



Cisco IAD2801 Series Integrated Access Devices Hardware Installation Guide

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Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-12433-01

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- 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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Preface

This introduction discusses the objectives, audience, organization, and conventions of these hardware documents, and points to related documents that have information beyond the scope of these documents. This preface contains the following sections:

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Objectives

This hardware document provides you with comprehensive hardware-related information about Cisco IAD2801 series integrated access devices, including platform descriptions, safety information, site preparation, chassis installation and interconnection, power up, initial configuration, and troubleshooting.

This document provides enough initial software configuration information to establish network communication. For detailed software configuration information, refer to the Cisco IOS configuration guides and command reference publications. These publications are available online. See the [“Obtaining Documentation” section on page xv](#) for more information.

To access warranty, service, and support information, see the [“Cisco 90-Day Limited Hardware Warranty Terms” section on page xiii](#).

Audience

This documentation is designed for the person installing, configuring, and maintaining the router, who should be familiar with electronic circuitry and wiring practices and has experience as an electronic or electromechanical technician. It identifies certain procedures that should be performed only by trained and qualified personnel.

Topics Covered by Hardware Documents

Table 1 lists the topics covered by these hardware documents.

Table 1 *Hardware Documentation for Cisco IAD2801*

Topic	Description
	This document. Describes the features and warnings of Cisco IAD2801 series integrated access devices.
Overview	Describes the features and specifications of Cisco IAD2801 series integrated access devices.
Preinstallation Requirements and Planning	Describes safety recommendations, site requirements, and required tools and equipment, and includes an installation checklist.
Port and Cable Information	Provides information about cables needed to install your Cisco IAD2801 series integrated access devices.
Chassis Installation Procedures	Describes how to install your Cisco IAD2801 on a desktop or in a rack.
Cable Connection Procedures	Describes how to connect your Cisco IAD2801 to a power source and to networks and external devices.
Power Up and Initial Configuration Procedures	Describes how to power up your Cisco IAD2801 and perform an initial configuration to provide network access.
Troubleshooting	Describes how to isolate problems, read LEDs, and interpret error and recovery messages.
Installing and Upgrading Internal Modules	Describes how to install or upgrade modules that are located internally within the router, such as memory modules, PVDMS, and power supplies.
Removing and Installing CompactFlash Memory Cards	Describes hardware installation procedures that do not require opening the chassis.

Conventions

These documents use the conventions listed in [Table 2](#) to convey instructions and information:

Table 2 *Document Conventions*

Convention	Description
boldface font	Commands and keywords.
<i>italic font</i>	Variables for which you supply values.
[]	Optional keywords or arguments appear in square brackets.
{x y z}	A choice of required keywords appears in braces separated by vertical bars. You must select one.
screen font	Examples of information displayed on the screen.
boldface screen font	Examples of information you must enter.
< >	Nonprinting characters, for example passwords, appear in angle brackets in contexts where italics are not available.
[]	Default responses to system prompts appear in square brackets.



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.



Timesaver

Means *the described action saves time*. You can save time by performing the action described in the paragraph.



Tip

Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.



Caution

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

Safety Warnings

Safety warnings appear throughout these publications in procedures that, if performed incorrectly, may harm you. A warning symbol precedes each warning statement.

Statement 1071—Warning Definition



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。

주의 **중요 안전 지침**

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES**Advarsel** **VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemeskadedigelse. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER**تحذير****إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض للإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في آخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز. قم بحفظ هذه الإرشادات

Upozorenje **VAŽNE SIGURNOSNE NAPOMENE**

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE

Upozornění DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY**Προειδοποίηση ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ**

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθειες πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ**אזהרה****הוראות בטיחות חשובות**

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כדי לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה**Opomena VAŽNI BEZBEDNOSNI NAPATSTVIJA**

Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.

ЧУВАЈТЕ ГИ ОБИЕ НАПАТСТВИЈА

Ostrzeżenie WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD**Opozorilo POMEMBNI VARNOSTNI NAPOTKI**

Ta opozorilni simbol pomeni nevarnost. Nahajate se v situaciji, kjer lahko pride do telesnih poškodb. Preden pričnete z delom na napravi, se morate zavedati nevarnosti udara električnega toka, ter tudi poznati preventivne ukrepe za preprečevanje takšnih nevarnosti. Uporabite obrazložitevno številko na koncu posameznega opozorila, da najdete opis nevarnosti v priloženem varnostnem priročniku.

SHRANITE TE NAPOTKE!**警告****重要安全性指示**

此警告符號代表危險，表示可能造成人身傷害。使用任何設備前，請留心電路相關危險，並熟悉避免意外的標準作法。您可以使用每項警告後的聲明編號，查詢本裝置隨附之安全性警告譯文中的翻譯。請妥善保留此指示

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_inpkc/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 78-5235-03B0 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	

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

Cisco.com

You can access the most current Cisco documentation at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

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

Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

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

The Product Documentation DVD is created and released regularly. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

Ordering Documentation

You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

If you do not have a user ID or password, you can register at this URL:

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

Documentation Feedback

You can provide feedback about Cisco technical documentation on the Cisco Support site area by entering your comments in the feedback form available in every online document.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

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

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For emergencies only—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive these announcements by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. Registered users can access the tool at this URL:

<http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

To register as a Cisco.com user, go to this URL:

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

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Support website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Support Website

The Cisco Support website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

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

Access to all tools on the Cisco Support website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

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



Note

Before you submit a request for service online or by phone, use the **Cisco Product Identification Tool** to locate your product serial number. You can access this tool from the Cisco Support website by clicking the **Get Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.



Tip

Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing **F5**.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. After using the Search box on the Cisco.com home page, click the

Advanced Search link next to the Search box on the resulting page and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request 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 list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing 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.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations 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.

Severity 3 (S3)—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—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.

- The Cisco Online Subscription Center is the website where you can sign up for a variety of Cisco e-mail newsletters and other communications. Create a profile and then select the subscriptions that you would like to receive. To visit the Cisco Online Subscription Center, go to this URL:

<http://www.cisco.com/offer/subscribe>

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco channel product offerings. To order and find out more about the *Cisco Product Quick Reference Guide*, go to this URL:

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

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

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

- Cisco Press publishes a wide range of general networking, training, and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Internet Protocol Journal* is a quarterly journal published by Cisco 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>

- Networking products offered by Cisco, as well as customer support services, can be obtained at this URL:

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

- Networking Professionals Connection is an interactive website where networking professionals share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

<http://www.cisco.com/discuss/networking>

- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:

<http://www.cisco.com/univercd/cc/td/doc/abtnicd/136957.htm>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

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



CHAPTER 1

Overview

The Cisco IAD2801 series integrated access devices is a fixed configuration router that provides three models with a common front panel. The front panel, labeled “Cisco IAD2801 series integrated access devices,” is identical for all models. However, the back panels, labeled by specific model number, vary depending on interfaces, ports, and options. The Cisco IAD2801 series integrated access devices support the following configurations:

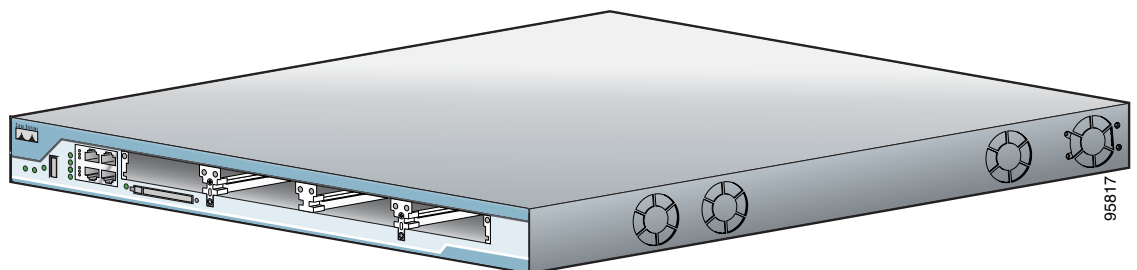
- IAD2801-2BRI-A/K9—Fixed configuration router, with integrated PVDM2-8, HWIC-1ADSL, and 1 VIC2-2BRI-NT/TE-P, 2 Fast Ethernet connections, and 1 factory configurable or field-upgradeable HWIC slot.
- IAD2801-4BRI-A/K9—Fixed configuration router, with integrated PVDM2-16, HWIC-1ADSL, and 2 VIC2-2BRI-NT/TE-P, 2 Fast Ethernet connections, and 1 factory configurable or field-upgradeable HWIC slot.
- IAD2801-4BRI-S/K9—Fixed configuration router, with integrated PVDM2-16, HWIC-4SHDSL, and 2 VIC2-2BRI-NT/TE-P, 2 Fast Ethernet connections, and 1 factory configurable or field-upgradeable HWIC slot.

The following cards are configurable or field upgradeable in slot 3 on all models:

- HWIC-4ESW
- VIC-4FXS/DID
- HWIC-AP-AG-E or HWIC-AP-G-E

[Figure 1-1](#) Front View of the Cisco IAD2801.

