



Cisco TelePresence System TX9000 and TX9200 Assembly, Use & Care, and Field-Replaceable Unit Guide

May 20, 2015

Cisco Systems, Inc.
www.cisco.com

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

Text Part Number: OL-27038-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The following information is for FCC compliance of Class A devices: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

The following information is for FCC compliance of Class B devices: The equipment described in this manual generates and may radiate radio-frequency energy. If it is not installed in accordance with Cisco's installation instructions, it may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in part 15 of the FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

Modifying the equipment without Cisco's written authorization may result in the equipment no longer complying with FCC requirements for Class A or Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

You can determine whether your equipment is causing interference by turning it off. If the interference stops, it was probably caused by the Cisco equipment or one of its peripheral devices. If the equipment causes interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the equipment to one side or the other of the television or radio.
- Move the equipment farther away from the television or radio.
- Plug the equipment into an outlet that is on a different circuit from the television or radio. (That is, make certain the equipment and the television or radio are on circuits controlled by different circuit breakers or fuses.)

Modifications to this product not authorized by Cisco Systems, Inc. could void the FCC approval and negate your authority to operate the product.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

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

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Cisco TelePresence System TX9000 and TX9200 Assembly, Use & Care, and Field-Replaceable Unit Guide
© 2014 Cisco Systems, Inc. All rights reserved.

Preface xi

- Introduction **ii-xi**
- Obtaining Documentation, Obtaining Support, and Security Guidelines **ii-xi**
- Organization of This Manual **ii-xi**
- Explanation of Warning, Caution, Note, and Tip Icons Used in This Manual **ii-xiii**
- Conventions and Terminology **ii-xiv**
- Related Documentation **ii-xiv**

CHAPTER 1

- Overview, Required Tools, Preinstallation Checks, and List of Hardware Fasteners 1-1**
- Important Updates for the Cisco TelePresence Experience and Order Assurance Program **1-1**
- Differences Between the CTS-3010 and CTS-3210 Installation and the TX9000 and TX9200 Systems **1-2**
- Tools and Equipment List **1-2**
- Pre-Installation Checks **1-3**
 - Checking the Physical Condition of System Packaging **1-3**
 - Checking the Function of the 65-Inch Display Prior to Installation **1-3**
- Installation Overview **1-10**
 - Instructions for Systems That Use a Wall-Mounted Reflector Wall **1-10**
 - Instructions for Systems That Use a Free-Standing Reflector Wall **1-11**

CHAPTER 2

- Room Requirements for the TX9000 and TX9200 Systems 2-1**
- Process Updates to Ensure Room and Network Readiness Prior to Installation **2-1**
- Summary of Room Requirements for the TX9000 **2-1**
- Summary of Room Requirements For the TX9200 **2-2**
- Room Dimensions for the TX9000 and TX9200 **2-4**
 - Room Dimensions for the TX9000 **2-4**
 - Room Dimensions For the TX9200 **2-6**
- Lighting Considerations For the TX9000 and TX9200 **2-8**
 - Overhead Lighting Examples for Cisco TelePresence Rooms **2-8**
- Network Port Requirements For the TX9000 and TX9200 **2-10**
- Power Requirements For the TX9000 and TX9200 **2-11**
- Cabling and Room Considerations for Second Row Seating For the TX9200 **2-14**
 - Location of Electrical Outlets for Systems that Use a Wall-Mounted Reflector Wall **2-16**
- HVAC Considerations For the TX9000 and TX9200 **2-17**
 - HVAC Considerations for the TX9000 **2-17**
 - HVAC Considerations For the TX9200 **2-20**
- Acoustic Considerations For the TX9200 **2-21**
 - Asymmetrical Acoustic Wall Treatment **2-21**

Complete Acoustic Wall Treatment 2-22
 Auxiliary Display Considerations For the TX9200 2-23

CHAPTER 3 **Installing the Wall-Mounted Reflector Wall Structure 3-1**
 Installing the Reflector to the Wall 3-2

CHAPTER 4 **Installing And Performing Initial Leveling of the Main Display Structure 4-1**
 Installing and Leveling the Display Structure 4-2
 Installing Seismic Brackets (Optional), Part Number CTS-TX9K-SEISMIC= 4-15

CHAPTER 5 **Installing the Displays and Performing Final Leveling of the Main Display Structure 5-1**
 Required Display Preinstallation Check 5-1
 Assembly Note for Systems That Use a Free-Standing Light Reflector Wall 5-1
 Installing the Displays 5-1

CHAPTER 6 **Installing the Free-Standing Reflector Wall Structure 6-1**

CHAPTER 7 **Installing the Bezel Brackets and Vertical Bezels 7-1**
 Parts List 7-1

CHAPTER 8 **Assembling the Electronic Hardware, Facade Brackets, Camera Assembly, and Cable Runner 8-1**

CHAPTER 9 **Starting Installation of the First Row Table 9-1**
 Steps to Perform Prior to the Assembly 9-2
 Starting Installation of the First Row Table 9-3
 Where to Go Next 9-8

CHAPTER 10 **Connecting and Routing the Cables 10-1**
 Labeling the Cables 10-1
 Labeling the Display Frame and Cable Runner 10-3
 Connecting and Routing Cables and Continuing Assembly of the First Row Table 10-5
 Connecting and Routing Cables in the Main Display Assembly 10-14
 General Cable Routing Guidelines 10-15
 Connecting and Routing the Cables 10-15
 Wiring Diagrams for CTS TX9000 and TX9200 Systems 10-17
 Using the Correct DVI Port When Connecting the Display Cables 10-17
 Connecting the Audio Cable for Shared Presentations 10-18

Determining the Correct Cables to Use 10-18

Where to Go Next 10-23

CHAPTER 11

Completing Installation of the First Row Table 11-1

CHAPTER 12

Building the Second Row Table (TX9200 Systems Only) 12-1

Numbering Scheme for Table Legs 12-1

Assembling the Second Row Table 12-2

CHAPTER 13

Building the Second Row Table For a 14- and 10-Seat TX9200 System 13-1

Room Sizes and Cable Trench Diagrams 13-1

Differences in Conference Experience for 14- and 10-Seat TX9200 Systems 13-4

Overview of 18-, 14-, and 10- Seat System Installation 13-4

Assembling an 8-Seat Second Row For a 14-Seat TX9200 13-6

Assembling a 4-Seat Second Row For a 10-Seat TX9200 System 13-40

CHAPTER 14

Completing Installation of the Main Display Structure 14-1

Where to Go Next 14-47

CHAPTER 15

First-Time Setup 15-1

Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System 15-1

Powering on the System and Enabling the Cisco TelePresence Administration Software GUI 15-2

Configuring an Alternate TFTP Server (Optional) 15-5

Setting Up a TX9000 or TX9200 System That Uses a Static Network Address 15-5

Setting Up CTS Components 15-7

Setting Up the Displays 15-7

Setting Up the Cameras 15-9

Starting the Software Setup and Preparing the Cameras and Camera Targets 15-9

Adjusting the Zoom 15-12

Focusing the Camera 15-17

Attaching the Camera Hood Assembly, Top Bezel, and Service Panels and Aligning the Rear Panels 15-18

Setting Up the Speakers 15-23

Setting Up the Microphones 15-24

Testing for Room Reverberation and Noise Levels 15-25

Setting Up the Presentation Display 15-26

Troubleshooting the Presentation Display 15-27

Other Devices 15-28

CHAPTER 16

Use & Care Guide 16-1

- Maintaining the Tabletop 16-1
- Cleaning the Displays 16-1
- Cleaning the Camera Lens 16-1
- Cleaning the Display Screens 16-2

CHAPTER 17

Field-Replaceable Unit Guide 17-1

- List of Field-Replaceable Units and Ordering Information 17-2
- Region-and Country-Specific Power Cables 17-4
- Region-and Country-Specific Power and Ethernet Connectors 17-4
- Finding the Serial Number Location 17-6
- Replacing the Camera—Part Number CTS-TX9K-CAMCLSTR= 17-7
 - Required Tools 17-7
 - Removing and Replacing the Camera 17-7
- Resetting a Display 17-8
 - Required Tools 17-8
 - Resetting a Display 17-9
- Replacing the Left or Right Display—Part Number CTS-DISP-65-GEN4= 17-10
 - Required Tools 17-10
 - Replacing the Left or Right Display 17-10
- Replacing the Center Display—Part Number CTS-DISP-65-GEN4= 17-12
 - Required Tools 17-12
 - Replacing the Center Display 17-12
- Replacing a Codec—Part Number CTS-CODEC-PRI-G2R= or CTS-CODEC-PRI-RCH= (PRC) 17-15
 - Required Tools 17-15
 - Removing and Replacing the Codec 17-15
 - Upgrading CTS Software on a Secondary Codec 17-16
- Replacing the Light Control Unit—Part Number CTS-LCU-G2R= 17-18
 - Required Tools 17-18
 - Removing and Replacing the Light Control Unit 17-18
- Replacing the Audio/Video Extension Unit—Part Number CTS-LAEB-G2R= 17-19
 - Required Tools 17-19
 - Removing and Replacing the Audio/Video Extension Unit 17-19
- Replacing an LED Light Fixture—Part Number CTS-TX9000-LEDPK= 17-20
- Replacing a Speaker—Part Number CTS-TX9000-SPKR= 17-20
 - Required Tools 17-20
 - Removing and Replacing a Speaker 17-20

Replacing a PDU—Part Number CTS-PWR-PDU=	17-21
Required Tools	17-21
Removing and Replacing the PDU	17-21
Replacing a Microphone—Part Number CTS-TX9K-MIC=	17-22
Required Tools	17-22
Removing and Replacing a Microphone	17-22
Replacing the Presentation Display—Part Number CTS-TX9K-DATADISP=	17-23
Required Tools	17-23
Removing and Replacing the Presentation Display	17-23
Replacing the Front Row Table Top—Part Number CTS-TX9XX0-TBL-MF= (Maple Finish) or CTS-TX9XX0-TBL-WF= (Walnut Finish)	17-24
Required Tools	17-24
Removing and Replacing the Front Row Table Top	17-24
Replacing the Back Row Table Top—Part Number CTS-TX9XX0-TBL-MB= (Maple Finish) or CTS-TX9XX0-TBL-WB= (Walnut Finish)	17-25
Required Tools	17-25
Removing and Replacing the Back Row Table Top	17-25
Replacing a Table Leg Power and Ethernet Connector	17-26
Required Tools	17-26
Removing and Replacing a Table Leg Power and Ethernet Connector	17-26
Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable	17-27
Required Tools	17-27
Removing and Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable	17-27

APPENDIX A**Parts List Sorted by Carton A-1**

Carton 1: Display Frame Assemblies, 69-2323-xx	A-1
Carton 2: First Row Legs, 69-2332-xx, CTS-TX9000-TBL	A-2
Carton 3: Facade Panels, 69-2325-xx, CTS-TX9K-FRT-PNLS	A-3
Carton 4: Rear Facade Panels, 69-2311-xx	A-3
Carton 5: Top & Bottom Bezels, 69-2312-xx, CTS-TX9000-BZL	A-3
Carton 6: Accessory Kit, 53-3789-xx	A-4
Carton 7: First Row Table Cable Runner Covers, 69-2327-xx,	A-4
Carton 8: Speaker Assemblies, 69-2318-xx, CTS-TX9000-SPKR	A-5
Carton 9: Vertical Bezels, 69-2372-xx	A-5
Carton 10: First Row Panels, 69-2333-xx	A-5
Carton 11: Electronic Component Power Supplies, PWR-SUPPLY-KIT	A-5
Carton 12: Cable Kit for TS1 Codec, 69-2345-xx	A-6
Carton 13: Cable Kit for TS2 Codec, 69-2346-xx	A-6

Carton 14: Cable Kit for TS3 Codec, 69-2347-xx	A-7
Carton 15: Cable Kit for TS4 Codec, 69-2348-xx	A-7
Carton 16: Cable Kit for Speakers & Lights, 69-2349-xx	A-7
Carton 17: Cable Kit for First Row Table, 69-2350-xx	A-8
Carton 18: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC	A-8
Carton 19: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC	A-8
Carton 20: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC	A-8
Carton 21: LED Light Assemblies, 74-10342-xx, CTS-TX9000-LEDPK	A-9
Carton 22: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-9
Carton 23: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-9
Carton 24: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-10
Carton 25: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-10
Carton 26: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-11
Carton 27: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN	A-11
Carton 28: Presentation Display, 74-10343-xx, CTS-TX9K-DATADISP	A-11
Carton 29: Camera Assembly, 800-36215-xx, CTS-TX9K-CAMCLSTR	A-12
Carton 30: Light Control Unit, 800-33995-xx, CTS-LCU-G2R	A-12
Carton 31: Audio/Video Expansion Unit, 800-36423-xx, CTS-LAEB-G2R	A-12
Carton 32: Camera Housing, 800-37902-xx, CTS-TX9K-CAM-HS	A-12
Carton 33: Cable Runner Cover, 69-2341-xx, CTS-TX9K-CBLRUN	A-13
Carton 34: Codec, CTS-TX9K CODEC OPT	A-13
Carton 35: Codec, CTS-TX9K CODEC OPT	A-13
Carton 36: Codec, CTS-TX9K CODEC OPT	A-13
Carton 37: Codec, CTS-TX9K CODEC OPT	A-13
Carton 38: CTS-CTRL DVC OPT	A-14
Carton 39: Camera Setup Accessories, 69-1674-xx, CTS-CAM-TOOL	A-14
Carton 40: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04	A-14
Carton 41: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04	A-14
Carton 42: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04	A-15
Carton 43-A: Light Reflector Frame - Wall Mount, 69-2291-xx, CTS-TX9K-LTRF-PNL-OPT	A-15
Carton 43-B: Light Reflector Frame - Free Standing, 69-2292-xx, CTS-TX9K-LTRF-PNL-OPT	A-15
Carton 43-C-1: Light Reflector Mounting Arm Assemblies, 69-2340-xx, CTS-TX9K-LTRF-PNL-OPT	A-16
Carton 43-C-2: Light Reflector Mounting Arm Assemblies, 69-2340-xx, CTS-TX9K-LTRF-PNL-OPT	A-16
Carton 43-D: Light Reflector U Bracket, 69-2390-xx	A-16
Carton 44: First Row Table Tops, 69-2300-xx, 69-2344-xx, CTS-TX9K-TBL-OTP	A-17

Carton 45: Country-Specific Power Cords, CTS POWER CORD OPT	A-17
Carton 45-1: Country-Specific Power Cords, CTS POWER CORD OPT	A-18
Carton 45-2: Country-Specific Power Cords, CTS POWER CORD OPT	A-18
Carton 45-3: Country-Specific Power Cords, CTS POWER CORD OPT	A-19
Carton 45-4: Country-Specific Power Cords, CTS POWER CORD OPT	A-19
Carton 45-5: Country-Specific Power Cords, CTS POWER CORD OPT	A-20
Carton 45-6: Country-Specific Power Cords - Second Row, CTS POWER CORD OPT	A-20
Carton 45-7: Country-Specific Power Cords - Second Row, CTS POWER CORD OPT	A-21
Carton 46: Presentation Cables, CTS PRES CAB OPT	A-21
Carton 47: Accessory Kit - Second Row, 53-3798-xx	A-21
Carton 48: Cable Kit - Second Row, 69-2351-xx	A-22
Carton 49: PDU - Second Row, 74-8655-xx, PDU	A-22
Carton 50: PDU - Second Row, 74-8655-xx, PDU	A-22
Carton 51: Second Row Legs, 69-2314-xx, CTS-TX9200-TBL	A-22
Carton 52: Second Row Rear Privacy Panels, 69-2315-xx	A-23
Carton 53: Second Row Front Panels, 69-2321-xx, CTS-TX9K-TBL-PNLB	A-23
Carton 54: Not Used	A-23
Carton 55: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-24
Carton 56: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-24
Carton 57: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-25
Carton 58: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-25
Carton 59: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-26
Carton 60: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-26
Carton 61: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-27
Carton 62: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-27
Carton 63: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-28
Carton 64: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-28
Carton 65: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-29
Carton 66: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN	A-29
Carton 67: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-29
Carton 68: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-30
Carton 69: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-30
Carton 70: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-30
Carton 71: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-30
Carton 72: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC	A-31

Carton 73: Second Row Table Tops, 69-2301-xx, 69-2386-xx, CTS-TX9XX0-TBL-WB (Walnut) or CTS-TX9XX0-TBL-MB (Maple) **A-31**

CHAPTER B

Cisco TelePresence System TX9000 and TX9200 Pallet Dimensions and Description **B-1**

Pallet Dimensions and Description for the TX9000 **B-1**

Pallet Dimensions and Description for the TX9200 **B-2**

Installed System and Panel Weight **B-3**

APPENDIX C

Region- and Country-Specific Power Cords and Table Leg Power Connectors **C-1**

Asia Pacific **C-2**

Argentina **C-3**

Australia **C-4**

Brazil **C-5**

Central Europe **C-6**

China **C-7**

India, UAE, South Africa **C-8**

Israel **C-9**

Italy **C-10**

Japan **C-11**

North America **C-12**

South Africa **C-12**

Switzerland **C-13**

United Kingdom **C-14**



Preface

Revised: May 20, 2015, OL-27038-01

Introduction

The *Cisco TelePresence System TX9000 and TX9200 Assembly, Use & Care, and Field-Replaceable Unit Guide* outlines the steps and best practices for assembling and installing the Cisco TelePresence System TX9000 and TX9200.

This guide is intended primarily for installers of the Cisco TelePresence System TX9000. Site planners, network administrators, and facility maintenance personnel may also find this document useful.

This preface provides the following information for using this guide and for accessing other resources.

- [Obtaining Documentation, Obtaining Support, and Security Guidelines, page xi](#)
- [Obtaining Documentation, Obtaining Support, and Security Guidelines, page xi](#)
- [Related Documentation, page xiv](#)

Obtaining Documentation, Obtaining Support, and Security Guidelines

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

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

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

Organization of This Manual

The chapters in this manual are ordered in the same order that you install the system. Follow the chapters sequentially to install your system.

The appendices in the book provide you with additional information that you might find useful.

This book includes the following chapters:

Chapter 1, “Overview, Required Tools, Preinstallation Checks, and List of Hardware Fasteners” (this chapter)

This chapter provides you with organization of the book and a list of required tools and fasteners (bolts, and washers).

Chapter 2, “Room Requirements for the TX9000 and TX9200 Systems”

This chapter provides you with room recommendations (room colors, lighting, acoustic information) and minimum requirements (network, lighting, heating/ventilation/air conditioning (HVAC)) required for the room in which you install the Cisco TelePresence System TX9000.

Chapter 3, “Installing the Wall-Mounted Reflector Wall Structure”

This chapter describes the tasks you perform to install the reflector wall if the wall directly attaches to the wall of the room.



Note

If your reflector wall does not attach directly to the wall, see [Chapter 6, “Installing the Free-Standing Reflector Wall Structure”](#) for the instructions to install the reflector wall.

Chapter 4, “Installing And Performing Initial Leveling of the Main Display Structure”

This chapter describes the steps you complete to install the main display assembly.

Chapter 5, “Installing the Displays and Performing Final Leveling of the Main Display Structure”

This chapter describes the procedure you perform to install the displays onto the display structure.

Chapter 6, “Installing the Free-Standing Reflector Wall Structure”

This chapter describes the steps you perform to build a free-standing reflector wall (used if your reflector wall does not attach directly to the wall of the room).

Chapter 7, “Installing the Bezel Brackets and Vertical Bezels”

This chapter describes the procedure you perform to install the bezel brackets and vertical bezels.

Chapter 8, “Assembling the Electronic Hardware, Facade Brackets, Camera Assembly, and Cable Runner”

This chapter describes the steps you perform to assemble the electrical components, including the camera, into the display assembly.

Chapter 9, “Starting Installation of the First Row Table”

This chapter documents the procedure to build the table assembly.

Chapter 10, “Connecting and Routing the Cables”

This chapter describes the steps you complete to route the power and signal cables for the display assembly.

Chapter 11, “Completing Installation of the First Row Table”

This chapter describes the final steps you perform to complete installation of the first row table.

Chapter 12, “Building the Second Row Table (TX9200 Systems Only)”

This chapter describes the steps you build the second row table for TX9200 systems.

Chapter 13, “Building the Second Row Table For a 14- and 10-Seat TX9200 System”

This chapter describes the steps you build the second row table for TX9200 14- and 10-seat systems, and also includes minimum table dimensions and trenching diagrams.

Chapter 14, “Completing Installation of the Main Display Structure”

This chapter describes the procedure to complete assembly of the main display structure.

Chapter 15, “First-Time Setup”

This chapter provides the steps you perform to set up the system for the first time.

Chapter 16, “Use & Care Guide”

This chapter recommended cleaning procedures for the TX system.

Chapter 17, “Field-Replaceable Unit Guide”

This chapter describes the steps you perform to replace field-replaceable units (FRUs).

Appendix A, “Parts List Sorted by Carton”

This appendix lists all parts included in the individual chapter parts lists, and sorts the list by carton.

Appendix B, “Cisco TelePresence System TX9000 and TX9200 Pallet Dimensions and Description”

This appendix list the size and number of pallets, and a short description of the contents of the cartons.

Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors”

This appendix lists the part numbers for all region- and country-specific equipment, including table leg wiring and power cords.

Explanation of Warning, Caution, Note, and Tip Icons Used in This Manual

This document uses the following conventions to convey information and alert the user to conditions requiring special awareness.



This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.



The caution symbol means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



This symbol means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.



Tip

The Tip icon means *the information contains useful tips.*

Conventions and Terminology

- The directions *left* and *right* in this guide are synonymous with *participant's left* and *participant's right*. They refer to the assembly as you face the displays.

Related Documentation

For a complete list of Cisco TelePresence-related documentation, go to the TelePresence section of the Cisco support site located at the following URL:

<http://www.cisco.com/cisco/web/support/index.html>



Overview, Required Tools, Preinstallation Checks, and List of Hardware Fasteners

Revised: May 20, 2015, OL-27038-01

This chapter includes an overview of various pre-installation checks you should perform prior to installation and includes the following sections:

- [Important Updates for the Cisco TelePresence Experience and Order Assurance Program, page 1-1](#)
- [Differences Between the CTS-3010 and CTS-3210 Installation and the TX9000 and TX9200 Systems, page 1-2](#)
- [Tools and Equipment List, page 1-2](#)
- [Pre-Installation Checks, page 1-3](#)
- [Installation Overview, page 1-10](#)

Important Updates for the Cisco TelePresence Experience and Order Assurance Program

While immersive TelePresence orders are processed in the same way as other Cisco collaboration endpoints, the Cisco Advanced Technology Partner (ATP) performs additional network and room readiness before the system is installed into the customer's premises. It is the partner's responsibility to make sure that all network and room readiness is performed prior to the system being powered on and connected to the customer's network. This preparation ensures the best immersive experience.

The partner will design and implement your network for your immersive system using the latest requirements and guidelines for bandwidth, Quality of Service (QoS), latency, packet loss, and packet jitter. In addition, the partner will make sure that the room in which the system is installed follows all room requirements that are provided in [Chapter 2, "Room Requirements for the TX9000 and TX9200 Systems."](#)

This room readiness information was previously performed by partners using the Room Readiness Assessment (RRA) and Network Path Assessment (NPA) tools. For more information about the RRA and NPA, refer to the Experience and Order Assurance page at <http://tools.cisco.com/tsbu/oa/index.html>.

For more partner-specific room and network information, refer to the Cisco TelePresence partner community, located at the following URL (partner-level login required):

<https://communities.cisco.com/community/partner/collaboration/bizvideo/tp>

Differences Between the CTS-3010 and CTS-3210 Installation and the TX9000 and TX9200 Systems

If you have installed Cisco TelePresence System 3000 series systems, be aware that you cannot use the same procedures for building the Cisco TelePresence System TX9000 (TX9000) or Cisco TelePresence System TX9200 (TX9200).

Be sure to follow all leveling procedures in this manual. In particular, note any variances in the floor level and adjust the system to accommodate the variances.

An important difference is the installation of the spools to the displays. Be sure that you install the spool tightly to the display and do not use them as a leveling device; failure to do so can cause the displays to be out of level with the rest of the system.

Tools and Equipment List

To assemble the CTS-TX9000 and CTS-TX9200, you need the following tools and equipment:

Uncrating and Unpacking:

- Claw hammer or small pry bar
- Large Phillips screwdriver
- Long Phillips screwdriver or extension for Phillips bit
- Pallet jack or hand cart (for moving component boxes to installation site)
- Safety gloves
- Cloth gloves (for installing the reflector panels)
- Safety glasses

Cisco TelePresence System TX9000 Structure Assembly:

- Cordless Driver
- Phillips #0, #1, #2, #3 bits and hand tools
- Extension for the Phillips bits, or a long handled screwdriver
- Ratchet box wrench set with Metric sizes, or power tool Metric wrench set
- (For optional seismic anchors only) 3/4" box end wrench
- M6, M7, and M8 sockets and combination wrenches
- Size 14 Wrench for Structure leveling feet
- Size M5.5 nut driver for M3 nut (used for the power/Ethernet outlet assemblies in the table legs)
- Metric Allen (hex) wrench set
- Laser level with tripod (flexible type recommended)
- Bubble Levels (1' and 3')
- Stud Finder
- Box cutter or tin snips (for removing the tabs on the center rear panel—systems with free-standing reflector walls only)

- Wall-mounted reflector wall systems only:
 - Appropriate fasteners depending on your type of wall (concrete, concrete block, brick, or drywall). All types of walls require an anchor. If your wall is drywall, it is recommended that at least 2 screws per L bracket go through the stud.
 - Jigsaw and drill bit (for cutting outlet holes in the reflector, if required).
- (Optional) furniture sliders

You can use furniture sliders (flat plastic pieces) to place under items you need to move. For example, you can place the sliders under the table legs if you need to move the second row table for TX9200 systems.

Pre-Installation Checks

Before you install the system, you must perform the following pre-installation checks:

- [Checking the Physical Condition of System Packaging, page 1-3](#)
- [Checking the Function of the 65-Inch Display Prior to Installation, page 1-3](#)

Checking the Physical Condition of System Packaging

Items should be received at the installation site with the packaging in good condition. In particular, display packaging should be undamaged, and the tilt indicators on the displays should show that the displays have remained upright during transit.

If you see any damage to the system packaging prior to installation, document the damage by taking pictures and contact the Cisco Technical Assistance Center (TAC) before you begin installation.

Checking the Function of the 65-Inch Display Prior to Installation

Reports from installers in the field have indicated that some displays are not functional after they are shipped to the installation site. To avoid installing a non-functional display, perform a pre-installation check on the displays after you remove the cardboard overpack, but before you completely remove the display from its packaging.

To perform the display integrity check, complete the following steps:

Step 1 Remove the outer box from the display packaging.



Note

You can leave the display in the rest of its packaging for this check, as long as you can access the power cord outlet and the DVI connectors on the lower part of the display.

- Step 2** Look at the rear of the display. Plug the power cord into the display and a power outlet, then turn on the display.

Figure 1-1 *Plugging the Power Cord Into the Display*



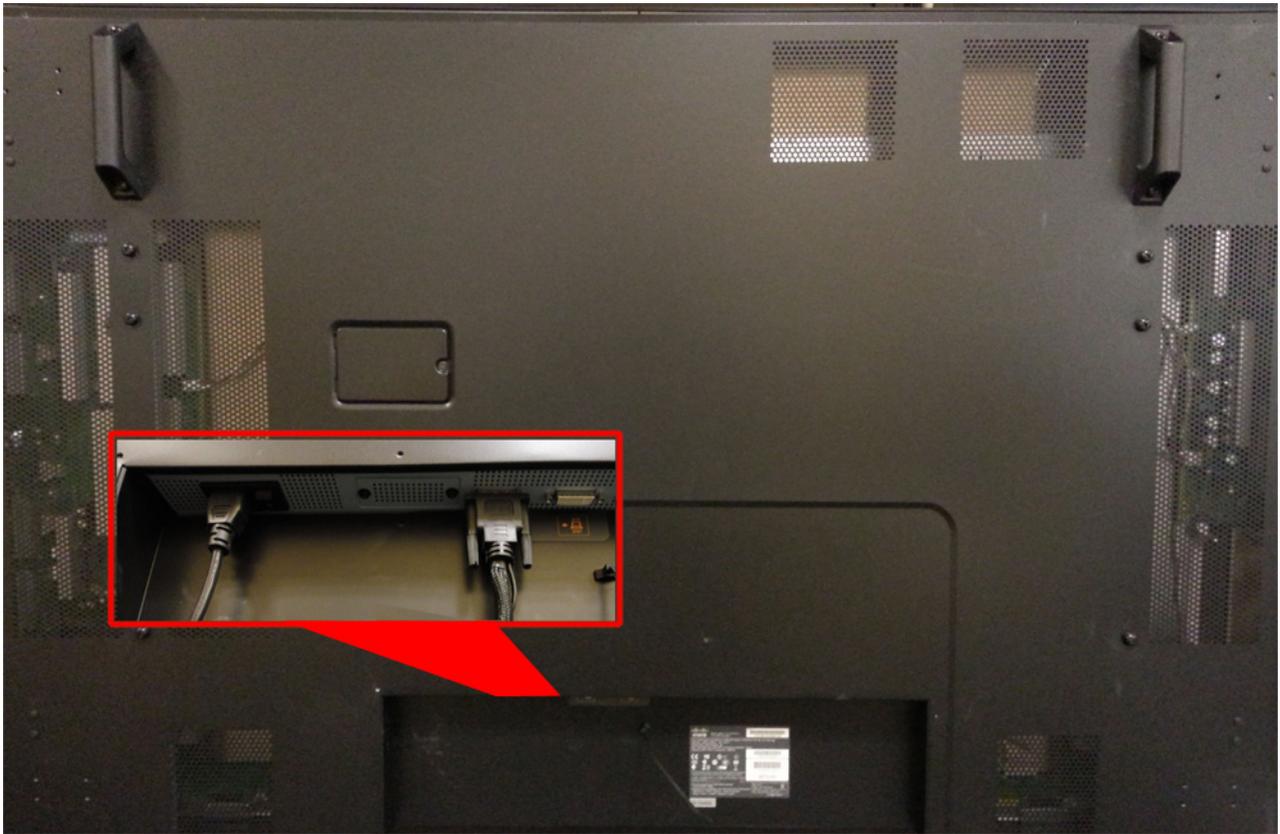
- Step 3** Check the LED on the front of the display.
- If the LED is orange, proceed to [Step 4](#).
 - If the LED is unlit, recheck the power cable. If this problem persists, report the problem to Cisco technical support.

Figure 1-2 *Checking the LED*



Step 4 Plug a display source into the DVI input of the display.

Figure 1-3 *Attaching a DVI Cable to the Display*



- Step 5** Check that the LED on the front of the screen is green and that the signal from the DVI source video is being displayed on the screen.
- If the LED is green and the signal from the DVI source video displays on the screen, this procedure is complete, and this display is ready to be installed.
 - If the LED is not green, or if the signal from the DVI source video is not displayed, proceed to [Step 6](#).

Figure 1-4 *Checking for the Green DVI on the Screen*



- Step 6** Access factory mode on the system by completing the following steps:
- Remove the two screws that attach the metal switch cover next to the power outlet.



Note If required, detach the power cord, then reattach it after you remove the cover.

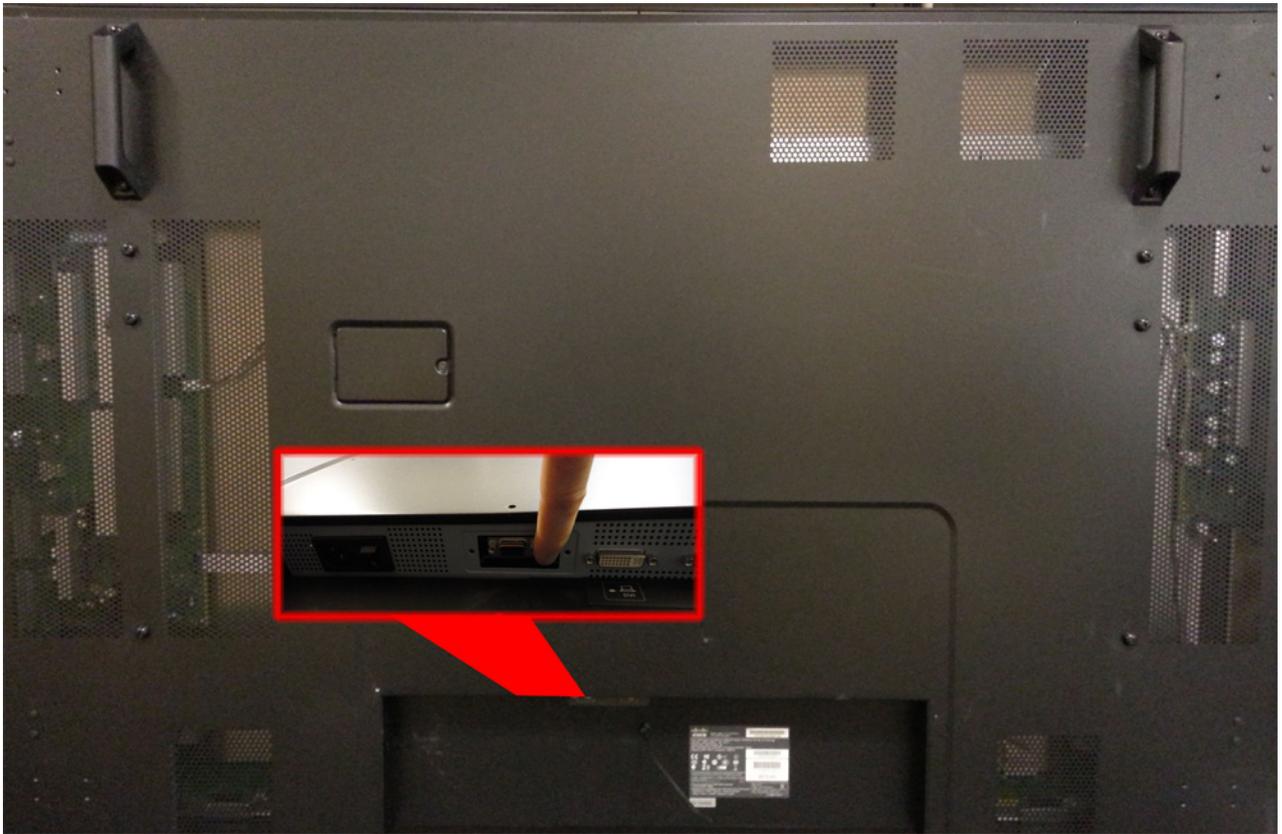
- Remove the metal switch cover.

Figure 1-5 Removing the Metal Switch Cover



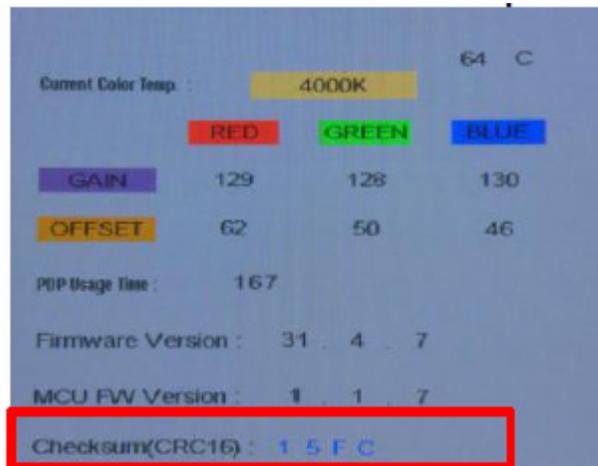
- c. Press the button underneath the cover to enter factory mode.

Figure 1-6 Pressing the Factory Mode Button Under the Factory Mode Cover



- Step 7** Check the LED on the front of the screen and the display screen and perform one of the following actions:
- If the LED on the front of the display is green, the display shows a multicolored pattern, and the Checksum data shows “15FC” on the upper left side of the screen, press the Factory Mode button again and reattach the factory mode cover. You are finished with this procedure, and this display is ready to be installed.

Figure 1-7 Checksum Value



- If the LED is orange, or the display remains blank, double-check the signal cable coming in to the DVI connection. If the LED remains orange, report the problem to Cisco technical support.



Note If the LED is flashing, make a note of the flashing pattern and report the pattern to Cisco technical support.

Installation Overview

The order of steps differ depending on your type of system:

- To install a system that uses a wall-mounted reflector wall, see the [“Instructions for Systems That Use a Wall-Mounted Reflector Wall”](#) section on page 1-10 for the order of steps.
- To install a system that uses a free-standing reflector wall, see the [“Instructions for Systems That Use a Free-Standing Reflector Wall”](#) section on page 1-11 for the order of steps.

Instructions for Systems That Use a Wall-Mounted Reflector Wall

To install a system that uses a wall-mounted reflector wall, follow this order:

- Step 1** Install the reflector wall to the wall of the room by going to [Chapter 3, “Installing the Wall-Mounted Reflector Wall Structure,”](#) and complete the steps in that chapter.

- Step 2** After you install the reflector wall, continue the installation of the system by completing the steps in [Chapter 4, “Installing And Performing Initial Leveling of the Main Display Structure.”](#)
- Step 3** Continue the installation steps in sequential order, skipping [Chapter 6, “Installing the Free-Standing Reflector Wall Structure.”](#)
-

Instructions for Systems That Use a Free-Standing Reflector Wall

To install a system that uses a free-standing reflector wall, start at [Chapter 4, “Installing And Performing Initial Leveling of the Main Display Structure,”](#) and continue the installation steps from that place in the book sequential order.



Room Requirements for the TX9000 and TX9200 Systems

Revised: May 20, 2015, OL-27038-01

This chapter provides you with general room recommendations for the TX9000 and TX9200 systems and includes the following sections:

- [Process Updates to Ensure Room and Network Readiness Prior to Installation, page 2-1](#)
- [Summary of Room Requirements for the TX9000, page 2-1](#)
- [Summary of Room Requirements For the TX9200, page 2-2](#)
- [Room Dimensions for the TX9000 and TX9200, page 2-4](#)
- [Lighting Considerations For the TX9000 and TX9200, page 2-8](#)
- [Network Port Requirements For the TX9000 and TX9200, page 2-10](#)
- [Power Requirements For the TX9000 and TX9200, page 2-11](#)
- [Cabling and Room Considerations for Second Row Seating For the TX9200, page 2-14](#)
- [HVAC Considerations For the TX9000 and TX9200, page 2-17](#)
- [Acoustic Considerations For the TX9200, page 2-21](#)
- [Auxiliary Display Considerations For the TX9200, page 2-23](#)

Process Updates to Ensure Room and Network Readiness Prior to Installation

Although the Room Readiness Assessment (RRA) and Network Path Assessment (NPA) are no longer required, it is the partner's responsibility to make sure that all network and room readiness is performed before the system is powered on and connected to the customer's network. For more information, see the [“Important Updates for the Cisco TelePresence Experience and Order Assurance Program”](#) section on page 1-1.

Summary of Room Requirements for the TX9000

[Table 2-1](#) summarizes the room requirements for the TX9000:

Table 2-1 Summary of Room Requirements for the TX9000

Minimum Room Size	<p>Width / Depth / Height 19' x 14'4" x 8' (5800 mm x 4370 mm x 2440 mm)</p> <p>Note The dimensions provided are for a system that uses a wall-mounted reflector wall. For systems that use a free-standing reflector wall, increase the minimum depth from 14'4" (4370 mm) to 15' (4570 mm)</p>
Lighting	<p>200(minimum)-400(recommended) lux facial light (vertical plane) Shoulder Light: No more than twice the facial light (measured on the horizontal plane)</p> <p>Note This is lighting for 30 frames per second (FPS) conferences. 60 FPS conferences may require additional lighting.</p>
Acoustics	<p>Ambient Noise</p> <p>For non-critical voice frequencies:</p> <ul style="list-style-type: none"> • 150-700 for non-critical voice frequencies (>500 Hz, or <2 kHz) • 150-500 for critical voice frequencies (500 Hz-2 kHz) • 45dBA SPL • NC30 <p>Reverberation: 150-700ms</p> <p>Acoustic panels on side walls are optional, but can be used to remedy acoustic deficiencies.</p>
Power	<p>2.93 kW required</p> <p>Participant convenience ports consume additional power (maximum of 1.44 kW for six participants)</p>
HVAC	<p>Independent Room Control</p> <p>Typical Cooling 9,500 BTU/Hr</p>
Design	<p>Aesthetic Continuity highly desirable</p> <p>For best video quality:</p> <ul style="list-style-type: none"> • Avoid high contrast elements such as very dark or bright colors • Avoid glossy finishes • Avoid clutter <p>For more information, refer to the <i>Cisco TelePresence Wall Color Guide</i> at the following URL: http://www.cisco.com/en/US/solutions/ns669/networking_solutions_products_genericcontent0900aecd80554cb2.html</p>

Summary of Room Requirements For the TX9200

Table 2-2 summarizes the room requirements for the TX9200:

**Note**

These dimensions are for the full, 18-seat version of the TX9200. A 10- and 14-seat version is also offered. For dimensions for these systems, see [Chapter 13, “Building the Second Row Table For a 14- and 10-Seat TX9200 System.”](#)

Table 2-2 Summary of Room Requirements for TX9200

Room Size Minimum	<p>Width / Depth / Height 31' x 21' 5" x 8' (9450 mm x 6530 mm x 2440 mm)</p> <p>Note The dimensions provided are for a system that uses a wall-mounted reflector wall. For systems that use a free-standing reflector wall, increase the minimum depth from 21' 5" (6530 mm) to 22' 1" (6730 mm).</p>
Lighting	<p>Shoulder Light: No more than twice the facial light (measured on the horizontal plane)</p> <p>Note This is lighting for 30 frames per second (FPS) conferences. 60 FPS conferences may require additional lighting.</p>
Acoustics	<p>Ambient Noise</p> <ul style="list-style-type: none"> • 45dBA SPL • NC30 <p>Reverberation:</p> <ul style="list-style-type: none"> • 150-700 ms for non-critical voice frequencies (>500 Hz, or <2 kHz) • 150-500 ms for critical voice frequencies (500 Hz-2 kHz) <p>Acoustic panels on the side walls are required. For more information, see the “Acoustic Considerations For the TX9200” section on page 2-21.</p>
Power	<p>2.93 kW required</p> <p>Participant convenience ports consume additional power (maximum of 4.32 kW for 18 participants)</p>
HVAC	<p>Independent Room Control</p> <p>Typical Cooling 12,800 BTU/Hr</p>
Design	<p>Aesthetic Continuity highly desirable</p> <p>For best video quality:</p> <ul style="list-style-type: none"> • Avoid high contrast elements such as very dark or bright colors • Avoid glossy finishes • Avoid clutter <p>For more information, refer to the Cisco TelePresence Wall Color Guide at the following URL: http://www.cisco.com/en/US/solutions/ns669/networking_solutions_products_genericcontent0900aecd80554cb2.html</p>

The following sections elaborate on each requirement.

Room Dimensions for the TX9000 and TX9200

The following section includes the required room dimensions for your TX9000 and 9200 system and includes the following topics:

- [Room Dimensions for the TX9000, page 2-4](#)
- [Room Dimensions For the TX9200, page 2-6](#)

Room Dimensions for the TX9000

For the TX9000, rectangular rooms are preferred although irregular shaped rooms can also be accommodated. The minimum, recommended, and maximum room sizes for a TX9000 system are provided in [Table 2-3](#).

Table 2-3 TX9000 Room Dimensions

	Width	Depth	Height
Minimum	19' (5800 mm)	14'4" (4370 mm) ¹	8' (2440 mm)
Recommended	21' (6400 mm)	18' (5490 mm)	10' (3050 mm)
Maximum	23' (7010 mm)	31' (9450 mm)	10' (3050 mm)

1. This measurement is for systems that have a wall-mounted reflector wall. For systems that have a free-standing reflector wall, increase the minimum depth to 15' (4570 mm).



Note

Ceilings lower than 8' (2440 mm) will not physically support the height of the CTS endpoint reflector wall.

The minimum room dimensions are illustrated in [Figure 2-1](#):

Figure 2-1 TX9000 Minimum Room Dimensions

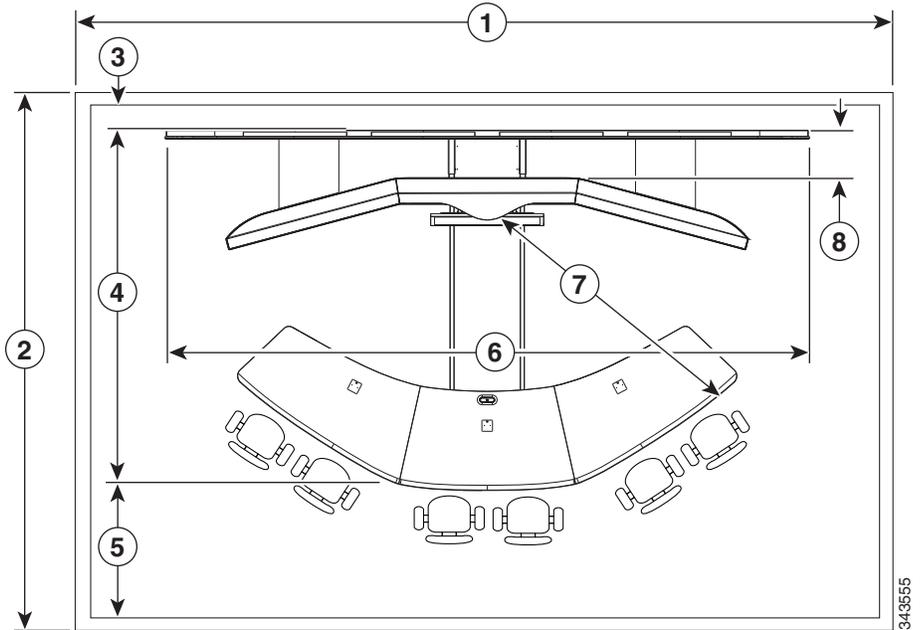


Table 2-4 Callouts for Figure 2-1

Callout	Description
1	The minimum room width is 19' (5800 mm). Rooms can be wider.
2	The minimum room depth is 14' 4" (4370 mm) for systems that use a wall-mounted reflector wall, and 15' (4570 mm) for systems that use a free-standing reflector wall. Rooms can be deeper.
3	Systems that use a free-standing reflector wall only: The minimum distance between the rear edge of the free-standing reflector wall and the wall of the room is 5" (127 mm). The wall depth is 3" (76 mm). Note The minimum distance between the front of the free-standing reflector wall and the wall of the room is 8" (203 mm).
4	The distance between the light reflector and the table edge of the TX9000 is 10' 3" (3124 mm).
5	The minimum space between rear edge of the table and the rear wall is 44" (1120 mm).
6	The width of the TX9000 light reflector is 18' 9" (5715 mm).
7	The distance between the camera and the table edge at the outer chair position is 8.3' (2510 mm).
8	Systems that use a wall-mounted reflector wall only: The minimum distance between the rear of the system and the front of the wall-mounted reflector wall is 13.7 inches (348 mm).

Room Dimensions For the TX9200

For the TX9200, rectangular rooms are preferred, although irregular shaped rooms can also be accommodated. The minimum and recommended room sizes for a Cisco TelePresence TX9200 system are provided in [Table 2-5](#).


Note

These dimensions are for the full, 18-seat version of the TX9200. A 10- and 14-seat version is also offered. For dimensions for these systems, see [Chapter 13, “Building the Second Row Table For a 14- and 10-Seat TX9200 System.”](#)

Table 2-5 TX9200 Room Dimensions

	Width	Depth	Height
Minimum	31' (9450 mm)	21' 5" (6530 mm) for systems that use a wall-mounted reflector wall, 22' 1" (6730 mm) for systems that use a free-standing reflector wall	8' (2440 mm)
Recommended	32' 7" (9930 mm)	26' (7920 mm)	10' (3050 mm)
Maximum	There is no defined maximum room size; this number is dependent on echo and reverberation factors that can be caused by larger rooms. Rooms that are very wide may require acoustic wall treatment. For more information, see the “Acoustic Considerations For the TX9200” section on page 2-21 .		Rooms with a height greater than 10' (3050 mm) may require acoustic wall treatment. For more information, see the “Acoustic Considerations For the TX9200” section on page 2-21 .


Note

Ceilings lower than 8' (2.43 m) will not physically support the height of the CTS endpoint reflector wall.

The minimum room dimensions are illustrated in [Figure 2-2](#). Only the differences between the TX9000 and the TX9200 are noted here; for additional dimensions including dimensions of the wall, see [Figure 2-1](#).

Figure 2-2 TX9200 Minimum Room Dimensions

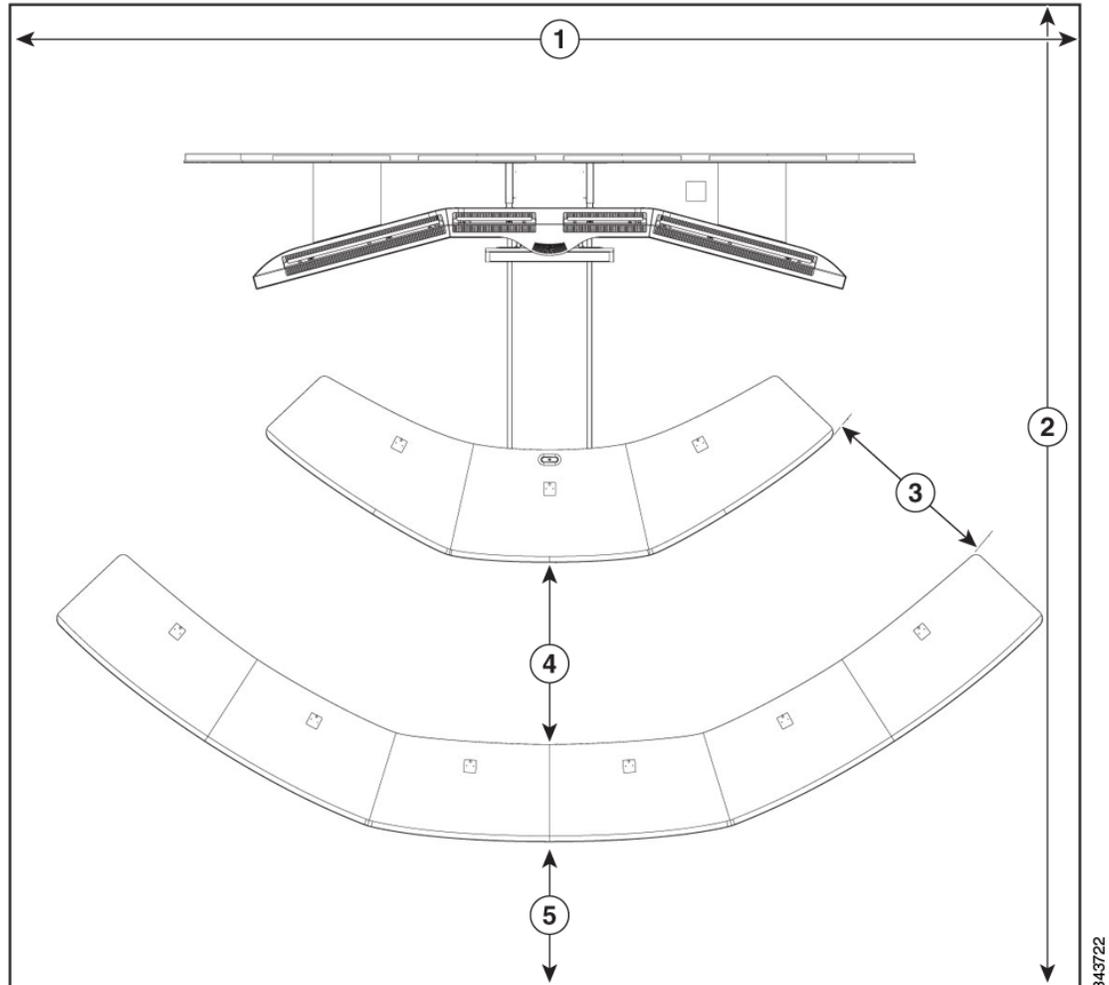


Table 2-6 Callouts for Figure 2-2

Callout	Description
1	The minimum room width is 31' (9450 mm). Rooms can be wider. Note The overall width of the second row table is 7.694 meters (25' 3")
2	The minimum room depth is 21' 5" (6530 mm) for systems that use a wall-mounted reflector wall, 22' 1" (6730 mm) systems that use a free-standing reflector wall. Rooms can be deeper.
3	The distance between the rear edge of the first row and the front edge of the second row, measured from the side of the table , is 56.4" (1432 mm).
4	The distance between the rear edge of the first row and the front edge of the second row, measured from the center of the table , is 56.06" (1424 mm).
5	The minimum space between rear edge of the second row table and the rear wall is 44" (1120 mm).

Lighting Considerations For the TX9000 and TX9200

The Cisco TelePresence TX9000 and TX9200 system require the following lighting levels.

Table 2-7 TX 9000 and TX9200 Room Lighting Levels

Illumination	Target	Tolerance	Note
Overall illumination lux (= lm/m ²)	200-400 lux Systems that use 60 FPS conferences require measurements closer to 400 lux.	Lighting should be evenly dispersed throughout the room. Lighting should not fluctuate more than 100 lux throughout the room.	Measured vertically w/ light sensor pointed at wall or intended camera location (not pointed at ceiling), 3' 11" (1.20 m) above the finished floor (AFF).
Wall wash	200-400 lux	Lighting should be evenly dispersed throughout the room. Lighting should not fluctuate more than 100 lux throughout the room.	Measured vertically w/ light sensor pointed at wall or intended camera location (not pointed at ceiling), 3' 11" (1.20 m) above the finished floor (AFF).
Shoulder light/Direct down light.	400-800 lux or lower when possible	Generally, shoulder lighting should not be more than twice the facial light.	Measured horizontally at table height w/ light sensor pointed at ceiling, 3' 3" (0.99 meter) AFF.
Lighting Dispersion Color Temperature Etc.	<p>Dimmable lighting systems optional but highly recommended for Cisco TelePresence rooms. If you use a dimmable system, you must commission the system before you take final calibration and lighting measurements. A dimmable system allows greater lighting control. The target is four-zone controlled lighting with scene presets.</p> <p>Asymmetric lights with light dispersion more than 45 degrees are recommended; however, you can use any lighting that meets the overall lighting requirements.</p> <p>For all other general Cisco TelePresence room lighting recommendations, refer to the Cisco TelePresence Room Design Guide at the following URL: http://www.cisco.com/en/US/solutions/ns669/networking_solutions_products_genericcontent0900aecd80554cb2.html</p>		

Overhead Lighting Examples for Cisco TelePresence Rooms

Figure 2-3 and Figure 2-4 illustrate lighting examples for Cisco TelePresence rooms. The option you choose depends upon your choice of lighting fixtures.



Caution

The following examples are for reference only. Please consult your lighting manufacturer specifications for the adequate number and proper layout of fixtures to achieve the lighting levels mentioned in Table 2-7. For example, lights that are brighter than the averages tested for this guide may require fewer placements. Likewise, light sources that are dimmer than the averages may require a greater density of fixture placements.

Figure 2-3 Option 1: Indirect Pendant and Recessed Indirect Lighting Fixtures

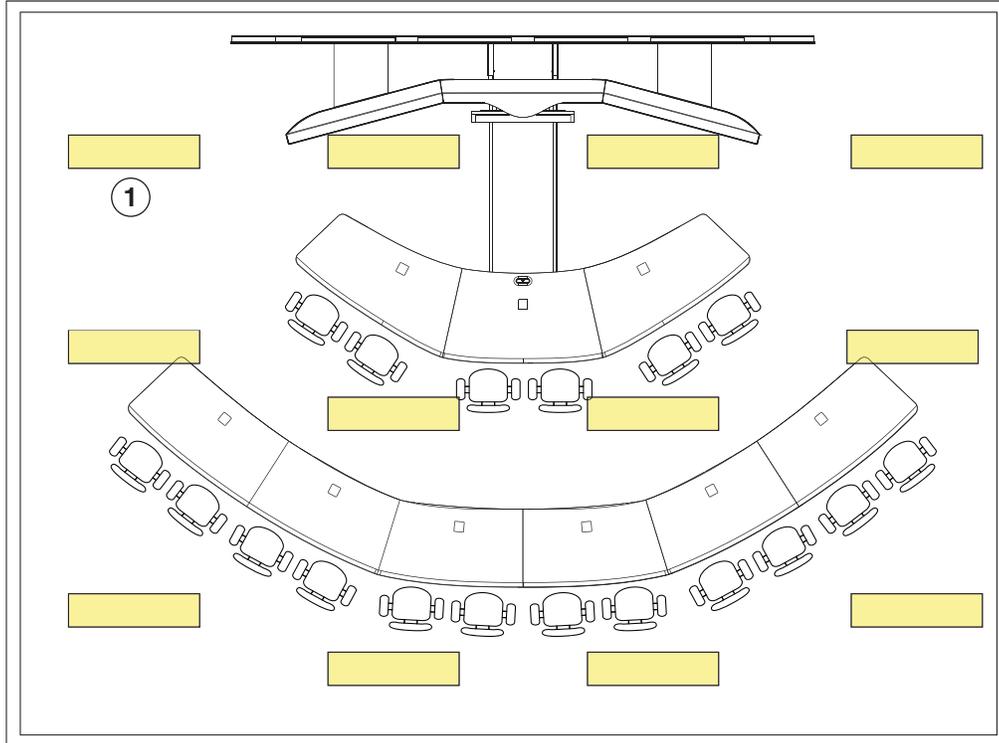
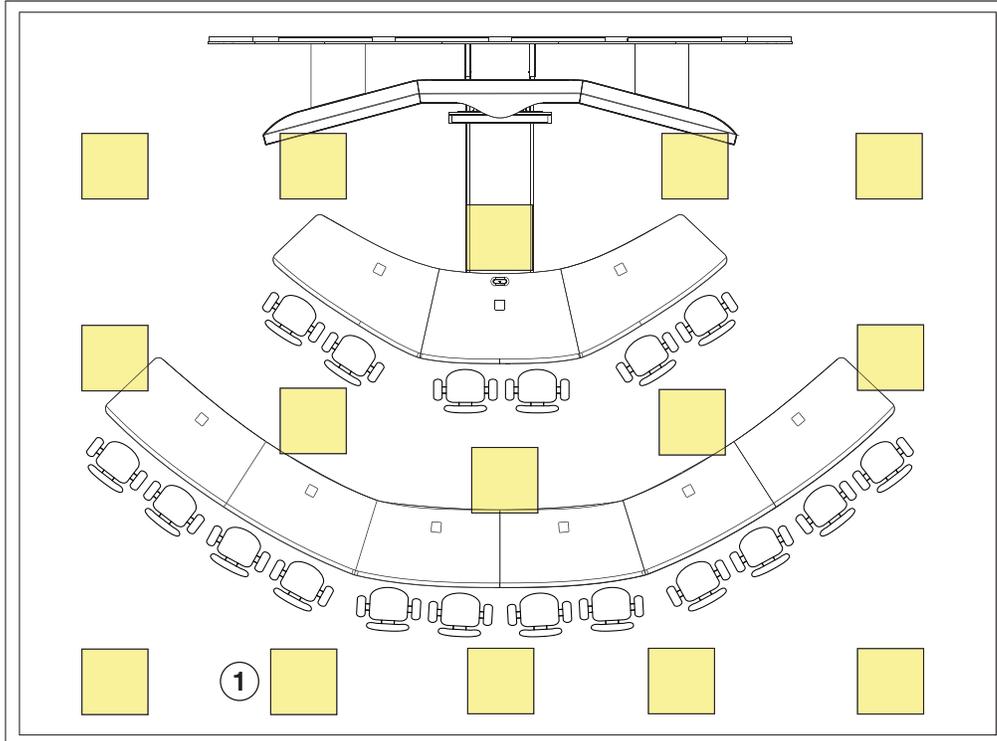


Table 2-8 Callouts for Figure 2-3

Callout	Description
1	Ceiling-installed 1' x 4' (0.30 m x 1.22 m) recessed indirect lighting fixtures.

Figure 2-4 Option 2: 2' x 2' (0.61 m x 0.61 m) Recessed Indirect Lighting Fixtures



343554

Table 2-9 Callouts for Figure 2-4

Callout	Description
1	Ceiling-installed 2' x 2' (0.61 m x 0.61 m) recessed indirect lighting fixtures

Network Port Requirements For the TX9000 and TX9200

The TX9000 and TX9200 require a single Gigabit Ethernet port (RJ-45 UTP) installed on the wall behind the system. This port connects the CTS primary codec (TS1), which is the main interface between the CTS endpoint and the network, to the network infrastructure.

The CTS primary codec and participant convenience port connectivity options are listed in [Table 2-10](#).

Table 2-10 TX9000 Network Access Requirements

Options	# of Ports	Connection	Notes
CTS Codec (Required)	1	Wired	RJ-45 UTP Gigabit Ethernet on wall behind the system.
Option 1 for Participant Convenience Ports	1	Wireless	Customer provides wireless access.

Table 2-10 TX9000 Network Access Requirements

Option 2 for Participant Convenience Ports	1	Wired with switch in room.	An additional RJ-45 UTP port should be provided on the wall behind the system for the switch.
Option 3 for Participant Convenience Ports	6 (TX9000) or 18 (TX9200)	Wired directly to wall with switch in wiring closet	Six additional RJ-45 UTP ports provided on the wall behind the system.

Consult with your network administrator on which participant convenience port option is best for your telepresence deployment.

**Note**

Any switches installed in the TelePresence room must meet your company's network policies. They must also meet the sound requirements of TelePresence room remediation. Switches should not generate more than 45dB of sound within the TelePresence room.

Power Requirements For the TX9000 and TX9200

[Table 2-12](#) provides you with the maximum required power for each system component. [Table 2-13](#) provides you with the power requirements if you provide power in the table legs for conference participants. Use these numbers to calculate the power requirements for your system.

**Note**

The PDUs use power cords with power plugs that are generally rated at either 20 amps at 120 volts, or 10 amps at 240 volts. For more information and pictures of the plugs, see [Appendix C, "Region- and Country-Specific Power Cords and Table Leg Power Connectors."](#)

**Note**

If your area has variable power quality (for example, if your power grid has power spikes or sags, frequent outages, or changing frequencies), your Cisco TelePresence equipment can be adversely affected. Installing your equipment into an area where power quality is an issue might require additional power remediation, including an uninterruptible power supply (UPS), power conditioner, and/or surge protector.

The total current draw for your system should be lower than these maximum numbers.

Table 2-11 Summary of Power Requirements

Power Requirements per Room	
Total power requirements for the TX9000 and TX9200 systems, excluding power in table legs for conference participants	2.93 kW
Power in table legs for six conference participants (TX9000)	1.44 kW ¹
Power in table legs for 18 conference participants (TX9200)	4.32 kW ²
POWER TOTAL including power in table legs for TX9000	4.37 kW
POWER TOTAL including power in table legs for TX9200	7.25 kW
Total watts required per PDU: See Table 2-14	

Table 2-11 Summary of Power Requirements (continued)

Number of Power Receptacles Required Per Room	
Power receptacles required, excluding power in table legs—TX9000 and TX9200	4
Power receptacles required, including power in table legs—TX9000	5
Power receptacles required, including power in table legs—TX9200	7

1. For systems that use South Africa laptop connections, change this number to 0.96 kW. For more information, see [Table 2-13](#).
2. For systems that use South Africa laptop connections, change this number to 2.64 kW. For more information, see [Table 2-13](#).

Peripherals such as document cameras or alternate displays will require additional power. Placement will depend on the type and location of the peripheral device.

Table 2-12 Power Requirements for System Components

Component	Number of Units	Maximum Per Unit in Watts	Typical Per Unit in Watts	Standby/Idle Per Unit in Watts
Codec	4	129.60	99.60	72.00
Audio/Video extension unit	1	44.40	30.00	30.00
Light Control Unit (LCU)	1 ¹	216.0	216.0	27.6
Camera processor module	1	36	16.8	16.80
65-inch display	3	600.0	552.0	48.00/1.20
Presentation display	1	312.0	252.0	21.60/1.20
POWER TOTAL for TX9000 and TX9200, excluding power in table legs for conference participants		2926.8	2569.2	528.0/367.2

1. There are two power supplies for the LCU. Each power supply draws half this number.

Table 2-13 Power Requirements for Power in Table Legs for Conference Participants (Optional)

Component	Number of Units	Maximum Per Unit in Watts	Typical Per Unit in Watts	Standby/Idle Per Unit in Watts
Participant Convenience Ports, front row (6 participants)	6 ¹	240	28.3	0.00
Participant Convenience Ports, second row (12 participants)	12 ¹	240	28.3	0
POWER TOTAL for 6 participants for TX9000	1	1440	170	0
POWER TOTAL for 18 participants for TX9200	1	4320	510	0

1. For systems that use South African power outlets (part number CTS-LAPCONN-SA, 74-1195-01), only one outlet per table leg is allowed due to the size of the outlet. For these systems, change the convenience port number from 6 to 4 for the front row, and from 12 to 7 for the second row. The power total changes from 1440 to 960 watts for six participants, and from 4320 to 2640 watts for 18 participants. The number of PDUs required is the same.

The TelePresence TX9000 and TX9200 use Power Distribution Units (PDUs) to connect the components to the power circuits. See [Table 2-14](#) and [Table 2-15](#) for the wattage that is required for each PDU.

**Note**

US electrical code requires a maximum of 16 amps on a 20 amp circuit.

Table 2-14 *Components and Total Power Usage in Watts per Power Distribution Unit (PDU)*

PDU	Components
PDU 1 	Power supply for LCU (1 of 2) Codec TS2 Left display Total watts: 837.6
PDU 2 	Power supply for LCU (2 of 2) Codec TS1 Audio/video extension unit Presentation display Camera processor module Total watts: 630
PDU 3 	Codec TS3 Right display Total watts: 729.6
PDU 4 	Codec TS4 Center display Total watts: 729.6

Table 2-15 *Components and Total Power Usage in Watts per Power Distribution Unit (PDU) for First and Second Row Conference Participants (Optional)*

PDU	Components
PDU 5 	Power supply for front row/first row conference participants (TX9000 and TX9200 systems) Total watts: 1440

Table 2-15 *Components and Total Power Usage in Watts per Power Distribution Unit (PDU) for First and Second Row Conference Participants (Optional) (continued)*

<p>PDU 6</p> 	<p>Power supply for second row conference participants (1 of 2) (TX9200 systems only)</p> <p>Total watts: 1440</p>
<p>PDU 7</p> 	<p>Power supply for second row conference participants (2 of 2) (TX9200 systems only)</p> <p>Total watts: 1440</p>

Cabling and Room Considerations for Second Row Seating For the TX9200

To connect the participant convenience ports in the TX9200 second row seating, a cable trench or an under-carpet cable conveyance solution is recommended. The position of the trench or cable conveyance is shown in [Figure 2-5](#).

You use this conveyance to provide access between the rear of the system and the microphone cables for the second row. You can also use this conveyance to add power and Ethernet connectivity for second row conference participants. To add power connectivity, you need to provide a floor-mounted electrical termination unit (for example, a junction box with two electrical outlets) on the right edge of the second row table. See [Figure 2-7](#) for an example.

The trench or cable conveyance should be able to allow a clear separation between the power cable, microphone cable, and Ethernet cable bundles. One exit of the trench should come out behind the right plasma.

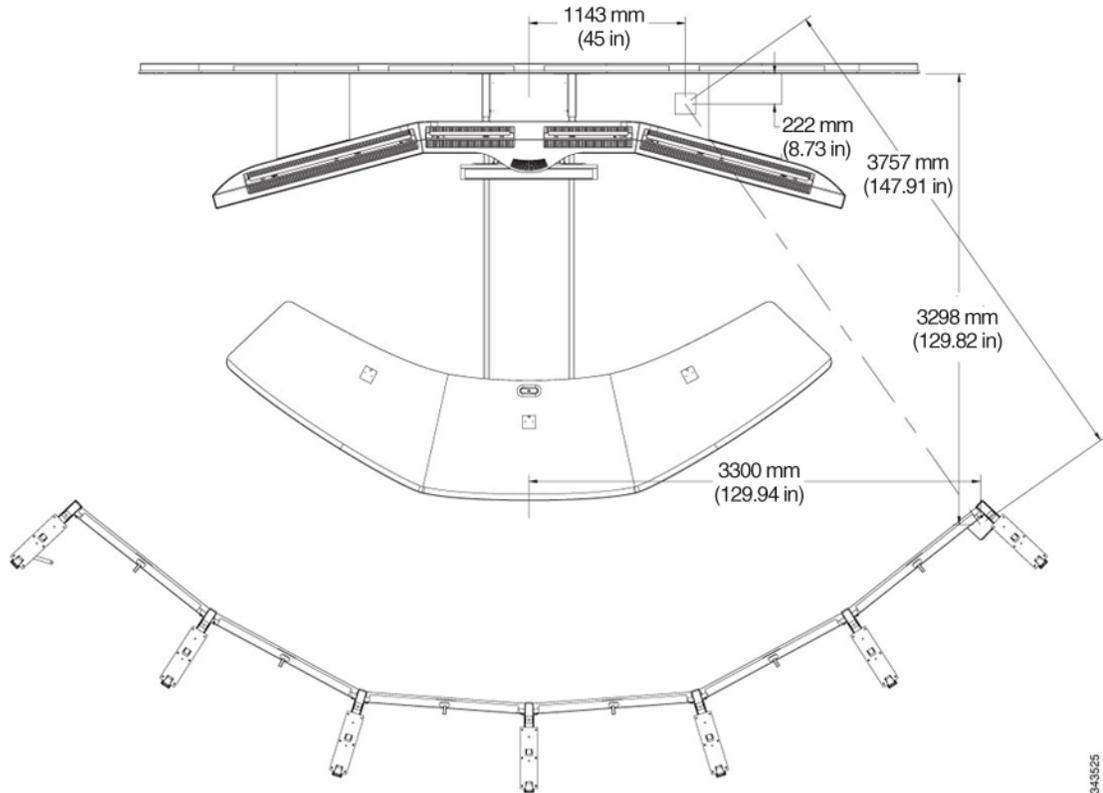
The microphones are connected through a microphone extension lead and the maximum distance between the microphones to the codec is 17.5 meters (57.4 feet). The extension microphone lead is 9 meters (29.5 feet). Any longer distance between the microphone and primary codec introduces noise and is not supported. The Ethernet cables which are connecting the participants in the second row are 10 meters (32.8 feet) long and the two Power Distribution Units which are used to provide power to the second row have 7 meter (23 feet) long cables.

If you are unable to route the cables under the floor, be sure that your alternative solution (such as an under-carpet cable conveyance) follows all local fire, building, accessibility, and safety codes. Alternately, power and data could be taken directly from the back wall in another trench as long as it follows all local fire, building and safety codes.

**Caution**

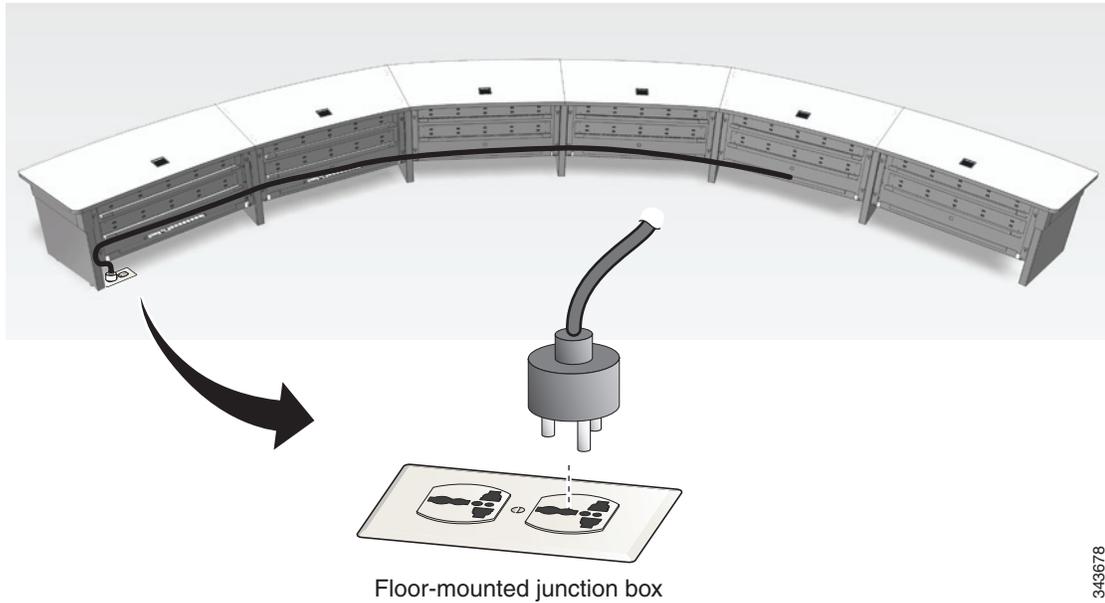
THESE MEASUREMENTS DEPEND ON THE PLACEMENT OF THE REFLECTOR WALL. Failure to account for the reflector wall depth can result in an incorrect trench location. For systems that use a wall-mounted reflector wall, add 3" (76 mm) to the rear wall dimensions to account for the thickness of the reflector wall and mount. For free-standing systems that use the minimum distance between the reflector wall and the wall of the room, add 8" (203 mm). Add more depth if you plan to install the reflector wall farther away from the rear wall.

Figure 2-5 Cable Trench Location for TX9200



To provide power to second row participants, you need to provide an electrical power source that is located to the right side of the second row table. For an example information, see [Figure 2-6](#).

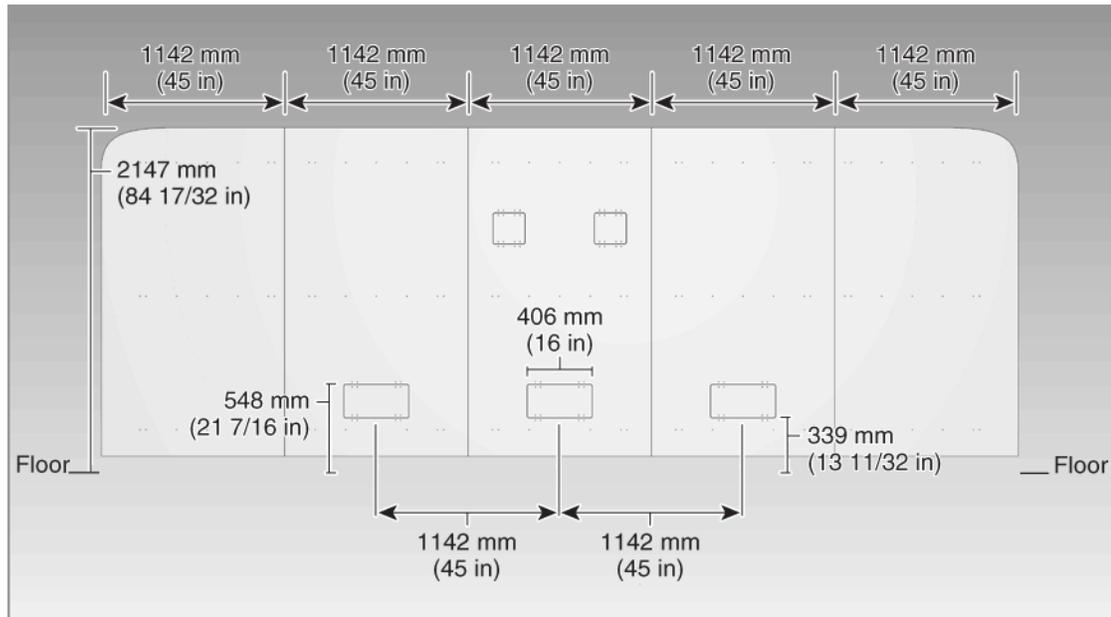
Figure 2-6 Example of Floor-Mounted Junction Box for Second Row Power Connectivity



Location of Electrical Outlets for Systems that Use a Wall-Mounted Reflector Wall

If your system uses a reflector wall that attaches directly to the wall, you should design a room with electrical outlet placement as shown in [Figure 2-7](#).

Figure 2-7 Location of Cutouts in the Wall-Mounted Reflector Wall



HVAC Considerations For the TX9000 and TX9200

This section includes the heating, ventilation, and air conditioning (HVAC) recommendations and requirements for the TX9000 and TX9200 systems and includes the following topics:

- [HVAC Considerations for the TX9000, page 2-17](#)
- [HVAC Considerations For the TX9200, page 2-20](#)

HVAC Considerations for the TX9000

Planning the cooling for a TX9000 TelePresence room is important to ensure the room remains comfortable for participants and to protect the equipment by maintaining normal operating temperatures.



Caution

HVAC considerations should be given from the initial phase of choosing a room. Installing new cooling (or heating) systems can be time-consuming.

The table summarizes the specific BTU output of a TX9000 when deployed as recommended and under typical operating conditions. Please provide this information to your building HVAC engineer.

The qualifier **typically** assumes:

- The system is not used constantly 24 hours a day, seven days a week, every week.
- Deployment follows Cisco recommendations.
- The room is located within a building interior.
- The room has proper air circulation.

- The room's walls are painted with colors that are based on the TX9000 and TX9200 color palette. For more information, refer to the *Cisco TelePresence Wall Color Guide* at the following URL:
http://www.cisco.com/en/US/solutions/ns669/networking_solutions_products_genericcontent0900aecd80554cb2.html.
- The target room temperature expected is 72-76 degrees F (22.2-24.4 degrees C).
- From these guidelines and for typical usage, a diversity factor of 25 percent is assumed which lowers cooling requirements.

**Note**

Note: Conditions not consistent with the above may require additional cooling. Consult with your HVAC engineer to define building envelope and unique requirements. Additional equipment such as data displays, document cameras, etc., require additional cooling.

Table 2-16 CTS BTU Output with 25% diversity

Source	Typical kW	Typical Usage BTUs/hr
System Power	2.27	5800
System Lighting	0.35	891
6 Participants (Avg)	0.39	998
3 Laptops (Avg)	0.17	422
Ceiling Lights (1.4w/sqft)	0.53	1357
	Total Typical Heat Dissipation	9,500 BTU/Hr

To ensure efficient cooling of the room, the air intake and outflows should be placed as described in [Figure 2-8](#).

Figure 2-8 HVAC Placement Example

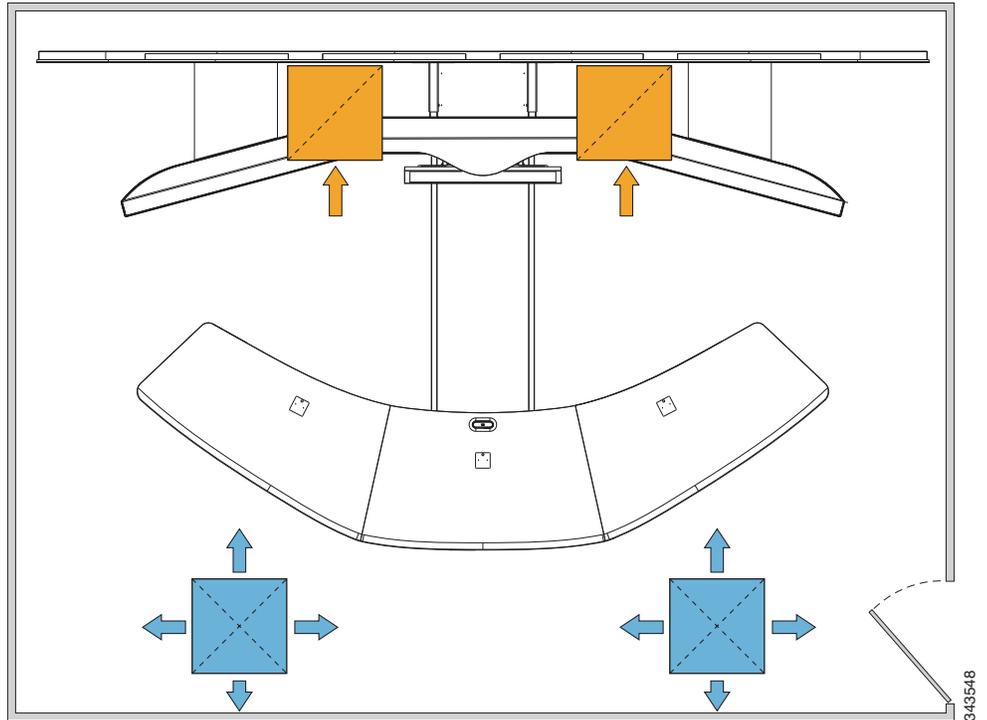
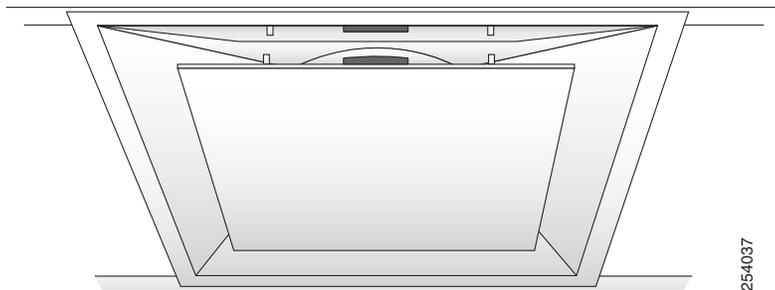


Table 2-17 Callouts for Figure 2-8

Callout	Description
Orange box with one arrow	Air intake.
Blue box with four arrows	Air outflow.

For greater volume of airflow with less noise, we recommend using an NC 30 Rated Diffuser in your HVAC design. HVAC systems without diffusers may generate ambient noise loud enough to interfere with the audio in the room.

Figure 2-9 NC 30 Rated Diffuser



HVAC Considerations For the TX9200

Planning the cooling for a TX9200 TelePresence room is important to ensure the room remains comfortable for people in it and to protect the equipment by maintaining normal operating temperatures.



Caution

HVAC considerations should be given from the initial phase of choosing a room. Installing new cooling (or heating) systems can be time-consuming.

The table summarizes the specific BTU output of a TX9200 when deployed as recommended and under typical operating conditions. Please provide this information to your building HVAC engineer.

The qualifier **typically** assumes:

- The system is not used constantly 24 hours a day, seven days a week, every week.
- Deployment follows Cisco recommendations.
- The room is located within a building interior.
- The room has proper air circulation.
- The room's walls are painted with colors that are based on the TX9000 and TX9200 color palette. For more information, refer to the *Cisco TelePresence Wall Color Guide* at the following URL:
http://www.cisco.com/en/US/solutions/ns669/networking_solutions_products_genericcontent0900aecd80554cb2.html.
- The target room temperature expected is 72-76 degrees F.
- From these guidelines and for typical usage, a diversity factor of 25 percent is assumed which lowers cooling requirements.



Note

Conditions not consistent with the above may require additional cooling. Consult with your HVAC engineer to define building envelope and unique requirements. Additional equipment such as data displays, document cameras, etc., require additional cooling.

Table 2-18 TX9200 BTU Output with 25% diversity

Source	TX9200	
	Typical kW	Typical Usage BTUs/hr
System Power	2.46	6286
System Lighting	0.35	891
12 Participants (Avg)	0.78	1997
8 Laptops (Avg)	0.44	1126
Ceiling Lights (1.4w/sqft)	0.99	2534
	Total Typical Heat Dissipation	12,800 BTU/Hr

Acoustic Considerations For the TX9200

For the immersive meeting environment, the specifications are:

- Ambient Noise less than 45 dBA (ideally at 36 dBA)
- RT60 less than 500 ms (not to exceed 700 ms for non voice critical frequencies)
- Noise Criteria no greater than 30

Meeting rooms large enough to accommodate a TX9200 built of drywall, suspended ceilings, and carpeting that have exposed, parallel hard surfaces, usually promote reverberation to levels greater than 500ms to nearly 900ms (1.2 seconds), creating echoes in the room. The echo cancellation in the TX9200 codec may compensate for this in the audio broadcast to remote participants; however, local sound quality will be degraded in this type of unremediated acoustic environment. Because of this, acoustic treatment is required for TX9200 rooms.

There are two options for acoustic treatment, installing asymmetrical acoustic panels or applying acoustic treatment to all wall surfaces in the room.

Asymmetrical Acoustic Wall Treatment

As shown in [Figure 2-10](#), staggered acoustic panels are placed on the opposing drywall surfaces such that no bare wall surfaces face each other. This option provides more natural (versus less recording studio-like) sound characteristics in the room.

Figure 2-10 *Asymmetrical Treatment with Acoustic Panels*

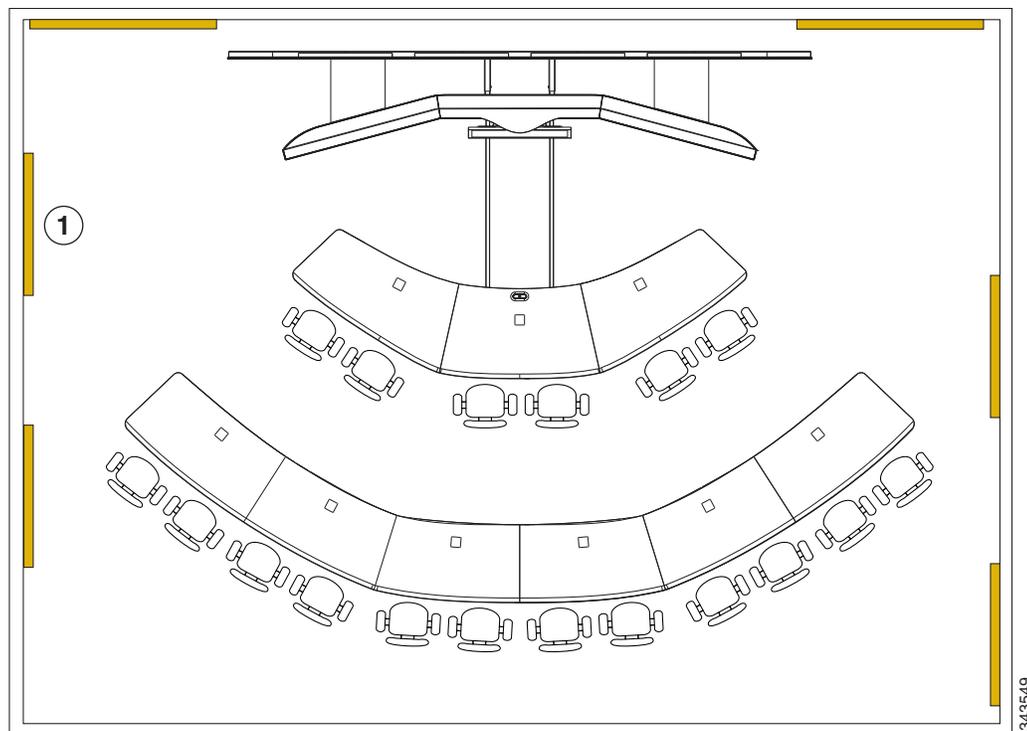
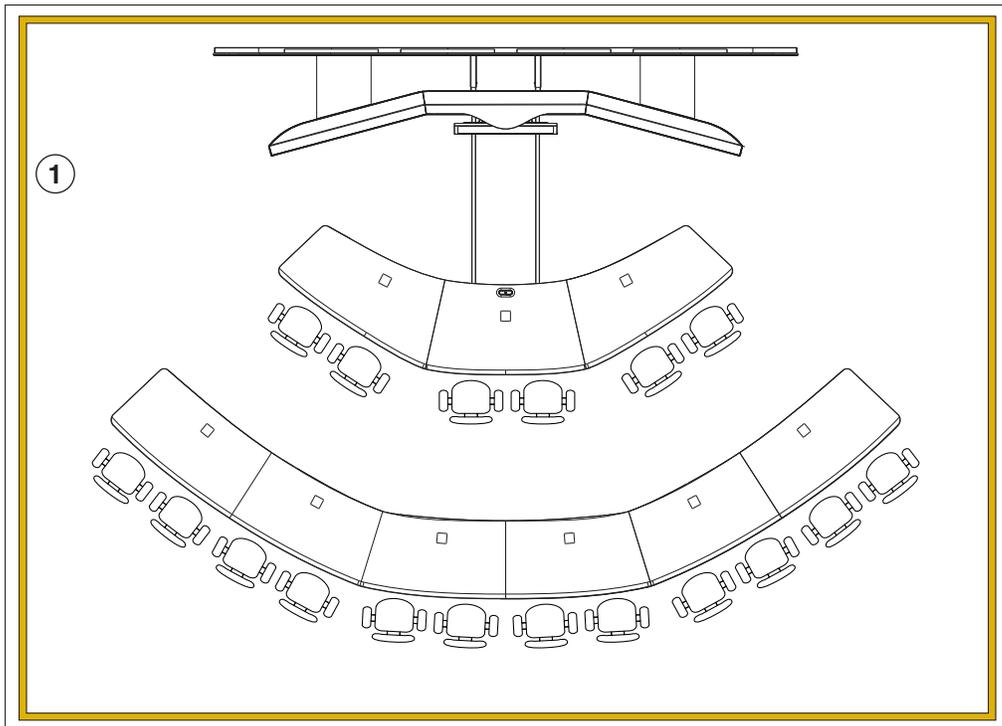


Table 2-19 Description of Callout for [Figure 2-10](#)

Callout	Description
1	Acoustic panel mounted on wall surface.

Complete Acoustic Wall Treatment

In complete acoustic wall treatment, all wall surfaces are covered by acoustic paneling, as shown in the following figure, though not necessarily from floor to ceiling. This creates a recording studio-like audio environment. This is optimal for clarity of audio transmission during a meeting and for recording meetings for playback; however, in-room participants may find the room uncomfortably muted or muffled as natural environments contain reverberation and echo. Which acoustic treatment you choose should be based how the room will be used and the participant expectations of the room experience.

Figure 2-11 Complete Acoustic Panel Treatment**Table 2-20** Description of Callout for [Figure 2-11](#)

Callout	Description
1	Continuous acoustic paneling covering all room walls.

Auxiliary Display Considerations For the TX9200

The TX9200 has an LCD display below its three primary video displays. Content below the primary video displays is difficult for participants in the second row to see. The solution to this is that both systems include a 4-port HD video (uses HDMI connector) splitter for additional external displays as part of the audio-video expansion unit.

This splitter enables you to add up to three additional data displays in the room so that second-row participants can easily view shared data. It also gives you flexibility to choose the number, size, and location of the extra displays in the room. We would recommend at least a 50 inch display when using one in the center above the CTS unit or two 46 inches displays when they are located on both sides of the unit, as shown in [Figure 2-12](#).

If you want to install auxiliary displays using ceiling mounts, use the measurements provided in [Figure 2-12](#) through [Figure 2-14](#) and [Table 2-21](#) through [Table 2-23](#) to mount them.



Caution

Cisco does not provide the ceiling mounts. Make sure that the ceiling can structurally support the mount and that the installation complies with all applicable building codes and regulations.

Figure 2-12 Auxiliary Display Considerations

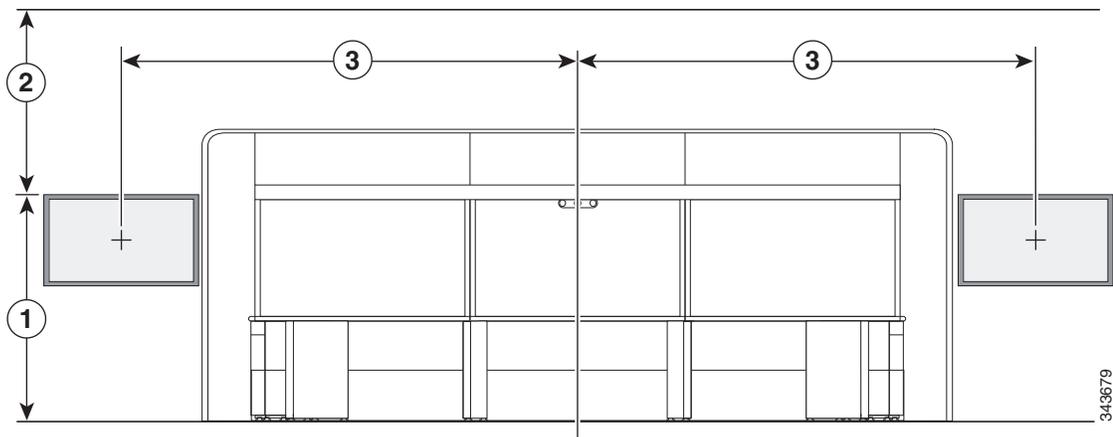


Table 2-21 Callouts for [Figure 2-12](#)

Callout	Description
1	Height for a side mounted position is 64" (1.63 m) from floor.
2	Distance from the ceiling varies depending on ceiling height. Check the height of the room prior to additional display selection and installation. The TX system is 5'6" (1.68 meters) high, and the reflector wall is 7' (2.13 meters) high.
3	The lateral position for a side-mounted display is 10'6" (3.20 cm) from the center of TX9200. Note These measurements for side displays are based on 46-inch displays. For wider displays, move the displays farther away from the midpoint of the system.

Figure 2-13 Measurements for Ceiling Mounted Auxiliary Displays—Systems With a Free-Standing Reflector Wall

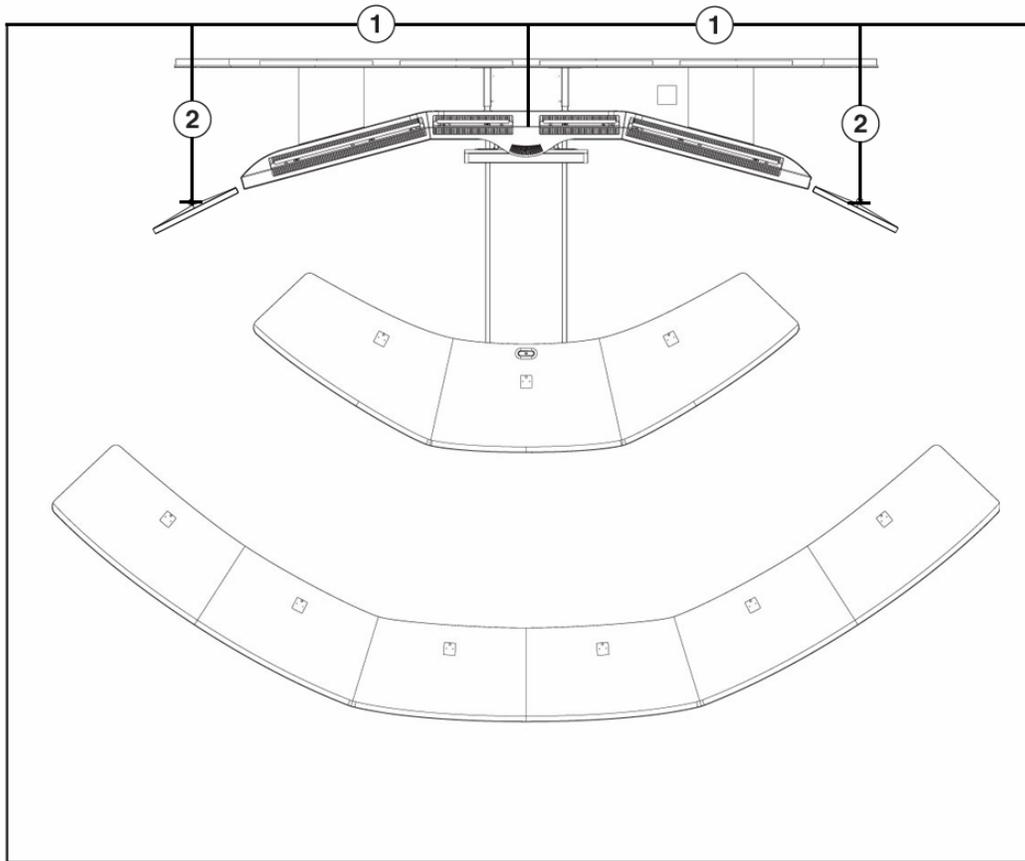


Table 2-22 Callouts for Figure 2-13

Callout	Description
1	The distance from the midpoint of the TX9200 system to the midpoint of the auxiliary display mount is 10'6" (3.20 meters). Note These measurements for side displays are based on 46-inch displays. For wider displays, move the displays farther away from the midpoint of the system.
2	The distance between the front edge of the room wall and the midpoint of the auxiliary display mount is 4'8" (1.42 meters).

Figure 2-14 Measurements for Ceiling Mounted Auxiliary Displays—Systems With a Wall-Mounted Reflector Wall

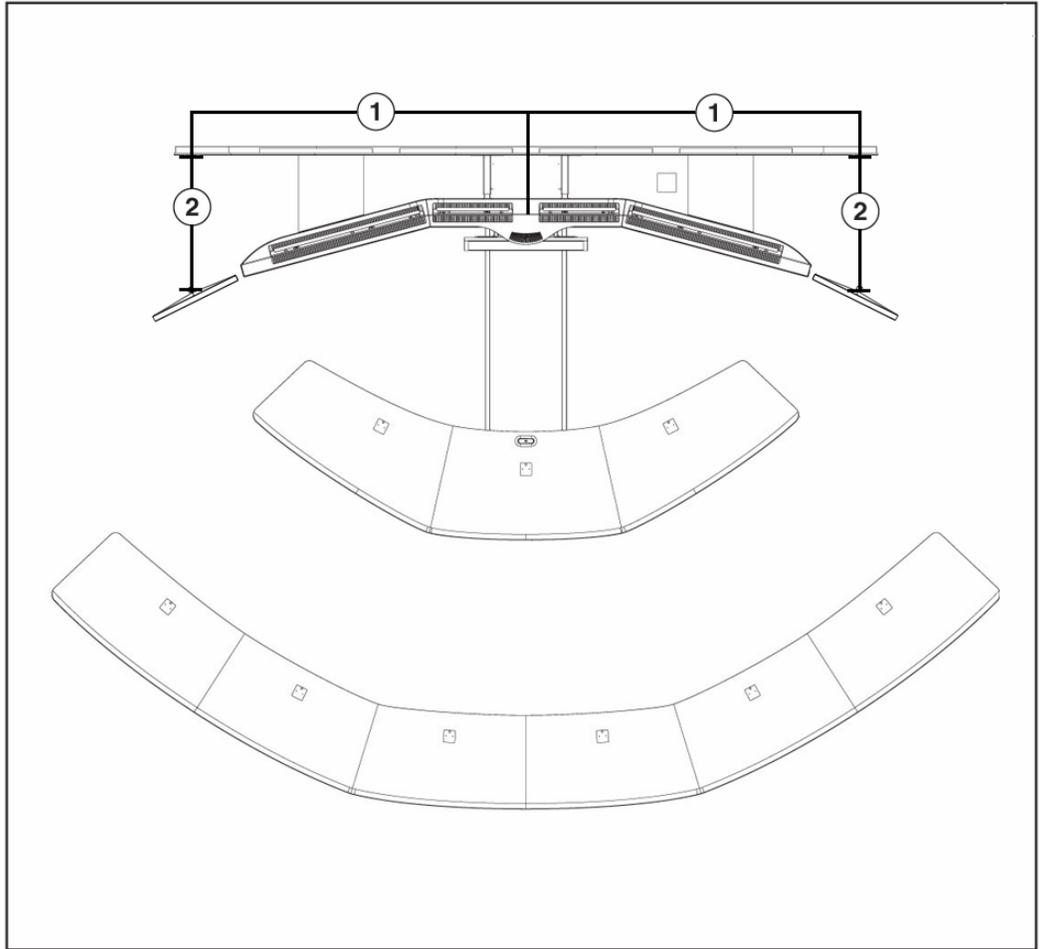


Table 2-23 Callouts for [Figure 2-13](#)

Callout	Description
1	<p>The distance from the midpoint of the TX9200 system to the midpoint of the auxiliary display mount is 10'6" (3.20 meters).</p> <p>Note These measurements for side displays are based on 46-inch displays. For wider displays, move the displays farther away from the midpoint of the system.</p>
2	<p>The distance between the front edge of the reflector wall and the midpoint of the auxiliary display mount is 4' (1.23 meters).</p> <p>Note If the reflector wall has not yet been installed, measure 4'2 7/8" (1.29 meters) from the front edge of the room wall.</p>



Installing the Wall-Mounted Reflector Wall Structure

Revised: May 20, 2015, OL-27038-01

This chapter describes the tasks you perform to mount a reflector wall directly to the room wall. If you have a free-standing wall, first complete the tasks in the [Chapter 4, “Installing And Performing Initial Leveling of the Main Display Structure,”](#) then continue to [Chapter 6, “Installing the Free-Standing Reflector Wall Structure”](#) to install the reflector wall.



Note

The electrical outlets in the room must be directly behind the cutouts on the reflector; alternatively, you can cut holes into the wall to accommodate the outlets. For the location and dimensions of the cutouts, see the [“Location of Electrical Outlets for Systems that Use a Wall-Mounted Reflector Wall”](#) section on page 2-16 in [Chapter 2, “Room Requirements for the TX9000 and TX9200 Systems.”](#)



Note

Anchors that fasten the brackets to the wall are not provided. You must purchase appropriate fasteners depending on your type of wall (concrete, concrete block, brick, or drywall). A minimum of 27 fasteners are required.

All types of walls require an anchor. If your wall is drywall, it is recommended that the screws go through the stud.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



Caution

Cisco recommends that you wear safety gloves and safety glasses when installing the system.



Note

The directions *left* and *right* refer to the assembly as you face the displays.

Installing the Reflector to the Wall

- Step 1** Make a note of the outlets that are on the wall on which the reflector will be mounted. See the “[Location of Electrical Outlets for Systems that Use a Wall-Mounted Reflector Wall](#)” section on page 2-16 for more information.
- Step 2** Install the horizontal L brackets by completing the following tasks:
- Mark the center of the room, or the center of the installation point for the system.
 - Mount the center L bracket 100mm (4 inches) above the floor and centered to center mark you placed in Step a.
 - Install the left and right L brackets to the wall, keeping all L brackets horizontally level in relation to each other.
- See [Figure 3-2](#) to see how the L brackets connect.


Tip

Use a level or a straight edge to align the top surfaces of the L brackets.

- Anchors that fasten the brackets to the wall are not provided. You must purchase appropriate fasteners depending on your type of wall (concrete, concrete block, brick, or drywall). A minimum of 27 fasteners are required. All wall types require an anchor.
- If your wall is drywall, it is recommended that the screws for each L bracket go through at least one stud. Use anchors for the rest of the mounting points. If the screw holes do not line up with the stud, you can drill additional holes in the L bracket to line the screw up with the stud.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Horizontal L bracket, center	700-38159-01 Kit #69-2291-xx	1	43-A CTS-TX9K-LTRF-PNL-OPT	
2	Horizontal L bracket, left	700-38160-01 Kit #69-2291-xx	1	43-A CTS-TX9K-LTRF-PNL-OPT	
3	Horizontal L bracket, right	700-38161-01 Kit #69-2291-xx	1	43-A CTS-TX9K-LTRF-PNL-OPT	
4	Vertical Z bracket, center	700-38163-01 Kit #69-2390-xx	4	43-D	Installed in Step 3
5	Vertical Z bracket, left	700-38164-01 Kit #69-2390-xx	1	43-D	Installed in Step 3
6	Vertical Z bracket, right	700-38165-01 Kit #69-2390-xx	1	43-D	Installed in Step 3

Figure 3-1 Attaching the L Brackets (1 of 2): Mounting System Detail

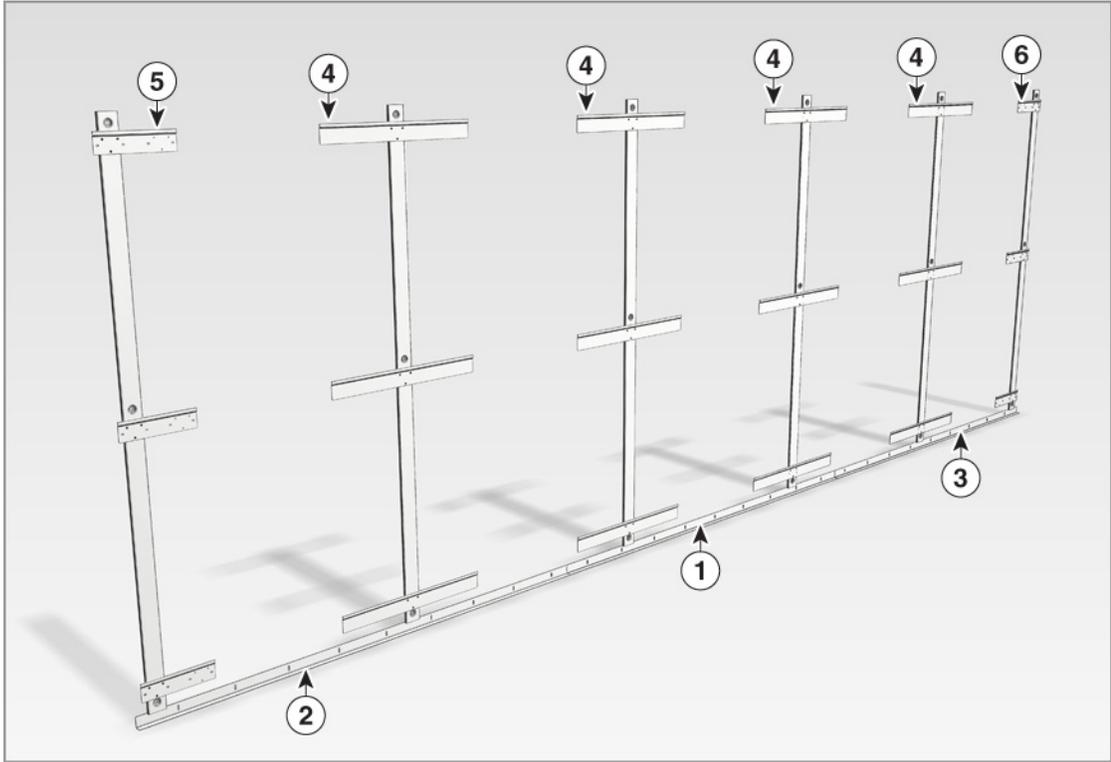
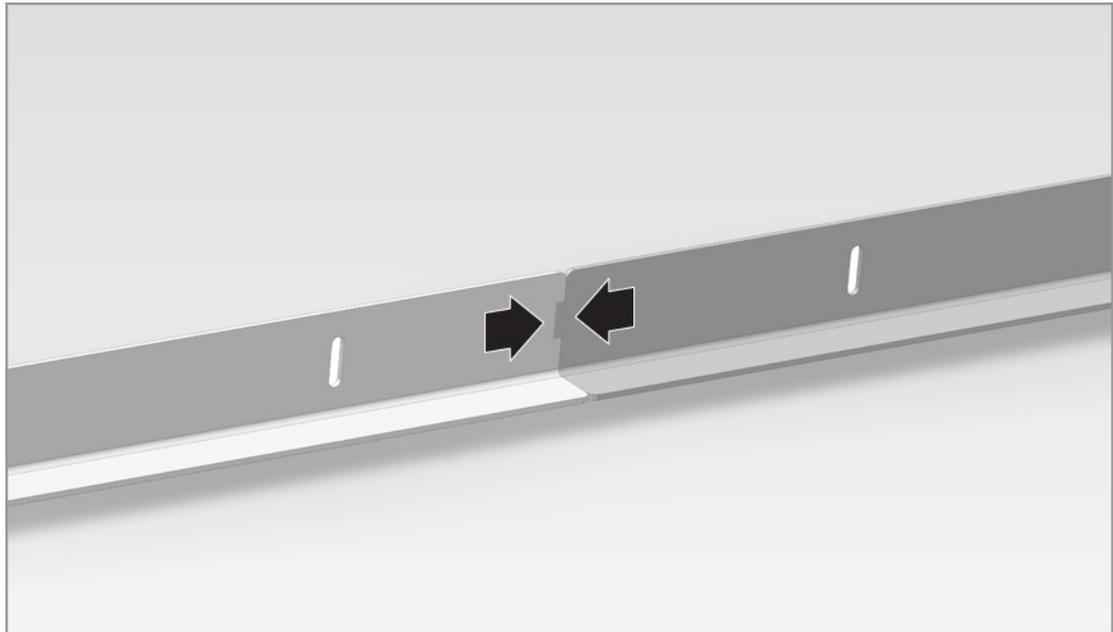


Figure 3-2 Attaching the L Brackets (2 of 2): Edge Joining Detail



Step 3 Attach the vertical Z brackets to the L brackets and attach the Z brackets to the wall. Use the notches in the L brackets as a guide. See [Table 3-1](#) and [Figure 3-3](#) for the measurements.



Note Make sure that the Z brackets are vertically level before you attach them to the wall.

Table 3-1 Measurement Descriptions

Measurement	Distance
Distance between mounting holes in horizontal L bracket	203.2 mm (8 inches)
Distance between floor and bottom hole of vertical Z bracket	165.5 mm (6 1/2 inches)
Distance between floor and middle hole of vertical Z bracket	1105.3 mm (43 1/2 inches)
Distance between floor and top hole of vertical Z bracket	1930.8 mm (76 inches)

Figure 3-3 Attaching the Z Brackets (1 of 2): Distance Measurements for Wall-Mounted Brackets

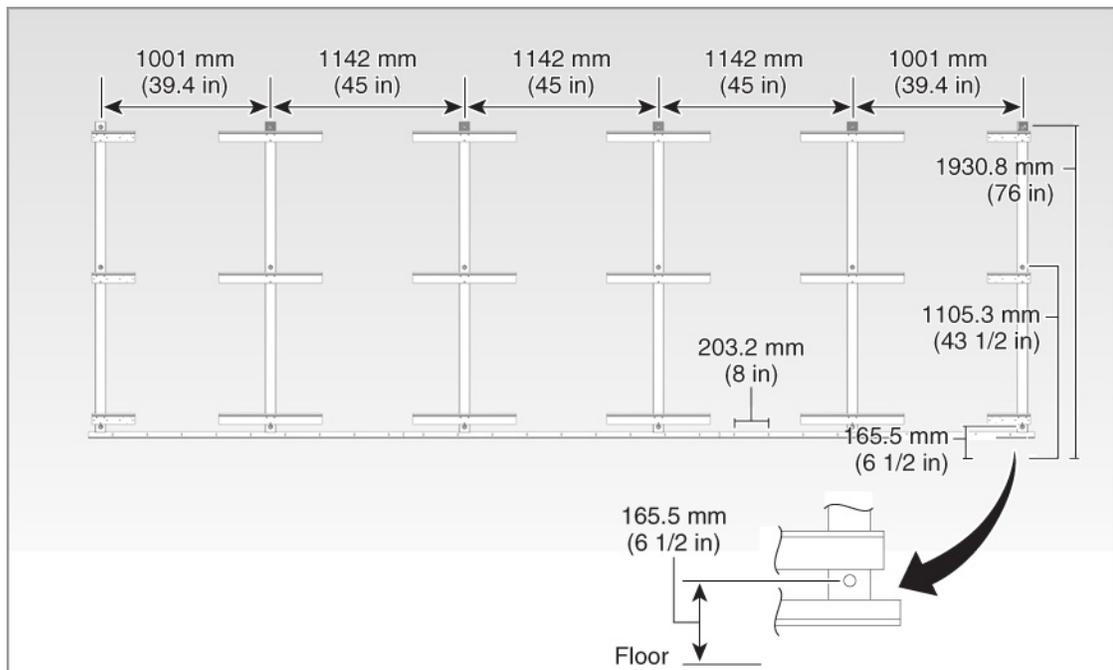
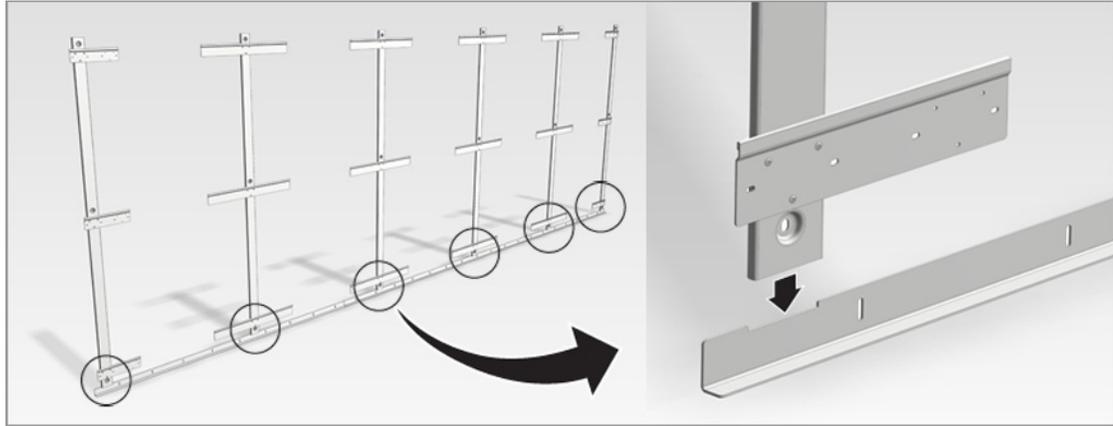


Figure 3-4 Attaching the Z Brackets (2 of 2): Detail of Notches

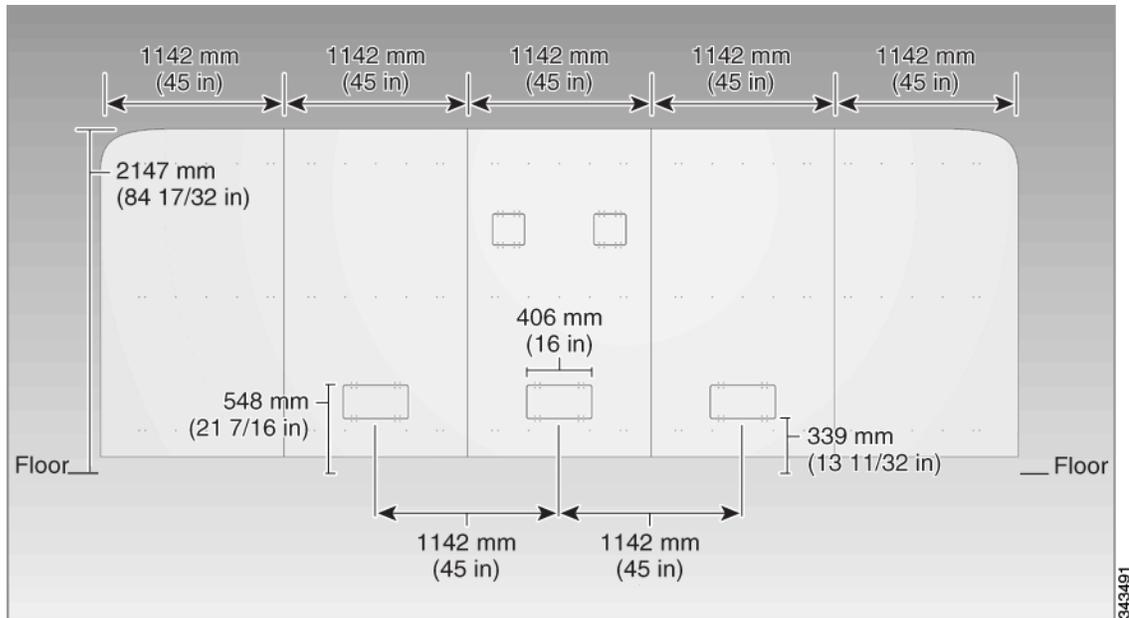


- Step 4** (Optional) If you require access to outlets on the wall, remove the access panels on the reflector panels to provide access to the electrical outlets on the walls by removing eight screws on the reverse side of the panel.



Note Be sure to follow all local, regional, and national electrical codes when you perform this step.

Figure 3-5 Removing the Access Panels (1 of 3): Cutout Measurements for Room Planning



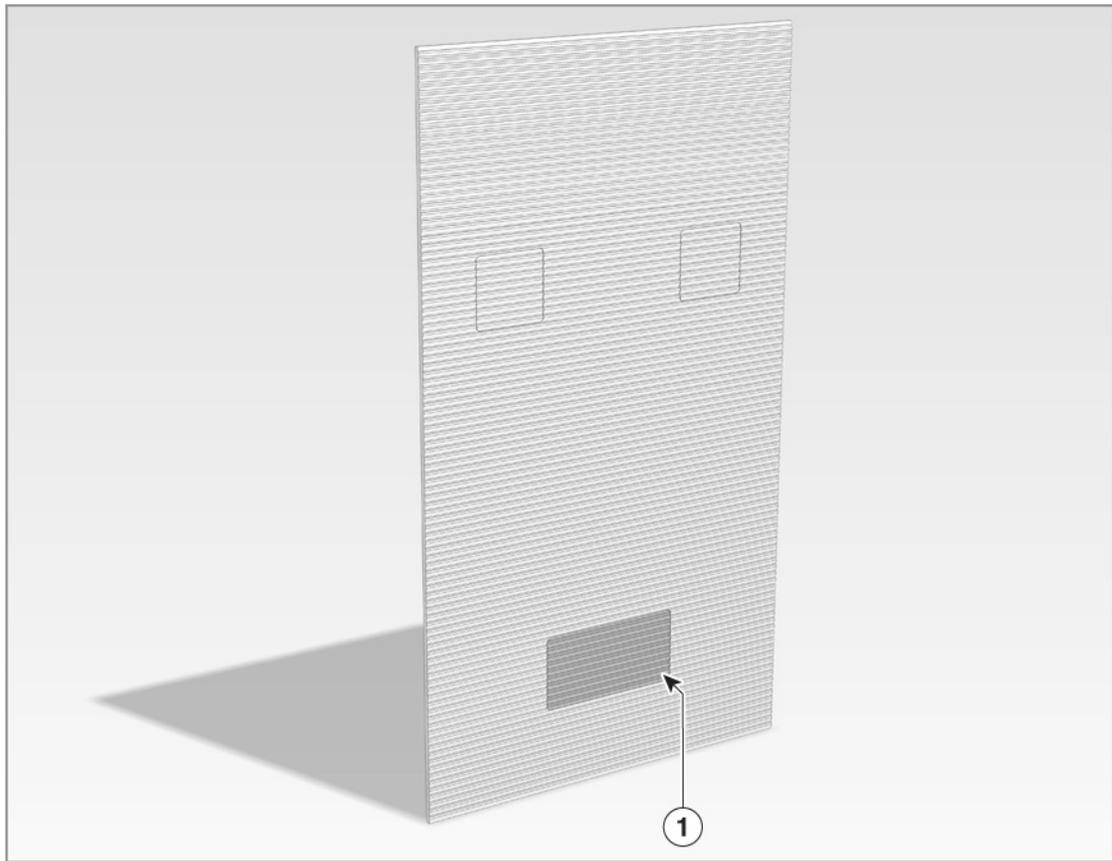
Step 5 (Optional) remove the electrical access panels from the center, center-left and center-right reflector panels.



Note Be sure to follow all local, regional, and national electrical codes when you perform this step.

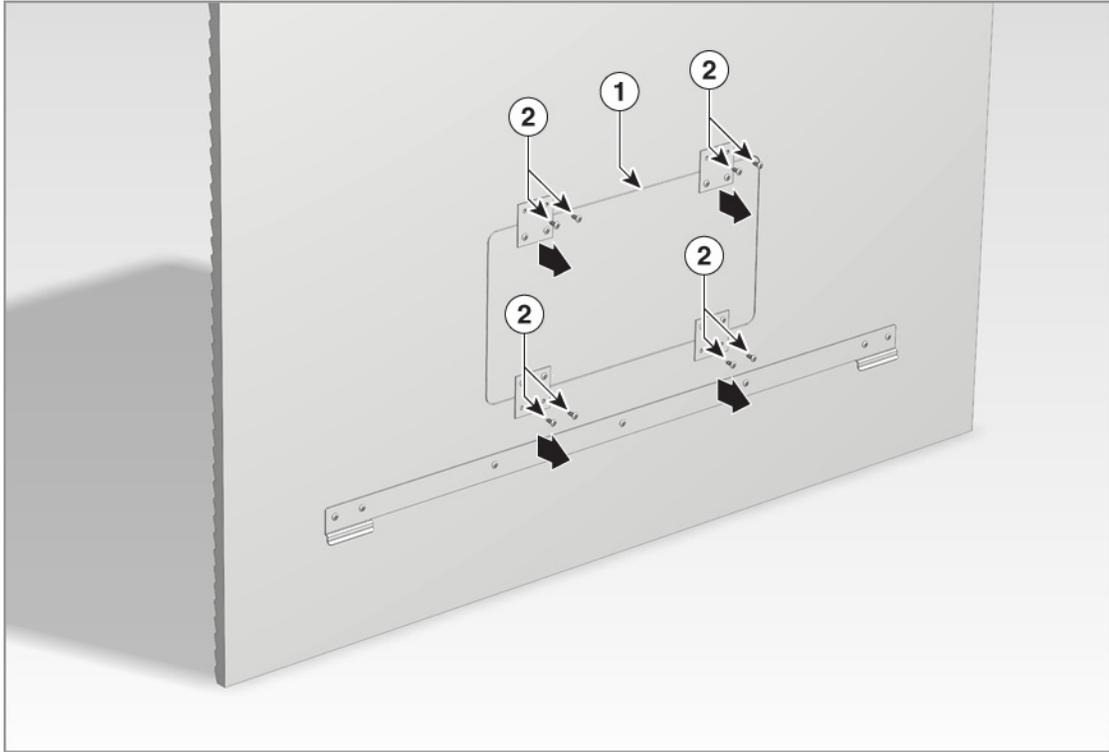
Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Access panel	N/A	1		Part of center reflector panel
2	Screws	N/A	8		Part of center reflector panel

Figure 3-6 Removing the Electrical Outlet Access Panels (2 of 3)



343505

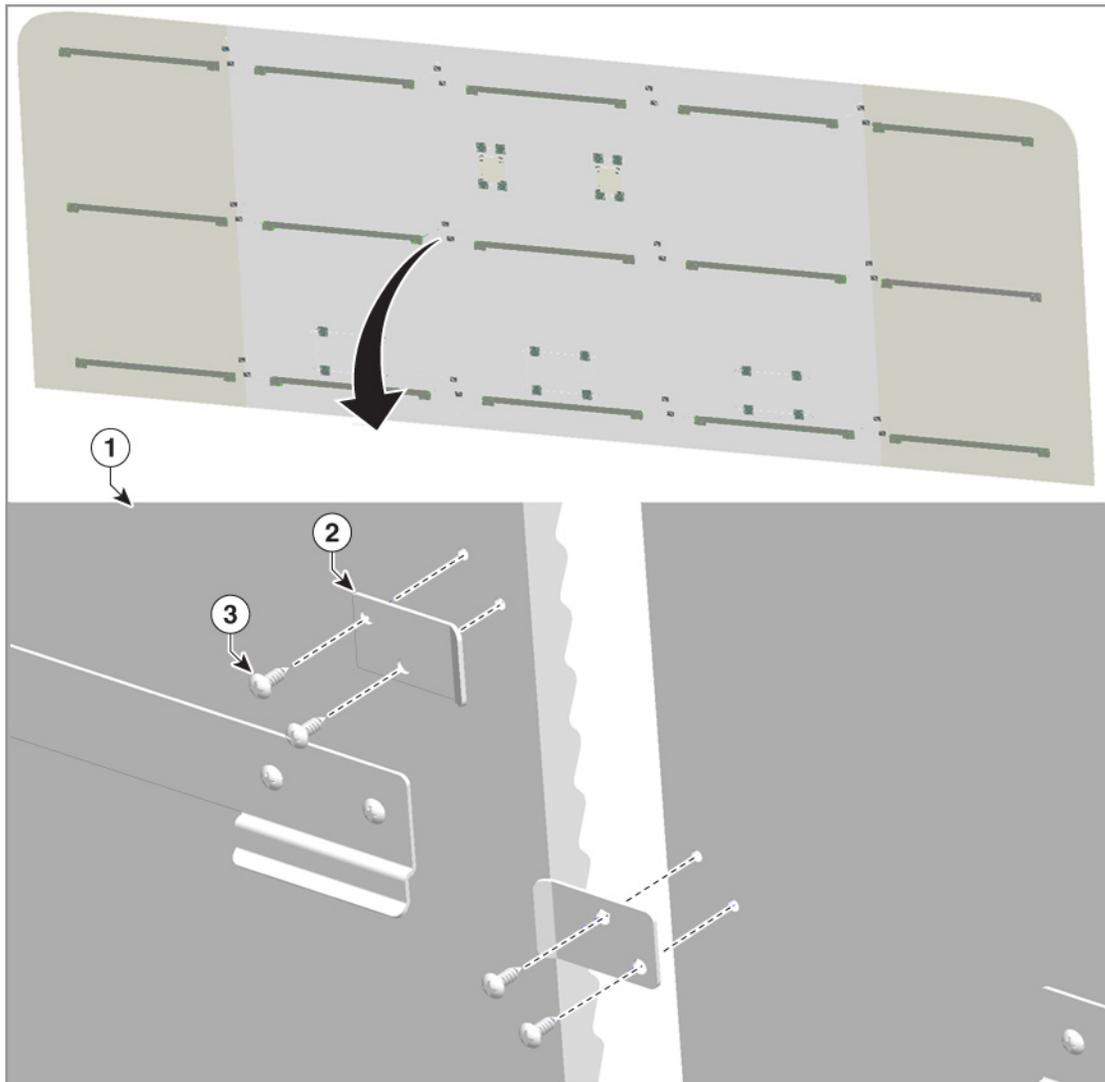
Figure 3-7 Removing the Electrical Outlet Access Panels (3 of 3)



Step 6 Attach the panel alignment tabs to the rear of the panels using the screws that are included in the reflector panel carton.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Reflector panels	N/A	N/A	N/A	
2	Panel alignment tabs	700-39916-01 Kit # 69-2291-xx	24	43-A	
3	Wood screws	See Notes	96	43-A	Included with the wall reflector panel carton

Figure 3-8 Installing the Panel Alignment Tabs to the Rear of the Panels



344547

Step 7 Install the panels by completing the following steps:



Note

Be careful not to mar the front of the panels while performing this installation.

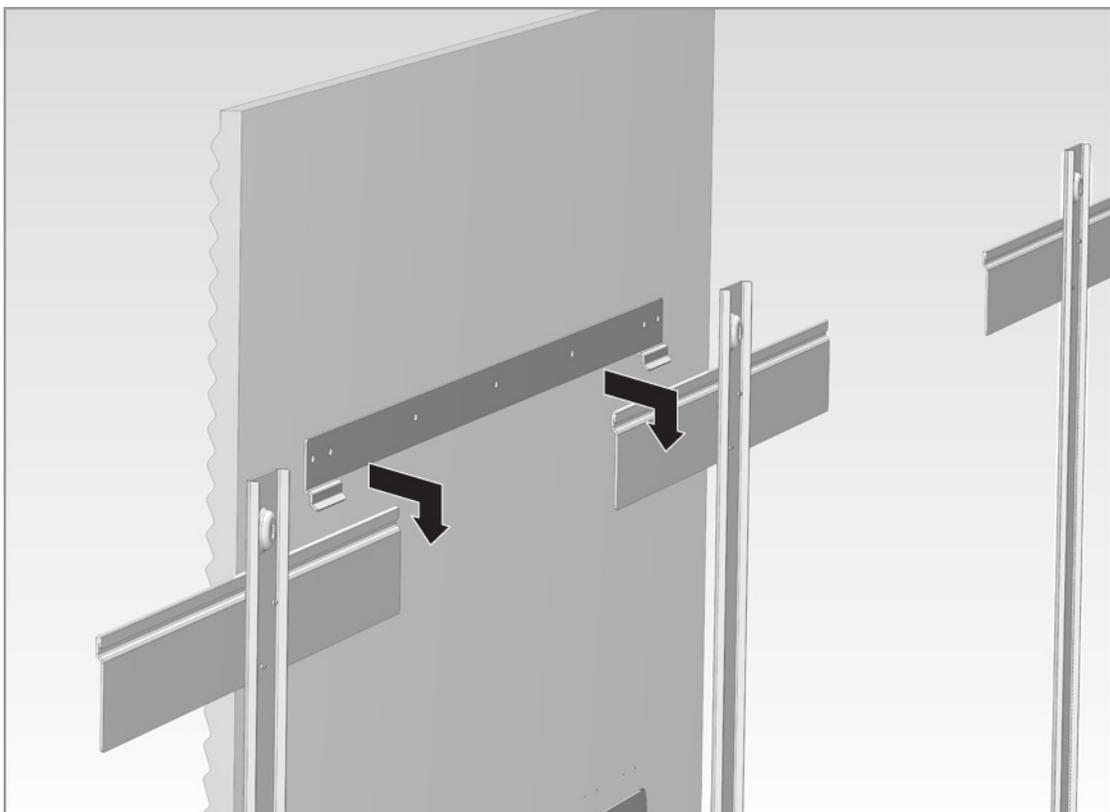
- a. Raise the panel so that the panel brackets are above the Z brackets.
- b. Press the panel against the wall.
- c. Lower the panel until it sits in the channels of the Z brackets.

Install the center panel first, then install the left-center and right-center panel.

- d. Adjust the panels to create a seamless wall.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Reflector Panel, center	700-36913-xx Kit #69-2291	1	43-A	
2	Reflector Panel, center-left and center-right	700-36911-xx Kit #69-2291	2	43-A	
3	Reflector Panel, far left	700-36906-xx Kit #69-2291	1	43-A	
4	Reflector Panel, far right	700-36910-xx Kit #69-2291	1	43-A	

Figure 3-9 Installing the Wall Reflector Panels

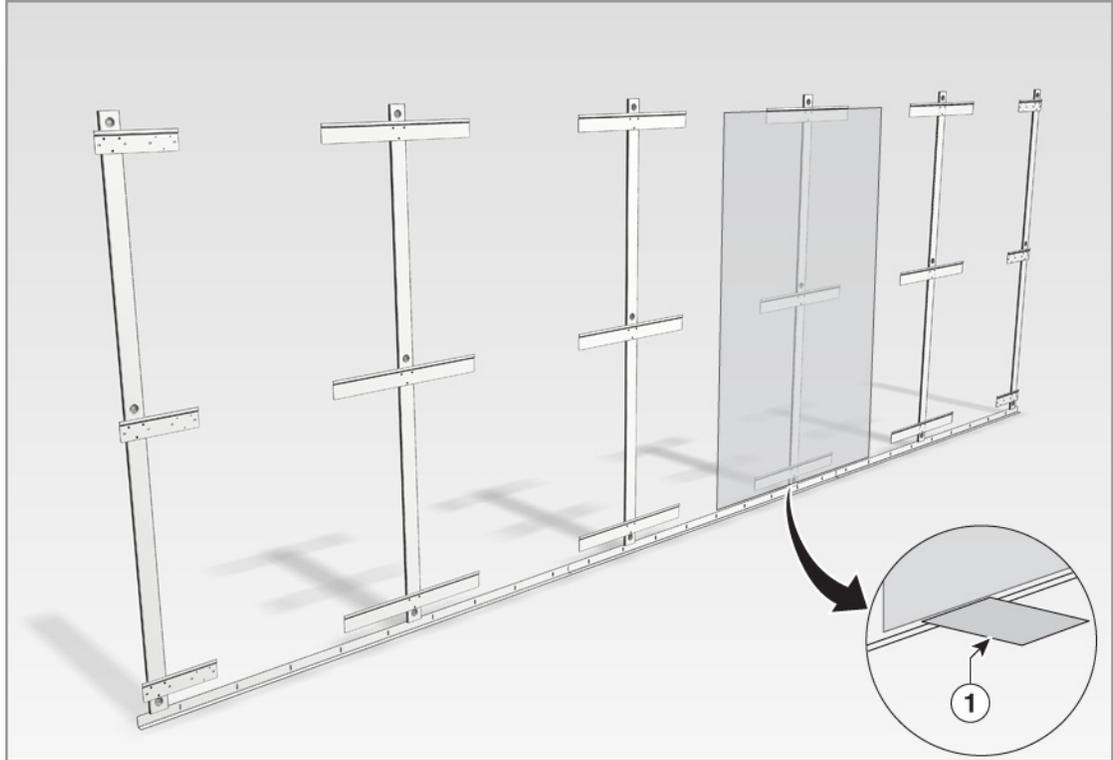


343476

Step 8 If the gaps between the panels are uneven, use the shims in the accessory kit to place between the bottom of the panel and the bottom ledge of the Z bracket.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Shim	700-39916-xx Kit #69-2291-xx	24	43-A	

Figure 3-10 *Placing Shims to Raise the Reflector Panels*



345722

- Step 9** (Optional) If you created any small dings or nicks in the light reflector panel(s) during installation, use the tube of putty, included in the carton in the light reflector package, to cover the dings or nicks.



