



Cisco IP/TV 3400 Series Servers User Guide

Release 5.1

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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.

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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.)

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Cisco 90-Day Limited Hardware Warranty Terms

There are special terms applicable to your hardware warranty and various services that you can use during the warranty period. Your formal Warranty Statement, including the warranties and license agreements applicable to Cisco software, is available on Cisco.com. Follow these steps to access and download the *Cisco Information Packet* and your warranty and license agreements from Cisco.com.

1. Launch your browser, and go to this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/cetrans.htm

The Warranties and License Agreements page appears.

2. To read the *Cisco Information Packet*, follow these steps:

- a. Click the **Information Packet Number** field, and make sure that the part number 78-5235-03A0 is highlighted.
- b. Select the language in which you would like to read the document.
- c. Click **Go**.

The Cisco Limited Warranty and Software License page from the Information Packet appears.

- d. Read the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

**Note**

You must have Adobe Acrobat Reader to view and print PDF files. You can download the reader from Adobe's website: <http://www.adobe.com>

3. To read translated and localized warranty information about your product, follow these steps:

a. Enter this part number in the Warranty Document Number field:

78-5236-01C0

b. Select the language in which you would like to read the document.

c. Click **Go**.

The Cisco warranty page appears.

d. Review the document online, or click the **PDF** icon to download and print the document in Adobe Portable Document Format (PDF).

You can also contact the Cisco service and support website for assistance:

http://www.cisco.com/public/Support_root.shtml.

Duration of Hardware Warranty

Ninety (90) days.

Replacement, Repair, or Refund Policy for Hardware

Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of a Return Materials Authorization (RMA) request. Actual delivery times can vary, depending on the customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

To Receive a Return Materials Authorization (RMA) Number

Contact the company from whom you purchased the product. If you purchased the product directly from Cisco, contact your Cisco Sales and Service Representative.

Complete the information below, and keep it for reference:

| | |
|--------------------------------|--|
| Company product purchased from | |
| Company telephone number | |
| Product model number | |
| Product serial number | |
| Maintenance contract number | |



Preface

This preface describes the objectives, audience, organization, and conventions of this guide, and provides information on how to obtain related documentation and technical support.

This preface includes the following sections:

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Document Objectives

This guide describes the setup and configuration of Cisco IP/TV 3400 Series Server hardware.



Note

This guide is not applicable if IP/TV has been purchased as a software-only option.

Audience

The information in this guide is for the system administrator who is responsible for hardware installation and basic network configuration of Cisco IP/TV 3400 Series Servers.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

Document Organization

This guide is organized into the following chapters and appendices:

| Chapter | Title | Description |
|-----------|---|---|
| Chapter 1 | Introducing IP/TV Servers | Describes the capabilities of IP/TV Broadcast Server and IP/TV Program Manager. |
| Chapter 2 | Preparing to Install the IP/TV Server | Describes safety considerations and gives an overview of the installation and procedures you should perform before the actual installation. |
| Chapter 3 | Installing the IP/TV Server | Describes how to unpack and install the IP/TV Broadcast Servers. |

| Chapter | Title | Description |
|------------|---|--|
| Chapter 4 | Setting IP/TV Server Configuration Parameters | Describes how to customize operating system components of IP/TV Broadcast Server. |
| Chapter 5 | Basic Configuration of IP/TV Program Manager and IP/TV Broadcast Server | Describes how to perform basic configuration of the Broadcast Server, and IP/TV Program Manager. |
| Appendix A | Hardware Specifications | Describes the hardware specifications for Cisco IP/TV 3400 Series Servers. |
| Appendix B | Sample Hosts File | Gives the location and an example of a Hosts file. |
| Appendix C | Instructions for Recovering IP/TV Servers | Describes how to restore the server to the original shipping configuration. |

Related Documentation

When you have completed the setup of Cisco IP/TV 3400 Series Servers, refer to the following publications for detailed information on using the IP/TV software:

- *Cisco IP/TV Broadcast Server User Guide, Release 5.1*
- *Cisco ACNS Software Program Manager for IP/TV User Guide, Release 5.1*
- *Cisco IP/TV Viewer User Guide, Release 5.1*
- *Release Notes for Cisco IP/TV, Release 5.1*

Document Conventions

The IP/TV documentation set uses the following conventions:

| Convention | Description |
|---------------------------|--|
| > | Indicates movement through menu options, for example: Choose Start > Run . |
| bold | Indicates a button that you are instructed to click, for example: Click Next . |
| screen | Shows an example of information displayed on the screen. |
| boldface screen | Shows an example of information that you must enter. |

Command Syntax Conventions

Command descriptions use the following conventions:

| Convention | Description |
|-------------------------------------|--|
| boldface | Indicates commands and keywords that are entered literally as shown. |
| <i>italics</i> | Indicates arguments for which you supply values; in contexts that do not allow italics, arguments are enclosed in angle brackets (< >). |
| [x] | Indicates optional keywords or arguments. |
| { x y z } | Indicates a choice of required keywords (represented by x , y , and z). You must select one. |
| [x { y z }] | Indicates a required choice within an optional element. You do not need to select keyword x , but if you do, you must specify either argument y or argument z . |

The following conventions are used to attract the reader's attention:



Note

Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.



Caution

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



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS
Waarschuwing
BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus TÄRKEITÄ TURVALLISUUSOHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET**Attention IMPORTANTES INFORMATIONS DE SÉCURITÉ**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS**Warnung WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza IMPORTANTI ISTRUZIONI SULLA SICUREZZA

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI**Advarsel VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE**Aviso INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia! INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES**Varning! VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR**Figyelem FONTOS BIZTONSÁGI ELOÍRÁSOK**

Ez a figyelmeztető jel veszélyre utal. Sérülésveszélyt rejtő helyzetben van. Mielőtt bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplő figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján kereshető meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение

ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告

重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告

安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation on the World Wide Web at this URL:

<http://www.cisco.com/univercd/home/home.htm>

You can access the Cisco website at this URL:

<http://www.cisco.com>

International Cisco websites can be accessed from this URL:

http://www.cisco.com/public/countries_languages.shtml

Ordering Documentation

You can find instructions for ordering documentation at this URL:

http://www.cisco.com/univercd/cc/td/doc/es_inpk/pdi.htm

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/index.shtml>

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

You can submit e-mail comments about technical documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

For all customers, partners, resellers, and distributors who hold valid Cisco service contracts, the Cisco Technical Assistance Center (TAC) provides 24-hour-a-day, award-winning technical support services, online and over the phone. Cisco.com features the Cisco Technical Assistance Website as an online starting point for technical assistance. If you do not hold a valid Cisco service contract, please contact your reseller.

Cisco Technical Assistance Website

The Cisco Technical Assistance Website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The Cisco Technical Assistance Website is available 24 hours a day, 365 days a year. The Cisco Technical Assistance Website is located at this URL:

<http://www.cisco.com/tac>

Accessing all the tools on the Cisco Technical Assistance Website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a login ID or password, register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Opening a TAC Case

Using the online TAC Case Open Tool is the fastest way to open P3 and P4 cases. (P3 and P4 cases are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Case Open Tool automatically recommends resources for an immediate solution. If your issue is not resolved using the recommended resources, your case will be assigned to a Cisco TAC engineer. The online TAC Case Open Tool is located at this URL:

<http://www.cisco.com/tac/caseopen>

For P1 or P2 cases (P1 and P2 cases are those in which your production network is down or severely degraded) or if you do not have Internet access, contact Cisco TAC by telephone. Cisco TAC engineers are assigned immediately to P1 and P2 cases to help keep your business operations running smoothly.

To open a case by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete listing of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

TAC Case Priority Definitions

To ensure that all cases are reported in a standard format, Cisco has established case priority definitions.

Priority 1 (P1)—Your network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Priority 2 (P2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Priority 3 (P3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Priority 4 (P4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, and logo merchandise. Go to this URL to visit the company store:

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<http://www.cisco.com/packet>

- *iQ Magazine* is the Cisco bimonthly publication that delivers the latest information about Internet business strategies for executives. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

<http://www.cisco.com/ipj>

- Training—Cisco offers world-class networking training. Current offerings in network training are listed at this URL:

<http://www.cisco.com/en/US/learning/index.html>



Introducing IP/TV Servers

This chapter provides a basic functional overview of the Cisco IP/TV 3400 Series Servers. This chapter also describes the server hardware and provides details of the major components, front and back panel indicators, and controls for the Cisco IP/TV 3400 Series Servers.

This chapter contains the following sections:

- [Introduction, page 1-1](#)
- [Cisco IP/TV Broadcast Servers, page 1-4](#)
- [Server Accessory Kits, page 1-24](#)
- [Partition Configuration, page 1-28](#)
- [IP/TV Program Manager, page 1-28](#)

Introduction

The Cisco IP/TV 3400 Series Servers consist of IP/TV Broadcast Servers that capture real-time and prerecorded audio and video content, and streams it over the network. Each Cisco IP/TV 3400 Series Server type has preinstalled IP/TV Server software. (See [Table 1-1](#).)

Table 1-1 Cisco IP/TV 3400 Series Server Models

| Server | Description |
|--------------------------------------|---|
| Cisco IP/TV 3425 Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with an Optibase MPEG-1¹, MPEG-2 FD1 multichannel capture card.</p> <p>Delivers 1 MPEG-1 or MPEG-2 stream.</p> |
| Cisco IP/TV 3425A Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with an Optibase MPEG-1 capture card.</p> <p>Delivers 1 MPEG-1 stream.</p> |
| Cisco IP/TV 3426 Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with a Winnov Videum 4400 AV 4-port video capture card that supports medium- and low-quality H.261 and MPEG-4.</p> <p>Delivers 1 high-resolution (CIF²) MPEG-4 stream or 4 low-resolution, low-bit-rate streams (audio or QCIF³ resolution).</p> |
| Cisco IP/TV 3427-C1 Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with the following video capture cards:</p> <ul style="list-style-type: none"> • 2 Winnov Videum 1010 1-port capture cards that support medium- and low-quality H.261 and MPEG-4 formats • 1 Winnov 4400 Videum 4-port capture card <p>Delivers 4 CIF and 2 QCIF MPEG-4 streams.</p> |

Table 1-1 Cisco IP/TV 3400 Series Server Models (continued)

| Server | Description |
|---|---|
| Cisco IP/TV 3427-C2 Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with the following video capture cards:</p> <ul style="list-style-type: none"> • 2 Winnov Videum 1010 Plus 1-port capture cards that support medium- and low-quality H.261 and MPEG-4 formats • 1 Winnov Videum 4400 AV 4-port capture card that supports medium- and low-quality H.261 and MPEG-4 formats • 2 Optibase MovieMaker 200S Networker capture cards that support MPEG-1 and MPEG-2 formats <p>Delivers 8 streams: 6 MPEG-4 streams (4 CIF and 2 QCIF) and 2 MPEG-1 or MPEG-2 streams.</p> |
| Cisco IP/TV 3427-C3 Broadcast Server | <p>Provides live encoding and serving, as well as serving a limited number of prerecorded programs defined in IP/TV Program Manager.</p> <p>Configured with the following video capture cards:</p> <ul style="list-style-type: none"> • 2 Winnov Videum 1010 Plus 1-port capture cards that support medium- and low-quality H.261 and MPEG-4 formats • 3 Optibase MovieMaker 200S Networker capture cards that support MPEG-1 and MPEG-2 formats <p>Delivers 5 streams: 2 high-resolution (CIF) MPEG-4 streams and 3 MPEG-1 or MPEG-2 streams.</p> |

1. MPEG = Moving Picture Experts Group
2. CIF = Common Intermediate Format
3. QCIF = Quarter Common Intermediate Format

Cisco IP/TV Broadcast Servers

Cisco IP/TV Broadcast Servers are equipped with IP/TV Server software. They deliver on-demand or scheduled rebroadcasts of IP/TV programs that include synchronized media produced with Web Presenter, ScreenCaster, and SlideCast.

IP/TV Broadcast Servers are configured with video capture cards to encode streams from analog video and audio sources. They can receive content from analog sources such as video cameras, video cassette recorders (VCRs), satellite feeds, cable feeds, or existing Active Streaming Format (ASF), Audio Video Interleaved (AVI), or MPEG digital files. IP/TV Broadcast Servers can deliver live events, such as a chief executive officer's speech to thousands of employees, while using the network bandwidth of an individual stream.

IP/TV Broadcast Servers offer varying compression techniques, depending upon application requirements and available bandwidth. They are ideal for multicasting live events or prerecorded programs on a scheduled basis.

This section describes the following Cisco IP/TV Broadcast Servers:

- [Cisco IP/TV 3425 and 3425A Broadcast Servers](#)
- [Cisco IP/TV 3426 Broadcast Server](#)
- [Cisco IP/TV 3427 Broadcast Servers](#)

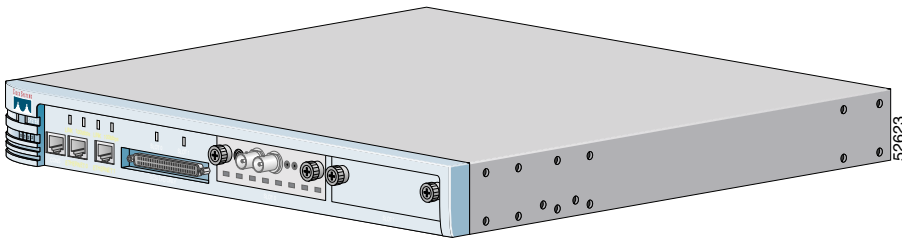
Cisco IP/TV 3425 and 3425A Broadcast Servers

Cisco IP/TV 3425 and 3425A Broadcast Servers support high-performance encoding, with all encoding done in hardware. They are configured with Optibase MovieMaker video capture cards. The Cisco IP/TV 3425 Broadcast Server captures real-time and prerecorded content and streams it over the network using television-quality MPEG-1 or broadcast-quality MPEG-2 compression techniques for the highest-quality streaming. The Cisco IP/TV 3425A Broadcast Server is identical to the IP/TV 3425 Broadcast Server, but encodes and delivers only television-quality MPEG-1 streams.

Cisco IP/TV 3425 and 3425A Broadcast Servers are configured for AC-input power and have a single power supply installed. They have two 10/100BASE-T Ethernet/Fast Ethernet ports with RJ-45 receptacles. Port Ethernet 0 supports autodetect speed mode and full-duplex operation.

Cisco IP/TV 3425 and 3425A Broadcast Servers have an Optibase MovieMaker video capture card installed in PCI slot 0, labeled PCI 0, on the front panel. (See [Figure 1-1](#).)

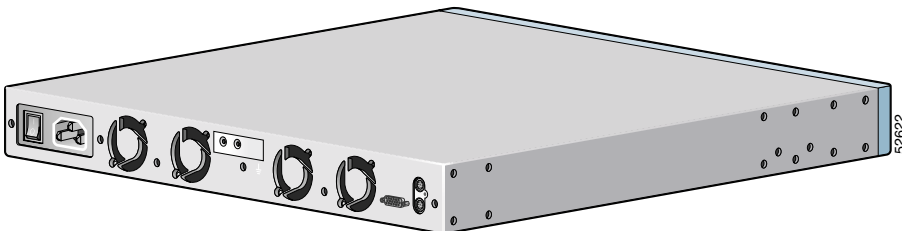
Figure 1-1 Cisco IP/TV 3425 and 3425A Broadcast Servers—Front Panel



Front and Back Panels

[Figure 1-1](#) shows the front panel of the Cisco IP/TV 3425 and 3425A Broadcast Servers, and [Figure 1-2](#) shows the back panel.

Figure 1-2 Cisco IP/TV 3425 and 3425A Broadcast Servers—Back Panel



LED Indicators

[Figure 1-3](#) shows the LEDs on the Cisco IP/TV 3425 and 3425A Broadcast Servers. [Table 1-2](#) describes the LEDs and their functions.

