



# Cisco TelePresence IX5000 and IX5200 First-Time Setup

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**Published: December 10, 2014**

**Revised: May 10, 2017**

This chapter describes the tasks you perform to set up your Cisco TelePresence IX system for the first time and includes the following sections:

- [Summary of Changes, page 2](#)
- [Immediate Software Upgrade Requirements, page 2](#)
- [Required First Time Power-On and Software Installation Procedure, page 3](#)
- [Resetting the Table Switch to Fix Issues with Touch 10 Controllers, page 5](#)
- [Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System, page 5](#)
- [Powering on the System and Enabling the Cisco TelePresence Administration Software GUI, page 7](#)
- [Configuring an IX5000 or IX5200 System With a Static Network Address, page 10](#)
- [Requirements for Auxiliary Displays, page 11](#)
- [Requirements for Whiteboards and Whiteboard Microphones, page 12](#)
- [Performing First-Time Setup, page 15](#)
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# Summary of Changes

The following table shows you the changes that have been made to this document.

Date	Summary of Change
April 17, 2017	<ul style="list-style-type: none"> <li>Added the <a href="#">“Requirements for Auxiliary Displays”</a> section on page 11.</li> <li>Added step 5d. on page 19 in the <a href="#">“Performing First-Time Setup”</a> to perform camera alignment on two-table systems.</li> <li>Added <a href="#">Step 19</a> on page 36 in the <a href="#">“Performing First-Time Setup”</a> section to reboot the IX system if an auxiliary display is added.</li> <li>Changed the terminology of Touch 10 device to <a href="#">“Touch 10 controller”</a>.</li> </ul>
July 1, 2016	<ul style="list-style-type: none"> <li>Step 4c. of the procedure in the <a href="#">“Performing First-Time Setup”</a> section on <a href="#">page 15</a> was updated to add information on correct cabling for auxiliary displays.</li> </ul>
April 7, 2016	<ul style="list-style-type: none"> <li>Updated the <a href="#">“Immediate Software Upgrade Requirements”</a> section on <a href="#">page 2</a> to include the path to the Download Software page.</li> <li>If the camera alignment fails with a Walnut table installation, more steps may be required. <a href="#">Step 5</a> of <a href="#">“Performing First-Time Setup”</a> section on <a href="#">page 15</a> has been updated to include this information.</li> </ul>
April 24, 2015	<ul style="list-style-type: none"> <li>If you configure a static IP address for your system, and a domain name is also required, either use the <b>set network IP static</b> CLI command, or configure your system in Mixed mode. The <a href="#">“Configuring an IX5000 or IX5200 System With a Static Network Address”</a> section on <a href="#">page 10</a> has been updated to include this information.</li> <li>The <a href="#">“Configuring an Alternate TFTP Server (Optional)”</a> section has been removed, as that information is covered in <a href="#">Step 4</a> in the <a href="#">“Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System”</a> section on <a href="#">page 5</a>.</li> <li>The title of the <a href="#">“Required First Time Power-On and Software Installation Procedure”</a> section on <a href="#">page 3</a> has been changed to correctly reflect its content. The previous title was <a href="#">“Preventing Touch 10 Configuration Issues”</a>.</li> </ul>

## Immediate Software Upgrade Requirements

Your IX system comes preloaded with a downlevel version of IX software. You must upgrade your system to the latest version on Cisco.com before you use your system to place and receive calls.

Due to some issues with the preloaded software, **make the following changes to your system before you load the software** (requires signing in to Unified CM and the IX system administration GUI):

- Make sure that your system is not configured for secure mode in Unified CM. After you perform the upgrade, and after your system is registered to Unified CM, change the system settings in Unified CM if secure mode is required.
- Make sure that a Certificate Trust List (CTL) is not present on your system and, if present, delete it.
  - To check, after initial system boot, log in to the IX System administration GUI (default username and password is **admin / cisco**).

- If the IX system has an IP address assigned by DHCP, use that address from your network.
- Otherwise, connect your laptop to the EX1 Ethernet jack, and use 169.254.1.1 for the IP address. (You may need to assign a static IP address to your laptop in the 169.254.1.X subnet.)
- Navigate to **Configuration > Call Control Manager**, and click **Delete Certificate Trust List**.
- For more information, see the “[Certificates](#)” section of the “[Understanding the Fields In the Interface](#)” section of the *Administration Guide for Cisco TelePresence Software Release IX 8*.

**Tip**

Some browsers do not allow you to navigate directly to the Configuration page. If you have any problems, click **Monitoring**, then click **Configuration**.

After performing the preceding changes, but before beginning first-time setup, **you must download the latest IX software version from Cisco.com and load it to your IX system**. Obtain the IX software from this link (Cisco.com sign-in ID required):

<https://software.cisco.com/download/navigator.html>

Navigate to the IX release software using the path **Products > Collaboration Endpoints > TelePresence IX 5000 Series** and select the model for your system. On the Download Software page, select the latest release.

**Note**

If your system has software from a release prior to 8.0.3, you **MUST** upgrade to 8.0.3 or 8.0.4 or 8.0.5 **BEFORE** you upgrade to 8.1.x. A direct upgrade from a pre-8.0.3 release to 8.1.x will not work.

While the system software is upgrading for the first time, you might see the following symptoms, which do not indicate a problem:

- The progress bar might freeze.
- The system reboots several times.
- The screen changes from the blue progress screen, with progress bar, to a blank screen.

Do not perform any corrective actions, and wait for the upgrade to complete.

For more information, see the “[Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System](#)” section on page 5.

## Required First Time Power-On and Software Installation Procedure

After you physically install your system, but before you power it on, configure your system using the following procedure.

Failure to complete these steps, or failure to complete them in the correct order, can cause either the switch in the table or the Touch 10 controllers to fail.

- 
- Step 1** Make sure that there is no power to the table structure.
- Either make sure that the PDU in the table structure is turned to the “OFF” position, or unplug the plug to the wall.
- Step 2** Disconnect the Touch 10 controllers by unplugging the Ethernet cable from the back of the device.

- Step 3** Upgrade your system to the latest software image on Cisco.com.  
Your system must be registered to Cisco Unified Communications Manager (Unified CM) for it to download the image. For detailed steps to complete this step, see the [“Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System”](#) section on page 5.
- Step 4** Wait for the system to complete its reboot after the software upgrade.
- Step 5** Turn on the power to the table PDU by either powering on the PDU switch, or connecting the power cable from the tables.
- Step 6** Perform the first-time setup procedure for your system. For more information, see the [“Performing First-Time Setup”](#) section on page 15.
- Step 7** Reconnect the Ethernet cable to the Touch 10 controllers.  
Be sure that the Ethernet cable is securely fastened to each Touch 10, and that the cable connector “snaps” securely in to the jack on both the Touch 10 and the switch side.

**Note**


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One Touch 10 controller is required. For an IX5000 system, five more optional Touch controllers are allowed for the first row. For an IX5200 system, eight more Touch controllers are allowed between the first and second rows—Three for the first row table, and six for the second row table.

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- Step 8** Wait for the Touch 10 to upgrade.  
The upgrade process takes approximately 5 minutes. The Touch 10 reboots several times and goes through several initiation sequences.  
Do not unplug the device or press any buttons on the Touch 10 during this process.

**Note**


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If, after ten minutes, the Touch 10 controller has not initialized, reboot the codec by logging in to the IX5000 administration GUI and clicking **Restart/Reset**. The default IP address for the GUI is 169.254.1.1, and the default username and password is **admin/cisco**. If you have already configured your codec, the IP address is different.

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Per the preceding steps, you must a) wait at least 10 minutes after you power on the switch for it to fully boot up, and b) reboot the system before you connect the Touch 10 controllers to the switch. This procedure solves the following issues:

- The switch in the table can take as long as 10 minutes to boot up and receive its configuration from the codec. Performing first-time setup after you power on the switch allows sufficient time for the switch to complete its bootup process.
- When first-time setup is complete, the system reboots, which is a requirement before you connect the Touch 10 controllers.

If you experience issues with the Touch 10 not initializing, reset the switch in the table by completing the steps in the [“Resetting the Table Switch to Fix Issues with Touch 10 Controllers”](#) section on page 5.

# Resetting the Table Switch to Fix Issues with Touch 10 Controllers

If your Touch 10 controller shows a blank screen, or stays in maintenance mode without initializing, a possible cause could be that the switch in the table did not receive its configuration from the codec, which can cause the Touch 10 controller to not receive Power over Ethernet (PoE) from the switch. This condition requires that you reset the switch back to factory defaults and reboot the codec by completing the following steps:

**Step 1** Press and hold the **Mode** button for 11 seconds.



**Note** The Mode button is on the front and underside of the switch, on the same side as the power plug.

The switch LEDs begin blinking after three seconds, and stop blinking seven seconds later. Then, the switch reboots and loses its configuration.

**Step 2** Restart the codec by logging in to the IX5000 administration GUI and clicking **Restart/Reset**.

The default IP address for the GUI is 169.254.1.1, and the default username and password is **admin/cisco**.

If you have already configured your codec, the IP address would be different.

The switch regains its configuration and the Touch 10 controller successfully initialize.



**Tip**

To prevent this issue, use the power-on procedure as described in the [“Required First Time Power-On and Software Installation Procedure”](#) section on page 3.

## Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System

Before you can use your system, you need to configure your system in Unified CM.

You can configure your system and complete all steps in this chapter before you add your system to Unified CM, but you will not be able to complete any of the following actions until you register your device:

- The Touch controller cannot download its software from Unified CM and you receive an error in the logs.
- You cannot place or receive calls.
- The device description is incorrect in the IX5000 administration GUI.

To configure your device in Unified CM, complete the following steps:

**Step 1** Make sure that your Unified CM software has the latest device package version.

To find out the latest Unified CM device package for your IX version, see the [Cisco Unified Communications Manager Device Package Compatibility Matrix](#).