Installing And Performing Initial Leveling of the Main Display Structure

Revised: May 20, 2015, OL-27038-01

This chapter describes the steps you perform to install the display structure and includes the following sections:

- [Installing and Leveling the Display Structure, page 4-2](#)
- [Installing Seismic Brackets \(Optional\), Part Number CTS-TX9K-SEISMIC=, page 4-15](#)



Caution

The display structures are unstable during assembly. Use caution, and support all structures as required.



Caution

Some system components have metal edges with hard angles. These edges are exposed until you complete system assembly. Use caution when you move around the system during assembly to avoid contact with any exposed system edges.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



Note

The directions *left* and *right* refer to the assembly as you face the displays.

Installing and Leveling the Display Structure

To install and level the display structure, complete the following steps.

- Step 1** Place the center display structure in its correct position in the room, then level the structure in the following manner:
- Align the structure front to back.
 - Align the structure left to right.
- See the levels in [Figure 4-3](#) for leveling examples.
- Use the adjustable feet at the base of the structure so that the distance between the top of the display support arm to the floor is the measurement that is shown in [Figure 4-3](#).

Systems With a Wall-Mounted Reflector Wall Only

Position the center structure so that it is 16 inches (406 millimeters) away from the wall.

Systems With a Free-Standing Reflector Wall Only

Position the center structure so that it is a minimum of 22 11/16 Inches (576 millimeters) away from the wall.

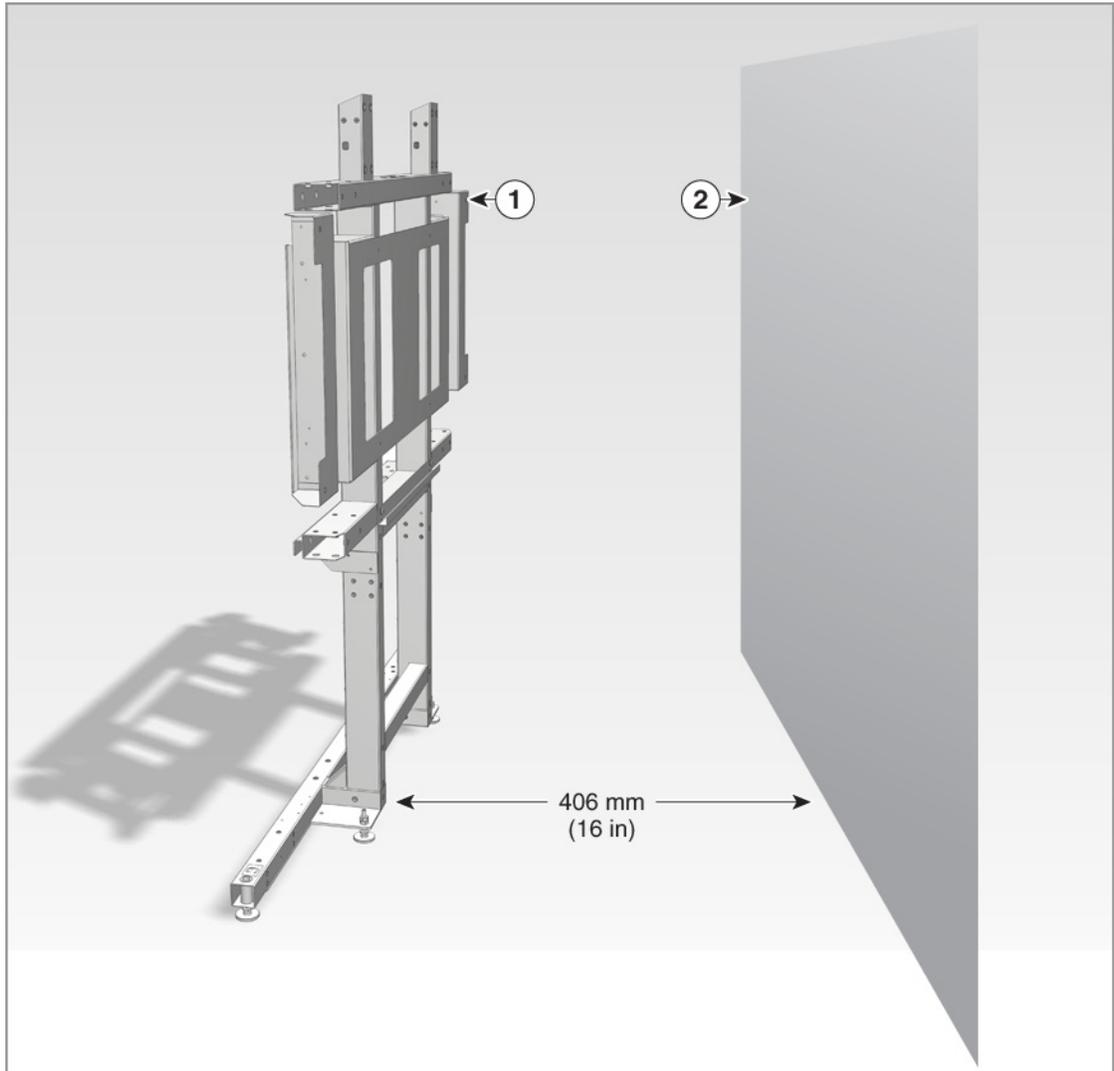


Note

Placing the wall closer to, or further from, the wall can result in fit issues or a non-working system.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Display stand, center	800-37616-01 Kit #69-2323	1	1	
2	Wall	N/A			If your installation uses a wall-mounted reflector wall, use the wall as a reference, not the reflector.

Figure 4-1 *Placing the Center Display Structure 16 Inches (406 millimeters) From the Wall—Systems With a Wall-Mounted Reflector Wall Only*



343477

Figure 4-2 *Placing the Center Display Structure a Minimum of 22 11/16 Inches (576 millimeters) From the Wall—Systems With a Free-Standing Reflector Wall Only*

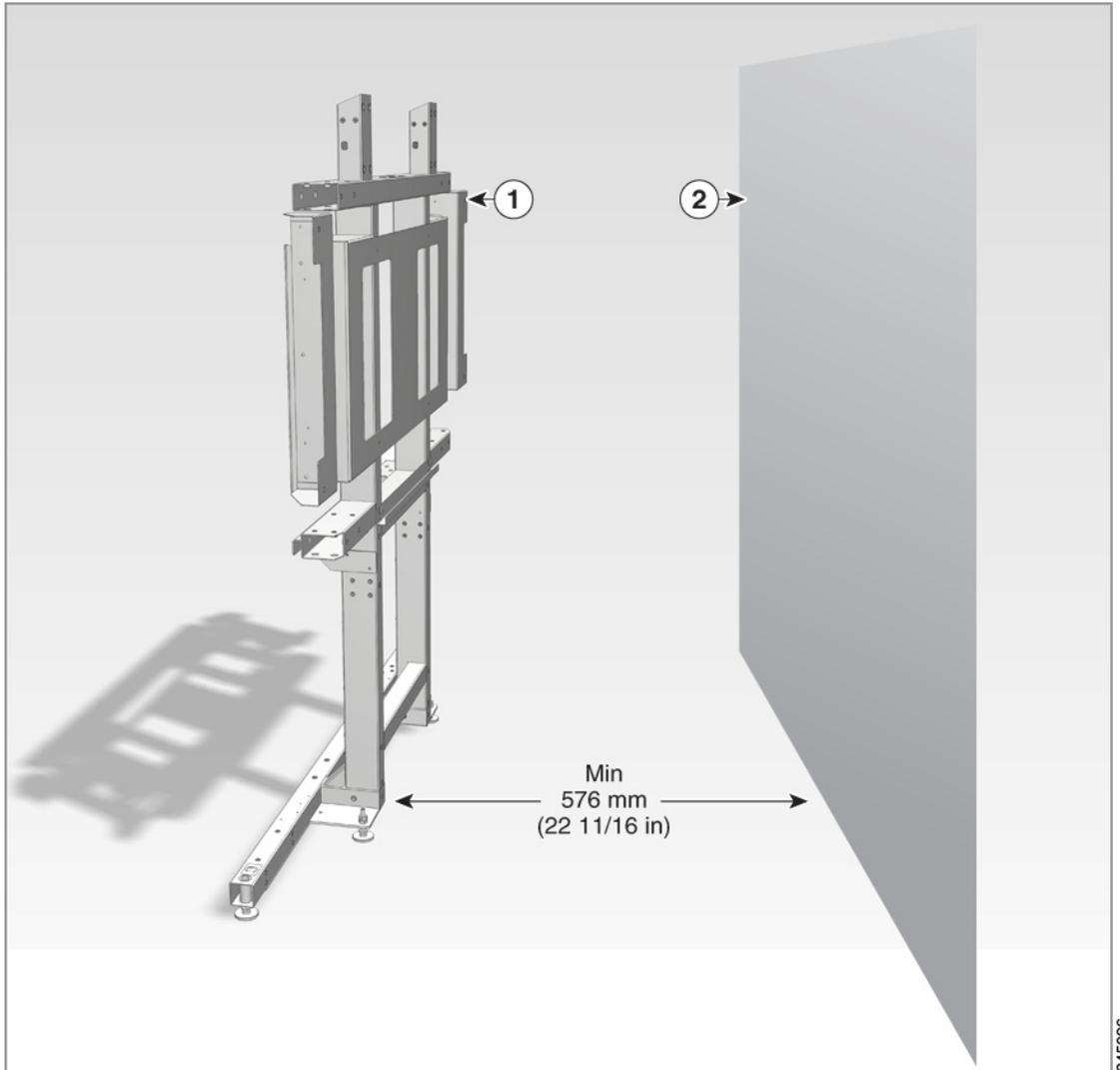
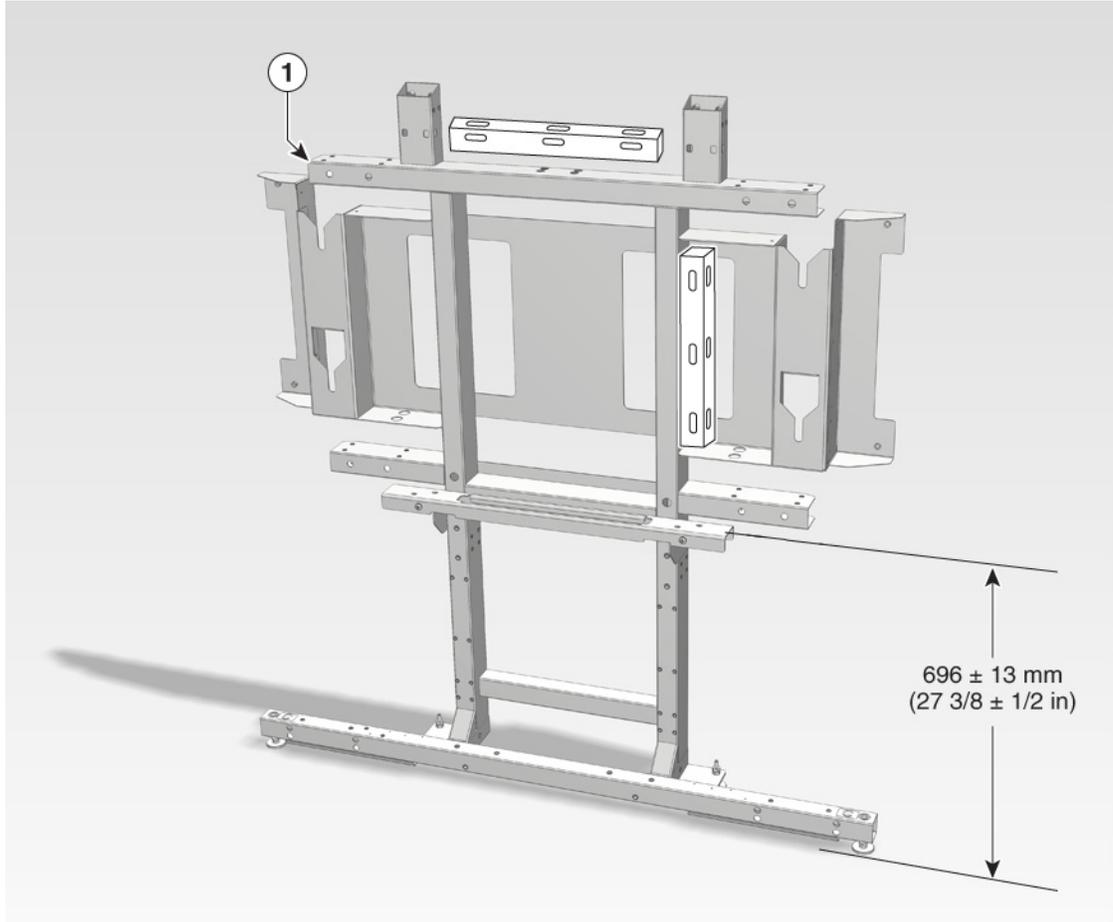


Figure 4-3 Placing and Leveling the Center Display Structure



Step 2 Place the left and right display structures in their its correct position in the room, then level the structures using the same procedures as the center structure.

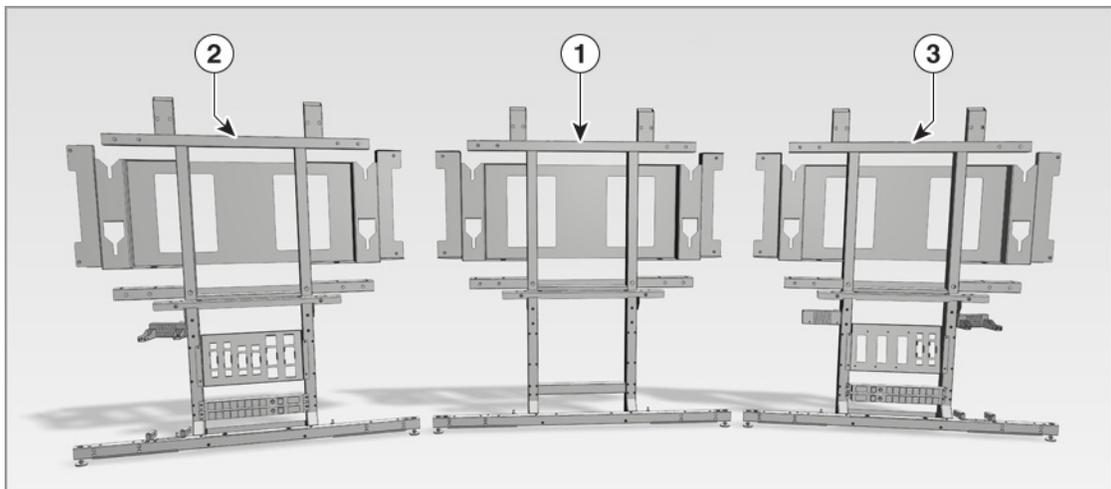
Level the left and right structures relative to the center structure, so that all structures are the same height.

**Note**

You can level the structures vertically; however a rough leveling is sufficient, because the vertical leveling will change after you install the displays onto the structure.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Display stand, center	800-37616-01 Kit #69-2323	1	1	
2	Display stand, left	800-37615-01 Kit #69-2323	1	1	
3	Display stand, right	800-37617-01 Kit #69-2323	1	1	

Figure 4-4 Placing and Leveling the Left and Right Display Structures



343479

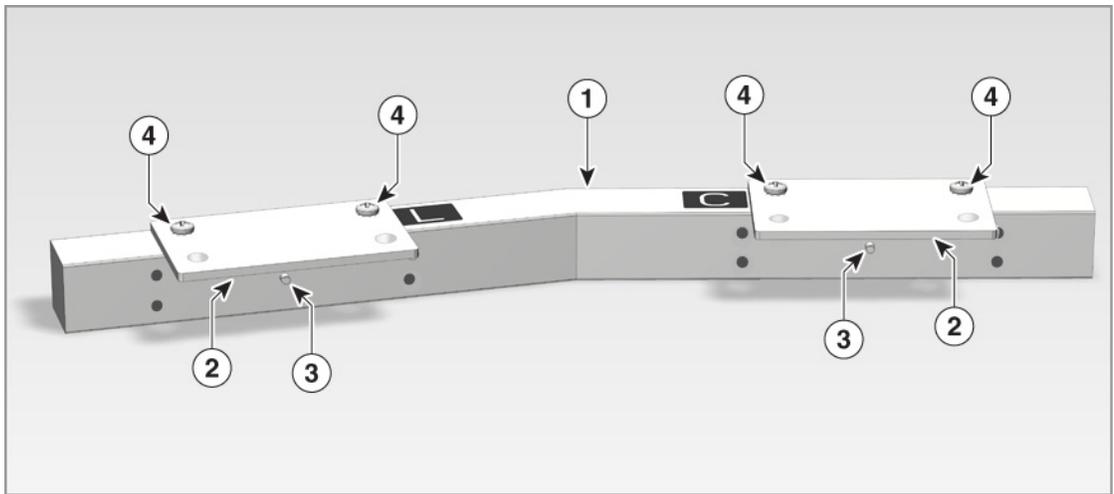
Step 3 Attach the connector plates to the lower tie-bar assemblies.
 Use the M8 x 16mm pan head screws to attach the plates to the tie-bars.



Note Note the markings “C”, “R”, and “L” on the tie-bars; C is center, R is right, L is left. Use these to align the tie-bars.

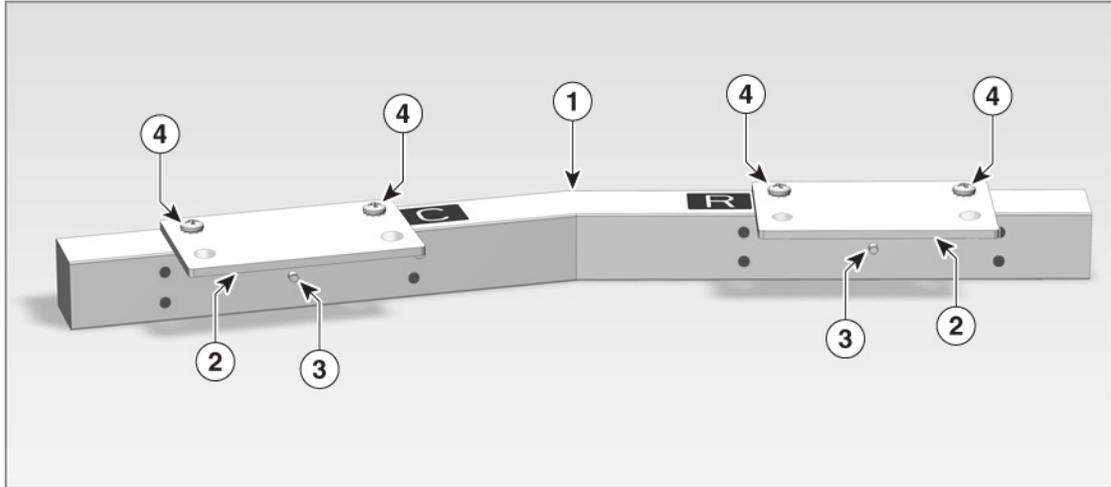
Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Tie-bar assembly, lower left and lower right	700-37117-01 Kit #69-2323-xx	2	1	
2	Tie bar connector plates	700-37120-01 Kit #69-2323-xx	4	1	
3	Dowel pins	N/A	N/A	N/A	Part of tie bar connector plates
4	M8 x 16mm Phillips head screws	48-3012-01 Kit #69-2365-xx	8	6	

Figure 4-5 Attaching the Connector Plates to the Lower Left Tie Bar Assembly>



343480

Figure 4-6 Attaching the Connector Plates to the Lower Right Tie Bar Assembly



- Step 4** Attach the lower tie bar assemblies to the center structure by completing the following steps:
- a. Position the bottom tie-bar assembly behind the lowest horizontal cross-piece of the center display structure.
 - b. Place the connector plates over the bottom beam of the display structure.
 - c. Attach the plates to the bottom beam with M8 x 16mm pan head screws.



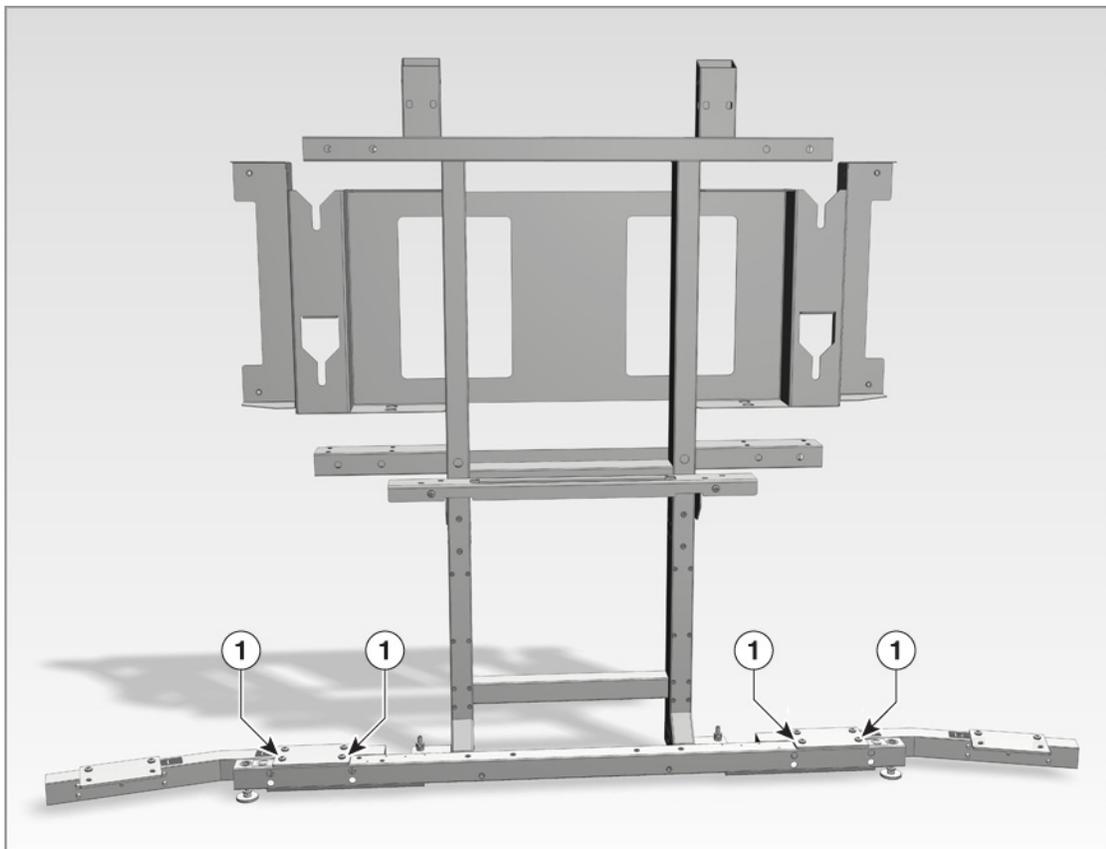
Note Note the dowel pins on the front of the tie bars that are shown in [Figure 4-6](#) and [Figure 4-7](#); use these dowel pins to align the tie bars to the structure.



Note Do not fully tighten the screws until you perform final leveling of the entire display structure.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	M8 x 16mm pan head screws	48-3012-01 Kit #69-2365-xx	4	6	

Figure 4-7 Attaching the Bottom Tie-Bars to the Center Assembly Structure



343482

Step 5 From the rear of the structure, connect the tie bars to the center structure by inserting M8 x 35mm screws through the tie bars and loosely securing them.



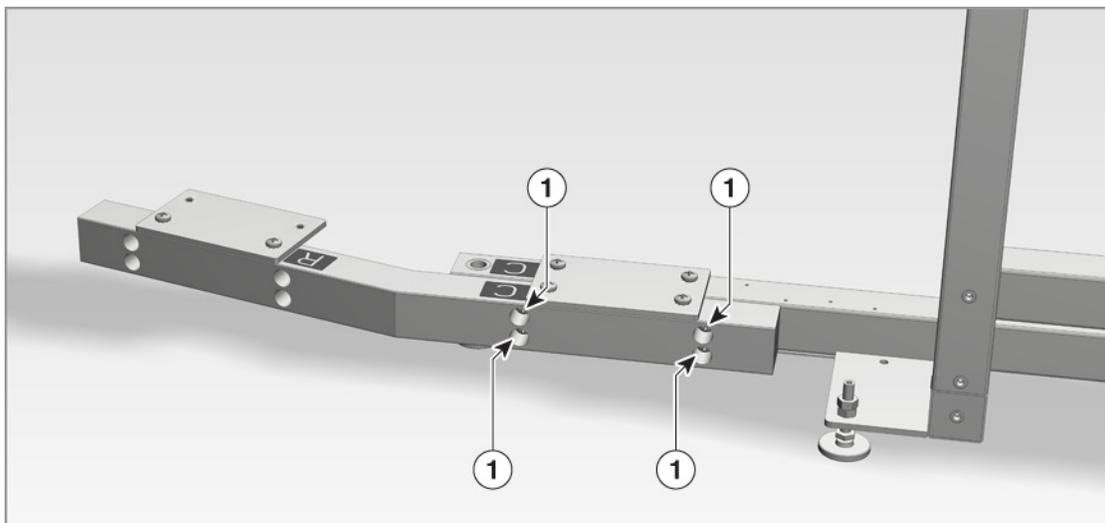
Note Do not fully tighten the screws until you perform final leveling of the entire display structure.



Note Note that the longer screws attach horizontally through the tie bars.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	M8 x 35mm pan head screws	48-3008-01 Kit #69-2366-xx	8	6	

Figure 4-8 Connecting the Tie-Bars to the Structure



343483

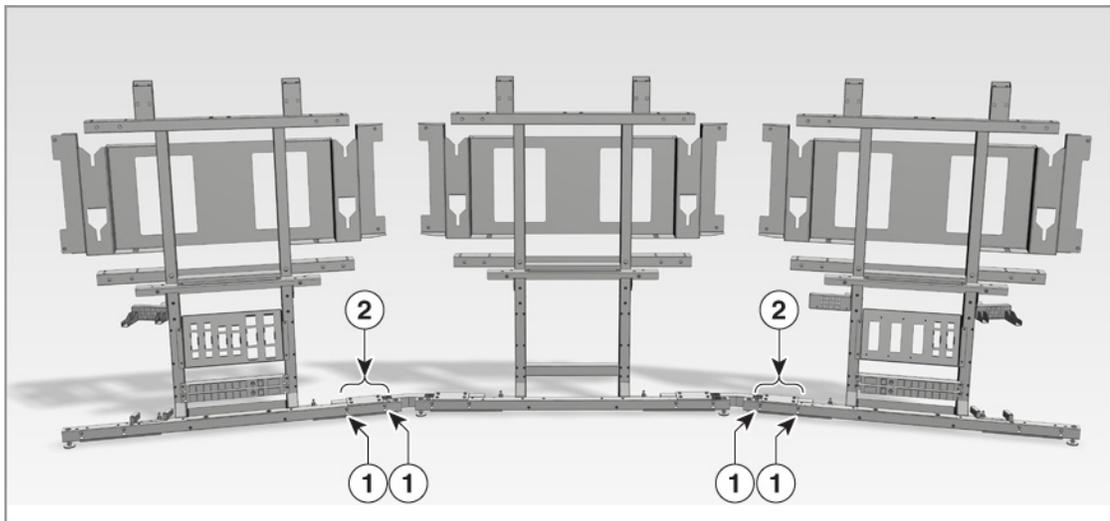
- Step 6** Attach the tie bars to the left and right display structure by completing the following steps:
- a. Place the left and right structures in their approximate position.
 - b. Lift the center structure (with the bottom tie bars attached) over each side structure using the dowel pins on the left and right tie bars to aid in aligning the structures.
 - c. Screw the top plate down using M8x16mm screws.



Note Do not fully tighten the screws until you perform final leveling of the entire display structure.

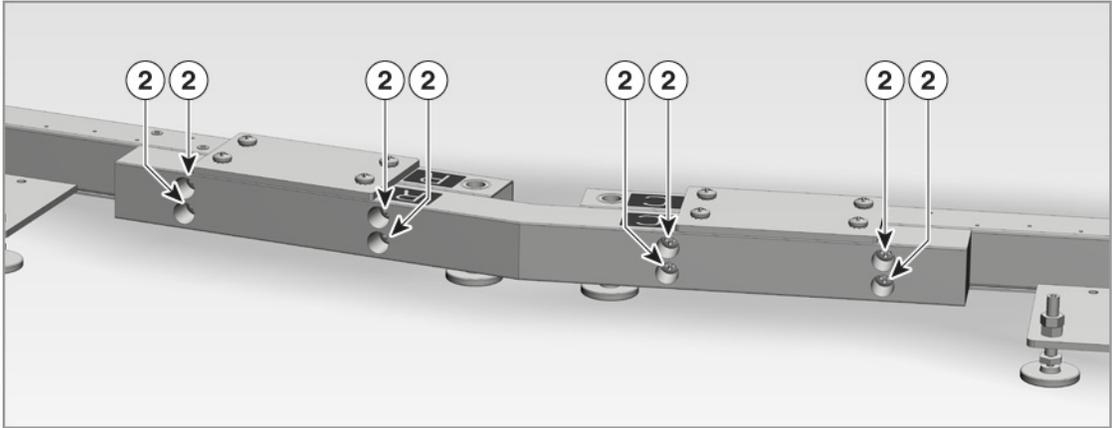
Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	M8 x 16mm pan head screws	48-3012-01 Kit #69-2365-xx	4	6	
2	M8 x 35mm pan head screws	48-3008-01 Kit #69-2366-xx	8	6	

Figure 4-9 Attaching the Left and Right Display Structures to the Lower Tie Bar (1 of 2)



343484

Figure 4-10 Attaching Left and Right Displays to the Lower Tie Bar (2 of 2)



Step 7 Install the middle and upper tie-bars to the display structure.



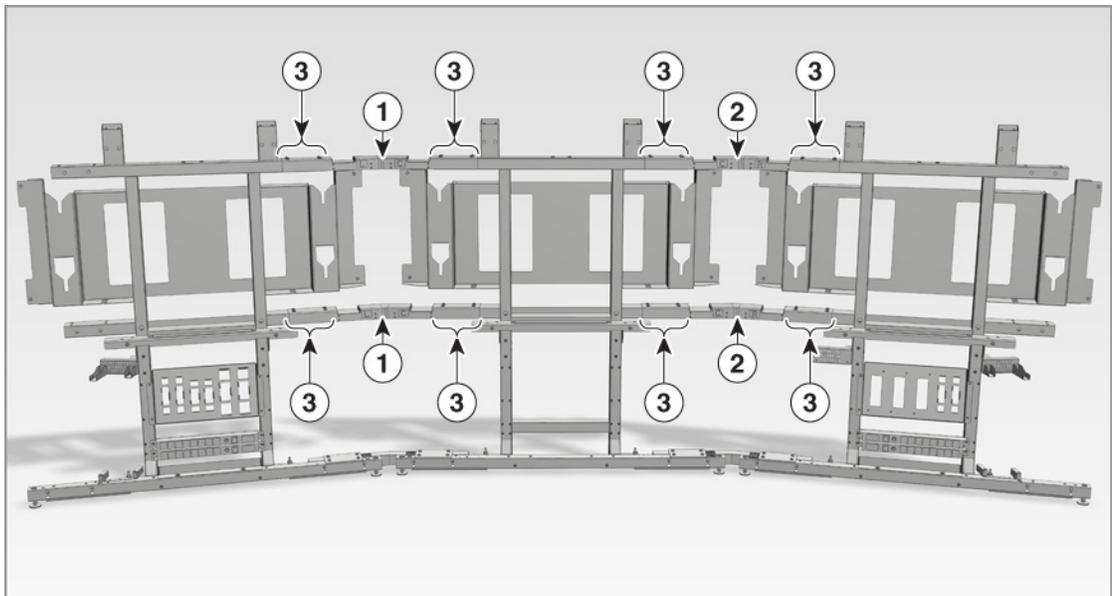
Note 16 of the 48 screws attach horizontally from the rear of the structure.



Note Do not fully tighten the screws until you perform final leveling of the entire display structure.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Tie-bar assembly, middle and upper, left	700-37119-01 Kit #69-2323-xx	2	1	
2	Tie-bar assembly, middle and upper, right	700-37118-01 Kit #69-2323-xx	2	1	
3	M8 x 16mm pan head screws	48-3012-01 Kit #69-2365-xx	48	6	

Figure 4-11 Installing the Middle and Upper Tie-Bars to the Display Structure



343486

Step 8 Using a laser level, perform initial leveling of the structure by leveling the horizontal cross-bars of all structures, then tighten all screws.

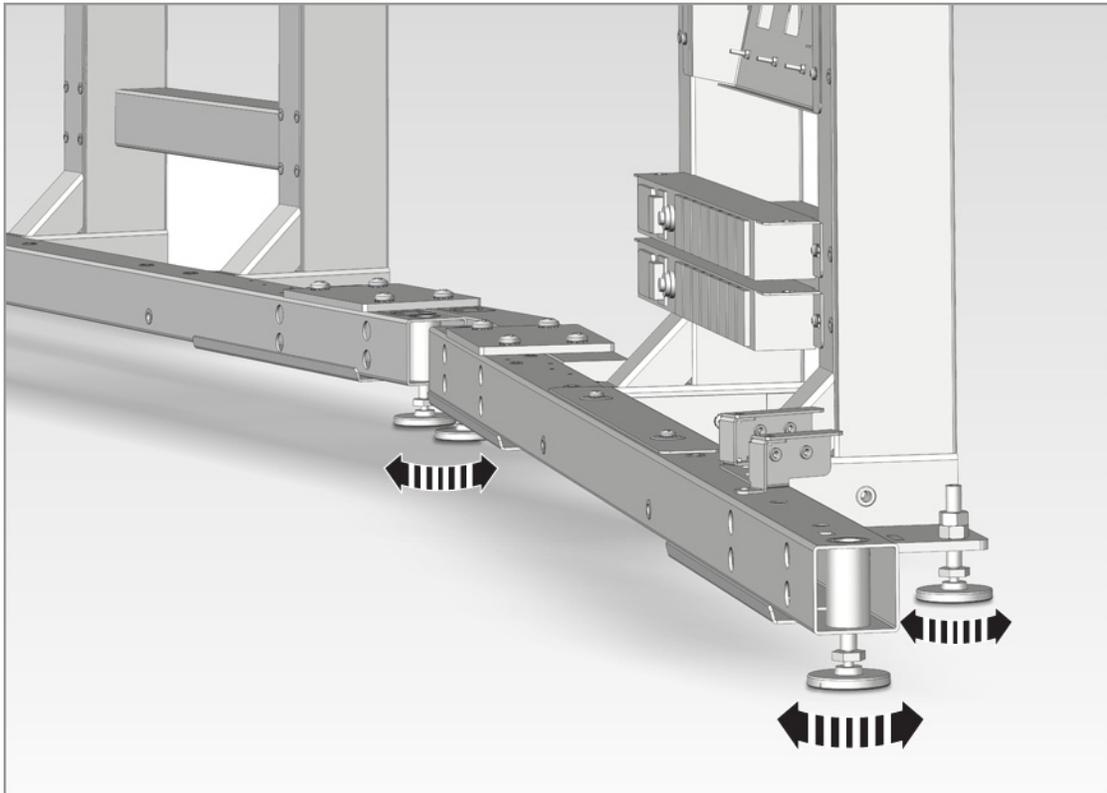
Tighten all horizontal screws first, then tighten all vertical screws.

Step 9 An alternative leveling method is to place a bubble level on all horizontal cross-bars.



Note Since the assembly is one unit, take care not to raise the leveling feet off the floor while raising or lowering the leveling feet.

Figure 4-12 *Raising and Lowering the Feet To Level the System*



Installing Seismic Brackets (Optional), Part Number CTS-TX9K-SEISMIC=

You can order an optional seismic bracket kit for the TX9000 and TX9200 that is used to secure the main display frame to a concrete floor in regions prone to seismic events.



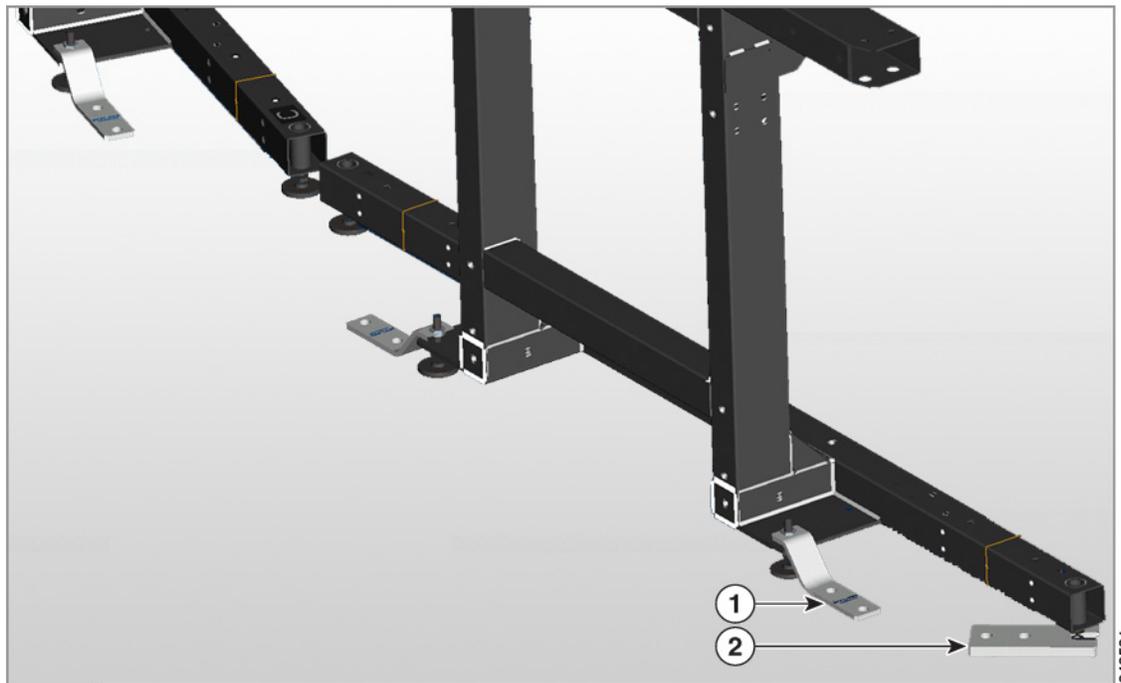
Note

These brackets are not included with the system and you must order them separately. The part number is CTS-TX9K-SEISMIC=.

The kit includes six rear seismic brackets that are secured to each of the six rear leveling feet on the main display frames, and two front seismic brackets that are secured to the front, left-most leveling foot on the left display frame piece, and the front, right-most leveling foot on the right display frame piece. [Figure 4-13](#) shows the location of the front and rear seismic brackets.

Key	Part Description	Qty
1	Rear seismic mounting brackets	6
2	Front seismic mounting brackets	2

Figure 4-13 Position of Seismic Brackets



Install the seismic brackets by completing the following steps:



Caution

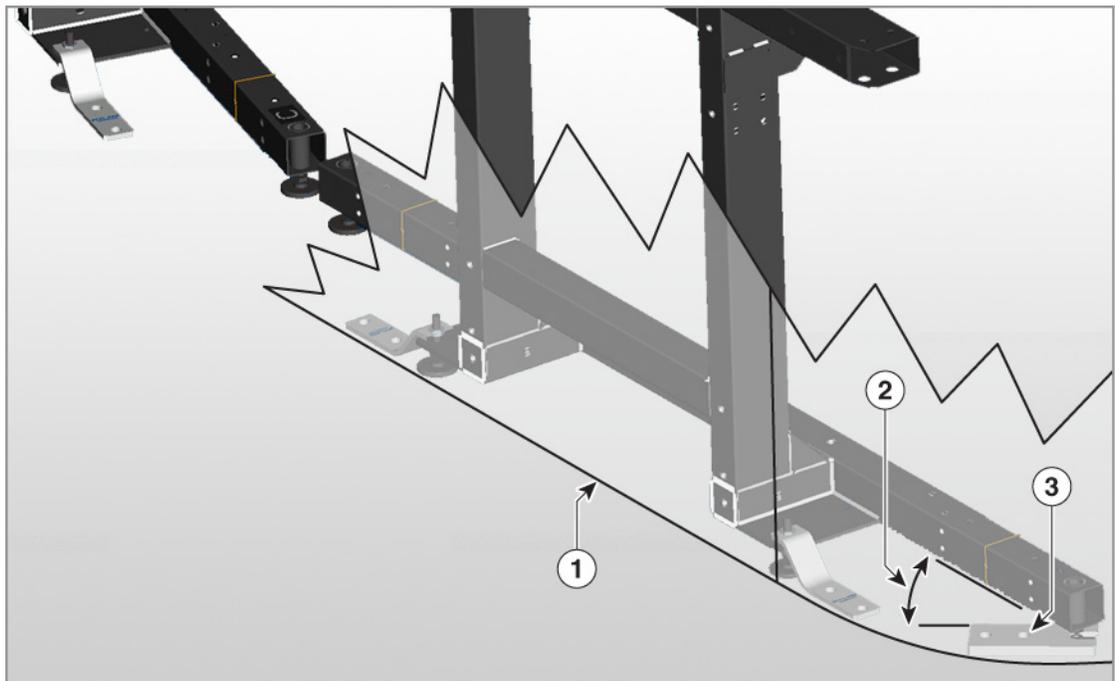
Do not install the seismic brackets until you have moved the main display structure pieces to their final position. You will not be able to move the main display structure pieces after you install the seismic brackets.

Step 1 Install the front seismic brackets by completing the following steps:

- a. Position one of the two front seismic brackets at an angle to one of the outer-most leveling feet on the front of the left or right display structure pieces. It is important to position the bracket at an approximately 50-degree angle to the bottom bar of the display frame. If the bracket is too close to the bottom bar of the display frame, you will not be able to access the holes in the bracket with a drill. If the angle from the bottom bar is too wide, the seismic bracket will interfere with the installation of the rear facade panel. See [Figure 4-14](#) for more information on how to position a front seismic bracket.

Key	Description
1	Rear facade panel Note This panel is not yet installed during this stage of the installation. To see the rear facade panel, see Figure 14-22 in Chapter 14 , “Completing Installation of the Main Display Structure.”
2	50-degree angle
3	Front seismic bracket

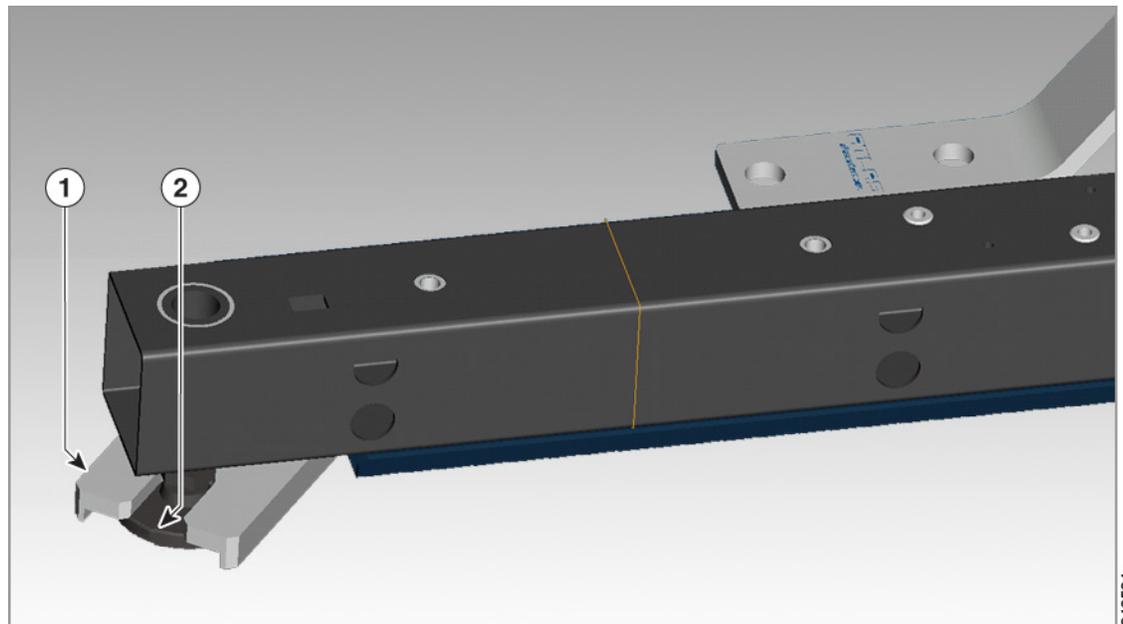
Figure 4-14 Position of Front Seismic Bracket



- b. Press the bracket slot into the space between the leveling foot and the bottom of the display structure piece. [Figure 4-15](#) shows the location of the slot in on the leveling foot as shown from the front of the display structure.

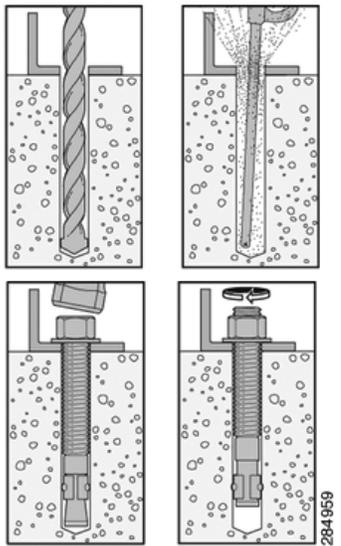
Key	Description
1	Front seismic bracket
2	Front leveling foot

Figure 4-15 Front Seismic Bracket Location on Front Leveling Foot



- c. Mark the location of the seismic bracket holes on the concrete floor.
- d. Remove the seismic bracket.
- e. Drill holes in the concrete floor where you marked the locations of the seismic bracket holes using a 1/2" carbide drill bit. Drill to a depth between 3 1/2" (8.9 cm) to 4" (10.2 cm).
- f. Blow the dust out of the holes using a can of compressed air.
- g. Place the seismic bracket back into place, with the holes in the bracket aligned with the holes in the floor, and the bracket slot between the levelling foot and the display structure base.
- h. Assemble two of the seismic anchors with nuts and washers so the top of the nuts are flush with the top of the anchor. Place the anchors into the seismic bracket and use a hammer to drive the anchor into the hole until the washers and nuts are tight against the bracket.
- i. Use a 3/4" wrench to tighten the two anchor nuts. [Figure 4-16](#) illustrates steps e. through i.
- j. Repeat steps a. through i. for the other front seismic bracket.

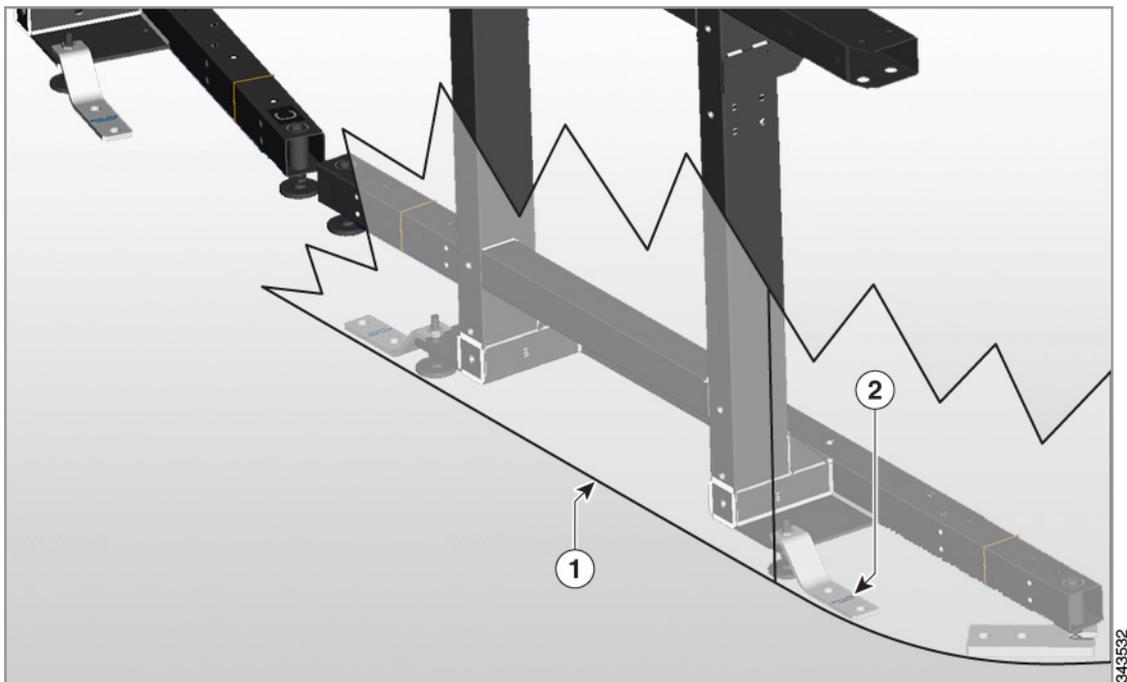
Figure 4-16 Installing Seismic Bracket Anchors



- Step 2** Install the rear seismic brackets by completing the following steps:
- a. Position one of the six rear seismic brackets parallel to the bottom bar of one of the three main display pieces, on one of the rear levelling feet. It is important to position the rear seismic bracket parallel to the bottom bar on the display frame so that the seismic bracket does not interfere with the rear facade panel. See [Figure 4-17](#) for more information on how to position a front seismic bracket.

Key	Description
1	Rear facade panel
2	Rear seismic bracket

Figure 4-17 Position of Rear Seismic Bracket

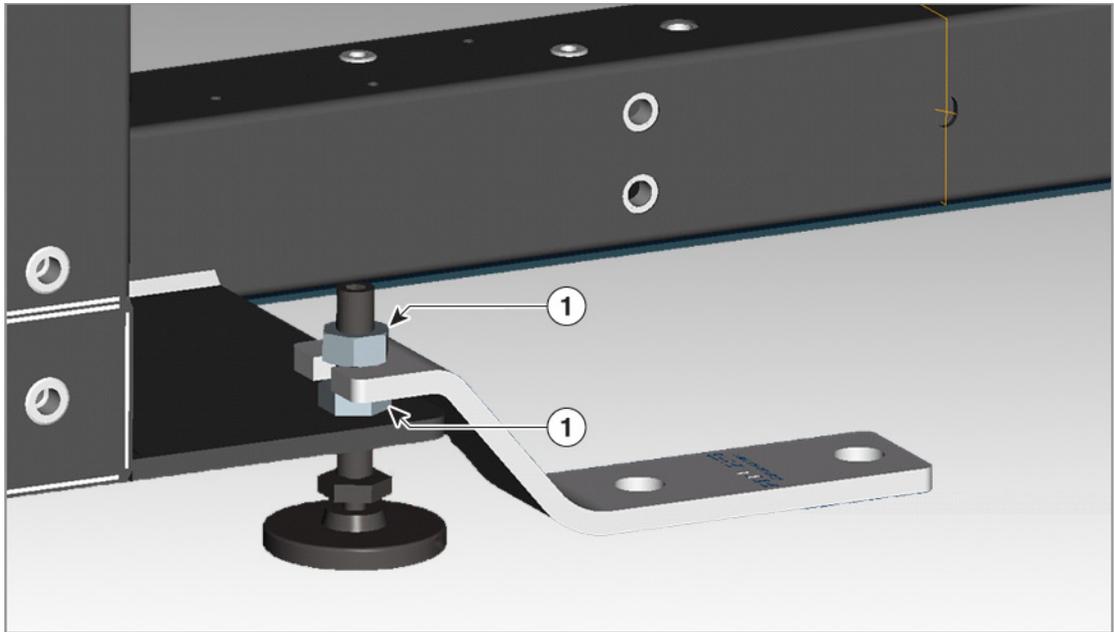


345532

- b. Press the bracket slot into the space between the two M10 locking nuts on the leveling foot, as shown in [Figure 4-18](#).

Key	Description
1	M10 Locking nut

Figure 4-18 Rear Seismic Bracket Location on Rear Leveling Foot



- c. Mark the location of the seismic bracket holes on the concrete floor.
- d. Remove the seismic bracket.
- e. Drill holes in the concrete floor where you marked the locations of the seismic bracket holes using a 1/2" carbide drill bit. Drill to a depth between 3 1/2" (8.9 cm) to 4" (10.2 cm).
- f. Blow the dust out of the holes using a can of compressed air.
- g. Place the seismic bracket back into place, with the holes in the bracket aligned with the holes in the floor, and the bracket slot between the levelling foot and the display structure base.
- h. Assemble two of the seismic anchors with nuts and washers so the top of the nuts are flush with the top of the anchor. Place the anchors into the seismic bracket and use a hammer to drive the anchor into the hole until the washers and nuts are tight against the bracket.
- i. Use a 3/4" wrench to tighten the two anchors. [Figure 4-16](#) illustrates steps e. through h.
- j. Repeat steps a. through i. for each of the remaining rear seismic brackets.



Installing the Displays and Performing Final Leveling of the Main Display Structure

Revised: May 20, 2015, OL-27038-01

This chapter describes the steps you perform to install the displays and includes the following sections:

- [Assembly Note for Systems That Use a Free-Standing Light Reflector Wall](#), page 5-1
- [Installing the Displays](#), page 5-1

Required Display Preinstallation Check

Before you install the displays, check their functionality by performing the tasks that are described in the [“Checking the Function of the 65-Inch Display Prior to Installation”](#) section on page 1-3. Failure to do so might result in installing a display that is not functional.

Assembly Note for Systems That Use a Free-Standing Light Reflector Wall

If your system uses a free-standing light reflector, partially build the wall by completing [Step 1](#) through [Step 7](#) in [Chapter 6, “Installing the Free-Standing Reflector Wall Structure”](#) before installing the displays. If you need to reposition the display structure, it is easier to do so before installing the displays.

Installing the Displays

To install the displays, complete the following steps.

Step 1 Prepare the displays for installation by completing the following steps:

- a. Remove the handles from the rear of the display.
- b. Remove the bracket from the rear of the display.
- c. Attach the spool studs, washers, and spools to the display.

**Caution**

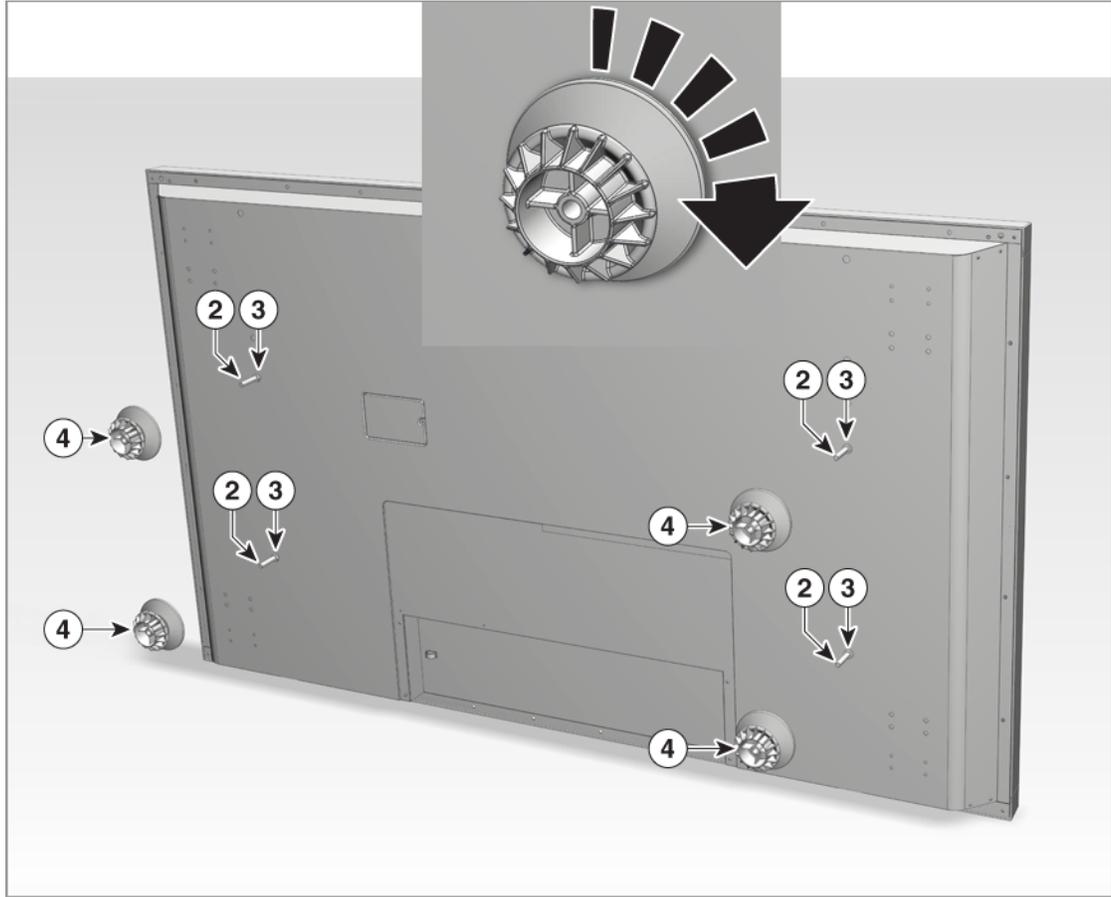
Do not use the DVI cable that is provided with the display. Use the cable that are provided with the system. The part number is 37-1387-01 and they are in cable kits 1, 2, and 3 (69-2345-01, 69-2346-01, and 69-2347-01, respectively). Use the power cable that is included with the display.

**Note**

Tighten the spools and the spool studs securely to the display. Hand tighten the spool (do not overtighten the spool).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	65-inch high-definition display	CTS-DISP-65-GEN4	3	40, 41, 42	
2	Spool stud	700-30916-01 Kit # 69-2066-01	12	1	Included with spool stud kit
3	M8 x 15.5 serrated washers	49-1251-01 Kit #69-2066-xx	12	1	Included with spool stud kit
4	Spool	700-30783-01 Kit # 69-2066-01	12	1	Included with spool stud kit

Figure 5-1 Attaching the Washers and Spool Studs



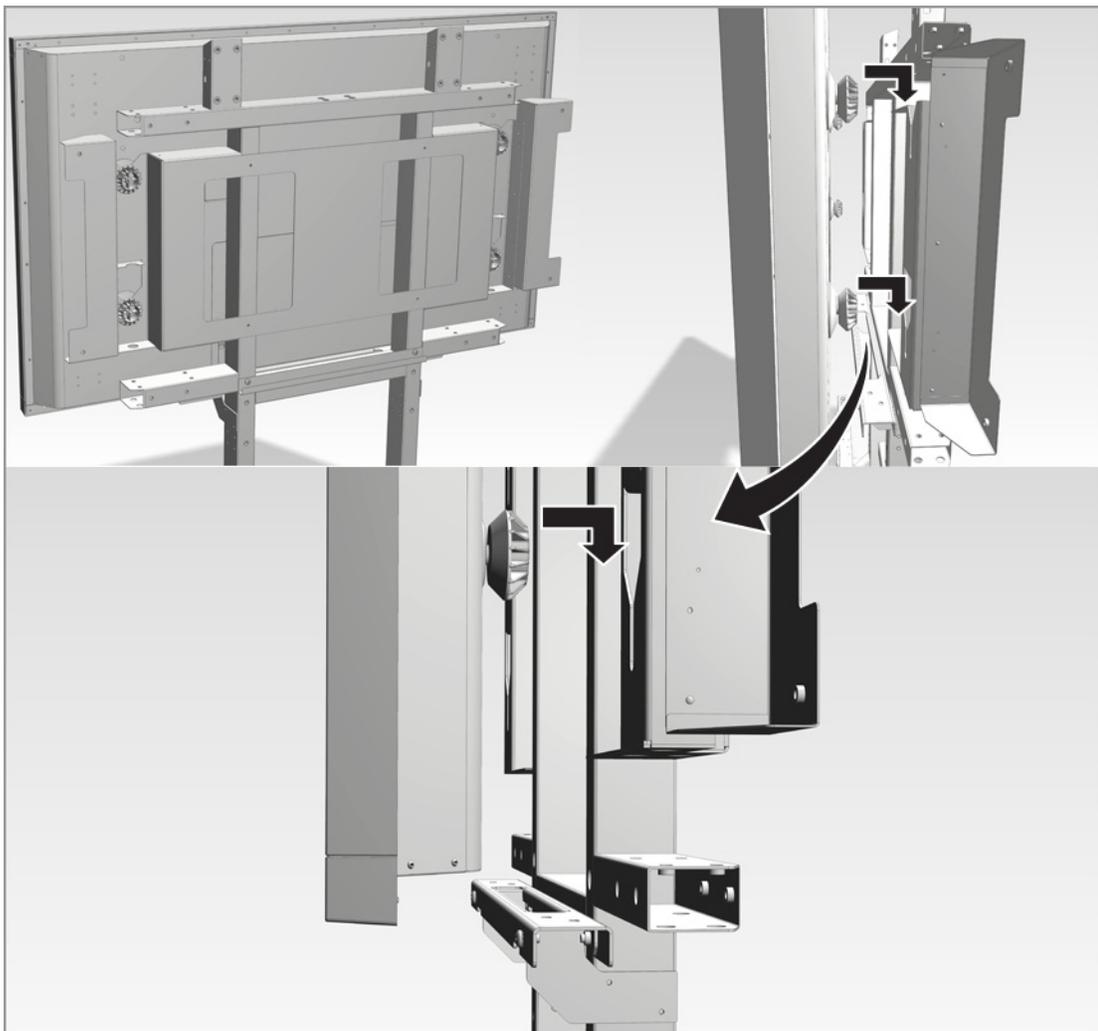
- Step 2** Attach the displays to the display structures by completing the following steps:
- Align the four spools on the back of the display to the mounting locations on the structure.
 - Place the spools through the openings in the structure.
The display then rests on the display support arm on the structure.

**Caution**

Do not place your hand or fingers between the display and the display support arm when you lower the displays onto the structure.

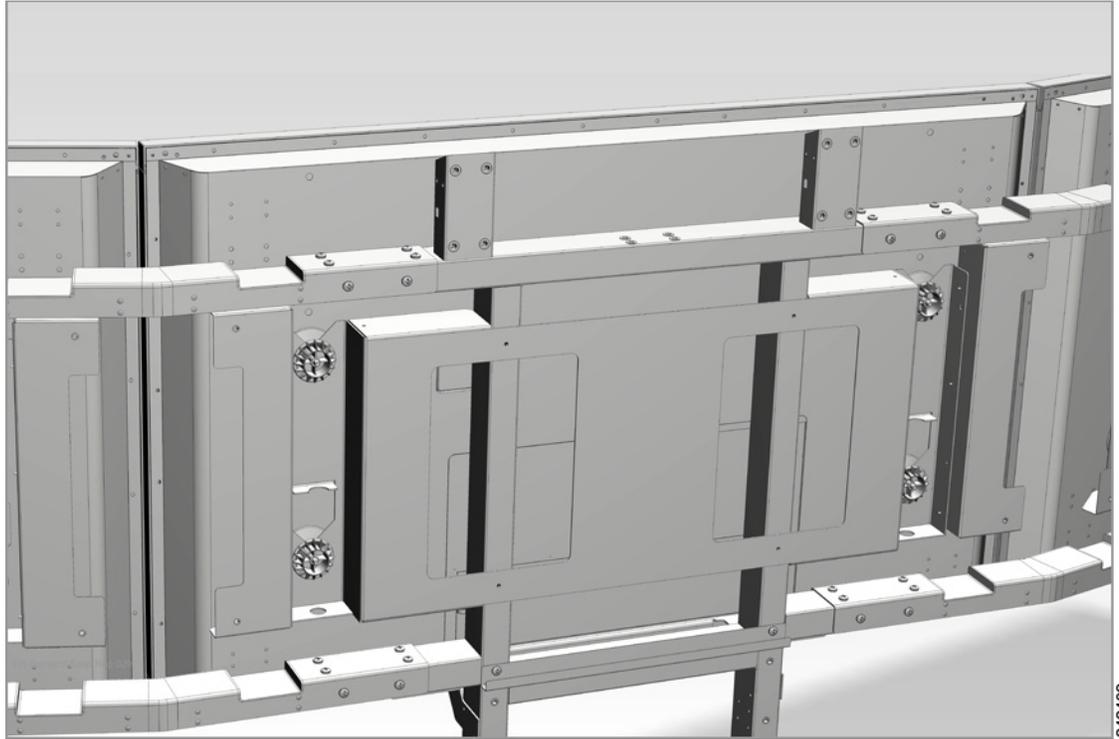
- Confirm that the spools are still tightly screwed onto the displays. If they are not, tighten them completely.
- Ensure that there is approximately a 2mm (1/16 inch) gap between each display and, if required, adjust the displays to achieve that distance.

Figure 5-2 *Mounting the Displays (1 of 2)*



343490

Figure 5-3 Mounting the Displays (2 of 2)—Detail of Installed Display From the Rear



343489

- Step 3** Attach the 12 bezel brackets to the displays by performing the following actions:
- Take 12 of the 24 M5 x 10mm screws and attach the screws on the outside perimeter of the display. These screws are shown as callout 2a in [Figure 5-4](#).



Note These screws might be pre-installed; if so, skip this step.

- Place the bezel brackets over the screws through the keyhole slots.
- Insert the remaining 12 inner screws into the display. These screws are shown as callout 2b in [Figure 5-4](#).
- Tighten the screws snugly.

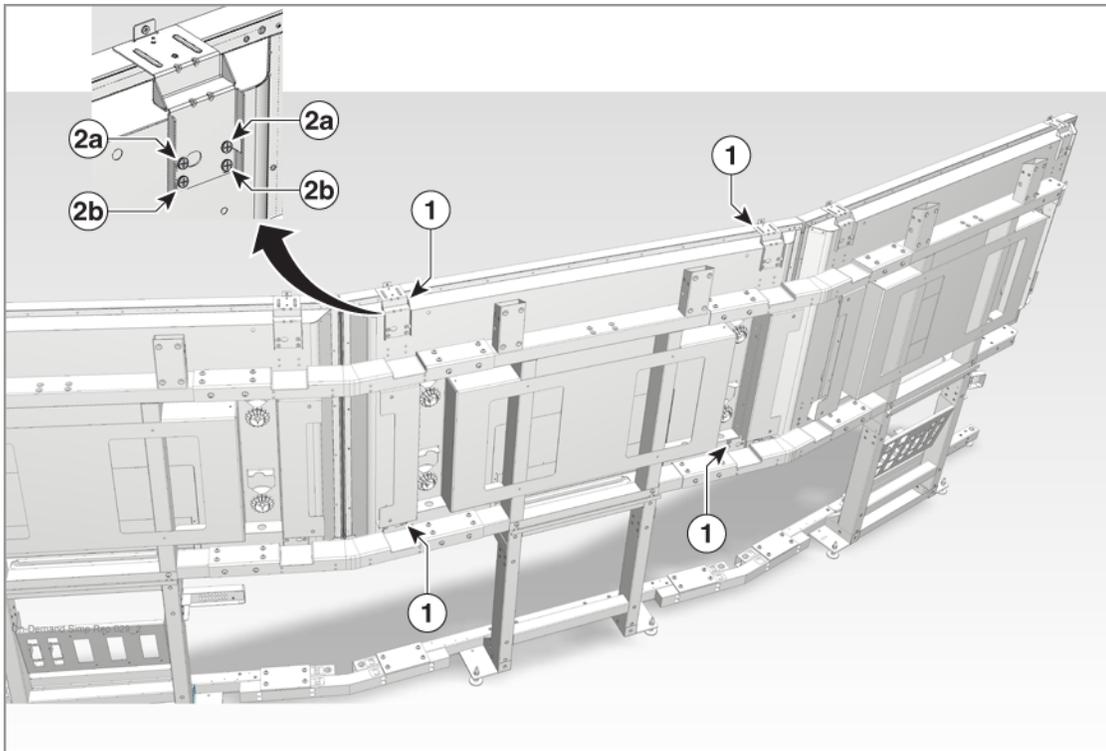


Caution

DO NOT OVERTIGHTEN THE SCREWS. Removal of these brackets is required if you need to service or replace the display after it is mounted.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bezel bracket	700-37748-01 Kit #69-2318-xx	12	8	
2	M5 x 10mm screw, hex	48-2058-01 Kit # 69-2360-xx	48	6	

Figure 5-4 Installing the Bezel Brackets



Step 4 Perform final leveling of the display structure and tighten all connecting hardware.



Tip

You cannot level the displays without leveling the entire system. Raise or lower the leveling feet on the bottom of the display structures to level the displays.



Installing the Free-Standing Reflector Wall Structure

Revised: May 20, 2015, OL-27038-01

This chapter describes the tasks you perform to mount a free-standing reflector wall.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



Caution

Cisco recommends that you wear safety gloves and safety glasses when installing the system.



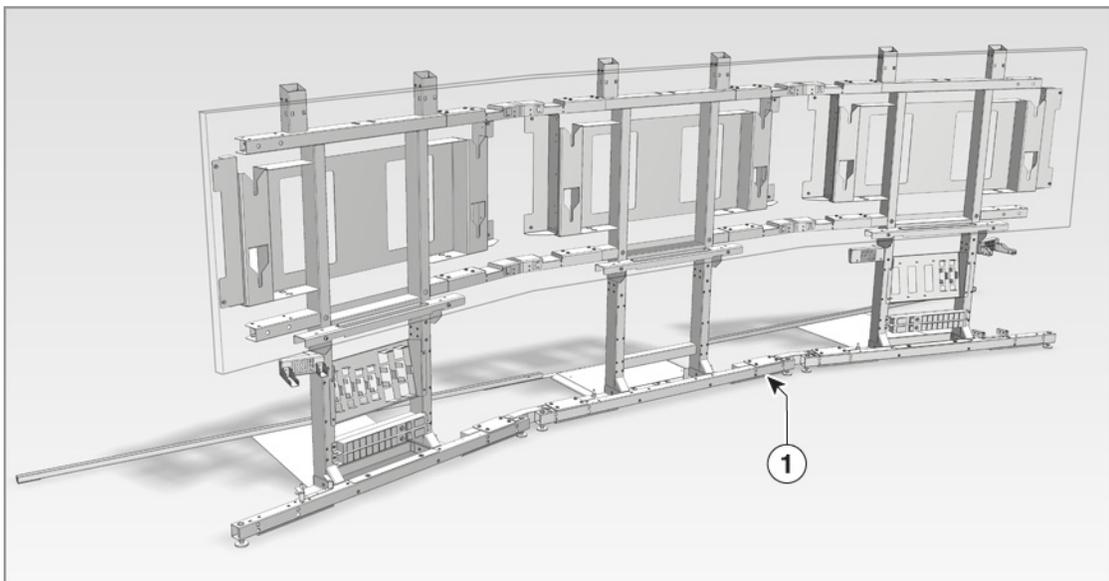
Note

The directions *left* and *right* refer to the assembly as you face the displays.

Step 1 Attach the center floor bracket to the center display structure using M6 x 16mm pan head screws.

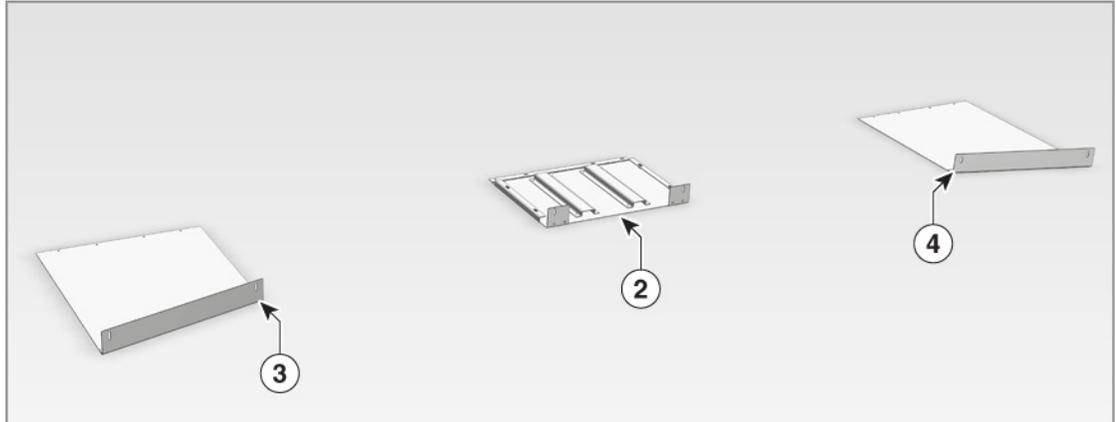
Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Center display structure	800-37616-xx	1	1	
2	Floor bracket, center	700-39002-xx Kit 69-2323-xx	1	1	Used with all systems
3	Floor bracket, left	700-39001-xx and 700-39005-xx Kit #69-2292-xx	1	43-B	For reference only—Attached in Step 3
4	Floor bracket, right	700-39000-xx and 700-39004-xx Kit #69-2292-xx	1	43-B	For reference only—Attached in Step 3
5	M6 x 16mm pan head screws	48-3000-xx Kit #69-2356-xx	2	6	

Figure 6-1 Attaching the Center Floor Bracket (1 of 3)—Overview of Floor Channel and Floor Brackets



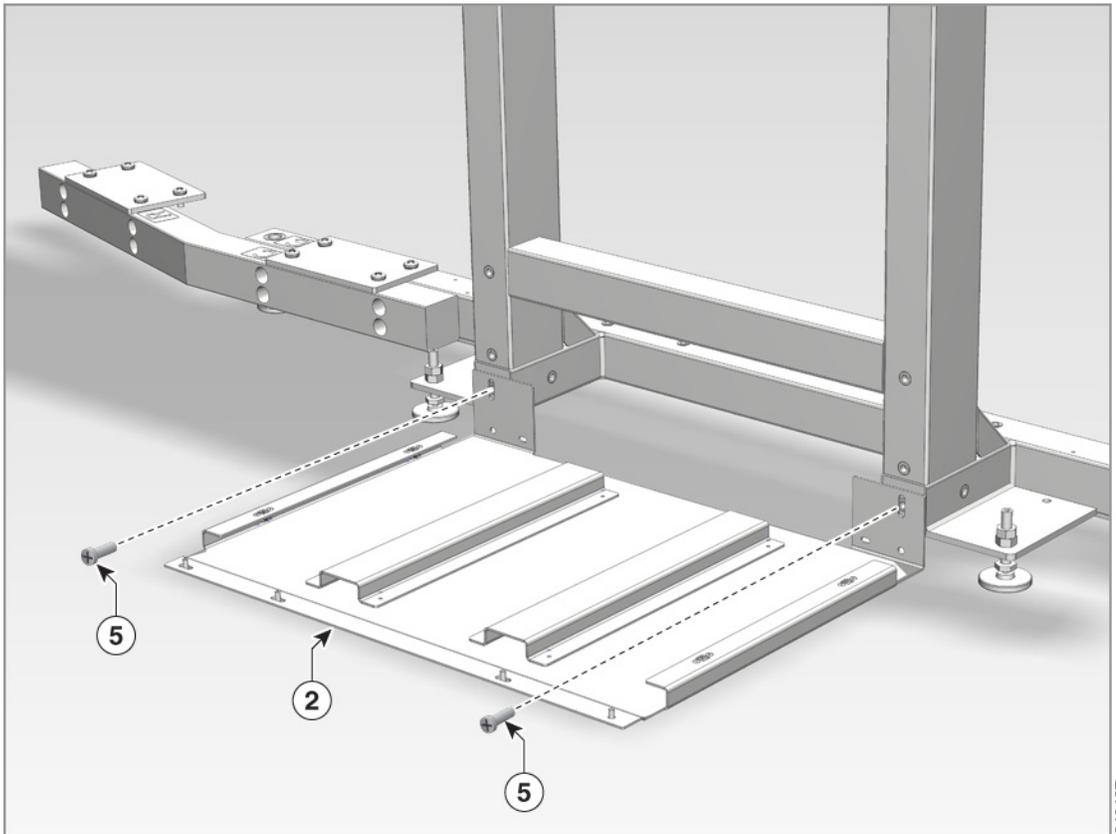
343495

Figure 6-2 Attaching the Center Floor Bracket (2 of 3)—Floor Bracket Part Numbering



343496

Figure 6-3 Attaching the Center Floor Bracket (3 of 3)—Screw Detail



343497

Step 2 Position the center display structure so that the center floor bracket is at least 189 mm (7 7/16 inches) from the wall.

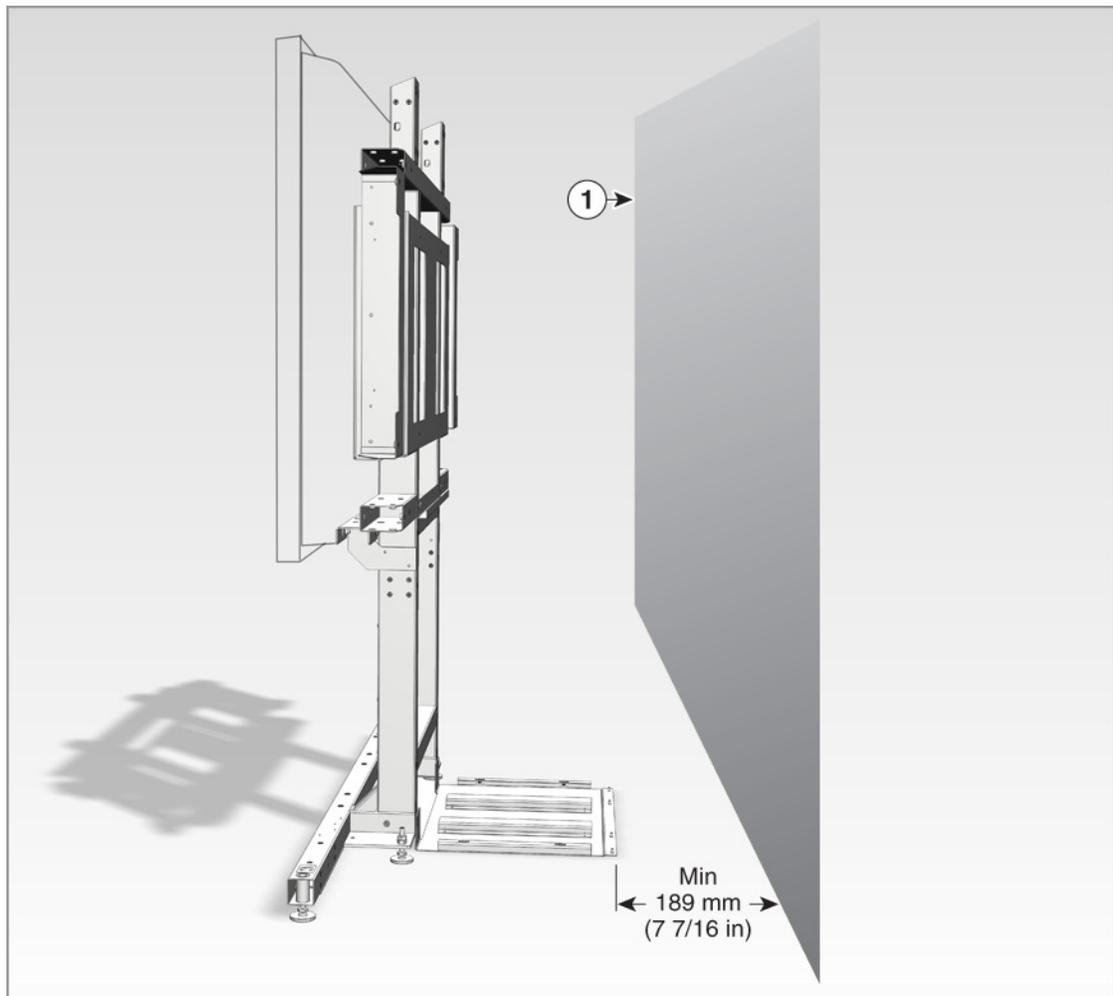
**Tip**

If you are plugging in cables behind the reflector wall, leave more room.

**Note**

Be sure to follow all local, regional, and national safety codes when you position the display.

Figure 6-4 Minimum Distance Between the Wall and the Center Floor Bracket



Step 3 Attach the left and right floor brackets to display structure by completing the following steps:



Note If you have a system with a wall-mounted reflector, skip this step and proceed to [Step 4](#)

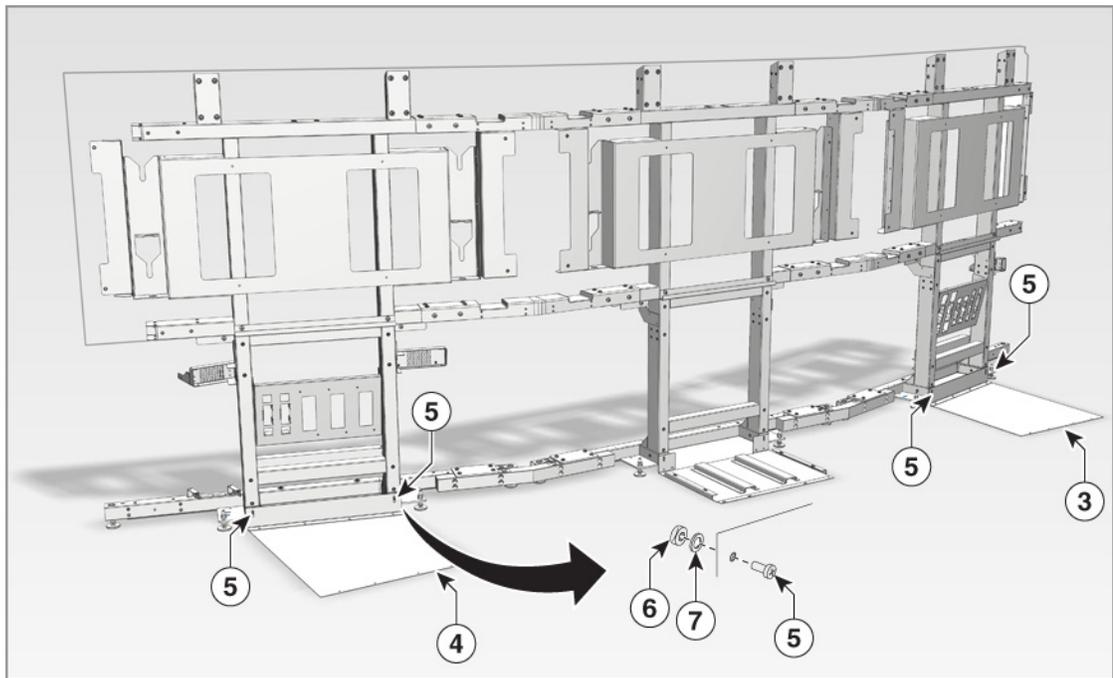
- a. Slide the structure so that the four studs in each bracket match the holes in the display structure.
- a. From the rear of the system, attach two M6 x 16mm pan head screws per bracket (callout 5 in [Figure 6-5](#)).
- b. From the front of the system, attach four acorn nuts and washers to the four studs in each bracket.



Note [Figure 6-5](#) shows the structure from the rear. Left and right are reversed.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
3	Floor bracket, left	700-39001-01 and 700-39005-01 Kit #69-2292-xx	1	43-B	
4	Floor bracket, right	700-39000-01 and 700-39004-01 Kit #69-2292-xx	1	43-B	
5	M6 x 16mm pan head screws	48-3000-01 Kit #69-2356	4	6	
6	Acorn nut	TBD	4		Not in illustration
7	Washer	TBD	4		Not in illustration

Figure 6-5 Attaching the Left and Right Floor Brackets



343499

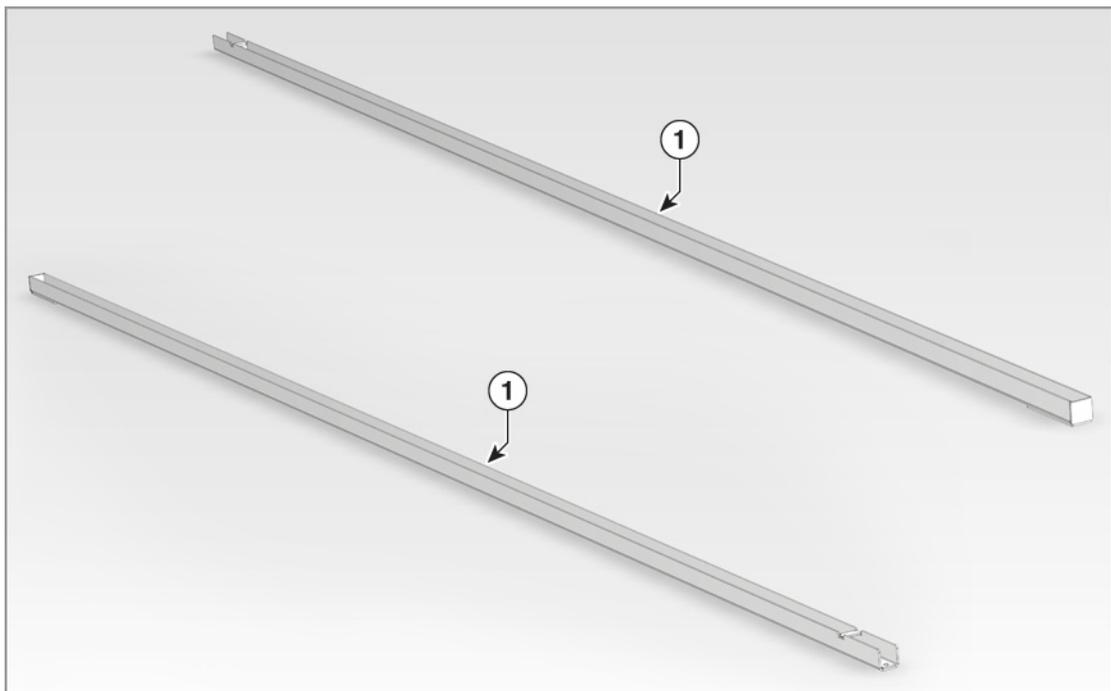
- Step 4** Attach the U channel assembly by completing the following steps:
- a. Slide the center attachment pieces (callout 2 in [Figure 6-7](#) and [Figure 6-8](#)) underneath the center floor bracket.
 - b. Place the Center-left and center-right U channel (callout 1 in [Figure 6-7](#)) on top of the center attachment pieces and the center floor bracket.
 - c. Place the Center alignment pieces (callout 3 in [Figure 6-7](#)) on the two outside studs
 - d. Attach the U channel attachment pieces to the center floor plate using four M5 nuts.
 - a. Attach the center-left and center-right U channels to the left and right floor plates, and the U channel attachment pieces, using four M5 nuts.



Note Do not fully tighten the nuts at this time.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Center-left and center-right U Channel	700-38998-01 Kit #69-2292-xx	2	43-B	
2	Center attachment piece	700-38999-01 Kit #69-2292-xx	1	43-B	
3	Center alignment pieces	700-39006-01 Kit #69-2292-xx	2	43-B	
4	M5 nuts	49-0747-01 Kit #69-2410	4	6	

Figure 6-6 Attaching the Center U Channels to the Center Floor Plate (1 of 3)—U Channel Detail



3493500

Figure 6-7 Attaching the Center U Attachment Pieces and the U Channels to the Center Floor Plate (2 of 3)—U Channel Attachment Piece and Part Description

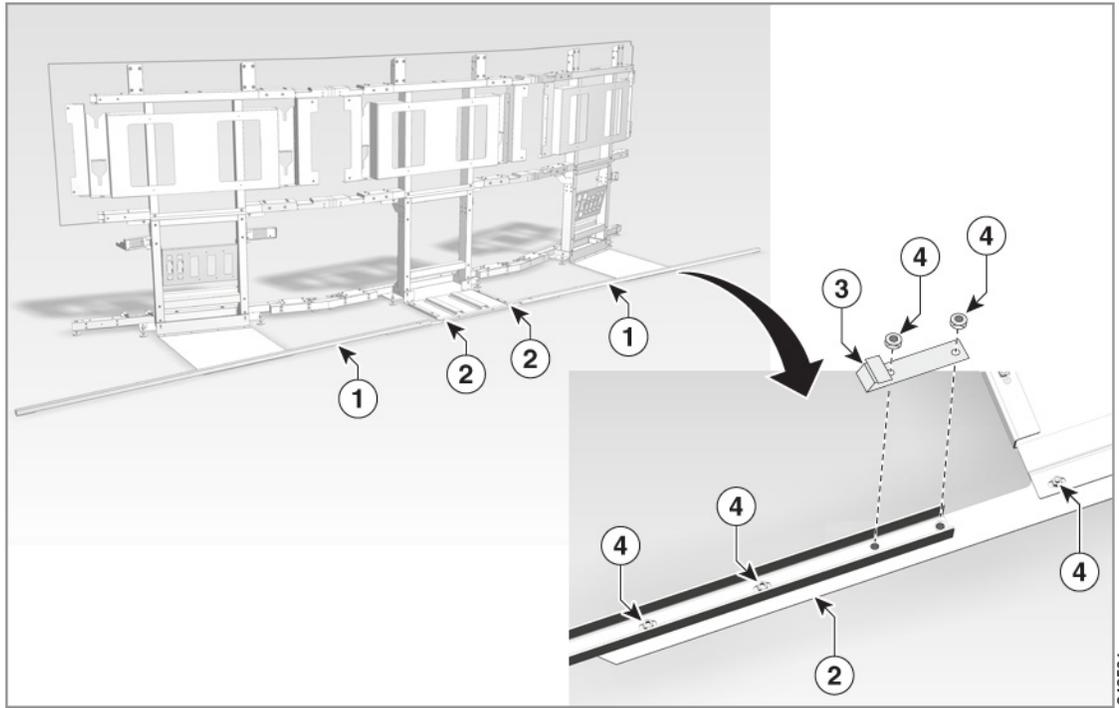
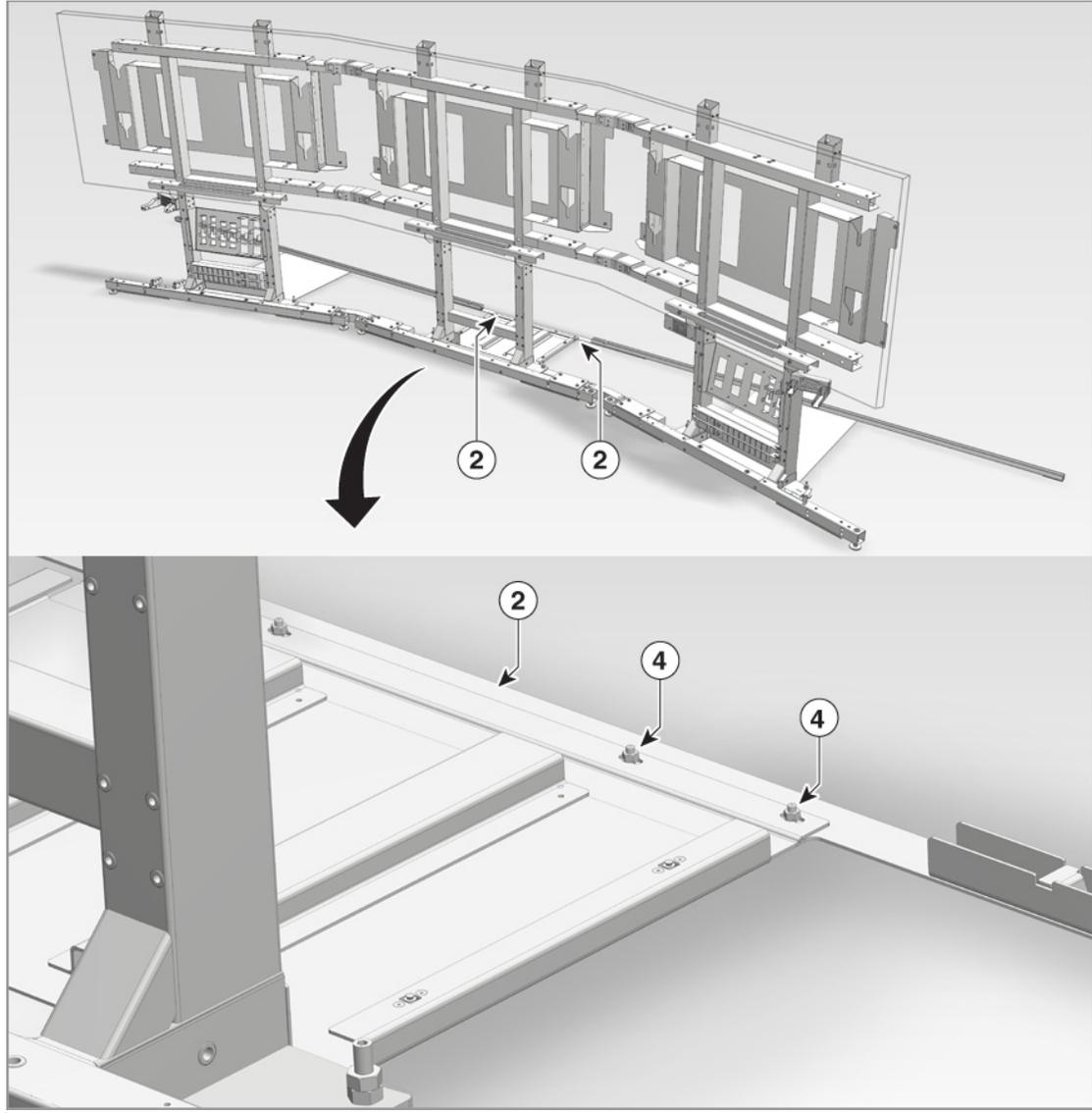


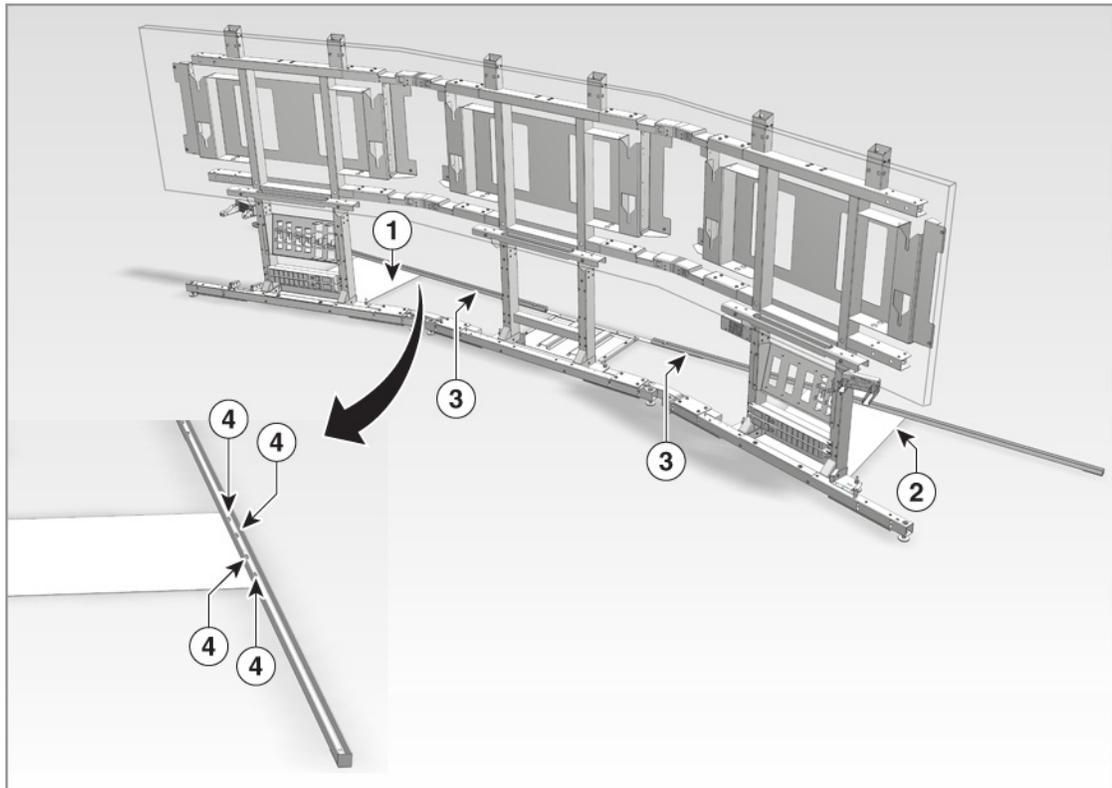
Figure 6-8 Attaching the Center U Channels to the Center Floor Plate (3 of 3)—Attaching the Plate and U Channels



Step 5 Attach the left and right U channels to the left and right floor plates.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Floor bracket, left	700-39001-xx and 700-39005-xx Kit #69-2292-xx	1	43-B	
2	Floor bracket, right	700-39000-xx and 700-39004-xx Kit #69-2292-xx	1	43-B	
3	Center-left and center-right U Channel	700-38998-xx Kit #69-2292-xx	2	43-B	
4	M5 nuts	49-0747-xx Kit #69-2410-xx	4	6	

Figure 6-9 Attaching the Left and Right U Channels to the Left and Right Floor Plates

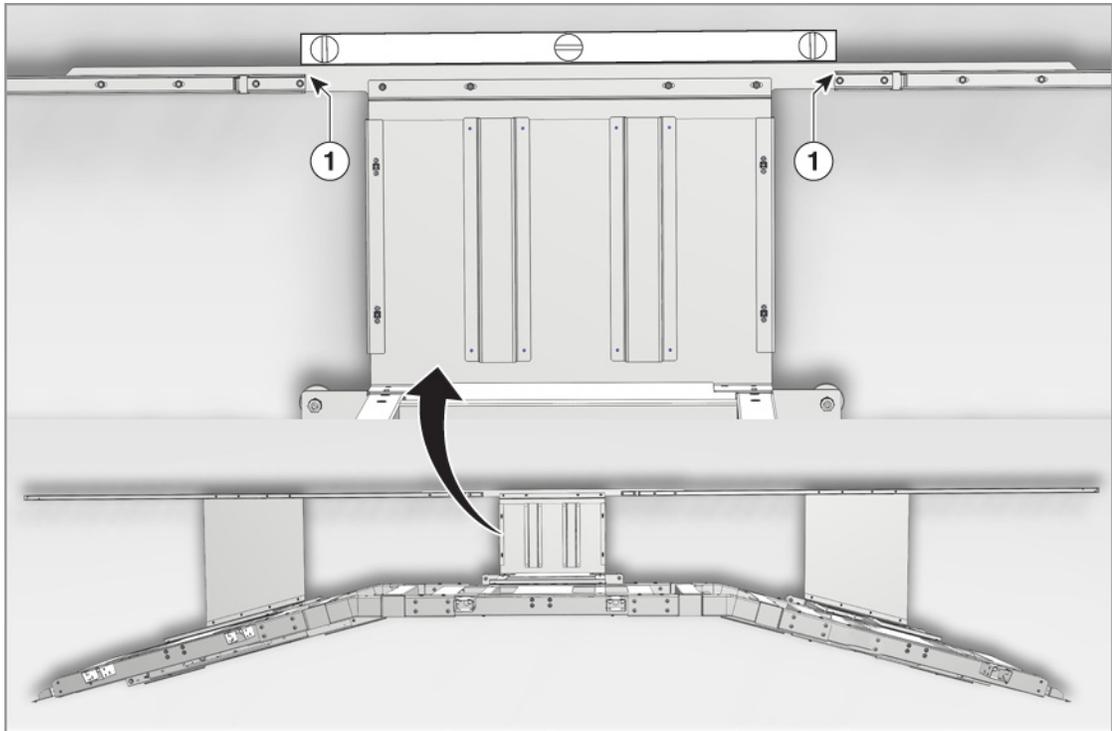


343503

- Step 6** Align the U channels so that they are straight. Use a four foot (1.5 meter) level or a straight edge.
- Step 7** Measure the distance between the U channel and the wall and make sure that the distance is even.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Center-left and center-right U Channel	700-38998-01 Kit #69-2292-xx	2	43-B	Already installed

Figure 6-10 Leveling the U Channels



- Step 8** Install the displays by following the steps in [Chapter 5, “Installing the Displays and Performing Final Leveling of the Main Display Structure”](#).
- Step 9** After you complete installation of the displays, continue to [Step 10](#) in this chapter.

Step 10 (Optional) remove the electrical access panels from the center, center-left and center-right reflector panels.



Note Be sure to follow all local, regional, and national electrical codes when you perform this step.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Access panel	N/A	1		Part of center reflector panel
2	Screws	N/A	8		Part of center reflector panel

Figure 6-11 Removing the Electrical Outlet Access Panels (1 of 2)

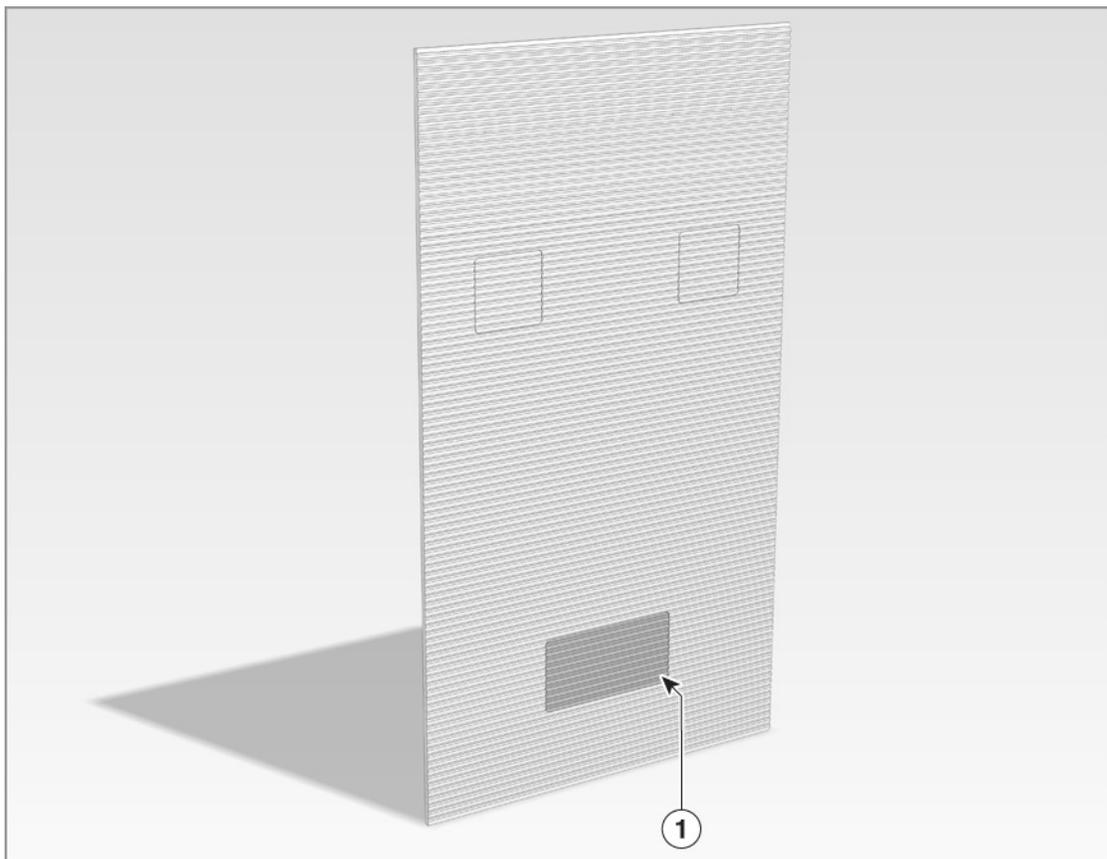
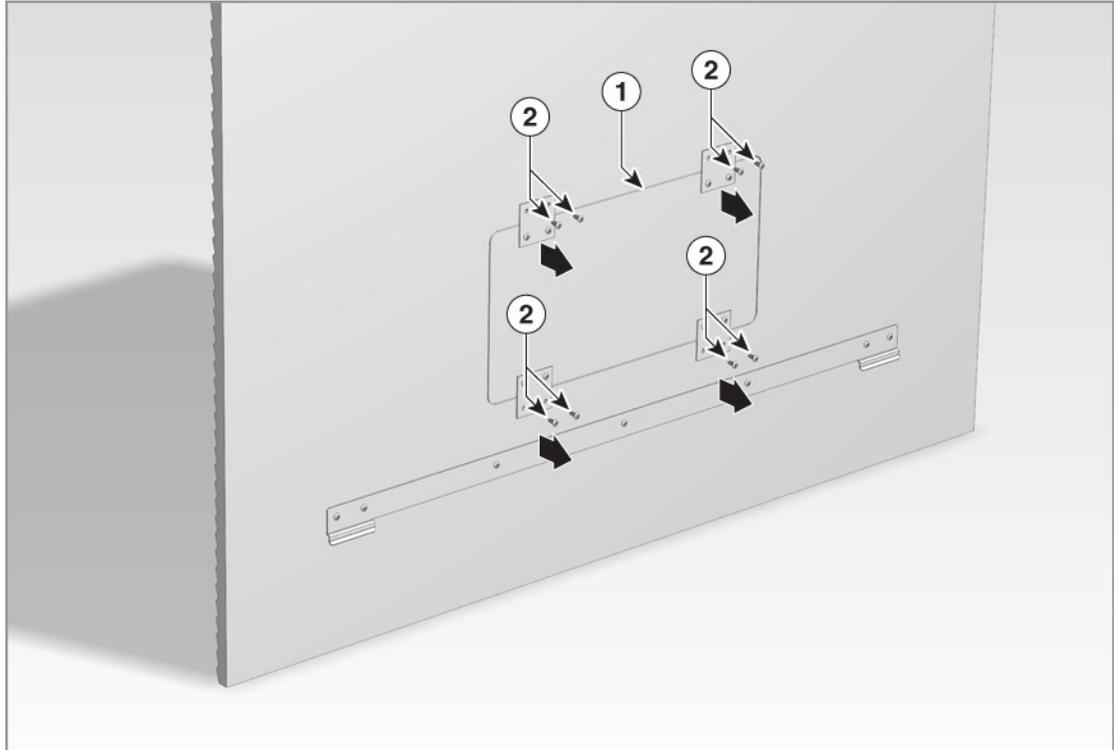


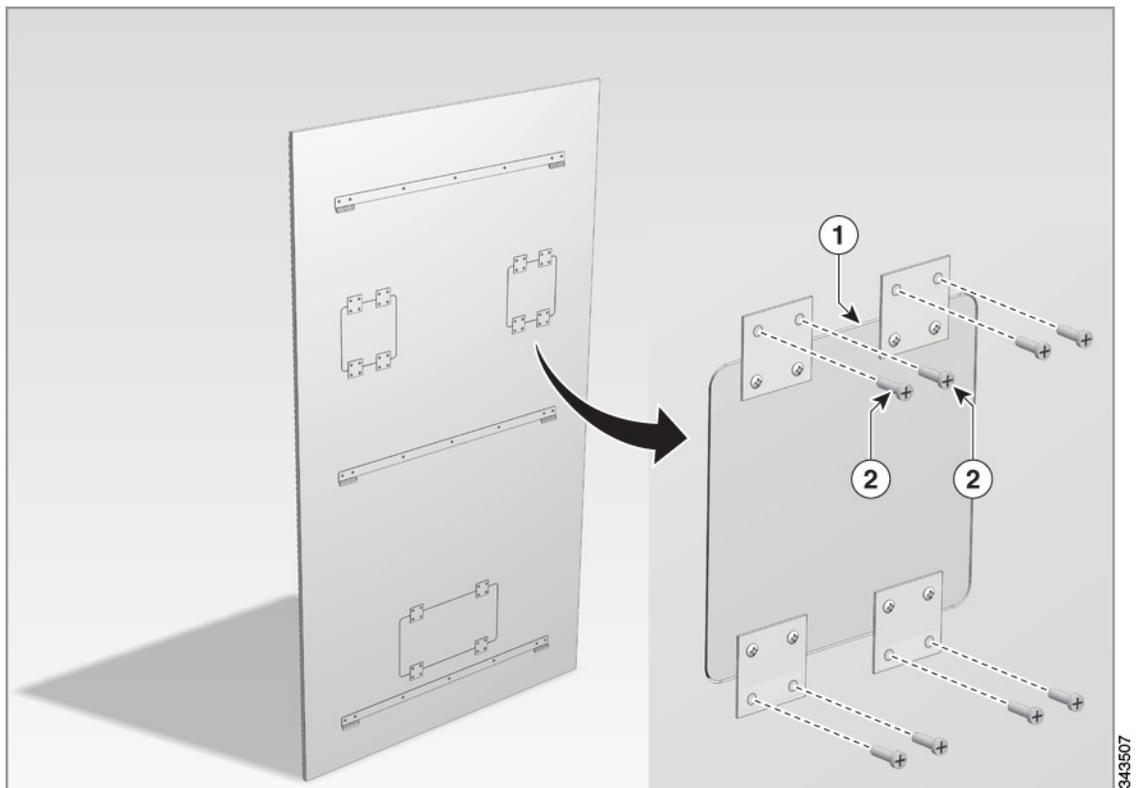
Figure 6-12 Removing the Electrical Outlet Access Panels (2 of 2)



Step 11 Remove the support arm panel cutouts on the center reflector panel by removing eight screws on the reverse side of the panel.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Reflector Panel, center	700-36913-xx Kit #69-2291	1	43-A	
2	Support arm access panels	700-36914-xx	2		Part of center reflector panel
3	Screws	N/A	16		Part of center reflector panel

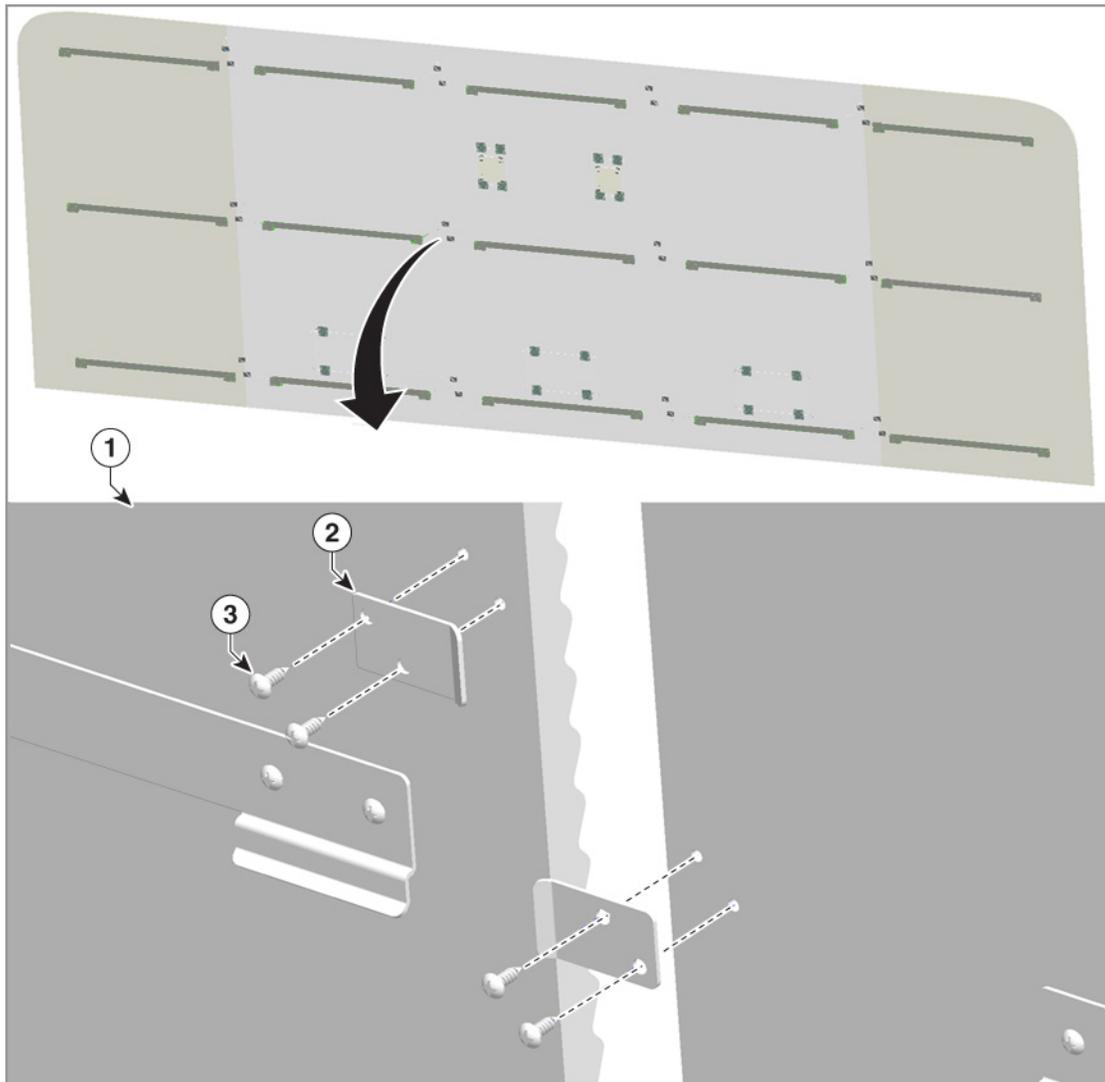
Figure 6-13 Removing the Support Arm Panel Cutouts



Step 12 Attach the panel alignment tabs to the rear of the panels using the screws that are included in the reflector panel carton.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Reflector panels	N/A	N/A	N/A	
2	Panel alignment tabs	700-39916-01 Kit # 69-2291-xx	24	43-A	
3	Wood screws	See Notes	96	43-A	Included with the wall reflector panel carton

Figure 6-14 Installing the Panel Alignment Tabs to the Rear of the Panels



- Step 13** Place the center free standing wall frame in the center of the U channel directly behind the center display structure.

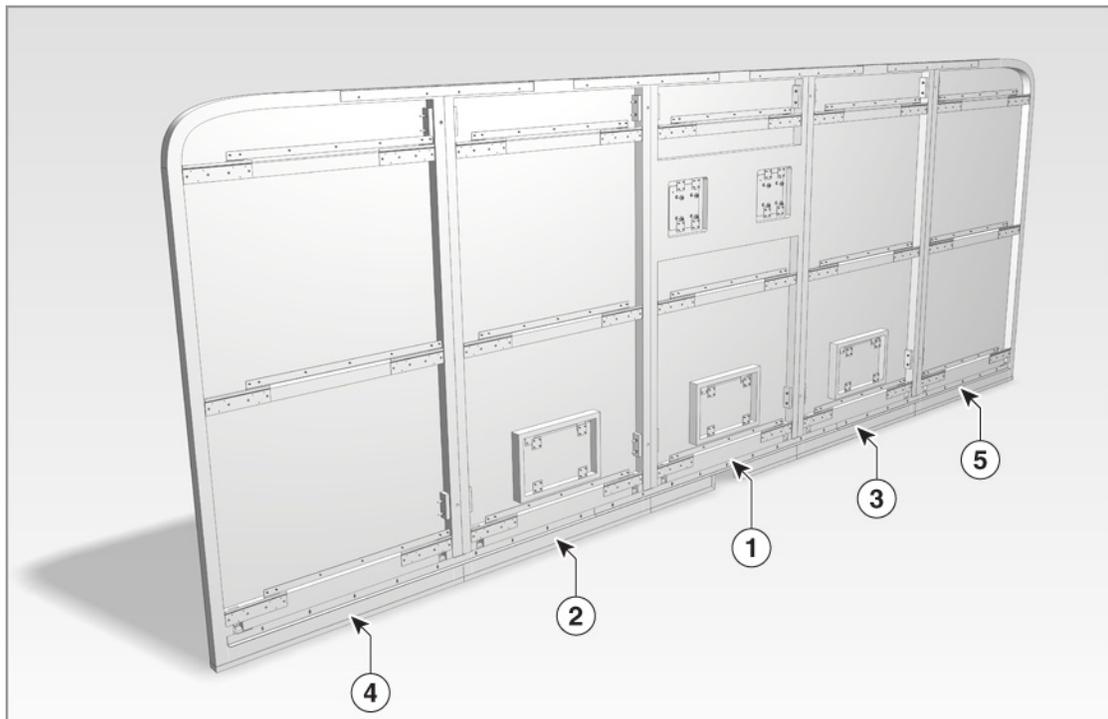


Note The frames are marked 1 to 5 (left to right) for ease of identification and installation.

Figure 6-15 shows the entire frame assembly; only install the center wall frame at this time.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Wall frame, center	700-36933-xx Kit #69-2292-xx	1	43-B	
2	Wall frame, center left	700-36934-xx Kit #69-2292-xx	1	43-B	Do not install these until Step 21 .
3	Wall frame, center right	700-37862-xx Kit #69-2292-xx	1	43-B	Do not install these until Step 21 .
4	Wall frame, far left	700-36931-xx Kit #69-2292-xx	1	43-B	Do not install these until Step 21 .
5	Wall frame, far right	700-36932-xx Kit #69-2292-xx	1	43-B	Do not install these until Step 21 .

Figure 6-15 Installing the Center Free-Standing Wall Frame



343508

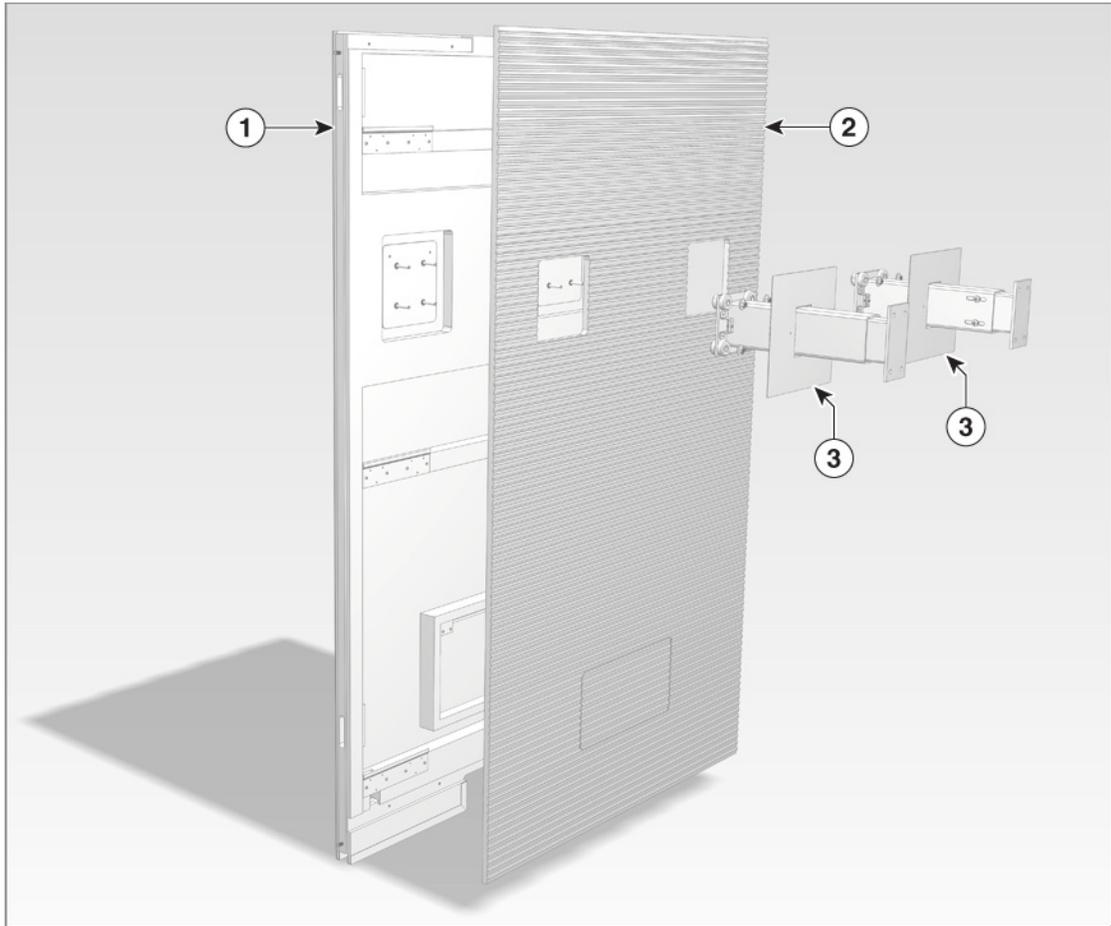
- Step 14** Place the center reflector panel through the support arms as shown in [Figure 6-16](#).
- Step 15** Install the support arms, along with the center reflector panel, to the center wall frame using M8 nuts and washers. Do not fully tighten the screws at this time.



Note Do not install the center wall frame to the U channel or center wall frame at this time. Rest the panel against the center wall frame, taking care not to mar the reflector paint finish.

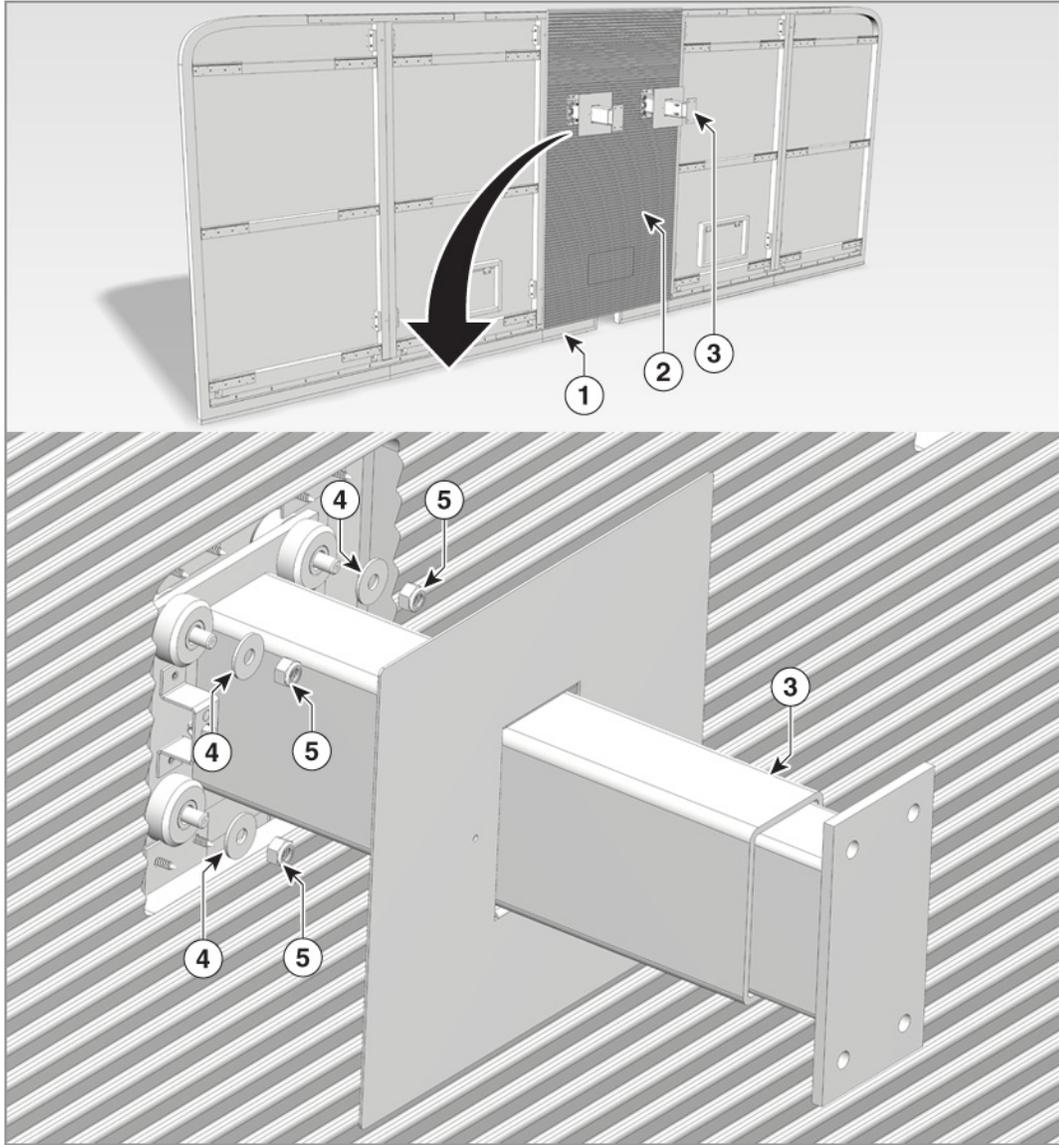
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Wall frame, center	700-36933-xx Kit #69-2292-xx	1	43-B	
2	Reflector panel, center	700-36913-xx Kit #69-2291	1	43-A	
3	Display stand support arms	800-37499-xx Kit #69-2340	2	43-C-1 and 43-C-2	
4	M8 fender washers	N/A	8		Already installed on arm (800-37499-xx)
5	M8 nuts	N/A	8		Already installed on arm (800-37499-xx)

Figure 6-16 Installing the Support Arms to the Center Frame (1 of 2)



343509

Figure 6-17 Installing the Support Arms to the Center Frame (2 of 2)



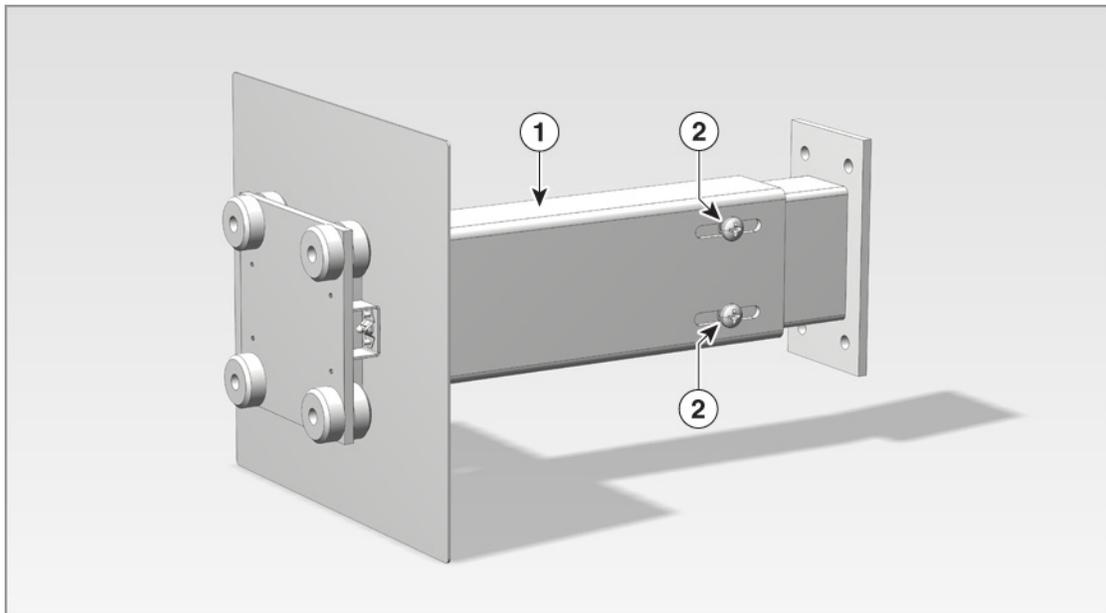
343510

Step 16 Loosen the screws on the support arms.

These screws allow you to adjust the length of the support arms.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Display stand support arms	800-37499-01 Kit #69-2340	2	43-C-1 and 43-C-2	Already installed to reflector wall
2	Support arm adjustment screws	N/A	4		Part of support arms

Figure 6-18 Loosening the Securing Screws on the Support Arms



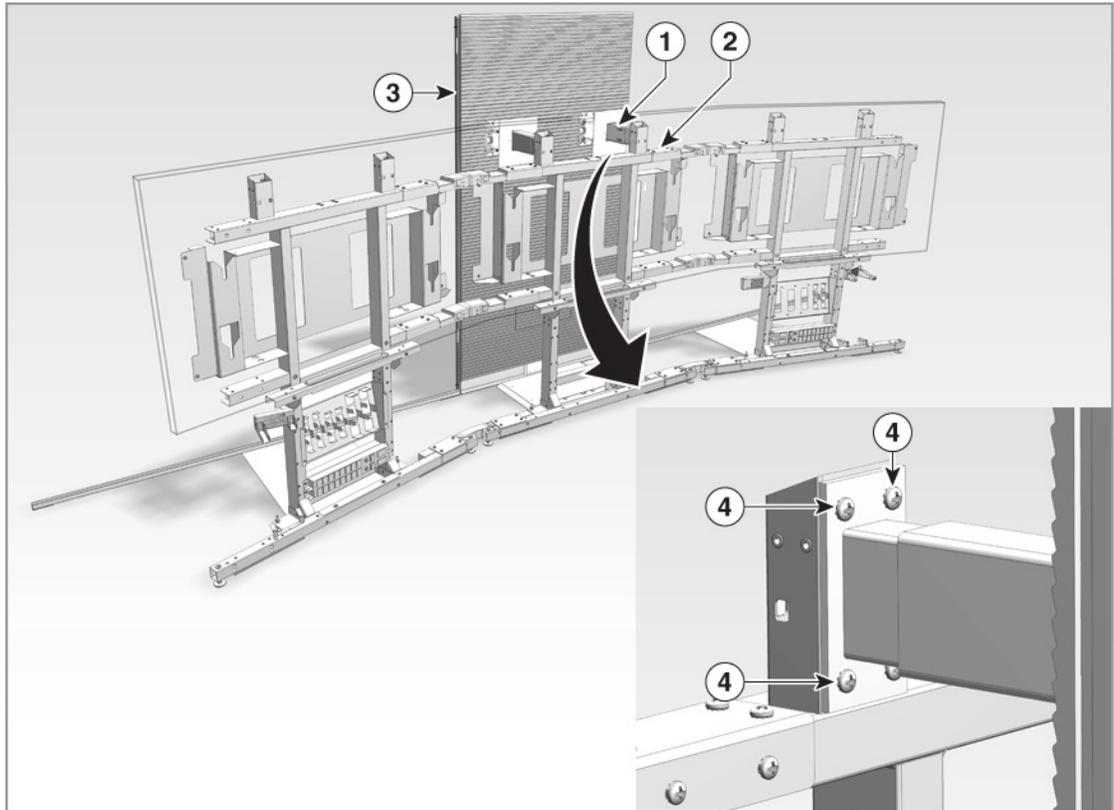
Step 17 Attach the support arms on the center wall frame to the center display stand using M8 x 16 mm screws.