Figure 1-3 Cisco IP/TV 3425 and 3425A Broadcast Server LEDs

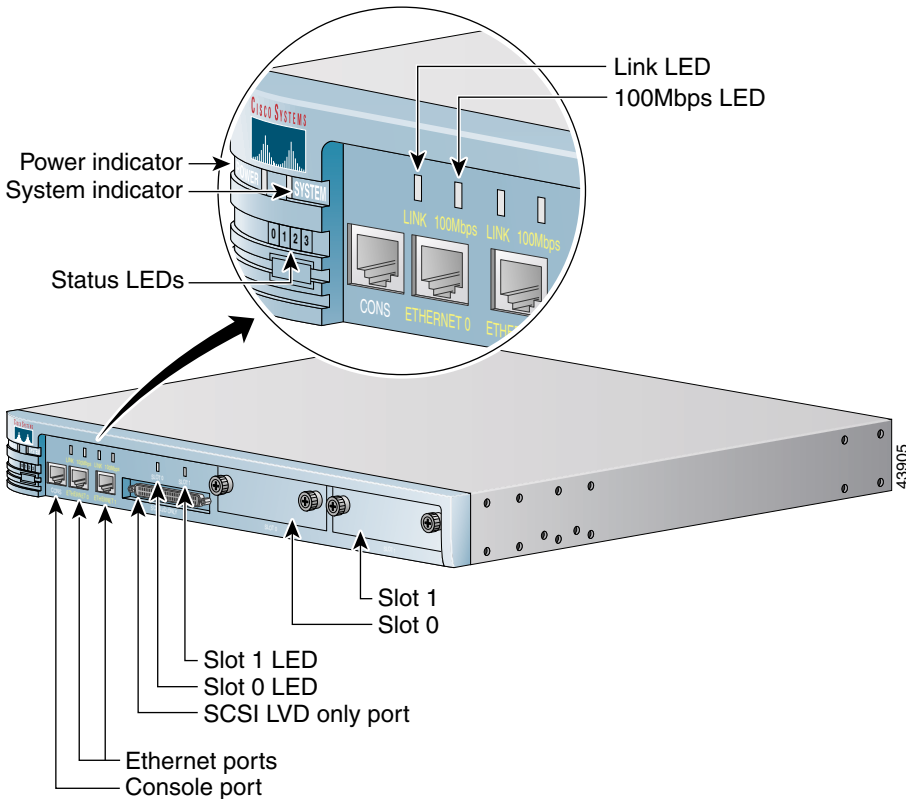


Table 1-2 Cisco IP/TV 3425 and 3425A Broadcast Server LEDs

| Indicator | Color | State | Description |
|-----------|-------|-------|--|
| Power | Green | On | Power is flowing to the IP/TV Server. |
| System | Green | On | The network connection is active (packets are being sent or received). |
| LINK | Green | On | IP/TV Server is connected to the network. |
| 100 Mbps | Green | On | The connection is a 100BASE-TX (Fast Ethernet) connection. |

Table 1-2 Cisco IP/TV 3425 and 3425A Broadcast Server LEDs (continued)

| Indicator | Color | State | Description |
|---------------------|-------|----------|--|
| Slot 0 | Green | On | There is no video capture card installed in Slot 0. |
| | | Off | The video capture card in Slot 0 is not active. |
| | | Flashing | The video capture card in Slot 0 is active. |
| Slot 1 | Green | On | There is no video capture card installed in Slot 1. |
| | | Off | The video capture card in Slot 1 is not active. |
| | | Flashing | The video capture card in Slot 1 is active. |
| Status 0 1 2 3 LEDs | Green | Steady | In a steady display, the state of each LED is constant. (See Table 1-3 for the meanings of steady-state LED variations.) |
| | | Rolling | Reboot has begun. In a rolling display, the four LEDs give the appearance of a light that repeatedly moves from left to right. |

Table 1-3 Operational Status LEDs

| 0 1 2 3 LEDs | Appearance | Meaning |
|----------------------|------------|--|
| o o o o ¹ | Steady | Normal operation |
| o * * * ² | Steady | An exception has occurred (software or hardware failure) |
| * * * * | Steady | A panic has occurred (software failure) |
| - - - - ³ | Rolling | Reboot has begun |

1. o = LED is off.
2. * = LED is on.
3. - - - = rolling display.

Input/Output Ports and Connectors

The Cisco IP/TV 3425 and 3425A Broadcast Servers have the following I/O connectors:

- Ethernet connectors
- Serial connector
- Audio and video connectors

Table 1-4 describes the front and back panel ports and receptacles. (The front panel is shown in Figure 1-1 and the back panel in Figure 1-2.)

Table 1-4 Cisco IP/TV 3425 and 3425A Broadcast Servers—Ports and Receptacles

| Item | Description |
|--------------------|--|
| Front Panel | |
| CONS port | This serial port connects to a console. (Not supported in IP/TV Servers.) |
| ETHERNET 0 port | The Ethernet 0 cable connects to this port. |
| ETHERNET 1 port | The Ethernet 1 cable connects to this port. (Not used in IP/TV Servers.) |
| SCSI LVD only port | The SCSI LVD cable for the Storage Array connects to this port. (Not supported in IP/TV Servers.) |
| Slot 0 | Bay for audio and video card. |
| Slot 1 | Bay for hard drive 1. |
| Back Panel | |
| Power receptacle | AC. The power cord connects to this plug. |
| Power switch | This switch toggles between on and off. A power light on the front panel, when lit, indicates that the power is on. |
| Onboard video port | A monitor connects to this standard DB-15 video port. |
| Mouse port | A mouse connects to this standard mouse port. |
| Keyboard port | A keyboard connects to this standard keyboard port. |

Ethernet Port

The Cisco IP/TV 3425 and 3425A Broadcast Servers come with one integrated dual-port Ethernet controller. This controller provides an interface for connecting to 10-Mbps or 100-Mbps networks and provides full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the Ethernet local-area network (LAN).

To access the Ethernet port, connect a Category 3, 4, or 5 unshielded twisted-pair (UTP) cable to the RJ-45 connector on the back of the device.

Serial Port

The Cisco IP/TV 3425 and 3425A Broadcast Servers have one standard serial port.

Audio and Video Ports and Connectors

The Cisco IP/TV 3425 and 3425A Broadcast Servers have an Optibase MovieMaker video capture card installed in PCI slot 0.

[Table 1-5](#) describes the audio and video connectors on the Cisco IP/TV 3425 and 3425A Broadcast Servers. (See also [Figure 1-4](#).)

Table 1-5 Cisco IP/TV 3425 and 3425A Broadcast Servers—Audio and Video Connectors

| Connector | Description |
|-----------|---|
| S-video | Input from S-video ¹ source (mini-DIN) |
| Comp | Input from composite video source (BNC) |
| V Out | Output of composite video (monitors video output) |
| A Out | Audio output (monitors audio output) |
| A In | Input from audio source (mini-jack) |

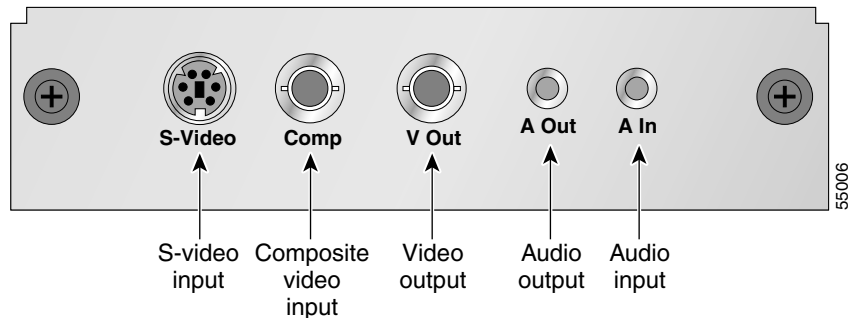
1. S-video = Super-video



Note

Only one video input can be active at a time. You cannot use a composite video source and an S-video source simultaneously.

Figure 1-4 Cisco IP/TV 3425 and 3425A Broadcast Server Audio and Video Connectors



Cisco IP/TV 3426 Broadcast Server

The Cisco IP/TV 3426 Broadcast Server captures real-time and prerecorded content and streams it over the network using high-quality MPEG-4 compression techniques for the highest-quality streaming. The Cisco IP/TV 3426 Broadcast Server delivers one high-resolution MPEG-4 stream or four low-resolution, low-bit rate streams (audio or QCIF resolution).

The Cisco IP/TV 3426 Broadcast Server is configured for AC-input power and has a single AC-input power supply. It has an integrated dual-port Ethernet controller that provides an interface for connecting to 10-Mbps, 100-Mbps, or 1000-Mbps networks.

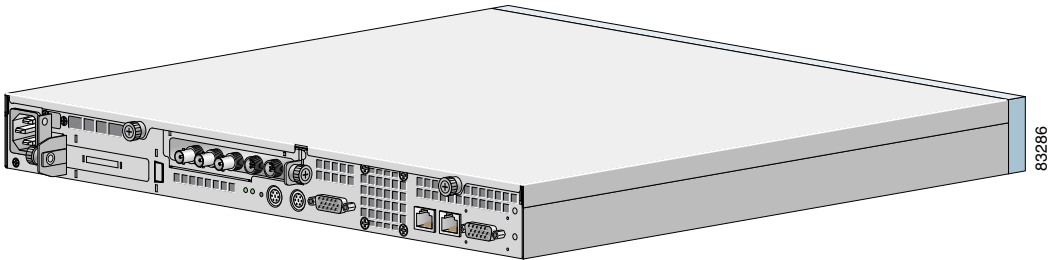
The Cisco IP/TV 3426 Broadcast Server has two 10BASE-T/100BASE-TX/1000BASE-TX Ethernet ports with RJ-45 receptacles. Both Ethernet ports support autodetect speed mode and full-duplex operation, which enable simultaneous transmission and reception of data on the Ethernet LAN.

The Cisco IP/TV 3426 Broadcast Server is configured with a Winnov Videum 4400 AV 4-port video capture card that supports medium- and low-quality H.261 and MPEG-4. The video capture card is user-replaceable and is installed in PCI-X slot 1, labeled PCI 1 on the back panel.

[Table A-2 on page A-3](#) lists the hardware specifications for the Cisco IP/TV 3426 Broadcast Server.

Figure 1-5 shows the back panel of the Cisco IP/TV Server 3426 Broadcast Server with a Winnov Videum 4400 AV video capture card installed in PCI-X slot 1.

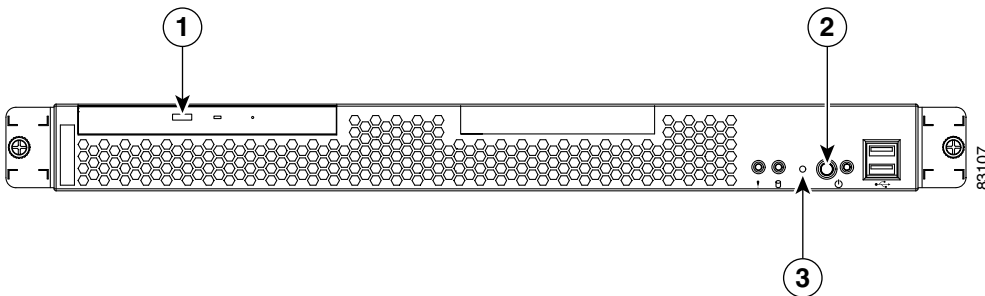
Figure 1-5 Cisco IP/TV 3426 Broadcast Server with Winnov Videum 4400 AV Video Capture Card



Front Panel Control Buttons

Figure 1-6 shows the front panel of the Cisco IP/TV 3426 Broadcast Server, and Table 1-6 describes the front panel control buttons.

Figure 1-6 Cisco IP/TV 3426 Broadcast Server Front Panel and Control Buttons



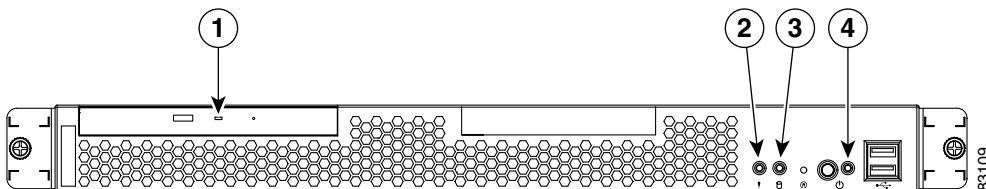
| | | | |
|----------|-----------------|----------|----------------------|
| 1 | CD eject button | 2 | Power control button |
| 3 | Reset button | | |

Table 1-6 Cisco IP/TV 3426 Broadcast Server Front Panel

| Item | Description |
|----------------------|---|
| CD eject button | Releases a CD from the drive. |
| Power control button | Turns on IP/TV Server. |
| Reset button | Reboots IP/TV Server. You might need to use a pen or the end of a straightened paper clip to press the button. |
| | Note This is a hardware reset button and does not restore the device to the factory default software settings. |

LED Indicators

Figure 1-7 shows the location of the front panel LEDs, and Table 1-7 describes their function.

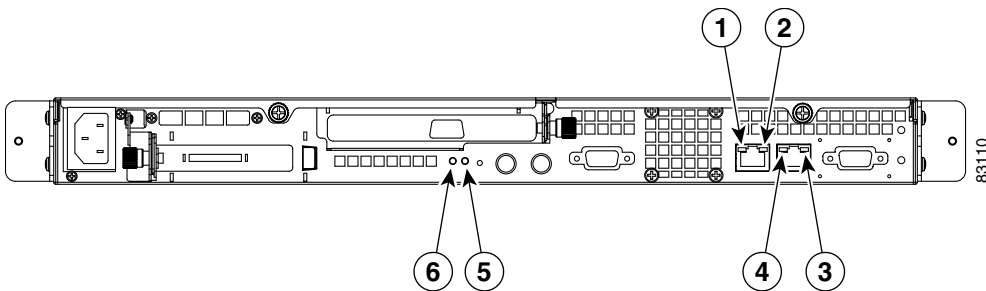
Figure 1-7 Cisco IP/TV 3426 Broadcast Server Front Panel LEDs

| | | | |
|----------|--------------------------|----------|--------------|
| 1 | CD-ROM drive activity | 2 | System error |
| 3 | Hard disk drive activity | 4 | Power |

Table 1-7 Cisco IP/TV 3426 Broadcast Server Front Panel LEDs

| Item | Color | State | Description |
|--------------------------|-------|----------|--|
| CD-ROM drive activity | Green | On | Indicates that the CD-ROM drive is in use. |
| System error | Amber | On | Indicates that a system error has occurred. An LED on the diagnostic LED panel will also be on to further isolate the error. |
| Hard disk drive activity | Green | Flashing | Indicates that the associated hard disk drive is in use. |
| Power | Green | On | Indicates that power is flowing to IP/TV Server. |
| | | Flashing | Indicates that IP/TV Server is in standby mode. |

Figure 1-8 shows the location of the back panel LEDs, and Table 1-8 describes their function.

Figure 1-8 Cisco IP/TV 3426 Broadcast Server Back Panel LEDs

| | | | |
|---|---------------------|---|---------------------|
| 1 | Ethernet 1 link | 2 | Ethernet 1 activity |
| 3 | Ethernet 2 activity | 4 | Ethernet 2 link |
| 5 | Power | 6 | System error |

Table 1-8 Cisco IP/TV 3426 Broadcast Server Back Panel LEDs

| Indicator | Color | State | Description |
|------------------------|-------|----------|---|
| Ethernet 1 link status | Green | On | Indicates that the speed of the Ethernet LAN is 1000BASE-TX. |
| | | Off | Indicates that the speed of the Ethernet LAN is 10BASE-T/100BASE-TX. |
| Ethernet 1 activity | Green | Blinking | Indicates that there is an active link connection on the 10/100/1000BASE-T interface for Ethernet port 1. |
| Ethernet 2 activity | Green | Blinking | Indicates that there is an active link connection on the 10/100/1000BASE-T interface for Ethernet port 2. |
| Ethernet 2 link status | Green | On | Indicates that the speed of the Ethernet LAN is 1000BASE-TX. |
| | | Off | Indicates that the speed of the Ethernet LAN is 10BASE-T/100BASE-TX. |
| Power | Green | On | Indicates that the IP/TV Server power is on. |
| System error | Amber | Blinking | Indicates a memory or fan error. |



Note The video capture card does not have any LEDs.

Input/Output Ports and Connectors

The Cisco IP/TV 3426 Broadcast Server has the following I/O connectors:

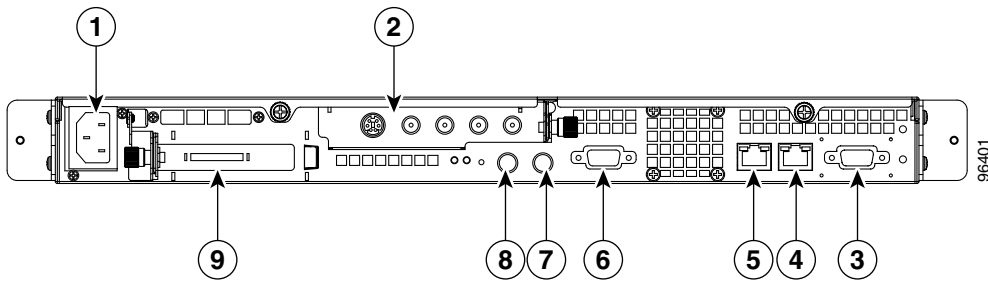
- Ethernet connectors
- Serial connector
- Audio and video connectors

**Warning**

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. Statement 1021

Figure 1-9 shows the location of the Cisco IP/TV 3426 Broadcast Server back panel ports and receptacles.

Figure 1-9 Cisco IP/TV 3426 Broadcast Server Back Panel Ports and Receptacles



| | | | |
|----------|-----------------------|----------|--|
| 1 | AC power receptacle | 2 | PCI slot 1; Winnov Videum 4400 AV video capture card and ports |
| 3 | Serial port | 4 | Ethernet 2 receptacle |
| 5 | Ethernet 1 receptacle | 6 | Onboard video port |
| 7 | Mouse port | 8 | Keyboard port |
| 9 | PCI slot 2 | | |

Table 1-9 describes the back panel ports and receptacles.

Table 1-9 Cisco IP/TV 3426 Broadcast Server Back Panel Ports and Connectors

| Item | Description |
|--|--|
| AC power receptacle | The AC power cord connects to this plug. |
| Ethernet 1 port | This 10/100/1000BASE-T port is autosensing with full-duplex capability; it connects IP/TV Server to the Ethernet LAN. |
| Ethernet 2 port | This 10/100/1000BASE-T port is autosensing with full-duplex capability; it connects IP/TV Server to the Ethernet LAN. |
| Serial port | This is a standard serial port. |
| Onboard video port | A monitor connects to this standard DB-15 video port. |
| Mouse and keyboard ports | A mouse and keyboard can be connected to these standard mouse and keyboard ports, which are color-coded. |
| Audio/video port (on video capture card) | <ul style="list-style-type: none"> • 4 BNC¹ connectors for composite video input • 8-pin mini-DIN connector for audio input |

1. BNC = Bayonet Neill-Concelman

Ethernet Port

The Cisco IP/TV 3426 Broadcast Server comes with one integrated dual-port Ethernet controller. This controller provides an interface for connecting to 10-Mbps, 100-Mbps, or 1000-Mbps networks and provides full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the Ethernet local-area network (LAN).