Figure 1-1 Front View of a Cisco IAD2801



This chapter describes the features and specifications of the routers and includes the following sections:

- [Hardware Features, page 1-2](#)
- [Chassis Views, page 1-5](#)

- [Interface Numbering](#), page 1-6
- [Specifications](#), page 1-7

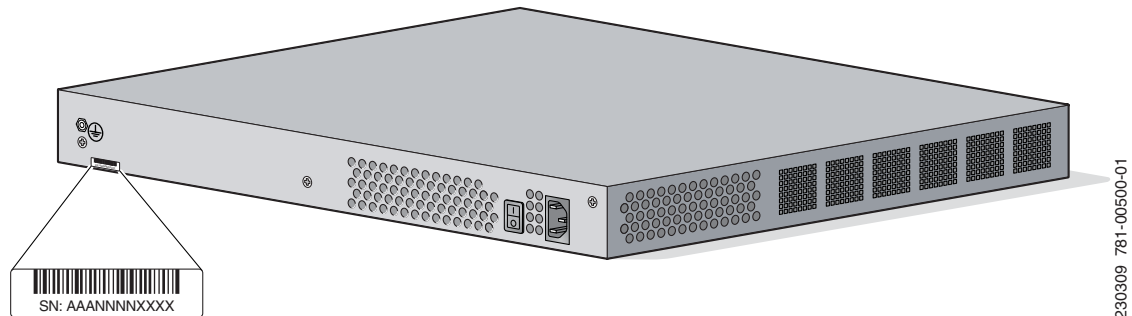
Hardware Features

This section describes the basic features of Cisco IAD2801, including product identification, built-in interfaces, modules, memory, LED indicators, chassis ventilation, and the internal clock.

Product Serial Number Location

The serial number label for Cisco IAD2801 is located on the rear of the chassis, along the bottom edge near the lower left corner. (See [Figure 1-2](#).)

Figure 1-2 Serial Number Location on the Cisco IAD2801



Note

The serial number for Cisco IAD2801 is 11 characters long.

Cisco Product Identification Tool

The Cisco Product Identification (CPI) tool provides detailed illustrations and descriptions showing where to locate serial number labels on Cisco products. It includes the following features:

- A search option that allows browsing for models using a tree-structured product hierarchy
- A search field on the final results page making it easier to look up multiple products
- End-of-sale products are clearly identified in results lists

The tool streamlines the process of locating serial number labels and identifying products. Serial number information expedites the entitlement process and is important for access to support services.

The Cisco Product Identification tool can be accessed at the following URL:

<http://tools.cisco.com/Support/CPI/index.do>

Built-in Interfaces

Table 1-1 summarizes the interface ports built into the chassis.

Table 1-1 Summary of Cisco IAD2801 Built-In Interfaces

IAD2801	100BASE-T Fast Ethernet (FE) Ports (RJ-45)	Universal Serial Bus (USB) Ports	Console Port (RJ-45)	Auxiliary Port (RJ-45)
IAD2801-2BRI-A/K9	2	1	1	1
IAD2801-4BRI-A/K9	2	1	1	1
IAD2801-4BRI-S/K9	2	1	1	1

Memory

Cisco IAD2801 contain the following types of memory:

- DRAM—Stores the running configuration and routing tables and is used for packet buffering by the network interfaces. Cisco IOS software executes from DRAM memory.
- Boot/NVRAM—Internal flash memory. Stores the bootstrap program (ROM monitor), the configuration register, and the startup configuration.
- Flash memory—External flash memory. Stores the operating system software image.

Table 1-2 summarizes the memory options for Cisco IAD2801. The default memory numbers for RAM represent the minimum usable memory. You can install additional RAM in multiples of the default amount, up to the maximum amount.

Table 1-2 Router Memory Specifications

Router Platform	DRAM	Boot/NVRAM	Flash Memory
Cisco IAD2801	Type—SDRAM DIMM DIMM size—256 MB DIMM expansion slots—1 ¹ Default onboard memory—128 MB Maximum memory—384 MB	Internal 4-MB flash memory	External CompactFlash memory cards of the following optional sizes: <ul style="list-style-type: none"> • 64 MB (default)

1. Cisco IAD2801 has 128 MB of SDRAM soldered onto the system board. You can install a DIMM into the expansion slot to increase memory to the maximum of 384 MB.

LED Indicators

Table 1-3 summarizes the LED indicators that are located in the router bezel or chassis.

For LED troubleshooting information, including possible trouble causes and corrective actions, see Table A-1 in the “Troubleshooting” document.

Table 1-3 Summary of Cisco IAD2801 LED Indicators

LED	Color	Description	Location
SYS PWR	Green	Router has successfully booted up and the software is functional. This LED blinks while booting or in the ROM monitor.	Front
SYS ACT	Green	Blinking when any packets are transmitted or received on any WAN or LAN or system is monitoring internal activities.	Front
CF	Green	On when flash memory is busy. Do not remove the CompactFlash memory card when this light is on.	Front
AUX/PWR	Green/ Amber	LED is off because inline power is not supported on the Cisco IAD2801.	Front
FE 0 Link	Green	On when the router is correctly connected to a local Ethernet LAN through Ethernet port 0.	Front
FE 0 100	Green	On indicates a 100-Mbps link. Off indicates a 10-Mbps link.	Front
FE 0 FDX	Green	On indicates full-duplex operation. Off indicates half-duplex operation.	Front
FE 1 Link	Green	On when the router is correctly connected to a local Ethernet LAN through Ethernet port 1.	Front
FE 1 100	Green	On indicates a 100-Mbps link. Off indicates a 10-Mbps link.	Front
FE 1 FDX	Green	On indicates full-duplex operation. Off indicates half-duplex operation.	Front
PVDM 0	Green	On indicates presence of a packet voice data module (PVDM) in PVDM slot 0.	Front

Chassis Ventilation

Internal multispeed fans provide chassis cooling, controlled by an onboard temperature sensor.

The Cisco IAD2801 has two fans. The Cisco IAD2801 internal fans operate at three different speeds, running at the slower speeds to conserve power and reduce fan noise at ambient temperatures below 40°C. They operate at the highest speed in ambient temperatures above 40°C.

Real-Time Clock

An internal real-time clock with battery backup provides the system software with time of day on system power up. This allows the system to verify the validity of the certification authority (CA) certificate. The Cisco IAD2801 has a socketed lithium battery. This battery lasts the life of the router under the operating environmental conditions specified for the router, and is not field-replaceable.



Note

If the lithium battery in a Cisco IAD2801 should fail, the router must be returned to Cisco for repair.

Although the battery is not intended to be field-replaceable, the following warning must be heeded:



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

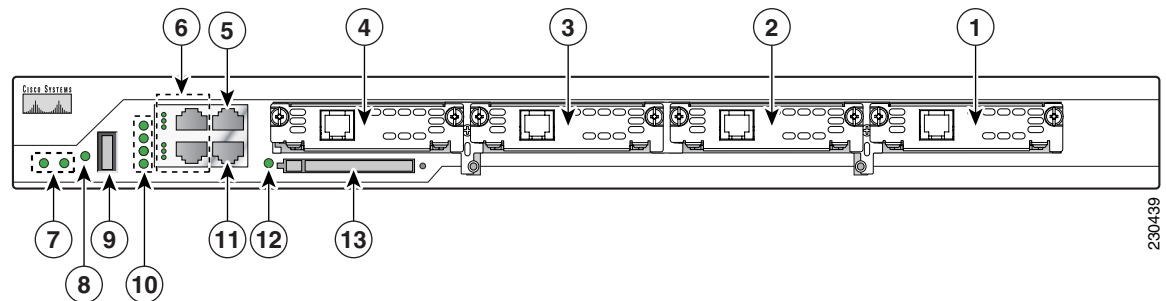
Chassis Views

This section contains views of the front and rear panels of the Cisco IAD2801, showing locations of the power and signal interfaces, module slots, status indicators, and chassis identification labels.

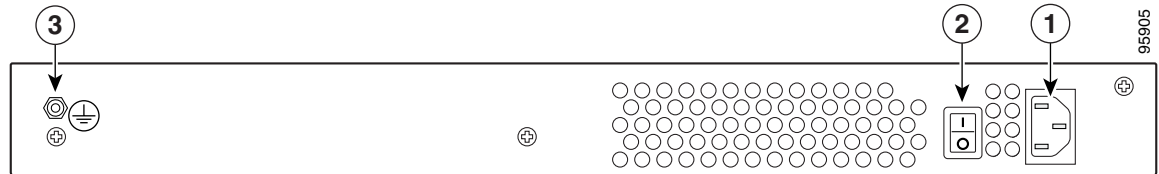
Cisco IAD2801 Chassis

Figure 1-3 shows the front panel of a Cisco IAD2801. Figure 1-4 shows the back panel.

Figure 1-3 Front Panel of the Cisco IAD2801



1	Slot 0	8	Auxiliary Power (AUX/PWR) LED
2	Slot 1	9	Universal serial bus (USB) port
3	Slot 2	10	PVDM LEDs
4	Slot 3	11	Auxiliary port
5	Console port	12	Compact flash (CF) LED
6	Fast Ethernet ports and LEDs	13	External CompactFlash memory card slot
7	System LEDs		

Figure 1-4 Back Panel of the Cisco IAD2801

1	Input power connector	3	Chassis ground connection
2	On/Off switch		

Interface Numbering

Table 1-4 summarizes the interface numbering on a Cisco IAD2801.



Note

On the Cisco IAD2801, the numbering format for slots is *interface type 0/slot/port*. “0” indicates slots that are built into the chassis of a router. On the Cisco IAD2801, all slots begin with “0,” because all slots are built into the chassis.



Caution

The following message will appear during bootup for any unsupported card detected:

```
Card is not supported in slot 2. Please remove it.
```

This message will appear for each unsupported card detected.

If **smart-init** is enabled on your IAD2801, the following message will appear during bootup for any unsupported card detected:

```
Smart Init is enabled
smart init is sizing iomem
ID          MEMORY_REQ      TYPE
0X003AA110 public buffer pools
0X00211000 public particle pools
0X00020000 Crypto module pools
0X00120000 VPM buffer pools
0X05B3      0X000034A0 Card in slot 0
0X04C8      0X00077D00 Card in slot 1
0X05B3      0X00000000 UNKNOWN Card in slot 2
0X003A      0X00000000 Card in slot 3
0X000021B8 Onboard USB
```

Table 1-4 summarizes the interface numbering on a Cisco IAD2801.