Tip Be sure to keep the reflector wall in its channel as shown in [Figure 6-20](#).

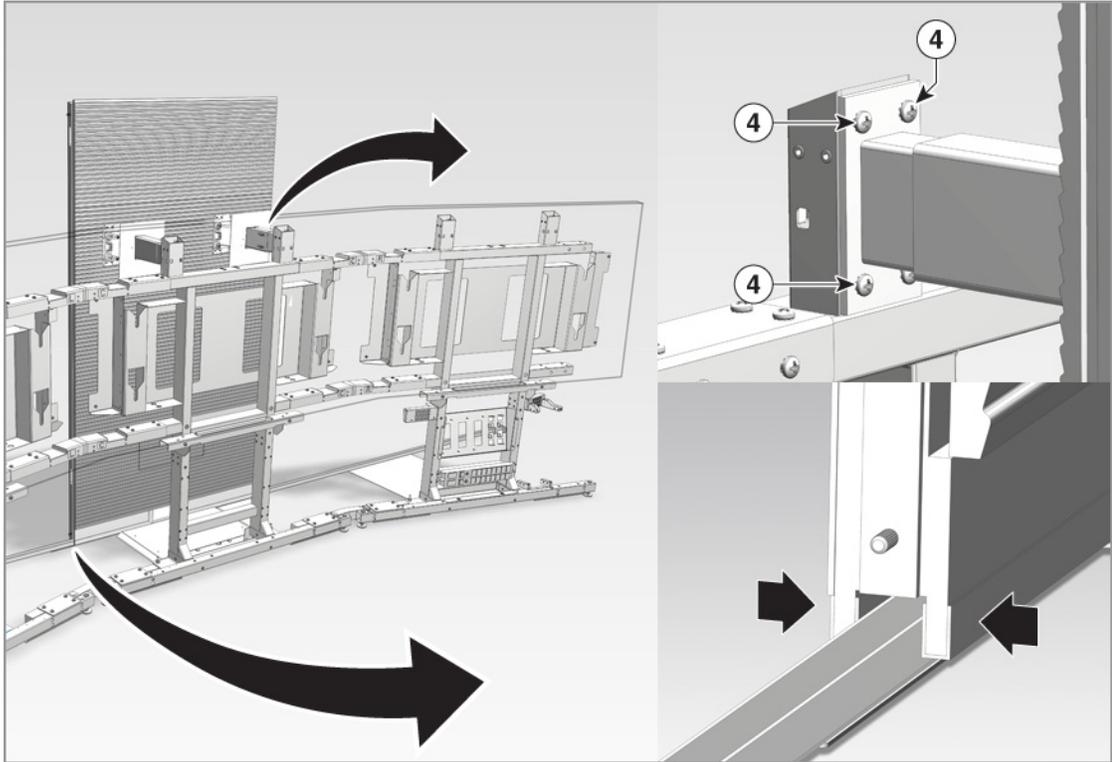
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Display stand support arms	800-37499-xx Kit #69-2340-xx	2	43-C-1 and 43-C-2	Already installed to reflector wall
2	Display stand, center	800-37616-xx Kit #69-2323-xx	1	1	Already installed
3	Center reflector wall and reflector	N/A	1		Already installed
4	M8 x 16mm Phillips head screws	48-3012-xx Kit #69-2365-xx	8	6	

Figure 6-19 Connecting the Center Wall Frame to the Center Display Structure (1 of 2)



343512

Figure 6-20 Connecting the Center Wall Frame to the Center Display Structure (1 of 2)—Detail of Center Channel



Step 18 Level the center wall frame, both horizontally and vertically. To adjust the level of the frame, complete the following steps:

- a. Remove the center wall reflector panel by gently lifting it out of the Z bracket channels in the wall frame.

You can rest the panel on the support arms during the leveling process.

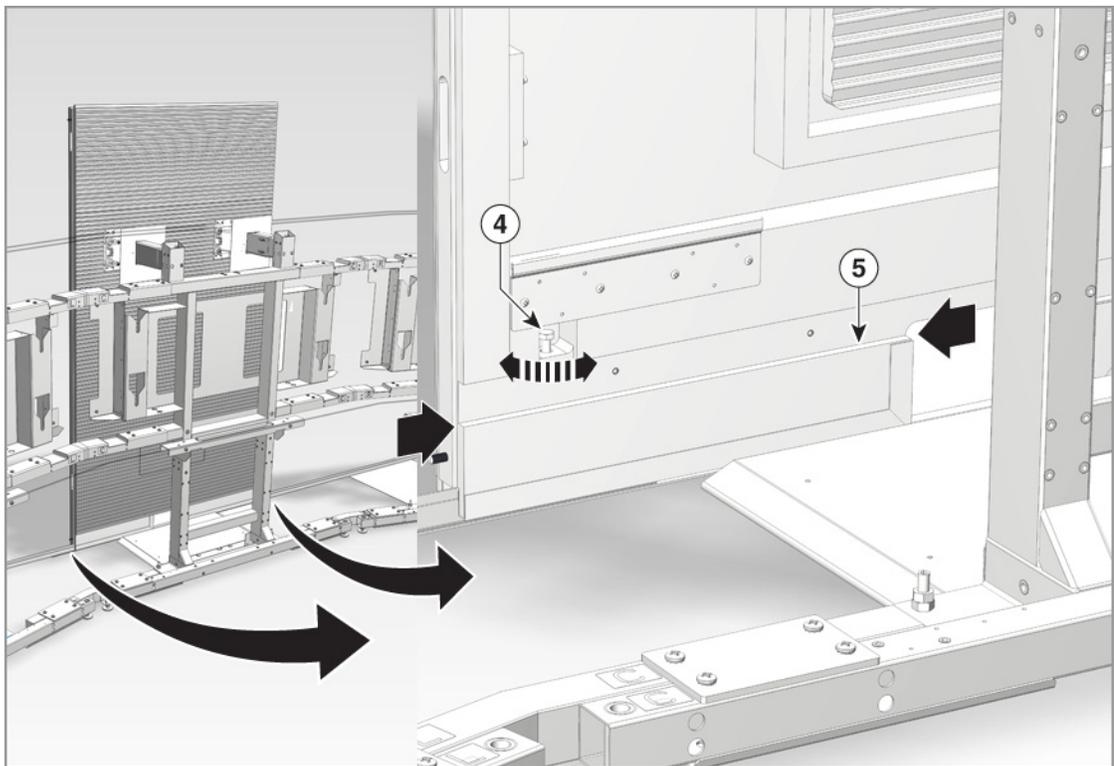
- b. Using a laser level (preferred) or a bubble level, level the frame so that the wooden cross-arms are level.

Use the leveling screw located in the lower part of the wall frame to level the frame.

- c. Replace the center wall reflector panel by gently lowering it into the Z bracket channels in the wall frame.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Display stand support arms	800-37499-01 Kit #69-2340-xx	2	43-C-1 and 43-C-2	
2	Display stand, center	800-37616-xx Kit #69-2323-xx	1	1	
3	Center reflector wall and reflector	N/A	1		
4	Leveling foot	N/A	1		Part of reflector wall
5	Shelf edge	N/A	1		Place the level against this edge.

Figure 6-21 Leveling the Center Wall Frame

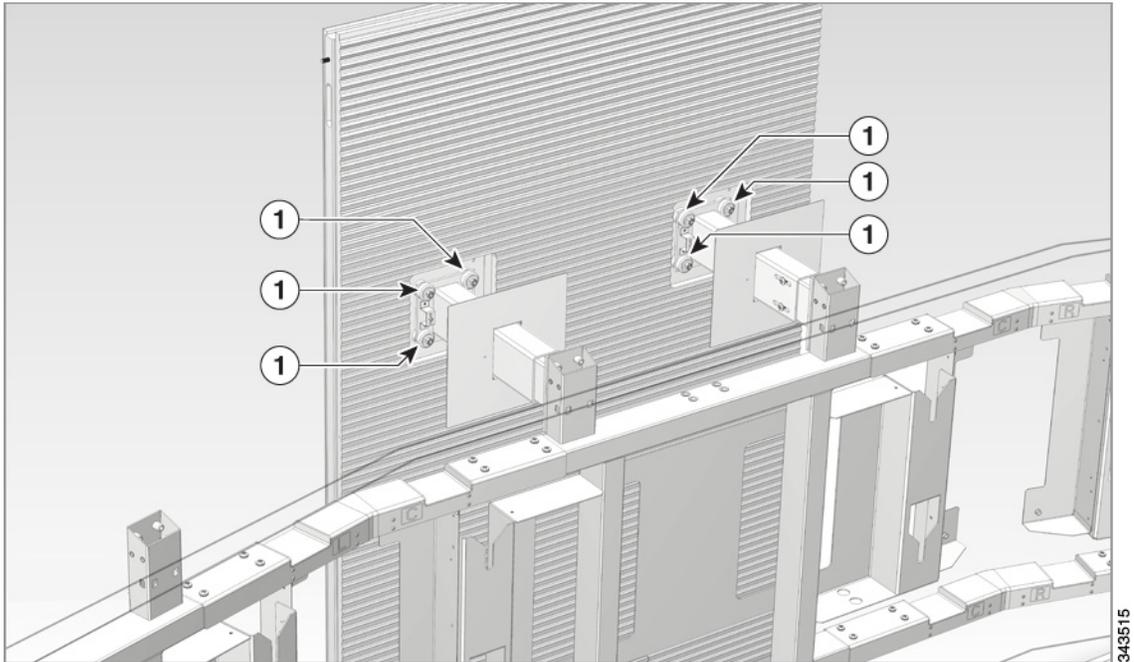


343514

Step 19 Tighten the nuts that attach the support arms to the wall frame.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M8 nuts	N/A	8		Already installed

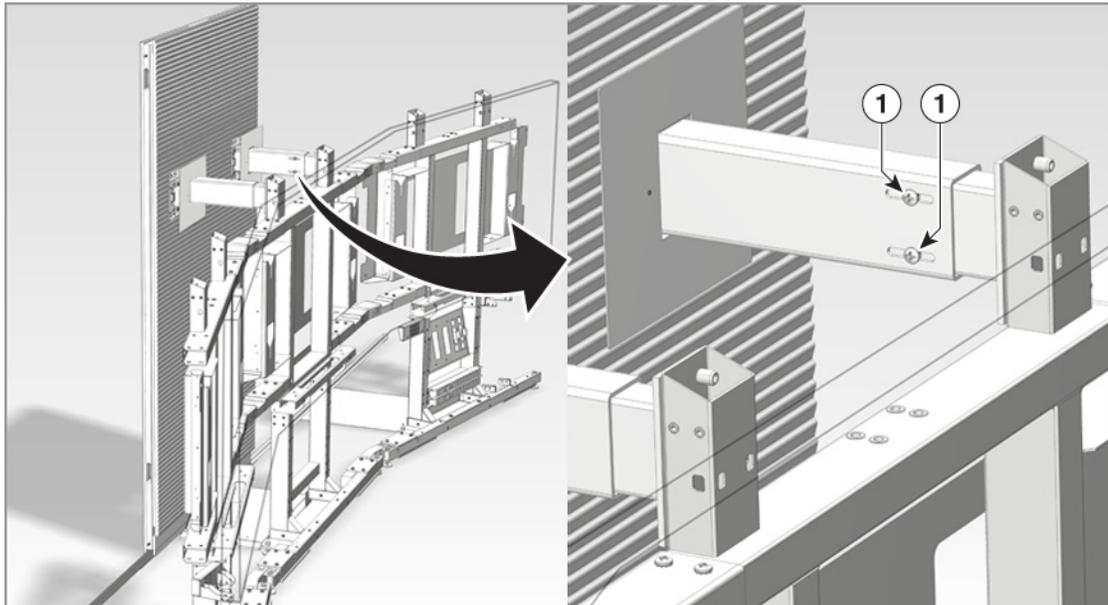
Figure 6-22 Tightening the Support Arm-to-Wall Frame Nuts



Step 20 Vertically level the wall frame, then tighten the screws that are circled in [Figure 6-23](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Support arm adjustment screws	N/A	4		Part of support arms

Figure 6-23 *Leveling the Wall and Tightening the Support Arm Screws*



343516

Step 21 Install the remaining frames onto the U channels by completing the following steps:

- a. Place the frame on the U channel.
- b. Gently press the frames together.



Caution

Make sure that the locating dowels on the sides of the panels meet with the holes on the adjoining pane. Failure to line up the hole and the dowel can result in a broken dowel.

- c. Use the cam locks to fully join the panels together.
Rotate the cam locks in the direction of the arrow that is stamped on the wall frame.



Note The cam locks for the top and bottom parts of the wall rotate in different directions; see [Figure 6-26](#) for an example.

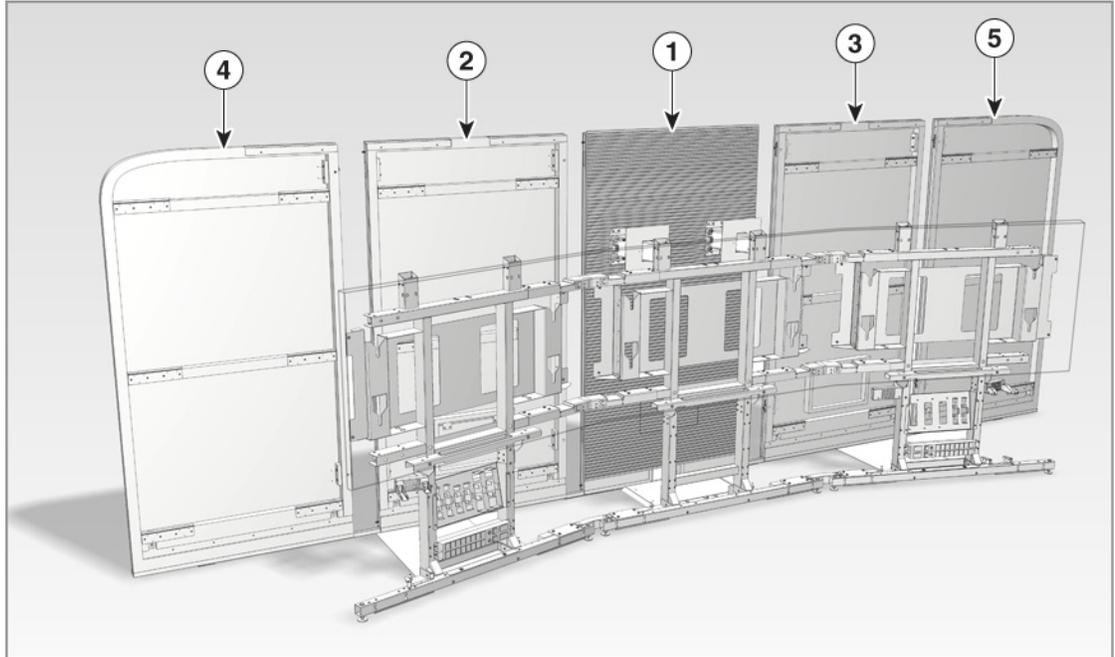
- d. Level the wall frames by using the leveling feet inside the wall frames.
These feet are shown in [Figure 6-21](#).



Note Make sure that all leveling feet touch the lower channel during the leveling process.

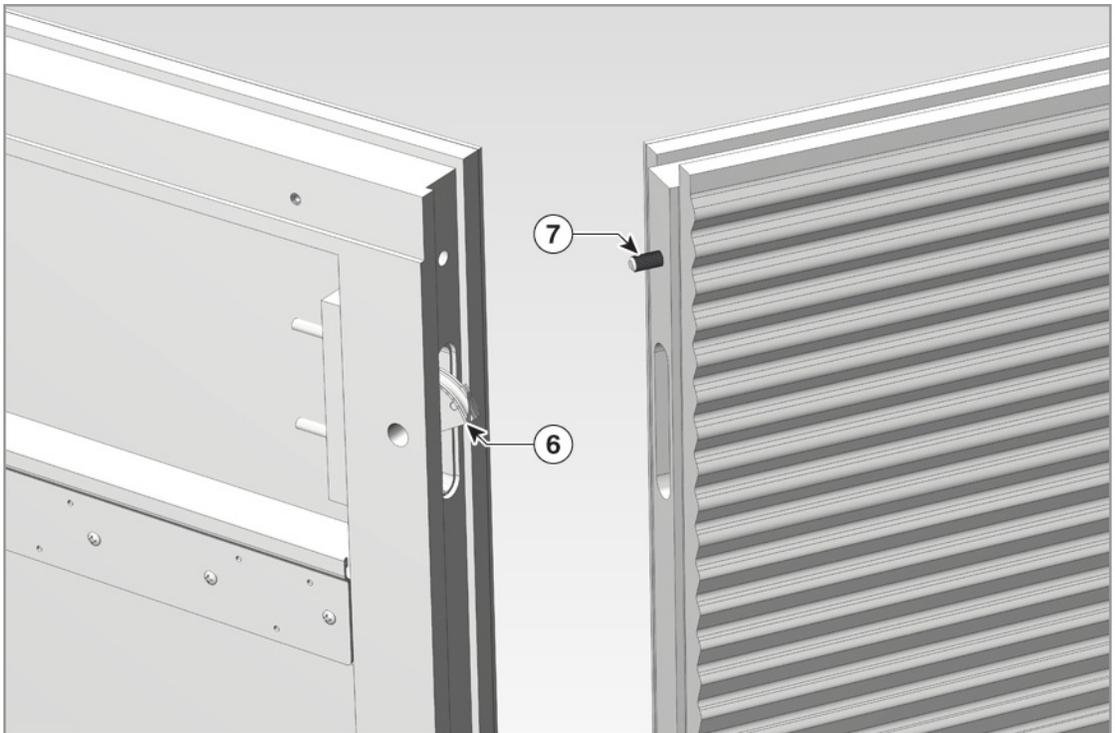
Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Wall frame, center	700-36933-xx Kit #69-2292-xx	1	43-B	
2	Wall frame, center left	700-36934-xx Kit #69-2292-xx	1	43-B	
3	Wall frame, center right	700-37862-xx Kit #69-2292-xx	1	43-B	
4	Wall frame, far left	700-36931-xx Kit #69-2292-xx	1	43-B	
5	Wall frame, far right	700-36932-xx Kit #69-2292-xx	1	43-B	
6	Cam lock	N/A	1		Part of wall frame
7	Locating dowel	N/A	1		Part of wall frame

Figure 6-24 Installing the Wall Frames (1 of 3)—Placing the Frames on the U Channels



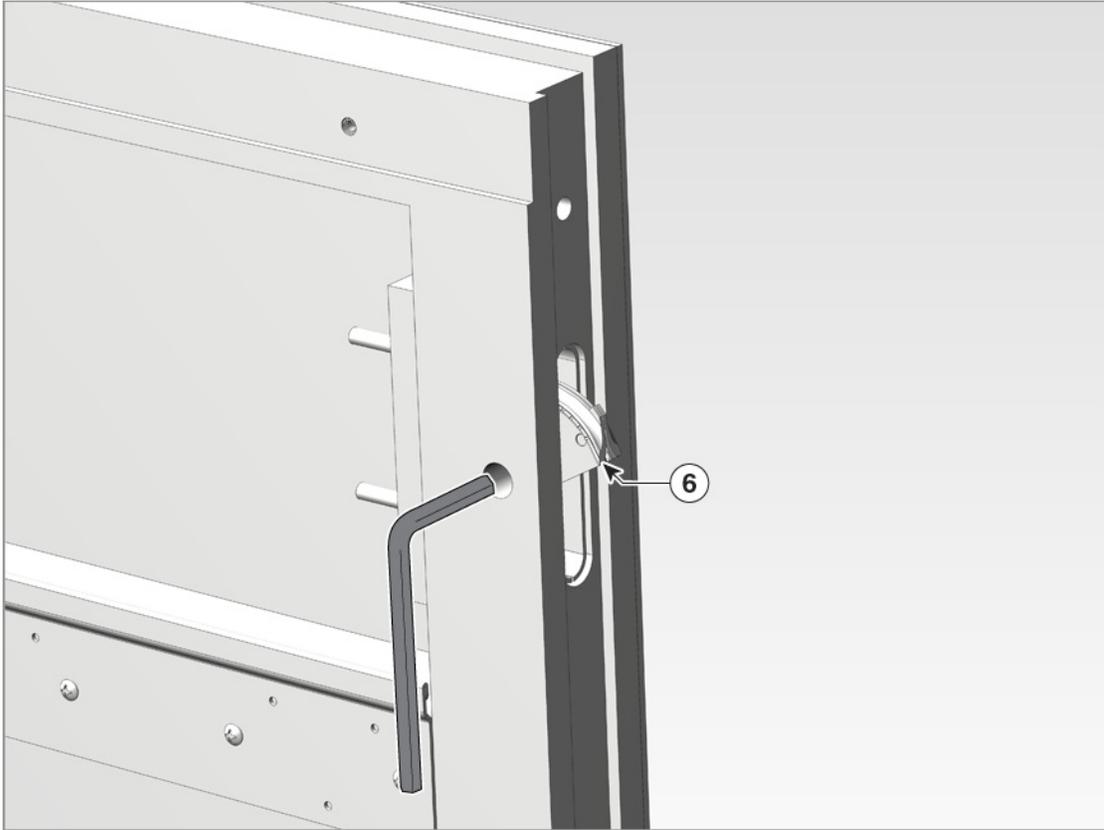
343517

Figure 6-25 Installing the Wall Frames (2 of 3)—Joining the Locating Dowels with the Holes in the Adjoining Panel



343518

Figure 6-26 Installing the Wall Frames: Part 3 of 3—Using the Cam Locks to Join the Wall Panels



- Step 22** (Optional) If you created any small dings or nicks in the light reflector panel(s) during installation, use the tube of putty, included in the carton in the light reflector package, to cover the dings or nicks.
- Step 23** Insert the upper L brackets into the recessed pockets between the panels, then insert 16 M4 x 16mm flat head screws and tighten the screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Upper L bracket	Kit #69-2292-xx	4	43-B	
2	4 x 16mm flat head screws	Kit #69-2292-xx	16	43-B	

Figure 6-27 Installing the Upper L Brackets Into the Wall Panels (1 of 2)

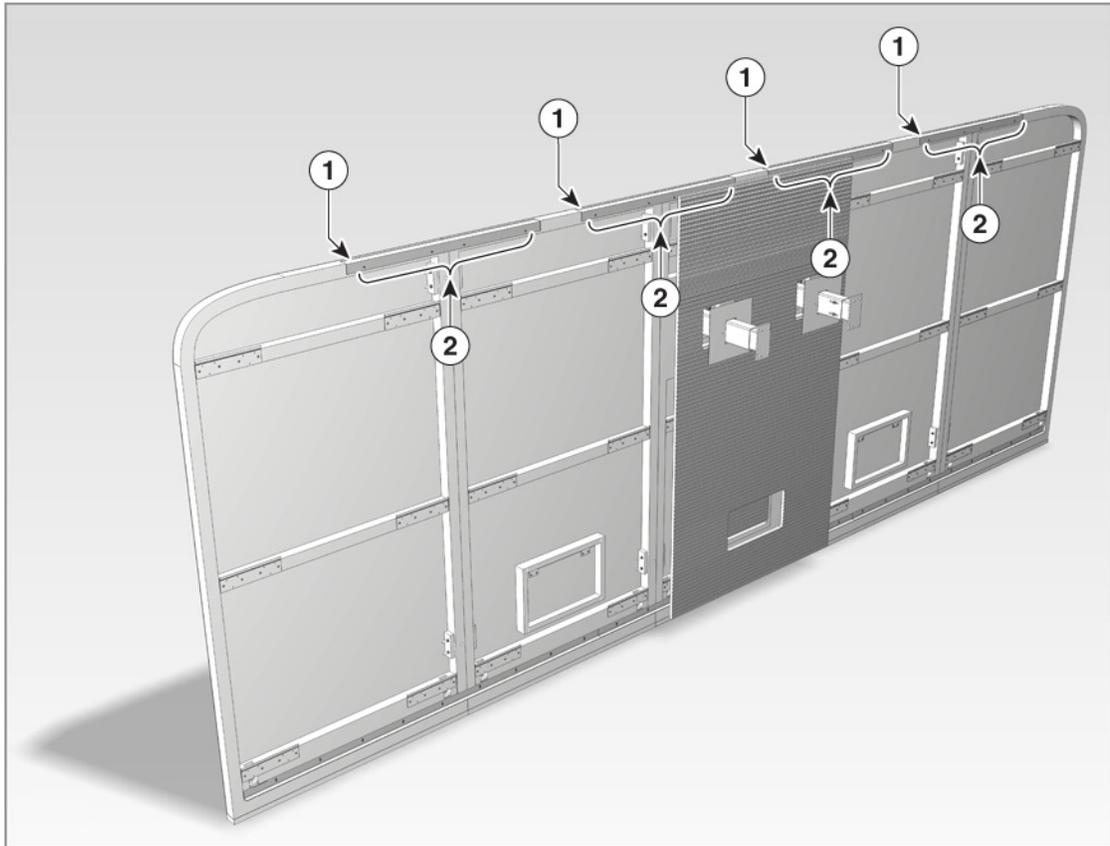
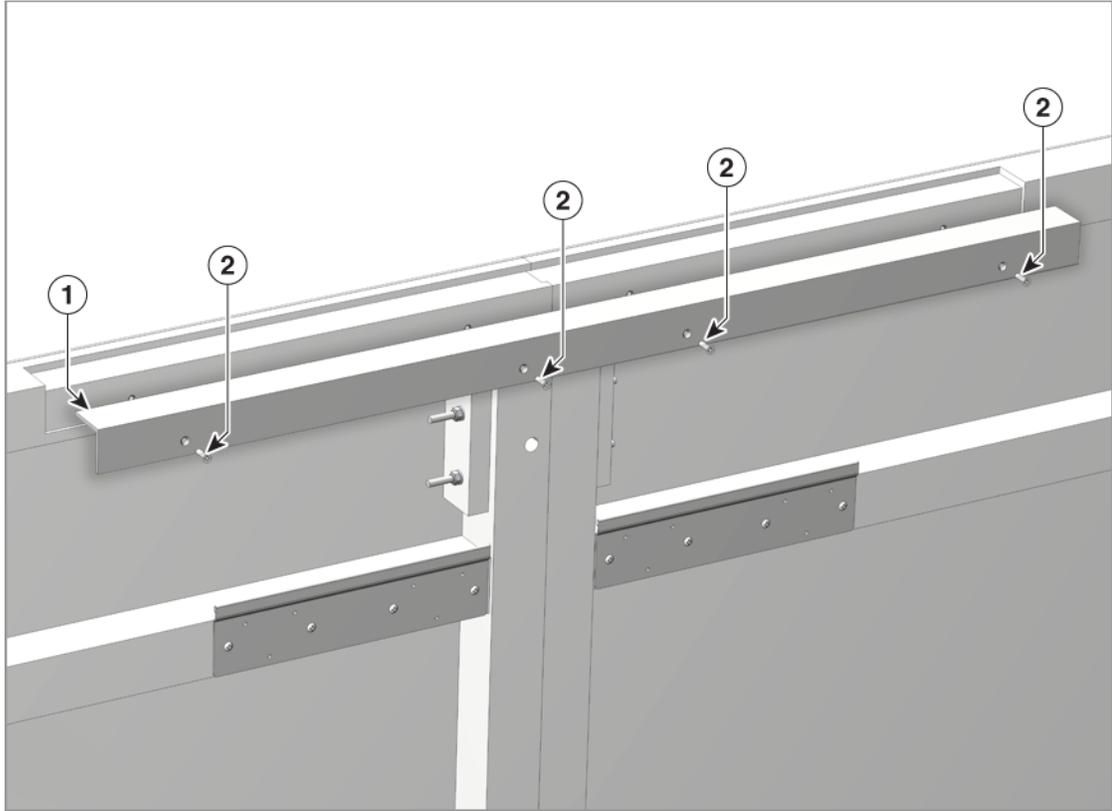


Figure 6-28 Installing the Upper L Brackets Into the Wall Panels (2 of 2)



343569

Step 24 Install the lower L brackets by completing the following steps:

- e. Position the three L bracket on the bottom of the shelf as shown in [Figure 6-29](#).



Note The brackets might be pre-installed; if they are, remove them from the wall panels.

- f. Attach the bracket to the lower part of the frame using the pan head screws.
- g. Attach the left and right L brackets, making sure the edges of the brackets join as shown in [Figure 6-30](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Lower L brackets	700-36933-01 Kit #69-2292-xx	3	43-B	Brackets might be pre-installed to wall panels
2	4 x 14 mm pan head screws	Kit #69-2292-xx	27	43-B	Brackets might be pre-installed to wall panels

Figure 6-29 Installing the Lower L Brackets Into the Wall Panels (1 of 2)

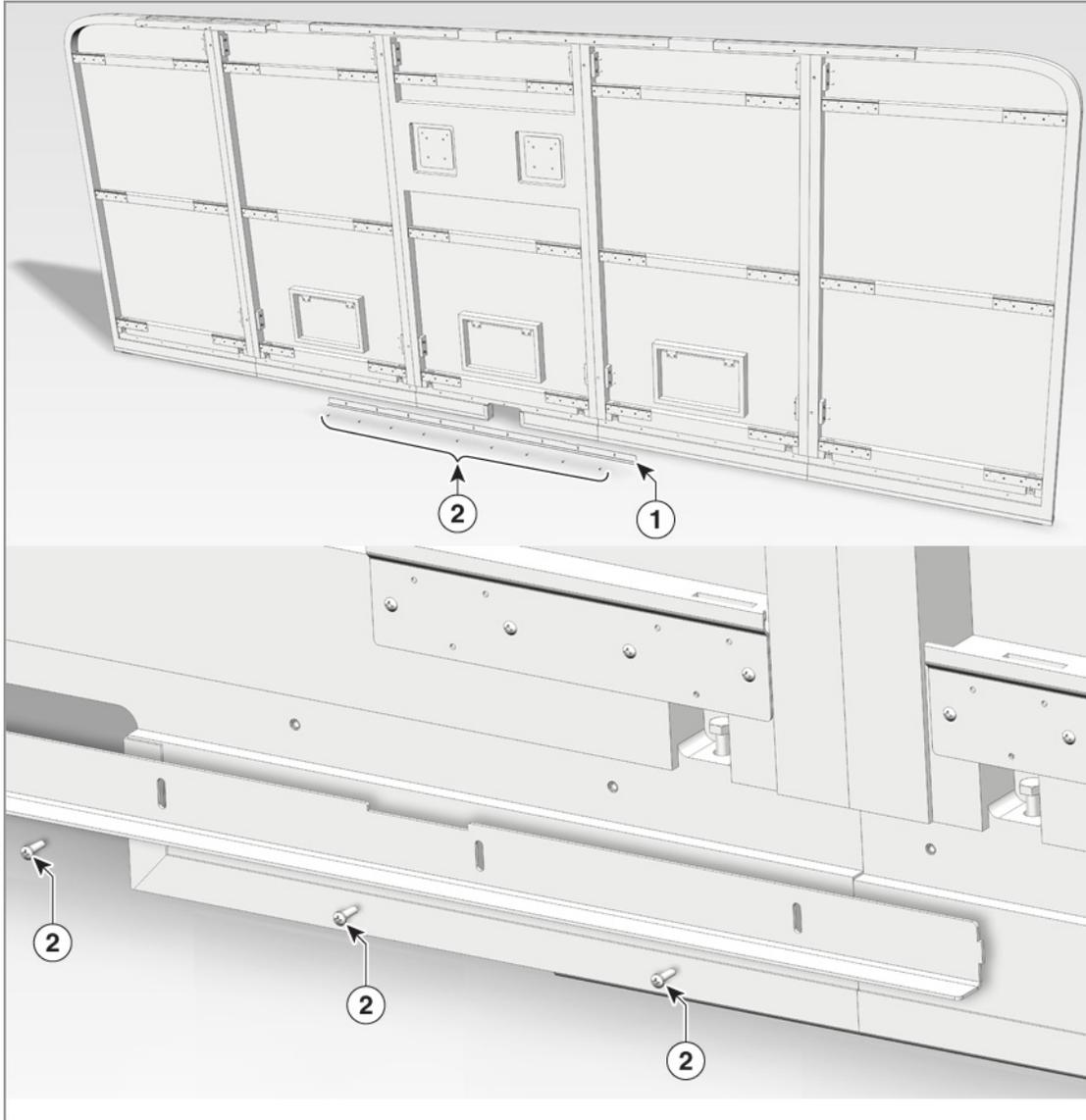
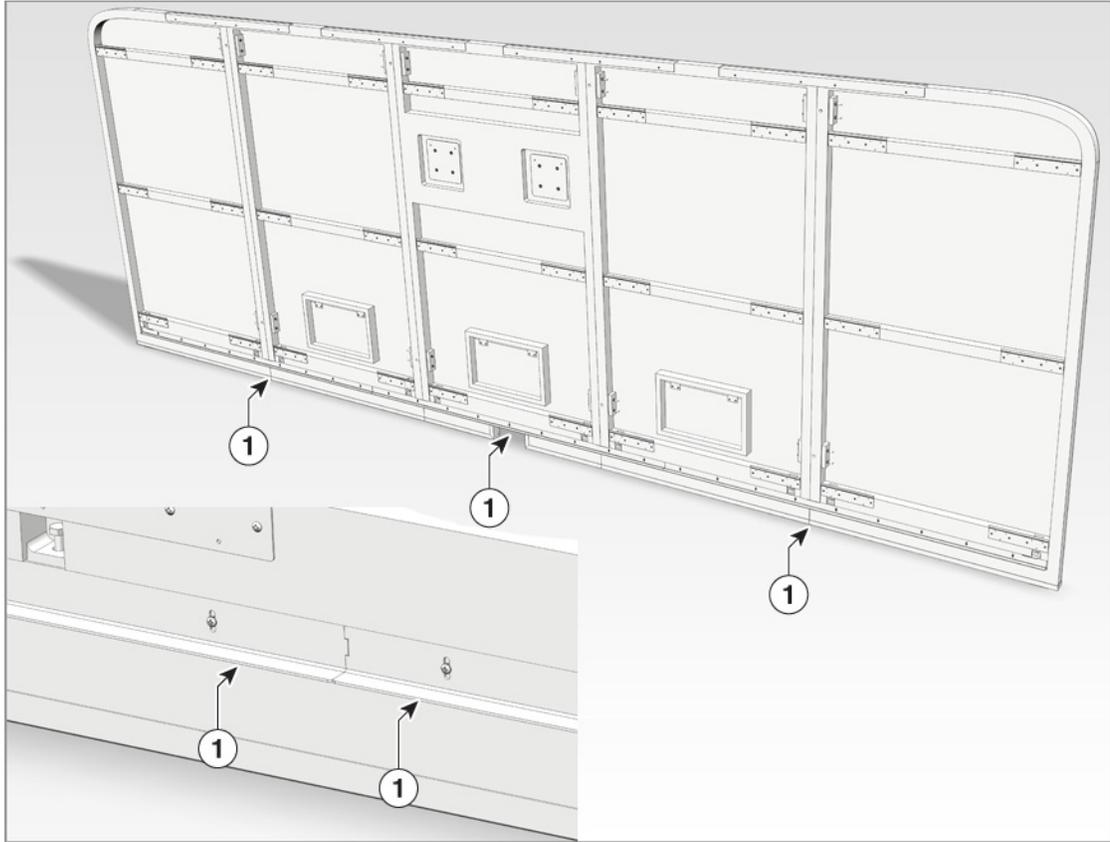


Figure 6-30 Installing the Lower L Brackets Into the Wall Panels (2 of 2)







Installing the Bezel Brackets and Vertical Bezels

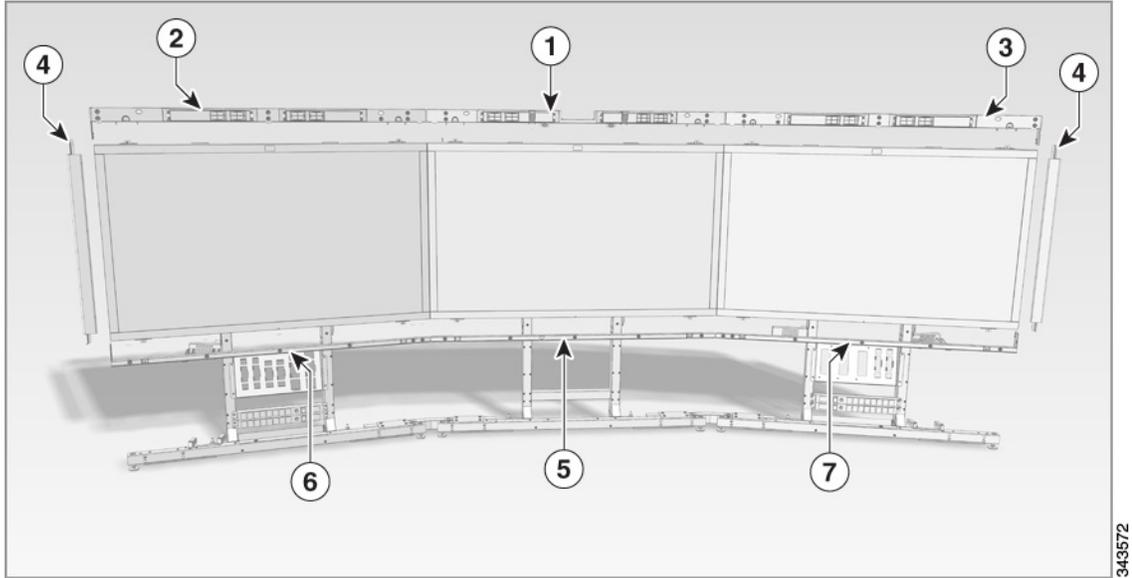
Revised: May 20, 2015, OL-27038-01

Parts List

Table 7-1 List of Brackets Installed in This Chapter

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bezel/speaker bracket, top center	800-37838-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	
2	Bezel/speaker bracket, top left	800-37837-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	
3	Bezel/speaker bracket, top right	800-37886-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	
4	Bezel mounting bracket, side	800-37851-01 Kit #69-2372-xx CTS-TX9000-SPKR	2	9	
5	Bezel mounting bracket, bottom center	700-37702-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	
6	Bezel mounting bracket, bottom left	700-37703-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	
7	Bezel mounting bracket, bottom right	700-37701-01 Kit #69-2318-xx CTS-TX9000-SPKR	1	8	

Figure 7-1 Overview of Part Numbers for the Bezel Mounting Brackets and Speakers



Step 1 Install the three top bezel mounting brackets using four screws per bracket.

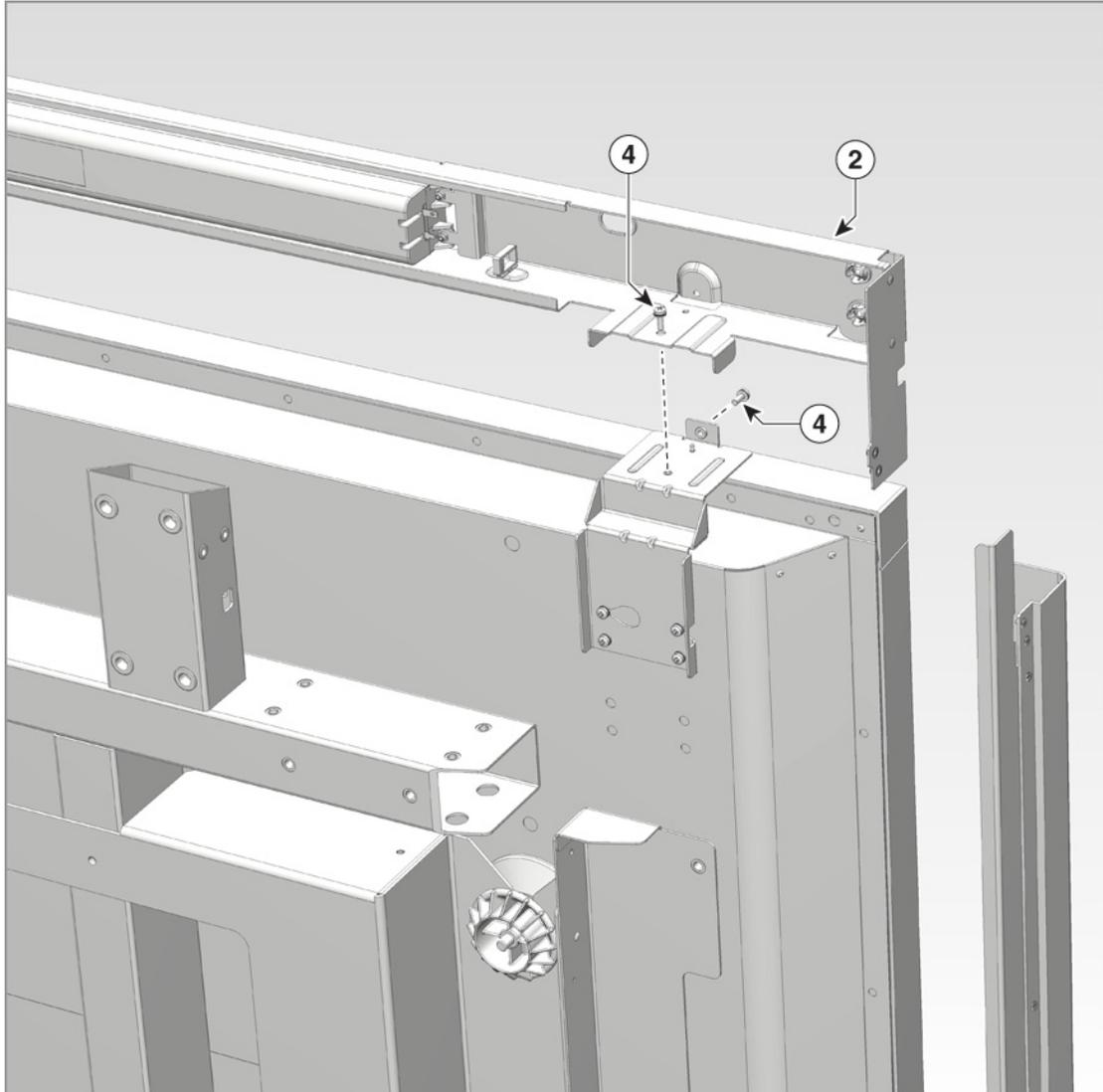


Tip

Use the alignment pins to correctly align the bezel brackets to the bezel mounting brackets.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bezel/speaker bracket, top center	800-37838-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	Not shown in Figure 7-2
2	Bezel/speaker bracket, top left	800-37837-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	
3	Bezel/speaker bracket, top right	800-37886-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	Not shown in Figure 7-2
4	M4 x 12mm pan head screw, black	48-2426-01 Kit #69-2358-xx	12	6	

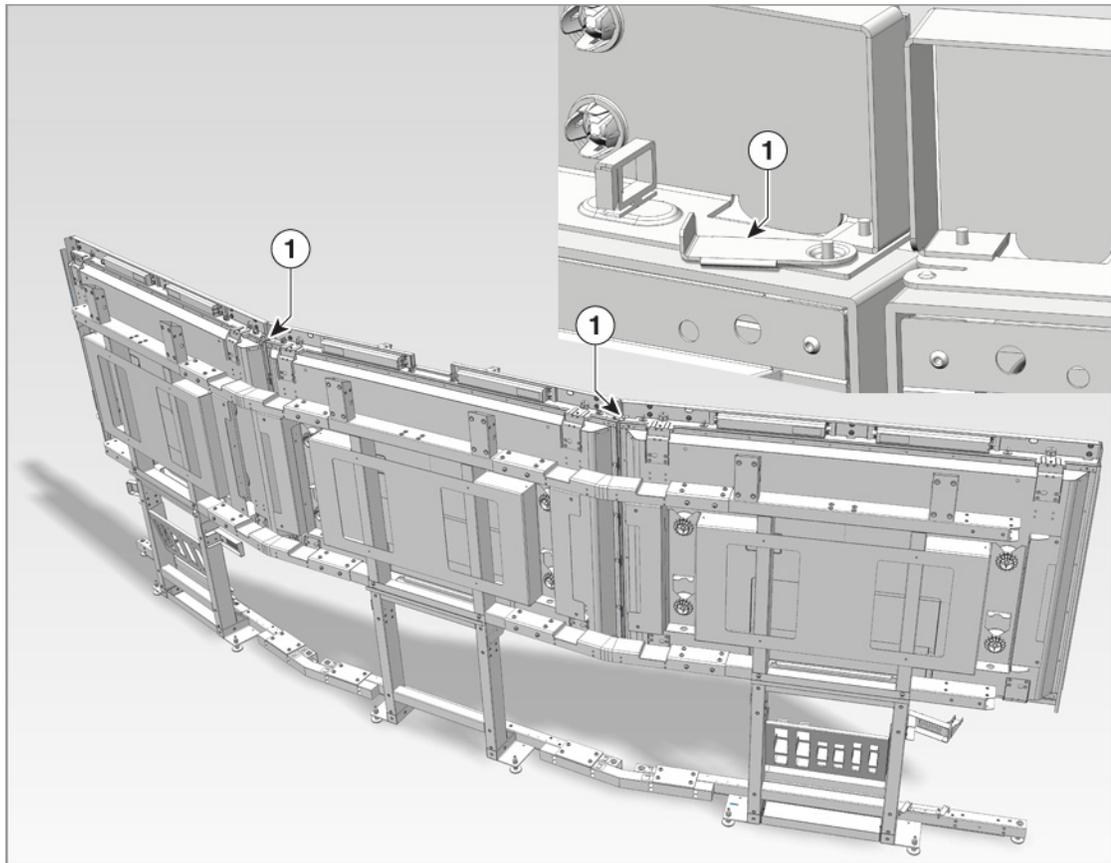
Figure 7-2 Installing the Top Bezel Mounting Brackets



Step 2 Make sure that the flip brackets on the top bezel/speaker brackets are in the unlocked position.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Flip bracket	N/A	2		Part of center top bezel/speaker bracket

Figure 7-3 *Placing the Flip Bracket in the Unlocked Position*



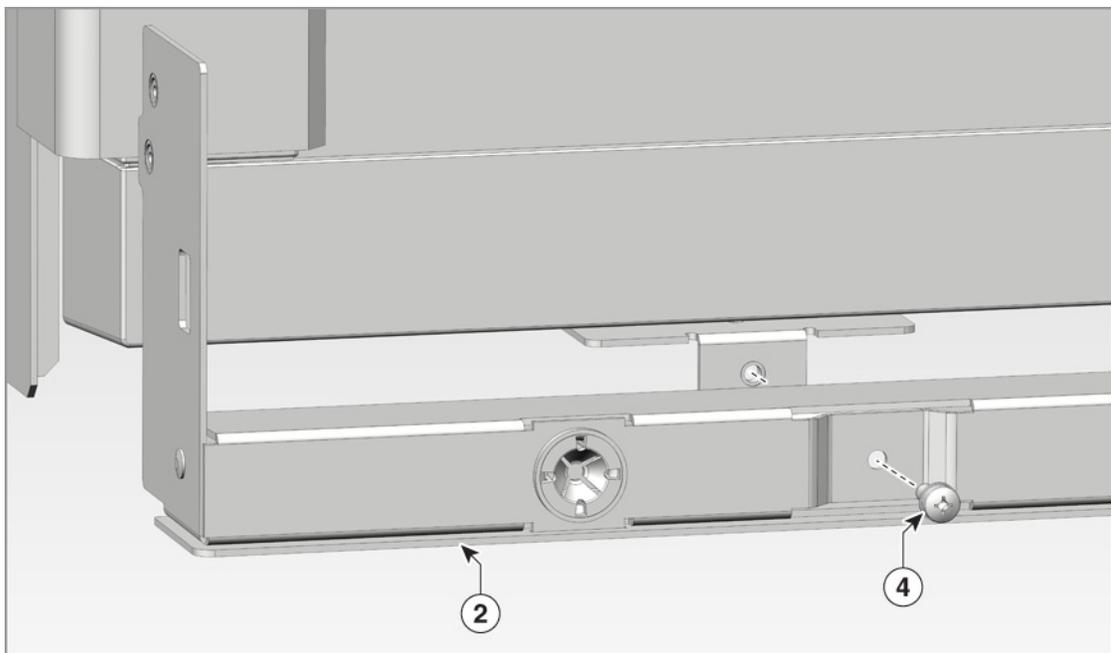
343574

Step 3 Install the three bottom bezel mounting brackets using two screws each.

Note the flange mounted on the display bracket; place the bezel mounting bracket between this flange and the display.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bezel mounting bracket, bottom center	700-37702-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	Not shown in Figure 7-4
2	Bezel mounting bracket, bottom left	700-37703-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	
3	Bezel mounting bracket, bottom right	700-37701-01 Kit #69-2318 CTS-TX9000-SPKR	1	8	Not shown in Figure 7-4
4	M4 x 10mm pan head screw	48-2594-01 Kit #69-2352-01	6	6	

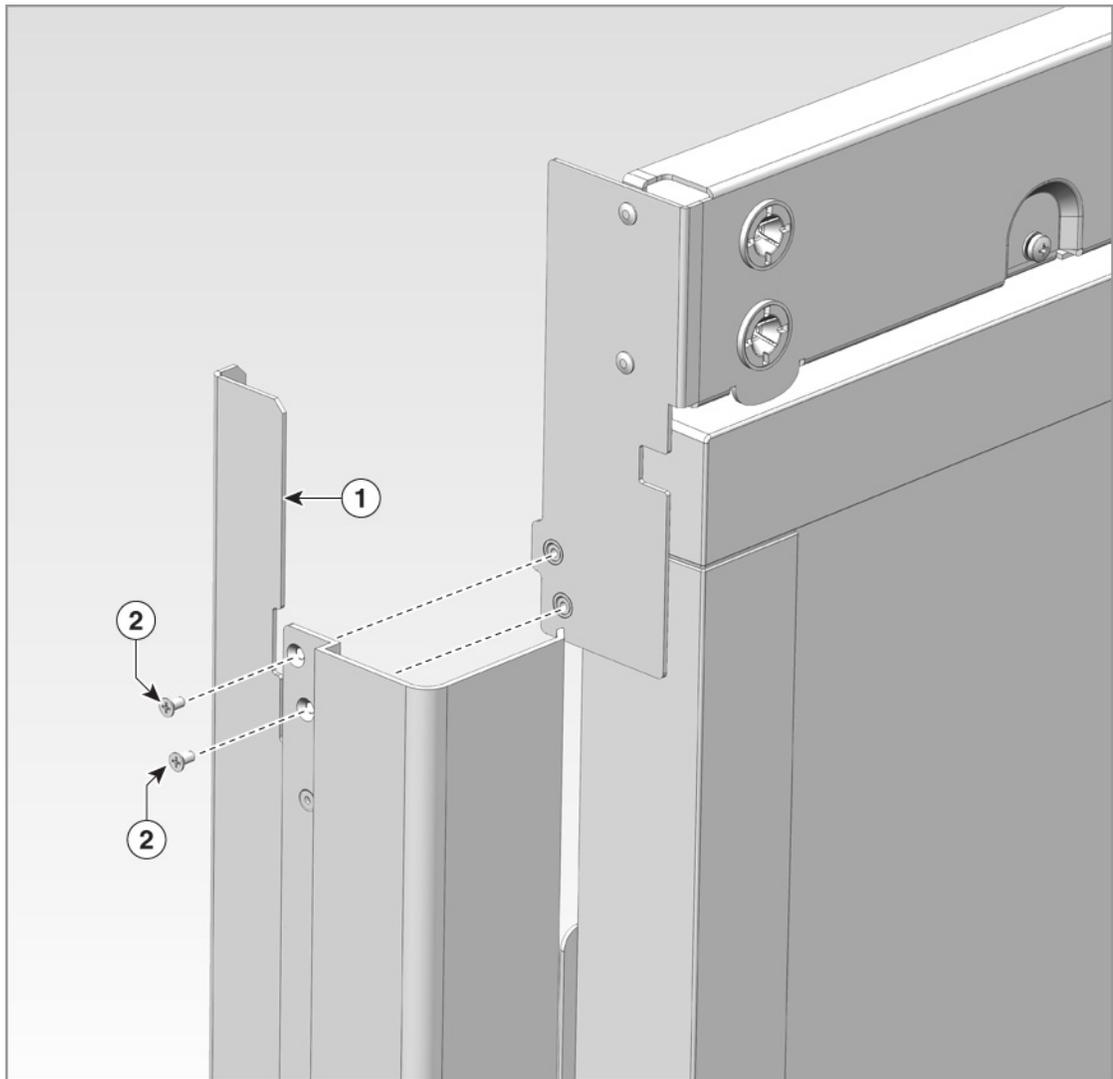
Figure 7-4 Installing the Bottom Bezel Mounting Brackets



Step 4 Install the two side bezel brackets, using four screws on each bracket.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bezel mounting bracket, side	800-37851-xx Kit #69-2372-xx CTS-TX9000-SPKR	2	8	
2	M3 x 6mm flat head screw	48-0748-xx Kit #69-2359-01	8	6	

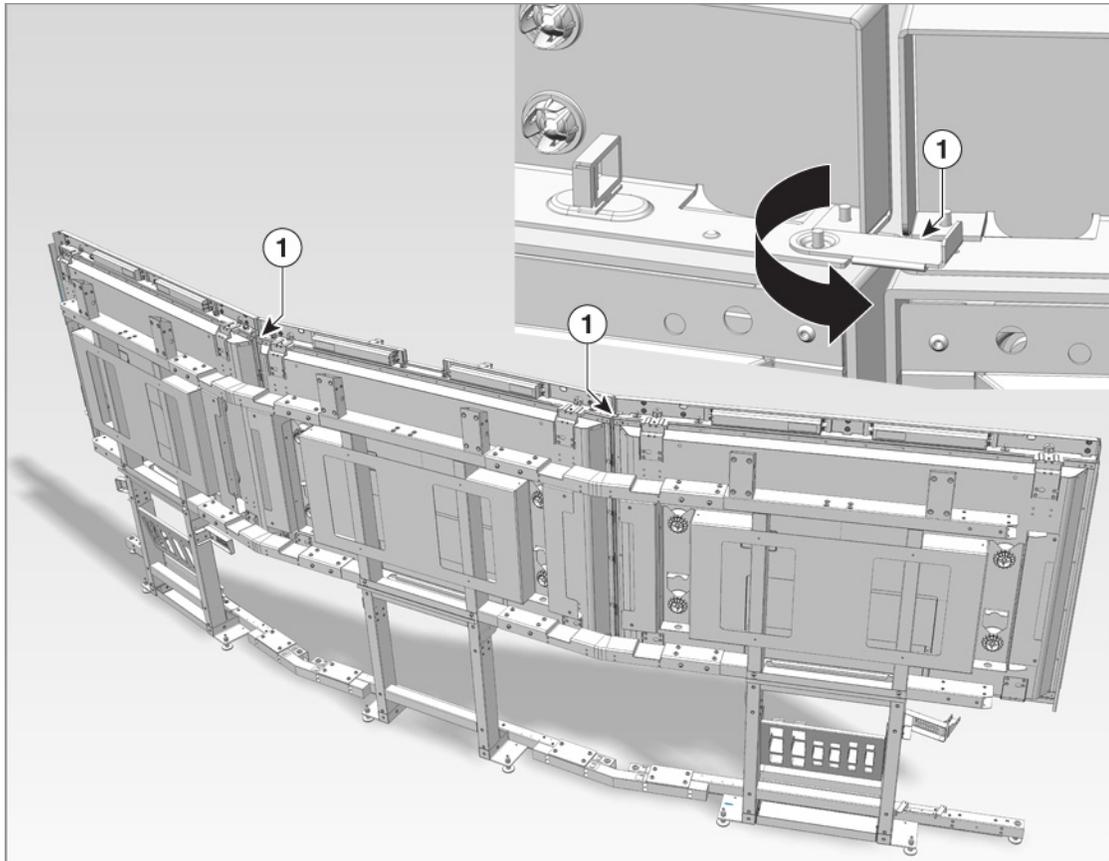
Figure 7-5 Installing the Side Bezel Brackets



- Step 5** Rotate the bezel flip brackets to their locked position. Move the brackets in the direction shown in the arrow in [Figure 7-6](#) to lock them.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Flip bracket	N/A	1		Part of center top bezel/speaker bracket

Figure 7-6 *Placing the Flip Brackets in the Locked Position*



343577

Step 6 Slide the vertical bezels between the displays.

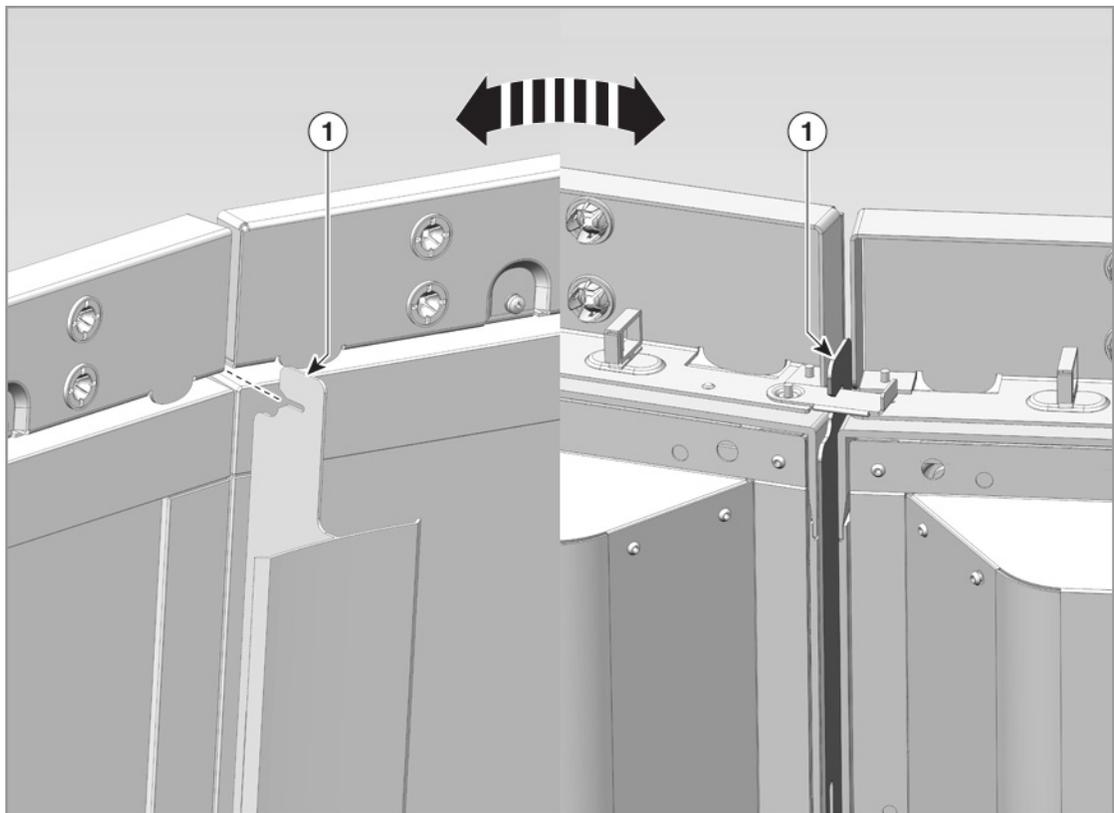
Make sure that the gap between the displays is approximately 2 to 4 mm, and that the gap is approximately the same distance for both sides. If the gap is less or more, adjust the displays by raising or lowering the leveling feet.



Note Make sure that the top slot of the vertical bezel fits between the flip bracket. Aligning the slot with the flip bracket places the bezel in the correct vertical orientation.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Vertical bezel	700-37046-xx Kit #69-2372-xx	2	9	

Figure 7-7 Sliding the Vertical Brackets Into the Displays

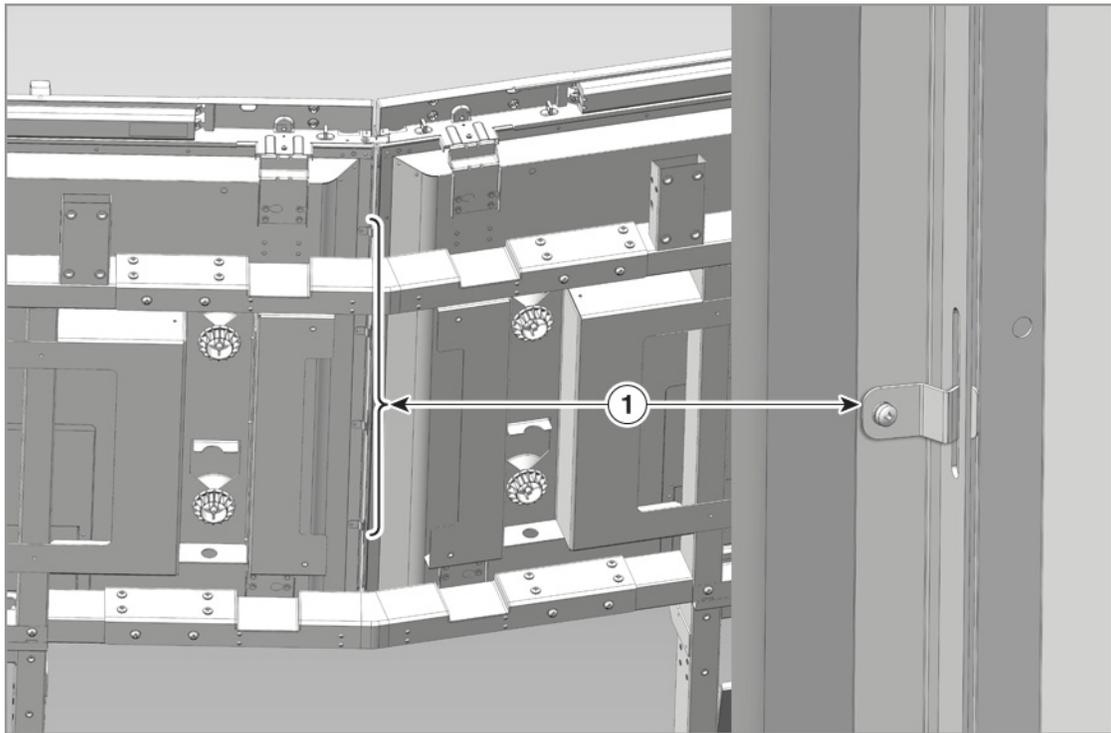


343578

- Step 7** Attach the vertical bezel brackets to the displays by completing the following steps:
- a. Remove the screws on each side of the center display.
 - b. Attach the brackets to the display using the screws you just removed, making sure to place the brackets through the slots in the vertical bezels as shown in [Figure 7-8](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Vertical bezel brackets	700-37618-01 Kit #69-2372-xx	8	9	

Figure 7-8 *Installing the Vertical Bezel Brackets*





Assembling the Electronic Hardware, Facade Brackets, Camera Assembly, and Cable Runner

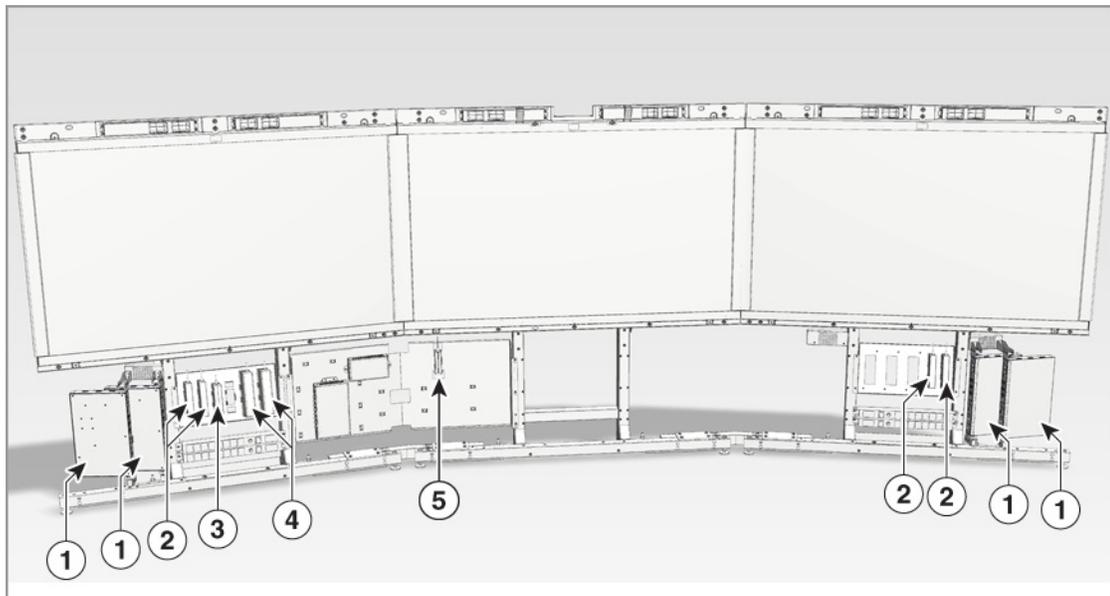
May 20, 2015, OL-27038-01

Step 1 Make a note of the electronic equipment that you install in the first part of this chapter. [Table 8-1](#) describes the electronic equipment locations and [Figure 8-1](#) shows the electronic equipment locations.

Table 8-1 Electronic Equipment Location

Key	Left Side	Right Side	Center-Left Side
1	Codecs (2)	Codecs (2)	Light Control Unit Note See Figure 8-7 for the location of this unit.
2	Codec power supplies (2)	Codec power supplies (2)	Audio/Video Extension Unit Note See Figure 8-7 for the location of this unit.
3	Audio/video extension unit power supply (1) Note See Figure 8-5 for a more detailed illustration of this component.		Camera power supply (not shown)
4	Light Control Unit (LCU) power supply (2) Note See Figure 8-5 for a more detailed illustration of this component.		
5	Camera power supply (not shown)	Installs to the right of the center notch in the top edge of the electronic equipment bracket	

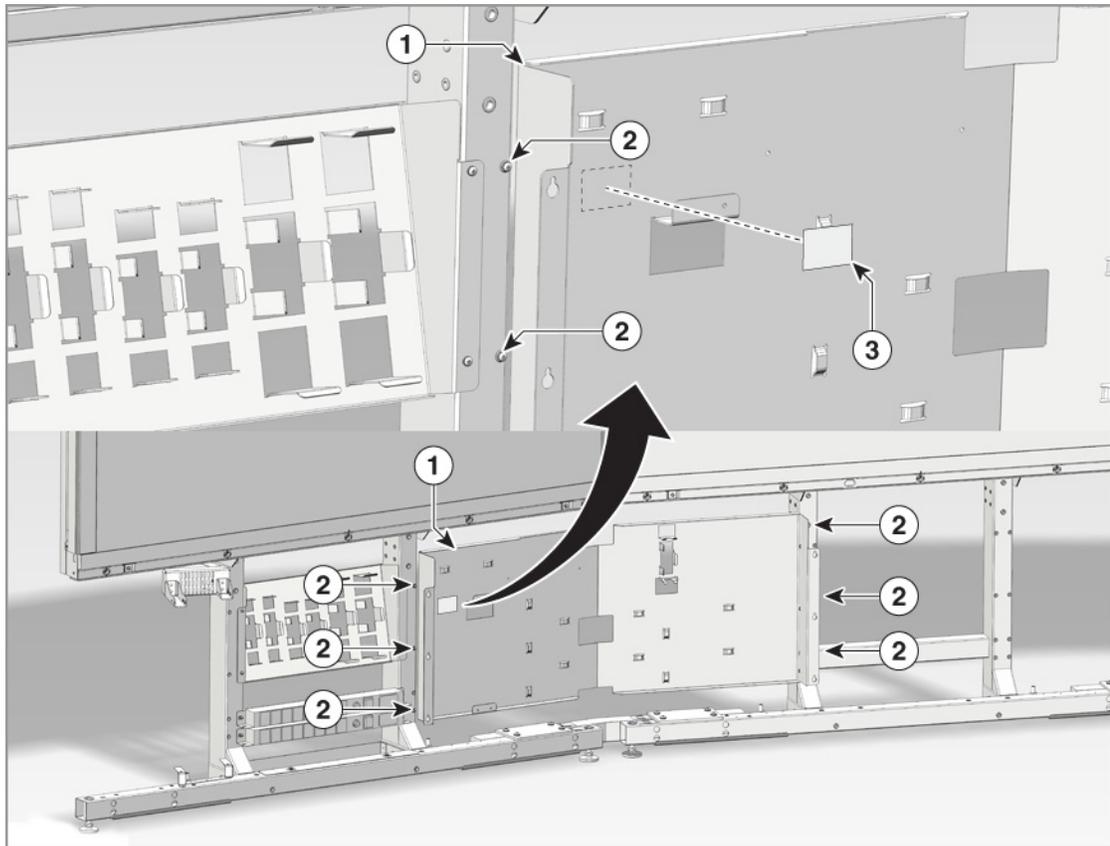
Figure 8-1 Electronic Equipment Installation Locations



- Step 2** Install the electronic equipment bracket between the left and center display by completing the following steps:
- a. Using a #2 screwdriver or driver bit, insert 6 screws into the structure but do not tighten them fully.
 - b. Use the keyhole feature on the bracket to slide the bracket over the screws.
 - c. Tighten the screws.
- Step 3** Apply the compliance label to the bracket.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Electronic equipment bracket, center	700-37122-01 Kit #69-2323-xx	1	1	Install this between the left and center displays.
2	M4 x 16mm pan head screws	48-3011-01 Kit # 69-2367-xx	6	6	
3	Compliance label	47-25118-01 Kit # 53-3789--xx	1	6	

Figure 8-2 Installing the Electronic Equipment Bracket Between the Left and Center Display



343581

Step 4 Install the top and bottom brackets for the codec by placing the brackets on the codec and tightening the captive screws on the brackets with a #2 screwdriver or driver bit.

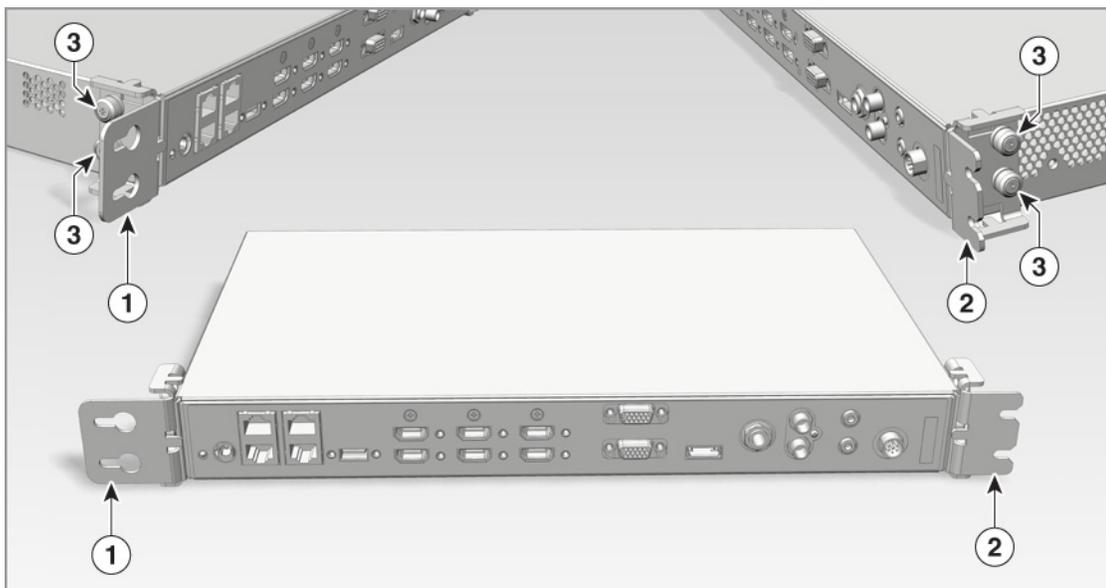
Note the orientation of the brackets in relation to the codecs as shown in [Figure 8-3](#) and [Figure 8-4](#). Mount the brackets with the keyhole mount on the top of the codec and the slotted mount on the bottom.



Note The numbers in [Figure 8-3](#) are upside down.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Codec bracket, top	700-37129-01 Kit #69-2323-xx	4	1	This bracket points up after you install the codecs vertically.
2	Codec bracket, bottom	700-37128-01 Kit #69-2323-xx	4	1	This bracket points down after you install the codecs vertically.
3	Captive screws	N/A	16		Part of the codec brackets

Figure 8-3 Installing the Codec Brackets Onto the Codecs



343582

- Step 5** Using four M4 x 16mm screws per codec, mount the codecs onto the display assembly by completing the following steps:
- a. Partially install the four screws.
 - b. Insert the keyhole slots in the top codec brackets past the screws.
 - c. Lower the codec onto the screws.
 - d. Secure the screws.



Caution

You must install the codec as shown in [Figure 8-3](#). Failure to mount the codec in this orientation can cause the codec to overheat, make excessive noise, and/or fail.

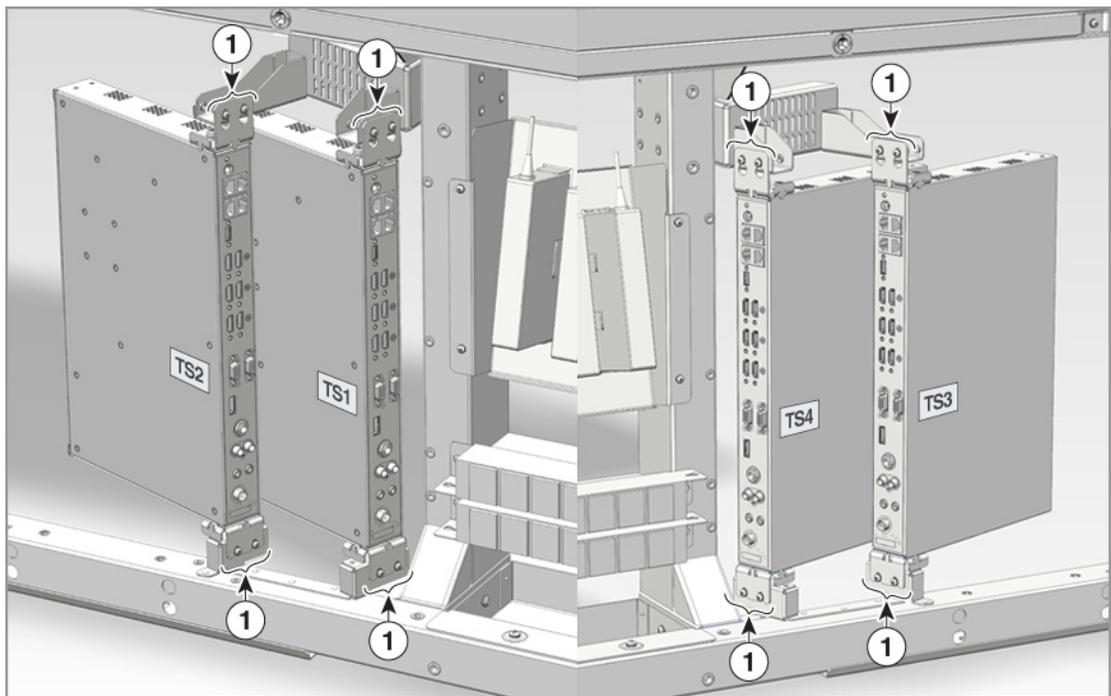


Note

The labels that are affixed to the codecs might differ in appearance from the labels shown in [Figure 8-4](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M4 x 16mm screws	48-3011-01 69-2367-xx	16	6	

Figure 8-4 Installing the Codecs Onto the Display Assembly



343583

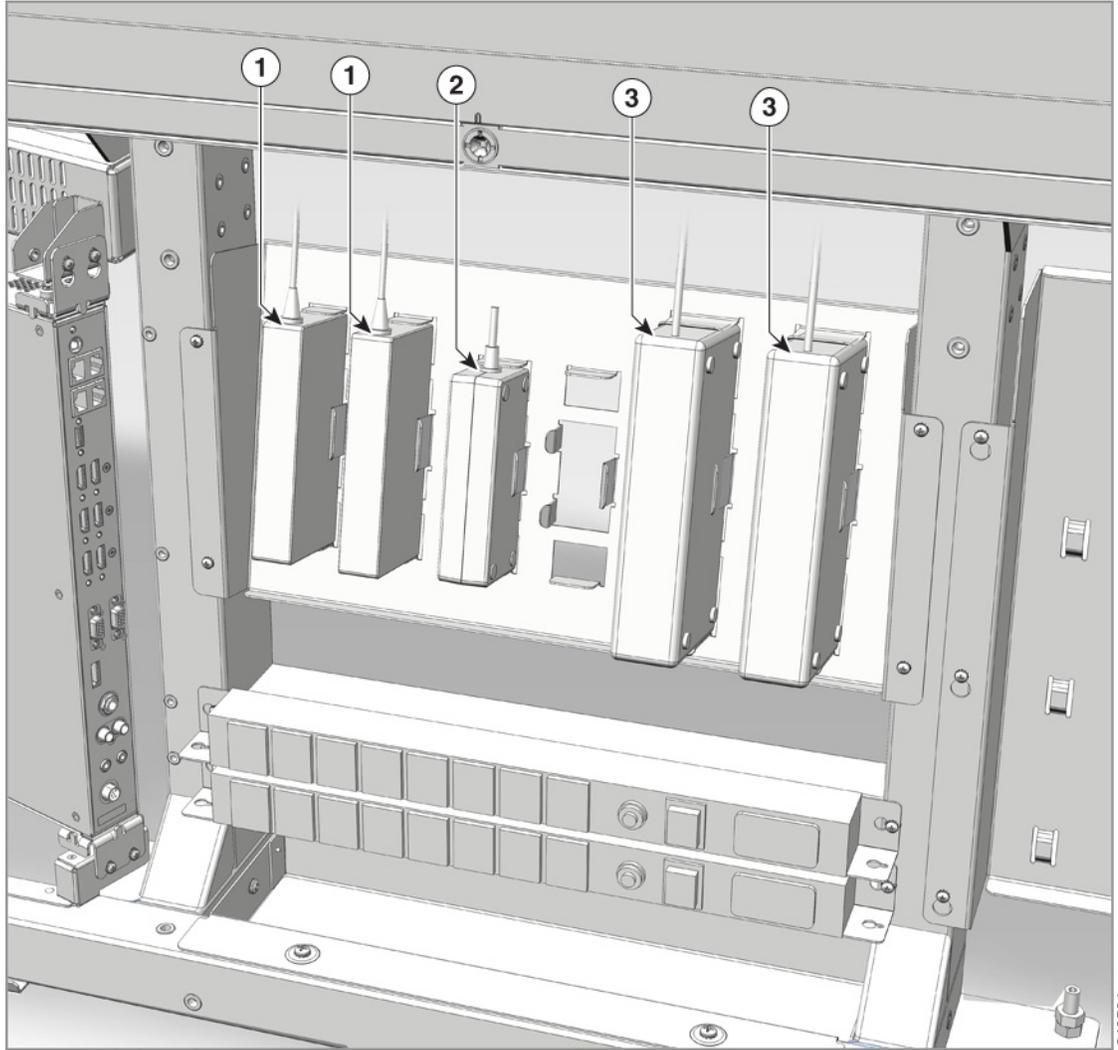
Step 6 Install the codec, audio/video extension unit, and LCU power supplies on the left electronic equipment bracket.

**Note**

Arrange the power supplies so that the main AC power outlet is pointing down and the DC outlet is pointing up.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Codec power supply	CTS-CODEC-S-PWR	2	11	Used for the TS2 and TS1 codecs.
2	Audio/video extension unit power supply	CTS-PWR-CUBE4	1	11	
3	Light control unit (LCU) power supply	CTS-PWR-LT-LED	2	11	

Figure 8-5 Installing the Power Supplies to the Center-Left Electronic Equipment Bracket



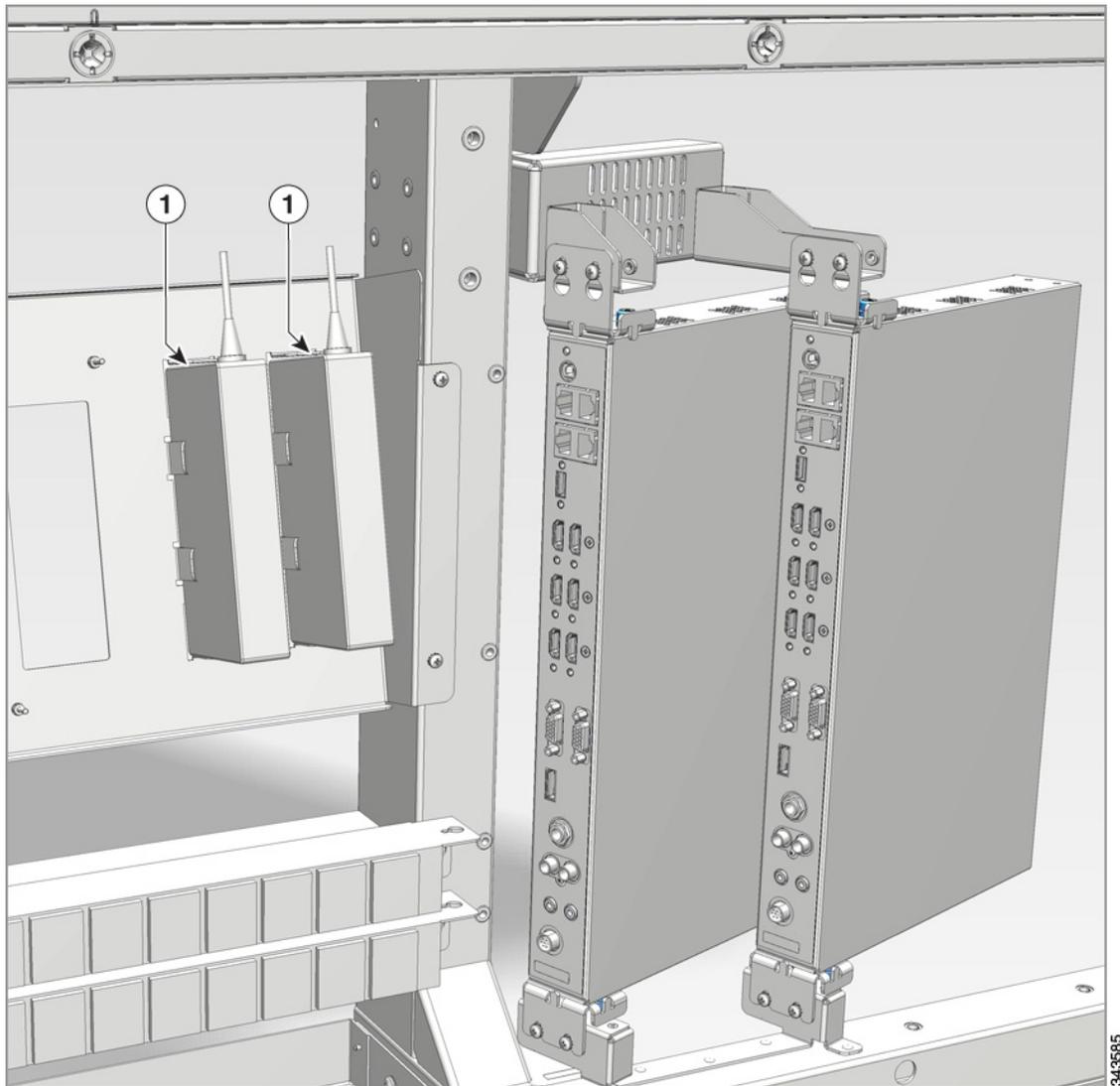
Step 7 Install the codec power supplies on the right electronic equipment bracket.



Note Make sure that the main AC power outlet is pointing down and the DC outlet is pointing up.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Codec power supply	CTS-CODEC-S-PWR	2	11	Used for the TS4 and TS3 codecs

Figure 8-6 *Installing the Codec Power Supplies to the Right Electronic Equipment Bracket*



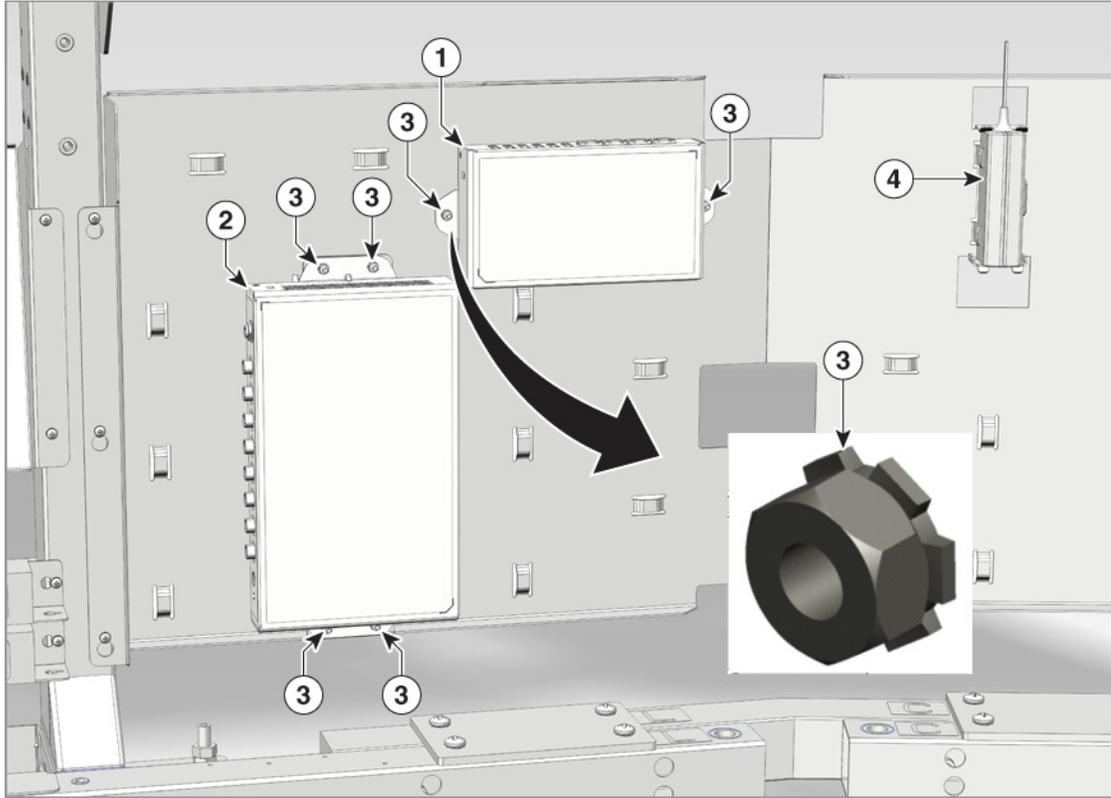
Step 8 Install the light control unit (LCU), the audio/video extension unit, and the camera power supply to the center electronic equipment bracket. Use M4 nuts to install the units and a 7mm wrench to install the keps nuts.

Note the orientation of the units:

- Install the LCU so that the light connections are on top.
- Install the audio/video extension unit so that the microphone connectors are on the left.
- (Not shown) Install the camera power supply directly to the right of the notch in the electronic equipment bracket. The notch is in the center of the bracket, just to the right of the light control unit after you install it.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Light control unit	CTS-LCU-G2R 800-33995-01	1	30	
2	Audio/video extension unit	CTS-LAEB-G2R 800-36423-01	1	31	
3	M4 keps nut	49-0420-01 Kit # 69-2377-01	6	6	These nuts have ridges on the perimeter.
4	Camera power supply	CTS-TX9K-CAM-PWR	1	11	Not shown in Figure 8-7

Figure 8-7 Installing the LCU and Audio/Video Extension Unit to the Center Electronic Equipment Bracket



343586

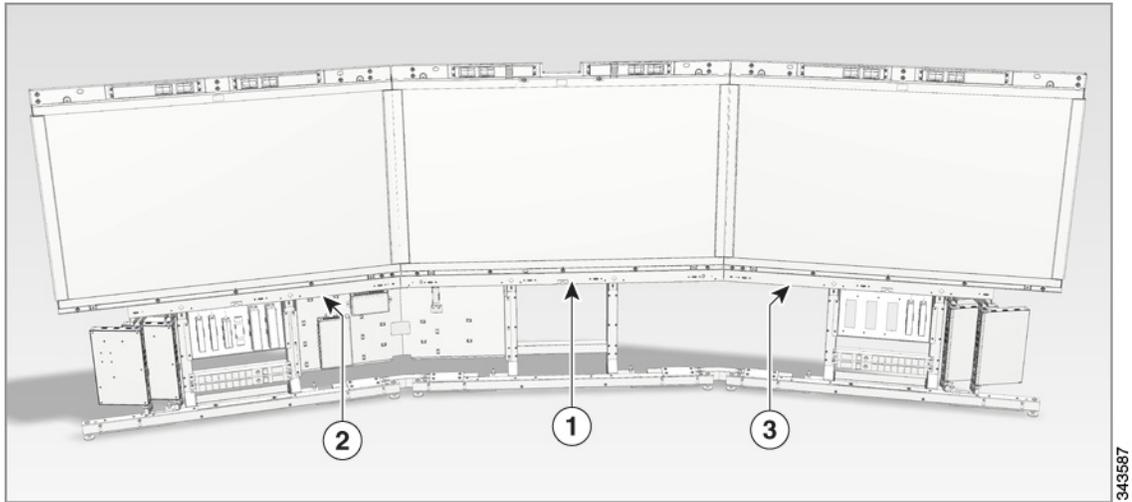
- Step 9** Install the facade brackets by completing the following steps:
- a. Insert the top row of screws (two total) into the display structure.
These screws have the callout 4a in [Figure 8-9](#).
 - b. Insert the center bracket into the display structure by sliding the keyholes in the bracket over the screws.
 - c. **Slide the bracket up until it sits flush against the underside of the display.** See [Figure 8-10](#) for more information.
 - d. Install the bottom row of screws (two total) into the display structure.
These screws have the callout 4b in [Figure 8-9](#).
 - e. Tighten the screws, including the screws you access through the diamond-shaped hole shown in [Figure 8-11](#), to securely fasten the bracket to the display assembly.
 - f. Attach the right and left brackets to the display structure and mount it to the structure by following Steps [b.](#) through [e.](#)
 - g. Fasten the screws on the very outside of the center facade bracket. See [Figure 8-12](#) for more information.



Note These two screws attach the center, left, and right facade brackets.

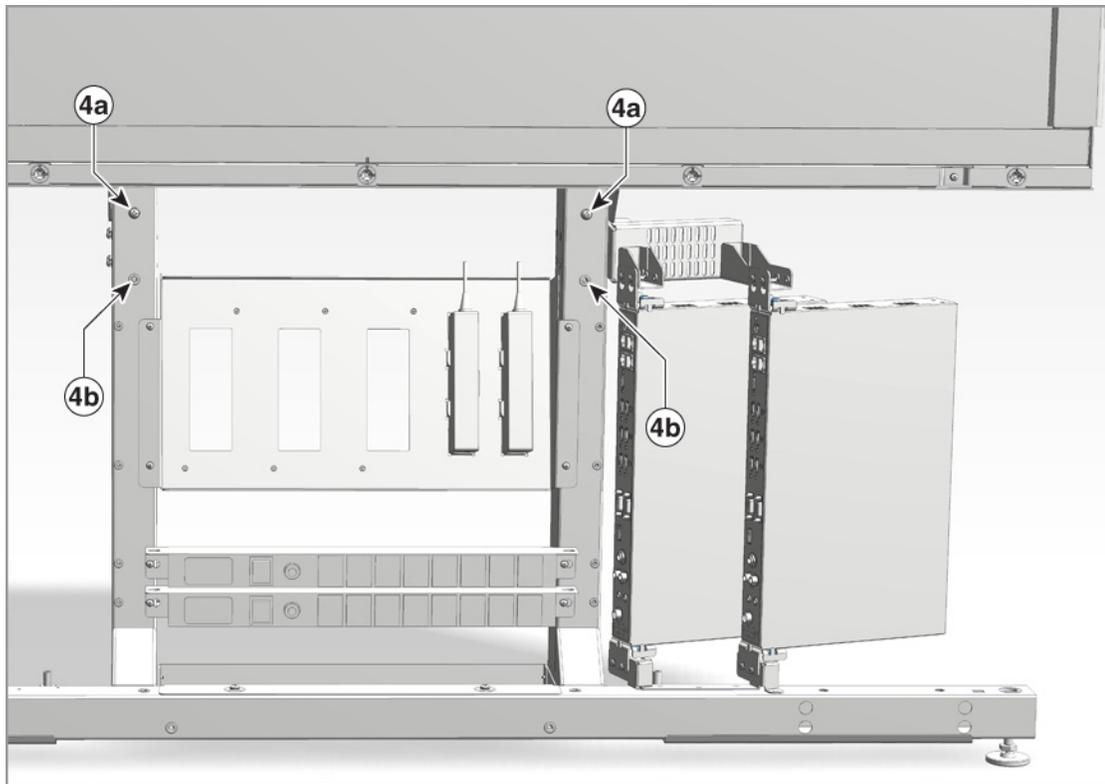
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Facade bracket, center front	700-37309-01 Kit #69-2323	1	1	
2	Facade bracket, left front	700-37308-01 Kit #69-2323	1	1	
3	Facade bracket, right front	700-37310-01 Kit #69-2323	1	1	
4	M6 x 16mm pan head screws	48-3000-01 Kit #69-2356-xx	14	6	

Figure 8-8 *Facade Bracket Installation (1 of 5)—Location of the Facade Brackets*



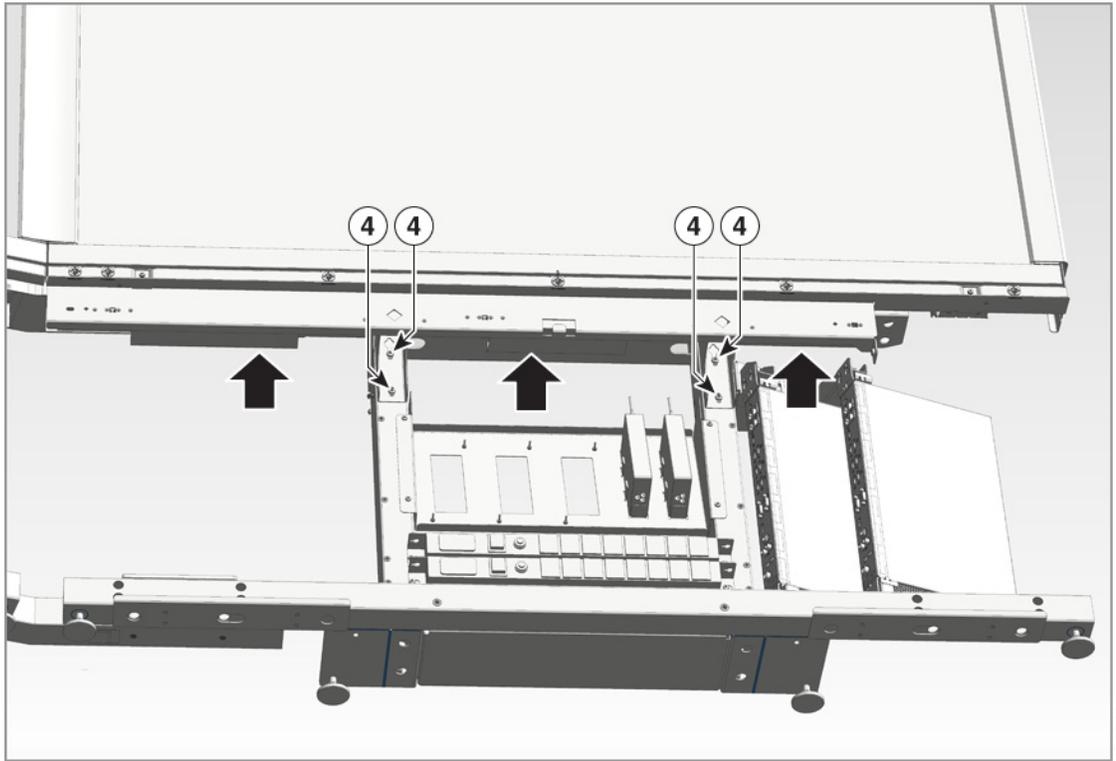
343587

Figure 8-9 *Facade Bracket Installation (2 of 5)—Installing the Screws Into the Display Assembly*



343588

Figure 8-10 Facade Bracket Installation (3 of 5)—Mounting the Bracket to the Display Assembly and Pressing it Flush Against the Underside of the Display



343589

Figure 8-11 Facade Bracket Installation (4 of 5)—Securing the Screws and Location of Screws Inside the Diamond-Shaped Holes

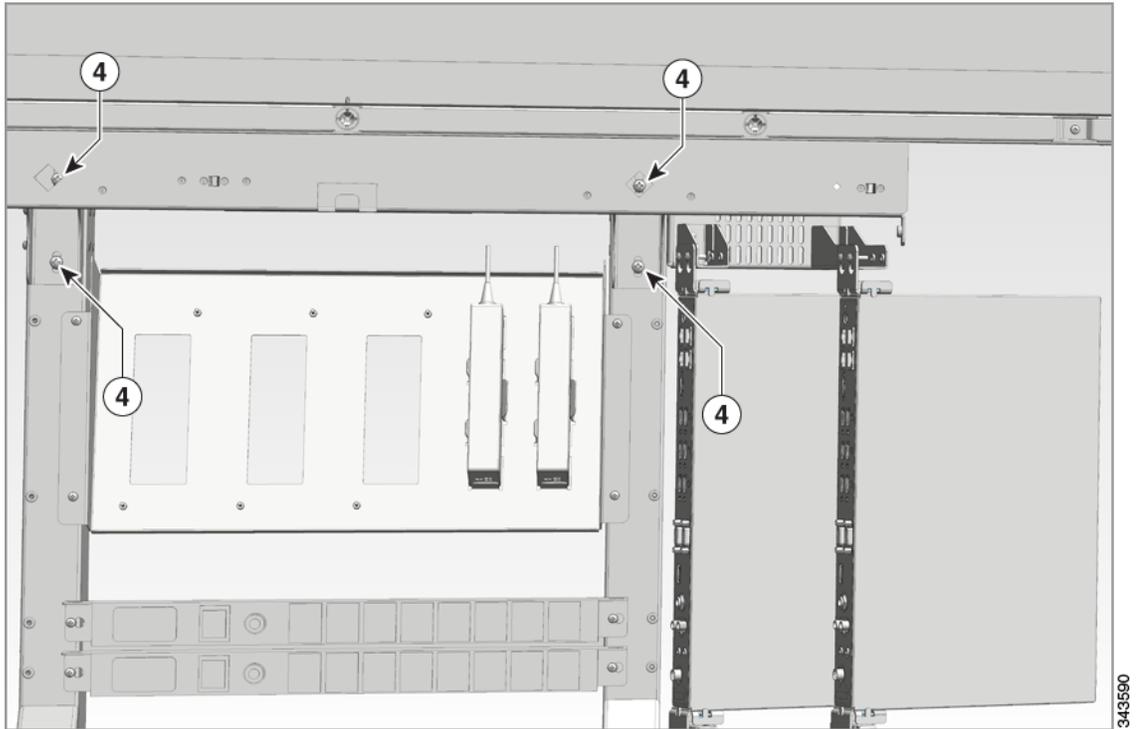
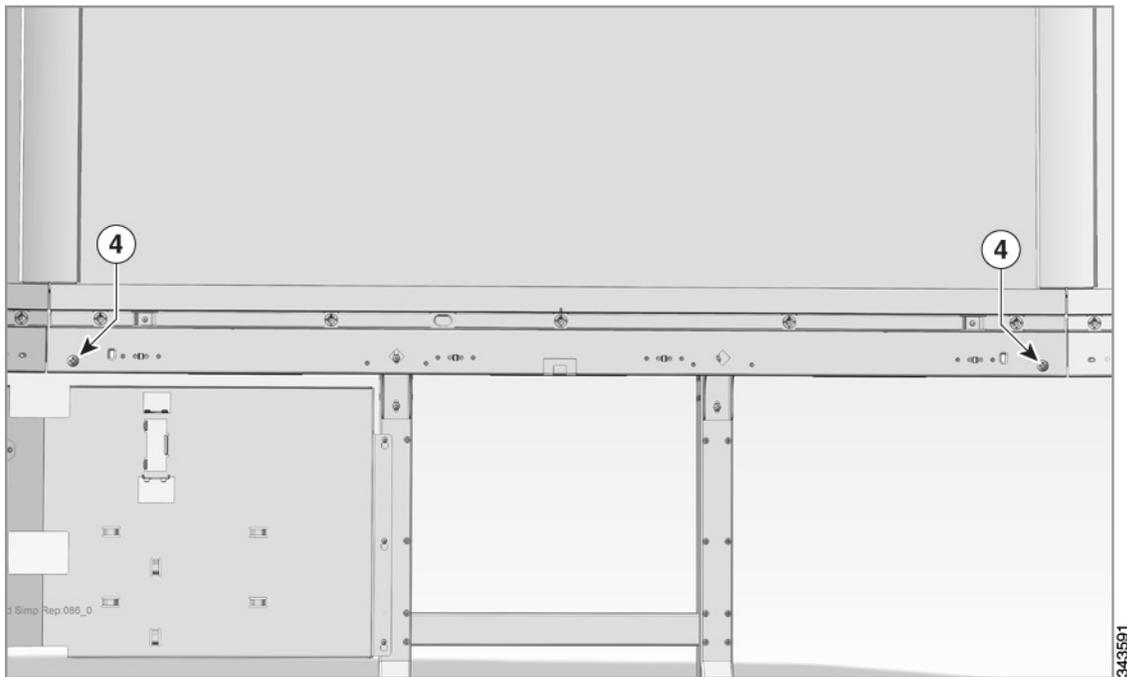


Figure 8-12 Facade Bracket Installation (5 of 5)—Securing the Joining Screws

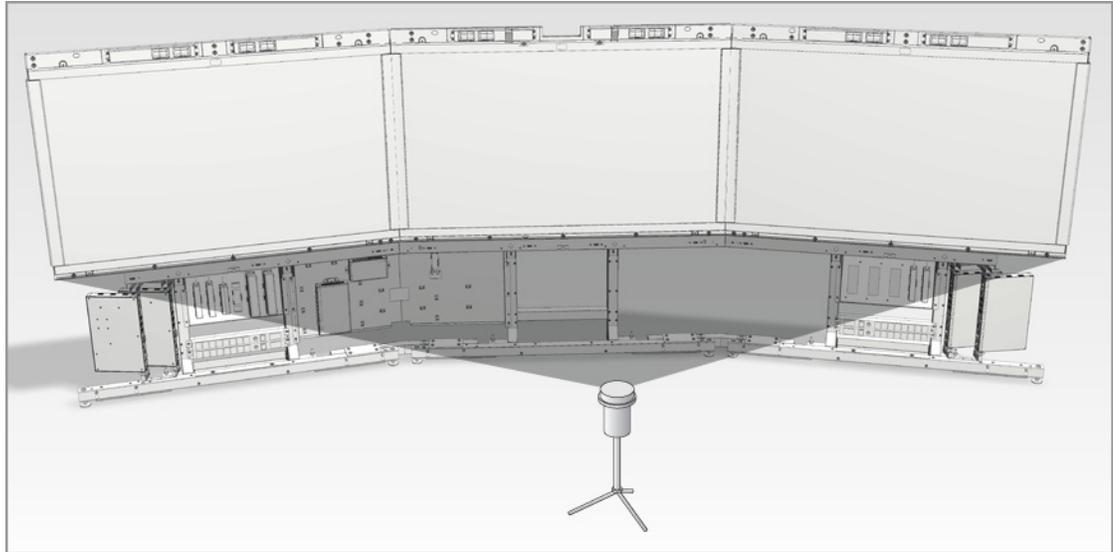


- Step 10** Level the front facade brackets using a laser level across the six diamond-shaped holes (two in each bracket). If the brackets are not level, use the lowest diamond-shaped hole as a base line, and move the other brackets down until they are level.



- Note** If you cannot level the brackets, loosen the screws and make sure that the brackets are pushed up as high as possible into the structure, then retighten the screws.

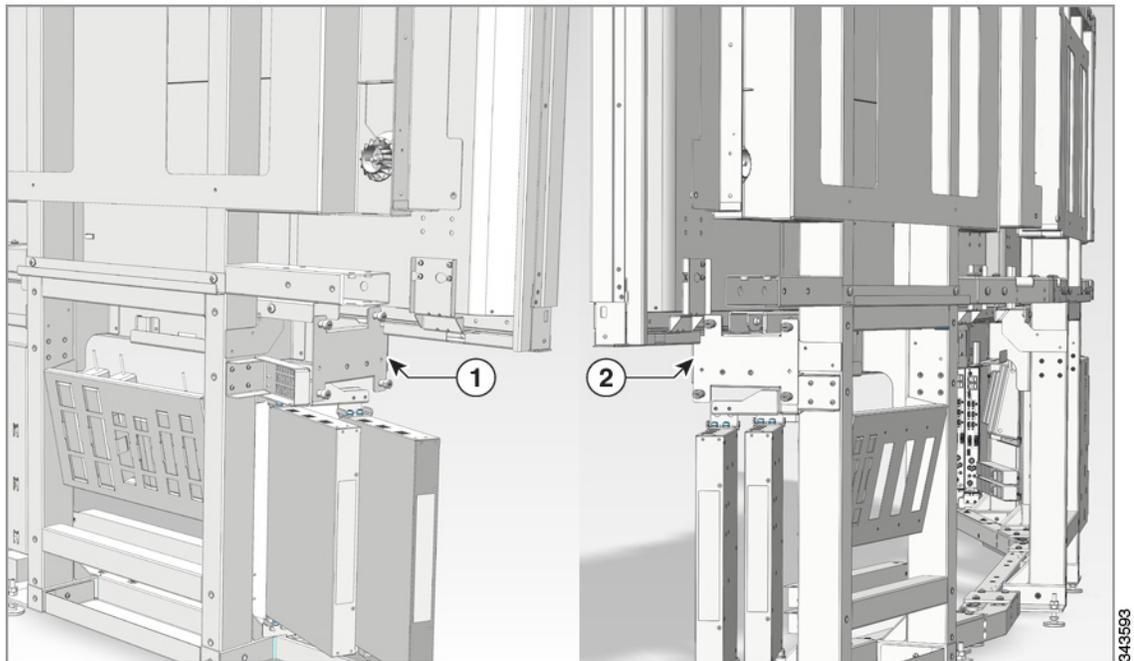
Figure 8-13 *Leveling the Front Facade Brackets*



- Step 11** Install the left side and right side facade brackets using the captive screws on the brackets.
Do not fully tighten the screws at this time.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Facade bracket, left side	700-37256-01 Kit #69-2323	1	1	
2	Facade bracket, right side	700-37251-01 Kit #69-2323	1	1	

Figure 8-14 *Installing the Side Brackets*



Step 12 Install the left, right, and center rear facade top brackets by completing the following steps:

- a. Using a #2 Phillips screwdriver, begin installation of the left facade bracket (top) by partially installing the two top screws on the left side.

These screws are shown as callout 5a in [Figure 8-16](#).



Note Leave a small amount of space (just over a bracket material thickness) to allow the keyhole slot to fit under the screw.

- b. Place the bracket over the screw and locating pin.
- c. Add the two screws on the bottom of the bracket.

These screws are shown as callout 5b in [Figure 8-16](#).



Note Do not fully tighten the screws.

- d. Level the bracket using the front and side brackets as a reference, then fully tighten all four screws.



Tip

You can level the bracket using the holes in the bracket and a laser level. Raise or lower the bracket until all holes match the laser level.

- e. Install the right bracket by completing Steps a. through d.



Note See [Figure 8-16](#) for more information.

- f. Install the center bracket by completing Steps a. through d.



Note Make sure that the slots on the left and right bracket go over the locating pin and studs on the display assembly., The stud is shown as callout 6 in [Figure 8-17](#) and the locating pin is callout 7.

- g. Using 4 M5 nuts, secure the nut to the 4 M5 studs with an 8mm socket driver or open end wrench.



Note See [Figure 8-17](#) for more information.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Facade bracket, center rear (top)	700-37306-01 Kit #69-2323	1	1	
2	Facade bracket, left rear (top)	700-37304-01 Kit #69-2323	1	1	
3	Facade bracket, right rear (top)	700-37302-01 Kit #69-2323	1	1	
4	Facade bracket, left, right, and center rear (base)	700-37303-01 Kit #69-2323	3	1	

Key	Part Description	Part Number	Qty	Ctn	Notes
5	M6 x 16mm pan head screws	48-3000-01 Kit #69-2356-xx	12	6	
6	M5 nuts	49-0747-01 Kit #69-2410-xx	4	6	
7	Locating pin	N/A	N/A		For reference use only

Figure 8-15 *Installing the Rear Facade (Top) Brackets (1 of 3)—Location of Rear Facade Brackets*

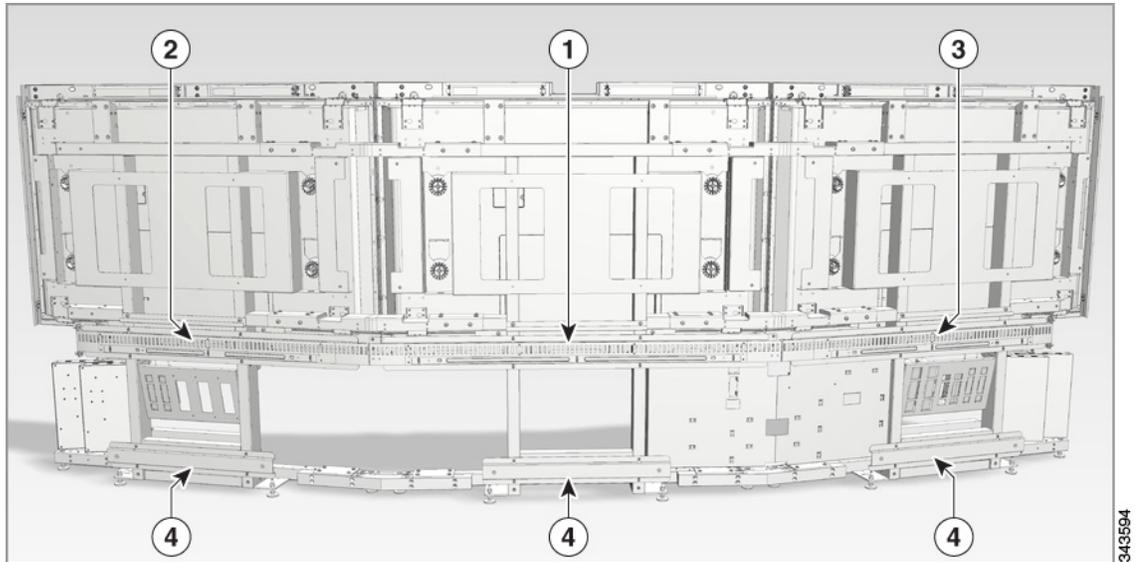


Figure 8-16 Installing the Rear Facade (Top) Brackets (2 of 3)—Installing the Right Rear Facade Brackets

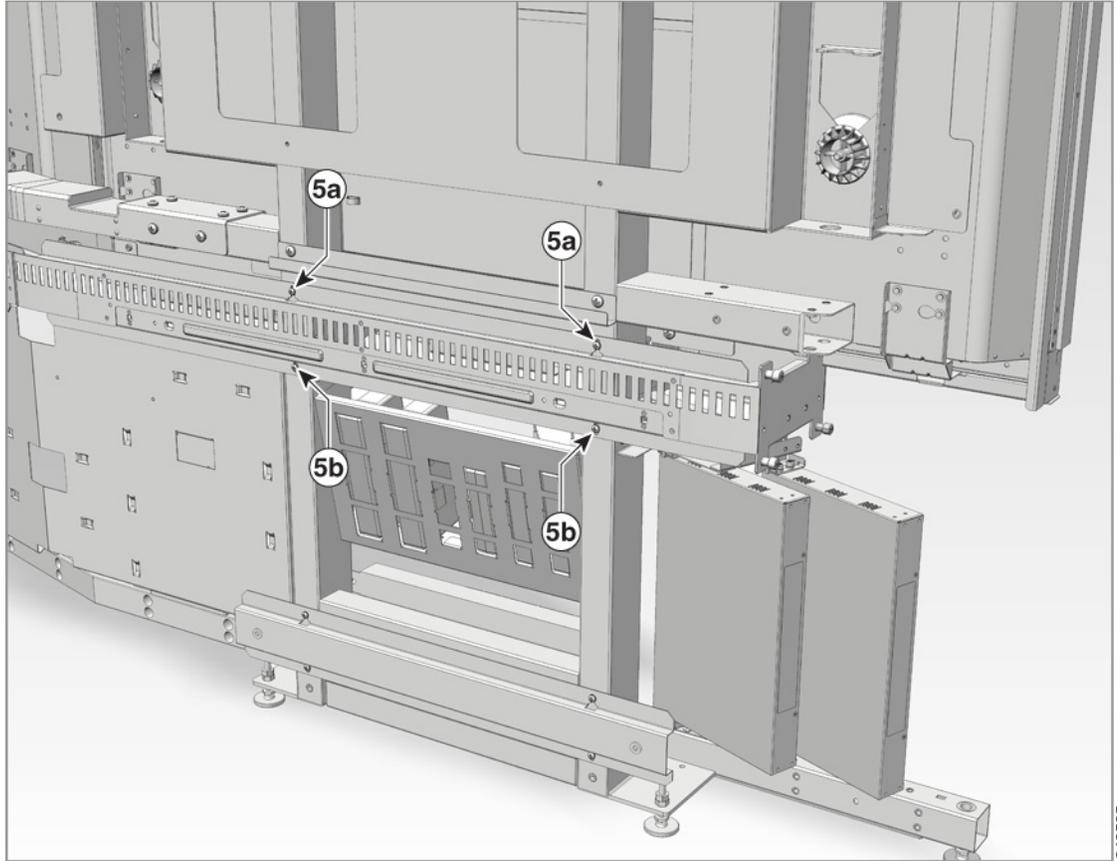
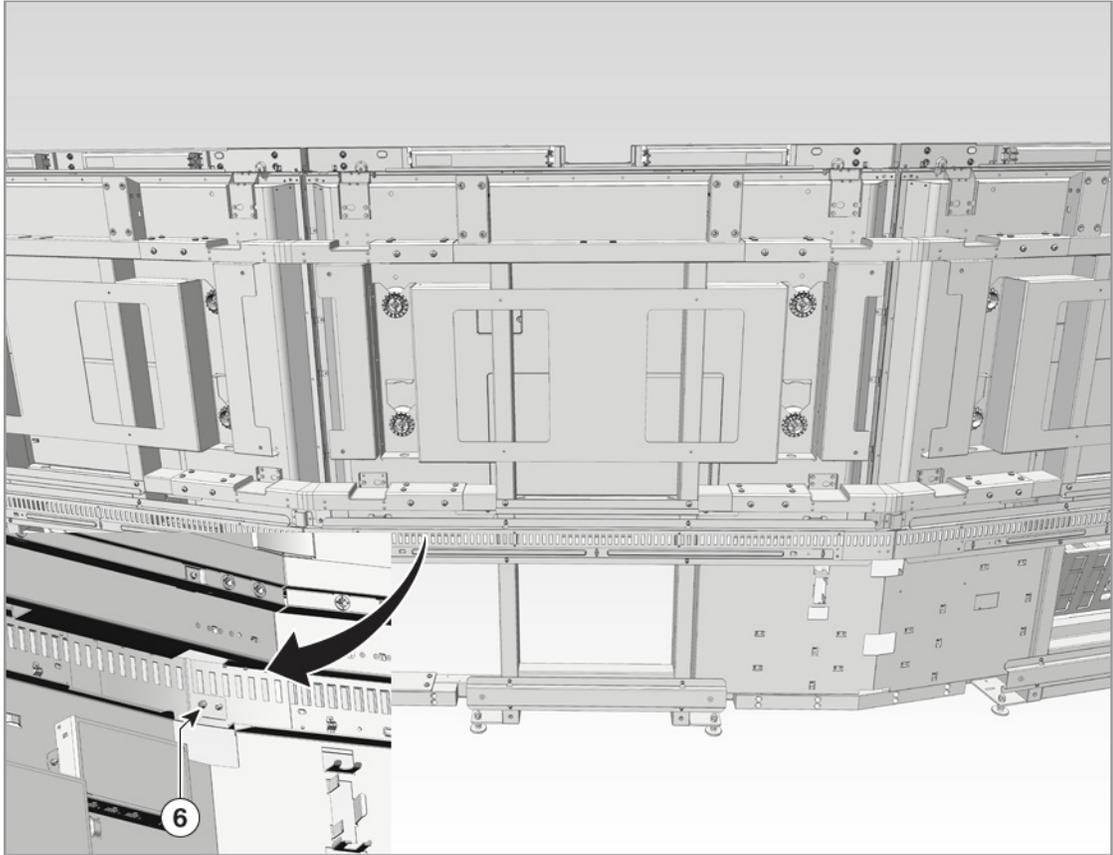


Figure 8-17 Installing the Rear Facade (Top) Brackets (3 of 3)—Installing the Center Rear Facade Bracket



Step 13 Install the left, right, and center rear facade (base) brackets by completing the following steps:

- a. Install the left facade bracket (base) by partially installing the two top screws. These screws are shown as callout 2a in [Figure 8-18](#).

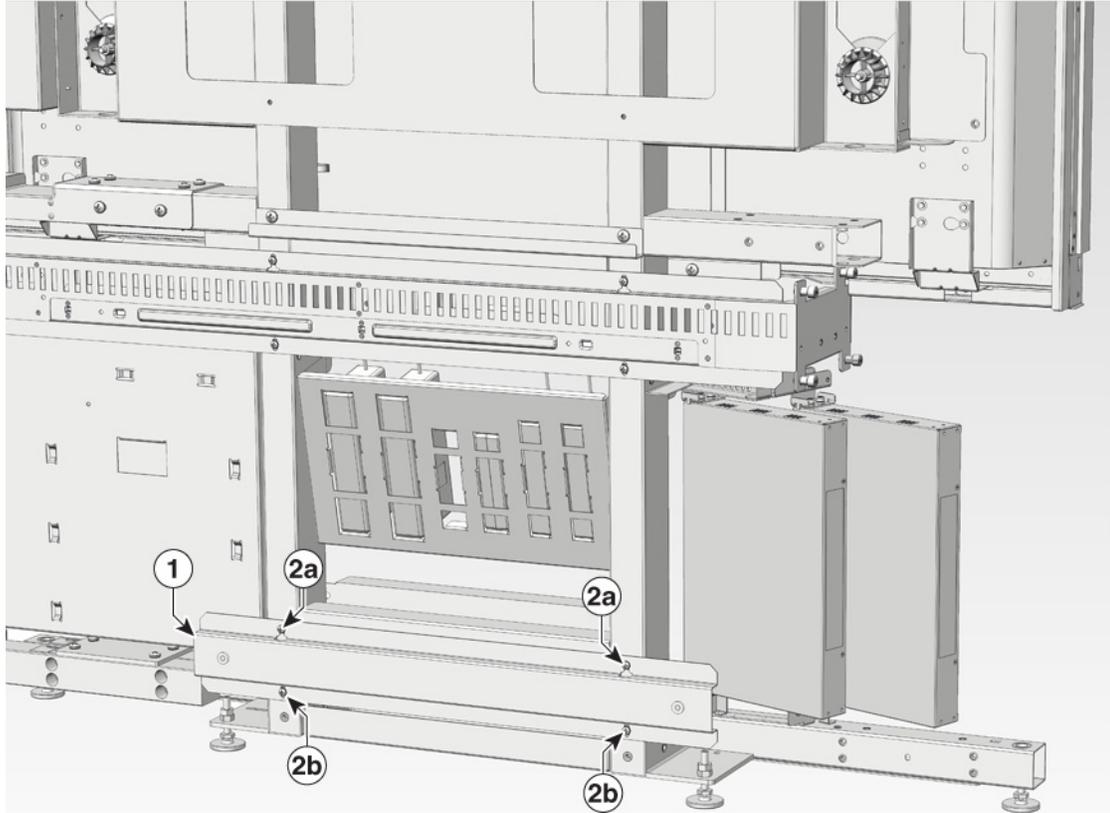


Note Leave a small amount of space (just over a bracket material thickness) to allow the keyhole slot to fit under the screw.

- a. Place the bracket over the two screws.
- b. Add, but do not fully tighten, the two remaining screws. These screws as shown as callout 2b in [Figure 8-18](#).
- c. Press the bracket as far down as it will go.
- d. Fully tighten all screws.
- e. Install the right bracket by completing Steps a. through d.
- f. Install the center bracket by completing Steps a. through d.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Facade bracket, left, right, and center rear (base)	700-37303-01 Kit #69-2323-xx	3	1	
2	M6 x 16mm pan head screws	48-3000-01 Kit #69-2356-xx	12	6	

Figure 8-18 Installing the Rear Facade (Base) Brackets



343557

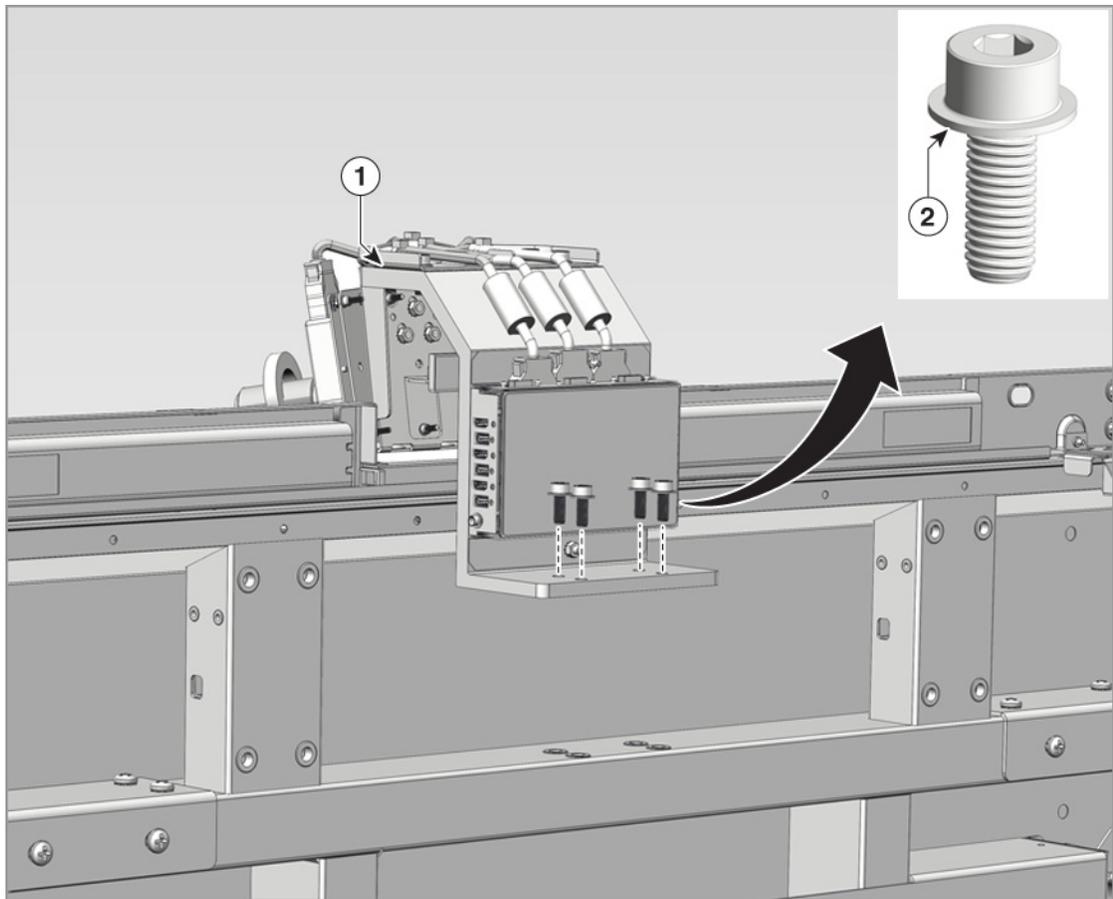
Step 14 Place the camera assembly into the center display structure and attach the assembly to the structure with 4 M8 socket cap screws.



Note Center the bracket within the system, and make sure that you fully tighten the screws. Use a 6mm hex key or bit to tighten these screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Camera assembly	800-369215-xx	1	29	
2	M8 x 20mm flange head, hex socket cap screw	48-2341-xx	4	29	Part of camera assembly kit

Figure 8-19 Installing the Camera Bracket

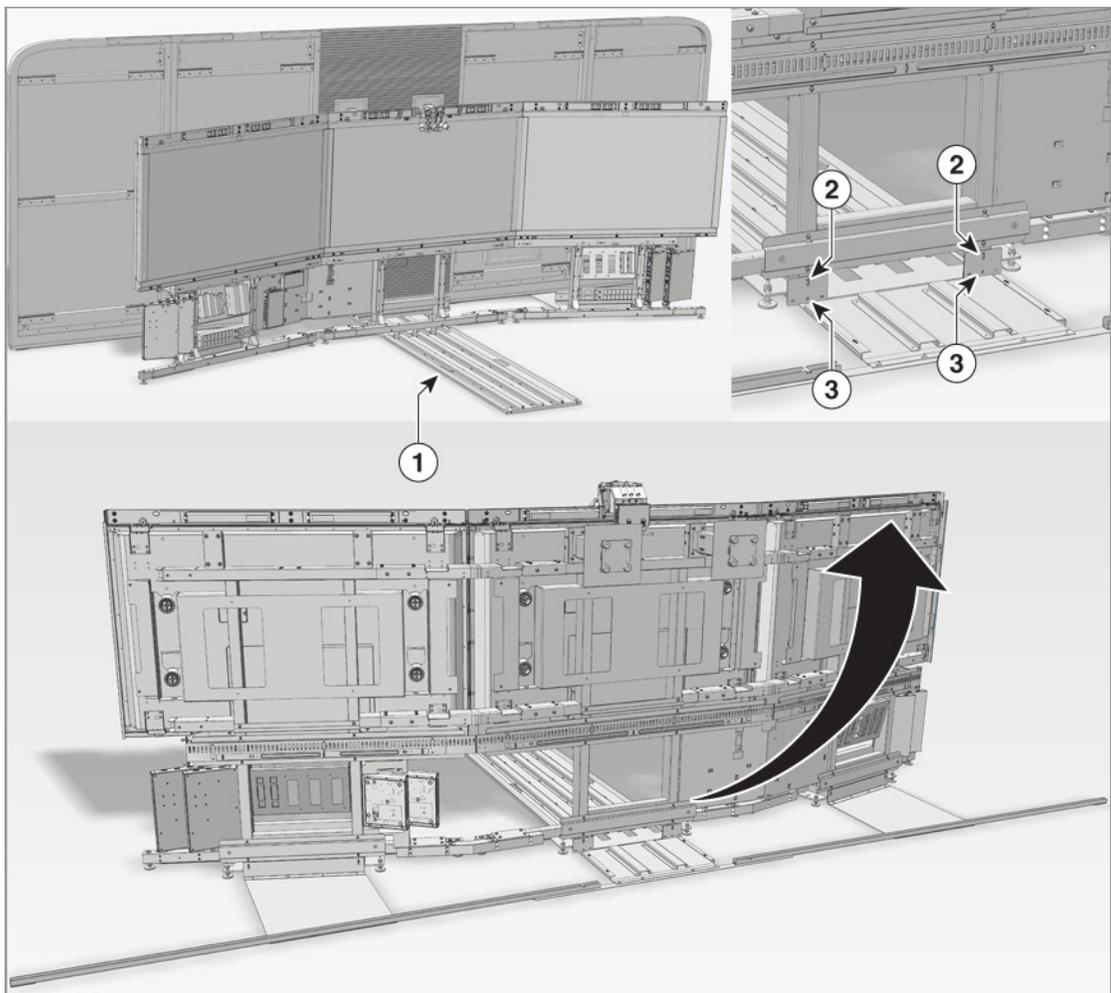


343558

- Step 15** Install the cable runner base to the display assembly by completing the following steps:
- a. Lay the cable runner base on the floor, being careful not to strike the displays.
 - b. Align the base bracket with the guide pin. The guide pins are below the screws in [Figure 8-20](#).
 - c. Assemble the runner to the display assembly by using M6 screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cable runner base	700-37314-xx Kit# 69-2323-xx	1	1	
2	M6 x 16mm screws	48-3000-xx Kit #69-2356-xx	2	6	
3	Guide pin	N/A	N/A		Part of display assembly

Figure 8-20 *Installing the Cable Runner Base*



343559



Starting Installation of the First Row Table

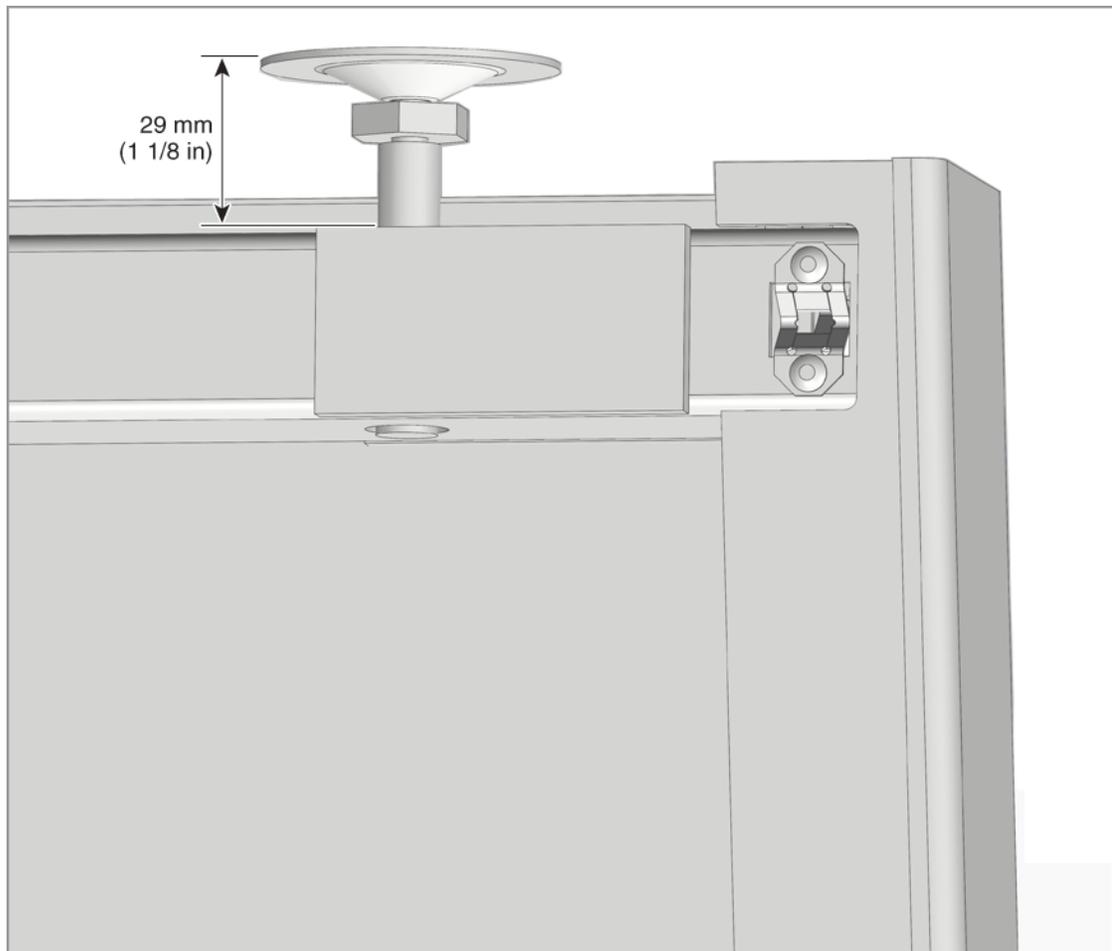
Revised: May 20, 2015, OL-27038-01

This chapter describes the procedures you perform to start installation of the first row table.

