails.	The room may be too dark.	Add more light to the room and click **Try Again** to rerun the camera setup procedure.
Note	For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.	

Where to Go Next

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

See the First-Time Setup chapter of the following documents for complete information about the CTS 500-32 and CTS 500-37:

- *Cisco TelePresence System 500-32 Assembly, Use & Care, and Field-Replaceable Unit Guide*
- *Cisco TelePresence System 500-37 Assembly, Use & Care, and Field-Replaceable Unit Guide*
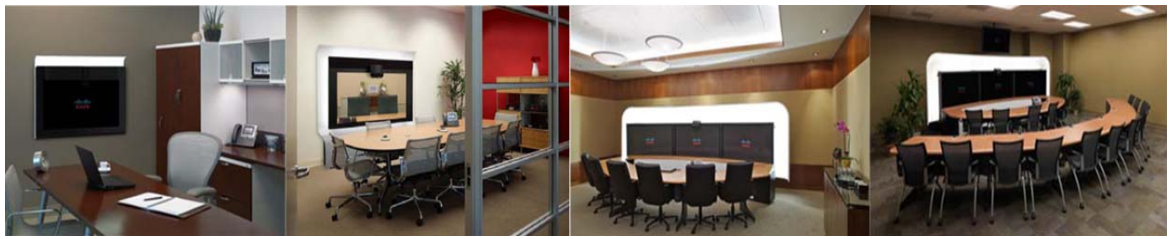
C H A P T E R **6**

Troubleshooting the CTS 1000

Revised: November 2011, OL-21845-01

> ✎ **Note** Cisco announces the end-of-sale and end-of life dates for the Cisco TelePresence System 1000.

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting CTS 1000 hardware and software.

Before You Begin

1. Obtain your IP address in one of the following ways:
   - From the CTS Cisco Unified IP phone touch the following softkeys:

     Manual > more > Info

     > ✎ **Note** If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

   - From the Cisco TelePresence Touch 12 tap the following:

     More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

> ✎ **Note** You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

- Managing CTS 1000 Hardware Setup, page 6-2
- Managing Log Files, page 6-29
- Testing Audio, page 6-34

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6-1

Managing CTS 1000 Hardware Setup

You can test and troubleshoot the following Cisco TelePresence System components:

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note   You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 6-17.

Figure 6-1 shows the Cisco TelePresence System administration tools available to assist you with troubleshooting tasks.

Figure 6-1   Troubleshooting Window
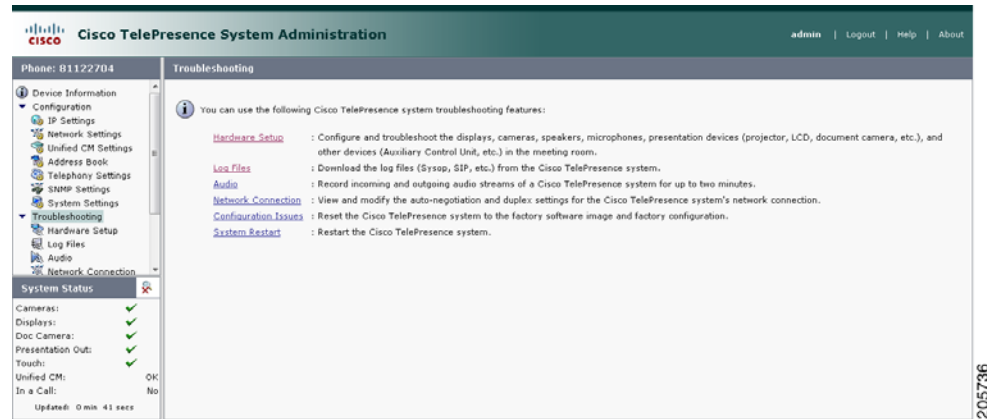
Note   CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note   Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 6-3
- Adjusting Your Display, page 6-5
- Troubleshooting Displays, page 6-6
- Related Information, page 6-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)
- 5000 K
- 6500 K
- 7500 K

Tip   In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip   It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process.The Current Color Temperature test screen appears, as shown in Figure 6-2.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 6-2   Color Temperature Test Screen

Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 6-1 to troubleshoot images on the displays.

Table 6-1   Troubleshooting Displays

Problem	Possible Cause	Action
No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Check that the LED is lit at the bottom front of each display and is either green or amber. Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the *Cisco TelePresence System Assembly, Use & Care, and Field Replacement Unit Guide*.

Related Information

For more information about setting up and testing displays, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

Note   You must use the camera Auto Adjust feature before you can auto focus the camera. See the "Tuning the Camera" section on page 6-12.

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the CTS 1000 Camera, page 6-7
- Understanding Camera Setup Choices for Room Lighting, page 6-16
- Troubleshooting Cameras, page 6-17
- Related Information, page 6-17

> ✎ **Note**   The camera hood comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 1000 Camera

The following sections describe how to set up the CTS 1000 camera for testing:

- Removing the Camera Hood, page 6-7
- Assembling and Setting Up the Camera Targets, page 6-7
- Aligning the Camera, page 6-9
- Setting the Field Depth, page 6-14
- Calibrating the CTS 1000 Camera, page 6-15
- Saving Your Settings, page 6-16
- Attaching the Camera Hood, page 6-16

Removing the Camera Hood

Removing the camera hood provides access to the zoom and focus rings for the camera. To remove the camera hood:

Step 1   Find the two screw holes in the bottom of the camera hood and unscrew the two M4 x 10 mm screws.

Step 2   Remove the hood from the camera.

Assembling and Setting Up the Camera Targets

The Cisco TelePresence System uses targets to set focus and camera alignment and to help with color balance. Two targets are used. This section describes how to assemble and set up the camera targets.

To assemble and set up the camera targets:

Step 1   Carefully open the box containing the two targets and the target frame components. The frame elements are in the bottom of the box.

> ✎ **Note**   Take care not to damage the box. When you are finished with the camera adjustment procedure, you can disassemble and store the target in the box for future use.

Step 2   Lay the two metal frames on the floor.

Step 3   Attach the two frame pieces with the screws.

Step 4   Locate the horizontal center point in the Cisco TelePresence System 1000 frame and mark the corresponding point on the table.

Step 5   Attach the camera target frame to the table by tightening the clamps to the table edge, as shown in Figure 6-3. The target should be attached on the side of the table where the participants sit and the target should be facing the camera.

Tip   The edge of the table should be 4 to 8 feet (1.2 to 2.4 meters) from the camera.

Figure 6-3   Target Attached to the Tabletop Edge
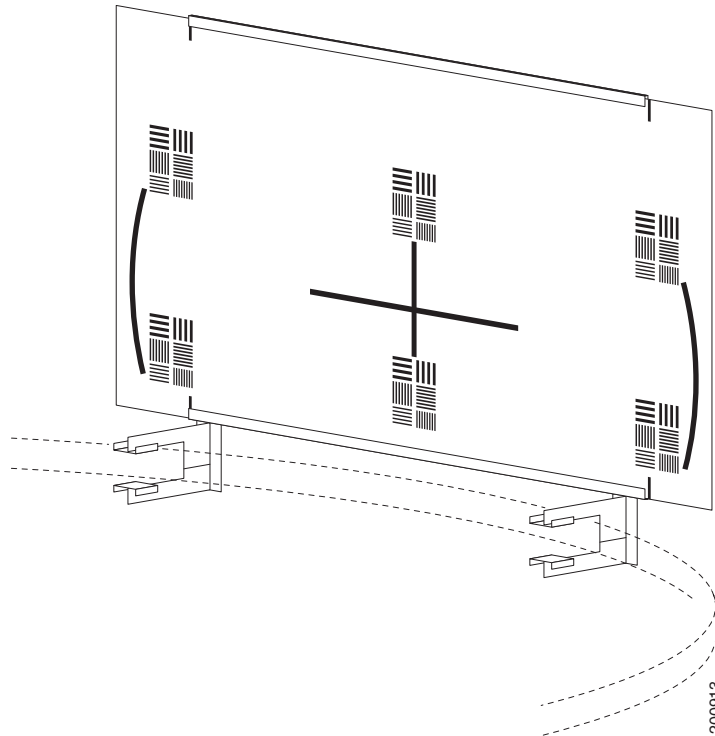
Step 6   Unfold the large cardboard target.

Step 7   Insert the cardboard into the channels on the frame with the printed side facing the display.

Step 8   Push the target into the frame until the two registration marks on the upper right and left edges match the ends of the top metal frame. See Figure 6-3.

Tip   To identify the corresponding point on the table, you can measure the distance from a side wall to the center point in the frame then from the same wall apply the measurement to the table.

Step 9   On the edge of the table across from the wall, align the vertical line in the target with the center point in the frame.

Step 10   Fit the clamp ends of the target fixture over the table top and tighten the screws to secure.

Aligning the Camera

To set the camera alignment using the Cisco TelePresence System Administration interface:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Cameras** radio button.

Step 4   Click **Start**. The display enters loopback mode. In loopback mode, the display shows images from the camera.

> **Note**   A "flipped" or mirror image for the selected screen(s) is displayed automatically. This simulates the image that attendees will see to help you make sure that all three cameras are vertically aligned.

Step 5   Click **Show Camera Target**.

> **Note**   Make sure that the camera target is still secured to the table.

Step 6   Loosen the thumbscrew on the camera and twist the zoom ring on the lens until the curved lines on the left and right are just touching the left and right borders of the screen. Tighten the thumbscrew when the adjustment is complete.

Step 7   If required, align the camera so that the target is centered in the picture by using the screw-and-spring mechanisms on the camera mounting plate that is shown in Figure 6-4.

You can adjust the pan (the panoramic sweep on the x-axis) and pitch (the fore-to-aft tilt on the y-axis) angles, and pivot. These angles are adjusted using the three sets of screws shown in Figure 6-4. The angles the screws adjust are as follows:

- Middle two screws—Allows you to set the yaw angle of the camera. See "Setting the Camera Yaw" section on page 6-13 for more information.
- Top screw —Sets the pan angle. See "Adjusting the Pan of the Camera" section on page 6-13 for more information.
- Bottom screw—Sets the pitch angle. See "Adjusting the Tilt of the Camera" section on page 6-14 for more information.

> **Note**   These adjustment capabilities are moderate and might not correct for a display frame that is not level.

Figure 6-4   Location of Adjustment Screws

Pan screws

Yaw screws

Lens

Tilt screw

200914
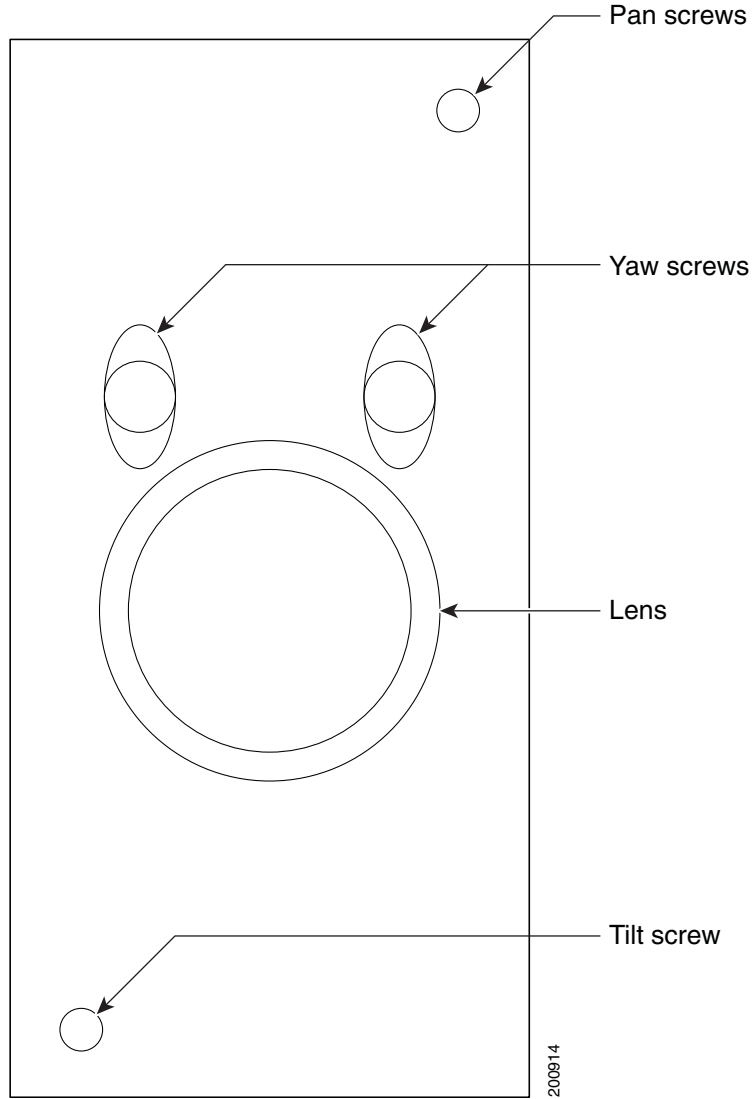
Step 8   **Click Remove Camera Target** to stop the test, as shown in Figure 6-5.

Figure 6-5   *Remove Camera Target*
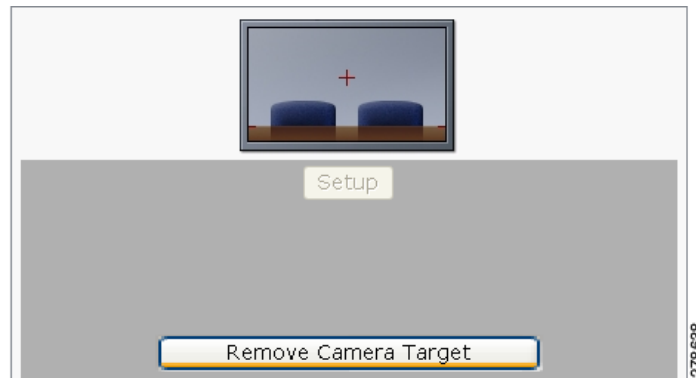
Step 9   Proceed to the following sections:

- Tuning the Camera, page 6-12
- Setting the Camera Yaw, page 6-13
- Adjusting the Pan of the Camera, page 6-13
- Adjusting the Tilt of the Camera, page 6-14

Tuning the Camera

Tune the camera for brightness, color balance, and distance by completing the following steps:

Step 1   Adjust for fixed lighting. If the room uses fixed artificial lighting, click the **Disable** radio button for the following:

- Camera Auto Brightness
- Camera Auto Color Balance

Step 2   Click **Setup**, then click **Auto Adjust** to automatically adjust lighting and color balance.

Note   Make sure that the large target is still in place and that nothing is between the large target and the camera.

The camera calibrates and saves the settings. This process takes approximately 10 seconds. If the test fails, you may need to add more light to the room.

Step 3   If you require further adjustments to the room brightness, do the following:

a.   Repeat Step 1.

b.   Select a choice from the Luminance drop-down menu until the brightness and contrast are at acceptable levels.

Step 4   Adjust for variable lighting. If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button for the following:

- Camera Auto Brightness
- Camera Auto Color Balance

Note   Auto Color Balance can produce undesirable results if the colors of the walls in your room are not white or gray.

Step 5   To make additional adjustments to the camera brightness and contrast levels, select a choice from the Luminance drop-down menu.

Note   Make sure that the large target is still in place and that nothing is between the large target and the camera.

The camera calibrates and saves the settings. This process takes approximately 10 seconds. If the test fails, you may need to add more light to the room.

Step 6   Adjust for flickering. If you encounter flickering on the screen, click **Enable** to turn on 50Hz Flicker Reduction.

Note   If you are in country that uses a 50 Hertz (Hz) power frequency (a country other than the USA, Canada or Mexico) and there is a noticeable flicker on the screen, click the **Enable** radio button in this field. If you enable the flicker reduction feature, the flicker is reduced or eliminated, but the image quality is reduced. To eliminate the flicker at its source, you can use an electronic ballast instead of a magnet ballast for the fluorescent lights at your installation. After you change the ballast for the fluorescent lights, you can click the **Disable** radio button in the **50 Hz Flicker Reduction** field.

Step 7   Adjust the Focus Distance using the following as a guide:

- If the user is 1.2 meters to 1.5 meters (4 to 5 feet) away from the display, click **4 feet**.

- If the user is farther than 1.5 meters (5 feet) away, click **6 feet**.

Step 8   Make sure that the large target is still in place and that nothing is between the large target and the camera.

Step 9   The camera calibrates and saves the settings. This process takes approximately 10 seconds.

> **Note**   If the test fails, you may need to add more light to the room.

- If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the Enable radio button for the Camera Auto Brightness and Camera Auto Color Balance choices.

> **Note**   Auto Color Balance can produce undesirable results if the colors of the walls in your room are not white or gray.

Step 10   If you encounter flickering on the screen, change the 50Hz Flicker Reduction choice to **Enable**.

Step 11   If the user is 1.2 meters to 1.5 meters (four to five feet) away from the display, click the **4 feet** radio button for the Focus Distance radio choice. If the user is farther than 1.5 meters (five feet) away, click the **6 feet** choice.

Step 12   Click **Apply**.

Setting the Camera Yaw

The yaw indicates how level the picture is as it is projected on the display. Objects on the display appear to slant to viewers. A yaw error occurs when the camera is positioned at an angle. Yaw can be adjusted by pivoting the camera lens. This section describes how to adjust the camera so that it is level.

> **Tip**   Yaw errors also occur when the frame is not level. Be sure that the CTS 1000 frame is level.

To adjust the yaw angle:

Step 1   Loosen the two middle screws just above the camera lens with an Allen wrench (a 3.0 mm Allen wrench shipped in the original CTS 1000 kit).

Step 2   Do one of the following:

- If the image on the display is slanting to your left, gently pivot the camera lens clockwise.

- If the image on the display is slanting to your right, gently pivot the camera lens counter clockwise.

Step 3   When the yaw angle is adjusted satisfactorily, slowly and carefully tighten the middle screws so that the yaw angle is preserved.

Adjusting the Pan of the Camera

The pan indicates the left-to-right movement along the x-axis. Pan is adjusted using the screw at the top of the camera plate.

To adjust the pan angle:

Step 1   Using a 2.5 mm Allen wrench, do one of the following:

- If the image on the display is too far to your left, insert the Allen wrench into the head of the top screw and turn clockwise.

- If the image on the display is too far to your right, insert the Allen wrench into the head of the top screw and turn counter clockwise.

Adjusting the Tilt of the Camera

The tilt (or pitch) indicates the fore-to-aft angle along the y-axis and appears as an up and down movement to viewers. Tilt is adjusted using the bottom screw on the camera plate.

To adjust the tilt:

Step 1   Using a 2.5 mm Allen wrench, do one of the following:

a.   If the image is low, insert the Allen wrench into the head of the screw below the camera and turn it counter clockwise to raise the image.

b.   If the image is high, insert the Allen wrench into the head of the screw below the camera and turn it clockwise to lower the image.

Setting the Field Depth

This section describes how to set the field depth. This is the area in which a conference participant can move forward and backward and remain in focus. The process for setting the field depth is partially automated and requires the use of targets. The process is also light sensitive and should be performed immediately following the lighting adjustment procedure described in the "Tuning the Camera" section on page 6-12.

Note   To ensure accuracy and success for this process, make sure that light in the camera view is not blocked or disturbed in any way.

Setting Up the Targets

To set up the targets:

Step 1   Set up the following items:

- Large camera target
- Small camera target
- Sixty-inch (1.52 m) long measuring instrument
- Prop to support the large target

Step 2   Place the small camera target on the tabletop four inches (10 centimeters) behind the microphone.

Step 3   Set up the large camera target as follows:

a.   Remove it from the tabletop.

b.   Orient it so that the target side faces the camera.

   c. Stand it on end on the floor approximately 60 inches (150 centimeters) behind the small target.

✎
Note   Prop the target against a chair or the wall so that it stands upright.

Step 4   Loosen the set screw on the zoom ring.

✎
Note   Some camera models require a 3.0 mm Allen wrench to unlock the zoom ring. A 3.0 mm Allen wrench shipping in the original CTS 1000 setup kit.

Calibrating the CTS 1000 Camera

To calibrate the CTS 1000:

Step 1   Log in to the Cisco TelePresence System Administration interface.:

Step 2   Choose **Troubleshooting** > **Hardware Setup**

Step 3   Click the **Cameras** radio button.

Step 4   Click **Setup**.

Step 5   Click **Show Focus Target**.

Step 6   Calibrate the camera by completing the following steps:

   a. Slowly zoom out until the green and red lines move to the edge of the left side of the screen.

   b. Slowly zoom in until the green and red lines move to and touch the right edge and move back.

Step 7   Slowly turn the zoom ring back to center until the ends of the red and green lines come as close to aligning as you can get them.

✎
Note   The closest alignment will most likely occur about ¾ of the length across the screen.

The lines probably will not align perfectly. Get them as close to even as you can.

Step 8   Tighten the set screw on the zoom ring.

✎
Note   Be careful when tightening the set screw. The zoom is very sensitive, and tightening the set screw can change the setting. Reset the zoom if the setting changes.

🔎
Tip   Step away from the camera to get out of the light. The lines become a little more stable.

Step 9   Click **Done**.

Step 10   Your image should be in focus when you do the following:

   a. Sit in a chair at the table in the camera view.

   b. Lean forward onto the table.

    c. Lean backward away from the table.

Saving Your Settings

When you have configured all your settings:

Step 1   Click **Apply** to register new or modified settings.

Step 2   Click **Reset** to restore the original settings.

For more information about testing and troubleshooting the CTS 1000, see the Setting Up the Camera section in the *Cisco TelePresence 1000 Assembly, Use & Care, and Field-Replacement Unit Guide*.

Attaching the Camera Hood

To attach the camera hood:

⚠️

Caution   Be very careful attaching the camera hood so as not to affect the focus or alignment of the camera.

Step 1   Carefully fit the hood lightly over the camera without bumping the camera.

Step 2   Align the two screw holes align in the bottom of the hood with threaded holes in the camera support bracket and secure with two M4 x 10 mm screws.

Understanding Camera Setup Choices for Room Lighting

If your room has windows that contribute a significant amount of natural light, you can set your CTS to automatically compensate for variable lighting conditions. This compensation is an average adjustment and will not be as accurate as the color settings you select for a room that uses fixed, artificial room lighting.

Table 6-2 contains recommendations for desirable display and camera settings when you set up the display and camera. See the "Testing the CTS 1000 Camera" section on page 6-7 for more information.

Table 6-2   *Room Configuration and Camera Setup Choices*

Physical Room Configuration	Camera Auto Brightness and Camera Auto Color Balance Setup Choices
No windows	Disable
• One window • Two adjacent windows (corner office configuration) • Two opposing windows • Windows on three sides • Windows on four sides	Enable

Troubleshooting Cameras

Use the information in Table 6-3 to troubleshoot cameras.

Table 6-3   *Troubleshooting Cameras*

Problem	Possible Cause	Action
Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.
Image colors are incorrect.	• Video cable is only partially connected. • Color settings are not correct.	• Tug on the plug to see if it is fully plugged in. • See the Routing Power and Signal Cables section in the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.
No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 6-17
- Troubleshooting Speakers, page 6-18
- Related Information, page 6-19

Testing the Speakers

To test the speakers:

Step 1 Log in to the Cisco TelePresence System Administration interface.

Step 2 Choose **Troubleshooting** > **Hardware Setup**

Step 3 Click the **Speakers** radio button.

Step 4 Click **Start** to begin the speaker test.

Step 5 Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6 Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7 Click **Next Speaker** to progress to the next speaker.

Step 8 Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 6-4 to troubleshoot speakers.

Table 6-4   *Troubleshooting Speakers*

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test.

Note   The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

- CTS 1000—1 microphone with a single audio meter displayed on a single test screen.

Testing Microphones

Go to the following sections to test microphones:

- Testing the CTS 1000 Microphone, page 6-19
- Troubleshooting the CTS 1000 Microphone, page 6-20
- Related Information, page 6-21

Testing the CTS 1000 Microphone

To test the single CTS 1000 microphone:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Microphones** radio button.

Step 4   Click **Start** in the Testing box to begin the test. The Microphone Calibration button is activated.

Step 5   Lightly tap each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 6   Click **Stop** to end the test.

Troubleshooting the CTS 1000 Microphone

Use the information in Table 6-5 to troubleshoot microphones.

Table 6-5   *Troubleshooting Microphones*

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	• Move objects away from the microphone. • Confirm the laptop is not open and in-between the user and the microphone
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays.	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing displays, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the main display screen. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP. This display is attached to the External Presentation Display HD video connection on the codec. See the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field-Replaceable Unit Guide* for more information.

> **Note**   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 1000 supports, see the release notes for your CTS software version on Cisco.com.
>
> A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Presentation Devices**.

Step 3   Click the **Test Pattern** radio button.

Step 4   Click **Start** to begin the test.

The test pattern should display on the external presentation display.

Step 5   Click **Stop** to end the testing.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer) or through a document camera.

> **Note**   You should run this test only if you have presentation display devices installed.

Table 6-6 contains supported presentation devices listed by system.

Table 6-6   ***Supported Presentation Devices***

Presentation Device

	Included in Cisco TelePresence System	Optional in Cisco TelePresence System
Projector	—	• CTS 1000
Document Camera	—	• CTS 1000

The projector is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

Tip When troubleshooting presentation devices, start with the projector test pattern to see if the projector is set up correctly and then proceed through VGA and document camera input tests as necessary.

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 6-23
- Checking the VGA, page 6-23
- Checking the Document Camera, page 6-24
- Resetting the Projector, page 6-24
- Troubleshooting Presentation Devices, page 6-24
- Related Information, page 6-26

Checking the Test Pattern

To check the test pattern:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

  a.   Click **Set Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

  b.   **Picture adj**: **Overscan** should be set to **0**

  c.   **Screen**: **Normal**

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Checking the VGA

To check the VGA:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Checking the Document Camera

To test input from the document camera:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Document Camera** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

  If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Resetting the Projector

To reset the projector:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 6   Click **Stop** in the Testing box to complete the task.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

- Multiple Input Devices, page 6-24
- Presentation Devices, page 6-25

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in

- Document cameras—Turn the camera off, wait 5 seconds, and restart the device.

Presentation Devices

Use the information in Table 6-7 to troubleshoot presentation devices.

Table 6-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	• Check projector power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	• Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.
Projector image is dim.	Lamp iris needs to be set to open.	See the Setting Up the Camera section in the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide.*
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Table 6-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

- For more information about setting up and testing presentation devices, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

- Auxiliary Control Unit, page 6-26
- Digital Media Player, page 6-27
- Troubleshooting Other Devices, page 6-28
- Related Information, page 6-28

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **ACU**. The console displays the status of the auxiliary control unit. "Port" refers to the outlet of the auxiliary control unit that the light is plugged in to.

Step 5   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

    a.   Check a box to select a specific port number.

       Or

    b.   Click **Select All** to select all ports (and all light units) or **Select None**.

    c.   Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d.   Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e.   Click the **Light State On** or **Light State Off** button to change the current state of the light.

    f.   Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 6   Click **Stop** to end the test.

> **Note**   When you end the testing, the state of the light reverts to its default setting.

Digital Media Player

The Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input.

    • If you have a PC attached, the S**econdary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

    • If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

> **Note**   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 6-8 to troubleshoot Other Devices.

Table 6-8   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player DMP audio is playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
Presentation Devices • Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
• Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: • If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. • If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.

Tip   Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing other devices, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip   If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

Sysop Log

To manage sysop messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view sysop messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3   Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

a.   Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

Or

b.   Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem**—Problem Type drop-down menu contains the following:
  - Audio (speakers, microphones)

- Video (displays, cameras)

- Projector, LCD, document camera

- Phone

- Recording

- Other/Unknown

Figure 6-6 shows the problem types that you can select when downloading log files.

Figure 6-6   Select Problem Type Drop-Down Menu
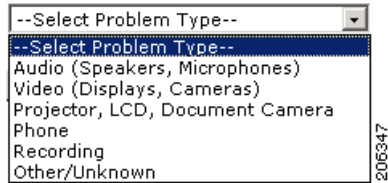
Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 6-7 shows the log download radio button options.

- **Download existing log files**—You must select this radio button to download logs.

- **Capture New Log Files—**The system will capture but not download the log files.

✎

Note   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 6-7   Downloading Log Files

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

- Audio (speakers, microphones)

- Video (displays, cameras)

- Projector, alternate display, LCD, document camera

- Phone

– Recording

– Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 6-9 and Table 6-10 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

   a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

   Or

   b.   Select the message type from the drop-down menu. The Filter button is activated.

   c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1 Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Or

Step 2 Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1 Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2 Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 6-32
- SIP Response Categories, page 6-33

SIP Requests and Methods

Table 6-9 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 6-9   *Supported SIP Requests and Methods*

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.

Table 6-9   Supported SIP Requests and Methods

RFC	Request/Method	Description
3262	PRACK	Provides reliability for 1xx type messages. See Table 6-9.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 6-9 using the response categories described in Table 6-10.

Table 6-10   SIP Response Categories

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3   If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4   Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5   Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

Note   Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1   Choose **Troubleshooting > Audio**.

Step 2   Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

Note   Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3   Click **Stop Audio Recording** to stop recording.

Step 4   After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 6-8.

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 6-8   *Auto Negotiate On*

Troubleshooting > Network Connection

Auto Negotiation:	⊙ On ○ Off	
Duplex:	Full	
Speed:	1000	

Apply   Reset

Step 3   Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

⚠

Caution   Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1   Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2   Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

Note If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

Caution The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1 Choose **Troubleshooting** > **System Restart**. The System Restart page appears and the current call status is displayed.

Step 2 Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 6-11 to troubleshoot the video picture on the displays.

Table 6-11   Troubleshooting Cisco TelePresence Screen Resolution

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

Note See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- An Ethernet cable (RJ-45) connects the primary codec to the user network.

Note   For detailed cabling information, see the Routing Power and Signal Cables section in the see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*.

Table 6-12 contains problem scenarios and troubleshooting solutions for network cabling.

Table 6-12   Troubleshooting Cisco TelePresence Network Cabling

Problem	Possible Cause	Actions
Cisco Unified IP Phone is off.	• Power to the primary unit is off. • Phone is not connected to the phone port on the primary unit. • The system does not recognize the phone or it is unregistered. • The network is down.	• Check the power connection to the Cisco TelePresence System, and verify that the system is turned on. • Check the cable connection from the primary unit to the Cisco Unified IP Phone. For cabling instructions, see the *Cisco TelePresence System 1000 Assembly, Use & Care, and Field Replacement Unit Guide*. • Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
Cisco IP Phone does not register with the IP network.	• The network cable is not connected to the primary unit. • The network configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.
Cisco IP Phone does not register with the IP network.	• Cisco Unified Communications Manager is down or disabled. • The network is down.	• Check the cable connection from the primary unit to the network. See the assembly guide for your Cisco TelePresence system for correct cabling. • Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions. • Restart the network.

Table 6-12   Troubleshooting Cisco TelePresence Network Cabling (continued)

Problem	Possible Cause	Actions
Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	1. Log into the Cisco Unified Communications Manager administration interface. 2. Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Note   For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Where to Go Next

See Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

Troubleshooting the CTS 1100

Revised: November 2011, OL-21845-01

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting CTS 1100 hardware and software.

Before You Begin

1. Obtain your IP address in one of the following ways:

    – From the CTS Cisco Unified IP phone touch the following softkeys:

    Manual > more > Info

    ✐
    Note   If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

    – From the Cisco TelePresence Touch 12 tap the following:

    More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

✐
Note   You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

- Managing CTS 1100 Hardware Setup, page 7-2
- Managing Log Files, page 7-32
- Testing Audio, page 7-37
- Testing the Network Connection, page 7-37
- Managing Configuration Issues, page 7-38

- Initiating System Restart, page 7-39
- Troubleshooting Video Quality Settings, page 7-39
- Troubleshooting Network Cabling, page 7-40
- Where to Go Next, page 7-41

Managing CTS 1100 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

- Managing Displays, page 7-3
- Testing Cameras, page 7-6
- Testing Speakers, page 7-19
- Testing Microphones, page 7-20
- Testing the External Presentation Display, page 7-22
- Testing Presentation Devices, page 7-23
- Testing Other Devices, page 7-28

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.
2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note   You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 7-19.

Figure 7-1 shows the Cisco TelePresence System administration tools that are available to assist you with troubleshooting tasks.

Figure 7-1   Troubleshooting Window
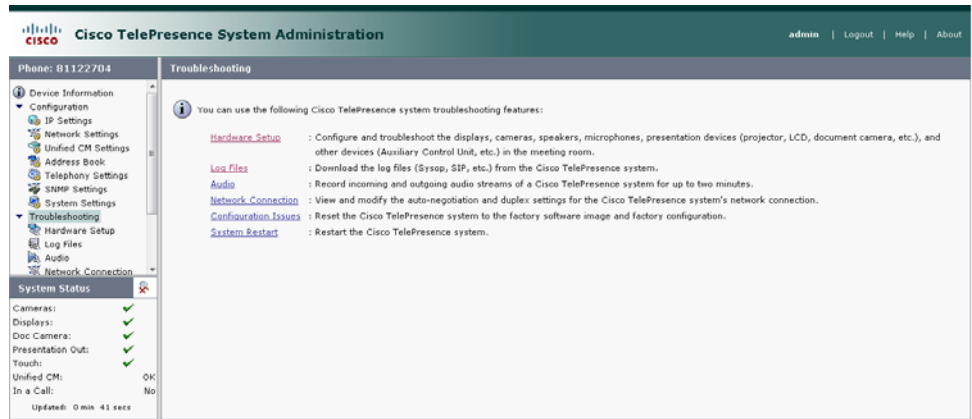
Note   CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 7-3
- Adjusting Your Display, page 7-4
- Troubleshooting Displays, page 7-6
- Related Information, page 7-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)

- 5000 K

- 6500 K

- 7500 K

Tip   In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip   It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Adjusting Your Display

To adjust your display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 7-2.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 7-2   Color Temperature Test Screen
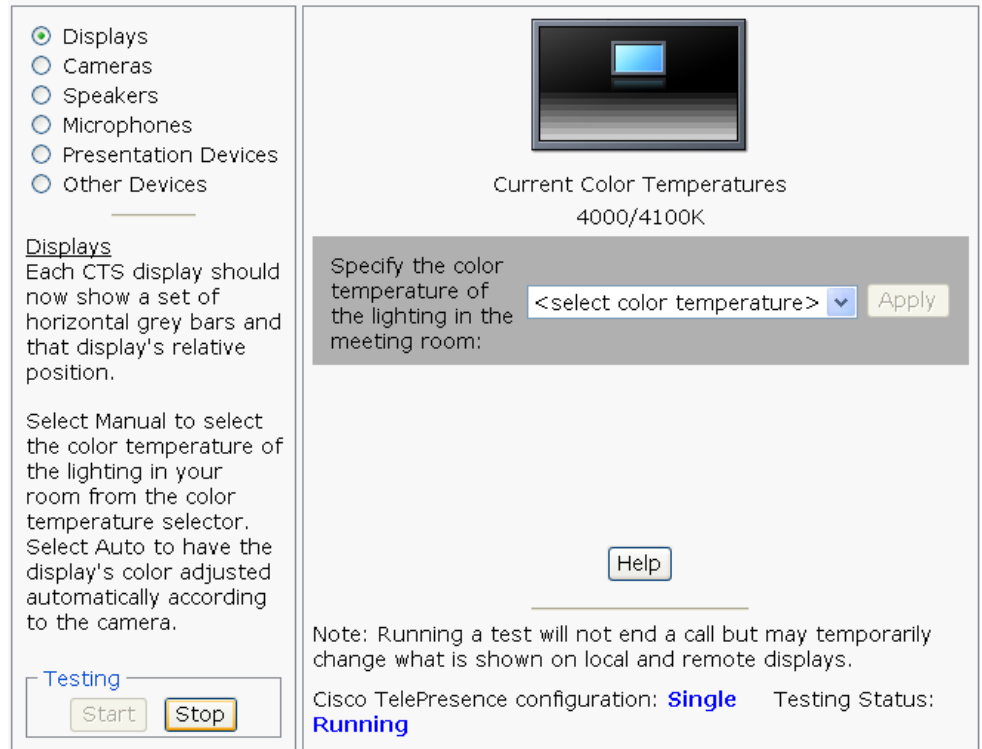
Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

✎
Note   Each time you change the setting and click **Apply**, the color temperature in the display changes. You cannot see these changes until you turn on the camera for testing (thereby creating a self-view, or mirror image of the objects in the camera's focus). See the "Testing Cameras" section on page 7-6.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 7-1 to troubleshoot problems with the images on the displays.

Table 7-1   Troubleshooting Displays

Problem	Possible Cause	Action
No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

Related Information

For more information about setting up and testing displays, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide.*

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the CTS 1100 Camera, page 7-6
- Understanding Camera Setup Choices for Room Lighting, page 7-17
- Troubleshooting Cameras, page 7-18
- Related Information, page 7-18

Note   The camera cover comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 1100 Camera

The camera is set up successfully when the image is centered and in focus on the display screen, and the white balance is configured. The hardware setup software provides a camera Auto Adjust feature and uses targets to adjust the camera zoom and fine-tune the camera focus.

To set up the CTS 1100 camera for testing, complete the tasks in the following sections:

- Removing the Camera Cover and Leveling the Camera
- Attaching the Large Camera Target to the Easel
- Positioning the Table and Starting the Calibration Procedure
- Managing Focus Adjustments and Adjusting the Camera Zoom, page 7-10
- Focusing the Camera
- Saving Your Settings
- Attaching the Camera Lens and Hood

Removing the Camera Cover and Leveling the Camera

The camera cluster must be perfectly level for you to properly configure the camera. To level the camera, complete the following steps.

Step 1 Turn the four black plastic screws on the top and bottom of the camera assembly 1/4 turn, then remove the camera cover, as shown in Figure 7-3.

Figure 7-3   Removing the Camera Cover
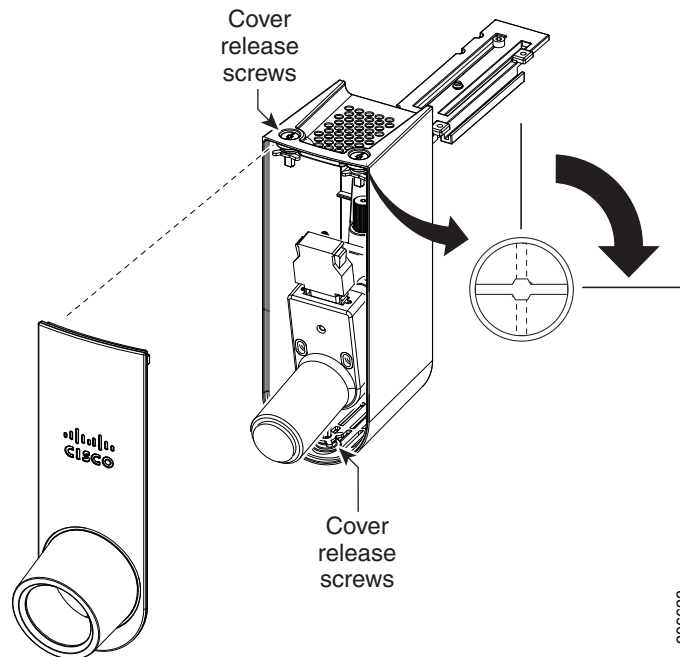
Step 2 Place the small spirit level on top of the camera assembly and adjust the leveling screws behind the camera cluster until the camera assembly is level, as shown in Figure 7-4.

Figure 7-4   *Leveling the Camera Assembly*
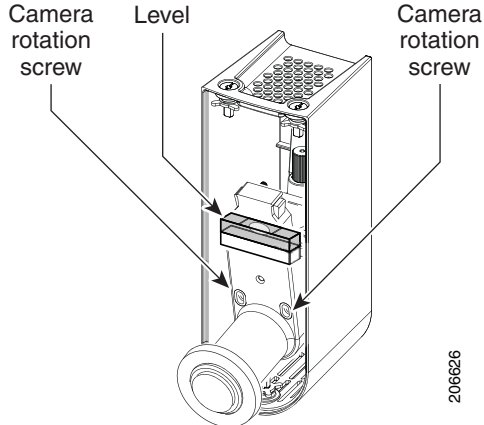
Step 3   Place the small spirit level on the camera and make sure that it is level. Use the rotational (side-to-side) adjust screws. Use a 3mm Allen wrench for these screws.

Attaching the Large Camera Target to the Easel

To unpack and build the easel and large camera target:

Step 1   Remove the easel, large camera target, and small camera target from their packaging.

Step 2   Unlock and slide the telescoping legs of the easel until the legs are at their full height.

Step 3   Separate the three legs.

Step 4   Raise the front legs until they are 29 inches (74 cm) high.

Step 5   Raise the rear leg until it is 31 inches (79 cm) high.

Step 6   Lock the legs into place using the leg locks.

Step 7   Attach the large camera target to the clip on top of the easel.

Step 8   Raise the target supports on the front legs until they touch the lower part of the large camera target.

Step 9   Raise and lower the front legs until the bottom of the camera target is 32 inches (81 cm) above the ground.

Figure 7-5   Easel and Target After Assembly
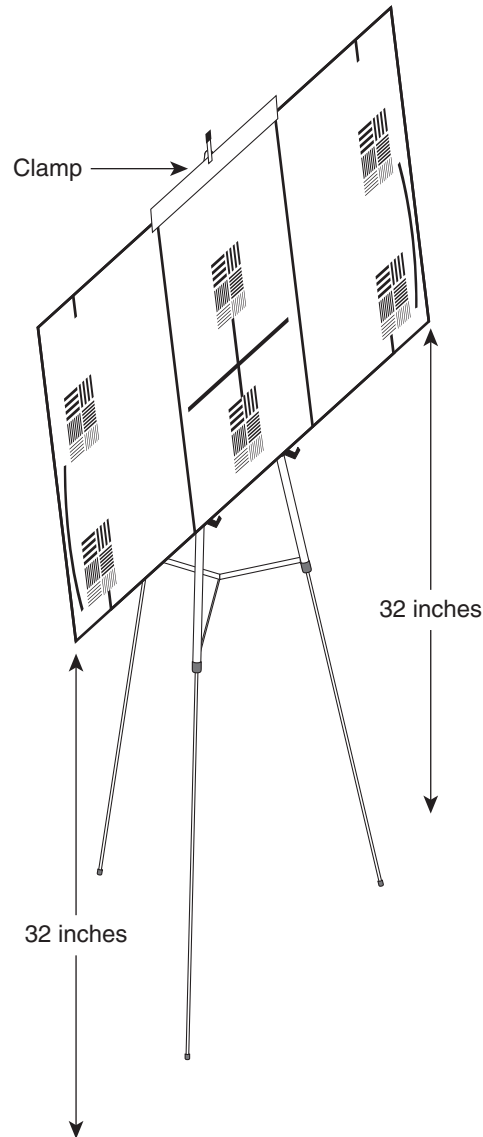
Clamp

32 inches

32 inches

206125

Positioning the Table and Starting the Calibration Procedure

To correctly position the table and configure the Cisco TelePresence software for use with the CTS 1100 camera:

Step 1   Position the table so that it fulfills the following requirements:

- The front edge of the table is a minimum of 44 inches (112 cm) away from the display.
- The sides of the table are evenly positioned on each side of the CTS 1100.
- The rear edge of the table is between eight and 12 feet (244 and 366 cm) away from the display.

Note The table must be 28 to 32 inches (71 to 81 cm) high; 30 inches (76 cm) is the optimal height.