Table 1-4 Interface Numbering on the Cisco IAD2801

Model	Slot0	Slot1	Slot2	Slot3
IAD2801-2BRI-A/K9	VIC2-2BRI-NT/TE-P	HWIC-1ADSL	Not available	LTD option ¹
IAD2801-4BRI-A/K9	VIC2-2BRI-NT/TE-P	HWIC-1ADSL	VIC2-2BRI-NT/TE-P	LTD option ¹
IAD2801-4BRI-S/K9	VIC2-2BRI-NT/TE-P	HWIC-4SHDSL	VIC2-2BRI-NT/TE-P	LTD option ¹

1. The factory installable or field upgradeable LTD option includes: HWIC-AP-AG-E and HWIC-AP-G-E, HWIC-4ESW, and VIC-4FXS/DID.

Specifications

Table 1-5, list Cisco IAD2801 specifications.

Table 1-5 Cisco IAD2801 Specifications

Description	Specification
Dimensions (H x W x D)	1.72 x 17.49 x 16.5 in. (4.4 x 44.4 x 41.9 cm).
Weight	10.9 lb (4.9 kg) with standard power supply if fully populated with modules
AC input power	
• Input voltage	100 to 240 VAC, autoranging
• Frequency	47 to 63 Hz
• Input current	2 A
• Inrush surge current	50 A maximum, one cycle (–48V power included)
Power consumption	105 W with standard power supply (maximum)
Console and auxiliary ports	RJ-45 connector
Operating humidity	5 to 95%, noncondensing
Operating temperature	32 to 104° F (0 to 40° C)
Nonoperating temperature	–40 to 162° F (–40 to 72° C)
Noise level, standard power supply	39 dBA for local temperatures < 90° F (32° C) 47 dBA for local temperatures between 90° F and 116° F (47° F) 52.6 dBA for temperatures above 116° F (47° F)
Safety compliance	UL 60950-1; CAN/CSA C22.2 No. 60950-1; IEC 60950-1; EN 60950-1; AS/NZS 60950.1
EMC compliance	FCC Part 15; ICES-003 Class A; EN50082-1; EN55022 Class A; CISPR22 Class A; EN55024/CISPR24; AS/NZS 3548 Class A; VCCI Class A; EN 300386; EN61000-3-3; EN61000-3-2; EN61000-6-2



CHAPTER 2

Preinstallation Requirements and Planning

This document describes site requirements and equipment needed to install your Cisco IAD2801. It includes the following sections:

- [Safety Recommendations, page 2-1](#)
- [General Site Requirements, page 2-3](#)
- [Installation Checklist, page 2-4](#)
- [Creating a Site Log, page 2-5](#)
- [Inspecting the Router, page 2-6](#)
- [Required Tools and Equipment for Installation and Maintenance, page 2-6](#)



Warning

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

Safety Recommendations

Follow these guidelines to ensure general safety:

- Keep the chassis area clear and dust-free during and after installation.
- If you remove the chassis cover, put it in a safe place.
- Keep tools and chassis components away from walk areas.
- Do not wear loose clothing that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- Wear safety glasses when working under conditions that might be hazardous to your eyes.
- Do not perform any action that creates a hazard to people or makes the equipment unsafe.



Note

For safety information you must know before working on your Cisco router, see the [Cisco 2800 and Cisco 3800 Series Integrated Services Routers Regulatory Compliance and Safety Information](#) document.

Safety with Electricity



Warning

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

Follow these guidelines when working on equipment powered by electricity:

- Locate the emergency power-off switch in the room in which you are working. Then, if an electrical accident occurs, you can quickly turn off the power.
- Disconnect all power before doing the following:
 - Installing or removing a chassis
 - Working near power supplies
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.
- Do not work alone if hazardous conditions exist.
- Never assume that power is disconnected from a circuit. Always check.
- Never open the enclosure of the router's internal power supply.
- If an electrical accident occurs, proceed as follows:
 - Use caution; do not become a victim yourself.
 - Turn off power to the device.
 - If possible, send another person to get medical aid. Otherwise, assess the victim's condition and then call for help.
 - Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.

In addition, use the following guidelines when working with any equipment that is disconnected from a power source, but still connected to telephone wiring or other network cabling:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for it.
- Never touch uninsulated telephone wires or terminals unless the telephone line is disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. It can occur if electronic printed circuit cards are improperly handled and can cause complete or intermittent failures. Always follow ESD prevention procedures when removing and replacing modules:

- Ensure that the router chassis is electrically connected to earth ground.
- Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to channel unwanted ESD voltages safely to ground. To guard against ESD damage and shocks, the wrist strap and cord must operate effectively.
- If no wrist strap is available, ground yourself by touching a metal part of the chassis.

**Caution**

For the safety of your equipment, periodically check the resistance value of the antistatic strap. It should be between 1 and 10 megohms (Mohm).

General Site Requirements

This section describes the requirements your site must meet for safe installation and operation of your router. Ensure that the site is properly prepared before beginning installation. If you are experiencing shutdowns or unusually high errors with your existing equipment, this section can also help you isolate the cause of failures and prevent future problems.

Power Supply Considerations

Check the power at your site to ensure that you are receiving “clean” power (free of spikes and noise). Install a power conditioner if necessary.

The AC power supply includes the following features:

- Autoselects either 110 V or 220 V operation.
- All units include a 6-foot (1.8-meter) electrical power cord. (A label near the power inlet indicates the correct voltage frequency, current draw, and power dissipation for the unit.)

Site Environment

Cisco IAD2801 series integrated access devices can be placed on a desktop or installed in a rack. The location of your router and the layout of your equipment rack or wiring room are extremely important considerations for proper operation. Equipment placed too close together, inadequate ventilation, and inaccessible panels can cause malfunctions and shutdowns, and can make maintenance difficult. Plan for access to both front and rear panels of the router.

When planning your site layout and equipment locations, remember the precautions described in the next section “[Site Configuration](#),” to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are currently experiencing shutdowns or an unusually high number of errors with your existing equipment, these precautions may help you isolate the cause of the failures and prevent future problems.

Site Configuration

The following precautions will help you plan an acceptable operating environment for your router and will help you avoid environmentally caused equipment failures:

- Ensure that the room where your router operates has adequate air circulation. Electrical equipment generates heat. Without adequate air circulation, ambient air temperature may not cool equipment to acceptable operating temperatures.
- Always follow ESD-prevention procedures described in the “[Preventing Electrostatic Discharge Damage](#)” section on page 2-2 to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.

- Ensure that the chassis cover and module rear panels are secure. All empty network module slots, interface card slots, and power supply bays must have filler panels installed. The chassis is designed to allow cooling air to flow within it, through specially designed cooling slots. A chassis with uncovered openings permits air leaks, which may interrupt and reduce the flow of air across internal components.

Equipment Racks

Cisco IAD2801 series integrated access devices include brackets for use with a 19-inch rack.



Note

Brackets for a 23-inch rack are not available for Cisco IAD2801 series integrated access devices.

The following information will help you plan your equipment rack configuration:

- Allow clearance around the rack for maintenance.
- Allow at least one rack unit of vertical space between routers.
- Enclosed racks must have adequate ventilation. Ensure that the rack is not congested, because each router generates heat. An enclosed rack should have louvered sides and a fan to provide cooling air. Heat generated by equipment near the bottom of the rack can be drawn upward into the intake ports of the equipment above.
- When mounting a chassis in an open rack, ensure that the rack frame does not block the intake or exhaust ports. If the chassis is installed on slides, check the position of the chassis when it is seated into the rack.
- Baffles can help to isolate exhaust air from intake air, which also helps to draw cooling air through the chassis. The best placement of the baffles depends on the airflow patterns in the rack, which can be found by experimenting with different configurations.
- When equipment installed in a rack (particularly in an enclosed rack) fails, try operating the equipment by itself, if possible. Power off other equipment in the rack (and in adjacent racks) to allow the router under test a maximum of cooling air and clean power.

Installation Checklist

The sample installation checklist lists items and procedures for installing a new router. Make a copy of this checklist and mark the entries when completed. Include a copy of the checklist for each router in your Site Log (described in the next section, “[Creating a Site Log](#)”).

Installation checklist for site _____

Router name _____

Task	Verified by	Date
Installation Checklist copied		
Background information placed in Site Log		
Site power voltages verified		
Installation site power check completed		

Installation checklist for site _____

Router name _____

Task	Verified by	Date
Required tools available		
Additional equipment available		
Router received		
Product registration card received		
Cisco.com contact information label received		
Chassis components verified		
Initial electrical connections established		
ASCII terminal (for local configuration) or modem (for remote configuration) available		
Signal distance limits verified		
Startup sequence steps completed		
Initial operation verified		
Software image verified		

Creating a Site Log

The Site Log provides a record of all actions related to the router. Keep it in an accessible place near the chassis where anyone who performs tasks has access to it. Use the Installation Checklist to verify steps in the installation and maintenance of the router. Site Log entries might include the following information:

- Installation progress—Make a copy of the Installation Checklist and insert it into the Site Log. Make entries as each procedure is completed.
- Upgrade and maintenance procedures—Use the Site Log as a record of ongoing router maintenance and expansion history. A Site Log might include the following events:
 - Installation of network modules
 - Removal or replacement of network modules and other upgrades
 - Configuration changes
 - Maintenance schedules and requirements
 - Maintenance procedures performed
 - Intermittent problems
 - Comments and notes

Inspecting the Router

Do not unpack the router until you are ready to install it. If the final installation site will not be ready for some time, keep the chassis in its shipping container to prevent accidental damage. When you are ready to install the router, proceed with unpacking it.