**Tip** For an IX5200, configure the device type as Cisco TelePresence IX5000 (18 seats).

**Step 2** Load the Cisco TelePresence Administration Software image on the Unified CM server.



**Note** If your Unified CM has already loaded the required IX5000 software, you can skip this step.

**Step 3** Add your system as a device in Unified CM. For more information, refer to the “[Adding an IX System to Unified CM](#)” section in the *Configuring Cisco Unified Communications Manager for the IX System* document.

**Step 4** Add the TFTP server(s) used by the Unified CM server to your system using the IX System administration GUI. Complete the following steps:

- a. Log into the IX System administration GUI for your system as user **admin**. The default password is **cisco**.
- b. Click the **Configuration** icon (the gear on the left of the screen).
- c. Scroll down to the Call Control Manager section.
- d. Enter the TFTP Server(s) in the Call Control Manager area.
- e. Click **Apply**.

For more information about configuring Unified CM with your Cisco TelePresence device, refer to the *Configuring Cisco Unified Communications Manager for the IX System* document.

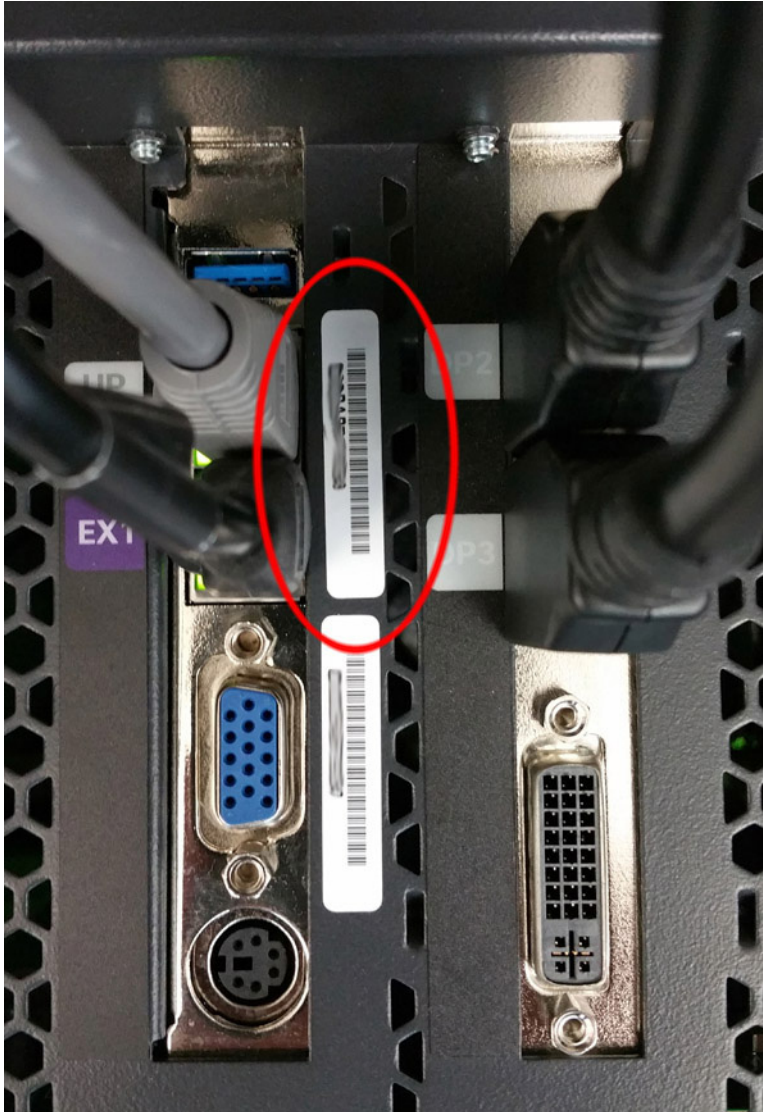
## Finding the MAC Address for Your System

You need the codec MAC address to configure your system in Unified CM. There are two MAC addresses on the codec. Use the address that is nearest the Uplink and EX1 Ethernet connections. [Figure 1](#) provides an example.



**Tip** You can also find this address on the blue screen while your system is booting up.

**Figure 1**      *MAC Address Location on the Codec*



## Powering on the System and Enabling the Cisco TelePresence Administration Software GUI

To load the CTS Administration Software, complete the following steps:

**Step 1**      Power on the system by completing the following steps.



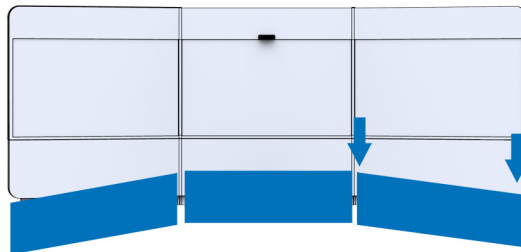
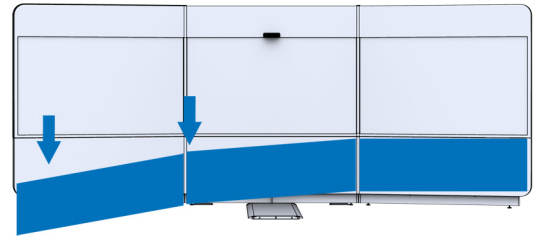
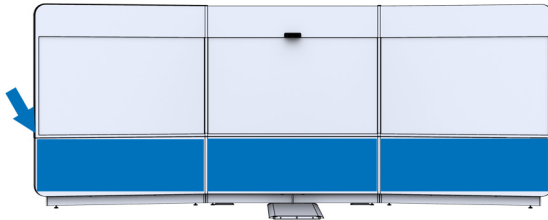
**Note**      If your system is already powered on, skip the step and proceed to [Step 2](#).

- a. Remove the bottom fascia by using the following procedure:

**Note**

While two people make this procedure easier, only one person is required.

1. While wearing gloves, grasp the fascia from the left side at the top corner and pull it outward. Let the fascia swing outward from its hinge.
2. Set the left side of the fascia on the ground, leaving it upright. Do not twist or put undue stress on the joints.
3. Move to the center of the system, pull the center of the fascia outward, and set that part on the ground.
4. Take the right end of the fascia at the upper corner, pull it outward, and set that on the ground. Leave the center and side sections at slight angles so that it remains upright.



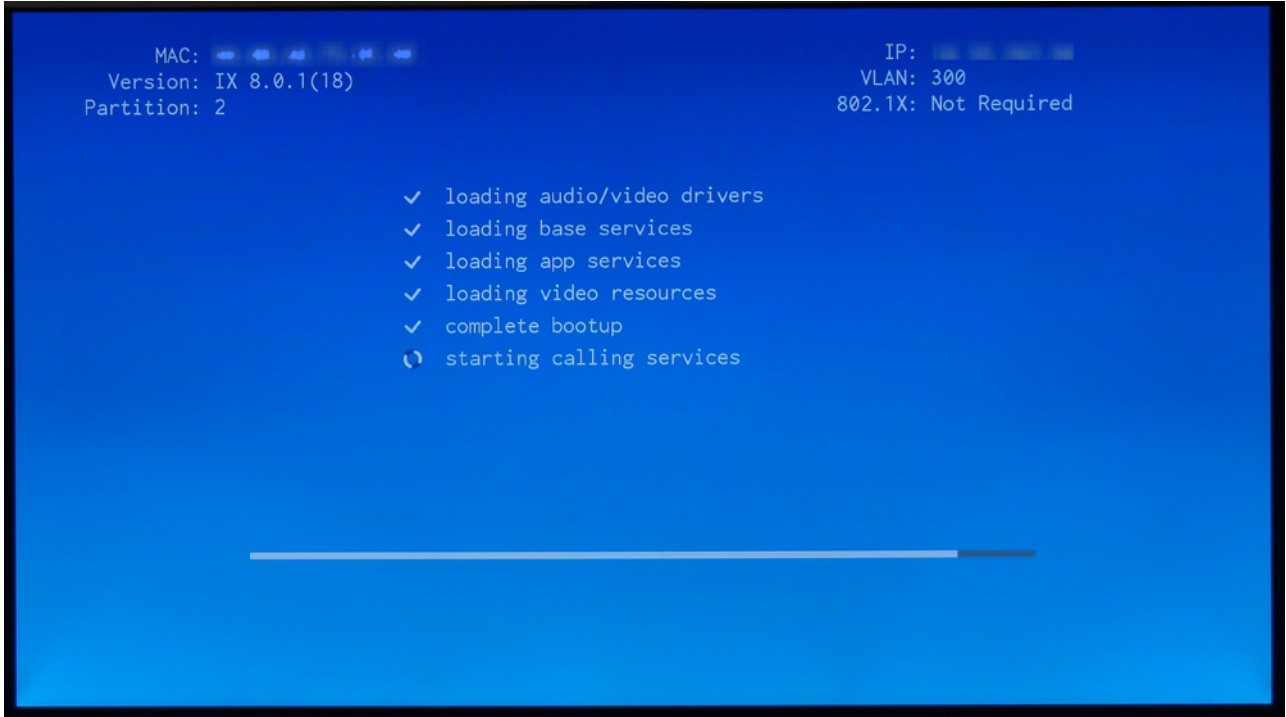
- b. Turn on the two PDUs mounted on the lower left and lower right display frames.

After you turn on the codecs, the IX5000 display codec becomes active. The system displays white check marks on the center display to show bootup progress. Bootup is complete when the system completes all check marks as show in [Figure 2](#).

**Tip**

If you have not registered the system to Unified CM, make a note of the MAC address that appears during the bootup process. The MAC address is required to register the system to Unified CM.



**Figure 2**      **Bootup Screen**

c. Watch the main display screen as the system is booting.