Figure 7-6   Table Positioning
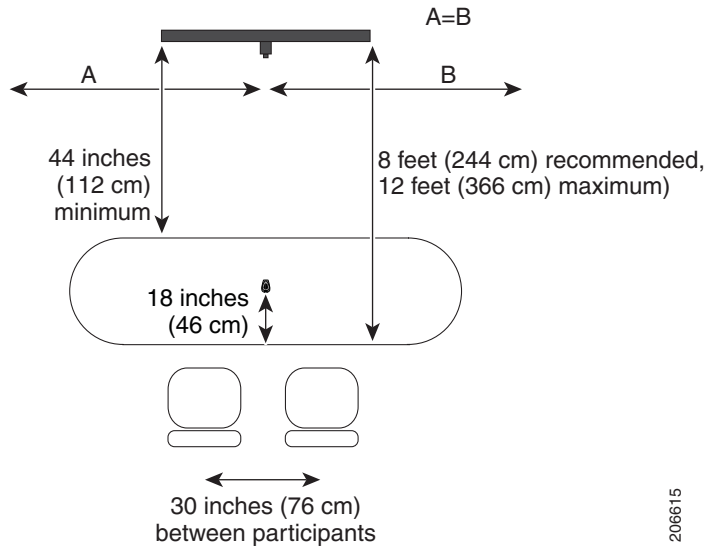
Managing Focus Adjustments and Adjusting the Camera Zoom

To adjust the zoom and perform initial focus adjustment for the camera, complete the steps in the following procedure.

Step 1   Place the large camera target with the easel in the position where the two participants will sit, with the front legs of the easel touching the edge of the table.

Step 2   Measure the distance between the corners of the easel and the corners of the display to make sure that the target is parallel to the display, as shown in Figure 7-7.

Figure 7-7   Measuring the Distance between the Easel and Display
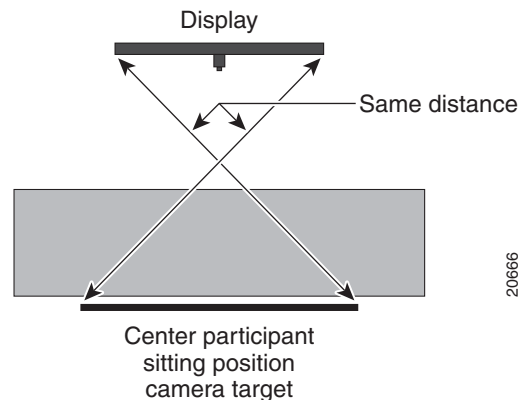
Step 3   Using a supported Internet browser, log in to the Cisco TelePresence System Administration interface.

Step 4   Choose **Troubleshooting > Hardware Setup**

Step 5   Click the **Cameras** radio button.

Step 6   Click **Start** to start the camera test.

Step 7   Click **Show Camera Target**. The Camera Target menu appears.

The display projects the image from the camera, with the addition of a red plus sign in the center of the display.

Step 8   Automatically adjust the camera by completing the following steps:

    a. In the **Auto Brightness** field, perform one of the following actions:

- If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

- If your room lighting is not variable, leave the default value.

    b. In the **Auto Color Balance** field, perform one of the following actions:

- If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

- If your room lighting is not variable, leave the default value.

    c. In the **50 Hz Flicker Reduction** field, click the **Disable** radio button.

> **Note**   If you are in country that uses a 50 Hertz (Hz) power frequency (a country other than the USA, Canada or Mexico) and there is a noticeable flicker on the screen, click the **Enable** radio button in this field. If you enable the flicker reduction feature, the flicker is reduced or eliminated, but the image quality is reduced. To eliminate the flicker at its source, you can use an electronic ballast instead of a magnet ballast for the fluorescent lights at your installation. After you change the ballast for the fluorescent lights, you can click the **Disable** radio button in the **50 Hz Flicker Reduction** field.

    d. Click **Apply** to apply your changes.

Step 9   Focus the camera by completing the following steps:

    a. Loosen the focus ring thumbscrew on lens of the camera.

    b. Rotate the focus ring until the black plus sign on the target is clearly in focus.

> **Note**   The camera lens has two adjustment rings, one for focus and one for zoom. The focus ring is on the inside, as shown in Figure 7-8.

Figure 7-8   *Location of Focus and Zoom Ring*
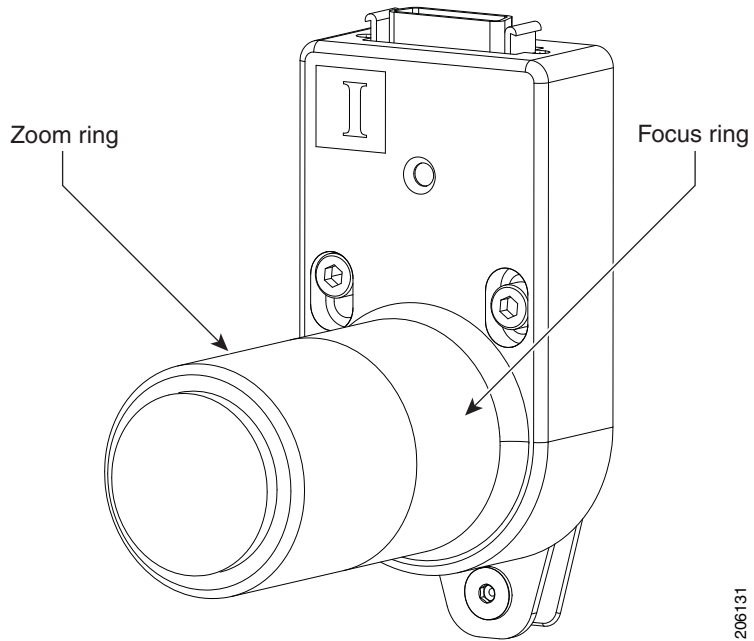
Step 10   Center the red plus sign on the display inside the black plus sign on the target. Figure 7-9 shows the screws that you use to adjust the camera.

Figure 7-9 **Camera Adjustment Screws**
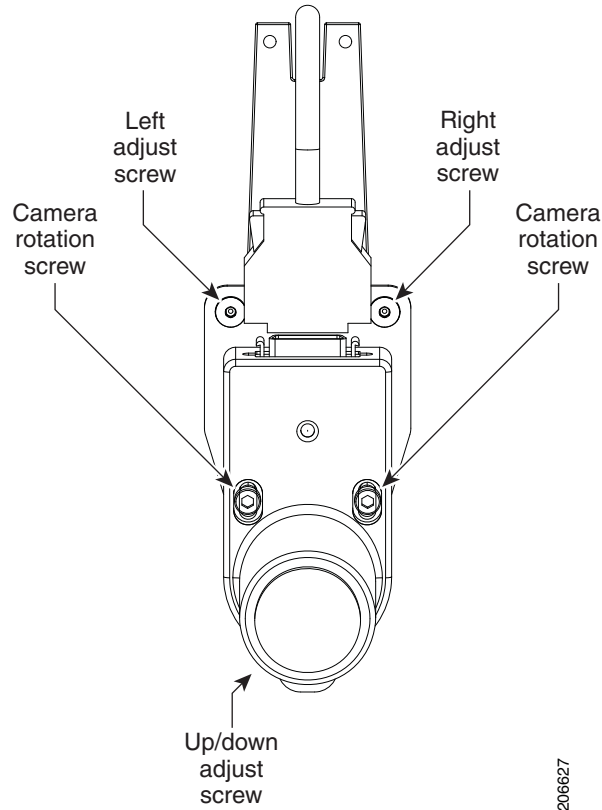
- The top two screws provide adjustment to the right and left. Use a 2.5 mm Allen wrench for these screws.

- The lower screw provides up and down adjustment. Use a 2.5 mm Allen wrench for this screw.

- The screws in the middle adjust the camera rotation. Use a 3 mm Allen wrench for these screws.

Step 11 Adjust the camera zoom by completing the following steps:

a. Loosen the thumbscrew for the zoom ring on the camera lens.

> **Note**   The zoom ring is labeled "W-T".

b. Adjust the camera zoom so that the black curved lines on each side of the target touch the edge of the display screen.

c. After you adjust the zoom, make any required adjustments to the focus with the focus ring, as shown in Figure 7-10.

Figure 7-10   Adjusting the Camera Zoom
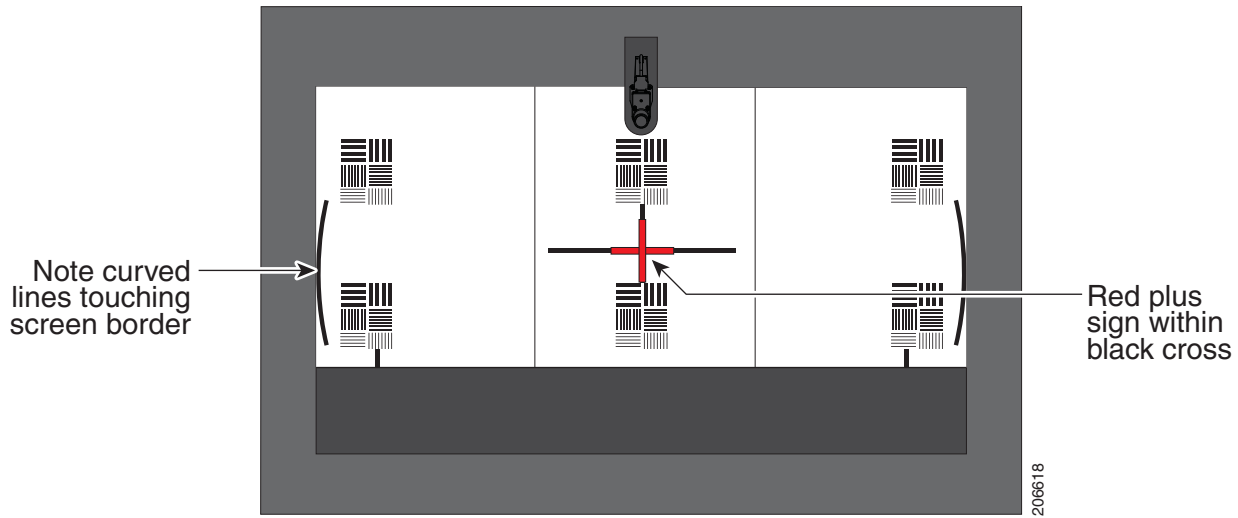
Step 12   Tighten the thumbscrews for the zoom and focus rings.

Step 13   Click **Hide Camera Targets**.

Step 14   Perform final zoom adjustments to ensure that the camera projects a life-size image by completing the following steps:

    a. Using the paper ruler or tape measure, measure 12 inches or 250 cm from the rear edge of the table.

    b. Using another tape measure, measure 12 inches or 250 cm from where the table edge is projected on the display.

    c. If the measurements do not match, perform additional adjustments to the zoom until the measurements are the same.

Step 15   Click the **Setup** button, then click the **Auto Adjust** button.

The auto adjust procedure completes. This procedure takes several seconds.

Note   If there is sufficient light for the system to operate, the gain will be greater than 1 and less than 7 and the process completes normally. If there is insufficient light, the auto adjust procedure terminates; in this case, add more light to the room to bring the gain value below 7. Then, repeat the auto adjust procedure.

Step 16   Click **Done**.

Focusing the Camera

When you focus a TelePresence system, you focus within a range of distances. The ranges are represented by small and large targets that you place in front of the camera.

To focus the camera from the Cisco TelePresence System Administration interface:

Step 1   In the CTS Administration interface, click the **Center** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Red and green outline boxes display on the screen, and red and green horizontal bars display on the bottom of the screen. The horizontal bars indicate the sharpness of focus in the boxes that use the corresponding color. Longer bars indicate a sharper focus.

Step 4   Position the small camera target by completing the following steps:

   a.   Place the target on the table approximately one foot (30 cm) from the edge where the participants sit.

   b.   Move the target on the table so that all of the patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

   a.   Remove the large focus target from the easel.

   b.   Rotate the target 90 degrees.

   c.   Have another person hold the target upright.

> **Note**   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

   d.   Place the top of the easel five feet (1.5 meters) behind the top of the small target.

   e.   Position the target so that the top two patterns are enclosed in the red box.

Figure 7-11   *Positioning the Small and Large Targets*
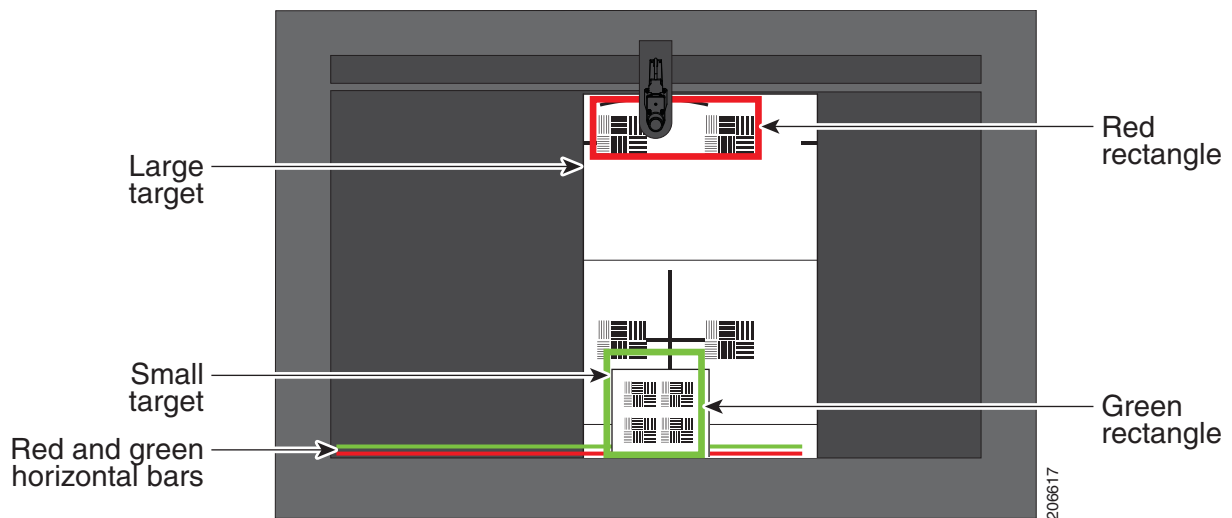
Step 6   Adjust the focus by performing the following steps:

   a.   Loosen the thumbscrew for the lens focus ring.

   b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the right.

> **Note**   Figure 7-11 shows a mirror image of the horizontal bars.

   c.   Twist the focus ring counter-clockwise until the red and green bars extend as far as they can go across the bottom of the screen.

   d.   Continue to twist the focus ring until the red and green bars are approximately the same length.

> ✎
> **Note** The red and green bars do not have to be exactly the same length; get them as close as you can.
> When the bars are roughly the same length, the camera is focused.

  e. Without moving the focus ring, tighten its thumbscrew.

Step 7 Click **Done** to complete the procedure.

Saving Your Settings

When you have configured all your settings:

Step 1 Click **Apply** to register new or modified settings.

Step 2 Click **Reset** to restore the original settings.

For more information about testing and troubleshooting the CTS 1000, see the Setting Up the Camera section in the *Cisco TelePresence 1100 Assembly, Use & Care, and Field-Replacement Unit Guide*.

Attaching the Camera Lens and Hood

To attach the camera lens and hood:

Step 1 Place the foam lens cover onto the camera lens, as shown in Figure 7-12.

Figure 7-12   Attaching the Foam Lens Cover to the Camera Lens
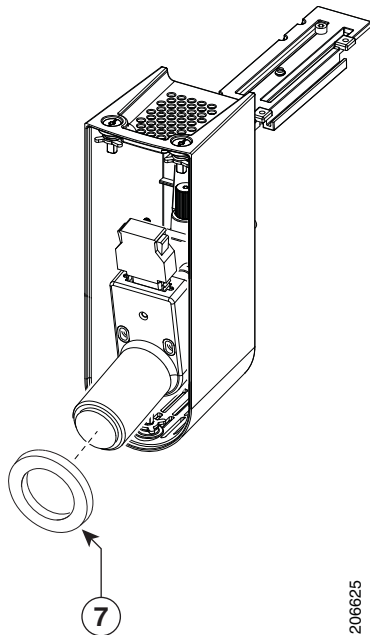
Step 2 Replace the camera cover onto the camera cluster, then tighten the cover release screws to secure the cover to the camera, as shown in Figure 7-13.

Figure 7-13   Replacing the Camera Cover
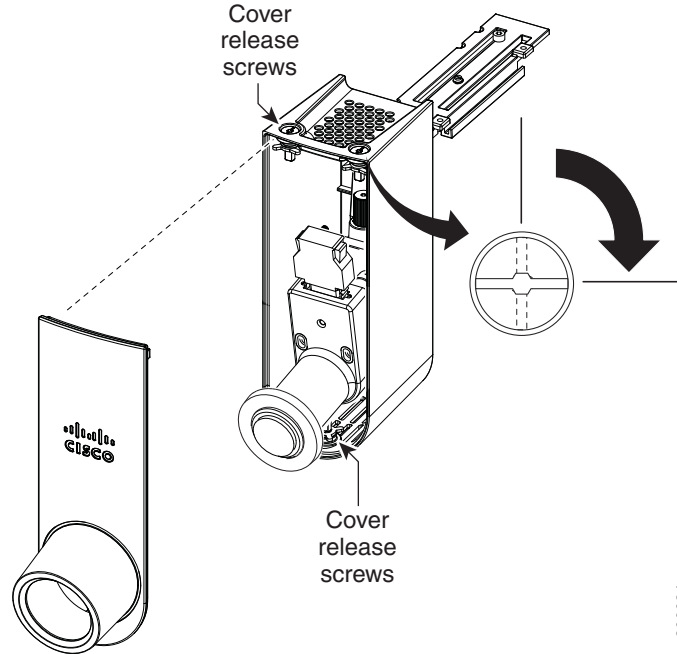
Understanding Camera Setup Choices for Room Lighting

If your room has windows that contribute a significant amount of natural light, you can set your CTS to automatically compensate for variable lighting conditions. This compensation is an average adjustment and will not be as accurate as the color settings you select for a room that uses fixed, artificial room lighting.

Table 7-2 contains recommendations for desirable display and camera settings when you set up the display and camera. See the "Testing the CTS 1100 Camera" section on page 7-6 for more information.

Table 7-2   Room Configuration and Camera Setup Choices

Physical Room Configuration	Camera Auto Brightness and Camera Auto Color Balance Setup Choices
No windows	Disable
• One window • Two adjacent windows (corner office configuration) • Two opposing windows • Windows on three sides • Windows on four sides	Enable

Troubleshooting Cameras

Use the information in Table 7-3 to troubleshoot problems with cameras.

Table 7-3   *Troubleshooting Cameras*

Problem	Possible Cause	Action

Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	• Check that the cables from each camera are plugged into the correct connector on its respective codec.
		• Two connections are made for the camera, an RJ-45 cable plugs into the large connector and a video-to-DVI-I cable plugs into the small connector. Connect them as follows:
		  – Plug the center camera into the primary codec.
		  – Plug the participant's left camera into the left secondary codec.
		  – Plug the participant's right camera into the right secondary codec.

Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.
Image colors are incorrect.	• Video cable is only partially connected. • Color settings are not correct.	• Tug on the plug to see if it is fully plugged in. • See the Routing Power and Signal Cables section in the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.
No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 7-19
- Troubleshooting Speakers, page 7-19
- Related Information, page 7-20

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test.

Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 7-4 to troubleshoot speakers.

Table 7-4   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	Check that the speaker cable is plugged into the correct receptor on the primary codec. Plug all speakers into the primary codec.

Table 7-4   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test.

Note The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

Go to the following sections to test microphones:

- Testing Microphones on the CTS 1100, page 7-20
- Troubleshooting Microphones, page 7-21
- Related Information, page 7-22

Testing Microphones on the CTS 1100

To set up the microphones for testing on the CTS 1100:

Step 1   Choose **Troubleshooting > Hardware Setup.**

Step 2   Click the **Microphones** radio button.

Step 3   Click **Start** to begin testing.

Step 4   Lightly tap the microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 5   Click **Stop** to complete the microphone test.

Troubleshooting Microphones

Use the information in Table 7-5 to troubleshoot microphones.

Table 7-5   *Troubleshooting Microphones*

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	• Move objects away from the microphone. • Confirm the laptop is not open and in-between the user and the microphone
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays. 	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Sound registers at the wrong microphone.	Microphone cable is not connected to its corresponding codec.	• Check that the cable from the microphone is plugged into the correct receptor on the codec. • Plug all microphones into the primary codec.

Table 7-5   *Troubleshooting Microphones (continued)*

Problem	Possible Cause	Possible Solution
Microphone icon with question mark displays.	One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing presentation devices, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the main display screen. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP on the main display screen. The presentation display is attached to the External Presentation Display HD video connection on the codec. See the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

✎

Note   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 1100 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Presentation Devices**.

Step 3   Click the **Test Pattern** radio button.

Step 4   Click **Start** to begin the test.

The test pattern should display on the external presentation display.

Step 5   Click **Stop** to end the testing.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer) or through a document camera.

Note   You should run this test only if you have presentation display devices installed.

Table 7-6 contains supported presentation devices listed by system.

Table 7-6   Supported Presentation Devices

Presentation Device

	Included in Cisco TelePresence System	Optional in Cisco TelePresence System
Projector	—	• CTS 1100
Document Camera	—	• CTS 1100

The projector is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

Tip   When troubleshooting presentation devices, start with the projector test pattern to see if the projector is set up correctly and then proceed through VGA and document camera input tests as necessary.

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 7-24
- Checking the VGA, page 7-24
- Checking the Document Camera, page 7-25
- Resetting the Projector, page 7-25
- Troubleshooting Presentation Devices, page 7-25
- Related Information, page 7-22

Checking the Test Pattern

To check the test pattern:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

a.   Click **Set Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

b.   **Picture adj**: **Overscan** should be set to **0**

c.   **Screen**: **Normal**

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Checking the VGA

To check the VGA:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Checking the Document Camera

To test input from the document camera:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Document Camera** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

 If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Resetting the Projector

To reset the projector:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 6   Click **Stop** in the Testing box to complete the task.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

- Multiple Input Devices, page 7-25
- Presentation Devices, page 7-26

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in

- Document cameras—Turn the camera off, wait 5 seconds, and restart the device.

Presentation Devices

Use the information in Table 7-7 to troubleshoot presentation devices.

Table 7-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	- Check projector power switch. - Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	- Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. - If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	- Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. - Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	- Use the projector remote control to configure the projector for HD Video input. - If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Table 7-7   *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

- For more information about setting up and testing presentation devices, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

    a.   Check a box to select a specific port number.

        Or

    b.   Click **Select All** to select all ports (and all light units) or **Select None**.

    c.   Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d.   Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e.   Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 5   Click **Stop** to end the test.

CTS 1100 Light

Each CTS 1100 has a built-in light fixture. This troubleshooting feature lets you see or change the status of the light.

To test the light fixture:

Step 1   Choose **Troubleshooting > Hardware Setup**.

Step 2   Click the **Other Devices** radio button.

Step 3   Click the **Light** tab.

Step 4   Click **Start** in the Testing box.

- If the shroud light feature is enabled, the Light State On button is highlighted.

- If the shroud light feature is disabled, the Light State Off button is highlighted.

Step 5   Click the **Light State On** or **Light State Off** button to change the current state of the shroud light.

Step 6   Click **Stop** to end the test.

✎
Note   When testing is complete, the state of the light reverts to its default setting as it was configured in the Unified CM.

Troubleshooting the CTS 1100 Light

A common source of light trouble is not selecting the correct options in Cisco Unified Communications Manager. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about using the Cisco Unified CM Administration interface.

To troubleshoot the lights:

Step 1   Log in to the Cisco Unified Communications Manager administration interface.

Step 2   Choose **Device > Phone**.

Step 3   Find the Cisco Unified IP Phone that controls your Cisco TelePresence system by clicking **Find**.

Step 4   Click the hypertext link next to the phone that controls your Cisco TelePresence System to select it.

Step 5   In the Optional Hardware box, click the **Auxiliary Control Unit** radio button.

Step 6   Verify that the desired options are selected.

✎
Note   The choices in the Optional Hardware area might differ from the choices that are shown in Figure 7-14.

Figure 7-14   *Auxiliary Control Unit Check Box*

Digital Media Player

The Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a Cisco TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Choose **Troubleshooting > Hardware Setup**.

Step 2   Click the **DMP** tab.

Step 3   Click **Start** in the Testing box to begin testing the secondary audio input.

- If you have a PC attached, the S**econdary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

Tip   Setting the DMP to PC allows you to hear DMP audio.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 4   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 7-8 to troubleshoot problems in Other Devices.

Table 7-8   *Troubleshooting Other Devices*

Problem	Possible Cause	Possible Solution
Digital Media Player • DMP audio is playing during a call.	**Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
• DMP audio is not playing.	The configuration settings in **Other Devices > DMP > Audio to DMP** is incorrect.	Setting the DMP to PC allows you to hear DMP audio.
Presentation Devices • Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).

Table 7-8   Troubleshooting Other Devices (continued)

Problem	Possible Cause	Possible Solution
• Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: • If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. • If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.
CTS 1100 Light CTS 1100 light does not function properly.	The Auxiliary Control Unit option is not checked in the Optional Hardware Devices box of the Cisco Unified Communications Manager configuration interface.	The Auxiliary Control Unit checkbox must be selected for the lights to function. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Tip	Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

- For more information about setting up and testing other devices, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

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Tip If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

Sysop Log

To manage sysop messages:

Step 1 Choose **Troubleshooting > Log Files**.

Step 2 Select the **Sysop Files** tab to view system operation (sysop) messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3 Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

a. Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

Or

b. Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1 Choose **Troubleshooting > Log Files**.

Step 2 Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem**—Problem Type drop-down menu contains the following:
  - Audio (speakers, microphones)

– Video (displays, cameras)

– Phone

– Recording

– Other/Unknown

Figure 7-15 shows the problem types that you can select when downloading log files.

Figure 7-15   *Select Problem Type Drop-Down Menu*
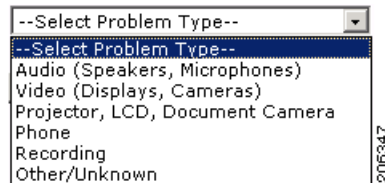
Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 7-16 shows the log download radio button options.

- **Download existing log files**—You must select this radio button to download logs.

- **Capture New Log Files—**The system will capture but not download the log files.

Note   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 7-16   *Downloading Log Files*

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

– Audio (speakers, microphones)

– Video (displays, cameras)

– Projector, alternate display, LCD, document camera

– Phone

– Recording

– Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 7-9 and Table 7-10 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

    a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

    Or

    b.   Select the message type from the drop-down menu. The Filter button is activated.

    c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1   Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Or

Step 2   Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1   Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2   Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 7-35
- SIP Response Categories, page 7-36

SIP Requests and Methods

Table 7-9 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 7-9   Supported SIP Requests and Methods

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 7-9.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.

Table 7-9   ***Supported SIP Requests and Methods***

RFC	Request/Method	Description
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 7-9 using the response categories described in Table 7-10.

Table 7-10   ***SIP Response Categories***

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3   If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4   Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5   Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

Note   Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1   Choose **Troubleshooting > Audio**.

Step 2   Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

Note   Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3   Click **Stop Audio Recording** to stop recording.

Step 4   After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 7-17.

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 7-17 **Auto Negotiate On**

Step 3 Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

⚠
Caution Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1 Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2 Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

Note   If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

Caution   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting** > **System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 7-11 to troubleshoot the video picture on the displays.

Table 7-11   Troubleshooting Cisco TelePresence Screen Resolution Problems

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.
Note See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality. For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.		

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- CTS 1100—A single camera is connected to the primary unit.
- An Ethernet cable (RJ-45) connects the primary codec to the user network.

Note   For detailed cabling information, see the Routing Power and Signal Cables section in the *Cisco TelePresence System 1100 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*

Table 7-12 contains troubleshooting solutions for network cabling.

Table 7-12   Troubleshooting Cisco TelePresence Network Cabling

Problem	Possible Cause	Actions
Cisco Unified IP Phone is off.	- Power to the primary unit is off. - Phone is not connected to the phone port on the primary unit. - The system does not recognize the phone or it is unregistered. - The network is down.	- Check the power connection to the Cisco TelePresence System, and verify that the system is turned on. - Check the cable connection from the primary unit to the Cisco Unified IP Phone. For cabling information, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*. - Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
Cisco IP Phone does not register with the IP network.	- The network cable is not connected to the primary unit. - The network configuration has not been done or has been done incorrectly.	- Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.
Cisco IP Phone does not register with the IP network.	- Cisco Unified Communications Manager is down or disabled. - The network is down.	- Check the cable connection from the primary unit to the network. For cabling instructions, see the *Cisco TelePresence System 1100 Assembly, Use & Care, and Field Replacement Unit Guide*. - Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions. - Restart the network.

Table 7-12   Troubleshooting Cisco TelePresence Network Cabling (continued)

Problem	Possible Cause	Actions
Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface. • Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

> **Note**   For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Where to Go Next

See Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

C H A P T E R **8**

Troubleshooting the CTS 1300-65

Revised: November 2011, OL-21845-01

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting CTS 1300-65 hardware and software.

Before You Begin

1. Obtain your IP address in one of the following ways:

   – From the CTS Cisco Unified IP phone touch the following softkeys:

     Manual > more > Info

     Note If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

   – From the Cisco TelePresence Touch 12 tap the following:

     More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

Note You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

- Managing CTS 1300-65 Hardware Setup, page 8-2
- Managing Log Files, page 8-63
- Testing Audio, page 8-68
- Testing the Network Connection, page 8-69
- Managing Configuration Issues, page 8-69

Managing CTS 1300-65 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note   You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 8-48.

Note   CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

Configuring the CTS 1300-65 Table

Before you can set up the cameras in a Cisco TelePresence System 1300-65 (CTS 1300-65) conference room, the Cisco TelePresence System (CTS) software needs to know the size and shape of the table in the room. A drop-down menu is provided that allows you to specify the shape of the table in the room and where participants will be seated.

> **Note**   The CTS 1300-65 is designed to be used in any type of multipurpose room. However, to ensure that you have the best conferencing experience, Cisco recommends that you optimize your room by using the guidelines and recommendations in Cisco TelePresence System 1300-65 Room Recommendations chapter in the *Cisco TelePresence System 1300-65 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*.

Specifying the Table Size and Shape

Figure 8-1 shows the CTS 1300-65 table configuration menu.

> **Note**   You must specify the table shape before you can perform camera and microphone testing on the CTS 1300-65.

The table must be a minimum of 7 feet wide and 9 feet long.

Figure 8-1   *Cisco CTS 1300-65 Table Configuration Menu*
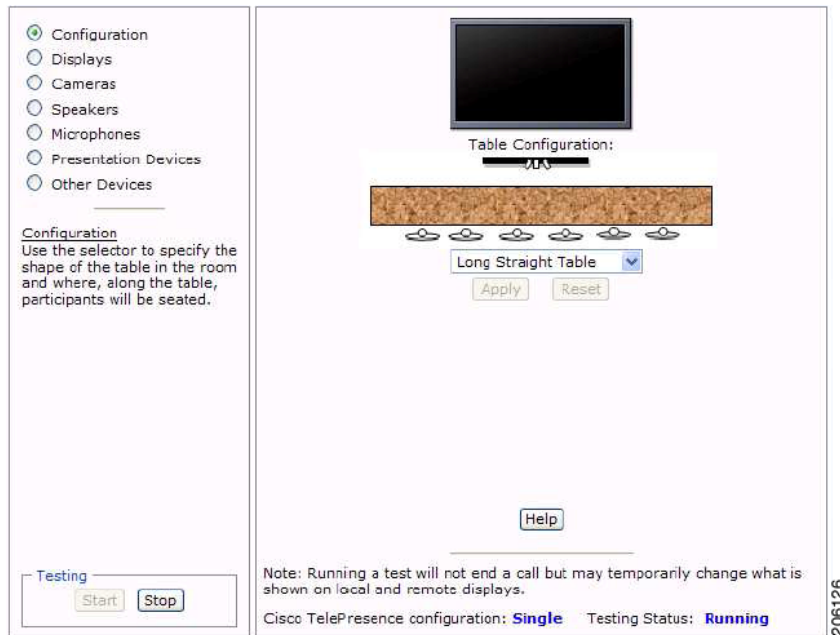
> **Note**   If you log out of the Cisco TelePresence System Administration interface at any time during the camera testing procedure, you must re-select the table type.

See the following sections to configure your table type:

- Configuring the CTS 1300-65 for Use With a Long Straight Table, Wide Rectangular Table, or Long Racetrack table, page 8-12.
- Configuring the CTS 1300-65 for Use With a Short Racetrack Table, page 8-32.

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note   Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)
- 5000 K
- 6500 K
- 7500 K

Tip   In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip   It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Proceed to Adjusting Your Display.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 8-2.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 8-2   *Color Temperature Test Screen*

Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 8-1 to troubleshoot problems with the images on the displays.

Table 8-1   Troubleshooting Displays

Problem	Possible Cause	Action
No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

Related Information

- For more information about setting up and testing displays, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide.*

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the CTS 1300-65 Cameras, page 8-7
- Configuring the CTS 1300-65 for Use With a Conference Room Table, page 8-11
- Arranging the Seat Alignment Guides, page 8-44
- Understanding Camera Setup Choices for Room Lighting, page 8-46
- Troubleshooting Cameras, page 8-46
- Related Information, page 8-47

Note   The camera cover comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 1300-65 Cameras

The CTS 1300-65 supports three cameras and various room configurations and table types. Use the procedures in this section to troubleshoot the cameras depending on your table type.

Note   You must first configure the table size before you can test the camera. See the "Configuring the CTS 1300-65 Table" section on page 8-2. For more information about the supported table types, see the Supported Table Types and Minimum Room Dimensions section of the *Cisco TelePresence System 1300-65 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*.

Note   If you log out of the Cisco TelePresence System Administration interface at any time during the camera testing procedure, you must re-select the table type. To select the correct table type, complete the steps in the "Positioning the Table and Starting the Calibration Procedure" section on page 8-12.

Use the information in the following sections to set up the CTS 1300-65 camera for testing:

- Removing the Camera Cover and Leveling the Cameras, page 8-7
- Attaching the Large Camera Target to the Easel, page 8-10
- Configuring the CTS 1300-65 for Use With a Long Straight Table, Wide Rectangular Table, or Long Racetrack table, page 8-12
- Configuring the CTS 1300-65 for Use With a Short Racetrack Table, page 8-32
- Saving Your Settings, page 8-43

Removing the Camera Cover and Leveling the Cameras

The camera cluster must be perfectly level for you to properly test the camera. To remove the camera cover and level the camera:

Step 1   Remove the camera cover by removing the four black plastic screws on the top and bottom of the camera assembly, as shown in Figure 8-3.

Figure 8-3   *Removing the Camera Cover*
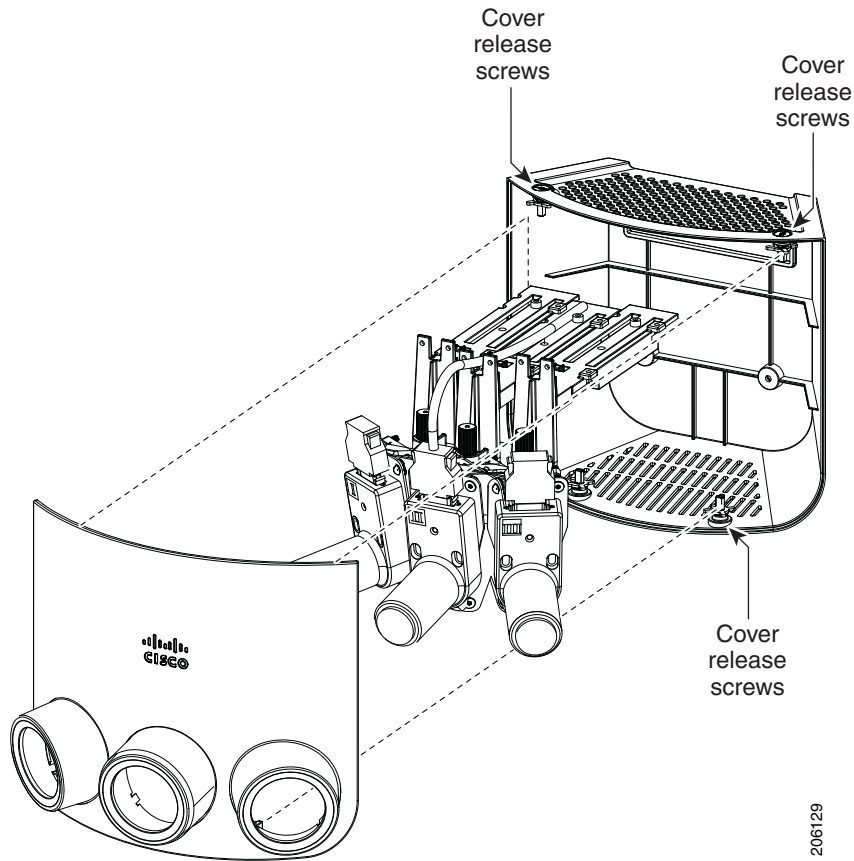
Cover
release
screws

Cover
release
screws

Cover
release
screws

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Step 2 Place the small spirit level on top of the camera assembly and adjust the leveling screws behind the camera cluster until the camera assembly is level, as shown in Figure 8-4.

Figure 8-4   Leveling the Camera Assembly
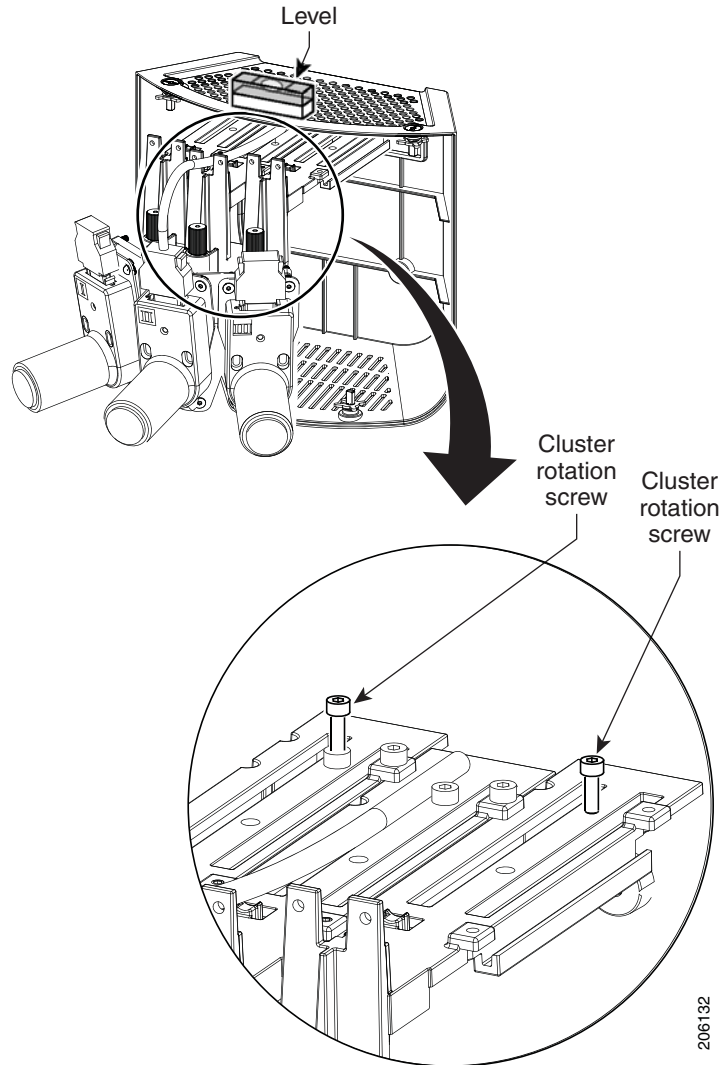
Figure 8-5   *Camera Rotational Adjustment Screws*

Attaching the Large Camera Target to the Easel

To unpack and build the easel and large camera target:

Step 1   Remove the easel, large camera target, and small camera target from their packaging.

Step 2   Unlock and slide the telescoping legs of the easel until the legs are at their full height.

Step 3   Separate the three legs.

Step 4   Raise the front legs until they are 29 inches (74 cm) high.

Step 5   Raise the rear leg until it is 31 inches (79 cm) high.

Step 6   Lock the legs into place using the leg locks.

Step 7   Attach the large camera target to the clip on top of the easel.

Step 8   Raise the target supports on the front legs until they touch the lower part of the large camera target.

Step 9   Raise and lower the front legs until the bottom of the camera target is 32 inches above the ground. Figure 8-6 shows the completed camera target and easel.

Figure 8-6   *Easel and Target After Assembly*
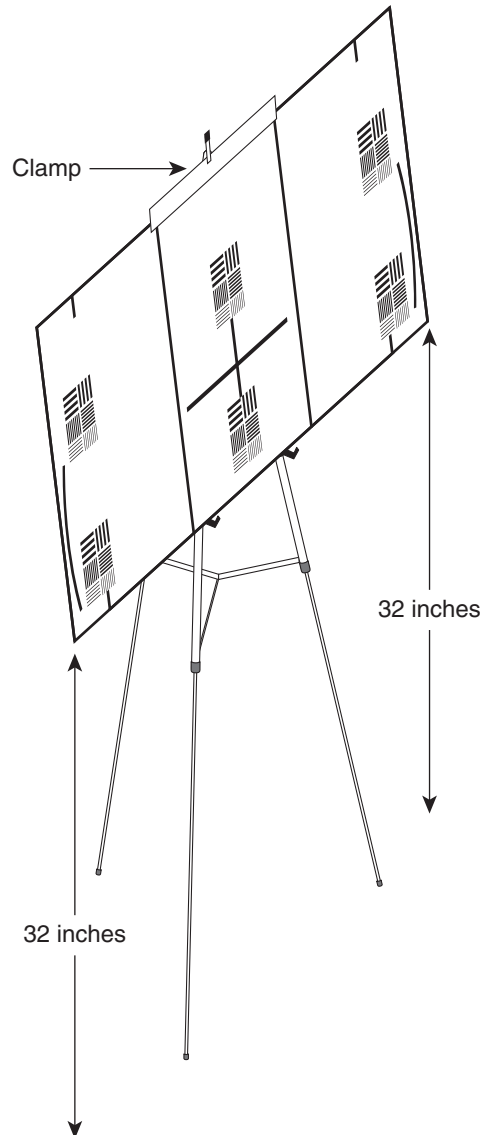
Configuring the CTS 1300-65 for Use With a Conference Room Table

You can configure the CTS 1300-65 to use the existing table in your conference room. Perform the tasks in the section that describes your table type:

- Configuring the CTS 1300-65 for Use With a Long Straight Table, Wide Rectangular Table, or Long Racetrack table, page 8-12

- Configuring the CTS 1300-65 for Use With a Short Racetrack Table, page 8-32

Note   Use the short racetrack camera procedure when two of the six participants directly face the display, and the other four participants sit at an angle to the display.

If four or more of the six participants directly face the display, follow the procedure in the "Configuring the CTS 1300-65 for Use With a Long Straight Table, Wide Rectangular Table, or Long Racetrack table" section on page 8-12

Configuring the CTS 1300-65 for Use With a Long Straight Table, Wide Rectangular Table, or Long Racetrack table

Note If you log out of the Cisco TelePresence System Administration interface at any time during the camera testing procedure, you must re-select the table type. To select the correct table type, complete the steps in the "Positioning the Table and Starting the Calibration Procedure" section on page 8-12.