Steps to Perform Prior to the Assembly

- Step 1** Unpack each table leg and measure the gap between the hex nut on the leveling foot and the structure.
- Step 2** If required, adjust the nut until the distance between the hex nut and the structure is 16mm (5/8 inch).

Figure 9-1 *Adjusting the Leveling Feet on the Table Legs*



Starting Installation of the First Row Table

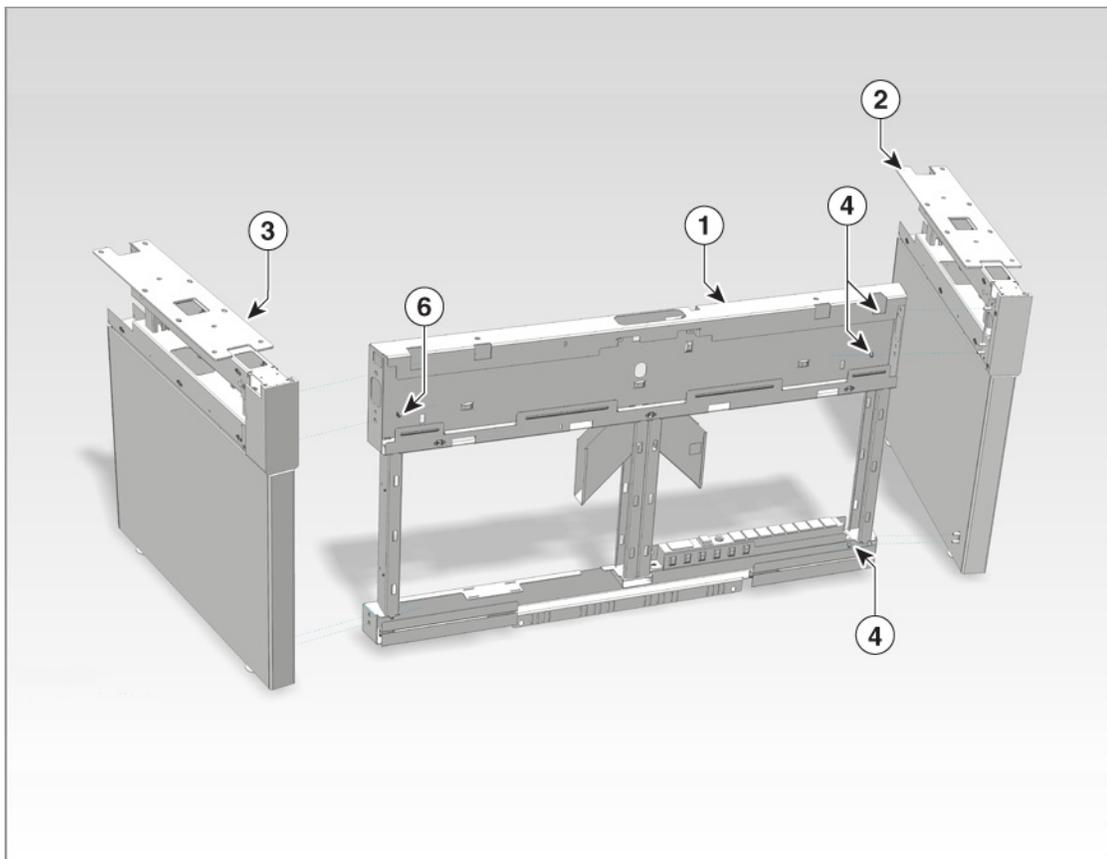
Complete the following steps:

-
- Step 1** Join the center structure and the two inner legs together by completing the following steps:
- a. Peel back the protective film on the two inner legs (enough to expose the space where the structure and the legs join together).
 - b. Bring the center structure and the two inner legs together (shown as callouts 1, 2, and 3 in [Figure 9-2](#).)

Step 2 Attach the nuts (callout 6 in [Figure 9-2](#)).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center Structure	700-37850-xx Kit #69-2332-xx	1	2	
2	Middle left leg	800-37846-xx Kit #69-2332-xx	1	2	
3	Middle right leg	800-37845-xx Kit #69-2332-xx	1	2	
4	Not used	N/A	1		Ignore callout in Figure 9-2 —PDU is pre-installed
5	Not used	N/A	2		Ignore callout in Figure 9-2 —PDU is pre-installed
6	M6 nut	49-1071-xx Kit #69-2357-xx	8	6	

Figure 9-2 Assembling the Center Structure and PDU



343562

Step 3 Level the legs and center structure by adjusting the feet on the bottom of the table legs.



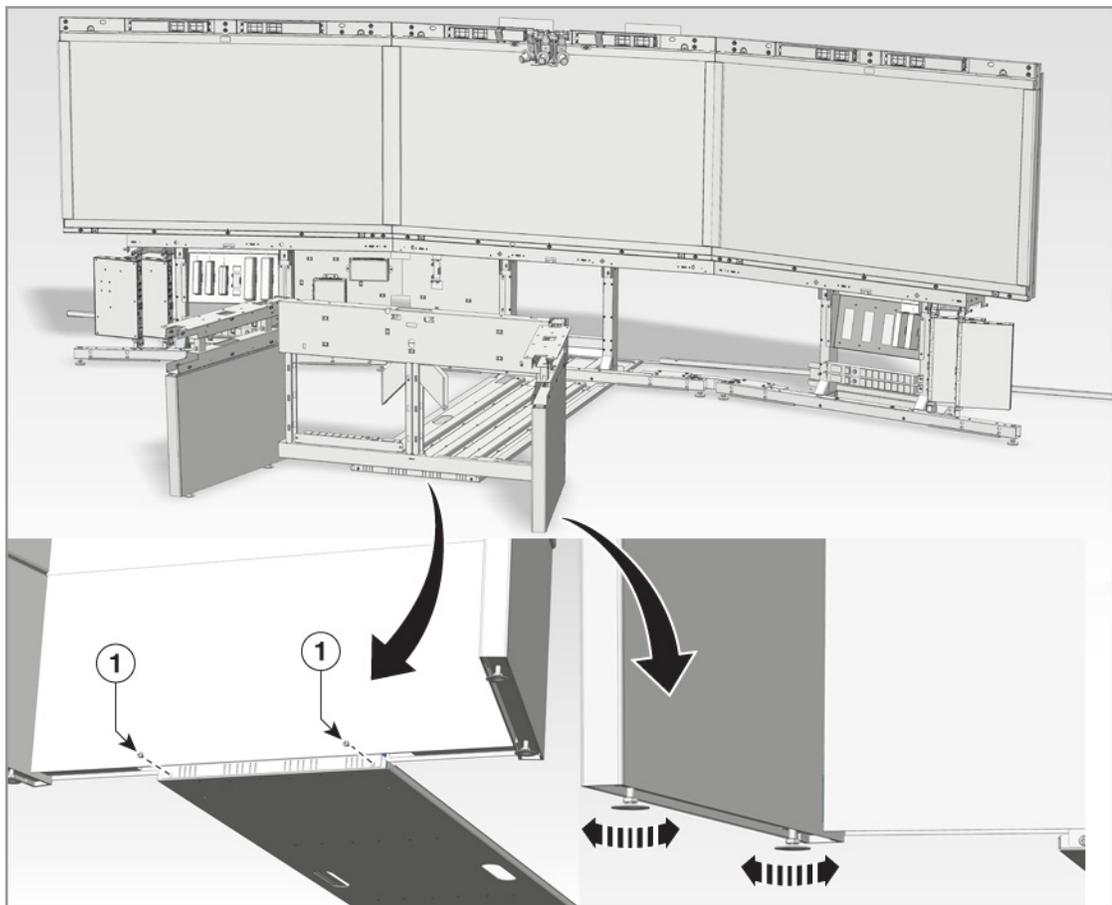
Tip

Diamond-shaped holes are provided on the upper sides of the legs; use a laser level and level the structure by using the center of the diamonds as a reference point.

Step 4 Attach the center structure to the cable runner base using two M6 x 16mm screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M6 x 16mm pan head screw	48-3000-01 Kit #69-2356-xx	2	6	

Figure 9-3 *Leveling the Structure and Attaching the Cable Runner Base*



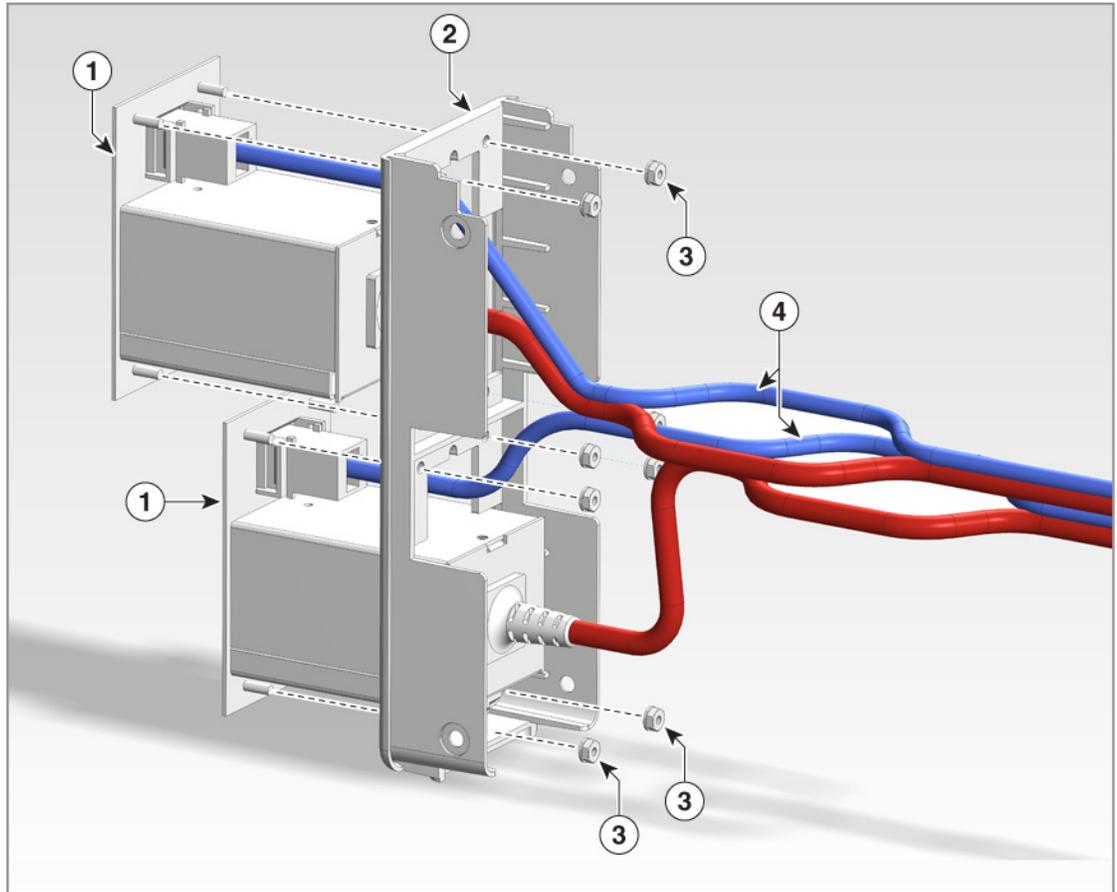
- Step 5** Assemble the power/Ethernet outlet assembly by completing the following steps:
- a. Attach two power/Ethernet outlets (callout 1) into the front of the table leg (callout 2) using eight nuts (callout 3).
 - b. Connect the Ethernet ethernet cables (callout 4) and, if applicable, the power jumper cables to the power/Ethernet outlets.



Note Note the orientation of the power/Ethernet outlets; you can only install them in one orientation.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlets	See “Notes” section.	4	22	Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	Power/Ethernet outlet cover, front	700-37102-01 Kit #69-2338-xx Except South Africa (see Notes)	2	2	The South Africa outlet cover is specific to the outlet. Find the covers with the country-specific power outlet.
3	Nuts	From the power/Ethernet outlet kit	8	N/A	
4	Front row Ethernet cable, 6 meters (20 feet)	37-1382-01 Kit # 69-2350-01	4	17	

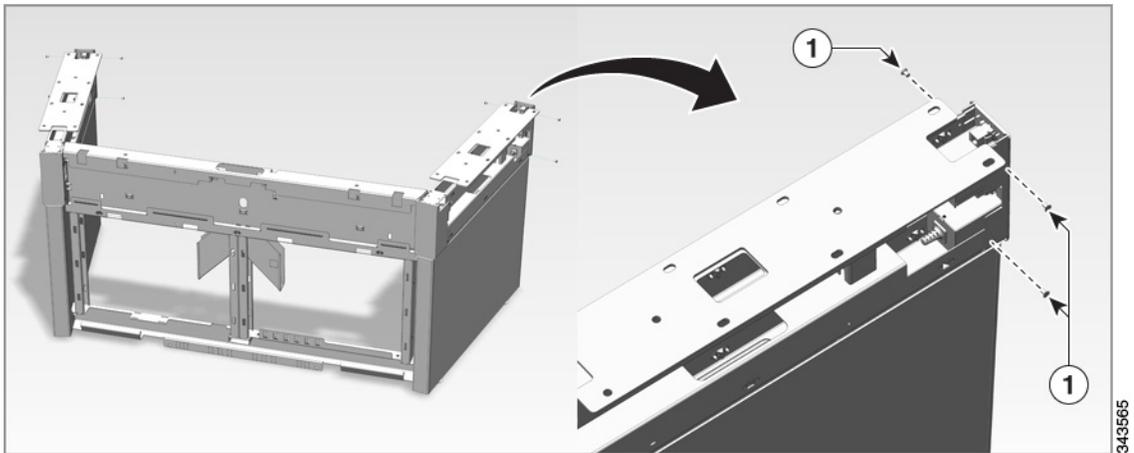
Figure 9-4 Assembling the Power/Ethernet Outlets



Step 6 Connect the power/Ethernet assemblies to the table assembly (four screws per assembly).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M5 flat head screws	48-0811-01 Kit #69-2354-01	8	6	

Figure 9-5 Connecting the Power/Ethernet Assemblies to the Table Assembly



Where to Go Next

Continue to [Chapter 10, “Connecting and Routing the Cables,”](#) to connect and route the cables for your system.



Connecting and Routing the Cables

Revised: May 20, 2015, OL-27038-01

This chapter provides you with information about connecting and routing the cables for the system, including first row table assembly, and includes the following sections:

- [Labeling the Cables, page 10-1](#)
- [Labeling the Display Frame and Cable Runner, page 10-3](#)
- [Connecting and Routing Cables and Continuing Assembly of the First Row Table, page 10-5](#)
- [Connecting and Routing Cables in the Main Display Assembly, page 10-14](#)
- [Wiring Diagrams for CTS TX9000 and TX9200 Systems, page 10-17](#)
- [Where to Go Next, page 10-23](#)

To continue installation of the first row table and start cabling of the system, complete the following steps.

Labeling the Cables

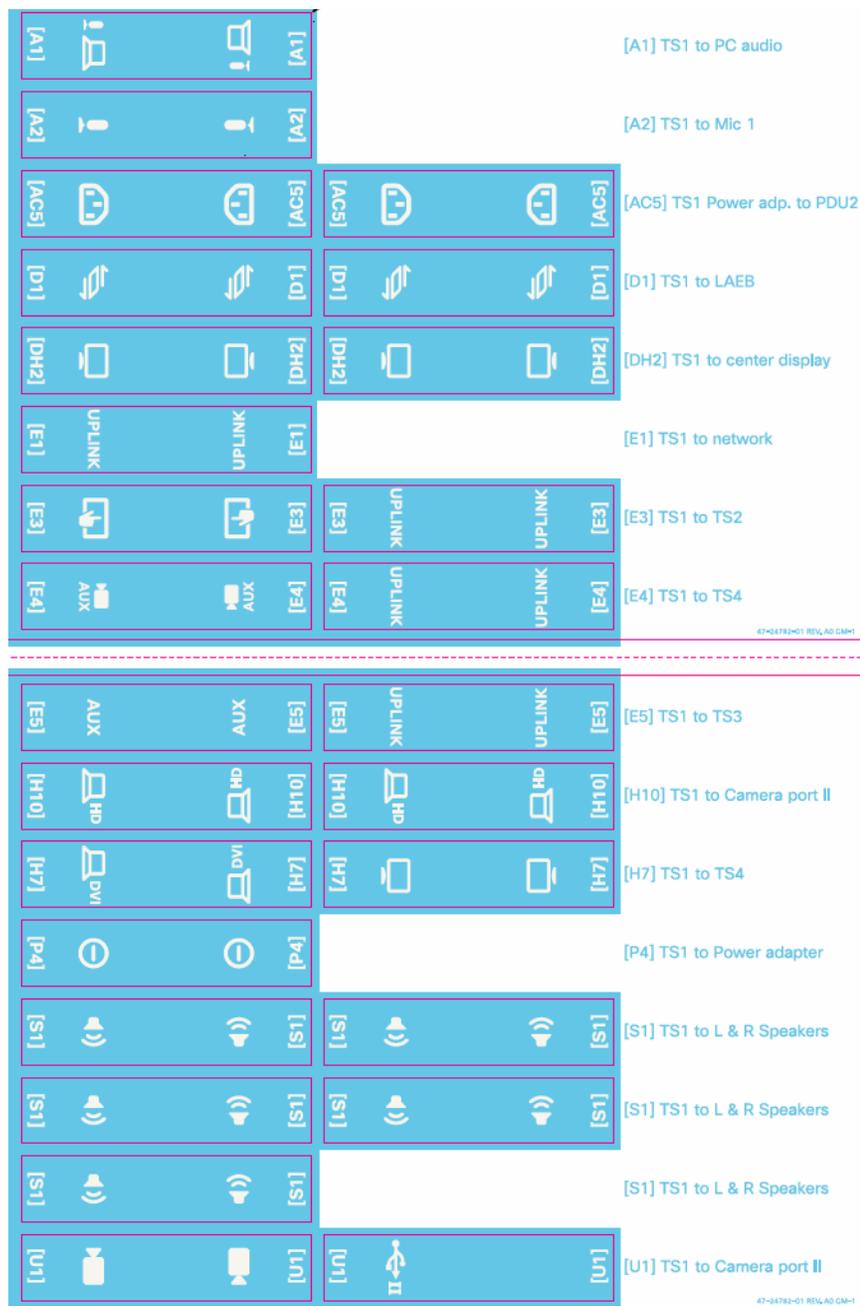
The following label kits are included with the TX9000 and TX9200:

Table 10-1 Cable Kits

Part Number	Description	Ctn
69-2345-01	Kit1—Cable Kit for TS1 Codec	12
69-2346-01	Kit 2—Cable Kit for TS2 Codec	13
69-2347-01	Kit 3—Cable Kit for TS3 Codec	14
69-2348-01	Kit 4—Cable Kit for TS4 Codec	15
69-2349-01	Kit 5—Cable Kit for System Cables	16
69-2350-01	Kit 6—Cable Kit for First Row	17
69-2351-01 (TX9200 only)	Kit 7—Cable Kit for Second Row (TX9200 only)	48

Figure 10-1 shows an example of a label sheet for one of the cable kits.

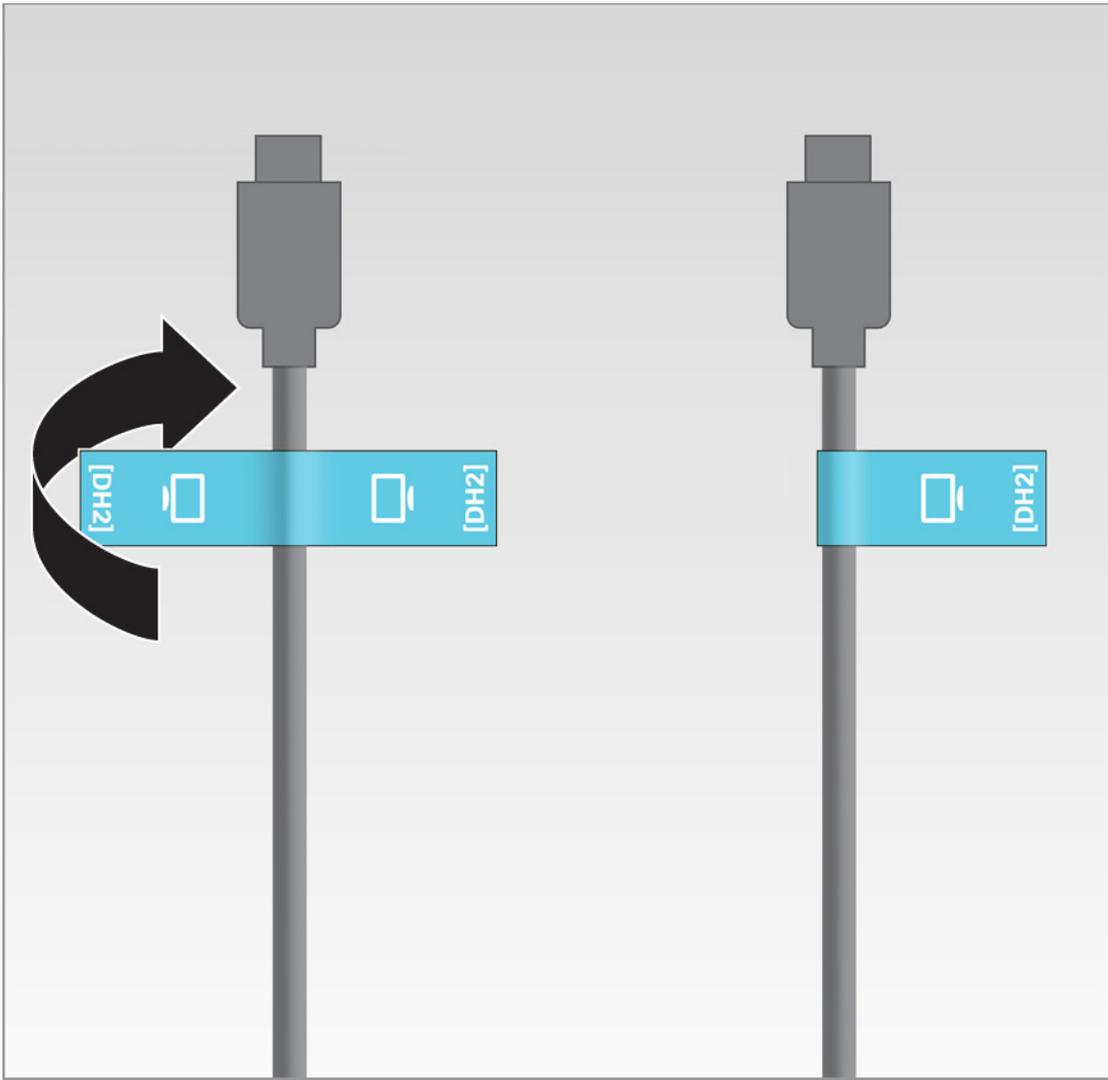
Figure 10-1 Cable Labels Example



Apply labels to each of the cables in each kit, using the following guidelines:

- Each label shows both the cable identifier from the wiring diagram and an icon identifying the type of cable.
- There is descriptive text on the cable sheet next to each set of labels describing where each cable connects.
- Apply labels to both ends of each cable, as close to the ends of the cables as possible. [Figure 10-2](#) shows an example of where to apply labels to each cable.

Figure 10-2 Label Positions on Cables



343561

Labeling the Display Frame and Cable Runner

Labels are included for the display frame and cable runners to indicate where to route different types of cables. These labels have icons showing types of cables as shown in [Figure 10-2](#).

Table 10-2 Cable Icons

Icon	Description
	Power cables
	Ethernet cables

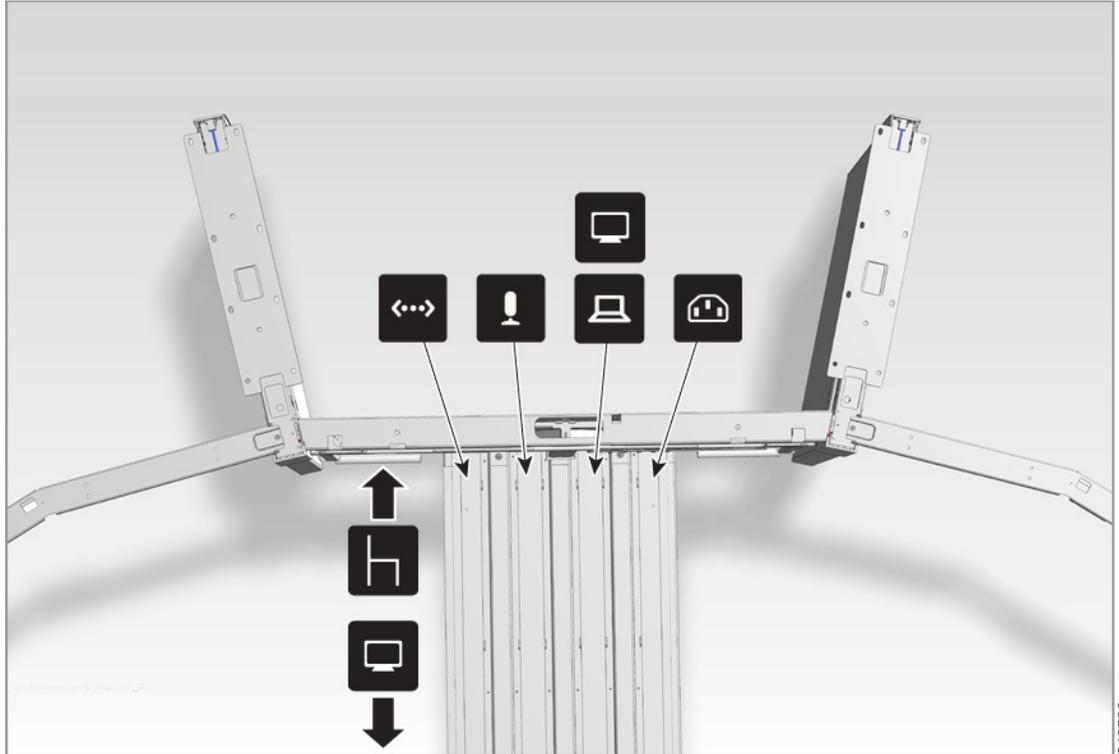
Table 10-2 Cable Icons

Icon	Description
	Display cables
	Microphone cables
	Presentation cables
	Light cables
	Speaker cables

Apply labels to the display frame pieces and the cable runner. This is to ensure that cables are routed through the correct channels. Use [Figure 10-13](#) as a reference to determine where to apply the labels to the front of the display frame, and [Figure 10-14](#) for the rear of the display frame.

Apply labels to the cable runner as shown in [Figure 10-3](#). Be sure that, when you cable the system, you route the cables using this guide.

Figure 10-3 Labels to Apply for Cable Runners



Connecting and Routing Cables and Continuing Assembly of the First Row Table

When routing cables, please keep the following guidelines in mind:

- Keep power, signal, Ethernet, and camera cables separate. Use [Figure 10-3](#) as a reference to place the different cable types between the table and the main structure in the cable runner.



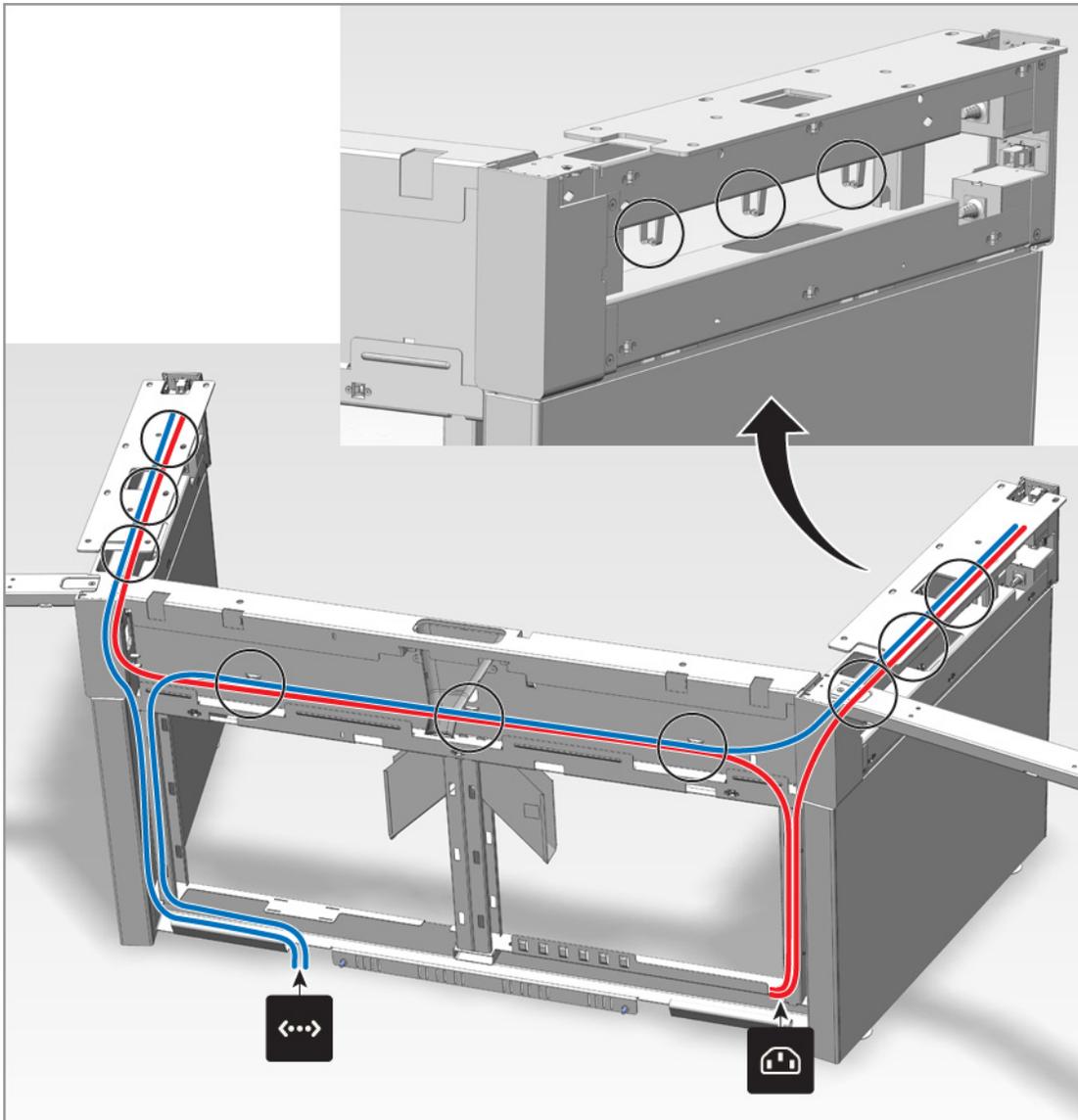
Note You do not need to separate cables that are less than 3 feet (1 meter) long.

- Use the Velcro cables and the clips that are provided in the table legs to route the cables in the first and second row tables.
- If you have extra cables after completing routing, use the method that works best for your installation to dress the excess cable. Some examples are:
 - Use the Velcro tie-wraps to loop the excess cable together.
 - Use the holes in the table legs as shown in [Figure 10-4](#) to place the excess cable.

Step 1 Start to route the power, microphone, Touch device, Ethernet, and presentation cables through the cable runner base.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.; use as many as is required.

Figure 10-4 Routing and Dressing the Cables



343539

Step 2 Slide the inner cable bridge (callout 1) into place.



Note Mount the cable bridge in the center of the display structure. For another view of the bridge, see [Figure 10-6](#).

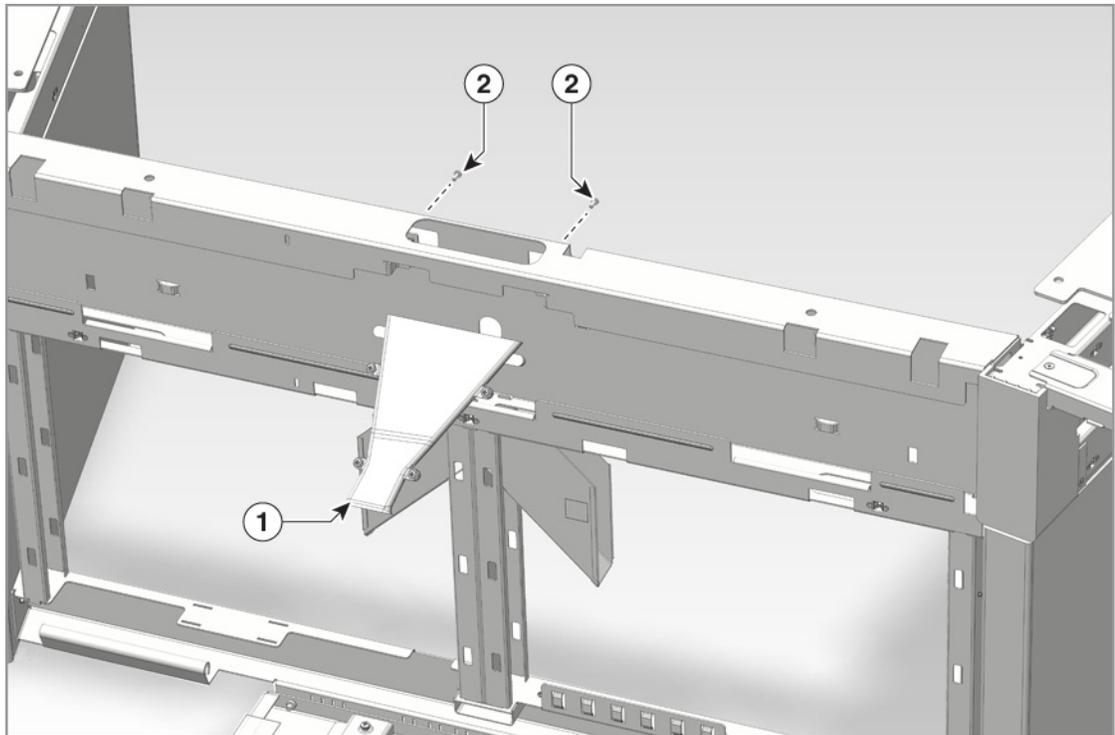


Note The cable bridge installation is completed later in the installation process. The inner cable bridge is installed at this time as it is difficult to get access to the screws when the table top is in place.

Step 3 Fix in place with two M4 x 10mm screws (callout 2).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cable bridge	700-37738-xx Kit #69-2332-xx	1	2	
2	M4 x 10mm screw	48-2594-01 Kit #69-2352-01	2	6	

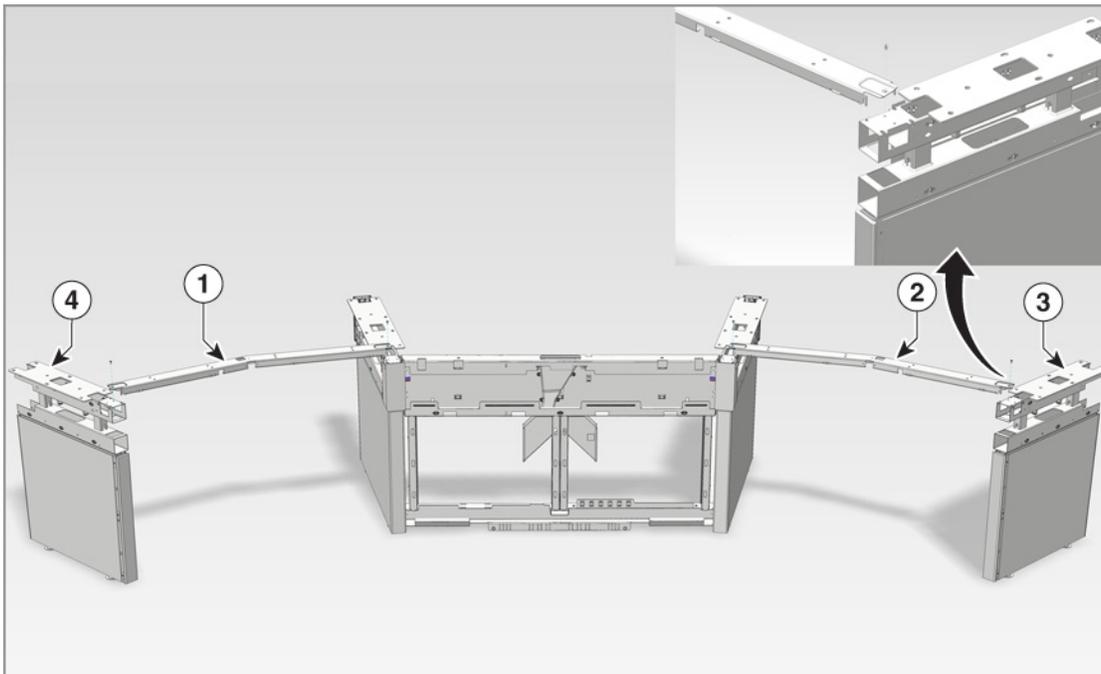
Figure 10-5 Attaching the Inner Cable Bridge



- Step 4** Attach the outside legs and the cable runners to the center table assembly by completing the following steps:
- a. Set the outside leg upright.
 - b. With one person holding the cable runner (callout 1 or 2) and the other holding the appropriate leg (callout 3 or 4), place the cable runner hooks into their corresponding slots on both legs.
 - c. (Optional) If required, install the screws to secure the cable runner in place. The screw goes into the hole in the cable runner that is shown in [Figure 10-7](#).
 - d. Repeat steps a. through c. to install the other leg and cable runner.

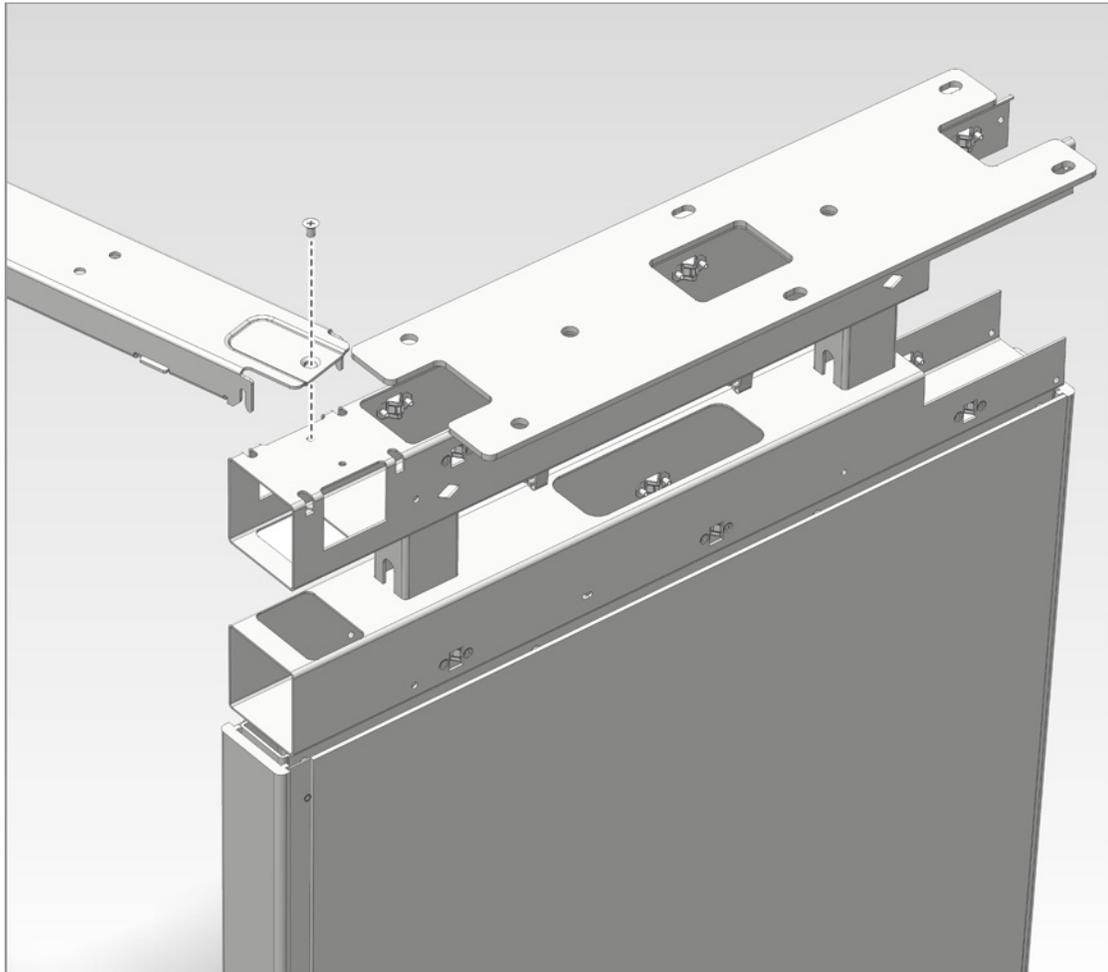
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Right side cable runner	700-37740-01 Kit #69-2332-xx	1	2	
2	Left side cable runner	700-37028-01 Kit #69-2332-xx	1	2	
3	Right side leg	800-37848-01 Kit #69-2332-xx	1	2	
4	Left side leg	800-37847-01 Kit #69-2332-xx	1	2	

Figure 10-6 Installing the Outside Legs and Cable Runners (1 of 2)



Key	Part Description	Part Number	Qty	Ctn	Notes
1	M5 flat head screw	48-0811-01 Kit #69-2354-01	2	6	

Figure 10-7 Optional: Using a Screw to Connect the Cable Runner and the Table Leg (2 of 2)



343542

Step 5 Using a level, make sure that the side legs are the same height as the center structure.

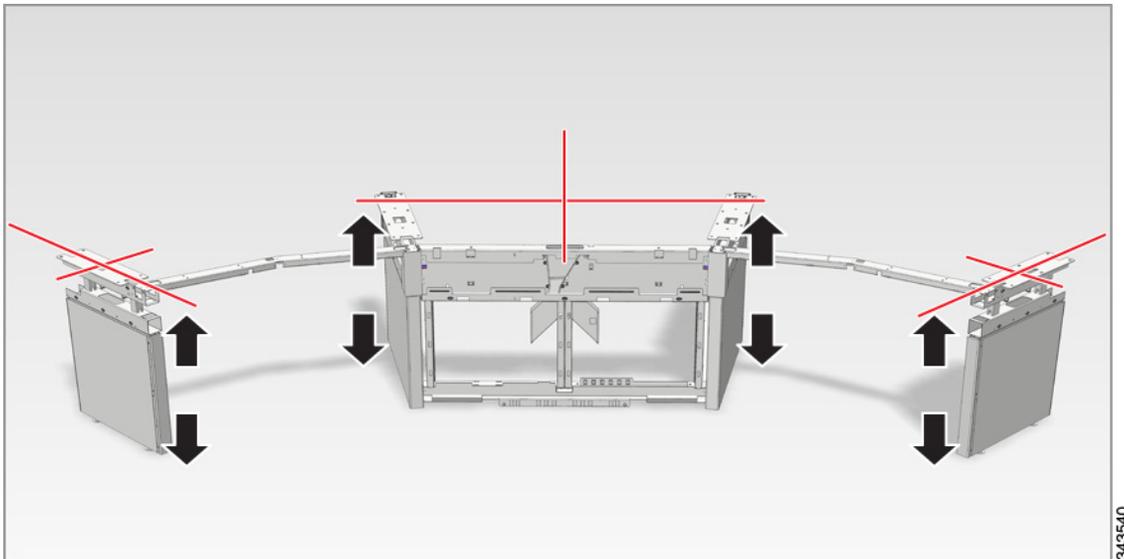


Tip

Diamond-shaped holes are provided on the sides of the legs; you can use a laser level and level the structure by using the center of the diamonds as a reference point.

Step 6 Make sure that center structure is still level, and level each side leg. Check levels in direction of the red lines that are shown in [Figure 10-8](#).

Figure 10-8 Leveling the Table Structure



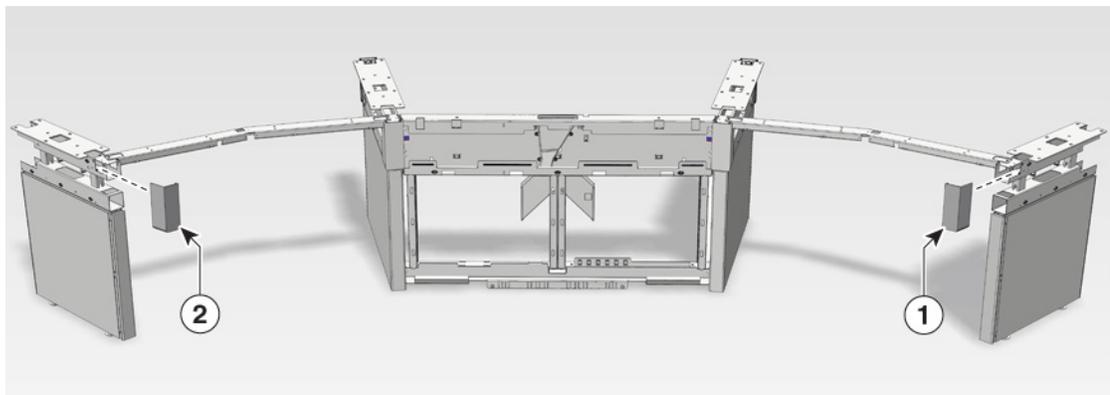
Step 7 Attach the outside plastic end caps to the outside table legs.



Note [Figure 10-9](#) shows the front row table from the rear. Left and right are reversed.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	End cap, left	700-37202-01 Kit #69-2338-xx	1	2	
2	End cap, right	700-37203-01 Kit #69-2338-xx	1	2	

Figure 10-9 Attaching the Outside Plastic End Caps

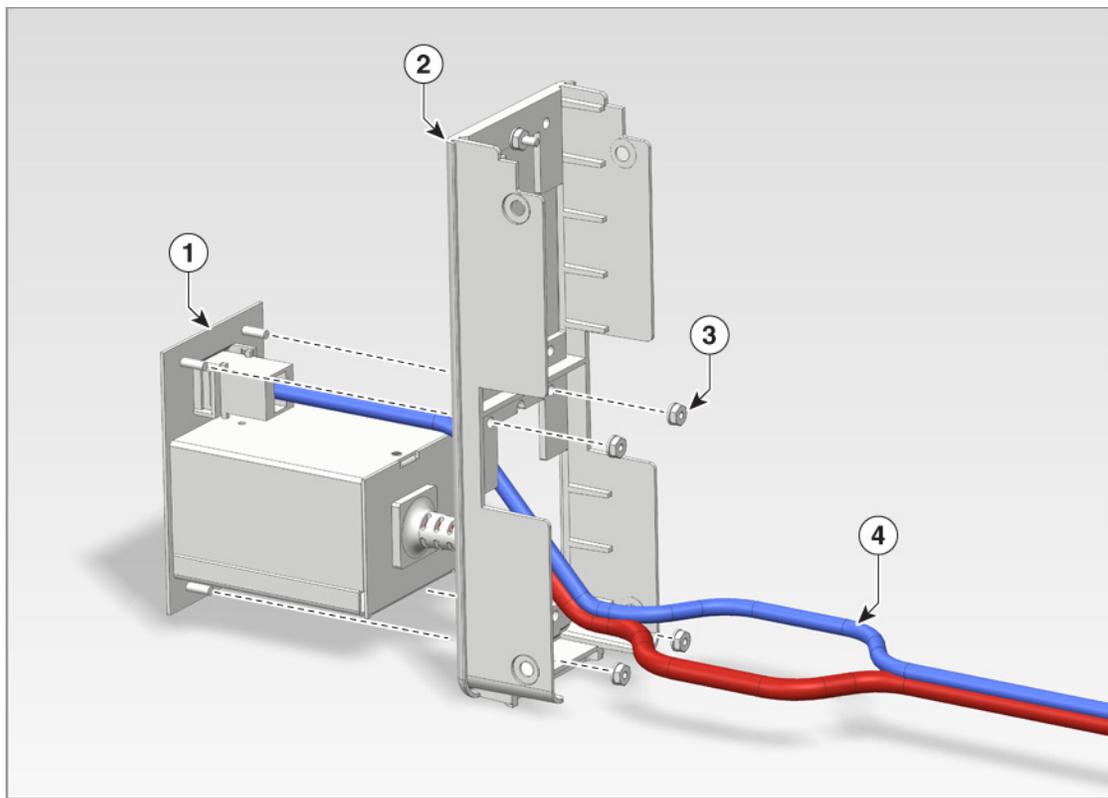


343963

- Step 8** Assemble the outside power/Ethernet connections by completing the following steps:
- Assemble power/Ethernet outlet (callout 1) into the lower hole in the power/Ethernet outlet cover (callout 2) using M3 nuts (callout 3).
 - Attach the 8 meter ethernet cable (callout 4) and, if required, a power cable to the power/Ethernet outlet.
 - Repeat Steps a. through b. for the other outside outlet.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet	See notes	2		Part number varies by country. Refer to Appendix C, "Region- and Country-Specific Power Cords and Table Leg Power Connectors," for the correct part number.
2	Outside power/Ethernet outlet cover	800-37949-01 Kit# 69-2338-xx	2	2	
3	M3 nut	49-0833-01	8		Included with the outlets.
4	Front row Ethernet cable, 8 meters (20 feet)	37-1025-01 Kit # 69-2350-01	2	17	

Figure 10-10 Assembling the Outside Power/Ethernet Connections

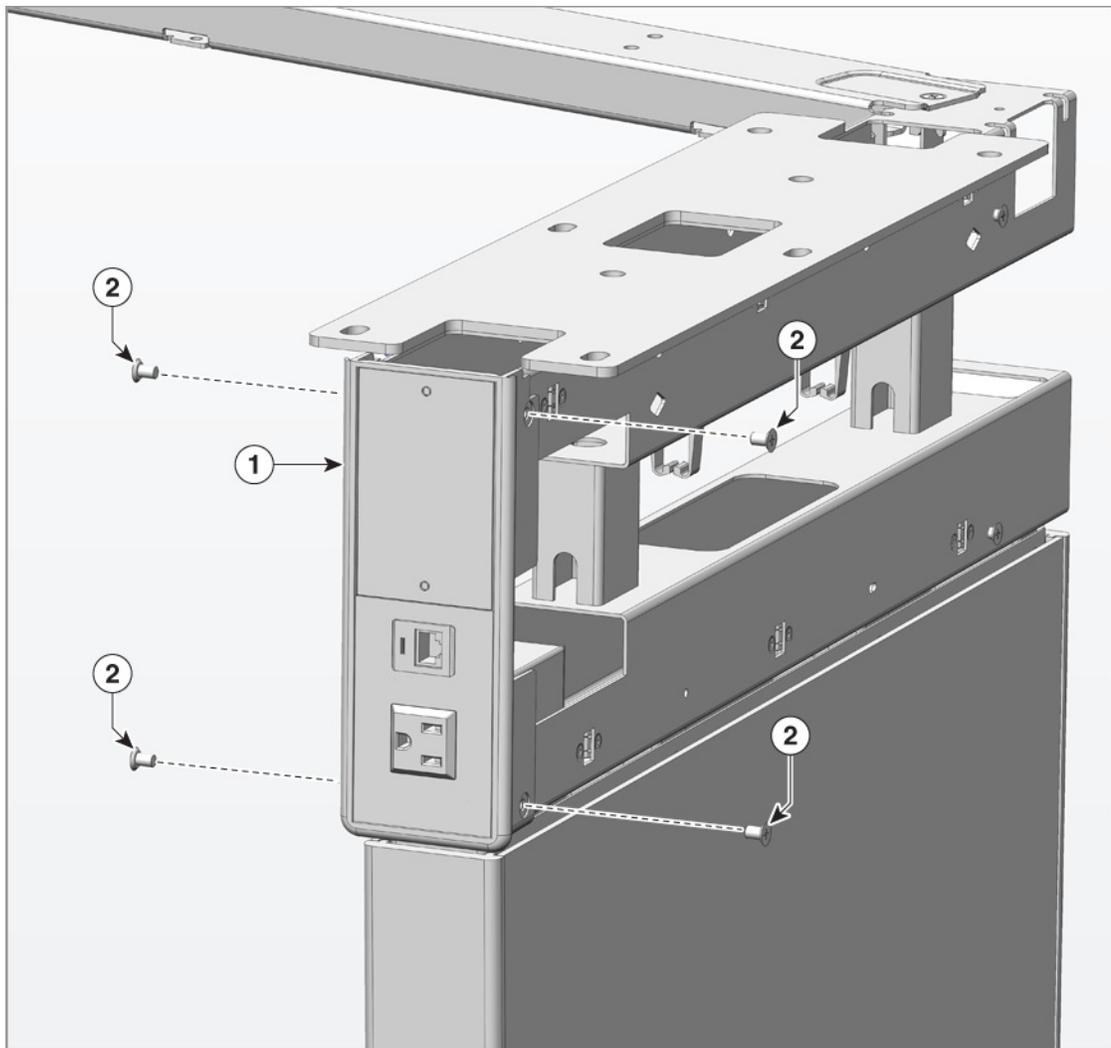


343541

Step 9 Insert the power/Ethernet outlet assemblies you built in [Step 8](#) into the outside table legs.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet assembly	N/A	2		Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	M5 flat head screw	48-0811-01 Kit #69-2354-01	8	6	

Figure 10-11 Installing the Power/Ethernet Outlets to the Outside Table Legs

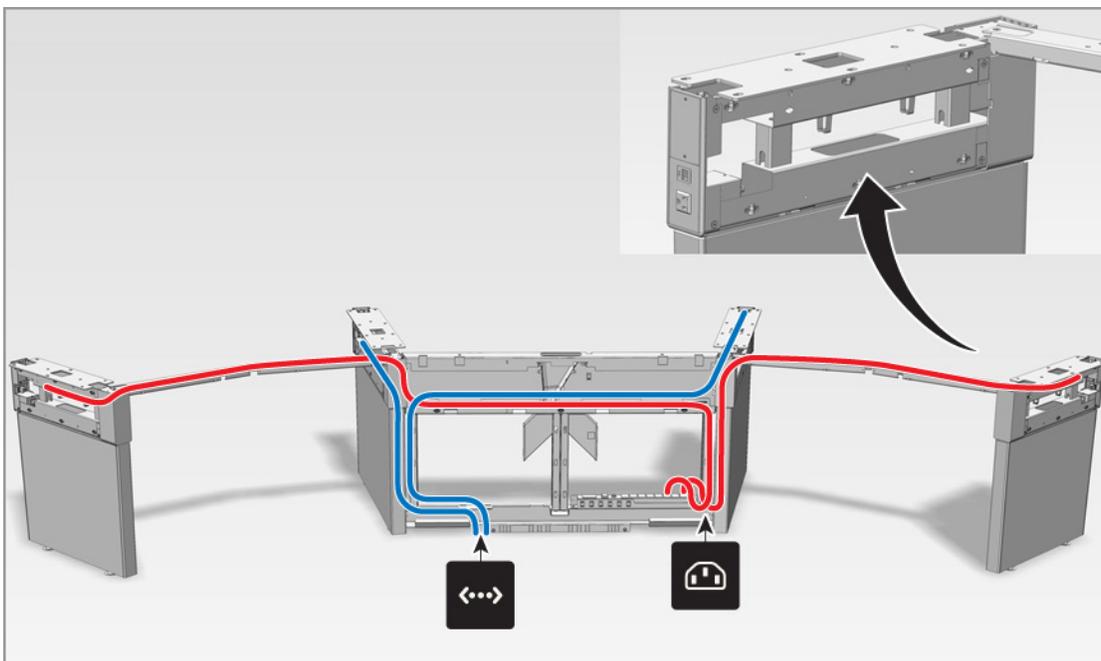


343544

- Step 10** Use the cable routing clips in the inside of the table leg, and the Velcro tie-wraps provided with the system, to route the cables as shown. Use velcro cable wraps (callout 1) with the features to secure cables.
- Ensure that the cables are held inside of structure and that they are not being pinched by cosmetic panels.
- Step 11** Attach the PDU cable (callout 2) and run it through the main cable runner.

**Tip**Place excess cable into the leg cavity. This cavity is shown as callout D in [Figure 10-12](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	5	6	There are 70 straps in the kit.; use as many as is required.
2	Power jumper cables	69-2351-xx	1	48	

Figure 10-12 Routing and Dressing the Cables

Connecting and Routing Cables in the Main Display Assembly

This section contains guidelines to connect and route the cables in the main display assembly and includes the following sections:

- [General Cable Routing Guidelines](#), page 10-15
- [Connecting and Routing the Cables](#), page 10-15

- [Wiring Diagrams for CTS TX9000 and TX9200 Systems, page 10-17](#)

General Cable Routing Guidelines

When routing cables, please keep the following guidelines in mind:

- Keep power, signal, Ethernet, and camera cables separate.



Note You do not need to separate cables that are less than 3 feet (1 meter) long.

- Use the Velcro cables and the clips that are provided in the table legs to route the cables in the first and second row tables.
- If you have extra cables after completing routing, use the method that works best for your installation to dress the excess cable. Some examples are:
 - Use the Velcro tie-wraps to loop the excess cable together.
 - Use the holes in the table legs as shown in [Figure 10-4](#) to place the excess cable.

Connecting and Routing the Cables

To connect and route cables:

-
- Step 1** Route the power and, if necessary, Ethernet cables through the rear of the reflector to the power and Ethernet receptacles in the wall.



Caution Be sure to observe all local safety codes when cabling the system.

Use the following steps as guidelines:

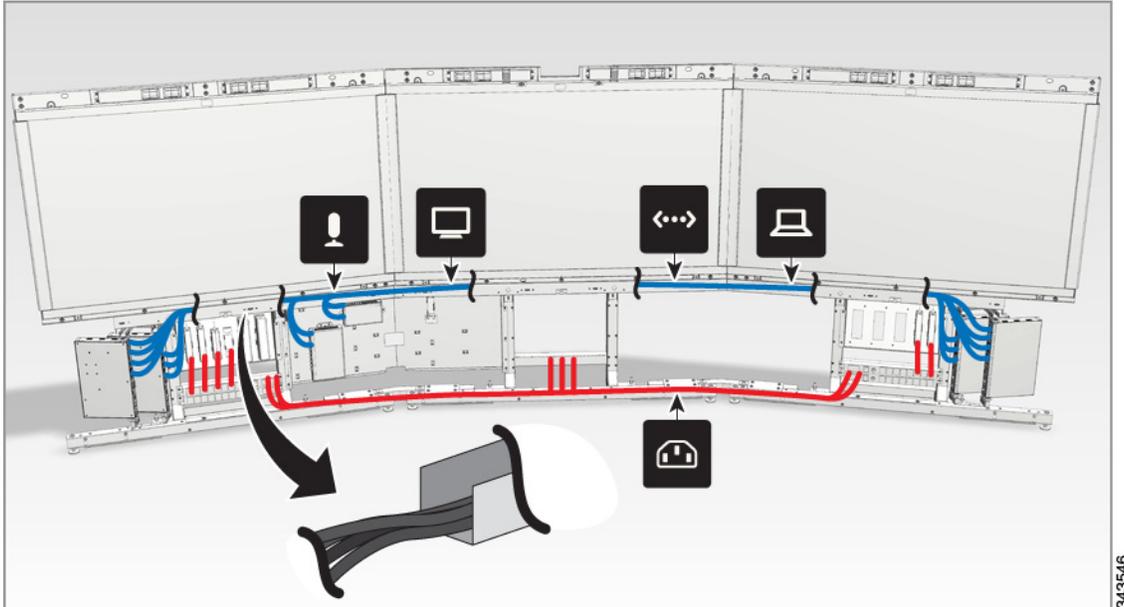
- Free-standing systems only:
 - There is an access slot (mouse hole) in the bottom center of the center reflector panel; if possible, route the cables through this slot. Be sure to keep the power and Ethernet cables separated.
- Wall-mounted systems only:
 - Remove the access panels as shown in [Figure 3-5](#) and [Figure 3-6](#) and route the cables to the wall outlets through these panels.
 - If the outlets are located at the base of the wall, you can raise the entire wall so that it clears the wall.

- Step 2** Connect the cables for the entire system. See [Figure 10-13](#) and [Figure 10-14](#) for diagrams on how to route cables in the main display frame. See [Figure 10-16](#) for a complete cabling diagram and additional information about connecting and routing cables.



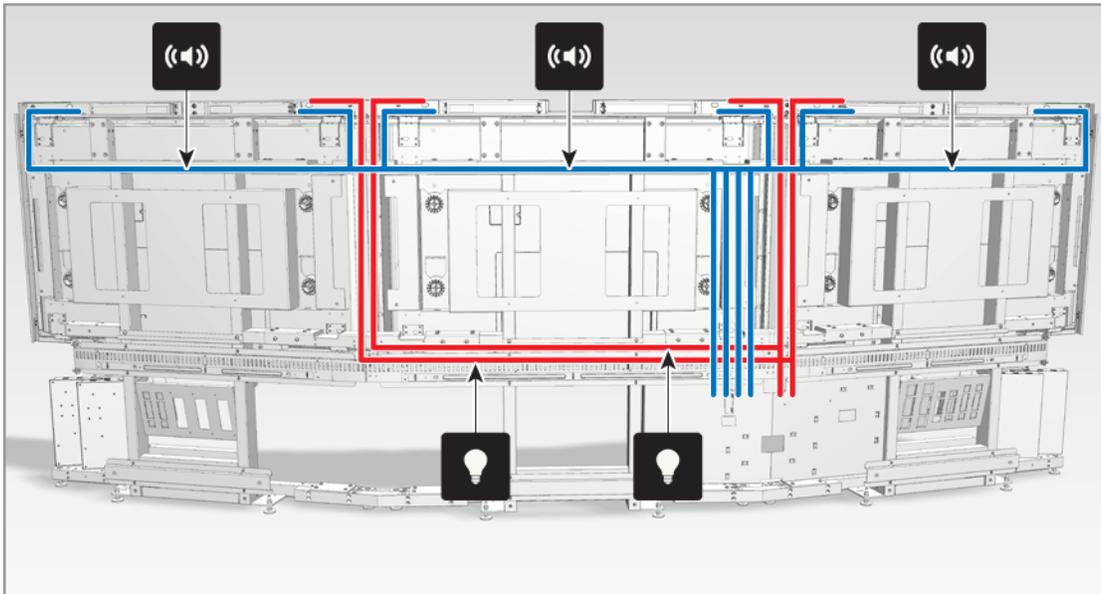
Note When routing cables in the front of the main display frame, bundle cables together using velcro ties, and use the shelf on the interior of the facade brackets to support the cable bundles.

Figure 10-13 Front View of Main Display Frame Cable Routing



343546

Figure 10-14 Rear View of Main Display Frame Cable Routing



343545

**Note**

You cannot add the cable for the Touch device, presentation cable, or microphone cable until you install the table tops. For instructions to connect and route these cables, see [Chapter 11, “Completing Installation of the First Row Table.”](#) For additional instructions to route the second row cables, see [Chapter 12, “Building the Second Row Table \(TX9200 Systems Only\).”](#)

**Tip**

Use the Velcro tie wraps to coil and bundle excess cable.

**Note**

Be sure to keep the types of cable separate. You can join cables of different types as long as the cables are less than 3 feet (1 meter) long.

Wiring Diagrams for CTS TX9000 and TX9200 Systems

Figure 10-16 and Figure 10-17 show the wiring diagram for the TX9000 and TX9200 systems.

**Note**

Click [here](#) for a high-resolution PDF version of the wiring diagram.

Click [here](#) for a printable version that is two pages and fits on 8 1/2 x 11-inch paper.

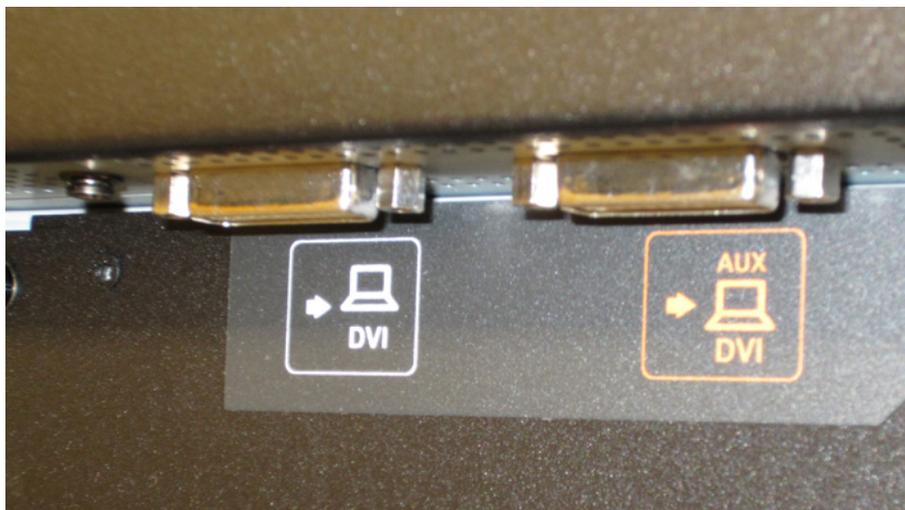
**Note**

When connecting the cable that connects the TS1 codec to the audio/video expansion unit (labeled D1 on the wiring diagram), be sure to connect to the port labeled “AUX” on the audio/video expansion unit.

Using the Correct DVI Port When Connecting the Display Cables

When you connect the DVI cables to the display, be sure to plug the cable into the white port labeled “DVI”. This is the connection on the left in Figure 10-15. **Do not plug the DVI cable into the orange port labeled “AUX”** or the display goes into a “deep sleep” mode and will not become active.

Figure 10-15 DVI and Aux Ports on the Display



Connecting the Audio Cable for Shared Presentations

The audio connection for the presentation cable on the codec is different based on the cable you use for presentations. If you use a VGA-to-VGA cable, use the audio connection on the codec labeled with an icon of a computer. If you use a HD video (uses HDMI connector)-to-HD video (uses HDMI connector), HD video (uses HDMI connector)-to-DisplayPort, or HD video (uses HDMI connector)-to-Mini DisplayPort cable, use the audio connection labeled “Aux” on the codec. [Figure 10-16](#) shows both connections.

Determining the Correct Cables to Use

Each cable in the cabling diagram has an alphanumeric identifier. [Table 10-3](#) through [Table 10-8](#) show the mapping between the part numbering for the cables in the cable kit and the alphanumeric identifiers in the cabling diagram.

Table 10-3 Cross-Reference for Cables in the Cable Kit for TS1 Codec, Part Number 69-2345-xx

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
P4	37-1331-xx	Power adapter cord, 0.8m	1	Chapter 10
D1	37-1335-xx	CABASY,WIRE HARNESS,DP-DP,NON-STND,1.5m	1	Chapter 10
H10, H7	37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	2	Chapter 10
A1	37-1385-xx	Cable, speaker cable, 6.5m	1	Chapter 10
E3, E4, E5	37-1386-xx	Ethernet cable, 5m	3	Chapter 10
DH2	37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
U1	37-1394-xx	Cable, USB - USB, 5m	1	Chapter 10
E1	37-1409-xx	Ethernet cable, 9m	2	Chapter 11
N/A	47-24782-xx	Cable labels, TS1 codec	1	Chapter 10

Table 10-4 Cross-Reference for Cables in the Cable Kit for TS2 Codec, Part Number 69-2346-xx

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
P6	37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
H11	37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
E3	37-1409-xx	Ethernet cable, 9m	1	Chapter 10
DH1	37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
N/a	47-24783-xx	Cable labels, TS2 codec	1	Chapter 10

Table 10-5 Cross-Reference for Cables in the Cable Kit for TS3 Codec, Part Number 69-2347-xx

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
P7	37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
H12	37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
E5	37-1386-xx	Ethernet cable, 5m	1	Chapter 10
DH3	37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
N/A	47-24784-xx	Cable labels, TS3 codec	1	Chapter 10

Table 10-6 Cross-Reference for Cables in the Cable Kit for TS4 Codec, Part Number 69-2348-xx

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
P5	37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
H8	37-1384-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
N/A	47-24785-xx	Cable labels, TS4 codec		Chapter 10

Table 10-7 Cross-Reference for Cables in the Cable Kit for Speakers & Lights, Part Number 69-2349-xx

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
AC1, AC2, AC3	37-1059-xx	Power cord, US, 0.8m	3	Chapter 10
DH4	37-1388-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
L1, L2, L3, L4	37-1389-xx	Cable, light bar jumper cable	4	Chapter 10
S2	37-1390-xx	Speaker cable, phone plug to terminal	1	Chapter 10
S3	37-1395-xx	Speaker cable, terminal end	3	Chapter 10
P1	37-1399-xx	Power cord, US, 3.5m	1	Chapter 10
N/A	47-24786-xx	Cable labels, speaker and light cables	1	Chapter 10
E2	37-1404-xx	Cable, DB9-to-RJ45	1	Chapter 10

Table 10-8 *Cross-Reference for Cables in the Cable Kit for First Row Table, Part Number 69-2350-xx*

ID in Cabling Diagram	Cable Part Number	Part Description	Qty	Chapter Parts List Reference
E23-E26	37-1382-xx	Ethernet cable, 6m	4	Chapters 9, 10
E27, E40	37-1025-xx	Ethernet cable, 8m	2	Chapters 9, 10
N/A	47-24787-xx	Cable labels, 1st row Ethernet, power, and microphone cables	1	Chapter 10
N/A	700-37866-xx	Cable management ball	2	Chapter 11

Figure 10-16 TX9000 and TX9200 Wiring Diagram (1 of 2)

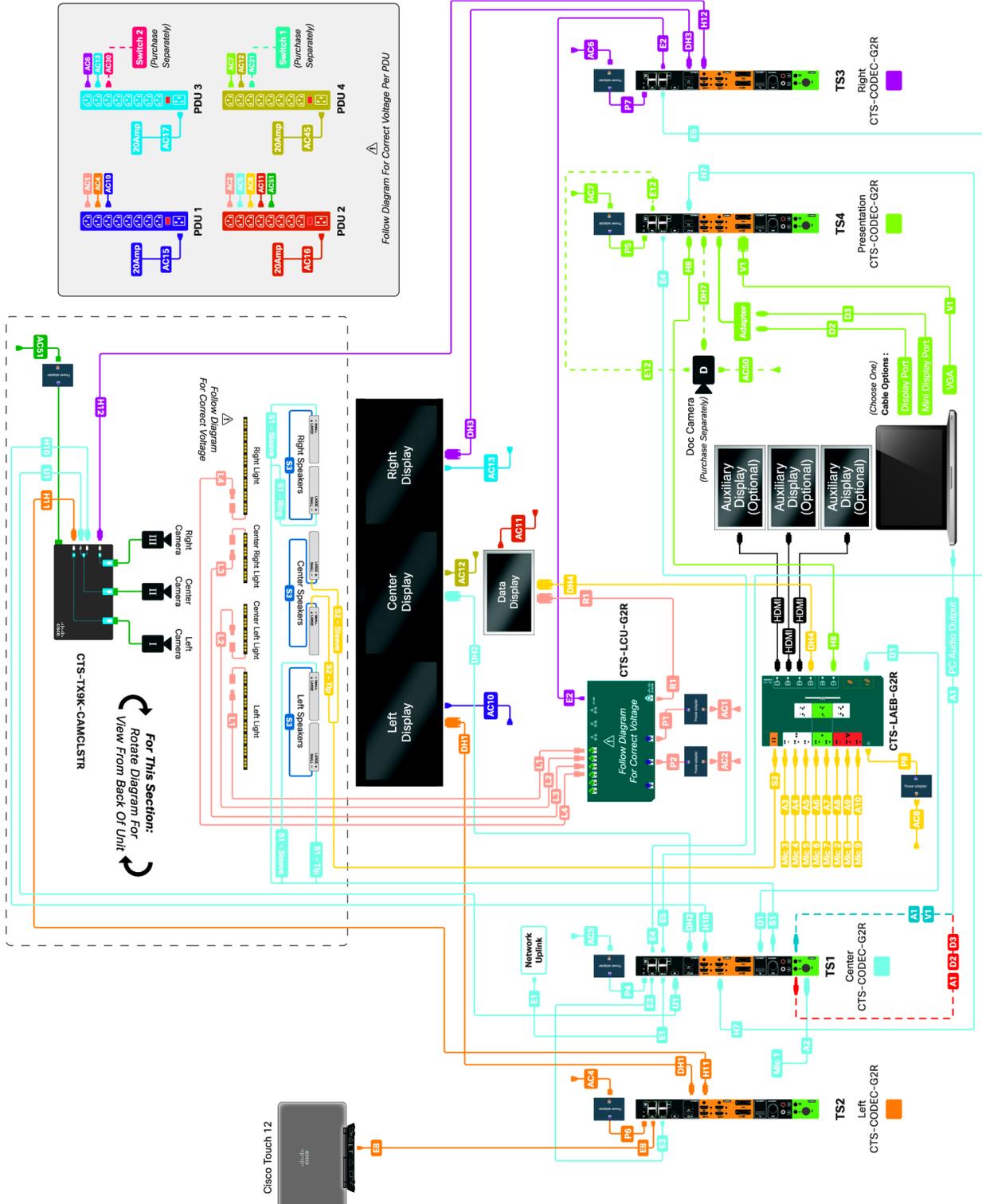
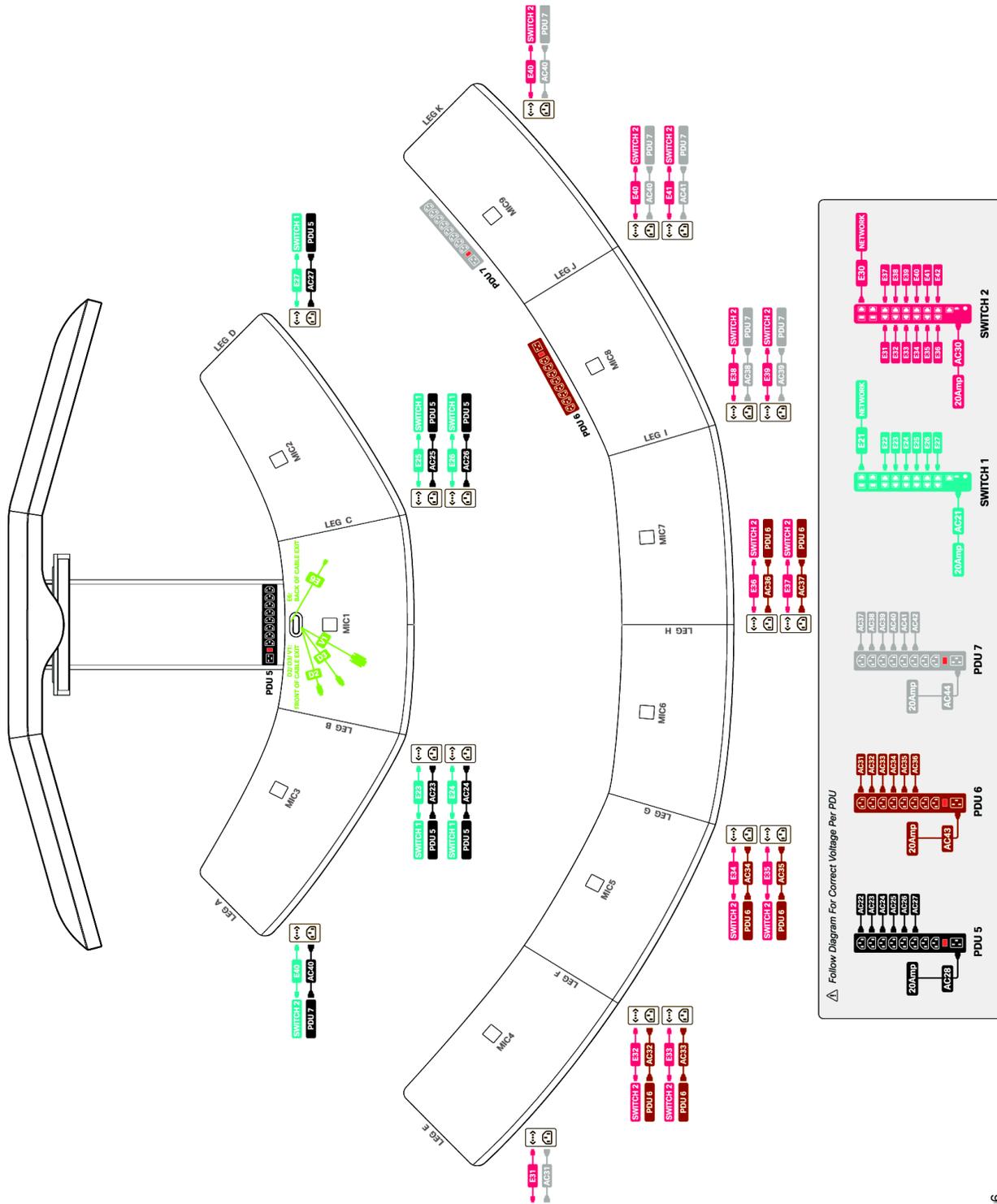


Figure 10-17 TX9000 and TX9200 Wiring Diagram (2 of 2)



6

Where to Go Next

Continue to [Chapter 11, “Completing Installation of the First Row Table,”](#) to complete assembly of the first row.



Completing Installation of the First Row Table

Revised: May 20, 2015, OL-27038-01

This chapter describes the procedures you perform to complete the installation of the first row table.

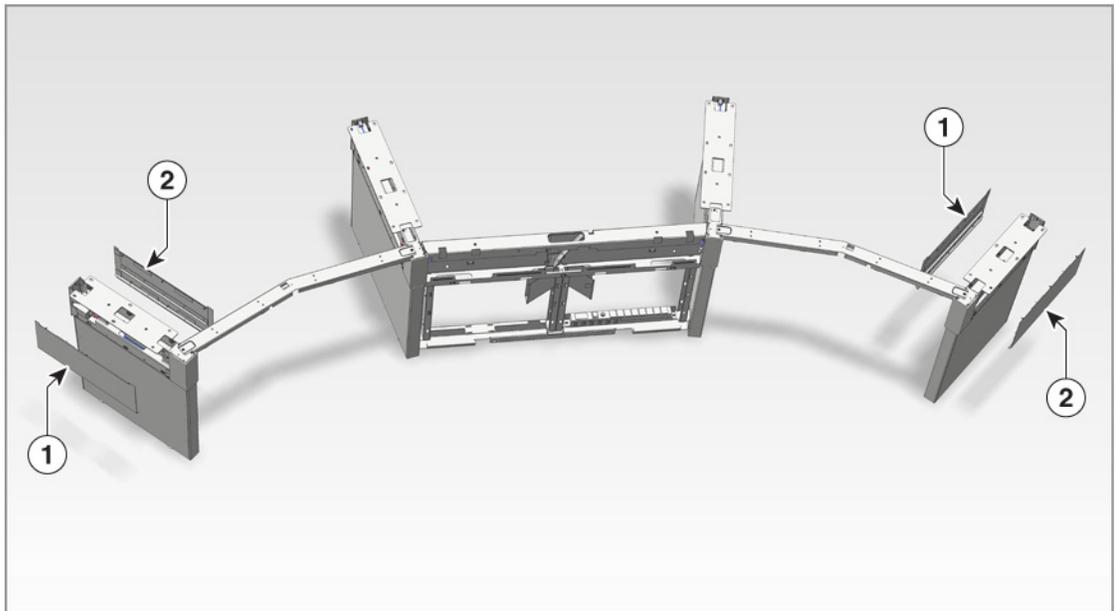
Step 1 Assemble the power/Ethernet channel panels to the outside legs.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet channel panel cover, outer leg right	700-37178-01 Kit # 800-37847-xx Subkit # 69-2332-xx	2	2	
2	Power/Ethernet channel panel cover, outer leg left	700-37179-01 Kit # 800-37848-xx Subkit # 69-2332-xx	2	2	



Note The panels are shown from the display structure; left and right are reversed.

Figure 11-1 Assembling the Channel Panels to the Outside Legs



343566

Step 2 Assemble the table sections by completing the following steps:

- a. Lay the table top parts on top of the table structure **the correct way up** and slightly offset from their final position.

Lay only two table sections on the table at a time.

The images in [Figure 11-2](#) are shown upside-down for clarity.



Caution

Never place the table sections upside-down; you could damage the wood finish on the table top.

One person may have to support the parts while the other person joins the table tops using the following steps.

- b. Install five wooden biscuits (callout 4) into the slots; then, gently push the table sections together.
- c. Position the 2 half-moon table joiners (callout 3) and tighten them to bring the tables together.
- d. Attach two joint plates (callout 5) using 12 screws (callout 6).
- e. Repeat steps b. through d. for the other table joint.

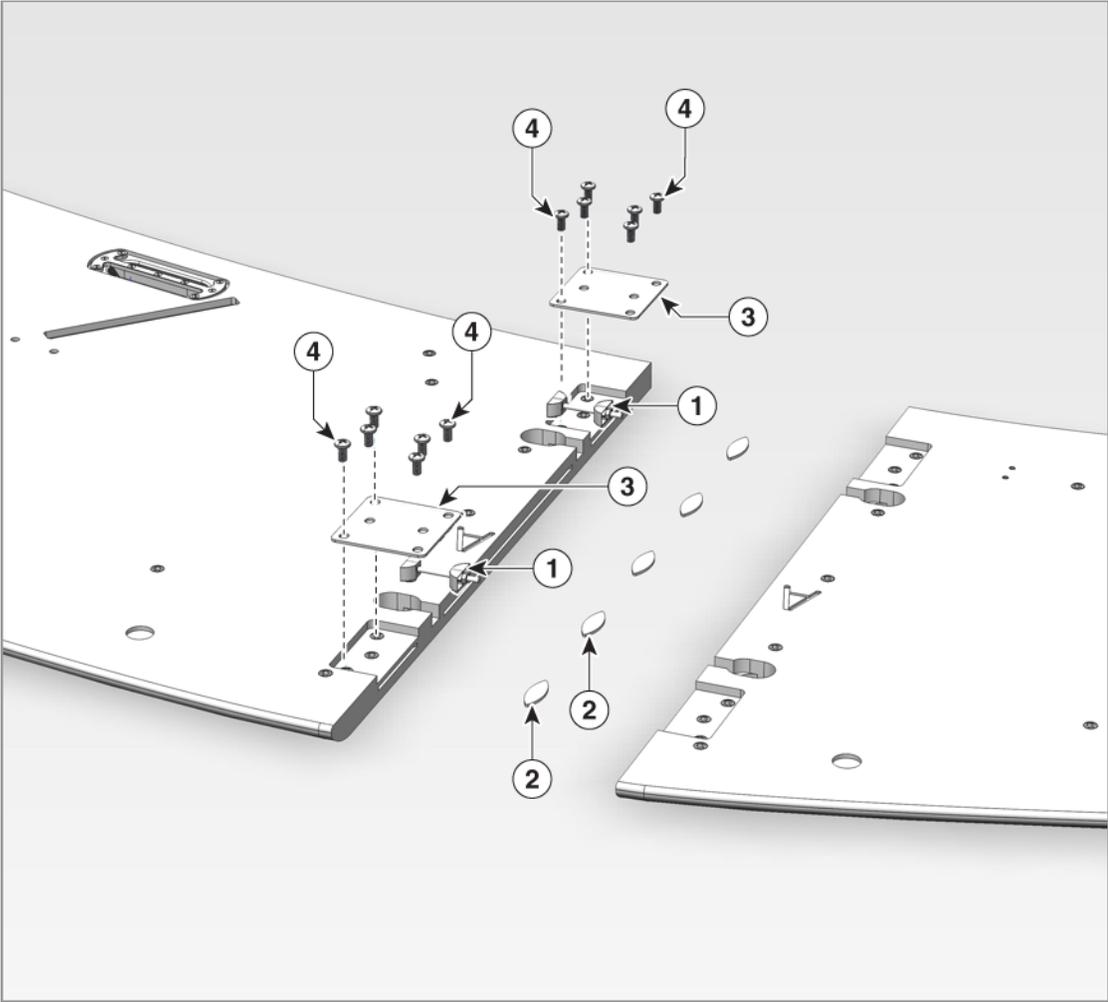


Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Half-moon table joiners	51-6068-01 Kit # 69-2300-xx or 69-2344-xx	4	44	Kit number depends on the type of table finish you ordered (maple is Kit #69-2300-xx, walnut is Kit # 69-2344-xx)
2	Wooden biscuits	700-23909-01 Kit # 69-2298-xx	10	44	
3	Joint plates	700-23345-01 Kit # 69-2332-xx	1	2	
4	M8 x 16mm screw	48-2430-01 Kit # 53-3789-01 Subkit # 69-2353-xx	24	6	

Figure 11-2 Placing and Connecting the Table Sections On Top of the Table Assembly



**Note**

The natural woods that are used for the tabletop finishes have a unique color, grain, and texture; as a result, there may be slight variations in grain between the table sections due to the natural formation of the wood. [Figure 11-3](#) through [Figure 11-6](#) show you examples of differing grain and texture between matching tabletop pieces.

Figure 11-3 *Example of Matching Tabletop Section (Part 1 of 4)*



346725

Figure 11-4 Example of Matching Tabletop Section (Part 2 of 4)



346726

Figure 11-5 Example of Matching Tabletop Section (Part 3 of 4)



346729

Figure 11-6 Example of Matching Tabletop Section (Part 4 of 4)



346728

Step 3 Secure the table sections to the table legs by completing the following steps:

- a. Slide the fully assembled table top into position.
- b. Secure the table top to the legs with 26 screws (callout 2)



Note Start installing the two screws nearest the display structure for the center legs; then, install the same two screws for each of the outer legs. Then, attach and tighten all screws.

- c. Secure the upper sections of the cable runner to the table with 16 M4 x 10mm screws (callout 1 in Figure 11-7).

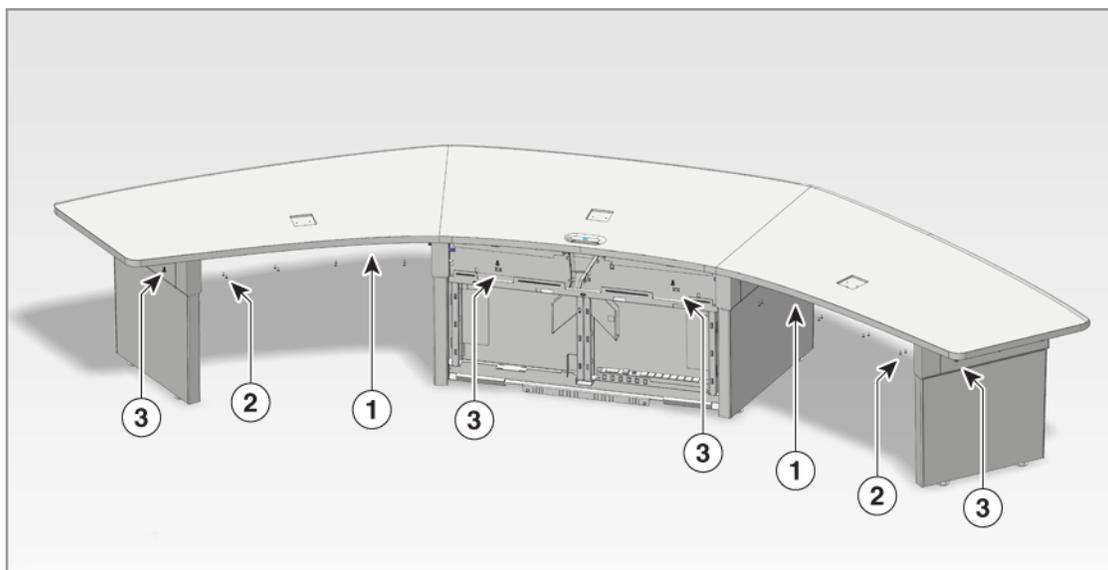


Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cable Runner, upper sections	700-37028 (right), 700-37740 (left) Kit #69-2332	2	2	
2	M4 x 10mm screw	48-2594-01 Kit #69-2352-01	16	6	
3	M8 x 16mm screw	48-2430-01 Kit # 53-3789-xx Subkit # 69-2353-xx	30	6	

Figure 11-7 Attaching the Table Sections to the Table Legs



343568

Step 4 Attach the microphones and cable runner covers by completing the following steps:

- a. Feed the microphone cables through the holes in the table and secure each microphone with two screws (callout 5).

Arrange the microphone so the mute button is towards the user.

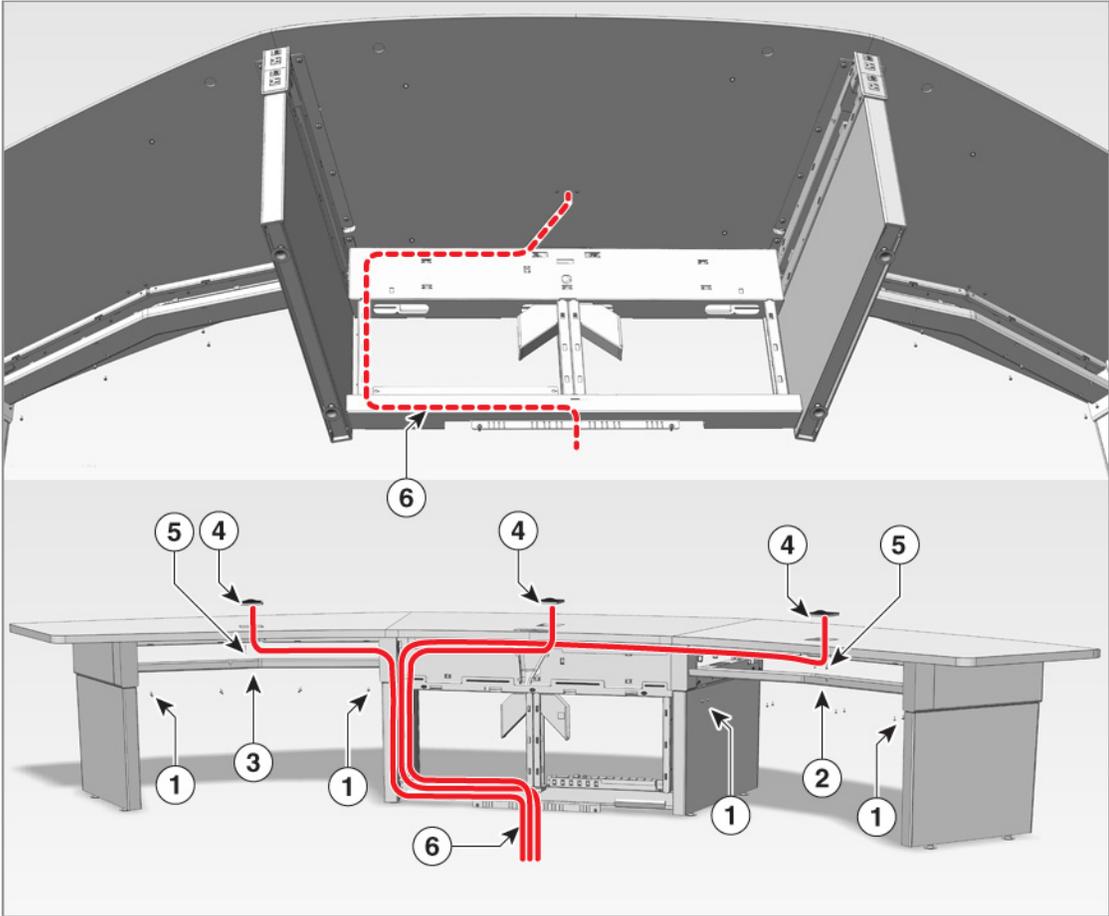
- b. Connect the microphone extension cables (callout 7) and route the microphone cables as shown, using Velcro strips to secure the cables to the clips in the table legs.
- c. Secure each cable runner cover (callouts 2 and 3) in place with eight screws (callout 1).
- d. Ensure that the cables are held inside of the structure to prevent them being pinched by cosmetic panels.

Cable routing location is important to prevent the mechanical parts interfering with the cables.

- e. Make sure that the center microphone cable routes along the channel in the underside of the wood and into the top of the upper truss. See [Figure 11-8](#) for more information.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M4 x 10mm pan head screw	48-2594-01 Kit #69-2352-01	16	6	
2	Left side cable runner cover	700-37184-01 Kit # 69-2327-xx	1	7	
3	Right side cable runner cover	700-37185-01 Kit # 69-2327-xx	1	7	
4	Microphone assembly	74-10241-01 CTS-TX9K-MIC	3	18, 19, 20	
5	M4 x 30mm screw	N/A	6	18, 19, 20	Included with the microphone kit
6	Microphone jumper cable	N/A	3	18, 19, 20	Included with the microphone kit
7	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 11-8 . Use these straps to assist with cable routing.

Figure 11-8 Attaching the Microphones and Microphone Cables



Step 5 Attach and route the Ethernet cables for the Cisco TelePresence Touch device and shared presentation cable by completing the following steps:

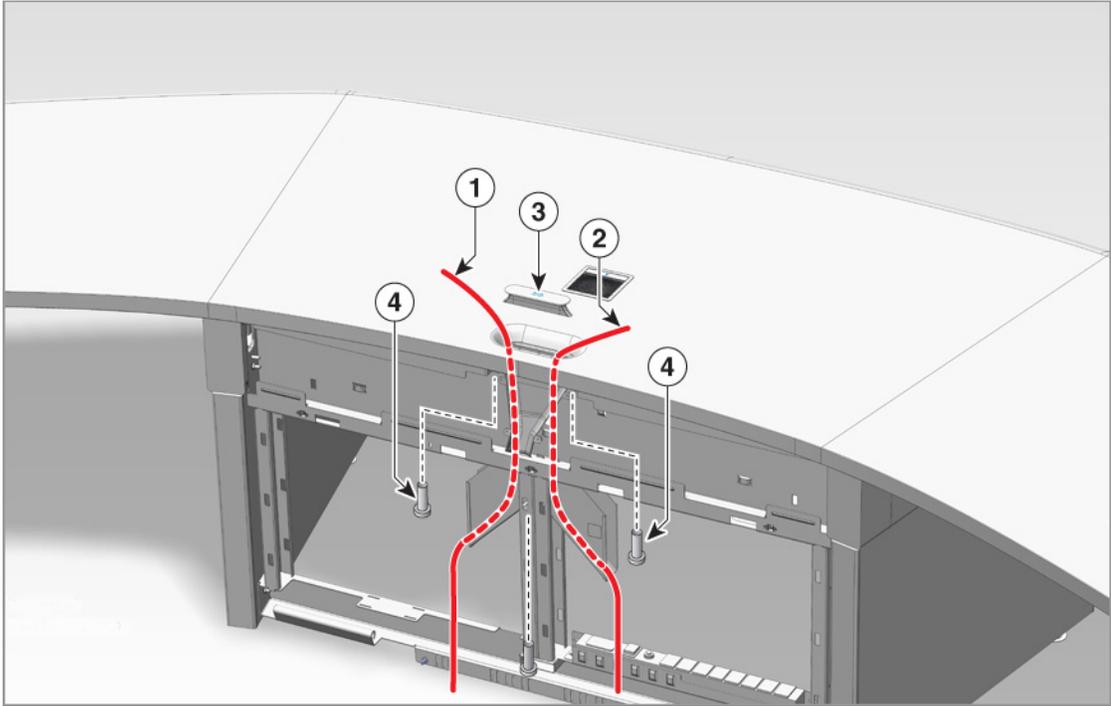
- a. Slide the cables for the presentation display sharing and Touch device through the brackets on the center structure and through the cable exit on the center table. See [“Wiring Diagrams for CTS TX9000 and TX9200 Systems”](#) section on page 10-17 for the connections.

When you ordered your system, you ordered either an HD video (uses HDMI connector)-to-VGA, HD video (uses HDMI connector)-to-HD video (uses HDMI connector), DisplayPort-to-HD video (uses HDMI connector), or HD video (uses HDMI connector)-to-Mini Displayport cable. Be sure that you choose the correct connector type (VGA, HD video (uses HDMI connector), DisplayPort, or Mini-DisplayPort) for your conference participants. Replacing the presentation cable is difficult after your system is completely installed.

- b. Pass the cables separately through one of the openings in the truss (the V-shaped wings that are shown in [Figure 11-9](#))—one on the left truss, and one on the right.
- c. After you route the cables through the trusses, route the cables through the cable guide so that the Ethernet cable goes through the cable guide channel nearest the displays and the cable for the presentation display goes through the channel farthest away from the displays.
- d. Secure the cable guide (callout 3) into place with three screws (callout 4). Ensure that the CISCO logo faces the conference participants.
- e. Make sure that there is enough slack in the cables that exit the table.
 - Allow enough slack in the presentation cable so that it can reach the farthest participant.
 - Allow approximately three feet (1 meter) of slack for the Cisco Touch device.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Presentation cable + audio, 8 meters, VGA-to-VGA or Presentation cable + audio, 8 meters, HD video (uses HDMI connector)-to-HD video (uses HDMI connector) or Presentation cable + audio, 8 meters, DisplayPort-to-HD video (uses HDMI connector)-to- or Presentation cable + audio, 8 meters, Mini DisplayPort-to-HD video (uses HDMI connector)	37-1406-01 CTS-CAB-VGA-A CAB-HDMIHDMI-A 37-1484-01	1	46	Choose either the presentation cable with the VGA connectors or the cable with the HDMI connector), you cannot connect both.
2	6 meter (20 foot) Ethernet cable (for Cisco Touch)	69-2346-01	1	13	
3	Cable Guide	700-37274-01 Kit # 69-2333-xx	1	10	
4	M4 flat head screw	48-1943-01 Kit # 69-2355-01	3	6	

Figure 11-9 Installing the Presentation Display and Touch Device Cables

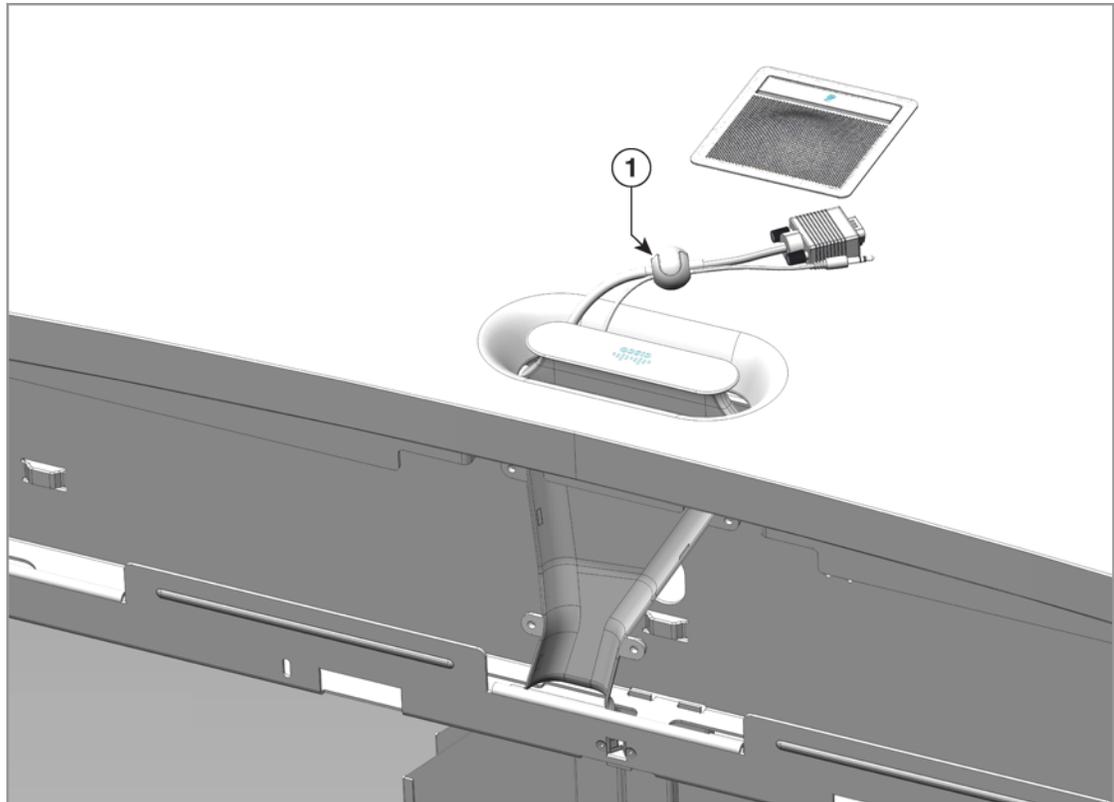


343957

- Step 6** Add the cable management ball to the end of the presentation sharing audio and video cables. This ball keeps the presentation cable from sliding into the cable exit and disappearing into the table.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cable management ball	700-37866-01 Kit #69-2350-xx	1	17	

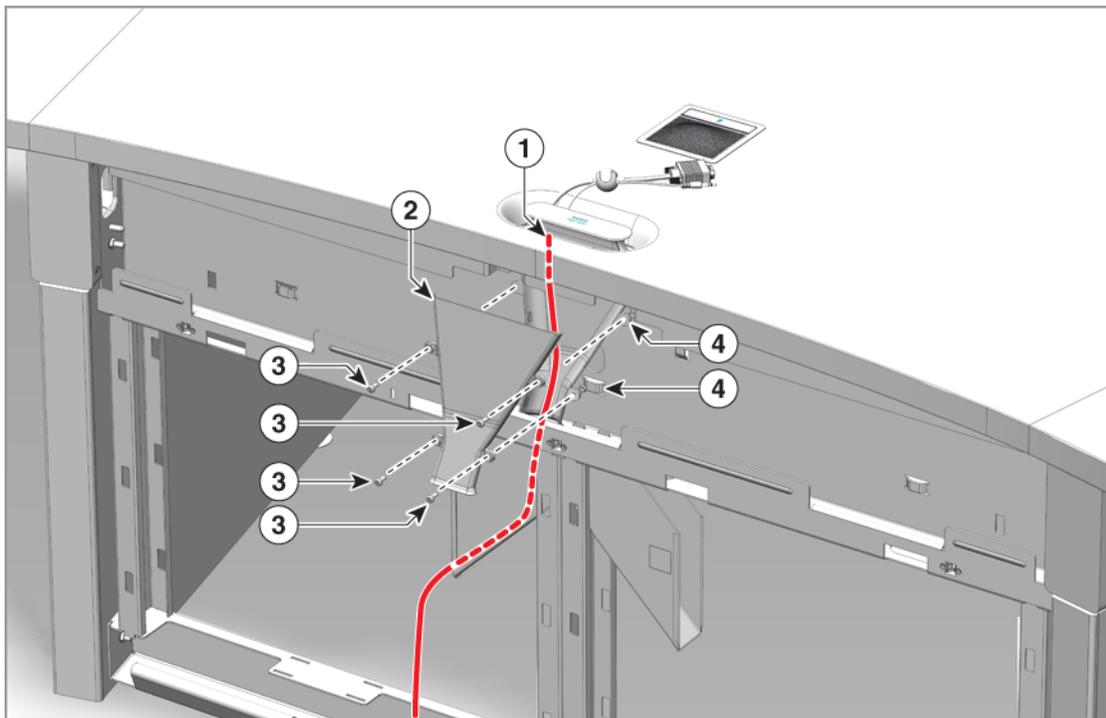
Figure 11-10 Attaching the Cable Management Ball



- Step 7** Route the presentation cable and assemble the inner cable bridge cap to the table assembly by completing the following steps:
- Route the presentation cable into the inner part of the cable bridge (the plastic funnel-shaped assembly in the table).
 - Assemble the inner cable bridge cap (callout 1) to the cable bridge with four screws and nuts, making sure that the presentation cable routes between the cable bridge and the cable bridge cap.
 - Pull the presentation cable out of the hole in the table until there is eight feet (2.5 meter) of slack.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Presentation Cable	N/A	1		Already installed
2	Inner cable bridge cap	700-37739-01 Kit # 69-2332-01	1	2	
3	M4 x 10mm screw	48-2594-01 Kit # 69-2352-01	4	6	
4	M4 nut	49-0746-01 Kit # 69-2362-01	4	6	

Figure 11-11 Installing the Inner Cable Bridge Cap (1 of 2)—Cable Bridge Cap and Presentation Cable



343599

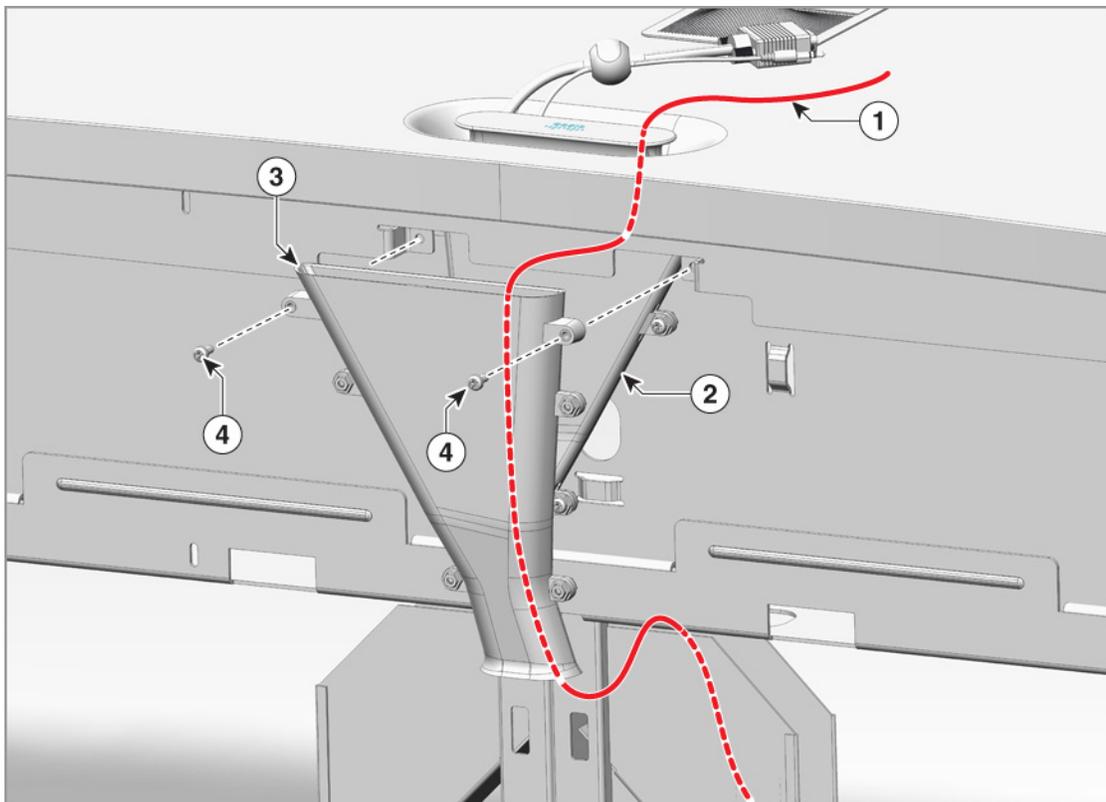
- Step 8** Route the Cisco Touch cable and complete the assembly of the cable bridge by performing the following tasks:
- a. Pull the cable for the Touch device out until there is eight feet (2.5 meter) of slack.
 - b. Place the Touch device cable between the inner cable bridge cap you assembled in [Step 7](#) and the cable bridge.
 - c. Rotate the cable bridge into position and secure the bridge to the table assembly using two screws (callout 4).



Note Make sure that the presentation cable and the Touch cable are in separate routing paths.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cisco Touch cable (5 meter Ethernet cable)		1		Already installed
2	Inner cable bridge cap	700-37739-01 Kit # 69-2332-xx	1	2	
3	Cable bridge	700-27738-01 Kit #69-2332-xx	1	2	
4	M4 x 10mm screw	48-2594-01 Kit #69-2352-01	2	6	

Figure 11-12 Installing the Cable Bridge Cap (2 of 2)—Cable Bridge Cap and Cisco Touch Cable



Step 9 Attach the upper and lower inner privacy panels by completing the following steps:

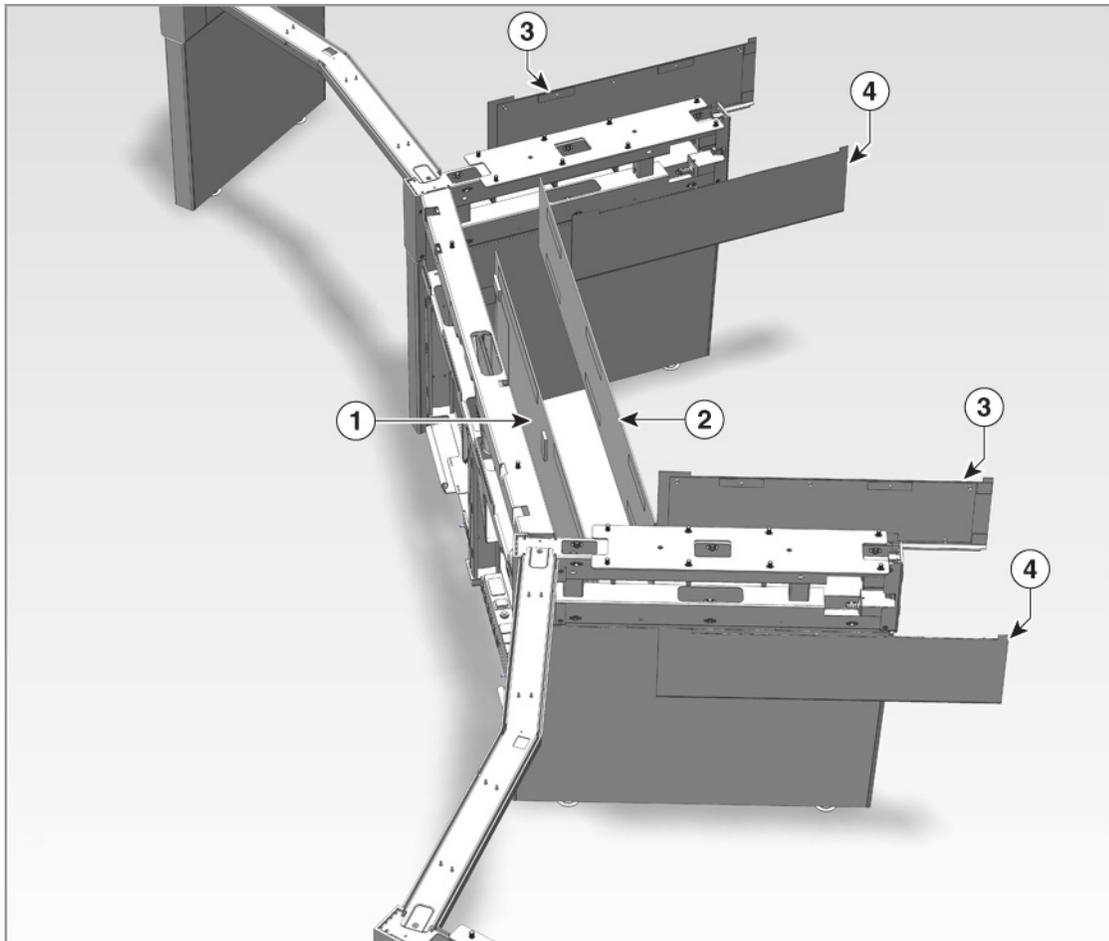
- a. Set the lower privacy panel into place and attach it to the table assembly.
- b. Attach the upper privacy panel.

This panel attaches to the table assembly with magnets.

Step 10 Attach the right and left table leg panels (callouts 3 and 4) by pressing in the ball studs.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center lower privacy panel (inner)	700-37273-01 Kit # 69-2333-xx	1	10	
2	Center upper privacy panel (inner)	700-37176-01 Kit # 69-2327-xx	1	7	
3	Right table leg panel	700-37180-01 Kit # 69-2332-xx	2	N/A	Preattached to the table leg
4	Left table leg Panel	700-37181-01 Kit #69-2332-xx	2	N/A	Preattached to the table leg

Figure 11-13 Attaching the Center Upper and Lower Privacy Panels (Inner)



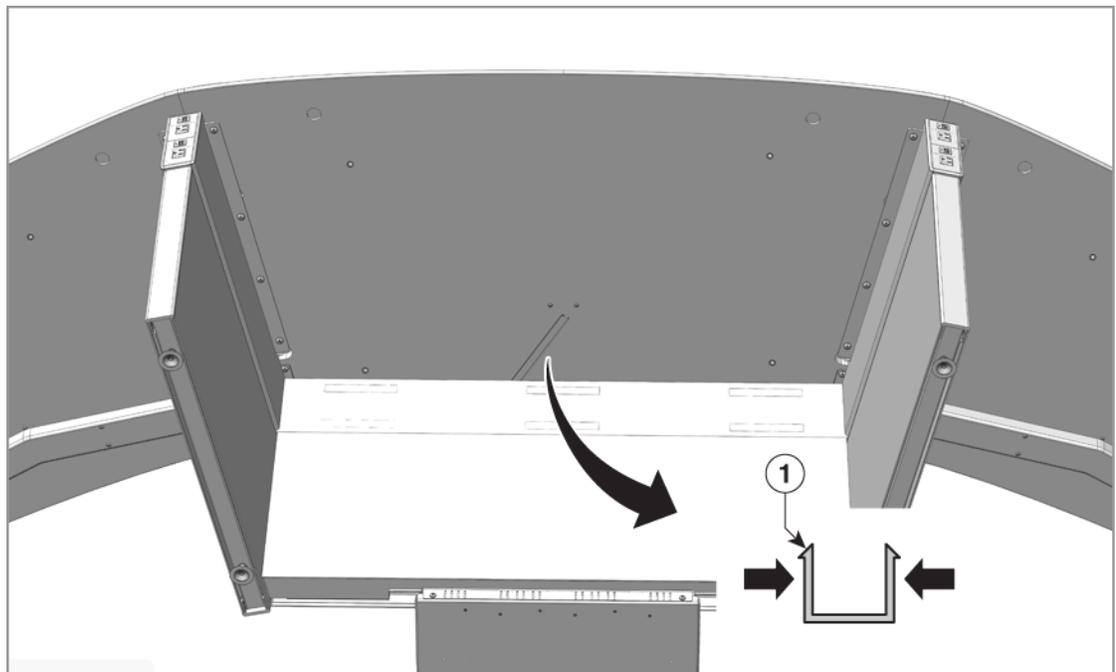
343601

Step 11 Clip the microphone cable cover into place on the underside of the center table.

This clip prevents the microphone cable from dangling from its channel and creates a clean appearance to the underside of the table.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone cable cover	700-37744-01 Kit #69-2338-01	1	2	

Figure 11-14 *Installing the Microphone Cable Cover*



Step 12 Remove the protective plastic film from the table legs.



Building the Second Row Table (TX9200 Systems Only)

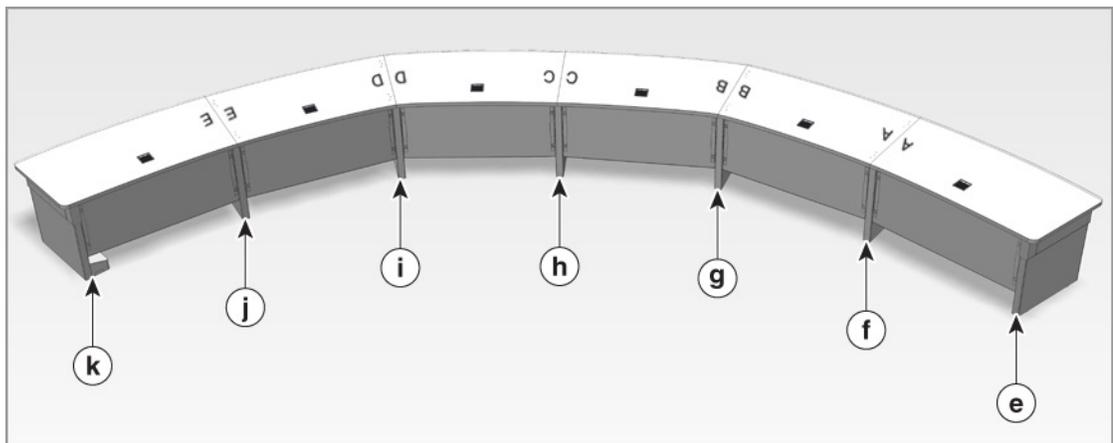
Revised: May 20, 2015, OL-27038-01

This chapter describes the procedures you perform to install the second row table assembly for Cisco TelePresence TX9200 systems.

Numbering Scheme for Table Legs

This chapter uses letters to describe each table leg. For a key to this numbering scheme, see [Figure 12-1](#).

Figure 12-1 Completed Second Row Table Showing Leg Numbering



Assembling the Second Row Table

To assemble the second row table, complete the following steps.

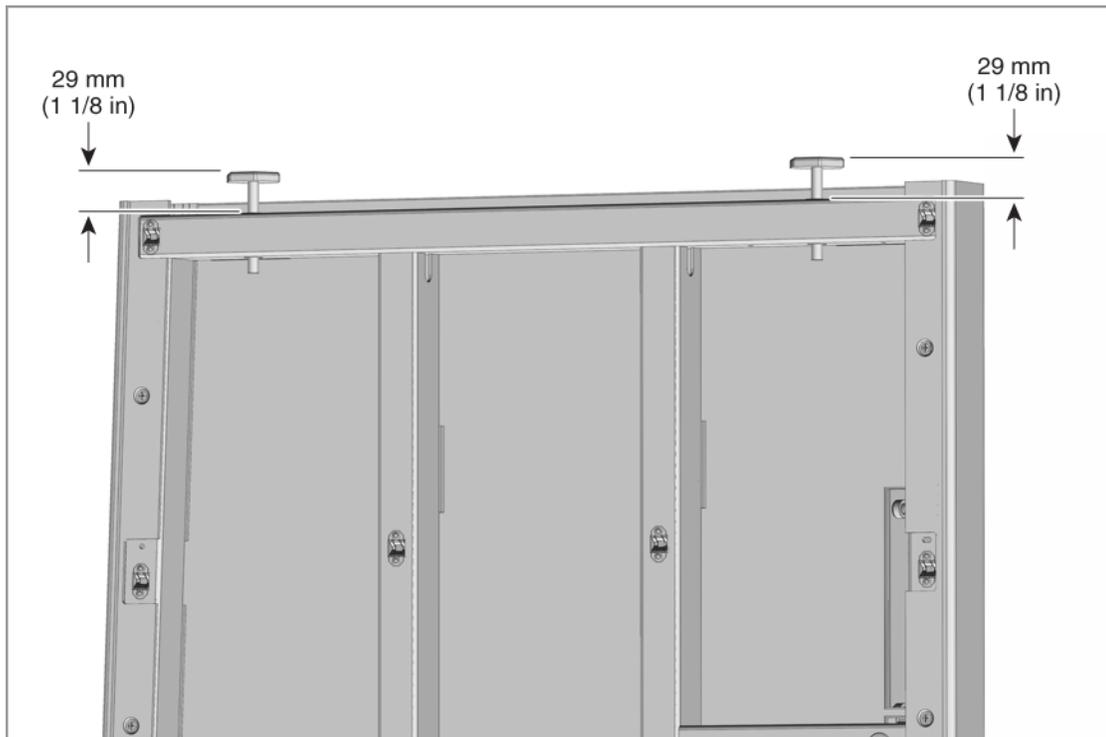
-
- Step 1** Unpack each table leg.
- Step 2** Set the table legs upside-down and place them in approximately the position where they are during the final installation. Use [Figure 12-1](#) to determine where to place the table legs.



Tip Check the label on top of the each legs to determine the placement.

- Step 3** With the leg still upside-down, measure the gap between the hex nut on the leveling foot and the structure.
- Step 4** If required, adjust the nut until the distance between the hex nut and the structure is 22mm.

Figure 12-2 *Adjusting the Leveling Feet on the Table Legs*



Step 5 Join table leg H, table leg I, and the privacy panel bracket together by completing the following procedure:



Note For this step and all successive steps, slightly peel back the protective film on the table legs (enough to expose the space where the structure and the legs join together).

- a. Attach a privacy panel bracket (callout 1 in [Figure 12-3](#)) in between leg H and leg I (callouts 2 and 3).

The lettering scheme for the table legs is shown in [Figure 12-1](#).

- b. Line up the alignment pins to the holes and attach the panel with eight M8 x 16mm screws (callout 4).

These screws, and all screws that attach the privacy panel to the table legs, attach from the rear of the system. [Figure 12-3](#) shows the table legs as if you were standing from the front of the system and facing the second row.

- c. Check that the top surface of each leg are the same height and are level by placing levels on the following places:
 - Set a level on the side of the leg to align the legs vertically.
 - Set a level on top of the table leg, both parallel to and perpendicular to the table leg.



Note You can also use a laser level for this step.



Tip

Do not fully tighten all the screws until you attach all of the table sections.



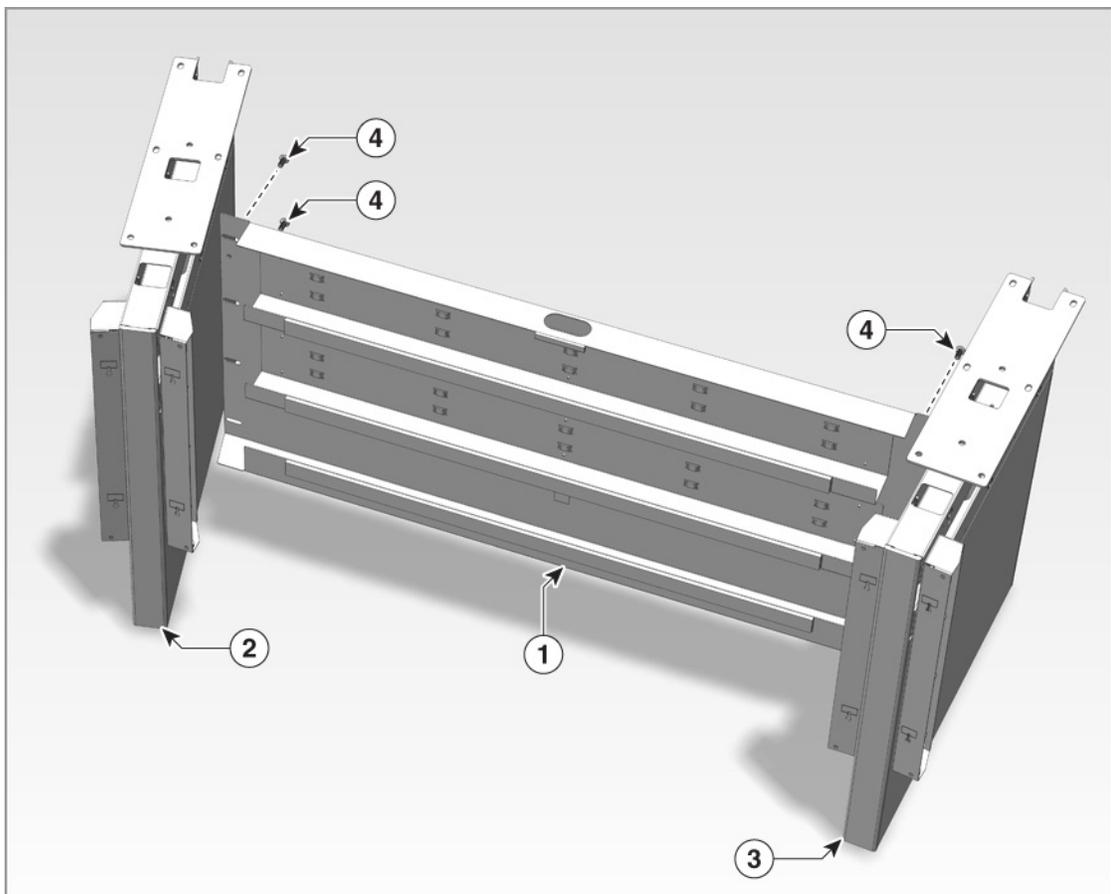
Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Assembling the Second Row Table

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy Panel bracket	700-37511-01 Kit #69-2315-xx	1	52	
2	Leg I	800-37781-01 Kit # 69-2314-xx	1	51	
3	Leg H	800-37780-01 Kit # 69-2314-xx	1	51	
4	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-3 Assembling the Center-Right Privacy Panel Bracket



343606

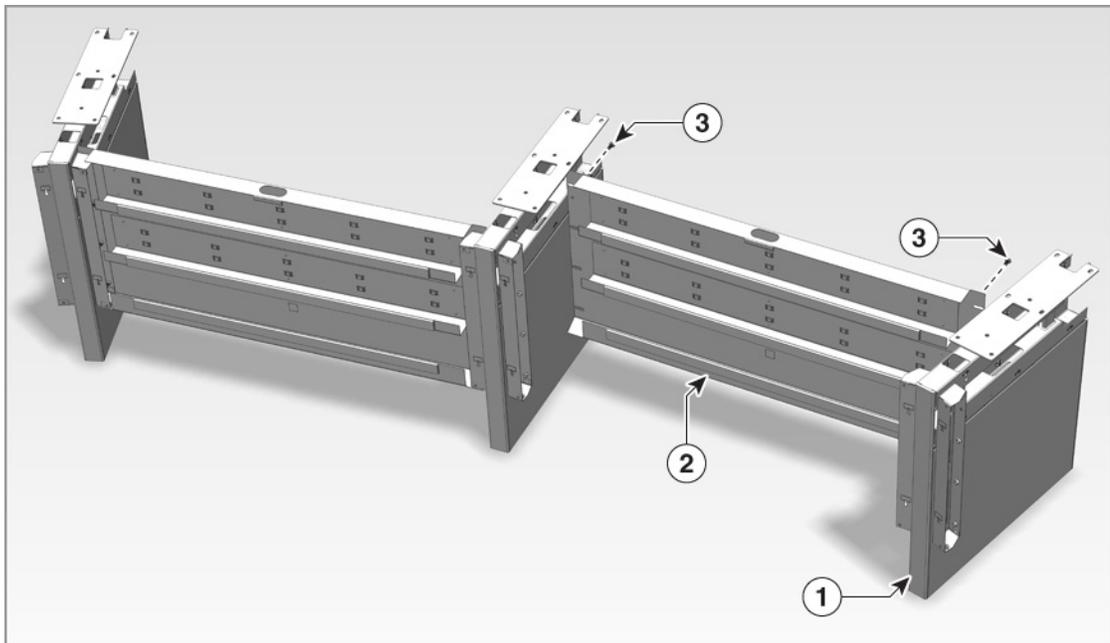
- Step 6** Assemble the privacy panel brackets (callout 3 in [Figure 12-4](#)) between legs G and H using 8 M8 x 16mm screws (callout 2).
- Step 7** Check that the leg G is the same height as the other legs and that the top surface is level.



Caution **USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP.** The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Leg G	800-37779-01 Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-01 Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-4 *Assembling the Center-Left Privacy Panel Bracket*



343607

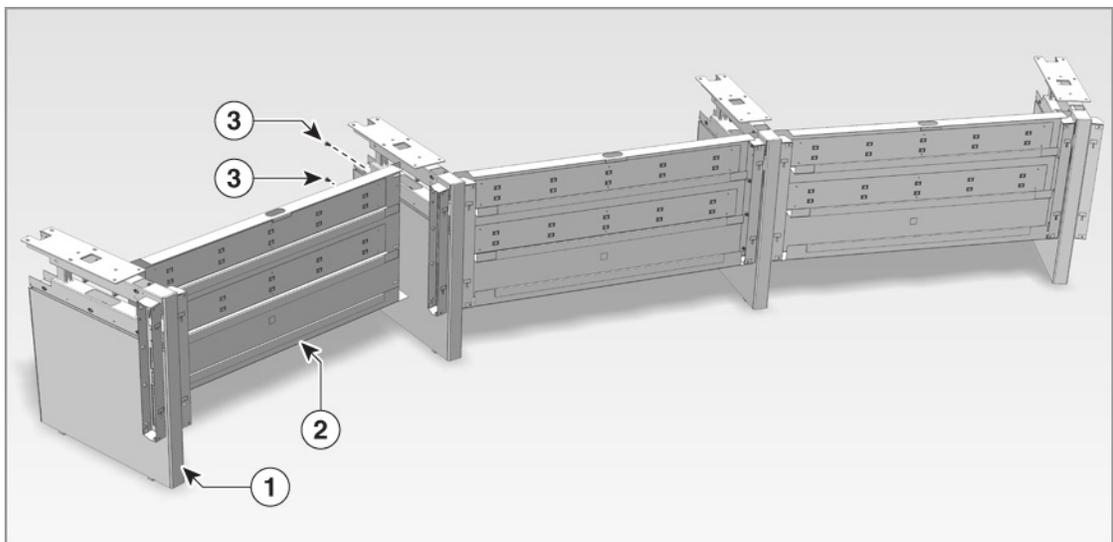
- Step 8** Assemble the privacy panel bracket (callout 2 in [Figure 12-5](#)) between legs I and J using 8 M8x 16mm screws (callout 3).
- Step 9** Check that the leg J is the same height as the other legs and that the top surface is level.