The router, cables, publications, and any optional equipment you ordered may be shipped in more than one container. When you unpack the containers, check the packing list to ensure that you received all the following items:

- Router
- 6-foot (1.8-meter) power cord for AC power)
- Rubber feet for desktop mounting
- Rack-mount brackets with screws for 19-inch racks
- Cable management bracket
- RJ-45-to-DB-9 console cable
- DB-9-to-DB-25 connector adapter
- Optional equipment (such as network connection cables or additional rack-mount brackets)

Inspect all items for shipping damage. If anything appears to be damaged, or if you encounter problems installing or configuring your router, contact customer service. Warranty, service, and support information is in the quick start guide that shipped with your router.

Required Tools and Equipment for Installation and Maintenance

You need the following tools and equipment to install and upgrade the router and its components:

- ESD-preventive cord and wrist strap
- Number 2 Phillips screwdriver
- Flat-blade screwdrivers: small, 3/16-in. (4 - 5 mm) and medium, 1/4-in. (6 - 7 mm)
 - To install or remove modules
 - To remove the cover, if you are upgrading memory or other components
- Screws that fit your rack
- Wire crimper
- Wire for connecting the chassis to an earth ground:
 - AWG 6 (13 mm²) wire for NEBS-compliant chassis grounding
 - AWG 14 (2 mm²) or larger wire for NEC-compliant chassis grounding
 - AWG 18 (1 mm²) or larger wire for EN/IEC 60950-compliant chassis grounding
- For NEC-compliant grounding, an appropriate user-supplied ring terminal, with an inner diameter of 1/4 in. (5-7 mm)

In addition, depending on the type of modules you plan to use, you might need the following equipment to connect a port to an external network:

- Cables for connection to the WAN and LAN ports (dependent on configuration)



Note For more information on cable specifications, refer to the online document [Cisco Modular Access Router Cable Specifications](#) on Cisco.com.

- Ethernet hub or PC with a network interface card for connection to an Ethernet (LAN) port.
- Console terminal (an ASCII terminal or a PC running HyperTerminal or similar terminal emulation software) configured for 9600 baud, 8 data bits, 1 stop bit, no flow control, and no parity.
- Modem for connection to the auxiliary port for remote administrative access (optional).



CHAPTER 3

Port and Cable Information

This document provides information about cables needed to install your Cisco IAD2801. It includes the following sections:

- [Console and Auxiliary Port Considerations, page 3-1](#)
- [Preparing to Connect to a Network, page 3-2](#)

Console and Auxiliary Port Considerations

The router includes an console port and an auxiliary port. The console and auxiliary ports provide access to the router either locally using a console terminal connected to the console port, or remotely using a modem connected to the auxiliary port. This section discusses important cabling information to consider before connecting the router to a console terminal or modem.

The main difference between the console and auxiliary ports is that the auxiliary port supports hardware flow control and the console port does not. Flow control paces the transmission of data between a sending device and a receiving device. Flow control ensures that the receiving device can absorb the data sent to it before the sending device sends more. When the buffers on the receiving device are full, a message is sent to the sending device to suspend transmission until the data in the buffers has been processed. Because the auxiliary port supports flow control, it is ideally suited for use with the high-speed transmissions of a modem. Console terminals send data at slower speeds than modems; therefore, the console port is ideally suited for use with console terminals.

Console Port Connections

For connection to a PC running terminal emulation software, your router is provided with an RJ-45 to DB-9 adapter cable.

To connect the router to an ASCII terminal, use the RJ-45-to-DB-9 cable and a DB-9-to-DB-25 adapter.

The default parameters for the console port are 9600 baud, 8 data bits, 1 stop bit, and no parity. The console port does not support hardware flow control. For detailed information about installing a console terminal, see the [“Connecting to a Console Terminal or Modem”](#) section on page 5-3.

For cable and port pinouts, refer to the online document [Cisco Modular Access Router Cable Specifications](#). This document is located on Cisco.com.

Auxiliary Port Connections

For connection to a modem, your router is provided with an RJ-45-to-DB-25 adapter cable. (A DB-9-to-DB-25 adapter is also included with the Cisco IAD2801.)

For detailed information about connecting devices to the auxiliary port, see the “[Connecting to a Console Terminal or Modem](#)” section on page 5-3 of the “[Cable Connection Procedures](#)” online document.

For cable and port pinouts, refer to the [Cisco Modular Access Router Cable Specifications](#) online document on Cisco.com.

Preparing to Connect to a Network

When setting up your router, consider distance limitations and potential electromagnetic interference (EMI) as defined by the applicable local and international regulations.

Refer to the following online documents for more information about network connections and interfaces:

- [Cisco Network Modules Hardware Installation Guide](#)
- [Cisco Interface Cards Installation Guide](#)
- [Cisco Modular Access Router Cable Specifications](#)

**Note**

For information about connecting DSL interface cards, see the Cisco Interface Cards Hardware Installation Guide at the following URL:

http://www.cisco.com/en/US/products/hw/modules/ps2641/products_module_installation_guide_book_09186a0080692b21.html

**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. Statement 1021

Ethernet Connections

The IEEE has established Ethernet as standard IEEE 802.3. Cisco IAD2801 series integrated access devices support the following Ethernet implementations:

- 100BASE-T—100 Mbps full-duplex transmission over a Category 5 or better unshielded twisted-pair (UTP) cable. Supports the Ethernet maximum length of 328 feet (100 meters).
- 10BASE-T—10 Mbps full-duplex transmission over a Category 5 or better unshielded twisted-pair (UTP) cable. Supports the Ethernet maximum length of 328 feet (100 meters).

Refer to the [Cisco Modular Access Router Cable Specifications](#) online document for information about Ethernet cables, connectors, and pinouts.



CHAPTER 4

Chassis Installation Procedures

This document describes how to install your Cisco IAD2801 on a desktop or in a rack. It includes the following sections:

- [Setting Up the Chassis, page 4-1](#)
- [Installing the Chassis Ground Connection, page 4-5](#)



Warning

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



Warning

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.
Statement 1017

Setting Up the Chassis

You can set any Cisco IAD2801 on a desktop or install it in a rack. See the applicable instructions in the following sections.

- [Rack-Mounting the Chassis](#)
- [Setting the Chassis on a Desktop](#)



Caution

To prevent damage to the chassis, never attempt to lift or tilt the chassis by the plastic panel on the front. Always hold the chassis by the metal body.



Warning

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

Rack-Mounting the Chassis

If you are planning to rack-mount the router, do so before making network and power connections. Internal modules should be installed prior to rack-mounting.

Cisco IAD2801 series integrated access devices can be installed only in 19-inch racks, and cannot be center mounted. Use the standard brackets shipped with the router for mounting the chassis in a 19-inch rack.



Note

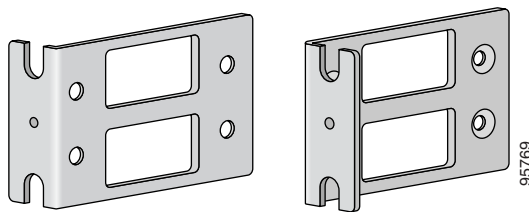
Brackets for 23-inch (58.42-cm) equipment racks are not available for the Cisco IAD2801.

You can mount the router in the following ways:

- Front mounting—Brackets attached at the front of the chassis with the front panel facing forward.
- Rear mounting—Brackets attached at the rear of the chassis with the rear panel facing forward.

The brackets are shown in [Figure 4-1](#).

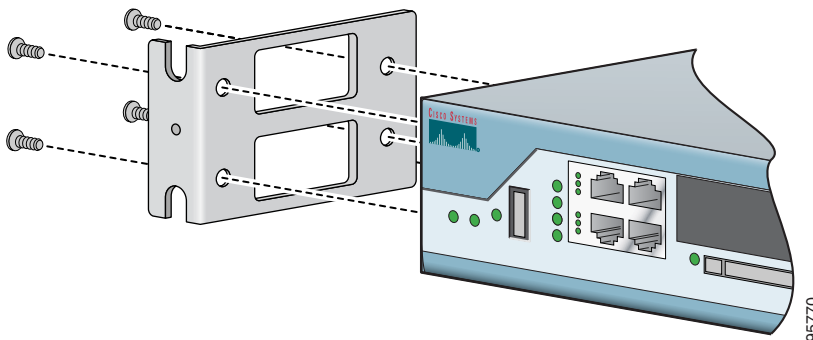
Figure 4-1 Rack-Mounting Brackets for the Cisco IAD2801 for a 19-Inch Rack



Attaching Rack-Mount Brackets to Cisco IAD2801 Series Integrated Access Devices

Use four of the supplied number-8 Phillips flat-head screws to attach the long side of each bracket to the router. [Figure 4-2](#) shows how to attach the brackets to the sides of the router with the front panel forward.

Figure 4-2 Attaching Rack-Mounting Brackets to a Cisco IAD2801



Installing the Router in a Rack

After you have attached the brackets to the router chassis, use the screws provided with the rack to install the chassis in the rack.

**Tip**

Start the lower pair of screws first, and rest the brackets on the lower screws while you insert the upper pair of screws.

**Tip**

The screw slots in the brackets are spaced to line up with every *second* pair of screw holes in the rack. When the correct screw holes are used, the small threaded holes in the brackets line up with unused screw holes in the rack. If the small holes do not line up with the rack holes, you must raise or lower the brackets to the next rack hole.