- Step 2** Note the IP address that displays on the top right of the screen as shown in [Figure 2](#). If your system has already booted, tap the top left of the Touch 10 controller, then tap **Info**, and note the system IP address. You use that information to sign in to the Cisco TelePresence System Administration. This IP address displays until you sign in to Cisco TelePresence System Administration or use Secure Shell (SSH) to sign in to the IX5000.

**Note**

If the IP address that displays is 192.168.100.2, the system could not contact the DHCP server or your system does not use DHCP. If your network does not use DHCP, set a static IP address for your system as described in the [“Configuring an IX5000 or IX5200 System With a Static Network Address”](#) section on page 10.

- Step 3** If you have not already done so, configure the Cisco Unified Communications Manager GUI. For detailed instructions to configure Cisco Unified Communications Manager, refer to the [Configuring Cisco Unified Communications Manager for the IX System](#) document.
- Step 4** Open a browser on a computer that is connected to your network.
- Step 5** In the URL field, type the IP address that you obtained in [Step 2](#) and press **Enter**. The browser launches Cisco TelePresence System Administration.

**Tip**

If you did not make a note of the IP address and it no longer appears on the display, tap the number that displays on the top left corner of the Touch 10 controller, then tap **System Info**.

**Step 6** Log in to the system by entering the following information:

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

## Configuring an IX5000 or IX5200 System With a Static Network Address

Use the following procedure to assign the static address to the system.



**Note** If you need to set a domain name, the option to set a domain name with a static address is not available in the IX administration GUI. Instead, use the **set network IP static** CLI command as shown in [Step 4](#).

Alternatively, if your system uses DHCP, you can use Mixed mode. This mode allows you to specify an IP address, but uses DHCP to assign the remainder of the network settings. To select Mixed mode, click the **Mixed** button in the DHCP area.

**Step 1** Disconnect the Ethernet cable from the Touch 10 that sits on the table.

**Step 2** Connect a DHCP-enabled PC to the Ethernet cable.

**Step 3** Find the session IP address for your PC.



**Tip** If your PC is Windows-based, find the session IP address by clicking typing **cmd** in the Search box (or clicking **Start > Run** and typing **cmd**) to open a terminal window, and then typing **ipconfig**.

**Step 4** Set the network address using either CLI commands or the IX5000 administration GUI using one of the following methods:

**To set the address using CLI commands:**

- a. Using a Secure Shell (SSH) client, open a CLI session using the IP address **169.254.1.1**. The default username/password is **admin/cisco**.
- b. Enter the following command to configure a static network IP address:

```
set network IP static ip-address ip-subnet ip-gateway  
[dns-address1][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)

**To set the address using the IX5000 administration GUI:**

- a. Using a supported web browser, log in to the Cisco TelePresence system GUI by entering the IP address **169.254.1.1**.
- b. Enter the username and password when you are prompted to do so. By default, the username is **admin** and the password is **cisco**.
- c. Click **Configuration**.
- d. In the DHCP area, click **Static**.
- e. Enter a static IP address, subnet mask, IP gateway, DNS server(s), and the network domain name.
- f. Click **Apply**.

Your system saves the changes and restarts.

**CLI Example**

The following example gives the Cisco TelePresence system 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...
```

## Requirements for Auxiliary Displays

- [Qualified Cisco Auxiliary Displays, page 11](#)
- [Reboot Required After First-Time Setup For Systems with Auxiliary Displays, page 12](#)

## Qualified Cisco Auxiliary Displays

The following displays are qualified for use with Cisco TelePresence System running IX software:

- 42-inch display, part number CTS-5K-DISP42 (Spare is CTS-5K-DISP42=)

The release notes previously reported that the 42-inch display, part number CTS-MON-42-WW is a qualified Cisco display. This part number is not a qualified Cisco display for the IX system.

- 55-inch display, part number CTS-MON-55-WW

**Note**

HDMI-to-HDMI cables are not supported for display connections to the IX codec. You must use the HDMI-to-DVI connector for the displays (DVI on the display side). Some versions of the 55-inch display do not include a DVI input; use the included HDMI-to-DVI adapter to connect cables to the HDMI input on the display.

Before use, turn off all on-screen display (OSD) capability for the displays. This prevents the display from showing messages after you stop sharing a presentation. To turn off OSD, complete the following steps using the remote control that comes with the system, or use the joystick control on the back of the display:

- Step 1** Turn the display on.

- Step 2** Press **MENU** on the remote, or press the center of the joystick and move the joystick to select the menu option (the choice on the left), to bring up the menu for the display.
- Step 3** Using the up and down arrows, navigate to System in the menu panel.
- Step 4** Press **Enter** if using a remote, or press the center of the joystick if using the joystick on the display, to select the **System** choice.
- Step 5** Using the up and down arrows, navigate to **General** and press either **Enter** on the remote, or the center of the joystick on the display.
- Step 6** This choice does not appear initially. Scroll down to see it.
- Step 7** Navigate to OSD Display and press **Enter** or the center of the joystick.
- Step 8** Set all three OSD choices (Source OSD, No Signal OSD, and MDC OSD) to **Off** (the default is **On**) to disable OSD messages.
- Step 9** Press **EXIT** on the remote, or move the joystick to the previous menu choices, until the menu no longer displays.

## Reboot Required After First-Time Setup For Systems with Auxiliary Displays

If your IX system uses auxiliary displays, you must reboot the system after you complete first-time setup for the displays to be detected. After reboot, you can rerun First-Time Setup just to verify the auxiliary display configuration. After the display setup, you can exit First-Time Setup without going through the entire process again.

If you add an extra auxiliary display, you must run First-Time Setup again. If you unplug or plug a display cable, or power cycle any auxiliary display, you must reboot the system for the display to be detected.

## Requirements for Whiteboards and Whiteboard Microphones

The IX system supports whiteboard projection. In addition, it supports a microphone to be placed in front of the whiteboard, so that your voice can be heard by conference participants while you use the whiteboard.

The following sections provide you with the requirements for whiteboard and whiteboard microphone placement.

### Rules for Whiteboards

The whiteboard must have an aspect ratio of 16:9.



**Tip**

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A 3x5-foot whiteboard has a ratio of 15:9, which closely approximates the correct ratio.

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If your whiteboard is not at this ratio, you can adjust the red targets inside the perimeter of the whiteboard until the ratio is correct.

**Figure 3** Framing the Whiteboard for Correct Ratio

Place targets inside the whiteboard to change ratio to 16:9



- There are no minimum or maximum dimensions, but the whiteboard must fit entirely into the field of view of one of the three cameras. The projected area can overlap between two cameras, but it must fit entirely into one camera's view.
  - If you want to place the whiteboard on the wall prior to the system being installed, you can calculate the angle of view for each camera and place the whiteboard accordingly. Each camera has a 44-degree angle of view (plus or minus 2 degrees). The cameras overlap 11 degrees (plus or minus 2 degrees). These angles are shown in [Figure 4](#).
  - It is more difficult to plan for the height of a whiteboard, because of meeting participants or physical obstructions blocking the view. A whiteboard can be placed below the height of the table, as long as it is within the field of view of the camera.
- The whiteboard can be placed on the back wall, or the side wall. The software de-warps the whiteboard and displays it correctly, regardless of placement.

[Figure 4](#) illustrates correct and incorrect whiteboard placement. The first two whiteboards fit into the viewing area of the right camera. One is placed on the side wall, and one is placed on the rear wall. Either placement is acceptable.

The third whiteboard overlaps the area of view for the center and left camera, which is acceptable, but does not fit into either camera's full area of view, which is unacceptable.