**Caution**

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Leg J	800-37782-01 Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-01 Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-5 Assembling the Mid-Right Privacy Panel Bracket



343608

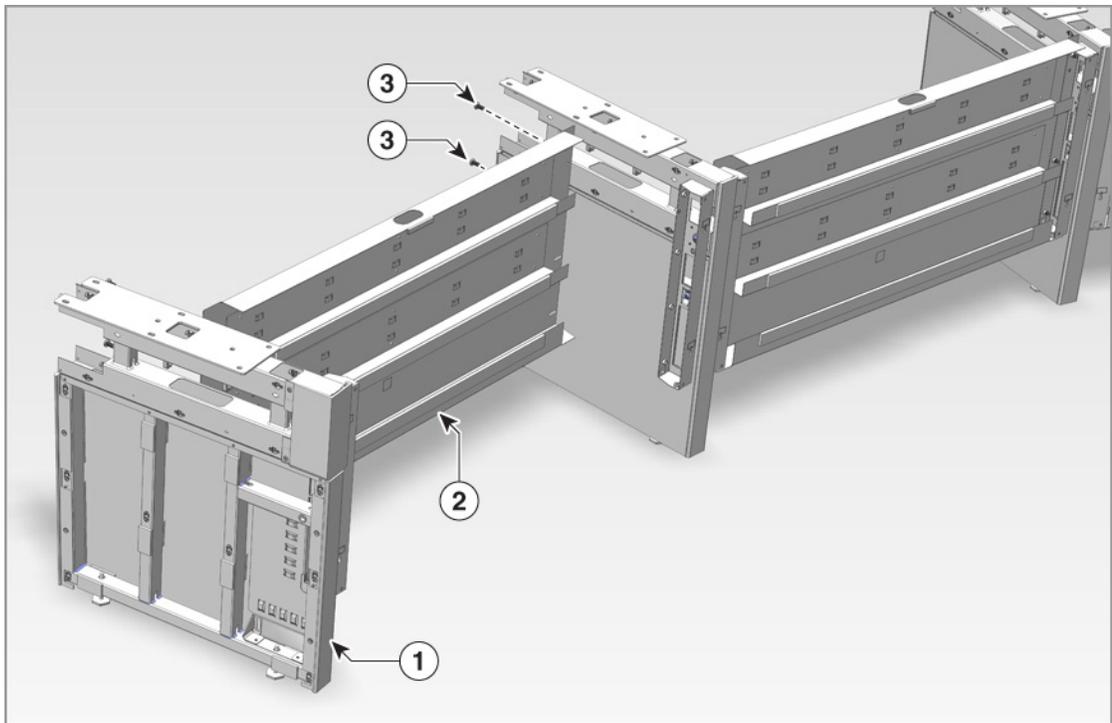
- Step 10** Assemble the privacy panel bracket (callout 2 in [Figure 12-6](#)) between legs J and K using 8 M8x 16mm screws (callout 3).
- Step 11** Check that the leg K is the same height as the other legs and that the top surface is level.



Caution **USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP.** The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Leg K	800-37778-01 Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-01 Kit # 69-2314-xx	1	51	
3	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-6 *Assembling the Far Right Privacy Panel Bracket*



343609

Step 12 Assemble the privacy panel bracket (callout 2 in [Figure 12-7](#)) between legs F and G using 8 M8x 16mm screws (callout 3).

Step 13 Check that the leg F is the same height as the other legs and that the top surface is level.

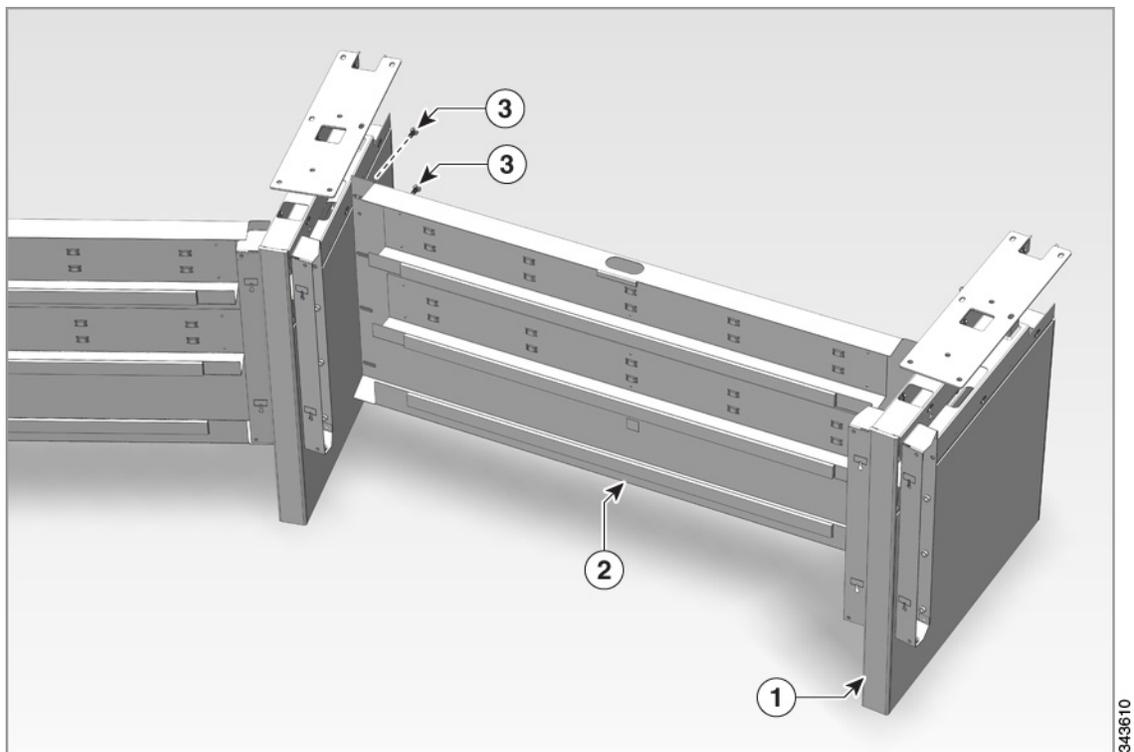


Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Leg F	800-37777-01 Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-01 Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-7 Assembling the Mid-Left Privacy Panel Bracket



343610

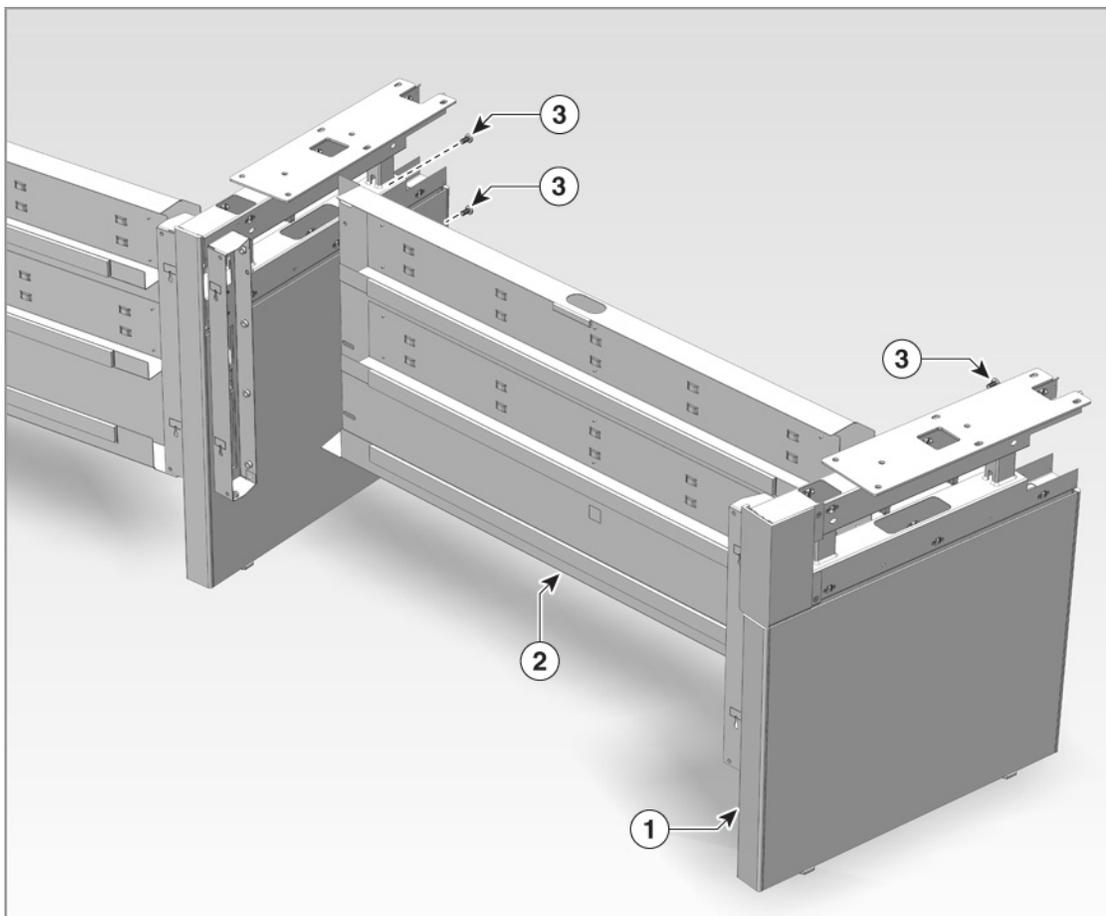
- Step 14** Assemble the privacy panel bracket (callout 2 in [Figure 12-8](#)) between legs E and F using 8 M8x 16mm screws (callout 3).
- Step 15** Check that the leg E is the same height as the other legs and that the top surface is level.

**Caution**

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Leg E	800-37776-01 Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-01 Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	8	47	

Figure 12-8 Assembling the Far Left Privacy Panel Bracket



343611

- Step 16** Measure the distance between the first and second row table assemblies and adjust the distance as required.

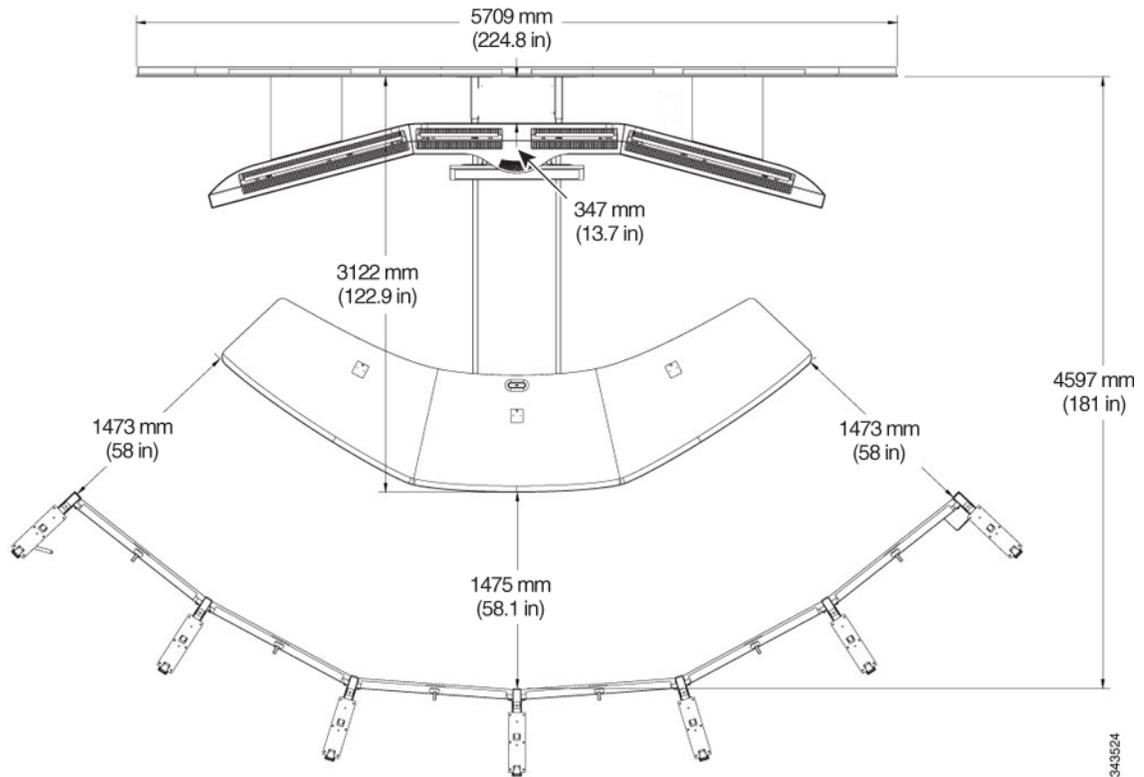


Note Make sure that the table legs are vertically level. If required, loosen the screws and adjust the vertical level of the table legs, then retighten them.



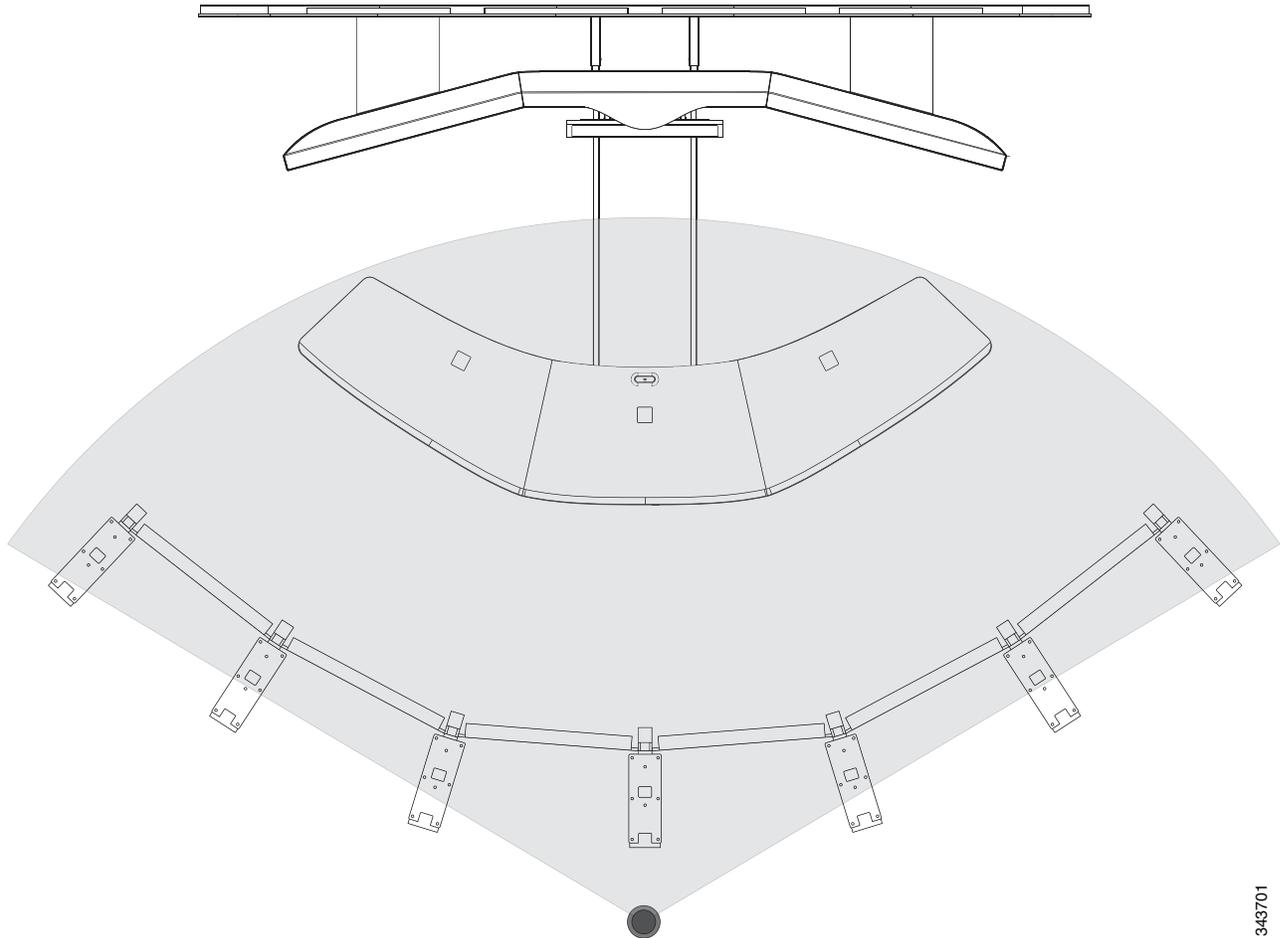
Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table assembly.

Figure 12-9 Measuring the Distance Between the First and Second Row Table Assemblies



- Step 17** Make sure that the first and second row tables are the same height by completing the following steps:
- Set up a laser level behind the second row.
 - Align the top of the table legs with the bottom of the wooden tabletops on the first row.

Figure 12-10 *Aligning the First and Second Row Tables*



3-43701

Step 18 Assemble the power/Ethernet outlet assembly by completing the following steps:

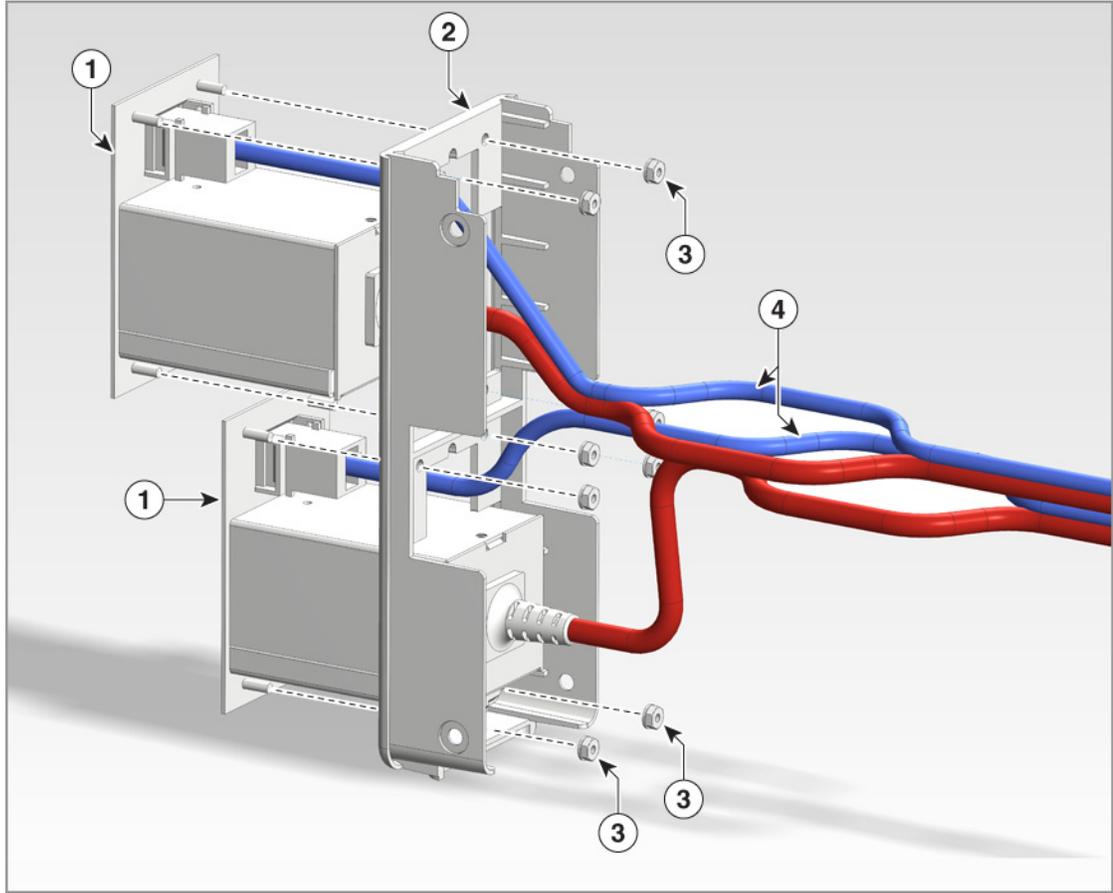
- a. Attach two power/Ethernet outlets (callout 1) into the front of the table leg cover (callout 2) using eight nuts (callout 3).
- b. Connect the Ethernet cables (callout 4) and, if applicable, the power jumper cables to the power/Ethernet outlets.



Note Note the orientation of the power/Ethernet outlets; you can only install them in one orientation.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlets	See “Notes” section.	10	54, 55, 56	Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	Power/Ethernet outlet cover, front	700-37102-01 Kit #69-2350-xx Except South Africa (see Notes)	5	51	The South Africa outlet cover is specific to the outlet. Find the covers with the country-specific power outlet.
3	M3 nut	49-0833-01	40		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-01 Kit # 69-2351-xx	10	48	

Figure 12-11 Assembling the Power/Ethernet Outlets

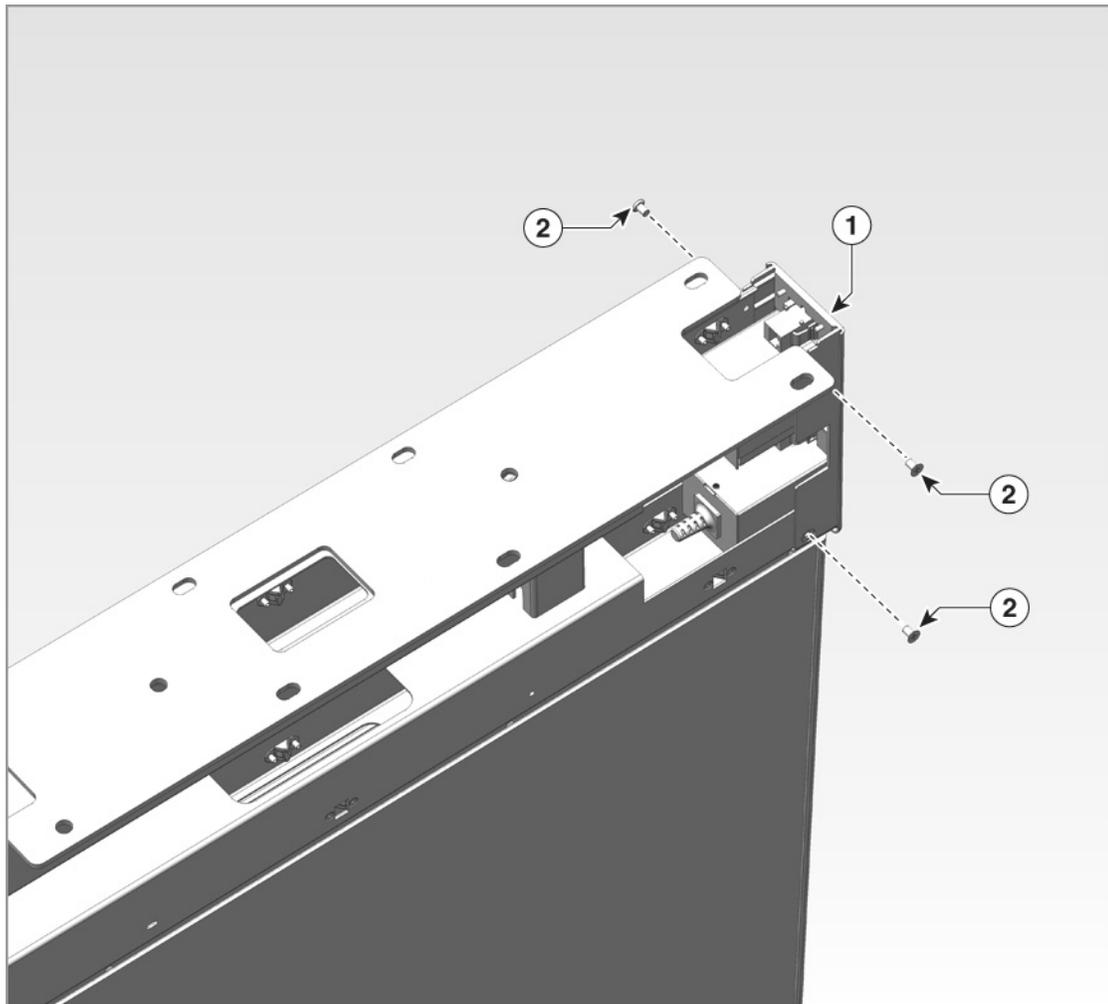


343612

Step 19 Connect the power/Ethernet assemblies to the table assembly (four screws per assembly).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet assembly	See Notes	5		Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	M5 flat head screws	48-2430-xx Kit # 69-2353-xx Subkit #53-3798-xx	20	47	

Figure 12-12 Connecting the Power/Ethernet Assemblies to the Table Assembly



343613

Step 20 Assemble the outside power/Ethernet connections by completing the following steps:

- a. Assemble power/Ethernet outlet (callout 1) into the lower hole in the power/Ethernet outlet cover (callout 2) using M3 nuts that are included in the outlet kit (callout 3).
- b. Attach an ethernet cable (callout 4) and, if required, a power cable to the power/Ethernet outlet.

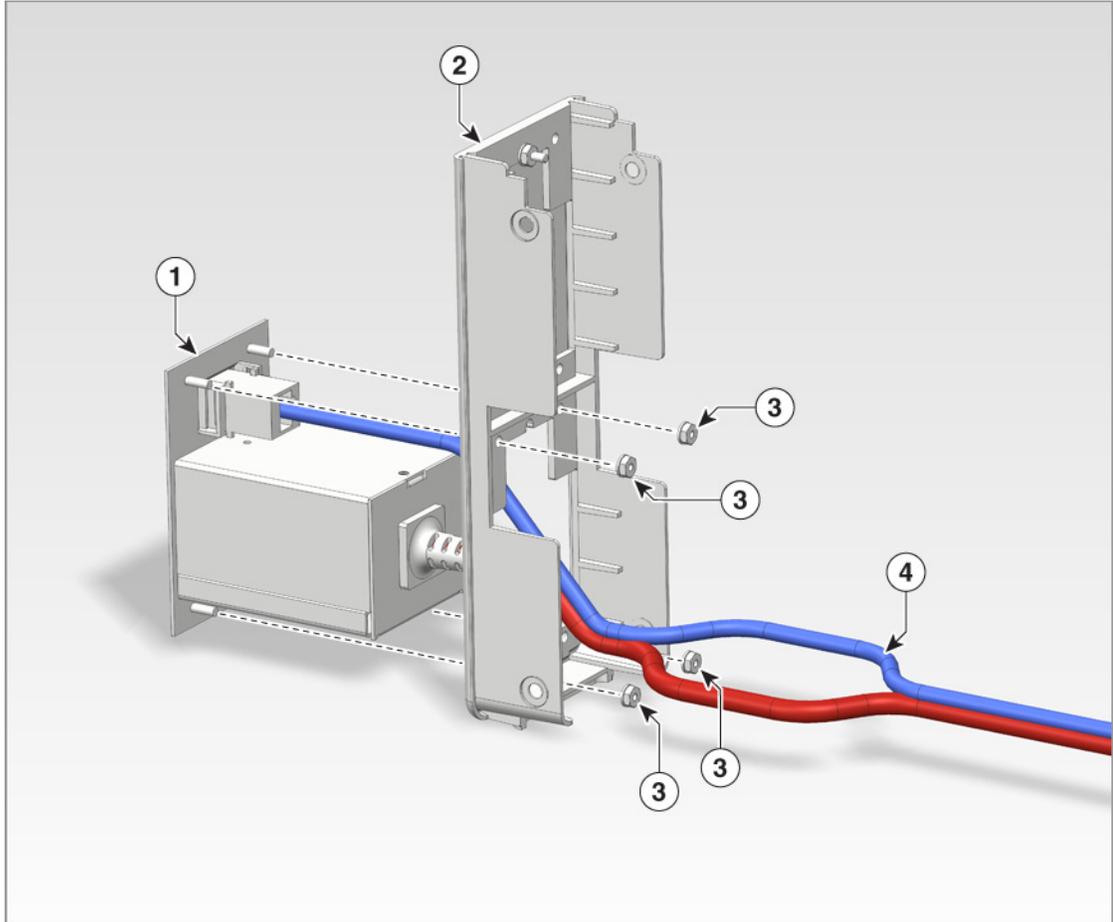


Note Use the long Ethernet cable (callout 5) for table leg E.

- c. Repeat Steps a. through b. for the other outside outlet.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet	See Notes	2		Part number varies by country. Refer to Appendix C, "Region- and Country-Specific Power Cords and Table Leg Power Connectors," for the correct part number.
2	Outside power/Ethernet outlet cover	800-37949-01 Kit # 69-2314-01	2	51	
3	M3 nut	49-0833-01	8		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-01 Kit # 69-2351-xx	1	48	
5	Ethernet cable, 17 meter (55 1/2 feet)	37-1403-01 Kit # 69-2351-xx	1	48	

Figure 12-13 Assembling the Outside Power/Ethernet Connections



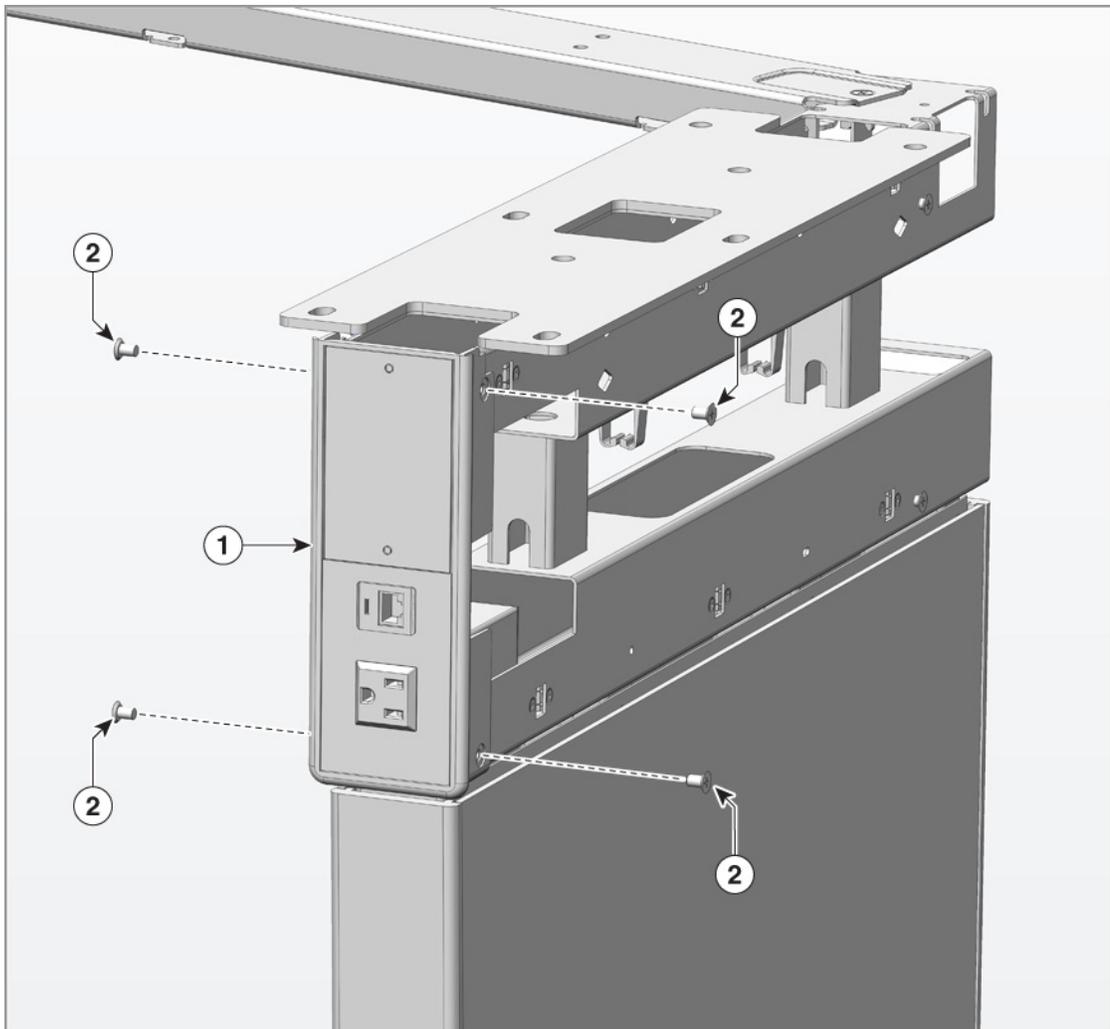
Step 21 Insert the power/Ethernet outlet assemblies you built in [Step 20](#) into the outside table legs.



Note Make sure that you place the assembly with the long Ethernet cable in table leg E.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet assembly	N/A	2		Already assembled
2	M5 flat head screw	48-0811-xx Kit #69-2354-xx Subkit # 53-3798-xx	4	47	

Figure 12-14 Installing the Power/Ethernet Outlets to the Outside Table Legs



- Step 22** Connect the Power Distribution Units (PDUs) and power jumper cables by completing the following steps:
- Assemble 2 PDUs (callout 1) into the privacy panels between legs F and G, and I and J, using 2 M3 nuts (callout 2) for each PDU.
 - Connect the power cables from legs F, G, and H to the PDU between legs F and G.
 - Connect the power cables from legs I, J, K, and E to the PDU between legs I and J.

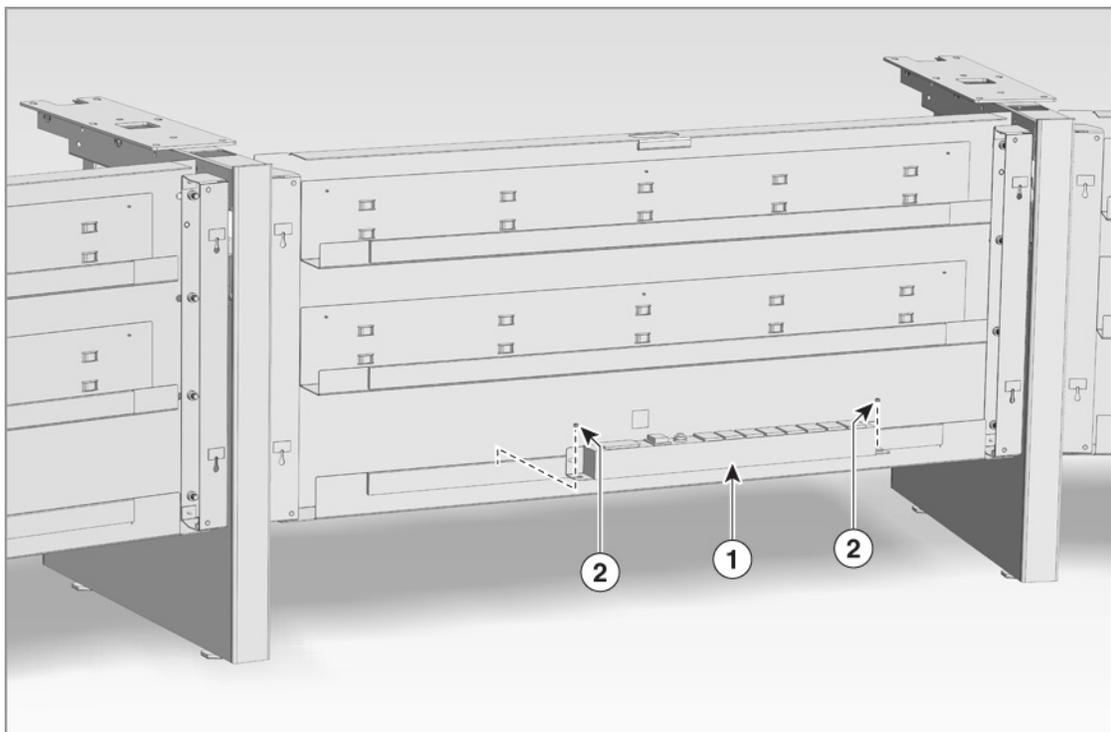


Note Connect both outside leg PDUs (leg E and leg K) to the PDU between legs I and J; this method ensures that each PDU has six connections.

- Use the velcro straps to route the cables cleanly.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	PDU	74-8655-01	2	49, 50	
2	M3 nut	49-0376-xx Kit # 69-2419-xx Subkit # 53-3798-xx	4	47	
3	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 12-15 .

Figure 12-15 Placing the PDUs Into the Privacy Panel Channels



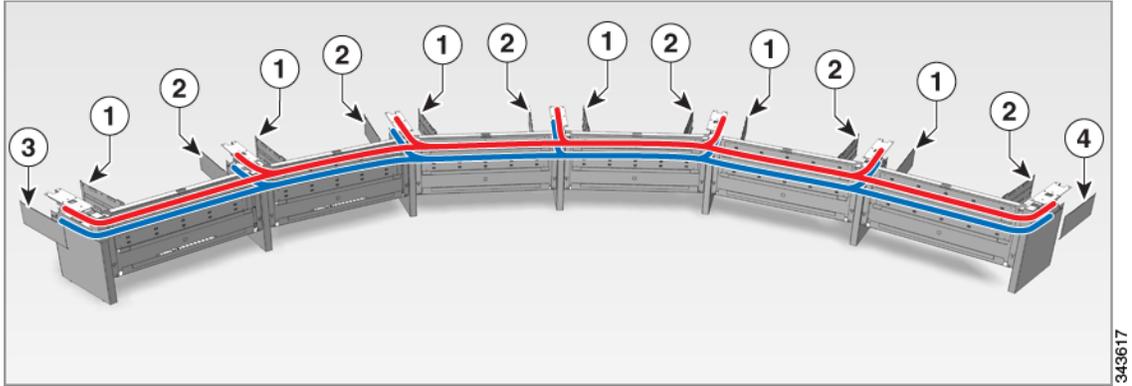
343616

- Step 23** Connect the power cables, and route and connect the power and Ethernet cables, by completing the following steps:
- a. Attach jumper cables to the second row PDUs and route the cables to the right (the side nearest table leg K). These cables are shown in blue in [Figure 12-16](#).
Use two jumper cables to connect the power outlets for legs E, F, and G. You connect a total of six jumper cables.
 - b. Route the cables for the second row table as shown in [Figure 12-16](#).
 - Place the power cables in the bottom row of the cable trays.
 - Place the Ethernet cables in the middle row of the cable trays.
 - c. Neatly bundle any excess cable and secure the cables with Velcro straps (callout 1).
Use Velcro straps (callout 1) to cleanly route the cables.
 - d. Attach the table leg side panel assemblies (callouts 2, 3, 5, and 6).
 - e. Level the table assembly using a laser level and the diamond marks on the sides of the legs as a reference point.

**Note**

For additional cabling information, see [Chapter 10, “Connecting and Routing the Cables.”](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg side panel assembly, second row left	700-37182-xx Kit # 800-37777-xx Subkit # 69-2314-xx	6	51	
2	Table leg side panel assembly, second row right	700-37183-01 Kit # 800-37777-xx Subkit # 69-2314-xx	6	51	
3	Table leg side panel assembly, second row far right	700-37722-01 Kit # 800-37778-xx Subkit # 69-2314-xx	1	51	
4	Table leg side panel assembly, second row far left	700-37721-01 Kit # 800-37776-xx Subkit # 69-2314-xx	1	51	
5	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 12-16
6	Power jumper cables	37-0833-xx Kit # 69-2351-xx	6	48	Not shown in Figure 12-16

Figure 12-16 Routing the Cables and Attaching the Table Leg Panels

Step 24 Assemble table sections A and B by completing the following steps:

- a. Position table sections A and B on top of the table structure **the correct way up** and slightly offset from their final position so you have access to the attachment points underneath the table tops.



Note The images in [Figure 12-17](#) are shown upside-down for clarity.

One person may have to support the parts while the other person follows the below steps and assembles from below.

- b. Install four wooden biscuits (callout 3) into the slots; then, gently push the table sections together.
- c. Position the two half-moon table joiners (callout 4) and tighten them to bring the tables together.
- d. Attach two joint plates (callout 5) using 12 screws (callout 6).



Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

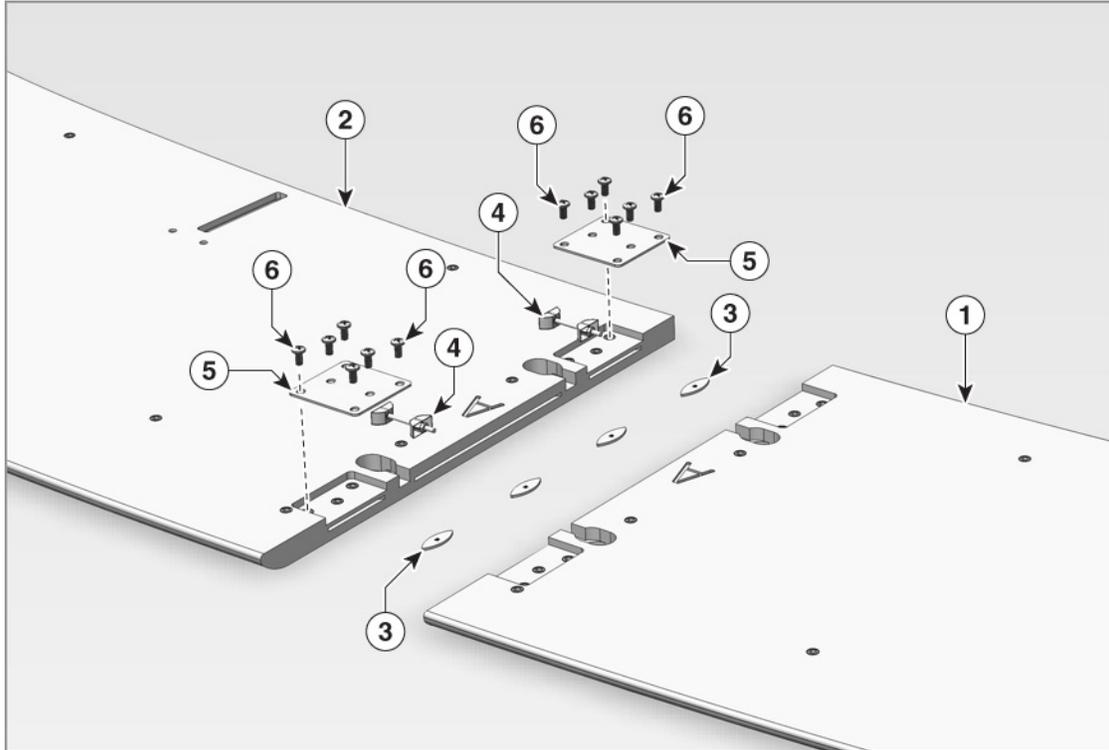


Note

The natural woods that are used for the tabletop finishes have a unique color, grain, and texture; as a result, there may be slight variations in grain between the table sections due to the natural formation of the wood.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section A	700-37147-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
2	Second row table section B	700-37148-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
3	Wooden biscuits	700-23909-01 Kit # 69-2299-01	4	51	
4	Half-moon table joiners	51-6068-01 Kit # 69-2299-01	2	51	
5	Joint plates	700-23345-01 Kit # 69-2314-01	2	51	
6	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	12	47	

Figure 12-17 Connecting Table Sections A and B



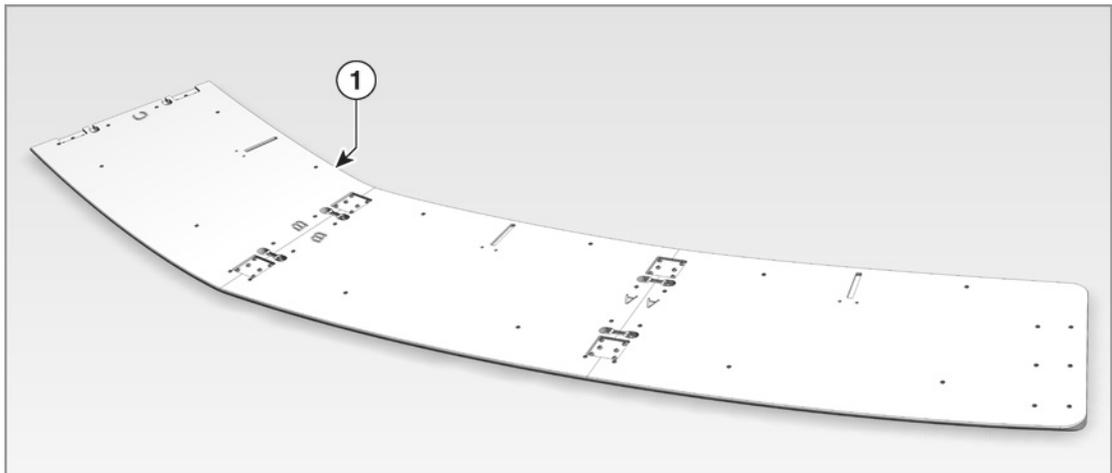
- Step 25** Assemble table section C to the table sections A and B by completing the following steps:
- Position table section C (callout 1) beside table sections A and B.
 - Install four wooden biscuits (callout 2) into the slots; then, gently push the table sections together.
 - Position the 2 half-moon table joiners (callout 3) and tighten them to bring the tables together.
 - Attach two joint plates (callout 4) using 12 screws (callout 5).



Note The images in [Figure 12-18](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section C	700-37149-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 12-18 Connecting Table Section C to Sections A and B



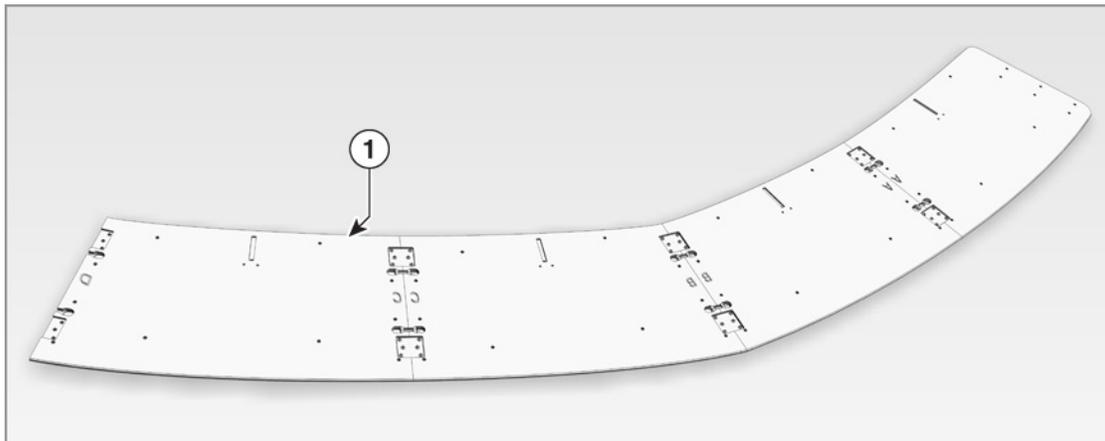
- Step 26** Assemble table section D to the assembled table sections by completing the following steps:
- Position table section D (callout 1) next to the assembled table sections.
 - Install four wooden biscuits (callout 2) into the slots; then, gently push the table sections together.
 - Position the 2 half-moon table joiners (callout 3) and tighten them to bring the tables together.
 - Attach two joint plates (callout 4) using 12 screws (callout 5).



Note The images in [Figure 12-19](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section D	700-37150-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 12-19 Connecting Table Section D to the Assembled Table Sections



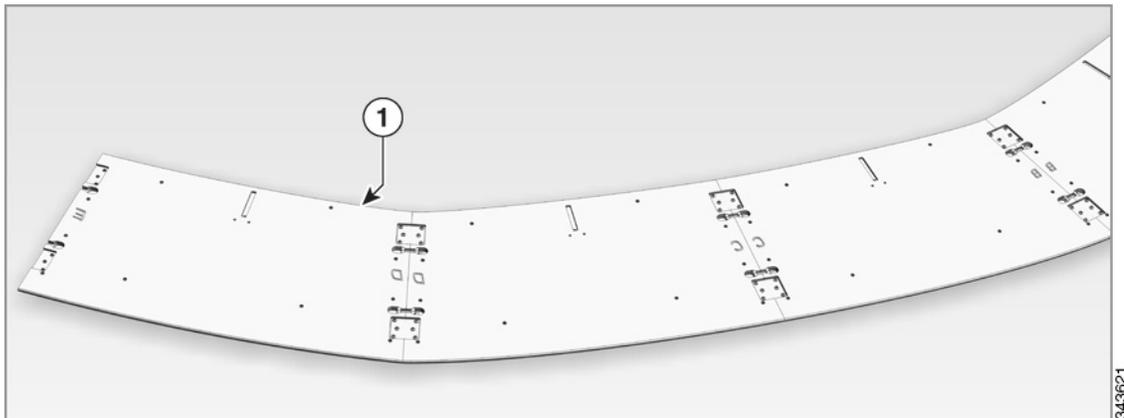
- Step 27** Assemble table section E to the assembled table sections by completing the following steps:
- Position table section E (callout 1) next to the assembled table sections.
 - Install four wooden biscuits (callout 2) into the slots; then, gently push the table sections together.
 - Position the 2 half-moon table joiners (callout 3) and tighten them to bring the tables together.
 - Attach two joint plates (callout 4) using 12 screws (callout 5).



Note The images in [Figure 12-20](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section E	700-37151-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 12-20 Connecting Table Section E to the Assembled Table Sections



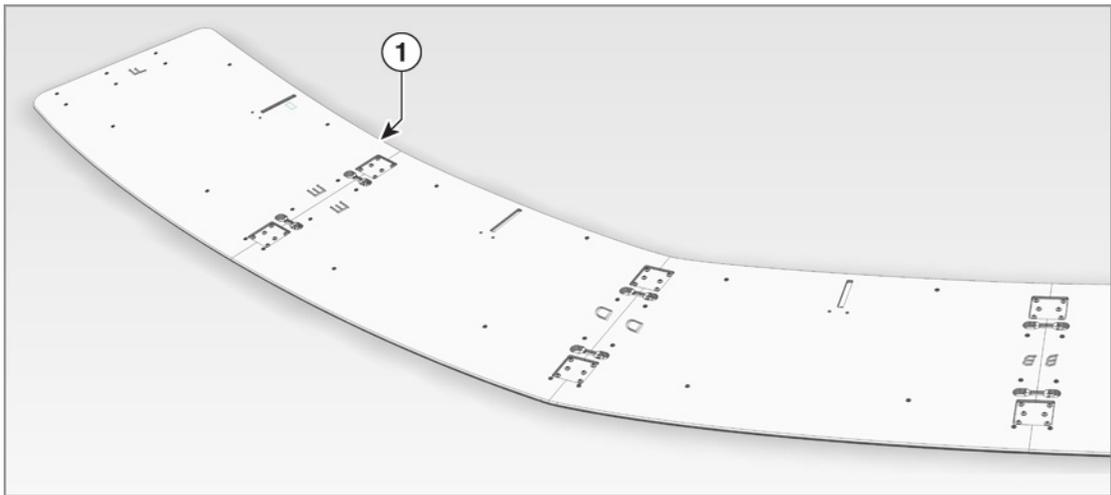
Step 28 Assemble table section F to the assembled table sections by performing the same steps as [Step 27](#).



Note The images in [Figure 12-21](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section F	700-37152-01 Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 12-21 Connecting Table Section F to the Assembled Table Sections



349622

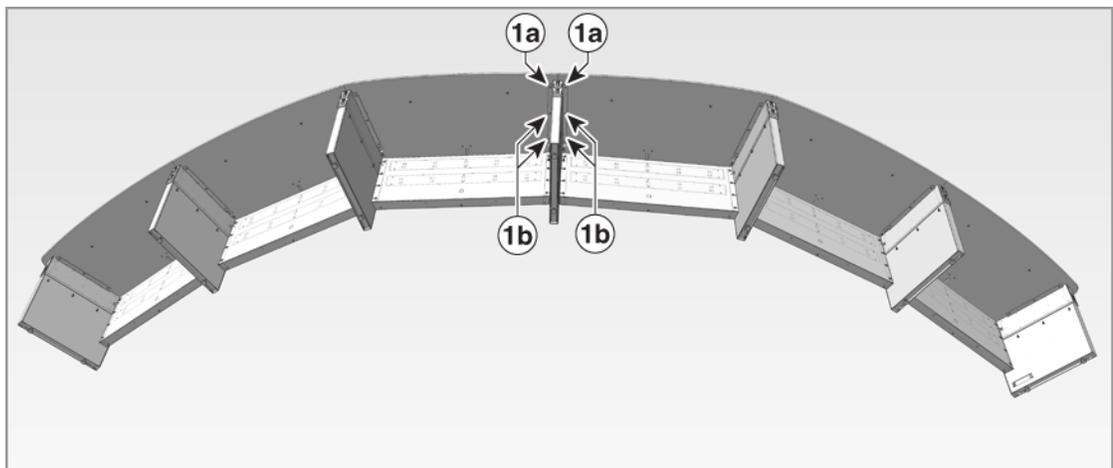
- Step 29** Secure the table sections to the table legs by completing the following steps:
- Slide the table top to line up the two holes nearest the 65-inch displays on leg H.
 - Put in two screws (shown as callout 1a in [Figure 12-22](#)), but do not fully tighten them.
 - Loosely screw in the two screws nearest the 65-inch displays for each leg.
 - Insert the screws farthest away from the displays (shown as callout 1b in [Figure 12-22](#)) for all table legs.
 - Fully tighten the screws you inserted in Steps a. through d.

**Caution**

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-01	42	47	

Figure 12-22 Connecting the Table Sections to the Table Legs

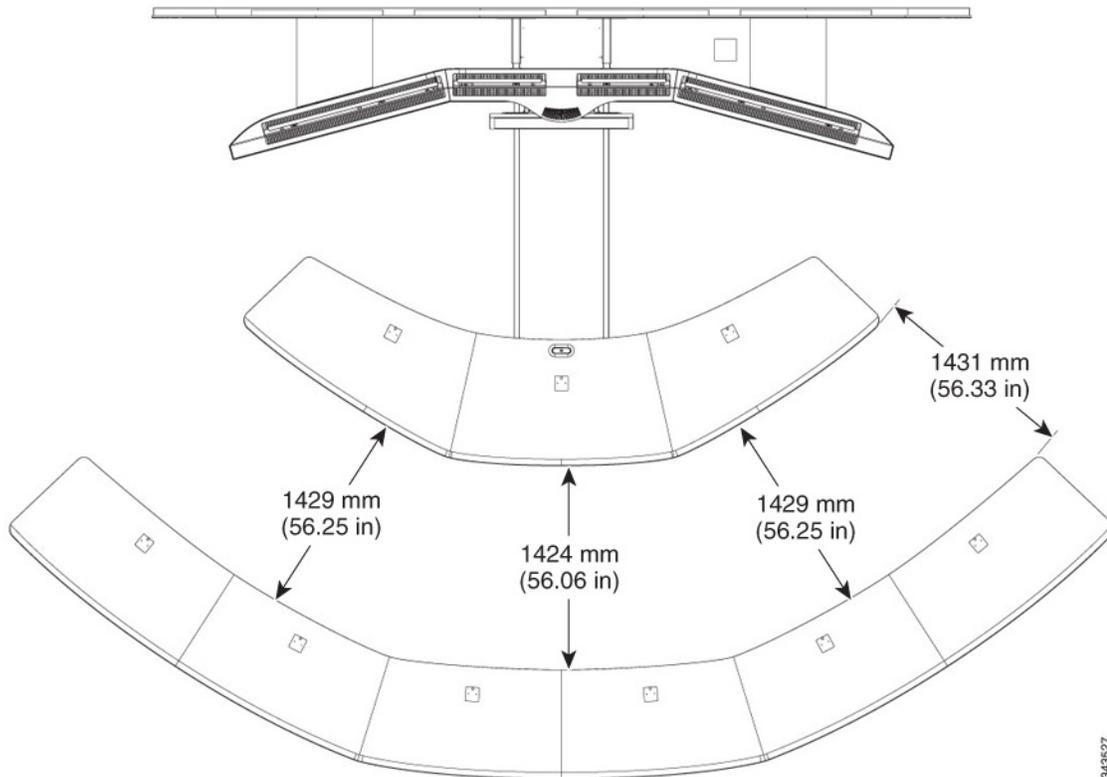


Step 30 Perform final measurements between the first and second row tables and move the second row table as required.



Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table.

Figure 12-23 Distance Between the First and Second Row



343527

Step 31 Install the microphones by completing the following steps:

- a. Install the microphone assemblies (callout 1) with the mute button facing away from the 65-inch displays, using 2 M4 x 30mm screws (callout 2).
- b. Feed the microphone cable into the privacy panel bracket.

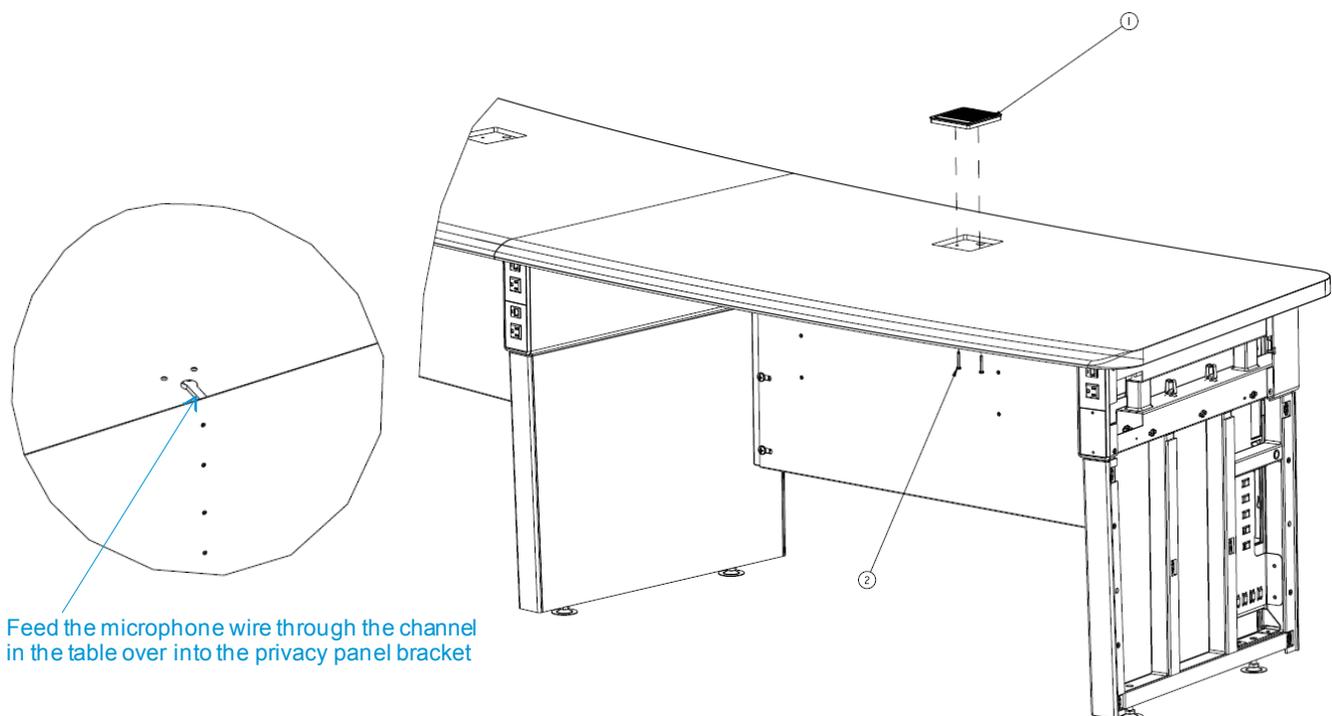


Note Make sure that the cable goes into the channel that is shown in [Figure 12-24](#).

- c. Assemble the other 5 microphones by repeating Steps a. and b.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone assembly	74-10241-01 CTS-TX9K-MIC	6	67-72	
2	M4 x 30mm screw	N/A	12		Included with the microphone kit

Figure 12-24 Installing the Microphones Into the Table Tops



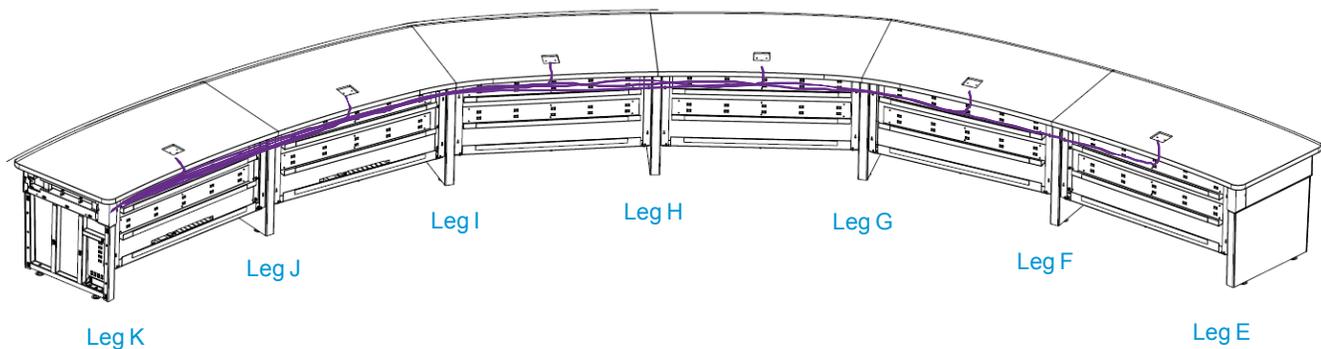
- Step 32** Connect the microphone extension cables to the microphones and route the cables by completing the following steps:
- Connect the microphone extension cables (callout 1) to the microphone cables.
 - Route all the microphones cables along the top row of the cable trays.
 - Use velcro straps to secure the cables (callout 2).

**Note**

Use one additional extension cable for the microphones between F and G, and G and H. Use two additional extension cables for the microphone between legs E and F.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone extension cable	37-0931-01 Kit # 69-2351-01	7	48	
2	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.

Figure 12-25 Connecting the Microphone Extension Cables



- Step 33** Complete cabling of the second row and attach the outer leg panel and electrical egress box by completing the following steps:
- a. Run all the cables into leg K.
 - b. Use velcro straps (callout 1) to secure the cables.
 - c. Run the cables into the floor opening; then, attach the electrical egress box assembly (callout 2 or callout 5) using 2x screw (callout 3).

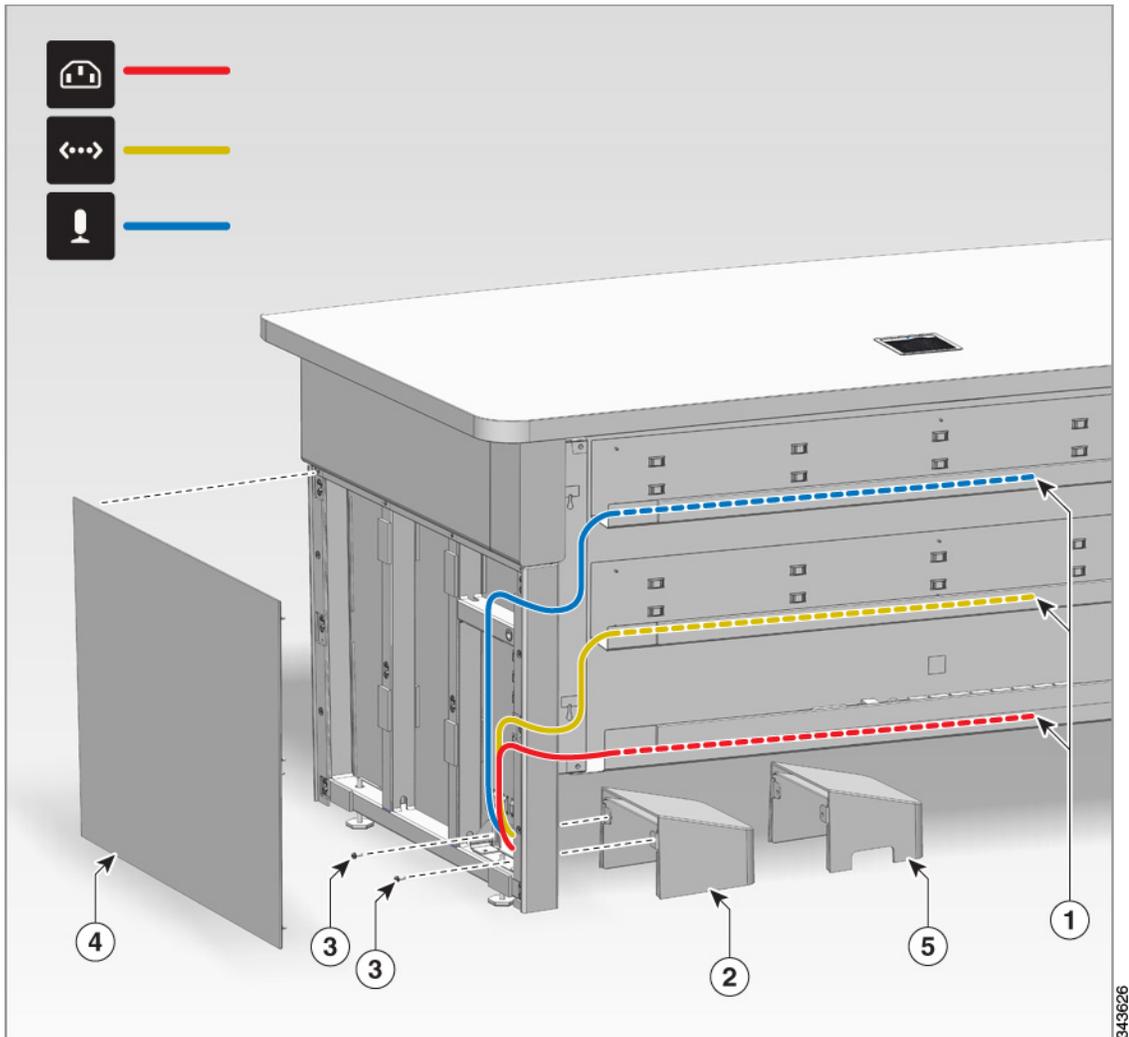
**Note**

Use electrical egress box 800-37783-01 if floor has a trench; use electrical egress box 800-37909-01 if cables will run above the ground.

- d. Ensure that all cables are neatly routed inside of the table leg, as the cables could prevent assembly of the outer leg panel.
- e. Attach the outer leg panel (callout 4).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.
2	Electrical egress box for floors with trench	800-37783-01 Kit # 69-2314-01	1	51	
3	M4 x 12mm screw	48-2426-01 Kit #69-2358-01 Subkit #53-3789-xx	2	6	
4	Outer leg panel	700-37281-01 Kit #800-37778-xx Subkit # 69-2314-01	1	51	
5	Electrical egress box with mouse hole (for floors with above-ground wiring egress)	800-37909-01 Kit # 69-2314-01	1	51	

Figure 12-26 Routing the Cables and Attaching the Outer Leg Panel and Electrical Egress Box



Step 34 Assemble the privacy panel cosmetic covers (callouts 1 to 4) by completing the following steps:

- a. Slide the keyholes for privacy panel 1 the privacy panel into the aligning studs in the table structure; then, slide the panels upwards, making sure to apply pressure to the sides when you are pushing up.

Follow the numbering in [Figure 12-27](#) to determine the correct privacy panel to use.



Note Two people may be required for this step.

- b. Assemble the 3 screws (callout 5) from underneath to hold each panel.
- c. Repeat Steps a. through b. for the remaining privacy panels.

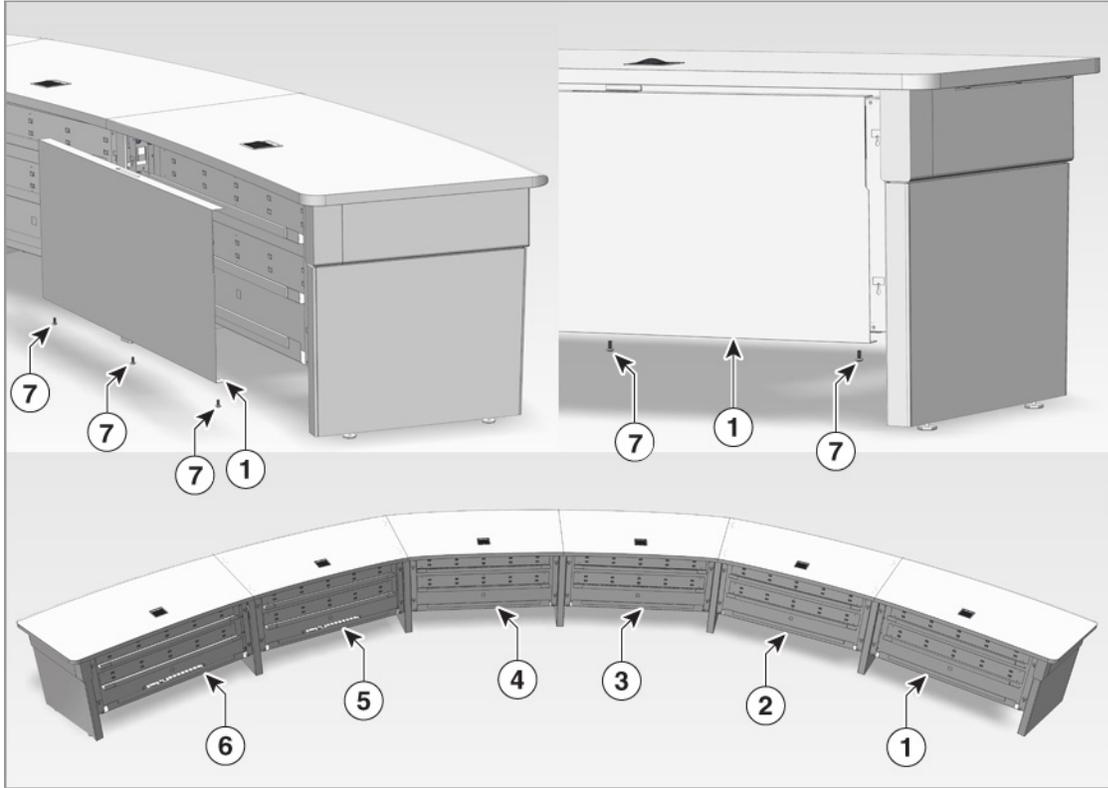


Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy panel, 1	700-37591-01 Kit # 69-2321-xx	1	53	
2 and 5	Privacy panel, 2 and 5	700-37592-01 Kit # 69-2321-xx	2	53	
3 and 4	Privacy panel, 3 and 4	700-37593-01 Kit # 69-2321-xx	2	53	
6	Privacy panel, 6	700-37594-01 Kit # 69-2321-xx	1	53	
7	M8 x 16mm pan head screws, black	48-2430-01 Kit # 53-3798-01 Subkit # 69-2353-xx	18	47	

Figure 12-27 Assembling the Privacy Panels



- Step 35** Snap the microphone cable covers (callout 1) into the underside of the tables by squeezing the component as shown in [Figure 12-28](#) and placing it into the cable slot.

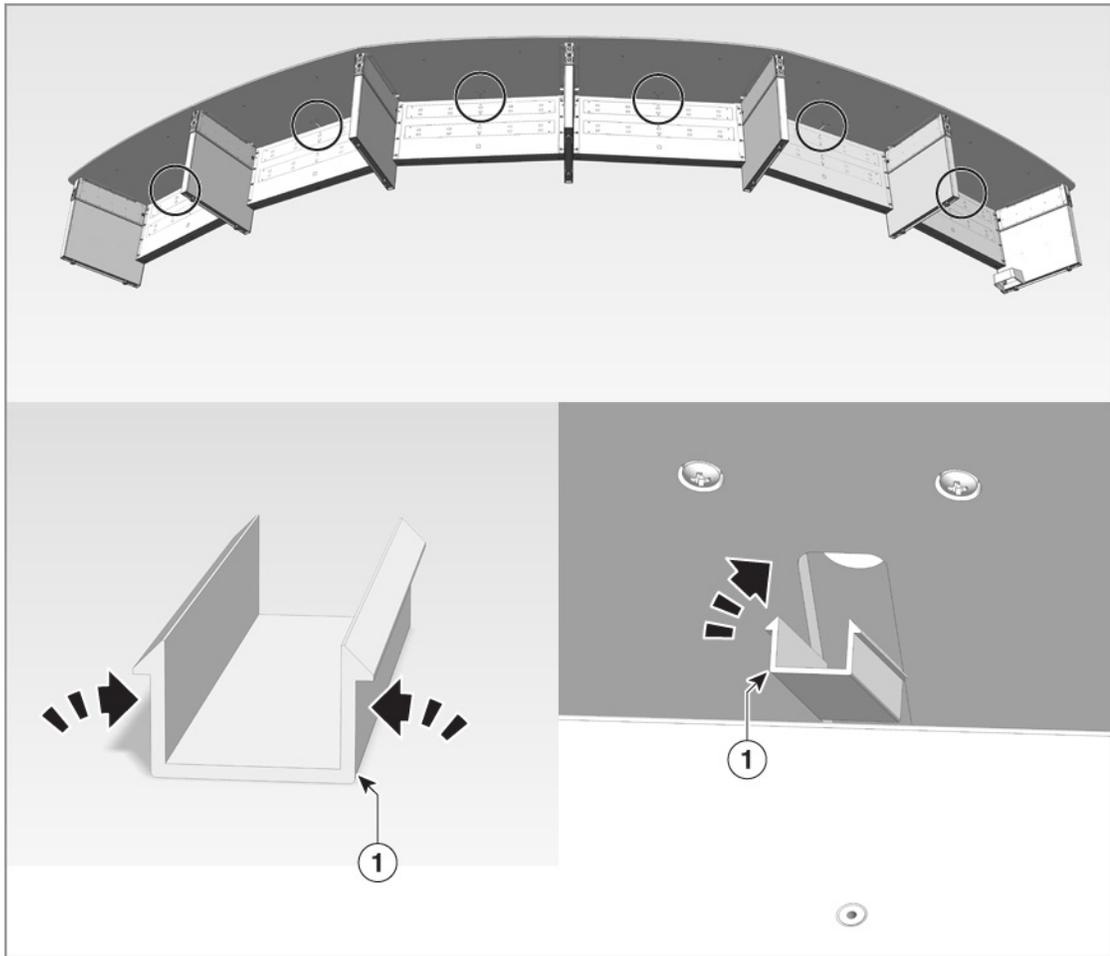


Tip

If you need to remove the covers, place your finger in the open edge of the cover and pull the cover out.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row microphone cable cover	700-37828-01 Kit # 69-2339-xx	6	51	

Figure 12-28 *Placing the Microphone Covers Into the Underside of the Tables*



- Step 36** Remove the protective film from the table legs.



Building the Second Row Table For a 14- and 10-Seat TX9200 System

Revised: May 20, 2015, OL-27038-01

The TX9200 system usually has a second row with six table sections and room for 12 people, for a total seating capacity of 18 people. For configurations for which the room size is too small for this configuration, Cisco offers a second row configuration that seats 4 or 8 people, making the total capacity of the system 10 or 14 seats, respectively.

This chapter contains the steps you perform to assembly a 4- or 8-seat second row and includes the following sections:

- [Differences in Conference Experience for 14- and 10-Seat TX9200 Systems, page 13-4](#)
- [Overview of 18-, 14-, and 10- Seat System Installation, page 13-4](#)
- [Assembling an 8-Seat Second Row For a 14-Seat TX9200, page 13-6](#)
- [Assembling a 4-Seat Second Row For a 10-Seat TX9200 System, page 13-40](#)

Room Sizes and Cable Trench Diagrams

The room size for a 14-seat TX9200 requires the following minimum dimensions:

Width: 26' (7.95 meters)

Depth: 21' 5" (6.53 meters)

Height: 8' (2.44 meters)

The room size for a 10-seat TS9200 requires the following minimum dimensions:

Width: 19' (5.80 meters)

Depth: 21' 5" (6.53 meters)

Height: 8' (2.44 meters)

[Figure 13-1](#) provides you with the dimensions of a 14-seat system.

Figure 13-1 Dimensions for a 14-Seat TX9200 System

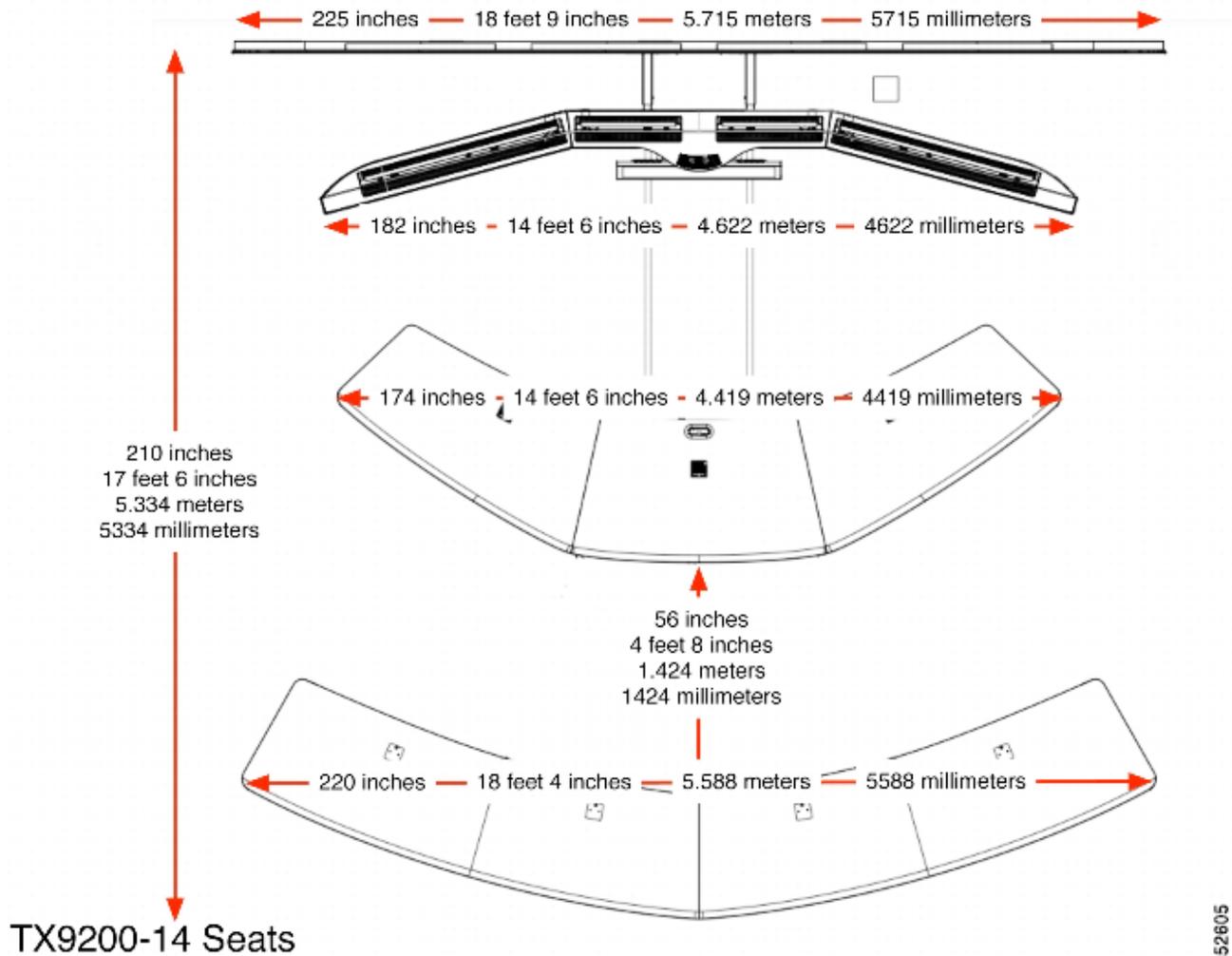


Figure 13-2 shows you the measurements for drilling a cable trench for the 14-seat TX9200 system.

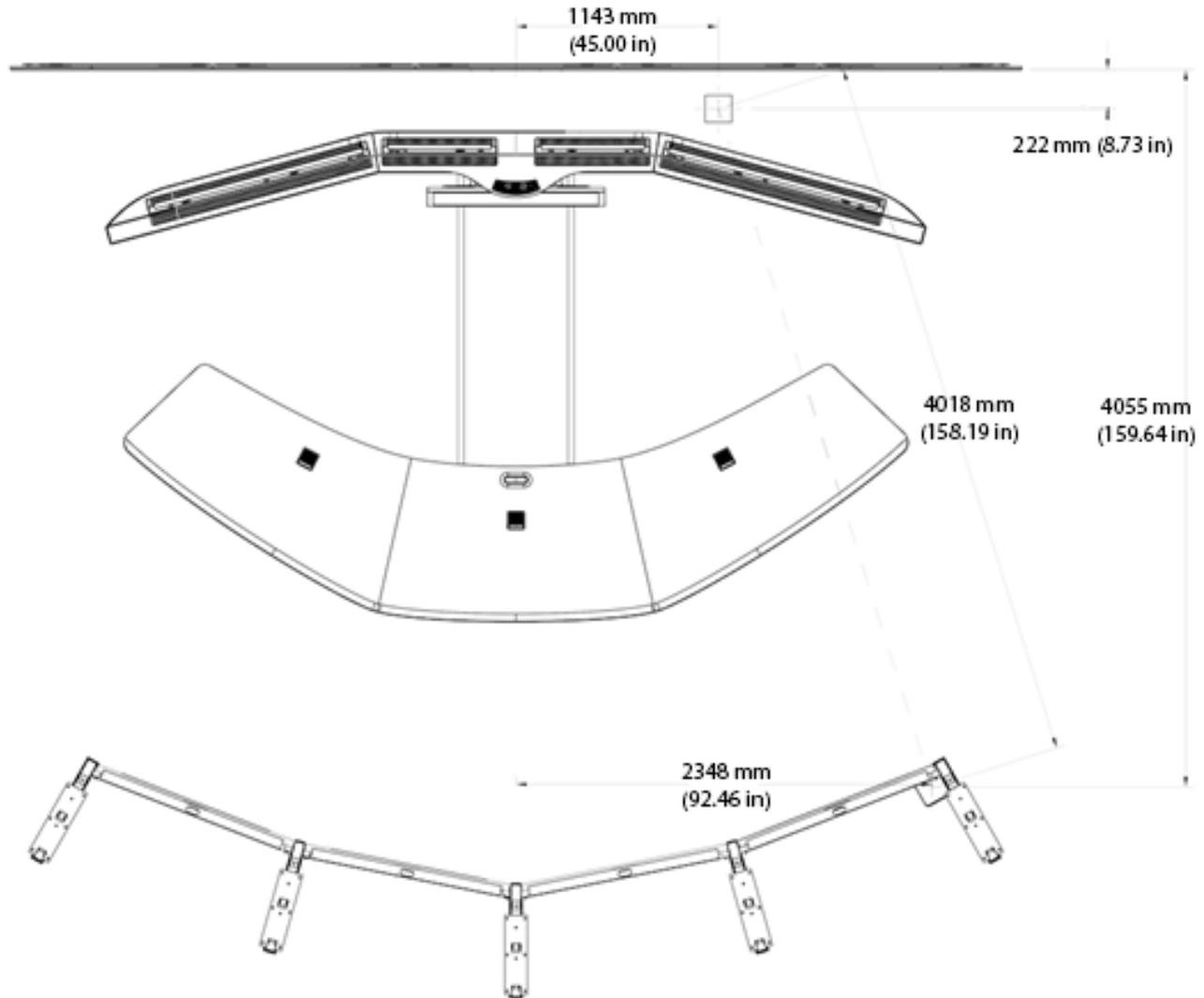


Caution

THESE MEASUREMENTS DEPEND ON THE PLACEMENT OF THE REFLECTOR WALL. Failure to account for the reflector wall depth can result in an incorrect trench location. For systems that use a wall-mounted reflector wall, add 3" (76 mm) to the rear wall dimensions to account

for the thickness of the reflector wall and mount. For free-standing systems that use the minimum distance between the reflector wall and the wall of the room, add 8" (203 mm). Add more depth if you plan to install the reflector wall farther away from the rear wall.

Figure 13-2 Cable Trenching (Core Drilling) Measurements for a 14-Seat TX9200 System



352597

There are currently no cable trench diagrams available for a 10-seat TX9200 system. You must run the power and Ethernet cables on the floor using a cable cover, and use the electrical egress box with a mouse hole, part number 800-37909-xx.

Differences in Conference Experience for 14- and 10-Seat TX9200 Systems

For 18-seat TX9200 systems, the second row appears to other conference participants as a seamless table with straight edges. In a conference with a 10- or 14-seat system, sections of the second row table are removed. As a result, other attendees in the conference view the table with a curved front edge, as shown in [Figure 13-3](#).

In addition, the second row table edges will be visible to other conference participants.

Figure 13-3 View of Second Row Table with Curved Table Edge



Overview of 18-, 14-, and 10- Seat System Installation

The entire TX9200 system is shipped for this type of customer installation; therefore, you will have some extra table pieces, including table sections, table legs, electrical outlets, and privacy panels.

This chapter refers to the table legs by their part numbers, rather than the letter, as is used in the other chapters.

[Figure 13-4](#) shows the tabletop and table leg part numbers for an 18-seat TX9200.



Note

Privacy panel part numbers are not shown in this figure. They all have the same part numbers:

Figure 13-4 Tabletop and Table Leg Part Numbers for an 18-Seat TX9200 System

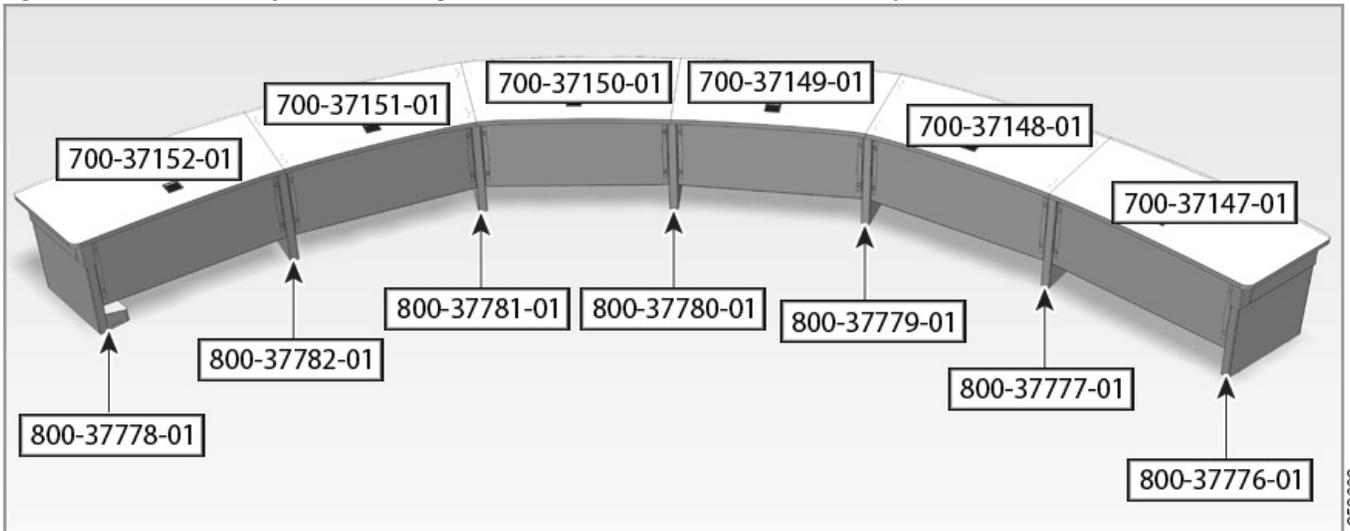


Figure 13-5 shows the sections and table legs that are removed for a 14-seat TX9200 system.

**Note**

There is one additional modification to make for a 14-seat system: You remove bracket “5L” from the left side of the bracket 800-37781-xx and replace it with bracket “3L” from 800-37779-xx. For more information, see the “Assembling an 8-Seat Second Row For a 14-Seat TX9200” section on page 13-6.

Figure 13-5 Tabletop and Table Leg Part Numbers for a 14-Seat TX9200 System

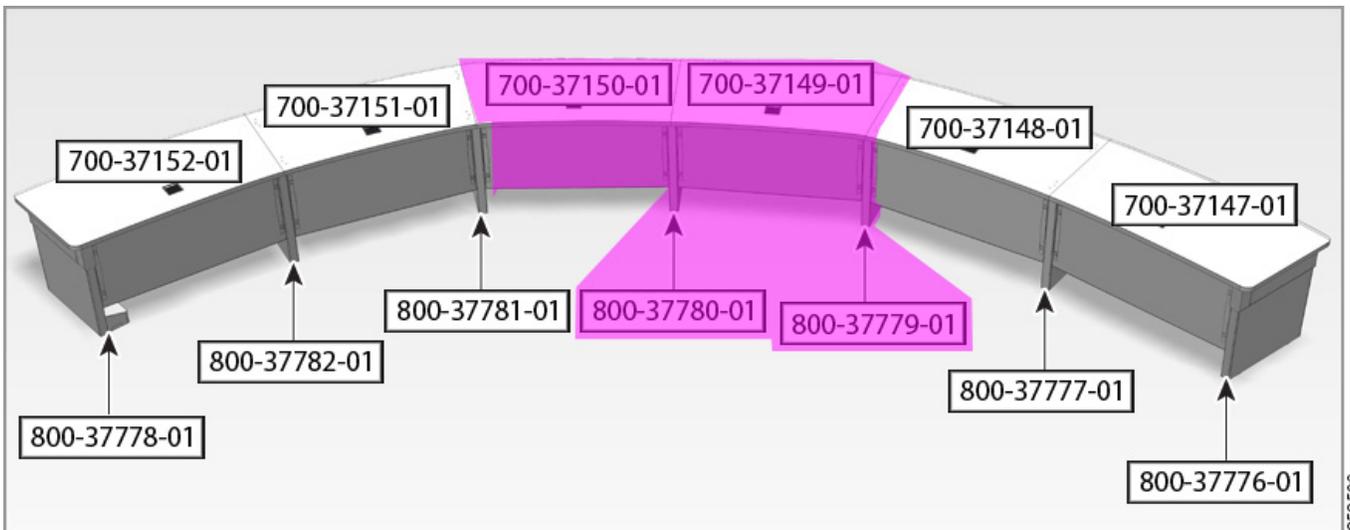
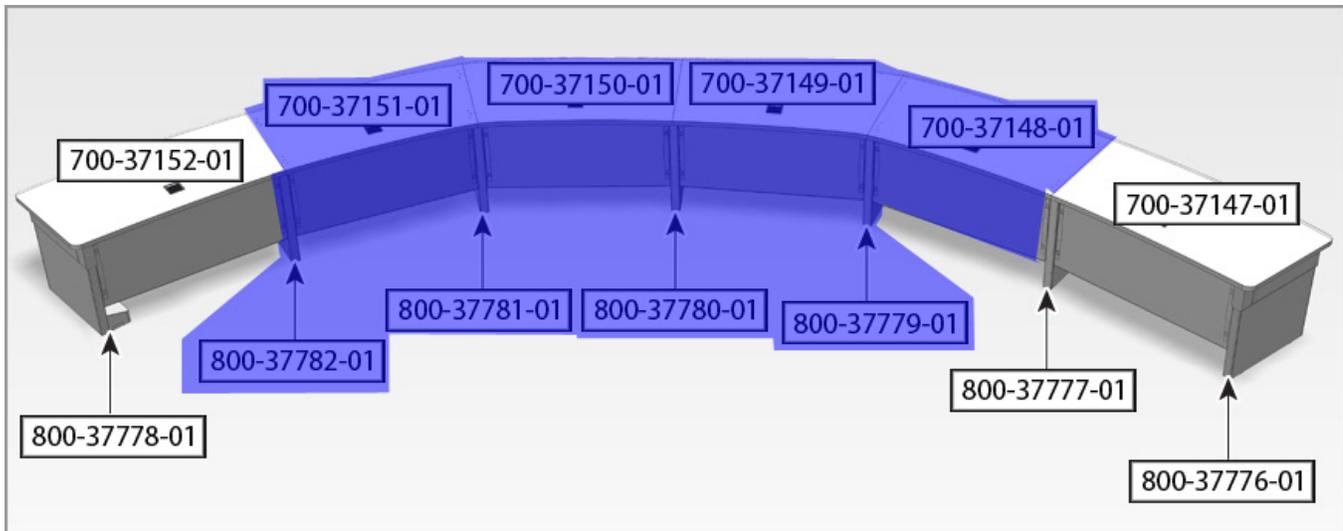


Figure 13-6 shows the sections and table legs that are removed for a 10-seat TX9200 system.

**Note**

There is one additional modification to make for a 10-seat system: You remove bracket “2R” from the right side of bracket 800-37777-xx and replace it with bracket “6R” from 800-37782-xx. For more information, see the “Assembling a 4-Seat Second Row For a 10-Seat TX9200 System” section on page 13-40.

Figure 13-6 Tabletop and Table Leg Part Numbers for a 10-Seat TX9200 System



Assembling an 8-Seat Second Row For a 14-Seat TX9200

To assemble a second row table with five table legs and four table sections, complete the following steps.

-
- Step 1** Unpack each table leg.
- Step 2** Set the table legs upside-down and place them in approximately the position where they are during the final installation.

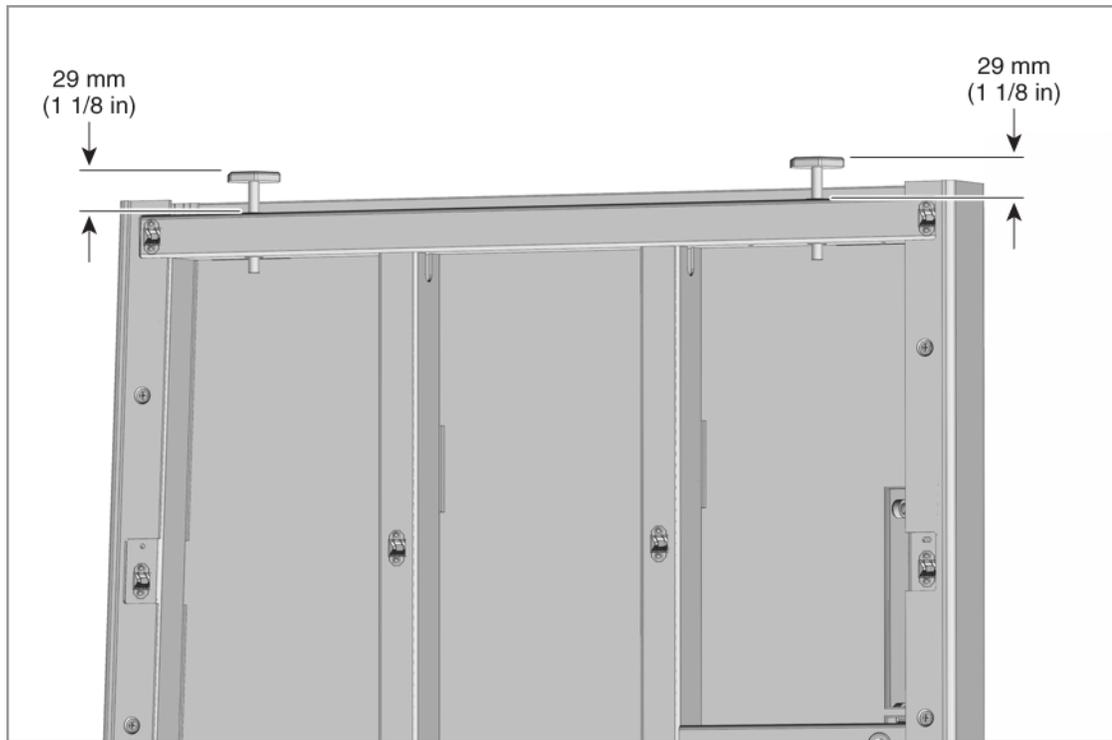
**Tip**

Check the label on top of the each leg to determine the placement.

-
- Step 3** With the leg still upside-down, measure the gap between the hex nut on the leveling foot and the structure.

Step 4 If required, adjust the nut until the distance between the hex nut and the structure is 22mm.

Figure 13-7 *Adjusting the Leveling Feet on the Table Legs*

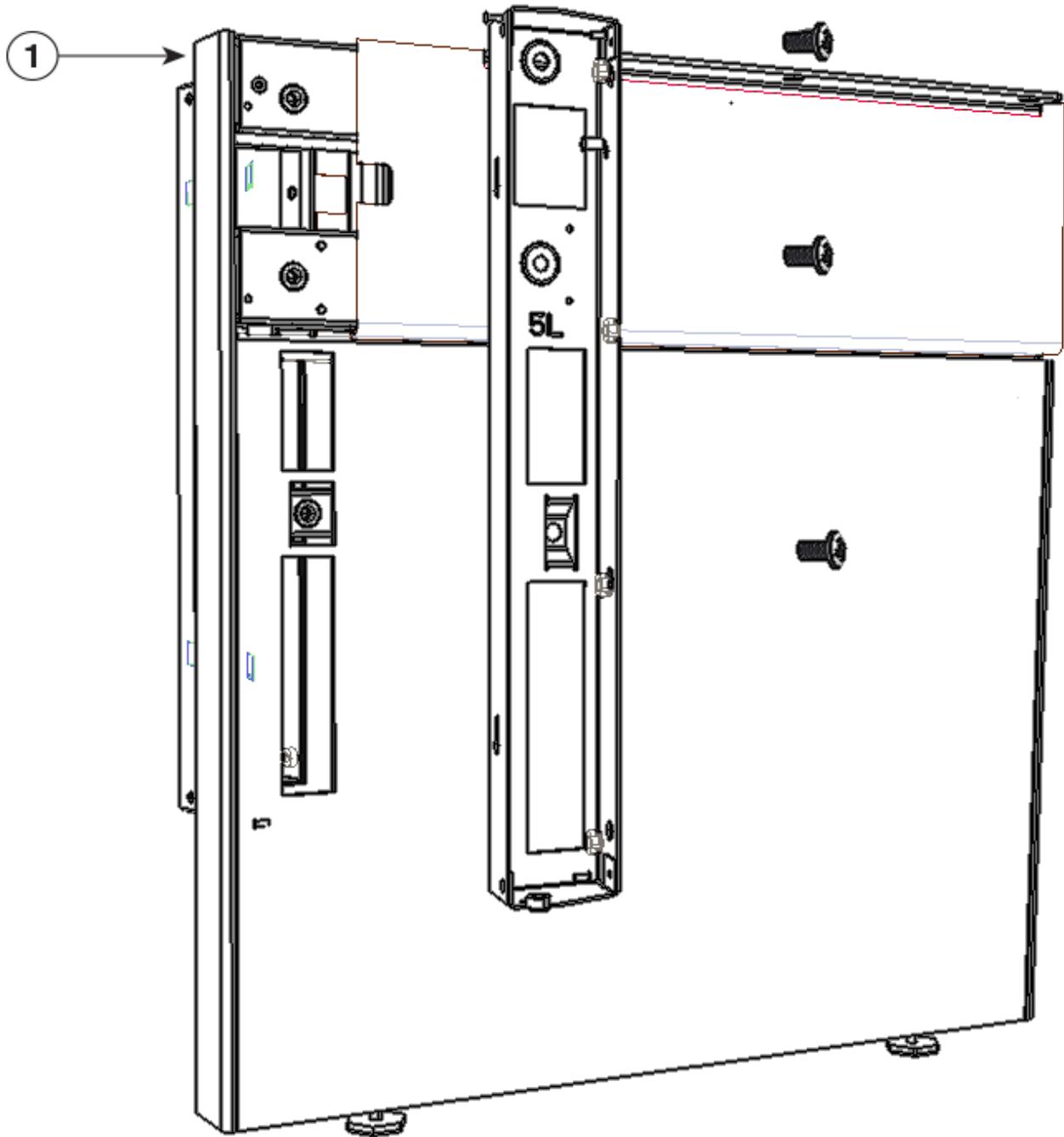


Step 5 Switch the attachment brackets from two table legs by completing the following steps:

- a. Remove the 3L bracket from 800-37779-xx.
Save this bracket.
- b. Remove the 5L bracket from the table leg 800-37781-xx.
- c. Replace the 5L bracket you just removed with the 3L bracket from Step a.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg (not used, for bracket only)	800-37779-xx Kit # 69-2314-xx	1	51	
	Table leg, middle	800-37781-xx Kit # 69-2314-xx	1	51	Not shown in Figure 13-8

Figure 13-8 Removing the 5L Bracket



352599

Step 6 Join table leg 800-37777-xx, table leg 800-37781-xx, and the privacy panel bracket together by completing the following procedure:



Note For this step and all successive steps, slightly peel back the protective film on the table legs (enough to expose the space where the structure and the legs join together).

- d. Attach a privacy panel bracket (callout 1 in [Figure 13-9](#)) in between 800-37777-xx and 800-37781-xx (callouts 2 and 3).
- e. Line up the alignment pins to the holes and attach the panel with eight M8 x 16mm screws (callout 4).

These screws, and all screws that attach the privacy panel to the table legs, attach from the rear of the system. [Figure 13-9](#) shows the table legs as if you were standing from the front of the system and facing the second row.

- f. Check that the top surface of each leg are the same height and are level by placing levels on the following places:
 - Set a level on the side of the leg to align the legs vertically.
 - Set a level on top of the table leg, both parallel to and perpendicular to the table leg.



Note You can also use a laser level for this step.



Tip

Do not fully tighten all the screws until you attach all of the table sections.

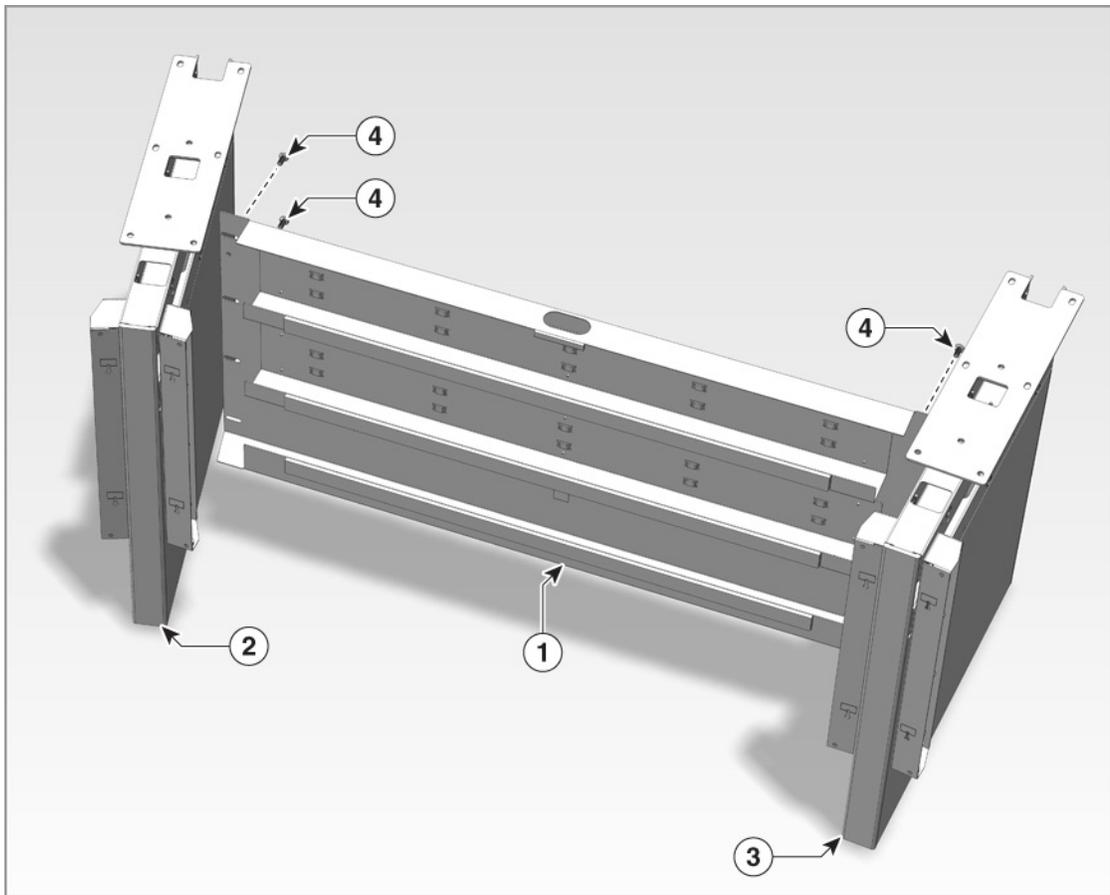


Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy panel bracket	700-37511-xx Kit #69-2315-xx	1	52	
2	Table leg, middle	800-37781-xx Kit # 69-2314-xx	1	51	
3	Table leg, mid-left	800-37777-xx Kit # 69-2314-xx	1	52	
4	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	8	47	

Figure 13-9 Assembling the Middle and Mid-Left Table Legs and Privacy Panel Bracket



3453606

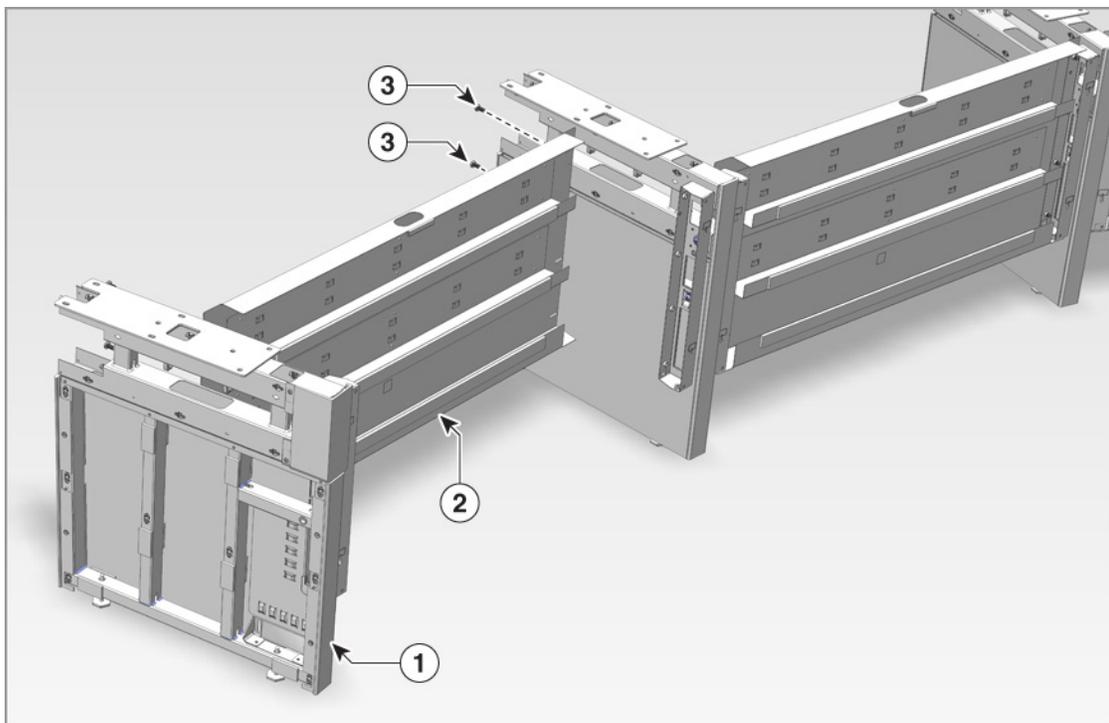
- Step 7** Assemble the privacy panel bracket (callout 2 in [Figure 13-10](#)) between legs 800-37781-xx and 800-37782-xx using 8 M8x 16mm screws (callout 3).
- Step 8** Check that the 800-37782-xx is the same height as the other legs and that the top surface is level.

**Caution**

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg, mid-right	800-37782-xx Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-xx Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	8	47	

Figure 13-10 Assembling the Mid-Right Privacy Panel Bracket



343609

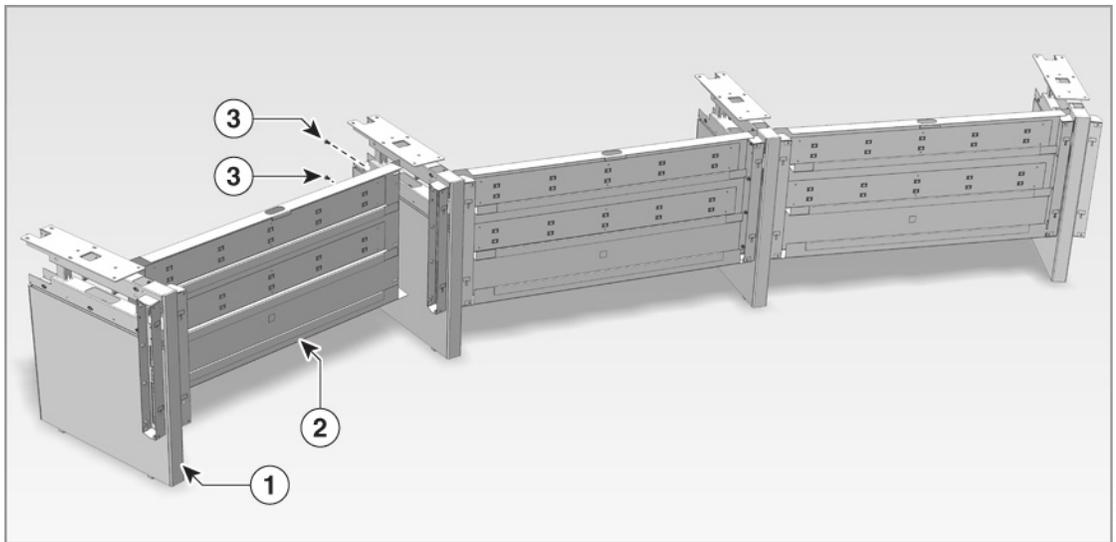
- Step 9** Assemble the privacy panel bracket (callout 2 in [Figure 13-11](#)) between legs 800-37782-xx and 800-37778-xx using 8 M8x 16mm screws (callout 3).
- Step 10** Check that the 800-37778 is the same height as the other legs and that the top surface is level.



Caution **USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP.** The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg, far right	800-37778-xx Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-xx Kit # 69-2314-xx	1	51	
3	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	8	47	

Figure 13-11 Assembling the Far Right Privacy Panel Bracket



343608

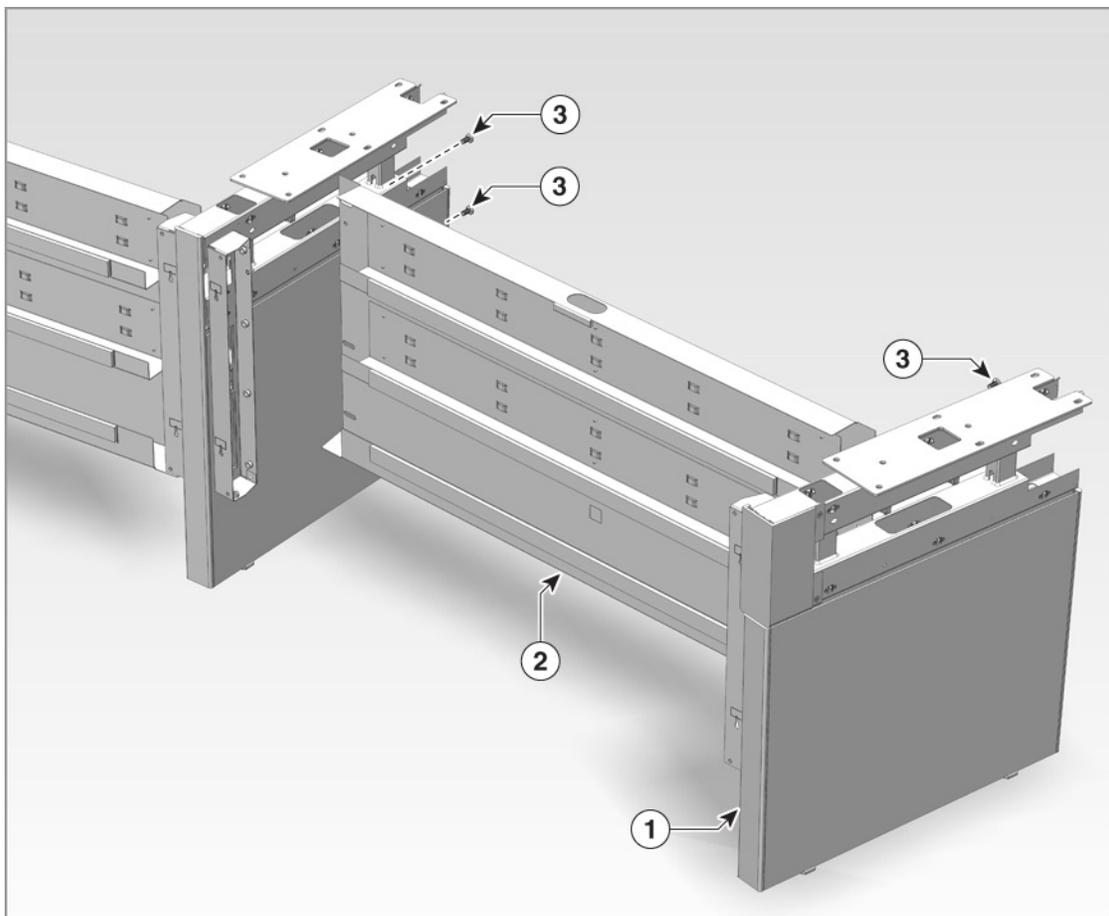
- Step 11** Assemble the privacy panel bracket (callout 2 in [Figure 13-12](#)) between legs 800-37777-xx and 800-37776-xx using 8 M8x 16mm screws (callout 3).
- Step 12** Check that the 800-37776-xx is the same height as the other legs and that the top surface is level.

**Caution**

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg, far left	800-37776-xx Kit # 69-2314-xx	1	51	
2	Privacy panel bracket	700-37511-xx Kit #69-2315-xx	1	52	
3	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	8	47	

Figure 13-12 Assembling the Far Left Privacy Panel Bracket



Step 13 Measure the distance between the first and second row table assemblies and adjust the distance as required.



Note Figure 13-13 shows a second row with six sections; however, the measurements are the same for either a 10-, 14-, or 18-seat system.

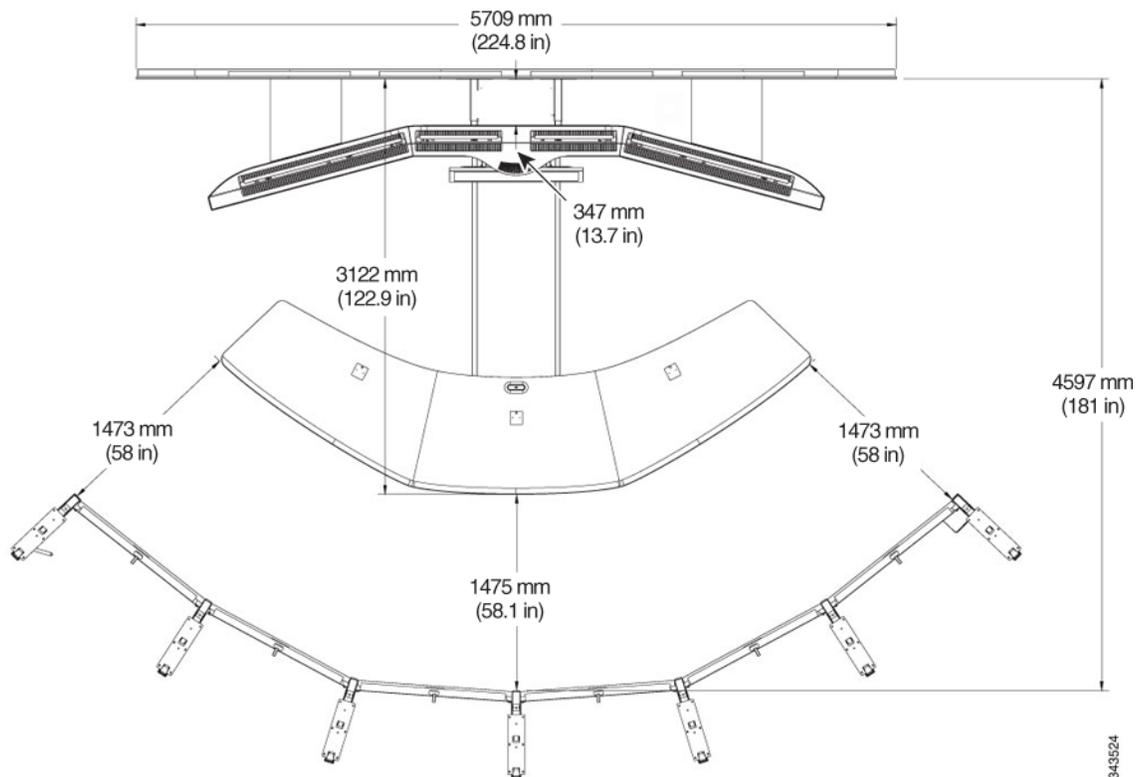


Note Make sure that the table legs are vertically level. If required, loosen the screws and adjust the vertical level of the table legs, then retighten them.



Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table assembly.

Figure 13-13 Measuring the Distance Between the First and Second Row Table Assemblies

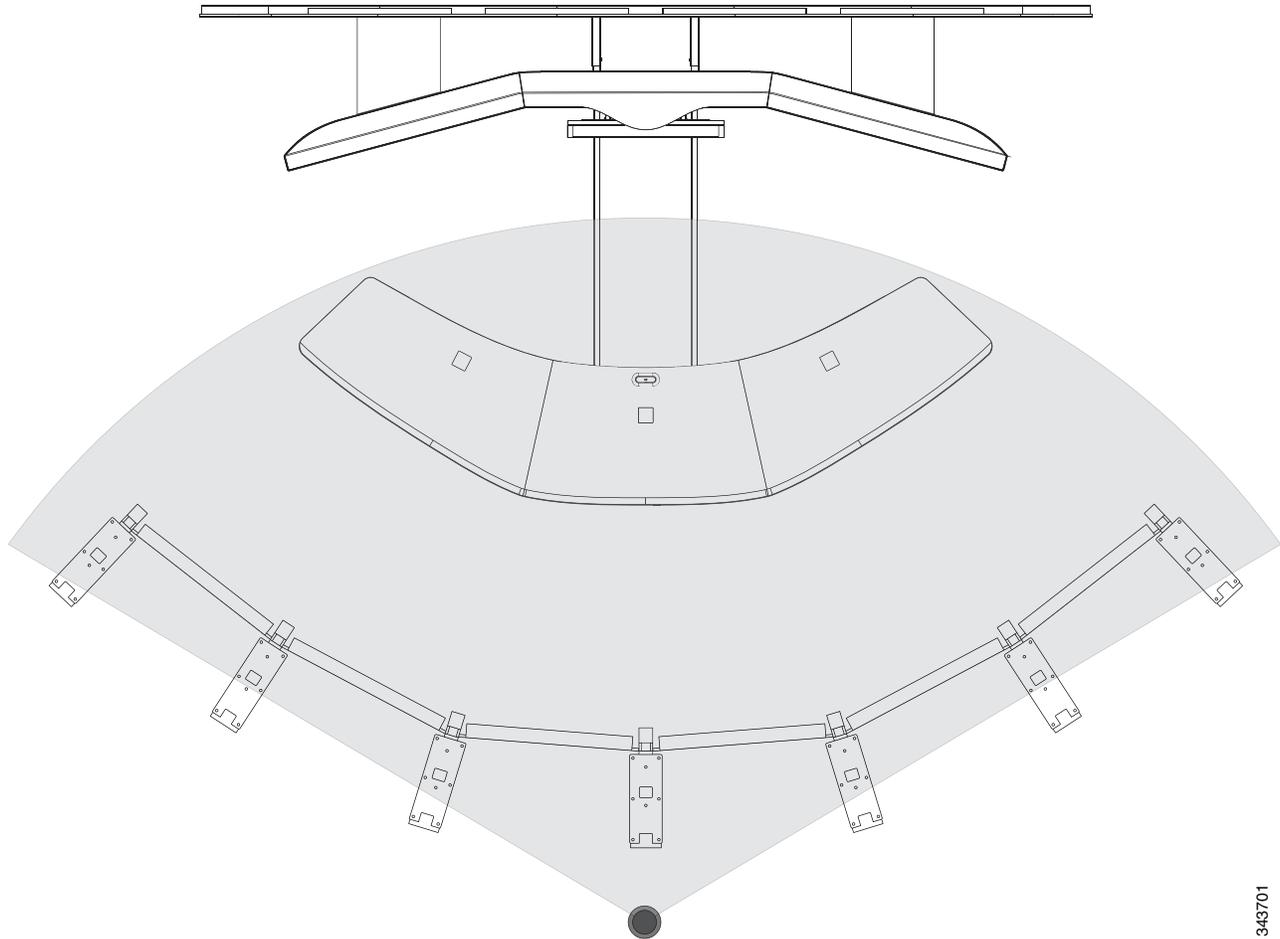


- Step 14** Make sure that the first and second row tables are the same height by completing the following steps:
- Set up a laser level behind the second row.
 - Align the top of the table legs with the bottom of the wooden tabletops on the first row.



Note Figure 13-14 shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Figure 13-14 *Aligning the First and Second Row Tables*



343701

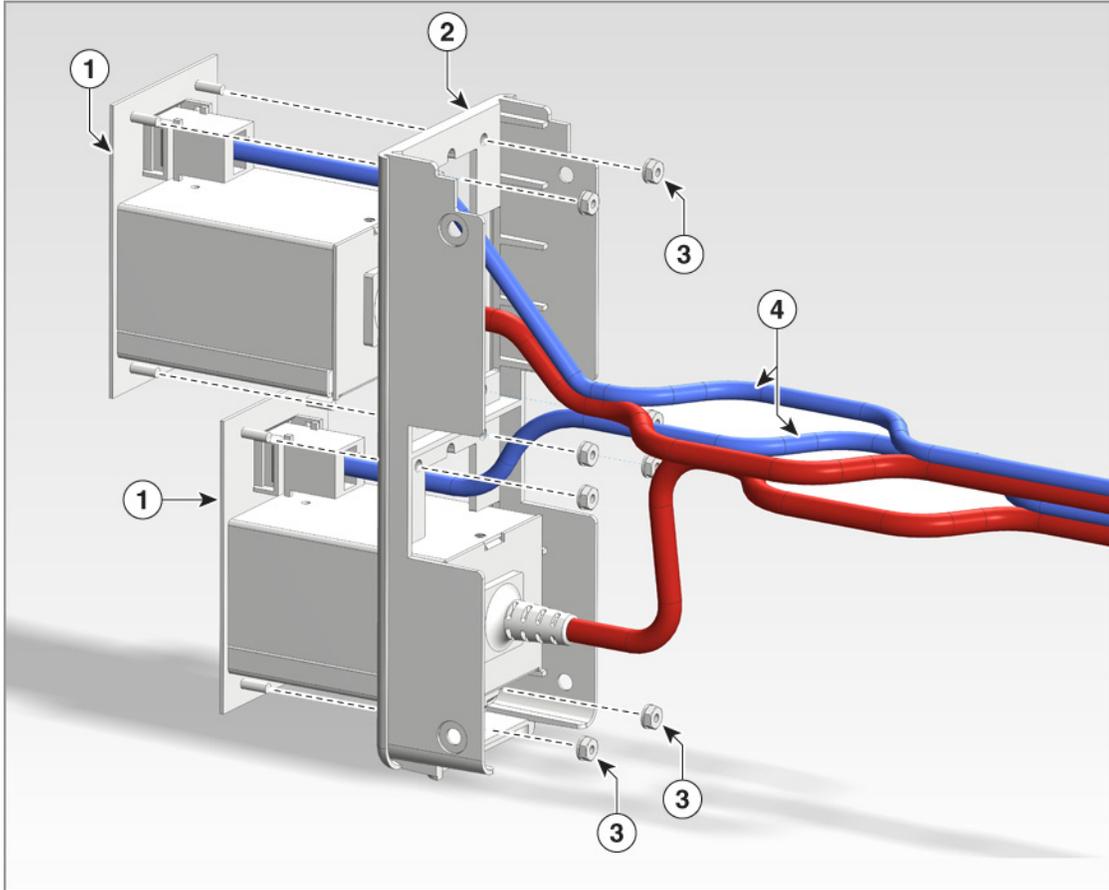
- Step 15** Assemble the power/Ethernet outlet assembly for the inside table legs by completing the following steps:
- a. Attach two power/Ethernet outlets (callout 1) into the front of the table leg cover (callout 2) using eight nuts (callout 3).
 - b. Connect the Ethernet cables (callout 4) and, if applicable, the power jumper cables to the power/Ethernet outlets.



Note Note the orientation of the power/Ethernet outlets; you can only install them in one orientation.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlets	See “Notes” section.	6	54, 55, 56	Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	Power/Ethernet outlet cover, front	700-37102-01 Kit #69-2350-xx Except South Africa (see Notes)	5	51	The South Africa outlet cover is specific to the outlet. Find the covers with the country-specific power outlet.
3	M3 nut	49-0833-xx	40		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-xx Kit # 69-2351-xx	10	48	

Figure 13-15 Assembling the Power/Ethernet Outlets

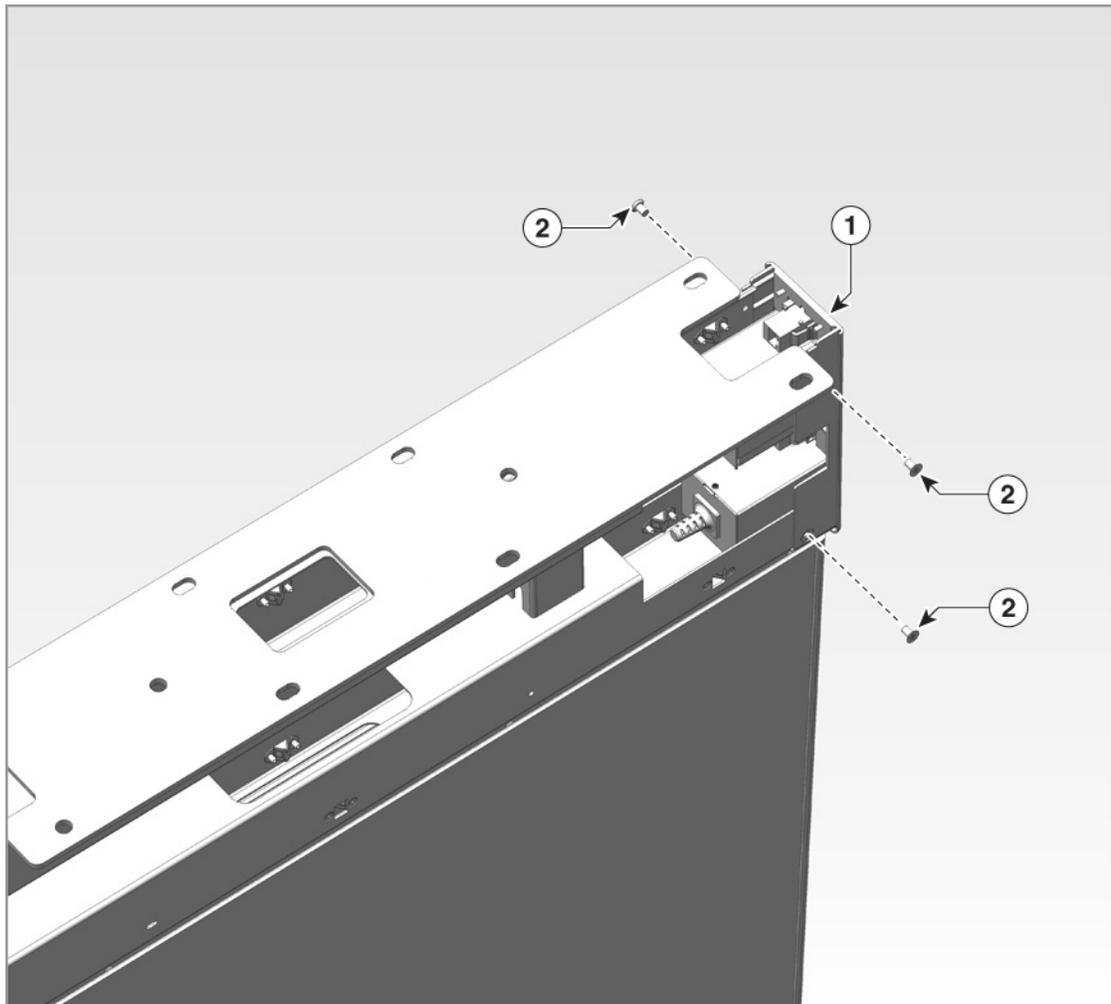


343612

Step 16 Connect the power/Ethernet assemblies to the table assembly (four screws per assembly).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet assembly	See Notes	3		Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	M5 flat head screws	48-2430-xx Kit # 69-2353-xx Subkit #53-3798-xx	20	47	

Figure 13-16 Connecting the Power/Ethernet Assemblies to the Table Assembly



- Step 17** Assemble the power/Ethernet connections for the outside table legs by completing the following steps:
- Assemble power/Ethernet outlet (callout 1) into the lower hole in the power/Ethernet outlet cover (callout 2) using M3 nuts that are included in the outlet kit (callout 3).
 - Attach an ethernet cable (callout 4) and, if required, a power cable to the power/Ethernet outlet.

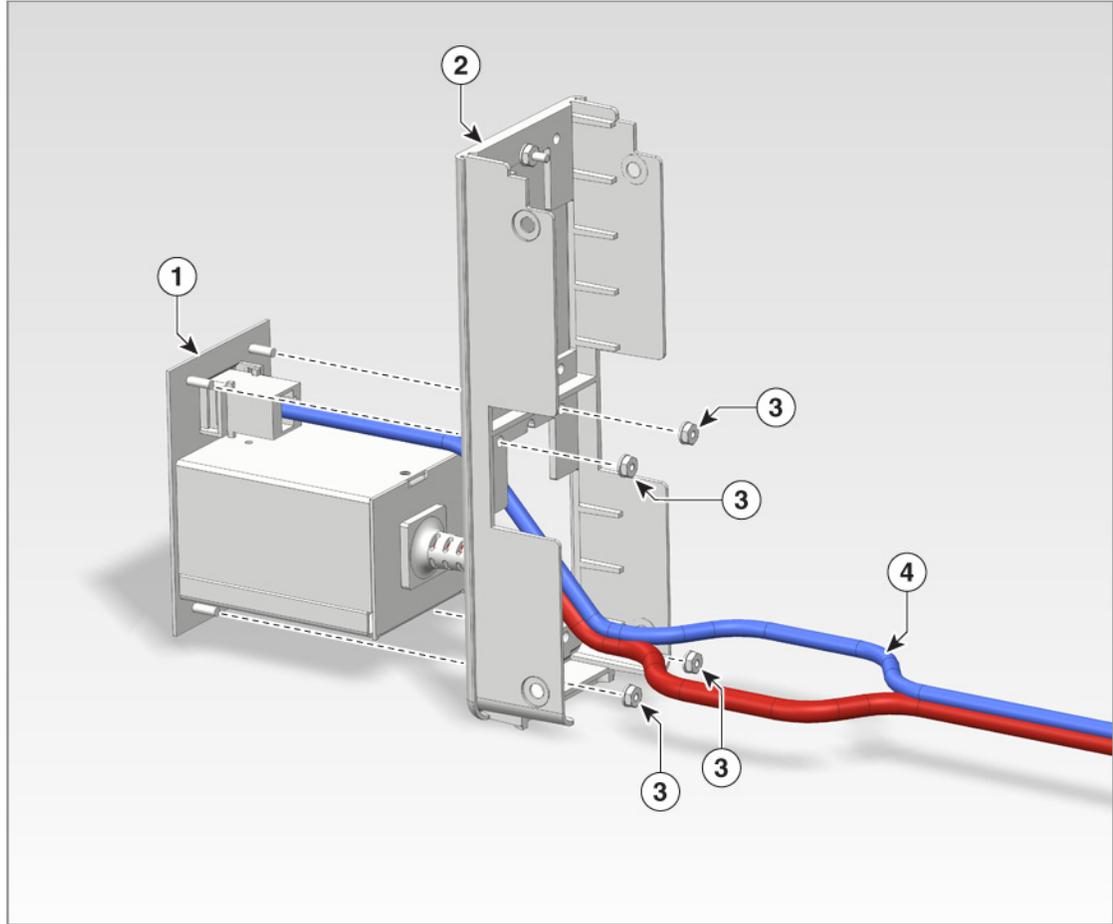


Note Use the long Ethernet cable (callout 5) for table 800-37776-xx.