**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

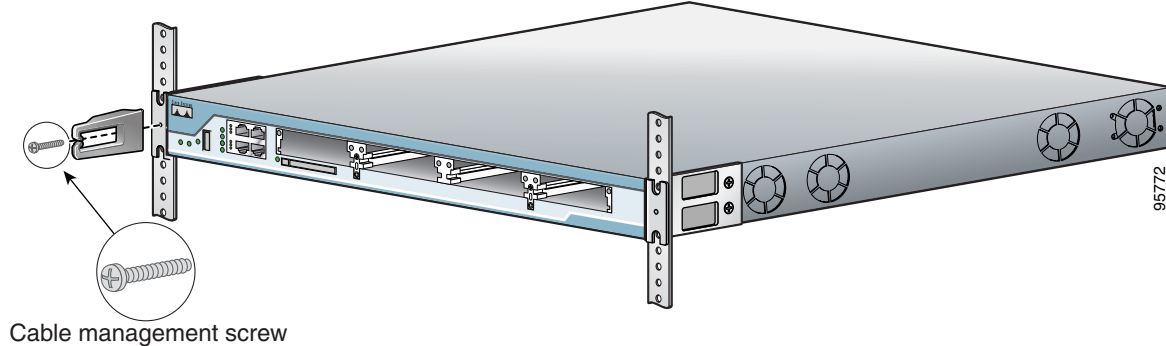
**Caution**

Be sure to leave space above and below each router in a rack, to allow for cooling air circulation.

Attaching Optional Cable Management Bracket

The optional cable management bracket provides attachment points for organizing and routing cables. On brackets for the Cisco IAD2801, attach the cable management bracket to the left or right rack-mount bracket using the screw provided, as shown in [Figure 4-3](#).

Figure 4-3 Attaching the Optional Cable Management Bracket to the Cisco IAD2801



Chassis Grounding

After the router is installed, you must connect the chassis to a reliable earth ground. For the chassis ground connection procedures, see the [“Installing the Chassis Ground Connection”](#) section on page 4-5.

Setting the Chassis on a Desktop

You can place a Cisco IAD2801 on a desktop or shelf. If you are placing a Cisco IAD2801 on a desktop, you must first install the four rubber feet that are supplied in the accessory kit. They provide space for air circulation and antiskid protection. Peel the rubber feet from the adhesive strip, and stick them onto the features marked “+” on the bottom of the chassis.



Warning

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on modules (such as power supplies, fans, or cards); these types of handles are not designed to support the weight of the unit. Statement 1032



Caution

Do not place anything on top of the router that weighs more than 10 pounds (4.5 kg), and do not stack routers on a desktop. Excessive distributed weight of more than 10 pounds, or pound point load of 10 pounds on top could damage the chassis.



Caution

Your chassis installation must allow unrestricted airflow for chassis cooling. For placing the router on a desktop, keep at least 1 inch (2.54 cm) of clear space beside the cooling inlet and exhaust vents.

After the router is installed, you must connect the chassis to a reliable earth ground. For the chassis ground connection procedures, see the [“Installing the Chassis Ground Connection”](#) section on page 4-5.

Installing the Chassis Ground Connection



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

You must connect the chassis to a reliable earth ground; the ground wire must be installed in accordance with local electrical safety standards.



Note

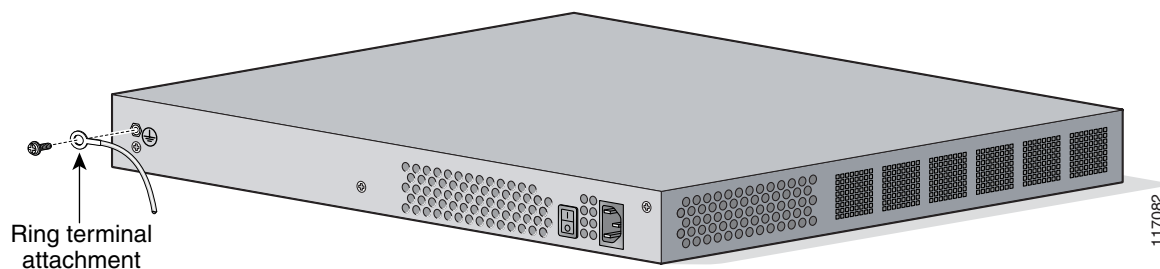
NEBS-compliant grounding is not supported on the Cisco IAD2801.

- For NEC-compliant grounding, use size 14 AWG (2 mm²) or larger copper wire and an appropriate user-supplied ring terminal with an inner diameter of 1/4 in. (5–7 mm).
- For EN/IEC 60950-compliant grounding, use size 18 AWG (1 mm²) or larger copper wire and an appropriate user-supplied ring terminal.

To install the ground connection for a Cisco IAD2801, perform the following steps:

- Step 1** Strip one end of the ground wire to the length required for the ground lug or terminal.
 - For the NEBS ground lug—approximately 0.75 in. (20 mm)
 - For user-provided ring terminal—as required
- Step 2** Crimp the ground wire to the ground lug or ring terminal, using a crimp tool of the appropriate size.
- Step 3** Attach the ground lug or ring terminal to the chassis as shown in [Figure 4-4](#). For a ground lug, use the two screws with captive locking washers provided. For a ring terminal, use one of the screws provided. Tighten the screws to a torque of 8 to 10 in-lb (0.9 to 1.1 N-m).
- Step 4** Connect the other end of the ground wire to a known reliable earth ground point at your site.

Figure 4-4 Chassis Ground Connection Using a Ring Terminal on the Cisco IAD2801



After the router has been installed and properly grounded, you can connect the power wiring; the WAN, LAN, and voice cables; and the cables for administrative access as required for your installation. For information about connecting the cables, see the “[Cable Connection Procedures](#)” online document.



CHAPTER 5

Cable Connection Procedures

This document describes how to connect your Cisco IAD2801 series integrated access devices to a power source and to networks and external devices. It includes the following sections:

- [Power Connections, page 5-1](#)
- [Connecting WAN, LAN, and Voice Cables, page 5-2](#)
- [Connecting to a Console Terminal or Modem, page 5-3](#)



Warning

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



Warning

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.
Statement 1017

Power Connections

This section explains how to connect AC power to a Cisco IAD2801.



Warning

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



Note

The installation must comply with all required electrical codes applicable at the installation site.

Connecting Routers to AC Power

Connect the Cisco IAD2801 to a 15 A, 120 VAC (10 A, 240 VAC) circuit with overcurrent protection.



Note

The input voltage tolerance limits for AC power are 90 and 264 VAC.



Warning

AC connected units must have a permanent ground connection in addition to the power cable ground wire. NEBS-compliant grounding satisfies this requirement. Statement 284



Warning

This product requires short-circuit (overcurrent) protection, to be provided as part of the building installation. Install only in accordance with national and local wiring regulations. Statement 1045



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15A, 120VAC (10A, 240VAC). Statement 1005

Connecting WAN, LAN, and Voice Cables

This section describes how to connect the WAN, LAN, and voice interface cables. It covers the following topics:

- [Ports and Cabling, page 5-3](#)
- [Connection Procedures and Precautions, page 5-3](#)



Note

One or two Ethernet cables are typically provided with the router. Additional cables and transceivers can be ordered from Cisco. For ordering information, contact customer service. For cable pinouts, refer to the [Cisco Modular Access Router Cable Specifications](#) document.



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

Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first. Statement 1026

Ports and Cabling

Table 5-1 summarizes some typical WAN, LAN, and voice connections for Cisco IAD2801 integrated access devices. The connections summarized here are also described in detail in the following documents:

- [Cisco Modular Access Router Cable Specifications](#)
- [Cisco Network Modules Hardware Installation Guide](#)
- [Cisco Interface Cards Installation Guide](#)

Table 5-1 WAN, LAN, and Voice Connections

Port or Connection	Port Type, Color ¹	Connection:	Cable
Ethernet	RJ-45, yellow	Ethernet hub or Ethernet switch	Category 5 or higher Ethernet
ADSL	RJ-11C/CA11A, lavender	Network demarcation device for service provider DSL interface	RJ-11 straight-through
SHDSL	RJ-45	Network demarcation device for service provider DSL interface	RJ-45 straight-through
Analog voice FXS	RJ-11, gray	Telephone, fax	RJ-11; RJ21 if using NM-HDA, straight-through
BRI Voice	RJ-48C/CA81A, tan,	Digital voice	RJ-48C straight-through,

1. Cable color codes are specific to Cisco cables.

Connection Procedures and Precautions

Connect each WAN, LAN, and voice cable to the appropriate connector on the chassis or on a network module or interface card.

- Position the cables carefully, so that they do not put strain on the connectors.
- Organize cables in bundles so that cables do not intertwine.
- Inspect the cables to make sure that the routing and bend radiuses are satisfactory. Reposition cables, if necessary.
- Install cable ties in accordance with site requirements.

For cable pinouts, refer to the [Cisco Modular Access Router Cable Specifications](#) document.

Connecting to a Console Terminal or Modem

Your router has console and auxiliary ports for system management. These ports provide administrative access to your router either locally (with a console terminal or PC) or remotely (with a modem).

Cisco provides the following cables for connecting your router to a console terminal, PC, or modem:

- One console cable (RJ-45-to-DB-9, blue)
- One DB-9-to-DB-25 adapter

This section describes how to connect a console terminal or PC to the console port and how to connect a modem to the auxiliary port. Table 5-2 summarizes the system management connections.

Table 5-2 System Management Connections

Port	Color	Connected To:	Cable
Console	Light blue	PC or ASCII terminal communication port (usually labeled COM)	RJ-45-to-DB-9 console cable
Auxiliary	Black	Modem for remote access	RJ-45-to-DB-25 modem cable or RJ-45-to-DB-9 console cable with a DB-9-to-DB25 adapter

For information about cable pinouts, refer to the [Cisco Modular Access Router Cable Specifications](#) document.

Connecting to the Console Port

If a console terminal or PC is connected to the console port, you can configure the router locally. To connect a console terminal or a PC running HyperTerminal or similar terminal emulation software to the console port on the router, perform the following steps:

-
- Step 1** Use the blue RJ-45-to-DB-9 console cable to connect the router to a terminal.