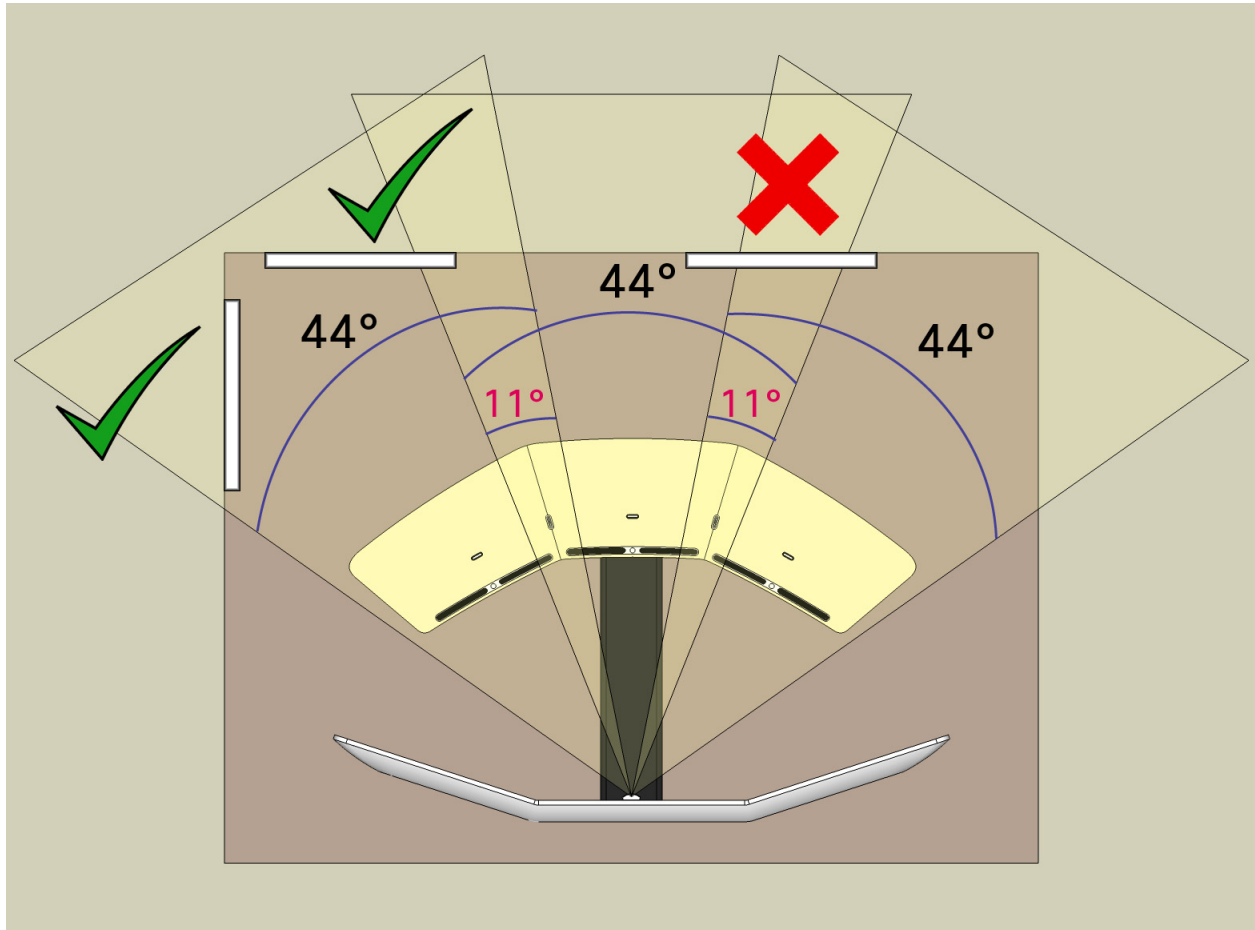


**Note**

[Figure 4](#) shows two whiteboards, but only one whiteboard per system can be set up and used with the whiteboard camera.

- Good lighting improves the whiteboard image; poorly lit whiteboard areas can look grainy when shared in a conference.

**Figure 4** Examples of Correct and Incorrect Whiteboard Placement



## Troubleshooting Whiteboard Setup Issues

If you encounter any problems with the whiteboard setup, check the following possible causes:

- There is not enough contrast between the targets and the viewable area in the camera, due to poor lighting in the whiteboard area. Ideally, the lux level in the whiteboard area should be the same level as the rest of the room. If the whiteboard is placed in a dark corner of the room, not only can whiteboard setup fail, but the whiteboard can look dark and grainy when it is shared, even if whiteboard setup passes.

If you cannot fix the lighting, you can light the whiteboard area temporarily with an external lighting source until first-time setup passes. However, note that a poorly lit whiteboard area looks poorly lit when it is shared.

- Something in the viewable camera area (for example, red ink on the whiteboard) is causing detection issues between the whiteboard targets, which are red in color, and the whiteboard.

This problem is unlikely because to interfere with camera setup, the source of the interference would have to be both red and rectangular in shape.

## Performing First-Time Setup

To set up your system for the first time, complete the following steps.

**Step 1** Log in to the IX5000 administration GUI using the following syntax:

```
http://<ip-address>
```

Where

*ip-address* is the IP address you noted when the system was booting (see [Figure 2](#) for an example).



**Tip**

If you did not make a note of the IP address and it no longer appears on the display, tap the number that displays on the top left corner of the Touch 10 controller, then tap **System Info**.

**Step 2** Click **First-Time Setup** from the menu on the left.

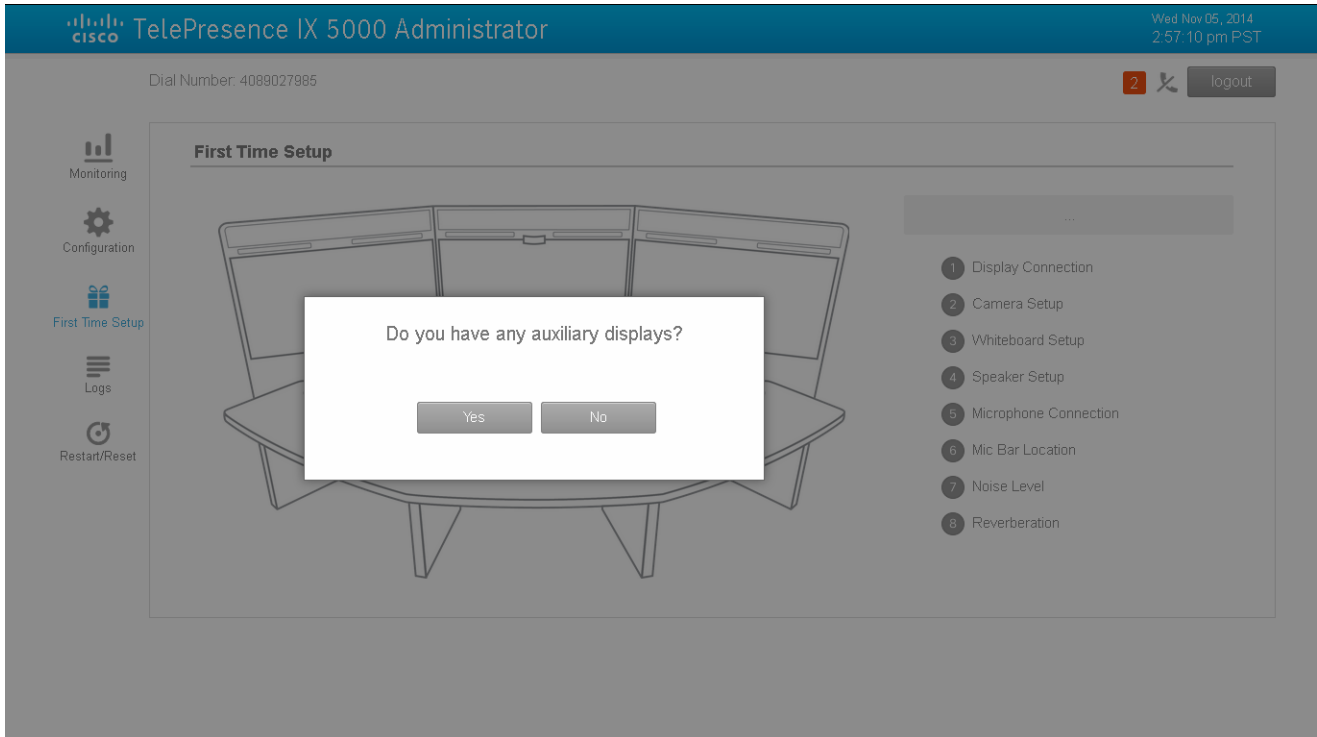
**Step 3** Click **Start Setup**.

The screenshot shows the Cisco TelePresence IX 5000 Administrator GUI. At the top, there is a blue header with the Cisco logo and the text "TelePresence IX 5000 Administrator". On the right side of the header, it shows the date and time: "Wed Nov 05, 2014 2:56:32 pm PST". Below the header, there is a "Dial Number: 4089027985" and a "logout" button. The main content area is titled "First Time Setup" and features a large diagram of the system. To the right of the diagram is a green "Start Setup" button and a list of setup steps:

- 1 Display Connection
- 2 Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

On the left side of the main content area, there is a vertical menu with icons for Monitoring, Configuration, First Time Setup (highlighted), Logs, and Restart/Reset.

- Step 4** Perform initial setup of the main and auxiliary displays (if present) by completing the following steps:
- a. If you have auxiliary displays in addition to the three main displays, click **Yes**; if not, click **No** and continue to Step c.



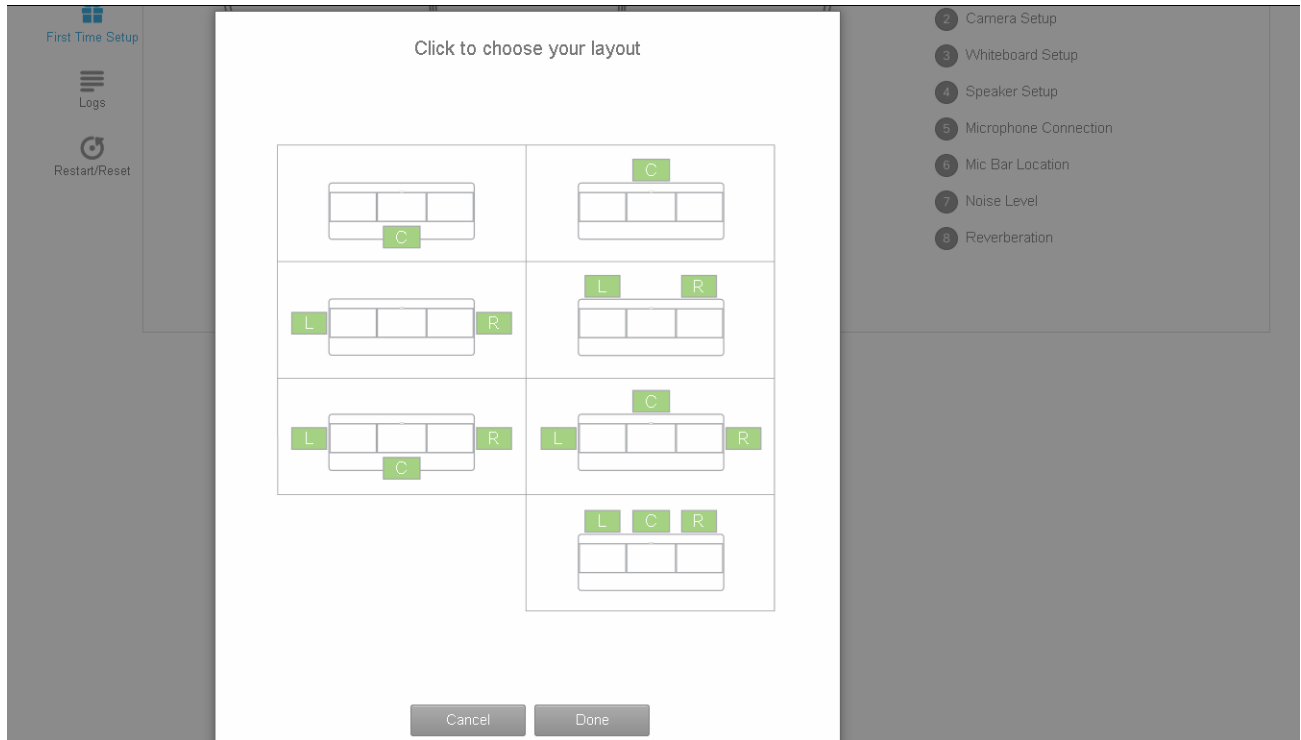


- b. Click the correct auxiliary display layout, then click **Done**.