This section includes the procedures you perform to configure the CTS 1300-65 software and cameras for use with a room that has a long straight table, wide rectangular table, or wide racetrack table, and includes the following topics:

- Positioning the Table and Starting the Calibration Procedure, page 8-12
- Calibrating the Center Camera, page 8-19
- Calibrating the Right Camera, page 8-23
- Calibrating the Left Camera, page 8-25
- Focusing the Center Camera, page 8-27
- Focusing the Right Camera, page 8-29
- Focusing the Left Camera, page 8-29

Positioning the Table and Starting the Calibration Procedure

To correctly position the table and configure the Cisco TelePresence software for use with the CTS 1300-65 cameras:

Step 1 Position the table so that there is a minimum of 44 inches between the display and the front of the table, and make sure that the sides of the table are evenly positioned on each side of the CTS 1300-65, as shown in the following examples:

- Long, straight table, Figure 8-7
- Wide rectangular table, Figure 8-8
- Long racetrack table, Figure 8-9

Step 2 Make sure that the farthest edge of the table is no farther than 110 inches away from the lower bezel of the display.

Note The table must be 28 to 32 inches high. 30 inches is the optimal height.

Figure 8-7   *Long Straight Table Positioning*
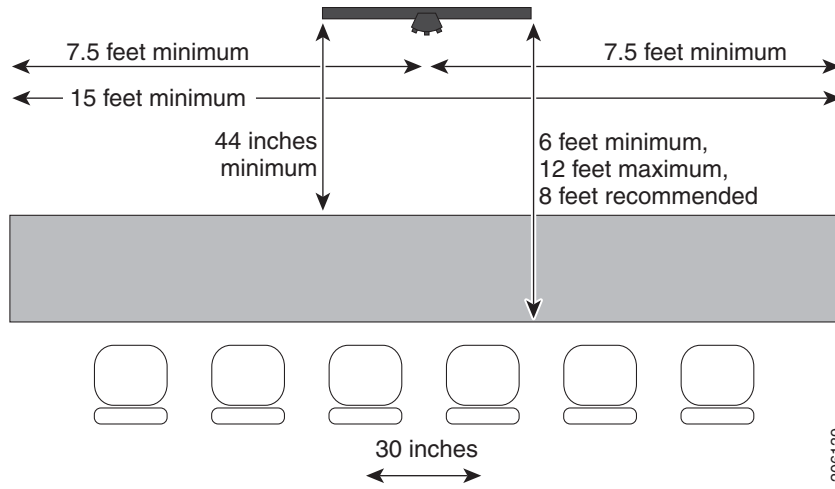
Figure 8-8   *Wide Rectangular Table Positioning*
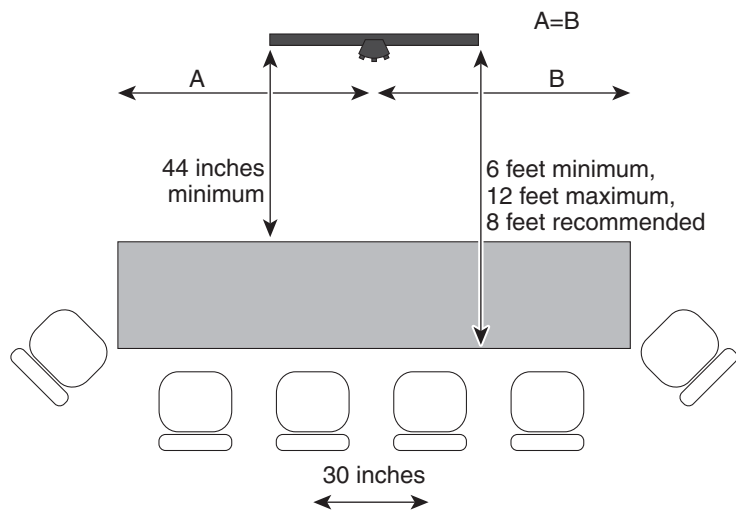
Figure 8-9   Long Racetrack Table Positioning
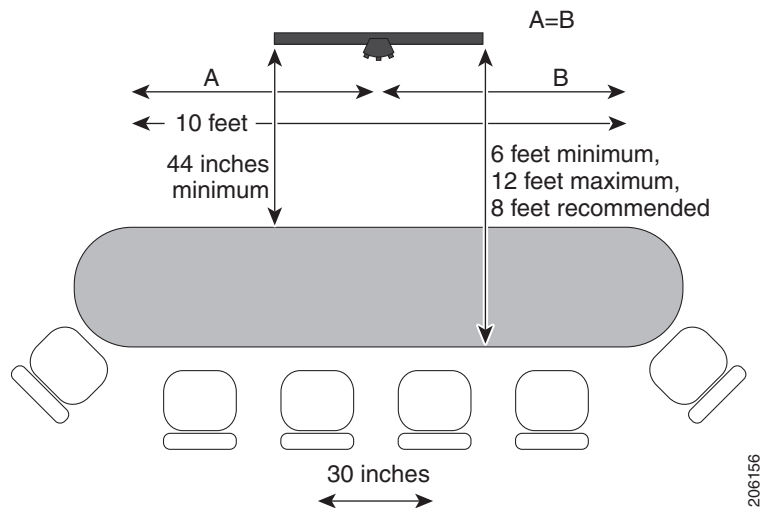
Step 3   Make sure that the camera assembly is level by completing the steps in the "Removing the Camera Cover and Leveling the Cameras" section on page 8-7.

Step 4   Build the easel, and attach the large camera target to the easel, by completing the steps in the "Attaching the Large Camera Target to the Easel" section on page 8-10, making sure that the bottom of the target is 32 inches above the ground.

Step 5   Log in to the Cisco TelePresence System Administration interface.

Step 6   Select the table type by completing the following steps:

    a.   Choose **Troubleshooting** > **Hardware Setup**.

    b.   Click the **Configuration** radio button. The table configuration window appears, as shown in Figure 8-1.

    c.   Click the **Start** button to start testing.

    d.   Select the type of table you have from the drop-down menu:

        – **Long Straight Table** (Figure 8-10)

        – **Long Racetrack Table** (Figure 8-11)

        – **Short Straight Table** (Figure 8-12)

Figure 8-10   Long Straight Table
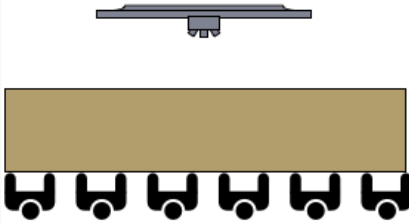
Figure 8-11   *Long Racetrack Table*
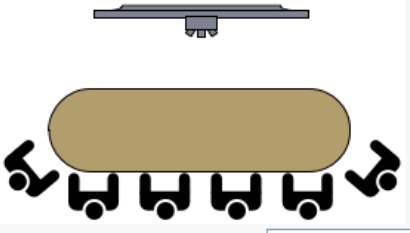
Figure 8-12   Short Straight Table
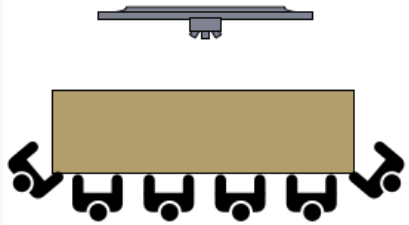
    e. Click **Apply**.

Step 7 Choose **Troubleshooting > Hardware Setup**.

Step 8 Click the **Cameras** radio button. The Camera testing page appears.

Step 9 Click **Start** to start the camera test.

Step 10 Click **Show Camera Target**. The camera target menu appears, as shown in Figure 8-13.

Figure 8-13   *Camera Target Menu*

Step 11   Automatically adjust the cameras by completing the following steps:

    a.   In the **Auto Brightness** field, perform one of the following actions:

- If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

- If your room lighting is not variable, leave the default value.

    b.   In the **Auto Color Balance** field, perform one of the following actions:

- If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

- If your room lighting is not variable, leave the default value.

    c.   In the **50 Hz Flicker Reduction** field, click the **Disable** radio button.

> **Note** If you are in country that uses a 50 Hertz (Hz) power frequency (a country other than the USA, Canada or Mexico) and there is a noticeable flicker on the screen, click the **Enable** radio button in this field. If you enable the flicker reduction feature, the flicker is reduced or eliminated, but the image quality is reduced.
>
> To eliminate the flicker at its source, you can use an electronic ballast instead of a magnet ballast for the fluorescent lights at your installation. After you change the ballast for the fluorescent lights, you can click the **Disable** radio button in the **50 Hz Flicker Reduction** field.

Step 12 Click **Apply** to apply your changes.

Calibrating the Center Camera

To adjust the zoom and initial focus for the center camera:

Step 1 Place the large camera target with the easel in the position where the center two participants will sit, with the front legs of the easel touching the edge of the table.

Step 2 Measure the distance between the corners of the easel and the corners of the display to make sure that the target is parallel to the display, as shown in Figure 8-14.

Figure 8-14   *Measuring the Distance between the Easel and Display*
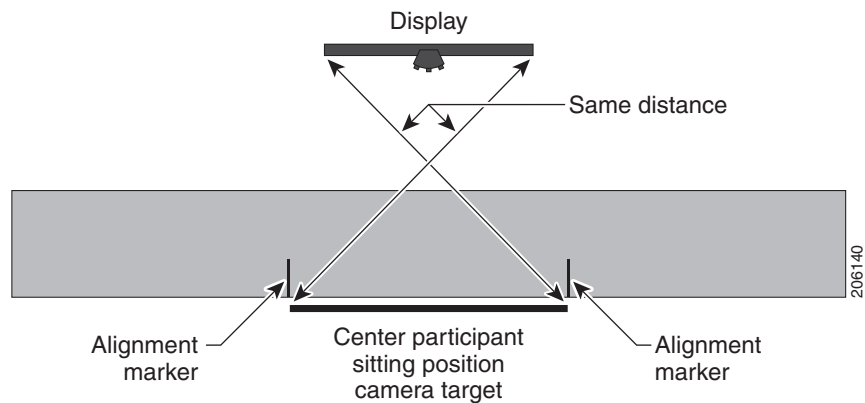
Step 3 Return to the Cisco TelePresence System Administration interface and choose **Troubleshooting > Hardware Setup**.

Step 4 Click the **Cameras** radio button.

Step 5 Click the **Center** radio button.

Step 6 Click **Show Camera Target**. The camera targets appear, as shown in Figure 8-15.

Figure 8-15   *Camera Targets*
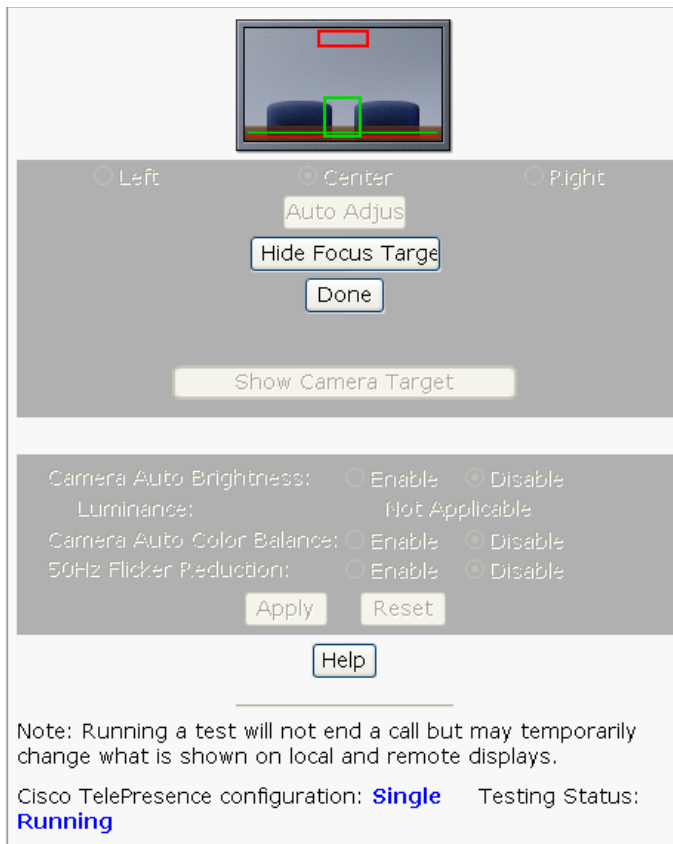
Step 7   Focus the center camera by completing the following steps:

    a. Loosen the focus ring thumbscrew on the lens of the center camera.

    b. Rotate the focus ring until the black plus sign (**+**) on the target is clearly in focus.

Note   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Figure 8-16   Location of Focus and Zoom Ring
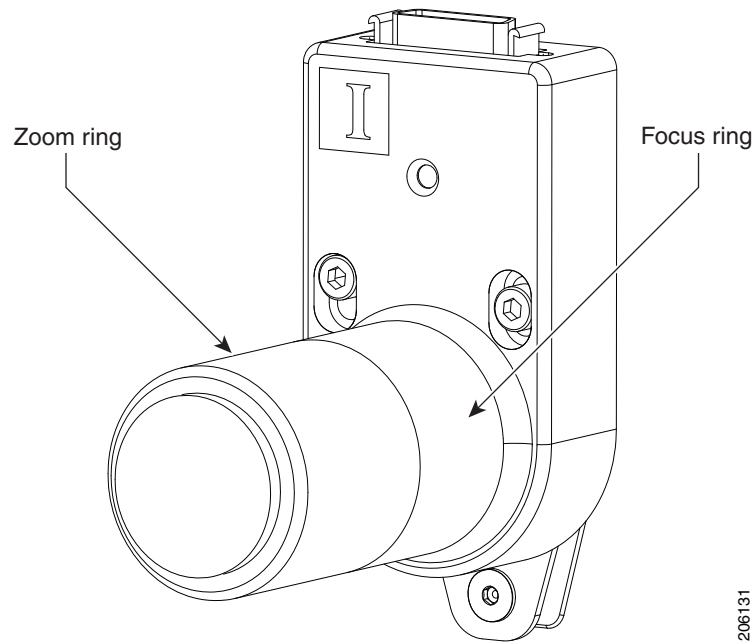
Zoom ring   Focus ring

Step 8   Adjust the camera mounting plate to center the red plus sign (**+**) on the display inside the black plus sign (**+**) on the target, as shown in Figure 8-17.

Figure 8-17   Remove Camera Target
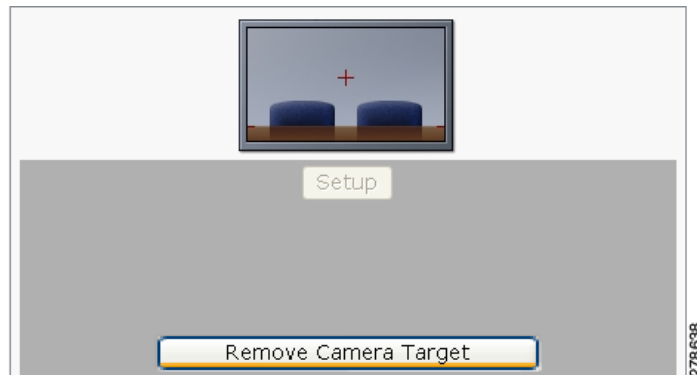
Setup

Remove Camera Target

Figure 8-18 shows the screws that you use to adjust the camera. Use a 2.5 mm Allen wrench.

- Use the top two screws for left and right adjustment.
- The lower screw for up and down adjustment.
- The screws in the middle for adjustments on the horizontal plane (rotational).

Figure 8-18   Camera Adjustment Screws
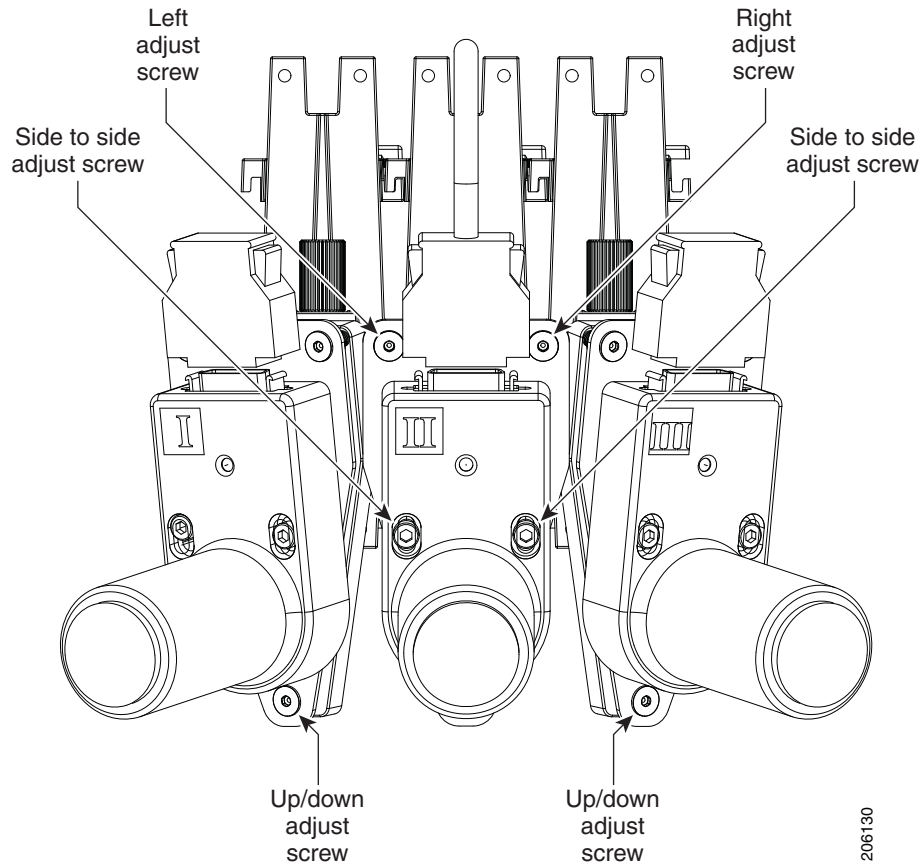
Step 9   Adjust the camera zoom by completing the following steps:

    a.   Loosen the thumbscrew for the zoom ring on the camera lens.

Note   The zoom ring is labeled "W-T."

    b.   Adjust the camera zoom so that the black curved lines on each side of the target touch the edge of the display screen, as shown in Figure 8-19.

    c.   After you adjust the zoom, make any required adjustments to the focus with the focus ring.

Figure 8-19   *Adjusting the Camera Zoom*
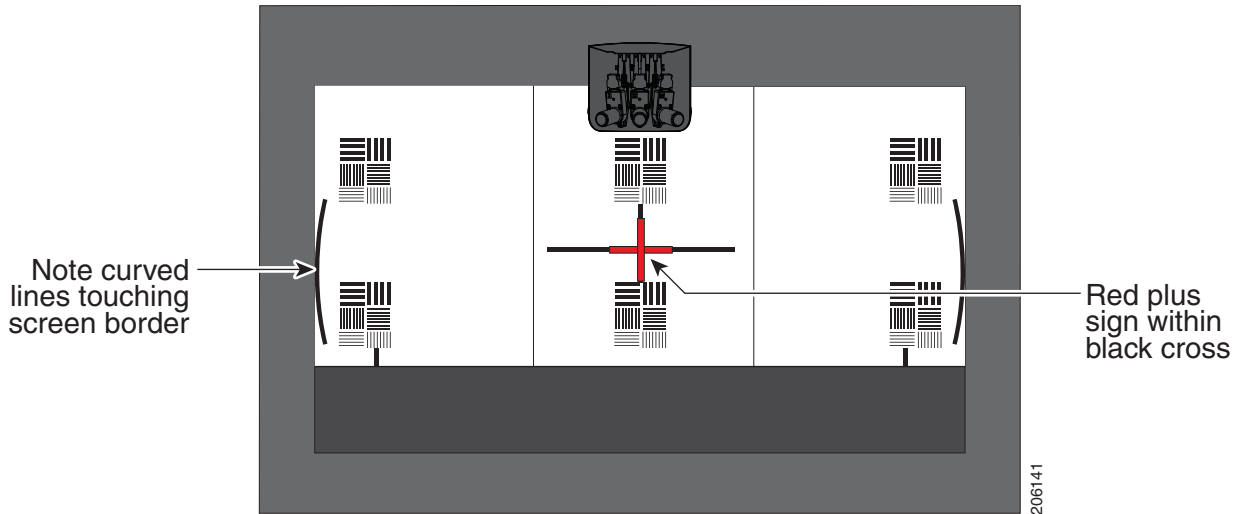
Step 10   Tighten the thumbscrews for the zoom and focus rings.

Step 11   Click **Hide Camera Targets** to remove the alignment images.

Step 12   Click the **Setup** button, then click the **Auto Adjust** button. The auto adjust procedure completes. This procedure takes several seconds.

> **Note**   If there is sufficient light for the system to operate, the gain will be greater than 1 and less than 7 and the process completes normally. If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room to bring the gain value below 7. Then repeat the auto adjust procedure.

Step 13   Click **Done**.

Step 14   To determine the edge of the target when you calibrate and configure the left and right cameras, mark the edges of the large camera target on the table with tape or a marker.

Calibrating the Right Camera

To adjust the zoom and focus the right camera.

> **Note**   The directions *left* and *right* refer to the assembly as you face the display.

Step 1   Slide the large camera target to the right five feet so that the left edge of the target is lined up with the tape marker that you placed on the table in the "Calibrating the Center Camera" section on page 8-19.

Figure 8-20   Positioning the Right Target
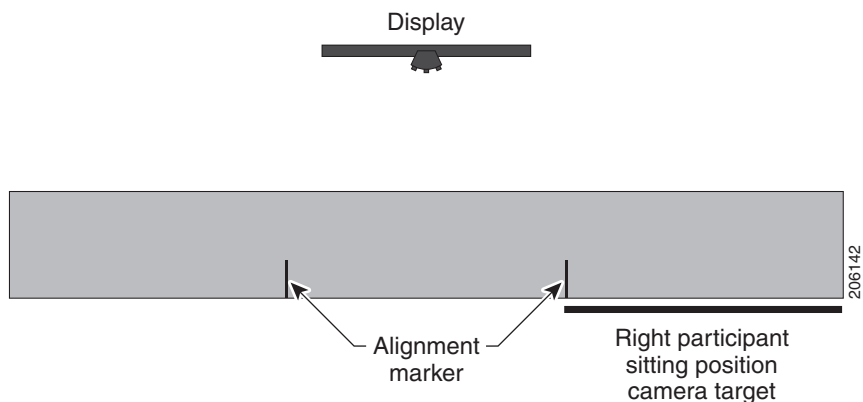
Step 2   Click the **Right** radio button in the Cisco TelePresence Administration interface.

Step 3   Click **Show Camera Target**.

Step 4   Focus the right camera by completing the following steps:

    a.   Loosen the focus ring thumbscrew on the lens of the center camera.

    b.   Rotate the focus ring until the black plus sign (**+**) on the target is clearly in focus.

> **Note**   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Step 5   Adjust the camera mounting plate to center the red plus sign (+) on the display inside the black plus sign (**+**) on the target.

Figure 8-18 shows the screws that you use to adjust the camera. Use a 2.5 mm Allen wrench.

    • Use the top two screws for left and right adjustment.

    • The lower screw for up and down adjustment.

    • The screws in the middle for adjustments on the horizontal plane (rotational).

Step 6   Adjust the camera zoom by completing the following steps:

    a.   Loosen the thumbscrew for the zoom ring on the camera lens.

> **Note**   The zoom ring is labeled "W-T."

    b.   Adjust the camera zoom so that the black curved line on the right of the target touches the right edge of the display screen, as shown in Figure 8-21.

    c.   After you adjust the zoom, make any required adjustments to the focus with the focus ring.

Figure 8-21   Adjusting the Camera Zoom

Step 7   Tighten the thumbscrews for the zoom and focus rings.

Step 8   Click **Hide Camera Targets** to remove the alignment images.

Step 9   Click the **Setup** button, then click the **Auto Adjust** button. The auto adjust procedure completes. This procedure takes several seconds.

> **Note**   If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room and repeat the auto adjust procedure.

Step 10   Click **Done** to complete the procedure.

Calibrating the Left Camera

To adjust the zoom and focus the left camera.

> **Note**   The directions *left* and *right* refer to the assembly as you face the display.

Step 1   Slide the large camera target to the left 10 feet so that the right edge of the target is lined up with the tape marker that you placed on the table in the "Calibrating the Center Camera" section on page 8-19. Figure 8-22 shows placement of the left camera target.

Figure 8-22   Positioning the Left Target

Display

Left participant
sitting position
camera target

Alignment
marker

Step 2   In the Cisco TelePresence Administration interface, click the **Left** radio button.

Step 3   Click **Show Camera Target**.

Step 4   Focus the left camera by completing the following steps:

   a.   Loosen the focus ring thumbscrew on the lens of the center camera.

   b.   Rotate the focus ring until the black plus sign (+) on the target is clearly in focus.

> **Note**   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Step 5   Adjust the camera mounting plate to center the red plus sign (+) on the display inside the black plus sign (+) on the target.

Figure 8-18 shows the screws that you use to adjust the camera. Use a 2.5 mm Allen wrench.

   • Use the top two screws for left and right adjustment.

   • The lower screw for up and down adjustment.

   • The screws in the middle for adjustments on the horizontal plane (rotational).

Step 6   Adjust the camera zoom by completing the following steps:

   a.   Loosen the thumbscrew for the zoom ring on the camera lens.

> **Note**   The zoom ring is labeled "W-T."

   b.   Adjust the camera zoom so that the black curved line on the left of the target touches the left edge of the display screen, as shown in Figure 8-23.

   c.   After you adjust the zoom, make any required adjustments to the focus with the focus ring.

Figure 8-23   *Adjusting the Camera Zoom*

Step 7   Tighten the thumbscrews for the zoom and focus rings.

Step 8   Click **Hide Camera Targets** to remove the alignment images.

Step 9   Click the **Setup** button, then click the **Auto Adjust** button.

The auto adjust procedure completes. This procedure takes several seconds.

> ✎
> **Note**   If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room and repeat the auto adjust procedure.

Step 10   Click **Done** to complete the procedure.

Focusing the Center Camera

To focus the center camera.

Step 1   In the Cisco TelePresence Administration interface, click the **Center** radio button.

Step 2   Click the **Setup** button located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Red and green outline boxes display on the screen, and red and green horizontal bars display on the bottom of the screen, as shown in Figure 8-24. The horizontal bars indicate the sharpness of focus in the boxes that use the corresponding color. Longer bars indicate a sharper focus.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

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c. Have another person hold the target upright.

![Note pencil icon]

Note If another person is not available, clamp the top of the target into the clamp at the top of the easel.

d. Place the top of the easel five feet behind the top of the small target.

e. Position the target so that the topmost patterns are enclosed in the red box.

Figure 8-24   Positioning the Small and Large Targets

Step 6 Adjust the focus on the left camera by completing the following steps:

a. Loosen the thumbscrew for the lens focus ring.

b. Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

![Note pencil icon]

Note Figure 8-24 shows a mirror image of the horizontal bars.

c. Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

d. Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-24 to view the approximate horizontal bar alignment.

![Note pencil icon]

Note The red and green bars do not have to be exactly the same length, but get them as close as you can.

When the bars are roughly the same length, the camera is focused.

e. Without moving the focus ring, tighten its thumbscrew.

Step 7 Click **Done** to complete the right camera focusing procedure.

Focusing the Right Camera

To focus the right camera:

Step 1   In the Cisco TelePresence Administration interface, click the **Right** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

    c.   Have another person hold the target upright.

> ✎
> **Note**   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

    d.   Place the top of the easel five feet behind the top of the small target.

    e.   Position the target so that the topmost patterns are enclosed in the red box, as shown in Figure 8-24.

Step 6   Adjust the camera focus by completing the following steps:

    a.   Loosen the thumbscrew for the lens focus ring.

    b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

> ✎
> **Note**   Figure 8-24 shows a mirror image of the horizontal bars.

    c.   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

    d.   Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-24 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

> ✎
> **Note**   The red and green bars do not have to be exactly the same length, but get them as close as you can.

    e.   Without moving the focus ring, tighten its thumbscrew.

Step 7   Click **Done** to complete the right camera focusing procedure.

Focusing the Left Camera

To focus the left camera:

Step 1   In the Cisco TelePresence Administration interface, click the **Right** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

    c.   Have another person hold the target upright.

> **Note**   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

    d.   Place the top of the easel five feet behind the top of the small target.

    e.   Position the target so that the topmost patterns are enclosed in the red box, as shown in Figure 8-24.

Step 6   Adjust the focus on the left camera by completing the following steps:

    a.   Loosen the thumbscrew for the lens focus ring.

    b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

> **Note**   Figure 8-24 shows a mirror image of the horizontal bars.

    c.   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

    d.   Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-24 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

> **Note**   The red and green bars do not have to be exactly the same length, but get them as close as you can.

    e.   Without moving the focus ring, tighten its thumbscrew.

Step 7   Click **Done** to complete the right camera focusing procedure.

Replacing the Camera Cover

To replace the camera cover:

Step 1   Place the foam lens covers onto the camera lenses, as shown in Figure 8-25.

Figure 8-25   *Attaching the Foam Lens Covers to the Camera Lenses*
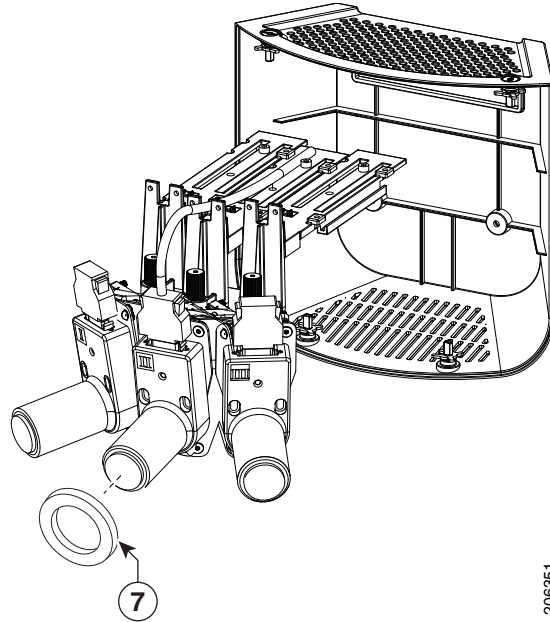
Step 2   Replace the camera cover onto the camera cluster, then tighten the cover release screws to secure the cover to the camera, as shown in Figure 8-26.

Figure 8-26   *Replacing the Camera Cover*
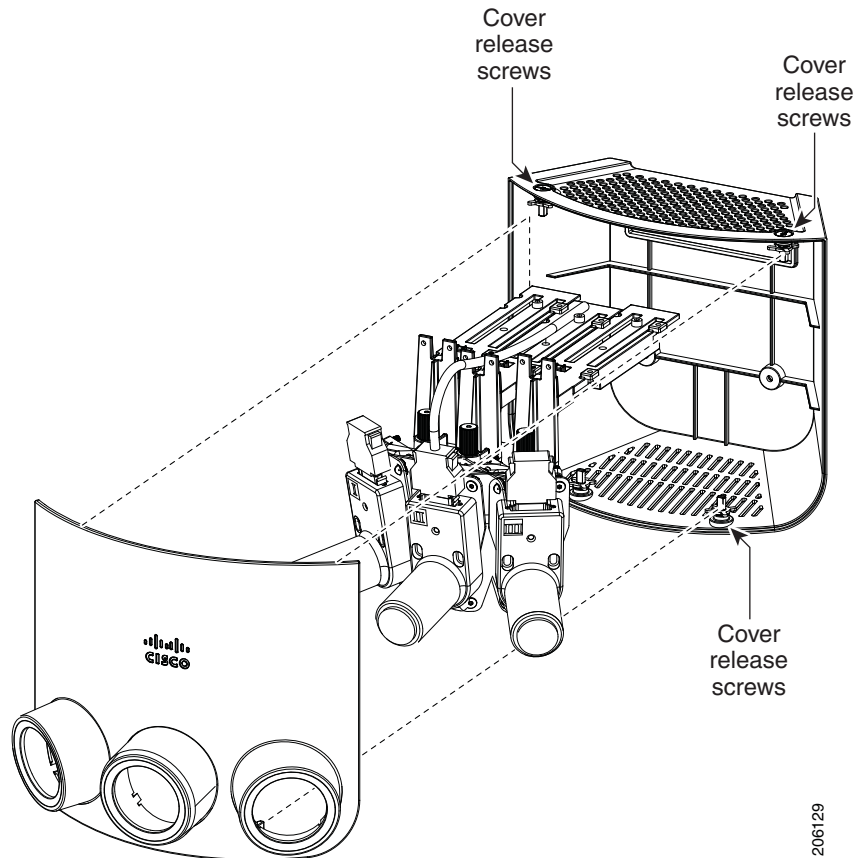
Configuring the CTS 1300-65 for Use With a Short Racetrack Table

> **Note**   If you log out of the GUI, you must re-select the correct table type after you log in; otherwise, you could configure your system for the incorrect table type. To select the correct table type, complete the steps in the "Positioning the Table and Starting the Calibration Procedure" section on page 8-12.

This section contains the following CTS 1300-65 configuration tasks:

Positioning the Table and Starting the Calibration Procedure

To correctly position the table and configure the Cisco TelePresence software for use with the CTS 1300-65 cameras:

Step 1 Position the table so that there is a minimum of 44 inches between the display and the front of the table, and make sure that the sides of the table are evenly positioned on each side of the CTS 1300-65.

Step 2 Make sure that the farthest edge of the table is no farther than 110 inches away from the lower bezel of the display. Figure 8-27 shows recommended table positioning.

Note The table must be 28 to 32 inches high. 30 inches is the optimal height.

Figure 8-27   Short Racetrack Table Positioning

Step 3 Make sure that the camera assembly is level by completing the steps in the "Removing the Camera Cover and Leveling the Cameras" section on page 8-7.

Step 4 Build the easel, and attach the large camera target to the easel, by completing the steps in the "Attaching the Large Camera Target to the Easel" section on page 8-10, making sure that the bottom of the target is 32 inches above the ground.

Step 5 Log in to the Cisco TelePresence System Administration interface.

Step 6 Select the table type by completing the following steps:

a. Choose **Troubleshooting > Hardware Setup**.

b. Click the **Configuration** radio button.

c. Click the **Start** button to start testing.

d. Select **Short Racetrack Table** from the drop-down menu, as shown in Figure 8-28.

Figure 8-28   Short Racetrack Table
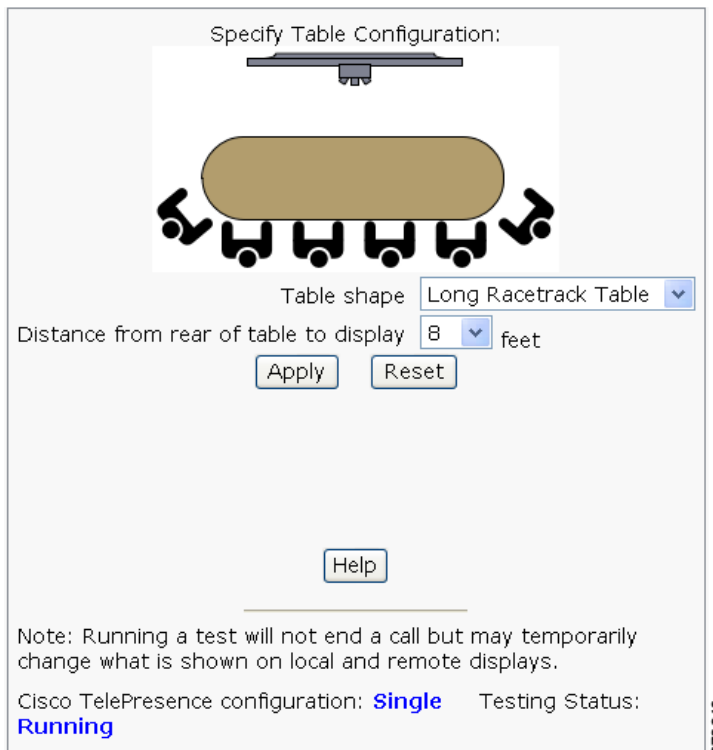
   e.   Click **Apply**.

   f.   Click **Stop** to stop the test.

Step 7   Choose **Troubleshooting > Hardware Setup**.

Step 8   Click the **Cameras** radio button.

Step 9   Click **Start** to start the camera test.

Step 10   Click **Show Camera Target**. The camera targets appear, as shown in Figure 8-15.

Step 11   Automatically adjust the cameras by completing the following steps.

   a.   In the **Auto Brightness** field, perform one of the following actions:

   •   If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

   •   If your room lighting is not variable, leave the default value.

   b.   In the **Auto Color Balance** field, perform one of the following actions:

   •   If the room uses outside lighting, or has any other conditions that could cause variable room lighting, click the **Enable** radio button.

   •   If your room lighting is not variable, leave the default value.

   c.   In the **50 Hz Flicker Reduction** field, click the **Disable** radio button.

Note   If you are in country that uses a 50 Hertz (Hz) power frequency (a country other than the USA, Canada or Mexico) and there is a noticeable flicker on the screen, click the **Enable** radio button in this field. If you enable the flicker reduction feature, the flicker is reduced or eliminated, but the image quality is reduced.

To eliminate the flicker at its source, you can use an electronic ballast instead of a magnet ballast for the fluorescent lights at your installation. After you change the ballast for the fluorescent lights, you can click the **Disable** radio button in the **50 Hz Flicker Reduction** field.

Step 12   Click **Apply** to apply your changes.

Calibrating the Center Camera

To adjust zoom and focus of the center camera.

Note   The directions *left* and *right* refer to the assembly as you face the display.

Step 1   Place the large camera target with the easel in the position where the center two participants will sit, with the front legs of the easel touching the edge of the table.

Step 2   Measure the distance between the corners of the easel and the corners of the display to make sure that the target is parallel to the display, as shown in Figure 8-29.

Figure 8-29   Measuring the Distance between the Easel and Display
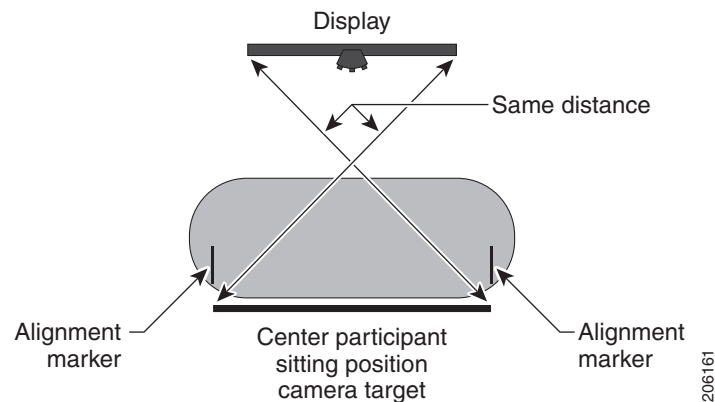
Step 3   Return to the Cisco TelePresence System Administration page and choose **Troubleshooting** > **Hardware Setup** > **Cameras**.

Step 4   Click the **Center** radio button.

Step 5   Click **Show Camera Target**. Red targets appear on the center display.

Step 6   Focus the center camera by completing the following steps:

a.   Loosen the focus ring thumbscrew on the lens of the center camera.

b.   Rotate the focus ring until the black plus sign (+) on the target is clearly in focus.

Note   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Step 7   Adjust the camera mounting plate to center the red plus sign (+) on the display inside the black plus sign (+) on the target.

The screws that you use to adjust the camera are shown in Figure 8-18. Use a 2.5 mm Allen wrench.

- Use the top two screws for left and right adjustment.
- The lower screw for up and down adjustment.
- The screws in the middle for adjustments on the horizontal plane (rotational).

Step 8   Adjust the camera zoom by completing the following steps:

a. Loosen the thumbscrew for the zoom ring on the camera lens.

Note   The zoom ring is labeled "W-T."

b. Adjust the camera zoom so that the black curved lines on each side of the target touch the edge of the display screen, as shown in Figure 8-19.

c. After you adjust the zoom, make any required adjustments to the focus with the focus ring.

Step 9   Tighten the thumbscrews for the zoom and focus rings.

Step 10   Click **Hide Camera Targets** to remove the alignment images.

Step 11   Click the **Setup** button, then click the **Auto Adjust** button.

The auto adjust procedure completes. This procedure takes several seconds.

Note   If there is sufficient light for the system to operate, the gain will be greater than 1 and less than 7 and the process completes normally. If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room to bring the gain value below 7. Then repeat the auto adjust procedure.

Step 12   Click **Done**.

Step 13   Mark the edges of the large camera target on the table with tape or a marker.

Use these marks to determine the edge of the target when you calibrate and configure the left and right cameras.

Calibrating the Right Camera

To adjust the zoom and focus of the right camera.

Note   The directions *left* and *right* refer to the assembly as you face the display.

Step 1   Move the large camera target to the far corner of the racetrack table, as shown in Figure 8-30.

Figure 8-30   Placement of Easel and Target for Small Racetrack Table
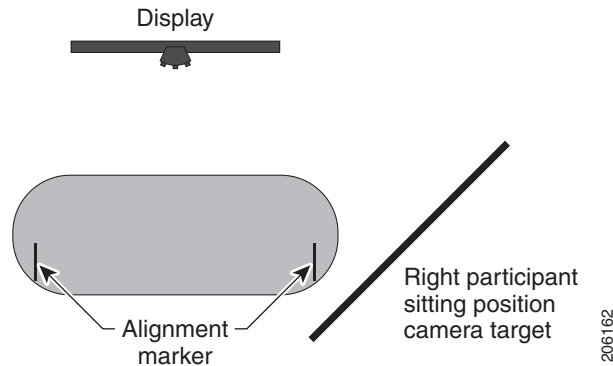
Step 2   In the Cisco TelePresence Administration interface, click the **Right** radio button.

Step 3   Click **Show Camera Target**. Red targets appear on the display.

Step 4   Focus the right camera by completing the following steps:

   a.   Loosen the focus ring thumbscrew on the lens of the center camera.

   b.   Rotate the focus ring until the black plus sign (+) on the target is clearly in focus.

> **Note**   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Step 5   Adjust the camera mounting plate to center the red plus sign (+) on the display inside the black plus sign (+) on the target.

   The screws that you use to adjust the camera are shown in Figure 8-18. Use a 2.5 mm Allen wrench.

   • Use the top two screws for left and right adjustment.

   • The lower screw for up and down adjustment.

   • The screws in the middle for adjustments on the horizontal plane (rotational).

Step 6   Adjust the camera zoom by completing the following steps:

   a.   Loosen the thumbscrew for the zoom ring on the camera lens.

> **Note**   The zoom ring is labeled "W-T."

   b.   Adjust the camera zoom so that the black curved line on the right of the target touches the right edge of the display screen, as shown in Figure 8-31.

   c.   After you adjust the zoom, make any required adjustments to the focus with the focus ring.

> **Note**   Because of the position of the target, the target appears smaller and not parallel to the camera. This view is normal. Participants will appear lifelike after you complete the testing procedure.

Figure 8-31   Adjusting the Camera Zoom

Step 7   Tighten the thumbscrews for the zoom and focus rings.

Step 8   Click **Hide Camera Targets** to remove the alignment images.

Step 9   Click the **Setup** button, then click the **Auto Adjust** button.