Note On the Cisco routers, the console port is color-coded blue.

- Step 2** Configure your terminal or terminal emulation software for 9600 baud (default), 8 data bits, 1 stop bit, no parity, and flow control set to “none.”



Note Because hardware flow control is not possible on the console port, do not connect modems to the console port. Connect modems only to the auxiliary port.

Connecting to the Auxiliary Port

If a modem is connected to the auxiliary port, a remote user can dial in to the router and configure it. To connect a modem to the auxiliary port on the router, perform the following steps:

-
- Step 1** Use the black RJ-45-to-DB-25 modem cable or the RJ-45-to-DB-9 console cable with a DB-9 to DB-25 adapter to connect the router to a modem.

- Step 2** Make sure that your modem and the router auxiliary port are configured for the same transmission speed (up to 115200 bps is supported) and hardware flow control with data carrier detect (DCD) and data terminal ready (DTR) operations.
-



CHAPTER 6

Power Up and Initial Configuration Procedures

This document describes how to power up your Cisco IAD2801 and perform an initial configuration to provide network access. It includes the following sections:

- [Powering Up Cisco IAD2801 Integrated Access Devices, page 6-1](#)
- [Configuring the Router, page 6-4](#)

Powering Up Cisco IAD2801 Integrated Access Devices



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

This section covers the following topics:

- [Checklist for Power Up, page 6-1](#)
- [Power Up Procedure, page 6-2](#)
- [Verifying the Front Panel LED Indications, page 6-3](#)
- [Verifying the Hardware Configuration, page 6-3](#)

Checklist for Power Up

You are ready to power up the Cisco router if the following steps are completed:

- Chassis is securely mounted and grounded.
- Power and interface cables are connected.
- The external CompactFlash memory card is properly seated into its slot. For installation instructions, see the online document “[Removing and Installing CompactFlash Memory Cards.](#)”
- PC with terminal emulation program (hyperTerminal or equivalent) is connected to the console port and powered up.
- Your PC terminal emulation program is configured for 9600 baud, 8 data bits, 1 stop bit, no parity, and flow control is set to “none.”

- Suitable PC COM port is selected in the terminal emulation program.
- You have selected passwords for access control.
- You have determined the IP addresses for the Ethernet interfaces.

Power Up Procedure

To power up your Cisco router and verify that it goes through its initialization and self-test, follow the procedure below. When the procedure is finished, the Cisco router is ready to configure.

If you encounter problems when you power on the router, refer to the “[Troubleshooting](#)” online document.

For information about the ROM monitor and the bootstrap program, refer to the [Using the ROM Monitor](#) document. For information about the configuration register, refer to the [Changing the Configuration Register Settings](#) document.



Note

To view the boot sequence, you must have a console connection to the Cisco router *before* it powers up.

Step 1 Make sure that your PC is powered up and connected as described in the “[Checklist for Power Up](#)” section on page 6-1.

Step 2 Move the power switch to the ON position.

The following indications appear:

- The SYS PWR LED on the front of the chassis blinks green.
- The fans operate.

Depending on your installation, some LEDs on the rear of the chassis and on installed modules might also come on.

If you encounter problems when you power up the router, refer to the “[Troubleshooting](#)” online document.

Startup messages appear in your terminal emulation program window. When the startup messages end, the SYS PWR LED comes on solid green.



Caution

Do not press any keys on the keyboard until the messages stop and the SYS PWR LED is solid green. Any keys pressed during this time are interpreted as the first command typed when the messages stop, which might cause the router to power off and start over. It takes a few minutes for the messages to stop.

You may see different startup messages:

- If you see the following messages, the router has booted with a configuration file and is ready for initial configuration.

```
yourname con0 is now available
```

```
Press RETURN to get started.
```

- If you see the following messages, the router has booted and is ready for initial configuration using the setup command facility or the command-line interface (CLI).

```
--- System Configuration Dialog ---
```

At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '['].

Would you like to enter the initial configuration dialog? [yes/no]:

To learn how to use the setup command facility to configure the router, see the [“Initial Configuration Using the Setup Command Facility”](#) section on page 6-4.

To learn how to use the CLI to configure the router, see the [“Initial Configuration Using the Cisco CLI—Manual Configuration”](#) section on page 6-7.

**Note**

If the `rommon 1>` prompt appears, your system has booted in ROM monitor mode. For information on the ROM monitor, see the [Using the ROM Monitor](#) document.

Verifying the Front Panel LED Indications

The front-panel indicator LEDs described in [Table 6-1](#) provide power, activity, and status information useful during powerup.

Table 6-1 Cisco IAD2801 LED Indicators

LED Label	LED Color or State	Meaning
SYS PWR	Solid green	System is operating normally
	Blinking green	System is booting or is in ROM monitor mode
	Amber	System error
	Off	Power is off or power fault
SYS ACT	Blinking green or solid green	Packet transfers are occurring or internal monitoring activities are occurring
	Off	No packet transfers are occurring
CF	Blinking green or solid green	Flash memory is being accessed; do not eject the CompactFlash memory card
	Off	Flash memory is not being accessed; okay to eject the CompactFlash memory card

Verifying the Hardware Configuration

To display and verify the hardware features, enter the following commands:

- **show version**—Displays the system hardware version; the installed software version; the names and sources of configuration files; the boot images; and the amount of installed DRAM, NVRAM, and flash memory.
- **show diag**—Lists and displays diagnostic information about the installed controllers, interface processors, and port adapters; typical examples are network modules, interface cards (VICs and HWICs).

Configuring the Router

This section covers the following topics:

- [Initial Configuration Using Cisco Router](#), page 6-4
- [Initial Configuration Using the Setup Command Facility](#), page 6-4
- [Initial Configuration Using the Cisco CLI—Manual Configuration](#), page 6-7
- [Verifying the Initial Configuration](#), page 6-8
- [Completing the Configuration](#), page 6-8

You can configure your router by using one of the following tools:

- Setup command facility—See the “[Initial Configuration Using the Setup Command Facility](#)” section on page 6-4.
- Command-line interface (CLI)—See the “[Initial Configuration Using the Cisco CLI—Manual Configuration](#)” section on page 6-7.



Note

If you need help with the interface and port numbering, refer to the “[Interface Numbering](#)” section of the “[Overview](#)” online document.

Initial Configuration Using Cisco Router

The following messages appear at the end of the startup sequence:

```
yourname con0 is now available
```

```
Press RETURN to get started.
```

For help with interface and port numbering, refer to the “[Interface Numbering](#)” section of the “[Overview](#)” online document.

Initial Configuration Using the Setup Command Facility

This section shows how to use the setup command facility to configure a hostname for the router, set passwords, and configure an interface for communication with the management network. If you see the following messages at the end of the startup sequence, the setup command facility has been invoked automatically:

```
--- System Configuration Dialog ---
```

```
At any point you may enter a question mark '?' for help.
```

```
Use ctrl-c to abort configuration dialog at any prompt.
```

```
Default settings are in square brackets '[]'.
```

```
Would you like to enter the initial configuration dialog? [yes/no]:
```

The setup command facility prompts you for basic information about your router and network, and it creates an initial configuration file. After the configuration file has been created, you can use the CLI or Cisco Router to perform additional configuration.

The prompts in the setup command facility vary, depending on your router model, the installed interface modules, and the software image. The following example and the user entries (in **bold**) are shown as examples only.

For a description of the interface numbering, refer to the “[Interface Numbering](#)” section of the “[Overview](#)” online document.

**Note**

If you make a mistake while using the setup command facility, you can exit and run the setup facility again. Press **Ctrl-c**, and type **setup** at the privileged EXEC mode prompt (Router#).

-
- Step 1** To proceed using the setup command facility, enter **yes** when the power-up messages have ended:
- ```
Would you like to enter the initial configuration dialog? [yes/no]: yes
```
- Step 2** When the following messages appear, press **Return** to enter basic management setup:
- ```
At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '[]'.

Basic management setup configures only enough connectivity
for management of the system, extended setup will ask you
to configure each interface on the system

Would you like to enter basic management setup? [yes/no]: yes
```
- Step 3** Enter a hostname for the router (this example uses **Router**):
- ```
Configuring global parameters:

Enter host name [Router]: Router
```
- Step 4** Enter an enable secret password. This password is encrypted (more secure) and cannot be seen when viewing the configuration:
- ```
The enable secret is a password used to protect access to
privileged EXEC and configuration modes. This password, after
entered, becomes encrypted in the configuration.
Enter enable secret: xxxxxxxx
```
- Step 5** Enter an enable password that is different from the enable secret password. This password is *not* encrypted (less secure) and can be seen when viewing the configuration:
- ```
The enable password is used when you do not specify an
enable secret password, with some older software versions, and
some boot images.
Enter enable password: xxxxxxxx
```
- Step 6** Enter the virtual terminal password, which prevents unauthenticated access to the router through ports other than the console port:
- ```
The virtual terminal password is used to protect
access to the router over a network interface.
Enter virtual terminal password: xxxxxxxx
```
- Step 7** Respond to the following prompts as appropriate for your network:
- ```
Configure SNMP Network Management? [yes]:
Community string [public]:
```
- A summary of the available interfaces appears:

Current interface summary

| Controller | Timeslots | D-Channel | Configurable modes | Status          |                     |
|------------|-----------|-----------|--------------------|-----------------|---------------------|
| T1         | 0/0/0     | 24        | 23                 | pri/channelized | Administratively up |

| Interface       | IP-Address | OK? | Method | Status | Pro |
|-----------------|------------|-----|--------|--------|-----|
| FastEthernet0/0 | unassigned | NO  | unset  | up     | up  |
| FastEthernet0/1 | unassigned | NO  | unset  | up     | dow |

**Step 8** Select one of the available interfaces for connecting the router to the management network:

Enter interface name used to connect to the management network from the above interface summary: **fastethernet0/0**

**Step 9** Respond to the following prompts as appropriate for your network:

```
Configuring interface FastEthernet0/0:
Use the 100 Base-TX (RJ-45) connector? [yes]: no
Operate in full-duplex mode? [no]: yes
Configure IP on this interface? [yes]:
IP address for this interface: 172.1.2.3
Subnet mask for this interface [255.255.0.0] :
6
```

The configuration is displayed:

The following configuration command script was created:

```
hostname IAD
enable secret 5 1N/8L$kcQYQVHusc4YL3bGiWviH1
enable password cisco
line vty 0 4
password lab
snmp-server community public
!
no ip routing

!
interface FastEthernet0/0
no shutdown
full-duplex
ip address 172.1.2.3 255.255.0.0
no mop enabled
!
interface FastEthernet0/1
shutdown
no ip address
!
end
```

**Step 10** Respond to the following prompts. Select [2] to save the initial configuration:

```
[0] Go to the IOS command prompt without saving this config.
[1] Return back to the setup without saving this config.
[2] Save this configuration to nvram and exit.
```

```
Enter your selection [2]: 2
Building configuration...
Use the enabled mode 'configure' command to modify this configuration.
```

Press RETURN to get started!