To access the Ethernet port, connect a Category 3, 4, or 5 unshielded twisted-pair (UTP) cable to the RJ-45 connector on the back of the device.



Note

The 100BASE-TX/1000BASE-TX Ethernet standard requires that the cabling in the network be Category 5 or higher.

Serial Port

The Cisco IP/TV 3426 Broadcast Server has one standard serial port.

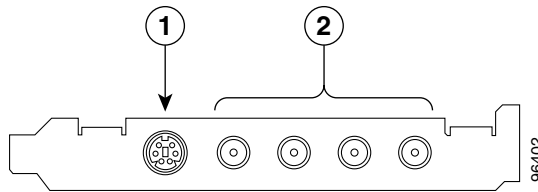
Audio and Video Ports and Connectors

The Cisco IP/TV 3426 Broadcast Server has a Winnov Videum 4400 AV video capture card installed in PCI-X slot 1.

Figure 1-10 shows the following five ports for the audio and video input/output:

- Four BNC ports for composite video input
- 8-pin mini-DIN connector for Sony/Philips Digital Interface (S/PDIF) and analog stereo audio output

Figure 1-10 Cisco IP/TV 3426 Broadcast Server—Audio and Video Connectors



| | | | |
|----------|--------------------------------------|----------|----------------|
| 1 | Mini DIN 4-channel stereo audio port | 2 | Video BNC port |
|----------|--------------------------------------|----------|----------------|

Cisco IP/TV 3427 Broadcast Servers

Cisco IP/TV 3427 Broadcast Servers are positioned as high-availability, high-performance video servers that support multiple video capture cards. These servers capture real-time and prerecorded content and stream it over the network using high-quality MPEG-4 compression techniques.

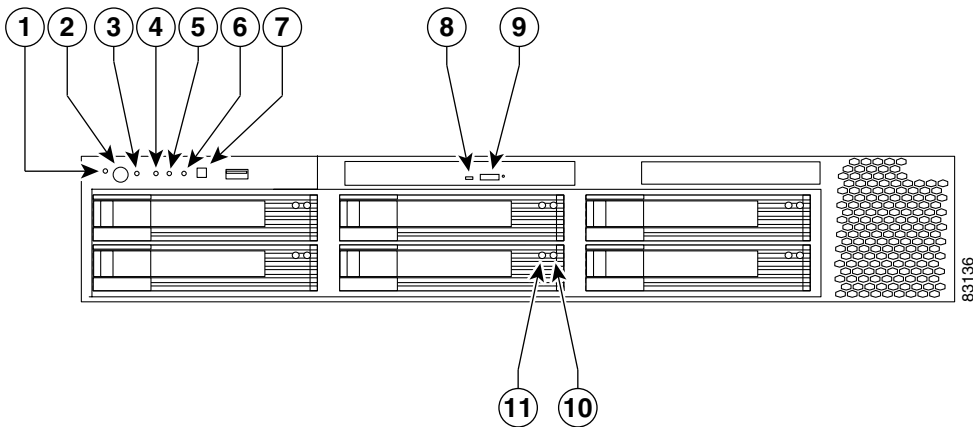
Cisco IP/TV 3427 Servers are available in three models: IP/TV 3427-C1, IP/TV 3427-C2, and IP/TV 3427-C3. These servers differ in the number and kind of media streams supported, and in the number and type of video capture cards installed. (See Table 1-1 for a description of the video capture cards and streaming support for IP/TV Broadcast Servers.)

Table A-2 on page A-3 lists the hardware specifications for the Cisco IP/TV 3427 Broadcast Servers.

Front Panel

Figure 1-11 shows the Cisco IP/TV 3427 Broadcast Server front panel controls and LEDs.

Figure 1-11 Cisco IP/TV 3427 Broadcast Server Front Panel Controls and LEDs



| | | | |
|---|--------------------------------------|----|------------------------------|
| 1 | Power on LED | 7 | System error LED |
| 2 | Power control button | 8 | CD-ROM drive activity LED |
| 3 | Reset button | 9 | CD eject button |
| 4 | SCSI or IDE bus activity LED | 10 | Hard disk drive status LED |
| 5 | System identification LED (not used) | 11 | Hard disk drive activity LED |
| 6 | Information LED | | |

Front Panel Control Buttons

Table 1-10 describes the Cisco IP/TV 3427 Broadcast Server front panel control buttons.

Table 1-10 Cisco IP/TV 3427 Broadcast Server Front Panel Control Buttons

| Item | | Description |
|------|----------------------|---|
| 2 | Power control button | Turns on IP/TV Server. To power down IP/TV Server, you might need to press the power button for a few seconds. |
| 3 | Reset button | Reboots IP/TV Server. You might need to use a pen or the end of a straightened paper clip to press the button. Note This is a hardware reset button and does not restore the device to the factory default software settings. |
| 9 | CD eject button | Releases a CD from the drive. The CD-ROM drive is used for software upgrades and disaster recovery. |

LED Indicators

Table 1-11 describes the Cisco IP/TV 3427 Broadcast Server front panel LEDs and their functions.

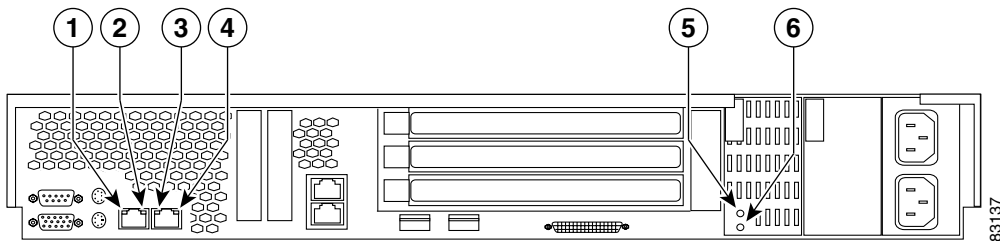
Table 1-11 Cisco IP/TV 3427 Broadcast Server Front Panel LEDs

| LED | | Color | State | Description |
|-----|--------------------------|-------|----------|---|
| 1 | Power on | Green | On | Indicates that power is flowing to IP/TV Server. |
| | | | Flashing | Indicates that IP/TV Server is in standby mode. |
| 4 | SCSI or IDE bus activity | Green | On | Indicates that there is activity on the SCSI or IDE bus. |
| 5 | System identification | Blue | Off | This LED is not used in IP/TV Server. |
| 6 | Information | Amber | On | Indicates that the information log contains information about certain conditions in IP/TV Server that might affect performance. |
| 7 | System error | Amber | On | Indicates that a system error has occurred. An LED on the diagnostic LED panel will also be on to further isolate the error. |
| 8 | CD-ROM drive activity | Green | On | Indicates that the CD-ROM drive is in use. |

Table 1-11 Cisco IP/TV 3427 Broadcast Server Front Panel LEDs (continued)

| LED | | Color | State | Description |
|-----|--------------------------|-------|----------|---|
| 10 | Hard disk drive status | Amber | On | Indicates that the drive has failed. |
| | | | Flashing | Indicates that the controller is identifying the drive. |
| 11 | Hard disk drive activity | Green | Flashing | Indicates that the controller is accessing the drive. |

Figure 1-12 shows the location of the back panel LEDs, and Table 1-12 describes the LED functions.

Figure 1-12 Cisco IP/TV 3427 Broadcast Server Back Panel LEDs**Table 1-12 Cisco IP/TV 3427 Broadcast Server Back Panel LEDs**

| Indicator | | Color | State | Description |
|-----------|------------------------|-------|-------|--|
| 1 | Ethernet 1 activity | Green | On | Indicates that IP/TV Server is transmitting or receiving signals from the Ethernet LAN that is connected to Ethernet port 1. |
| 2 | Ethernet 1 link status | Green | On | Indicates that there is an active link connection on the 10BASE-T, 100BASE-TX, or 1000BASE-T interface for Ethernet port 1. |
| 3 | Ethernet 2 activity | Green | On | Indicates that IP/TV Server is transmitting or receiving signals from the Ethernet LAN that is connected to Ethernet port 2. |

Table 1-12 Cisco IP/TV 3427 Broadcast Server Back Panel LEDs (continued)

| Indicator | Color | State | Description | |
|-----------|------------------------|-------|-------------|---|
| 4 | Ethernet 2 link status | Green | On | Indicates there is an active link connection on the 10BASE-T, 100BASE-TX, or 1000BASE-T interface for Ethernet port 2. |
| 5 | AC power | Green | On | Provides status information about the power supply. During typical operation, both the AC and the DC power LEDs are on. |
| 6 | DC power | Green | On | Provides status information about the power supply. During typical operation, both the AC and the DC power LEDs are on. |

**Note**

The video capture cards do not have any LEDs.

Input/Output Ports and Connectors

The Cisco IP/TV 3427 Broadcast Servers have the following I/O connectors:

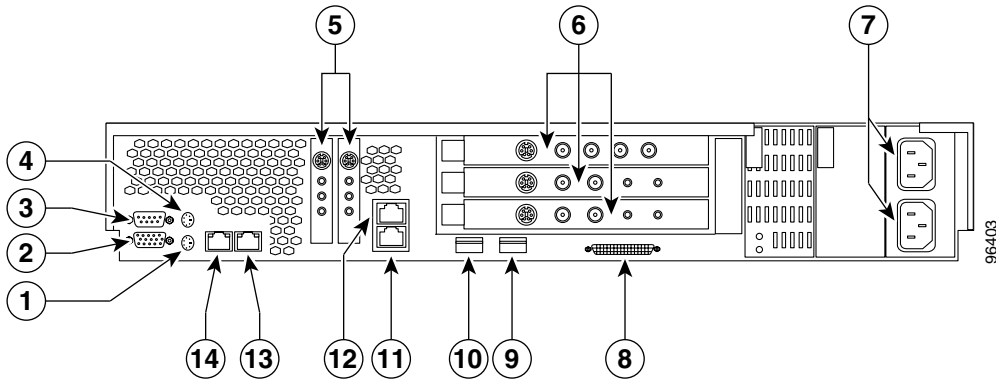
- One dual-channel Ultra320 SCSI controller low-voltage differential (LVD) SCSI port
- One serial port
- Two Ethernet ports
- Audio and video connectors

**Warning**

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. Statement 1021

Figure 1-13 shows the Cisco IP/TV 3427 Broadcast Server back panel, and Table 1-13 describes the back panel ports and connectors.

Figure 1-13 Cisco IP/TV 3427 Broadcast Server Back Panel Ports and Connectors



| | | | |
|---|---|----|--|
| 1 | Keyboard connector | 8 | SCSI ¹ connector |
| 2 | Onboard video port | 9 | USB ² 2 (not supported) |
| 3 | Serial port | 10 | USB 1 (not supported) |
| 4 | Mouse connector | 11 | ISMP ³ port (not supported) |
| 5 | PCI ⁴ slots 1 and 2 (Winnov Videum 1010 Plus video capture cards) | 12 | ISMP port (not supported) |
| 6 | PCI slots 3 (Winnov Videum 4400 AV video capture card), 4, and 5 (Optibase MovieMaker 200S Networker video capture cards) | 13 | Ethernet 2 |
| 7 | AC power receptacles | 14 | Ethernet 1 |

1. SCSI = Small Computer System Interface
2. USB = Universal Serial Bus
3. ISMP = Integrated System Management Processor
4. PCI = Peripheral Component Interconnect

Table 1-13 Cisco IP/TV 3427 Broadcast Server Ports and Receptacles

| Item | Description |
|----------------------|--|
| AC power receptacles | Connect the AC power cords to these plugs. |
| DC power receptacles | Connect IP/TV Server to the DC power source. |

Table 1-13 Cisco IP/TV 3427 Broadcast Server Ports and Receptacles (continued)

| Item | Description |
|------------------------|---|
| Ethernet 1 port | This 10/100/1000BASE-T port is autosensing with full-duplex capability; it connects IP/TV Server to the Ethernet LAN. |
| Ethernet 2 port | This 10/100/1000BASE-T port is autosensing with full-duplex capability; it connects IP/TV Server to the Ethernet LAN. |
| Serial port | This is a standard serial port. |
| SCSI port | This is a standard SCSI port. |
| Audio and video inputs | These input sockets connect IP/TV Server to audio and video sources. |

Gigabit Ethernet Port

The Cisco IP/TV 3427 Broadcast Server comes with two integrated Gigabit Ethernet controllers. These controllers provide an interface for connecting to 10-Mbps, 100-Mbps, or 1000-Mbps networks and provide full-duplex (FDX) capability, which enables simultaneous transmission and reception of data on the Ethernet LAN.

To access the Ethernet port, connect a Category 3, 4, or 5 unshielded twisted-pair (UTP) cable to the RJ-45 connector on the back of the device.



Note

The 100BASE-TX/1000BASE-T standard requires that the cabling in the network be Category 5 or higher.

Serial Port

The Cisco IP/TV 3427 Broadcast Server has one standard serial port.

SCSI Port

The Cisco IP/TV 3427 Broadcast Server has one SCSI LVD port connector located on the back panel.

Audio and Video Ports and Connectors

[Table 1-14](#) describes the connectors used for the video capture cards in the Cisco IP/TV 3427 Broadcast Servers.

Table 1-14 IP/TV 3427 Broadcast Servers—Video Capture Card Connectors

| Video Capture Card | Connectors |
|------------------------------------|---|
| Winnov Videum 4400 AV | <ul style="list-style-type: none"> • 4 BNC connectors for composite video inputs • 8-pin mini-DIN connector for Sony/Philips Digital Interface (S/PDIF) and analog stereo audio output |
| Winnov Videum 1010 Plus | <ul style="list-style-type: none"> • 1 BNC connector for composite video input • 4-channel audio cable (with 8-pin mini-DIN connector and 4 stereo 1/4-inch [6.35-mm] mini-jack using a breakout cable) |
| Optibase MovieMaker 200S Networker | <ul style="list-style-type: none"> • BNC-to-RCA¹ connector for composite video input • S-video mini-DIN connector for S-video input • Mini-jack stereo audio-to-RCA connector |

1. RCA = Radio Corporation of America

Server Accessory Kits

Table 1-15 lists the connecting cables in the server accessory kits that come with Cisco IP/TV 3400 Series Servers.

Table 1-15 IP/TV Server Accessory Kit Connecting Cables

| Server | Contents |
|---|---|
| Cisco IP/TV 3425 Broadcast Server, and 3425A Broadcast Server | <ul style="list-style-type: none"> • Category 5 UTP network cable with RJ-45 connectors for an Ethernet LAN • BNC-to-RCA cable • RCA male-to-male cable • S-video 4-pin mini-DIN cable • PS/2 mouse adapter cable¹ • PS/2 keyboard adapter cable¹ • Power cable |
| Cisco IP/TV 3426 Broadcast Server | <ul style="list-style-type: none"> • Category 5 UTP network cable with RJ-45 connectors for an Ethernet LAN • BNC-to-RCA cables • S-video 4-pin mini-DIN cables • 4 channel audio cable (with 8-pin mini-DIN connector and 4 stereo 1/4-in. [6.35-mm] mini-jacks using a breakout cable) • Mini-jack stereo audio-to-RCA cables • Audio splitter cable • Power cable |

Table 1-15 IP/TV Server Accessory Kit Connecting Cables (continued)

| Server | Contents |
|--------------------------------------|---|
| Cisco IP/TV 3427-C1 Broadcast Server | <ul style="list-style-type: none"> • Category 5 UTP network cable with RJ-45 connectors for an Ethernet LAN • RCA male-to-male cable • MXC-to-composite and S-video adapter cables • S-video 4-pin mini-DIN cables • Mini-jack stereo audio-to-RCA cables • BNC-to-RCA cables • 4-channel audio cable (with 8-pin mini-DIN connector and 4 stereo 1/4-inch [6.35-mm] mini-jacks using a breakout cable) • Audio splitter cable • Power cable |

Table 1-15 IP/TV Server Accessory Kit Connecting Cables (continued)

| Server | Contents |
|--------------------------------------|--|
| Cisco IP/TV 3427-C2 Broadcast Server | <ul style="list-style-type: none"> • Category 5 UTP network cable with RJ-45 connectors for an Ethernet LAN • RCA male-to-male cable • MXC-to-composite and S-video adapter cable • S-video 4-pin mini-DIN cables • Mini-jack stereo audio-to-RCA cable • BNC-to-RCA cables • 4-channel audio cable (with 8-pin mini-DIN connector and 4 stereo 1/4-in. [6.35-mm] mini-jack using a breakout cable) • Mini-jack stereo audio-to-RCA cables • Audio splitter cable • Power cables |
| Cisco IP/TV 3427-C3 Broadcast Server | <ul style="list-style-type: none"> • Category 5 UTP network cable with RJ-45 connectors for an Ethernet LAN • RCA male-to-male cable • MXC-to-composite and S-video adapter cable • S-video 4-pin mini-DIN cables • BNC-to-RCA cables • Mini-jack stereo audio-to-RCA cables • Power cables |

1. Available only with Cisco IP/TV 3425 and 3425A Broadcast Server accessory kits

Partition Configuration

The hard disk of the Cisco IP/TV 3400 Series Server contains three partitions. The first partition of 2 GB contains the operating system. The second partition is the data partition. The third partition of 1 GB contains the image used to reboot the system in the event of a system failure.