The auto adjust procedure completes. This procedure takes several seconds.

Note   If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room and repeat the auto adjust procedure.

Step 10   Click **Done** to complete the procedure.

Calibrating the Left Camera

To adjust the zoom and focus the left camera.

Note   The directions *left* and *right* refer to the assembly as you face the display.

Step 1   Move the large camera target to the far left corner of the table, as shown in Figure 8-32.

Figure 8-32   Positioning Easel and Target for Small Racetrack Table

Step 2   In the Cisco TelePresence Administration interface, click the **Left** radio button.

Step 3   Click **Show Camera Target**.

Step 4   Focus the left camera by completing the following steps:

   a.   Loosen the focus ring thumbscrew on the lens of the center camera.

   b.   Rotate the focus ring until the black plus sign (+) on the target is clearly in focus.

> **Note**   The camera lens has two adjustment rings, one for focus and one for zoom, as shown in Figure 8-16. The focus ring is the one that is nearest to the wall.

Step 5   Adjust the camera mounting plate to center the red plus sign (+) on the display inside the black plus sign (+) on the target.

    The screws that you use to adjust the camera are shown in Figure 8-18. Use a 2.5 mm Allen wrench.

    •   Use the top two screws for left and right adjustment.

    •   The lower screw for up and down adjustment.

    •   The screws in the middle for adjustments on the horizontal plane (rotational).

Step 6   Adjust the camera zoom by completing the following steps:

   a.   Loosen the thumbscrew for the zoom ring on the camera lens.

> **Note**   The zoom ring is labeled "W-T."

   b.   Adjust the camera zoom so that the black curved line on the left of the target touches the left edge of the display screen, as shown in Figure 8-33.

> **Note**   Because of the position of the target, the target appears smaller and not parallel to the camera. This view is normal. Participants will appear lifelike after you complete the testing procedure.

   c.   After you adjust the zoom, make any required adjustments to the focus with the focus ring.

Figure 8-33   *Adjusting the Camera Zoom*

Step 7   Tighten the thumbscrews for the zoom and focus rings.

Step 8   Click **Hide Camera Targets** to remove the alignment images.

Step 9   Click the **Setup** button, then click the **Auto Adjust** button.

The auto adjust procedure completes. This procedure takes several seconds.

Note   If there is insufficient light, the auto adjust procedure terminates. In this case, add more light to the room and repeat the auto adjust procedure.

Step 10   Click **Done** to complete the procedure.

Focusing the Center Camera

To focus the center camera.

Step 1   In the Cisco TelePresence Administration interface, click the **Center** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Red and green outline boxes display on the screen, and red and green horizontal bars display on the bottom of the screen. The horizontal bars indicate the sharpness of focus in the boxes that use the corresponding color. Longer bars indicate a sharper focus.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

c. Have another person hold the target upright.

✎
Note   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

d. Place the top of the easel five feet behind the top of the small target.

e. Position the target so that the topmost patterns are enclosed in the red box.

Step 6   Adjust the focus on the left camera by completing the following steps:

a. Loosen the thumbscrew for the lens focus ring.

b. Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

✎
Note   Figure 8-34 shows a mirror image of the horizontal bars.

c. Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

d. Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-34 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

✎
Note   The red and green bars do not have to be exactly the same length, but get them as close as you can.

Figure 8-34   ***Horizontal Bars and Focusing Targets***

e. Without moving the focus ring, tighten its thumbscrew.

Step 7   Click **Done** to complete the right camera focusing procedure.

Focusing the Right Camera

To focus the right camera.

Step 1   In the Cisco TelePresence Administration interface, click the **Right** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the topmost patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

    c.   Have another person hold the target upright.

> **Note**   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

    d.   Place the top of the easel five feet behind the top of the small target.

    e.   Position the target so that the topmost patterns are enclosed in the red box.

Step 6   Adjust the camera focus by completing the following steps:

    a.   Loosen the thumbscrew for the lens focus ring.

    b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

> **Note**   Figure 8-34 shows a mirror image of the horizontal bars.

    c.   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

    d.   Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-34 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

> **Note**   The red and green bars do not have to be exactly the same length, but get them as close as you can.

    e.   Without moving the focus ring, tighten its thumbscrew.

Step 7   Click **Done** to complete the right camera focusing procedure.

Focusing the Left Camera

To focus the left camera.

Step 1   In the Cisco TelePresence Administration interface, click the **Left** radio button.

Step 2   Click the **Setup** button that is located below the center screen icon.

Step 3   Click **Show Focus Targets**.

Step 4   Position the small camera target by completing the following steps:

    a.   Place the target on the table one foot from the edge where the participants sit.

    b.   Position the target so that the topmost patterns on the target are enclosed in the green box.

Step 5   Position the large target by completing the following steps:

    a.   Remove the large focus target from the easel.

    b.   Rotate the target 90 degrees.

    c.   Have another person hold the target upright.

> **Note**   If another person is not available, clamp the top of the target into the clamp at the top of the easel.

    d.   Place the top of the easel five feet behind the top of the small target.

    e.   Position the target so that the topmost patterns are enclosed in the red box.

Step 6   Adjust the focus on the left camera by completing the following steps:

    a.   Loosen the thumbscrew for the lens focus ring.

    b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

> **Note**   Figure 8-34 shows a mirror image of the horizontal bars.

    c.   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

    d.   Continue to twist the focus ring until the red and green bars are approximately the same length. See Figure 8-34 to view the approximate horizontal bar alignment. When the bars are roughly the same length, the camera is focused.

> **Note**   The red and green bars do not have to be exactly the same length, but get them as close as you can.

    e.   Without moving the focus ring, tighten its thumbscrew.

Step 7   Click **Done** to complete the right camera focusing procedure.

Saving Your Settings

When you have configured all your settings:

Step 1   Click **Apply** to register new or modified settings.

Step 2   Click **Reset** to restore the original settings.

For more information about testing and troubleshooting the CTS 1300-65, see the Setting Up the Camera section in the First-Time Setup chapter of the *Cisco TelePresence 1300-65 Assembly, Use & Care, and Field-Replacement Unit Guide*.

Arranging the Seat Alignment Guides

Conference participants should be seated in an area that is completely within the field of view of one of the three cameras. To ensure this requirement, Cisco provides you with Seat Alignment Guides. After you set up the cameras, you place these guides on the table; these guides show the field of view for each camera.

To place the seat alignment guides on the table:

Step 1   Using a supported Internet browser, log in to the Cisco TelePresence System administration interface.

Step 2   Select the correct table type by completing the following steps:

Step 3   Navigate to **Troubleshooting > Hardware Setup**

Step 4   Click the **Cameras** radio button.

Step 5   Click **Start** to display the image of the cameras in the displays.

Step 6   Note the field of view for each camera.

Step 7   Using non-marking tape (for example, masking tape), tape a mark on the table that denotes the edge of the field of view for each camera.

Place this mark approximately 18 inches (46 cm) from the edge of the table, and point the line of tape at the camera.

Tip   If you cannot determine the camera range, use this guide for marking the table: The focal range of the center segment is approximately 5 feet (152 cm) wide from where the participants sit. The focal range of each side segment is approximately 4 feet six inches (137 cm) wide.

Mark the table in four places:

- Edge of camera view, left camera
- Edge of view between left and center camera
- Edge of view between center and right camera
- Edge of camera view, right camera

Note   If your table is narrow, omit the two markings on the outer edges.

Figure 8-35   Measuring and Installing the Seat Alignment Guides
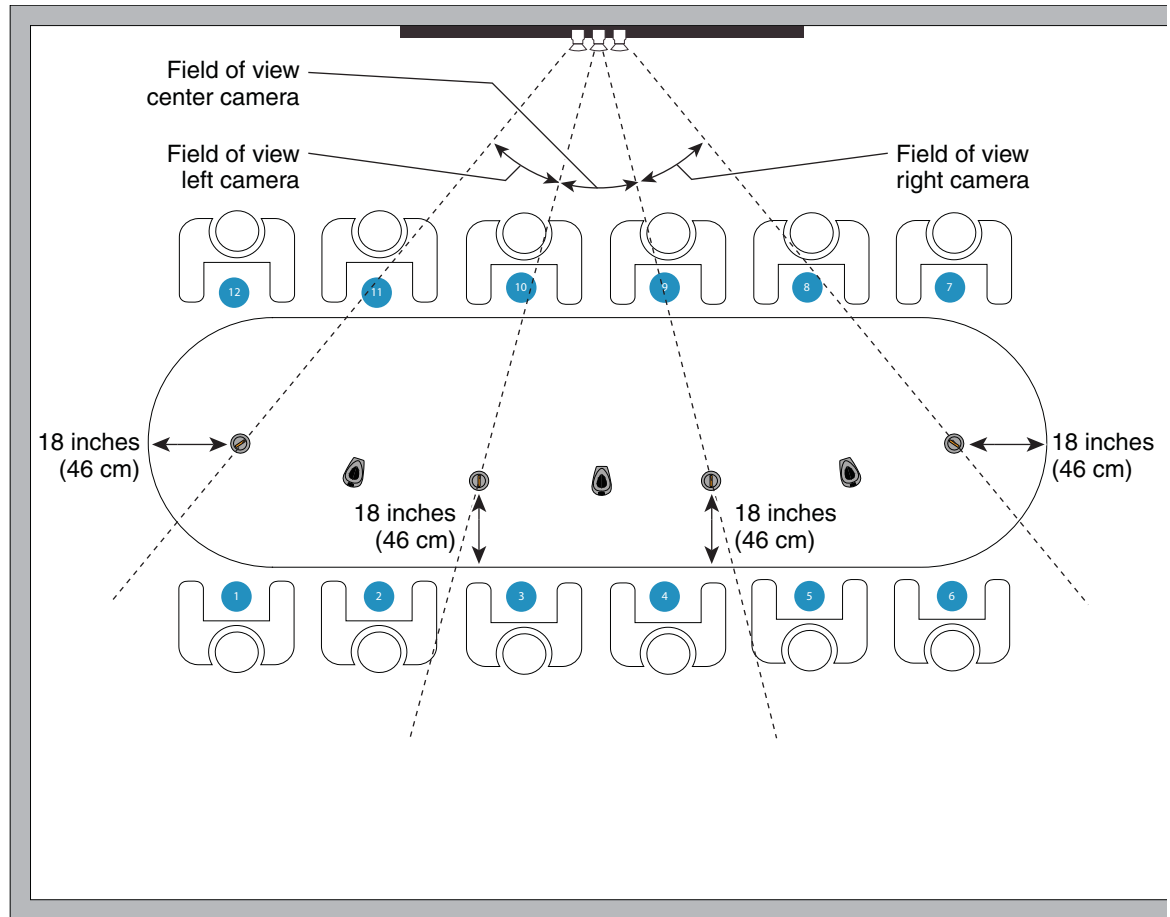
Step 8   Place another piece of tape 18 inches (46 cm) from the edge of the table where the participants sit to form a tape cross on the table.

Step 9   Remove the seat alignment guides and (if required) anchors from their packaging in carton 14.

Step 10   Place the seat alignment guides on each of the crosses on the table. See Figure 8-35 for more information.

Step 11   Arrange the seat alignment guides so that the line on top of the guides point directly toward the camera.

Step 12   Fasten the guides to the table using one of the following methods:

- Remove the adhesive backing from the underside of the guide and stick it to the table, making sure that the line on the guide points directly at the camera.

- Attach the seat alignment guide anchor to the table, and place the guide on the anchor, by completing the following steps:

    a.   Using a 1/4-inch drill bit, drill a 1.125 inch deep hole into the center of each tape cross.

    b.   Remove the tape.

    c.   Screw the seat alignment guide anchor into the hole that you drilled, using the key that is included with the anchor.

d. Place the seat alignment guide on top of the anchor.

e. Rotate the anchor until the line on top of the seat alignment guide points directly at the camera.

Understanding Camera Setup Choices for Room Lighting

If your room has windows that contribute a significant amount of natural light, you can set your CTS to automatically compensate for variable lighting conditions. This compensation is an average adjustment and will not be as accurate as the color settings you select for a room that uses fixed, artificial room lighting.

Table 8-2 contains recommendations for desirable display and camera settings when you set up the display and camera. See the "Testing the CTS 1300-65 Cameras" section on page 8-7 for more information.

Table 8-2   Room Configuration and Camera Setup Choices

Physical Room Configuration	Camera Auto Brightness and Camera Auto Color Balance Setup Choices
No windows	Disable
• One window • Two adjacent windows (corner office configuration) • Two opposing windows • Windows on three sides • Windows on four sides	Enable

Troubleshooting Cameras

Use the information in Table 8-3 to troubleshoot problems with cameras.

Table 8-3   Troubleshooting Cameras

Problem	Possible Cause	Action

Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	• Check that the cables from each camera are plugged into the correct connector on its respective codec.
		
		• Two connections are made for the camera, an RJ-45 cable plugs into the large connector and a video-to-DVI-I cable plugs into the small connector. Connect them as follows:
		  – Plug the center camera into the primary codec.
		  – Plug the participant's left camera into the left secondary codec.
		  – Plug the participant's right camera into the right secondary codec.

Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.
Image colors are incorrect.	• Video cable is only partially connected. • Color settings are not correct.	• Tug on the plug to see if it is fully plugged in. • See the Routing Power and Signal Cables section in the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.
No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Cameras do not switch normally to the active speaker during point-to-point or CTMS meetings.	Audio is on from a presentation source, such as a laptop. Background audio can be heard in the conference room.	Turn off presentation sources or background audio during meetings.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 8-48
- Troubleshooting Speakers, page 8-48
- Related Information, page 8-49

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test.

Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7   Click **Next Speaker** to progress to the next speaker.

Step 8   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 8-4 to troubleshoot problems with speakers.

Table 8-4   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	Check that the speaker cable is plugged into the correct receptor on the primary codec. Plug all speakers into the primary codec.

Table 8-4　　　*Troubleshooting Speakers*

Problem	Possible Cause	Possible Solution
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test.

Note　　The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

• CTS 1300-65—3 "fixed" table-top microphones, 3 "positional" microphones that are mounted behind the top front cover above the display screen: left, right, and center. These microphones establish where the person who is speaking is seated to determine voice-activated camera switching.

By default, Cisco TelePresence uses 3 microphones for a conference that uses video. If you install more than three microphones, Cisco TelePresence uses those microphones for audio conferences only. Each microphone has a corresponding number of audio meters displayed on a single test screen. You can install up to 6 microphones on a CTS 1300-65.

Testing Microphones

Go to the following sections to test microphones:

Testing Microphones on the CTS 1300-65

To test microphones on the CTS 1300-65:

Step 1 Place the microphones around your table. See the Cisco TelePresence System 1300-65 Room Recommendations chapter in the *Cisco TelePresence System 1300-65 Assembly, First-Time Setup, and Field-Replaceable Unit Guide* for the correct microphone placement.

Step 2 Log in to the Cisco TelePresence System Administration interface.

Step 3 Choose **Troubleshooting > Hardware Setup**.

Step 4 Click the **Microphones** radio button.

Step 5 Click **Start** in the Testing box to begin the test. The Microphone Calibration screen appears, as shown in Figure 8-36.

Figure 8-36   Microphone Calibration

Step 6 Click the **Microphone Calibration** button. A dialog box appears:

"Microphone Calibration will last approximately two minutes. Please ensure the room remains quiet during the test. Proceed?"

Note The room must be completely quiet to calibrate microphones. You may want to leave the room and close the door to carry out the calibration process to ensure complete silence in the room.

Each display in the meeting room should show an audio meter showing the audio level being picked up by that display's microphone.

- The center display should show three microphones. A microphone that is not connected has a red slash.

- The left and right displays should show three microphones unless the room is configured for seven microphones. If microphones at the far left or right are connected, they appear on the display with a yellow question mark.

Step 7   Click **Ok** to proceed with the calibration.

Step 8   Test each microphone by tapping gently with one finger.

Step 9   Click **Stop** to end the test.

Configuring Additional Microphones for Audio-Only Conferences

Cisco TelePresence uses three microphones for a conference that uses video. You can configure up to three additional microphones to use during audio-only conferences. Cisco TelePresence uses these additional microphones for audio conferences only.

To configure additional microphones for audio-only conferences, complete the following tasks:

Step 1   Connect the microphones normally to the audio/video extension unit.

You can connect one to three additional microphones (four to six microphones total).

Step 2   Log in to the Cisco Unified Communications Manager Administration GUI

Step 3   Navigate to **Device > Phones**.

Step 4   Find the CTS 1300-65 device that you want to configure and click the hyperlink next to the device to select it.

Step 5   In the Product Specific Configuration Layout area, enter either **4 table microphones**, **5 table microphones**, or **6 table microphones** in the Total Microphone Count drop-down list.

Step 6   Click **Save** to save your changes.

Troubleshooting Microphones

Use the information in Table 8-5 to troubleshoot problems with microphones.

Table 8-5   Troubleshooting Microphones

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	• Move objects away from the microphone. • Confirm the laptop is not open and in-between the user and the microphone

Table 8-5   Troubleshooting Microphones (continued)

Problem	Possible Cause	Possible Solution
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays. 	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Sound registers at the wrong microphone.	Microphone cable is not connected to its corresponding codec.	• Check that the cable from the microphone is plugged into the correct receptor on the codec. • Plug all microphones into the primary codec.
Microphone switches to a segment that has no one talking.	Phantom switching.	Run the microphone calibration procedure in the "Testing Microphones on the CTS 1300-65" section on page 8-50.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

- For more information about setting up and testing presentation devices, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the center screen of multi-screen main display systems. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP on the main display screen. This display is attached to the External Presentation Display HD video connection on the codec. See the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*. for more information.

✎
Note   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 1300-65 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting** > **Hardware Setup**

Step 3   Click **Presentation Devices**. The presentation devices test screen appears, as shown in Figure 8-37.

Figure 8-37   *Presentation Devices Test Screen*
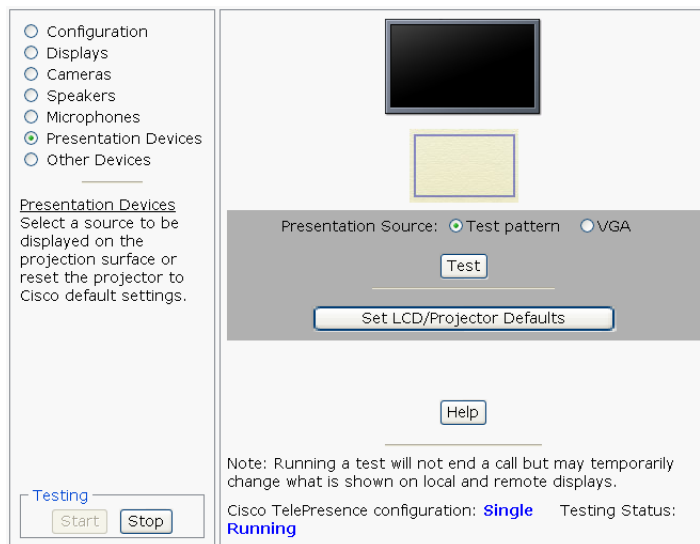
Step 4   Proceed to Testing Presentation Devices.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer).

> **Note**   You should run this test only if you have presentation display devices installed.

Table 8-6 contains supported presentation devices listed by system.

Table 8-6   Supported Presentation Devices

Presentation Device

	Included in Cisco TelePresence System	Optional in Cisco TelePresence System
Projector	• CTS 1300-65	—

The projector is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

> **Tip**   When troubleshooting presentation devices, start with the projector test pattern to see if the projector is set up correctly and then proceed through VGA and document camera input tests as necessary.

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 8-55
- Checking the VGA, page 8-56
- Resetting the Projector, page 8-57
- Troubleshooting Presentation Devices, page 8-57
- Related Information, page 8-54

Checking the Test Pattern

To check the test pattern:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**. The test pattern screen appears, as shown in

Figure 8-38   ***Test Pattern***

It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

a. Click **Stop Test** to end the test. The Set LCD/Projector Defaults button is activated.

b. Click **Set LCD/Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

c. **Picture adj**: **Overscan** should be set to **0**

d. **Screen**: **Normal**

Step 6   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 7   Click **Stop** in the Testing box to end all testing.

Checking the VGA

To check the VGA:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5 Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6 Click **Stop Test** to end the test.

Step 7 Click **Set LCD/Projector Defaults** to reset the projector to the default settings, if necessary.

Step 8 Click **Stop** in the Testing box to end all testing.

Resetting the Projector

To reset the projector:

Step 1 Log in to the Cisco TelePresence System Administration interface.

Step 2 Choose **Troubleshooting > Hardware Setup**.

Step 3 Click the **Presentation Devices** radio button.

Step 4 Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5 Click **Set Projector Defaults** to reset the projector to the default settings.

Step 6 Click **Stop** in the Testing box to complete the task.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

- Multiple Input Devices, page 8-57
- Presentation Devices, page 8-57

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in

Presentation Devices

Use the information in Table 8-7 to troubleshoot presentation devices.

Table 8-7   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	• Check projector power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	• Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Table 8-7   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

> **Tip**   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing presentation devices, see the following documentation:

- *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System Troubleshooting Guide*

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

- Auxiliary Control Unit, page 8-60
- Verifying CTS 1300-65 Light Function, page 8-61
- Digital Media Player, page 8-61
- Troubleshooting Other Devices, page 8-62
- Related Information, page 8-63

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed, as shown in Figure 8-39. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

Figure 8-39   Testing the ACU
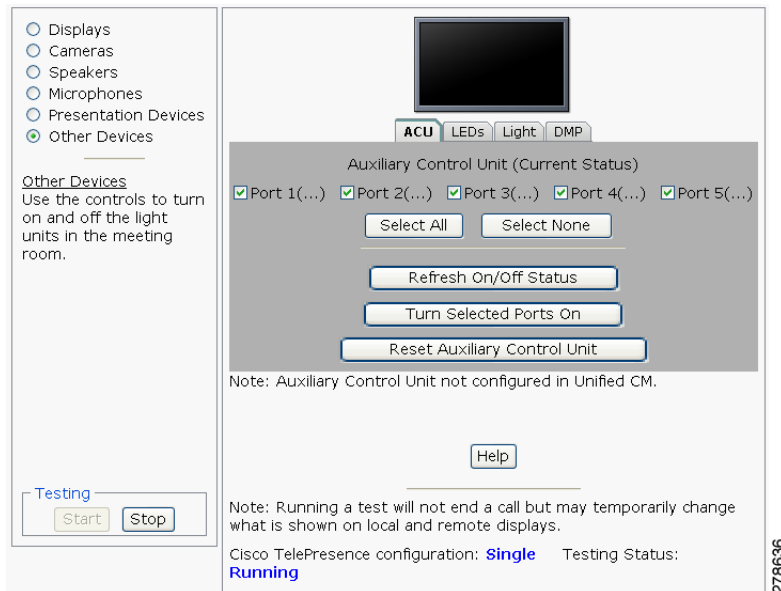
a.   Check a box to select a specific port number.

Or

    b. Click **Select All** to select all ports (and all light units) or **Select None**.

    c. Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d. Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e. Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 5   Click **Stop** to end the test.

Verifying CTS 1300-65 Light Function

Each CTS 1300-65 has a built-in light fixture. This troubleshooting feature lets you see or change the status of the light.

To test the light fixture, perform the following procedure:

Step 1   Navigate to **Troubleshooting > Hardware Setup**.

Step 2   Click the **Other Devices** radio button.

Step 3   Click the **Light** tab.

Step 4   Click the **Start** radio button to begin testing the light.

- If the light feature is enabled, the **Light State On** button is highlighted.
- If the light feature is disabled, the **Light State Off button** is highlighted.

Step 5   Click the **Light State On** or **Light State Off** button to change the current state of the light.

Step 6   To end the test, click **Stop**.

When you end the testing, the state of the light reverts to its default setting as specified in Cisco Unified Communications Manager.

Digital Media Player

If present on your system, the Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a Cisco TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input.

- If you have a PC attached, the S**econdary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

Tip   Setting the DMP to PC in Unified CM allows you to hear DMP audio.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 8-8 to troubleshoot problems with Other Devices.

Table 8-8   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player - DMP audio is playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	- Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. - When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
- DMP audio is not playing.	The configuration settings in **Other Devices > DMP > Audio to DMP** is incorrect.	Setting the DMP to PC allows you to hear DMP audio.
Presentation Devices - Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	- Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. - When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
- Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: - If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. - If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.

Table 8-8   Troubleshooting Other Devices (continued)

Problem	Possible Cause	Possible Solution
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.

Tip	Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

- For more information about setting up and testing other devices, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip	If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

- Sysop Log, page 8-63
- Log Files, page 8-64
- SIP Messages, page 8-65

Sysop Log

To manage sysop messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view system operation (sysop) messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3 Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

    a. Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

    Or

    b. Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1 Choose **Troubleshooting > Log Files**.

Step 2 Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem**—Problem Type drop-down menu contains the following:
  - Audio (speakers, microphones)
  - Video (displays, cameras)
  - Phone
  - Recording
  - Other/Unknown

Figure 8-40 shows the problem types that you can select when downloading log files.

Figure 8-40   Select Problem Type Drop-Down Menu
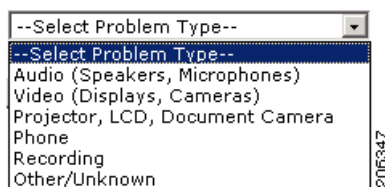
Step 3 Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 8-41 shows the log download radio button options.
- **Download existing log files**—You must select this radio button to download logs.
- **Capture New Log Files—**The system will capture but not download the log files.

Note You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 8-41   *Downloading Log Files*

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

- Audio (speakers, microphones)

- Video (displays, cameras)

- Projector, alternate display, LCD, document camera

- Phone

- Recording

- Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 8-9 and Table 8-10 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

   a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

   Or

   b.   Select the message type from the drop-down menu. The Filter button is activated.

   c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1   Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

   Or

Step 2   Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1   Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2   Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 8-66
- SIP Response Categories, page 8-67

SIP Requests and Methods

Table 8-9 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 8-9   Supported SIP Requests and Methods

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 8-9.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 8-9 using the response categories described in Table 8-10.

Table 8-10   SIP Response Categories

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3 If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4 Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5 Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

Note Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1 Choose **Troubleshooting > Audio**.

Step 2 Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

Note Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3 Click **Stop Audio Recording** to stop recording.

Step 4 After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 8-42.

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 8-42   Auto Negotiate On

Step 3   Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

⚠

Caution   Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1   Choose **Troubleshooting** > **Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2   Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

✎

Note   If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

⚠

Caution   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting** > **System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 8-11 to solve problems that may occur with the video picture on the displays.

Table 8-11   Troubleshooting Cisco TelePresence Screen Resolution Problems

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

Note   See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- CTS 1300-65—The following cameras are connected to the primary unit:
  - Left
  - Right
  - Center
- An Ethernet cable (RJ-45) connects the primary codec to the user network.

> **Note**   For detailed cabling information, see the Routing Power and Signal Cables section in the *Cisco TelePresence System 1300-65 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*

Table 8-12 contains troubleshooting solutions for network cabling.

Table 8-12   Troubleshooting Cisco TelePresence Network Cabling

Problem	Possible Cause	Actions
Cisco Unified IP Phone is off.	• Power to the primary unit is off. • Phone is not connected to the phone port on the primary unit. • The system does not recognize the phone or it is unregistered. • The network is down.	• Check the power connection to the Cisco TelePresence System, and verify that the system is turned on. • Check the cable connection from the primary unit to the Cisco Unified IP Phone. For cabling information, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*. • Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
Cisco IP Phone does not register with the IP network.	• The network cable is not connected to the primary unit. • The network configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.
Cisco IP Phone does not register with the IP network.	• Cisco Unified Communications Manager is down or disabled. • The network is down.	• Check the cable connection from the primary unit to the network. For cabling instructions, see the *Cisco TelePresence System 1300-65 Assembly, Use & Care, and Field Replacement Unit Guide*. • Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions. • Restart the network.

Table 8-12   ***Troubleshooting Cisco TelePresence Network Cabling (continued)***

Problem	Possible Cause	Actions
Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface. • Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Note   For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Where to Go Next

See Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

C H A P T E R **9**

Troubleshooting the TX1300 47

Revised: March 2012, OL-21845-01

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting TX1300 47 hardware and software.

Before You Begin

1. Obtain your IP address:

 – From the Cisco TelePresence Touch 12 tap the following:

 More > **Status** > **System Status**

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

Note You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

Managing TX1300 47 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

- Configuring the TX1300 47 Table, page 9-2
- Managing Displays, page 9-4
- Testing Cameras, page 9-6
- Testing Speakers, page 9-14
- Testing Microphones, page 9-15
- Testing the External Presentation Display, page 9-19
- Testing Presentation Devices, page 9-20
- Testing Other Devices, page 9-25

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 9-14.

Note CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

Configuring the TX1300 47 Table

Before you can set up the cameras in a Cisco TelePresence System TX1300 47 conference room, the Cisco TelePresence System (CTS) software needs to know the size and shape of the table in the room. A drop-down menu is provided that allows you to specify the shape of the table in the room and where participants will be seated.

Note The TX1300 47 is designed to be used in any type of multipurpose room. However, to ensure that you have the best conferencing experience, Cisco recommends that you optimize your room by using the guidelines and recommendations in Cisco TelePresence System TX1300 47 Room Recommendations chapter in the *Cisco TelePresence System TX1300 47 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*.

Specifying the Table Size and Shape

Figure 9-1 shows the TX1300 47 table configuration menu.

✎

Note   You must specify the table shape before you can perform camera and microphone testing on the
TX1300 47.

Figure 9-1   Cisco TX1300 47 Table Configuration Menu
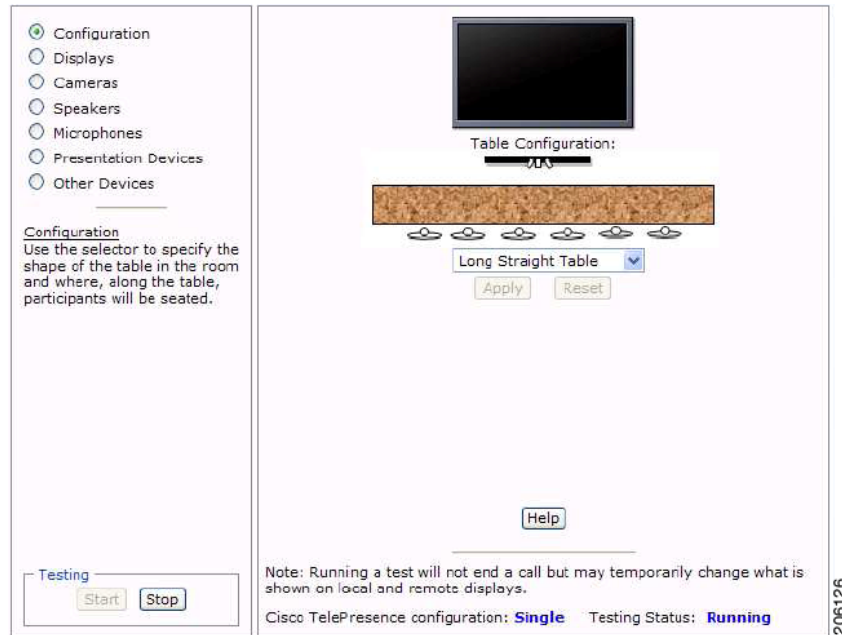
✎

Note   If you log out of the Cisco TelePresence System Administration interface at any time during the camera
testing procedure, you must re-select the table type.

For information about configuring the TX1300 47 with different types of tables, refer to the appropriate
section in the First-Time Setup chapter of the *Cisco TelePresence TX1300 47 Assembly, Use & Care, and
Field-Replacement Unit Guide* listed below:

- Configuring the TX1300 47 for Use With a Round or Square Table
- Configuring the TX1300 47 for Use With a Bullet Table
- Configuring the TX1300 47 for Use With a Rectangular or Racetrack Table

---

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 9-4
- Adjusting Your Display, page 9-5
- Troubleshooting Displays, page 9-6
- Related Information, page 9-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)
- 5000 K
- 6500 K
- 7500 K

Tip In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Proceed to Adjusting Your Display.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process.The Current Color Temperature test screen appears, as shown in Figure 9-2.

✏️ **Note**   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 9-2   Color Temperature Test Screen

Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 9-1 to troubleshoot problems with the images on the displays.

Table 9-1   Troubleshooting Displays

Problem	Possible Cause	Action
No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

Related Information

- For more information about setting up and testing displays, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide.*

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the TX1300 47 Cameras, page 9-7
- Configuring the TX1300 47 for Use With a Conference Room Table, page 9-9
- Arranging the Seat Alignment Guides, page 9-10
- Understanding Camera Setup Choices for Room Lighting, page 9-12
- Troubleshooting Cameras, page 9-12
- Related Information, page 9-13

Note The camera cover comes off. It should be removed and left off until these procedures are complete.

Testing the TX1300 47 Cameras

The TX1300 47 supports three cameras and various room configurations and table types. Use the procedures in this section to troubleshoot the cameras depending on your table type.

Note   You must first configure the table size before you can test the camera. See the "Configuring the TX1300 47 Table" section on page 9-2. For more information about the supported table types, see the Supported Table Types and Minimum Room Dimensions section of the *Cisco TelePresence System TX1300 47 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*.

Note   If you log out of the Cisco TelePresence System Administration interface at any time during the camera testing procedure, you must re-select the table type.

Use the information in the following sections to set up the TX1300 47 camera for testing:

- Preparing for Camera Setup, page 9-7
- Configuring the TX1300 47 for Use With a Conference Room Table, page 9-9
- Saving Your Settings, page 9-9

Preparing for Camera Setup

To prepare for the camera setup, complete the following steps:

Step 1   Remove the easel, large camera target, and small camera target from their packaging.

Step 2   Unlock and slide the telescoping legs of the easel until the legs are at their full height.

Step 3   Separate the three legs.

Step 4   Raise the front legs until they are 29 inches (74 cm) high.

Step 5   Raise the rear leg until it is 31 inches (79 cm) high.

Step 6   Lock the legs into place using the leg locks.

Step 7   Attach the large camera target to the clip on top of the easel.

Step 8   Raise the target supports on the front legs until they touch the lower part of the large camera target.

Step 9   Raise and lower the front legs until the bottom of the camera target is 32 inches above the ground. Figure 9-3 shows the completed camera target and easel.

Figure 9-3   *Easel and Target After Assembly*

Clamp

32 inches

32 inches
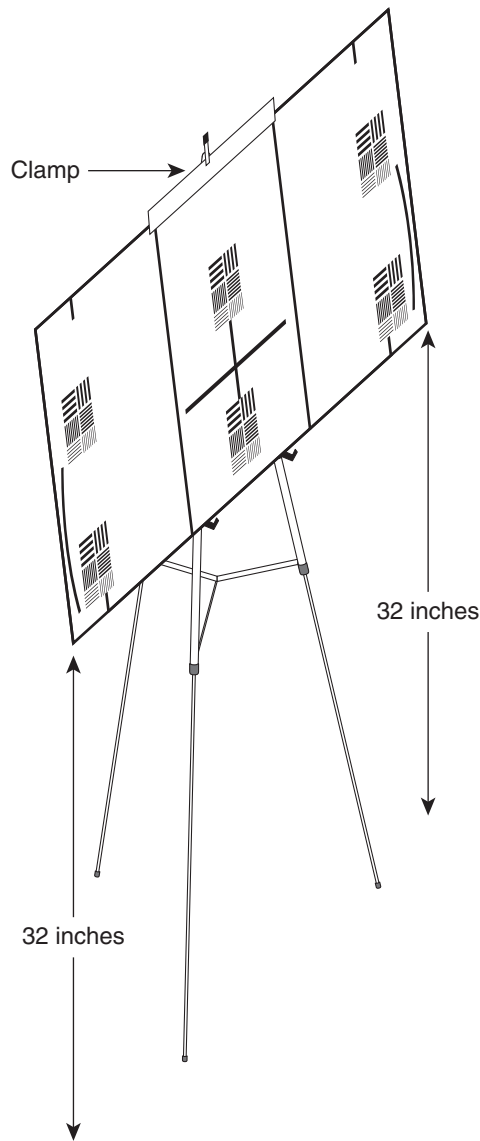
206125

Step 10   Remove the camera cover by removing the four black plastic screws on the top and bottom of the camera assembly, as shown in Figure 9-4.

Figure 9-4　　　*Removing the Camera Cover*
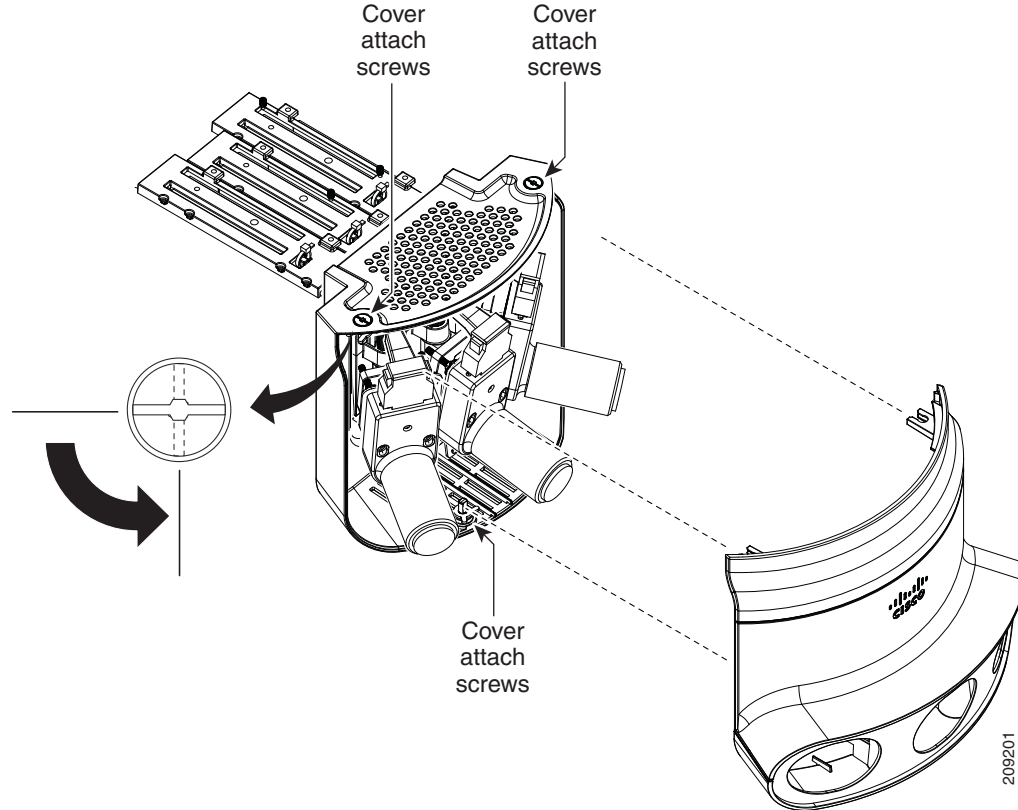
Configuring the TX1300 47 for Use With a Conference Room Table

For information about configuring the TX1300 47 with different types of tables, refer to the appropriate section in the First-Time Setup chapter of the *Cisco TelePresence TX1300 47 Assembly, Use & Care, and Field-Replacement Unit Guide* listed below:

- Configuring the TX1300 47 for Use With a Round or Square Table
- Configuring the TX1300 47 for Use With a Bullet Table
- Configuring the TX1300 47 for Use With a Rectangular or Racetrack Table

Saving Your Settings

When you have configured all your settings:

Step 1　　Click **Apply** to register new or modified settings.

Step 2　　Click **Reset** to restore the original settings.

For more information about testing and troubleshooting the TX1300 47, see the Setting Up the Camera section in the First-Time Setup chapter of the *Cisco TelePresence TX1300 47 Assembly, Use & Care, and Field-Replacement Unit Guide*.

Arranging the Seat Alignment Guides

Conference participants should be seated in an area that is completely within the field of view of one of the three cameras. To ensure this requirement, Cisco provides you with Seat Alignment Guides. After you set up the cameras, you place these guides on the table; these guides show the field of view for each camera.

To place the seat alignment guides on the table, complete the following steps:

Step 1   Using a supported Internet browser, log in to the Cisco TelePresence System administration GUI.

Step 2   Select the correct table type by completing the following steps:

Step 3   Navigate to **Troubleshooting > Hardware Setup > Cameras**.

Step 4   Click **Start** to display the image of the cameras in the displays.

Step 5   Note the field of view for each camera.

Step 6   Using non-marking tape (for example, masking tape), tape a mark on the table that denotes the edge of the field of view for each camera.

Place this mark approximately 18 inches (46 cm) from the edge of the table, and point the line of tape at the camera.

Tip   If you cannot determine the camera range, use this guide for marking the table: The focal range of the center segment is approximately 5 feet (152 cm) wide from where the participants sit. The focal range of each side segment is approximately 4 feet 6 inches (137 cm) wide.

Mark the table in four places:

- Edge of camera view, left camera
- Edge of view between left and center camera
- Edge of view between center and right camera
- Edge of camera view, right camera

Note   If your table is narrow, omit the two markings on the outer edges.

Figure 9-5   *Measuring and Installing the Seat Alignment Guides*
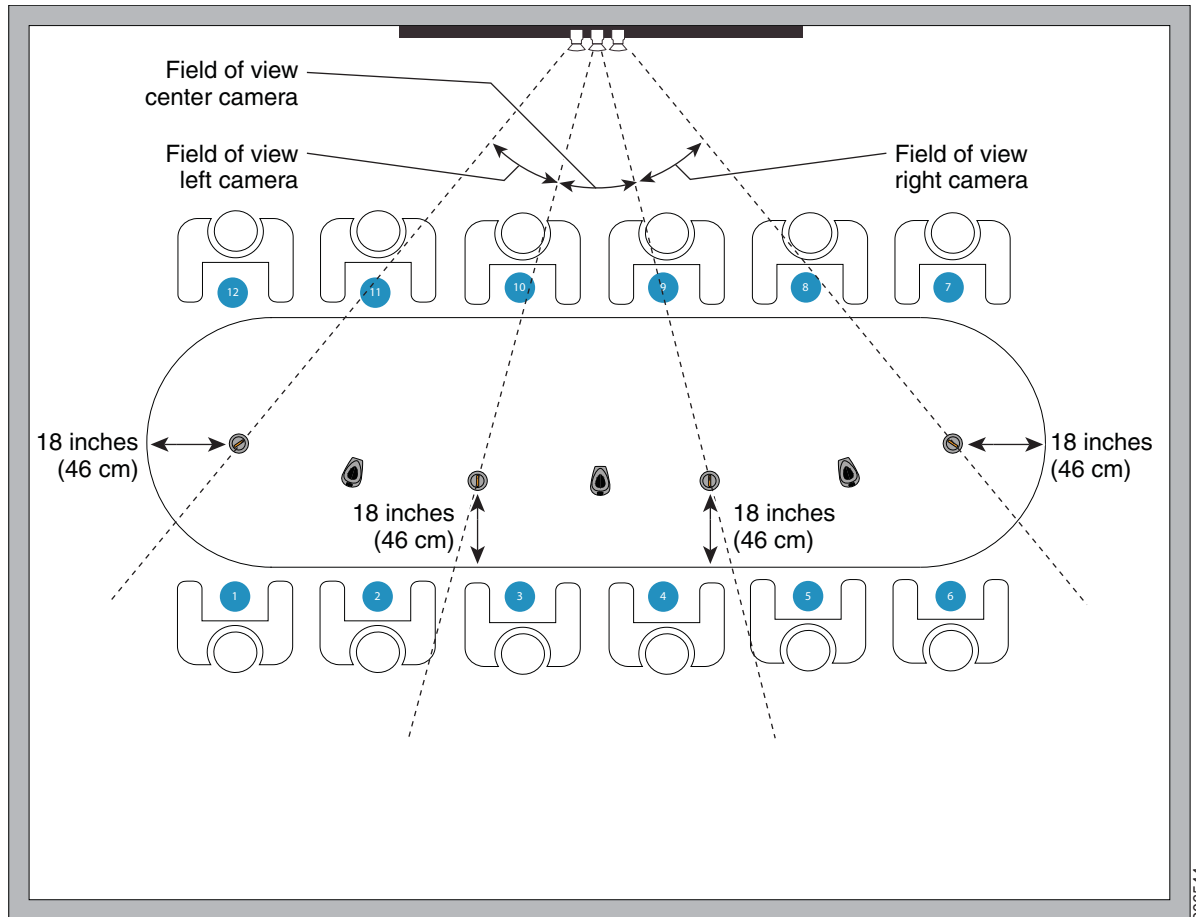
Step 7   Place another piece of tape 18 inches (46 cm) from the edge of the table where the participants sit to form a tape cross on the table.