- Repeat Steps a. through b. for the other outside outlet.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet	See Notes	2		Part number varies by country. Refer to Appendix C, "Region- and Country-Specific Power Cords and Table Leg Power Connectors," for the correct part number.
2	Power/Ethernet outlet cover	800-37949-01 Kit # 69-2314-xx	2	51	
3	M3 nut	49-0833-xx	8		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-xx Kit # 69-2351-xx	1	48	
5	Ethernet cable, 17 meter (55 1/2 feet)	37-1403-xx Kit # 69-2351-xx	1	48	

Figure 13-17 Assembling the Outside Power/Ethernet Connections



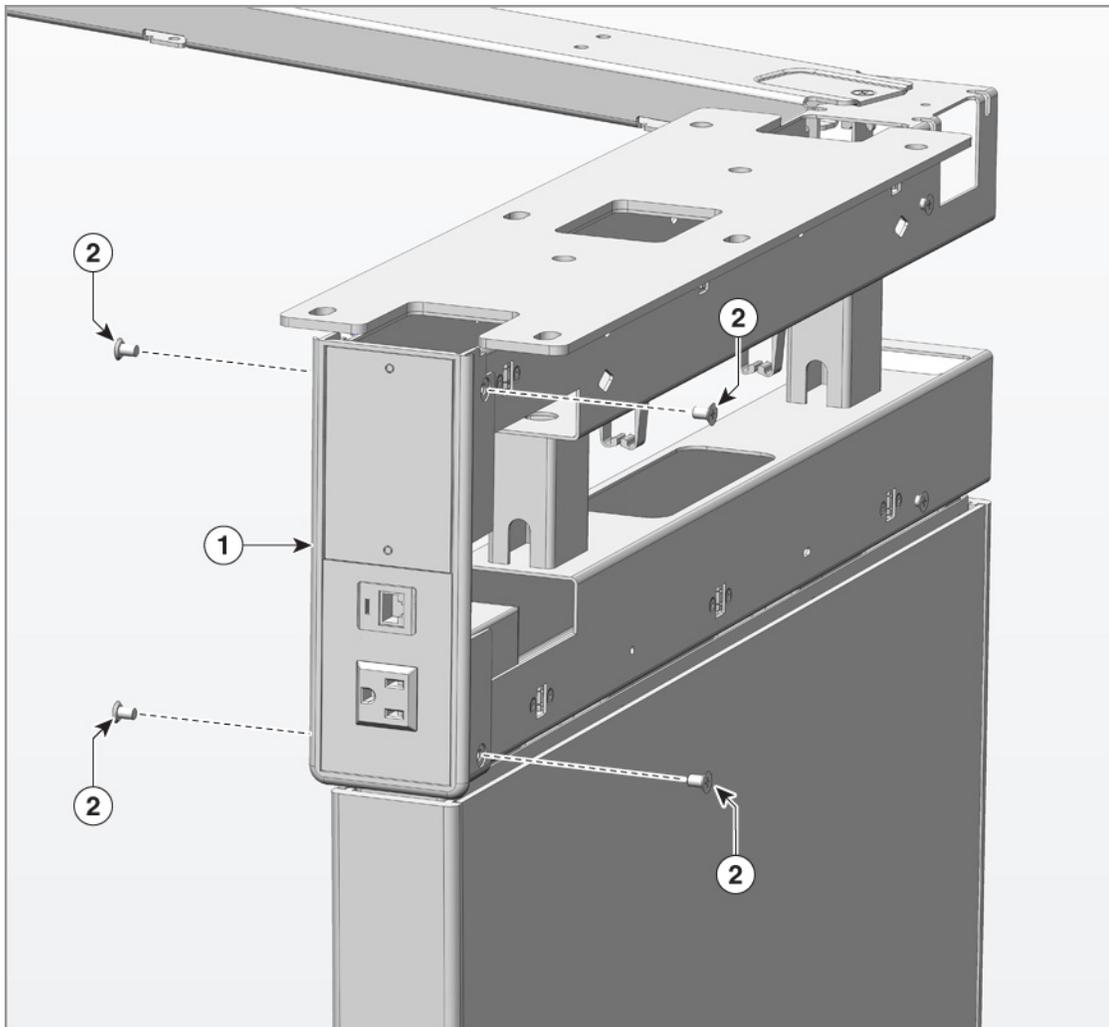
Step 18 Insert the power/Ethernet outlet assemblies you built in [Step 17](#) into the outside table legs.



Note Make sure that you place the assembly with the long Ethernet cable in table 800-37776-xx.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet assembly	N/A	2		Already assembled
2	M5 flat head screw	48-0811-xx Kit #69-2354-xx Subkit # 53-3798-xx	4	47	

Figure 13-18 Installing the Power/Ethernet Outlets to the Outside Table Legs

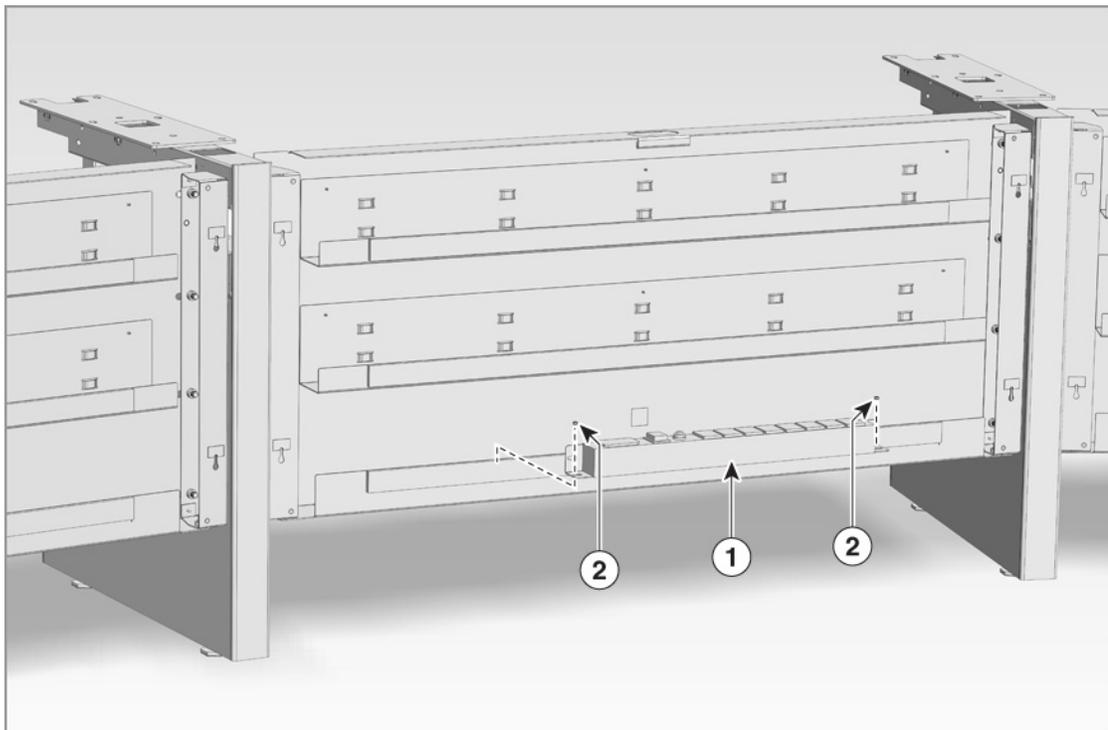


343615

- Step 19** Connect the Power Distribution Units (PDUs) and power jumper cables by completing the following steps:
- Assemble 2 PDUs (callout 1) into the privacy panels between legs 800-37777-xx and 800-37781-xx, and 800-37781-xx and 800-37782-xx, using M3 nuts (callout 2) for each PDU.
 - Connect the power cables from legs 800-37776-xx and 800-37777-xx to the PDU between legs 800-37777-xx and 800-37781-xx.
 - Connect the power cables from legs 800-37778-xx, 800-37782-xx, and 800-37781-xx to the PDU between legs 800-37781-xx and 800-37782-xx.
 - Use the velcro straps to route the cables cleanly.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	PDU	74-4787-02 CTS-PWR-PDU	2	49, 50	
2	M3 nut	49-0376-xx Kit # 69-2419-xx Subkit # 53-3798-xx	4	47	
3	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 13-19 .

Figure 13-19 Placing the PDUs Into the Privacy Panel Channels



343616

- Step 20** Connect the power cables, and route and connect the power and Ethernet cables, by completing the following steps:
- a. Attach jumper cables to the second row PDUs and route the cables to the right (the side nearest table leg 800-37778-xx). These cables are shown in blue in [Figure 13-20](#).
If required, use two jumper cables to connect the power outlets for table legs 800-37776-xx, 800-37777-xx, and 800-37781-xx. You connect a total of six jumper cables.
 - b. Route the cables for the second row table as shown in [Figure 13-20](#).
 - Place the power cables in the bottom row of the cable trays.
 - Place the Ethernet cables in the middle row of the cable trays.
 - c. Neatly bundle any excess cable and secure the cables with Velcro straps (callout 1).
Use Velcro straps (callout 1) to cleanly route the cables.
 - d. Attach the table leg side panel assemblies (callouts 2, 3, 5, and 6).
 - e. Level the table assembly using a laser level and the diamond marks on the sides of the legs as a reference point.

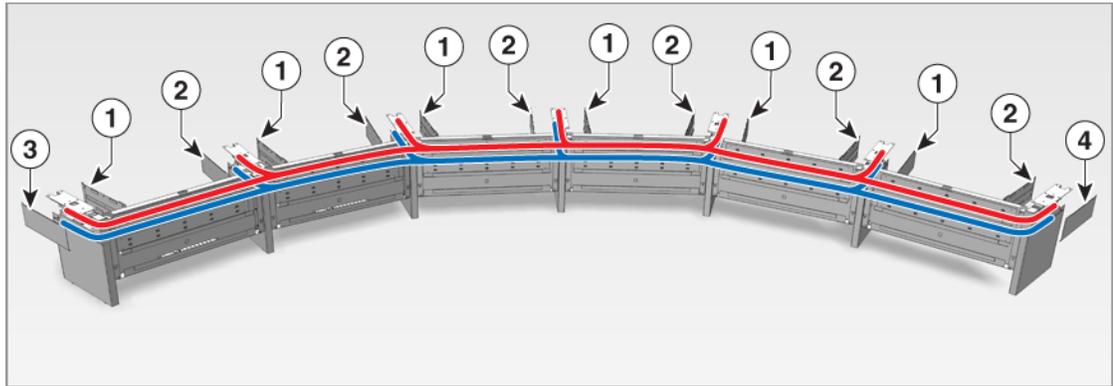
For additional cabling information, see [Chapter 10, “Connecting and Routing the Cables.”](#)



Note [Figure 13-20](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg side panel assembly, second row left	700-37182-xx Kit # 800-37777-xx Subkit # 69-2314-xx	4	51	
2	Table leg side panel assembly, second row right	700-37183-xx Kit # 800-37777-xx Subkit # 69-2314-xx	4	51	
3	Table leg side panel assembly, second row far right	700-37722-xx Kit # 800-37778-xx Subkit # 69-2314-xx	1	51	
4	Table leg side panel assembly, second row far left	700-37721-xx Kit # 800-37776-xx Subkit # 69-2314-xx	1	51	
5	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 13-20
6	Power jumper cables	37-0833-xx Kit # 69-2351-xx	6	48	Not shown in Figure 13-20

Figure 13-20 Routing the Cables and Attaching the Table Leg Panels



343617

Step 21 Assemble table sections 700-37147-xx and 700-37148-xx by completing the following steps:

- a. Position table sections 700-37147-xx and 700-37148-xx on top of the table structure **the correct way up** and slightly offset from their final position so you have access to the attachment points underneath the table tops.



Note The images in [Figure 13-21](#) are shown upside-down for clarity.

One person may have to support the parts while the other person follows the below steps and assembles from below.

- b. Install four wooden biscuits (callout 3) into the slots; then, gently push the table sections together.
- c. Position the two half-moon table joiners (callout 4) and tighten them to bring the tables together.
- d. Attach two joint plates (callout 5) using 12 screws (callout 6).



Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

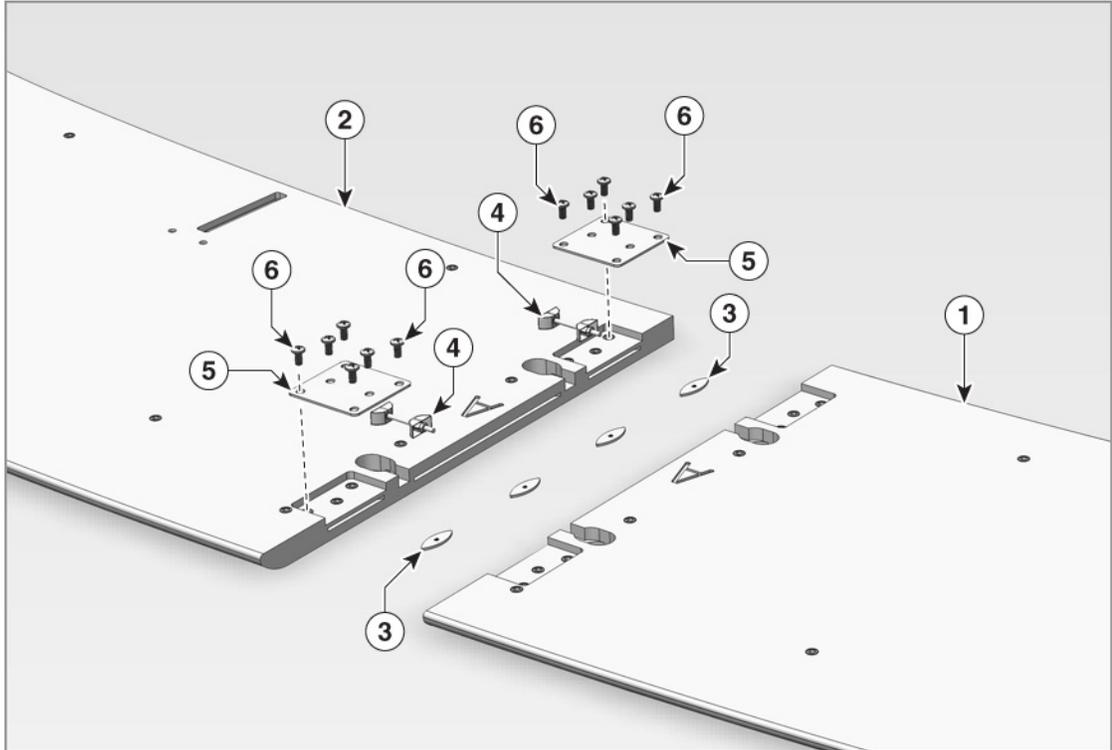


Note

The natural woods that are used for the tabletop finishes have a unique color, grain, and texture; as a result, there may be slight variations in grain between the table sections due to the natural formation of the wood.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section, far-left	700-37147-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
2	Second row table section, mid left	700-37148-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
3	Wooden biscuits	700-23909-xx Kit # 69-2299-xx	4	51	
4	Half-moon table joiners	51-6068-xx Kit # 69-2299-xx	2	51	
5	Joint plates	700-23345-xx Kit # 69-2314-xx	2	51	
6	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	12	47	

Figure 13-21 Connecting the Table Sections



343618

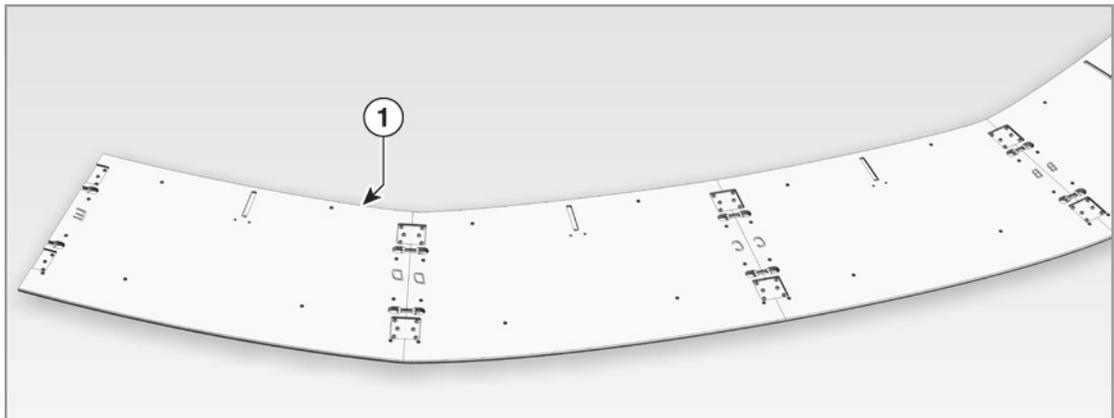
- Step 22** Assemble table section 700-37151-xx to the assembled table sections by completing the following steps:
- Position table section 700-37151-xx (callout 1) next to the assembled table sections.
 - Install four wooden biscuits (callout 2) into the slots; then, gently push the table sections together.
 - Position the 2 half-moon table joiners (callout 3) and tighten them to bring the tables together.
 - Attach two joint plates (callout 4) using 12 screws (callout 5).



Note The images in [Figure 13-22](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section, mid-right	700-37151-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 13-22 Connecting the Mid-Right Table Section to the Assembled Table Sections



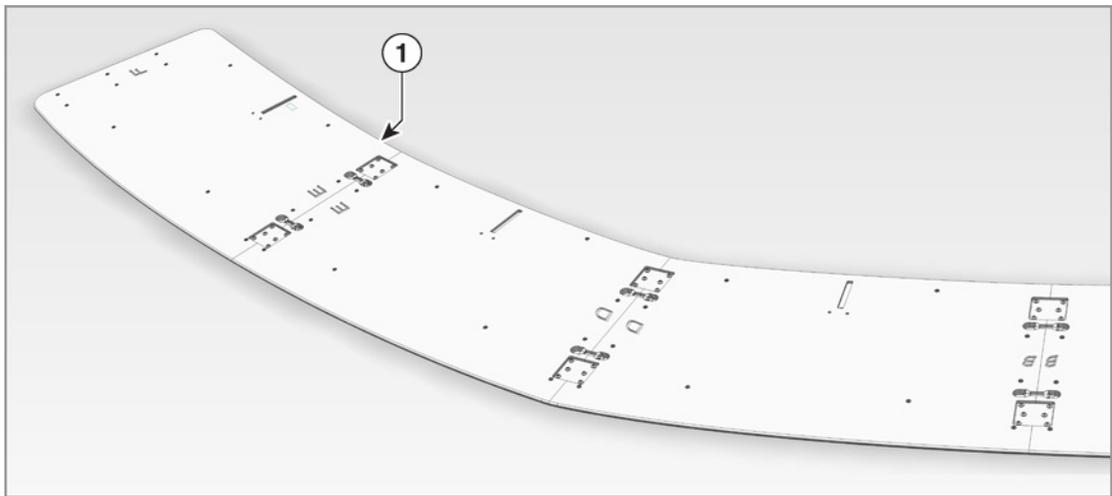
Step 23 Assemble table section 700-37152-xx to the assembled table sections by performing the same steps as [Step 22](#).



Note The images in [Figure 13-23](#) are shown upside-down for clarity.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section, far right	700-37152-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)

Figure 13-23 Connecting the Far-Right Table Section to the Assembled Table Sections



- Step 24** Secure the table sections to the table legs by completing the following steps:
- Slide the table top to line up the two holes nearest the middle table leg.
 - Put in two screws (shown as callout 1a in [Figure 13-24](#)), but do not fully tighten them.
 - Loosely screw in the two screws nearest the 65-inch displays for each leg.
 - Insert the screws farthest away from the displays (shown as callout 1b in [Figure 13-24](#)) for all table legs.
 - Fully tighten the screws you inserted in Steps a. through d.

**Caution**

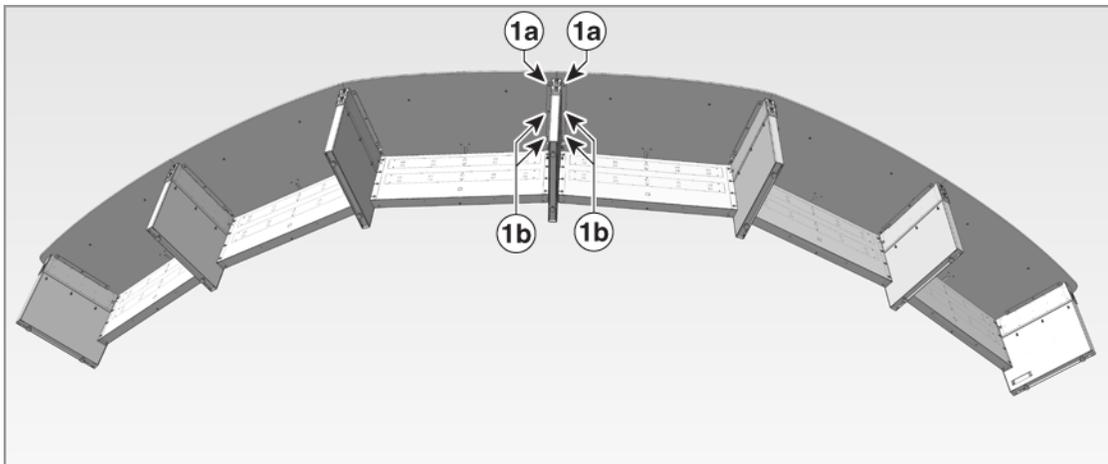
USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

**Note**

[Figure 13-24](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	42	47	

Figure 13-24 Connecting the Table Sections to the Table Legs



343623

Step 25 Perform final measurements between the first and second row tables and move the second row table as required.

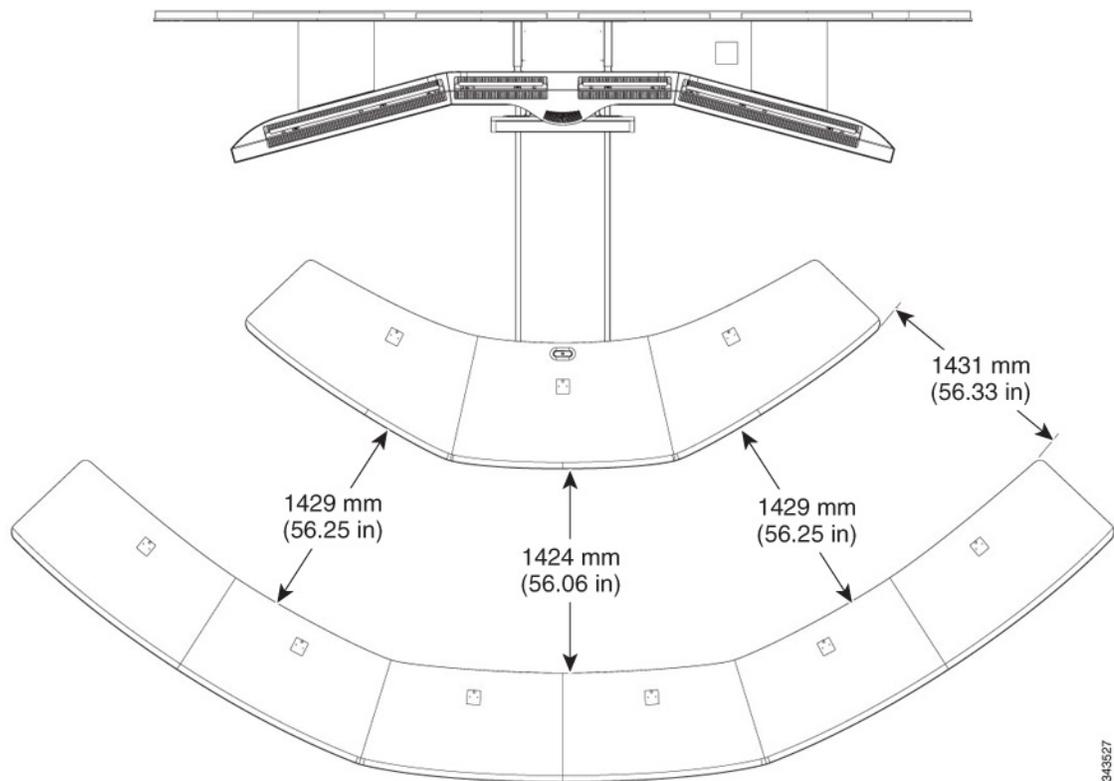


Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table.



Note [Figure 13-25](#) shows a second row with six sections; however, the measurements are the same for either a 10-, 14-, or 18-seat system.

Figure 13-25 Distance Between the First and Second Row



- Step 26** Install the microphones by completing the following steps:
- Install the microphone assemblies (callout 1) with the mute button facing away from the 65-inch displays, using 2 M4 x 30mm screws (callout 2).
 - Feed the microphone cable into the privacy panel bracket.

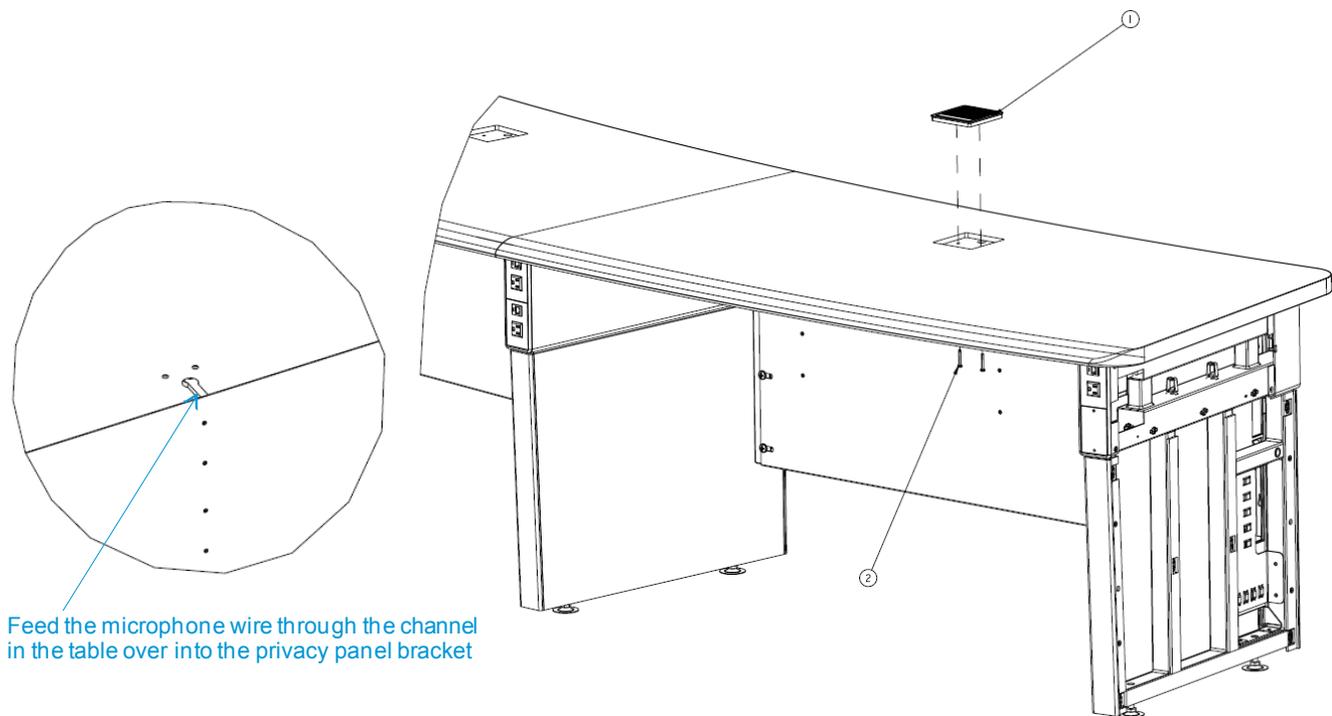


Note Make sure that the cable goes into the channel that is shown in [Figure 13-26](#).

- Assemble the other 3 microphones by repeating Steps [a.](#) and [b.](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone assembly	74-10241-xx CTS-TX9K-MIC	4	67-72	
2	M4 x 30mm screw	N/A	12		Included with the microphone kit

Figure 13-26 Installing the Microphones Into the Table Tops



- Step 27** Connect the microphone extension cables to the microphones and route the cables by completing the following steps:
- a. Connect the microphone extension cables (callout 1) to the microphone cables.
 - b. Route all the microphones cables along the top row of the cable trays.
 - c. Use velcro straps to secure the cables (callout 2).



Note

Use one additional extension cable for the microphone between table legs 800-37777-x and 800-37776-xx.

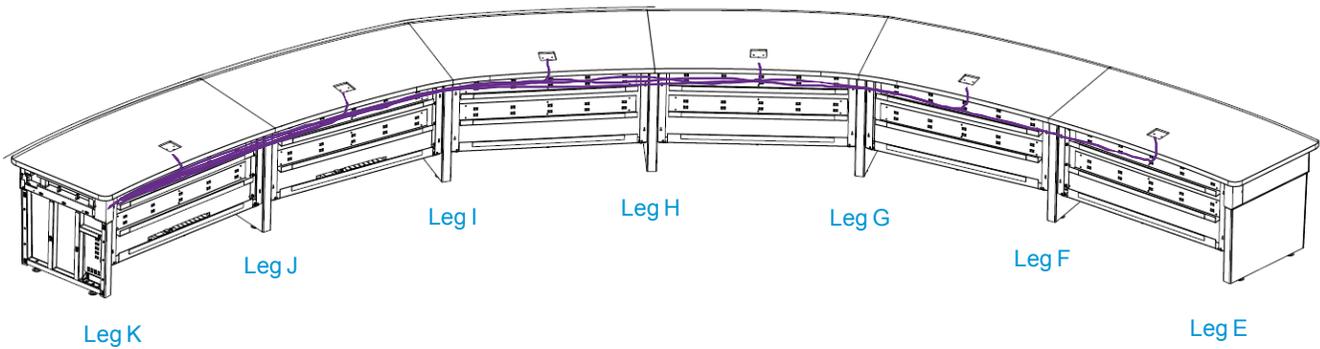


Note

Figure 13-27 shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone extension cable	37-0931-xx Kit # 69-2351-xx	7	48	
2	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.

Figure 13-27 Connecting the Microphone Extension Cables



- Step 28** When connecting the microphone cables to the audio/video extension unit (LAEB), follow the wiring diagram in the “Wiring Diagrams for CTS TX9000 and TX9200 Systems” section on page 10-17, omitting the connections on the LAEB that are shown in Figure 13-28. The connections are denoted as MIC 4 and MIC 9 in Figure 10-16 and Figure 10-17.

Figure 13-28 LAEB Connections



347750

- Step 29** Complete cabling of the second row and attach the outer leg panel and electrical egress box by completing the following steps:
- a. Run all the cables into table leg 800-37778-xx.
 - b. Use velcro straps (callout 1) to secure the cables.
 - c. Run the cables into the floor opening; then, attach the electrical egress box assembly (callout 2 or callout 5) using 2x screw (callout 3).

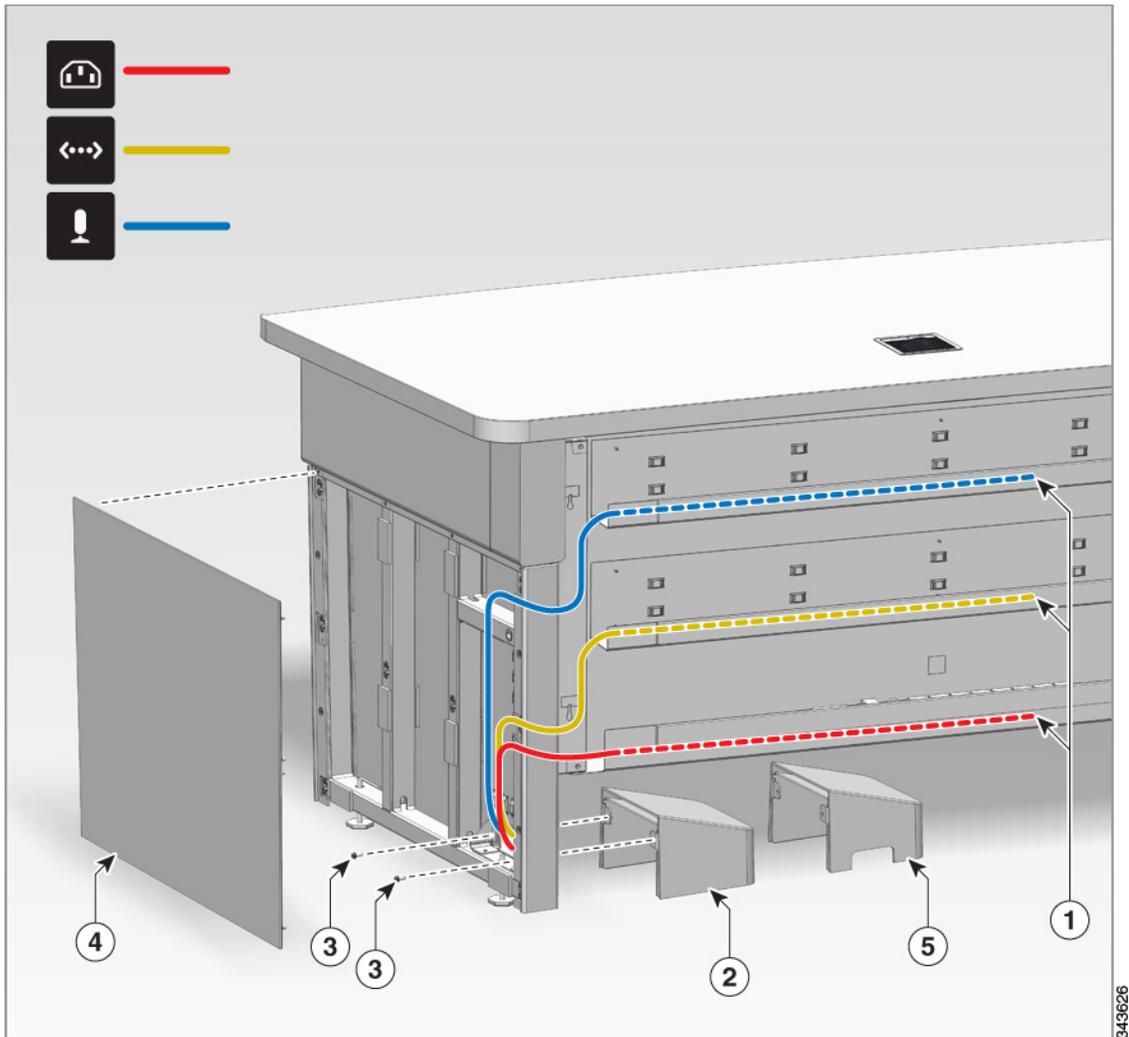
**Note**

Use electrical egress box 800-37783-xx if floor has a trench; use electrical egress box 800-37909-xx if cables will run above the ground.

- d. Ensure that all cables are neatly routed inside of the table leg, as the cables could prevent assembly of the outer leg panel.
- e. Attach the outer leg panel (callout 4).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.
2	Electrical egress box for floors with trench	800-37783-xx Kit # 69-2314-xx	1	51	
3	M4 x 12mm screw	48-2426-xx Kit #69-2358-xx Subkit #53-3789-xx	2	6	
4	Outer leg panel	700-37281-xx Kit #800-37778-xx Subkit # 69-2314-xx	1	51	
5	Electrical egress box with mouse hole (for floors with above-ground wiring egress)	800-37909-xx Kit # 69-2314-xx	1	51	

Figure 13-29 Routing the Cables and Attaching the Outer Leg Panel and Electrical Egress Box



- Step 30** Assemble the privacy panel cosmetic covers (callouts 1 to 4) by completing the following steps:
- Slide the keyholes for privacy panel 1 the privacy panel into the aligning studs in the table structure; then, slide the panels upwards, making sure to apply pressure to the sides when you are pushing up. Follow the numbering in [Figure 13-30](#) to determine the correct privacy panel to use.



Note Two people may be required for this step.

- Assemble the 3 screws (callout 5) from underneath to hold each panel.
- Repeat Steps [a.](#) through [b.](#) for the remaining privacy panels.



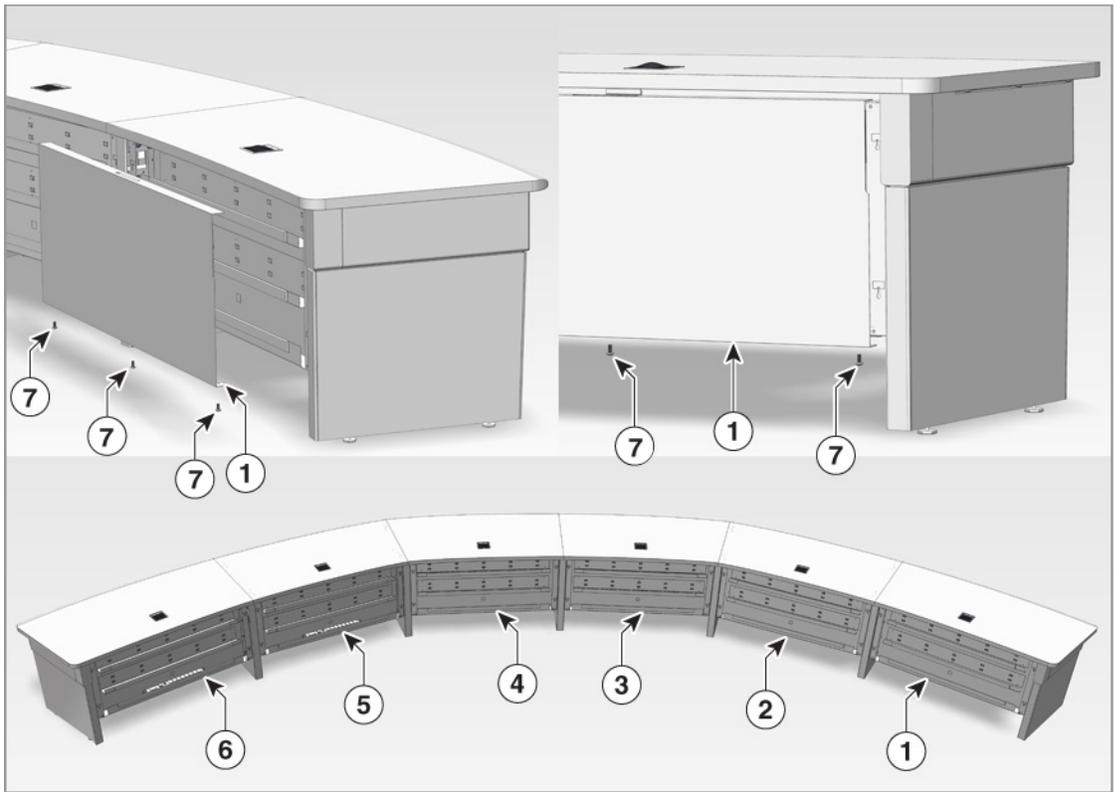
Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Use the privacy panel in callout 1 for the far-left table section. Use the privacy panel in callout 2 and 5 for the mid-left and mid-right table sections. Use the privacy panel in callout 6

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy panel, 1	700-37591-xx Kit # 69-2321-xx	1	53	
2 and 5	Privacy panel, 2 and 5	700-37592-xx Kit # 69-2321-xx	2	53	
3 and 4	Not used for a 14-seat system				
6	Privacy panel, 6	700-37594-xx Kit # 69-2321-xx	1	53	
7	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	18	47	

Figure 13-30 Assembling the Privacy Panels



Step 31 Snap the microphone cable covers (callout 1) into the underside of the tables by squeezing the component as shown in [Figure 13-31](#) and placing it into the cable slot.



Tip

If you need to remove the covers, place your finger in the open edge of the cover and pull the cover out.

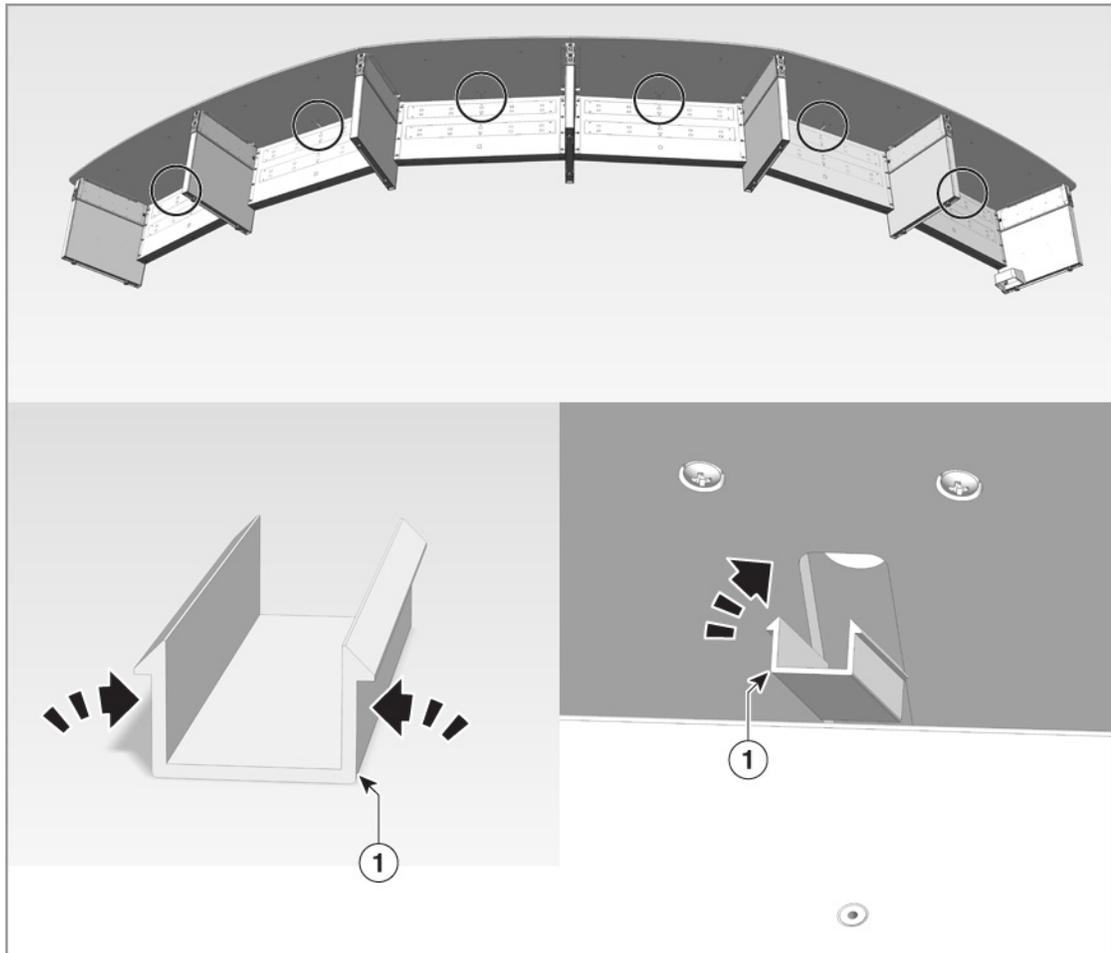


Note

[Figure 13-31](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row microphone cable cover	700-37828-xx Kit # 69-2339-xx	6	51	

Figure 13-31 Placing the Microphone Covers Into the Underside of the Tables



Step 32 Remove the protective film from the table legs.

Assembling a 4-Seat Second Row For a 10-Seat TX9200 System

To assemble a second row table with three table legs and two table sections, complete the following steps.

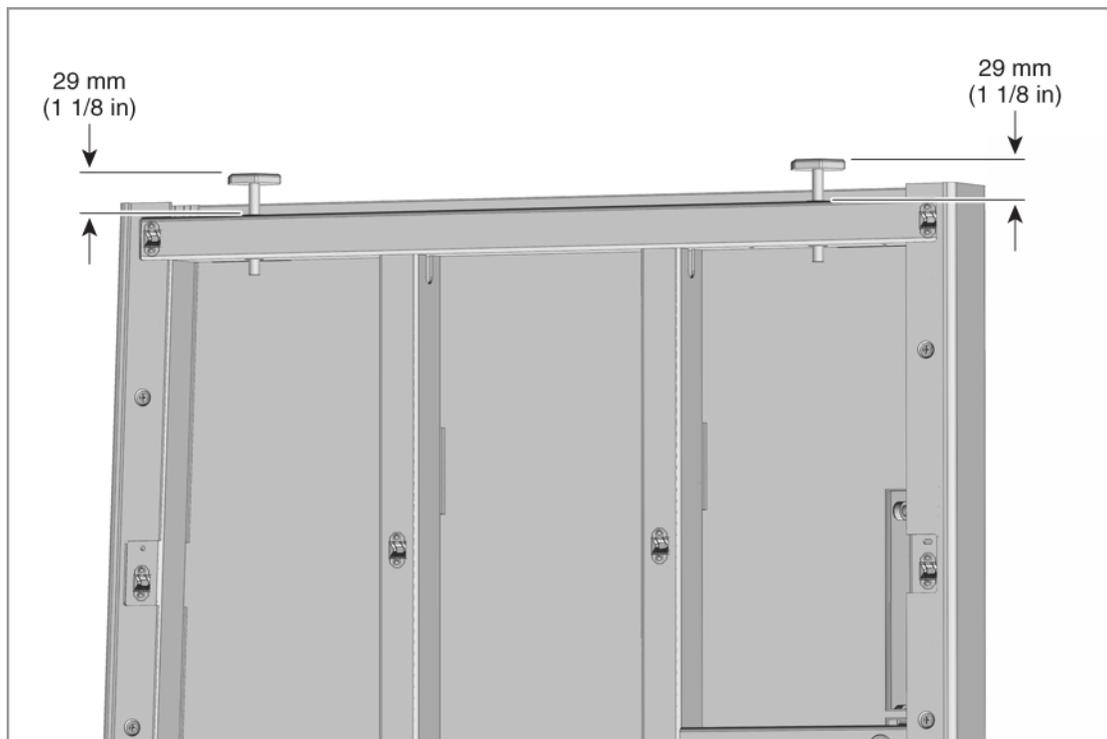
-
- Step 1** Unpack each table leg.
- Step 2** Set the table legs upside-down and place them in approximately the position where they are during the final installation.



Tip Check the label on top of the each leg to determine the placement.

- Step 3** With the leg still upside-down, measure the gap between the hex nut on the leveling foot and the structure.
- Step 4** If required, adjust the nut until the distance between the hex nut and the structure is 22mm.

Figure 13-32 *Adjusting the Leveling Feet on the Table Legs*

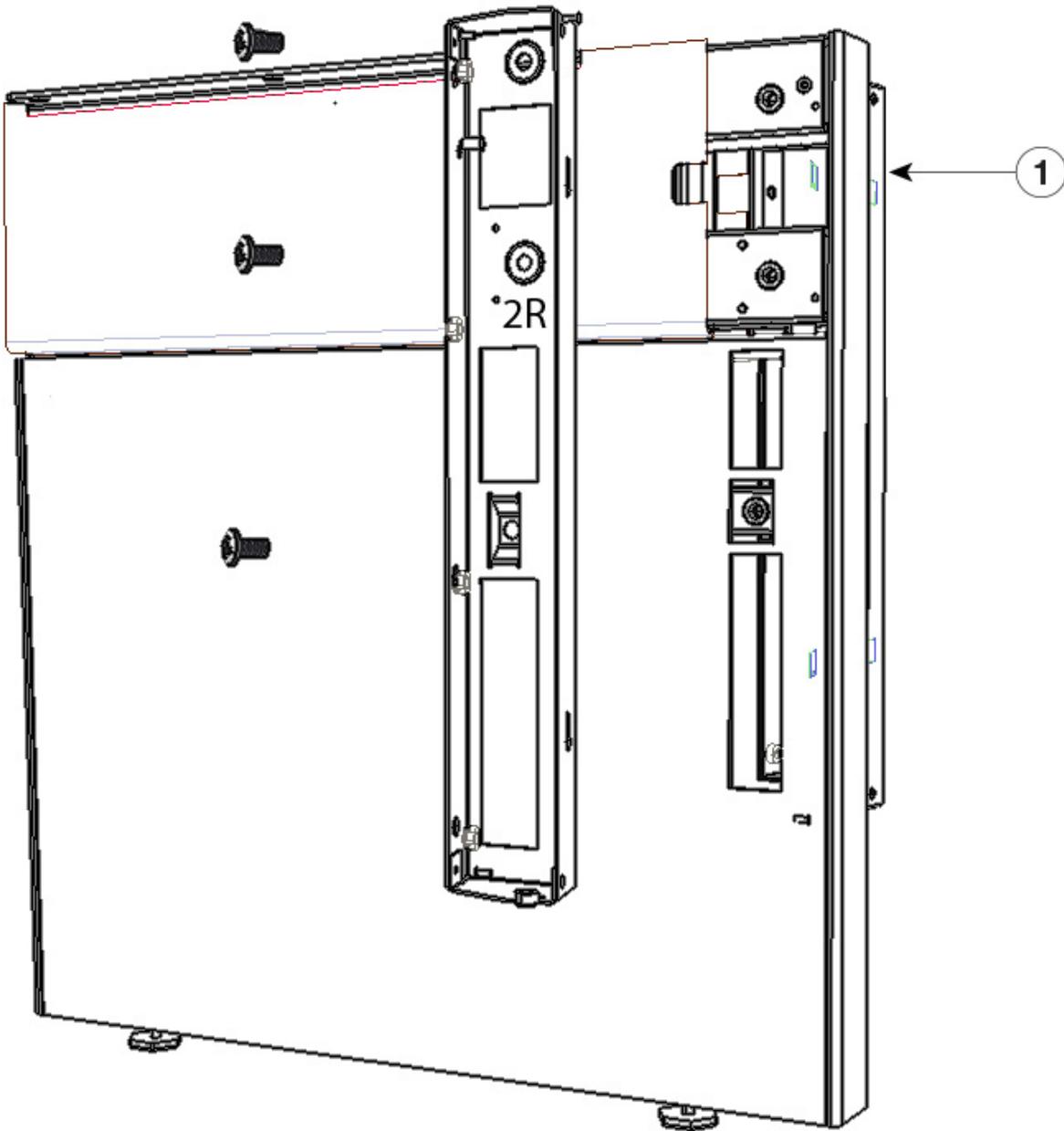


Step 5 Switch the attachment brackets from two table legs by completing the following steps:

- a. Remove the 6R bracket from 800-37782-xx.
Save this bracket.
- b. Remove the 2R bracket from the table leg 800-37777-xx.
- c. Replace the 2Rbracket you just removed with the 6R bracket from Step a.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg	800-37779-xx Kit # 69-2314-xx	1	51	
N/A	Table leg	800-37781-xx Kit # 69-2314-xx	1	51	Not shown in Figure 13-33

Figure 13-33 Removing the 2R Bracket



352598

Step 6 Join table leg 800-37776-xx, table leg 800-37777-xx, and the privacy panel bracket together by completing the following procedure:



Note For this step and all successive steps, slightly peel back the protective film on the table legs (enough to expose the space where the structure and the legs join together).

- d. Attach a privacy panel bracket (callout 1 in [Figure 13-34](#)) in between 800-37776-xx and 800-37777-xx (callouts 2 and 3).
- e. Line up the alignment pins to the holes and attach the panel with eight M8 x 16mm screws (callout 4).

These screws, and all screws that attach the privacy panel to the table legs, attach from the rear of the system. [Figure 13-34](#) shows the table legs as if you were standing from the front of the system and facing the second row.

- f. Check that the top surface of each leg are the same height and are level by placing levels on the following places:
 - Set a level on the side of the leg to align the legs vertically.
 - Set a level on top of the table leg, both parallel to and perpendicular to the table leg.



Note You can also use a laser level for this step.



Tip

Do not fully tighten all the screws until you attach all of the table sections.



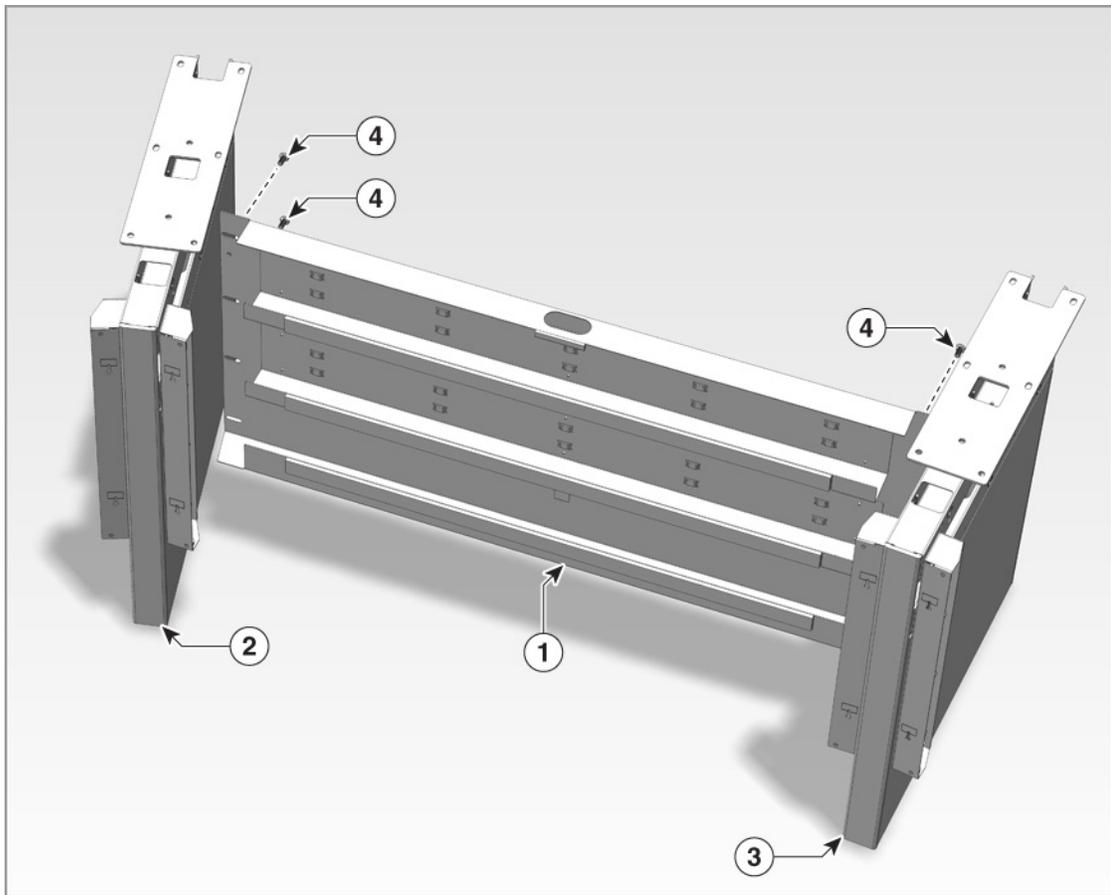
Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Assembling a 4-Seat Second Row For a 10-Seat TX9200 System

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy panel bracket	700-37511-xx Kit #69-2315-xx	1	52	
2	Table leg, middle	800-37777-xx Kit # 69-2314-xx	1	51	
3	Table leg, left	800-37776-xx Kit # 69-2314-xx	1	51	
4	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	8	47	

Figure 13-34 Assembling the Center-Right Privacy Panel Bracket



343606

Step 7 Measure the distance between the first and second row table assemblies and adjust the distance as required.



Note Figure 13-35 shows a second row with six sections; however, the measurements are the same for either a 10-, 14-, or 18-seat system.

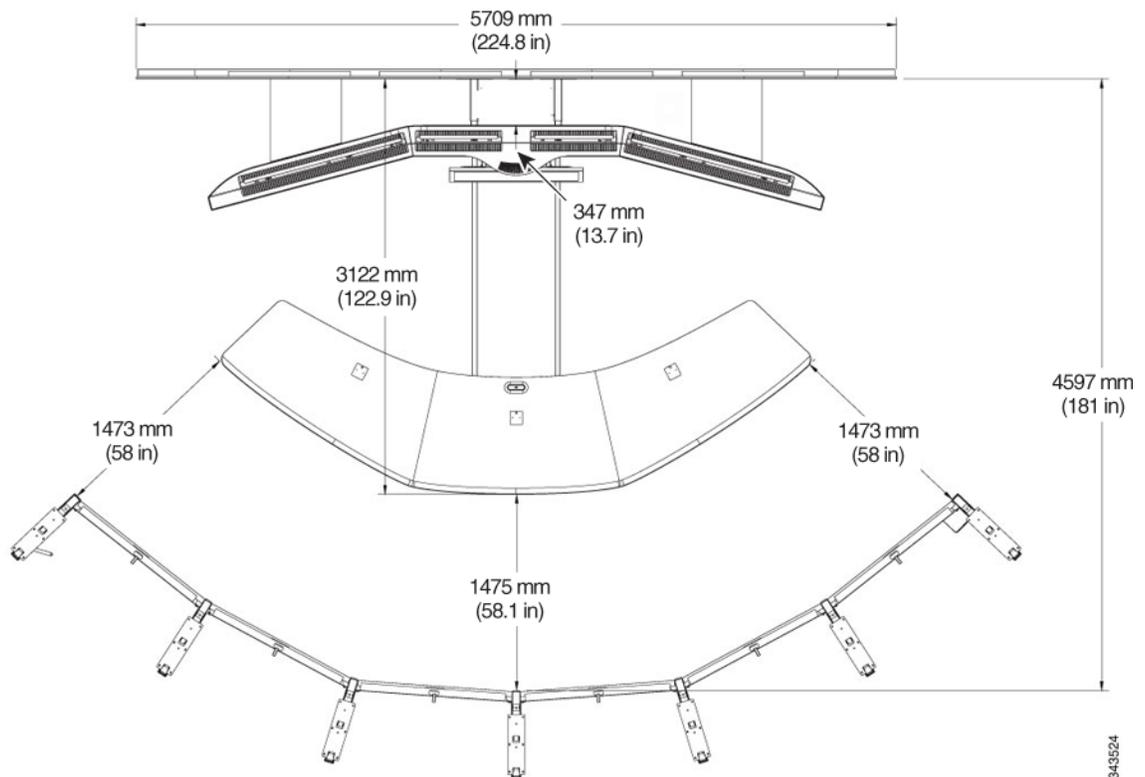


Note Make sure that the table legs are vertically level. If required, loosen the screws and adjust the vertical level of the table legs, then retighten them.



Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table assembly.

Figure 13-35 Measuring the Distance Between the First and Second Row Table Assemblies

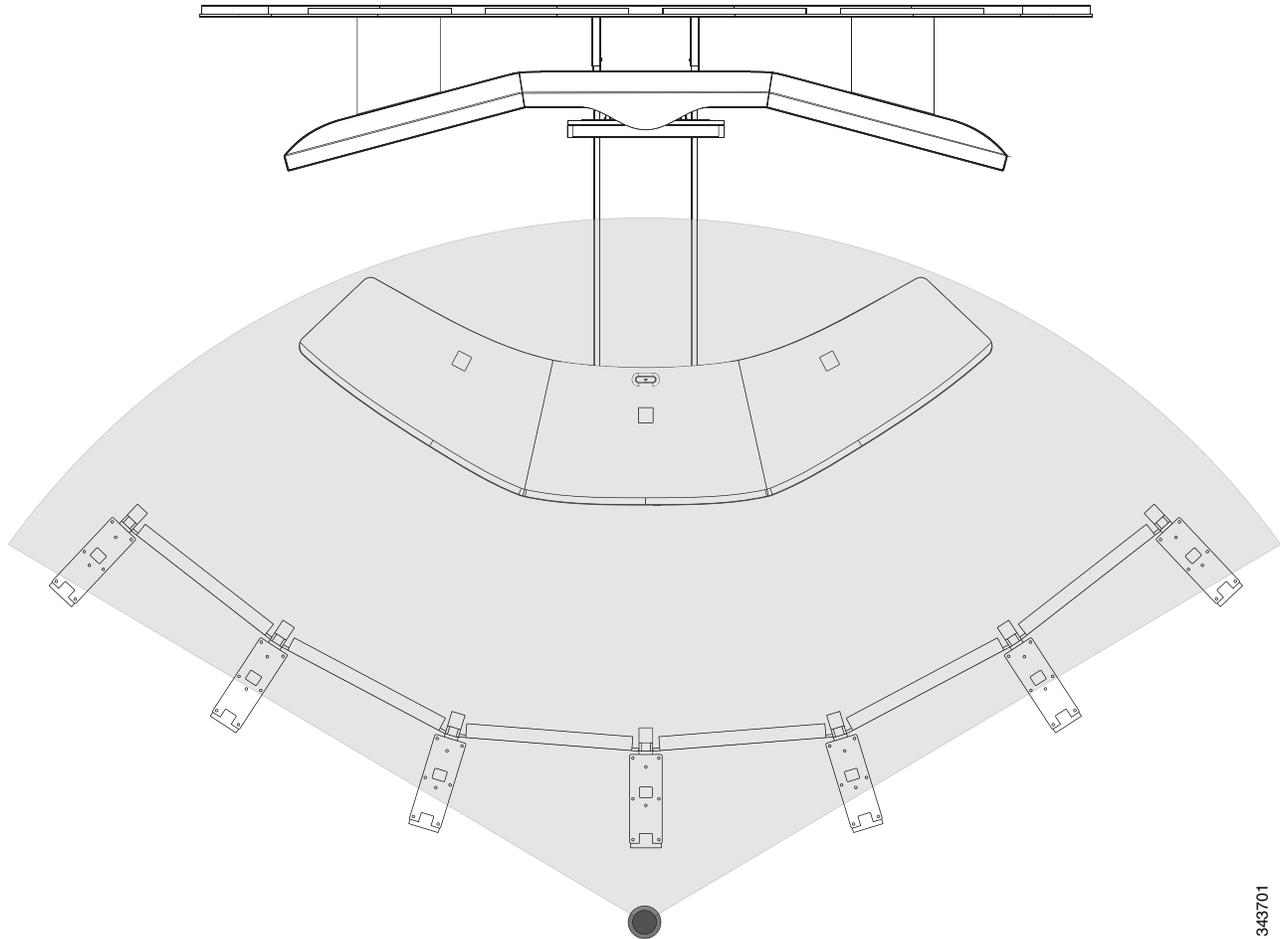


- Step 8** Make sure that the first and second row tables are the same height by completing the following steps:
- Set up a laser level behind the second row.
 - Align the top of the table legs with the bottom of the wooden tabletops on the first row.



Note Figure 13-36 shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Figure 13-36 *Aligning the First and Second Row Tables*



343701

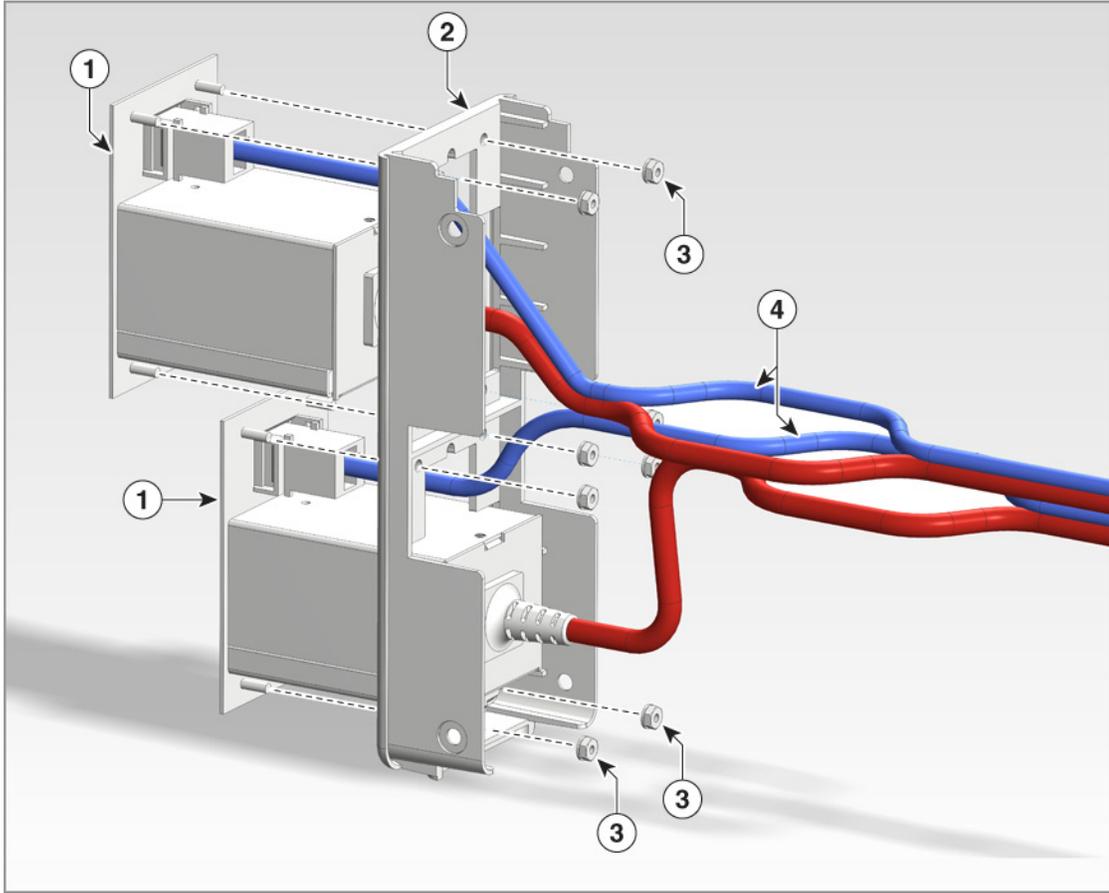
- Step 9** Assemble the power/Ethernet outlet assembly for the inside table leg by completing the following steps:
- a. Attach two power/Ethernet outlets (callout 1) into the front of the table leg cover (callout 2) using eight nuts (callout 3).
 - b. Connect the Ethernet cables (callout 4) and, if applicable, the power jumper cables to the power/Ethernet outlets.



Note Note the orientation of the power/Ethernet outlets; you can only install them in one orientation.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlets	See “Notes” section.	2	54, 55, 56	Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	Power/Ethernet outlet cover, front	700-37102-01 Kit #69-2350-xx Except South Africa (see Notes)	1	51	The South Africa outlet cover is specific to the outlet. Find the covers with the country-specific power outlet.
3	M3 nut	49-0833-xx	12		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-xx Kit # 69-2351-xx	2	48	

Figure 13-37 Assembling the Power/Ethernet Outlets

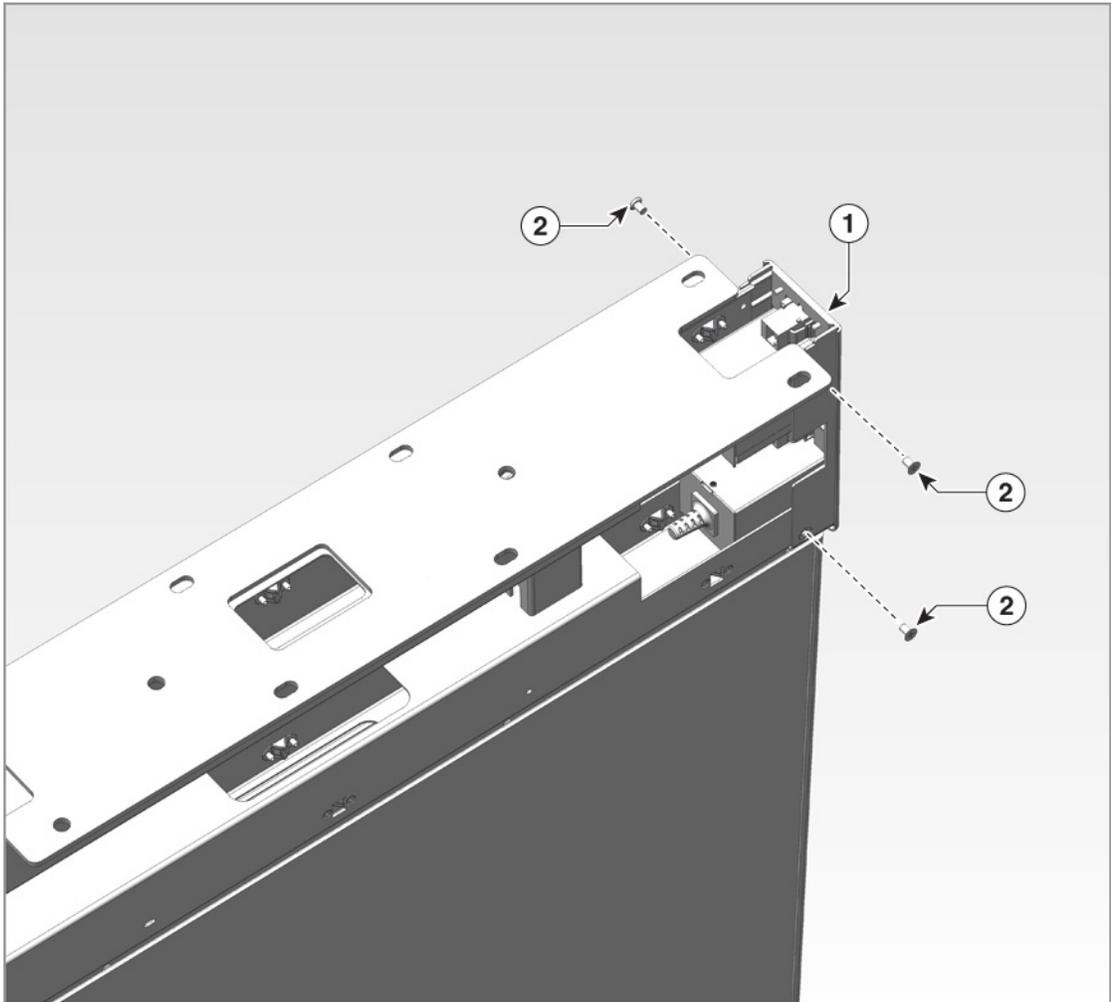


343612

Step 10 Connect the power/Ethernet assemblies to the table assembly (four screws per assembly).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet assembly	See Notes	1		Part number varies by country. Refer to Appendix C, “Region- and Country-Specific Power Cords and Table Leg Power Connectors,” for the correct part number.
2	M5 flat head screws	48-2430-xx Kit # 69-2353-xx Subkit #53-3798-xx	20	47	

Figure 13-38 Connecting the Power/Ethernet Assemblies to the Table Assembly



- Step 11** Assemble the power/Ethernet connections for the outside table legs by completing the following steps:
- a. Assemble power/Ethernet outlet (callout 1) into the lower hole in the power/Ethernet outlet cover (callout 2) using M3 nuts that are included in the outlet kit (callout 3).
 - b. Attach an ethernet cable (callout 4) and, if required, a power cable to the power/Ethernet outlet.

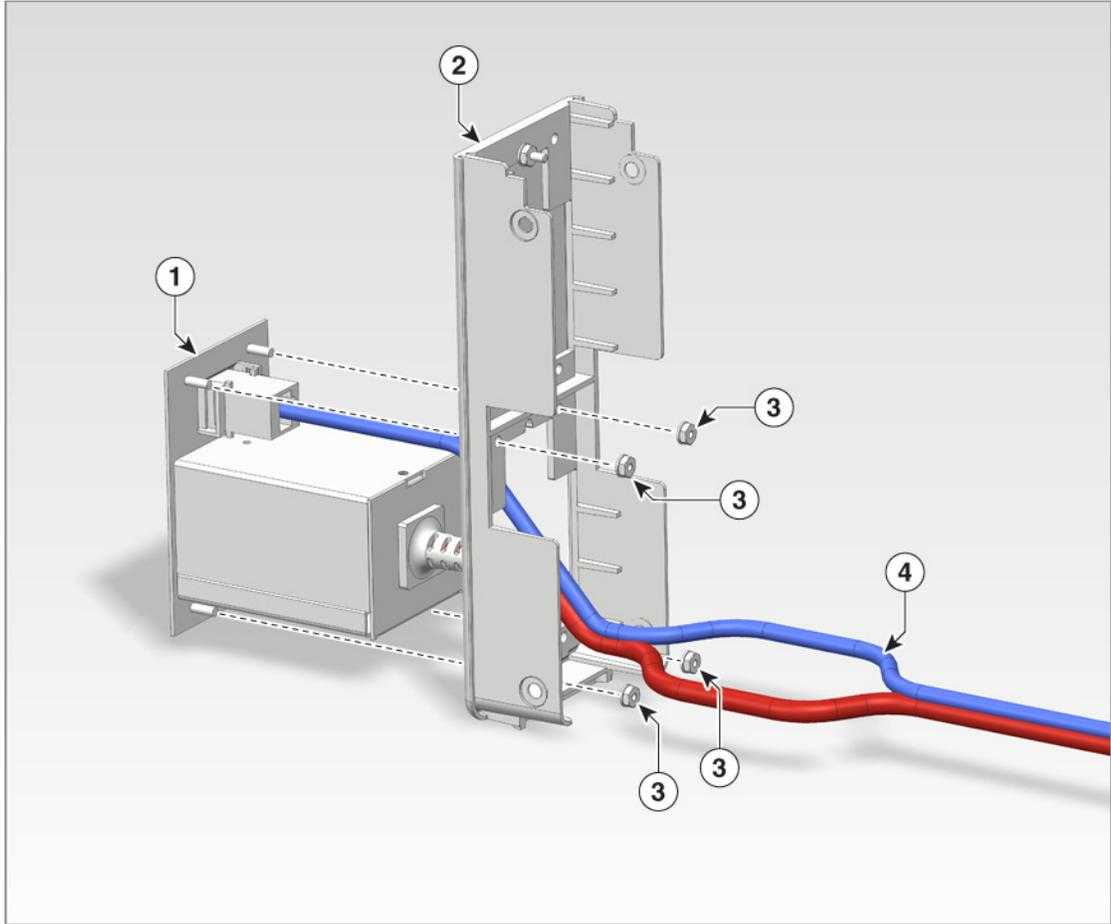


Note Use the long Ethernet cable (callout 5) for table 800-37776-xx.

- c. Repeat Steps a. through b. for the other outside outlet.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet	See Notes	2		Part number varies by country. Refer to Appendix C, "Region- and Country-Specific Power Cords and Table Leg Power Connectors," for the correct part number.
2	Outside Power/Ethernet outlet cover	800-37949-01 Kit # 69-2314-xx	2	51	
3	M3 nut	49-0833-xx	8		Included with the power/Ethernet outlet kit
4	Ethernet cable, 15 meter (49 feet)	37-1402-xx Kit # 69-2351-xx	1	48	
5	Ethernet cable, 17 meter (55 1/2 feet)	37-1403-xx Kit # 69-2351-xx	1	48	

Figure 13-39 Assembling the Outside Power/Ethernet Connections



343614

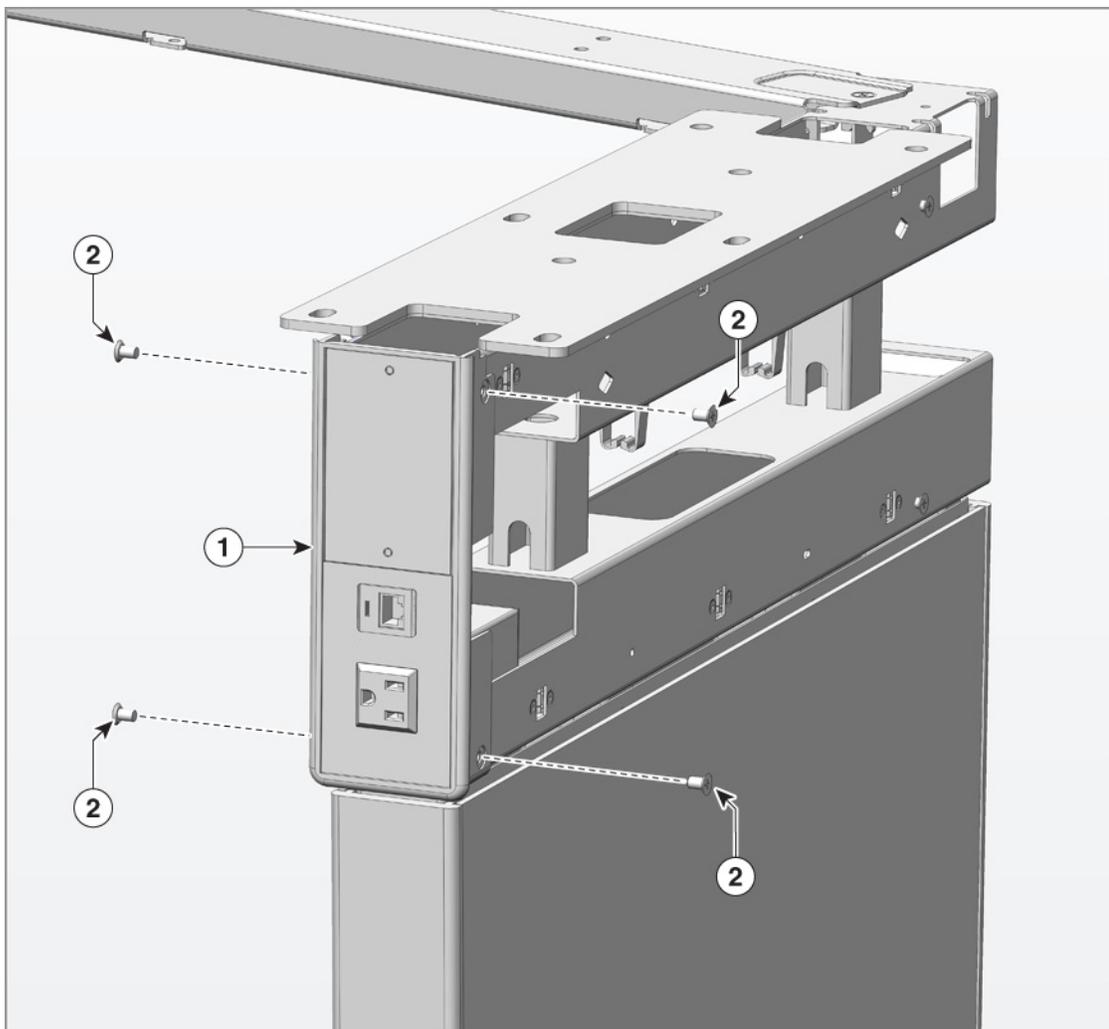
Step 12 Insert the power/Ethernet outlet assemblies you built in [Step 11](#) into the outside table legs.



Note Make sure that you place the assembly with the long Ethernet cable in table 800-37776-xx.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Power/Ethernet outlet assembly	N/A	2		Already assembled
2	M5 flat head screw	48-0811-xx Kit #69-2354-xx Subkit # 53-3798-xx	4	47	

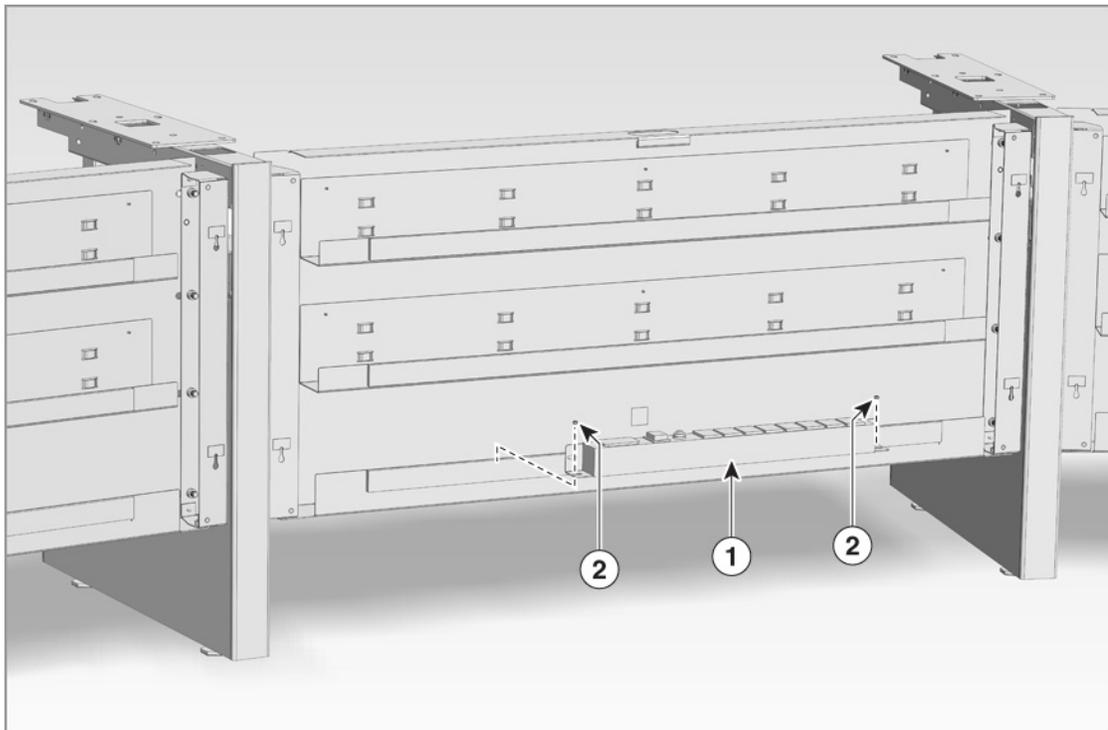
Figure 13-40 Installing the Power/Ethernet Outlets to the Outside Table Legs



- Step 13** Connect the Power Distribution Units (PDUs) and power jumper cables by completing the following steps:
- Assemble 2 PDUs (callout 1) into each privacy panel, and 800-37781-xx and 800-37782-xx, using M3 nuts (callout 2) for each PDU.
 - Connect the power cables from legs 800-37776-xx and 800-37777-xx to the left PDU.
 - Connect the power cables from leg 800-37778-xx to the right PDU.
 - Use the velcro straps to route the cables cleanly.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	PDU	74-4787-02 CTS-PWR-PDU	2	49, 50	
2	M3 nut	49-0376-xx Kit # 69-2419-xx Subkit # 53-3798-xx	4	47	
3	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 13-41 .

Figure 13-41 Placing the PDUs Into the Privacy Panel Channels



- Step 14** Connect the power cables, and route and connect the power and Ethernet cables, by completing the following steps:
- a. Attach jumper cables to the second row PDUs and route the cables to the right (the side nearest table leg 800-37778-xx). These cables are shown in blue in [Figure 13-42](#).
If required, use two jumper cables to connect the power outlets for table leg 800-37776-xx. You connect a total of six jumper cables.
 - b. Route the cables for the second row table as shown in [Figure 13-42](#).
 - Place the power cables in the bottom row of the cable trays.
 - Place the Ethernet cables in the middle row of the cable trays.
 - c. Neatly bundle any excess cable and secure the cables with Velcro straps (callout 1).
Use Velcro straps (callout 1) to cleanly route the cables.
 - d. Attach the table leg side panel assemblies (callouts 2, 3, 5, and 6).
 - e. Level the table assembly using a laser level and the diamond marks on the sides of the legs as a reference point.

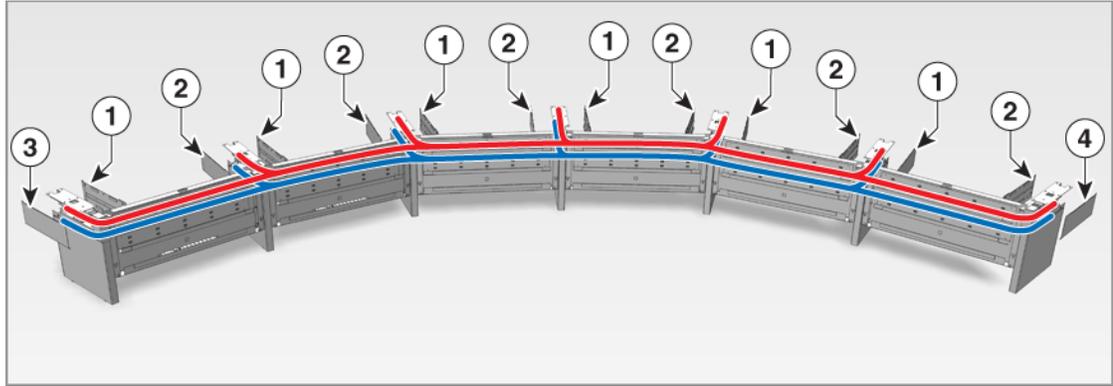
For additional cabling information, see [Chapter 10, “Connecting and Routing the Cables.”](#)



Note [Figure 13-42](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Table leg side panel assembly, second row left	700-37182-xx Kit # 800-37777-xx Subkit # 69-2314-xx	1	51	
2	Table leg side panel assembly, second row right	700-37183-xx Kit # 800-37777-xx Subkit # 69-2314-xx	1	51	
3	Table leg side panel assembly, second row far right	700-37722-xx Kit # 800-37778-xx Subkit # 69-2314-xx	1	51	
4	Table leg side panel assembly, second row far left	700-37721-xx Kit # 800-37776-xx Subkit # 69-2314-xx	1	51	
5	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Not shown in Figure 13-20
6	Power jumper cables	37-0833-xx Kit # 69-2351-xx	6	48	Not shown in Figure 13-20

Figure 13-42 Routing the Cables and Attaching the Table Leg Panels



Step 15 Assemble table sections 700-37147-xx and 700-37152-xx by completing the following steps:

- a. Position table sections 700-37147-xx and 700-37152-xx on top of the table structure **the correct way up** and slightly offset from their final position so you have access to the attachment points underneath the table tops.



Note The images in [Figure 13-43](#) are shown upside-down for clarity.

One person may have to support the parts while the other person follows the below steps and assembles from below.

- b. Install four wooden biscuits (callout 3) into the slots; then, gently push the table sections together.
- c. Position the two half-moon table joiners (callout 4) and tighten them to bring the tables together.
- d. Attach two joint plates (callout 5) using 12 screws (callout 6).



Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

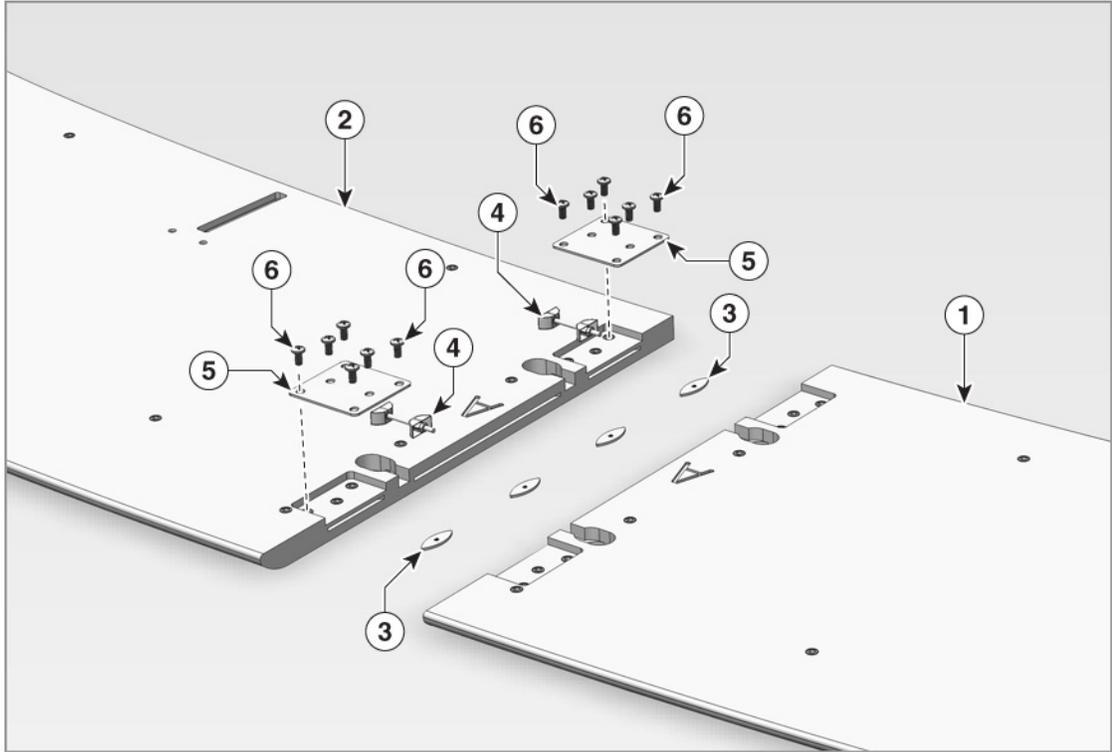


Note

The natural woods that are used for the tabletop finishes have a unique color, grain, and texture; as a result, there may be slight variations in grain between the table sections due to the natural formation of the wood.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row table section, far-left	700-37147-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
2	Second row table section, mid left	700-37148-xx Kit #69-2301-xx or 69-2386-xx	1	73	Kit number depends on type of table (maple or walnut)
3	Wooden biscuits	700-23909-xx Kit # 69-2299-xx	4	51	
4	Half-moon table joiners	51-6068-xx Kit # 69-2299-xx	2	51	
5	Joint plates	700-23345-xx Kit # 69-2314-xx	2	51	
6	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	12	47	

Figure 13-43 Connecting the Table Sections



343618

- Step 16** Secure the table sections to the table legs by completing the following steps:
- Slide the table top to line up the two holes nearest the middle table leg.
 - Put in two screws (shown as callout 1a in [Figure 13-44](#)), but do not fully tighten them.
 - Loosely screw in the two screws nearest the 65-inch displays for each leg.
 - Insert the screws farthest away from the displays (shown as callout 1b in [Figure 13-44](#)) for all table legs.
 - Fully tighten the screws you inserted in Steps a. through d.

**Caution**

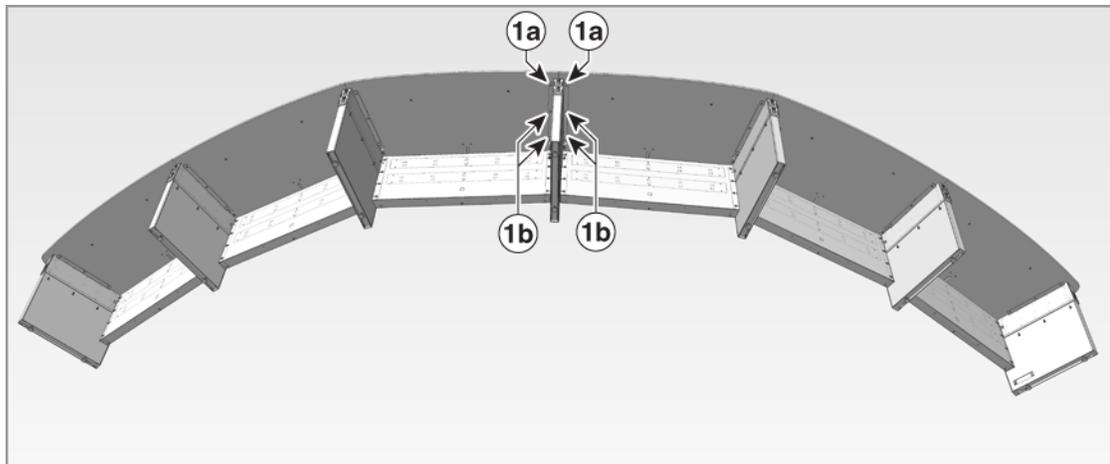
USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers. Using incorrect, longer screws can cause leveling problems with the table sections.

**Note**

[Figure 13-44](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	42	47	

Figure 13-44 Connecting the Table Sections to the Table Legs



343623

Step 17 Perform final measurements between the first and second row tables and move the second row table as required.

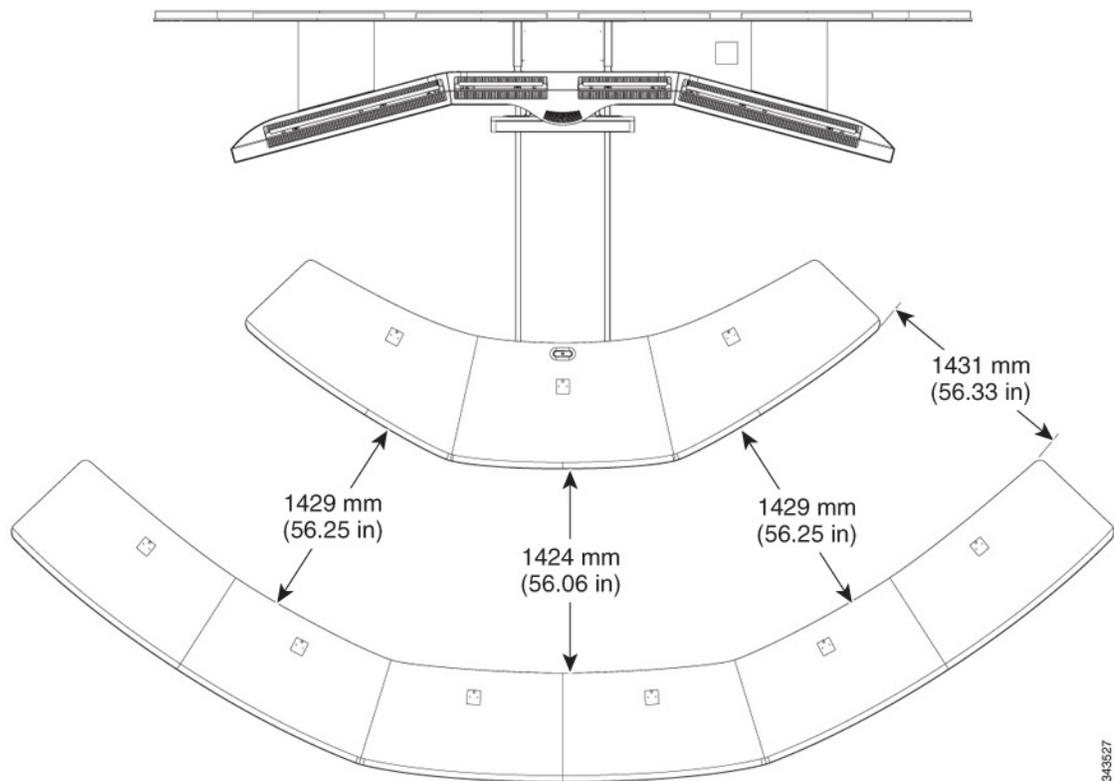


Note You can place furniture sliders (flat plastic pieces) under the second row table legs to facilitate moving of the table.



Note [Figure 13-45](#) shows a second row with six sections; however, the measurements are the same for either a 10-, 14-, or 18-seat system.

Figure 13-45 Distance Between the First and Second Row



- Step 18** Install the microphones by completing the following steps:
- Install the microphone assemblies (callout 1) with the mute button facing away from the 65-inch displays, using 2 M4 x 30mm screws (callout 2).
 - Feed the microphone cable into the privacy panel bracket.

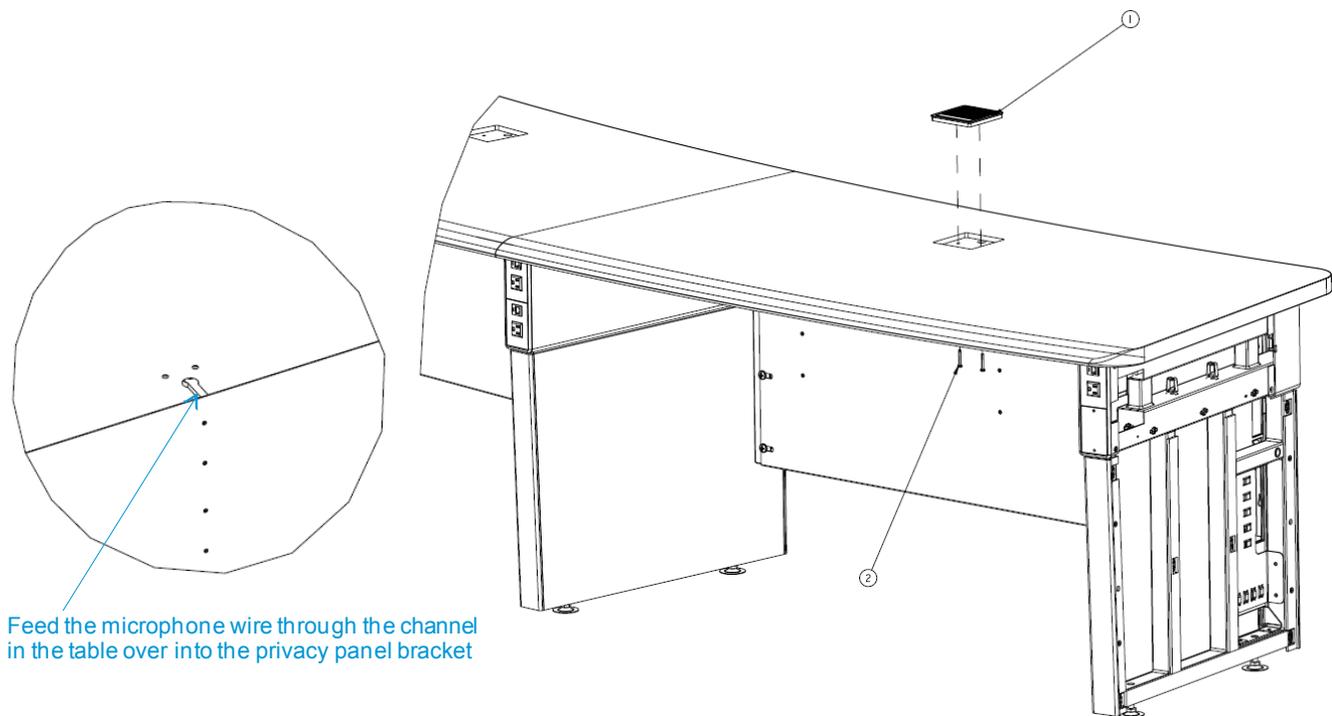


Note Make sure that the cable goes into the channel that is shown in [Figure 13-46](#).

- Assemble the other 3 microphones by repeating Steps [a.](#) and [b.](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone assembly	74-10241-xx CTS-TX9K-MIC	3	67-72	
2	M4 x 30mm screw	N/A	6		Included with the microphone kit

Figure 13-46 Installing the Microphones Into the Table Tops



- Step 19** Connect the microphone extension cables to the microphones and route the cables by completing the following steps:
- a. Connect the microphone extension cables (callout 1) to the microphone cables.
 - b. Route all the microphones cables along the top row of the cable trays.
 - c. Use velcro straps to secure the cables (callout 2).



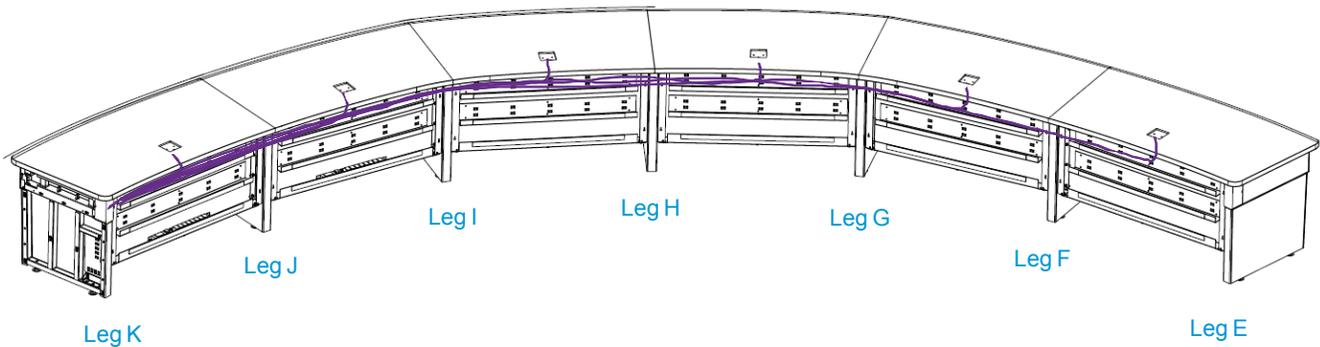
Note Use one additional extension cable for the microphone between table legs 800-37777-x and 800-37776-xx.



Note Figure 13-47 shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

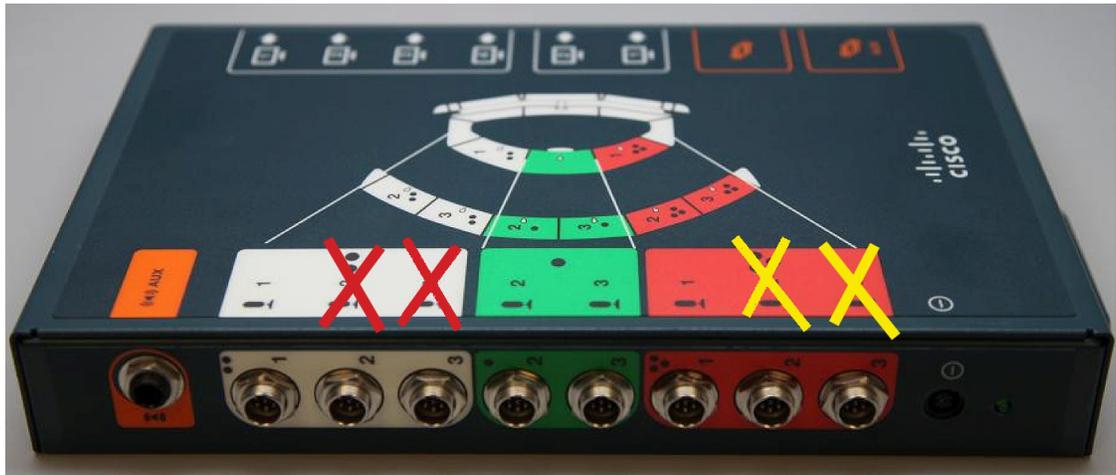
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Microphone extension cable	37-0931-xx Kit # 69-2351-xx	3	48	
2	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.

Figure 13-47 Connecting the Microphone Extension Cables



- Step 20** When connecting the microphone cables to the audio/video extension unit (LAEB), follow the wiring diagram in the “Wiring Diagrams for CTS TX9000 and TX9200 Systems” section on page 10-17, omitting the connections on the LAEB that are shown in Figure 13-28. The connections are denoted as MIC 4, MIC 5, MIC 8, and MIC 9 in Figure 10-16 and Figure 10-17.

Figure 13-48 LAEB Connections



- Step 21** Complete cabling of the second row and attach the outer leg panel and electrical egress box by completing the following steps:
- Run all the cables into table leg 800-37778-xx.
 - Use velcro straps (callout 1) to secure the cables.
 - Run the cables into the floor opening; then, attach the electrical egress box assembly (callout 2 or callout 5) using 2x screw (callout 3).



Note

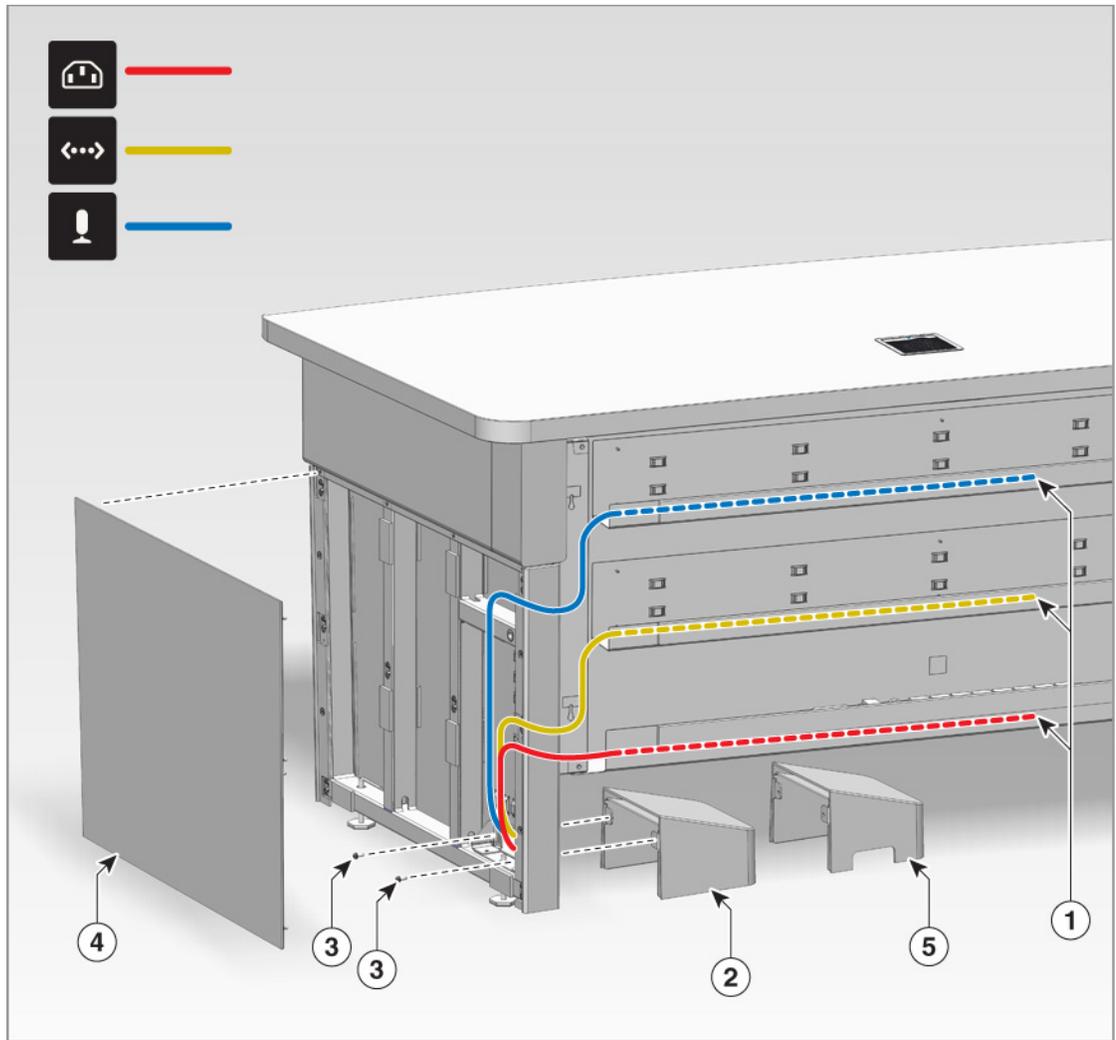
Use electrical egress box 800-37783-xx if floor has a trench; use electrical egress box 800-37909-xx if cables will run above the ground.

- Ensure that all cables are neatly routed inside of the table leg, as the cables could prevent assembly of the outer leg panel.
- Attach the outer leg panel (callout 4).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	There are 70 straps in the kit.
2	Electrical egress box for floors with trench	800-37783-xx Kit # 69-2314-xx	1	51	
3	M4 x 12mm screw	48-2426-xx Kit #69-2358-xx Subkit #53-3789-xx	2	6	

Key	Part Description	Part Number	Qty	Ctn	Notes
4	Outer leg panel	700-37281-xx Kit #800-37778-xx Subkit # 69-2314-xx	1	51	
5	Electrical egress box with mouse hole (for floors with above-ground wiring egress)	800-37909-xx Kit # 69-2314-xx	1	51	

Figure 13-49 Routing the Cables and Attaching the Outer Leg Panel and Electrical Egress Box



Step 22 Assemble the privacy panel cosmetic covers (callouts 1 to 4) by completing the following steps:

- a. Slide the keyholes for privacy panel 1 the privacy panel into the aligning studs in the table structure; then, slide the panels upwards, making sure to apply pressure to the sides when you are pushing up.

Follow the numbering in [Figure 13-50](#) to determine the correct privacy panel to use.



Note Two people may be required for this step.

- b. Assemble the 3 screws (callout 5) from underneath to hold each panel.
- c. Repeat Steps a. through b. for the remaining privacy panels.



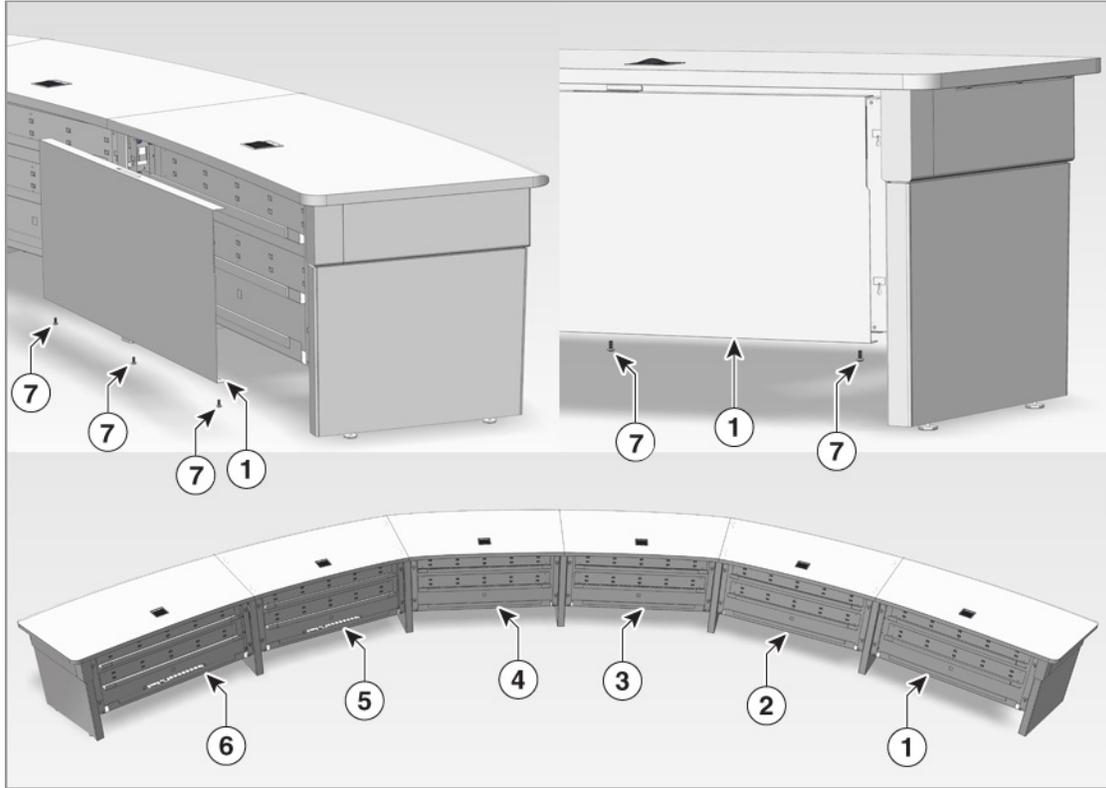
Caution

USE THE CORRECT M8 x 16mm SCREWS FOR THIS STEP. The correct screws do not have shoulder washers.

Use the privacy panel in callout 1 for the far-left table section. Use the privacy panel in callout 2 and 5 for the mid-left and mid-right table sections. Use the privacy panel in callout 6

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Privacy panel, 1	700-37591-xx Kit # 69-2321-xx	1	53	
2 and 5	Not used for a 10-seat system	700-37592-xx Kit # 69-2321-xx	2	53	
3 and 4	Not used for a 10-seat system				
6	Privacy panel, 6	700-37594-xx Kit # 69-2321-xx	1	53	
7	M8 x 16mm pan head screws, black	48-2430-xx Kit # 53-3798-xx Subkit # 69-2353-xx	18	47	

Figure 13-50 Assembling the Privacy Panels



Step 23 Snap the microphone cable covers (callout 1) into the underside of the tables by squeezing the component as shown in [Figure 13-51](#) and placing it into the cable slot.



Tip

If you need to remove the covers, place your finger in the open edge of the cover and pull the cover out.

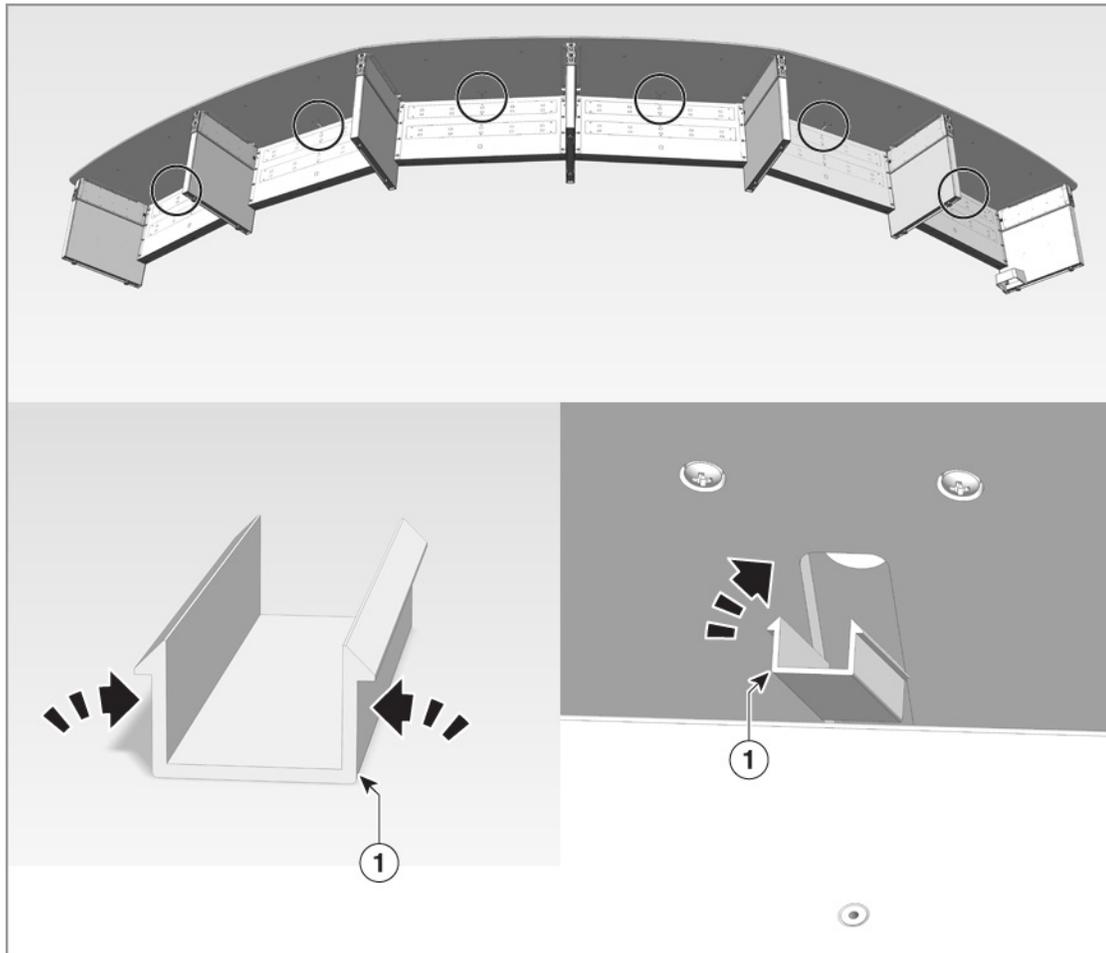


Note

[Figure 13-51](#) shows a second row with six sections; however, this assembly step is the same for either a 10-, 14-, or 18-seat system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Second row microphone cable cover	700-37828-xx Kit # 69-2339-xx	6	51	

Figure 13-51 Placing the Microphone Covers Into the Underside of the Tables



Step 24 Remove the protective film from the table legs.



Completing Installation of the Main Display Structure

Revised: May 20, 2015, OL-27038-01

- Step 1** Install the right rear panel by completing the following steps:
- a. Hook the hanger (callout 7 in [Figure 14-1](#), and callout 2 in [Figure 14-2](#)) of the panel into the bracket on the display assembly as shown in [Figure 14-2](#).



Tip

If the hanger is difficult to engage, you can slide the panel in from the side of the system.

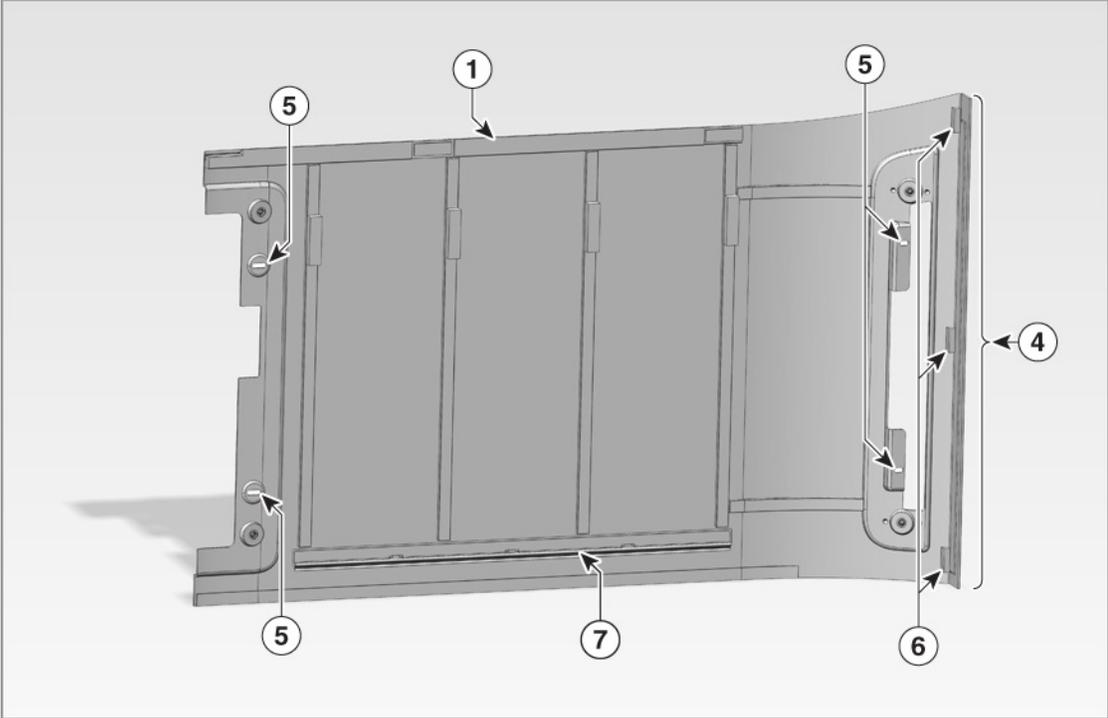
- b. Add the M8 clear plastic washers to the M8 x 16mm screws, then insert the screws and washers through the screw slots (callout 5 [Figure 14-1](#)) and into the display structure as shown in [Figure 14-3](#).
- c. Secure, but do not fully tighten, the screws and washers with a #4 Phillips screwdriver or driver bit. Attach the top row of screws first, then the bottom row of screws. The holes are shown in [Figure 14-3](#).

Make sure that the stop blocks (callout 6 in [Figure 14-1](#)) are pushed against the magnet bracket on the display structure, and that the hanger is engaged with the display structure bracket.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Right rear panel	700-37186-01 Kit # 69-2311-xx	1	4	
2	M8 x 16mm pan head screws	48-3012-01 Kit # 69-2365-xx Subkit # 53-3789-xx	4	6	
3	M8 clear plastic washer	49-1377-01 Kit # 69-2369-xx Subkit # 53-3789-xx	4	6	
4	Magnet	N/A	N/A		Part of the panel
5	Screw slots	N/A	N/A		Part of the panel.

Key	Part Description	Part Number	Qty	Ctn	Notes
6	Stop block	N/A	N/A		Part of the panel.
7	Hanger	N/A	N/A		Part of the panel.

Figure 14-1 Installing the Right Rear Panel (1 of 3)



Key	Part Description	Part Number	Qty	Ctn	Notes
1	Right rear panel	700-37186-xx Kit # 69-2311-xx	1	4	
2	Hanger	N/A	N/A		Part of the panel.

Figure 14-2 Installing the Right Rear Panel (2 of 3)

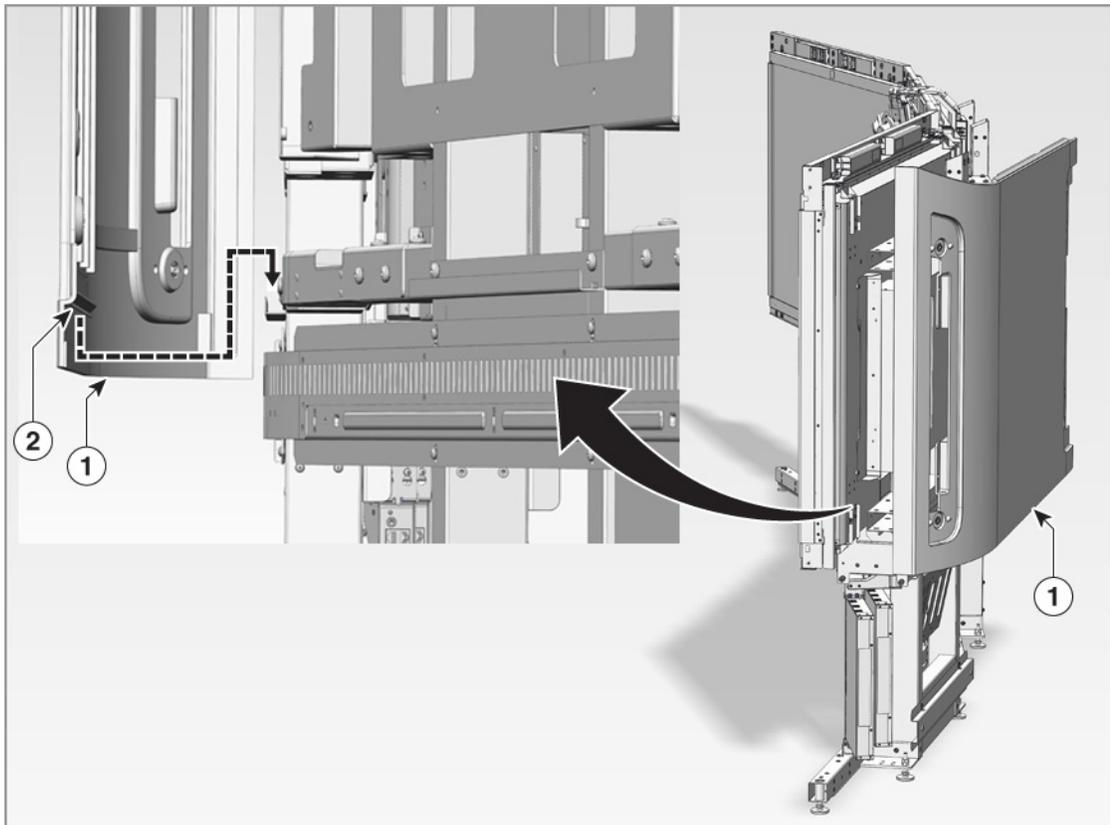
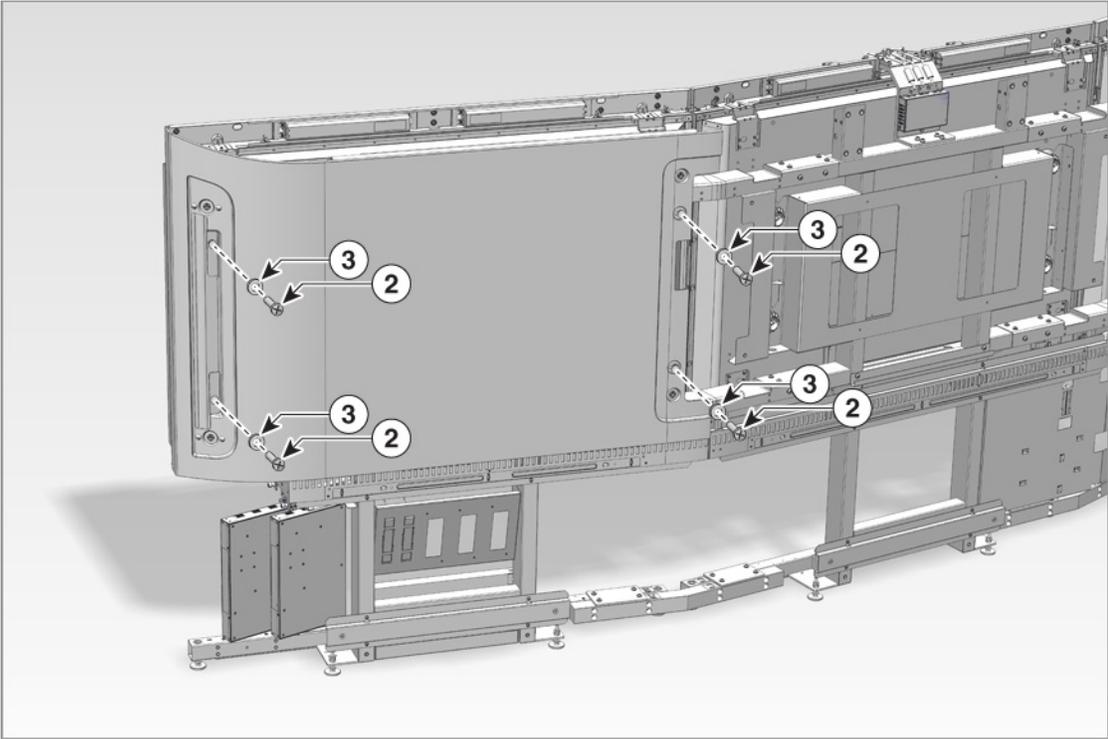


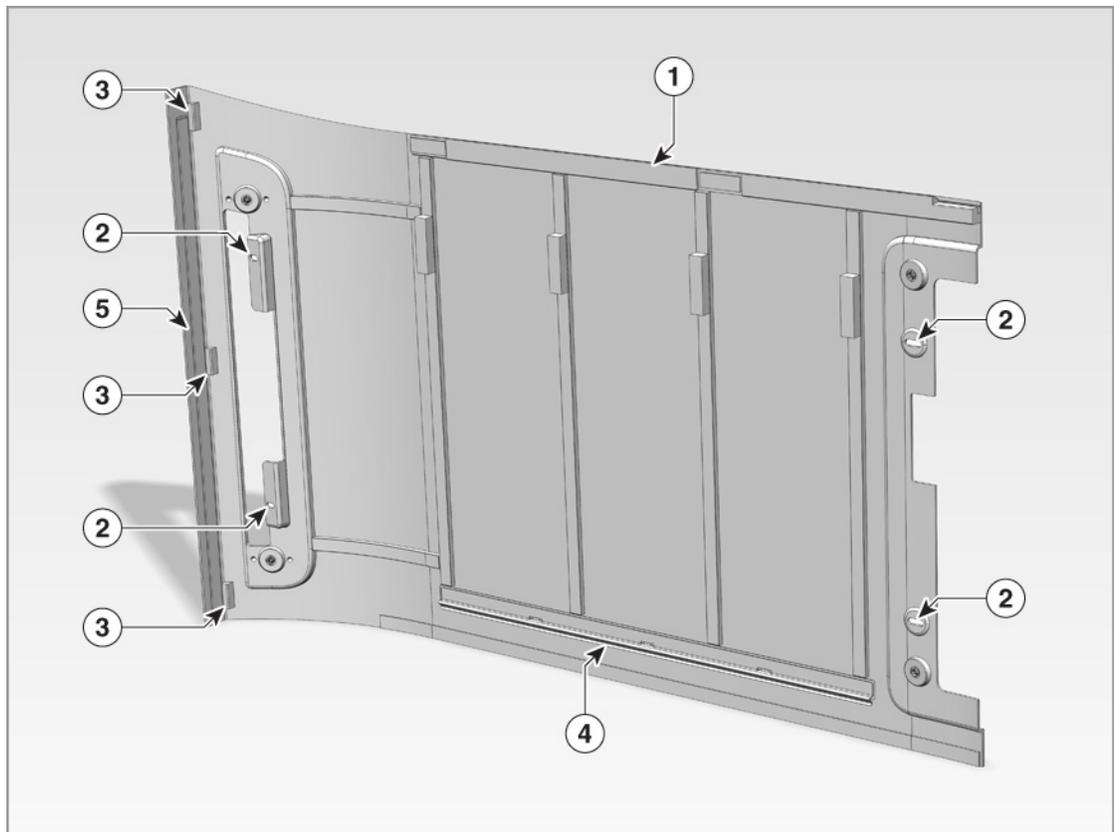
Figure 14-3 Installing the Right Rear Panel (3 of 3)



Step 2 Install the left rear panel. The steps are the same as installing the right rear panel, including using the same washers and screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Left rear panel	700-37188-01 Kit # 69-2311-01	1	4	
2	Screw slots	N/A	N/A		Part of the panel. The washers and screws go into these slots.
3	Stop blocks	N/A	N/A		Part of the panel.
4	Hanger	N/A	N/A		Part of the panel.
5	Magnet	N/A	N/A		Part of the panel.

Figure 14-4 Installing the Left Rear Panel



343632

Step 3 Install the center rear panel by completing the following steps:

- a. Systems with free-standing reflector walls only:** Remove the top covers from the center rear panel. Using a box cutter or tin snips, cut through the thin sections of the plastic tabs that hold the covers in place. One of the two covers is shown as callout 4 in [Figure 14-5](#).



Note If your system uses a reflector wall that mounts to the wall, skip this step and continue to [Step b](#).

- b.** Hook the hanger of the panel (callout 6 in [Figure 14-5](#)) into the slot on the display structure.
- c.** Add the M8 washers to the M8 x 16mm screws, then insert the screws in the screw holes to attach the center rear panel to the display structure. See [Figure 14-6](#) for more information.
- d.** Tighten the screws using a #4 Phillips screwdriver or driver bit.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center rear panel	700-37189-01 Kit # 69-2311-xx	1	4	
2	M8 x 16mm pan head screw	48-3012-01 Kit #69-2365-xx	4	6	
3	Clear plastic washer	49-1377-01 Kit # 69-2369-xx	4	6	
4	Top covers	N/A	N/A		Part of center rear panel
5	Screw slots	N/A	N/A		Part of the panel. The washers and screws go into these slots.
6	Hanger	N/A	N/A		Part of the panel.