The Cisco IP/TV 3426, 3427-C1, 3427-C2, and 3427-C3 Broadcast Servers have only two partitions. The first partition of 2 GB contains the operating system. The second partition is the data partition.

IP/TV Program Manager

IP/TV Program Manager is a Linux-based application running on Cisco Content Engine hardware models CE-565 and CE-7305. Refer to the *Cisco Content Engine 510 and 565 Hardware Installation Guide* and the *Cisco Content Engine 7305 and 7325 Hardware Installation Guide* for detailed instructions on installing the Content Engine hardware.

In IP/TV Release 5.1, IP/TV Program Manager is a device mode of the Cisco Content Engine. By default, a Content Engine is set to function as a Content Engine. You can change the device mode of the Content Engine to IP/TV Program Manager by entering the **device mode program-manager** global configuration command. Refer to the *Cisco ACNS Software Program Manager for IP/TV User Guide Release 5.1* for detailed information on setting the CE-565 and CE-7305 to function as IP/TV Program Manager.



Preparing to Install the IP/TV Server



Warning

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

This chapter contains important safety information you should know before working with Cisco IP/TV 3400 Series Servers. Use the following guidelines to ensure your own personal safety and to help protect your Cisco IP/TV Server from potential damage.

Read the *Regulatory Compliance and Safety Information for Cisco IP/TV 3400 Series Servers* document that came with your Cisco IP/TV Server before you begin the installation.

This chapter contains the following sections:

- [Safety Warnings, page 2-2](#)
- [Safety Guidelines, page 2-4](#)

Safety Warnings

Before you install Cisco IP/TV Server, observe the following safety warnings.



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030



Warning

Read the installation instructions before connecting the system to the power source. Statement 1004



Warning

Before working on a system that has an on/off switch, turn OFF the power and unplug the power cord. Statement 1



Warning

This unit might have more than one power supply connection. All connections must be removed to de-energize the unit. Statement 1028



Warning

This unit is intended for installation in restricted access areas. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock and key, or other means of security, and is controlled by the authority responsible for the location. Statement 37



Warning

To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables. Statement 1021



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors). Statement 13

**Warning**

This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024

**Warning**

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals. Statement 43

**Warning**

When installing or replacing the unit, the ground connection must always be made first and disconnected last. Statement 1046

**Warning**

The safety cover is an integral part of the product. Do not operate the unit without the safety cover installed. Operating the unit without the cover in place will invalidate the safety approvals and pose a risk of fire and electrical hazards. Statement 117

**Warning**

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place. Statement 1029

**Warning**

There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Statement 1015

**Warning**

Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040

**Warning**

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- **This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**
 - **When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**
 - **If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.** Statement 1006
-

Safety Guidelines

To reduce the risk of bodily injury, electrical shock, fire, and damage to the equipment, observe the following precautions.

General Precautions

Observe the following general precautions for using and working with your system:

- Observe and follow service markings. Do not service any Cisco product except as explained in your system documentation. Opening or removing covers that are marked with the triangular symbol with a lightning bolt may expose you to electrical shock. Components inside these compartments should be serviced only by an authorized service technician.
- If any of the following conditions occur, unplug the product from the electrical outlet and replace the part or contact your authorized service provider:
 - The power cable, extension cord, or plug is damaged.
 - An object has fallen into the product.
 - The product has been exposed to water.
 - The product has been dropped or damaged.
 - The product does not operate correctly when you follow the operating instructions.
- Keep your system components away from radiators and heat sources. Also, do not block cooling vents.
- Do not spill food or liquids on your system components, and never operate the product in a wet environment.
- Do not push any objects into the openings of your system components. Doing so can cause fire or electric shock by shorting out interior components.
- Use the product only with other Cisco-approved equipment.
- Allow the product to cool before removing covers or touching internal components.
- Use the correct external power source. Operate the product only from the type of power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your service representative or local power company.

- Use only approved power cables. If you have not been provided with a power cable for your IP/TV server or for any AC-powered option intended for your system, purchase a power cable that is approved for use in your country. The power cable must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cable should be greater than the ratings marked on the product.
- To help prevent electric shock, plug the system components and peripheral power cables into properly grounded electrical outlets. These cables are equipped with three-prong plugs to help ensure proper grounding. Do not use adapter plugs or remove the grounding prong from a cable. If you must use an extension cord, use a three-wire cord with properly grounded plugs.
- Observe extension cord and power strip ratings. Make sure that the total ampere rating of all products plugged into the extension cord or power strip does not exceed 80 percent of the extension cord or power strip ampere ratings limit.
- Do not use appliance or voltage converters or kits sold for appliances with your product.
- To help protect your system components from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).
- Position cables and power cords carefully; route cables and the power cord and plug so that they cannot be stepped on or tripped over. Be sure that nothing rests on your system components' cables or power cord.
- Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local or national wiring rules.

System Reliability Considerations

To help ensure proper cooling and system reliability, make sure of the following points:

- Each of the drive bays has either a drive or a filler panel installed.
- Each of the power-supply bays has a power supply or a power supply filler panel installed.

- For rack configurations, make sure that space is available around the IP/TV Server to enable the IP/TV Server cooling system to work properly. See the documentation that comes with the rack for additional information.
- The IP/TV Server cover is in place during normal operation.
- The air baffle cover over the microprocessors remains closed during normal operation.
- The air baffle is installed between the fans and the power supply.
- Cables for optional adapters are routed according to the instructions provided with the adapters.
- A failed fan is replaced within 48 hours.
- IP/TV Server is turned off and the power cords are disconnected before you open the air baffle cover.
- The air baffle assembly is always installed in IP/TV Server except when you are installing or removing the components that are located under the air baffle cover.
- When the air baffle assembly is installed in IP/TV Server, the air baffle cover is always closed.
- Microprocessor socket 2 always contains either a microprocessor baffle or a microprocessor.

Protecting Against Electrostatic Discharge

Static electricity can harm delicate components inside the IP/TV Server. To prevent static damage, discharge static electricity from your body before you touch any of your system's electronic components. You can do so by touching an unpainted metal surface on the chassis.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

- When unpacking a static-sensitive component from its shipping carton, do not remove the component from the antistatic packing material until you are ready to install the component in your system. Just before unwrapping the antistatic packaging, be sure to discharge static electricity from your body.
- When transporting a sensitive component, first place it in an antistatic container or packaging.

- Handle all sensitive components in a static-safe area. If possible, use antistatic floor pads and workbench pads.
- Handle the device carefully, holding it by its edges or its frame.
- Do not touch solder joints, pins, or exposed printed circuitry.
- Do not leave the device where others can handle and possibly damage the device.
- Take additional care when handling devices during cold weather, because heating reduces indoor humidity and increases static electricity.

Rack Installation Safety Guidelines

Before installing IP/TV Server in a rack, review the following guidelines:

- Two or more people are required to install the device in a rack.
- Ensure that the room air temperature is below 95°F (35°C).
- Do not block any air vents; usually 6 inches (15 cm) of space provides proper airflow.
- Plan the device installation starting from the bottom of the rack.
- Install the heaviest device in the bottom of the rack.
- Do not extend more than one device out of the rack at the same time.
- Remove the rack doors and side panels to provide easier access during installation.
- Connect the IP/TV Server to a properly grounded outlet.
- Do not overload the power outlet when installing multiple devices in the rack.
- Do not place any object weighing more than 110 lb (50 kg) on top of rack-mounted devices.



Installing the IP/TV Server

This chapter explains how to install the Cisco IP/TV 3400 Series Servers in an equipment rack. It also provides general instructions for installing IP/TV Server on a table or workbench. This chapter contains the following sections:

- [Rack-Mounting Considerations, page 3-2](#)
- [Installing Cisco IP/TV 3425 and 3425A Server Units, page 3-3](#)
- [Installing Cisco IP/TV 3426 Broadcast Server Units, page 3-9](#)
- [Installing Cisco IP/TV 3427 Broadcast Server Units, page 3-19](#)
- [Installing the IP/TV Server on a Tabletop, page 3-30](#)
- [Connecting Cables to Video Capture Cards, page 3-31](#)
- [Checking the LEDs, page 3-35](#)
- [Removing or Replacing an IP/TV Server, page 3-36](#)

Before you begin the installation, read the *Cisco IP/TV Regulatory Compliance and Safety Information* document that shipped with your chassis.



Warning

Read the installation instructions before connecting the system to the power source. Statement 1004

Rack-Mounting Considerations

**Warning**

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- **This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**
 - **When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**
 - **If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.** Statement 1006
-

Before installing your IP/TV Server in a rack, review the following guidelines:

- Two or more people are required to install the device in a rack.
- Ensure that the room air temperature is below 95°F (35°C).
- Do not block any air vents; usually 6 inches (15 cm) of space provides proper airflow.
- Do not extend more than one device out of the rack at the same time.
- Remove the rack doors and side panels to provide easier access during installation.
- Connect the IP/TV Server to a properly grounded outlet.
- Do not overload the power outlet when installing multiple devices in the rack.
- Do not place any object weighing more than 110 lb (50 kg) on top of rack-mounted devices.

**Caution**

Use safe practices when lifting.

Installing Cisco IP/TV 3425 and 3425A Server Units

Place the unit in the desired location. You can mount it in a rack for your convenience, or place it on a solid, stable surface. If you do not plan to install the IP/TV Server in an equipment rack, proceed to the [“Installing the IP/TV Server on a Tabletop”](#) section on page 3-30.

This sections discusses the following topics:

- [Tools and Parts Required](#)
- [Attaching the Mounting Brackets](#)
- [Installing the Chassis in a Rack](#)
- [Connecting Cables](#)
- [Connecting Power and Booting the System](#)

Tools and Parts Required

A rack-mount and cable-management kit is included in your shipping container accessory box. The rack-mount brackets in the kit are suitable for mounting Cisco IP/TV 3425 and 3425A Server units in 19-inch (48.26-cm) or 23-inch (58.42-cm) 4-post or 2-post equipment racks.

You need the following parts and tools to install an IP/TV Server in a rack:

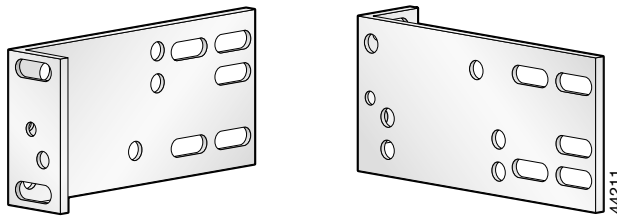
- Phillips screwdriver
- One rack-mount kit, which includes:
 - Two rack-mount brackets
 - Four 12-24 x 0.50-inch (12.7-mm) flat-head Phillips rack screws
 - Four 18-8 x 0.37-inch (9.4-mm) flat-head Phillips bracket screws for 19-inch (48.3-cm) racks
 - Four 8 x 0.375-inch (9.5-mm) round-head Phillips bracket screws for 23-inch (58.4-cm) racks
 - One cable holder and screw (installation optional)
 - Four self-adhesive feet (for optional tabletop installation)
- One power cable

- One monitor cable
- Documentation

Attaching the Mounting Brackets

The chassis mounts to two rack posts with brackets that attach to the front, mid, or rear sides of the chassis. The brackets for 19-inch (48.26-cm) and 23-inch (58.42-cm) racks are the same; however, they are mounted differently on the chassis. (See [Figure 3-1](#).) Brackets for a 19-inch (48.26-cm) equipment rack require four rack screws in each bracket, and brackets for a 23-inch (58.42-cm) equipment rack require two screws in each bracket.

Figure 3-1 Rack-Mount Brackets



Orientation for 19-inch rack Orientation for 23- or 24-inch rack

[Figure 3-2](#), [Figure 3-3](#), and [Figure 3-4](#) show the three bracket mounting positions on the chassis. The brackets are oriented for a 19-inch (48.26-cm) equipment rack.

Figure 3-2 Bracket Position for Front Mount

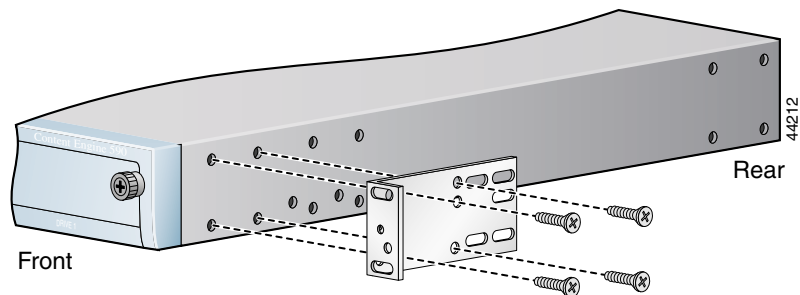
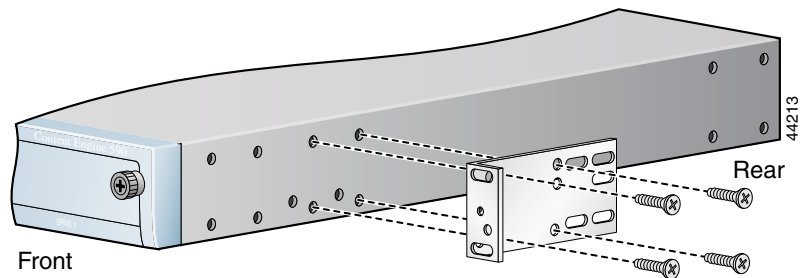
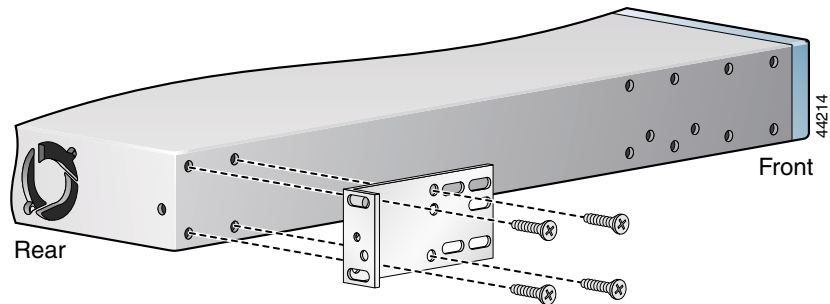
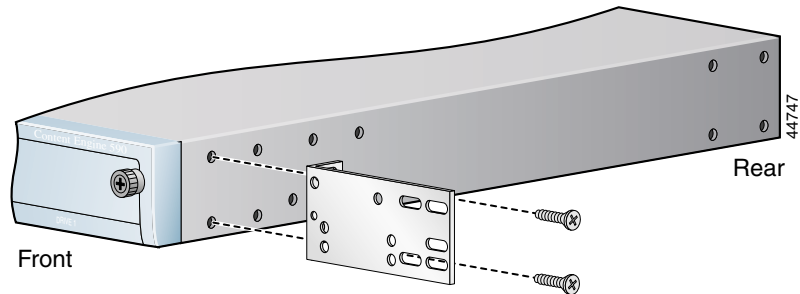


Figure 3-3 Bracket Position for Mid Mount**Figure 3-4 Bracket Position for Rear Mount****Note**

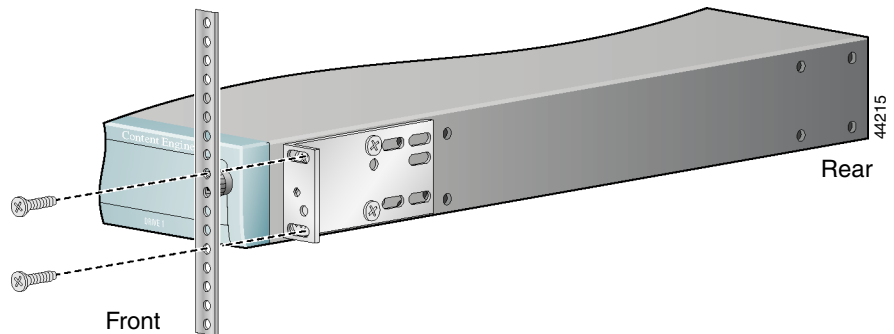
For a rear mount, the rear of the chassis is turned to face the front of the rack.

Figure 3-5 shows the bracket orientation for a front mount in a 23-inch (58.42-cm) equipment rack.

Figure 3-5 Bracket Orientation for a 23-Inch (58.42-cm) Rack

Installing the Chassis in a Rack

After you secure the brackets to the chassis, rack-mount the chassis by securing the brackets to two posts or mounting strips in the rack. (See [Figure 3-6](#).) You need two people to install the chassis in the rack—one person to hold the chassis and one person to secure it to the rack.

Figure 3-6 Installing the Chassis in the Rack

Note: The second bracket attaches to the other side of the chassis.

The inlet and exhaust ports for cooling air are located in the front and rear of the chassis, respectively; therefore, multiple IP/TV Servers can be stacked with little or no vertical clearance.