Step 8   Remove the seat alignment guides and (if required) anchors from their packaging in carton 14.

Step 9   Place the seat alignment guides on each of the crosses on the table. See Figure 9-5 for more information.

Step 10   Arrange the seat alignment guides so that the line on top of the guides point directly toward the camera.

Step 11   Fasten the guides to the table using one of the following methods:

- Remove the adhesive backing from the underside of the guide and stick it to the table, making sure that the line on the guide points directly at the camera.

- Attach the seat alignment guide anchor to the table, and place the guide on the anchor, by completing the following steps:

    a. Using a 1/4-inch drill bit, drill a 1.125 inch deep hole into the center of each tape cross.

    b. Remove the tape.

    c. Screw the seat alignment guide anchor into the hole that you drilled, using the key that is included with the anchor.

    d. Place the seat alignment guide on top of the anchor.

    e. Rotate the anchor until the line on top of the seat alignment guide points directly at the camera.

Understanding Camera Setup Choices for Room Lighting

If your room has windows that contribute a significant amount of natural light, you can set your CTS to automatically compensate for variable lighting conditions. This compensation is an average adjustment and will not be as accurate as the color settings you select for a room that uses fixed, artificial room lighting.

Table 9-2 contains recommendations for desirable display and camera settings when you set up the display and camera. See the "Testing the TX1300 47 Cameras" section on page 9-7 for more information.

Table 9-2   ***Room Configuration and Camera Setup Choices***

Physical Room Configuration	Camera Auto Brightness and Camera Auto Color Balance Setup Choices
No windows	Disable
• One window • Two adjacent windows (corner office configuration) • Two opposing windows • Windows on three sides • Windows on four sides	Enable

Troubleshooting Cameras

Use the information in Table 9-3 to troubleshoot problems with cameras.

Table 9-3   *Troubleshooting Cameras*

Problem	Possible Cause	Action

Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	• Check that the cables from each camera are plugged into the correct connector on its respective codec.
		• Two connections are made for the camera, an RJ-45 cable plugs into the large connector and a video-to-DVI-I cable plugs into the small connector. Connect them as follows:
		  – Plug the center camera into the primary codec.
		  – Plug the participant's left camera into the left secondary codec.
		  – Plug the participant's right camera into the right secondary codec.

Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.
Image colors are incorrect.	• Video cable is only partially connected. • Color settings are not correct.	• Tug on the plug to see if it is fully plugged in. • See the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.
No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Cameras do not switch normally to the active speaker during point-to-point or CTMS meetings.	Audio is on from a presentation source, such as a laptop. Background audio can be heard in the conference room.	Turn off presentation sources or background audio during meetings.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 9-14
- Troubleshooting Speakers, page 9-14
- Related Information, page 9-15

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test.

Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7   Click **Next Speaker** to progress to the next speaker.

Step 8   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 9-4 to troubleshoot problems with speakers.

Table 9-4   *Troubleshooting Speakers*

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	Check that the speaker cable is plugged into the correct receptor on the primary codec. Plug all speakers into the primary codec.

Table 9-4   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test.

Note   The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

• TX1300 47—3 "fixed" table-top microphones, 3 "positional" microphones that are mounted behind the top front cover above the display screen: left, right, and center. These microphones establish where the person who is speaking is seated to determine voice-activated camera switching.

  By default, Cisco TelePresence uses 3 microphones for a conference that uses video. If you install more than three microphones, Cisco TelePresence uses those microphones for audio conferences only. Each microphone has a corresponding number of audio meters displayed on a single test screen. You can install up to 6 microphones on a TX1300 47.

Testing Microphones

Go to the following sections to test microphones:

• Testing Microphones on the TX1300 47, page 9-16

Testing Microphones on the TX1300 47

To test microphones on the TX1300 47:

Step 1   Place the microphones around your table. See the Cisco TelePresence System TX1300 47 Room Recommendations chapter in the *Cisco TelePresence System TX1300 47 Assembly, First-Time Setup, and Field-Replaceable Unit Guide* for the correct microphone placement.

Step 2   Log in to the Cisco TelePresence System Administration interface.

Step 3   Choose **Troubleshooting > Hardware Setup**.

Step 4   Click the **Microphones** radio button.

Step 5   Click **Start** in the Testing box to begin the test. The Microphone Calibration screen appears, as shown in Figure 9-6.

Figure 9-6   Microphone Calibration

Step 6   Click the **Microphone Calibration** button. A dialog box appears:

"Microphone Calibration will last approximately two minutes. Please ensure the room remains quiet during the test. Proceed?"

Note   The room must be completely quiet to calibrate microphones. You may want to leave the room and close the door to carry out the calibration process to ensure complete silence in the room.

Each display in the meeting room should show an audio meter showing the audio level being picked up by that display's microphone.

      • The center display should show three microphones. A microphone that is not connected has a red slash.

      • The left and right displays should show three microphones unless the room is configured for seven microphones. If microphones at the far left or right are connected, they appear on the display with a yellow question mark.

Step 7   Click **Ok** to proceed with the calibration.

Step 8   Test each microphone by tapping gently with one finger.

Step 9   Click **Stop** to end the test.

Configuring Additional Microphones for Audio-Only Conferences

Cisco TelePresence uses three microphones for a conference that uses video. You can configure up to three additional microphones to use during audio-only conferences. Cisco TelePresence uses these additional microphones for audio conferences only.

To configure additional microphones for audio-only conferences, complete the following tasks:

Step 1   Connect the microphones normally to the audio/video extension unit.

You can connect one to three additional microphones (four to six microphones total).

Step 2   Log in to the Cisco Unified Communications Manager Administration GUI

Step 3   Navigate to **Device > Phones**.

Step 4   Find the TX1300 47 device that you want to configure and click the hyperlink next to the device to select it.

Step 5   In the Product Specific Configuration Layout area, enter either **4 table microphones**, **5 table microphones**, or **6 table microphones** in the Total Microphone Count drop-down list.

Step 6   Click **Save** to save your changes.

Troubleshooting Microphones

Use the information in Table 9-5 to troubleshoot problems with microphones.

Table 9-5   Troubleshooting Microphones

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	• Move objects away from the microphone. • Confirm the laptop is not open and in-between the user and the microphone
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays.	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Sound registers at the wrong microphone.	Microphone cable is not connected to its corresponding codec.	• Check that the cable from the microphone is plugged into the correct receptor on the codec. • Plug all microphones into the primary codec.

Table 9-5 *Troubleshooting Microphones (continued)*

Problem	Possible Cause	Possible Solution
Microphone switches to a segment that has no one talking.	Phantom switching.	Run the microphone calibration procedure in the "Testing Microphones on the TX1300 47" section on page 9-16.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

- For more information about setting up and testing presentation devices, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the center screen of multi-screen main display systems. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP on the main display screen. This display is attached to the External Presentation Display HD video connection on the codec. See the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*. for more information.

Note   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the TX1300 47 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup**

Step 3   Click **Presentation Devices**. The presentation devices test screen appears, as shown in Figure 9-7.

Figure 9-7   Presentation Devices Test Screen
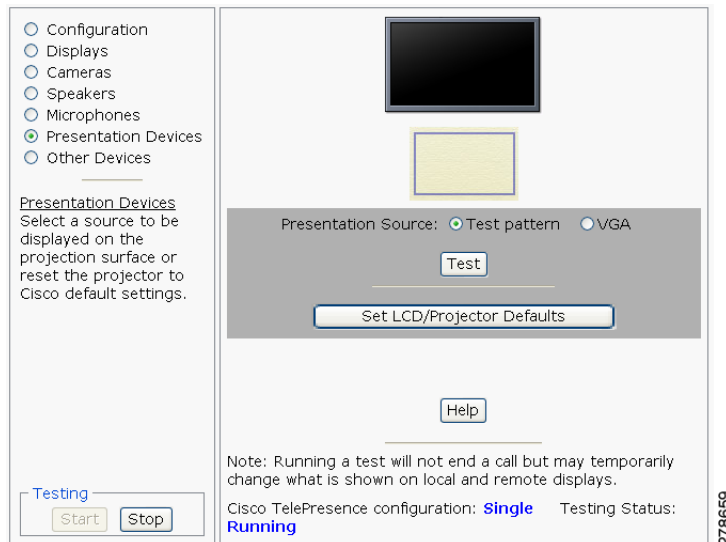
Step 4   Proceed to Testing Presentation Devices.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer).

Note   You should run this test only if you have presentation display devices installed.

See the Cisco TelePresence System Administration Release Notes for a list of supported presentation devices.

The projector is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

Tip   When troubleshooting presentation devices, start with the projector test pattern to see if the projector is set up correctly and then proceed through VGA and document camera input tests as necessary.

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 9-21
- Checking the VGA, page 9-22
- Resetting the Projector, page 9-22
- Troubleshooting Presentation Devices, page 9-22
- Related Information, page 9-19

Checking the Test Pattern

To check the test pattern:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**. The test pattern screen appears, as shown in

Figure 9-8   *Test Pattern*

It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

a.   Click **Stop Test** to end the test. The Set LCD/Projector Defaults button is activated.

b.   Click **Set LCD/Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

c.   **Picture adj**: **Overscan** should be set to **0**

d.   **Screen**: **Normal**

Step 6   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 7   Click **Stop** in the Testing box to end all testing.

Checking the VGA

To check the VGA:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set LCD/Projector Defaults** to reset the projector to the default settings, if necessary.

Step 8   Click **Stop** in the Testing box to end all testing.

Resetting the Projector

To reset the projector:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 6   Click **Stop** in the Testing box to complete the task.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in

Presentation Devices

Use the information in Table 9-6 to troubleshoot presentation devices.

Table 9-6   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	• Check projector power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	• Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Table 9-6   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing presentation devices, see the following documentation:

- *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System Troubleshooting Guide*

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed, as shown in Figure 9-9. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

Figure 9-9   Testing the ACU
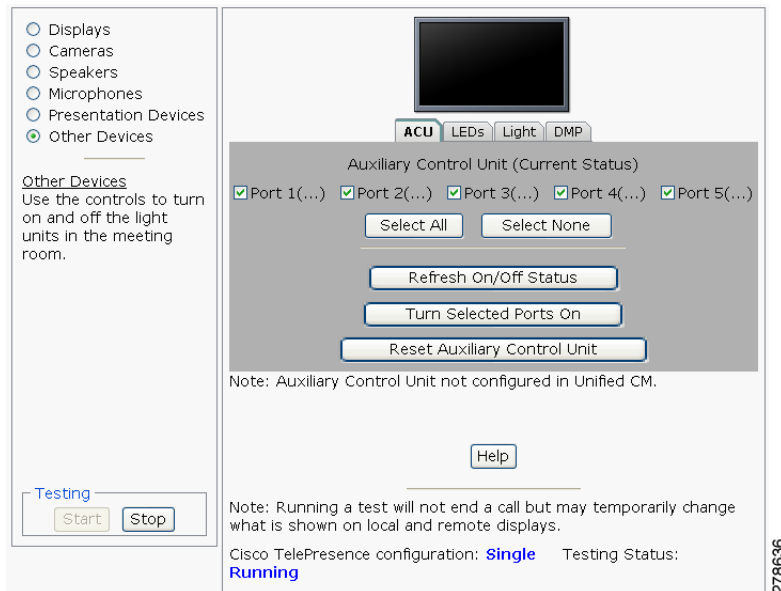
a.   Check a box to select a specific port number.

    Or

    b.   Click **Select All** to select all ports (and all light units) or **Select None**.

    c.   Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d.   Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e.   Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 5   Click **Stop** to end the test.

Verifying TX1300 47 Light Function

Each TX1300 47 has a built-in light fixture. This troubleshooting feature lets you see or change the status of the light.

To test the light fixture, perform the following procedure:

Step 1   Navigate to **Troubleshooting > Hardware Setup**.

Step 2   Click the **Other Devices** radio button.

Step 3   Click the **Light** tab.

Step 4   Click the **Start** radio button to begin testing the light.

    • If the light feature is enabled, the **Light State On** button is highlighted.

    • If the light feature is disabled, the **Light State Off button** is highlighted.

Step 5   Click the **Light State On** or **Light State Off** button to change the current state of the light.

Step 6   To end the test, click **Stop**.

When you end the testing, the state of the light reverts to its default setting as specified in Cisco Unified Communications Manager.

Digital Media Player

If present on your system, the Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a Cisco TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input.

    • If you have a PC attached, the S**econdary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

Tip   Setting the DMP to PC in Unified CM allows you to hear DMP audio.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 9-7 to troubleshoot problems with Other Devices.

Table 9-7   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player - DMP audio is playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	- Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. - When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
- DMP audio is not playing.	The configuration settings in **Other Devices > DMP > Audio to DMP** is incorrect.	Setting the DMP to PC allows you to hear DMP audio.
Presentation Devices - Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	- Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. - When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
- Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: - If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. - If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.

Table 9-7 *Troubleshooting Other Devices (continued)*

Problem	Possible Cause	Possible Solution
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.

Tip   Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

- For more information about setting up and testing other devices, see the *Cisco TelePresence System TX1300 47 Assembly, Use & Care, and Field Replacement Unit Guide*.

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip   If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

Sysop Log

To manage sysop messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view system operation (sysop) messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3   Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

a.   Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

Or

b.   Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem**—Problem Type drop-down menu contains the following:
  - Audio (speakers, microphones)
  - Video (displays, cameras)
  - Phone
  - Recording
  - Other/Unknown

Figure 9-10 shows the problem types that you can select when downloading log files.

Figure 9-10   *Select Problem Type Drop-Down Menu*
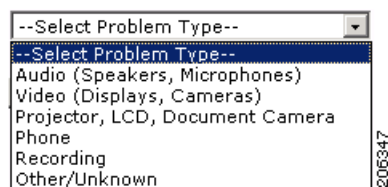
Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 9-11 shows the log download radio button options.
- **Download existing log files**—You must select this radio button to download logs.
- **Capture New Log Files—**The system will capture but not download the log files.

> **Note**   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 9-11   Downloading Log Files

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

- – Audio (speakers, microphones)
- – Video (displays, cameras)
- – Projector, alternate display, LCD, document camera
- – Phone
- – Recording
- – Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 9-8 and Table 9-9 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

Or

b.   Select the message type from the drop-down menu. The Filter button is activated.

c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1   Double-click a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Or

Step 2   Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1   Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2   Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 9-31
- SIP Response Categories, page 9-32

SIP Requests and Methods

Table 9-8 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 9-8   *Supported SIP Requests and Methods*

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 9-8.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 9-8 using the response categories described in Table 9-9.

Table 9-9   *SIP Response Categories*

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3   If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4   Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5   Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

> **Note**   Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1   Choose **Troubleshooting > Audio**.

Step 2   Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

> **Note**   Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3   Click **Stop Audio Recording** to stop recording.

Step 4   After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 9-12.

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 9-12   Auto Negotiate On

Step 3   Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

⚠ **Caution**   Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1   Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2   Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

✎ **Note**   If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

⚠ **Caution**   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting > System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 9-10 to solve problems that may occur with the video picture on the displays.

Table 9-10   Troubleshooting Cisco TelePresence Screen Resolution Problems

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

> **Note**   See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.
>
> For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

The TX1300 47 uses the Cisco TelePresence Touch 12 Device (CTT 12) as a control device, and it is connected to the primary codec using an Ethernet cable (RJ-45 connector). For information about troubleshooting the CTT 12, see the Cisco TelePresence Touch 12 System Status and Troubleshooting Tips section of the *Cisco TelePresence Touch 12 User Guide*.

An Ethernet cable (RJ-45) connects the primary codec to the user network.
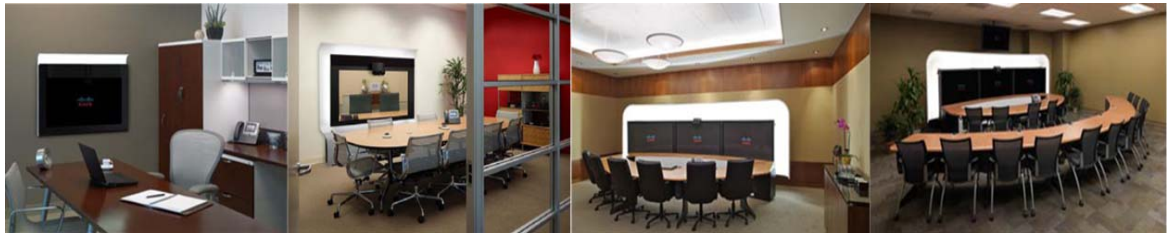
Note   For detailed cabling information, see the Routing Power and Signal Cables section in the *Cisco TelePresence System TX1300 47 Assembly, First-Time Setup, and Field-Replaceable Unit Guide*

Where to Go Next

See Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

Troubleshooting the CTS 3000 and CTS 3200

Revised: November 2011, OL-21845-01

> ✎ **Note** Cisco announces the end-of-sale and end-of life dates for the Cisco TelePresence System 3000 and Cisco TelePresence System 3200.

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting hardware and software on the following CTS devices:

- CTS 3000
- CTS 3200

Before You Begin

1. Obtain your IP address in one of the following ways:

   – From the CTS Cisco Unified IP phone touch the following softkeys:

   Manual > more > Info

   > ✎ **Note** If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

   – From the Cisco TelePresence Touch 12 tap the following:

   More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

> ✎ **Note** You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

- Managing CTS 3000 and CTS 3200 Hardware Setup, page 10-2

Managing CTS 3000 and CTS 3200 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

Note   You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 10-15.

Figure 10-1 shows an example of the Cisco TelePresence System administration tools available to assist you with troubleshooting tasks.

Figure 10-1   ***Troubleshooting Window***
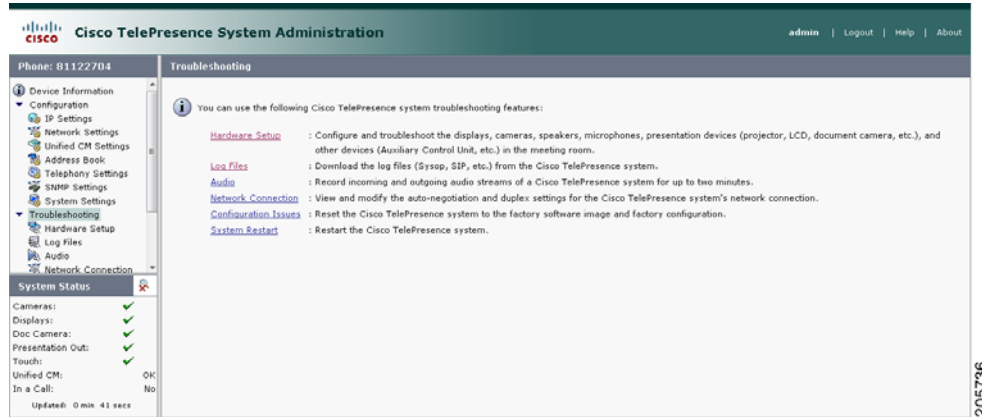
CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note   Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 10-3
- Adjusting Your Display, page 10-5
- Troubleshooting Displays, page 10-6
- Related Information, page 10-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)
- 5000 K
- 6500 K
- 7500 K

Tip In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 10-2.

✎
Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 10-2   Color Temperature Test Screen

Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 10-1 to troubleshoot images on the displays.

Table 10-1   Troubleshooting Displays

Problem	Possible Cause	Action

Power-on test indicates the displays turn on in the wrong sequence. The normal power on sequence is the left, center, then right display screen.	• Video cable is not connected to its corresponding codec connector.
	• Ethernet cable from secondary codec is not plugged into the correct port on the primary codec.
		• Check that the cable from each display is plugged into the correct connector on its corresponding codec.
		• Plug the video-to-video cable into the display connector on the correct codec, as follows.
		  – Plug the center display into the primary codec.
		  – Plug the participant's left display into the left secondary codec.
		  – Plug the participant's right display into the right secondary codec.

No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the see the following documentation: • *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

Related Information

For more information about setting up and testing displays, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

> **Note**   You must use the camera Auto Adjust feature before you can auto focus the camera. See the "Auto Adjusting the Camera" section on page 10-8.

Use the information in the following sections to test and troubleshoot the camera for your system:

- Testing the CTS 3000 and CTS 3200 Cameras, page 10-7
- Troubleshooting Cameras, page 10-14
- Related Information, page 10-15

> **Note**   The camera hood comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 3000 and CTS 3200 Cameras

The cameras are set up correctly when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

The following sections describe how to set up the CTS 3000 and CTS 3200 cameras for testing:

- Attaching the Camera Targets and Removing the Camera Cover, page 10-7
- Testing the Camera, page 10-8
- Auto Adjusting the Camera, page 10-8
- Aligning the Camera, page 10-8
- Showing All Camera Targets, page 10-11
- Focusing the Camera, page 10-11
- Saving Your Settings, page 10-12
- Attaching the Camera Hood Assembly, page 10-12

Attaching the Camera Targets and Removing the Camera Cover

Two camera targets are provided with the Cisco TelePresence system:

- Large camera target
- Smaller target

To attach the targets:

Step 1   Attach the large camera target to the table with the clamps matching the counterbore feature under the table.

Step 2   Center the target on the edge of the table and position it vertically with the clamps underneath the table holding it tight. The target pattern should face the camera.

Step 3 Place the small camera target on the table.

Step 4 Remove the camera cover. See the "Attaching the Camera Hood Assembly" section on page 10-12 to see the removal and replacement directions.

Testing the Camera

To begin the camera testing process:

Step 1 Log in to the Cisco TelePresence System Administration interface.

Step 2 Choose **Troubleshooting** > **Hardware Setup**.

Step 3 Click the **Cameras** radio button.

Step 4 Click **Start** to begin the camera test. You should see output from each camera in the appropriate camera display area.

Step 5 Click **Setup** under the image of a display screen to begin adjustments for the camera focused on that screen.

Note Make sure that the table edge is between the hash marks on both sides of the display.

If you need further information about testing or adjusting this device, click **Help** in the content area or see the troubleshooting tables in this section.

Auto Adjusting the Camera

To auto adjust the camera, click **Auto Adjust**. This allows the CTS software to adjust the camera settings automatically. You will see various images and colors on the displays during the adjustment. Auto Adjust takes approximately 20 seconds.

Aligning the Camera

To align the camera:

Step 1 Choose **Troubleshooting** > **Hardware Setup**.

Step 2 Click the **Cameras** radio button.

Step 3 Click **Show Camera Target**.

Step 4 Using the zoom ring on the camera lens, and the left/right, up/down, and rotation adjustment screws on the camera, make the following adjustments:

   a. Manually adjust the camera that is focused on the target by aligning the red plus sign (+) to the center plus sign (+) on the target, as shown in Figure 10-4.

   b. Align the center display. Zoom and align the camera so that the curved lines on each side of the target touches the sides of the display.

   c. Align the left display. Zoom and align the camera so that the curved line on the right side of the display touches the red adjustment line at the right edge of the display to corresponding lines on the target, as shown in Figure 10-5.

On both sides of the display, you will see two small red hash marks. Adjust the camera so that the edge of the table is positioned vertically exactly between the hash marks on either side of the display.

See Figure 10-3 for the location of the adjustment screws on the camera.

Note   If one of the left/right screws is covered by the camera cable, do not disturb the cable but instead use the other screw to make all left/right adjustments.

Figure 10-3   Camera Mounting Plate
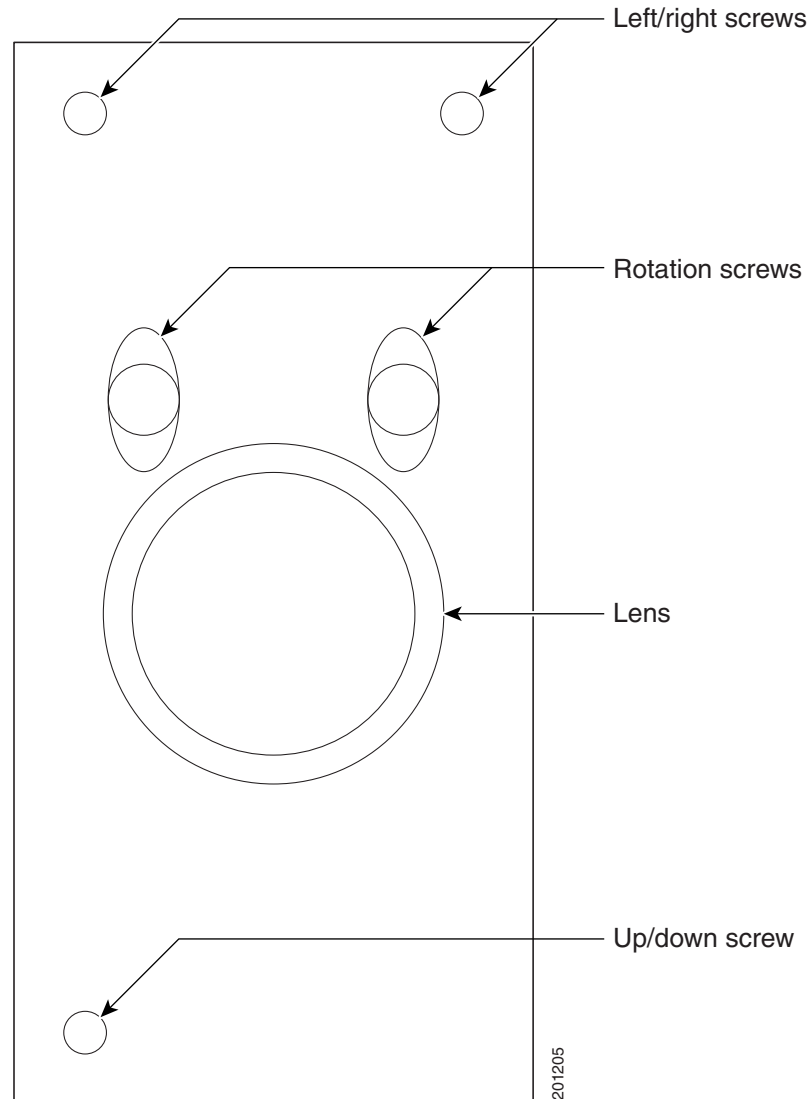
Figure 10-4   Camera Target Alignment—Center Display
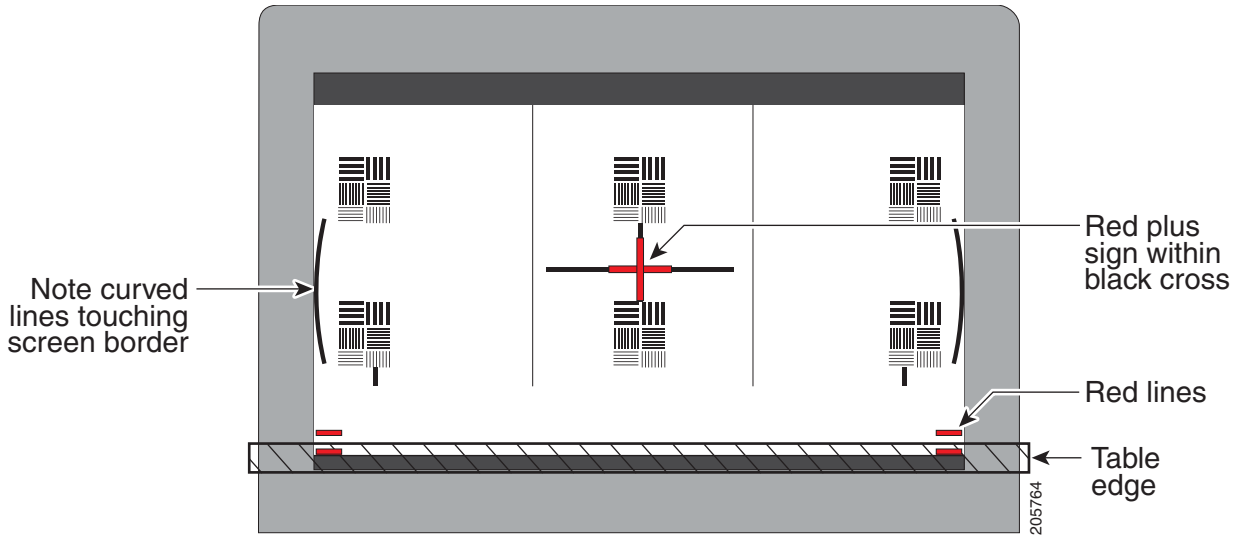
Figure 10-5   Camera Target Alignment—Right Display
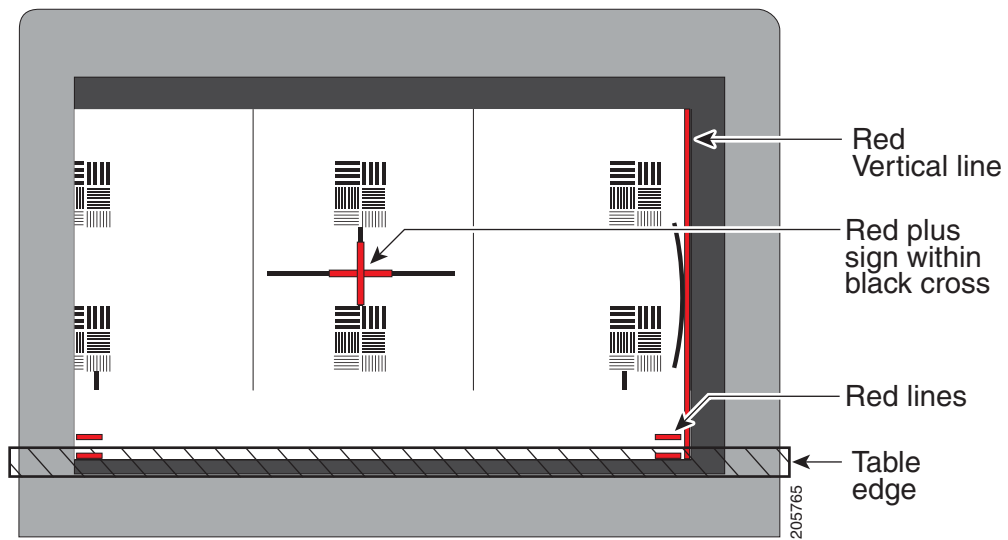
Figure 10-6   Camera Target Alignment—Left Display

Red Vertical line

Red plus sign within black cross

Red lines

Table edge
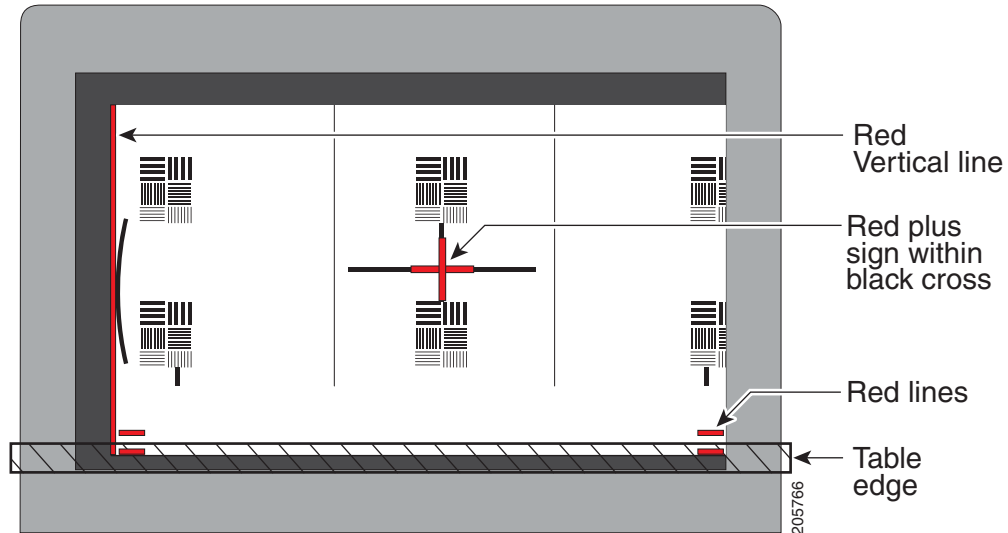
Step 5   Click **Hide Camera Target** to remove the alignment images.

Step 6   Click **Done** when you complete the adjustment.

Showing All Camera Targets

Click **Show All Camera Targets** to align each camera independent of the other cameras.

Focusing the Camera

To focus the camera:

Step 1   Choose **Troubleshooting > Hardware Setup**.

Step 2   Click the **Cameras** radio button.

Step 3   Place the small camera target on the table as described in the "Attaching the Camera Targets and Removing the Camera Cover" section on page 10-7.

Step 4   Click **Setup**, then click **Show Focus Target**.

Step 5   Adjust the small target so that the green box encloses some of the patterns on the small target.

Step 6   Adjust the focus ring on the camera lens so the lines on the target are in focus. The ring is labeled "N – 8." The thumbscrew (or 0.9 mm Allen wrench) is used to unlock the focus ring.

Step 7   Click **Hide Focus Targets** to remove the alignment images.

Step 8   Click **Done** when you complete the adjustment.

Saving Your Settings

When you have configured all your settings:

Step 1   Click **Apply** to register new or modified settings.

Step 2   Click **Reset** to restore the original settings.

Attaching the Camera Hood Assembly

After you complete the camera adjustment, attach the camera hood assembly. See Figure 10-7.

Note   Attach the top hood before attaching the bottom hood.

Caution   Do not overtighten the screws, or use a power screwdriver to tighten the screws. In addition, make sure that you use screws of the correct length (20 mm). Overtightening the screws, or using a screw that is too long, can cause the plastic hoods to break.

Figure 10-7   *Attaching the Camera Hood Assembly*
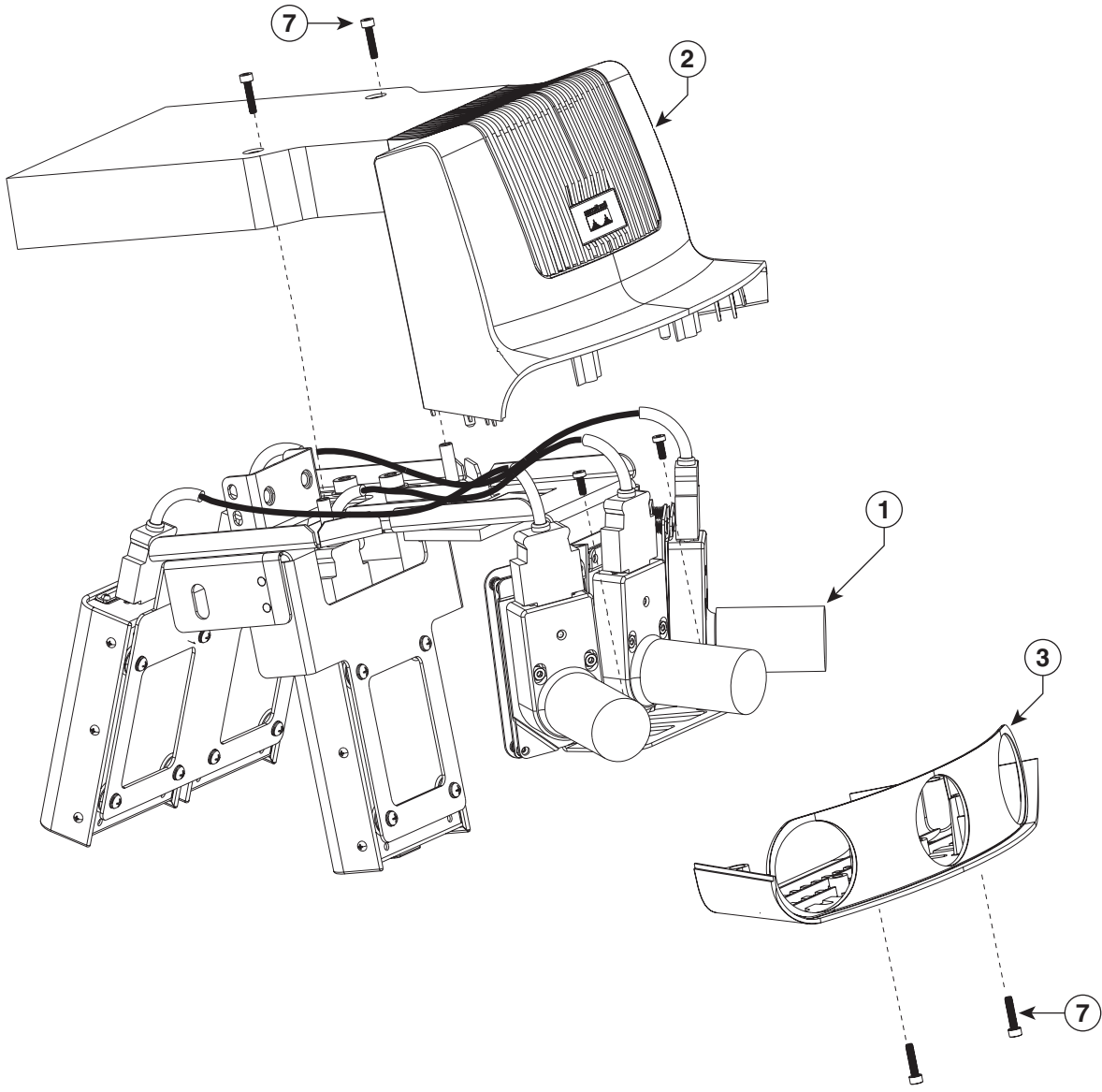
Troubleshooting Cameras

Use the information in Table 10-2 to troubleshoot cameras.

Table 10-2   Troubleshooting Cameras

Problem	Possible Cause	Action

Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	• Check that the cables from each camera are plugged into the correct connector on its respective codec.
		• Two connections are made for the camera, an RJ-45 cable plugs into the large connector and a video-to-DVI-I cable plugs into the small connector. Connect them as follows:
		  – Plug the center camera into the primary codec.
		  – Plug the participant's left camera into the left secondary codec.
		  – Plug the participant's right camera into the right secondary codec.

Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.

Image colors are incorrect.	• Video cable is only partially connected.
	• Color settings are not correct.
		• Tug on the plug to see if it is fully plugged in.
		• See the Routing Power and Signal Cables section in the following documents:
		  – *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
		  – *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 10-15
- Troubleshooting Speakers, page 10-16
- Related Information, page 10-16

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test.

Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7   Click **Next Speaker** to progress to the next speaker.

Step 8   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 10-3 to troubleshoot speakers.

Table 10-3   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	• Check that the speaker cable is plugged into the correct receptor on the primary codec. • Plug all speakers into the primary codec.
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test. The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

- CTS 3000—3 microphones. 1 audio meter is displayed per microphone, one on each of 3 test screens.
- CTS 3200—6 to 9 microphones, depending on your configuration. 2 or 3 audio meters are displayed on each of 3 test screens:
    - The top microphone icons represent the microphone in the front row of participants seated in the room.
    - The bottom microphone icons represent the microphones in the back row of participants seated in the room.

Go to the following sections to test microphones:

Testing Microphones on the CTS 3000

> ✎
> **Note**   The effect of this calibration is applied only on CTS 3000 systems. Do not use this tool on CTS 3200 systems.

To test microphones on the CTS 3000:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Microphones** radio button.

Step 4   Click **Start** in the Testing box to begin the test. The Microphone Calibration button is activated.

Step 5   Lightly tap each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 6   Click the **Microphone Calibration** button. A dialog box appears:

"Microphone Calibration will last approximately two minutes. Please ensure the room remains quiet during the test. Proceed?"

> ✎
> **Note**   The room must be completely quiet to calibrate microphones. You may want to leave the room and close the door to carry out the calibration process to ensure complete silence in the room.

Step 7   Click **Ok** to proceed with the calibration.

Step 8   Click **Stop** to end the test.

Testing Microphones on the CTS 3200

To test microphones on the CTS 3200:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Microphones** radio button.

Step 4   Click **Start** in the Testing box to begin the test.

Step 5   Lightly tap each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 6   Click **Refresh Microphones Status** to update the connection status of all microphones.

✎
Note   If you have a Cisco TelePresence 3200, there are six microphones for the second row table. In a reduced configuration, the second row table has just four microphones, and a yellow question mark will appear in the test screen where the two end microphones would be in the full configuration.

Figure 10-8 shows an example CTS 3200 microphone troubleshooting screen with the Refresh Microphone Status window activated.

Figure 10-8   Troubleshooting Microphones on the CTS 3200
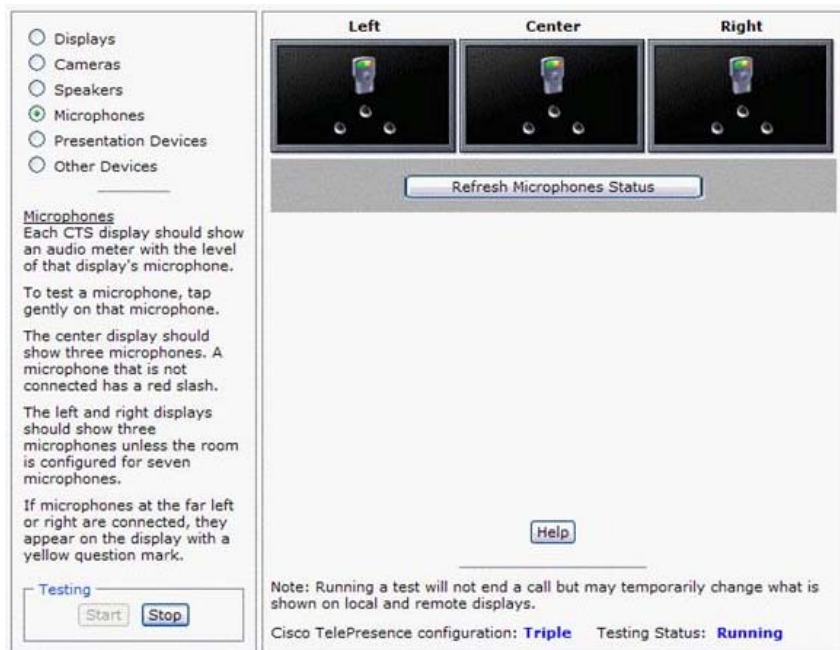
Step 7   Click **Stop** to end the test.

Troubleshooting Microphones

Use the information in Table 10-4 to troubleshoot microphones.