Figure 14-5 *Installing the Center Rear Panel (1 of 2)—Description of Parts*

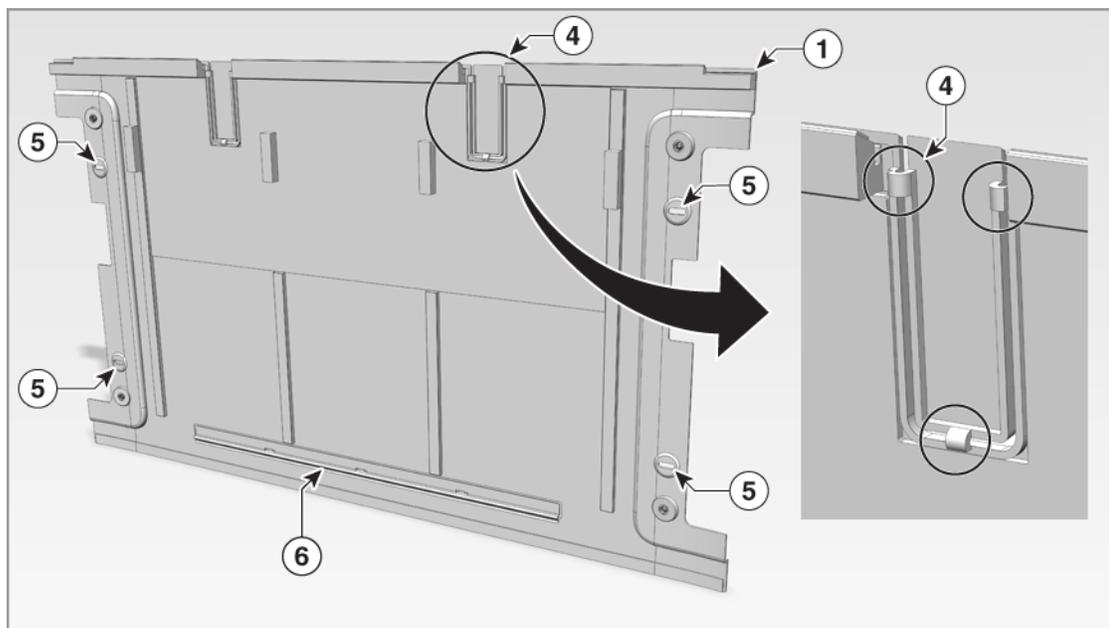
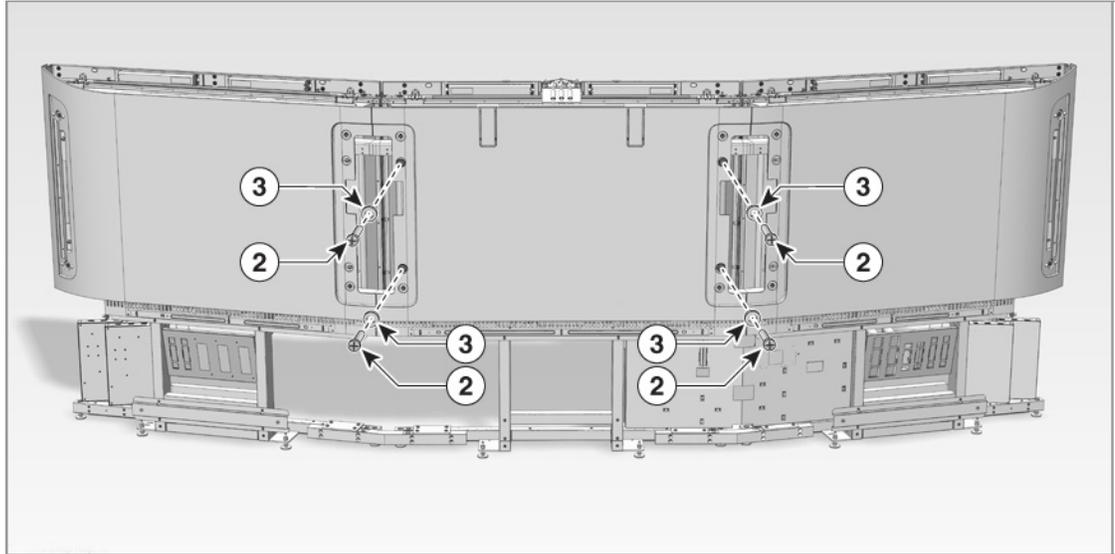


Figure 14-6 Installing the Center Rear Panel (2 of 2)—Installation Detail



Step 4 Install the right top panel light connector into the right top panel.

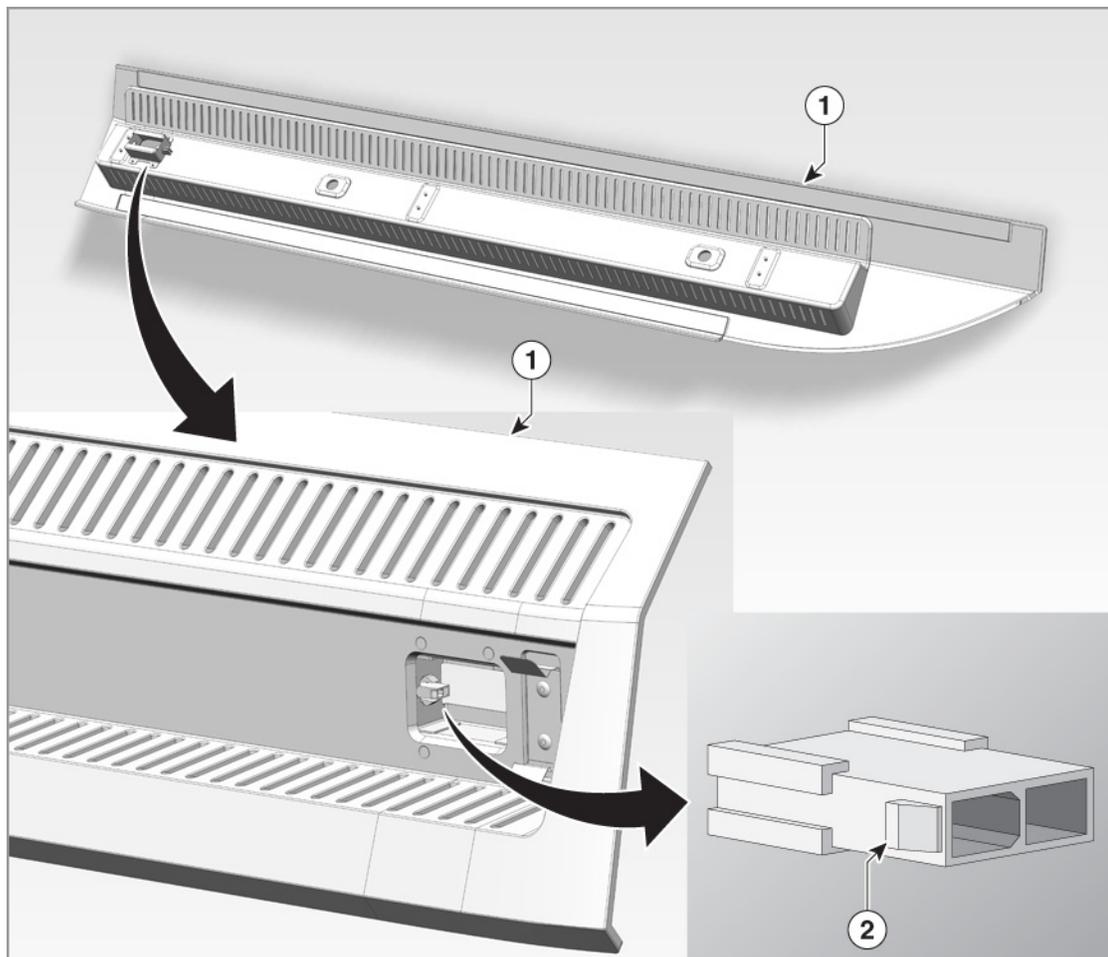


Note

Align the connector so that the barb in the connector (callout 2 in [Figure 14-7](#)) faces the cutout in the plastic panel.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Right top panel	700-37192-01 Kit # 69-2311-xx	1	4	
2	Right top panel light connector	37-1389-01 Kit #69-2349-xx	1	16	Part of the lighting cable. The label on the cable is A096A1319.

Figure 14-7 Installing the Right Top Panel Light Connector

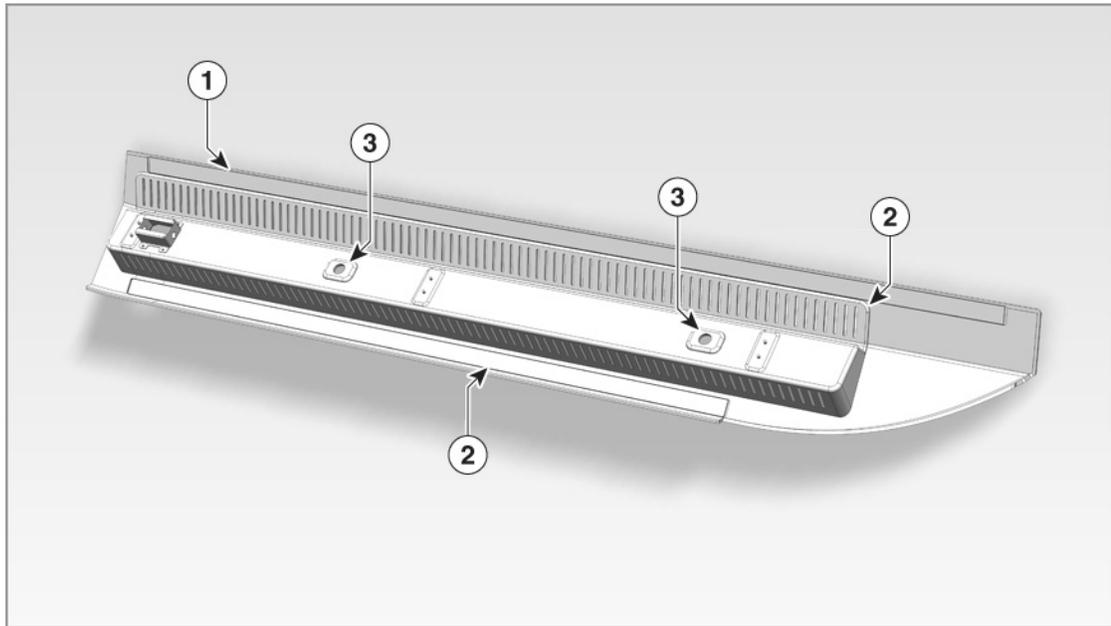


343636

- Step 5** Install the top right panel to the light reflector by completing the following steps:
- a. Insert the tongue on the top panel into the groove on the rear panel.
 - b. Attach the metal strip on the panel (callout 2 in [Figure 14-8](#)) to the magnet on the rear panel.
 - c. Make sure that the inboard edge of the top panel is aligned with the inboard edge of the rear panel.

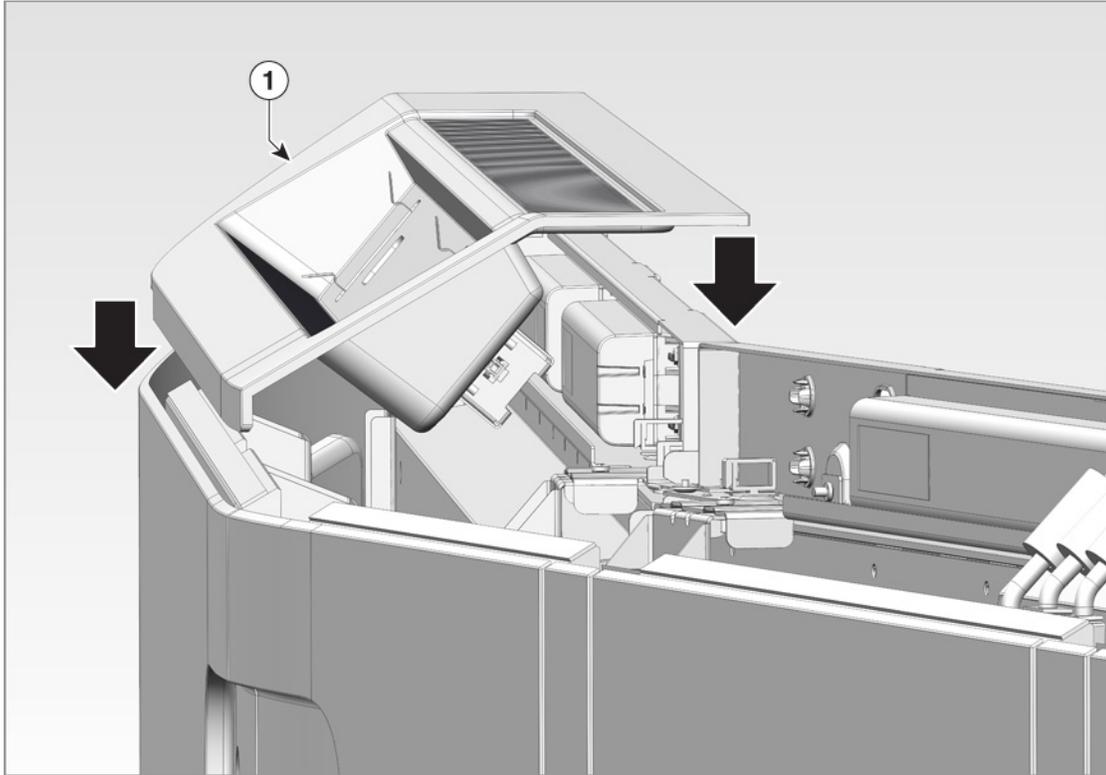
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Right top panel	700-37192-01 Kit # 69-2311-xx	1	4	
2	Metal strip	N/A	N/A		
3	Finger grip holes	N/A	N/A		On some panel types, you can insert your fingers into these holes when you install the panel.

Figure 14-8 Installing the Right Top Panel (1 of 2)—Panel Description



343635

Figure 14-9 Installing the Right Top Panel (2 of 2)—Connecting the Panel To the Display Structure



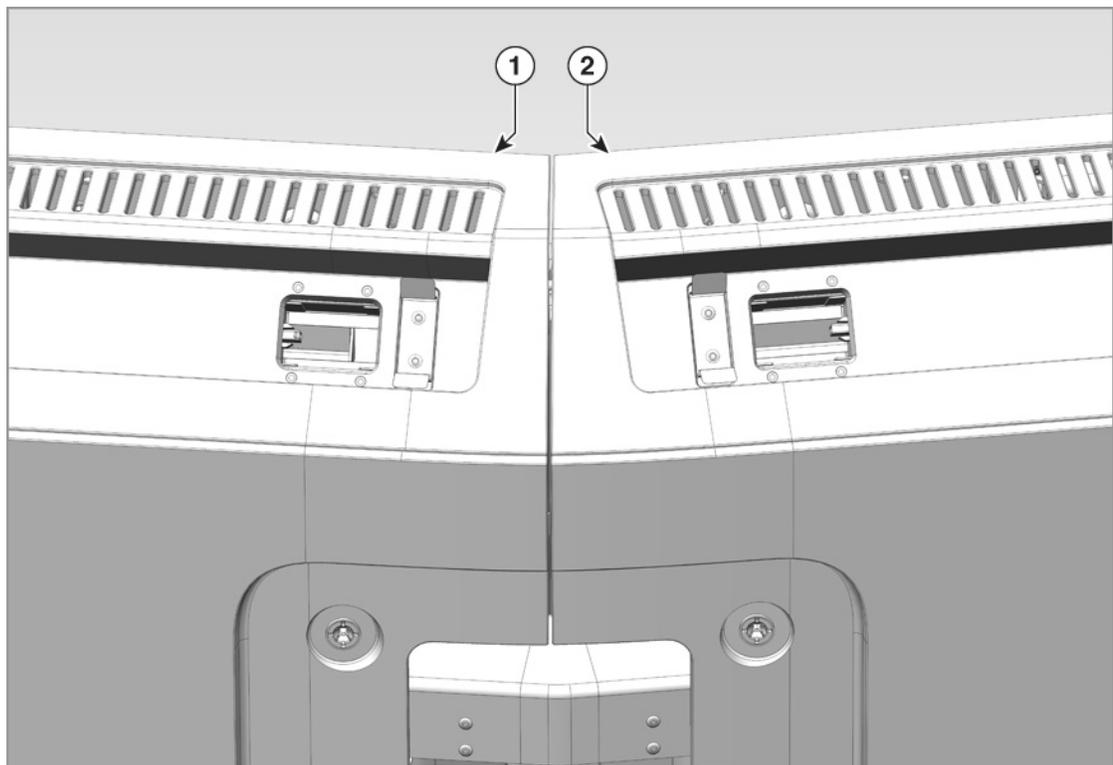
Step 6 Install the Center and left top panels, using the instructions from [Step 5](#).



Note [Figure 14-10](#) shows the structure from the rear. Left and right are reversed.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center top panel	700-37194-01 Kit # 69-2311-xx	1	4	
2	Left top panel	700-37193-01 Kit # 69-2311-xx	1	4	
3	Right top panel	700-37192-01 Kit # 69-2311-xx	1	4	Already installed

Figure 14-10 *Installing the Center and Left Top Panels*



343638

- Step 7** Install the LED lights into the light bar on the panels by completing the following steps:
- Snap the Molex connector from the LED light into the connector shown in [Figure 14-11](#).
 - Place one end of the LED light into its recess in the top cover, then snap it down into place. See [Figure 14-12](#) and [Figure 14-13](#) for more information.

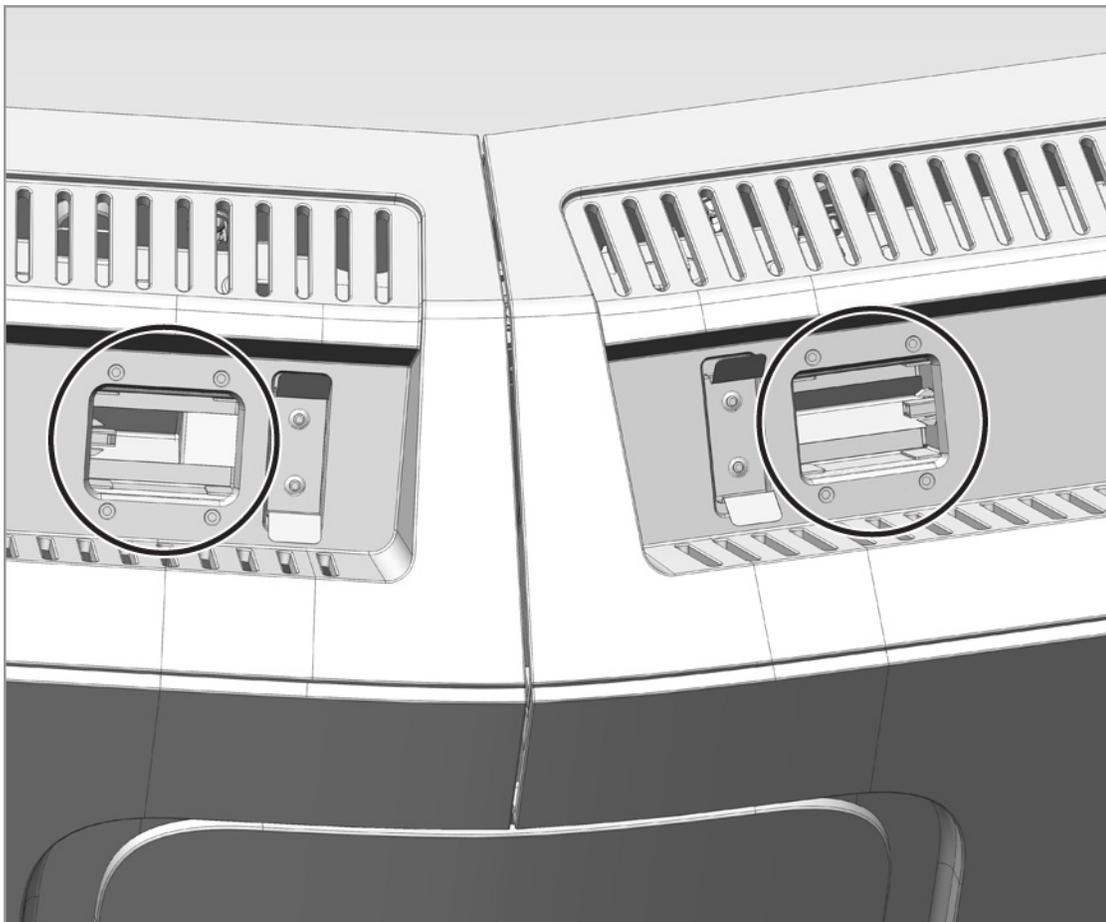


Note Press on the clip tabs as needed to open the clips during installation. Use finger force only.

- Repeat Step [a.](#) through Step [b.](#) for the other three lights.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	LED lights, left and right (4 feet)	74-10337-01 Kit #74-10342-xx	2	21	
2	LED lights, center (2 feet)	74-10336-01 Kit #74-10342-xx	2	21	

Figure 14-11 *Installing the LED Lights (1 of 3)—Connector Location*



345641

Figure 14-12 Installing the LED Lights (2 of 2)—Placing the LED Unit Into the Top Cover

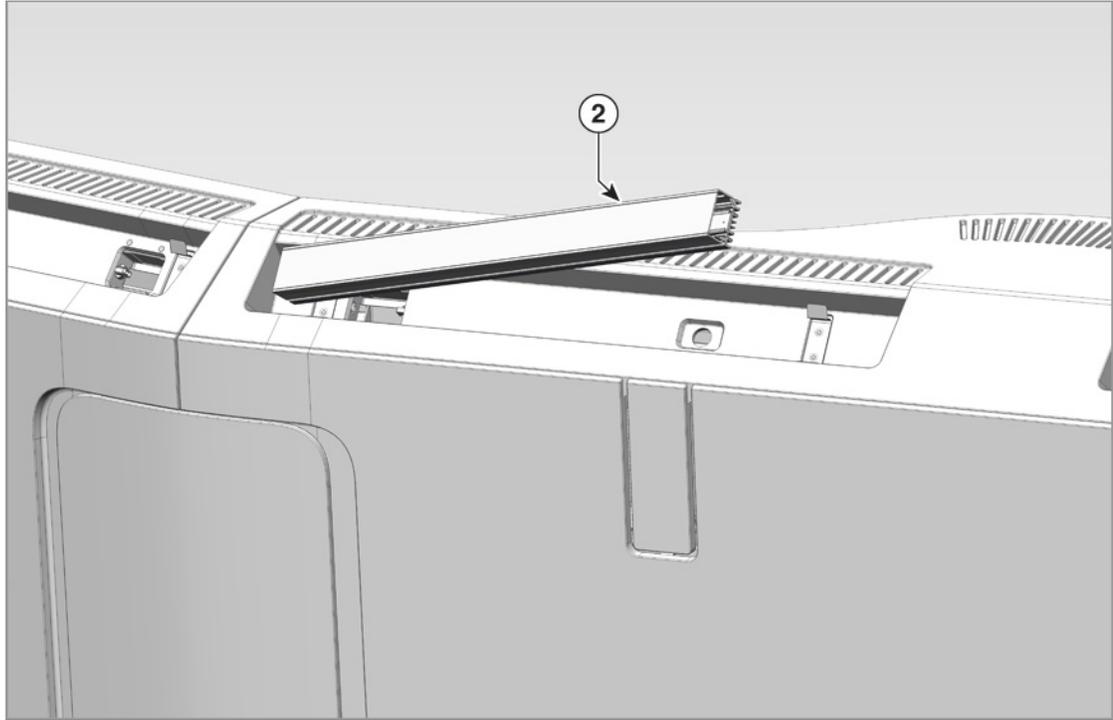
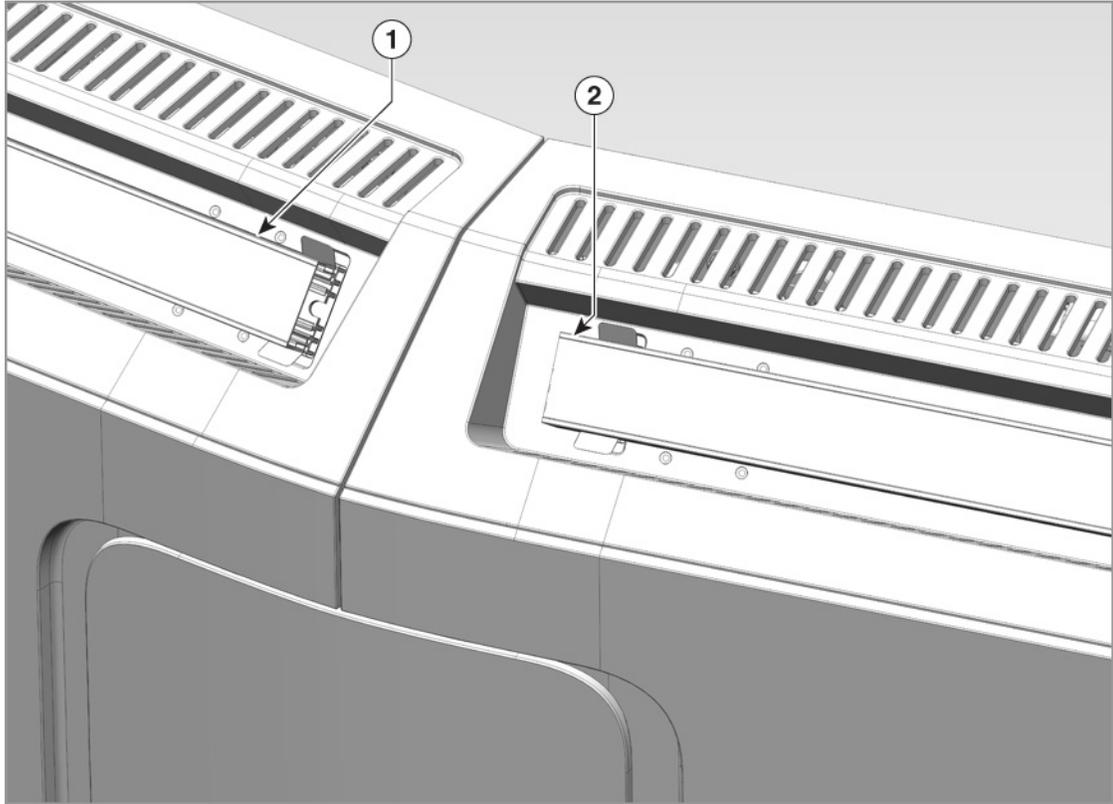


Figure 14-13 Installing the LED Lights (3 of 3)—Inserting the Light Into the Display Assembly



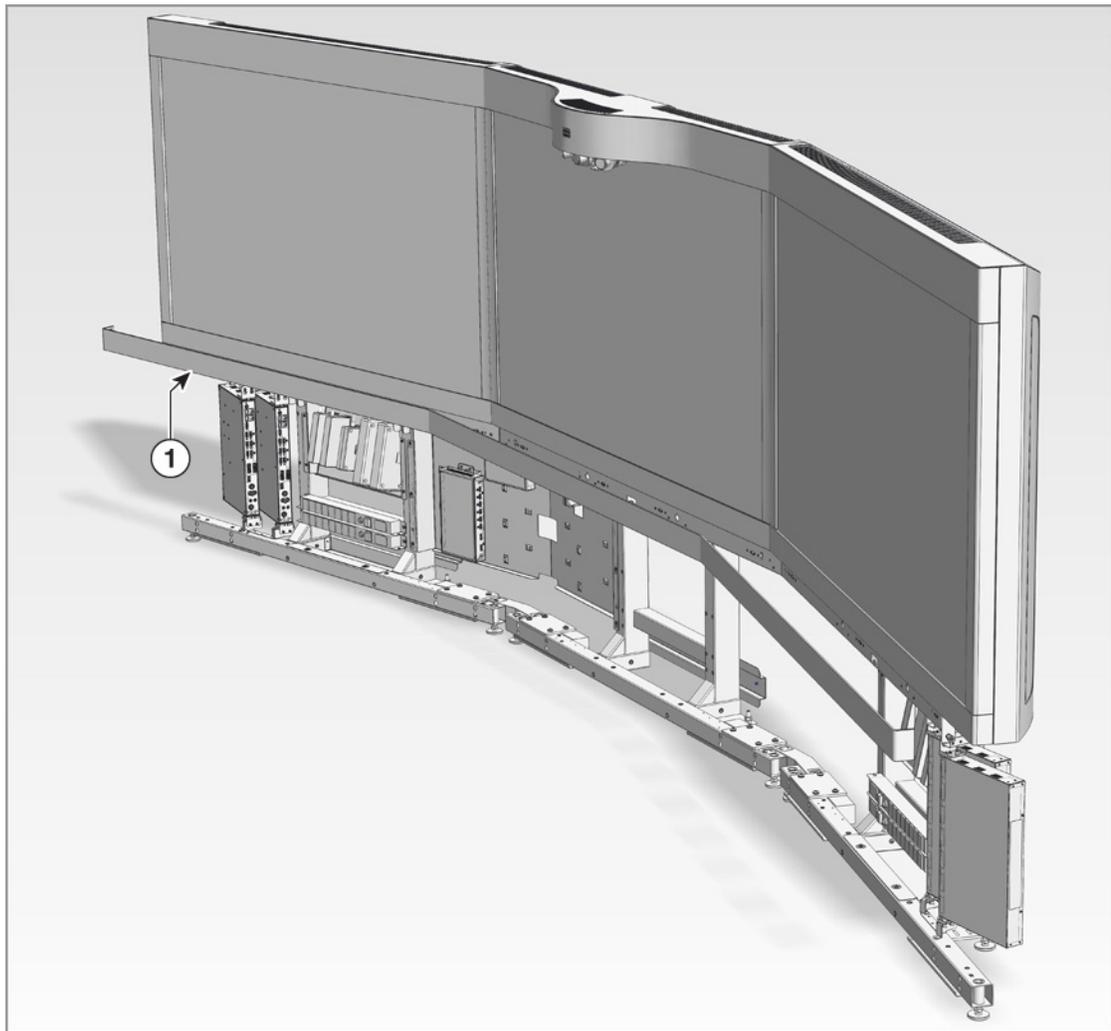
Step 8 Install the bottom bezel to the display structure by pressing the ball studs in the bezels into the holes in the display structure.



Note Do not install the top bezel until you perform the camera setup in [Chapter 15, “First-Time Setup.”](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Bottom Bezel	700-37421-01 Kit # 69-2312-xx	1	5	

Figure 14-14 *Installing the Bottom Bezel*



343645

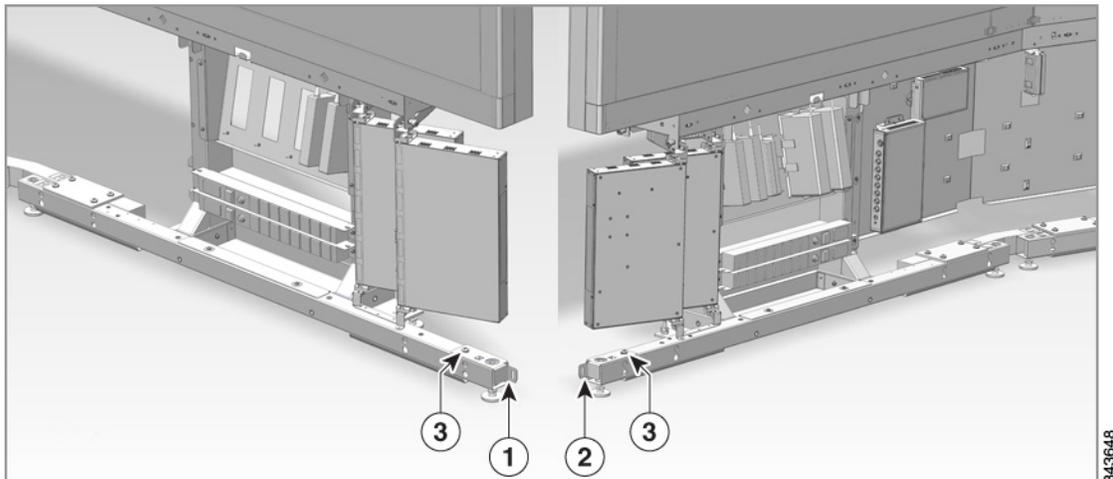
- Step 9** Install the rear facade brackets and panels by completing the following steps:
- a. Install the lower side brackets to the bottom ends of the right and left display stand.



Note Do not tighten the screws until you attach the panels with the screws in [Step 9. g.](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Facade bracket, lower, left	700-37762-01 Kit # 69-2323-xx	1	1	
2	Facade bracket, lower, right	700-37763-01 Kit # 69-2323-xx	1	1	
3	M8 x 16mm screws	48-3012-01 Kit #69-2365-xx	2	6	

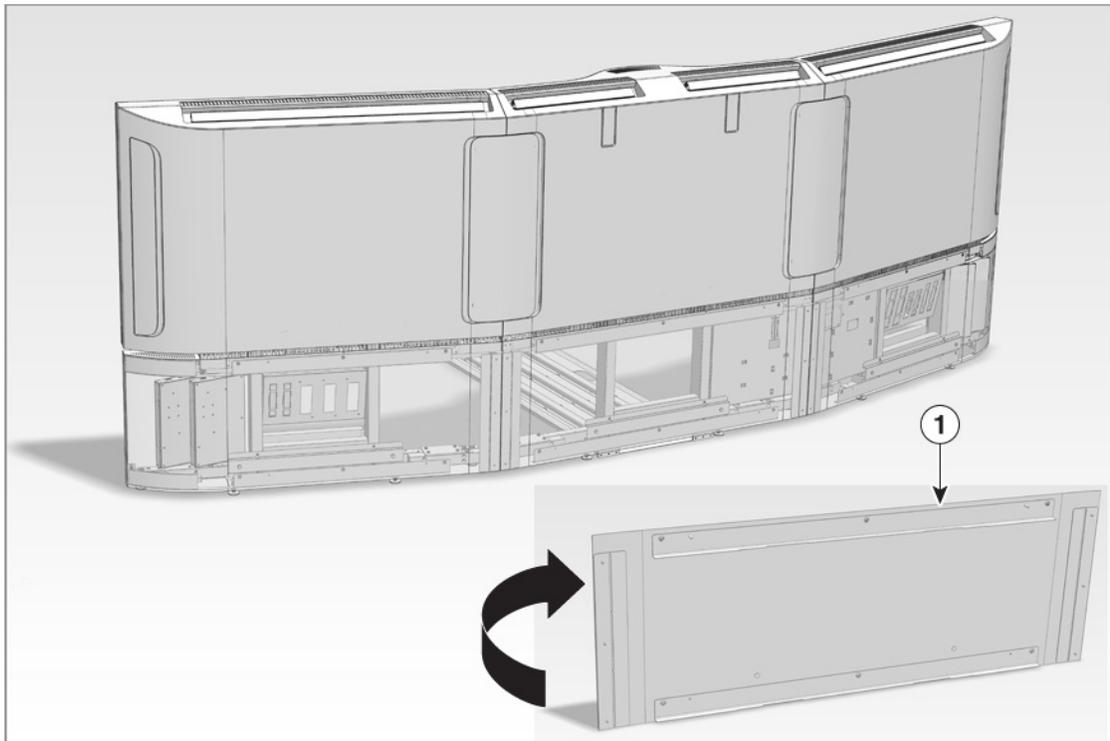
Figure 14-15 *Installing the Rear Facade Panels (1 of 7)—Installing the Lower Facade Brackets to the Display Stands*



- b. Install the rear center facade panel. It connects to the display structure with magnets.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center facade panel	700-37427-01 Kit # 69-2325-xx	1	3	

Figure 14-16 Installing the Rear Facade Panels (2 of 7)—Installing the Center Facade Panel



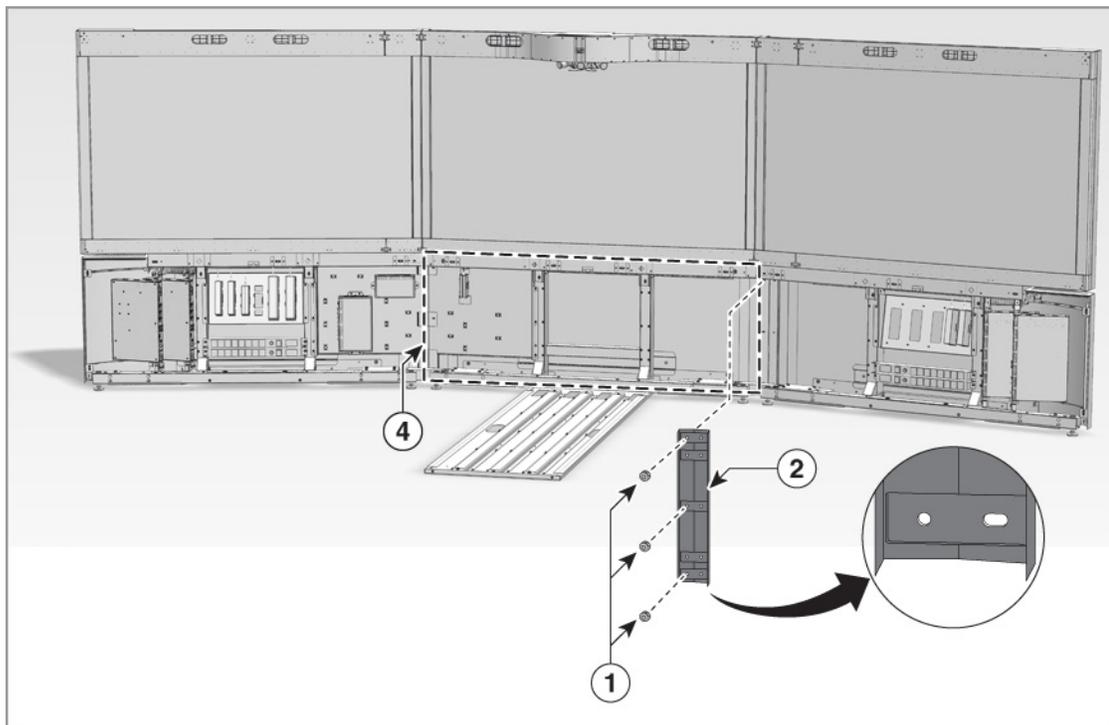
- c. From the front of the system, place the facade attachment plates on the studs that are on the left and right edges of the center facade panel.
- d. Attach the plates to the panel using three M5 nuts.

**Note**

The attachment plates have one vertical row of holes and one vertical row of slots. Arrange the plate as shown in [Figure 14-17](#) so that the row of holes are on the inside and the row of slots are on the outside.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M5 nuts	49-0747-01 Kit # 69-2410-01	6	6	
2	Facade attachment plate	700-37311-01 Kit # 69-2323-01	2	1	

Figure 14-17 *Installing the Rear Facade Panels (3 of 7)—Attaching the Facade Attachment Plates to the Center Facade Panel*



- e. Install the rear left and right lower rear facade panels to the system assembly.

The panels have studs and guide pins.

- Align the studs (callout 4 in [Figure 14-18](#)) to the slots of the facade attachment plate that you installed in [Step 9. c.](#)



Note Do not insert the nuts on the threaded studs until [Step 9 i.](#)

- Align the guide pins (callout 3 in [Figure 14-19](#)) to the holes that are shown in [Figure 14-19](#).

- f. Press the ball studs in the top of the panels to the display structure to secure the assembly.



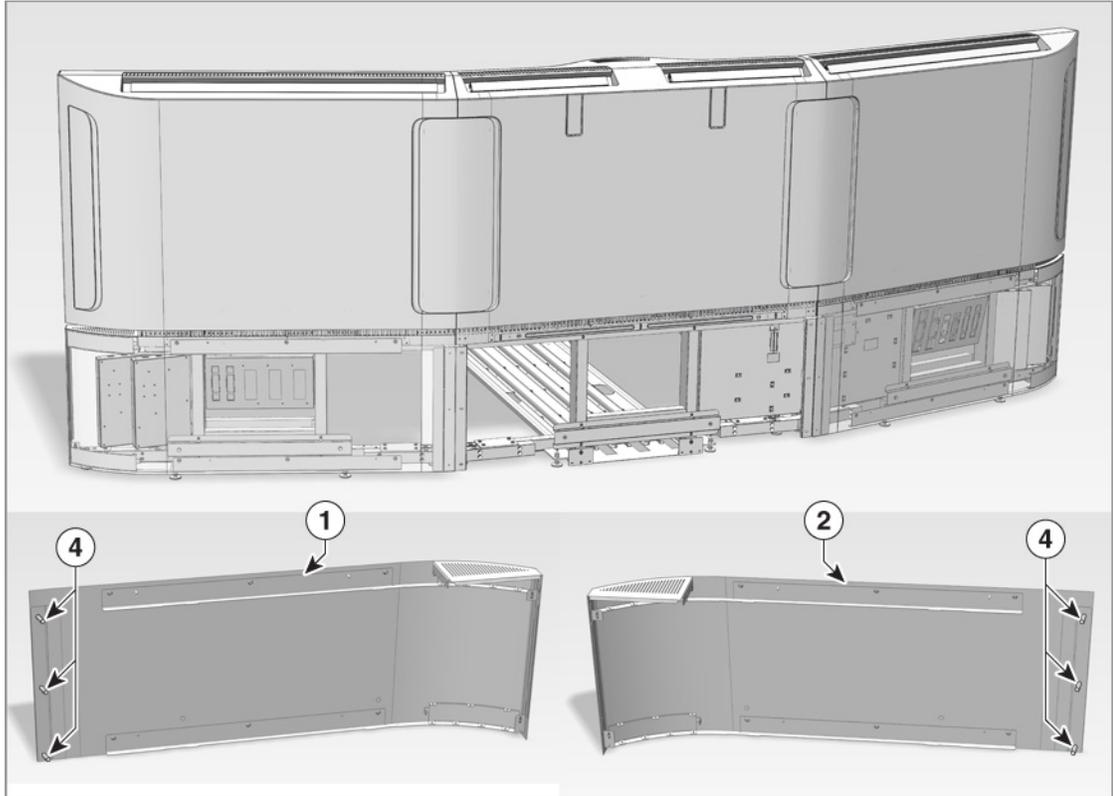
Note The bottom section is held by magnets.



Note [Figure 14-18](#) shows the structure from the rear. Left and right are reversed.

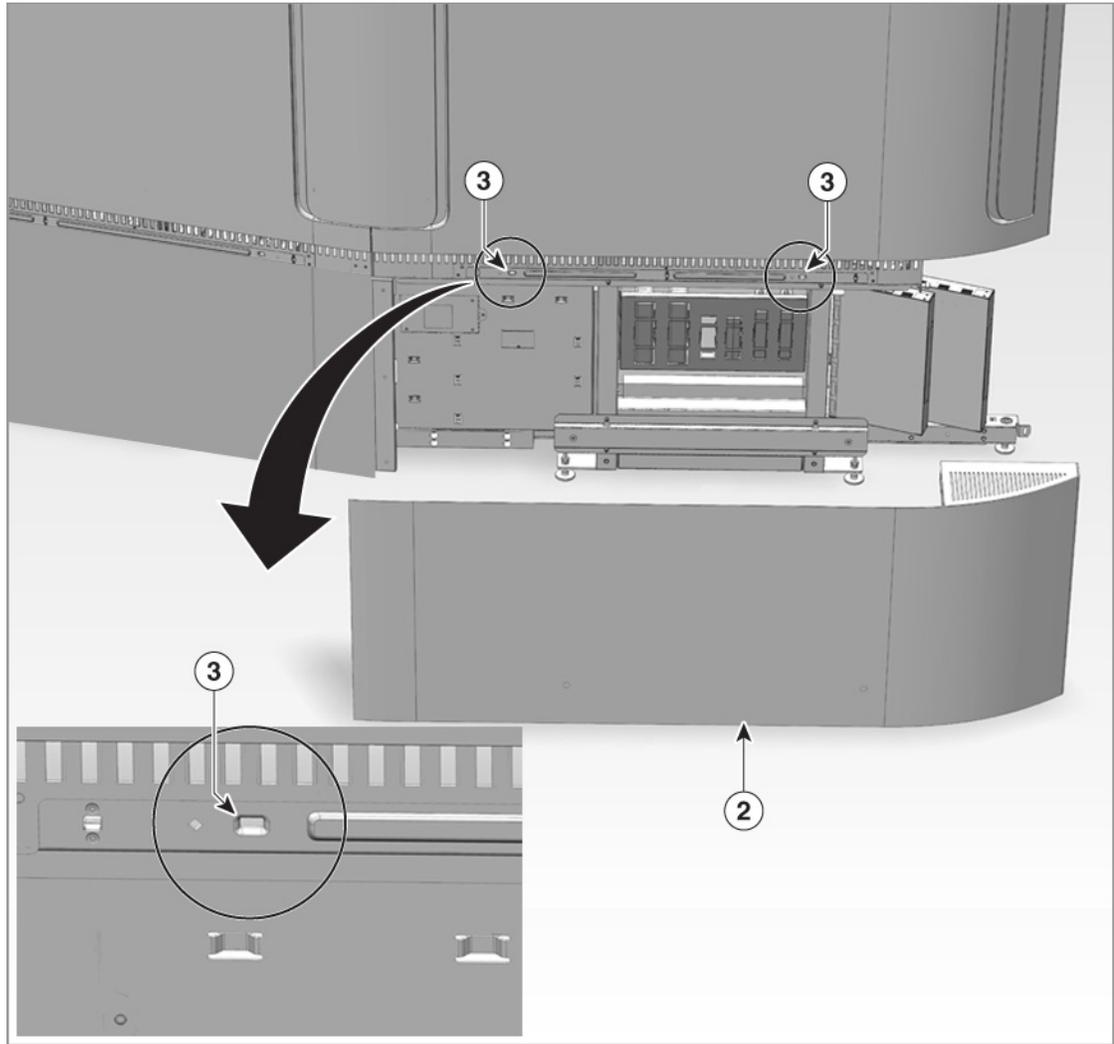
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Lower facade panel, right	700-37426-01 Kit # 69-2325-01	1	3	
2	Lower facade panel, left	700-37425-01 Kit # 69-2325-01	1	3	
3	Guide pin holes	N/A	N/A		Part of facade panels and shown in Figure 14-19 .
4	Studs	N/A	N/A		Part of facade panels and shown in Figure 14-18 .

Figure 14-18 Installing the Rear Facade Panels (4 of 7)—Installing the Lower Rear Facade Panels



343649

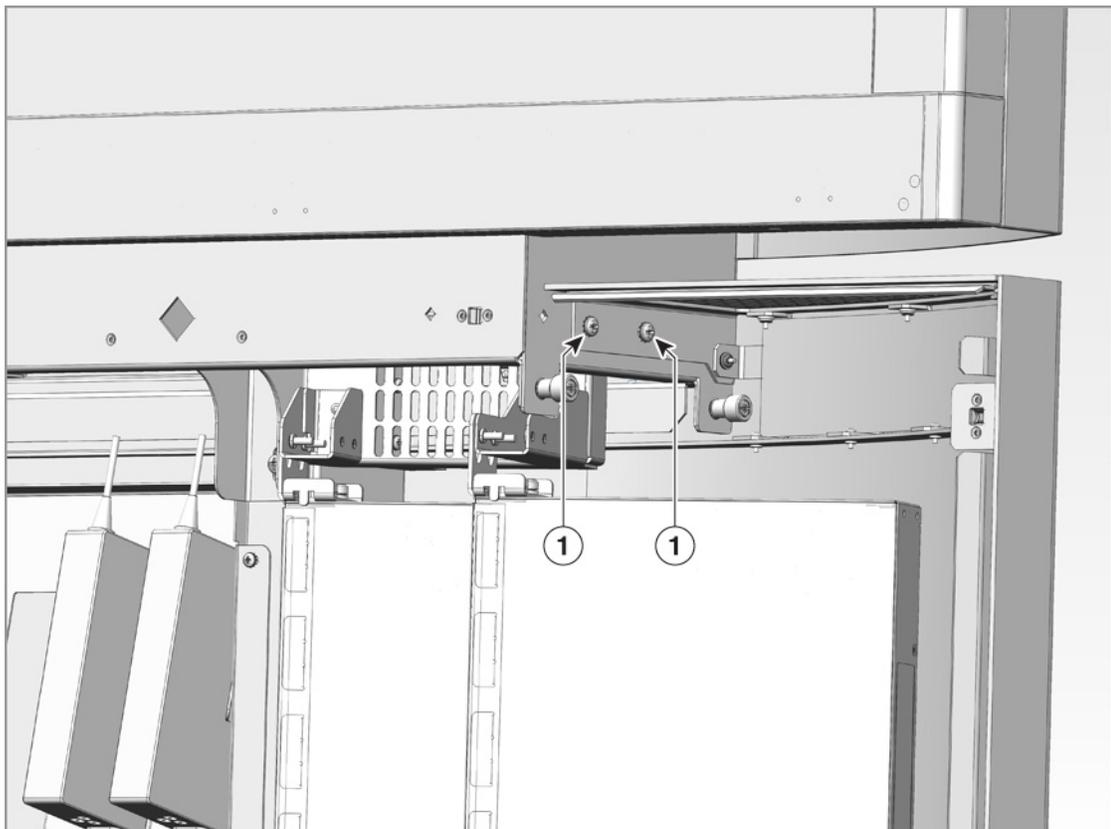
Figure 14-19 Installing the Rear Facade Panels (5 of 7)—Location of Guide Pin Holes



- g. Insert the screws onto the outer part of the facade panels as shown in [Figure 14-20](#) (two screws on each side) and tighten the screws.
- h. Tighten the screws that secure the lower facade brackets to the display stands.
You installed these screws in [Step 9. a.](#)

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M6 x 16mm screws	48-3000-01 Kit #69-2356-xx	4	6	

Figure 14-20 *Installing the Rear Facade Panels (6 of 7)—Inserting the Outside Screws*



343651

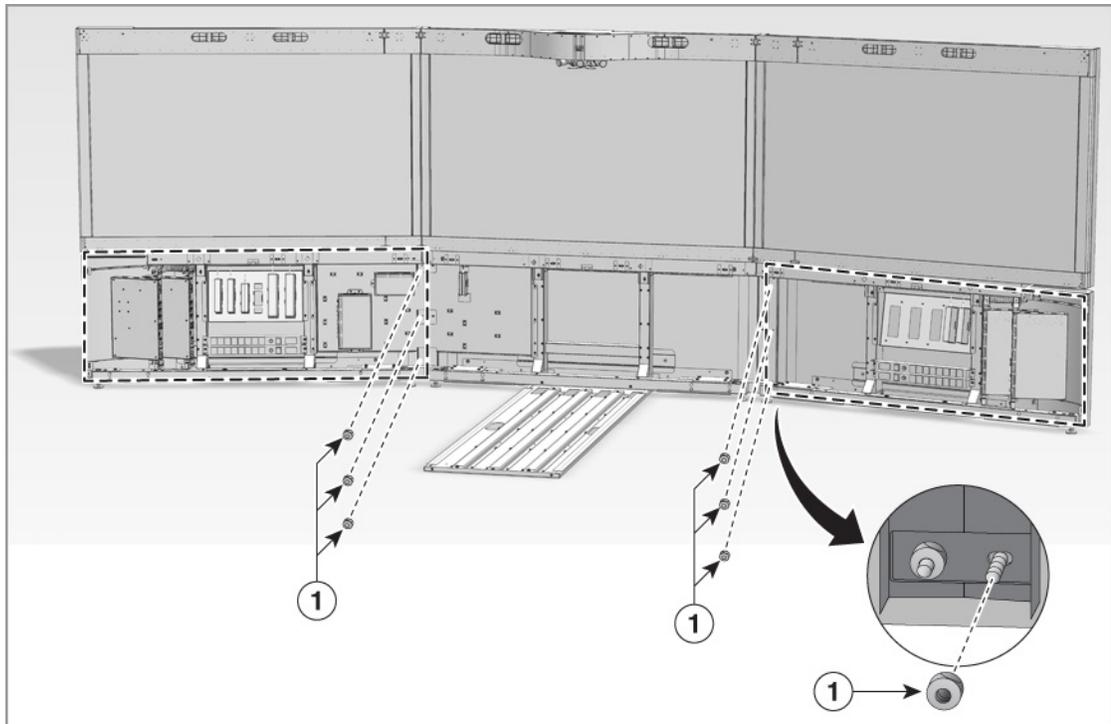
- i. From the front of the system, secure the left and right panels to the facade attachment plates you installed in Step 9 c. with M5 nuts using an 8mm socket or nut driver.



Note Make sure that the studs in the panels go through the slots in the facade attachment plates. If the panels require adjustment, move the studs within the slots in the facade attachment plate.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M5 nuts	49-0747-01 Kit # 69-2410-01	6	6	

Figure 14-21 Installing the Rear Facade Panels (7 of 7)—Securing the Left and Right Panels to the Facade Attachment Plate



343726

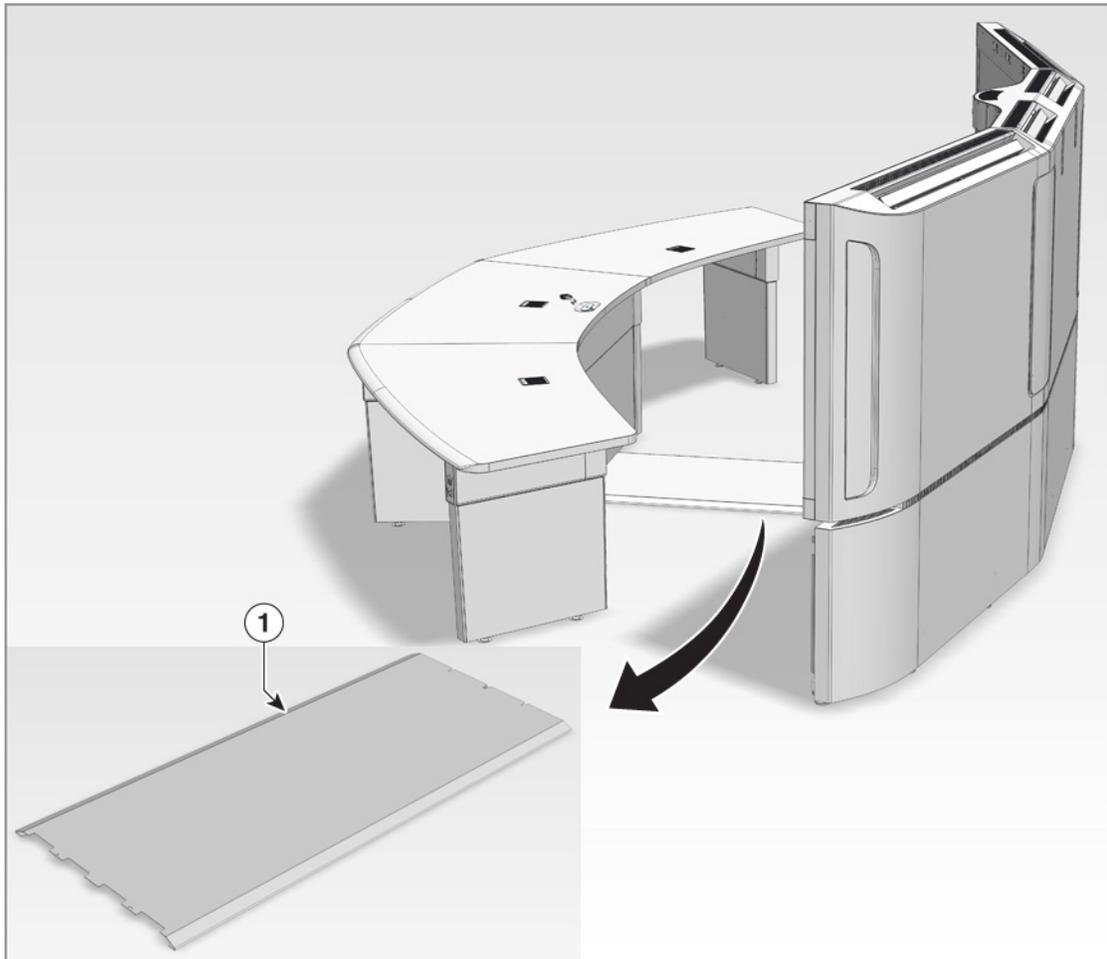
- Step 10** Install the cable runner cover between the table and the display by completing the following steps:
- a. Place the runner cover on the runner base.

**Caution**

Be careful to not strike the display with the cover when you place it on the base.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Cable runner cover	700-37442-01 Kit # 69-2341-xx	1	33	

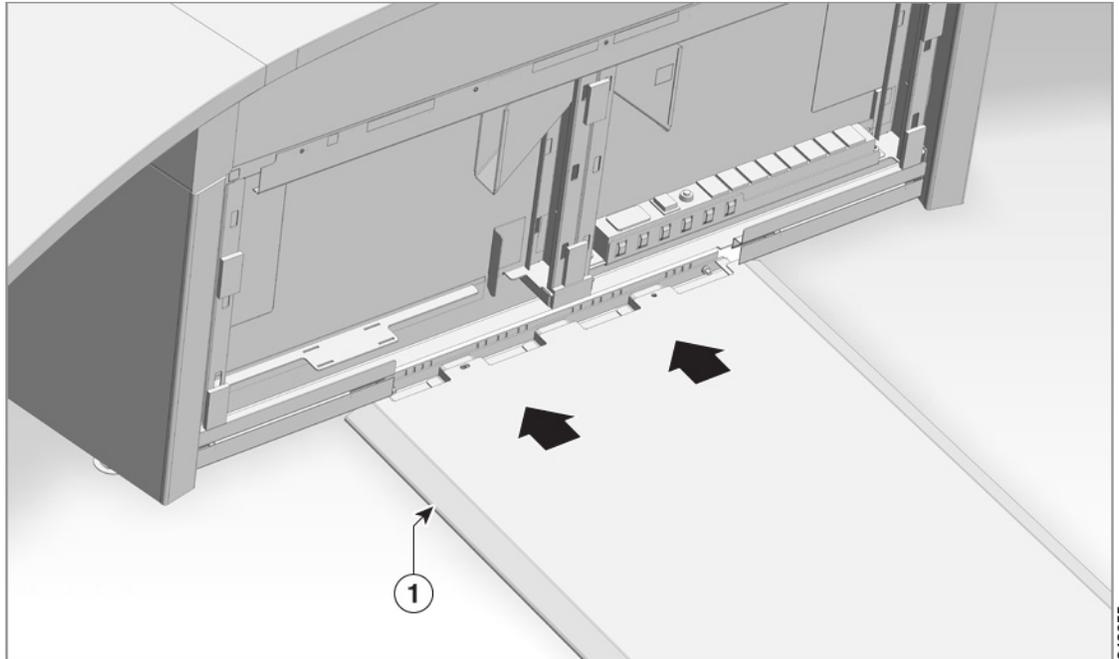
Figure 14-22 *Installing the Cable Runner Cover (1 of 4)—Placing the Cover on the Cable Runner Base*



343654

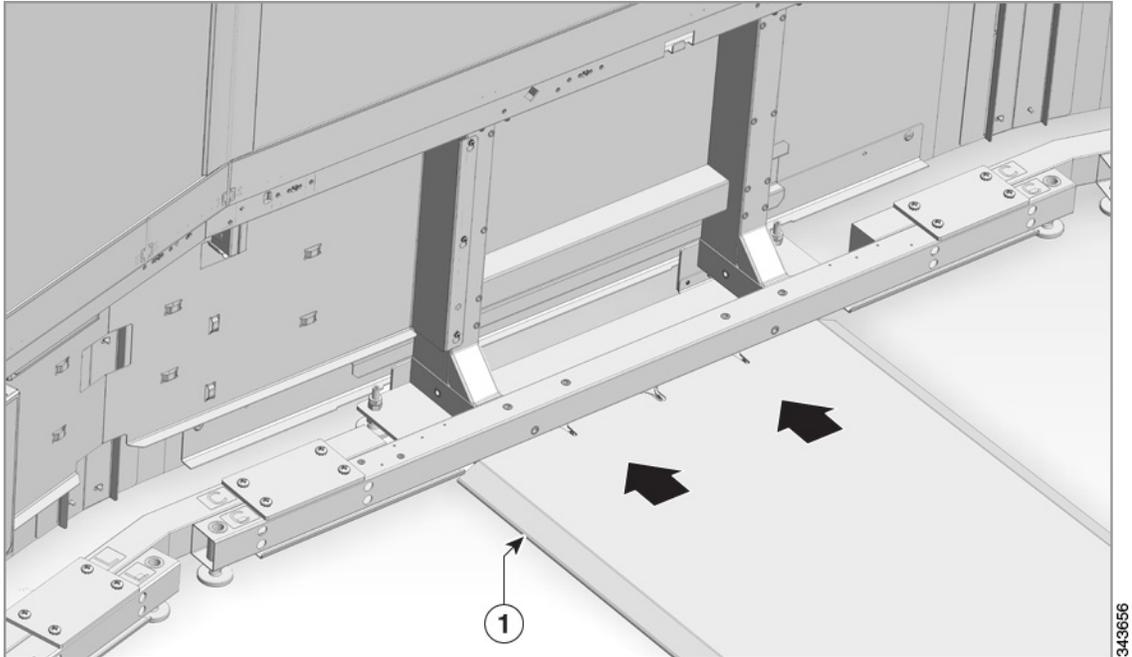
- b. Push the cable runner cover toward the table until it contacts the table structure. The cable cover then clears the display structure and sits flat on the runner base.

Figure 14-23 *Installing the Cable Runner Cover (2 of 4)—Moving the Cover Toward the Table*



- c. Push the runner cover toward the display structure to engage the keyhole standoffs on the underside of the display stand.

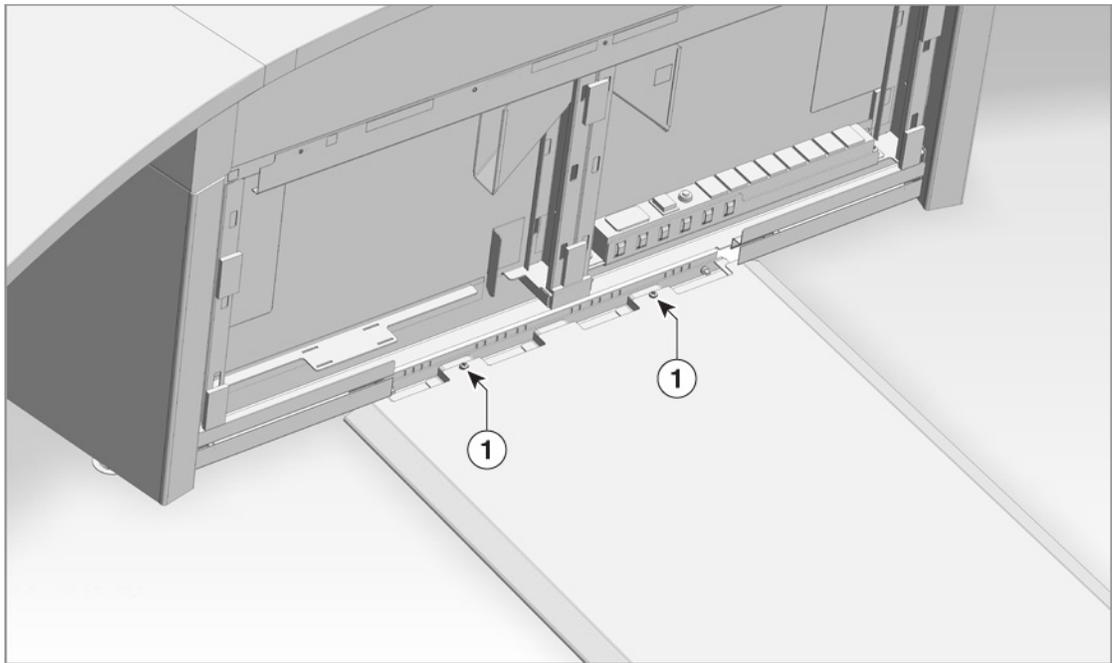
Figure 14-24 *Installing the Cable Runner Cover (3 of 4)—Moving the Cover Toward the Display Structure*



- d. Secure the Cable runner cover to the base with M6 screws.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M6 x 16mm screws	48-3000-01 Kit #69-2356-xx	2	6	

Figure 14-25 *Installing the Cable Runner Cover (4 of 4)—Attaching the Cover to the Base*



Step 11 Attach the upper and lower outer privacy panels by completing the following steps:

- a. Set the lower privacy panel into its lower channel, then rotate it upward into place.

This panel attaches to the table assembly with ball studs.

- b. Attach the upper privacy panel.

This panel attaches to the table assembly with magnets.



Note Make sure that you do not pinch any cables during this procedure.

- c. Pull the presentation and Cisco Touch cables out from the exit hole in the table until there is 8 feet (2.4 meters) of slack in the cables. Installing the privacy panels can cause the cables to lose slack.

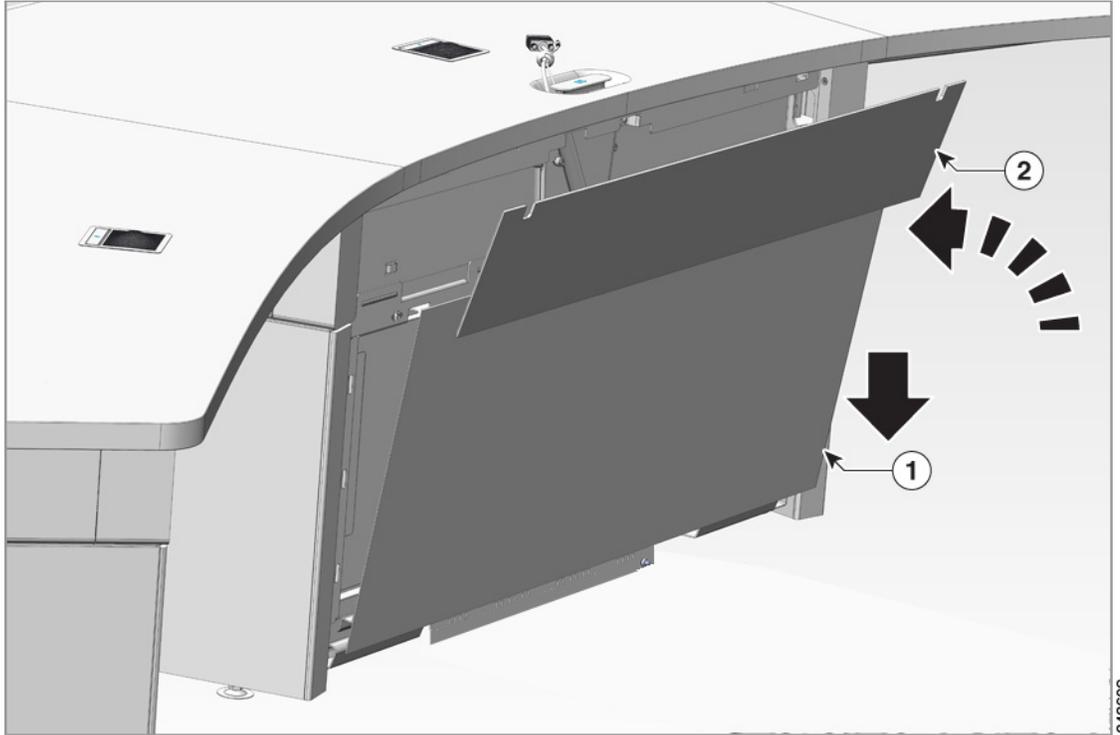


Note Creating this slack allows the presentation cable and, when connected, Cisco Touch device to reach the farthest conference participant.

- d. Pull the cables in and out from their exit hole in the table. If the cables do not enter and exit smoothly, open the outer privacy panels and check the cable routing inside the table to see if the cables are pinching or catching.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Center lower privacy panel (outer)	700-37272-01 Kit # 69-2333-xx	1	10	
2	Center upper privacy panel (outer)	700-37177-01 Kit # 69-2327-xx	1	7	

Figure 14-26 Attaching the Center Upper and Lower Privacy Panels (Outer)



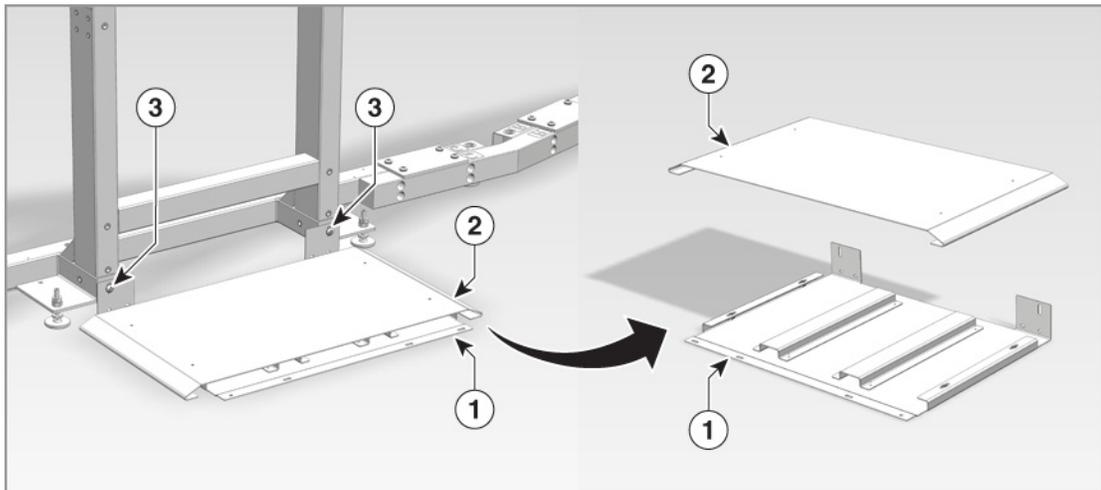
Step 12 If your system uses a wall-mounted reflector wall, insert the center floor cable cover to the back of the center display stand.



Note If your system uses a free-standing reflector wall, skip this step.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Center floor cable cover, base	700-39002-01 Kit # 69-2323-01	1	1	
2	Center floor cable cover, cap	700-39003-01 Kit # 69-2323-01	1	1	
3	M6 x 16mm screws	48-3000-01 Kit #69-2356-xx	2	6	

Figure 14-27 *Installing the Cable Cover to the Rear of the Center Display Stand (Systems with a Wall-Mounted Reflector Wall Only)*



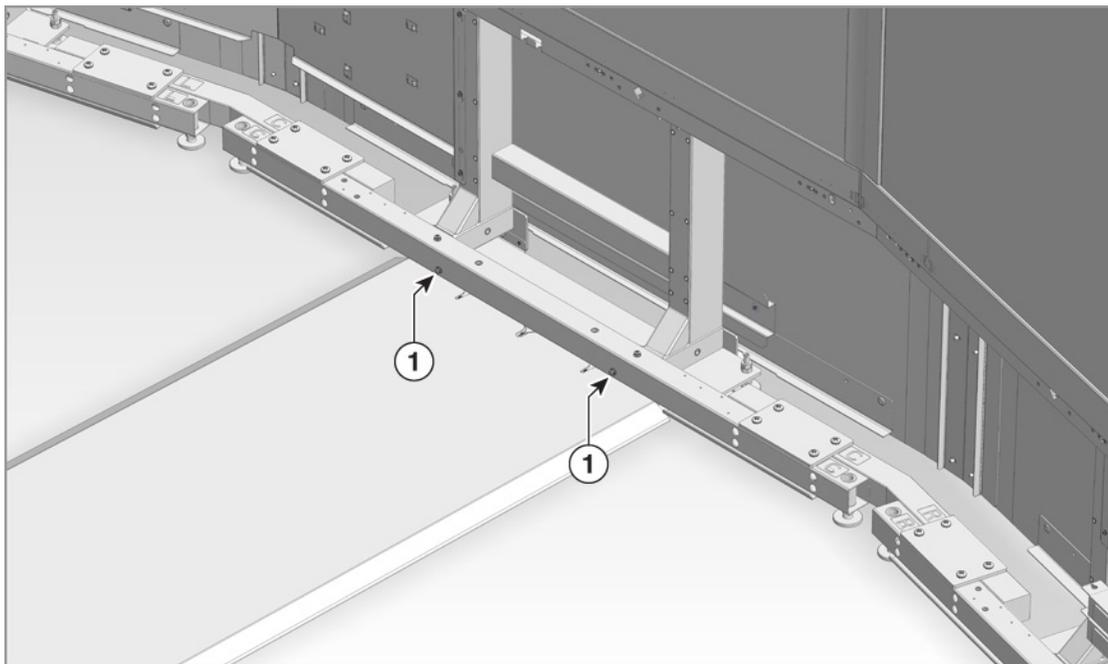
343494

Step 13 Install the data display bracket by completing the following steps:

- a. Partially install two M6 screws in front of the center display structure. The screws are highlighted in red in [Figure 14-28](#).

Key	Part Description	Part Number	Qty	Ctn	Notes
1	M6 x 16mm screws	48-3000-01 Kit #69-2356-xx	2	6	You partially install two screws in this step and install two additional M6 screws in Step 13 d .

Figure 14-28 *Installing the Data Display Bracket (1 of 3)—Inserting the Display Bracket Screws Into the Center Display Structure*

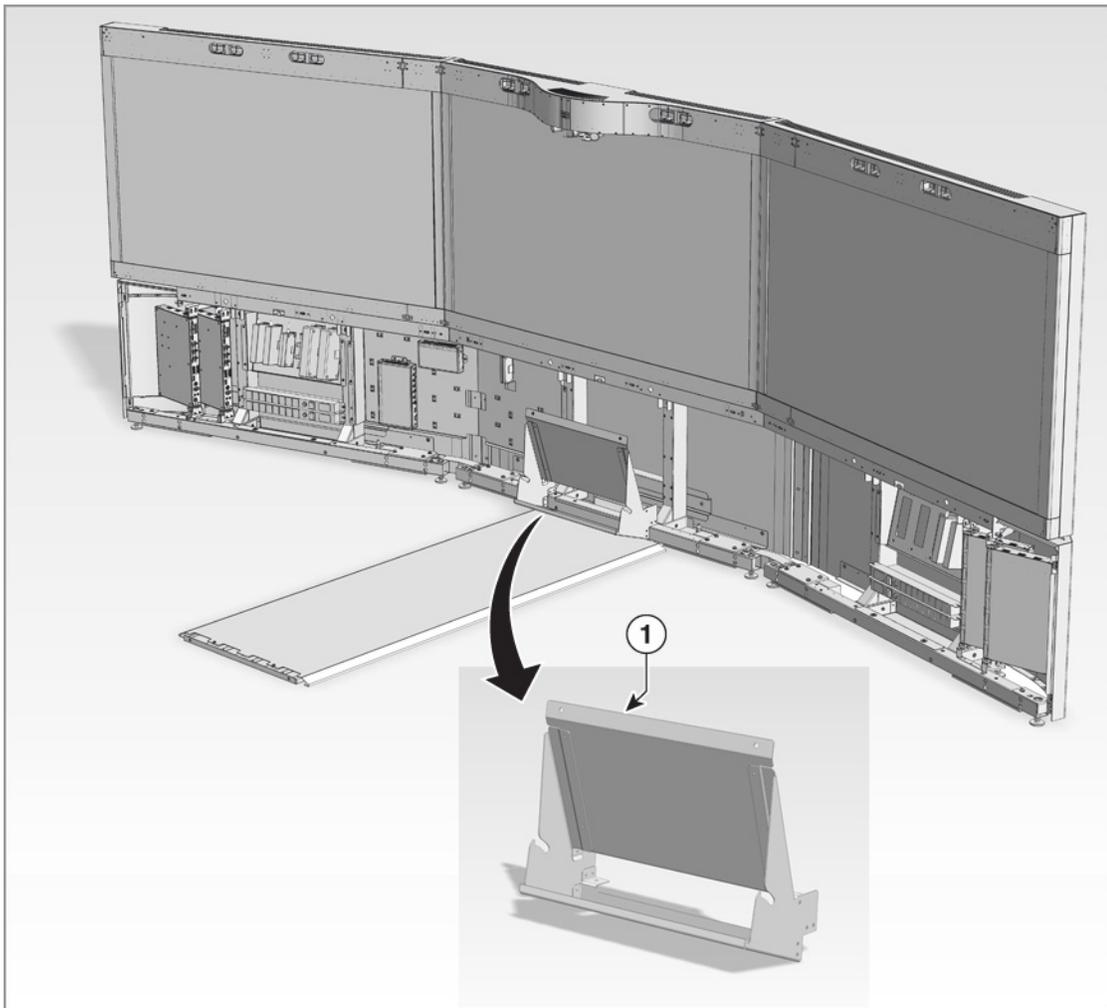


343659

- b. Place the presentation display bracket onto the two screws you inserted in the previous step.
- c. Tighten the two screws.

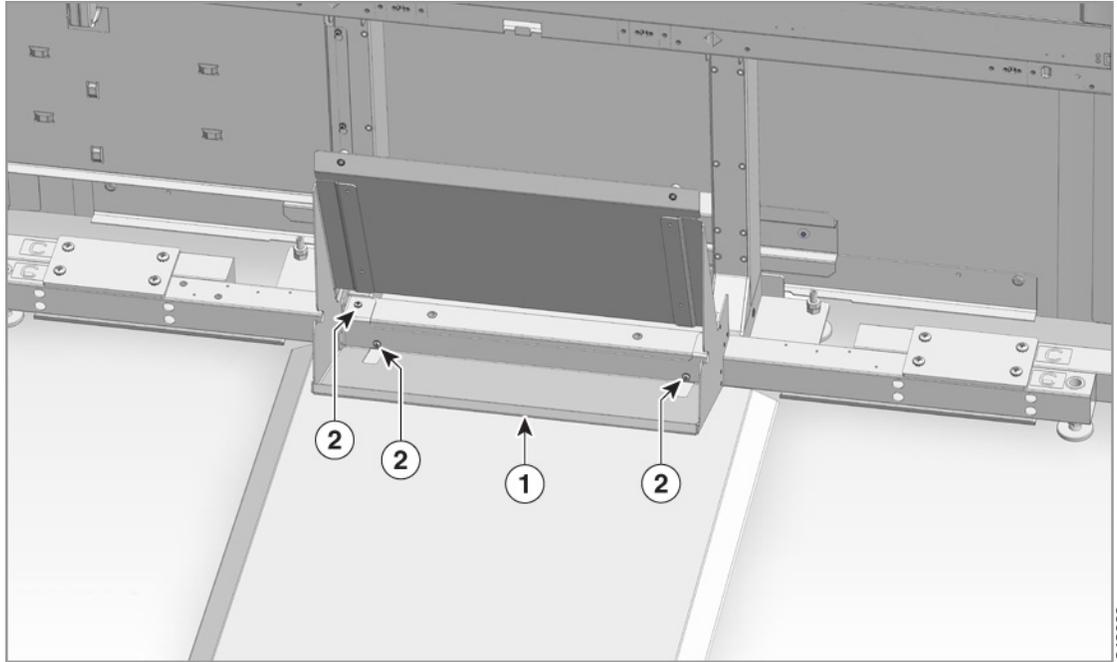
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Presentation display bracket	700-37137-01 Kit # 69-2323-xx	1	1	
2	M6 x 16mm screws	48-3000-01 Kit #69-2356-xx	2	6	

Figure 14-29 *Installing the Data Display Bracket (2 of 3)—Inserting the Bracket into the Display Assembly*



- d. Insert the two remaining two M6 screws and tighten them. See for [Figure 14-30](#) for more information.

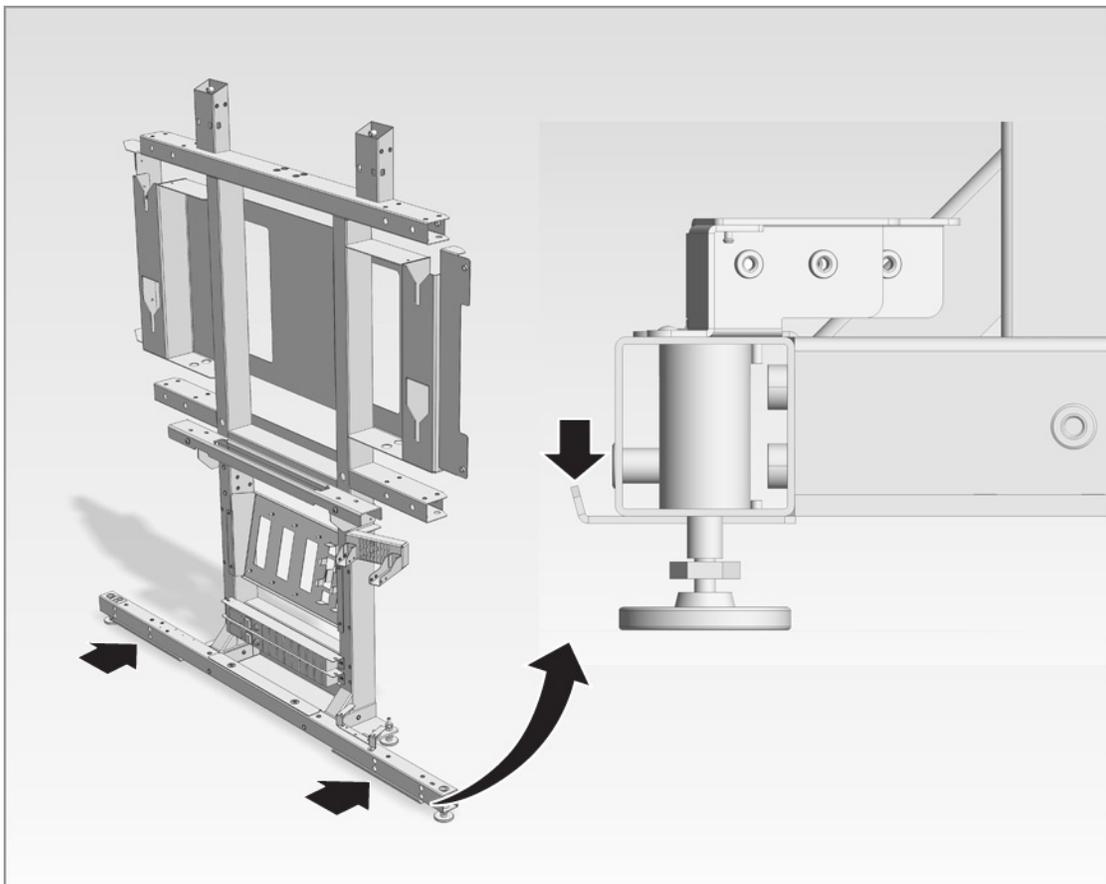
Figure 14-30 *Installing the Data Display Bracket (3 of 3)—Inserting the Bracket into the Display Assembly*



- Step 14** Install the front center facade panel by completing the following steps:
- a. Place the facade in the channel shown in [Figure 14-31](#) and [Figure 14-32](#).
 - b. Rock it backwards around the alignment pins shown in [Figure 14-32](#).

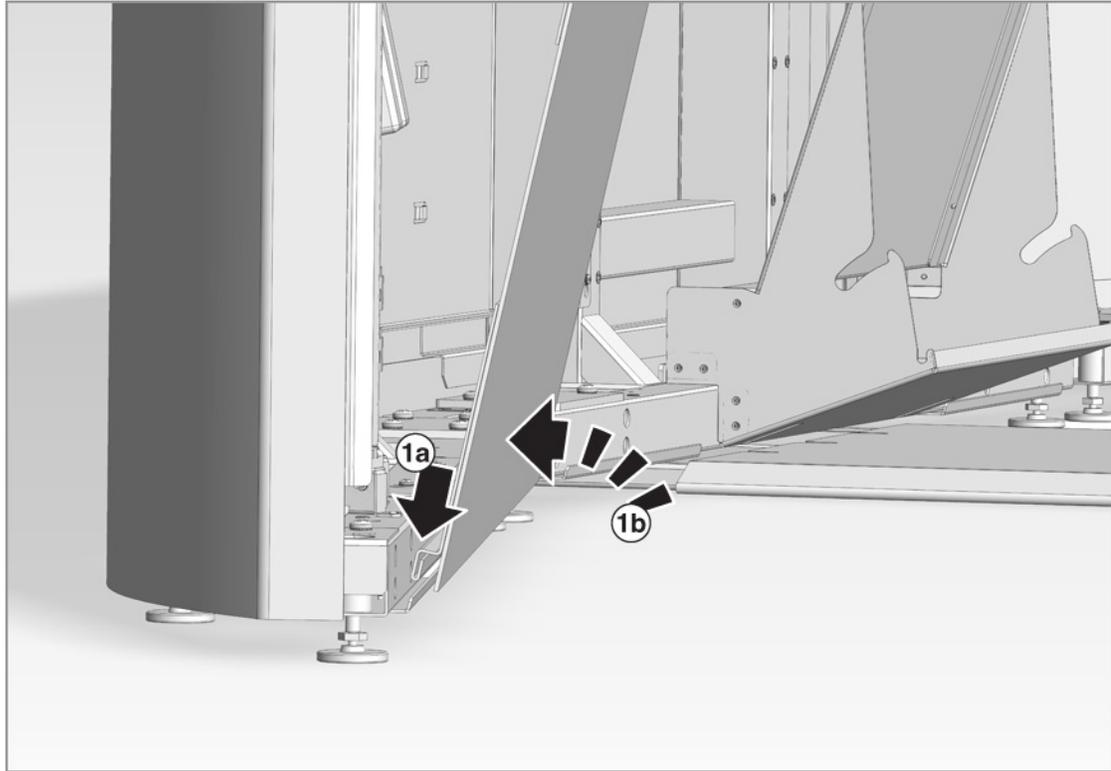
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Front center facade panel	700-37424-01 Kit # 69-2325-xx	1	3	

Figure 14-31 *Installing the Front Center Facade Panel (1 of 3)—Channel Location in Display Assembly*



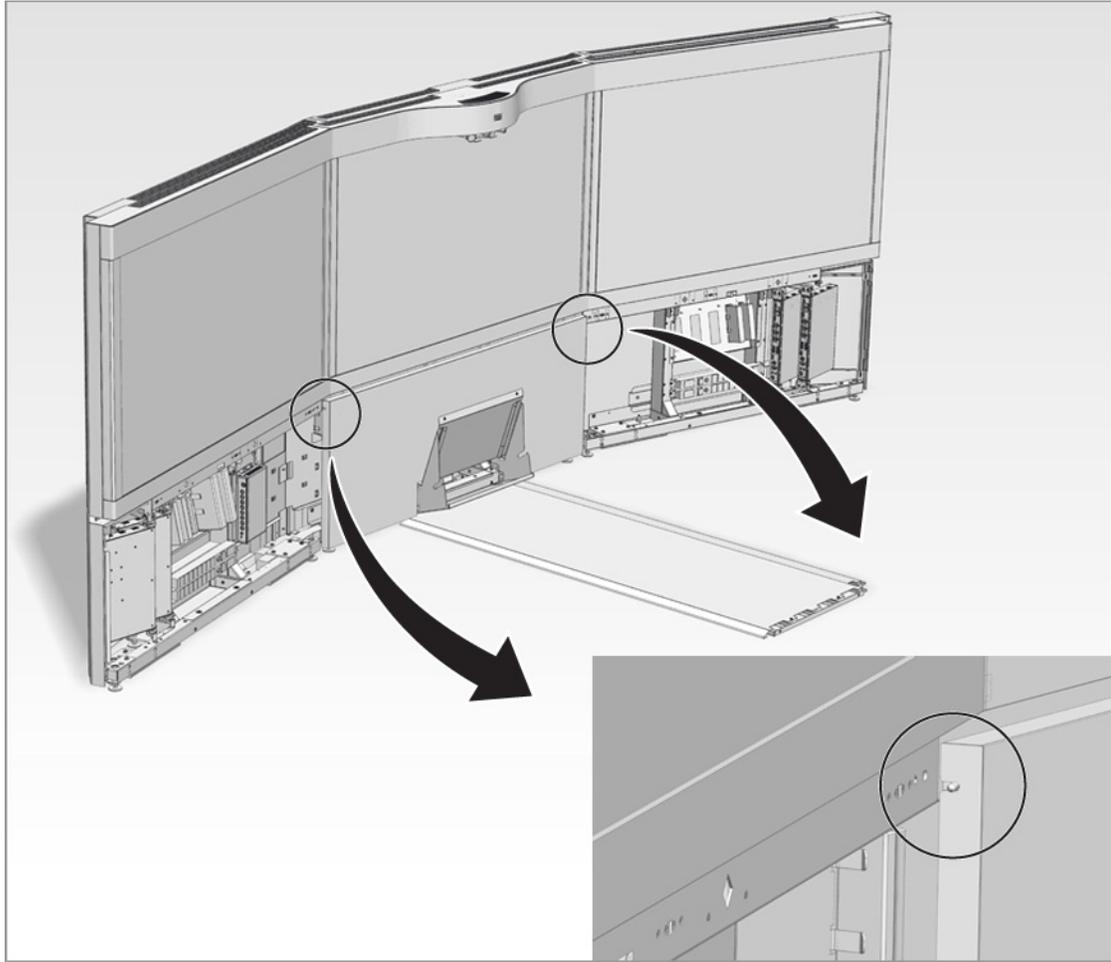
343661

Figure 14-32 Installing the Front Center Facade Panel (2 of 3)—Putting the Panel into Place



343662

Figure 14-33 Installing the Front Center Facade Panel (3 of 3)—Alignment Pin Detail



343663

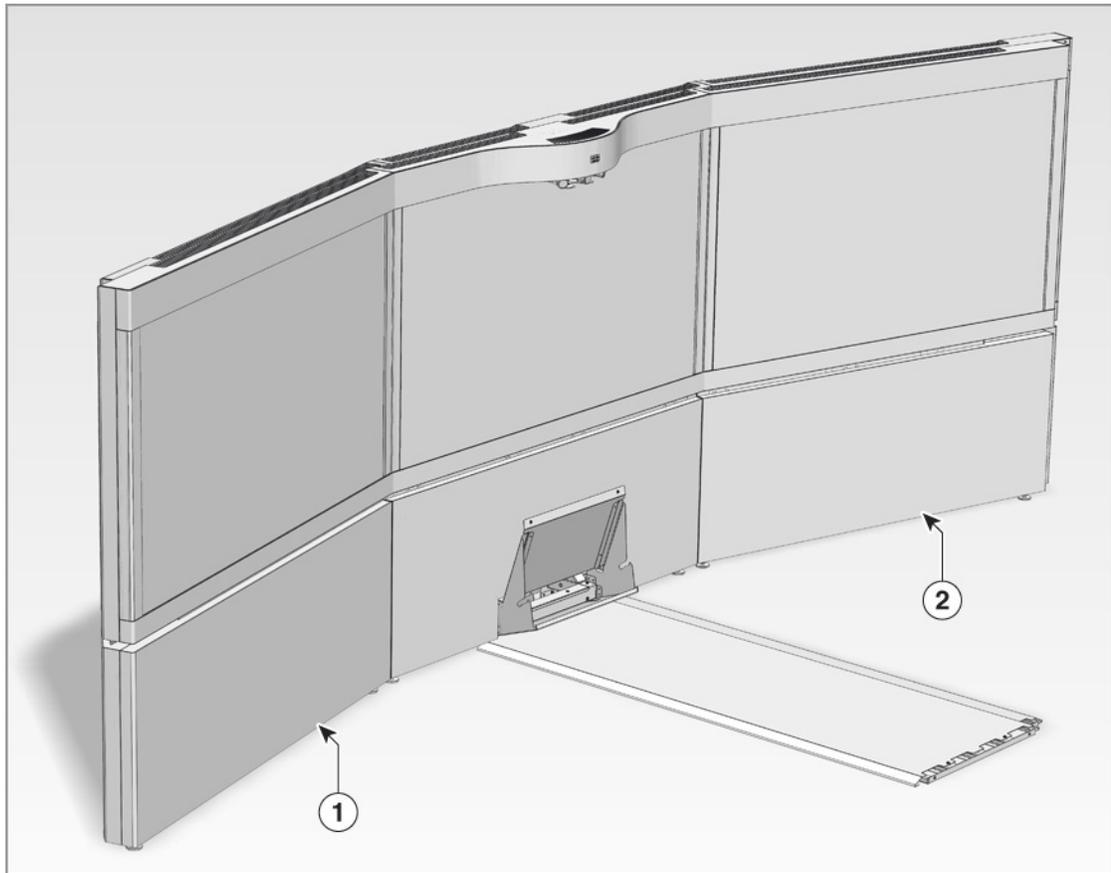
Step 15 Attach the front left and front right facade panels, using the instructions in [Step 14](#).
Be sure that the front and rear facade panels align with each other.



Tip You may need to remove the protective film from the edges of the center panel so that the left and right panels install easily.

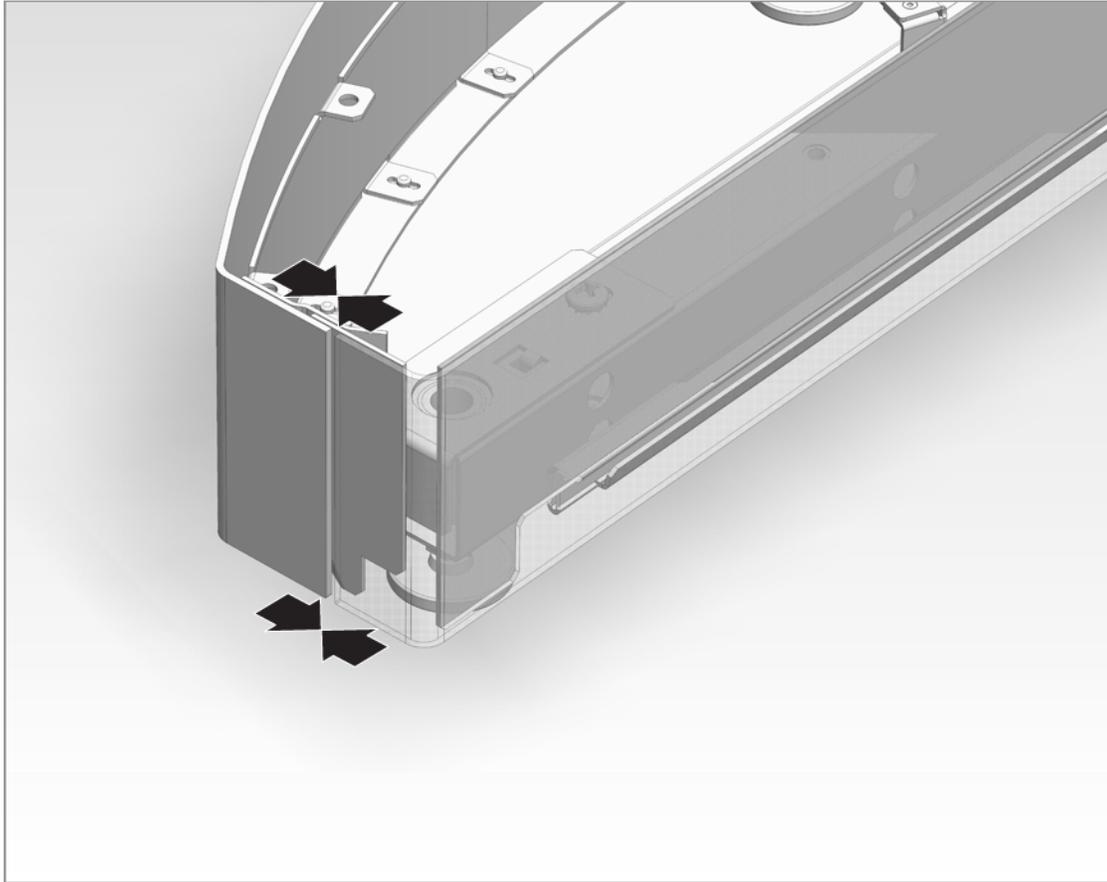
Key	Part Description	Part Number	Qty	Ctn	Notes
1	Front left facade panel	700-37422-01 Kit # 69-2325-xx	1	3	
2	Front right facade panel	700-37423-01 Kit # 69-2325-xx	1	3	

Figure 14-34 Attaching the Front Right and Front Left Facade Panels (1 of 2) - Panel Overview



343664

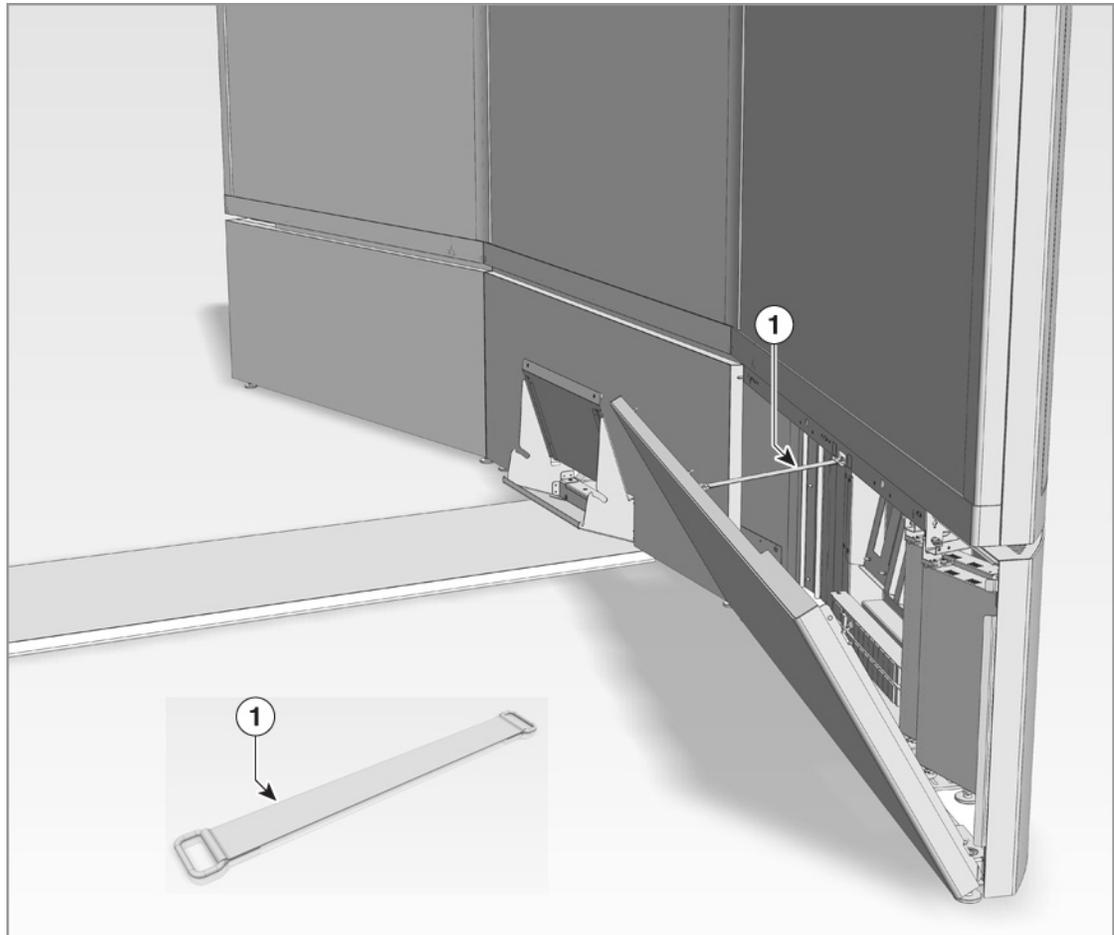
Figure 14-35 Attaching the Front Right and Front Left Facade Panels (2 of 2) - Front and Rear Panel Alignment Detail



Step 16 Attach the front facade panel tethers by attaching one side of the tether on the hook on the front facade panel, and the other side of the tether on the hook in the facade panel bracket.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Panel tether	700-39093-01 Kit # 69-2409-01	3	6	

Figure 14-36 Attaching the Front Facade Panel Tethers



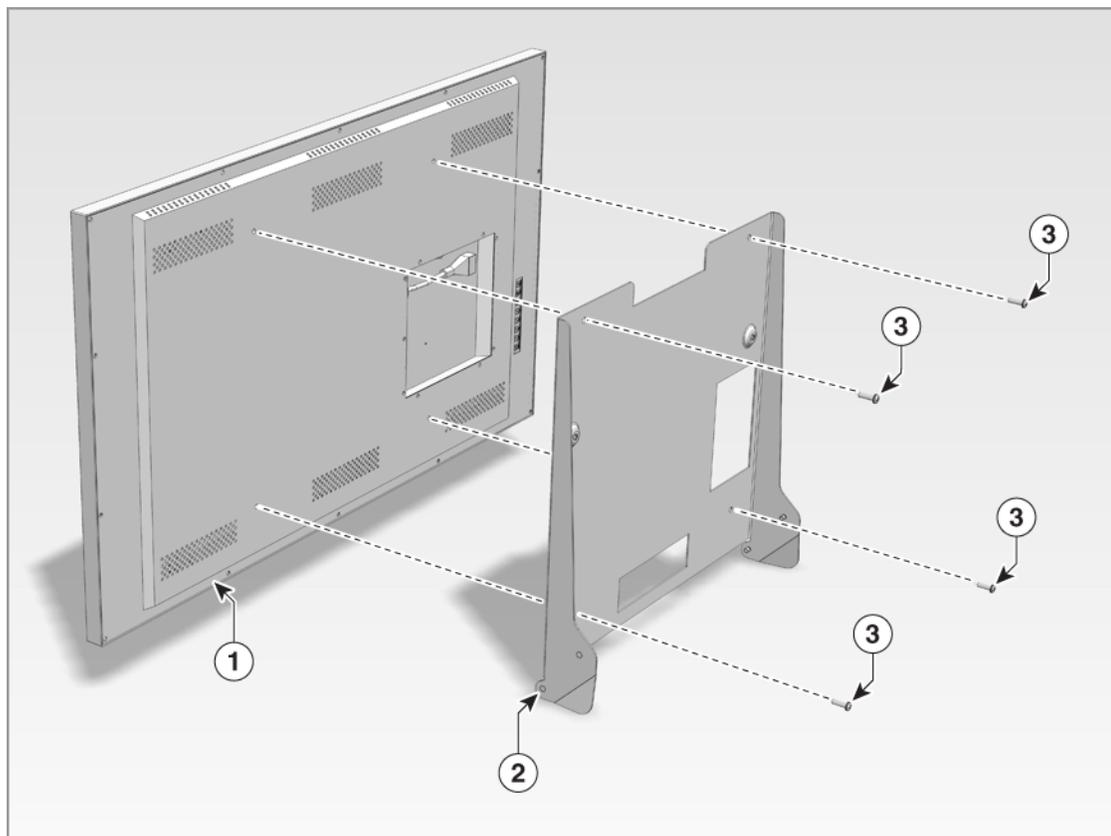
- Step 17** Prepare the data display for assembly and install the display by completing the following steps:
- Install the power, signal, and serial cables to the data display (three in total).
 - Attach the display to the channel.

**Tip**

Use the Velcro straps to take up any slack in the cables.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Data display	74-10343-01 CTS-TX9K- DATADISP	1	28	
2	Data display channel	700-37139-01 Kit # 69-2323-xx	1	1	
3	M6 x 20mm screws	48-3013-01 Kit # 69-2395-01	4	6	
4	Velcro straps	52-0499-xx Kit # 69-2403-xx Subkit # 53-3789-xx	70	6	Use as necessary to take up slack in the cables.

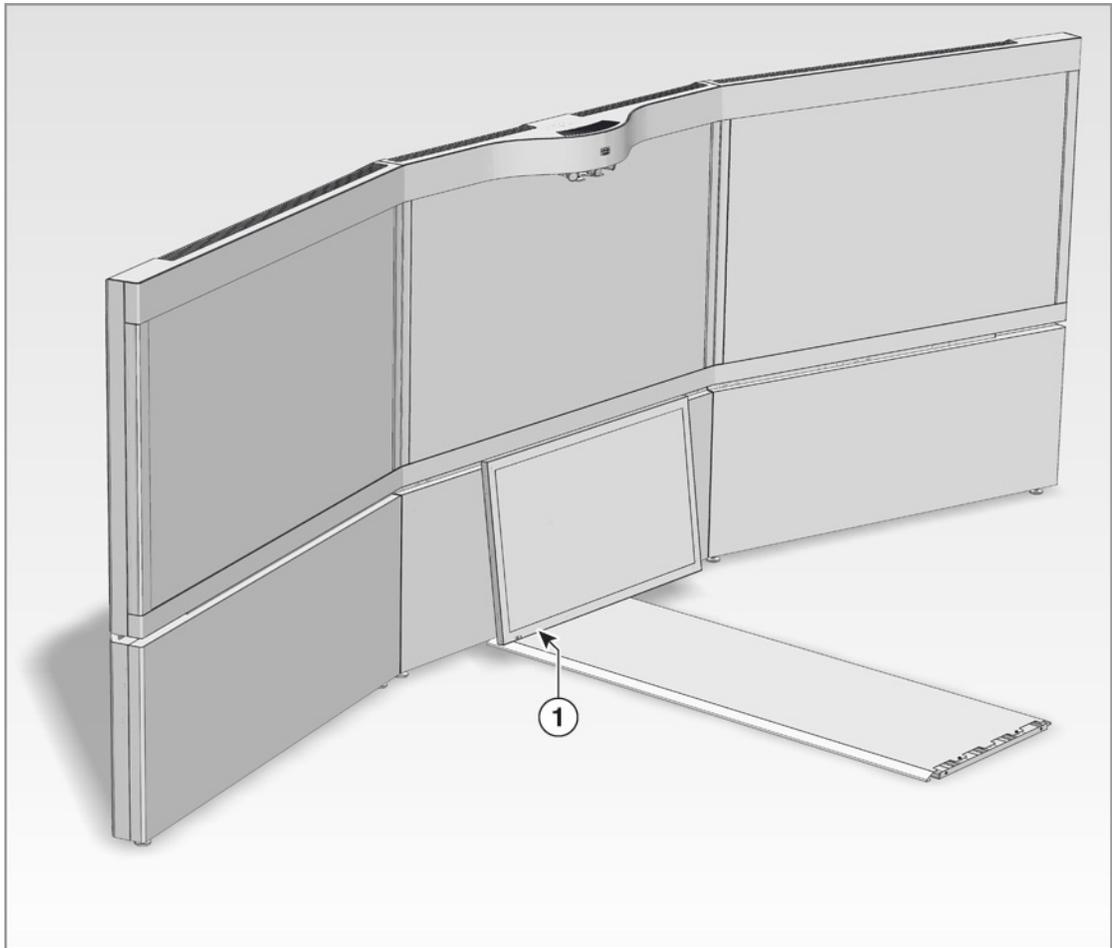
Figure 14-37 Assembling the Data Display to the Data Display Bracket (1 of 3)—Data Display and Channel Rear View



343667

- c. Install the display to the data display bracket using four M6 screws.

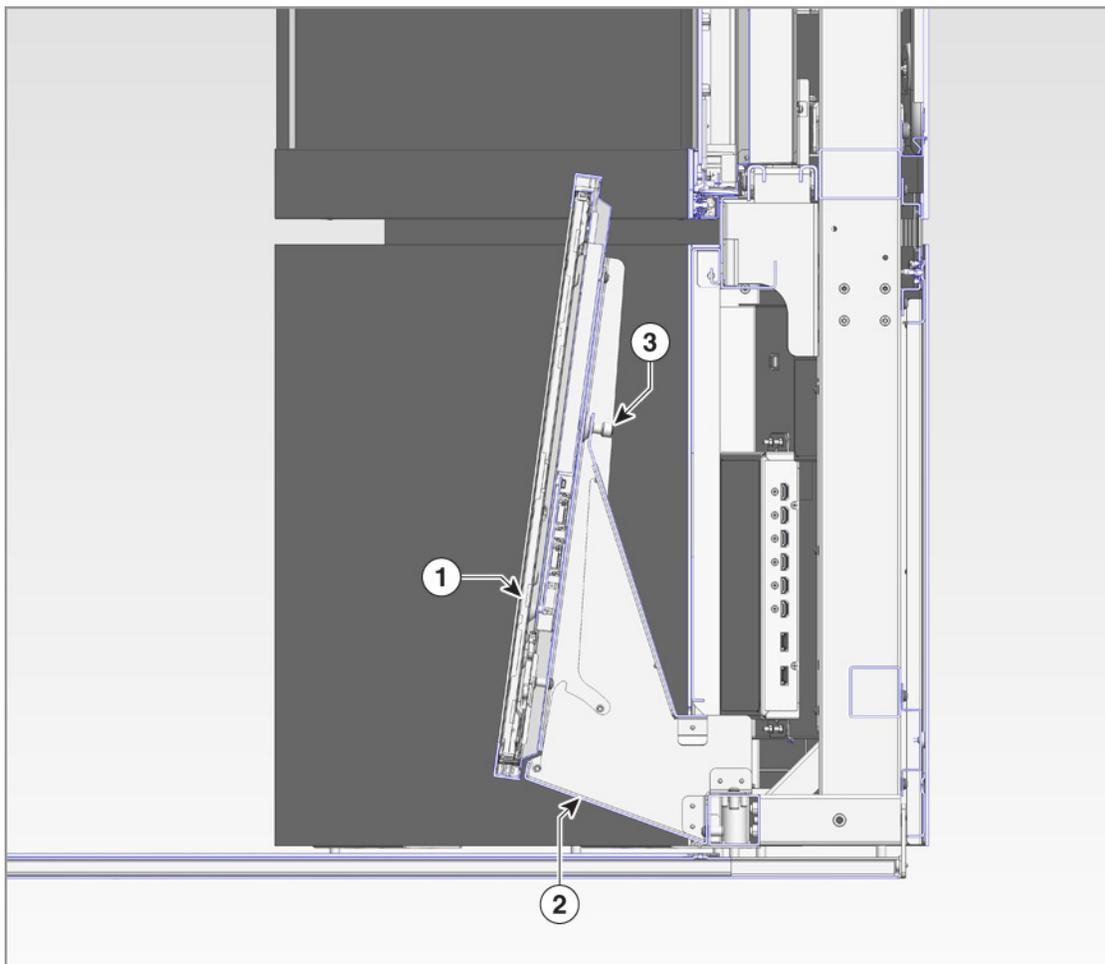
Figure 14-38 *Assembling the Data Display to the Data Display Bracket (3 of 3)—Channel Location*



- d. Guide the display and channel into the display bracket that is already installed.
- e. Secure the display to the bracket using the captive screws on the bracket.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Data display and channel	N/A	1		
2	Data display bracket	N/A	1		Already installed in the display assembly
3	Captive screws	N/A	2		Part of the bracket assembly

Figure 14-39 *Assembling the Data Display to the Data Display Bracket (3 of 3)—Display, Channel, Bracket, and Display Assembly Side View*



Step 18 **Systems with a free-standing reflector wall only:** Install the remaining wall reflector panels by completing the following steps:

- a. Gently lower the wall panels into the Z bracket channels in the wall frame.

**Tip**

Allow approximately 100mm (4 inches) between the panels to allow hand access between the panels.

- b. After you install all panels, gently press the panels together until they contact each other.
- c. Check the reflector for any gaps between the reflector panels and adjust the panels to close any gaps.

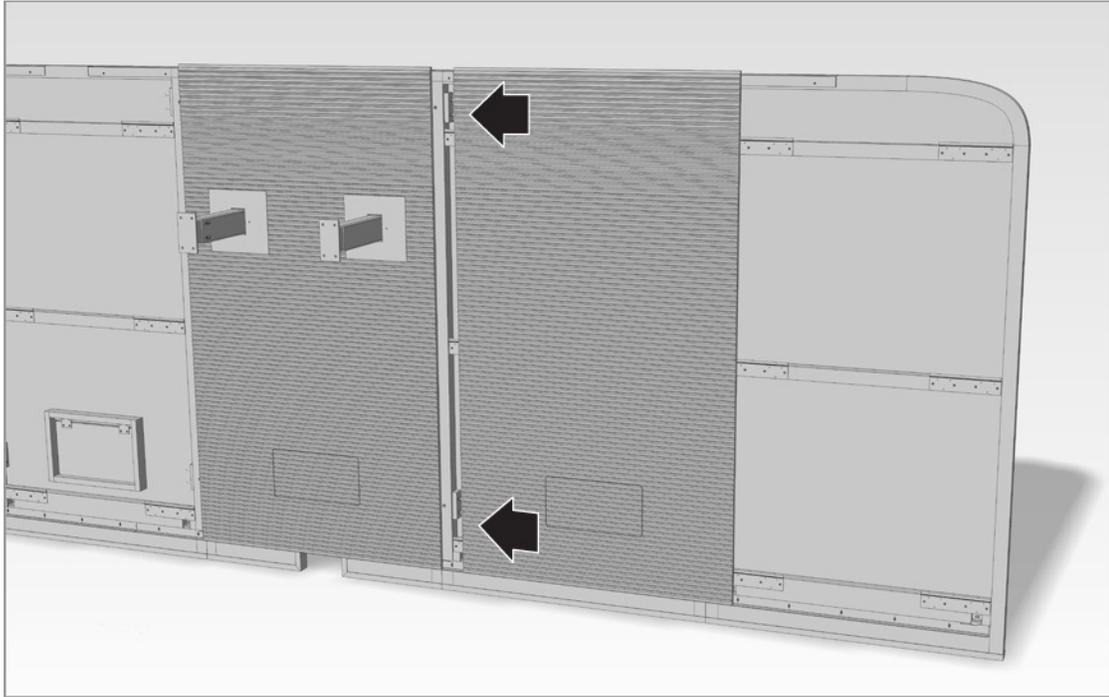
Use the following guidelines for adjusting gaps:

- If there is a gap at the top of the panels, raise the end.
- If there is a gap at the bottom of the panels, lower the end.

Raise or lower the panels using the leveling feet in the wall panels that are shown in [Figure 6-21](#). If the panels require further adjustment, proceed to [Step 19](#) to adjust them.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Reflector panel, center	700-36913-xx Kit #69-2291	3	43-A	Already installed
2	Reflector panel, center-left and center-right	700-36911-01 Kit #69-2291	2	43-A	
3	Reflector panel, far left	700-36906-01 Kit #69-2291		43-A	
4	Reflector panel, far right	700-36910-01 Kit #69-2291		43-A	

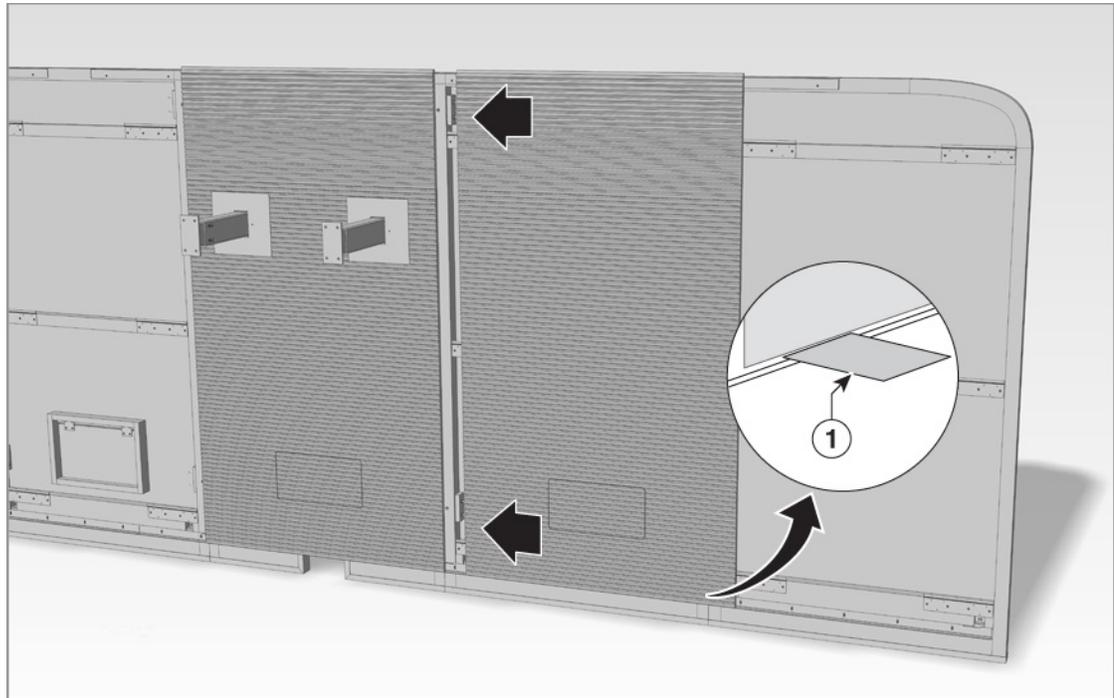
Figure 14-40 Installing the Wall Panels



Step 19 If the gaps between the panels are uneven, use the shims in the accessory kit to place between the bottom of the panel and the bottom ledge of the Z bracket.

Key	Part Description	Part/Kit Number	Qty	Ctn	Notes
1	Shim	700-39916-xx Kit #69-2291-xx	24	43-A	

Figure 14-41 *Placing Shims to Raise the Reflector Panels*



Step 20 Install the floor runner cover between the reflector wall and the rear of the system.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Rear floor runner cover	700-39003-01 Kit # 69-2323-01	1	1	

Figure 14-42 Installing the Rear Floor Runner Cover

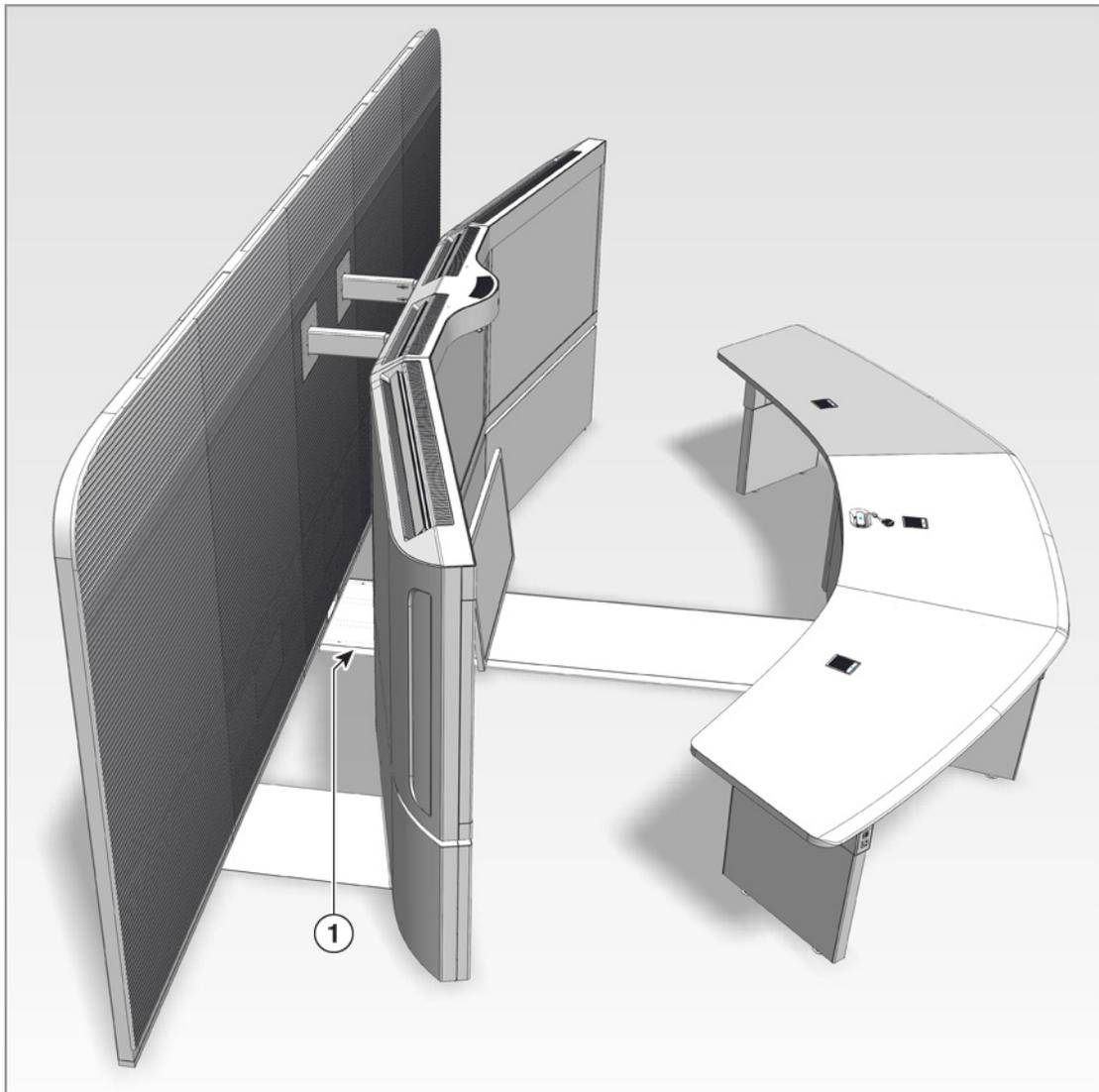
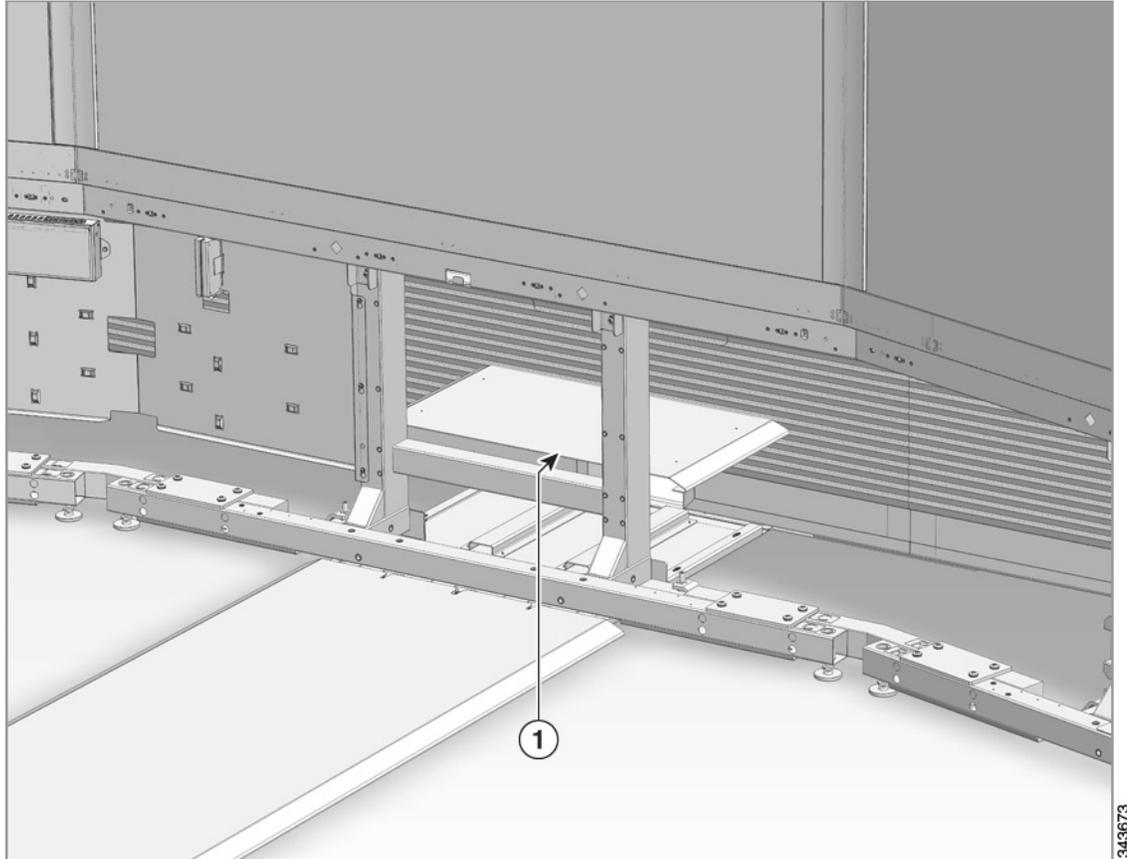


Figure 14-43 *Installing the Rear Floor Runner Cover (2 of 2)*

Where to Go Next

You zoom and focus the camera before you install the rest of the system parts. After you complete the camera procedures in the [“Setting Up the Cameras”](#) section on page 15-9 in Chapter 15, [“First-Time Setup,”](#) you then attach the camera hood assembly, top bezel, and Service Panels and, if required, adjust the outside system panels by completing the steps in the [“Attaching the Camera Hood Assembly, Top Bezel, and Service Panels and Aligning the Rear Panels”](#) section on page 15-18.



First-Time Setup

Revised: May 20, 2015, OL-27038-01

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

- [Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System, page 15-1](#)
- [Powering on the System and Enabling the Cisco TelePresence Administration Software GUI, page 15-2](#)
- [Powering on the System and Enabling the Cisco TelePresence Administration Software GUI, page 15-2](#)
- [Configuring an Alternate TFTP Server \(Optional\), page 15-5](#)
- [Setting Up a TX9000 or TX9200 System That Uses a Static Network Address, page 15-5](#)
- [Setting Up CTS Components, page 15-7](#)

Configuring Cisco Unified Communications Manager for Your Cisco TelePresence System

Before you can use your system, you need to configure your system in Cisco Unified Communications Manager (Unified CM).

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

- The Touch device cannot download its software from Unified CM and you receive an error in the logs.
- The Cisco TelePresence device cannot place or receive calls.
- The device appears as either a Cisco TelePresence System 500-32 or a Cisco TelePresence System 1000 in the Cisco TelePresence Administration GUI.

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

Step 1 Load the Cisco TelePresence Administration Software image on the Unified CM server.

**Note**

The Cisco TelePresence System TX9000 and TX9200 systems require a minimum version of CTS administration software 1.9.0 to run. If your Unified CM is already running the required minimum software, you can skip this step.

For more information, refer to the following sections in the *Cisco Telepresence Touch 12 Installation Guide*:

- If you are upgrading from a software version that prior to 1.7.4, follow the steps in the “[Upgrading the CTS Software for Systems That Are Running Cisco TelePresence Software Versions Prior to 1.7.4](#)” section.
- If you are upgrading from a software version that is 1.7.4 or later, follow the steps in the “[Upgrading the CTS Software for Systems That Are Running Cisco TelePresence Software Versions 1.7.4 and Above](#)” section.

Step 2 Register your system as a device in Unified CM. For more information, refer to the “[Configuring a Cisco TelePresence Device](#)” section in the *Cisco Unified Communications Manager Configuration Guide for the Cisco TelePresence System*.

Step 3 Add the TFTP server for your Unified CM server to your system using the Cisco TelePresence Administration Software GUI. For more formation, refer to the “[Cisco Unified Communications Manager Settings](#)” of the *Cisco TelePresence System Administration Guide* for your software release.

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

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

**Note**

The Cisco TelePresence System TX9000 and TX9200 systems require a minimum version of CTS administration software 1.9.0 to run.

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

Step 1 Open the left and right facade panels by pulling them out from the top.

**Note**

These panels pivot outward and are directly below the left and right displays.

Step 2 Power on the four PDUs in the display assembly, two on each side.

**Note**

Power on all codecs within 30 seconds to avoid power on detection failure.

After you turn on the codecs, the display associated with each codec becomes active. CTS displays green check marks on all displays to show bootup progress. Bootup is complete when the system displays six check marks as shown in [Figure 15-1](#).

**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 15-1 **Bootup Screen**



If all six check marks do not display, use the following list to attempt to troubleshoot the problem:

- If the fourth check mark does not display, your system might not have network connectivity. Check the network port and/or the Ethernet cable going to the network port. If your system does not use the Dynamic Network Host Protocol (DHCP) to automatically assign an IP address, you need to configure a static IP address as described in the [“Setting Up a TX9000 or TX9200 System That Uses a Static Network Address”](#) section on page 15-5.
- If the last check mark displayed is a red “X,” there has been a compact flash error; if you receive this error, contact Cisco Technical Support.

Step 3 Watch the Cisco TelePresence Touch 12 (Touch) device (the call control device on the table) as the system is booting.

A series of circled numbers appear on the display of the Touch device. These numbers change to check marks as the Touch device components become active.

**Tip**

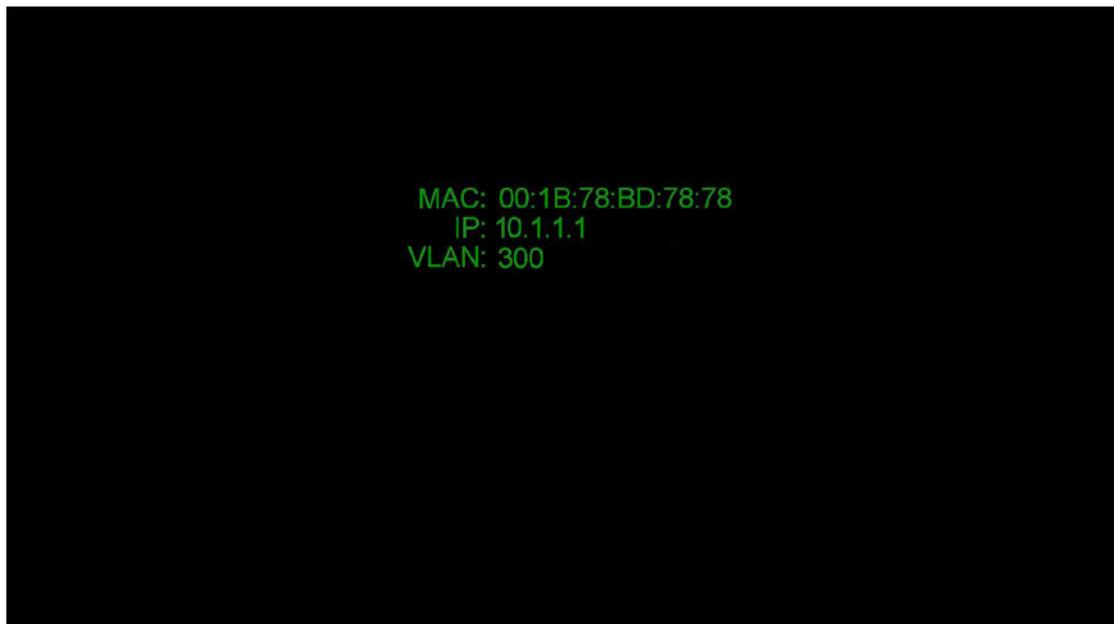
If the circled numbers do not change to check marks or you receive a message on the Touch device that it could not register to the codec, disconnect the Touch device, wait 5 minutes, then reconnect it. If you continue to see errors or the device does not become active, refer to the [“Troubleshooting Software Installation Issues”](#) chapter of the *Cisco TelePresence Touch 12 Installation Guide* for troubleshooting steps.

**Caution**

Do not allow the Cisco logo to remain on the screen for more than 30 minutes. Leaving a static image on a plasma display for a long period of time can cause “burn in” of the image and cause permanent damage to the display.

- Step 4** After bootup completes, make a note of the IP address that displays on the center of the screen as shown in [Figure 15-2](#). You use that information to log in to the Cisco TelePresence System Administration. This IP address displays until you log in to Cisco TelePresence System Administration or use Secure Shell (SSH) to log in to the TX9000 and TX9200.

Figure 15-2 System IP Address

**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 [“Setting Up a TX9000 or TX9200 System That Uses a Static Network Address”](#) section on page 15-5.

- Step 5** 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 [Cisco Unified Communications Manager Installation Guide for the Cisco TelePresence System](#) for your software release.
- Step 6** Open a browser on a computer that is connected to your network.
- Step 7** In the URL field, type the IP address that you obtained in [Step 4](#) 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, follow the instructions in [Step 5](#) and [Step 6](#) in the “Configuring an Alternate TFTP Server (Optional)” section on [page 15-5](#) to retrieve it.