Connecting Cables

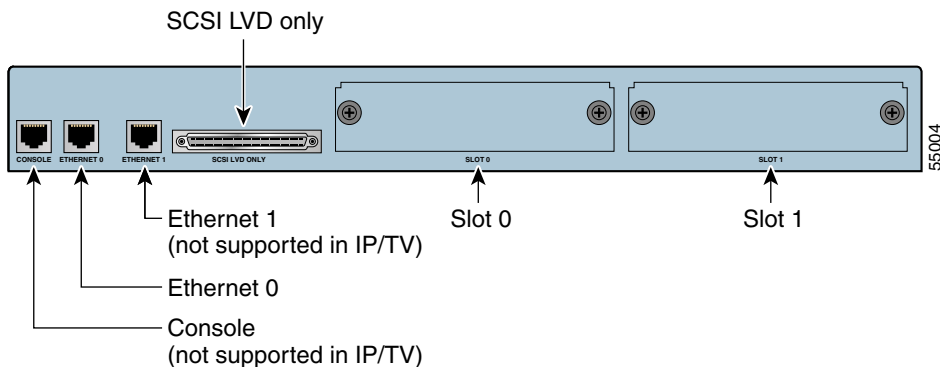
To connect network, monitor, keyboard, and mouse cables to the Cisco IP/TV Server, follow these steps:

-
- Step 1** Plug the monitor cable into the onboard video port on the IP/TV Server back panel.
 - Step 2** Connect the other end of the monitor cable to a monitor.
 - Step 3** Connect a keyboard and mouse to the keyboard port and mouse ports on the IP/TV Server back panel.
 - Step 4** For network connections, insert a Category 5 UTP cable into the Ethernet port labeled “Ethernet 0” on the IP/TV Server front panel. (See [Figure 3-7](#).) When active, the System LED on the left front corner of the Cisco IP/TV 3400 Series Server is lit.



Note The console port and Ethernet port 1 are not used by Cisco IP/TV 3400 Series Servers.

Figure 3-7 Cisco IP/TV 3425 and 3425A Servers—Front Panel Connectors



- Step 5** Connect the other end of the network cable to a hub or switch in your network.
-

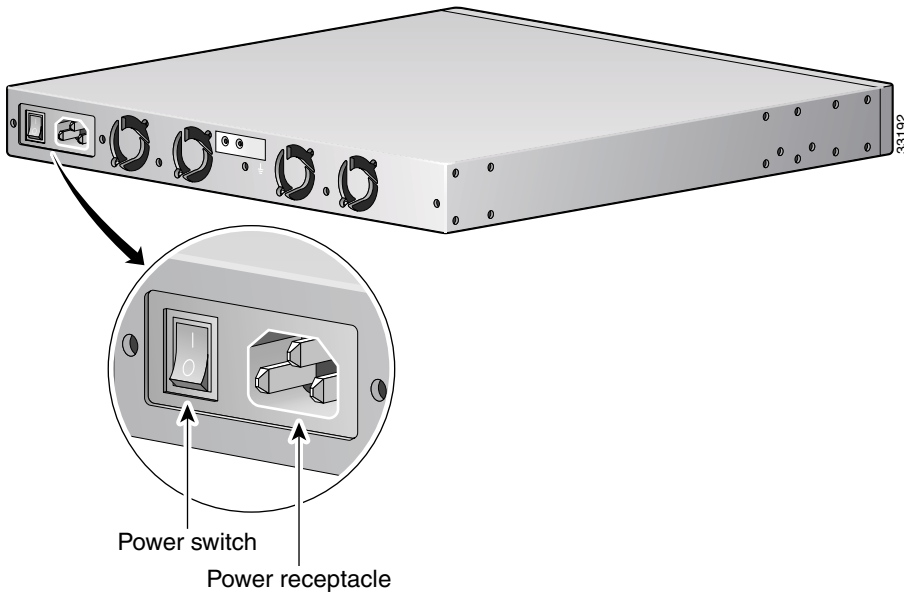
Connecting Power and Booting the System

To connect AC power to the IP/TV Server, follow these steps:

- Step 1** Plug the AC power cord into the power cord receptacle on the back of the IP/TV Server. (See [Figure 3-8](#).)
- Step 2** Connect the other end of the power cord to a power source at your installation site.
- Step 3** Power on the device.

The system should begin booting. Once the operating system boots, you are ready to configure the IP/TV Server. (See [Chapter 4](#), “[Setting IP/TV Server Configuration Parameters](#).”)

Figure 3-8 Cisco IP/TV 3425 and 3425A Servers—Rear View



Installing Cisco IP/TV 3426 Broadcast Server Units

Place the unit in the desired location. You can mount the IP/TV Server unit in a rack for your convenience, or place it on a solid, stable surface. If you do not plan to install the IP/TV Server in an equipment rack, proceed to the [“Installing the IP/TV Server on a Tabletop”](#) section on page 3-30.

This section discusses the following topics:

- [Rack Requirements](#)
- [Tools and Parts Required](#)
- [Installing the Chassis in the Rack](#)
- [Connecting Cables](#)
- [Connecting Power and Booting the System](#)

Rack Requirements

Install your IP/TV Server in a rack that meets the following requirements:

- Four posts, 19 inches (48.3 cm) wide
- Minimum depth of 28.27 inches (71.8 cm) and maximum depth of 30 inches (76.2 cm) between the front and rear mounting flanges
- Minimum depth of 2.76 inches (7.0 cm) between the front mounting flange and inside of the front door (for cabinet-style racks)
- Minimum depth of 6.18 inches (15.7 cm) between the rear mounting flange and inside of the rear door (for cabinet-style racks)

Racks are marked in vertical increments of 1.75 inches (4.44 cm). Each increment is referred to as a rack unit (RU). A 1-RU device is 1.75 inches (4.44 cm) tall.

Tools and Parts Required

A sliding rail rack-mount kit and cable management assembly is included in your shipping container accessory box. The rack-mount kit is suitable for mounting IP/TV 3426 Broadcast Server units in 19-inch (48.26-cm) 4-post equipment racks.

**Note**

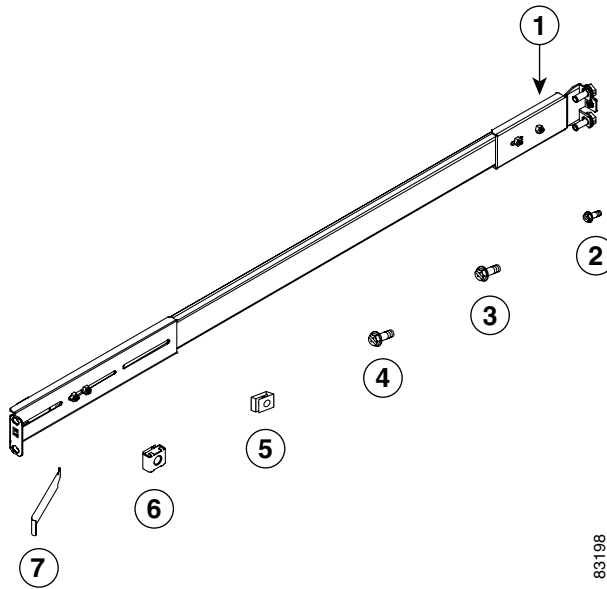
A 2-post rack-mounting option contains angle brackets for attaching the chassis to a 2-post rack.

You need the following parts and tools to install the IP/TV Server in a rack:

- Flat-blade screwdriver
- Phillips screwdriver
- One rack-mount kit
- Documentation

[Figure 3-9](#) shows the items that you need to install the Cisco IP/TV 3426 Broadcast Server in a rack. If any items are missing or damaged, contact your place of purchase.

Figure 3-9 Rack Installation Kit for IP/TV 3426 Broadcast Server



| | | | |
|---|-----------------------------|---|-----------------------------------|
| 1 | Slide rail assemblies (2) | 2 | M3.5 screws with lock washers (3) |
| 3 | M4 screws (6) | 4 | M6 screws (10) |
| 5 | Clip nuts (10) | 6 | Cage nuts (10) |
| 7 | Cage nut insertion tool (1) | | |

**Note**

The right and left slide rails are identical.

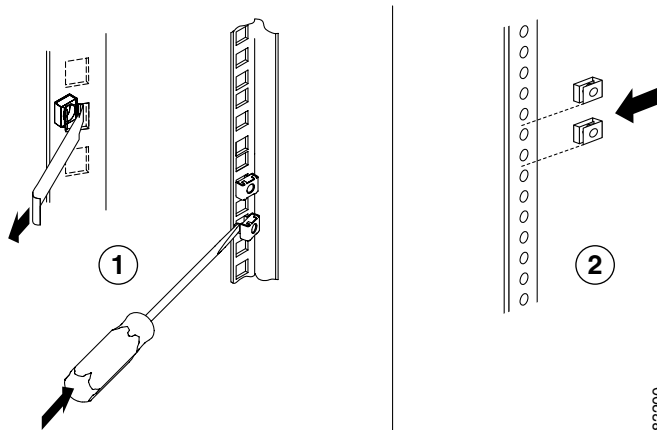
Installing the Chassis in the Rack

To install the IP/TV Server in the rack, follow these steps:

- Step 1** Select a 1-RU-size location in the rack. Starting with the right front side of the rack (as viewed from the front of the IP/TV Server), install a clip nut or cage nut in the top and bottom positions of the 1-RU location that you selected (see [Figure 3-10](#)) and then install a clip nut or cage nut in the corresponding positions on the rear of the rack.

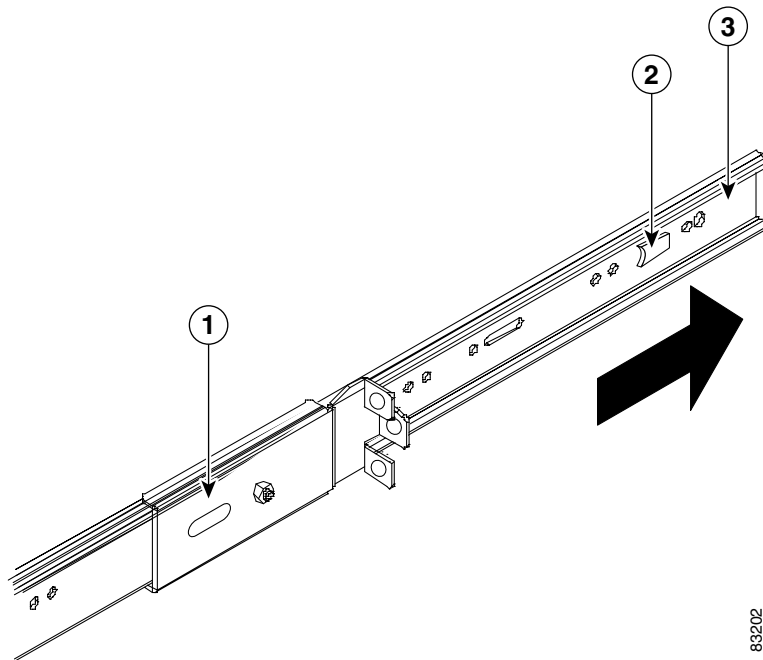
Repeat this step for the left front side of the rack and the corresponding location on the rear of the rack.

Figure 3-10 *Installing Clip Nuts or Cage Nuts*



| | | | |
|----------|-----------|----------|-----------|
| 1 | Cage nuts | 2 | Clip nuts |
|----------|-----------|----------|-----------|

- Step 2** Remove the inner slide rails from the slide rail assemblies by pressing the release latches on the sides of the slide rail assemblies. (See [Figure 3-11](#).)

Figure 3-11 Removing the Inner Slide Rail

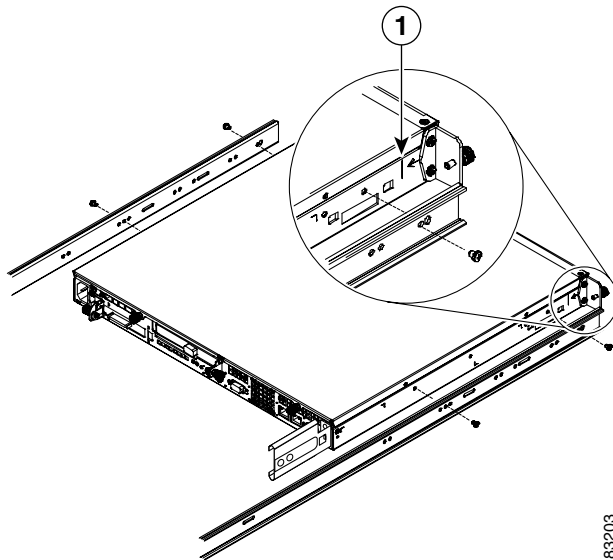
83202

| | | | |
|----------|---------------------|----------|---------------|
| 1 | Slide rail assembly | 2 | Release latch |
| 3 | Inner slide rail | | |

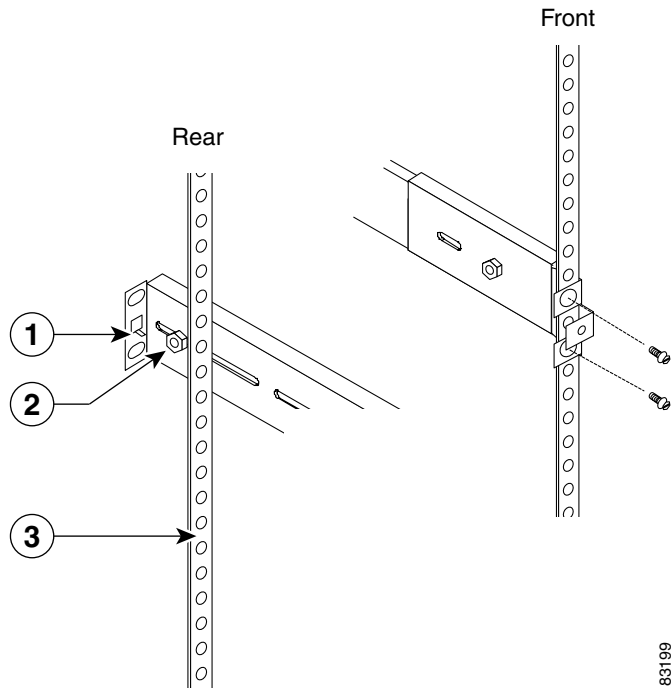
Step 3 Place an inner slide rail at the alignment marker (labeled 1 in [Figure 3-12](#)) as indicated by the arrow on the side of the IP/TV Server. Use two M4 screws to secure the inner slide rail to the IP/TV Server.

Repeat this step to attach the other inner slide rail to the IP/TV Server.

Figure 3-12 Attaching the Inner Slide Rail to the IP/TV Server



- Step 4** Insert the tab (labeled 1 in [Figure 3-13](#)) on the rear of the slide rail assembly through the center hole between the two clip nuts or cage nuts on the rear flange.

Figure 3-13 Attaching the Slide Rails to the Rack

| | | | |
|----------|-------------|----------|------------------|
| 1 | Tab | 2 | Adjustment screw |
| 3 | Rear flange | | |

Step 5 Align the slide rail assembly to the front flange on the rack and insert and tighten two M6 screws to secure the slide rail to the front flange. (See [Figure 3-13](#).)

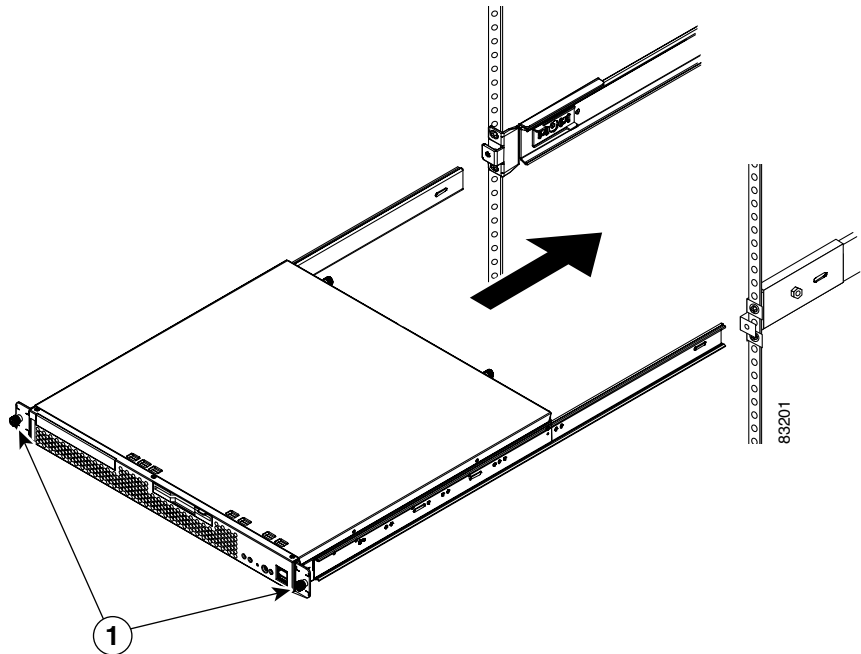
Repeat [Step 4](#) and [Step 5](#) to install the other slide rail assembly.



Note If it is necessary to adjust the length of the slide rail, loosen the adjustment screw (labeled 2 in [Figure 3-13](#)) on the rear of the slide rail; then adjust the length of the slide rail and tighten the adjustment screw.

- Step 6** Align and insert the inner slide rails into the slide rail assemblies until they lock into place.
- Step 7** Slide the IP/TV Server into the rack until the IP/TV Server locks into place.
- Step 8** Tighten the captive screw (labeled 1 in [Figure 3-14](#)) on each side of the front of the IP/TV Server to secure the IP/TV Server to the rack.

Figure 3-14 Inserting the Inner Slide Rails



Step 9 Attach the power cords and the Ethernet cables to the IP/TV Server.

Because the IP/TV Server does not contain cable retention brackets or cable strain relief brackets, you must first bundle the external cables before you route them.



Note Leave enough slack in the cables to allow for sliding the IP/TV Server in or out of the cabinet.

