



# Troubleshooting the TX9000 and TX9200

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 TX9000 and TX9200 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

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

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Proceed to the following sections to troubleshoot system components:

- [Managing TX9000 and TX9200 Hardware Setup, page 1-2](#)
- [Managing Log Files, page 1-31](#)
- [Testing Audio, page 1-36](#)
- [Testing the Network Connection, page 1-37](#)
- [Managing Configuration Issues, page 1-38](#)
- [Initiating System Restart, page 1-39](#)
- [Troubleshooting Video Quality Settings, page 1-39](#)
- [Troubleshooting Network Cabling, page 1-40](#)
- [Where to Go Next, page 1-40](#)

# Managing TX9000 and TX9200 Hardware Setup

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

- [Managing Displays, page 1-3](#)
- [Testing Cameras, page 1-5](#)
- [Testing Speakers, page 1-19](#)
- [Testing Microphones, page 1-21](#)
- [Testing the External Presentation Display, page 1-24](#)
- [Testing Presentation Devices, page 1-24](#)
- [Testing Other Devices, page 1-29](#)

## 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.



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**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 1-19](#).

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**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 TX9000 and TX9200 Assembly, Use & Care, and Field Replacement Unit Guide](#).

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## 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

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Each display must be adjusted individually.

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

- [Selecting the Light Level, page 1-3](#)
- [Adjusting Your Display, page 1-3](#)
- [Troubleshooting Displays, page 1-5](#)
- [Related Information, page 1-5](#)

### 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

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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.

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Tip

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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.

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Proceed to [Adjusting Your Display](#).

### Adjusting Your Display

A display is set up correctly when the color on the display has been adjusted for the lighting in the meeting room. Each display must be set up individually.

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 1-1](#).

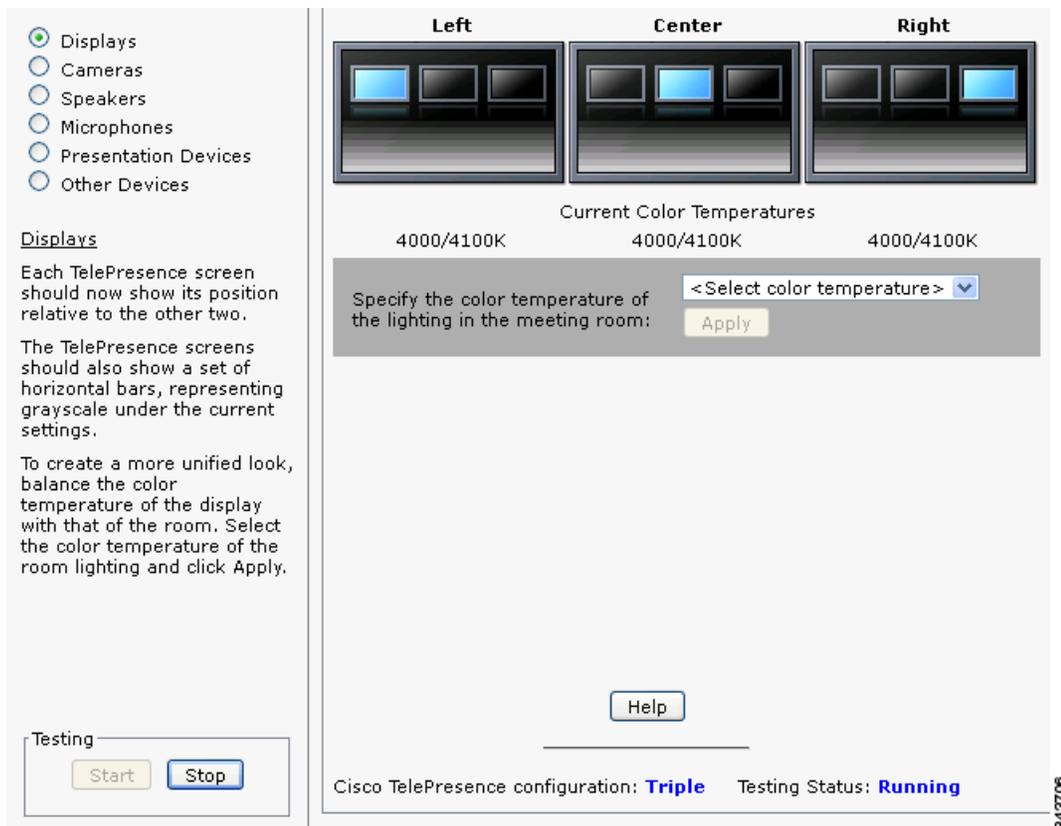


**Note**

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.

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**Figure 1-1** 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.
-

## Troubleshooting Displays

Use the information in [Table 1-1](#) to troubleshoot problems with the images on the displays.

**Table 1-1** 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.	<ul style="list-style-type: none"> <li>Video cable is not connected to its corresponding codec connector.</li> <li>Ethernet cable from secondary codec is not plugged into the correct port on the primary codec.</li> </ul>	<p>Check that the cable from each display is plugged into the correct connector on its corresponding codec.</p> <p>Plug the video-to-video cable into the display connector on the correct codec, as follows.</p> <ul style="list-style-type: none"> <li>Plug the center display into the primary codec.</li> <li>Plug the participant's left display into the left secondary codec.</li> <li>Plug the participant's right display into the right secondary codec.</li> </ul> <p>See the Routing Power and Signal Cables section in the <i>Cisco TelePresence System TX9000 and TX9200 Assembly, Use &amp; Care, and Field Replacement Unit Guide</i>.</p>
No image.	<ul style="list-style-type: none"> <li>Power cable is not plugged in.</li> <li>Power switch on the back of the display is off.</li> </ul>	Check power connections and switches on each display.

### Related Information

- For more information about setting up and testing displays, see the *Cisco TelePresence System TX9000 and TX9200 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 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.

This section describes the procedures you perform to set up the camera and includes the following topics:

- “Starting the Software Setup and Preparing the Cameras and Camera Targets” section on page 1-6
- “Adjusting the Zoom” section on page 1-10
- “Focusing the Camera” section on page 1-14
- “Attaching the Camera Hood Assembly and Top Bezel” section on page 1-15
- “Troubleshooting Cameras” section on page 1-19

- [“Related Information” section on page 1-19](#)

**Note**

The camera cover comes off. It should be removed and left off until these procedures are complete.

## Starting the Software Setup and Preparing the Cameras and Camera Targets

To start the software setup, complete the following steps.