Table 10-4   Troubleshooting Microphones

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	Move objects away from the microphone.
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays. 	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Microphone icon with question mark displays.	One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Sound registers at the wrong microphone.	Microphone cable is not connected to its corresponding codec.	• Check that the cable from the microphone is plugged into the correct receptor on the codec. • Plug all microphones into the primary codec.

Table 10-4   Troubleshooting Microphones (continued)

Problem	Possible Cause	Possible Solution
Microphone switches to a segment that has no one talking.	Phantom switching.	Run the microphone calibration procedure in the "Testing Microphones on the CTS 3000" section on page 10-17 or "Testing Microphones on the CTS 3200" section on page 10-18.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing displays, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the center screen of multi-screen main display systems. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP on the main display screen. This display is attached to the External Presentation Display HD video connection on the codec. See the following documentation for more information:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

Note If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 3000 and CTS 3200 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Presentation Devices**.

Step 3   Click the **Test Pattern** radio button.

Step 4   Click **Start** to begin the test.

The test pattern should display on the external presentation display.

Step 5   Click **Stop** to end the testing.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer) or through a document camera.

> **Note**   You should run this test only if you have presentation display devices installed.

Table 10-5 contains supported presentation devices listed by system.

Table 10-5   Supported Presentation Devices

Presentation Device

	Included in Cisco TelePresence System	Optional in Cisco TelePresence System
Projector	• CTS 3000 • CTS 3200	—
Document Camera	—	—
Auxiliary Display—40" LCD	—	• CTS 3000 • CTS 3200

The projector is set up successfully when the test pattern is displayed on the projection surface in the meeting room while running the test.

> **Tip**   When troubleshooting presentation devices, start with the projector test pattern to see if the projector is set up correctly and then proceed through VGA and other tests as necessary.

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 10-22
- Checking the VGA, page 10-23
- Checking the Document Camera, page 10-23
- Testing the Projector, page 10-23

- Troubleshooting Presentation Devices, page 10-31
- Related Information, page 10-33

Checking the Test Pattern

To check the test pattern on the CTS 3200:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**.

Step 6   Turn on the projector by turning the projector power rocker switch to the **ON** position.

The projector takes approximately 15-30 seconds to warm up, and should be fully initialized within one minute. If the projector is not receiving video, the screen will be blue. If the projector does not receive video for five minutes and 30 seconds, the projector turns off.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

If the green border is not visible, for systems with an Auxiliary Control Unit, do the following:

    a.   Click **Set Projector Defaults**. A dialog box opens alerting you that setting projector defaults may take up to 45 seconds. A menu will appear from the projector to select settings.

        For systems without the Auxiliary Control Unit, use the projector remote control to change the following settings on the projector:

    b.   **Picture adj**: **Overscan** should be set to **0**

    c.   **Screen**: **Normal**

Step 7   Click **Set Projector Defaults** to automatically configure the projector for use with the CTS 3200.

Step 8   Click **Stop Test** to end the test.

Step 9   Click **Stop** in the Testing box to end all testing.

Checking the VGA

To check the VGA on the CTS 3200:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Checking the Document Camera

To test input from the document camera (if available):

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Document Camera** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6   Click **Stop Test** to end the test.

Step 7   Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8   Click **Stop** in the Testing box to end all testing.

Testing the Projector

This section contains projector tests for the following devices:

Testing the CTS 3000 Projector - With an Auxiliary Control Unit

If your system has an Auxiliary Control Unit, test the projector by following these steps:

Step 1 Make sure that a serial cable is connected from your projector to the Serial 1 output of the auxiliary control unit. See the "Options for the Cisco TelePresence System 3000" chapter of the *Cisco TelePresence Hardware Options and Upgrade Guide* for information about cabling your system with an Auxiliary Control Unit.

Step 2 Start a test pattern display for the projector by completing the following steps:

    a. Open a browser that is connected to the network.

    b. Enter the IP address of the primary codec to log in to Cisco TelePresence System Administration.

    c. Choose **Troubleshooting > Hardware Setup**, then click the **Presentation Devices** radio button.

    d. Select the **Test Pattern** radio button.

    e. Click **Start** to begin the test.

Step 3 Turn on the projector by turning the projector power rocker switch to the **ON** position.

The projector takes approximately 15-30 seconds to warm up, and should be fully initialized within one minute. If the projector is not receiving video, the screen will be blue. If the projector does not receive video for five minutes and 30 seconds, the projector turns off.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

Step 4 From Cisco TelePresence System Administration, click **Set Projector Defaults** to automatically configure the projector for use with the CTS 3000.

Step 5 Set the group, number, and data settings by completing the following steps:

Note Changing these settings allows a projector to be monitored by Simple Network Management Protocol (SNMP) when the projector is in an inactive state. If a projector lamp fails, SNMP does not properly report the failure from an inactive projector until you complete these steps.

Tip Use the projector remote control or press the buttons on the projector to complete these steps.

Note If your system uses a Sanyo PLV-Z700 projector, skip this step.

    a. Press the **Menu** key for 20 seconds.

        The letter S displays in the upper left corner of the screen.

    b. Press the **Screen** key for 3 seconds.

        The service menu displays.

    c. Press **OK** until the group number setting changes to **100**.

    d. Press the **Down Arrow** key until the No. setting changes to **4**.

    e. Press the **Left Arrow** key until the Data setting changes to **0**.

    f. Press the **ON-OFF** key to end the service menu.

Step 6   Center the projector display within the screen by completing the following steps:

    a.   Locate the lock switch and two dials on the side of the projector.

    b.   Move the switch to the unlock position.

    c.   Rotate the vertical dial to position the top of the image 1 inch below the bottom of the wood surface.

    d.   Rotate the horizontal dial to position the sides of the image 15 inches from each of the seams on the table segments.

        Completing this step should center the image in the screen. If the image is not centered, adjust the image until the distance is equal from each table segment seam.

    e.   Move the switch to the lock position.

Step 7   Aim the remote control at the lens of the projector.

> **Tip**   You can use the screen to reflect the signal back to the projector if you are sitting at the table.

Leave the projector in this state. When the video signal is turned off or disconnected, the projector will go black for 30 seconds. Then it will count down for 5 minutes and then turn off the lamp.

If a video signal is applied during this 5 minute and 30 second countdown the video will reappear immediately. If the countdown completes, the projector goes into a cool-down mode which will ignore a video signal for 30 seconds.   It will then stay in a standby mode and will power back up when a video signal is connected. It will take 15 seconds for the projector to light back up.

Step 8   To check either VGA or document camera input, perform the following steps:

    a.   Click **Presentation Devices** on the **Hardware Setup** window.

    b.   Perform one of the following steps to test the video input:

        •   Click the **VGA** radio button to test input from a VGA device

        •   Click the **Document Camera** radio button to test input from the document camera

    If the input image is displaying correctly, you should see an image projected on the projection surface.

Step 9   If the image is out of focus or is too small, use the projector focus ring to focus the image and use the zoom lever to create the largest possible image.

Step 10   Click **Stop** in Cisco TelePresence System Administration to remove the test pattern and complete the projector test.

Testing the CTS 3000 Projector - Systems Without an Auxiliary Control Unit

To test a projector for a CTS 3000 system that does not use an auxiliary control unit:

Step 1   Start a test pattern display for the projector by completing the following steps:

    a.   Open a browser that is connected to the network.

    b.   Enter the IP address of the primary codec to log in to Cisco TelePresence System Administration.

> **Note**   If you need to obtain the IP address, complete the following steps:
>
>   **1.**   On the CTS Cisco Unified IP phone, locate Manual at the bottom of the screen and touch the **Manual** soft key.

> ✎
>
> **Note**   If you cannot locate the Manual button, proceed to Step 2.

    2. Locate Info at the bottom of the screen and touch the **Info** soft key.

    3. Scroll down to the **IP Address** listing and copy the address.

    c. Log in to the system by entering the following information:

        – Username: **admin** (case sensitive)

        – Password: **cisco** (case sensitive)

    d. Select **Troubleshooting > Hardware Setup**, then click the **Presentation Devices** radio button.

    e. Select the **Test Pattern** radio button.

    f. Click **Start** to begin the test.

Step 2   Turn on the projector by turning the projector power/rocker switch to the **ON** position.

The projector takes approximately 15-30 seconds to warm up, and should be fully initialized within one minute. If the projector is not receiving video, the screen will be blue. If the projector does not receive video for five minutes and 30 seconds, the projector turns off.

> ✎
>
> **Note**   The image is upside down and reversed since the projector is mounted upside down under the table.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

Step 3   Set the display to display right-side up by completing the following steps:

    a. Press the **MENU** key on the remote control.

    Note   The menu screen will appear upside down and reversed. If the image is right-side up, continue to Step 4.

    b. Use the Up Arrow and Down Arrow keys and highlight **Setting**.

    c. Press the Right Arrow key and select **Setting** to enter the Setting submenu.

    d. Press the Up Arrow and Down Arrow keys and select **Advanced Menu**.

    e. Press the Right Arrow key and select **ON**.

    f. Press the Up Arrow and Down Arrow keys and highlight **Mounting**.

    g. Press the Right Arrow key and select **Mounting** to enter the Mounting submenu.

    h. Press the Up Arrow and Down Arrow keys and select **Ceiling**.

    i. Press the Left Arrow key and select **Ceiling**.

    The image should now display right-side up.

Step 4   Set the background color by completing one of the following procedures:

    • For PLV-Z4 projectors, perform the following procedure:

        a. Press the Up Arrow and Down Arrow keys to highlight **Blue Back**.

        b. Press the Right Arrow key and select **Blue Back** to enter the Blue Back submenu.

      c. Press the Right Arrow key and select **Off**.

   • For PLV-Z5 projectors, perform the following procedure:

      a. Press the Up Arrow and Down Arrow keys and highlight **Background**.

      b. Press the Right Arrow key and select **Background** to enter the Background submenu.

      c. Press the Right Arrow key and select **Black**.

Step 5   Set the display by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and select **Display**.

      b. Press the Right Arrow key and select **Off**.

Step 6   Set the logo by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and select **Logo**.

      b. Press the Right Arrow key and select **Off**.

Step 7   Select the image mode by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and highlight **Image**.

      b. Press the Right Arrow key and select **Image** to enter the Image submenu.

      c. Press the Up Arrow and Down Arrow keys and highlight **Vivid**.

      d. Press the Right Arrow key and select **Vivid**.

      e. Press the Left Arrow key to confirm your selection.

Step 8   Select the screen size by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and highlight **Screen**.

      b. Press the Right Arrow key and select **Screen** to enter the Screen submenu.

      c. Press the Up Arrow and Down Arrow keys and highlight **Normal**.

      d. Press the Right Arrow key and select **Normal**.

      e. Press the Left Arrow key to confirm your selection.

Step 9   Eliminate overscan by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and highlight **Picture adj**.

      b. Press the Right Arrow key and select **Picture adj.** to enter the Picture Adjustment submenu.

      c. Press the Right Arrow key and select **Overscan**.

      d. Press the Left Arrow key and reduce the Overscan value to zero.

      e. Press the **OK** key to complete the Overscan setting.

      f. Press the Left Arrow key to confirm your selection.

Step 10   Set the lamp iris by completing the following steps:

      a. Press the Up Arrow and Down Arrow keys and highlight **Image adj**.

      b. Press the Right Arrow key and select **Image adj.** to enter the Image Adjustment submenu.

      c. Press the Up Arrow and Down Arrow keys and highlight **Advanced menu**.

      d. Press the Right Arrow key and select **Advanced menu**.

      e. Press the Up Arrow and Down Arrow keys and highlight **Lamp iris**.

      f. Press the Right Arrow key and select **Lamp iris**.

      g. Press the Right Arrow key and select **Open**.

> **h.** Press the **OK** key to complete the selection.
>
> **i.** Press the Left Arrow key to confirm your selection.
>
> **j.** Press the Up Arrow and Down Arrow keys and highlight **Store**.
>
> **k.** Press the Right Arrow key and select **Store**.
>
> The first of four icons should be highlighted.
>
> **l.** Press the **OK** key.
>
> An arrow should point to **Yes**.
>
> **m.** Press the **OK** key.
>
> The icons for an open door should be highlighted.
>
> **n.** Press the **OK** key.
>
> **Store** should be highlighted.
>
> **o.** Press the Left Arrow key to complete the Image adj. function.
>
> **p.** Press **Menu** to exit the menu.

Step 11 Set the lens iris by completing the following steps:

> **a.** From the main menu, use the Up Arrow and Down Arrow keys to highlight the **Image Adj** function. Press the Right Arrow key to select the Image Adj sub-menu.
>
> **b.** Use the up and Down Arrow keys to select **Lens Iris**.
>
> **c.** Press the Right Arrow key to display the lens value setting tool. Press the Right Arrow until you reach 0, then press **OK** to return to the Image Adj submenu.
>
> **d.** Press the Left Arrow key to return to the main menu.

Step 12 Select the screen size by completing the following steps:

> **a.** From the main menu, use the Up Arrow and Down Arrow keys to highlight the **Screen** function. Press the Right Arrow key to select the Screen sub-menu.
>
> **b.** Use the up and Down Arrow keys to select **Normal**, then press OK.
>
> **c.** Press the Left Arrow key to return to the main menu.

Step 13 Select the video source by completing one of the following procedures:

> **a.** Press the H1/H2 key on the remote control until **HDMI 1** appears on the screen.
>
> **b.** If the correct video image does not appear, use the Up Arrow and Down Arrow keys to select **Input**. Use the Right Arrow to select the **Input** sub-menu.
>
> **c.** Use the Up Arrow and down keys to select either **HDMI** (for the PLV-Z4 projector) or **HDMI 1**(for the PLV-Z5 projector).
>
> **d.** Press the Left Arrow key to exit the **Input** function.

Step 14 Set the group, number and data settings by completing the following steps:

> **Note** Changing these settings allows a projector to be monitored by the System Network Management Protocol (SNMP) when the projector is in an inactive state. If a projector lamp fails, SNMP does not properly report the failure from an inactive projector until you complete these steps.

> **a.** Press the **Menu** key for 20 seconds.
>
> The letter S displays in the upper left corner of the screen.

b. Press the **Screen** key for 3 seconds.

The service menu displays.

c. Press **OK** until the group number setting changes to **100**.

d. Press the **Down Arrow** key until the No. setting changes to **4**.

e. Press the **Left Arrow** key until the Data setting changes to **0**.

f. Press the **ON-OFF** key to end the service menu.

Step 15 Aim the remote control at the lens of the projector.

Tip You can use the screen to reflect the signal back to the projector if you are sitting at the table.

Leave the projector in this state. When the video signal is turned off or disconnected, the projector will go black for 30 seconds. Then it will count down for 5 minutes and then turn off the lamp.

If a video signal is applied during this 5 minute countdown the video will reappear immediately. If the countdown completes, the projector goes into a cool-down mode which will ignore a video signal for 30 seconds.   It will then stay in a standby mode and will power back up when a video signal is connected. It will take 15 seconds for the projector to light back up.

Step 16 To check either VGA or document camera input, perform the following steps:

a. Click **Presentation Devices** on the **Hardware Setup** window.

b. Perform one of the following steps to test the video input:

- Click the **VGA** radio button to test input from a VGA device
- Click the **Document camera** radio button to test input from the document camera

If the input image is displaying correctly, you should see an image projected on the projection surface.

Step 17 If the image is out of focus or is too small, use the projector focus ring to focus the image and use the zoom lever to create the largest possible image.

Step 18 Click **Stop** in Cisco TelePresence System Administration to remove the test pattern and complete the projector test.

Testing the CTS 3200 Projector

To test the CTS 3200 projector:

Step 1 Make sure that a serial cable is connected from your projector to the Serial output of the auxiliary control unit. See Chapter 9, "Routing Power and Signal Cables" in the *Cisco TelePresence System 3200 Assembly, Use & Care, and Field-Replaceable Unit Guide* for information about cabling your system with an Auxiliary Control Unit.

Step 2 Start a test pattern display for the projector by completing the following steps:

a. Open a browser that is connected to the network.

b. Enter the IP address of the primary codec to log in to Cisco TelePresence System Administration.

c. Select **Troubleshooting > Hardware Setup**, then click the **Presentation Devices** radio button.

d. Select the **Test Pattern** radio button.

e. Click **Start** to begin the test.

Step 3   Turn on the projector by turning the projector power rocker switch to the **ON** position.

The projector takes approximately 15-30 seconds to warm up, and should be fully initialized within one minute. If the projector is not receiving video, the screen will be blue. If the projector does not receive video for five minutes and 30 seconds, the projector turns off.

If the test pattern is displaying correctly, you should see a grid projected on the projection surface. In the center of the grid, you should see a series of horizontal grey bars. You should also see a one-pixel wide green border around the outside of the grid.

Step 4   From Cisco TelePresence System Administration, click **Set Projector Defaults** to automatically configure the projector for use with the CTS 3200.

Step 5   Set the group, number and data settings by completing the following steps:

> **Note**   Changing these settings allows a projector to be monitored by the System Network Management Protocol (SNMP) when the projector is in an inactive state. If a projector lamp fails, SNMP does not properly report the failure from an inactive projector until you complete these steps.

> **Tip**   Use the projector remote control or press the buttons on the projector to complete these steps.

> **Note**   If your system uses a Sanyo PLV-Z700 projector, skip this step.

    a.   Press the **Menu** key for 20 seconds.

    The letter S displays in the upper left corner of the screen.

    b.   Press the **Screen** key for 3 seconds.

    The service menu displays.

    c.   Press **OK** until the group number setting changes to **100**.

    d.   Press the **Down Arrow** key until the No. setting changes to **4**.

    e.   Press the **Left Arrow** key until the Data setting changes to **0**.

    f.   Press the **ON-OFF** key to end the service menu.

Step 6   Center the projector display within the screen by completing the following steps:

    a.   Locate the lock switch and two dials on the side of the projector.

    b.   Move the switch to the unlock position.

    c.   Rotate the vertical dial to position the top of the image 1 inch below the bottom of the wood surface.

    d.   Rotate the horizontal dial to position the sides of the image 15 inches from each of the seams on the table segments.

    Completing this step should center the image in the screen. If the image is not centered, adjust the image until the distance is equal from each table segment seam.

    e.   Move the switch to the lock position.

Step 7   Aim the remote control at the lens of the projector.

> **Tip**   You can use the screen to reflect the signal back to the projector if you are sitting at the table.

Leave the projector in this state. When the video signal is turned off or disconnected, the projector will go black for 30 seconds. Then it will count down for 5 minutes and then turn off the lamp.

If a video signal is applied during this 5 minute and 30 second countdown the video will reappear immediately. If the countdown completes, the projector goes into a cool-down mode which will ignore a video signal for 30 seconds. It will then stay in a standby mode and will power back up when a video signal is connected. It will take 15 seconds for the projector to light back up.

Step 8   To check either VGA or document camera input, perform the following steps:

   a.   Click **Presentation Devices** on the **Hardware Setup** window.

   b.   Perform one of the following steps to test the video input:

      • Click the **VGA** radio button to test input from a VGA device

      • Click the **Document camera** radio button to test input from the document camera

If the input image is displaying correctly, you should see an image projected on the projection surface.

Step 9   If the image is out of focus or is too small, use the projector focus ring to focus the image and use the zoom lever to create the largest possible image.

Step 10   Click **Stop** in Cisco TelePresence System Administration to remove the test pattern and complete the projector test.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

• Multiple Input Devices, page 10-31

• Presentation Devices, page 10-31

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

• VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in.

• Document cameras—Turn the camera off, wait 5 seconds, and restart the device.

Presentation Devices

Use the information in Table 10-6 to troubleshoot presentation devices.

Table 10-6   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	• Check projector power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	• Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the following documentation: • *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
Projector image is dim.	Lamp iris needs to be set to open.	See the Setting Up the Camera section in the following documentation: • *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

Table 10-6   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.
CTS 3000 and CTS 3200 system projector alarms: • Operation Status: Failed to connect to presentation device • XML/RPC failure • Operation Status: ERROR	The projector serial port is not functioning properly On CTS 3000 and CTS 3200 systems that use a Z60 projector to display external presentations, the system pushes default values to the projector every night. During these updates, the system can fail to connect to the projector. This failure creates syslog messages and can cause spurious SNMP alarms.	Power cycle the projector by turning the power switch on the back of the projector to the **Off** position, then turn back to the **On** position. If this problem recurs, perform another power cycle. **Note** Projector functionality is not affected by the alarms.

Note   The Cisco TelePresence System can display information from multiple input devices during a meeting; if multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If you do not see an image being projected on the screen, try the following:

For VGA devices, unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in.

For document cameras, turn the camera off, wait 5 seconds, and then restart the device.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing presentation devices, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*

- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

- Auxiliary Control Unit, page 10-35
- Digital Media Player, page 10-35
- Troubleshooting Other Devices, page 10-36
- Related Information, page 10-37

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

    a. Check a box to select a specific port number.

      Or

    b. Click **Select All** to select all ports (and all light units) or **Select None**.

    c. Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d. Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e. Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 5   Click **Stop** to end the test.

Digital Media Player

The Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input.

- If you have a PC attached, the **Secondary Audio Input Source PC** button is highlighted. When **Secondary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 10-7 to troubleshoot problems in Other Devices.

Table 10-7   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player DMP audio is playing during a call.	**Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
Presentation Devices • Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
• Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: • If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. • If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.

Tip   Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3000 and CTS 3200 series that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing other devices, see the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip   If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

- Sysop Log, page 10-37
- Log Files, page 10-37
- SIP Messages, page 10-39

Sysop Log

To manage sysop messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view system operation (sysop) messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3   Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

a.   Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

Or

b.   Save the sysop log files.
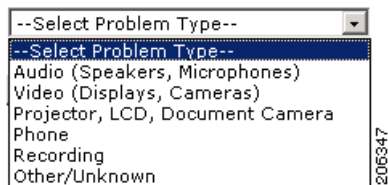
Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.
- **Time Generated**—Shows the time of the most recent log file capture.
- **Problem**—Problem Type drop-down menu contains the following:
  - Audio (speakers, microphones)
  - Video (displays, cameras)
  - Projector, LCD, document camera
  - Phone
  - Recording
  - Other/Unknown

Figure 10-9 shows the problem types that you can select when downloading log files.

Figure 10-9   *Select Problem Type Drop-Down Menu*

Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 10-10 shows the log download radio button options.
- **Download existing log files**—You must select this radio button to download logs.
- **Capture New Log Files**—The system will capture but not download the log files.

✎
Note   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 10-10   *Downloading Log Files*

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

- – Audio (speakers, microphones)
- – Video (displays, cameras)
- – Projector, alternate display, LCD, document camera
- – Phone
- – Recording
- – Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 10-8 and Table 10-9 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

Or

b.   Select the message type from the drop-down menu. The Filter button is activated.

c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4 Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1 Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Or

Step 2 Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1 Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2 Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 10-40
- SIP Response Categories, page 10-41

SIP Requests and Methods

Table 10-8 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 10-8   Supported SIP Requests and Methods

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.

Table 10-8   *Supported SIP Requests and Methods*

RFC	Request/Method	Description
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 10-8.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 10-8 using the response categories described in Table 10-9.

Table 10-9   *SIP Response Categories*

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3   If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4   Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5   Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

✎
Note   Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1   Choose **Troubleshooting > Audio**.

Step 2   Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

✎
Note   Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3   Click **Stop Audio Recording** to stop recording.

Step 4   After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1   Choose **Troubleshooting > Network Connection**.

Step 2   Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 10-11.

Note   When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 10-11   Auto Negotiate On

Step 3   Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

Caution   Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1   Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2   Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

Note   If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

Caution   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting > System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 10-10 to troubleshoot the video picture on the displays.

Table 10-10   Troubleshooting Cisco TelePresence Screen Resolution

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

Note   See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- CTS 3000 and the CTS 3200—The following codecs are connected to the primary unit:
  - Left
  - Right secondary
  - Presentation
- An Ethernet cable (RJ-45) connects the primary codec to the user network.

For detailed cabling information, see the Routing Power and Signal Cables section in the following documentation:

- *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*

Table 10-11 contains problem scenarios and troubleshooting solutions for network cabling.

Table 10-11   Troubleshooting Cisco TelePresence Network Cabling

Problem	Possible Cause	Actions
Cisco Unified IP Phone is off.	- Power to the primary unit is off. - Phone is not connected to the phone port on the primary unit. - The system does not recognize the phone or it is unregistered. - The network is down.	- Check the power connection to the Cisco TelePresence System, and verify that the system is turned on. - Check the cable connection from the primary unit to the Cisco Unified IP Phone. See the assembly guide for your Cisco TelePresence system for correct cabling: *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide* *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide* - Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
Cisco IP Phone does not register with the IP network.	- The network cable is not connected to the primary unit. - The network configuration has not been done or has been done incorrectly.	Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.

Table 10-11   Troubleshooting Cisco TelePresence Network Cabling (continued)

Problem	Possible Cause	Actions

Cisco IP Phone does not register with the IP network.	• Cisco Unified Communications Manager is down or disabled.
	• The network is down.
		• Check the cable connection from the primary unit to the network. See the assembly guide for your Cisco TelePresence system for correct cabling:
		  – *Cisco TelePresence System 3000 Assembly, Use & Care, and Field Replacement Unit Guide*
		  – *Cisco TelePresence System 3200 Assembly, Use & Care, and Field Replacement Unit Guide*
		• Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions.
		• Restart the network.

Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface. • Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Note For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Where to Go Next

See Chapter 12, "Monitoring the Cisco TelePresence System."

For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

For information about upgrading hardware in an existing CTS 3000 Series installation, including removing the projector and adding new speakers, speaker covers, and LCD display, see the *Removing the Projector and Adding a Presentation Display for CTS 3000 and CTS 3200 Systems* Guide on Cisco.com.

C H A P T E R **11**

Troubleshooting the CTS 3010 and CTS 3210

Revised: November 2011, OL-21845-01

Contents

You may want to periodically test system components using the hardware and software tests available in the Cisco TelePresence System (CTS) Administration Troubleshooting window. This chapter contains information about troubleshooting hardware and software on the following CTS devices:

- CTS 3010
- CTS 3210

Before You Begin

1. Obtain your IP address in one of the following ways:

   - From the CTS Cisco Unified IP phone touch the following softkeys:

     Manual > more > Info

     ✐
     Note If you have more options on your phone, touch the **more** softkey until you reach the end of the selections.

   - From the Cisco TelePresence Touch 12 tap the following:

     More > Status > System Status

2. Make a note of the IP address.

3. Enter the IP address in your laptop's browser window.

4. Click **Yes** to accept all security connection messages.

✐
Note You cannot perform diagnostics during an active Cisco TelePresence system call.

Proceed to the following sections to troubleshoot system components:

Managing CTS 3010 and CTS 3210 Hardware Setup

You can manage and test the following Cisco TelePresence System components:

Before You Begin

Before you begin testing and troubleshooting your system, check the system displays. All of the Cisco TelePresence System Administration interface Hardware Setup features require the use of the displays in the meeting room. Therefore, we recommend the following:

1. Verify that the displays work by using the **Hardware Setup > Displays** tests in this section.

2. If the displays are showing the correct images, you can proceed to testing the cameras, speakers, and microphones, as needed.

> **Note** You must test the speakers before testing the microphones because the microphone test depends on speakers that are functioning properly. See the "Testing Speakers" section on page 11-17.

Figure 11-1 shows an example of the Cisco TelePresence System administration tools available to assist you with troubleshooting tasks.

Figure 11-1   Troubleshooting Window
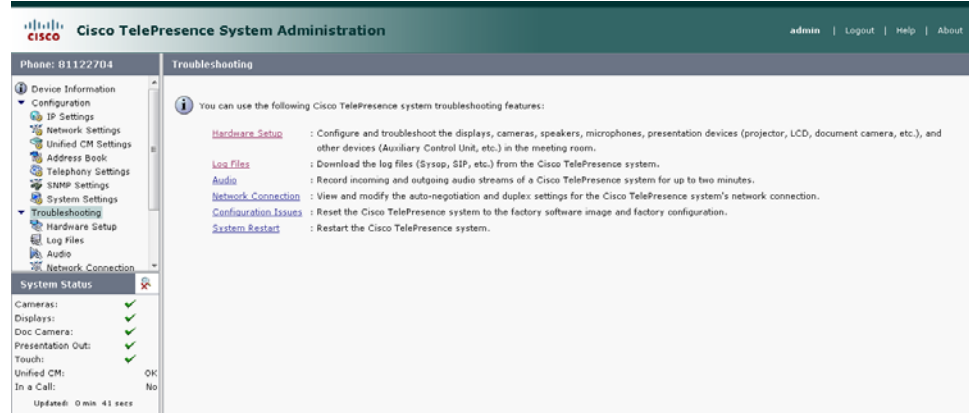
CTS initial setup is also performed using the Hardware Setup fields. For information on how to configure CTS for the first time, see the following documentation:

- *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

Managing Displays

A display is set up successfully when the color on the display has been adjusted for the lighting in the meeting room.

Note   Each display must be adjusted individually.

Use the information in the following sections to adjust the display for your system:

- Selecting the Light Level, page 11-3
- Adjusting Your Display, page 11-4
- Troubleshooting Displays, page 11-6
- Related Information, page 11-6

Selecting the Light Level

When adjusting the images on the CTS display screens, you must take the color temperature of the ambient light in the room into consideration.

Sources of light in most rooms are produced by fluorescent fixtures or incandescent light bulbs that use tungsten filaments. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such as *cool*, *warm*, or *daylight*, but can be expressed more precisely in kelvins (K) as a numeric value.

The following temperatures can be selected for adjusting the image on the Cisco TelePresence display screens:

- 3500 K
- 4000/4100 K (recommended)

- 5000 K
- 6500 K
- 7500 K

Tip   In many cases, the color temperature is printed on the light bulb. If you are unable to ascertain the type and color temperature of light bulbs in the meeting room, experiment with color temperature settings until the color and images on the display screen look lifelike.

Tip   It is OK to try a few different color temperatures to see what looks best in the room. Remember, the Color Temperature setting only effects how the local participants see the display, it does not effect the way the room looks to remote participants.

Adjusting Your Display

To adjust a display:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Displays** radio button. A test image appears on the screen.

Step 4   Click **Start** in the Testing box to start the adjustment process. The Current Color Temperature test screen appears, as shown in Figure 11-2.

Note   Each display in the meeting room should be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed.

Figure 11-2   Color Temperature Test Screen
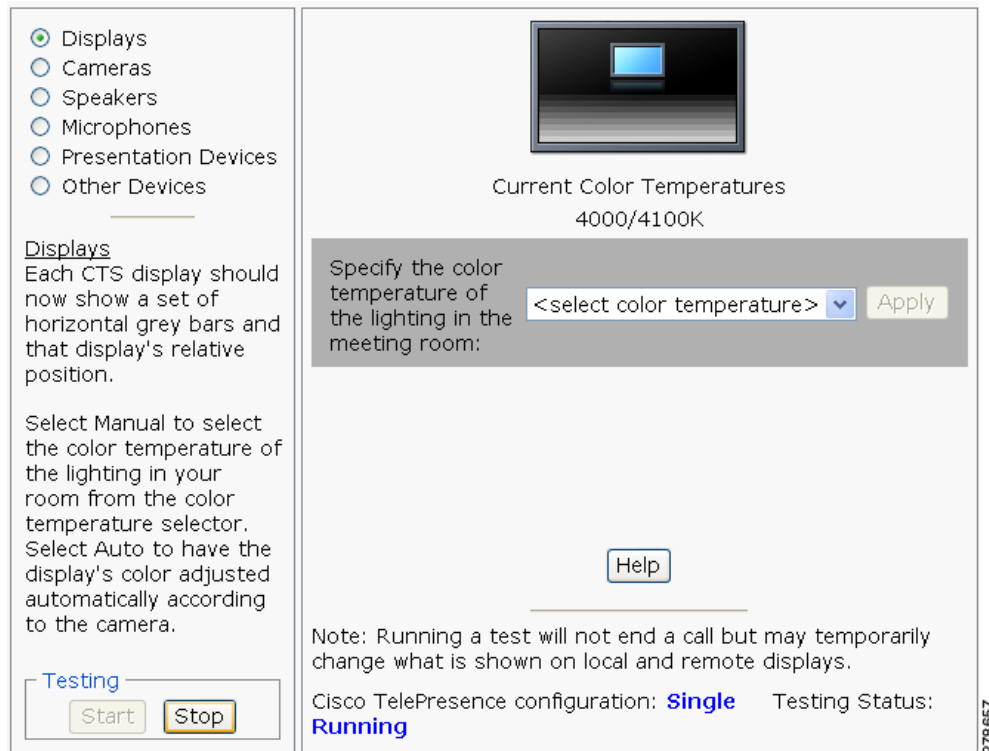
Each display in the meeting room should now be showing a set of horizontal grey bars and that display's relative position. The current color temperature setting is displayed under the monitor.

Step 5   Select the color temperature of the lighting in the meeting room from the drop-down menu. The Apply button is activated.

Step 6   Click **Apply**.

Step 7   Click **Stop** to stop the test.

Troubleshooting Displays

Use the information in Table 11-1 to troubleshoot images on the displays.

Table 11-1   Troubleshooting Displays

Problem	Possible Cause	Action

Power-on test indicates the displays turn on in the wrong sequence. The normal power on sequence is the left, center, then right display screen.	• Video cable is not connected to its corresponding codec connector.
	• Ethernet cable from secondary codec is not plugged into the correct port on the primary codec.
		• Check that the cable from each display is plugged into the correct connector on its corresponding codec.
		• Plug the video-to-video cable into the display connector on the correct codec, as follows.
		  – Plug the center display into the primary codec.
		  – Plug the participant's left display into the left secondary codec.
		  – Plug the participant's right display into the right secondary codec.

No image.	• Power cable is not plugged in. • Power switch on the back of the display is off.	Check power connections and switches on each display.
	The display has no image when you are between calls.	No image expected. Enable a display test from the Web user interface to place the displays in test mode.
	Video cable is not connected.	Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display. See the Routing Power and Signal Cables section in the see the following documentation: • *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

Related Information

For more information about setting up and testing displays, see the following documentation:

- *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Cameras

The cameras are set up successfully when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

Use the information in the following sections to test and troubleshoot the camera for your system:

> ✎
> **Note**   The camera hood comes off. It should be removed and left off until these procedures are complete.

Testing the CTS 3010 and CTS 3210 Cameras

The cameras are set up correctly when images are centered and in focus on the display screens and the white balance has been configured. The hardware setup software provides a camera Auto Adjust feature and a way to use targets to fine-tune the camera's focus.

The following sections describe how to set up the CTS 3010 and CTS 3210 cameras for testing:

Starting the Software Setup

To start the software setup, complete the following steps.

Step 1   Assemble the Large Camera Target.

When you slide the Camera target into the frame, make sure the target is centered in the frame between the vertical lines at the top and bottom of the target.

Figure 11-3   *Camera Target Assembly*
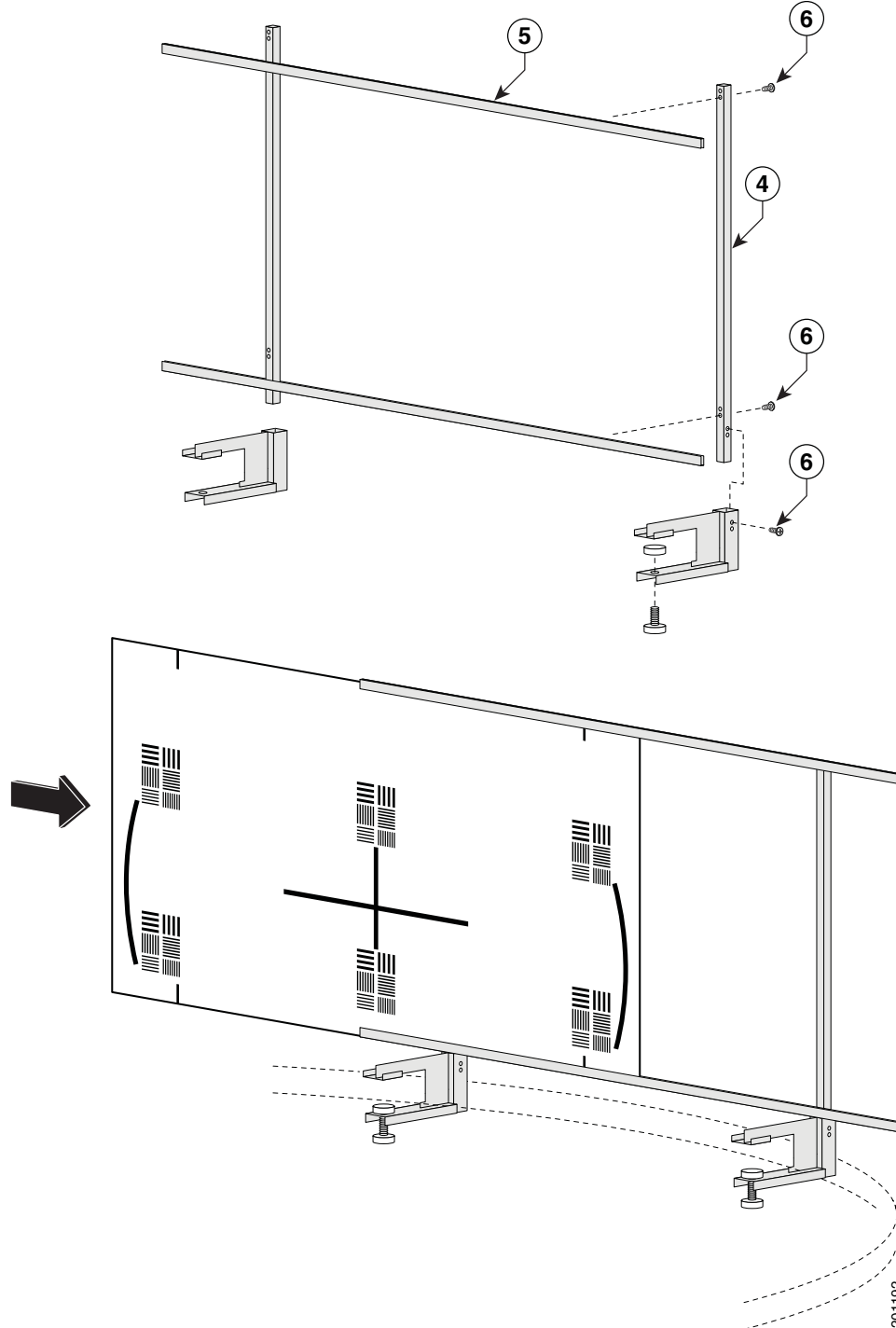
Step 2   Attach the large target to the underside of the center table section by placing the round pads on the underside of the clamps into recesses that are drilled under the table.

Tip   You can feel under the table to find the small round recesses.

Tip The target pattern should face the camera.

Step 3 In the Cisco TelePresence System Administration interface, navigate to **Hardware Setup > Troubleshooting > Cameras**.

Step 4 Click **Start** to begin the camera setup. You should see output from each camera in the appropriate camera display area.

Step 5 Click **Setup** under the image of the center display screen.

If you need further information about testing or adjusting this device, click **Help** in the content area or see the troubleshooting charts in this section.

Adjusting the Zoom

Correctly adjusting the zoom ensures that the conference participants appear life-size, and the camera provide a seamless video image of the table area.

To adjust the camera zoom, complete the following steps.

Step 1 Click **Show Camera Target**.

Step 2 Loosen the thumbscrew on the zoom ring on the camera lens.

The zoom ring is labeled "W-T."

Step 3 Using the zoom ring, and the left/right, up/down, and rotation adjustment screws on the camera, perform the following adjustments:

Step 4 Make manual adjustments to the camera focused on the target and the zoom ring on the camera to make the following adjustments to the camera:

- Align the red plus sign to the plus sign in the middle of the target.
- Align the red hash marks on the display so that they fit between the table edges.
- Zoom and align the camera so that the curved lines on each side of the target touch the sides of the display as shown in Figure 11-5.

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in Figure 11-4.

Note If one of the left/right screws is covered by the camera cable, use the other screw to make all left/right adjustments.

Figure 11-4   Camera Adjustment Screws
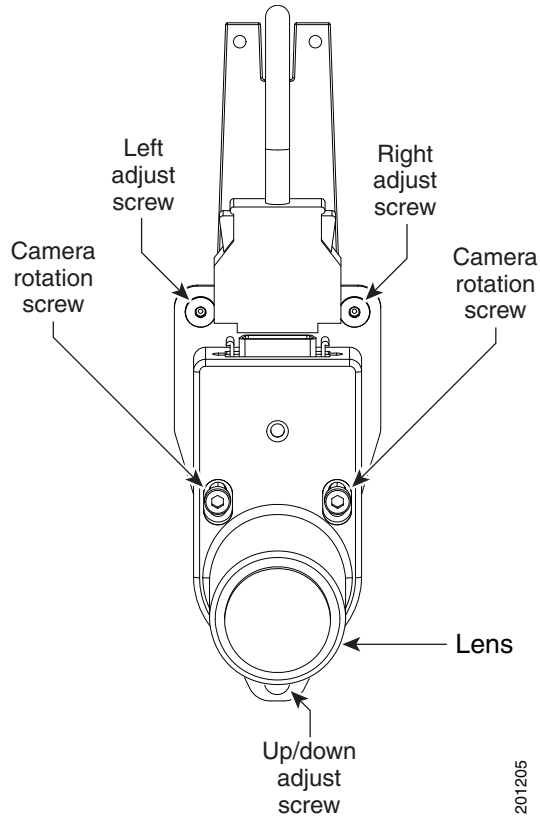
Figure 11-5   Correct Camera Target Alignment—Center Display
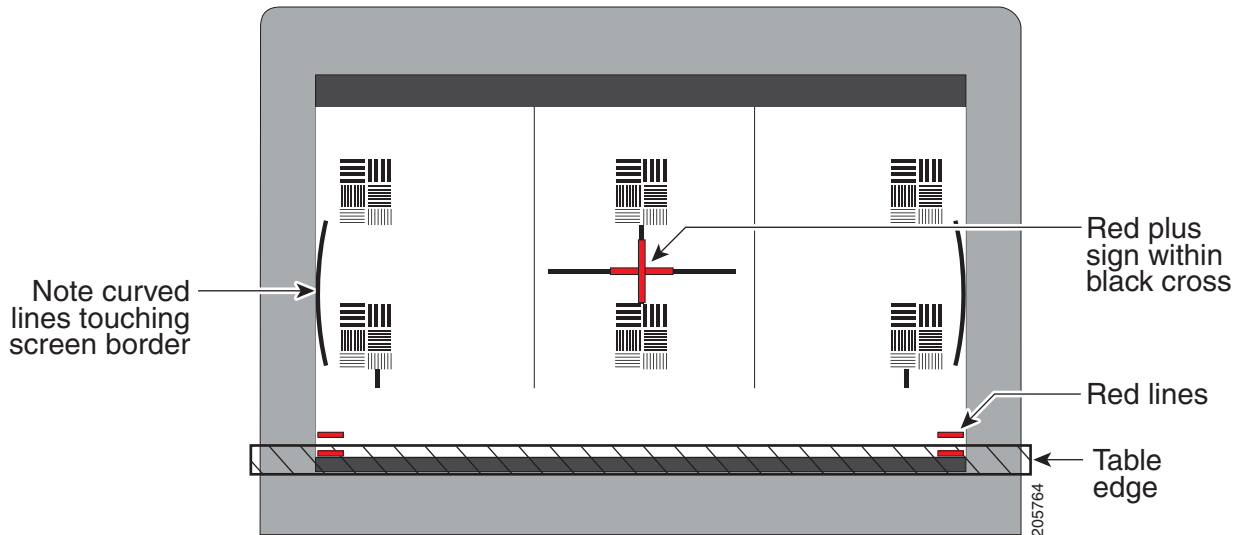
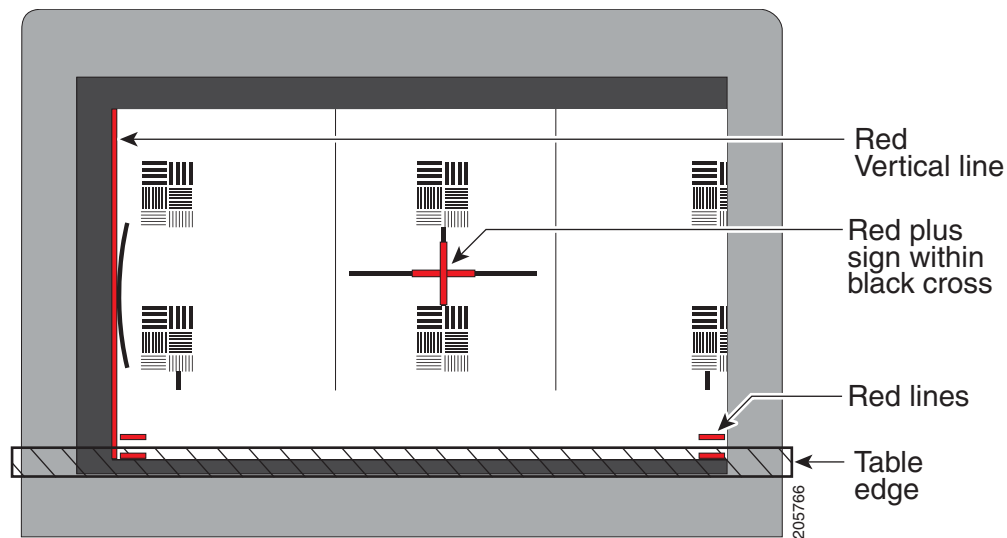**d.** Place the small target on the table in front of the large target, and adjust the focus by completing the steps in the "Focusing the Camera" section on page 11-12.

e. Remove the large target from the center part of the table, and attach it to the left part of the table, placing the underside of the clamps into the recessed holes.

f. Make manual adjustments to the camera focused on the target and the zoom ring on the camera to make the following adjustments to the camera:

- Align the red plus sign to the plus sign in the middle of the target.