The user prompt appears.



```
Router>
```

- Step 11** Verify the initial configuration. See the [“Verifying the Initial Configuration”](#) section on page 6-8 for verification procedures.
- 

## Initial Configuration Using the Cisco CLI—Manual Configuration

This section shows how to display a command-line interface (CLI) prompt for configuration using the CLI, and it directs you to documentation for the CLI configuration. You can use the CLI if you see the following messages at the end of the startup sequence:

```
--- System Configuration Dialog ---
```

```
At any point you may enter a question mark '?' for help.
Use ctrl-c to abort configuration dialog at any prompt.
Default settings are in square brackets '['].
```

```
Would you like to enter the initial configuration dialog? [yes/no]:
```

For help with interface and port numbering, refer to the [“Interface Numbering”](#) section of the [“Overview”](#) online document.

---

- Step 1** To proceed with manual configuration using the CLI, enter **no** when the power-up messages end:

```
Would you like to enter the initial configuration dialog? [yes/no]: no
```

- Step 2** Press **Return** to terminate autoinstall and continue with manual configuration:

```
Would you like to terminate autoinstall? [yes] Return
```

Several messages are displayed, ending with a line similar to the following:

```
...
Copyright (c) 1986-2007 by cisco Systems, Inc.
Compiled <date> <time> by <person>
```

- Step 3** Press **Return** to bring up the Router> prompt.

```
...
flashfs[4]: Initialization complete.
Router>
```

- Step 4** Type **enable** to enter privileged EXEC mode:

```
Router> enable
Router#
```



**Note** To avoid losing work you have completed, be sure to save your configuration occasionally as you proceed. Use the **copy running-config startup-config** command to save the configuration to NVRAM.

---

- Step 5** When you have finished the initial configuration, verify the initial configuration. See the [“Verifying the Initial Configuration”](#) section on page 6-8 for verification procedures.
-

## Verifying the Initial Configuration

Verify that the new interfaces are operating correctly by performing the following tests:

- To verify that the interfaces are operating correctly and that the interfaces and line protocol are in the correct state—up or down—enter the **show interfaces** command.
- To display a summary status of the interfaces configured for IP, enter the **show ip interface brief** command.
- To verify that you configured the correct hostname and password, enter the **show configuration** command.

When you have completed and verified the initial configuration, your Cisco router is ready to configure for specific functions. See the [“Completing the Configuration” section on page 6-8](#) for information about locating documentation for advanced configuration procedures.

## Completing the Configuration

When you have completed and verified the initial configuration, your Cisco router is ready to configure for specific functions.



# APPENDIX **A**

## Troubleshooting

---

If you encounter problems with your Cisco IAD2801, use this information to isolate problems in the router or to eliminate the router as the source of the problem.

This document includes the following sections:

- [Solving Problems, page A-1](#)
- [Reading System LEDs, page A-4](#)
- [Reading Port and Module LEDs, page A-5](#)
- [System Messages, page A-6](#)
- [Recovering a Lost Password, page A-8](#)
- [More Troubleshooting Help—Cisco Technical Assistance Center, page A-8](#)



### Note

---

To troubleshoot interface cards, refer to the online [Cisco Interface Cards Installation Guide](#).

---

If you cannot locate the source of the problem, contact a customer service representative for information on how to proceed. For technical support information, refer to the “[Obtaining Technical Assistance](#)” section of the “[Preface](#)” online document. Before you call, have the following information ready:

- Chassis type and serial number
- Maintenance agreement or warranty information
- Type of software and version number
- Date you received the new chassis
- Brief description of the problem
- Brief explanation of the steps you have taken to isolate the problem

## Solving Problems

The key to solving problems is to isolate the problem to a specific subsystem by comparing what the router is doing to what it should be doing.

The LEDs on the front and rear panel of the router enable you to determine router performance and operation. LEDs are described in the following sections:

- [Reading System LEDs, page A-4](#)
- [Reading Port and Module LEDs, page A-5](#)

When solving problems, consider the following router subsystems:

- Power and cooling systems—External power source, power cable, router power supply and circuit breaker, and router blower and fan. Also consider inadequate ventilation or air circulation.
- Modules—LEDs on the modules help identify a failure.
- Cables—External cables that connect the router to the network.

## Troubleshooting the Power and Cooling Systems

Both the system LED and the fans can help you troubleshoot a power problem. Check the following items to help isolate the problem:

### Normal Indications

With the power switch on, the normal indications are:

- SYS PWR LED on green and continuous
- Fans operating

### Fault Indications

Check the following symptoms to locate or eliminate faults in the power and cooling systems:

- With the power switch on, is the SYS PWR LED on?
  - If the LED is green and continuous, the router is receiving power and is functional.
  - If the LED is amber, the router is receiving power but is not functional.
  - If the LED is off, check the power source and power cable.
- With the power switch on and the SYS PWR LED on and green, do the fans operate?
  - If no, check the fans.
  - If yes, the power system is functioning.
- With the power switch on and the PWR SYS LED off, do the fans operate?
  - If yes, the router is receiving power. The fans are connected directly to the DC outputs of the power supply.
  - If no, check the power source and power cable.
- Does the router shut down after being on a short time?
  - Check for an environmentally induced shutdown. See the next section, “[Environmental Reporting Features](#).”
  - Check the environmental site requirements in the “[General Site Requirements](#)” section on [page 2-3](#).
  - Ensure that all interface cards and internal modules are correctly installed.
  - Check for a power supply failure by inspecting the SYS PWR LED on the front panel. If it is green, the power supply is functional.
- Router partially boots, but LEDs do not come on.
  - Check for a power supply failure by inspecting the SYS PWR LED on the front panel of the router. If the SYS PWR LED is blinking or continuous green or continuous amber, the power supply is functional.

- If the SYS PWR LED is not on, refer to the “[Cisco 90-Day Limited Hardware Warranty Terms](#)” section of the “[Preface](#)” document for warranty information, or contact customer service.
- Check for a power supply failure by inspecting the power supply LEDs on the front panel. See the “[Reading System LEDs](#)” section on [page A-4](#) for power supply LED descriptions.

## Environmental Reporting Features

If the router is operating at an abnormally high temperature, the following message is displayed on the console screen:

```
%SYS-1-OVERTEMP: System detected OVERTEMPERATURE condition. Please resolve cooling problem immediately!
```

Some causes of abnormally high router temperature are as follows:

- Fan failure
- Air conditioner failure in the room
- Air blockage to cooling vents

Take steps to correct the problem. See also the “[Site Environment](#)” section on [page 2-3](#), and the “[Equipment Racks](#)” section on [page 2-4](#).

## Troubleshooting Modules, Cables, and Connections

Network problems can be caused by a module; cables or cable connections; or external devices such as a modem, transceiver, hub, wall jack, WAN interface, or terminal. Check for the following symptoms to help isolate the problem:

- Module is not recognized by the router.
  - Make sure that the module is firmly seated in its slot.
  - Check the LEDs on the interface card if they exist.
  - Make sure that you have a version of Cisco IOS software that supports the interface card.
- Module is recognized, but interface ports do not initialize.
  - Make sure that the module is firmly seated in its slot.
  - Check external cable connections.
  - Make sure that you have a version of Cisco IOS software that supports the module. Check the software requirements for the affected module.
- Router does not boot properly, or constantly or intermittently reboots.
  - Make sure that the module is firmly seated in its slot.
  - Check the router chassis or software. Refer to the “[Cisco 90-Day Limited Hardware Warranty Terms](#)” and the “[Obtaining Technical Assistance](#)” sections of the “[Preface](#)” online document for warranty and customer service contact information.
- Router boots, but the console screen is frozen, displays no output, or displays garbled output.
  - Check the external console connection.
  - Verify that the parameters for your terminal are set as follows:

- (a) The same data rate as configured for the router (9600 baud is the default)
- (b) 8 data bits
- (c) 1 stop bit
- (d) No parity generated or checked
- Router powers on and boots only when a particular module is removed.
  - Check the module. Refer to the [“Cisco 90-Day Limited Hardware Warranty Terms”](#) and the [“Obtaining Technical Assistance”](#) sections of the [“Preface”](#) online document for warranty and customer service contact information.
  - Confirm that the Cisco IOS release installed in the router supports the card. The [Cisco Interface Cards Installation Guide](#) lists the software requirements for each card.
- Router powers on and boots only when a particular cable is disconnected.
  - There may be a problem with the module or cable. Refer to the [“Cisco 90-Day Limited Hardware Warranty Terms”](#) and the [“Obtaining Technical Assistance”](#) sections of the [“Preface”](#) online document. document for warranty and customer service contact information.