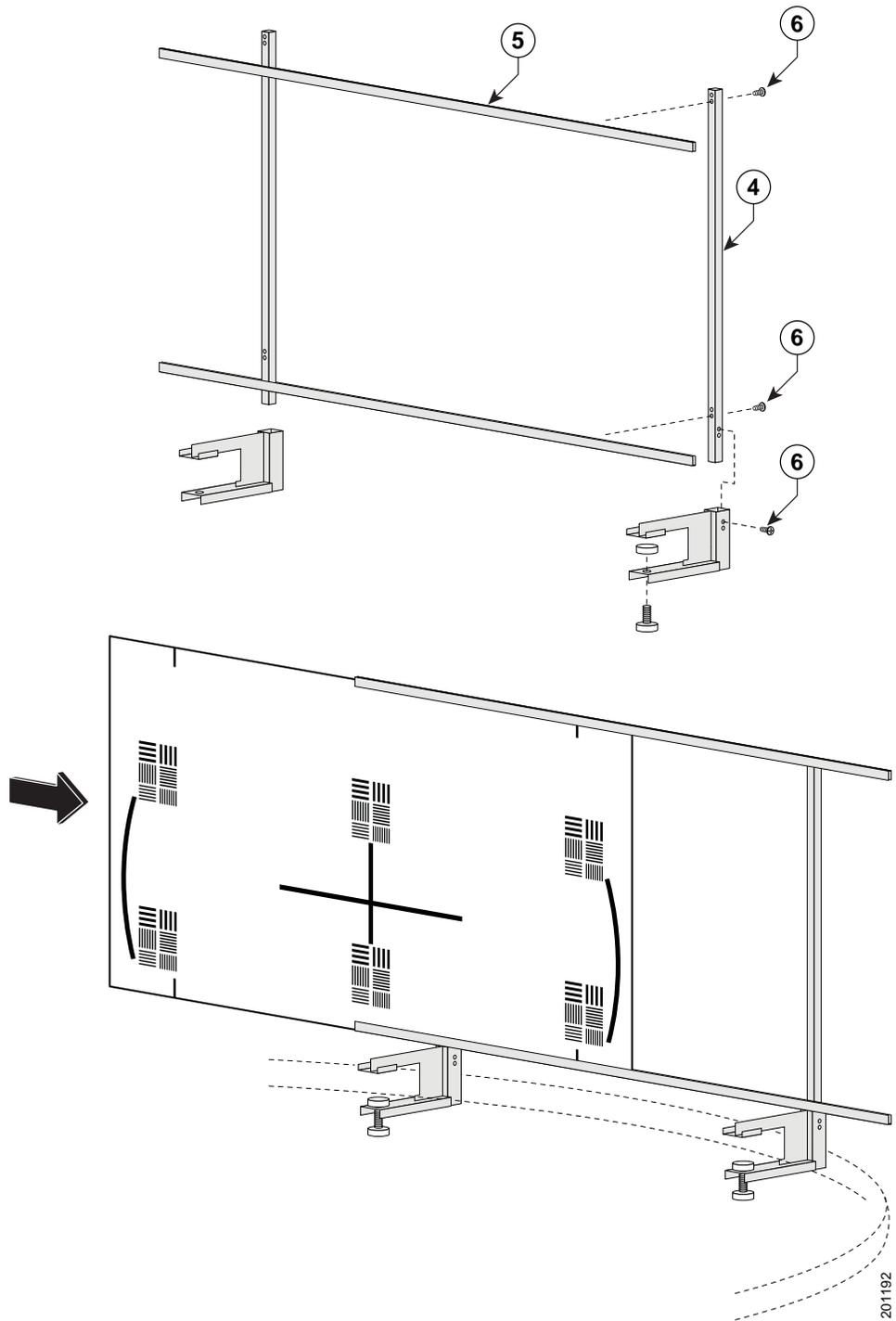
**Step 1** Assemble the large camera target.

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.

**Table 1-2** *Parts List for the Camera Target*

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Tabletop camera target: large	700-24323-xx	1		
2	Tabletop camera target: small	700-24320-xx	1		
3	Cardboard ruler	700-24321-xx	1		
4	Vertical bar	700-23961-xx	2		
5	Horizontal bar	700-23960-xx	2		
6	M4 x 20 mm screws	48-0654-xx	4	1	

Figure 1-2 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.



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**Tip** You can feel under the table to find the small round recesses.

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The target pattern should face the camera.

- Step 3** In the Cisco TelePresence administrative GUI, 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.

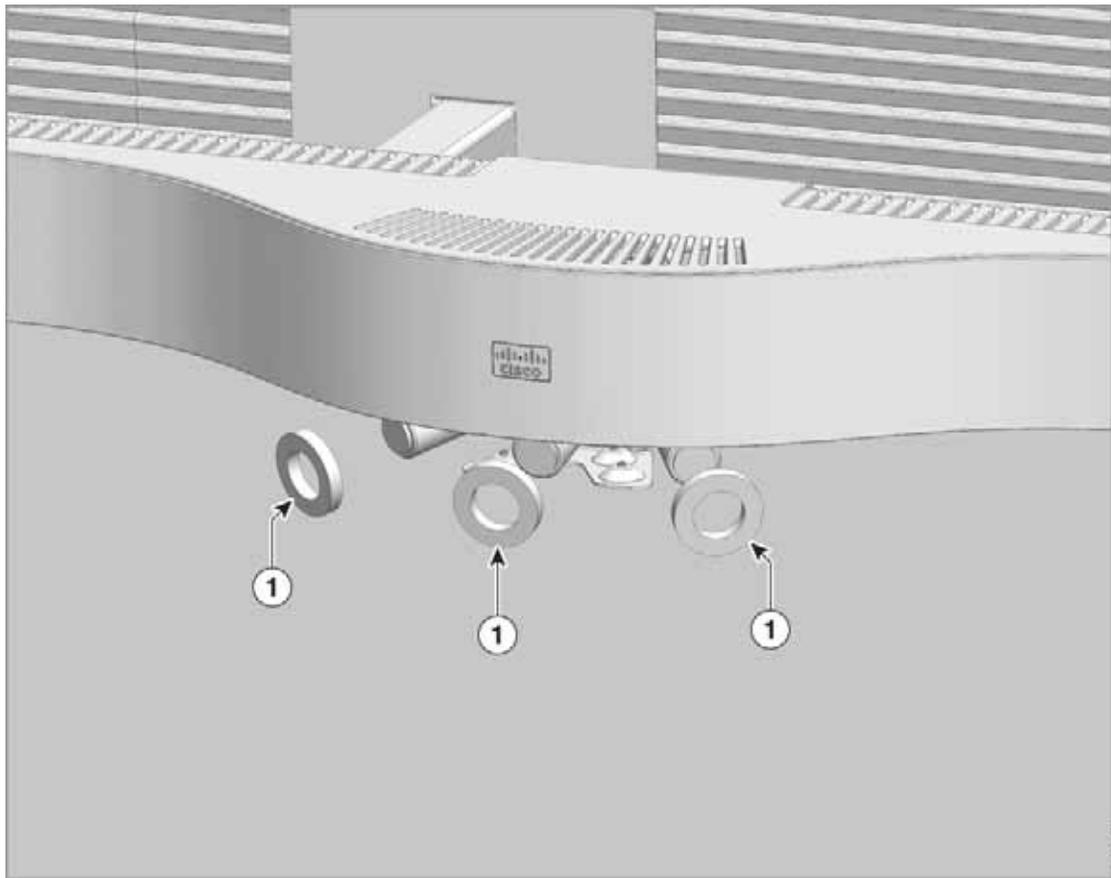
**Step 6** Attach the foam camera gaskets to the camera.



**Note** Stretch the gaskets past the first thumbscrew on the camera lenses so that they are between the zoom and the focus rings.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Foam gaskets	700-38301-01	3		

**Figure 1-3** Attaching the Camera Gaskets to the Cameras



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## Adjusting the Zoom

Correctly adjusting the zoom ensures that the conference participants appear life-size, and the camera provides 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 to the center 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 1-5](#).

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 1-4](#).



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**Note** If one of the left/right screws is covered by the camera cable, use the other screw to make all left/right adjustments.