**Tip**

If you clicked **Yes** in error and your system does not have auxiliary displays, click **Cancel** and continue to the next step.



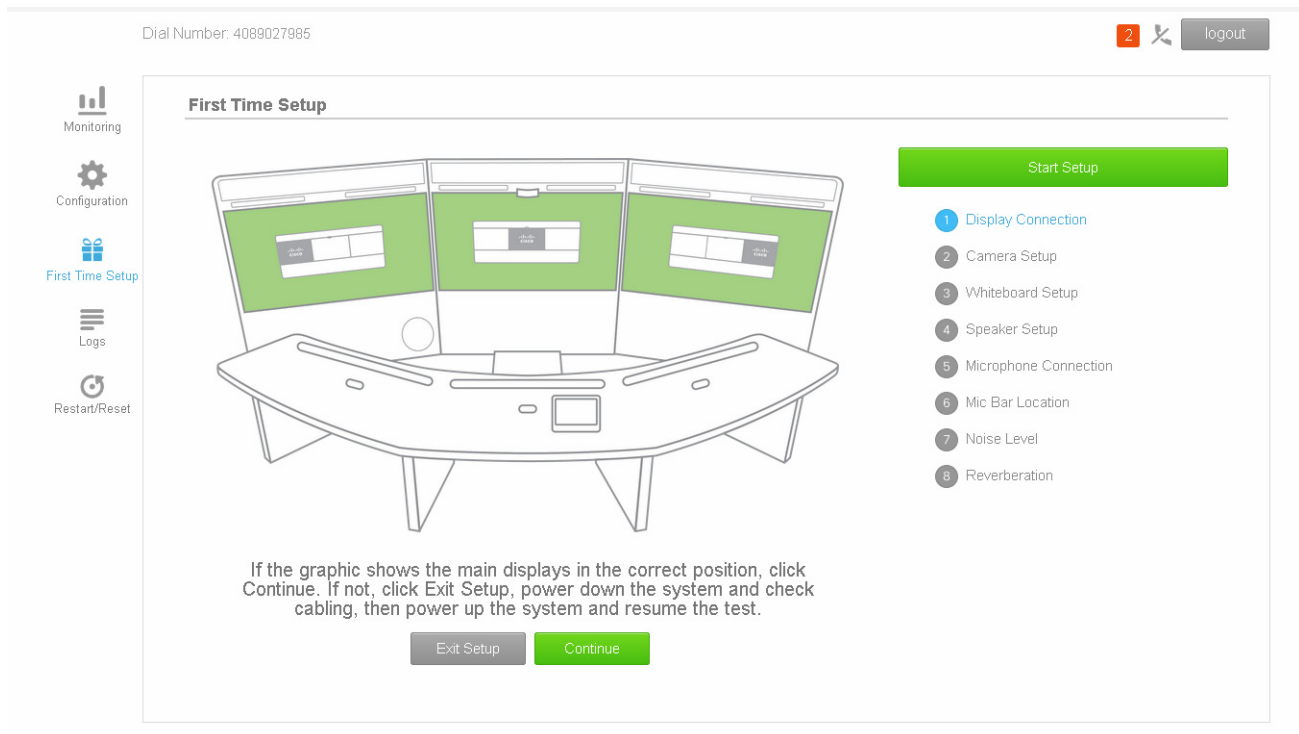
- c. If the graphic shows the correct position of the displays, click **Continue**. If not, click **Exit Setup**, power down your system, and check the cabling for your system.

Make sure that any auxiliary displays are correctly cabled as follows:

- If a single auxiliary display is present, connect it to the H5 port.
- If two auxiliary displays are present, connect the left display to the H4 port and the right display to the H6 port. The H5 port should remain unused.
- If three auxiliary displays are present, connect the left display to the H4 port, the center display to the H5 port, and the right display to the H6 port.

For more information, see the “Cable Routing Diagrams” section in the [Cisco TelePresence IX5000 and IX5200 Installation Guide](#).

Hot swapping of cables is not supported. Be sure to boot or reboot your system after you make any cabling changes.



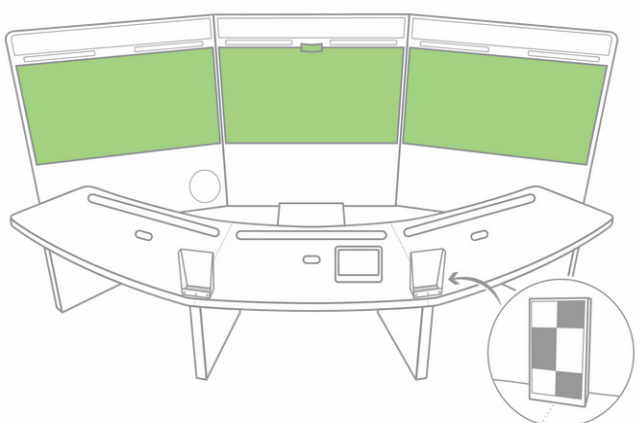
- Step 5** Perform camera alignment for your system. If you have a two-table system, proceed to step 5d.
- a. Place the camera targets (included with the system) so that the line on the back of the target is flush with the seams between the center and side tabletops.
  - b. Be sure that the rear edge of the target is flush with the rear edge of the table.
  - c. Be sure that the tabletop is clear, especially the rear edge, then click **Continue** to begin the test. Proceed to step 5e.

TelePresence IX 5000 Administrator Wed Nov 05, 2014 2:58:34 pm PST

Dial Number: 4089027985 2 ✂ logout

- Monitoring
- Configuration
- First Time Setup**
- Logs
- Restart/Reset

### First Time Setup



Start Setup

- ✔ Display Connection
- 2 Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

Place targets so that they align with both table seams and the rear edge of the table. Make sure the table top is clear. Click Continue.

Exit Setup
Skip
Continue


d. If you have 14- or 18-seat seating, you see the following prompt:

TelePresence IX 5000 Administrator Fri Sep 25, 2015 11:22:47 am PST

Dial Number: 12000 3 ✂ logout

- Monitoring
- Configuration
- First Time Setup**
- Hardware
- Logs
- Restart/Reset

### First Time Setup



Running Setup Tests Now...

- ✔ Display Connection
- 2 Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Reverberation
- 8 Noise Level
- 9 Whiteboard Mic Calibration

You have a two table system. How many targets will you use for Camera Setup?

2 targets
4 targets

Click **2 targets** or **4 targets**.

- If you select 2 targets, place the camera targets on the front table in the same positions as shown in step 5c. above.

- If you select 4 targets, place the camera targets on the front and rear tables in the locations shown below.

The line on the back of the target should be flush with the seams between the center and side tabletops. Be sure that the tabletop is clear, especially the rear edge, then click **Continue** to begin the test.

- e. If the test fails, make sure that the targets are placed correctly, and that the table edges are free of any obstructions, and rerun first-time setup from the beginning.

If the IX system is installed with a Walnut table and the camera alignment continues to fail, there may be a contrast conflict between the table edge and table pattern. To complete the camera alignment in this case, perform the following steps:

- Place a black strip of semi-adhesive tape along the entire table edge as shown in the figure.



One inch of tape must be exposed along the table to develop a distinct edge for camera detection. The recommended tape is 3M Black colored plastic tape /MFG Part # MMM 19-RD.

- Perform the camera calibration again.
- Remove the tape from the table edge and clean any residue remaining from the tape.

f. When the test is complete, click **Continue** to validate the setup.

The screenshot shows the 'First Time Setup' interface for the Cisco TelePresence IX 5000 Administrator. At the top, the Cisco logo and 'TelePresence IX 5000 Administrator' are displayed on the left, and the date 'Wed Nov 05, 2014' and time '2:59:56 pm PST' are on the right. Below the header, the dial number '4089027985' is shown on the left, and a 'logout' button is on the right. A sidebar on the left contains navigation icons for Monitoring, Configuration, First Time Setup (highlighted), Logs, and Restart/Reset. The main content area is titled 'First Time Setup' and features a diagram of a telepresence room with three displays and a camera. A checklist on the right lists the following steps: 1. Display Connection (checked), 2. Camera Setup (highlighted), 3. Whiteboard Setup, 4. Speaker Setup, 5. Microphone Connection, 6. Mic Bar Location, 7. Noise Level, and 8. Reverberation. A green 'Start Setup' button is at the top right of the checklist. Below the diagram, a message states: 'Camera alignment test complete. Click Continue to validate setup. Move between the displays while seated to ensure images line up correctly.' At the bottom of the setup area, there are 'Exit Setup' and 'Continue' buttons.

Remain seated, and move between the cameras. Make sure that objects between the displays are not shortened or elongated.



**Tip**

Move your arms between the left and center, and center and right displays, and make sure that your arm is displayed at the correct length.

- g. If you are satisfied with the camera setup, click **Continue** to see the stand-up view.