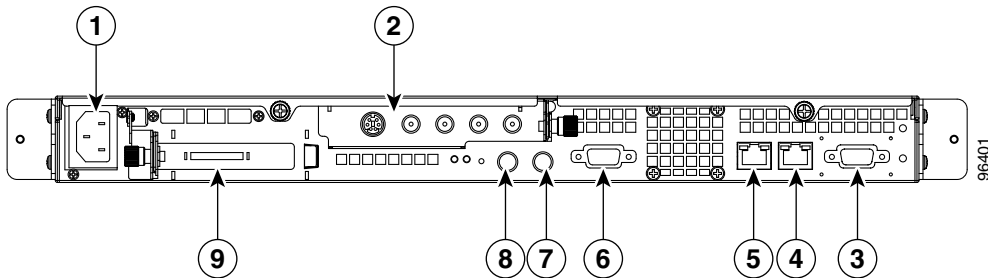
To remove the IP/TV Server from the rack, reverse these instructions. Store these installation instructions with your IP/TV Server documentation for future use.

Connecting Cables

To connect network, monitor, keyboard, and mouse cables to your IP/TV Server, follow these steps:

-
- Step 1** For network connections, insert a Category 5 UTP cable into the Ethernet 1 or Ethernet 2 receptacle on the IP/TV Server back panel. (See [Figure 3-15](#).)
 - Step 2** Connect the other end of the network cable to a hub or switch in your network.
 - Step 3** For monitor connections, plug the monitor cable into the onboard video port of the IP/TV Server back panel. (See [Figure 3-15](#).)
 - Step 4** Connect the other end of the monitor cable to a monitor.
 - Step 5** Plug the keyboard and mouse cables into the keyboard port and mouse port, respectively. (See [Figure 3-15](#).)

Figure 3-15 IP/TV 3426 Broadcast Server Back Panel Ports and Receptacles



| | | | |
|---|------------------------------|---|---------------------------------------|
| 1 | AC power receptacle | 2 | Winnov Videum 4400 video capture card |
| 3 | Serial port | 4 | Ethernet 2 receptacle |
| 5 | Ethernet 1 receptacle | 6 | Onboard video port |
| 7 | Mouse port | 8 | Keyboard port |
| 9 | PCI 2; SCSI adapter and port | | |

Connecting Power and Booting the System

To connect power to your system, follow these steps:

- Step 1** Review the information in the [“Safety Warnings”](#) section on page 2-2.
- Step 2** Plug the power cord into the power cord receptacle on the back of the IP/TV Server. (See [Figure 3-15](#).)
- Step 3** Connect the other end of the power cord to a power source at your installation site.
- Step 4** Power up all externally connected devices.

Step 5 Press the power control button on the front of the IP/TV Server.

The system should begin booting. Once the operating system boots, you are ready to configure the IP/TV Server. (See [Chapter 4, “Setting IP/TV Server Configuration Parameters.”](#))



Note While the IP/TV Server is powering up, the green power on LED on the front of the IP/TV Server is on.



Note You can install a circular disk over the power control button to prevent accidental manual power down. This disk, known as the power control button shield, comes with your IP/TV Server.

Installing Cisco IP/TV 3427 Broadcast Server Units

Place the unit in the desired location. You can mount it in a rack for your convenience, or place it on a solid, stable surface. If you do not plan to install the IP/TV Server in an equipment rack, proceed to the [“Installing the IP/TV Server on a Tabletop”](#) section on page 3-30.

This section discusses the following topics:

- [Rack Requirements](#)
- [Tools and Parts Required](#)
- [Installing the Chassis in the Rack](#)
- [Connecting Cables](#)
- [Connecting Power and Booting the System](#)

Rack Requirements

Install your IP/TV Server in a rack that meets the following requirements:

- Four posts, 19 inches (48.3 cm) wide
- Minimum depth of 28.27 inches (71.8 cm) and maximum depth of 30 inches (76.2 cm) between the front and rear mounting flanges
- Minimum depth of 2.76 inches (7.0 cm) between the front mounting flange and inside of the front door (for cabinet-style racks)
- Minimum depth of 6.18 inches (15.7 cm) between the rear mounting flange and inside of the rear door (for cabinet-style racks)

Racks are marked in vertical increments of 1.75 inches (4.44 cm). Each increment is referred to as a rack unit (RU). A 1-RU device is 1.75 inches (4.44 cm) tall.

Tools and Parts Required

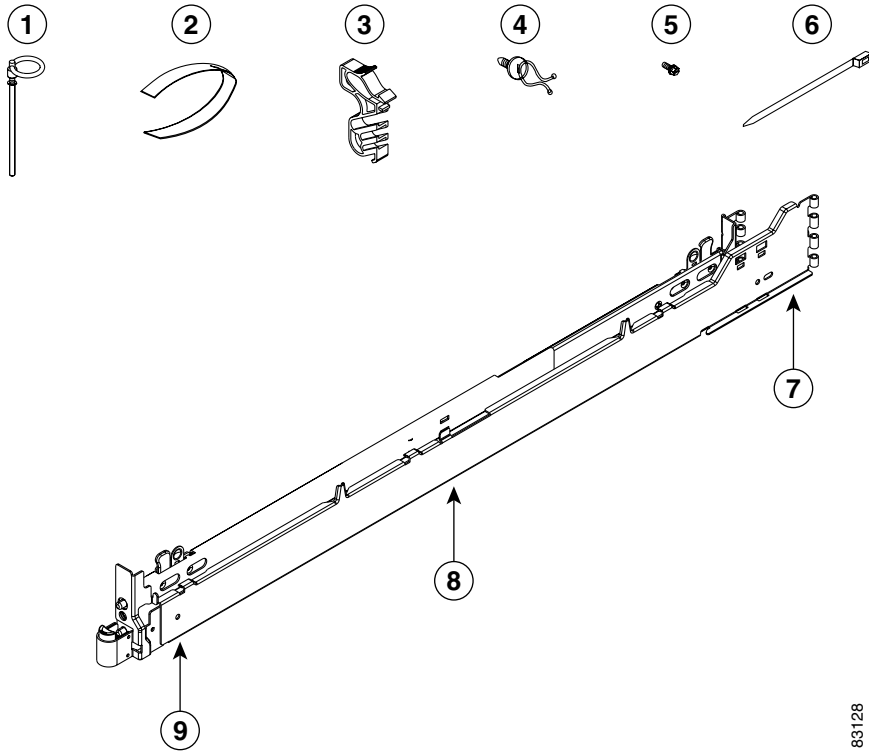
A sliding rail rack-mount kit is included in your shipping container accessory box. The rack-mount kit is suitable for mounting Cisco IP/TV 3427 Broadcast Server units in 19-inch (48.26-cm) 4-post equipment racks. (See the [“Rack Requirements”](#) section on page 3-20.)

You need the following tools for the installation:

- Flat-blade screwdriver
- Phillips screwdriver

[Figure 3-16](#) shows the items that you need to install the IP/TV Server in the rack or cabinet. If any items are missing or damaged, contact your place of purchase.

Figure 3-16 Rack Installation Kit



83128

| | | | |
|---|-----------------------------|---|----------------------------------|
| 1 | Hinge pins (2) | 6 | Cable ties (5) |
| 2 | Cable strap (5) | 7 | Back of rail |
| 3 | Cable restraint bracket (2) | 8 | Slide rail (2) (left rail shown) |
| 4 | Cable clamp (5) | 9 | Front of rail |
| 5 | M6 screws (5) | | |



Note

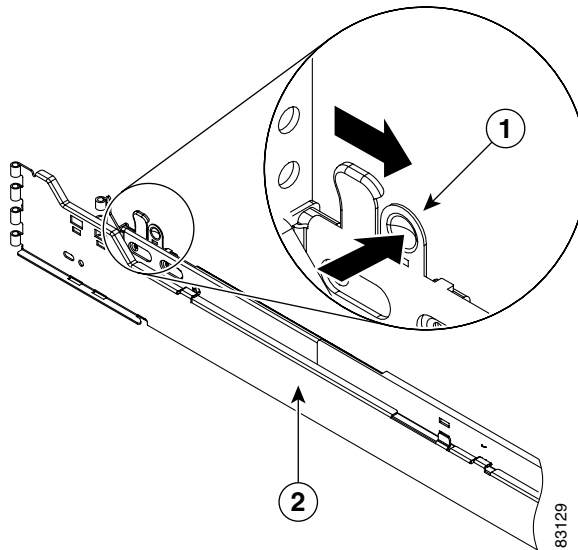
The rack kit includes a left and a right slide rail.

Installing the Chassis in the Rack

To install the IP/TV Server in a rack, follow these steps:

- Step 1** Push outward on the slide-rail latch (labeled 1 in [Figure 3-17](#)). Pull the latch back to open the slide rail. The latch will engage and stay open. Open the other end of the slide rail. Repeat the entire process for the other slide rail.

Figure 3-17 Latching the Slide Rails



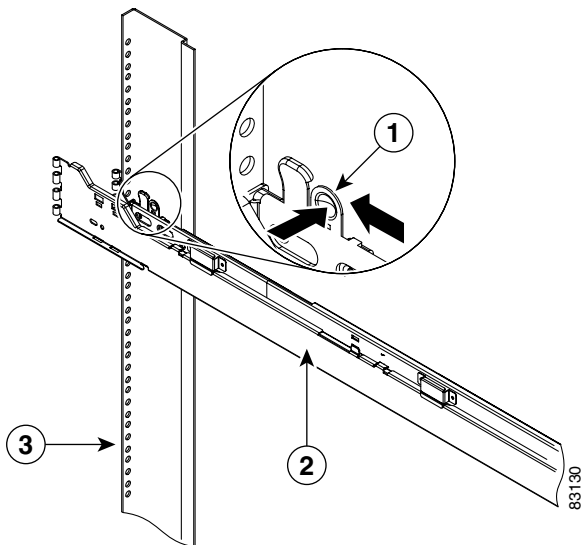
| | | | |
|---|------------------|---|------------------|
| 1 | Slide rail latch | 2 | Right slide rail |
|---|------------------|---|------------------|

- Step 2** Align the slide rail with the front mounting flange. Use the score mark on the slide rail (labeled 1 in [Figure 3-18](#)) to align the slide rail. Push outward on the slide rail latch to close the latch and secure the slide rail. Do the same for the front of the other slide rail. Then do the same for the rear of both slide rails.



Note Make sure that the slide rails are securely seated on the mounting flanges. When the slide is secure, the slide rail pins protrude from the slide rails.

Figure 3-18 *Aligning the Slide Rails*



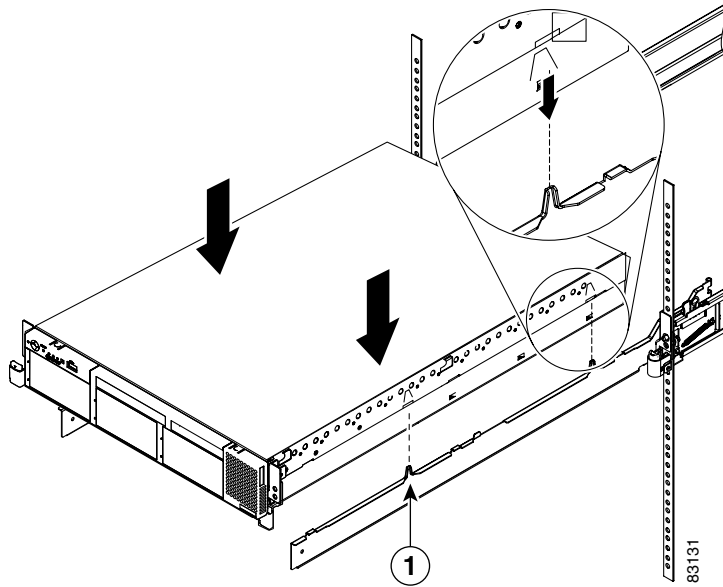
| | | | |
|---|-----------------------|---|----------------------|
| 1 | Slide rail score mark | 3 | Rear mounting flange |
| 2 | Right slide rail | | |

Step 3 Extend the slide rails fully from the rack until the slide rails lock. Align the tabs on the slide rails (labeled 1 in [Figure 3-19](#)) with the matching insets on the IP/TV Server and lower the IP/TV Server onto the slide rails.



Note Make sure that each slide rail tab is inserted in the matching inset on the IP/TV Server and that the IP/TV Server is resting on the top edge of the slide rail.

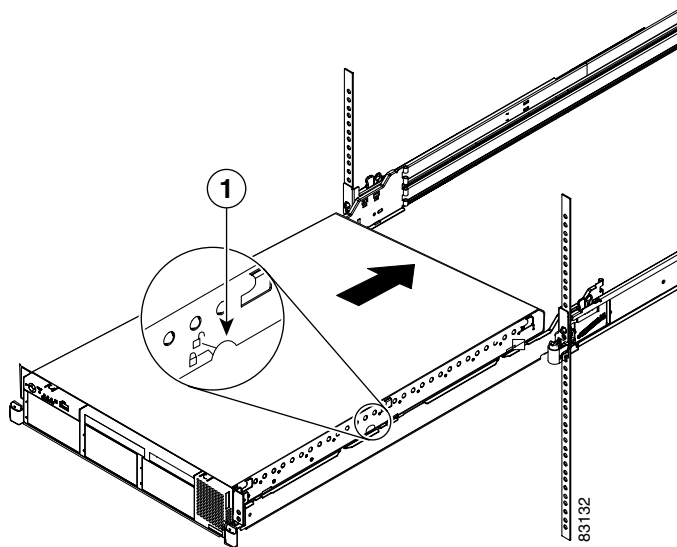
Figure 3-19 Inserting the IP/TV Server



| | | | |
|---|-----------------------|---|--------------------------------|
| 1 | Alignment tab (front) | 2 | Alignment tab (rear; enlarged) |
|---|-----------------------|---|--------------------------------|

- Step 4** Carefully slide the IP/TV Server along the slide rails approximately 1 inch (2.54 cm) toward the rack to lock the IP/TV Server on the slide rails. (See [Figure 3-20](#).)

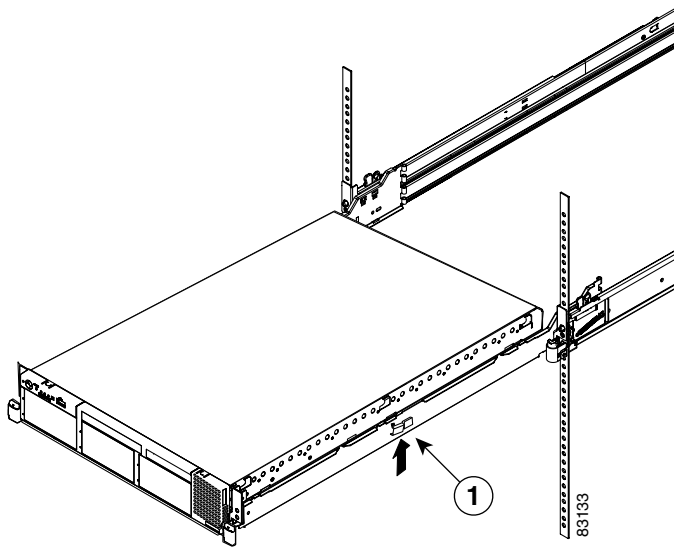
Figure 3-20 Locking the IP/TV Server on the Slide Rails



When locked in position, an indicator (labeled 1 in [Figure 3-20](#)) is visible on each side of the IP/TV Server. To remove the IP/TV Server from the rack, lift up on the lock indicator and slide the IP/TV Server forward.

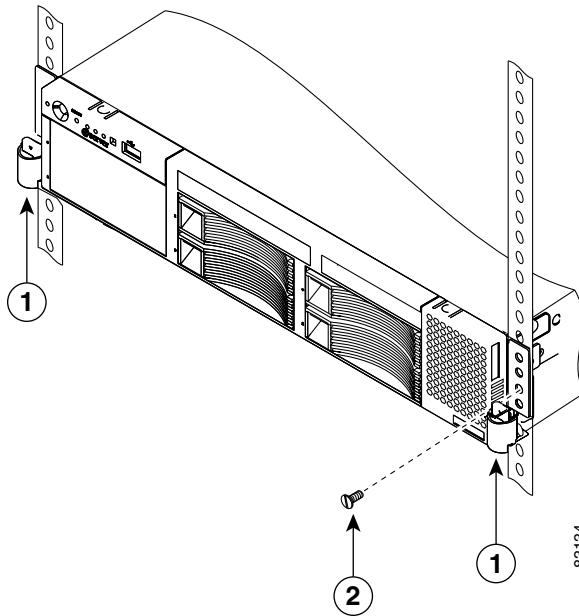
- Step 5** Lift the locking levers (labeled 1 in [Figure 3-21](#)) on the slide rails and slide the IP/TV Server into the rack until it extends approximately 4 inches (10.16 cm) from the edge of the rack.

Figure 3-21 Sliding in the IP/TV Server



- Step 6** Slide the IP/TV Server into the rack until the release latches (labeled 1 in [Figure 3-22](#)) lock into place. To slide the IP/TV Server out of the rack, press the release latches.

Figure 3-22 Sliding the IP/TV Server into the Rack



| | | | |
|----------|-----------------|----------|-----------|
| 1 | Release latches | 2 | M6 screws |
|----------|-----------------|----------|-----------|

- Step 7** Insert the optional M6 screws (labeled 2 in [Figure 3-22](#)) in the front and rear of the IP/TV Server when moving the rack, or if you install the rack in a vibration-prone area.