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Figure 1-4 Camera Adjustment Screws

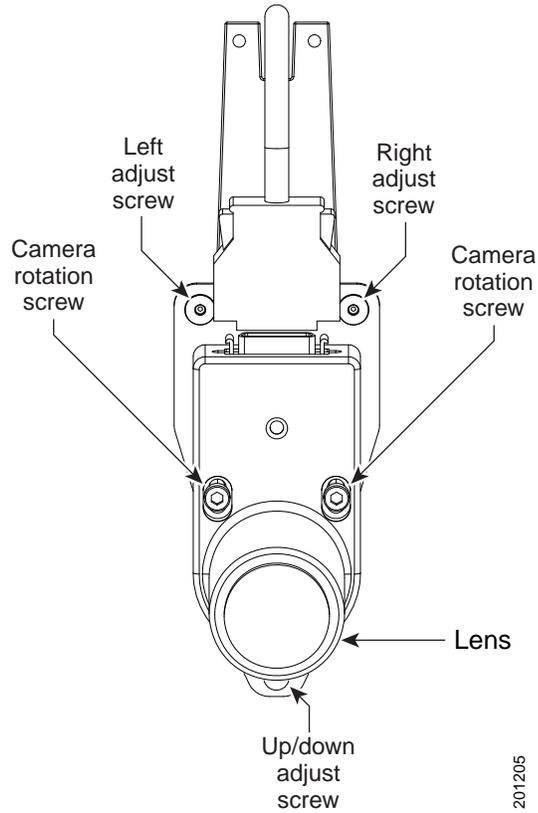
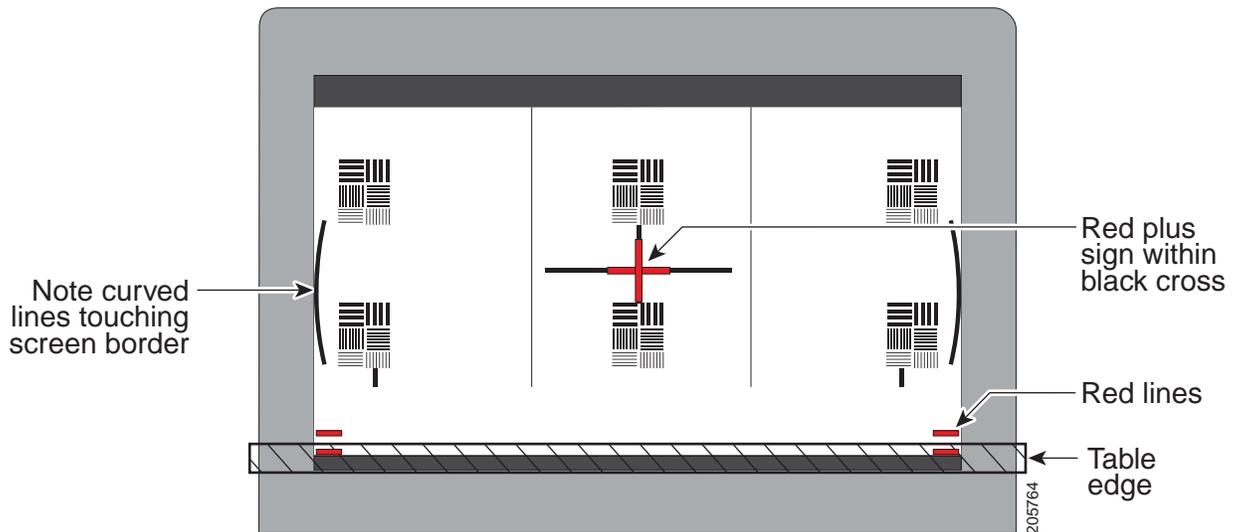


Figure 1-5 Correct Camera Target Alignment—Center Display



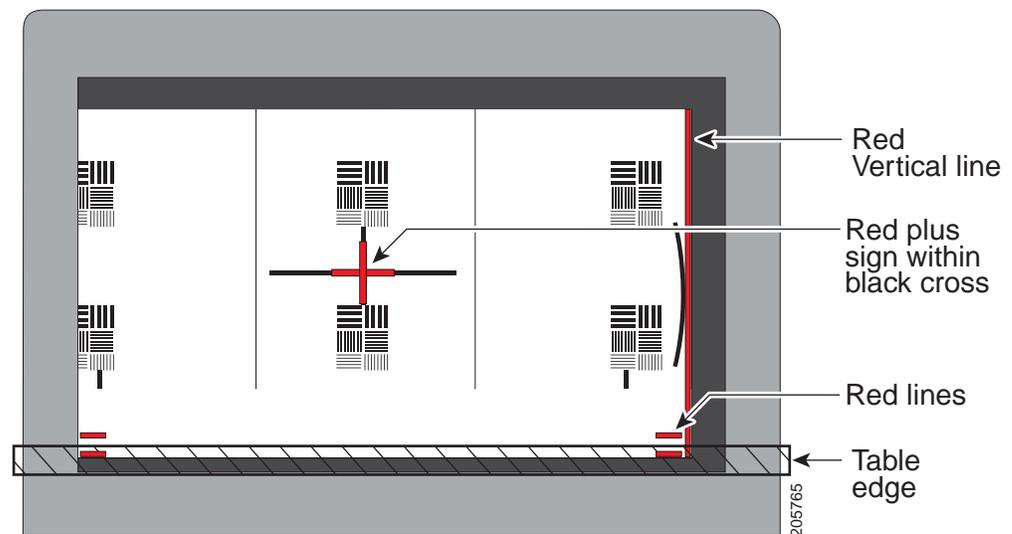
- Place the small target on the table in front of the large target, and adjust the focus by completing the steps in the [“Focusing the Camera”](#) section on page 1-14.
- Remove the large target from the center part of the table, and attach it to the left part of the table, placing the underside of the clamps into the recessed holes.

- c. Make the following adjustments to the left 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 1-6](#).
- To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 1-4](#).



**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 1-6** Correct Camera Target Alignment—Right 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 1-14.
- e. 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.

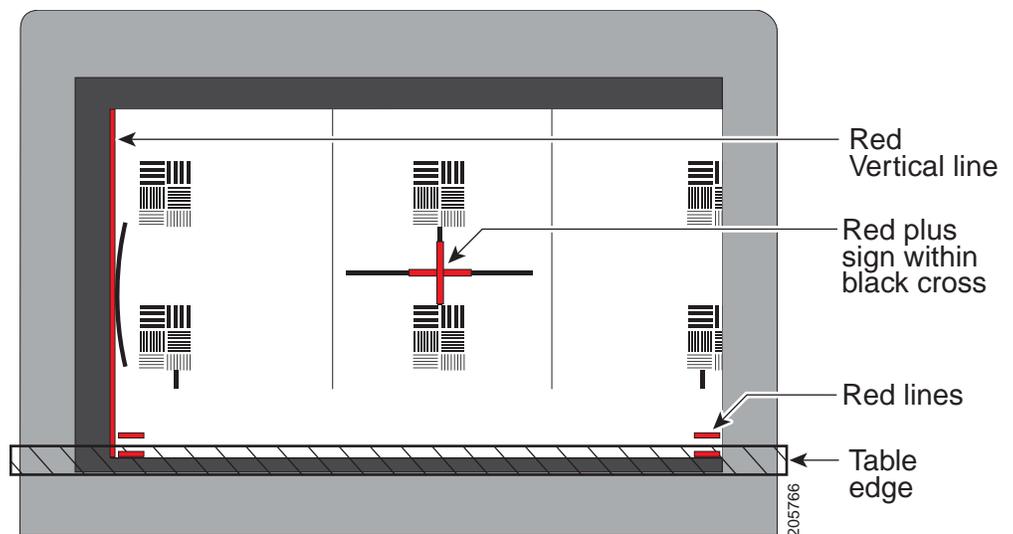
- f. Make the following adjustments to the right camera:
- Align the red plus sign to the plus sign in the middle of the target.
  - Align the red hash marks on the display so that they fit between the table edges.
  - Zoom and align the camera so that the curved line on the left side of the display touches the red adjustment line at the right edge of the display [Figure 1-7](#).