The screenshot displays the Cisco TelePresence IX 5000 Administrator interface. At the top, the title bar reads 'Cisco TelePresence IX 5000 Administrator' with a dial number '4089027985' and a timestamp 'Wed Nov 05, 2014 3:00:19 pm PST'. A 'logout' button is visible in the top right. The left sidebar contains navigation icons for Monitoring, Configuration, First Time Setup (selected), Logs, and Restart/Reset. The main content area is titled 'First Time Setup' and shows a diagram of a conference table with three cameras. A circular inset shows a camera's view of a checkered target. Below the diagram, text instructs the user to stand up behind the table and click Continue to preview the standing view. A 'Start Setup' button is at the top right, and a list of setup steps is on the right: 1. Display Connection (checked), 2. Camera Setup (highlighted), 3. Whiteboard Setup, 4. Speaker Setup, 5. Microphone Connection, 6. Mic Bar Location, 7. Noise Level, 8. Reverberation. At the bottom of the main area are 'Exit Setup' and 'Continue' buttons.

Stand up and move between the cameras. If the camera alignment did not perform correctly, click **Exit Setup** and rerun the first-time setup from the beginning.



**Note**

Stand-up view was designed for a maximum participant height of 6 feet (183 cm). Taller participants might not fit fully in the screen. This condition is normal and does not invalidate the test. Move backwards to fit fully into the camera view.

- h. If both the sitting and standing view are acceptable, click **Continue** to continue to the camera white balance calibration.

TelePresence IX 5000 Administrator

Wed Nov 05, 2014 3:00:42 pm PST

Dial Number: 4089027985

logout

**First Time Setup**

Start Setup

- ✓ Display Connection
- 2 Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

If the two views were acceptable, click Continue.  
If not, adjust the targets and run the test again.

Exit Setup Rerun Alignment Continue

- i. When white balance is complete, click **Continue** to continue to the whiteboard setup.

Dial Number: 4089027985

logout

**First Time Setup**

Start Setup

- ✓ Display Connection
- 2 Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

White balance completed. Click Continue.

Exit Setup Continue



**Step 6** If your system has a whiteboard, set up the whiteboard for viewing by completing the following steps.

Whiteboards must have the following characteristics:

- The whiteboard must have a width-to-height ratio of 16:9. Other width-to-height ratios cause the whiteboard to be stretched or compressed when it is reproduced.
- The whiteboard must be entirely in the viewable area of a single camera. See [Figure 4 on page 14](#) for examples.
- a. Place the four red magnetic targets (included with the system) on the corners of the whiteboard target. If your whiteboard ratio is not 16:9, move the targets until the ratio is 16:9.



**Tip**

If your whiteboard is not magnetic, place tape on the back of the targets.

Cisco TelePresence IX 5000 Administrator
Wed Nov 05, 2014  
3:01:35 pm PST

Dial Number: 4089027985 2 ✂️ logout

- Monitoring
- Configuration
- First Time Setup
- Logs
- Restart/Reset

### First Time Setup

Place the 4 red targets in the corners of the whiteboard you wish to set up. The entire whiteboard must be visible within one screen.

Whiteboard should have a 16:9 aspect ratio for optimum results.

Once the targets are positioned correctly, click Capture button.

Skip
Capture

Start Setup

- ✔ Display Connection
- ✔ Camera Setup
- 3 Whiteboard Setup
- 4 Speaker Setup
- 5 Microphone Connection
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

b. Click **Capture**.


The screenshot shows the 'First Time Setup' screen in the Cisco TelePresence IX 5000 Administrator. The top navigation bar includes the Cisco logo, the title 'TelePresence IX 5000 Administrator', and the date/time 'Wed Nov 05, 2014 3:02:10 pm PST'. Below the navigation bar, the 'Dial Number: 4089027985' is displayed, along with a 'logout' button. The main content area is titled 'First Time Setup' and features a diagram of a telepresence room. A green rectangle highlights the captured image area of the whiteboard. To the right of the diagram is a 'Start Setup' button and a progress list: 1. Display Connection (checked), 2. Camera Setup (checked), 3. Whiteboard Setup (active), 4. Speaker Setup, 5. Microphone Connection, 6. Mic Bar Location, 7. Noise Level, 8. Reverberation. Below the diagram, there is a 'Re-Capture' button and a 'Continue' button.

- c. If the whiteboard is properly selected, and if the whiteboard is completely in the view of a single camera, click **Select Whiteboard**. If the image is not properly selected, move the targets and click **Re-Capture**.



**Note**

If the whiteboard setup fails, increase the amount of lighting to the whiteboard until the red targets are recognized by the system. For more information about whiteboard lighting requirements, see [“Troubleshooting Whiteboard Setup Issues”](#) section on page 14.


**TelePresence IX 5000 Administrator**
Wed Nov 05, 2014  
3:01:53 pm PST

Dial Number: 4089027985 2 ✂ logout

Monitoring


Configuration

**First Time Setup**

Logs

Restart/Reset

### First Time Setup



Place the 4 red targets in the corners of the whiteboard you wish to set up. The entire whiteboard must be visible within one screen.

Whiteboard should have a 16:9 aspect ratio for optimum results.


Start Setup

- Display Connection
- Camera Setup
- Whiteboard Setup**
- Speaker Setup
- Microphone Connection
- Mic Bar Location
- Noise Level
- Reverberation

Select Whiteboard

Select Whiteboard

d. Click **Continue** to continue to the speaker setup.


**TelePresence IX 5000 Administrator**
Wed Nov 05, 2014  
3:02:47 pm PST

Dial Number: 4089027985 2 ✂ logout

Monitoring

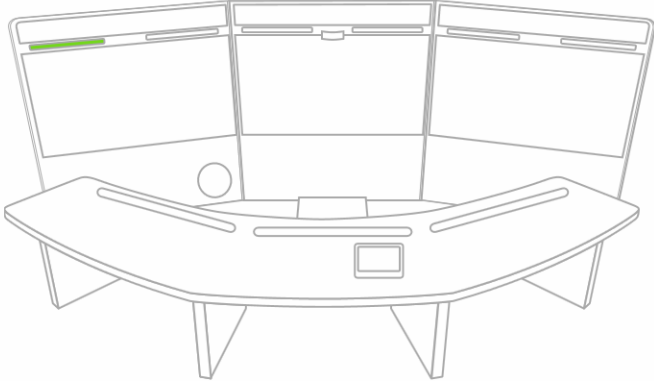
Configuration

**First Time Setup**

Logs

Restart/Reset

### First Time Setup



Start Setup

- Display Connection
- Camera Setup
- Whiteboard Setup
- Speaker Setup**
- Microphone Connection
- Mic Bar Location
- Noise Level
- Reverberation

If you hear output from all of the speakers at the correct time, test passes. Click Continue, otherwise check cabling while the test is still running.

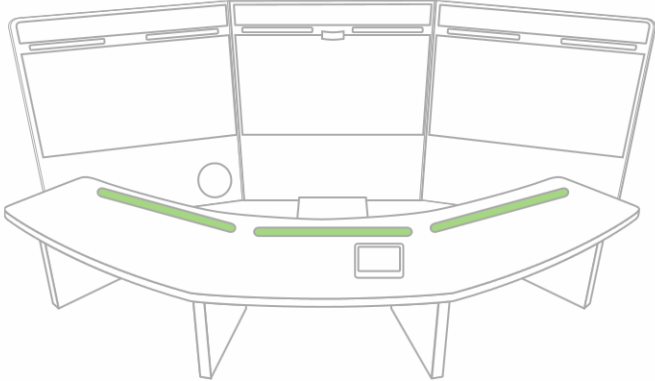
Exit Setup
Continue

**Step 7** Listen while the system plays sound from all system speakers. If you hear the sound correctly, click **Continue** to move to the microphone connection test. If a speaker does not play sound, click **Exit Setup**, power off the system, check the cabling for the speakers, power the system back up, and run first-time setup again.

TelePresence IX 5000 Administrator Wed Nov 05, 2014  
3:03:35 pm PST

Dial Number: 4089027985 2 logout

### First Time Setup



**Start Setup**

- Display Connection
- Camera Setup
- Whiteboard Setup
- Speaker Setup
- 5 Microphone Connection**
- 6 Mic Bar Location
- 7 Noise Level
- 8 Reverberation

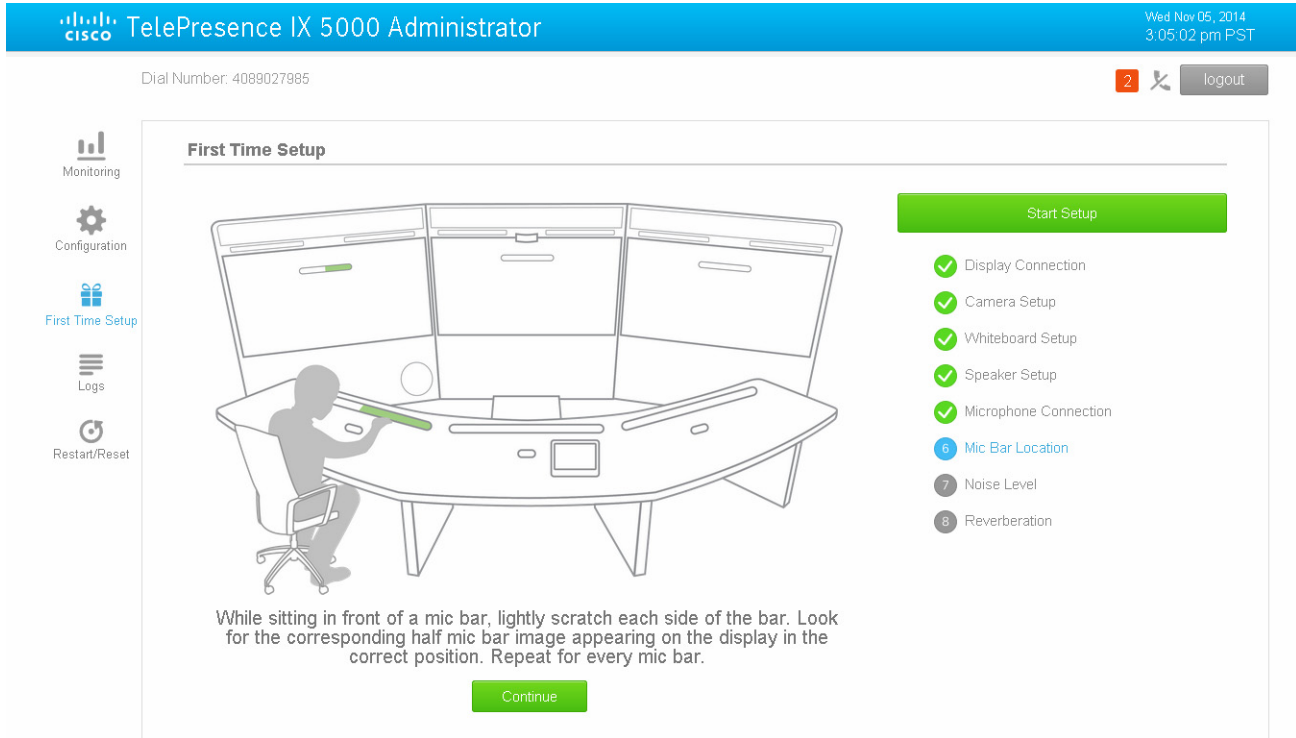
This test checks the cabling for the system microphones. Make sure that the table is clear. Click Continue to start test, and remain silent for the duration of the test.