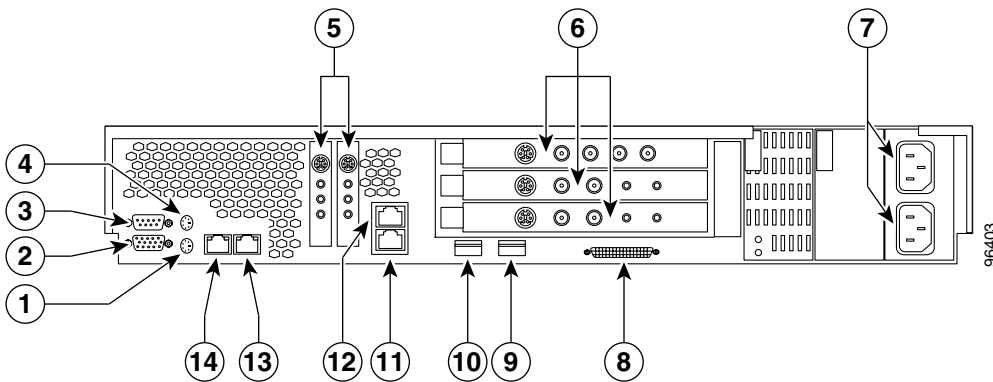
To remove the IP/TV Server from the rack, reverse these instructions. Store these installation instructions with your IP/TV Server documentation for future use.

Connecting Cables

To connect network, monitor, keyboard, and mouse cables to your IP/TV Server, follow these steps:

- Step 1** For network connections, insert a Category 5 UTP cable into the Ethernet 1 or Ethernet 2 receptacle on the IP/TV Server back panel. (See [Figure 3-23](#).)

Figure 3-23 IP/TV 3427 Broadcast Server Ports and Receptacles—AC System Shown



| | | | |
|----------|---|-----------|--|
| 1 | Keyboard port | 8 | SCSI ¹ connector |
| 2 | Onboard video port | 9 | USB ² 2 (not supported) |
| 3 | Serial port | 10 | USB 1 (not supported) |
| 4 | Mouse port | 11 | ISMP ³ port (not supported) |
| 5 | PCI ⁴ slots 1 and 2 (Winnov Videum 1010 Plus video capture cards) | 12 | ISMP port (not supported) |
| 6 | PCI slots 3 (Winnov Videum 4400 AV video capture card), 4, and 5 (Optibase MovieMaker 200S Networker video capture cards) | 13 | Ethernet 2 |
| 7 | AC power receptacles | 14 | Ethernet 1 |

1. SCSI = Small Computer System Interface
2. USB = Universal Serial Bus
3. ISMP = Integrated System Management Processor
4. PCI = Peripheral Component Interconnect

- Step 2** Connect the other end of the network cable to a hub or switch in your network.
- Step 3** For monitor connections, plug the monitor cable into the onboard video port on the IP/TV Server back panel. (See [Figure 3-23](#).)
- Step 4** Connect the other end of the monitor cable to a monitor.
- Step 5** Plug the keyboard and mouse cables to the keyboard port and mouse port, respectively. (See [Figure 3-23](#).)

Connecting Power and Booting the System

To connect power to your system, follow these steps:

- Step 1** Review the information in the “[Safety Guidelines](#)” section on [page 2-4](#).
- Step 2** Plug a power cord into each power cord receptacle on the back of the IP/TV Server. (See [Figure 3-23](#).)



Note You must connect a power cord to both power supplies. If only one power supply is connected, when you turn on the power, the system error LED comes on and the system makes a loud noise.

Step 3 Connect the other end of each power cord to a power source at your installation site.

Step 4 Power up all externally connected devices.

Step 5 Press the power control button on the front of the IP/TV Server.

The system should begin booting. Once the operating system boots, you are ready to configure the IP/TV Server. (See [Chapter 4, “Setting IP/TV Server Configuration Parameters.”](#))



Note While the IP/TV Server is powering up, the green power on LED on the front of the IP/TV Server is on.

Installing the IP/TV Server on a Tabletop

When you install an IP/TV Server on a workbench or tabletop, ensure that the surface is clean and in a safe location and that you have considered the following points:

- The chassis should be installed off the floor. (Dust that accumulates on the floor is drawn into the interior of the chassis by the cooling fans. Excessive dust inside the IP/TV Server can cause overtemperature conditions and component failures.)
- There must be approximately 19 inches (48.26 cm) of clearance at the front and rear of the chassis for accessing network cables or equipment.
- The IP/TV Server must receive adequate ventilation (do not install it in an enclosed cabinet where ventilation is inadequate).

To install the IP/TV Server on a workbench or tabletop, follow these steps:

-
- Step 1** Remove any debris and dust from the tabletop or workbench, as well as from the surrounding area. Also make sure that your path between the IP/TV Server and its new location is unobstructed.
- Step 2** Attach the rubber feet to the bottom of the chassis. The rubber feet have an adhesive backing. Peel the protective tape off the adhesive and stick the feet to the bottom of a clean chassis surface. Place one foot in each corner.
- Step 3** Place the chassis on the tabletop or workbench.
- Step 4** Ensure that no exhaust air from other equipment will be drawn into the chassis. Also, ensure that there is adequate clearance at the front and rear of the chassis.
-

Connecting Cables to Video Capture Cards

This section explains how to connect the video capture cards in your IP/TV Server to audio or video devices. The Cisco IP/TV 3426 Broadcast Server uses a Winnov Videum 4400 AV video capture card, and the Cisco IP/TV 3427 Broadcast Server is equipped with a combination of the following video capture cards:

- Winnov Videum 4400 AV
- Winnov Videum 1010 Plus
- Optibase MovieMaker 200S Networker

Winnov Videum 4400 AV Video Capture Card

The Winnov Videum 4400 AV video capture card has four audio and video capture channels that can be connected to four independent audio and video sources.

The IP/TV Server accessory kit contains the following cables for connecting the IP/TV Server to audio and video sources:

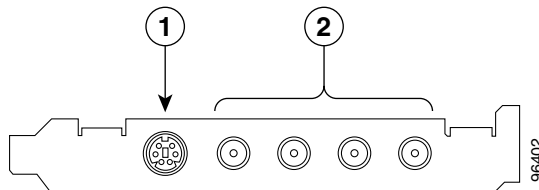
- Video BNC connector cables
- 4-channel audio connector cable with four stereo 1/4-inch mini-jacks using a breakout cable

For more details on the contents of the IP/TV Server accessory kit, see the “[Server Accessory Kits](#)” section on page 1-24. If any items are missing or damaged, contact your place of purchase.

To connect the Winnov Videum 4400 AV video capture card to video and audio sources, follow these steps:

- Step 1** Plug a BNC connector cable into the first channel (labeled 2 in [Figure 3-24](#)) on the capture card.

Figure 3-24 Winnov Videum 4400 AV Video Capture Card—Connecting to the Video Source



| | | | |
|----------|---------------|----------|----------------|
| 1 | Audio in port | 2 | Video in ports |
|----------|---------------|----------|----------------|

- Step 2** Connect the other end of the cable to the video source that you want to use for this channel.
- Step 3** Plug the 4-channel audio connector cable into the audio port (labeled 1 in [Figure 3-24](#)) on the video capture card.
- Step 4** Locate the connector marked Channel 1 at the other end of the cable, and connect it to the audio cable from the video source connected to Channel 1 on the video capture card.
- Step 5** Repeat [Step 1](#), [Step 2](#), and [Step 4](#) to connect the other video sources to the video capture card.

Winnov Videum 1010 Plus Video Capture Card

The Winnov Videum 1010 Plus video capture card has one audio and one video capture channel.

The IP/TV Server accessory kit contains the following cables for connecting the IP/TV Server to audio and video sources:

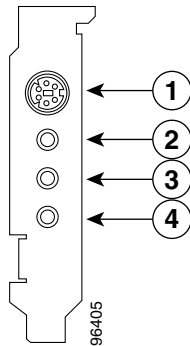
- MXC-to-composite and S-video adapter cable
- RCA male-to-male cable

For more details on the contents of the IP/TV Server accessory kit, see the “[Server Accessory Kits](#)” section on page 1-24. If any items are missing or damaged, contact your place of purchase.

To connect the Winnov Videum 1010 Plus video capture card to video and audio sources, follow these steps:

-
- Step 1** Plug the MXC-to-composite and S-video adapter cable into the MXC video port on the video capture card. (See [Figure 3-25](#).)

Figure 3-25 Winnov Videum 1010 Plus Video Capture Card—Connecting the Video Source



| | | | |
|----------|------------------------|----------|-------------------------|
| 1 | MXC video port | 2 | Auxiliary audio in port |
| 3 | Line/Mic audio in port | 4 | Audio out port |

- Step 2** Connect the video capture card to the appropriate video source:
- If you are using a composite video source, connect the connector marked Composite to the video source device.
 - If you are using an S-video source, connect the connector marked S-video to the video source device.
- Step 3** Connect the audio cables from the video source device to the Line/Mic audio port (labeled 3 in [Figure 3-25](#)) on the video capture card.
-

Optibase MovieMaker 200S Networker Video Capture Card

The Optibase MovieMaker 200S Networker video capture card has one audio and one video capture channel.

The IP/TV Server accessory kit contains the following cables for connecting the IP/TV Server to audio and video sources:

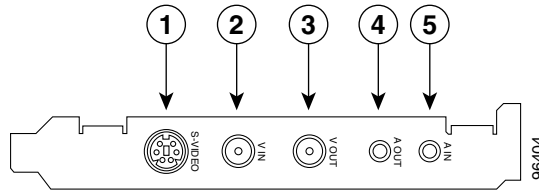
- Video BNC connector cable
- S-video mini-DIN cable
- Mini-jack stereo audio cable

For more details on the contents of the IP/TV Server accessory kit, see the [“Server Accessory Kits” section on page 1-24](#). If any items are missing or damaged, contact your place of purchase.

To connect the Optibase MovieMaker 200S Networker video capture card to video and audio sources, follow these steps:

- Step 1** Connect the video capture card to the appropriate video source device:
- If you are using a composite video source, plug one end of the video BNC connector cable into the V IN port (labeled 2 in [Figure 3-26](#)) on the video capture card.
 - If you are using an S-video source, plug one end of the S-video mini-DIN cable into the S-Video port (labeled 1 in [Figure 3-26](#)) in on the video capture card.

Figure 3-26 Optibase MovieMaker 200S Networker Video Capture Card—Connecting to the Video Source



| | | | |
|----------|----------------|----------|----------------|
| 1 | S-video port | 2 | Video in port |
| 3 | Video out port | 4 | Audio out port |
| 5 | Audio in port | | |

- Step 2** Connect the other end of the video BNC connector cable or the S-video mini-DIN cable to the appropriate ports on the video source device.
- Step 3** Plug the audio connector cable from the video source device to the A IN port (labeled 5 in [Figure 3-26](#)) on the video capture card.

Checking the LEDs

When the IP/TV Server is up and running, observe the front and back panel LEDs to verify that your system is operating properly. (See [Figure 1-3](#), [Figure 1-7](#), [Figure 1-8](#), [Figure 1-11](#), and [Figure 1-12](#), and [Table 1-2](#), [Table 1-3](#), [Table 1-7](#), [Table 1-8](#), [Table 1-11](#), and [Table 1-12](#).)

Removing or Replacing an IP/TV Server



Warning

Before working on a system that has an On/Off switch, turn OFF the power and unplug the power cord.



Warning

Ultimate disposal of this product should be handled according to all national laws and regulations.

To remove an IP/TV Server from your network, power it down, disconnect the power cords and network cables, and physically remove the chassis from the rack.

To replace an IP/TV Server, remove it from the network. Then install a new IP/TV Server and configure it using the same configuration parameters (IP address, and so forth) that you used for the removed IP/TV Server.



Setting IP/TV Server Configuration Parameters

This chapter describes how to set selected IP/TV Server configuration parameters, and includes the following sections:

- [Setting Date, Time, and Time Zone, page 4-1](#)
- [Setting the TCP/IP Network Configuration, page 4-2](#)

Setting Date, Time, and Time Zone

Setting the date, time, and time zone for each IP/TV Server is required for proper synchronization between IP/TV Servers and IP/TV Viewers. If you do not set these elements properly, scheduled programs may not run at the correct time.

To set the date, time, and time zone, follow these steps on each IP/TV Server:

-
- Step 1** Choose **Start > Settings > Control Panel**.
 - Step 2** Double-click the **Date/Time** icon.
 - Step 3** On the **Date/Time** tab, enter the correct date and time.
 - Step 4** Click the **Time Zone** tab.
 - Step 5** Choose your time zone.
 - Step 6** Click **OK**.
-

Setting the TCP/IP Network Configuration

You need to set the TCP/IP network configuration of each IP/TV Server so that it can communicate on the network with other IP/TV components.

**Note**

Multicast must be enabled on your routers in order to use the scheduled programs feature of IP/TV on more than one subnet. On-demand programs do not require multicast.

To set your networking configuration, follow these steps on each IP/TV Server:

Step 1 Choose **Start > Settings > Network and Dial-Up Connections > Local Area Connection**.

Step 2 Click the **Properties** button in the Local Area Connection Status window.

**Note**

Each server has TCP/IP installed. However, each is configured to use a static IP address that is reserved for testing purposes. You must reconfigure your server to use static IP addresses appropriate for your site and subnet.

Step 3 Choose **Internet Protocol (TCP/IP)** and click the **Properties** button.

Step 4 Click the **Use the following IP address** radio button and then enter the IP address, subnet mask, and default gateway.

Step 5 Do one of the following:

- If you are using the Domain Name System (DNS), enter the appropriate information for the preferred and alternate DNS servers and click **OK**.
- If you are not using DNS, populate the C:\winnt\system32\drivers\etc\hosts file with the IP address and name of the server. See [Appendix B, “Sample Hosts File,”](#) for a sample Hosts file.



Basic Configuration of IP/TV Program Manager and IP/TV Broadcast Server

This chapter describes the basic steps required to verify communication between IP/TV Program Manager and IP/TV Broadcast Servers.

For more complete information on defining IP/TV Broadcast Servers, server clusters, proximity groups, and IP/TV Broadcast Server settings, refer to the *Cisco ACNS Software Program Manager for IP/TV User Guide, Release 5.1*.

This chapter includes the following sections:

- [Defining IP/TV Broadcast Servers in IP/TV Program Manager, page 5-1](#)
- [Configuring IP/TV Broadcast Servers, page 5-3](#)
- [Using ServerWatch to Verify IP/TV Broadcast Server Management, page 5-4](#)

Defining IP/TV Broadcast Servers in IP/TV Program Manager

Follow these steps to define each IP/TV Broadcast Server in IP/TV Program Manager:

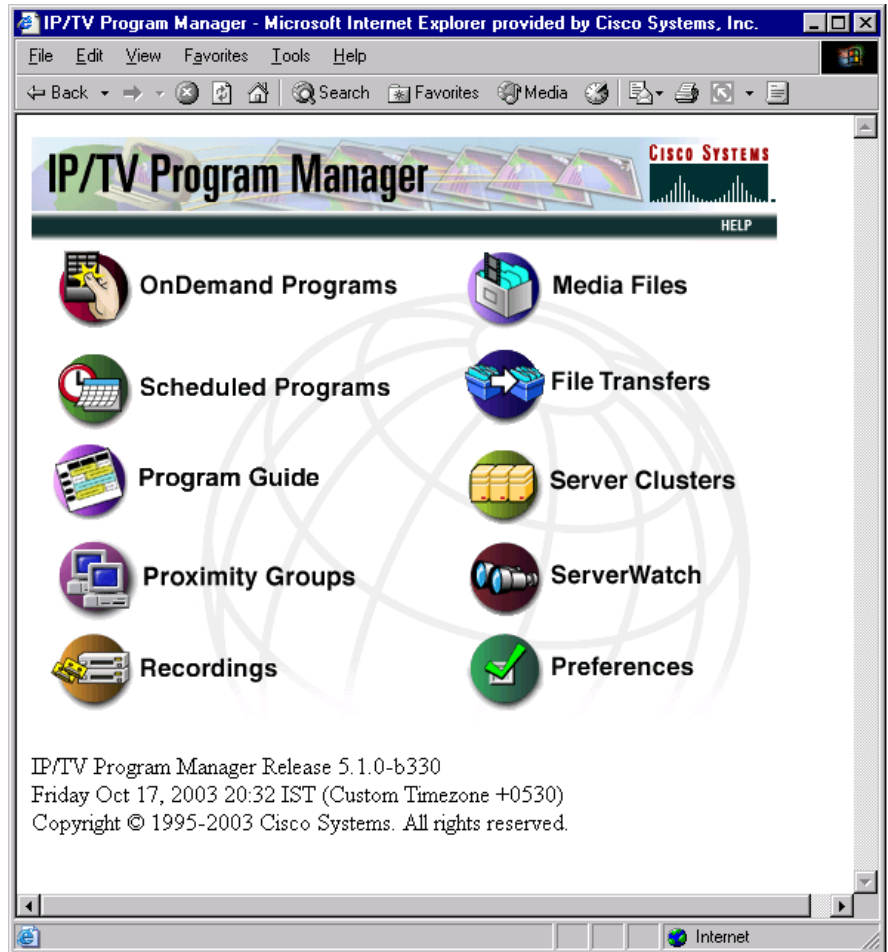
-
- Step 1** From your browser, access IP/TV Program Manager by entering the following URL:

`http://programmanager/`

where *programmanager* is the IP address or DNS name of IP/TV Program Manager.

- Step 2** In the IP/TV Program Manager main window (see [Figure 5-1](#)), click **Server Clusters**.