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 1-4](#).



**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 1-7** Correct Camera Target Alignment—Left 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 1-14.

- Step 4** Tighten the thumbscrew on the zoom and focus rings.
- Step 5** Click **Hide Camera Target** to remove the alignment images.
- Step 6** To complete the zoom procedure, click **Done**.
- Step 7** 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

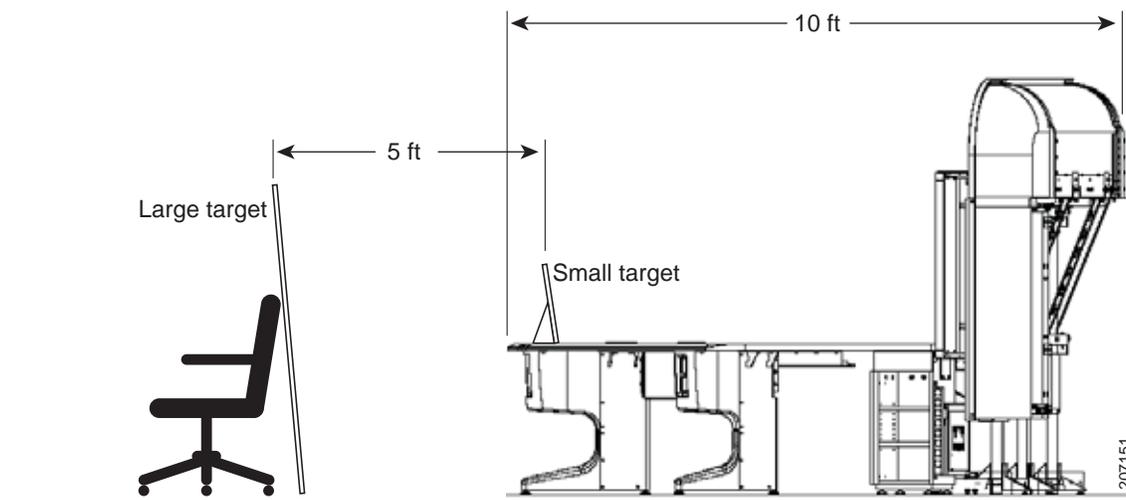
To focus the cameras using the large and small targets, complete the following steps:

- Step 1 Place the small target on the center of the table, in front of the center camera.
- Step 2 Arrange the large target five feet (152 cm) behind the small target.



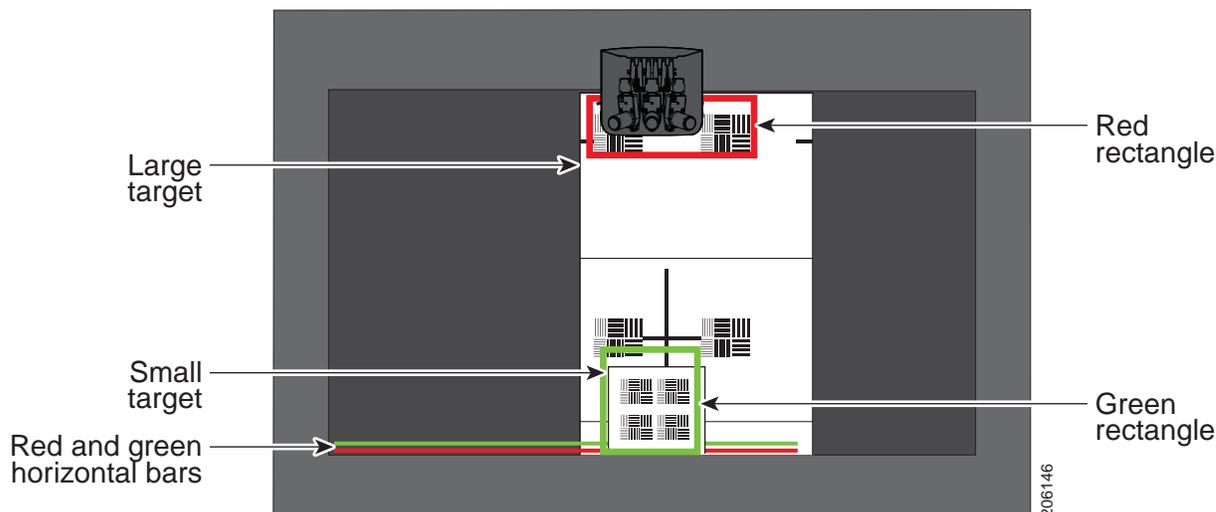
Tip Use a chair to prop up the large target.

Figure 1-8 Arranging the Small and Large Targets



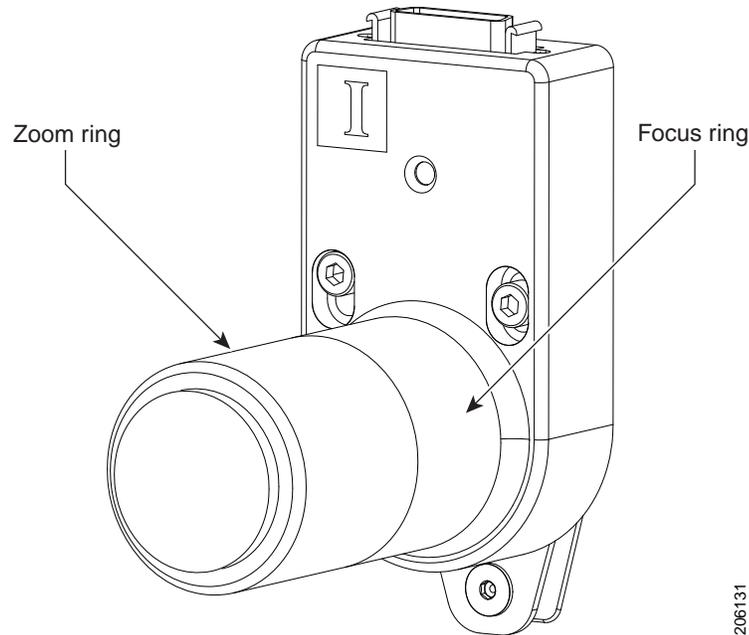
- Step 3 In the Cisco TelePresence Administrative GUI, click **Setup**, then click **Show Focus Target**.
- Step 4 Adjust the small target so that the red box encloses the upper patterns on the large target and the green box encloses the patterns on the small target.

Figure 1-9 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 1-10** Location of Focus and Zoom Rings



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.