**Step 8** Make sure that the table is clear, make sure that there is no noise in the room, and click **Continue**.

The screenshot shows the Cisco TelePresence IX 5000 Administrator interface. At the top, the title bar reads "Cisco TelePresence IX 5000 Administrator" with the date and time "Wed Nov 05, 2014 3:04:27 pm PST". Below the title bar, the dial number "4089027985" is displayed. On the left side, there is a navigation menu with icons for Monitoring, Configuration, First Time Setup (highlighted), Logs, and Restart/Reset. The main content area is titled "First Time Setup" and features a diagram of a conference table with green bars representing microphone positions. To the right of the diagram is a "Start Setup" button and a checklist of setup steps: Display Connection, Camera Setup, Whiteboard Setup, Speaker Setup, Microphone Connection (highlighted), Mic Bar Location, Noise Level, and Reverberation. Below the diagram, a message states "PASSED: The microphone test is complete, click Continue." and there are "Exit Setup" and "Continue" buttons.

**Step 9** When the test passes, click **Continue**. If the test finds any problems, click **Exit Setup** and fix the problem, then return to first-time setup.

- Step 10** Continue to the microphone connector test. Sit in front of a mic bar. Speak into one side of a mic bar (there are two segments to a single mic bar), or lightly scratch one side of a mic bar with your fingernail. Icons on the screen light up and indicate the mic bar that is being activated.



- Step 11** Click **Continue**. Repeat this test for every mic bar segment (six in total for the first row, 12 in total for the second row). If you detect any problems, click Exit Setup and check the microphone cabling between the mic bar, TDM, and Host CPU codec.



**Tip**

If the problem affects all mic bars, check the cabling between the TDM and the codec (the TDM is located in the first and, if applicable, second row cable management panels). If the problem is with a single mic bar, check the cabling between the mic bar and the TDM.



**Note**

The Audio components are not hot pluggable. If you need to change working connections, you need to reboot the IX system and run the first-time setup again.

**Step 12** Click **Continue** to continue to the reverberation test.

**First Time Setup**

Monitoring  
Configuration  
**First Time Setup**  
Logs  
Restart/Reset

Dial Number: 4089027985

Wed Nov 05, 2014  
3:09:38 pm PST

Start Setup

- ✓ Display Connection
- ✓ Camera Setup
- ✓ Whiteboard Setup
- ✓ Speaker Setup
- ✓ Microphone Connection
- ✓ Mic Bar Location
- ✓ Noise Level
- 8 Reverberation

This test checks the room reverberation levels. Make sure that the table is clear. Click Continue to start test, and remain silent for the duration of the test.

Exit Setup Continue

**Step 13** Click **Continue** to run the reverberation test. This test typically takes a few minutes to complete.

**First Time Setup**

Monitoring  
Configuration  
**First Time Setup**  
Logs  
Restart/Reset

Dial Number: 4089027985

Wed Nov 05, 2014  
3:10:22 pm PST

Start Setup

- ✓ Display Connection
- ✓ Camera Setup
- ✓ Whiteboard Setup
- ✓ Speaker Setup
- ✓ Microphone Connection
- ✓ Mic Bar Location
- ✓ Noise Level
- 8 Reverberation

Reverberation statistics captured. You can view the results by using the Logs tab and clicking Reports.

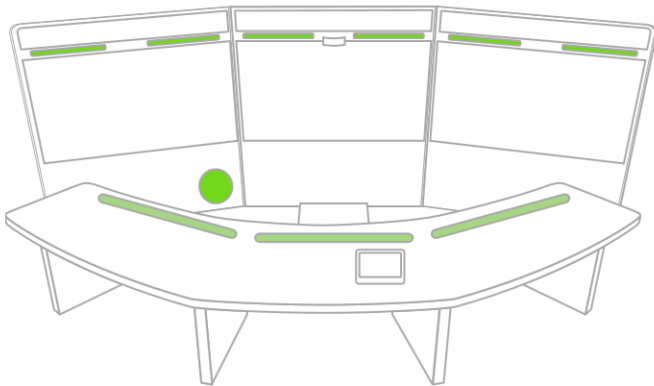
Setup Complete

**Step 14** Click **Continue** to move to the noise level test.

Cisco TelePresence IX 5000 Administrator Thu Oct 30, 2014  
3:38:20 pm PST

Dial Number: 80001016 3 logout

### First Time Setup



**Start Setup**

- Display Connection
- Camera Setup
- Whiteboard Setup
- Speaker Setup
- Microphone Connection
- Mic Bar Location
- Noise Level**
- Reverberation

This test checks the room noise levels. Make sure that the table is clear.  
Click Continue to start test, and remain silent for the duration of the test.



**Step 15** Make sure that the room is quiet and click **Continue** to start the noise level test. Remain quiet during the test.



**Note** This test takes up to five minutes to complete.

**Step 16** When the noise level test completes, click **Continue**.



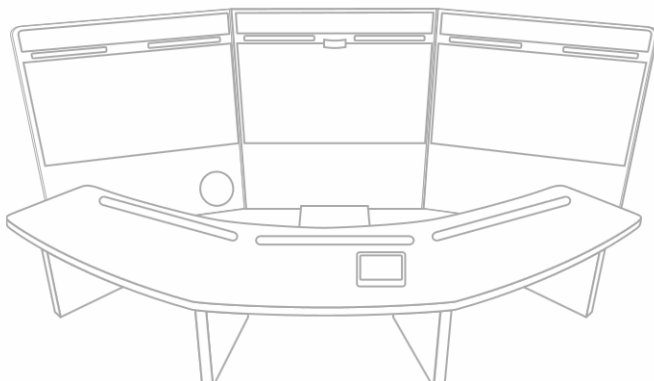
**Tip** After you run the noise level and reverberation tests, download and view the results by completing the steps in the [“Retrieving and Reading the Results of the Noise Level and Reverberation Tests”](#) section on [page 39](#).

Cisco TelePresence IX 5000 Administrator
Wed Nov 05, 2014  
3:09:18 pm PST

Dial Number: 4089027985 2 ✖ logout

- Monitoring
- Configuration
- First Time Setup
- Logs
- Restart/Reset

### First Time Setup



Noise level statistics captured. You can view the results by using the Logs tab and clicking Reports. Click Continue.

Exit Setup
Continue

Start Setup

- ✔ Display Connection
- ✔ Camera Setup
- ✔ Whiteboard Setup
- ✔ Speaker Setup
- ✔ Microphone Connection
- ✔ Mic Bar Location
- 7 Noise Level
- 8 Reverberation

**Step 17** Set up the whiteboard microphone (if present) by completing the following steps:



**Note** For more information about whiteboard microphones, see the [“Requirements for the Whiteboard Microphone”](#) section on page 36

- a. Speak normally in front of the mic bar closest to the whiteboard.

The screenshot shows the Cisco TelePresence IX 5000 Administrator web interface. At the top, the header displays 'Cisco TelePresence IX 5000 Administrator' and the date/time 'Tue Aug 12, 2014 5:05:26 pm PST'. Below the header, the dial number '81122750' is shown, along with a language dropdown set to 'English' and a 'logout' button.

The main content area is titled 'Hardware' and features a diagram of a conference room with a whiteboard and a person sitting at a table with a microphone bar. Below the diagram, the text reads: 'Whiteboard mic detected. Next, sit in front of the table mic bar nearest the whiteboard mic. Click **Capture Reference Level** and say "1, 2, 3, 4, 5" in a normal voice.' A green button labeled 'Capture Reference Level' is positioned below this text.

On the right side of the page, there is a 'Tests' section with a dropdown arrow. The list of tests includes: Display Connection, Camera Alignment, Whiteboard Set Up, Speaker Set Up, Microphone Connection, Mic Bar Location, Mic Bar Orientation, Noise Level, Reverberation, and Whiteboard Mic Calibration. A 'Diagnostics' link is also visible at the bottom of the tests list.

The left sidebar contains navigation icons for Monitoring, Configuration, First Time Set up, Hardware, Logs, and Restart/Reset.

- b. Walk to the whiteboard and speak normally in front of the whiteboard.

Two sound bars appear on the display.

- c. Adjust the gain dial knob on the preamp until the two sound bars are the same level.