Step 8 Log in to the system by entering the following information:

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

Configuring an Alternate TFTP Server (Optional)

If you need to use an alternative TFTP server, configure the parameters for the alternative TFTP server and in the Cisco Unified Communications Manager (Unified CM) Device page. For instructions to configure an alternate TFTP server, refer to the “Configuring the Cisco TelePresence System” chapter of the *Cisco TelePresence System Administrator's Guide* for your software release.

**Note**

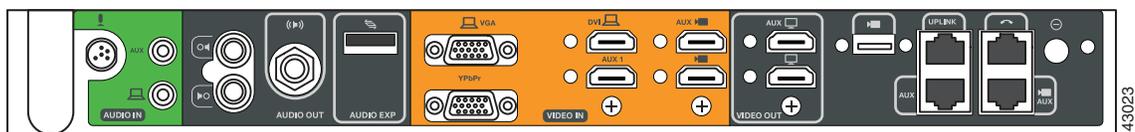
If you are using the TFTP address that DHCP supplies for Cisco Unified Communications Manager, do not perform this action.

Setting Up a TX9000 or TX9200 System That Uses a Static Network Address

If your system does not use the Dynamic Host Configuration Protocol (DHCP) to obtain an address and uses a statically-assigned IP address, use the following procedure to assign the static address to the system.

- Step 1** Make sure that the system is disconnected from the network.
- Step 2** Wait for the system to finish booting and for the 192.168.x.x address to appear on the center display.
- Step 3** Make a note of the IP address that displays.
- Step 4** Disconnect the auxiliary camera port connection on TS1 (the primary codec).
- Step 5** Connect a DHCP-enabled PC to the auxiliary camera port of the primary codec. The connection on the port is the Ethernet port labeled “Aux” with a camera icon next to it. The port is on the far lower right in [Figure 15-3](#).

Figure 15-3 Aux Camera Port Location



- Step 6** Find the IP address that the Cisco TelePresence system provided for your network session and make a note of it.

**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 7** Set the network address using either CLI commands or the Cisco TelePresence Administrative GUI using one of the following methods:
- **To set the address using the Cisco TelePresence Administrative GUI:**
 - a. Using a supported Internet browser, log in to the Cisco TelePresence system GUI using the IP address *xxx.xxx.xxx.1*,

Where:

xxx.xxx.xxx is the first three octets of the session IP address.

For example, if you determine that your session IP address is 10.0.4.2, use the IP address 10.0.4.1.
 - b. Enter the user name and password when you are prompted to do so. By default, the user name is **admin** and the password is **cisco**.
 - The First-Time Setup wizard screen displays.
 - c. If the CTS Admin UI button displays, click this button to open the Cisco TelePresence Administrative GUI.
 - d. Navigate to **Configuration > IP Settings**.
 - e. Change the DHCP Enabled setting to **No**.
 - f. Enter a static IP address, subnet mask, and IP gateway for your system into the fields. Optionally, enter DNS server(s) and the network domain name.
 - **To set the address using CLI commands:**
 - a. Using a Secure Shell (SSH) client, log in to the Cisco TelePresence system GUI using the IP address *xxx.xxx.xxx.1*,

Where:

xxx.xxx.xxx is the first three octets of the session IP address.

For example, if you determine that your session IP address is 10.0.4.2, use the IP address 10.0.4.1.
 - 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)

Command 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...
```

Your system saves the changes and restarts.

Setting Up CTS Components

This section includes the steps you use to test and configure the system components and includes the following sections:

- [Setting Up the Displays, page 15-7](#)
 - [Setting Up the Cameras, page 15-9](#)
 - [Setting Up the Speakers, page 15-23](#)
 - [Setting Up the Microphones, page 15-24](#)
 - [Setting Up the Presentation Display, page 15-26](#)
 - [Other Devices, page 15-28](#)
-

Setting Up the Displays

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 set up the displays, complete the following steps.

Step 1 Using the IP address that appeared on the display during system bootup, log in to the CTS Administration GUI.



Tip If you did not make a note of the IP address, follow the instructions in [Step 5](#) and [Step 6](#) in the “[Configuring an Alternate TFTP Server \(Optional\)](#)” section on [page 15-5](#) to retrieve it.

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

Step 3 Click **Start** to begin the adjustment process.

Each display in the meeting room should now be showing a set of horizontal grey bars and that display's relative position.

Step 4 Select the color temperature of the lighting in the meeting room and click **Apply**.

Selecting the Light Level

When adjusting the images on the display screens for the Cisco TelePresence system, you must take the color temperature of the ambient light in the room into consideration. For more information about ambient light, see the “[Lighting Considerations For the TX9000 and TX9200](#)” section on page 2-8 in Chapter 2, “Room Requirements for the TX9000 and TX9200 Systems.”

Troubleshooting Displays

Use [Table 15-1](#) to troubleshoot problems with the images on the displays.

Table 15-1 Troubleshooting Chart for Display Problems

Problem	Possible Cause	Action
Power-on test indicates the displays turn on in the wrong sequence. The normal power on sequence is the left, center, then right display screen.	Video cable is not connected to its corresponding codec connector. Ethernet cable from secondary codec is not plugged into the correct port on the primary codec.	Check that the cable from each display is plugged into the correct connector on its corresponding codec. Plug the video-to-video cable into the display connector on the correct codec, as follows. <ul style="list-style-type: none"> • Plug the center display into the primary codec. • Plug the participant’s left display into the left secondary codec. • Plug the participant’s right display into the right secondary codec.
No image.	Power cable is not plugged in. Power switch on the back of the display is off.	Check power connections and switches on each display.
No image.	Video cable is not connected.	(CTS-1000 only) Check that the LED is lit at the bottom front of each display and is either green or amber. Contact Cisco technical support if you are certain that the cabling is correct and power is applied to the system, but no image is seen on the display.

Setting Up the 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 15-9
- “Adjusting the Zoom” section on page 15-12
- “Focusing the Camera” section on page 15-17
- “Attaching the Camera Hood Assembly, Top Bezel, and Service Panels and Aligning the Rear Panels” section on page 15-18

Starting the Software Setup and Preparing the Cameras and Camera Targets

To start the software setup, complete the following steps.

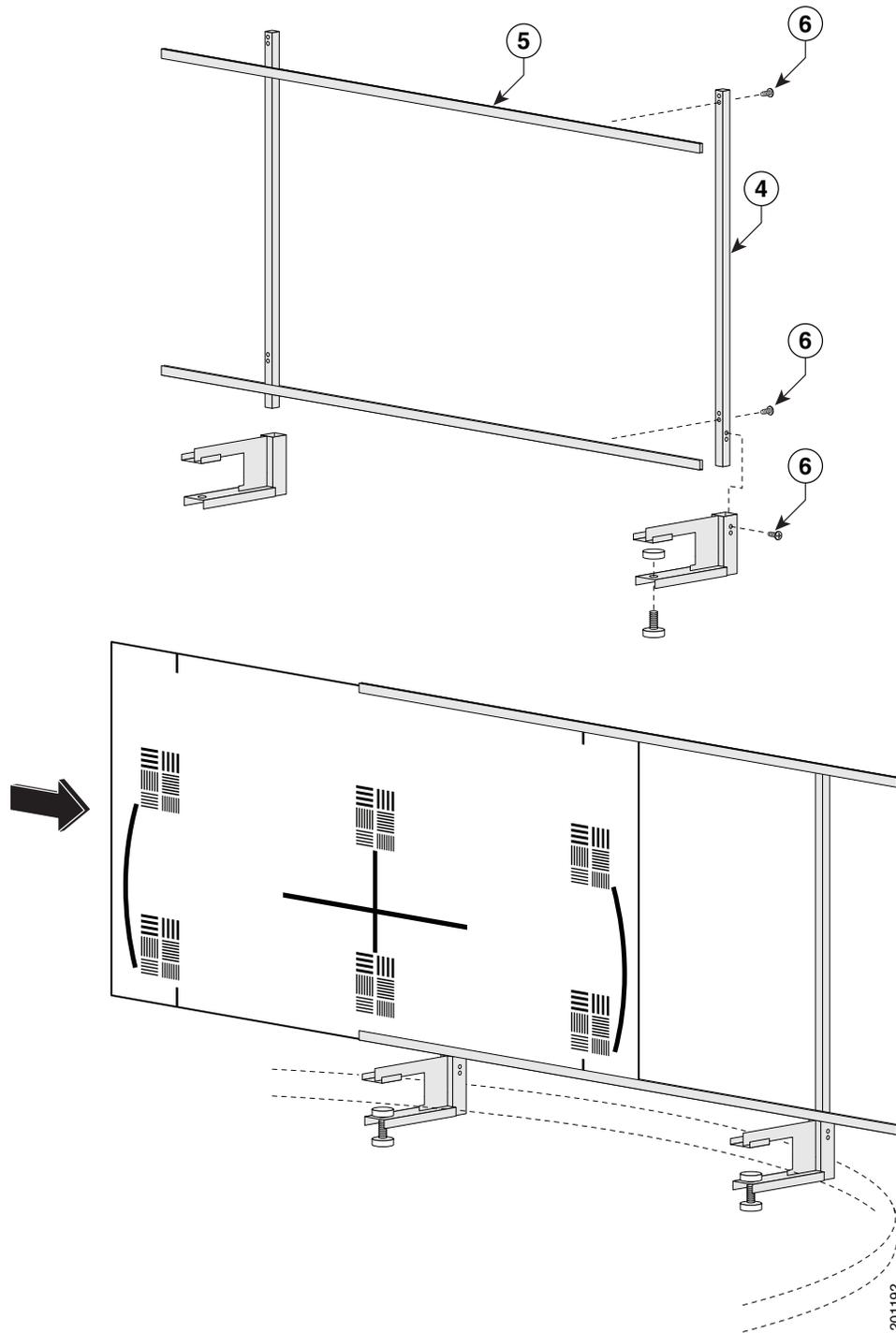
Step 1 Assemble the large camera target.

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 15-2 *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 15-4 Camera Target Assembly



- Step 2** Attach the large target to the underside of the center table section by placing the round pads on the underside of the clamps into recesses that are drilled under the table.

**Tip**

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

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.

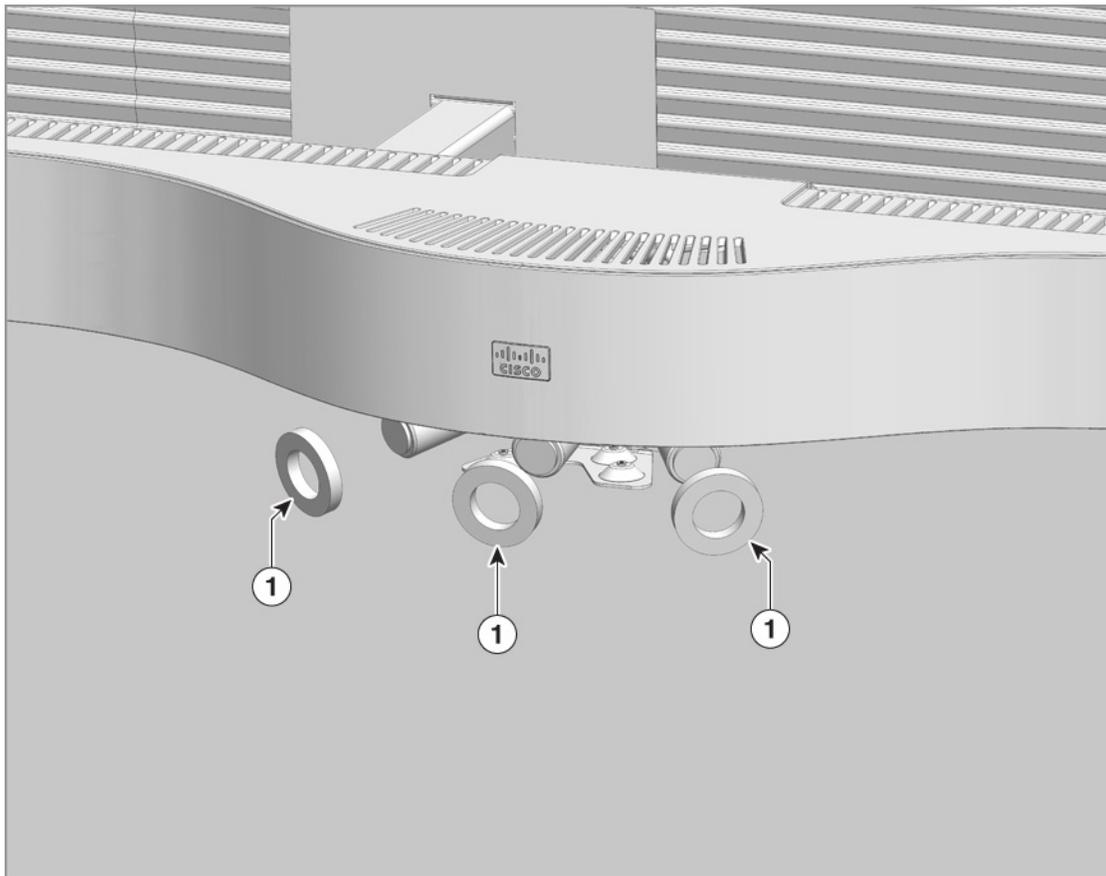
Step 6 Attach the foam camera gaskets to the camera.



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 15-5 Attaching the Camera Gaskets to the Cameras



349674

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”. See [Figure 15-12](#) for the location of the zoom ring.

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 15-7](#).

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 15-6](#).



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 15-6 Camera Adjustment Screws

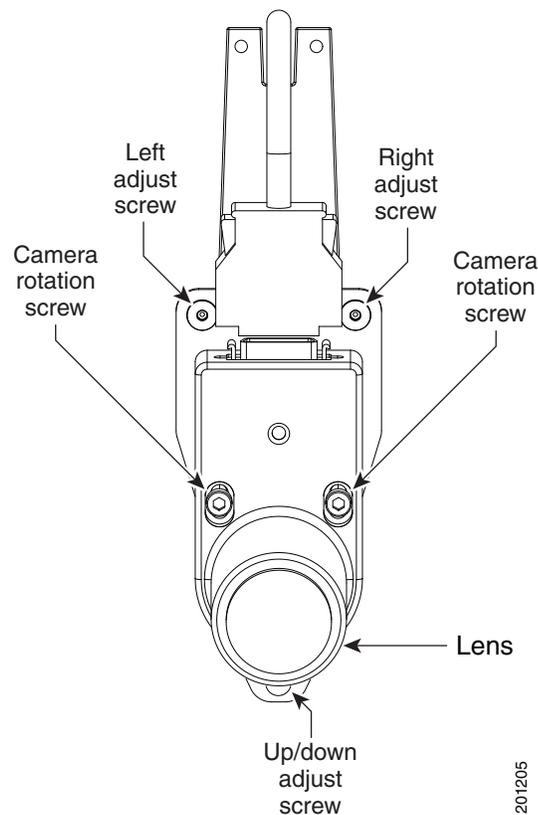
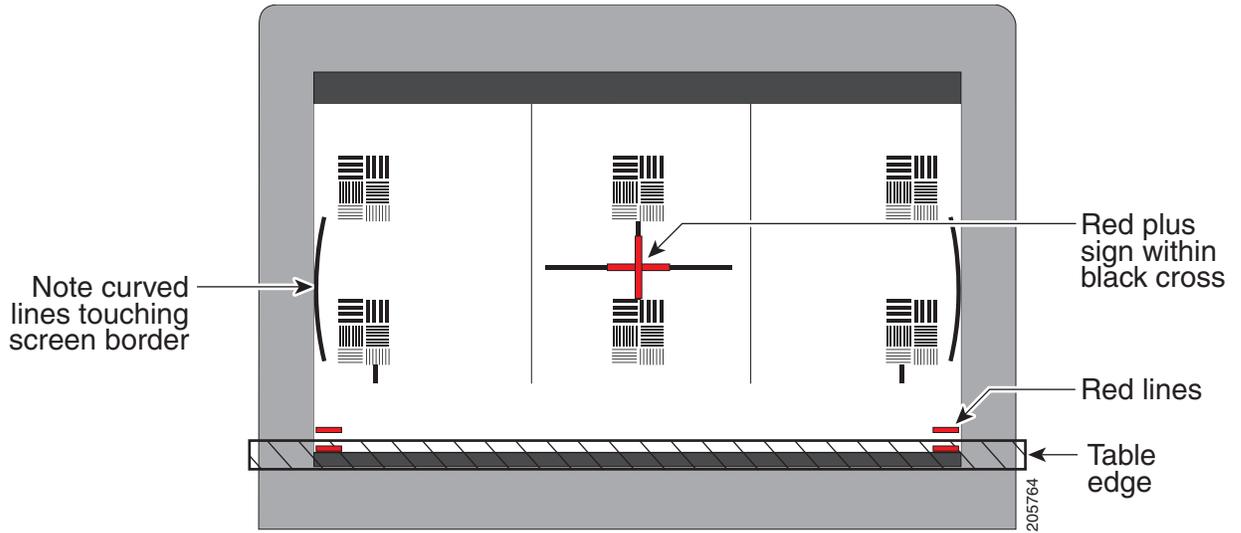


Figure 15-7 Correct Camera Target Alignment—Center Display



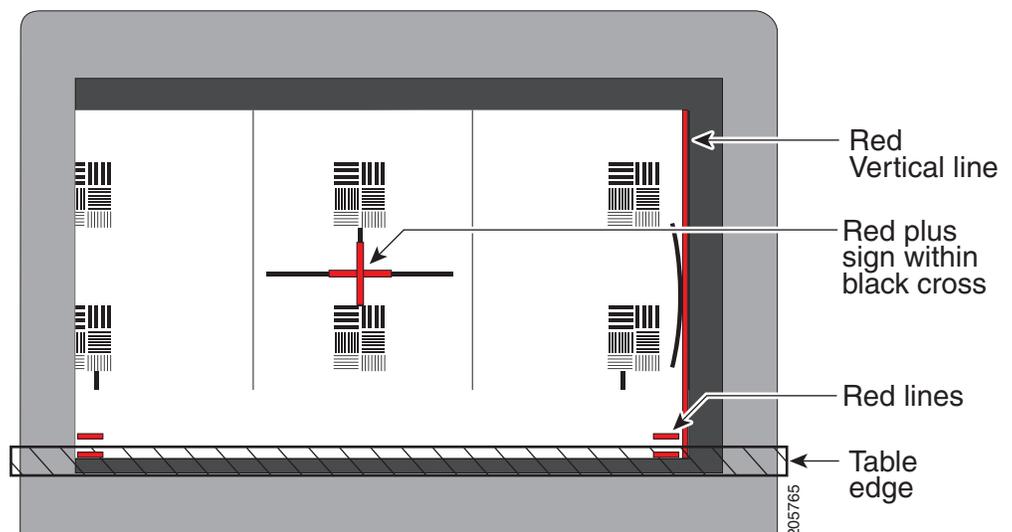
- c. Place the small target on the table in front of the large target, and adjust the focus by completing the steps in the “[Focusing the Camera](#)” section on page 15-17.
- d. Remove the large target from the center part of the table, and attach it to the left part of the table, placing the underside of the clamps into the recessed holes.
- e. 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 15-8](#).

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 15-6](#).



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 15-8 Correct Camera Target Alignment—Right Display



- f. 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 15-17.
- g. 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.

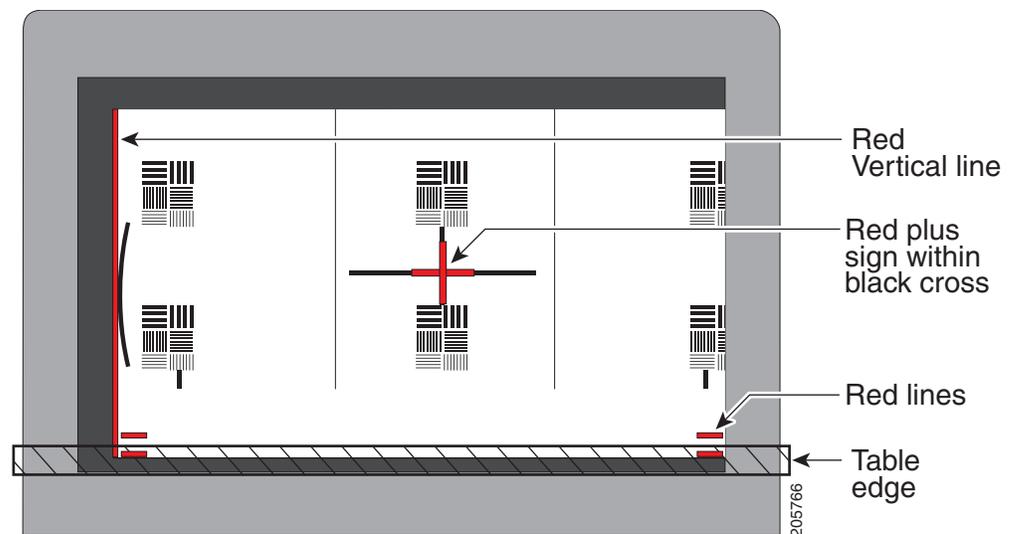
- h. Make the following adjustments to the right camera:
- Align the red plus sign to the plus sign in the middle of the target.
 - Align the red hash marks on the display so that they fit between the table edges.
 - Zoom and align the camera so that the curved line on the left side of the display touches the red adjustment line at the right edge of the display [Figure 15-9](#).

To adjust the camera left and right or up and down, or to make vertical adjustments, use the adjusting screws as shown in [Figure 15-6](#).



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 15-9 Correct Camera Target Alignment—Left Display



- i. 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 15-17.

- 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 white balance settings for the camera.

You will see various images and colors on the displays during the adjustment. Auto Adjust takes approximately 1 minute.

Focusing the Camera

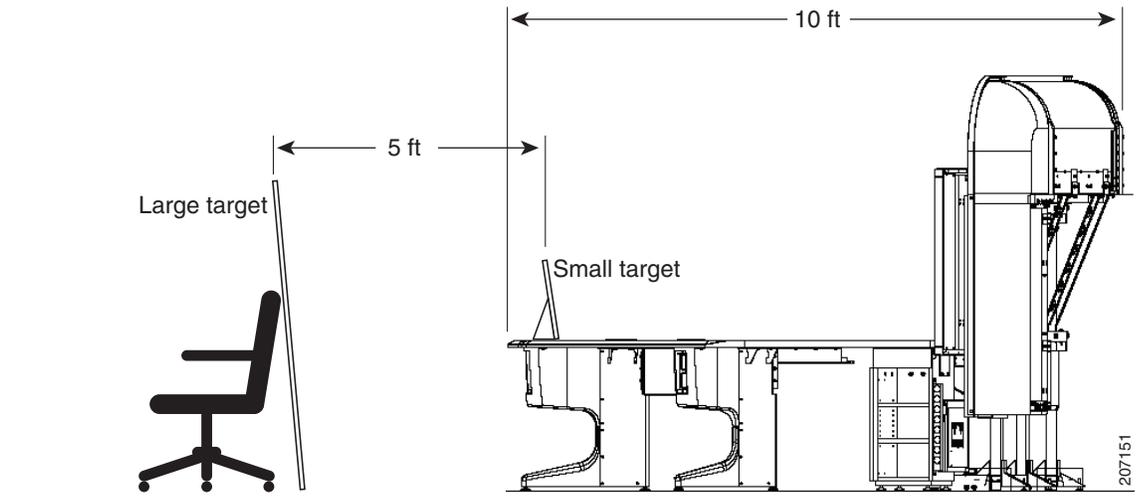
To focus the cameras using the large and small targets, complete the following steps:

- 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.



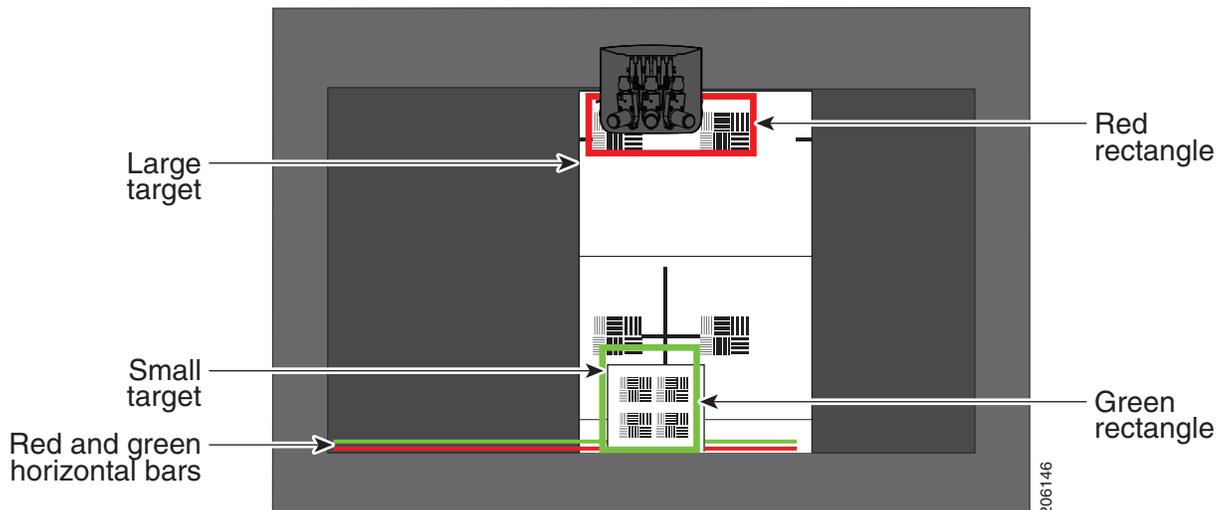
Tip Use a chair to prop up the large target.

Figure 15-10 Arranging the Small and Large Targets



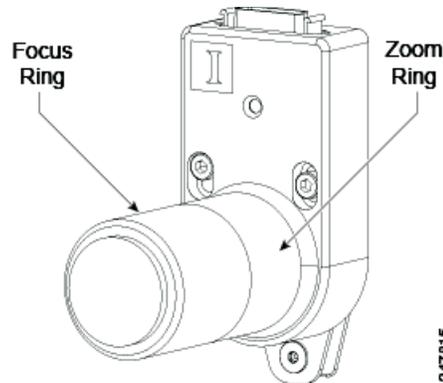
- Step 3** In the Cisco TelePresence Administrative GUI, click **Setup**, then click **Show Focus Target**.
- Step 4** Adjust the small target so that the red box encloses the upper patterns on the large target and the green box encloses the patterns on the small target.

Figure 15-11 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 “NEAR and FAR”.

Figure 15-12 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.

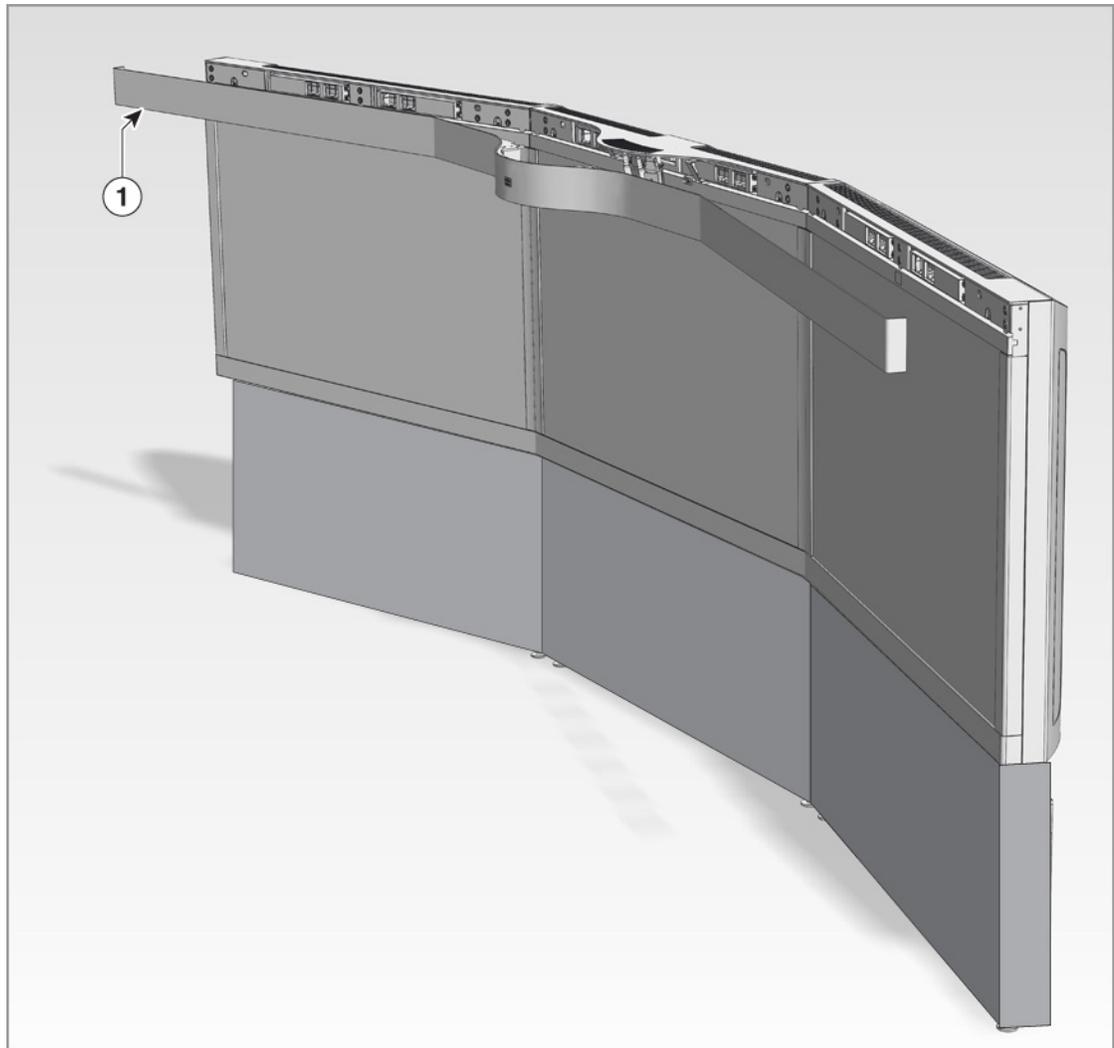
Attaching the Camera Hood Assembly, Top Bezel, and Service Panels and Aligning the Rear Panels

After you complete the camera adjustment, attach the camera hood assembly, top bezel, and Service Panels 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 15-13 *Installing the Top Bezel*



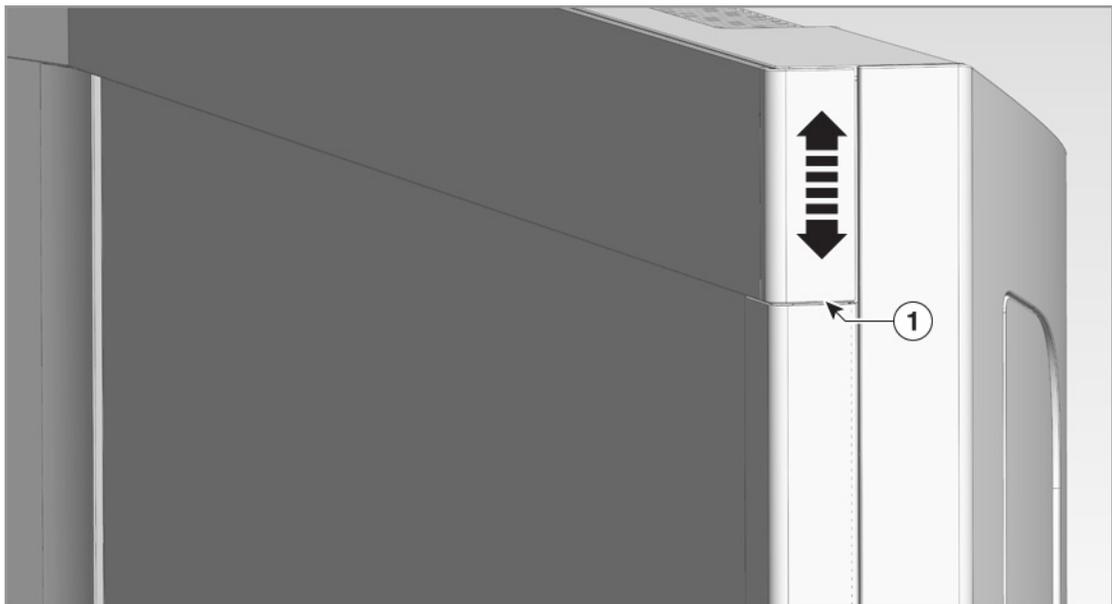
343644

- Step 2** Align the top edges of the rear panels by completing the following steps:
- If needed, align the inner top corner of right rear panel to adjacent corner on center panel.
 - Tighten the upper screw using a #4 phillips bit or screwdriver.
 - Perform the same steps on the left rear panel.

**Note**

You perform additional leveling after you install the top bezel; however you do not install the top bezel until after you zoom and focus the cameras and attach the camera hood. For the additional leveling procedures, see the [“Setting Up the Cameras”](#) section on page 15-9 in Chapter 15, “First-Time Setup.”

Figure 15-14 *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.

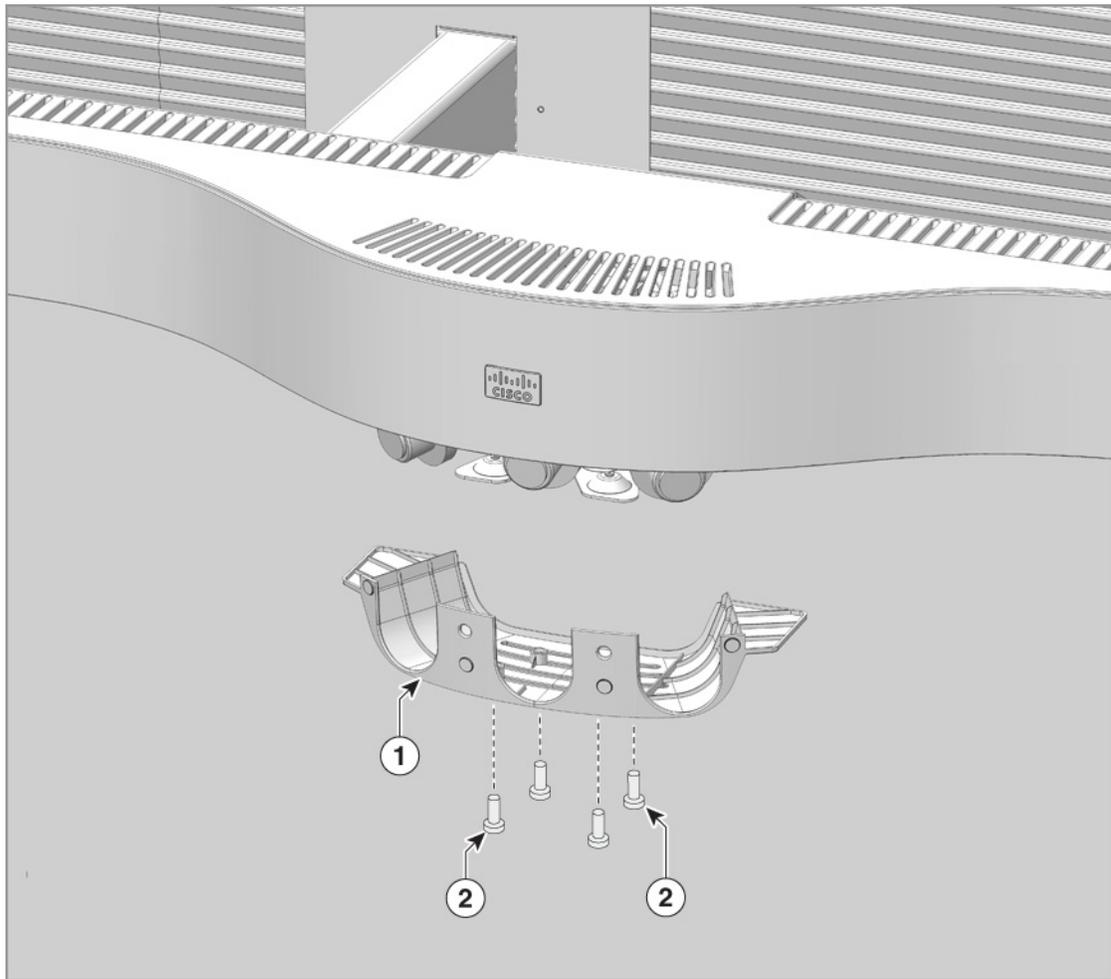


Note Be careful not to jar or move the camera lenses during this procedure.

- 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 15-15 Attaching the Camera Cover and Faceplate to the Camera Bracket



343675

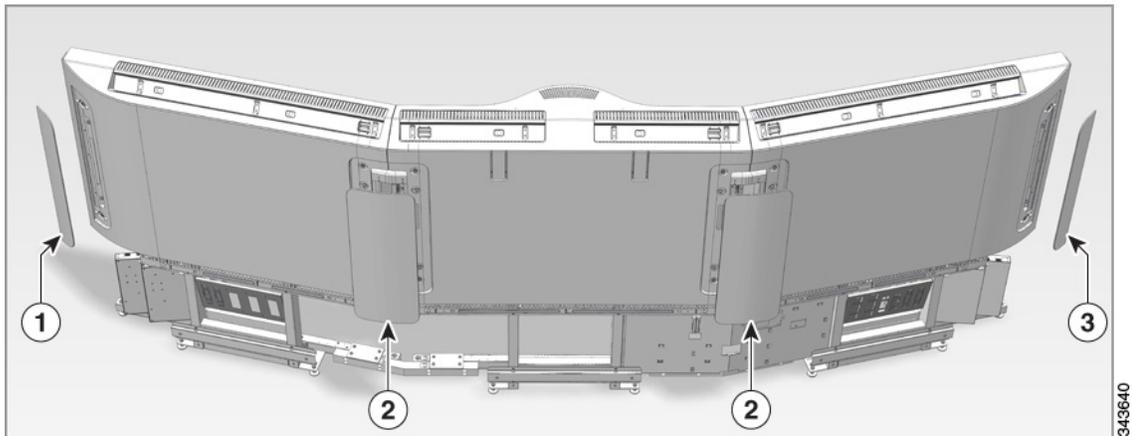
- Step 4** Install the service panels by lining up the ball studs in the panels with the holes in the rear panels and press them into place.



Note [Figure 15-16](#) shows the structure from the rear. Left and right are reversed.

Key	Part Description	Part Number	Qty	Ctn	Notes
1	Service panel, center	700-37195-01 Kit # 69-2311-xx	2		
2	Service panel, right	700-37197-01 Kit # 69-2311-xx	1		
3	Service panel, left	700-37198-01 Kit # 69-2311-xx	1		

Figure 15-16 *Installing the Service Panels*



Troubleshooting Cameras

Use [Table 15-3](#) to troubleshoot problems with cameras.

Table 15-3 *Troubleshooting Chart for Camera Problems*

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 Chapter 10, “Connecting and Routing the Cables.”
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.	Lens cap is in place. Camera is not plugged in or is plugged in incorrectly.	Remove the lens cap. Check power connections and switches on each display. Verify that the video and Ethernet cables from each camera are plugged into the correct connectors on their respective codecs.
No image.	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.

Setting Up the Speakers

The speakers are set up correctly when you can hear sound clearly from each one. You can choose whether you want to cycle through the speakers automatically or manually.

- Click **Speakers** on the Hardware Setup window to select the speaker test.
- Click **Start** to begin the speaker setup.
- Click **Cycle Through Speakers** to have sound cycled automatically for 5 seconds on each speaker.
- Click **Manually Step Through Speakers** to test sound on each speaker. Click **Next Speaker** to progress to the next speaker.

Troubleshooting Speakers

Use [Table 15-4](#) to troubleshoot problems with speakers.

Table 15-4 Troubleshooting Chart for Speaker Problems

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 Chapter 10, “Connecting and Routing the Cables.”
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 Chapter 10, “Connecting and Routing the Cables.”
Sound is not synchronized with video.	—	Contact Cisco technical support.

Setting Up the Microphones

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

You can also test the audio for the shared presentation; to test this audio, plug your computer into the PC audio cable that is part of the shared presentation cable. This cable is on the table. The connector is shown in [Figure 15-17](#).

Figure 15-17 VGA (Video) and Audio Cable for Shared Presentations



- Step 4** Click the **Test** button to the right of the Audio Loopback Test field to begin testing.
- Step 5** Speak into or lightly tap the microphone you are testing. You should hear the same sound from the adjacent 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.
- Step 8** Calibrate the microphones by clicking the **Test** button in the Table Microphone Calibration area.



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 9** Click **Stop** when setup is complete.

Testing for Room Reverberation and Noise Levels

Although your room should be pre-tested for reverberation and noise levels, you can perform additional acoustical testing using the CTS Administration GUI. For more information, see the “[CTX Tests](#)” section of the *Cisco TelePresence System Administration Guide*.

Troubleshooting Microphones

Use [Table 15-5](#) to troubleshoot problems with microphones.

Table 15-5 Troubleshooting Chart for Microphone Problems

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.	<p>Check that the system is plugged in and power is on.</p> <p>Check that the microphone plug is firmly connected to the audio/video extension unit and that the extension cords are properly connected.</p> <p>Check that the mute light on each microphone is lit. An unlit light indicates that the microphone is not plugged in.</p> <p>Lightly tap the microphone to see if sound registers.</p> <p>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.</p>
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.

Setting Up the Presentation Display

If your system has an Auxiliary Control Unit, set up the display for first-time use by completing the steps in this section.

- Step 1** Start a test pattern display for the display by completing the following steps:
- From the Cisco TelePresence Administration GUI, select **Troubleshooting > Hardware Setup**, then click the **Presentation Devices** radio button.
 - Select the **Test Pattern** radio button.
 - Click **Start** to begin the test.
- Step 2** Turn on the display.
- If the display does not show a test pattern, see the [“Troubleshooting the Presentation Display” section on page 15-27](#) to attempt to fix the problem.
- Step 3** From Cisco TelePresence System Administration, click **Set LCD Defaults** to automatically configure the display for use with the Cisco TelePresence system.

**Note**

Although the 40-inch display ships with a remote control, Cisco strongly recommends that you not make any adjustments or changes from the factory default settings. The TelePresence system restores the display to its factory default settings each night and any overrides to the default settings will not persist.

Troubleshooting the Presentation Display

Use [Table 15-6](#) to troubleshoot problems with the presentation display.

Table 15-6 *Troubleshooting Chart for Presentation Display Problems*

Problem	Possible Cause	Possible Solution
Test pattern is not displayed.	Display power switch is off.	Check presentation display power switch on the rear of the display.
Test pattern is not displayed.	Power cable is not connected.	Check to see if the LED on the presentation display is illuminated; it can be either green or yellow. If the LED light is not illuminated, make sure that the power cable is plugged in.
Test pattern is not displayed.	Video cable connector is not connected to the presentation display or to the primary codec, or cabling is not correct.	Check that the presentation display is cabled correctly. Check the cabling diagram that is included with the system. For more information, see Chapter 10, “Connecting and Routing the Cables.”

**Note**

The Cisco TelePresence System can display information from multiple input devices during a meeting; if multiple input devices are sending information, the display shows the input from the last presentation display sending information. If you do not see an input device image, try the following: for VGA devices, unplug the device from the VGA cable, wait 5 seconds, and then plug the device back in; for document cameras: turn the camera off, wait 5 seconds, and then restart the device.

Other Devices

Use **Other Devices** to check the Auxiliary Control Unit, which controls the light units surrounding the displays, and enables the CTS to get more complete presentation display status information and restore presentation display defaults.

- Click **Other Devices** on the Hardware Setup window.
 - Click the **Start** radio button to access the Auxiliary Control Unit to begin testing. To end the test, click **Stop**.
 - Individual light units correspond to the five port numbers of the Auxiliary Control Unit. Click the appropriate box to select a specific port number; Click **Select All** to select all ports (and all light units) or **Select None**.
 - Click the **Refresh On/Off Status** button to update the on/off status of each port.
 - Click the **Turn Selected Lights On/Off** to test the selected light unit(s).
 - Click the **Reset Auxiliary Control Unit** to power cycle the Auxiliary Control Unit.
-



Use & Care Guide

Revised: May 20, 2015, OL-27038-01

Maintaining the Tabletop



Caution

Waxing or rubbing the surface with any type of abrasive is not recommended.

- **For general daily care** - use a dampened cloth with clean water.
- **To remove dirt** - use a mild soap and water solution. Wipe off with clean water afterward to remove the soap.
- **To remove ink marks** - rub the stained area with a pencil eraser.
- **To polish the tabletop** - use lemon oil.



Note

Lemon oil is not recommended for daily use.

Cleaning the Displays

Wipe the panel surface gently using only a cleaning cloth or a soft, lint-free cloth. If the surface is particularly dirty, wipe with a soft, lint-free cloth which has been soaked in pure water or water to which a small amount of neutral detergent has been added, and then wipe it evenly with a dry cloth of the same type until the surface is dry.

Cleaning the Camera Lens



Caution

Do not touch the camera after installation is completed. If you need to clean the camera lens, use a dry microfiber cloth. After cleaning, you will need to realign the camera.

Cleaning the Display Screens

Use a clean, soft cloth with warm water and mild soap to remove any marks on your Cisco TelePresence white speaker screens.

**Caution**

Using anything other than a soft cloth, warm water and mild soap may permanently damage the display screen.



Field-Replaceable Unit Guide

Revised: May 20, 2015, OL-27038-01

This chapter describes the procedures you take to replace the field-replaceable units (FRUs) for the Cisco TelePresence System TX 9000 and Cisco TelePresence System TX 9200, and includes the following sections:

- [List of Field-Replaceable Units and Ordering Information, page 17-2](#)
- [Region-and Country-Specific Power Cables, page 17-4](#)
- [Region-and Country-Specific Power and Ethernet Connectors, page 17-4](#)
- [Finding the Serial Number Location, page 17-6](#)
- [Replacing the Camera—Part Number CTS-TX9K-CAMCLSTR=, page 17-7](#)
- [Resetting a Display, page 17-8](#)
- [Replacing the Left or Right Display—Part Number CTS-DISP-65-GEN4=, page 17-10](#)
- [Replacing the Center Display—Part Number CTS-DISP-65-GEN4=, page 17-12](#)
- [Replacing a Codec—Part Number CTS-CODEC-PRI-G2R= or CTS-CODEC-PRI-RCH= \(PRC\), page 17-15](#)
- [Replacing the Light Control Unit—Part Number CTS-LCU-G2R=, page 17-18](#)
- [Replacing the Audio/Video Extension Unit—Part Number CTS-LAEB-G2R=, page 17-19](#)
- [Replacing an LED Light Fixture—Part Number CTS-TX9000-LEDPK=, page 17-20](#)
- [Replacing a Speaker—Part Number CTS-TX9000-SPKR=, page 17-20](#)
- [Replacing a PDU—Part Number CTS-PWR-PDU=, page 17-21](#)
- [Replacing a Microphone—Part Number CTS-TX9K-MIC=, page 17-22](#)
- [Replacing the Presentation Display—Part Number CTS-TX9K-DATADISP=, page 17-23](#)
- [Replacing the Front Row Table Top—Part Number CTS-TX9XX0-TBL-MF= \(Maple Finish\) or CTS-TX9XX0-TBL-WF= \(Walnut Finish\), page 17-24](#)
- [Replacing the Back Row Table Top—Part Number CTS-TX9XX0-TBL-MB= \(Maple Finish\) or CTS-TX9XX0-TBL-WB= \(Walnut Finish\), page 17-25](#)
- [Replacing a Table Leg Power and Ethernet Connector, page 17-26](#)
- [Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable, page 17-27](#)

List of Field-Replaceable Units and Ordering Information

Table 17-1 provides you with a list of the FRUs for the Cisco TelePresence System TX 9000 and TX 9200. This section also includes information about ordering these FRUs.

Table 17-1 List of Field-Replaceable Units

FRU	Description
CAB-HDMIHDMI-A=	Presentation cable, 8 meter, HD video (uses HDMI connector)-to-HD video (uses HDMI connector), with audio cable
CP-PWR-CUBE-4=	Audio/video extension unit power supply
CTS-CAB-CAM-HDMI=	HDMI-to-HDMI cable for camera, 5 meters
CTS-CAB-CAM-USB=	USB-to-USB cable for camera, 5 meters
CAB-DISPPRT1.0M=	DisplayPort-to-DisplayPort cable between the codec and audio/video Extension Unit and TS1 codec, 1 meter
CTS-CAB-DPHDMI-A=	Presentation Cable, 8 meter, DisplayPort-to-HD video (uses HDMI connector), with audio cable
CTS-CAB-MDPHDMI-A=	Presentation Cable, 8 meter, Mini DisplayPort-to-HD video (uses HDMI connector), with audio cable
CTS-CAB-VGA-A=	Presentation cable, 8 meter, VGA-to-VGA, with audio cable
CTS-CAM-TOOL=	Camera target
CTS-CODEC-PRI-G2R=	Codec (all countries except China)
CTS-CODEC-PRI-RCH=	Codec (China)
CTS-CODEC-S-PWR=	Codec power supply
CTS-CTRL-DV12-A=	Cisco TelePresence Touch 12 device
CTS-DISP-65-GEN4=	65" plasma display
CTS-LAEB-G2R=	Audio/video extension unit
CTS-LCU-G2R=	Light control unit
CTS-MIC-EXT=	Microphone extension cable, 9.5 meters
CTS-PWR-LT-LED=	Light control unit power supply
CTS-PWR-PDU=	PDU
CTS-TX9000-BZL=	Bezels
CTS-TX9000-LEDPK=	LED light fixtures
CTS-TX9000-SPKR=	Speaker
CTS-TX9200-UPG	Upgrade kit to convert a system from a CTS TX9000 to a CTS TX9200
CTS-TX9K-CAMCLSTR=	Camera cluster
CTS-TX9K-CAM-HS=	Camera housing
CTS-TX9K-CAM-PWR=	Camera power supply
CTS-TX9K-CBLRUN=	Cable runner cover
CTS-TX9K-DATADISP=	42" data display

Table 17-1 List of Field-Replaceable Units (continued)

FRU	Description
CTS-TX9K-FSWM-KIT=	<p>Kit that converts a system with a free-standing reflector wall to a system with a wall-mounted reflector wall</p> <p>Note Do not return your reflector panels if you select this option. You use the existing reflector panels with the conversion kit. The procedure to convert the reflector wall is documented at the following URL:</p> <p>http://www.cisco.com/en/US/docs/telepresence/cts_hardware_options_upgrades/cts_hw_dware_o_and_u_92xx.html#wp1073312</p>
CTS-TX9K-FRT-PNLS=	Front and rear system panels
CTS-TX9K-LTRF=	<p>Light reflector frame (free-standing kit)</p> <p>Note This option does not upgrade an existing system with wall-mounted reflector panels to a system with free-standing reflector panels, because all required parts are not included with this kit. For an upgrade from a wall-mounted reflector wall to a free-standing reflector wall, use CTS-TX9K-WMFS-KIT=.</p>
CTS-TX9K-LTRF-PNL=	Light reflector panel
CTS-TX9K-MIC=	Microphone
CTS-TX9K-SEISMIC=	Seismic brackets
CTS-TX9K-TBL-PNLB=	Back row table leg panels
CTS-TX9K-TBL-PNLF=	Front row table leg panels
CTS-TX9K-WMFS-KIT=	<p>Kit that converts a system with a wall-mounted reflector wall to a system with a free-standing reflector wall</p> <p>Note Do not return your reflector panels if you select this option. You use the existing reflector panels with the conversion kit. The procedure to convert the reflector wall is documented at the following URL:</p> <p>http://www.cisco.com/en/US/docs/telepresence/cts_hardware_options_upgrades/cts_hw_dware_o_and_u_92xx.html#wp1073018</p>
CTS-TX9XX0-TBL-MB=	Table top, back row, maple finish
CTS-TX9XX0-TBL-MF=	Table top, front row, maple finish
CTS-TX9XX0-TBL-WB=	Table top, back row, walnut finish
CTS-TX9XX0-TBL-WF=	Table top, front row, walnut finish

Region-and Country-Specific Power Cables

Table 17-2 provides you with a list of the region- and country-specific power cables that plug the CTS TX 9000 and CTX TX 9200 into a wall socket.

Table 17-2 *Region- and Country-Specific Power Cables*

Power Cord ID	Description
PWR-CORD10-AP	TelePresence G2A Power Cords - Asia Pacific
PWR-CORD10-AR	TelePresence G2A Power Cords - Argentina
PWR-CORD10-AU	TelePresence G2A Power Cords - Australia
PWR-CORD10-BZ	TelePresence G2A Power Cords - Brazil
PWR-CORD10-CE	TelePresence G2A Power Cords - Central Europe
PWR-CORD10-CN	TelePresence G2A Power Cords - China
PWR-CORD10-ID	TelePresence G2A Power Cords - India
PWR-CORD10-ISR	TelePresence G2A Power Cords - Israel
PWR-CORD10-ITA	TelePresence G2A Power Cords - Italy
PWR-CORD10-JP	TelePresence G2A Power Cords - Japan
PWR-CORD10-NA	TelePresence G2A Power Cords - North America
PWR-CORD10-SWI	TelePresence G2A Power Cords - Switzerland
PWR-CORD10-UK	TelePresence G2A Power Cords - United Kingdom and United Arab Emirates

Region-and Country-Specific Power and Ethernet Connectors

Table 17-3 provides you with a list of the region- and country-specific power and Ethernet connectors installed in the table legs.

Table 17-3 *Region- and Country-Specific Power and Ethernet Connectors for Table Legs*

Power Cord ID	Description
CTS-LAPCONN-AP	Power and Ethernet connectivity for table legs - Asia Pacific
CTS-LAPCONN-AR	Power and Ethernet connectivity for table legs - Argentina
CTS-LAPCONN-AU	Power and Ethernet connectivity for table legs - Australia
CTS-LAPCONN-BZ	Power and Ethernet connectivity for table legs - Brazil
CTS-LAPCONN-CE	Power and Ethernet connectivity for table legs - Central Europe
CTS-LAPCONN-CN	Power and Ethernet connectivity for table legs - China
CTS-LAPCONN-ID	Power and Ethernet connectivity for table legs - India
CTS-LAPCONN-ISR	Power and Ethernet connectivity for table legs - Israel
CTS-LAPCONN-ITA	Power and Ethernet connectivity for table legs - Italy
CTS-LAPCONN-JP	Power and Ethernet connectivity for table legs - Japan
CTS-LAPCONN-NA	Power and Ethernet connectivity for table legs - North America

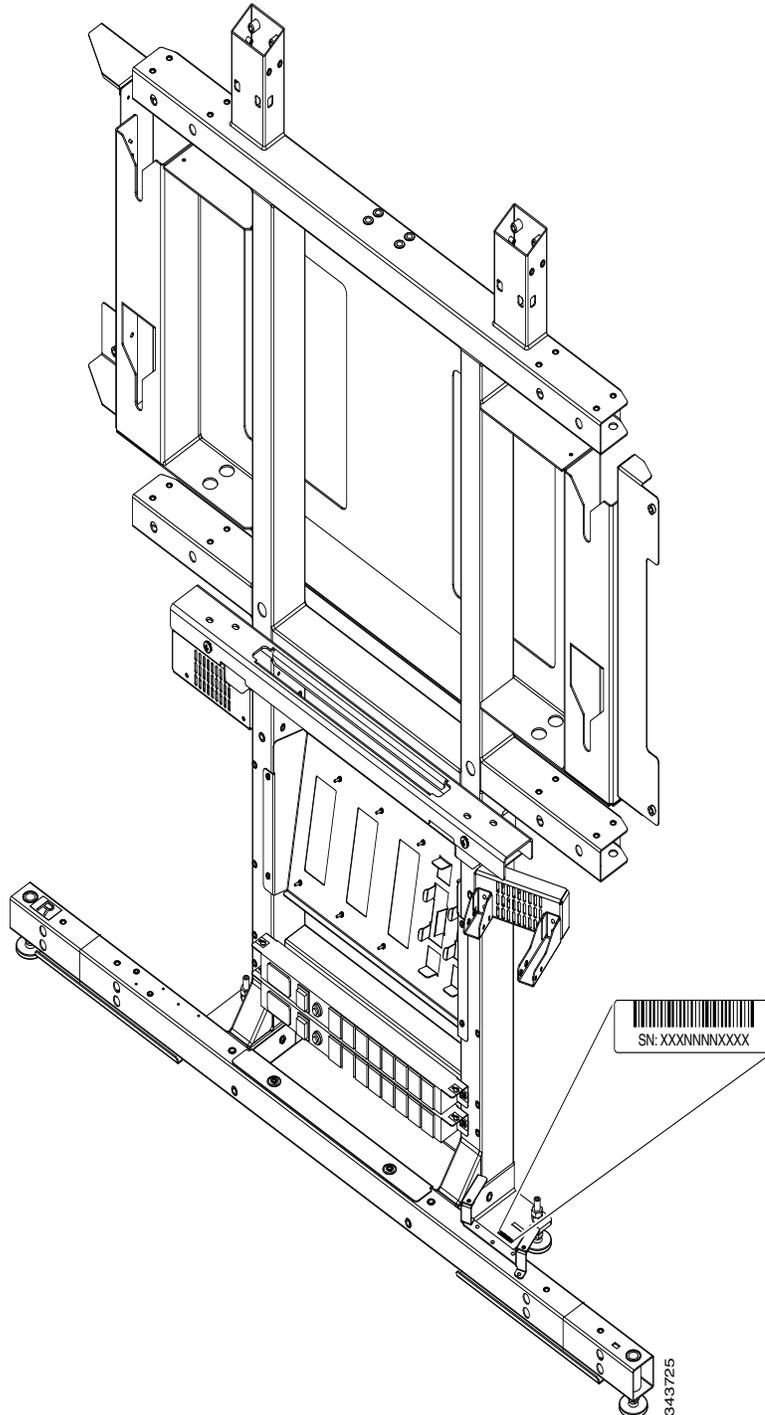
Table 17-3 *Region- and Country-Specific Power and Ethernet Connectors for Table Legs*

Power Cord ID	Description
CTS-LAPCONN-SWI	Power and Ethernet connectivity for table legs - Switzerland
CTS-LAPCONN-UK	Power and Ethernet connectivity for table legs - United Kingdom and United Arab Emirates

Finding the Serial Number Location

You might need the serial number of your CTS TX 9X00 to order FRUs. The serial number is located on the top of the outermost foot of the right display frame piece, as shown in [Figure 17-1](#).

Figure 17-1 Serial Number Location for the CTS TX 9000 and CTS TX 9200



Replacing the Camera—Part Number CTS-TX9K-CAMCLSTR=

This section describes the steps you take to remove and replace the camera and contains the following topics:

- [Required Tools, page 17-7](#)
- [Removing and Replacing the Camera, page 17-7](#)

Required Tools

A 3mm allen wrench is required.

Removing and Replacing the Camera

To remove the existing camera and replace it with a new camera, perform the following actions:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
 - Step 2** Remove the camera cover and faceplate.
See [Figure 15-15](#) for more information.
 - Step 3** Remove the top bezel.
See [Figure 15-13](#) for more information.
 - Step 4** Remove the two center LED light fixtures.
See [Figure 14-12](#) for more information.
 - Step 5** Disconnect the LED light plug from the panel-mount connector in the center top panel
 - Step 6** Squeeze together the ends of the clips on the light cable connector, and remove it from the center top panel.
See [Figure 14-11](#) for more information.
 - Step 7** Remove the center top panel.
See [Figure 14-10](#) for more information.
 - Step 8** Remove the center rear panel.
See [Figure 14-5](#) for more information.
 - Step 9** Unplug the camera cables from the camera processor.
 - Step 10** Remove the camera cluster.
See [Figure 8-19](#) for more information.
 - Step 11** Install the replacement camera cluster.

- Step 12** Attach the three camera cables to the camera processor. See [Table 17-4](#) for information about which connector to attach each camera cable.

Table 17-4 Camera Cable Connections

Camera Position	Processor Connection
Left	
Center	
Right	

- Step 13** Replace the center rear panel.
- Step 14** Replace the light cable connector.
See [Figure 14-11](#) for more information.
- Step 15** Replace the center top panel.
- Step 16** Reconnect the LED light plug.
- Step 17** Replace the LED light fixture.
- Step 18** Replace the top bezel.
- Step 19** Replace the camera cover and faceplate.
- Step 20** Power the system on, and close bottom right facade panel.
- Step 21** Perform the camera setup procedures.
See the [“First-Time Setup”](#) chapter for more information.
-

Resetting a Display

This section describes the steps you take to remove and replace the camera and contains the following topics:

- [Required Tools, page 17-8](#)
- [Resetting a Display, page 17-9](#)

Required Tools

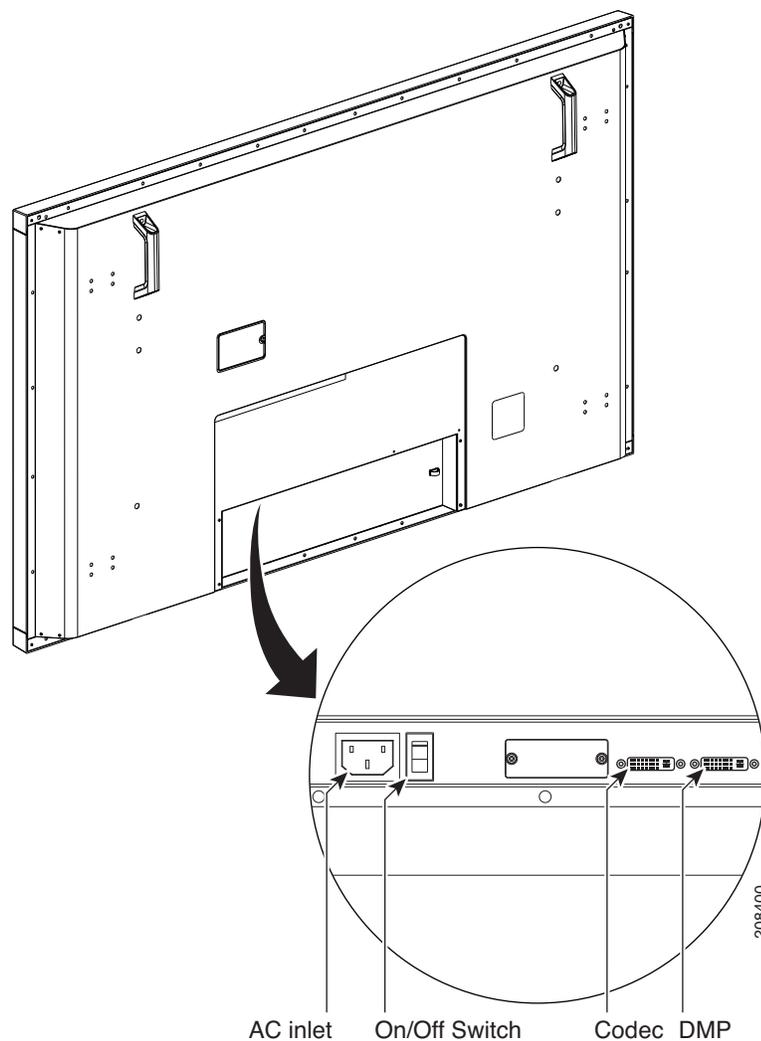
A #4 phillips screwdriver is required.

Resetting a Display

To reset one of the displays:

- Step 1** Remove two access panels behind display.
See [Figure 15-16](#) for more information.
- Step 2** Remove the rear panel behind the display.
See [Figure 14-1](#), [Figure 14-4](#), or [Figure 14-5](#) for more information.
Turn off and then on the power switch, located next to the power inlet. See [Figure 17-2](#) for more information.

Figure 17-2 Location of Display Reset Button



Replacing the Left or Right Display—Part Number CTS-DISP-65-GEN4=

This procedure describes how to replace the display and includes the following sections:

- [Required Tools, page 17-10](#)
- [Replacing the Left or Right Display, page 17-10](#)

Required Tools

A #4 phillips screwdriver is required.

Replacing the Left or Right Display

To replace a display:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
 - Step 2** Remove the top bezel.
See [Figure 15-13](#) for more information.
 - Step 3** Remove the bottom bezel.
See [Figure 14-14](#) for more information.
 - Step 4** Remove the LED light fixture above the display.
See [Figure 14-12](#) for more information.
 - Step 5** Disconnect the LED light plug from the panel-mount connector in the top panel
 - Step 6** Squeeze together the ends of the clips on the light cable connector, and remove it from the top panel.
See [Figure 14-11](#) for more information.
 - Step 7** Remove two access panels behind display.
See [Figure 15-16](#) for more information.
 - Step 8** Remove the top panel above the display.
See [Figure 14-9](#) for more information.
 - Step 9** Remove the rear panel behind the display.
See [Figure 14-1](#) for more information.
 - Step 10** Unplug the two speaker cables that connect the speakers to the audio/video extension unit. Do not disconnect the speaker cables connecting the two speakers.
 - Step 11** Remove the top mounting bezel bracket above the display.
See [Figure 7-2](#) for more information.
 - Step 12** Remove the bottom mounting bezel bracket below the display.
See [Figure 7-4](#) for more information.
 - Step 13** Remove side bezel bracket.

- See [Figure 7-5](#) for more information.
- Step 14** Remove the four facade brackets connected to the display.
See [Figure 5-4](#) for more information.
- Step 15** Open the vertical bezel clip.
See [Figure 7-3](#) for more information.
- Step 16** Remove the four vertical bezel brackets from the rear of the center display.
See [Figure 7-8](#) for more information.
- Step 17** Remove the vertical bezel.
See [Figure 7-7](#) for more information.
- Step 18** Disconnect display cables.
- Step 19** Loosen mounting spools on rear of display.
See [Figure 5-1](#) for more information.
- Step 20** Remove display.
See [Figure 5-2](#) for more information.
- Step 21** Remove mounting spools and hardware from existing display
See [Figure 5-1](#) for more information.
- Step 22** Install mounting spools onto replacement display.
- Step 23** Install four facade brackets onto replacement display.
- Step 24** Using two people, mount replacement display onto frame.
- Step 25** Connect display cables.
- Step 26** Install vertical bezel.
- Step 27** Install four vertical bezel brackets onto center display, securing the vertical bezel.
- Step 28** Close vertical bezel clip.
- Step 29** Install side bezel bracket.
- Step 30** Install bottom mounting bezel bracket.
- Step 31** Install top mounting bezel bracket.
- Step 32** Connect speaker cables.
- Step 33** Replace the light cable connector.
See [Figure 14-11](#) for more information.
- Step 34** Replace the top panel.
- Step 35** Reconnect the LED light plug.
- Step 36** Replace the LED light fixture.
- Step 37** Replace the rear panel.
- Step 38** Install access panels.
- Step 39** Install bottom bezel.
- Step 40** Install top bezel.

Step 41 Power the system on, and close bottom facade panels.

Replacing the Center Display—Part Number CTS-DISP-65-GEN4=

This procedure describes how to replace the display and includes the following sections:

- [Required Tools, page 17-12](#)
- [Replacing the Center Display, page 17-12](#)

Required Tools

A #4 phillips screwdriver is required.

Replacing the Center Display

To replace a display:

- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove the top bezel.
See [Figure 15-13](#) for more information.
- Step 3** Remove the bottom bezel.
See [Figure 14-14](#) for more information.
- Step 4** Remove the two center LED light fixtures.
See [Figure 14-12](#) for more information.
- Step 5** Disconnect the LED light plug from the panel-mount connector in the center top panel
- Step 6** Squeeze together the ends of the clips on the light cable connector, and remove it from the center top panel.
See [Figure 14-11](#) for more information.
- Step 7** Remove two center-most access panels.
See [Figure 15-16](#) for more information.
- Step 8** Remove the center top panel.
See [Figure 14-10](#) for more information.
- Step 9** Remove the center rear panel.
See [Figure 14-5](#) for more information.
- Step 10** Unplug the two speaker cables that connect the speakers to the audio/video extension unit. Do not disconnect the speaker cables connecting the two speakers.
- Step 11** Unplug the camera cables from the camera processor.

- Step 12** Remove the camera cluster.
See [Figure 8-19](#) for more information.
- Step 13** Remove the top mounting bezel bracket above the display.
See [Figure 7-2](#) for more information.
- Step 14** Remove the bottom mounting bezel bracket below the display.
See [Figure 7-4](#) for more information.
- Step 15** Remove the facade brackets connected to the display.
See [Figure 5-4](#) for more information.
- Step 16** Open the vertical bezel clips.
See [Figure 7-3](#) for more information.
- Step 17** Remove the eight vertical bezel brackets from the rear of the center display.
See [Figure 7-8](#) for more information.
- Step 18** Remove both vertical bezels from center display.
See [Figure 7-7](#) for more information.
- Step 19** Disconnect display cables.
- Step 20** Loosen mounting spools on rear of display.
See [Figure 5-1](#) for more information.
- Step 21** Remove display.
See [Figure 5-2](#) for more information.
- Step 22** Remove mounting spools and hardware from existing display
See [Figure 5-1](#) for more information.
- Step 23** Install mounting spools onto replacement display.
- Step 24** Install four facade brackets onto replacement display.
- Step 25** Using two people, mount replacement display onto frame.
- Step 26** Connect display cables.
- Step 27** Install vertical bezels to rear of replacement display.
- Step 28** Install eight vertical bezel brackets, securing the vertical bezels.
- Step 29** Close vertical bezel clips.
- Step 30** Install bottom mounting bezel bracket.
- Step 31** Install top mounting bezel bracket.
- Step 32** Connect speaker cables.
- Step 33** Install the camera cluster.
- Step 34** Attach the three camera cables to the camera processor. See [Table 17-5](#) for information about which connector to attach each camera cable.

Table 17-5 Camera Cable Connections

Camera Position	Processor Connection
Left	
Center	
Right	

- Step 35** Replace the center rear panel.
- Step 36** Replace the light cable connector.
See [Figure 14-11](#) for more information.
- Step 37** Replace the center top panel.
- Step 38** Reconnect the LED light plug.
- Step 39** Replace the LED light fixture.
- Step 40** Replace access panels.
- Step 41** Replace the top bezel.
- Step 42** Install bottom bezel.
- Step 43** Power the system on, and close bottom facade panels.
- Step 44** Perform the camera setup procedures.
See the [“First-Time Setup”](#) chapter for more information.
-

Replacing a Codec—Part Number CTS-CODEC-PRI-G2R= or CTS-CODEC-PRI-RCH= (PRC)

This procedure describes the steps you perform to remove and replace a TX9000 or TX9200 codec and includes the following topics:

- [Required Tools, page 17-15](#)
- [Removing and Replacing the Codec, page 17-15](#)
- [Upgrading CTS Software on a Secondary Codec, page 17-16](#)

Required Tools

A #2 Phillips head screwdriver is required.

Removing and Replacing the Codec

To remove and replace a codec, complete the following steps:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove the cables from the codec.
See [Figure 10-16](#) for a cable routing diagram.
- Step 3** Remove the codec by completing the following steps:
- a. Loosen, but do not remove, the four screws (two upper, two lower) that mount the codec to the structure.
See [Figure 8-4](#) for more information.
 - b. Remove the codec assembly from the frame.
 - c. Remove codec brackets by removing the four captive screws (two top, two bottom) connecting the codec brackets to the codec.
See [Figure 8-3](#) for more information.
- Step 4** Install the new codec into the cabinet by completing the following steps:
- a. Attach the codec brackets to the codec, using the captive screws on the brackets.
 - b. Install the codec onto the structure using the keyhole slots and tighten the four screws (two upper, two lower).
 - c. Reconnect all cables to the replacement codec.
 - d. Close the bottom facade panels.
- Step 5** Complete the following steps to configure the new codec in Cisco Unified Communications Manager:
- a. Open a browser on a computer connected to the network.
 - b. Access the Cisco Unified Communications Manager interface.
 - c. Add the Room Email ID of the previous codec to the new codec.
 - d. Make sure the new codec's status is registered.

- e. Delete the MAC address of the previous codec from the Cisco Unified CM application user profile that is used in Cisco TelePresence Manager (CTS-Manager).
- f. Add the new codec to the application user profile and click Save.

Step 6 Power on the system by turning the power switch on the four PDUs to the “ON” position.

Step 7 In a supported Internet browser, type in the IP address of for your TX9000 or TX9200 system.



Note If your system is configured to use a static IP address instead of DHCP, see the [“Setting Up a TX9000 or TX9200 System That Uses a Static Network Address”](#) section on page 15-5 in Chapter 15, [“First-Time Setup.”](#)

Step 8 Enter the required information at the login screen.

The Cisco TelePresence Administrator window appears.

Step 9 Verify that the status of the Cisco Unified Communications Manager (seen in the lower left portion of the window) is **Enabled/Up**.

Step 10 Make sure that the new codec is running Cisco TelePresence Administration Software version 1.9.0 or later.



Note The replacement codec might come pre-loaded with version 1.7.1.1 software. In this case, you cannot immediately load the newest version of CTS software and need to perform an interim upgrade to 1.7.4. For more information, see the [“Upgrading the CTS Software for Systems That Are Running Cisco TelePresence Software Versions Prior to 1.7.4.”](#) section of *Installing and Configuring the Cisco TelePresence Touch 12*.

Step 11 Navigate to **Troubleshooting > Hardware Setup** to verify that the cameras, displays, speakers, and microphones are working properly.

Step 12 Select the correct table type, size, and distance by completing the following steps:

- a. Navigate to **Troubleshooting > Hardware Setup > Table Configuration**.
- b. Click **Start** to display the Table Configuration options.
- c. Under Table Shape, select the correct table shape.
- d. Under Table Size, select the correct table size.
- e. Under Table Distance, select the correct distance between the bezel of the system and the rear edge of the table

Step 13 Perform the Auto Adjust camera setup procedure. This sets the white balance to the correct levels. See the [“First-Time Setup”](#) for detailed instructions.

Step 14 Close bottom facade panels.

Upgrading CTS Software on a Secondary Codec

All codecs for a TX9000 ship with release 1.9.0 of the CTS software. If you must get a field-replaceable unit for a codec, the new codec should be shipped to you with release 1.9.0 already installed. In the highly unlikely event that the new codec ships with a pre-1.9.0 release, the software must be upgraded to at least release 1.9.0.

If you install the new codec as the primary codec, the Cisco Unified Communications Manager (Unified CM) automatically upgrades the software to release 1.9.0. Release 1.9.0 must already be installed on the Unified CM for the automatic upgrade to occur.

If you install the new codec as a secondary codec, you must upgrade the software manually. When you boot up the new codec, note the following on the first-time setup screen:

- CTS software release number
- MAC address of the codec

If the release is pre-1.9.0, follow this procedure:

Step 1 Ensure that release 1.9.0 or later is installed on your Unified CM:

- a. Log in to the **Cisco Unified OS Administration** interface of the Cisco Unified CM.
- b. From the **Software Upgrades** drop-down menu, choose **TFTP File Management**.
- c. In the **Find TFTP Files** field, enter “1-9-0” to search for 1.9.0 releases. An appropriate file for the new codec must end in “.P2.SPA” (for example, “CTS.1-9-0-46R-K9.P2.SPA”).



Note If you need to install release 1.9.0 on the Unified CM, see steps 1 through 15 in the “Upgrading from Cisco TelePresence Software Release 1.7.4 and Above” section in this guide:

http://www.cisco.com/en/US/docs/telepresence/cucm_cts/cucm_cts_admin_book/guide/cucm_cts_admin_touchfeat.html

Step 2 Register the new codec with the Unified CM:

- a. Connect the Ethernet cable from the uplink port on the back of the new codec to any port with network connectivity.
- b. Log in to the **Cisco Unified CM Administration** interface.
- c. In the **Device** drop-down menu, choose **Phone**.
- d. Click **Add New**.
- e. In the **Phone Type** drop-down menu, choose a Cisco TelePresence system name. Although your system is a TX9000, we recommend that you choose “Cisco TelePresence 500-32” for the purposes of upgrading the software.
- f. Click **Next**.
- g. In the **Phone Configuration** page, enter the MAC address of the codec. Configure and save all additional required settings.



Note For more information about these settings, see the “Configuring Cisco Unified Communications Manager for the Cisco TelePresence System” in this guide:

http://www.cisco.com/en/US/docs/telepresence/cucm_cts/cucm_cts_admin_book/guide/cucm_cts_admin_config.html

Step 3 Upgrade the codec to release 1.9.0 or later in the Unified CM administration interface:

- a. In the **Device** drop-down menu, choose **Phone**.
- b. Find the codec that you registered in [Step 2](#).

- c. In the **Phone Load Name** field, enter the name of a 1.9.0 release. You searched for appropriate 1.9.0 releases in Step 1c. An example of an appropriate name is “CTS.1-9-0-46R-K9.P2.SPA.”



Note Make sure that you remove “.SPA” from the name before you save and apply the configuration.



Note If the **Phone Load Name** field is already populated, ensure that the name is for an appropriate 1.9.0 release. Change the name to a 1.9.0 release if necessary.

- d. Click **Save** and then **Apply Config**. The upgrade process will begin.
- e. When the upgrade process is complete, verify that the codec is now running the correct release.

Step 4 Reconnect the Ethernet cable from the uplink port on the back of the new codec according to the TX9000 cabling instructions:

http://www.cisco.com/en/US/docs/telepresence/tx9000/assembly_guide/tx9000_connecting_power_and_signal_cables.html#wp1067341

Step 5 Because only the primary needs to be registered to Unified CM, delete the new codec from the Unified CM:

- a. Log in to the Unified CM administration interface.
- b. In the **Device** drop-down menu, choose **Phone**.
- c. Find the codec that you registered in Step 2. Click the check box for the codec.
- d. Click **Delete Selected**.

Replacing the Light Control Unit—Part Number CTS-LCU-G2R=

The light control unit (LCU) controls the lighting for the TX9000 and TX9200. This section describes the procedure to remove and replace the LCU and contains the following topics:

- [Required Tools, page 17-18](#)
- [Removing and Replacing the Light Control Unit, page 17-18](#)

Required Tools

A 7 mm nut driver or wrench is required.

Removing and Replacing the Light Control Unit

To replace the light control unit (LCU), complete the following steps:

- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Disconnect the LCU cables.

- Step 3** The LCU is attached to the cabinet by two posts. The LCU is secured to these posts by nuts. Remove the two nuts and pull the LCU off of the two posts.
See [Figure 8-7](#) for more information.
- Step 4** Install the replacement LCU onto the two posts, and secure with the nuts. Orient the replacement LCU with the light connectors on top.
- Step 5** Reconnect the LCU cables.
- Step 6** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 7** Close the bottom facade panels.
-

Replacing the Audio/Video Extension Unit—Part Number CTS-LAEB-G2R=

This section describes the procedure to remove and replace the audio/video extension unit and contains the following topics:

- [Required Tools, page 17-19](#)
- [Removing and Replacing the Audio/Video Extension Unit, page 17-19](#)

Required Tools

A 7 mm nut driver or wrench is required.

Removing and Replacing the Audio/Video Extension Unit

To replace the audio/video extension unit, complete the following steps:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Disconnect the audio/video extension unit cables.
- Step 3** The audio/video extension unit is attached to the cabinet by four posts. The audio/video extension unit is secured to these posts by nuts. Remove the four nuts and pull the audio/video extension unit off of the four posts.
See [Figure 8-7](#) for more information.
- Step 4** Install the replacement audio/video extension unit onto the four posts, and secure with the nuts. The microphone connectors should be on the left.
- Step 5** Reconnect the audio/video extension unit cables.
- Step 6** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 7** Close the bottom facade panels.
-

Replacing an LED Light Fixture—Part Number CTS-TX9000-LEDPK=

To remove and replace an LED light fixture:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove the LED light fixture.
See [Figure 14-12](#) for more information.
- Step 3** Disconnect the LED light fixture plug from the panel-mount connector on the top panel.
See [Figure 14-11](#) for more information.
- Step 4** Connect the LED light fixture plug to the panel-mount connector on the top panel.
- Step 5** Replace the LED light.
- Step 6** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 7** Close the bottom facade panels.
-

Replacing a Speaker—Part Number CTS-TX9000-SPKR=

This section describes the steps you take to remove and replace a speaker and contains the following topics:

- [Required Tools, page 17-20](#)
- [Removing and Replacing a Speaker, page 17-20](#)

Required Tools

A #3 Phillips head screwdriver is required.

Removing and Replacing a Speaker

To remove and replace a speaker, perform the following actions:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove the LED light above the speaker you want to replace.
See [Figure 14-12](#) for more information.
- Step 3** Disconnect the light cable attached to the LED light above the speaker you want to replace.
- Step 4** Squeeze together the ends of the clip to which the light cable connects, and remove it from the top facade panel.

- See [Figure 14-11](#) for more information.
- Step 5** Remove the top panel above the speaker you want to replace.
See [Figure 14-9](#) for more information.
- Step 6** Disconnect the two cables connected to the speaker.
- Step 7** Remove the top mounting bezel bracket containing the speaker you want to replace.
See [Figure 7-2](#) for more information.
- Step 8** Remove the four screws securing the speaker.
- Step 9** Install the replacement speaker using the four screws.
- Step 10** Connect the speaker cables to the replacement speaker.
- Step 11** Install the top mounting bezel bracket.
- Step 12** Replace the top panel using the two screws.
- Step 13** Reconnect the light cables.
- Step 14** Install the LED light.
- Step 15** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 16** Close the bottom facade panels.
-

Replacing a PDU—Part Number CTS-PWR-PDU=

This section describes the steps you take to remove and replace a PDU, and contains the following topics:

- [Required Tools, page 17-21](#)
- [Removing and Replacing the PDU, page 17-21](#)

Required Tools

A #2 Phillips head screwdriver is required.

Removing and Replacing the PDU

To remove the existing PDU and replace it with a new PDU, perform the following actions:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Disconnect all cables from the PDU.
- Step 3** Remove two screws securing the PDU to the frame and remove the PDU.
- Step 4** Replace the PDU and secure with two screws.
- Step 5** Reconnect all cables to the replacement PDU.

- Step 6** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 7** Close the bottom facade panels.
-

Replacing a Microphone—Part Number CTS-TX9K-MIC=

This section describes the steps you take to remove and replace a microphone and contains the following topics:

- [Required Tools, page 17-22](#)
- [Removing and Replacing a Microphone, page 17-22](#)

Required Tools

A #3 Phillips head screwdriver is required.

Removing and Replacing a Microphone

To remove and replace a microphone, perform the following actions:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove one of the following, depending on which microphone you are replacing:
- If you are replacing the center microphone in the front row, remove the center microphone cable cover.
See [Figure 11-14](#) for more information.
 - If you are replacing one of the outer microphones in the front row, remove the microphone cable cover on the underside of the table section in which the microphone is installed.
See [Figure 11-8](#) for more information.
 - If you are replacing a microphone in the second row, remove the privacy panel for that section.
See [Figure 12-3](#) for more information.
- Step 3** Disconnect the microphone extension cable from the microphone you want to replace.
- Step 4** Remove two screws securing the microphone to the table top, and remove the microphone.
- Step 5** Install the replacement microphone using the two screws.
- Step 6** Connect the microphone extension cable to the replacement microphone.
- Step 7** Power on the system by turning the power switches on the PDUs to the “ON” position.
- Step 8** Close the bottom facade panels.
-

Replacing the Presentation Display—Part Number CTS-TX9K-DATADISP=

This section describes the steps you take to remove and replace the data display and contains the following topics:

- [Required Tools, page 17-23](#)
- [Removing and Replacing the Presentation Display, page 17-23](#)

Required Tools

A #3 Phillips head screwdriver

Removing and Replacing the Presentation Display

To remove and replace the presentation display, perform the following actions:

-
- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
 - Step 2** Disconnect the data display cables from the rear of the data display.
 - Step 3** Loosen the captive screws securing the data display to the data display bracket.
See [Figure 14-39](#) for more information.
 - Step 4** Remove the data display from the data display bracket.
 - Step 5** Remove the data display panel from the rear of the display by removing four screws.
See [Figure 14-37](#) for more information.
 - Step 6** Install the data display panel on to the replacement display using the four screws.
 - Step 7** Install the data display into the data display bracket channel.
 - Step 8** Secure the data display to the data display bracket with the captive screws.
 - Step 9** Connect the data display cables to the replacement display.
 - Step 10** Power on the system by turning the power switches on the PDUs to the “ON” position.
 - Step 11** Close the bottom facade panels.
-

Replacing the Front Row Table Top—Part Number CTS-TX9XX0-TBL-MF= (Maple Finish) or CTS-TX9XX0-TBL-WF= (Walnut Finish)

This section describes the steps you take to remove and replace a front row table top piece and contains the following topics:

- [Required Tools, page 17-24](#)
- [Removing and Replacing the Front Row Table Top, page 17-24](#)

Required Tools

- A #3 Phillips head screwdriver
- A flat head screwdriver
- A level (laser level recommended)

Removing and Replacing the Front Row Table Top

To remove and replace the front row table top, perform the following actions:

-
- Step 1** Remove the microphone cable cover from the underside of the center table top section.
See [Figure 11-14](#) for more information.
 - Step 2** Remove the center upper and lower privacy panels.
See [Figure 11-13](#) for more information.
 - Step 3** Disconnect the microphone extension cables from the three microphones.
See [Figure 11-8](#) for more information.
 - Step 4** Remove the three microphones by removing two screws for each microphone.
See [Figure 11-8](#) for more information.
 - Step 5** Remove the cable management ball from the presentation cable.
 - Step 6** Remove the cable management cap.
See [Figure 11-11](#) for more information.
 - Step 7** Remove the presentation cable and Cisco Touch Ethernet cable from the table top by pulling them into the center leg assembly.
 - Step 8** Remove the microphone cable covers.
See [Figure 11-8](#) for more information.
 - Step 9** From the underside of the table, remove 26 screws connecting the table top to the table legs.
 - Step 10** Shift the table top on top of the legs to gain access to the table top section joining hardware.
 - Step 11** Remove the two tie plates securing one of the outer table top sections to the center section by removing six screws for each tie plate.
See [Figure 11-2](#) for more information.

Step 12 Loosen the half-moon cams securing the two table top sections together.

Step 13 Remove the outer table top section.



Note Do not put the weight of any table section on the outer legs. Ensure that all table sections are partially supported by the center leg structure.

Step 14 Remove the four wooden biscuits from table top section you removed.

See [Figure 11-2](#) for more information.

Step 15 Repeat steps 11 through 14 for the other outer table top section.

Step 16 Remove the center table top section.

Step 17 Assemble and install the replacement table top as shown in the “[Completing Installation of the First Row Table](#)” chapter.

Replacing the Back Row Table Top—Part Number CTS-TX9XX0-TBL-MB= (Maple Finish) or CTS-TX9XX0-TBL-WB= (Walnut Finish)

This section describes the steps you take to remove and replace a back row table top piece and contains the following topics:

- [Required Tools, page 17-25](#)
- [Removing and Replacing the Back Row Table Top, page 17-25](#)

Required Tools

- A #3 Phillips head screwdriver
- A flat head screwdriver
- A level (laser level recommended)

Removing and Replacing the Back Row Table Top

To remove and replace the back row table top, perform the following actions:

Step 1 Remove the microphone cable covers from the underside of each back row table top section.

See [Figure 12-28](#) for more information.

Step 2 Remove the six privacy panels.

See [Figure 12-27](#) for more information.

Step 3 Disconnect the microphone extension cables from the six microphones.

See [Figure 12-25](#) for more information.

- Step 4** Remove the six microphones by removing two screws for each microphone.
See [Figure 12-24](#) for more information.
- Step 5** From the underside of the table, remove 42 screws connecting the table top to the table legs.
- Step 6** Shift the table top on top of the legs to gain access to the table top section joining hardware.
- Step 7** Starting at table top section F, remove the two tie plates securing table top section F to section E by removing six screws for each tie plate.
See [Figure 12-21](#) for more information.
- Step 8** Loosen the half-moon cams securing table top sections E and F together.
See [Figure 12-17](#) for more information.
- Step 9** Remove table top section F.
- Step 10** Remove the four wooden biscuits from table top section F.
See [Figure 12-17](#) for more information.
- Step 11** Repeat steps 7 through 10 for each table top section, working from section E to section A.
- Step 12** Assemble and install the replacement table top as shown in the “[Building the Second Row Table \(TX9200 Systems Only\)](#)” chapter.
-

Replacing a Table Leg Power and Ethernet Connector

This section describes the steps you take to remove and replace a table leg power and Ethernet connector and contains the following topics:

- [Required Tools](#), page 17-26
- [Removing and Replacing a Table Leg Power and Ethernet Connector](#), page 17-26

Required Tools

- A flat head screwdriver
- A #3 phillips screwdriver

Removing and Replacing a Table Leg Power and Ethernet Connector

To remove and replace a table leg power and Ethernet connector, perform the following actions:

- Step 1** Locate the PDU into which the power and Ethernet connector you want to replace connects, and power it off by turning the power switch to the “OFF” position.
- If you are replacing a power and Ethernet connector in a leg in the front row, remove the center upper and lower privacy panels to gain access to the PDU. See [Figure 11-13](#) for more information.
 - If you are replacing a power and Ethernet connector in the back row, determine which of the two PDUs the power and Ethernet connector connects, and remove the privacy panel from that section to gain access to the PDU. See [Figure 12-27](#) for more information.

- Step 2** Remove the power/Ethernet channel panels on the leg containing the power and Ethernet connector you want to replace.
See [Figure 11-1](#) for more information.
- Step 3** Disconnect the power and Ethernet cables from the connector.
- Step 4** Remove the four screws securing the power and Ethernet connector, and remove the connector.
See [Figure 9-5](#) for more information.
- Step 5** Install the replacement power and Ethernet connector using the four screws.
- Step 6** Connect the power and Ethernet cables to the replacement connector.
- Step 7** Reinstall the power/Ethernet channel panels.
- Step 8** Power on the system by turning the power switch on the PDU to which the power and Ethernet connector connects to the “ON” position.
- Step 9** Replace the privacy panels you removed in Step 1.
-

Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable

This section describes the steps you take to remove and replace a table leg power and Ethernet connector and contains the following topics:

- [Required Tools, page 17-27](#)
- [Removing and Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable, page 17-27](#)

Required Tools

A #3 phillips screwdriver is required.

Removing and Replacing the Presentation Video Cable or the Cisco Touch Ethernet Cable

To remove and replace the presentation video cable or the Cisco Touch Ethernet cable, perform the following actions:

- Step 1** Open the bottom facade panels, and power off the system by turning the power switch on the four PDUs to the “OFF” position.
- Step 2** Remove the cable management ball from the cable you want to replace.
- Step 3** Remove the center upper and lower privacy panels in the front row.
See [Figure 11-13](#) for more information.
- Step 4** Remove the outer cable bridge.

- See [Figure 11-12](#) for more information.
- Step 5** Remove the cable management cap.
See [Figure 11-12](#) for more information.
- Step 6** If replacing the presentation video cable, remove the inner cable bridge.
See [Figure 11-11](#) for more information.
- Step 7** Disconnect the presentation display cables from the rear of the presentation display.
- Step 8** Loosen the captive screws securing the presentation display to the presentation display bracket.
See [Figure 14-39](#) for more information.
- Step 9** Remove the presentation display from the presentation display bracket.
- Step 10** Remove the presentation display bracket.
See [Figure 14-29](#) for more information.
- Step 11** Open the center bottom facade panels.
- Step 12** Remove the cable runner cover.
See [Figure 14-22](#) for more information.
- Step 13** Unplug the cable from presentation codec (TS4) and remove the cable.
See [Figure 10-16](#) for more information.
- Step 14** Connect the replacement cable to the presentation codec and route through the cable runner and through the rest of the system. Ensure that only 6' of cable is left above the table surface by pulling any excess cable back into the main system structure and bundling securely.
- Step 15** Replace the cable runner cover.
- Step 16** Close the center bottom facade panel.
- Step 17** Replace the presentation display bracket.
- Step 18** Replace the presentation display.
- Step 19** Reconnect the presentation display cables.
- Step 20** Replace the cable bridge.
- Step 21** Pull the replacement cable through the cable bridge to its full length.
- Step 22** Replace the cable management cap.
- Step 23** Replace the center upper and lower privacy panels.
- Step 24** Install the cable management ball onto the replacement cable.
- Step 25** Feed the replacement cable into the cable bridge.
-



Parts List Sorted by Carton

Revised: May 20, 2015, OL-27038-01

Carton 1: Display Frame Assemblies, 69-2323-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2323-xx		700-37314-xx	Cable runner base	1	Chapter 8
69-2323-xx		700-39002-xx	Center floor cable cover, base	1	Chapters 6, 13
69-2323-xx		700-39003-xx	Center floor cable cover, cap	1	Chapter 13
69-2323-xx		700-37128-xx	Codec bracket, bottom	8	Chapter 8
69-2323-xx		700-37129-xx	Codec bracket, top	8	Chapter 8
69-2323-xx		700-37137-xx	Data display bracket	1	Chapter 13
69-2323-xx		700-37139-xx	Data display channel	1	Chapter 13
69-2323-xx		800-37616-xx	Display stand, center	1	Chapter 4
69-2323-xx		800-37615-xx	Display stand, left	1	Chapter 4
69-2323-xx		800-37617-xx	Display stand, right	1	Chapter 4
69-2323-xx		700-37122-xx	Electronic equipment bracket, center	1	Chapter 8
69-2323-xx		700-37309-xx	Facade bracket, center front	1	Chapter 8
69-2323-xx		700-37306-xx	Facade bracket, center rear (top)	1	Chapter 8
69-2323-xx		700-37308-xx	Facade bracket, left front	1	Chapter 8
69-2323-xx		700-37304-xx	Facade bracket, left rear (top)	1	Chapter 8
69-2323-xx		700-37256-xx	Facade bracket, left side	1	Chapter 8
69-2323-xx		700-37303-xx	Facade bracket, left, right, and center rear (base)	3	Chapter 8
69-2323-xx		700-37762-xx	Facade bracket, lower, left	1	Chapter 13
69-2323-xx		700-37763-xx	Facade bracket, lower, right	1	Chapter 13
69-2323-xx		700-37310-xx	Facade bracket, right front	1	Chapter 8
69-2323-xx		700-37302-xx	Facade bracket, right rear (top)	1	Chapter 8
69-2323-xx		700-37251-xx	Facade bracket, right side	1	Chapter 8

REVIEW DRAFT - CISCO CONFIDENTIAL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2323-xx	69-2066-xx	49-1251-xx	M8 x 15.5 serrated washers	12	Chapter 5
69-2323-xx	69-2066-xx	700-30783-xx	Display Spool	12	Chapter 5
69-2323-xx	69-2066-xx	700-30916-xx	Display Spool Stud	12	Chapter 5
69-2323-xx		700-37120-xx	Tie bar connector plates	4	Chapter 4
69-2323-xx		700-37117-xx	Tie-bar assembly, lower left and lower right	2	Chapter 4
69-2323-xx		700-37119-xx	Tie-bar assembly, middle and upper, left	2	Chapter 4
69-2323-xx		700-37118-xx	Tie-bar assembly, middle and upper, right	2	Chapter 4
69-2323-xx		700-37311-xx	Rear panel connector plate	2	Chapter 13

Carton 2: First Row Legs, 69-2332-xx, CTS-TX9000-TBL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2332-xx		700-37738-xx	Cable bridge	2	Chapter 10
69-2332-xx		800-37850-xx	Center Structure	1	Chapter 9
69-2332-xx		700-37739-xx	Inner cable bridge cap	2	Chapter 11
69-2332-xx		700-23345-xx	Joint plates	4	Chapter 11
69-2332-xx		700-37028-xx	Left side cable runner	1	Chapter 10
69-2332-xx		800-37847-xx	Left side leg	1	Chapter 10
69-2332-xx	800-37846-xx	700-37181-xx	Left table leg panel	1	Chapter 11
69-2332-xx	69-2338-xx	700-37744-xx	Microphone cable cover	1	Chapter 11
69-2332-xx		800-37846-xx	Middle left leg	1	Chapter 9
69-2332-xx		800-37845-xx	Middle right leg	1	Chapter 9
69-2332-xx	69-2338-xx	700-37179-xx	Power/Ethernet channel panel cover, outer leg left	1	Chapter 11
69-2332-xx		700-37178-xx	Power/Ethernet channel panel cover, outer leg right	1	Chapter 11
69-2332-xx	69-2332-xx	700-37102-xx	Power/Ethernet outlet cover, front	2	Chapter 9
69-2332-xx		700-37740-xx	Right side cable runner	1	Chapter 10
69-2332-xx		800-37848-xx	Right side leg	1	Chapter 10
69-2332-xx	800-37845-xx	700-37180-xx	Right table leg panel	1	Chapter 11

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 3: Facade Panels, 69-2325-xx, CTS-TX9K-FRT-PNLS**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2325-xx		700-37427-xx	Rear lower facade panel, center	1	Chapter 13
69-2332-xx		700-37424-xx	Front center facade panel	1	Chapter 13
69-2332-xx		700-37422-xx	Front left facade panel	1	Chapter 13
69-2332-xx		700-37423-xx	Front right facade panel	1	Chapter 13
69-2332-xx		700-37426-xx	Rear lower facade panel, left	1	Chapter 13
69-2332-xx		700-37425-xx	Rear lower facade panel, right	1	Chapter 13

Carton 4: Rear Facade Panels, 69-2311-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2311-xx		700-37189-xx	Center rear panel	1	Chapter 13
69-2311-xx		700-37194-xx	Center top panel	1	Chapter 13
69-2311-xx		700-37188-xx	Left rear panel	1	Chapter 13
69-2311-xx		700-37193-xx	Left top panel	1	Chapter 13
69-2311-xx		700-37186-xx	Right rear panel	1	Chapter 13
69-2311-xx		700-37192-xx	Right top panel	1	Chapter 13
69-2311-xx		700-37195-xx	Service panel, center	2	Chapter 14
69-2311-xx		700-37198-xx	Service panel, left	1	Chapter 14
69-2311-xx		700-37197-xx	Service panel, right	1	Chapter 14

Carton 5: Top & Bottom Bezels, 69-2312-xx, CTS-TX9000-BZL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2312-xx		700-37421-xx	Bottom Bezel	1	Chapter 13
69-2312-xx		700-37420-xx	Top Bezel	1	Chapter 14

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 6: Accessory Kit, 53-3789-xx**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
53-3789-xx	69-1813-xx	74-5247-xx	Touch up paint, white	1	
53-3789-xx	69-2352-xx	48-2594-xx	M4 x 10mm pan head screw	50	Chapter 10, 11
53-3789-xx	69-2353-xx	48-2430-xx	M8 x 16mm pan head screws, black	195 ¹	Chapters 4, 6, 11, 13
53-3789-xx	69-2354-xx	48-0811-xx	M5 flat head screw	35	Chapters 9, 10
53-3789-xx	69-2355-xx	48-1943-xx	M4 flat head screw	15	Chapter 11
53-3789-xx	69-2356-xx	48-3000-xx	M6 x 16mm pan head screw	20	Chapters 6, 8, 9, 13
53-3789-xx	69-2357-xx	49-1071-xx	M6 nut	15	Chapter 9
53-3789-xx	69-2358-xx	48-2358-xx	M4 x 12mm pan head screw	25	
53-3789-xx	69-2352-xx	48-2594-xx	M4 x 10mm pan head screw, black	25	Chapter 7
53-3789-xx	69-2359-xx	48-0748-xx	M3 x 6mm flat head screw	15	Chapter 7
53-3789-xx	69-2360-xx	48-2058-xx	M5 x 10mm screw, hex	60	Chapter 5
53-3789-xx	69-2361-xx	48-2410-xx	M8 x 20mm screw	6	
53-3789-xx	69-2362-xx	49-0746-xx	M4 nut	10	Chapter 11
53-3789-xx	69-2369-xx	49-1377-xx	M8 clear plastic washer	16	Chapter 13
53-3789-xx	69-2395-xx	48-3013-xx	M6 x 20mm pan head screw	6	
53-3789-xx	69-2403-xx	52-0499-xx	Velcro straps	70	Chapters 10, 11, 12
53-3789-xx	69-2409-xx	700-39093-xx	Panel tether	3	Chapter 13
53-3789-xx	69-2410-xx	49-0747-xx	M5 nut	40	Chapters 6, 8, 13
53-3789-xx	69-2365-xx	48-3012-xx	M8 x 16mm pan head screws		Chapter 4
53-3789-xx	69-2366-xx	48-3008-xx	M8 x 35mm pan head screws		Chapter 4
53-3789-xx	69-2367-xx	48-3011-xx	M4 x 16mm pan head screws		Chapter 8
53-3789-xx	69-2377-xx	49-0420-xx	M4 keps nut		Chapter 8

1. These screws come in three bags of 65 screws each.

Carton 7: First Row Table Cable Runner Covers, 69-2327-xx,

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2327-xx		700-37177-xx	Center upper privacy panel (outer)	1	Chapter 11
69-2327-xx		700-37176-xx	Center upper privacy panel (inner)	1	Chapter 11
69-2327-xx		700-37184-xx	Left side cable runner cover	1	Chapter 11
69-2327-xx		700-37185-xx	Right side cable runner cover	1	Chapter 11

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 8: Speaker Assemblies, 69-2318-xx, CTS-TX9000-SPKR**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2318-xx		700-37702-xx	Bezel mounting bracket, bottom center	1	Chapter 7
69-2318-xx		700-37703-xx	Bezel mounting bracket, bottom left	1	Chapter 7
69-2318-xx		700-37701-xx	Bezel mounting bracket, bottom right	1	Chapter 7
69-2318-xx		700-37748-xx	Bezel bracket	12	Chapter 5
69-2318-xx		800-37838-xx	Bezel/speaker bracket, top center	1	Chapter 7
69-2318-xx		800-37837-xx	Bezel/speaker bracket, top left	1	Chapter 7
69-2318-xx		800-37886-xx	Bezel/speaker bracket, top right	1	Chapter 7

Carton 9: Vertical Bezels, 69-2372-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2372-xx		700-37046-xx	Vertical bezel	2	Chapter 7
69-2372-xx		700-37618-xx	Vertical bezel brackets	8	Chapter 7
69-2372-xx		800-37851-xx	Bezel mounting bracket, side	2	Chapter 7

Carton 10: First Row Panels, 69-2333-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2333-xx		700-37273-xx	Center lower privacy panel (inner)	1	Chapter 13
69-2333-xx		700-37272-xx	Center lower privacy panel (outer)	1	Chapter 13
69-2333-xx		700-37274-xx	Cable Guide	1	Chapter 11

Carton 11: Electronic Component Power Supplies, PWR-SUPPLY-KIT

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
PWR-SUPPLY-KIT	CTS-PWR-CUBE4	Audio/video extension unit power supply	1	Chapter 8
PWR-SUPPLY-KIT	CTS-TX9K-CAM-PWR	Camera power supply	1	Chapter 8

REVIEW DRAFT - CISCO CONFIDENTIAL

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
PWR-SUPPLY-KIT	CTS-CODEC-S-PWR	Codec power supply	4	Chapter 8
PWR-SUPPLY-KIT	CTS-PWR-LT-LED	Light control unit (LCU) power supply	2	Chapter 8

Carton 12: Cable Kit for TS1 Codec, 69-2345-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2345-xx		37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
69-2345-xx		37-1335-xx	CABASY,WIRE HARNESS,DP-DP,NON-STND,1.5m	1	Chapter 10
69-2345-xx		37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	2	Chapter 10
69-2345-xx		37-1385-xx	Cable, speaker cable, 6.5m	1	Chapter 10
69-2345-xx		37-1386-xx	Ethernet cable, 5m	3	Chapter 10
69-2345-xx		37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
69-2345-xx		37-1394-xx	Cable, USB - USB, 5m	1	Chapter 10
69-2345-xx		37-1409-xx	Ethernet cable, 9m	2	Chapter 11
69-2345-xx		47-24782-xx	Cable labels, TS1 codec	1	Chapter 10

Carton 13: Cable Kit for TS2 Codec, 69-2346-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2346-xx		37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
69-2346-xx		37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
69-2346-xx		37-1409-xx	Ethernet cable, 9m	1	Chapter 10
69-2346-xx		37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
69-2346-xx		47-24783-xx	Cable labels, TS2 codec	1	Chapter 10

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 14: Cable Kit for TS3 Codec, 69-2347-xx**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2347-xx		37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
69-2347-xx		37-1381-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
69-2347-xx		37-1386-xx	Ethernet cable, 5m	1	Chapter 10
69-2347-xx		37-1387-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
69-2347-xx		47-24784-xx	Cable labels, TS3 codec	1	Chapter 10

Carton 15: Cable Kit for TS4 Codec, 69-2348-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2348-xx		37-1331-xx	Power cord, US, 0.8m	1	Chapter 10
69-2348-xx		37-1384-xx	Cable, HD video (uses HDMI connector) - HD video (uses HDMI connector), 5m	1	Chapter 10
69-2348-xx		47-24785-xx	Cable labels, TS4 codec		Chapter 10

Carton 16: Cable Kit for Speakers & Lights, 69-2349-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2349-xx		37-1059-xx	Power cord, US, 0.8m	3	Chapter 10
69-2349-xx		37-1388-xx	Cable, HD video (uses HDMI connector) - DVI, 3m	1	Chapter 10
69-2349-xx		37-1389-xx	Cable, light bar jumper cable	4	Chapter 10
69-2349-xx		37-1390-xx	Speaker cable, phone plug to terminal	1	Chapter 10
69-2349-xx		37-1395-xx	Speaker cable, terminal end	3	Chapter 10
69-2349-xx		37-1399-xx	Power cord, US, 3.5m	1	Chapter 10
69-2349-xx		47-24786-xx	Cable labels, speaker and light cables	1	Chapter 10
69-2349-xx		37-1404-xx	Cable, DB9-to-RJ45	1	Chapter 10

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 17: Cable Kit for First Row Table, 69-2350-xx**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2350-xx		37-1382-xx	Ethernet cable, 6m	4	Chapters 9, 10
69-2350-xx		37-1025-xx	Ethernet cable, 8m	2	Chapters 9, 10
69-2350-xx		47-24787-xx	Cable labels, 1st row Ethernet, power, and microphone cables	1	Chapter 10
69-2350-xx		700-37866-xx	Cable management ball	2	Chapter 11

Carton 18: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-10241-xx	Microphone and cable	1	Chapter 11

Carton 19: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-10241-xx	Microphone and cable	1	Chapter 11

Carton 20: Microphone Assembly, 74-10241-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-10241-xx	Microphone and cable	1	Chapter 11

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 21: LED Light Assemblies, 74-10342-xx,
CTS-TX9000-LEDPK**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
74-10341-xx		74-10336-xx	LED lights, center (2 feet)	2	Chapter 13
74-10341-xx		74-10337-xx	LED lights, left and right (4 feet)	2	Chapter 13

**Carton 22: Country-Specific I/O Modules: Power/Ethernet,
CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

**Carton 23: Country-Specific I/O Modules: Power/Ethernet,
CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 24: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 25: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 26: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 27: Country-Specific I/O Modules: Power/Ethernet, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9, 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 28: Presentation Display, 74-10343-xx, CTS-TX9K-DATADISP

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-DATADISP	74-10343-xx	42” Presentation display		Chapter 13

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 29: Camera Assembly, 800-36215-xx,
CTS-TX9K-CAMCLSTR**

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-CAMCLSTR	800-36215-xx	Camera assembly and mounting bracket	1	Chapter 8
CTS-TX9K-CAMCLSTR	48-2284-xx	M4 x 20mm hex socket cap screw	6	Chapter 14
CTS-TX9K-CAMCLSTR	48-2341-xx	M8 x 20mm flange head, hex socket cap screw	8	Chapter 8
CTS-TX9K-CAMCLSTR	49-0420-xx	M4 keps nut	1	Chapter 14
CTS-TX9K-CAMCLSTR	49-0748-xx	M6 nut	4	Chapter 14

Carton 30: Light Control Unit, 800-33995-xx, CTS-LCU-G2R

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-LCU-G2R	800-33995-xx	Light control unit	1	Chapter 8

**Carton 31: Audio/Video Expansion Unit, 800-36423-xx,
CTS-LAEB-G2R**

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-LAEB-G2R	800-36423-xx	Audio/video expansion unit	1	Chapter 8

Carton 32: Camera Housing, 800-37902-xx, CTS-TX9K-CAM-HS

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
800-37902-xx		700-37737-03	Camera housing	1	Chapter 14
800-37902-xx		700-38941-xx	Camera faceplate	1	Chapter 14
800-37902-xx		48-3003-xx	M3 x 11mm pan head screws	4	Chapter 14

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 33: Cable Runner Cover, 69-2341-xx, CTS-TX9K-CBLRUN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2341-xx		700-37442-xx	Cable runner cover		Chapter 13

Carton 34: Codec, CTS-TX9K CODEC OPT

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K CODEC OPT	Country-specific	Codec	1	Chapter 8

Carton 35: Codec, CTS-TX9K CODEC OPT

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K CODEC OPT	Country-specific	Codec	1	Chapter 8

Carton 36: Codec, CTS-TX9K CODEC OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K CODEC OPT		Country-specific	Codec	1	Chapter 8

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K CODEC OPT	Country-specific	Codec	1	Chapter 8

Carton 37: Codec, CTS-TX9K CODEC OPT

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K CODEC OPT	Country-specific	Codec	1	Chapter 8

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 38: CTS-CTRL DVC OPT**

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-CTRL DVC OPT	CTS-CTRL-DV12	Cisco TelePresence Touch 12	1	Chapter 13

Carton 39: Camera Setup Accessories, 69-1674-xx, CTS-CAM-TOOL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-1674-xx		700-23960-xx	Horizontal bar	2	Chapter 14
69-1674-xx		700-23961-xx Kit # 800-29313-xx	Vertical bar	2	Chapter 14
69-1674-xx		700-23964-xx	Tabletop camera target: small	1	Chapter 14
69-1674-xx		700-24321-xx	Cardboard ruler	1	Chapter 14
69-1674-xx		700-24292-xx	Tabletop camera target: large	1	Chapter 14

Carton 40: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
74-7732-xx		74-8174-xx	65-inch high-definition display	1	Chapter 5

Carton 41: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
74-7732-xx		74-8174-xx	65-inch high-definition display	1	Chapter 5

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 42: 65" Plasma Display, 74-7732-xx, CTS-DISP-65-GEN04**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
74-7732-xx		74-8174-xx	65-inch high-definition display	1	Chapter 5

Carton 43-A: Light Reflector Frame - Wall Mount, 69-2291-xx, CTS-TX9K-LTRF-PNL-OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2291-xx		700-36913-xx	Reflector panel, center	1	Chapter 3, 6
69-2291-xx		700-36911-xx	Reflector panel, center-left and center-right	2	Chapter 3
69-2291-xx		700-36906-xx	Reflector panel, far left	1	Chapter 3
69-2291-xx		700-36910-xx	Reflector panel, far right	1	Chapter 3
69-2291-xx		700-38159-xx	Horizontal L bracket, center	1	Chapter 3
69-2291-xx		700-38160-xx	Horizontal L bracket, left	1	Chapter 3
69-2291-xx		700-38161-xx	Horizontal L bracket, right	1	Chapter 3
69-2291-xx		74-10198-xx	Reflector panel repair kit	1	

Carton 43-B: Light Reflector Frame - Free Standing, 69-2292-xx, CTS-TX9K-LTRF-PNL-OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2292-xx		700-36931-xx	Wall frame, far left	1	Chapter 6
69-2292-xx		700-36932-xx	Wall frame, far right	1	Chapter 6
69-2292-xx		700-36933-xx	Wall frame, center	1	Chapter 6
69-2292-xx		700-36934-xx	Wall frame, center left	1	Chapter 6
69-2292-xx		700-37862-xx	Wall frame, center right	1	Chapter 6
69-2292-xx		700-38998-xx	Center-left and center-right U Channel	2	Chapter 6
69-2292-xx		700-38999-xx	Center Attachment piece	1	Chapter 6
69-2292-xx		700-39000-xx	Floor bracket, right	1	Chapter 6
69-2292-xx		700-39001-xx	Floor bracket, left	1	Chapter 6
69-2292-xx		700-39004-xx	Floor bracket, angle right	1	Chapter 6

REVIEW DRAFT - CISCO CONFIDENTIAL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2292-xx		700-39005-xx	Floor bracket, angle left	1	Chapter 6
69-2292-xx		700-39006-xx	Center locator bracket	2	
69-2292-xx			Upper L bracket	4	Chapter 6
69-2292-xx			Lower L bracket	3	Chapter 6

Carton 43-C-1: Light Reflector Mounting Arm Assemblies, 69-2340-xx, CTS-TX9K-LTRF-PNL-OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2340-xx		800-37499-xx	Mounting Arm	1	Chapter 6

Carton 43-C-2: Light Reflector Mounting Arm Assemblies, 69-2340-xx, CTS-TX9K-LTRF-PNL-OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2340-xx		800-37499-xx	Mounting Arm	1	Chapter 6

Carton 43-D: Light Reflector U Bracket, 69-2390-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2390-xx		700-38163-xx	Vertical Z bracket, center	4	Chapter 3
69-2390-xx		700-38164-xx	Vertical Z bracket, left	1	Chapter 3
69-2390-xx		700-38165-xx	Vertical Z bracket, right	1	Chapter 3

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 44: First Row Table Tops, 69-2300-xx, 69-2344-xx, CTS-TX9K-TBL-OTP**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2300-xx (walnut)		700-37019-xx (walnut)	First row center table section	1	Chapter 11
69-2344-xx (maple)		700-37375-xx (maple)			
69-2300-xx (walnut)		700-37020-xx (walnut)	First row left table section	1	Chapter 11
69-2344-xx (maple)		700-37376-xx (maple)			
69-2300-xx (walnut)		700-37021-xx (walnut)	First row right table section	1	Chapter 11
69-2344-xx (maple)		700-37377-xx (maple)			
69-2300-xx (walnut)	69-2298-xx	51-6068-xx	Half-moon table joiners	4	Chapter 11
69-2344-xx (maple)					
69-2300-xx (walnut)	69-2298-xx	700-23909-xx	Wooden biscuits	12	Chapter 11
69-2344-xx (maple)					

Carton 45: Country-Specific Power Cords, CTS POWER CORD OPT

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 45-1: Country-Specific Power Cords,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

**Carton 45-2: Country-Specific Power Cords,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 45-3: Country-Specific Power Cords,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

**Carton 45-4: Country-Specific Power Cords,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 45-5: Country-Specific Power Cords,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 9 & 10 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

**Carton 45-6: Country-Specific Power Cords - Second Row,
CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 45-7: Country-Specific Power Cords - Second Row, CTS POWER CORD OPT**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 46: Presentation Cables, CTS PRES CAB OPT

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS PRES CAB OPT	CTS-CAB-DPHDMI-A	Presentation cable DP + audio and dongle adapter, DP-HD video (uses HDMI connector)	1	Chapter 11
CTS PRES CAB OPT	CTS-CAB-MDPHDMI-A	Presentation cable mini-DP + audio and dongle adapter, DP-HD video (uses HDMI connector)	1	Chapter 11
CTS PRES CAB OPT	CTS-CAB-VGA-A	Cisco TelePresence System Presentation cable VGA+audio	1	Chapter 11

Carton 47: Accessory Kit - Second Row, 53-3798-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
53-3798-xx	69-2353-xx	48-2430-xx	M8 x 16mm pan head screws, black	65	Chapter 12
53-3798-xx	69-2354-xx	48-0811-xx	M5 flat head screws	35	Chapter 12
53-3798-xx	69-2419-xx	49-0376-xx	M3 nut	4	Chapter 12
53-3798-xx		700-37821-xx	Wrench, leveling feet	1	Chapter 12

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 48: Cable Kit - Second Row, 69-2351-xx**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2351-xx		37-0833-xx	Power jumper cord	6	Chapter 12
69-2351-xx		37-0931-xx	Microphone extension cord	10	Chapter 12
69-2351-xx		37-1402-xx	Ethernet cable, 15m	11	Chapter 12
69-2351-xx		37-1403-xx	Ethernet cable, 17m	1	Chapter 12
69-2351-xx		47-24788-xx	Cable labels, 2nd row microphone and power cables	1	Chapter 12
69-2351-xx		47-24838-xx	Cable labels, 2nd row Ethernet and power cables	1	Chapter 12

Carton 49: PDU - Second Row, 74-8655-xx, PDU

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
PDU		74-8655-xx	2nd row PDU	1	Chapter 12

Carton 50: PDU - Second Row, 74-8655-xx, PDU

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
PDU		74-8655-xx	2nd row PDU	1	Chapter 12

Carton 51: Second Row Legs, 69-2314-xx, CTS-TX9200-TBL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2314-xx		800-37783-xx	Electrical egress box for floors with trench		Chapter 12
69-2314-xx		800-37909-xx	Electrical egress box with mouse hole (for floors with above-ground wiring egress)		Chapter 12
69-2314-xx		800-37776-xx	Leg E	1	Chapter 12
69-2314-xx		800-37777-xx	Leg F	1	Chapter 12
69-2314-xx		800-37779-xx	Leg G	1	Chapter 12
69-2314-xx		800-37780-xx	Leg H	1	Chapter 12
69-2314-xx		800-37781-xx	Leg I	1	Chapter 12

REVIEW DRAFT - CISCO CONFIDENTIAL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2314-xx		800-37782-xx	Leg J	1	Chapter 12
69-2314-xx		800-37778-xx	Leg K	1	Chapter 12
69-2314-xx		700-37828-xx	Microphone cable covers	6	Chapter 12
69-2314-xx		700-37721-xx	Table leg side panel assembly, second row far left	1	Chapter 12
69-2314-xx		700-37722-xx	Table leg side panel assembly, second row far right	1	Chapter 12
69-2314-xx		700-37182-xx	Table leg side panel assembly, second row left	6	Chapter 12
69-2314-xx		700-37183-xx	Table leg side panel assembly, second row right	6	Chapter 12

Carton 52: Second Row Rear Privacy Panels, 69-2315-xx

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2315-xx		700-37511-xx	2nd row rear privacy panel	6	Chapter 12

Carton 53: Second Row Front Panels, 69-2321-xx, CTS-TX9K-TBL-PNLB

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2321-xx		700-37591-xx	Privacy panel, 1	1	Chapter 12
69-2321-xx		700-37592-xx	Privacy panel, 2 and 5	2	Chapter 12
69-2321-xx		700-37593-xx	Privacy panel, 3 and 4	2	Chapter 12
69-2321-xx		700-37594-xx	Privacy panel, 6	1	Chapter 12

Carton 54: Not Used

This number is used as a placeholder only. It marks the beginning of the second row power/Ethernet modules for TX9200 systems, part number CTS-LAPCONN.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 55: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 56: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 57: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 58: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 59: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 60: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 61: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 62: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 63: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 64: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 65: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN**

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 66: Country-Specific I/O Modules: Power/Ethernet - Second Row, CTS-LAPCONN

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
N/A		74-xxxx-xx	I/O modules: power/Ethernet	1	Chapters 12 See Appendix C , “Region- and Country-Specific Power Cords and Table Leg Power Connectors” for the specific part numbers.

Carton 67: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 68: Microphone Assembly - Second Row, 74-1024-xx, CTS-TX9K-MIC**

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

Carton 69: Microphone Assembly - Second Row, 74-1024-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

Carton 70: Microphone Assembly - Second Row, 74-1024-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

Carton 71: Microphone Assembly - Second Row, 74-1024-xx, CTS-TX9K-MIC

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

REVIEW DRAFT - CISCO CONFIDENTIAL**Carton 72: Microphone Assembly - Second Row, 74-10241-xx, CTS-TX9K-MIC**

Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
CTS-TX9K-MIC	74-1024-xx	Microphone and cable	1	Chapter 12

Carton 73: Second Row Table Tops, 69-2301-xx, 69-2386-xx, CTS-TX9XX0-TBL-WB (Walnut) or CTS-TX9XX0-TBL-MB (Maple)

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2301-xx (walnut)		700-37147-xx (walnut)	2nd row table top, section 1	1	Chapter 12
69-2386-xx (maple)		700-37378-xx (maple)			
69-2301-xx (walnut)		700-37148-xx (walnut)	2nd row table top, section 2	1	Chapter 12
69-2386-xx (maple)		700-37379-xx (maple)			
69-2301-xx (walnut)		700-37149-xx (walnut)	2nd row table top, section 3	1	Chapter 12
69-2386-xx (maple)		700-37380-xx (maple)			
69-2301-xx (walnut)		700-37150-xx (walnut)	2nd row table top, section 4	1	Chapter 12
69-2386-xx (maple)		700-37381-xx (maple)			
69-2301-xx (walnut)		700-37151-xx (walnut)	2nd row table top, section 5	1	Chapter 12
69-2386-xx (maple)		700-37382-xx (maple)			
69-2301-xx (walnut)		700-37152-xx (walnut)	2nd row table top, section 6	1	Chapter 12
69-2386-xx (maple)		700-37383-xx (maple)			

REVIEW DRAFT - CISCO CONFIDENTIAL

Kit ID Number	Sub-Kit ID Number	Part Number	Part Description	Qty	Chapter Parts List Reference
69-2301-xx (walnut) 69-2386-xx (maple)	69-2299-xx	51-6068-xx	Half-moon table joiners	10	Chapter 12
69-2301-xx (walnut) 69-2386-xx (maple)	69-2299-xx	700-23909-xx	Wooden biscuits	20	Chapter 12



Cisco TelePresence System TX9000 and TX9200 Pallet Dimensions and Description

Revised: May 20, 2015, OL-27038-01

This chapter provides the height, width, and weight of the pallets that you receive for the TX9000 and TX9200 systems. It also contains the entire installed system weight and includes the following sections:

- [Pallet Dimensions and Description for the TX9000, page B-1](#)
- [Pallet Dimensions and Description for the TX9200, page B-2](#)
- [Installed System and Panel Weight, page B-3](#)

Pallet Dimensions and Description for the TX9000

Table B-1 provides the description of the pallets for the TX9000.



Note

Pallet 9 in Table B-1 and pallet 10 in Table B-2 differ depending on your system configuration (either a system with a wall-mounted reflector wall, or a system with a free-standing reflector wall). Use the numbers that correspond to your system.

Table B-1 Pallet Description for TX9000

Pallet #	Part Number	Description of Contents	Size	Weight
1	69-2323-01	Display structure and bracket assemblies	67 x 75 x 45 in. 170 x 191 x 114 cm	792 lbs 359 kg
2	69-2291-01	Reflector panels	87 x 51 x 22 in. 221 x 130 x 56 cm	615 lbs 279 kg
3	69-2300-01	Table tops	44 x 21 x 76 in. 112 x 53 x 193 cm	377 lbs 171 kg
4	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg
5	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg

Table B-1 Pallet Description for TX9000 (continued)

Pallet #	Part Number	Description of Contents	Size	Weight
6	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg
7	84-2294-01	Consolidated cartons including accessory kit and cables	45 x 27.5 x 34.5 in. 114 x 70 x 88 cm	225 lbs 102 kg
8	84-1887-01	Consolidated cartons including parts for main display structure	72 x 32 x 41 in. 183 x 81.5 x 104 cm	323 lbs 147 kg
9	69-2390-01	Attachment brackets for wall-mounted reflector wall	25 x 4.5 x 75 in 64 x 11 x 191 cm	60 lbs 27 kg
9	69-2292-01	Free-standing reflector wall (SYSTEMS WITH FREE-STANDING REFLECTOR WALLS ONLY)	87 x 55 x 33 in. 221 x 140 x 84 cm	485 lbs 220 kg
10	69-2332-01	Table legs	50 x 38.5 x 35.5 in. 127 x 98 x 90 cm	329 lbs 149 kg
11	69-2311-01	Rear service panels and facade panels	68 x 47 x 24 in. 173 x 119 x 61 cm	240 lbs 109 kg
12	69-2325-01	Facade panels	65 x 27 x 35 in. 165 x 69 x 89 cm	229 lbs 104 kg

Pallet Dimensions and Description for the TX9200

Table B-1 provides the description of the pallets for the TX9200.

Table B-2 Pallet Description for TX9200

Pallet #	Part Number	Description of Contents	Size	Weight
1	69-2323-01	Display structure and bracket assemblies	67 x 75 x 45 in. 170 x 191 x 114 cm	792 lbs 359 kg
2	69-2291-01	Reflector panels	87 x 51 x 22 in. 221 x 130 x 56 cm	615 lbs 279 kg
3	69-2300-01	First row table tops	44 x 21 x 76 in. 112 x 53 x 193 cm	377 lbs 171 kg
4	69-2301-01	Second row table tops	69.5 x 39 x 34 in. 177 x 99 x 86 cm	520 lbs 236 kg
5	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg
6	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg
7	74-7732-01	65 inch display	66 x 22.5 x 43.5 in. 168 x 57 x 110.5 cm	165 lbs 75 kg
8	84-2294-01	Consolidated cartons including accessory kit and cables	45 x 27.5 x 34.5 in. 114 x 70 x 88 cm	225 lbs 102 kg
9	84-1887-01	Consolidated cartons including parts for main display structure	72 x 32 x 41 in. 183 x 81.5 x 104 cm	323 lbs 147 kg

Table B-2 Pallet Description for TX9200 (continued)

Pallet #	Part Number	Description of Contents	Size	Weight
10	69-2390-01	Attachment brackets for wall-mounted reflector wall	25 x 4.5 x 75 in 64 x 11 x 191 cm	60 lbs 27 kg
10	69-2292-01	Free-standing reflector wall (SYSTEMS WITH FREE-STANDING REFLECTOR WALLS ONLY)	87 x 55 x 33 in. 221 x 140 x 84 cm	485 lbs 220 kg
11	69-2332-01	First row table legs	50 x 38.5 x 35.5 in. 127 x 98 x 90 cm	329 lbs 149 kg
12	69-2314-01	Second row table legs	60 x 31 x 41.5 in 152 x 79 x 105 cm	529 lbs 240 kg
13	69-2315-01	Second row privacy panels, rear	39 x 58 x 40 in 99 x 147 x 102 cm	272 lbs 123 kg
14	69-2321-01	Second row privacy panels, front	49 x 23 x 22 in 125 x 58 x 56 cm	92 lbs 42 kg
15	69-2311-01	Rear service panels and facade panels	68 x 47 x 24 in. 173 x 119 x 61 cm	240 lbs 109 kg
16	69-2325-01	Facade panels	65 x 27 x 35 in. 165 x 69 x 89 cm	229 lbs 104 kg

Installed System and Panel Weight

Weight of TX-9000: 2041 lbs (926 kg), including the weight of the reflector wall and panels.

Weight of TX-9200: 2691 lbs (1221 kg), including the weight of the reflector wall and panels.

Weight of Reflector Panels: 72 lbs (33 kg) each; 360 lbs (164 kg) total)

Free-Standing Systems Only

Weight of Free-Standing Reflector Option: 650 lbs (295 kg)

Wall-Mounted Systems Only

Weight of brackets for Wall-Mounted Reflector Option: 62 lbs (28.2 kg)

Weight of Wall-Mounted Reflector Option including brackets and panels: 422 lbs (192.2 kg)



Region- and Country-Specific Power Cords and Table Leg Power Connectors

Revised: May 20, 2015, OL-27038-01

The following countries and regions have equipment manufactured to local regulations.



Note

These photos are provided as a reference for the plug type. The power inserts for the I/O modules may be white or black in color and may vary from the photo. In addition, some I/O modules use a separate jumper cord for the power, while others are directly connected.

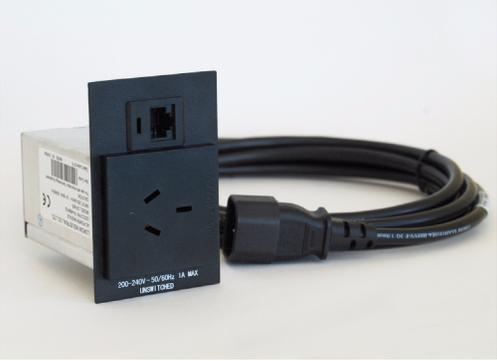
Asia Pacific

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-AP 37-0831-01	
I/O modules: power/Ethernet	CTS-LAPCONN-AP 74-4861-01	

Argentina

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-AR 37-0841-01	
I/O modules: power/Ethernet	CTS-LAPCONN-AR 74-4866-01	

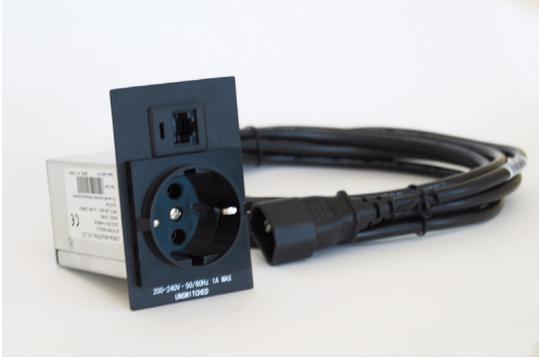
Australia

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-AU 37-0840-01	
I/O modules: power/Ethernet	CTS-LAPCONN-AU 74-4866-01	

Brazil

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-BZ 37-1311-01	
I/O modules: power/Ethernet	CTS-LAPCONN-BZ 74-10119-01	

Central Europe

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-CE 37-0832-01	
I/O modules: power/Ethernet	CTS-LAPCONN-CE 74-4865-01	

China

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-CN 37-0837-01	
I/O modules: power/Ethernet	CTS-LAPCONN-CN 74-4914-01	
Center Privacy Panel	700-23334-02 Kit No. 69-1990-01	

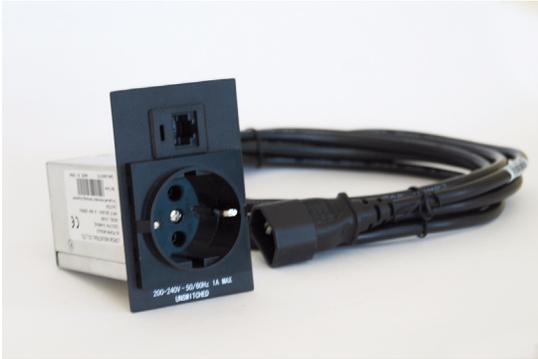
India, UAE, South Africa

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-ID 37-0838-01	
I/O modules: power/Ethernet	CTS-LAPCONN-ID 74-4864-01	

Israel

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-ISR 37-0842-01	
I/O modules: power/Ethernet	CTS-LAPCONN-ISR 74-4863-01	

Italy

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-ITA 37-0832-01	
I/O modules: power/Ethernet	CTS-LAPCONN-ITA 74-4865-01	

Japan

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-JP 37-0847-01	
I/O modules: power/Ethernet	CTS-LAPCONN-JP 74-4951-01	

North America

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-NA 37-0847-01	
I/O modules: power/Ethernet	CTS-LAPCONN-NA 74-4868-01	

South Africa

Part Description	Part Number	Photo
I/O modules: power/Ethernet	CTS-LAPCONN-SA 74-1195-01	

Switzerland

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-SWI 37-0843-01	
I/O modules: power/Ethernet	CTS-LAPCONN-SWI 74-4862-01	

United Kingdom

Part Description	Part Number	Photo
TelePresence Power Cord	PWR-CORD10-UK 37-0831-01	
I/O modules: power/Ethernet	CTS-LAPCONN-UK 74-4861-01	