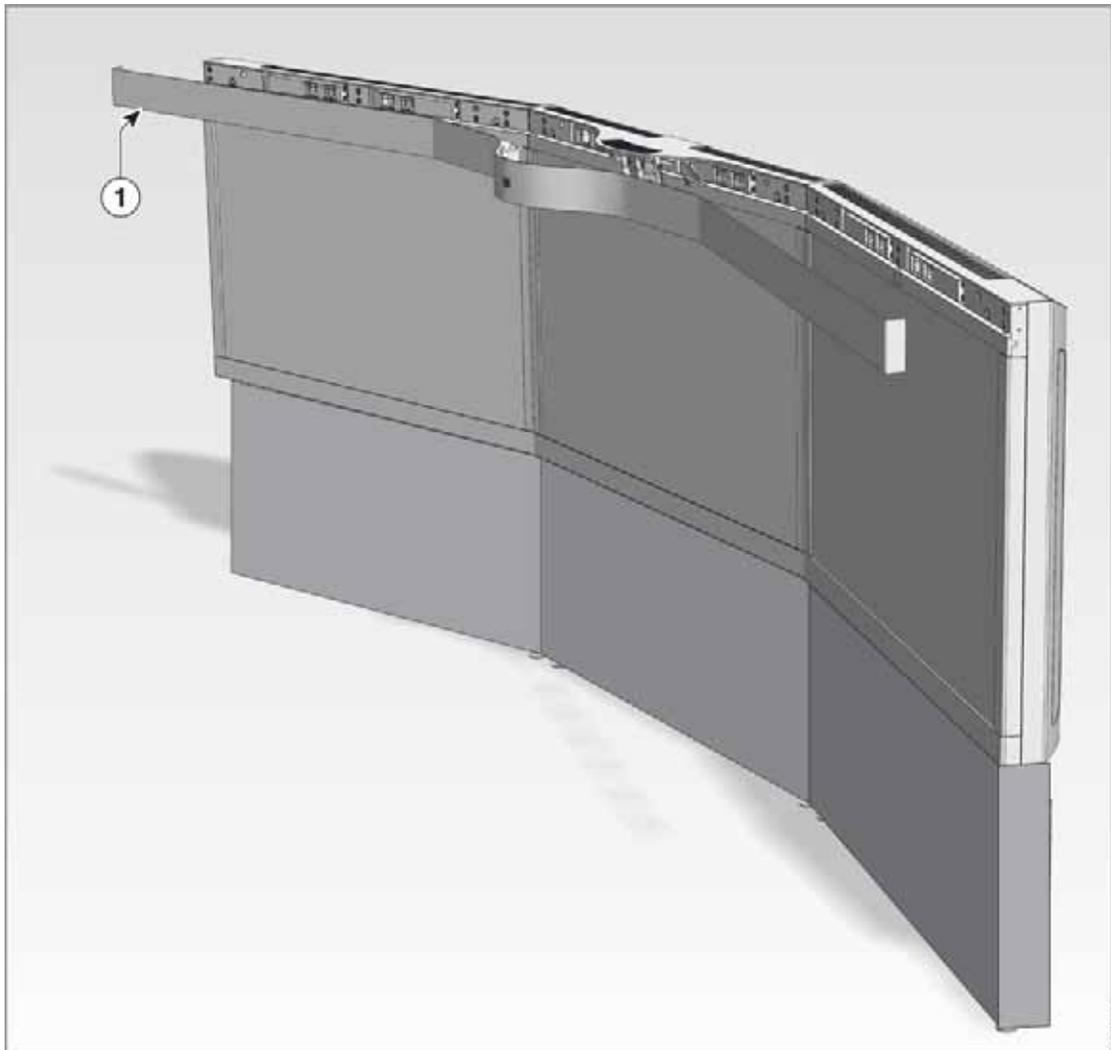
## Attaching the Camera Hood Assembly and Top Bezel

After you complete the camera adjustment, attach the camera hood assembly and top bezel and, if required, adjust the outside system panels by completing the following steps:

- Step 1** Install the top bezel to the display structure by pressing the ball studs in the bezels into the holes in the display structure.

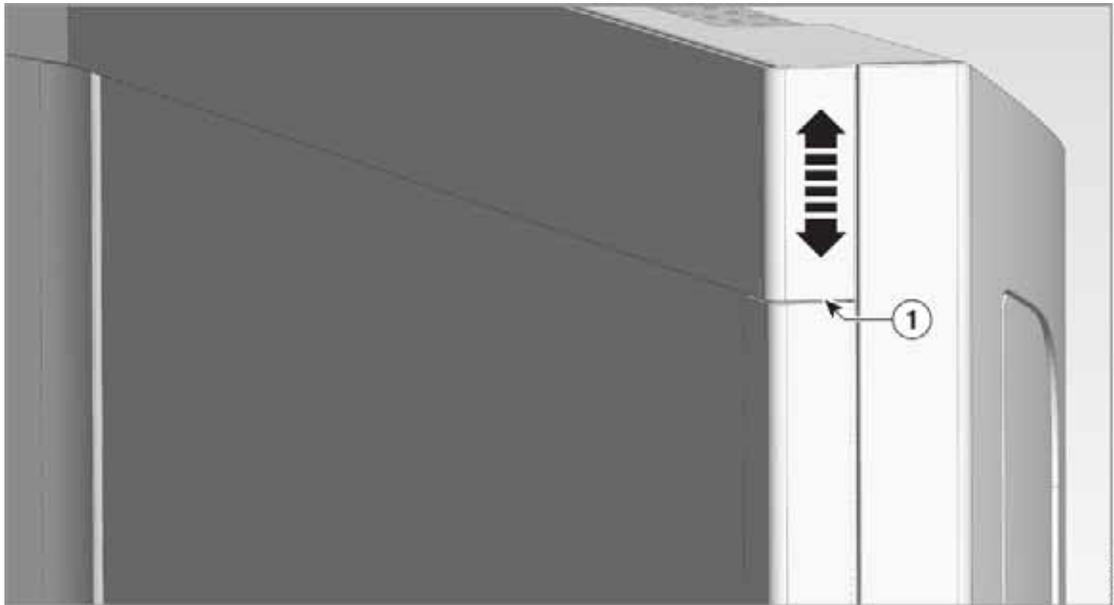
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Top Bezel	700-37420-01	1		

**Figure 1-11** *Installing the Top Bezel*



**Step 2** If required, align the upper edge of the bezel with the adjoining panels.

**Figure 1-12** *Aligning the Bezel With the Adjoining Panels*



- Step 3** Add the camera cover faceplate and camera cover to the camera by completing the following steps:
- a. Align the camera cover to the camera assembly and attach it with the four screws.