- Step 18** When the test completes, verify that all of the appropriate FTS tests show a green check mark. All nine tests should show a check mark if your system includes a whiteboard. If your system does not include a whiteboard, all tests should show a check mark, except Whiteboard Setup and Whiteboard Mic Calibration.
- Step 19** If your system includes auxiliary displays, you must reboot the system for the displays to be detected. For more information, see [“Reboot Required After First-Time Setup For Systems with Auxiliary Displays”](#) section on page 12.
- 

## Requirements for the Whiteboard Microphone

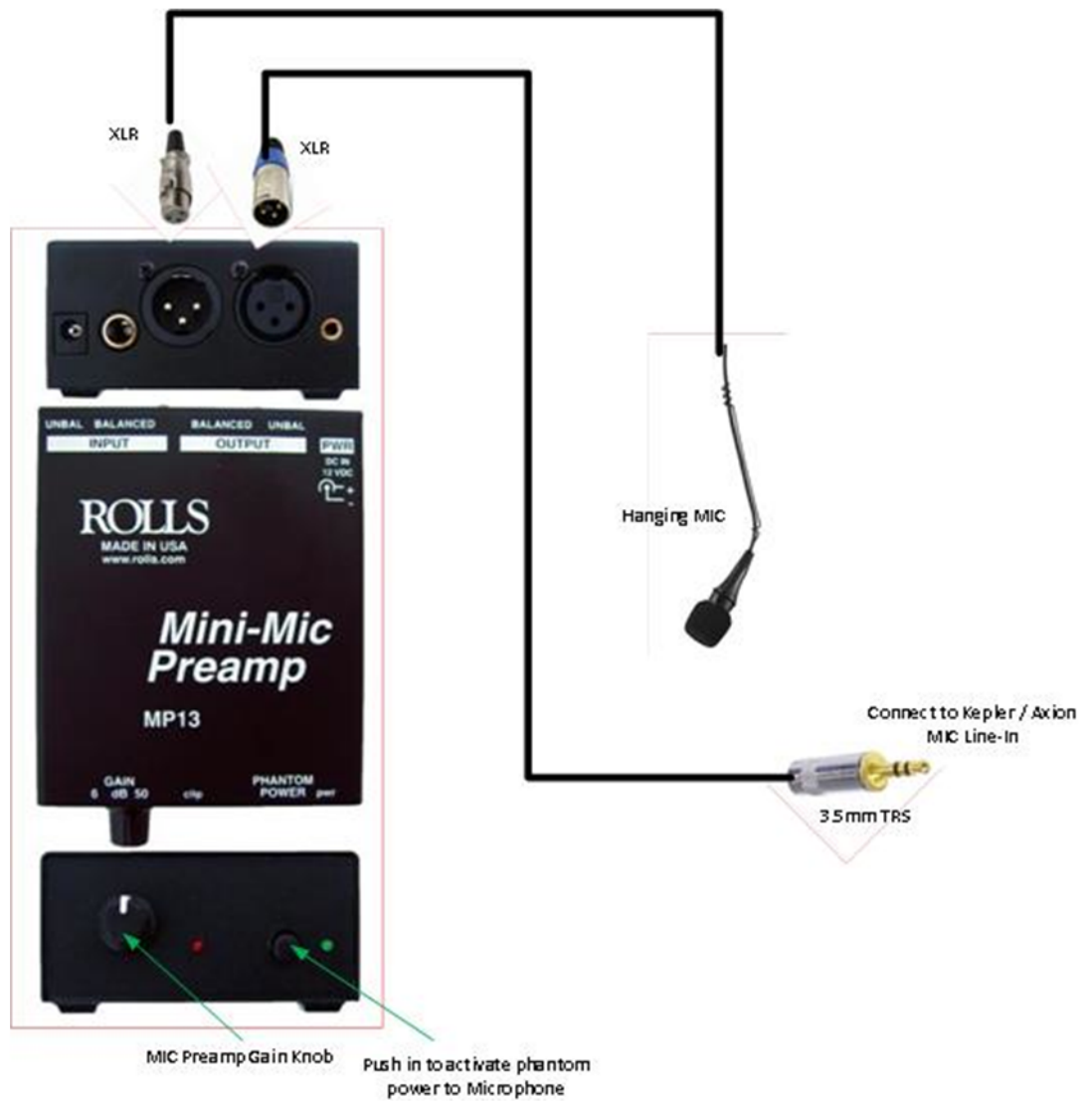
The whiteboard microphone is used when a person at the whiteboard is speaking. It allows participants to be heard while they are presenting.

The whiteboard microphone must fit the following characteristics:

- The microphone must be omnidirectional (wireless or corded) and have a minimum frequency response of 100Hz to 10KHz (+/- 3dB).
- The microphone must include an adjustable preamp with a gain knob and power supply (maximum input voltage +3dBV).
- The output line must use a 3.5mm TRS connector to connect to the Host CPU codec.

Figure 5 illustrates a sample whiteboard microphone.

**Figure 5** Whiteboard Microphone Example



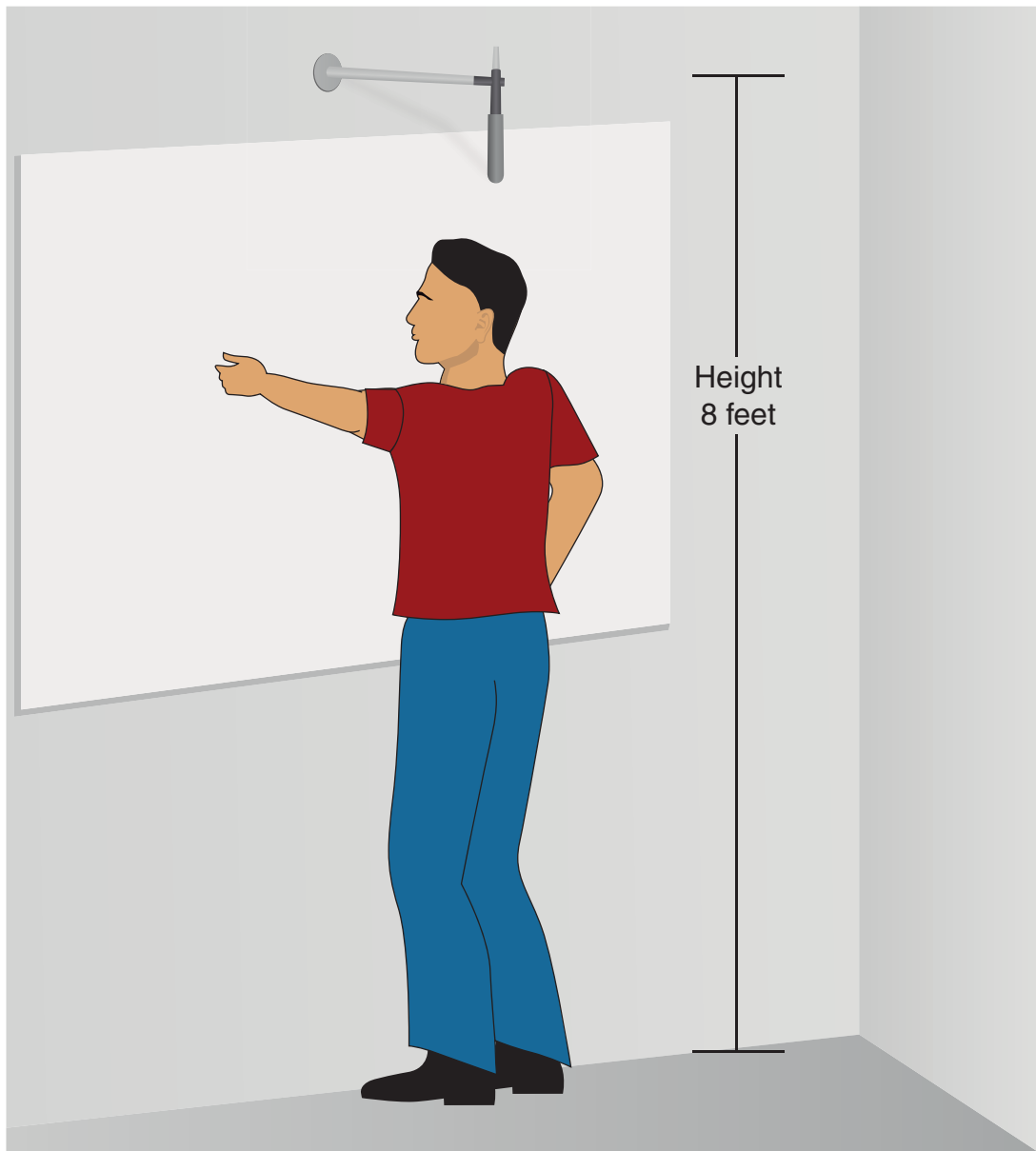
- The whiteboard microphone should be approximately 8 feet (2.44 meters) from the floor, and approximately 18 inches (46 cm) from the whiteboard.



**Tip**

Wired or wireless microphones are permitted. A boom is not required.

**Figure 6** *Whiteboard Microphone Placement Example*



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# Retrieving and Reading the Results of the Noise Level and Reverberation Tests

After you run the noise level and reverberation tests, you can retrieve the reports by navigating to **Logs > Reports** in the Administration GUI. You see a list of .html files whose filenames begin with Noise and RT60. Click **Download** to open and view the reports in an HTML browser.

**Figure 7** Reports Screen and RT60 and Noise Level HTML File Example.



Most of the information in the HTML files is self-explanatory. More descriptions of the fields follow:

- **MicBar column (for RT60 and Ambient Noise results):** The numbers in MicBar area 1, 2, and 3 refer to the left, center, and right microphone bars, respectively. If you have a two-row system, 4 to 9 refer to the second row mic bars, going from left to right.
- **0.0 result (RT60 reverberation test only):** If the RT60 measurement is 0.0, the result was out of range. This condition can be caused by a high level of noise in the room. Repeating the test should cause a valid result above 0.0 to appear. If, after rerunning the tests, the results are still 0.0, reverberation in the room is very high, which will adversely affect the audio quality of TelePresence calls. Remediation procedures, such as adding an acoustic panel in the room to reduce reverberation and room noise, might be required.

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