- Align the red hash marks on the display so that they fit between the table edges.

- Zoom and align the camera so that the curved line on the right side of the display touches the red adjustment line at the right edge of the display as shown in Figure 11-6.

⌕

Tip   To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in Figure 11-4.

If one of the left/right screws is covered by the camera cable, use the other screw to make all left/right adjustments.

Figure 11-6   Correct Camera Target Alignment—Right Display
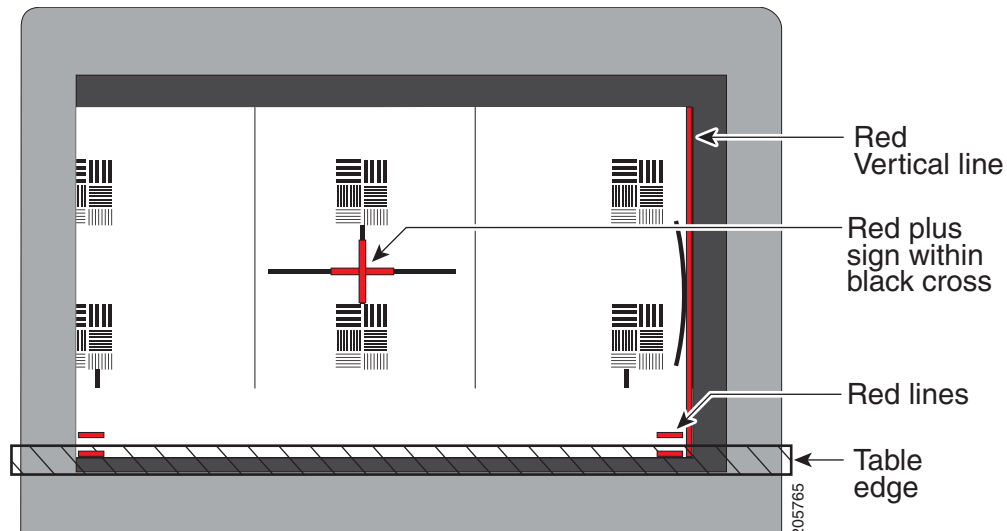
g. Place the small target on the table, in front of the large target, and adjust the focus by completing the steps in the "Focusing the Camera" section on page 11-12.

h. Remove the large target from the center part of the table, and attach it to the right part of the table, placing the underside of the clamps into the recessed holes.

i. Make manual adjustments to the camera focused on the target and the zoom ring on the camera to make the following adjustments to the camera:

- Align the red plus sign to the plus sign in the middle of the target.

- Align the red hash marks on the display so that they fit between the table edges.

- Zoom and align the camera so that the curved line on the left side of the display touches the red adjustment line at the right edge of the display Figure 11-7.

Tip   To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in Figure 11-4.

If one of the left/right screws is covered by the camera cable, use the other screw to make all left/right adjustments.

Figure 11-7   Correct Camera Target Alignment—Left Display

j. Place the small target on the table, in front of the large target, and adjust the focus by completing the steps in the "Focusing the Camera" section on page 11-12.

Step 5   Tighten the thumbscrew on the zoom and focus rings.

Step 6   Click **Hide Camera Target** to remove the alignment images.

Step 7   To complete the zoom procedure, click **Done**.

Step 8   Click **Setup**, then click **Auto Adjust** to automatically adjust the camera settings.

You will see various images and colors on the displays during the adjustment. Auto Adjust takes approximately 1 minute.

Focusing the Camera

To focus the cameras using the large and small targets, complete the following steps:

Step 1   Place the small target on center of the table, in front of the center camera.

Step 2   Arrange the large target five feet (152 cm) behind the small target.

Tip   Use a chair to prop up the large target.

Figure 11-8   *Arranging the Small and Large Targets*
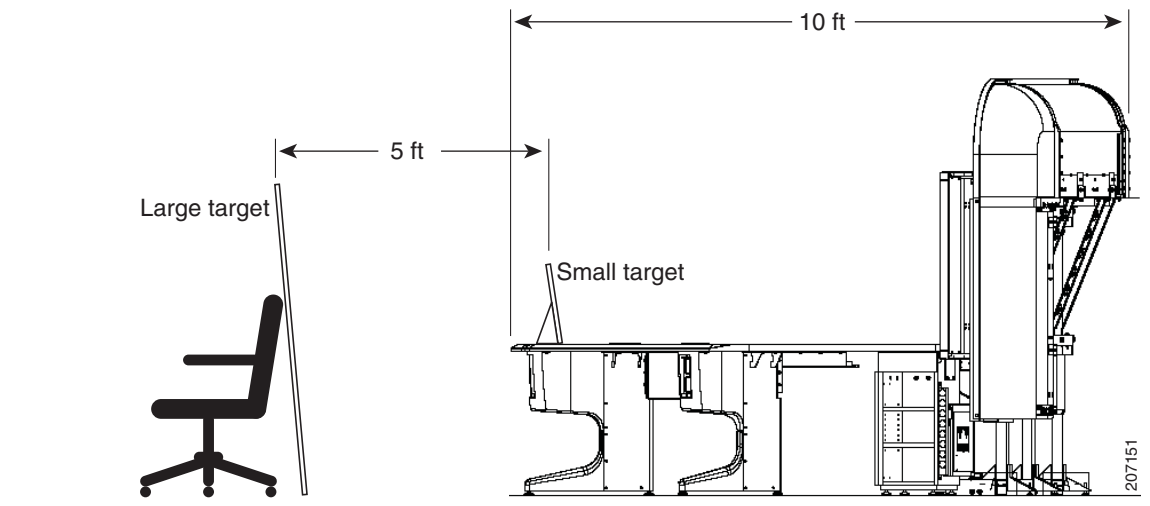
Step 3   In the Cisco TelePresence Administration interface, click **Setup**, then click **Show Focus Target**.

Step 4   Adjust the small target so that the red box encloses the upper patterns on the large target and the green box encloses the patterns on the small target.

Figure 11-9   *Positioning the Small and Large Targets*
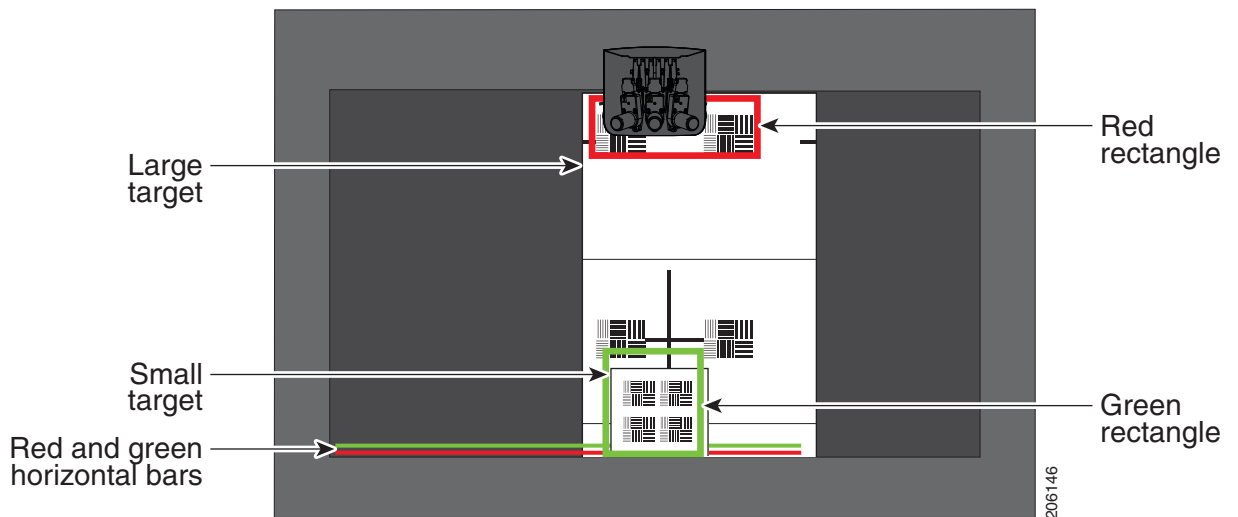
Step 5   Adjust the focus on the camera by performing the following steps:

   a.   Loosen the thumbscrew for the lens focus ring. The ring is labeled "N-8".

Figure 11-10   Location of Focus and Zoom Rings

Zoom ring   Focus ring
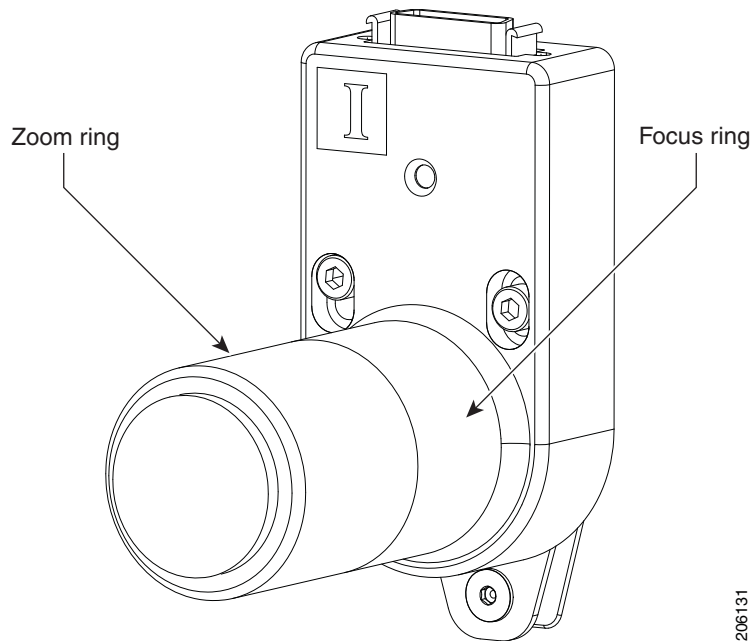
Tip   Use the thumbscrew (or 0.9 mm Allen wrench) to unlock the focus ring.

b.   Twist the focus ring clockwise until the red and green horizontal bars on the bottom of the screen are reduced to very short lengths on the left.

c.   Twist the focus ring counter-clockwise until the red and green bars extend all the way to the right.

d.   Continue to twist the focus ring until the red and green bars are approximately the same length.

e.   Make any additional adjustments you need to make to the zoom adjustments.

Occasionally, adjusting the focus can slightly change the zoom.

f.   Click **Hide Focus Targets**, then click **Done** when you complete the adjustment.

Step 6   Remove the targets and place them in front of the left camera.

Step 7   Complete Step 1 through Step 5 for the left camera.

Step 8   Remove the targets and place them in front of the right camera.

Step 9   Complete Step 1 through Step 5 for the right camera.

Attaching the Camera Hood Assembly

After you complete the camera adjustment, attach the camera hood assembly. See Figure 11-11.

Note   Attach the top hood before attaching the bottom hood.

⚠️

Caution   Do not overtighten the screws, or use a power screwdriver to tighten the screws. The recommended torque for the screws is 0.8N.m (7 inch-pounds).

In addition, make sure that you use screws of the correct length (20 mm). Overtightening the screws, or using a screw that is too long, can cause the plastic hoods to break.

Figure 11-11   *Attaching the Camera Hood Assembly*
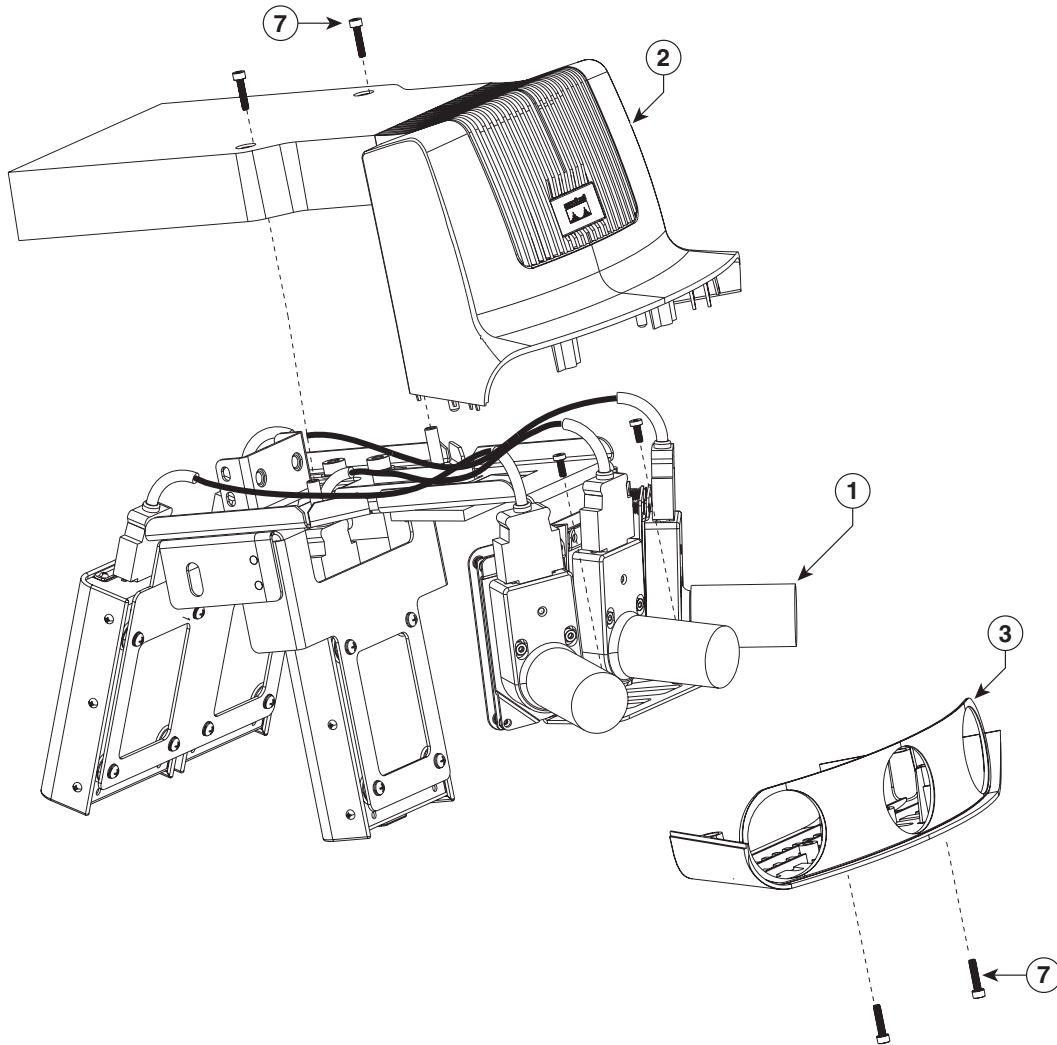
Troubleshooting Cameras

Use the information in Table 11-2 to troubleshoot cameras.

Table 11-2   Troubleshooting Cameras

Problem	Possible Cause	Action

Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	• Check that the cables from each camera are plugged into the correct connector on its respective codec.
		
		• Two connections are made for the camera, an RJ-45 cable plugs into the large connector and a video-to-DVI-I cable plugs into the small connector. Connect them as follows:
		
		  – Plug the center camera into the primary codec.
		
		  – Plug the participant's left camera into the left secondary codec.
		
		  – Plug the participant's right camera into the right secondary codec.

Image not positioned correctly.	Camera is not aligned correctly.	Adjust and focus the camera using the targets.

Image colors are incorrect.	• Video cable is only partially connected.
	
	• Color settings are not correct.
		• Tug on the plug to see if it is fully plugged in.
		
		• See the Routing Power and Signal Cables section in the following documents:
		
		  – *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
		
		  – *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

No image.	• Lens cap is in place. • Camera is not plugged in or is plugged in incorrectly.	• Remove the lens cap. • Check power connections and switches on each display. • Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
	Camera or display is broken.	Contact Cisco technical support if you are certain that the cabling is correct, power is applied, and a display and camera test has been run, but no image is seen on the display.
Camera top-to-bottom switching discontinuity.	Image may take up to 1 second to normalize when the camera switches to the active speaker.	This is normal DSP behavior. Can also occur during audio addin. Contact Cisco technical support.

Related Information

For more information about setting up and testing cameras, see the following documentation:

- *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Speakers

The speakers are set up successfully when sound can be heard clearly from each one. When running a test, you can choose whether to cycle through the speakers automatically or manually.

Use the information in the following sections to test the speakers for your system:

- Testing the Speakers, page 11-17
- Troubleshooting Speakers, page 11-18
- Related Information, page 11-18

Testing the Speakers

To test the speakers:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**

Step 3   Click the **Speakers** radio button.

Step 4   Click **Start** to begin the speaker test.

Step 5   Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.

Step 6   Click **Manually Step Through Speakers** to test sound on each speaker.

Step 7   Click **Next Speaker** to progress to the next speaker.

Step 8   Click **Stop** to end testing.

Troubleshooting Speakers

Use the information in Table 11-3 to troubleshoot speakers.

Table 11-3   Troubleshooting Speakers

Problem	Possible Cause	Possible Solution
No sound is heard.	Speaker cable is not connected or is only partially connected.	• Check that the red and black pronged ends of the speaker cable are securely fastened under their corresponding connectors on the speaker. • Check that the speaker cable is plugged into the correct receptor on the primary codec. • Tug on the plug to see if it is fully plugged in. Push the plug in firmly until a click is heard.
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	• Check that the speaker cable is plugged into the correct receptor on the primary codec. • Plug all speakers into the primary codec.
Sound is not synchronized with video.	—	Contact Cisco technical support.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing speakers, see the following documentation:

• *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*

• *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

• For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Microphones

The microphones are set up successfully when each microphone registers sound. You must supply sound at each microphone to complete this test. The number of audio meters that are shown on the test screen is determined by the number of microphones that have been configured in Unified CM and the version of Unified CM that you are running.

The Microphone Troubleshooting screen displays the number of microphones available for testing:

- CTS 3010—3 microphones. 1 audio meter is displayed per microphone, one on each of 3 test screens.
- CTS 3210—6 to 9 microphones, depending on your configuration. 2 or 3 audio meters are displayed on each of 3 test screens:
  - The top microphone icons represent the microphone in the front row of participants seated in the room.
  - The bottom microphone icons represent the microphones in the back row of participants seated in the room.

Go to the following sections to test microphones:

- Testing Microphones on the CTS 3010 and CTS 3210, page 11-19
- Troubleshooting Microphones, page 11-21
- Related Information, page 11-22

Testing Microphones on the CTS 3010 and CTS 3210

To test microphones on the CTS 3010 and CTS 3210:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Microphones** radio button.

Step 4   Click **Start** in the Testing box to begin the test. The Microphone Calibration button is activated and three virtual screens appear, each with an audio meter displayed.

Step 5   Lightly tap or scratch each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

Step 6   Click the **Microphone Calibration** button (CTS 3010 only). A dialog box appears:

"Microphone Calibration will last approximately two minutes. Please ensure the room remains quiet during the test. Proceed?"

> **Note**   The room must be completely quiet to calibrate microphones.

> **Tip**   You may want to leave the room and close the door to carry out the calibration process to ensure complete silence in the room.

Step 7   Click **Ok** to proceed with the calibration.

Step 8   Click **Stop** to end the test.

Figure 11-12 shows an example CTS 3200 Series microphone troubleshooting screen with the Refresh Microphone Status window activated.

Figure 11-12   Troubleshooting Microphones on the CTS 3200 Series
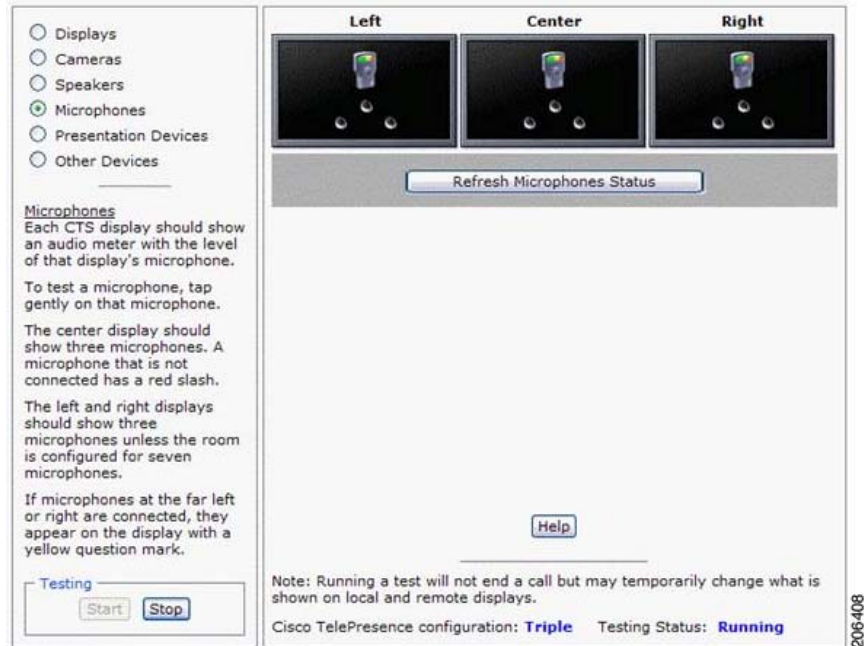
Troubleshooting Microphones

Use the information in Table 11-4 to troubleshoot microphones.

Table 11-4   Troubleshooting Microphones

Problem	Possible Cause	Possible Solution
Sound is muffled.	Something near or on the microphone is distorting the sound.	Move objects away from the microphone.
No sound registers.	Microphone cable is not connected or is only partially connected.	• Check that the system is plugged in and power is on. • Check that the microphone plug is firmly seated in the correct connector on the primary codec. • Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in. • Lightly tap the microphone to see if sound registers. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no sound registers on the microphone.
Microphone icon with red pipe displays.	Microphone is not connected. One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Microphone icon with question mark displays.	One of the microphones is unplugged.	Check that the microphone is properly plugged in.
Sound registers at the wrong microphone.	Microphone cable is not connected to its corresponding codec.	• Check that the cable from the microphone is plugged into the correct receptor on the codec. • Plug all microphones into the primary codec.

Table 11-4   *Troubleshooting Microphones (continued)*

Problem	Possible Cause	Possible Solution
Microphone switches to a segment that has no one talking.	Phantom switching; microphone is not calibrated properly.	Run the microphone calibration procedure in the "Testing Microphones" section on page 11-19.
Choppy audio during double-talk (when both sides are talking simultaneously).	Audio Echo Canceller (AEC) very briefly mistakes one of the speech patterns for noise and cancels it, resulting in choppy audio. • The audio from the remote side is slightly attenuated before it is played out the of the speaker. • The echo cancellation feature removes some of the sound from the talkers during the double talk.	Check whether there has been a change in the echo path (someone has moved the speaker or microphone, or maybe a laptop directly in front of a mic). Otherwise, this is expected behavior. The existing filter parameters should be enough to cancel out the sound from the speaker. However, during double-talk, echo cancellation will always remove some sound from the talker.

Related Information

For more information about setting up and testing displays, see the following documentation:

• *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*

• *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

• For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the External Presentation Display

By default, presentations are displayed as presentation-in-picture (PiP) on the center screen of multi-screen main display systems. You can optionally add an external presentation display screen that displays the presentation instead of displaying it as PiP on the main display screen. This display is attached to the External Presentation Display HD video connection on the codec. See the following documentation for more information:

• *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*

• *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

Note   If the video works for a few minutes and then stops working, your presentation device might use an unsupported video protocol. To see the list of displays that the CTS 3010 and CTS 3210 supports, see the release notes for your CTS software version on Cisco.com.

A PiP softkey will be displayed on the phone only if a PiP is active. Pip is not available for audio-only calls.

To test an external presentation device:

Step 1   Log in to the Cisco TelePresence System.

Step 2   Navigate to **Troubleshooting > Hardware Setup > Presentation Devices**.

Step 3   Click the **Test Pattern** radio button.

Step 4   Click **Start** to begin the test.

The test pattern should display on the external presentation display.

Step 5   Click **Stop** to end the testing.

Testing Presentation Devices

The output for presentations is handled by projectors or auxiliary LCD displays. Input to the projector can be delivered through a Video Graphics Array (VGA) input device (such as a laptop computer) or through a document camera.

> **Note**   Manageability has been added to the CTS Administration interface for the Cisco LCD-100-PRO-40N 40-inch auxiliary display on the CTS 3010 and CTS 3210.

If your system has an Auxiliary Control Unit to test the display.

Step 1   Make sure that a serial cable is connected from your display to the Serial 1 output of the auxiliary control unit. See the "Options for the Cisco TelePresence System 3000 Series" chapter of the *Cisco TelePresence Hardware Options and Upgrade Guide* for information about cabling your system with an Auxiliary Control Unit.

Step 2   Start a test pattern display for the display by completing the following steps:

    a.   Open a browser that is connected to the network.

    b.   Enter the IP address of the primary codec to log in to Cisco TelePresence System Administration.

    c.   Select **Troubleshooting > Hardware Setup**, then click the **Presentation Devices** radio button.

    d.   Select the **Test Pattern** radio button.

    e.   Click **Start** to begin the test.

Step 3   Turn on the display.

If the display does not show a test pattern, see the "Testing Presentation Devices" section on page 11-23 to attempt to fix the problem.

Step 4   From Cisco TelePresence System Administration interface, click **Set LCD Defaults** to automatically configure the display for use with the Cisco TelePresence system.

> **Note**   Although the 40-inch display ships with a remote control, Cisco strongly recommends that you not make any adjustments or changes from the factory default settings. The CTS restores the display to its factory default settings each night and any overrides to the default settings will not persist.

Table 11-5 contains supported presentation devices listed by system.

Table 11-5 *Supported Presentation Devices*

Presentation Device

	Included in Cisco TelePresence System	Optional in Cisco TelePresence System
Auxiliary Display—40" LCD	• CTS 3010 • CTS 3210	• CTS 3010 • CTS 3210

Use the information in the following sections to test presentation devices:

- Checking the Test Pattern, page 11-25
- Troubleshooting the Presentation Display, page 11-25
- Checking the VGA, page 11-27
- Troubleshooting Presentation Devices, page 11-27
- Related Information, page 11-29

Checking the Test Pattern

To check the test pattern on the CTS 3010 and CTS 3210:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting** > **Hardware Setup**.

Step 3   Click the **Presentation Devices** radio button.

Step 4   Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5   Select **Test Pattern** and click **Test**.

Step 6   Turn on the display.

If the display does not show a test pattern, see the "Troubleshooting the Presentation Display" section on page 11-25 to attempt to fix the problem.

Step 7   From Cisco TelePresence System Administration, click **Set LCD Defaults** to automatically configure the display for use with the Cisco TelePresence system.

> **Note**   Although the 40-inch display ships with a remote control, Cisco strongly recommends that you not make any adjustments or changes from the factory default settings. The TelePresence system restores the display to its factory default settings each night and any overrides to the default settings will not persist.

Troubleshooting the Presentation Display

Use Table 11-7 to troubleshoot problems with the presentation display.

Table 11-6   *Troubleshooting Chart for Presentation Display Problems*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Display power switch is off.	Check presentation display power switch. Switch the presentation display on/off rocker switch to the ON position.
Test pattern is not displayed.	Power cable is not connected.	Check to see if the LED on the top of the presentation display is illuminated; it can be either green or yellow. If the LED light is not illuminated, make sure that the power cable is plugged in.

Table 11-6   Troubleshooting Chart for Presentation Display Problems (continued)

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Video cable connector is not connected to the presentation display or to the primary codec.	Check that the video cable connector is plugged into the presentation display and into the correct connector on the primary codec. Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
Test pattern is not displayed.	Presentation display is set up to receive PC input instead of input from its video cable connector.	Use the presentation display remote control to configure the presentation display for HD video input. If your system includes an Auxiliary Control Unit, click **Set LCD Defaults**.
Test pattern is not displayed.	Video cable connector is not securely seated in the presentation display.	Seat the video cable connector securely.
Test pattern is not displayed.	Video cable connector is not securely seated in the primary codec.	Seat the video cable connector securely.
Test pattern is not displayed.	Video cable connector is not inserted in the correct port on the primary codec.	The video cable connector should be connected to auxiliary video out. Check the cabling diagrams in "Routing Power and Signal Cables" section in the *Cisco TelePresence System 3210 Assembly, Use & Care, and Field-Replaceable Unit Guide*.

Note   The Cisco TelePresence System can display information from multiple input devices during a meeting; if multiple input devices are sending information, the display shows the input from the last presentation display sending information. If you do not see an input device image, try the following: for VGA devices, unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in; for document cameras: turn the camera off, wait 5 seconds, and then restart the device.

Checking the VGA

To check the VGA on the CTS 3010 or CTS 3210:

Step 1 Log in to the Cisco TelePresence System Administration interface.

Step 2 Choose **Troubleshooting** > **Hardware Setup**.

Step 3 Click the **Presentation Devices** radio button.

Step 4 Click **Start** in the Testing box. The Presentation Source buttons are activated.

Step 5 Select **VGA** and click **Test**. It may take up to 15 seconds before you begin to see an image on the projection surface. The image should be fully formed after approximately 45 seconds.

If the input image is displaying correctly, you should see an image projected on the projection surface. If the image is out of focus, use the projector focus ring to focus the image.

Step 6 Click **Stop Test** to end the test.

Step 7 Click **Set Projector Defaults** to reset the projector to the default settings.

Step 8 Click **Stop** in the Testing box to end all testing.

Troubleshooting Presentation Devices

Use the information in the following sections to troubleshoot presentation devices:

- Multiple Input Devices, page 11-27
- Presentation Devices, page 11-27

Multiple Input Devices

The Cisco TelePresence System can display information from multiple input devices during a meeting. If multiple input devices are sending information, the projector displays the input from the last presentation device sending information. If an input device image is not being seen on the projector screen, try the following:

- VGA devices—Unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in.
- Document cameras—Turn the camera off, wait 5 seconds, and restart the device.

Presentation Devices

Use the information in Table 11-7 to troubleshoot presentation devices.

Table 11-7   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	• Check projector power switch. • Switch the projector on/off rocker switch to the ON position.
	Power cable is not connected.	• Check to see if the LED on the top of the projector is illuminated. It can be either green or yellow. • If the LED light is not illuminated, make sure that the power cable is plugged in.
	Video cable is not connected to the projector or to the CTS primary unit.	• Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit. • Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system but no image is displayed.
	Projector is set up to receive PC input instead of input from its video cable connector.	• Use the projector remote control to configure the projector for HD Video input. • If your system includes an Auxiliary Control Unit, click **Set Projector Defaults**.
	Object is blocking the path of the projector.	Remove any objects blocking the projector lens.
	HD Video connector is not securely seated in the projector.	Seat the HD Video connector securely.
	HD Video connector is not securely seated in the CTS primary codec.	Seat the HD Video connector securely.
	HD Video connector is not inserted in the correct port on the CTS primary codec.	The HD Video cable connector should be connected to auxiliary video out. Check the cabling diagrams in the Routing Power and Signal Cables section in the following documentation: • *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
Projector image is dim.	Lamp iris needs to be set to open.	See the Setting Up the Camera section in the following documentation: • *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide* • *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

Table 11-7   Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
System Status window shows unexpected Document Camera status.	Document camera settings may need to be adjusted in Unified CM.	Cisco recommends setting the Digital Visual Interface (DVI) resolution to XGA/60 at 1024 x 768/60 Hz. See the Optional Hardware section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.
There is no image and a Bulb icon appears on the CTS main display.	The projector bulb has burned out.	Replace the projector bulb.

Tip   Presentation devices automatically shut off when there is no longer a video signal to that presentation device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3010 and CTS 3210 that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing presentation devices, see the following documentation:

- *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
- For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing Other Devices

Use the **Other Devices** Tab to check the following additional devices:

-
-
-
-

Auxiliary Control Unit

The auxiliary control unit (ACU) controls the individual light units surrounding the displays in CTS conference rooms and enables the CTS to get more complete projector status information and to restores projector defaults.

To test the ACU:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **Other Devices** radio button.

Step 4   Click **Start** in the Testing box. The Auxiliary Control Unit (Current Status) is displayed. Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

    a.   Check a box to select a specific port number.

    Or

    b.   Click **Select All** to select all ports (and all light units) or **Select None**.

    c.   Click the **Refresh On/Off Status** button to update the on/off status of each port.

    d.   Click the **Turn Selected Lights On/Off** to test the selected light unit(s).

    e.   Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

Step 5   Click **Stop** to end the test.

Digital Media Player

The Digital Media Player (DMP) feature lets you select a secondary audio input source when you are not in a TelePresence call.

For more information about the DMP, see the Cisco Digital Media Players home page on Cisco.com.

To test the DMP:

Step 1   Log in to the Cisco TelePresence System Administration interface.

Step 2   Choose **Troubleshooting > Hardware Setup**.

Step 3   Click the **DMP** tab.

Step 4   Click **Start** in the Testing box to begin testing the secondary audio input.

- If you have a PC attached, the S**econdary Audio Input Source PC** button is highlighted. When S**econdary Audio Input Source is** set to **PC**, the audio input is active while the presentation source is active, both in and out of a call.

- If you have a DMP attached, the **Secondary Audio Input Source DMP** button is highlighted. When set to **DMP**, audio input is only active outside of a call if DMP is active (during business hours defined by Unified CM).

Note   The DMP settings should match how the secondary auxiliary audio input is physically connected to the codec.

Step 5   Click **Stop** to end the test.

Troubleshooting Other Devices

Use the information in Table 11-8 to troubleshoot problems in Other Devices.

Table 11-8   Troubleshooting Other Devices

Problem	Possible Cause	Possible Solution
Digital Media Player DMP audio is playing during a call.	**Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to PC, the audio input is active while the presentation source is active, both in and out of a call.
Presentation Devices • Local presentation audio is not playing during a call.	The **Secondary Audio Input Source** setting may be wrong.	• Check to see that the **Secondary Audio Input Source** setting matches the physical cabling. • When set to DMP, audio input is only active outside of a call if DMP is active (during Cisco Unified Communications Manager-defined business hours).
• Presentation fails to display in some resume scenarios.	This is expected behavior.	In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume. Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter: • If the presentation device was the active presenter when it went on hold, it will ask to present again when taken off hold and the presentation will be shown when the meeting resumes. • If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.
• Administration login can be slow when presenting during point-to-point secure calls.	This is expected behavior.	Administration CLI login can take as much as 60 seconds during point-to-point secure calls when a hold/resume is performed while presenting.

Tip   Other devices automatically shut off when there is no longer a video signal to that device. An on-screen timer counts down the remaining time to shut-down. The amount of time that it takes a device to shut down depends on your Unified CM configuration. Most CTS devices that support PiP shut down in 10 to 15 seconds after the video signal is removed. Devices on the CTS 3010 and CTS 3210 that have black boxes associated with the auxiliary control take 5 minutes to shut down. See the Product Specific Configuration Layout section of the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information about controlling presentation devices and associated displays.

Related Information

For more information about setting up and testing other devices, see the following documentation:

*   *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*

*   *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

*   For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Log Files

Tip   If you are using Internet Explorer, remember to turn off Pop-up Blocker or configure Pop-up Blocker to allow the IP address before capturing system log files.

Use Log Files to view system operation (sysop) log files, Session Initiation Protocol (SIP) messages and log files from the Cisco TelePresence system. Click the appropriate tab at the top of the window to view the following information:

*   Sysop Log, page 11-32

*   Log Files, page 11-33

*   SIP Messages, page 11-34

Sysop Log

To manage sysop messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Sysop Files** tab to view system operation (sysop) messages, including call information, call statistics, and call errors for the Cisco TelePresence system. There can be up to 20 individual files saved on the CTS, and each file can contain up to 100,000 characters.

Step 3   Click the **Download Sysop Files** button at the bottom of the page to download the sysop log files. CTS Administration software then prompts you to do one of the following:

   a.   Open to view the sysop log files—The last 100,000 bytes of the log are shown. When you download Sysop Files, all available Sysop files will be downloaded.

      Or

   b.   Save the sysop log files.

Log Files

Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

To manage log files:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **Log Files** tab. The following fields are displayed:

- **Log Status**—Shows the status of the log capture, including the percentage completed.

- **Time Generated**—Shows the time of the most recent log file capture.

- **Problem**—Problem Type drop-down menu contains the following:

  - Audio (speakers, microphones)

  - Video (displays, cameras)

  - Projector, LCD, document camera

  - Phone

  - Recording

  - Other/Unknown

Figure 11-13 shows the problem types that you can select when downloading log files.

Figure 11-13   Select Problem Type Drop-Down Menu
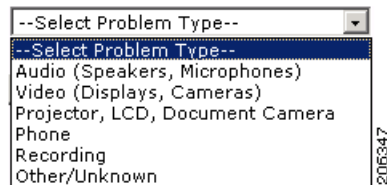
Step 3   Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 11-14 shows the log download radio button options.

- **Download existing log files**—You must select this radio button to download logs.

- **Capture New Log Files—**The system will capture but not download the log files.

> **Note**   You must disable Internet Explorer Pop-up Blocker to capture new log files with the Capture New Log Fils button.

Figure 11-14   Downloading Log Files

Step 4   Select the "Download existing log files" radio button and then select a problem from the Select Problem Type drop-down menu:

- Audio (speakers, microphones)

- Video (displays, cameras)

- Projector, alternate display, LCD, document camera

- Phone

- Recording

- Other/Unknown

Step 5   Click the **Download Existing Log Files** button. The following message appears:

"A WinZip download will start within several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

Or

Step 6   Select the "Capture new log files" radio button and then click the **Capture New Log Files** button. The following message appears:

"Collecting Cisco TelePresence system log files. This may take several minutes.
Please wait..."

The File Download window appears prompting you to open or save the file. Click **Save** to send the gzip file to Cisco technicians to help solve the problem.

SIP Messages

Use SIP Messages to view the current Session Initiation Protocol (SIP) messages log file. SIP request and response methods are used to establish communications between components in the network and ultimately to establish a call or session between two or more endpoints. Table 11-9 and Table 11-10 describe the SIP requests and message types.

To manage SIP messages:

Step 1   Choose **Troubleshooting > Log Files**.

Step 2   Select the **SIP Messages** tab. The SIP Messages window appears.

Step 3   View a specific type of message in the SIP log file by doing the following:

   a.   Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.

      Or

   b.   Select the message type from the drop-down menu. The Filter button is activated.

   c.   Click the **Filter** button to view the SIP messages of the type you specified.

Step 4   Choose the number of messages to view at one time from the Rows Per Page drop-down menu. You can use the First, Previous, Next, and Last buttons to navigate through the message list with the Navigating Long Lists option. You can also Generate Detailed Message Reports.

Generate Detailed Message Reports

To see additional details associated with a SIP message:

Step 1   Double-click on a SIP message from the list to open the SIP Message Details dialog box. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

      Or

Step 2   Highlight the SIP message and click the **Details** button. The SIP Message Details dialog box opens containing the message details and Related SIP Messages.

Related SIP Messages

The bottom portion of the SIP Message Details window lists SIP messages that are related to the SIP message that was selected at the top of the window.

To view related SIP message details:

Step 1   Double-click a message in the Related SIP Messages window to see details for that message. SIP Requests and Methods and SIP Response Categories are explained below.

Step 2   Click **Close** to dismiss this window.

Use the information in the following sections to initiate SIP requests and responses:

- SIP Requests and Methods, page 11-35
- SIP Response Categories, page 11-36

SIP Requests and Methods

Table 11-9 summarizes the SIP requests and methods supported by the Cisco TelePresence System Administration software. The first column lists the RFC that describes the SIP request messages or method.

Table 11-9   ***Supported SIP Requests and Methods***

RFC	Request/Method	Description
3261	ACK	Confirms that the client has received a final response to an INVITE request.
3261	BYE	Terminates a call. Can be sent by either the caller or the called party.
3261	CANCEL	Cancels any pending searches but does not terminate any call currently in progress.
2976	INFO	Allows session-related control information generated during a session to be carried along the SIP signaling path.
3261	INVITE	Indicates that a user or service is being invited to participate in a call session.
3265	NOTIFY	Immediately upon successful accepting or refreshing of a subscription, a NOTIFY message is sent to communicate the current resource state to the subscriber. This NOTIFY message is sent in the same dialog as that created by the SUBSCRIBE message.
3261	OPTIONS	Queries the capabilities of servers.
3262	PRACK	Provides reliability for 1xx type messages; see Table 11-9.
3515	REFER	Provides a mechanism allowing the party sending the REFER message to be notified of the outcome of the referenced request.
3261	REGISTER	Registers the address listed in the To header field with a SIP server.
3265	SUBSCRIBE	Requests current state and state updates from a remote node.
3311	UPDATE	Allows a client to update parameters of a session, but has no impact on the state of a dialog. This request can be sent before the initial INVITE has been completed, thereby making it useful for updating session parameters within early dialogs.

SIP Response Categories

SIP replies to the requests in Table 11-9 using the response categories described in Table 11-10.

Table 11-10   ***SIP Response Categories***

Response Category	Response Type
1xx	Informational messages
2xx	Successful responses
3xx	Redirection responses
4xx	Request failure responses
5xx	Server failure responses
6xx	General failure responses

Navigating Long Lists

The log file can hold up to 2 MB worth of SIP messages. To navigate long lists:

Step 1   Choose the number of rows that you wish to see on one page from the Rows Per Page drop-down menu.