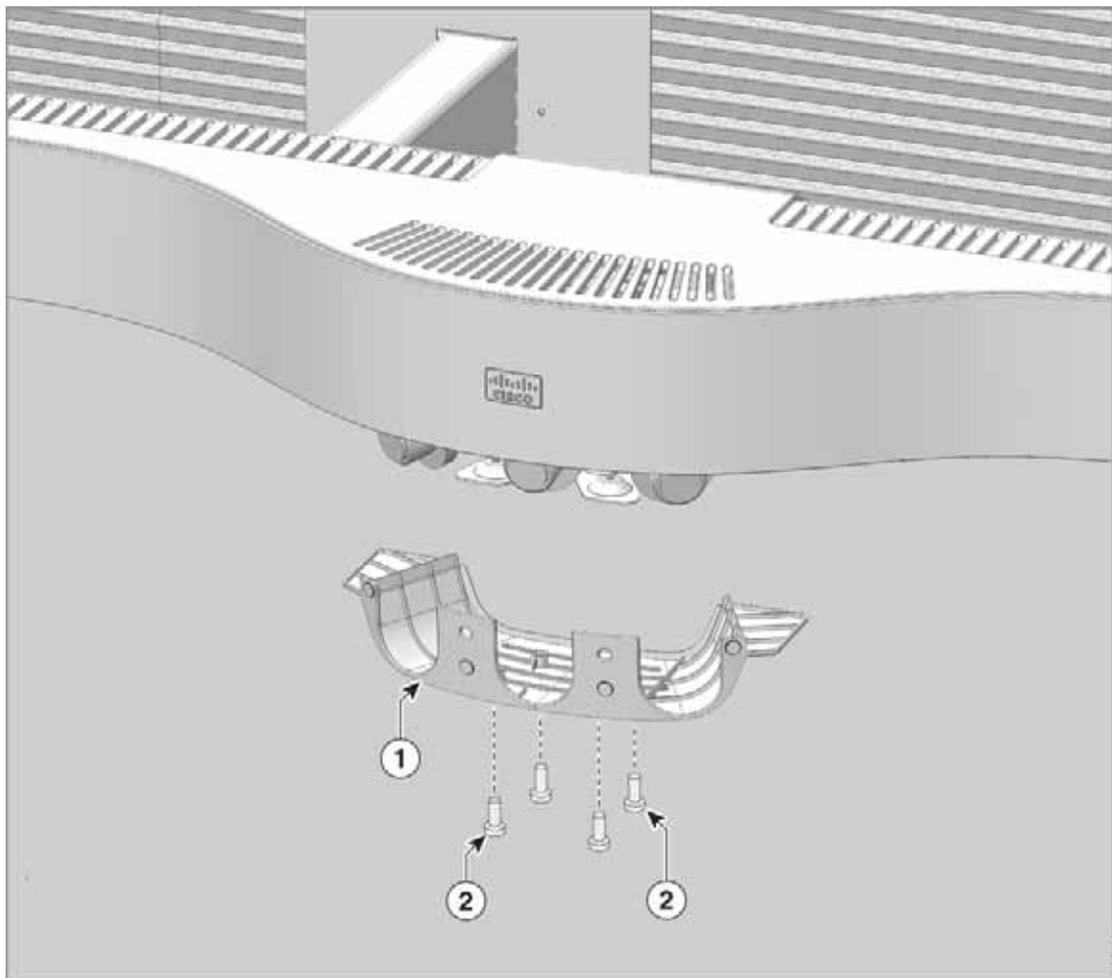


**Note** Be careful not to jar or move the camera lenses during this procedure.

- b. Attach the magnetic camera cover faceplate to the front face of the camera cover. Use the locating pins to correctly position the faceplate.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Camera cover	700-37737-03	1		
2	M4 x 20 pan head screws	N/A	3		Screws are pre-installed on the cover
3	Camera cover faceplate	700-37827-01	1		

**Figure 1-13** Attaching the Camera Cover and Faceplate to the Camera Bracket



## Troubleshooting Cameras

Use the information in [Table 1-3](#) to troubleshoot problems with cameras.

**Table 1-3** Troubleshooting Cameras

Problem	Possible Cause	Action
Camera image appears on the wrong display.	Cables are plugged into the wrong connector ports.	Check the wiring diagram that is included with the system to check wiring. For more information, see the <a href="#">“Connecting and Routing the Cables”</a> chapter of the <i>Cisco TelePresence System TX9000 and TX9200 Assembly, Use &amp; Care, and Field Replacement Unit Guide</i> .
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.	Check to see if the cord is fully plugged in. Re-check the camera adjustment procedures and the display color temperature. The procedures are in this chapter.
No image.	<ul style="list-style-type: none"> <li>• Lens cap is in place.</li> <li>• Camera is not plugged in or is plugged in incorrectly.</li> </ul>	<ul style="list-style-type: none"> <li>• Remove the lens cap.</li> <li>• Check power connections and switches on each display.</li> <li>• Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.</li> </ul>
	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.

### Related Information

For more information about setting up and testing cameras, see the [Cisco TelePresence System TX9000 and TX9200 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 1-20](#)
- [Troubleshooting Speakers, page 1-20](#)
- [Related Information, page 1-20](#)

## 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 **Next Speaker** to progress to the next speaker.
  - Step 8** Click **Stop** to end testing.
- 

## Troubleshooting Speakers

Use the information in [Table 1-4](#) to troubleshoot problems with speakers.

**Table 1-4** *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 cabled correctly. Check the cabling diagram that is included with the system. For more information, see the “ <a href="#">Connecting and Routing the Cables</a> ” chapter of the <i>Cisco TelePresence System TX9000 and TX9200 Assembly, Use &amp; Care, and Field Replacement Unit Guide</i> .
Sound heard at wrong speaker.	Speaker cable is not connected in the correct connector.	Check the cabling diagram that is included with the system. For more information, see the “ <a href="#">Connecting and Routing the Cables</a> ” chapter of the <i>Cisco TelePresence System TX9000 and TX9200 Assembly, Use &amp; Care, and Field Replacement Unit Guide</i> .
Sound is not synchronized with video.	—	Contact Cisco technical support.

## Related Information

For more information about setting up and testing speakers, see the *Cisco TelePresence System TX9000 and TX9200 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.

Go to the following sections to test microphones:

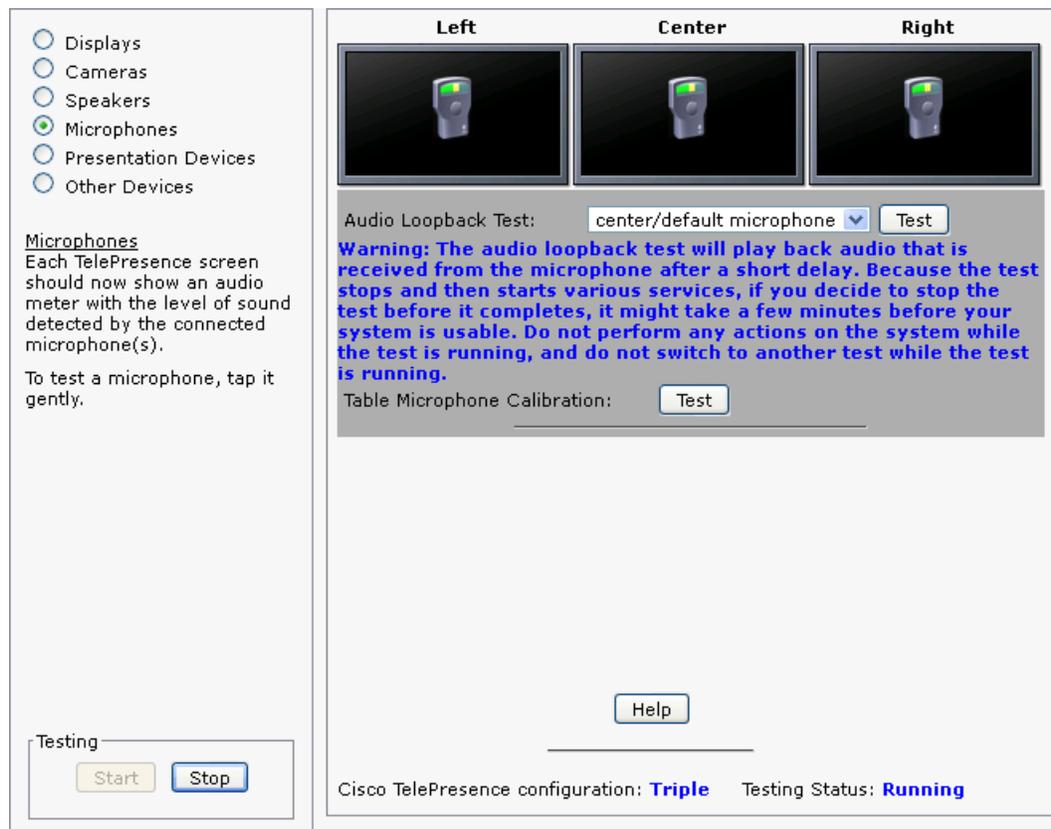
- [Testing and Calibrating Microphones on the TX9000 or TX9200](#), page 1-21
- [Audio Loopback Testing on the TX9000 or TX9200](#), page 1-22
- [Troubleshooting Microphones](#), page 1-23
- [Related Information](#), page 1-23