Figure 5-1 IP/TV Program Manager Main Window



- Step 3** In the Server Clusters window, click **New Server** on the taskbar. The New Server window appears.

Step 4 Enter the IP address or DNS name of the IP/TV Broadcast Server.



Note If using DNS names, be sure that DNS resolution works from IP/TV Program Manager, IP/TV Broadcast Server, and all IP/TV Viewer desktops.

Step 5 Click **Add Server**.

Step 6 Repeat [Step 3](#) through [Step 5](#) for each additional IP/TV Broadcast Server.

Configuring IP/TV Broadcast Servers

To configure each IP/TV Broadcast Server, follow these steps:

Step 1 Start the IP/TV Broadcast Server and view the Program Listings window.

If the IP/TV Broadcast Server is already running but the Program Listings window is not visible, double-click the **IP/TV Server** icon in the system tray.

Step 2 Choose **Settings > Configure IP/TV Server**.

Step 3 Click the **Server** tab.

Step 4 In the IP/TV CM Host field, enter the IP address or DNS name of the system running IP/TV Program Manager.

Step 5 Click **OK**.

Step 6 Click the **Refresh Listings** icon in the IP/TV Server window.

Step 7 Repeat [Step 1](#) through [Step 6](#) for each IP/TV Broadcast Server.

Using ServerWatch to Verify IP/TV Broadcast Server Management

ServerWatch is a tool provided with IP/TV Program Manager and is used to verify proper IP/TV Program Manager management of the IP/TV Broadcast Servers.

To set up ServerWatch, follow these steps:

-
- Step 1** From your browser, access IP/TV Program Manager by entering the following URL:
- `http://programmanager/`
- where *programmanager* is the IP address or DNS name of IP/TV Program Manager.
- Step 2** In the IP/TV Program Manager main window, click **ServerWatch**.
The ServerWatch window appears.
- Step 3** In the Status column of the Status of Servers table, verify that the entry for each previously defined IP/TV Broadcast Server reads “managed.”
-



Hardware Specifications

This appendix lists the hardware specifications for Cisco IP/TV 3400 Series Servers, and includes the following sections:

- [Cisco IP/TV 3400 Series Server Hardware Specifications, page A-1](#)
- [Video Capture Cards, page A-5](#)
- [Agency Compliance, page A-6](#)

Cisco IP/TV 3400 Series Server Hardware Specifications

[Table A-1](#) lists the hardware specifications for the following Cisco IP/TV 3400 Series Servers:

- Cisco IP/TV 3425 Broadcast Server
- Cisco IP/TV 3425A Broadcast Servers

The specifications are slightly different for some server models. These are indicated with a footnote.

Table A-1 Cisco IP/TV 3425 and 3425A Server Specifications

| Feature | Specification |
|--------------------------|--|
| CPU | Intel Coppermine CPU 82443BX with Pentium P3 processor operating at 600 MHz |
| Memory | 256 MB of SDRAM (expandable to 1 GB) 256-KB integrated L2 cache 512-KB Boot Block Flash memory 16-MB StrataFlash memory |
| Hard disk storage | 1 18-GB SCSI drive |
| Ethernet controller | 1 Intel 82559 Ethernet controller (2 are supported) |
| SCSI controller | Symbios 53CA895 Ultra2 SCSI LVD controller; maximum throughput at 80 Mbps |
| External connectors | 2 PS2 1 68-pin SCSI 2 RJ-45 Ethernet 1 RJ-45 COM1 1 DB-15 VGA ¹ |
| Graphic accelerator | 69000 graphics |
| Peripheral ports | VGA graphics, keyboard, mouse |
| Network interoperability | All IP-based networks, IETF ² IP multicast |
| Operating system | Microsoft Windows 2000 Server operating system with Internet Explorer 5.5 |
| Height | 1.75 in. (45 mm) |
| Width | 19 in. (483 mm) |
| Depth | 24.25 in. (616 mm) |
| Weight | 13.5 lb. (6.08 kg) |
| Power supply | 130 W |
| Autoswitching | 100 to 120 VAC 200 to 240 VAC |
| Frequency | 60/50 Hz |
| Current | 2.0/1.0 A |

Table A-1 Cisco IP/TV 3425 and 3425A Server Specifications (continued)

| Feature | Specification |
|--------------------------|----------------------------|
| Operating temperature | 41 to 104°F (5 to 40°C) |
| Nonoperating temperature | -13 to 158°F (-25 to 70°C) |
| Operational humidity | 85% relative humidity |
| Heat dissipation | 1024 Btus per hour |

1. VGA = Video Graphics Array
2. IETF = Internet Engineering Task Force

Table A-2 lists the hardware specifications for the Cisco IP/TV 3426 and 3427 Broadcast Servers.

Table A-2 Cisco IP/TV 3426 and 3427 Broadcast Server Specifications

| Feature | Cisco IP/TV 3426 Broadcast Server | Cisco IP/TV 3427 Broadcast Servers |
|----------------|--|---|
| CPU | <ul style="list-style-type: none"> • 1 2.4-GHz Intel CPU with Celeron processor • 128-KB Level 2 cache and MMX (MMX2) technology | <ul style="list-style-type: none"> • 2 2.8-GHz Intel Xeon CPUs with Pentium P4 processors • 512-KB Level 2 cache • 100-MHz front-side bus (FSB), at 4 data transfers per cycle, yielding a 400-MHz system bus • Support for up to 2 microprocessors with Intel Hyper-Threading Technology |
| Expansion bays | Two 3.5-in. (8.89-cm) slim-height bays for hard disk drives | <ul style="list-style-type: none"> • 6 slim-height, 3.5-inch (8.89-cm) disk drive bays • 1 5.25-inch (13.34-cm) bay (CD-ROM drive installed) |
| Memory | 512 MB of SDRAM (expandable to 1 GB) 128-KB integrated L2 cache 512-KB Boot Block Flash memory 16-MB StrataFlash memory | 512 MB of SDRAM (expandable to 1 GB) 256-KB integrated L2 cache 512-KB Boot Block Flash memory 16-MB StrataFlash memory |

Table A-2 Cisco IP/TV 3426 and 3427 Broadcast Server Specifications (continued)

| Feature | Cisco IP/TV 3426 Broadcast Server | Cisco IP/TV 3427 Broadcast Servers |
|--------------------------|---|--|
| Hard disk storage | 1 80-GB IDE drive | 2 72-GB SCSI drives |
| Ethernet controller | 1 Intel 82559 Ethernet controller (2 are supported) | 1 Intel 82559 Ethernet controller (2 are supported) |
| SCSI controller | Not supported. | Symbios 53CA895 Ultra2 SCSI LVD controller; maximum throughput at 80 Mbps (not supported) |
| External connectors | 2 PS2 1 68-pin SCSI 2 RJ-45 Ethernet 1 RJ-45 COM1 1 DB-15 VGA | 2 PS2 1 68-pin SCSI 2 RJ-45 Ethernet 1 RJ-45 COM1 1 DB-15 VGA |
| Graphic accelerator | 69000 graphics | 69000 graphics |
| Peripheral ports | VGA graphics, keyboard, mouse | VGA graphics, keyboard, mouse |
| Network interoperability | All IP-based networks, Internet Engineering Task Force (IETF) IP multicast | All IP-based networks, Internet Engineering Task Force (IETF) IP multicast |
| Operating system | Microsoft Windows 2000 Server operating system with Internet Explorer 5.5 or later | Microsoft Windows 2000 Server operating system with Internet Explorer 5.5 or later |
| Dimensions | <ul style="list-style-type: none"> • Height: 1.72 in. (43.7 mm) • Width: 17.3 in. (440.0 mm) • Depth: 16.75 in. (425.5 mm) | <ul style="list-style-type: none"> • Height: 3.36 in. (85.4 mm) • Width: 17.46 in. (443.5 mm) • Depth: 27.48 in. (698.0 mm) |
| Weight | Maximum weight: 28.0 lb. (12.7 kg) | Maximum weight: 62.0 lb. (28.1 kg) |
| AC power | <ul style="list-style-type: none"> • Input voltage low range: <ul style="list-style-type: none"> – Minimum: 100 VAC – Maximum: 127 VAC • Input voltage high range: <ul style="list-style-type: none"> – Minimum: 200 VAC – Maximum: 240 VAC | <ul style="list-style-type: none"> • Input voltage low range: <ul style="list-style-type: none"> – Minimum: 90 VAC – Maximum: 137 VAC • Input voltage high range: <ul style="list-style-type: none"> – Minimum: 180 VAC – Maximum: 265 VAC |

Table A-2 Cisco IP/TV 3426 and 3427 Broadcast Server Specifications (continued)

| Feature | Cisco IP/TV 3426 Broadcast Server | Cisco IP/TV 3427 Broadcast Servers |
|----------------------|--|--|
| Power supply | 200 W | 350 watts (115–230 VAC) <ul style="list-style-type: none"> • Minimum: 1 • Maximum: 2—Provide redundant power |
| Autoswitching | 100 to 120 VAC 200 to 240 VAC | 100 to 120 VAC 200 to 240 VAC |
| Frequency | 60/50 Hz | 60/50 Hz |
| Current | 2.0/1.0 A | 2.0/1.0 A |
| Temperature | <ul style="list-style-type: none"> • Operating: 50 to 95°F (10 to 35°C) • Nonoperating: –40 to 140°F (–40 to 60°C) | <ul style="list-style-type: none"> • Operating: 50 to 95°F (10 to 35°C) • Nonoperating: –40 to 140°F (–40 to 60°C) |
| Operational humidity | 85% relative humidity | 85% relative humidity |
| Altitude | Maximum altitude: 7000 ft (2133.6 m) | Maximum altitude: 7000 ft (2133.6 m) |
| Heat dissipation | 1024 Btus per hour | 1024 Btus per hour |

Video Capture Cards

The following video capture cards are supplied with Cisco IP/TV 3400 Series Servers.

- Optibase MovieMaker 100S (AMPCS08) MPEG-1
- Optibase MovieMaker 200S (AMPCS03) HD1
- Optibase MovieMaker 200S (AMPCS04) FD1
- Optibase MovieMaker 200S Networker
- Winnov Videum 1010 Plus
- Winnov Videum 4400 AV

Refer to the *Cisco IP/TV Broadcast Server User Guide, Release 5.1*, for specifications of video capture cards available in Cisco IP/TV 3400 Series Servers as well as those available in software starter kits.

Agency Compliance

For all regulatory compliance information, refer to the *Regulatory Compliance and Safety Information for Cisco IP/TV 3400 Series Servers* publication.



Sample Hosts File

This appendix contains a sample Hosts file for IP address and name configuration. See the [“Setting the TCP/IP Network Configuration”](#) section on page 4-2 for details about the Hosts file.

The Hosts file is in the following location:

C:\WINNT\SYSTEM32\DRIVERS\ETC\HOSTS

[Example B-1](#) shows an example of a Hosts file.

Example B-1 Sample Hosts File

```
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column, followed by the corresponding host
# name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) can be inserted on individual
# lines or following the machine name denoted by a “#” symbol.
#
# For example:
#
#       172.16.94.97      rhino.xyzcorp.com      # source server
#       172.31.63.10    x.xyzcorp.com          # x client host

127.0.0.1      localhost
192.168.255.8  hydra.xyzcorp.com hydra
192.168.255.40 little-bear.xyzcorp.com little-bear lb
192.168.255.41 big-bear.xyzcorp.com big-bear
192.168.255.46 the-farm.xyzcorp.com the-farm
```




Instructions for Recovering IP/TV Servers

This appendix contains the procedure for restoring the IP/TV Servers to the shipping configuration.

Recovering Cisco IP/TV 3425 and 3425A Servers

Cisco provides a disaster recovery image on a separate partition on Cisco IP/TV 3425 and 3425A Servers.



Caution

All data on the boot partition of IP/TV Server is lost when you follow this procedure.

To restore IP/TV Server to the shipping configuration, follow these steps:

Step 1 Reboot IP/TV Server.

Step 2 When you see the following message, press the **F** key:

System Now Booting...

The following warning message appears:

```
This process recovers system partition, might potentially destroy all
the data on your system.
```

```
It is recommended to take backup of your data before proceeding.
```

Step 3 Press any key to continue.

The image is copied to the boot partition, and IP/TV Server reboots automatically. This procedure takes about 5 minutes. When the logon message box appears, IP/TV Server is ready.

Step 4 Configure IP/TV Server.

For specific instructions, see [Chapter 4, “Setting IP/TV Server Configuration Parameters.”](#)

Recovering Cisco IP/TV 3426 and 3427 Servers

This section discusses how to recover a corrupted system image, how to recover from missing disk-based software, and how to recover from catastrophic failure on Cisco IP/TV 3426 and 3427 Servers.

Cisco provides disaster recovery CDs with Cisco IP/TV 3426 and 3427 Broadcast Servers. These are DOS-bootable CDs that you can use to restore Cisco IP/TV 3426 and 3427 Servers to the shipping configuration and install the Windows 2000 operating system and Cisco IP/TV software. Use the disaster recovery CD only to solve catastrophic software failures, and not to troubleshoot any problems caused by user-specific configurations.

Recovering Cisco IP/TV 3426 Server

To restore Cisco IP/TV 3426 Server to the shipping configuration, follow these steps:

Step 1 Insert the disaster recovery CD in the CD-ROM drive.

Step 2 Reboot IP/TV Server.

The product recovery program window appears, displaying the following options for recovery:

- **Factory contents:** Reformat your hard disk and install Windows 2000, device drivers, and preinstalled applications.

If you select this option, all data on the boot partition of IP/TV Server and all media files in the media root directory of IP/TV Server will be lost except for the sample.avi file.

- **Individual Partition:** Restore a selected partition to your hard disk

If you select this option the recovery program reinstalls the operating system and required software in the boot partition. You can use this option to restore corrupted operating system partitions.

Step 3 Choose the desired option and press **Enter** to continue.

The Terms and Conditions window appears.

Step 4 Enter **Yes** to accept the prescribed conditions.

The Run the Product Recovery Program window appears.

Step 5 Enter **Yes** to continue.

The Run the Product Recovery Program (Continue) window appears. A message in this window alerts you to back up any files that you want to keep.

Step 6 Enter **Yes** to continue with the recovery process.



Note If you need to back up files, enter **No** to abort the recovery process. Run the recovery program after you have backed up your files.

The Attn. Read this before you continue window appears with a message to not restart the system until the recovery procedure is complete.

Step 7 Enter **Yes** to begin the recovery of Cisco IP/TV 3426 Server.

The recovery program reimages the hard disk. The Recovery is Complete window appears with a message that prompts you to remove the CD from the CD-ROM drive before you restart the server.

Step 8 Remove the CD from the CD-ROM drive and press **Enter** to restart IP/TV Server.

IP/TV Server reboots. The recovery program installs Windows 2000, and restores Cisco IP/TV 3426 Server to the factory default configuration. When the logon message box appears, IP/TV Server is ready.

- Step 9** Log in to IP/TV Server as administrator.
- Step 10** Configure IP/TV Server.
- For specific instructions, see [Chapter 4, “Setting IP/TV Server Configuration Parameters.”](#)
-

Recovering Cisco IP/TV 3427 Server



Caution

All data on the boot partition of IP/TV Server will be lost when you follow this procedure. All media files in the media root directory of IP/TV Server will be deleted except for the sample.avi file. We therefore recommend that you back up any files that you require before starting the recovery procedure.

To restore Cisco IP/TV 3427 Server to the shipping configuration, follow these steps:

- Step 1** Insert the disaster recovery CD in the CD-ROM drive.
- Step 2** Reboot IP/TV Server.
- The product recovery program window appears, with a message that this program performs hard disk reimaging, installs Windows 2000 and device drivers, and restores the server to the shipping configuration.
- Step 3** Press **Enter** to continue.
- The Terms and Conditions window appears.
- Step 4** Enter **Yes** to accept the prescribed conditions.
- The Run the Product Recovery Program window appears.
- Step 5** Enter **Yes** to continue.
- The Run the Product Recovery Program (Continue) window appears. A message in this window alerts you to back up any files that you want to keep.

Step 6 Enter **Yes** to continue with the recovery process.



Note If you need to back up files, enter **No** to abort the recovery process. Run the recovery program after you have backed up your files.

The Attn. Read this before you continue window appears with a message to not restart the system until the recovery procedure is complete.

Step 7 Enter **Yes** to begin the recovery of Cisco IP/TV 3427 Server.

The recovery program reimages the hard disk. The Recovery is Complete window appears with a message that prompts you to remove the CD from the CD-ROM drive before you restart the server.

Step 8 Remove the CD from the CD-ROM drive and press **Enter** to restart IP/TV Server.

IP/TV Server reboots. The recovery program installs Windows 2000, and converts both SCSI hard disks in Cisco IP/TV 3427 Server from basic to dynamic using the DiskPart utility.

IP/TV Server reboots again, and the Windows logon message box appears.

Step 9 Log in to IP/TV Server as **administrator** with the password **default**.

A DOS command window displays status messages as the recovery program performs the following tasks:

- Stops Cisco IP/TV Server and Cisco FTP Server services
- Creates a striped volume for D:
- Copies the directory C:\MPTVMedia to D:
- Restarts Cisco IP/TV Server and Cisco FTP Server services

The DOS command window closes and the Windows desktop is displayed. Cisco IP/TV 3427 Server is restored to the factory default configuration.

Step 10 Configure IP/TV Server.

For specific instructions, see [Chapter 4, “Setting IP/TV Server Configuration Parameters.”](#)



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