Step 2   Double click to select and open single message details. The SIP Message Details window appears.

Step 3   If there are multiple pages listing log files, click the **First**, **Previous**, **Next**, or **Last** button to navigate to the desired page.

Step 4   Click the radio button to the left of the table entry, and then click **Clear** to delete a single error message.

Step 5   Click **Clear All** to delete all error messages displayed.

Related Information

For more information, see the following documentation:

- Session Initiation Protocol (SIP) home page on Cisco.com.
- *Cisco TelePresence System Message Guide*

Testing Audio

You can test the system audio in your meeting room and send the results to Cisco Systems technical support for analysis.

> **Note**   Audio recordings can be made only while the CTS system is in a call.

To record audio:

Step 1   Choose **Troubleshooting > Audio**.

Step 2   Click **Start Recording Audio** to start recording all audio in the local meeting room including audio from remote meeting rooms. Recording will continue up to a maximum of two minutes unless you manually stop recording.

> **Note**   Both endpoints will beep periodically during the recording process and when audio add-in participants join the call.

Step 3   Click **Stop Audio Recording** to stop recording.

Step 4   After you complete the recording and download the results, send the results to Cisco Systems technical support.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Testing the Network Connection

Use the Network Connection window to view and modify the duplex and automatic negotiation settings for the Cisco TelePresence system Ethernet connection. Auto negotiation is set to Off by default.

You can change the following network connection settings:

- Auto Negotiation on
- Auto Negotiation off

To manage Auto Negotiation:

Step 1 Choose **Troubleshooting > Network Connection**.

Step 2 Click the **On** or **Off** radio button to enable or disable auto negotiation. The Apply and Reset buttons are activated, as shown in Figure 11-15.

Note When Auto Negotiation is enabled, the Duplex and Speed settings are read-only.

Figure 11-15   Auto Negotiate On

Step 3 Click **Apply** to save your settings or click **Reset** to restore the original settings.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Managing Configuration Issues

Use the Configuration Issues window to view hardware and software versions and to reset the system to use the factory default software image and the default configuration.

To view hardware and software versions and active images, choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Resetting the System

⚠
Caution   Once the system is reset, you will have to reconfigure the system. You will be asked twice to confirm your choice to revert to the factory image before software will carry out this request.

Resetting the system can take over two hours to complete.

A system reset results in the following:

- The CTS is reset to the software image as originally shipped.
- All configuration settings are reset to the factory defaults.

If you select to reset the system to use factory defaults, check the Cisco IP telephone for messages during the reset procedure:

- Data in bold **blue** text indicates where the current system image is located for each codec in the system.
- Locations of the factory image are listed.

To reset the system image to the factory default:

Step 1   Choose **Troubleshooting > Configuration Issues**. The Hardware/Software Versions page appears listing the current hardware and software versions and active images.

Step 2   Click the **Reset to Factory Image and Factory Configuration...and Restart Cisco TelePresence System...** button. The system image location is changed and the is system restarted.

✎
Note   If a Cisco TelePresence call is in progress, the changes will be made after the call ends.

Related Information

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Initiating System Restart

⚠
Caution   The system will restart immediately, even when a Cisco TelePresence call is in progress.

To restart the system:

Step 1   Choose **Troubleshooting > System Restart**. The System Restart page appears and the current call status is displayed.

Step 2   Click the **Restart Cisco TelePresence System** button. The system immediately restarts.

Troubleshooting Video Quality Settings

Use the information in Table 11-11 to troubleshoot the video picture on the displays.

Table 11-11   Troubleshooting Cisco TelePresence Screen Resolution

Problem	Possible Cause	Action
Video picture is good but experiences repeated interruptions.	Video quality setting is set too high.	1. Log into the Cisco Unified CM Administration interface. 2. Verify that the required settings have been made for configuring the video quality. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*. **Note** Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.

Note   See the *Cisco TelePresence Network Systems 2.0 Design Guide* for more information about CTS video quality.

For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Troubleshooting Network Cabling

For all Cisco TelePresence systems, the Cisco Unified IP phone is connected to the primary codec using an Ethernet cable (RJ-45 connector). An RJ-45 connector is also required for the following additional network connections:

- CTS 3010 and the CTS 3210—The following codecs are connected to the primary unit:
  - Left
  - Right secondary
  - Presentation
- An Ethernet cable (RJ-45) connects the primary codec to the user network.

For detailed cabling information, see the Routing Power and Signal Cables section in the following documentation:

- *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
- *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*

Table 11-12 contains problem scenarios and troubleshooting solutions for network cabling.

Table 11-12   Troubleshooting Cisco TelePresence Network Cabling

Problem	Possible Cause	Actions

Cisco Unified IP Phone is off.	• Power to the primary unit is off.
	• Phone is not connected to the phone port on the primary unit.
	• The system does not recognize the phone or it is unregistered.
	• The network is down.
		• Check the power connection to the Cisco TelePresence System, and verify that the system is turned on.
		• Check the cable connection from the primary unit to the Cisco Unified IP Phone. See the assembly guide for your Cisco TelePresence system for correct cabling:
		  – *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
		  – *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
		• Log into the Cisco Unified Communications Manager administration interface. Click on the IP address and verify phone registration Restore network operation. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

Cisco IP Phone does not register with the IP network.	• The network cable is not connected to the primary unit. • The network configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface and verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone.

Cisco IP Phone does not register with the IP network.	• Cisco Unified Communications Manager is down or disabled.
	• The network is down.
		• Check the cable connection from the primary unit to the network. See the assembly guide for your Cisco TelePresence system for correct cabling:
		  – *Cisco TelePresence System 3010 Assembly, Use & Care, and Field Replacement Unit Guide*
		  – *Cisco TelePresence System 3210 Assembly, Use & Care, and Field Replacement Unit Guide*
		• Restart Cisco Unified Communications Manager. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for Cisco Unified Communications Manager configuration instructions.
		• Restart the network.

Cisco Telepresence phone idle screen does not appear.	Device configuration has not been done or has been done incorrectly.	• Log into the Cisco Unified Communications Manager administration interface. • Verify that the required settings have been made for configuring the Cisco TelePresence system and Cisco Unified IP Phone. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Note For more system troubleshooting information, see the *Cisco TelePresence System Troubleshooting Guide* on Cisco.com.

Where to Go Next

See

- For information about system messages that may appear on the Cisco TelePresence system, see the *Cisco TelePresence System Message Guide* on the Cisco TelePresence Administration Software Error and System Messages home page on Cisco.com.

- For information about upgrading hardware in an existing CTS 3000 Series installation, including removing the projector and adding new speakers, speaker covers, and LCD display, see the *Removing the Projector and Adding a Presentation Display for CTS 3000 and CTS 3200 Systems* Guide on Cisco.com.

Monitoring the Cisco TelePresence System

Revised: November 2011, OL-21845-01

Contents

This chapter contains the following sections:

Table 12-1 shows the tools that are available in the Monitoring window:

Figure 12-1   Monitoring Window
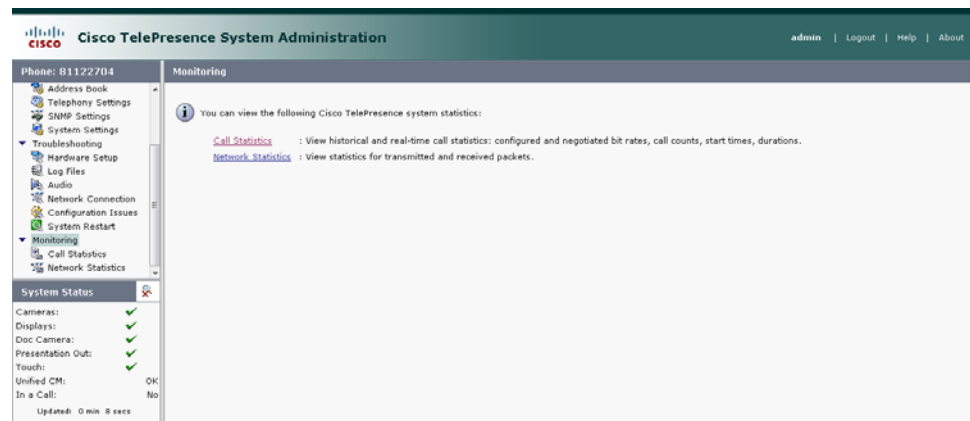
Call Statistics

Use the Call Statistics window to view audio and video statistics collected by the codecs. The reports include descriptions to help you understand the type of information that is being collected.

To view call statistics:

Step 1   Choose **Monitoring > Call Statistics**.

You can view the following Cisco TelePresence system statistics:

- **Real Time Call Statistics**—Lists details of an in-progress call, including the following:
    - Connection status
    - Registered to Unified CM
    - Local meeting number

- **Audio/Video Call**—Lists details about the audio and video of an in-progress call, including the following:
    - Call Start Time
    - Call Duration
    - Call Type
    - Remote meeting number
    - Call State
    - Actual Bit Rate
    - Negotiated Bit Rate

- **Historical Call Statistics (not including current call, if any)**—Lists historical information about calls including the following:
    - Call Statistics Clear Time
    - Last Call Start Time
    - Last Call Duration
    - Number of Calls Since System Setup
    - Time in Calls Since System Setup (seconds)
    - Number of Calls Since Last Reboot
    - Time in Calls Since Last Reboot (seconds)
    - Registered to Cisco Unified Communications Manager
    - Configured Bit Rate

Step 2   For more specific audio and video statistics, click the check-box next to the following selections.:

- Audio/Video Call: Audio Stream Statistics
- Audio/Video Call: Video Stream Statistics
- Audio-Only Call: Stream Statistics

Audio/Video Call: Audio Stream Statistics

a.   Click once to select. Additional statistics fields appear.

b. Click once to de-select. Additional fields are hidden.

See Figure 12-2.

Audio/Video Call: Video Stream Statistics

a. Click once to select. Additional statistics fields appear.

b. Click once to de-select. Additional fields are hidden.

Audio-Only Call: Stream Statistics

a. Click once to select. Additional statistics fields appear.

b. Click once to de-select. Additional fields are hidden.

Statistics are listed in columns labeled as if you were looking at the front of the system sitting at the conference table. For example, on a CTS 3000 or CTS 3200, the labels indicate statistics from the left, center, and right codecs (and presentation codec, if installed), and from auxiliary devices (when connected).

When you select one of the choices above, additional statistics fields appear with the following status information listed, as shown in Figure 12-2:

- Local
- Remote
- Average Latency (Call)
- Average Latency (Period)

Figure 12-2   **Audio/Video Call: Audio Stream Statistics**

Additional statistics are listed for the following, as shown in Figure 12-3:

- Transmit
- Receive

Transmit

- Is Active
- Media Type
- Total Bytes
- Total Packets

Receive

- Is Active
- Media Type
- Total Bytes
- Total Packets
- Lost Packets
- Lost Packets % (Call)
- Lost Packets % (Period)
- Duplicate Packets
- Late Packets
- Failed SRTP Authentication Packets
- Average Jitter (Call) (see jitter call)
- Average Jitter (Period) (see jitter period)

Note For more information about jitter and packet loss, see the Understanding Jitter and Packet Loss Reporting section of the *Cisco TelePresence System Message Guide* on Cisco.com.

Figure 12-3   Call Statistics - Transmit and Receive

Step 3 Set an interval for updating these reports by choosing the time from the Refresh drop-down menu. Choices, in minutes, include the following:

- None (default)
- 1

- 2

- 5

- 10

- 13

- 60

Step 4   Click **Refresh** to update the statistics immediately.

Network Statistics

Use Network Statistics to view packet transmission statistics collected from the network. Statistics are listed in columns labeled as if you were looking at the back of the system. For example, on a CTS 3000 or CTS 3200, the labels would indicate statistics from the left, center, and right codecs.

To monitor network statistics:

Step 1   Choose **Monitoring** > **Network Statistics**. Statistics for your system appear, as shown in Figure 12-4.

Figure 12-4   Network Statistics Window

Step 2   Look for error counters that have been incremented since the last time you viewed these statistics. Statistic types include the following:

- False Carrier Sensor Errors

- Receiver Not Okay Errors

- Number of TxOctets

- Number of TxBroadcastPkts

- Number of TxMulticastPkts

- Number of TxUnicastPkts

Step 3   Set an interval for updating these reports by choosing the time from the Refresh drop-down menu. Choices, in minutes, include the following:

- None (default)

- 1

- 2

- 5

- 10

- 13

- 60

Step 4   Click **Refresh** to update the statistics immediately.

Where to Go Next

For more information about system statistics and messages, including System Operations (Sysop) Log messages see the *Cisco TelePresence System Message Guide* on Cisco.com.
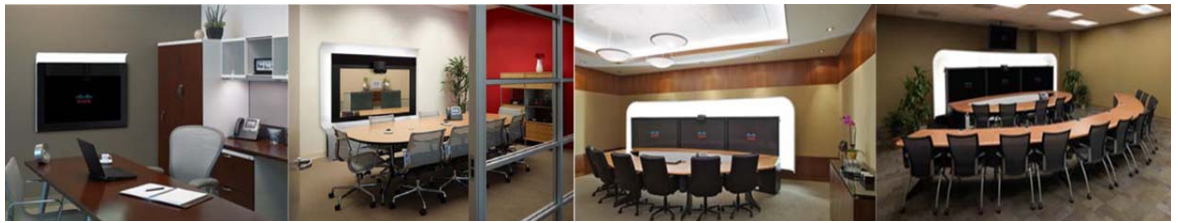
A P P E N D I X A

Satellite Licenses for the Cisco TelePresence System

Contents

The information in this appendix explains how to order satellite licenses and how to configure both Cisco Unified Communications Manager (Unified CM) and Cisco TelePresence System (CTS) to support satellite functionality. This appendix contains the following sections:

Cisco TelePresence over Satellite Networks

The Cisco TelePresence over Satellite Networks solution extends the reach of Cisco TelePresence to remote, tactical locations where terrestrial bandwidth is not available. This solution incorporates existing Cisco TelePresence endpoint and infrastructure products with new software releases designed to function more effectively on poor, high-delay networks.

The following features and benefits are supported:

- Relaxed latency, jitter, and packet-loss thresholds allow the Cisco TelePresence meeting application to function effectively over poor, high-delay, real-world satellite networks.
- Qualification and testing of Type 1 encryption devices with the Cisco TelePresence application enable military-grade security for Cisco TelePresence calls.
- New network and environment recommendations provide guidance for remote, tactical, and even mobile deployments of the Cisco TelePresence System (CTS).

This section contains the following information:

Supported CTS Devices

The CTS 1000, CTS 1100, CTS 1300, and CTS 500 endpoint models are supported as the remote endpoint on the far end of a satellite link.

Other endpoint models (CTS 3000 and CTS 3200) have not been qualified to work on the remote side of a satellite link because the bandwidth needed for these three-screen systems quickly becomes cost-prohibitive to run over satellite networks. Any Cisco TelePresence endpoint or mix of endpoints (for a multipoint call) can be used on the terrestrial side of the satellite link.

Supported CTS Software

You must be running CTS software version 1.5 or a later release on all Cisco TelePresence endpoints, Cisco TelePresence Multipoint Switches, and Cisco TelePresence Managers within your network to participate in a satellite call.

Supported Satellite Bandwidth

You will need a minimum of 3-MB bandwidth (at 720p, good motion handling) in a single-channel-per-carrier (SCPC) configuration over a single-hop satellite link.

Note   Because the Cisco TelePresence video and audio are traveling up to the satellite and back down to an earth station, significant (500 ms or more) latency is introduced into the signal. The result is noticeable delay in the conversation. In addition, atmospheric conditions or other interference may impact satellite-link performance and introduce jitter or packet loss into the call. The result may be noticeable degradation of the video quality.

CTS software release 1.5 and later releases support satellite deployment configurations that significantly raise the thresholds for network warning messages and call termination. When a satellite endpoint joins a call (point-to-point or multipoint), all other endpoints in the call negotiate the new threshold setting, so no one in the call gets warning messages or gets dropped just because a satellite-based endpoint joins the call.

Satellite Security

The Cisco TelePresence application supports Transport Layer Security (TLS) and Secure Real-Time Transport Protocol (SRTP) encryption for signaling and media paths.

Ordering a Satellite License

You can order satellite licenses when you initially order your CTS, or you can purchase separate satellite licenses to upgrade an existing CTS. Note the following details when you order a satellite license:

- The product authorization key (PAK) will either be physically delivered to your location or electronically delivered via E-mail.

- Product Number:
  - Physical: CTS-SATELLITE=
  - Electronic: L-CTS-SATELLITE=

Loading a Satellite License

After you have received the satellite license, load it on Unified CM by following these steps:

⚠

Caution   Do not edit or change the contents of the license or it will become invalid.

Step 1   Load the license file into the Cisco Unified CM TFTP directory by following the steps in the "Uploading Files to the Cisco Unified CM TFTP Directory" in the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Step 2   After making sure that the license is available on your computer, log in to the Cisco Unified CM Administration page and follow these steps:

    a.   From the Navigation drop-down menu in the upper right corner, select **Cisco Unified OS Administration** and click **Go**.

    b.   Log in to Cisco Unified OS Administration.

    c.   From the Software Upgrades drop-down menu, select **TFTP File Management** and click the **Upload File** button. A dialog box appears.

    d.   Browse to find the appropriate license and upload the license. Leave the Directory field blank.

Step 3   Restart the Cisco Unified CM TFTP server and complete these steps:

    a.   From the Navigation drop-down menu, select **Cisco Unified Serviceability** and click **Go.**

    b.   Log into Cisco Unified Serviceability.

    c.   From the Tools drop-down menu, select **Control Center - Feature Services**.

    d.   In the Select Server box, select the TFTP server from the drop-down menu and click **Go**.

    e.   In the CM Services box, select the **Cisco TFTP** radio button.

    f.   Click **Restart**.

    g.   Repeat Step c through Step e for all TFTP servers.

Identifying the CTS Satellite Endpoints

After you have loaded the satellite license on Unified CM, identify the CTS satellite endpoints so that they can retrieve the satellite licenses.

To identify the CTS satellite endpoints using the Cisco Unified CM Administration interface:

Step 1   Log in to the Cisco Unified CM Administration page.

Step 2   From the Device drop-down menu, select **Phone**.

Step 3   Using the Find search fields, locate the CTS that will be used as a satellite endpoint.

Step 4   Click **Reset** to bring up a new dialog box, and then click **Restart**.

Step 5   Repeat Step 2 through Step 4 for each CTS satellite endpoint.

Enabling the Satellite Feature

After the satellite license has been loaded on Unified CM, and the CTS satellite endpoints have been identified, you are ready to enable the satellite feature using CTS command-line interface (CLI) commands. For information about using CTS CLI commands, see the *Cisco TelePresence System Command-Line Interface Reference Guide*.

To enable the satellite feature:

Step 1   Check to see that the satellite license is available. From the CTS CLI admin command prompt, enter the following command:

```
admin:show license status

License feature status
satellite:
  Valid license found
  License feature is disabled
  Feature is currently not running
```

Step 2   Enable the satellite feature using the following command:

```
admin:set license satellite enable

License for satellite feature changed to enabled
```

Step 3   Restart the calling services using the following command:

```
admin:utils service restart Calling

Calling_Services    Restarting...done
```

GLOSSARY

A

ACU
Auxiliary Control Unit. Provides the ability to conserve energy by powering the lights, projector, and optional peripherals for Cisco TelePresence systems on and off.

ad hoc meeting
Non-scheduled, administrator-initiated, dial-out meeting. A meeting scheduler or administrator initiates the meeting through the Cisco TelePresence Multipoint Switch (CTMS) administration interface by listing the telephone number of the rooms which will participate in the multipoint meeting. See static meeting.

Auto Answer
A phone set to automatically answer an inbound call. Use the Auto Answer feature in Cisco Unified Communications Manager. Activating this option or button causes the speaker phone to go off hook automatically when an incoming call is received.

Auto Collaborate
Cisco TelePresence supports simple information sharing using a powerful "Auto Collaborate" feature that allows any object, document, or PC application to be displayed in a plug-and-play fashion. Auto Collaborate enables you to share images instantly in multiple locations by plugging in a laptop computer or high-definition ceiling document camera. The Cisco TelePresence 3000 Series built-in projector automatically displays images from the most recently activated device.

Ceiling cameras are perfect for capturing images of objects that are too valuable to ship, or cannot easily be copied or sent electronically. Cisco recommends and supports document cameras made by WolfVision, specifically the WolfVision Visualizer. This is a special live-camera system designed for picking up any object on a working surface with perfect illumination and depth of focus. All types of objects (e.g., photos, books, brochures, transparencies, slides, or three-dimensional objects) can be picked up quickly and easily, and meeting participants can use a wireless remote to control light, zoom, or focus.

Cisco TelePresence 3000 and 1000 systems support the Auto Collaborate capability, and meeting organizers can project content in multiple locations, including above or below displays, or on the side of a room.

A/V Expansion Box
Audio/video extension unit. Required if your system uses an Auxiliary Control Unit (ACU).

B

bit rate
Speed at which bits are transmitted, usually expressed in bits per second.

black screen codes
System status information messages that appear on the main display screen before your meeting starts and while the screen is still black. For example, "Please wait, you are the first meeting participant."

For more information, see the *Cisco TelePresence System User Guide*.

C

call control device   External device that controls the Cisco TelePresence System: Cisco Unified IP Phone, and the Cisco TelePresence Touch.

CCP   The Conference Control Protocol (CCP) is an interface between the CTS and the CTMS that controls the elements of a Cisco TelePresence meeting.

CIF   Common Intermediate Format. A video standard that provides 352x288 pixels, or picture elements, of video resolution.

Cisco CTI Manager   CTI Manager is required in a cluster for applications that use TAPI or JTAPI Computer Telephony Integration (CTI). The CTI Manager acts as a broker between the CTI application and the Cisco Unified Communications Manager Service. It provides authentication of the application and enables control or monitoring of authorized devices. The CTI application communicates with a primary CTI Manager and, in the event of a failure, will switch to a backup CTI Manager. The CTI Manager should be enabled only on call processing subscribers, thus allowing for a maximum of eight CTI Managers in a cluster. Cisco recommends that you load-balance CTI applications across the various CTI Managers in the cluster to provide maximum resilience, performance, and redundancy.

Cisco TelePresence T Series   The Cisco TelePresence T Series high-definition presentation capabilities and simple controls on a touch display help make your meeting as immersive and natural as possible. See Immersive Telepresence Endpoints.

Cisco TelePresence Touch 12   A touch-panel LCD device that enables you to conduct telepresence meetings without the Cisco Unified IP phone.

See *Installing and Configuring the Cisco TelePresence Touch 12* and the *Cisco TelePresence Touch 12 User Guide* for more information.

Cisco Unified Communications Manager   Unified CM. Application that extends enterprise telephony features and capabilities to packet telephony network devices such as IP phones and multimedia applications. Open telephony application interfaces make possible services such as multimedia conferencing and interactive multimedia response systems. See also CUCM.

See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

codec   The "brain" of the CTS. The primary codec connects with the network and Cisco Unified Communications Manager (Unified CM) to perform call management functions for the system. The secondary codec performs processing for the system elements that are attached to them. The optional presentation codec supports the document camera (if present), auxiliary displays, and works with an auxiliary control unit and audio extension unit for additional audio/video applications. The number and type of codecs your system uses depends on which CTS device you are using.

CTRS   Cisco TelePresence Recording Server. Providing HD studio recording capabilities in existing Cisco TelePresence rooms. Recordings can be archived automatically on a schedule or transferred to a digital content management system. The CTRS can deliver Cisco TelePresence recordings to any video-enabled device including PCs, smartphones, and digital signs. CTRS runs on the same reliable Media Convergence Server platform as Cisco TelePresence Multipoint Switch and Cisco TelePresence Manager.

CTS device	Cisco TelePresence System (CTS) device: CTS 500, CTS 1000, CTS 1100, CTS 1300, CTS 3000, CTS 3200, CTS 3010, and CTS 3210.
CTS-Manager	Cisco TelePresence Manager. Software application that schedules and manages Cisco TelePresence calls using common enterprise groupware such as Microsoft Exchange and Lotus Notes.
CTS Manager PreQualification Assistant	The CTS-Man PreQualification Assistant ensures that your pre-configuration set-up is performed correctly. The data that is entered into the Tool Test Configuration forms that are used to verify connections to the servers and to get data from them to be used to configure CTS-Man.
CUCM	Cisco Unified Communications Manager. (Unified CM) The phone that controls the CTS is configured and maintained through the Cisco Unified CM Administration interface. See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

D

default gateway	A router on a computer network that serves as an access point to another network.
DHCP	Dynamic Host Configuration Protocol is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network. This protocol reduces system administration workload, allowing devices to be added to the network with little or no manual intervention.
display screen animation	System information icons that may be displayed on the Cisco TelePresence System (CTS) main display screen. System information includes call connection status alerts, meeting alerts, and maintenance alerts. These alerts fade from one state to another to show the status of the system.
display screen icon	System information icons that may be displayed on the Cisco TelePresence System (CTS) display screen. System information includes call connection status alerts, meeting alerts, and maintenance alerts.
DMP	Digital Media Player. Cisco Digital Media Players are highly-reliable, IP-based endpoints that can play high-definition live and on-demand video, motion graphics, web pages, and dynamic content on digital displays, usually an LCD Professional Series display or any other directly attached television screen, monitor, or projector (analog or digital, standard-definition or high-definition) that shows media to an audience. There is an extra input connector for the Digital Media Player (DMP) on your Cisco TelePresence device. See the Cisco Digital Media Players home page on Cisco.com. See also LCD.
DN	Directory number.
DNS	Domain Name System. System used on the Internet for translating names of network nodes into addresses.

DSCP   Differentiated Services Code Point. A field in the header of IP packets for packet classification purposes. DSCP for TelePresence Calls field description: This parameter specifies the DSCP value for Cisco TelePresence calls. This parameter is set to the default value unless a Cisco support engineer instructs otherwise. This is a required field, if present on your system. Default: CS4(precedence 4) DSCP (100000) and is selectable per device.

DVI   DVI cables are used for direct digital connections between source video (namely, video cards) and LCD monitors.

E

enbloc dialing   Allows you to compose and edit the number to dial on your phone's display before it is sent to the phone system to be dialed.

endpoint   Cisco TelePresence System (CTS) endpoint. The combination of hardware and software that comprise a Cisco TelePresence System. The hardware for an endpoint includes a Cisco Unified IP 7900 Series telephone, one or more large-screen meeting displays, plus presentation devices, cameras, microphones, speakers, and in some models, lighting systems.

EWS   Exchange Web Services. Managed API that provides an intuitive interface for developing client applications that use Exchange Web Services. The EWS Managed API provides unified access to Microsoft Exchange Server resources, while using Microsoft Office Outlook–compatible business logic. The EWS Managed API communicates with the Exchange Client Access server by means of EWS SOAP messages.

extranet   An extranet is a private network that uses Internet protocols and network connectivity. An extranet can be viewed as part of a company's intranet that is extended to users outside the company, usually via the Internet. It has also been described as a "state of mind" in which the Internet is perceived as a way to do business with a selected set of other companies (business-to-business, B2B), in isolation from all other Internet users. In contrast, business-to-consumer (B2C) models involve known servers of one or more companies, communicating with previously unknown consumer users.

An extranet can be understood as an intranet mapped onto the public Internet or some other transmission system not accessible to the general public, but managed by more than one company's administrator(s). For example, military networks of different security levels may map onto a common military radio transmission system that never connects to the Internet. Any private network mapped onto a public one is a virtual private network (VPN), often using special security protocols.

F

fluorescent lamp   A lamp that uses electricity to excite mercury vapor in a gas that results in an energy that produces short-wave ultraviolet light. This light then causes a phosphor to fluoresce, producing visible light. Sources of light in most rooms are either incandescent light bulbs that use tungsten filaments or fluorescent lights. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such cool, warm, or daylight, but can be expressed more precisely in kelvins (K) as a numeric value. When adjusting the images on the display screens for the Cisco TelePresence system, you must take the color temperature of the ambient light in the room into consideration.

full duplex mode   Transmission of data in two directions simultaneously.

G

guest operating system

An operating system that is installed and run in a virtual machine. In the Cisco TelePresence environment, the CTS Manager, CTMS, and CTRS are guest operating systems. Before you can install the guest operating system, you must obtain the installation media for the operating system and configure the virtual machine to use the CD/DVD drive to access the installation media. See VMware.

gzip

GNU zip. Software application used for file compression.

H

H.264/MPEG-4 AVC

A standard for video compression. See also MPEG-4 AVC and IDR.

half duplex mode

Transmission of data in one direction at a time.

HD

High definition display.

HDMI

Document camera input and cable.

I

IAB

Internet Architecture Board. The IAB is chartered both as a committee of the Internet Engineering Task Force (IETF) and as an advisory body of the Internet Society (ISOC). Its responsibilities include architectural oversight of IETF activities, Internet Standards Process oversight and appeal, and the appointment of the RFC Editor. The IAB is also responsible for the management of the IETF protocol parameter registries.

IDR

An IDR frame is a special kind of I frame used in MPEG-4 AVC encoding. IDR frames can be used to create Advanced Video Coding (AVC) streams, which can be easily edited.

Immersive Telepresence Endpoints

CTS 3210, CTS 1300, Cisco TelePresence T3. Provides an immersive, interactive in-person experience. See also personal system.

incandescent lamp

A lamp that allows an electric current to pass through a thin filament, heating it and causing it to emit light. Sources of light in most rooms are either incandescent light bulbs that use tungsten filaments or fluorescent lights. Each of these light sources, and the amount of light in terms of lumens or watts, produces a different color temperature. This color temperature is sometimes expressed using terms such cool, warm, or daylight, but can be expressed more precisely in kelvins (K) as a numeric value. When adjusting the images on the display screens for the Cisco TelePresence system, you must take the color temperature of the ambient light in the room into consideration.

Internet model (free path)

The Internet model is an unsecured "free path" model of packet delivery: Packets are delivered in any way possible and each uncontrolled router on the way to the destination handles how to deliver the packet to the next stop. See VPN model (fixed path).

IP address

A device identifier on a TCP/IP network.

J

jitter

jitter call

jitter period

Variation in packet transit delay caused by queuing, contention, and serialization effects on the path through the network. In general, higher levels of jitter are more likely to occur on either slow or heavily congested links.

Jitter call is the average jitter measurement per call. Shown in the Jitter/Call output field as part of Per Call Jitter and Packet Loss Reporting.

Jitter period is the interval between two times of maximum effect (or minimum effect) of a signal characteristic that varies regularly with time. Jitter frequency, the more commonly quoted figure, is its inverse.

The CTS measures jitter every 10 seconds. The Jitter/Period field reports the jitter measurement for the last 10-second period.

The CTS calculates jitter as the sum of the maximum deviation (both late and early) from the expected arrival time as given by the frame period. CMA computes frame jitter based on the arrival time of the last packet of a frame.

L

LCD

Liquid crystal display. The LCD display is an accessory for the Cisco Digital Media Player (DMP) for use in your digital signage network or your enterprise TV network. It is used for displaying video, images, or computer data during a Cisco TelePresence meeting. See the Cisco LCD Professional Series Displays home page on Cisco.com for more information.

See also DMP.

LED

Light-emitting diode. Indicators on the CTS that determine whether the user is sitting within camera range.

light temperature

A theoretical means of describing visible light that is determined by comparing its hue with a heated black-body radiator. The lamp's color temperature is the temperature in kelvins at which the heated black-body radiator matches the hue of the lamp.

Live Desk

The Live Desk is a person who has been assigned to a Cisco TelePresence endpoint to assist you with problems that may occur during a meeting. To connect to Live Desk, press the **Live Desk** softkey. If a Live Desk has not been assigned to your Cisco TelePresence endpoint, the following message is displayed on your phone screen: "There is no Live Desk number configured"

Live Desk is configured in the **Configure > Live Desks** Window of the CTS-Manager Administration interface. See the Cisco TelePresence Manager Installation and Configuration Guide on Cisco.com.

LTRP

Long Term Reference Picture.

M

MAC address   Media Access Control. A hardware address that uniquely identifies each node of a network.

MIDlets   Mobile Information Device Profile (MIDP). A Java application designed to run on resource-constrained devices such as phones, PDAs, intelligent appliances, and the like. A MIDlet (in J2ME) is similar to a Java Applet (in J2SE), but more specialized, efficient, and optimized for limited devices. MIDlets supports graphics and animation, multimedia, touchscreen, networking, persistent data storage, and provides excellent Look And Feel (LAF) integration with the host platform.

The Cisco Unified IP Phone uses MIDlets as part of the Cisco TelePresence System Enhanced Phone User Interface: MIDlets support CTS Cisco Unified IP phone features. Configure MIDlets in the Cisco Unified CM Administration interface for Cisco TelePresence.

See the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System* for more information.

MPEG-4 AVC   A patented collection of methods defining compression of audio and visual (AV) digital data. See also H.264/MPEG-4 AVC and IDR.

multipoint meeting   Multipoint is where you are able to connect more than two sites in one video conference. This normally requires a bridge, although some video conference units are also able to connect multiple sites.

MXE   Media eXperience Engine. The Cisco Media Experience Engine is a modular media processing system that provides interoperability between Cisco TelePresence and video conferencing devices, extending the reach of collaboration and communication within organizations. MXE provides 720p interoperability with video conferencing.

Configure MXE in CTS-Manager. See also Cisco TelePresence Firewall and Access List Considerations for support information for Cisco TelePresence.

N

nonce   A nonce value (a random number that supports digest authentication) is used to calculate the MD5 hash of the digest authentication password.

Non-permitted User   Cisco WebEx user role configured in the CTS Manager Administration interface. These users are not permitted to request Cisco WebEx; no Cisco WebEx meeting options are available to these users. See Permitted User.

O

One-Button-to-Push Allows you to press the meeting that is listed on the in-room CTS Cisco Unified IP phone to start a Cisco TelePresence meeting.

Option 150 Recommended during Dynamic Host Configuration Protocol (DHCP) Server configuration so that Windows 2000 can work with the Cisco IP Telephony solution. Unified CM devices boot up and request an IP address. When you create a new scope in the DHCP server and add a TFTP option to the scope, you are prompted to add the default gateway and the TFTP Server IP Address (Option 150). Option 150 can contain more than one IP address, which can be used for TFTP redundancy.

P

PoE Power over Ethernet.

P-frame An easily compressible video frame type. A video frame is compressed using different algorithms that allow varied amounts of data compression. These different algorithms for video frames are called picture types or frame types. The three major picture types used in the different video algorithms are I, P, and B.

Permitted User Cisco WebEx user role configured in the CTS Manager Administration interface. These users are permitted to request Cisco WebEx for specific meetings using CTS Manager. See Non-permitted User.

personal system Personal Cisco TelePresence System. The virtual, in-person experience of Cisco TelePresence directly into the private office. The CTS 500 and CTS 1000 are considered to be personal systems. See also Immersive Telepresence Endpoints.

PiP Presentation-in-Picture. Data or graphics content sharing through an external monitor known as presentation-in-picture (PiP) format for space-constrained offices. Using the **PiPCtrl** softkey and options in the PiP control screen on your CTS Cisco Unified IP phone, you can toggle the position of the PiP between center, left, or right locations on the screen or change its size in relation to the meeting participant video input during a meeting.

PoE Power over Ethernet.

point-to-point meeting The direct connection of two sites in a video conference. This only works if both sites use the same type of connection (either IP or ISDN).

Premium User Cisco WebEx user role configured in the CTS Manager Administration interface: Cisco WebEx is always on. Controlled on the CTS Manager LDAP configuration page.

presentation codec The presentation codec provides 30 frames per second to support full-motion video presentations between Cisco TelePresence endpoints.

Presenter Cisco WebEx user role configured in the CTS Manager Administration interface: A Presenter shares presentations, specific applications, or the entire desktop. The Presenter controls the annotation tools and can grant and revoke remote control over the shared applications and desktop to individual Attendees.

primary codec	The primary codec is the primary unit; it communicates with secondary units, sends and receives packets on the uplink network. It contains an onboard Gigabit Ethernet switch. For example, in a CTS 3000 or CTS 3200 system, the primary codec controls two secondary codecs as well as many system components and the graphical user interfaces. In a Cisco TelePresence 1000, it controls all system functions.
PCB	Printed circuit board.

R

RFC	Request for Comments. Document series used as the primary means for communicating information about the Internet. Some RFCs are designated by the IAB as Internet standards.

S

scheduled meeting	Multipoint TelePresence meetings are scheduled by end users using Microsoft Exchange or IBM Domino clients in the same manner that a point-to-point meeting is scheduled. Scheduled meetings require no CTMS administrator interaction. CTS Manager is a required component for scheduled meetings. It provides the interface between Microsoft Exchange or Lotus Domino and the CTMS, allowing the appropriate resources on the CTMS to be reserved for the multipoint meeting.
screen resolution	The fineness of detail that can be presented in the image on the CTS main display screen. Recommended screen resolution for Cisco TelePresence is 1024 x 768.
SD	Standard definition display.
secondary codec	Codecs that assist the primary codec in the large Cisco TelePresence 3000/3200 systems. Secondary codecs process audio and video signals and send them to the primary codec, which multiplexes the signals into separate, single RTP streams.
Self View	Enables you to see yourself on the main display before your meeting starts.
single system	A Cisco TelePresence System featuring a single display screen.
SHA	Secure Hash Algorithm. A set of cryptographic hash functions designed by the National Security Agency (NSA) and published by the NIST as a U.S. Federal Information Processing Standard. The three SHA algorithms are structured differently and are distinguished as SHA-0, SHA-1, and SHA-2.
SIP	Session Initiation Protocol. Protocol designed to signal the setup of voice and multimedia calls over IP networks.
SNMP	Simple Network Management Protocol. Network management protocol used almost exclusively in TCP/IP networks as a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security. See the Cisco TelePresence System Message Guide.
SOAP	Simple Object Access Protocol. XML-based protocol to let applications exchange information over HTTP.
spirit level	Spirit level or bubble level is an instrument designed to indicate whether a surface is level or plumb. A spirit level is included with the CTS 1300 camera kit.

SSCD   System Status Collection Daemon. The daemon gathers statistics about the system it is running on and stores this information. Those statistics can then be used to find current performance bottlenecks (performance analysis, for example) and predict future system load (capacity planning, for example).

static meeting   Non-scheduled meetings configured on the Cisco TelePresence Multipoint Switch (CTMS) through the administration interface. A meeting scheduler or administrator, who sets up the static meeting, manually assigns a meeting access number that is used to access the meeting. See ad hoc meeting.

supported Internet browser   Cisco administration interfaces support Internet Explorer version 6. You can use Internet Explorer versions 6, 7, or 8, or Firefox version 3.x with the CTS 500 32".

switching mode   CTS Manager configuration. CTS 3000 and CTS 3200 endpoints only.

Auto-Assign—Switching mode is determined by the default CTMS policy, which is configured in System **Configuration** > **Policy Management** page of your CTMS setup.

Room—All the participant displays of the endpoint are switched each time the meeting participant who is speaking changes to a meeting participant at a different endpoint.

Speaker—Only the corresponding participant display (left, center, or right) is switched; the remaining participant displays are not switched. Using the speaker switching mode provides the ability to view up to three different remote endpoints at the same time.

Sysop   System Operation (sysop) Logs. Sysop messages describe system activity. Some messages can help you identify and resolve system operation problems. These messages are available to the user from the CTS Administration interface. See the "Managing Log Files" section of the troubleshooting chapter for your CTS device.

Syslog   System Logs (syslog). Debugging logs that are collected from your system and used by Cisco technical response to diagnose and resolve issues. These messages are not ordinarily seen by the user.

T

TFTP   Trivial File Transfer Protocol. Simplified version of FTP that allows files to be transferred from one computer to another over a network, usually without the use of client authentication (for example, username and password).

TIP Telepresence Interoperability Protocol. The TIP Specification provides a protocol for interoperability between videoconferencing products, including streaming of audio, video, and data to and from videoconferencing products.

This feature adds TIP 7 support to the CTS and CTMS 1.7 release. The main purpose of the feature is for CTS and CTMS to operate in a strict TIP V7 mode when communicating with devices advertising TIP V7 support. This feature adds the ability to differentiate between MUX and TIP modes of operation to help with the strict adherence to the TIP V7 specifications as well as improving debugging and other operational processes. This feature adds the ability for the CTS to be configured for operation in a TIP-only mode and configured with a set of media features typically not used in Cisco-only deployments. This helps the CTS and CTMS inter-operate with third-party TIP devices.

TIP allows only endpoints with Restricted media settings to join Cisco TelePresence meetings. TIP endpoints are expected to be able to send restricted media and to drop endpoints that can only transmit un-restricted media. See the Telepresence Interoperability Protocol for Developers home page on Cisco.com.

trap A Simple Network Management Protocol (SNMP) trap is a message which is initiated by a network element and sent to the network management system. See the Cisco TelePresence System Message Guide.

triple system A Cisco TelePresence System featuring three display screens.

U

UDI Unique device identification.

V

VGA Video Graphics Array port and cable for Cisco TelePresence. A CTS endpoint initiates a presentation at any point by plugging the VGA Auxiliary cable into the CTS endpoint presenter's laptop, which automatically shares from the presenter's laptop. The last participant in the meeting to plug in their laptop with the VGA cable shares their presentation using PiP. See the Cisco TelePresence System User Guide for more information about sharing presentations.

virtual machine A virtual machine (VM) is a software implementation of a machine (a computer, for example) that executes programs like a physical machine does. A system virtual machine provides a complete system platform which supports the execution of a complete operating system (OS). See the Cisco TelePresence System Commercial Express Installation Guide on Cisco.com for more information.

VLAN ID The identification of the virtual LAN, which is used by the standard IEEE 802.1Q. Being on 12 bits, it allows the identification of 4096 VLANs.

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VMware	VMware software provides a completely virtualized set of hardware to the guest operating system. VMware software virtualizes the hardware for a video adapter, a network adapter, and hard disk adapters. The host provides pass-through drivers for guest USB, serial, and parallel devices. In this way, VMware virtual machines become highly portable between computers, because every host looks nearly identical to the guest. In practice, a system administrator can pause operations on a virtual machine guest, move or copy that guest to another physical computer, and there resume execution exactly at the point of suspension. Alternately, for enterprise servers, a feature called VMotion allows the migration of operational guest virtual machines between similar but separate hardware hosts sharing the same storage. Each of these transitions is completely transparent to any users on the virtual machine at the time it is being migrated. See the Cisco TelePresence System Commercial Express Installation Guide on Cisco.com for more information.
VPN model (fixed path)	The VPN model uses a fixed, more secure path for packet delivery. VPNs only allow authorized personnel to gain access to their network. See also Internet model (free path).

W

WebDAV	Web-based Distributed Authoring and Versioning (WebDAV) is a set of methods based on the Hypertext Transfer Protocol (HTTP) that facilitates collaboration between users in editing and managing documents and files stored on World Wide Web servers. WebDAV was defined in RFC 4918 by a working group of the Internet Engineering Task Force (IETF).
WebEx	Cisco WebEx collaboration tools combine real-time desktop sharing with phone conferencing. See the Cisco TelePresence WebEx OneTouch Configuration Guide for the Cisco TelePresence System for first-time setup information.

I N D E X