### Testing and Calibrating Microphones on the TX9000 or TX9200

To verify correct microphone setup and calibrate the microphones, complete the following steps:

- Step 1** In the Cisco TelePresence administrative GUI, navigate to **Hardware Setup > Troubleshooting > Microphones**.
- Step 2** Click **Start** to begin setup.
- The GUI displays three screens, each with an audio meter displayed.

**Figure 1-14** Microphone Calibration



**Step 3** Lightly tap each microphone and watch the audio meter on the corresponding display screen to see that sound registers.

This step verifies that the microphones are connected and operating properly.

**Step 4** Calibrate the microphones by clicking the **Microphone Calibration** button.



**Note** The room must be completely quiet to properly calibrate microphones and ensure that camera switching is properly enabled.



**Tip** Before clicking the **Microphone Calibration** button, you can leave the room and close the door to ensure complete silence in the room.

**Step 5** Click **Stop** when setup is complete.

## Audio Loopback Testing on the TX9000 or TX9200

The CTS Administrative UI also includes a loopback testing function for each microphone. During loopback testing, any sound picked up by the microphone being tested will be played back over the corresponding speaker after a short delay. You can use this feature to ensure that each microphone is registering sound.

To test the microphones using loopback testing:

**Step 1** Navigate to **Hardware Setup > Troubleshooting > Microphones**.

**Step 2** Click **Start** to begin testing.

**Step 3** In the **Audio Loopback Test** field, select the microphone you want to test.

**Step 4** Click **Test** to begin testing.

**Step 5** Speak into or lightly tap the microphone you are testing. You should hear the same sound from the nearest speakers.

**Step 6** To test a different microphone, select that microphone from the **Audio Loopback Test** field.

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

## Troubleshooting Microphones

Use the information in [Table 1-5](#) to troubleshoot problems with microphones.

**Table 1-5** *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.
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.
No sound registers.	Microphone cable is not connected or is only partially connected.	<ul style="list-style-type: none"> <li>• Check that the system is plugged in and power is on.</li> <li>• Check that the microphone plug is firmly connected to the audio/video extension unit and that the extension cords are properly connected.</li> <li>• Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in.</li> <li>• Lightly tap the microphone to see if sound registers.</li> <li>• 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.</li> </ul>
Microphone icon with red pipe displays.	Microphone is not connected.	Check that the microphone is properly connected.
Microphone icon with question mark displays.	One of the microphones is unplugged.	Check that the microphone is properly connected.
System is experiencing “phantom switching” (during a TelePresence conference, the system switches to a segment where no one is talking or is empty)	Microphone is not properly calibrated.	Rerun the Microphone Calibration procedure.

### Related Information

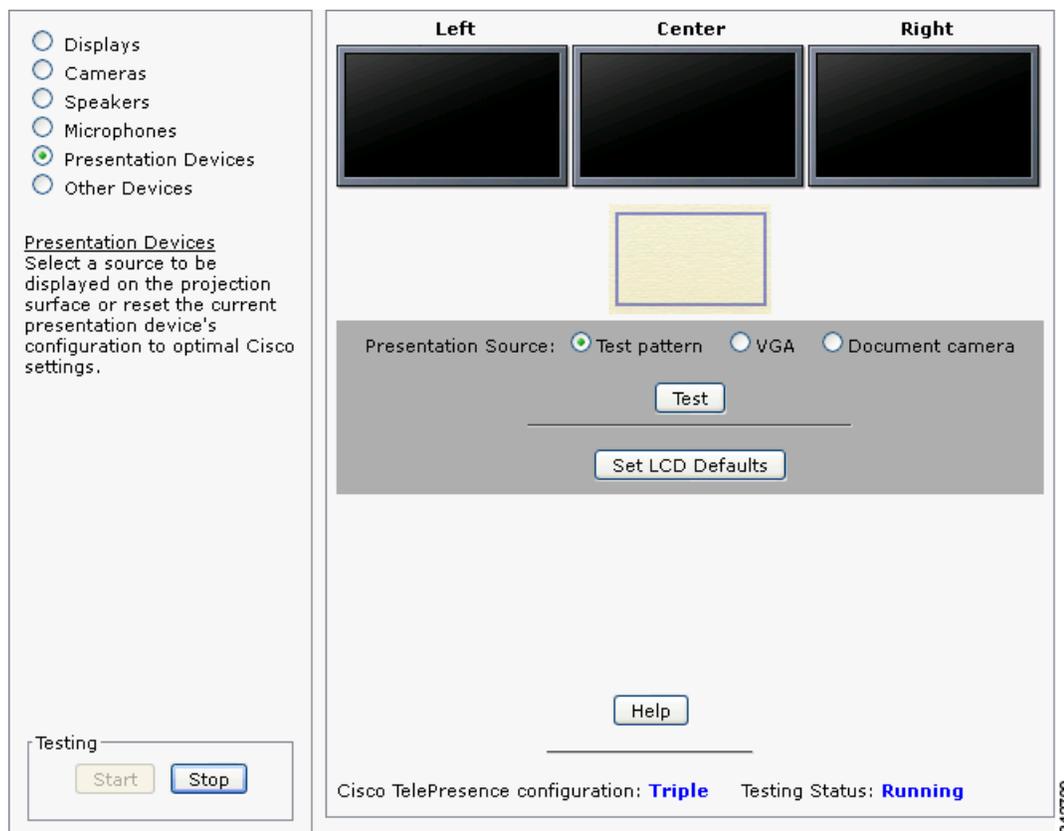
- For more information about setting up and testing presentation devices, see the [Cisco TelePresence System TX9000 and TX9200 Assembly, Use & Care, and Field Replacement Unit Guide](#).
- For more system troubleshooting information, see the [Cisco TelePresence System Troubleshooting Guide](#) on Cisco.com.

## Testing the External Presentation Display

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 1-15](#).

**Figure 1-15** 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 1-25](#)
- [Checking the VGA, page 1-26](#)
- [Resetting the Projector, page 1-26](#)
- [Troubleshooting Presentation Devices, page 1-26](#)
- [Related Information, page 1-23](#)

## 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.

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 1-26](#)
- [Presentation Devices, page 1-27](#)

### 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

### Presentation Devices

Use the information in [Table 1-6](#) to troubleshoot presentation devices.

**Table 1-6** *Troubleshooting Presentation Devices*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Projector power switch is off.	<ul style="list-style-type: none"> <li>Check projector power switch.</li> <li>Switch the projector on/off rocker switch to the ON position.</li> </ul>
	Power cable is not connected.	<ul style="list-style-type: none"> <li>Check to see if the <b>LED</b> on the top of the projector is illuminated. It can be either green or yellow.</li> <li>If the LED light is not illuminated, make sure that the power cable is plugged in.</li> </ul>
	Video cable is not connected to the projector or to the CTS primary unit.	<ul style="list-style-type: none"> <li>Check that the video cable is plugged into the projector and into the correct connector on the CTS primary unit.</li> <li>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.</li> </ul>
	Projector is set up to receive PC input instead of input from its video cable connector.	<ul style="list-style-type: none"> <li>Use the projector remote control to configure the projector for HD Video input.</li> <li>If your system includes an Auxiliary Control Unit, click <b>Set Projector Defaults</b>.</li> </ul>
	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 <a href="#">Cisco TelePresence System TX9000 and TX9200 Assembly, Use &amp; Care, and Field Replacement Unit Guide</a>
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 <a href="#">Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System</a> for more information.

Table 1-6 Troubleshooting Presentation Devices

Problem	Possible Cause	Possible Solution
<p>There is no image and a Bulb icon appears on the CTS main display.</p> 	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 TX9000 and TX9200 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 1-29](#)
- [Troubleshooting Other Devices, page 1-31](#)
- [Related Information, page 1-31](#)

### 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 restore 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 1-16](#). Individual light units correspond to the five port numbers of the Auxiliary Control Unit, Ports 1 through 5.

Figure 1-16 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 Ports On/Off** to test the selected ports.
- e. Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.

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

## Troubleshooting Other Devices

Use the information in [Table 1-7](#) to troubleshoot problems with Other Devices.

**Table 1-7** *Troubleshooting Other Devices*

Problem	Possible Cause	Possible Solution
<ul style="list-style-type: none"> <li>Presentation fails to display in some resume scenarios.</li> </ul>	This is expected behavior.	<p>In early CTS software releases, a CTS with its presentation device plugged in would always ask to present when it did a resume.</p> <p>Presentation device functionality is changed. When a CTS goes on hold, the presentation device takes note whether or not it was the active presenter:</p> <ul style="list-style-type: none"> <li>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.</li> <li>If it was not the active presenter, it will not ask to present and the presentation will not be shown when the meeting resumes.</li> </ul>
<ul style="list-style-type: none"> <li>Administration login can be slow when presenting during point-to-point secure calls.</li> </ul>	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.
<b>Tip</b>	<p>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 <a href="#">Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System</a> for more information about controlling presentation devices and associated displays.</p>	

### Related Information

- For more information about setting up and testing other devices, see the [Cisco TelePresence System TX9000 and TX9200 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 1-32](#)
- [Log Files, page 1-32](#)
- [SIP Messages, page 1-34](#)

## 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

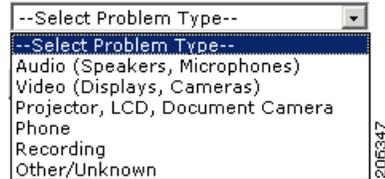
Use Log Files to retrieve log files from the Cisco TelePresence system. Log files can be retrieved from the CTS or from the phone.

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)
      - Phone
      - Recording
      - Other/Unknown

Figure 1-17 shows the problem types that you can select when downloading log files.

Figure 1-17 Select Problem Type Drop-Down Menu



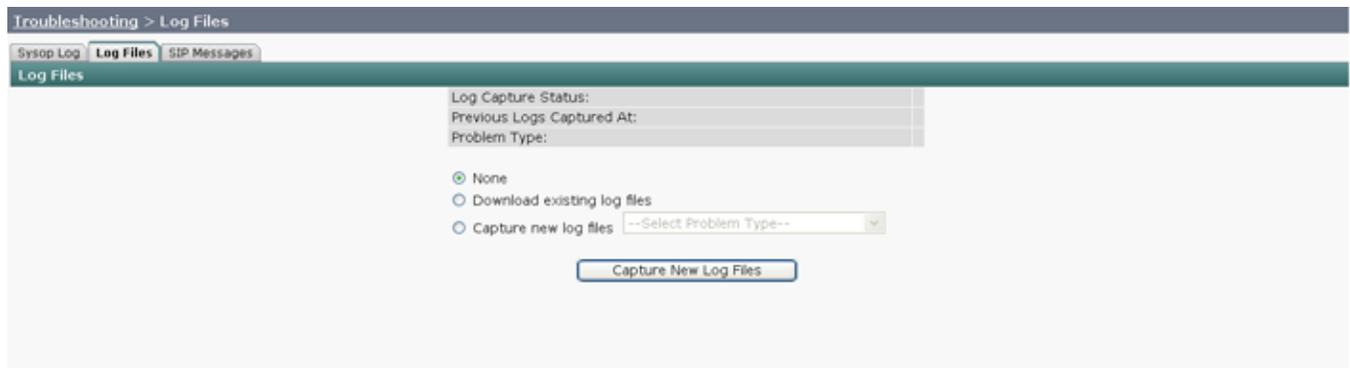
**Step 3** Choose from one of the following options:

- **None** —Default. No log files will be captured unless a download option is selected. Figure 1-18 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 Files button.

Figure 1-18 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 1-8](#) and [Table 1-9](#) 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:
- Enter the filter where the SIP Message Type is by typing the name in the field provided. The Filter button is activated.
  - Or
  - Select the message type from the drop-down menu. The Filter button is activated.
  - 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 1-35](#)
- [SIP Response Categories, page 1-35](#)

### SIP Requests and Methods

[Table 1-8](#) 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 1-8** 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 <a href="#">Table 1-8</a> .
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 1-8](#) using the response categories described in [Table 1-9](#).

**Table 1-9 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:

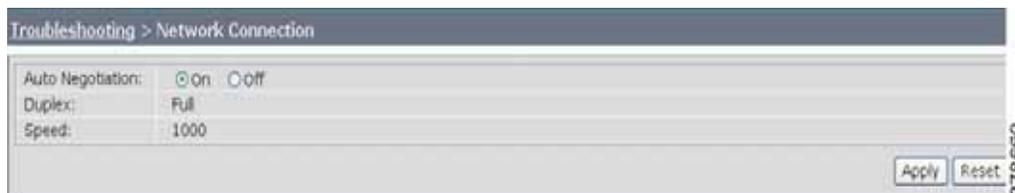
**Step 1** Choose **Troubleshooting > Network Connection**.

**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 1-19](#).



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

**Figure 1-19** 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 system is 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 1-10](#) to solve problems that may occur with the video picture on the displays.

**Table 1-10** *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.	<ol style="list-style-type: none"> <li>1. Log into the Cisco Unified CM Administration interface.</li> <li>2. Verify that the required settings have been made for configuring the video quality. See the <a href="#">Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System</a>.</li> </ol> <p><b>Note</b> Higher bandwidth increases video quality, but may also cause packets to be dropped and video to be interrupted.</p>

**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 TX9000 and the TX9200 use 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**

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For detailed cabling information, see the [Connecting and Routing the Cables](#) section in the *Cisco TelePresence System TX9000 and TX9200 Assembly, Use & Care, and Field Replacement Unit Guide*

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## Where to Go Next

See [Chapter 1, “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.