## Reading System LEDs

The system LEDs on the front panel of the router provide information about the power, data packet activity, and flash memory activity. For an explanation of these LEDs see [Table A-1](#).

**Table A-1** System LEDs on Cisco IAD2801 Series Integrated Access Devices

| LED Indicator | State          | Meaning                                                                                                                  | Possible Causes and Corrective Actions                                                                                                                                                                                                                                                                                                                 |
|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS PWR       | Off            | If the fan is not running— <ul style="list-style-type: none"> <li>• No output from the internal power supply.</li> </ul> | Power not switched on at the router.<br>Power not available from source.<br>Faulty input power wires or connections.<br>Failed power supply in the router. To replace the internal power supply, refer to the <a href="#">“Replacing the Power Supply”</a> section of the <a href="#">“Installing and Upgrading Internal Modules”</a> online document. |
|               |                | If the fan is running— <ul style="list-style-type: none"> <li>• Router fault</li> </ul>                                  | Failure in one or more system board components. Contact Cisco technical support. Refer to the <a href="#">“Obtaining Technical Assistance”</a> section of the <a href="#">“Preface”</a> online document.                                                                                                                                               |
|               | Solid green    | Router is receiving power, and the internal power supply is functional.                                                  | Normal indication. No action required.                                                                                                                                                                                                                                                                                                                 |
|               | Blinking green | During bootup, router is booting up normally.                                                                            | Normal indication. No action required.                                                                                                                                                                                                                                                                                                                 |
|               |                | After bootup, router is operating in ROM monitor mode.                                                                   | Refer to the router rebooting and ROM monitor information in the <a href="#">Cisco IOS Configuration Fundamentals Configuration Guide</a> for your Cisco IOS software release.                                                                                                                                                                         |

**Table A-1** System LEDs on Cisco IAD2801 Series Integrated Access Devices

| LED Indicator | State                   | Meaning                                                                       | Possible Causes and Corrective Actions                                                                                                                                                        |
|---------------|-------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | Amber                   | System error                                                                  | Contact Cisco technical support. Refer to the <a href="#">“Obtaining Technical Assistance”</a> section of the <a href="#">“Preface”</a> online document.                                      |
| AUX/PWR       | Off                     | IP power is not installed.                                                    | No action is required.                                                                                                                                                                        |
|               | Solid green             | IP power is functional, if installed.                                         | Normal indication. No action required for IP power.                                                                                                                                           |
|               | Solid amber             | IP power output has failed.                                                   | Replace AC power supply. Refer to the <a href="#">“Replacing the Power Supply”</a> section of the <a href="#">“Installing and Upgrading Internal Modules”</a> online document.                |
| SYS ACT       | Off                     | No packet transfers are occurring.                                            | Ethernet not active or not connected. Check Ethernet connections and make corrections as necessary.<br>Router not configured properly. Check configuration and make corrections as necessary. |
|               | Blinking                | System is actively transferring packets or is monitoring internal activities. | Normal indication. No action required.                                                                                                                                                        |
| CF            | Off                     | The flash memory is not being accessed.                                       | Normal indication. No action required. It is okay to remove the CompactFlash memory card if the CF LED remains off.                                                                           |
|               | Solid green or blinking | The flash memory is being accessed.                                           | Normal indication. No action required.<br>Caution: Do not remove the CompactFlash memory card while it is being accessed.                                                                     |

## Reading Port and Module LEDs

The port and module LEDs, located on the front panel of the router on the Cisco IAD2801, enable you to determine router performance and operation. For an explanation of these LEDs see [Table A-2](#).

**Table A-2** LED Indicators on Cisco IAD2801 Series Integrated Access Devices

| LED Indicator | State                   | Meaning                                                      | Corrective Action                                                                                                                                                                             |
|---------------|-------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A = ACT       | Off                     | Ethernet interface next to the LED is not receiving packets. | Ethernet not active or not connected. Check Ethernet connections and make corrections as necessary.<br>Router not configured properly. Check configuration and make corrections as necessary. |
|               | Solid or blinking green | Ethernet interface next to the LED is receiving packets.     | Normal indication. No action required.                                                                                                                                                        |

**Table A-2** LED Indicators on Cisco IAD2801 Series Integrated Access Devices

| LED Indicator                            | State                 | Meaning                                                                                            | Corrective Action                                                                                                                                          |
|------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| F = FDX                                  | Off                   | Ethernet port next to the LED is operating in half-duplex mode.                                    | Indication is for information only.                                                                                                                        |
|                                          | Solid green           | Ethernet port next to the LED is operating in full-duplex mode.                                    | Indication is for information only.                                                                                                                        |
| S = Speed                                | 1 blink + pause (Off) | Ethernet port next to the LED is operating at 10 Mbps.                                             | Indication is for information only.                                                                                                                        |
|                                          | 2 blinks + pause (On) | Ethernet port next to the LED is operating at 100 Mbps.                                            | Indication is for information only.                                                                                                                        |
| L = Link                                 | Off                   | Ethernet link is not established.                                                                  | Ethernet not active or not connected. Check Ethernet connections<br>Router not configured properly. Check configuration and make corrections as necessary. |
|                                          | Green                 | Ethernet link is established.                                                                      | Normal indication. No action required.                                                                                                                     |
| PVDM0<br><br>(Packet voice data modules) | Off                   | No PVDM installed in slot (0).                                                                     | Indication is for information only.                                                                                                                        |
|                                          | Green                 | PVDM in slot (0) is initialized.                                                                   | Normal indication. No action required.                                                                                                                     |
|                                          | Amber                 | During bootup—PVDM in slot (0) is detected.<br>After bootup—PVDM in slot (0) failed to initialize. | If PVDM fails to initialize, return equipment to Cisco.                                                                                                    |

## System Messages

This section describes system error and recovery messages that may appear when a Cisco IAD2801 is operated. Cisco IOS software displays system error and recovery messages on an external device console terminal screen. (For more information, see the [“Connecting to a Console Terminal or Modem”](#) section on page 5-3.)

The terminal should display one of the following prompts:

Router> (indicates the user EXEC command mode)

or

Router# (indicates the privileged EXEC command mode)

The Cisco IOS software checks the system condition once every 30 seconds. If the condition still exists, the error message appears again; if the error condition has cleared, a recovery message appears.

[Table A-3](#) describes system error and recovery messages and LED conditions that might accompany them.



**Note**

Table A-3 does not provide a complete list of system LED conditions. (For all LED conditions that can occur in your router, see the “[Reading System LEDs](#)” section on page A-4 and the “[Reading Port and Module LEDs](#)” section on page A-5.)

**Table A-3 System Error and Recovery Messages**

| LED Type    | LED Color | Message, Meaning, and Recommended Action                                                                                                                                                                                                                                                                                                                                  |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYS<br>PWR  | Amber     | <p>Error:</p> <pre>%ENVMON-3-FAN_FAILED: Fan fan-number not rotating.</pre> <p>Explanation:</p> <p>The specified fan (1, 2, or 3) is not rotating at the desired speed.</p> <p>Recovery:</p> <p>Make sure that the fan power cable is properly attached to the mainboard fan power connector. If the problem persists, contact your technical support representative.</p> |
| AUX/<br>PWR | Amber     | <p>Message:</p> <pre>%ENVMON-5-48V_STATUS: -48V supply failed</pre> <p>Explanation:</p> <p>The -48 V power supply has failed.</p> <p>Recommended action:</p> <p>Replace the power supply. Refer to the “<a href="#">Replacing the Power Supply</a>” section of the “<a href="#">Installing and Upgrading Internal Modules</a>” online document.</p>                       |
| AUX/<br>PWR | Green     | <p>Message:</p> <pre>%ENVMON-5-48V_STATUS: -48V supply OK</pre> <p>Explanation:</p> <p>The -48 V power supply is operating normally.</p> <p>Recommended action:</p> <p>Message is informational only.</p>                                                                                                                                                                 |
| —           | —         | <p>Message:</p> <pre>%ENVMON-1-NO_PROCESS: Failed to create environmental monitor process</pre> <p>Explanation:</p> <p>The router failed to establish the environmental monitor process. The amount of memory available in the router may not be sufficient.</p> <p>Recommended action:</p> <p>Increase the amount of memory (RAM) in the router.</p>                     |

## Recovering a Lost Password

You can recover a lost enable password, but an enable secret password is encrypted and is not recoverable. If you lose an enable secret password that is configured on your router, you can replace it with a new enable secret password.

For password recovery and replacement procedures for the Cisco IAD2801, refer to the [Password Recovery Procedures](#) document on Cisco.com.

## More Troubleshooting Help—Cisco Technical Assistance Center

For online troubleshooting help, go to the [TAC Case Collection Tool and Troubleshooting Assistant](#).

You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

For additional troubleshooting tools and information, go to the [Troubleshooting Links](#) index.



## APPENDIX **B**

# Installing and Upgrading Internal Modules

---

This document describes how to install or upgrade modules that are located internally within your Cisco IAD2801 series integrated access devices, such as memory modules, packet voice data modules (PVDMs), and power supplies. You need to remove the cover from the router to install or remove any of these items. The document contains the following sections:

- [Safety Warnings, page B-1](#)
- [Removing the Chassis Cover, page B-2](#)
- [Locating Modules, page B-4](#)
- [Replacing the Power Supply, page B-5](#)
- [Installing the Chassis Cover, page B-6](#)

Before you perform any of these module replacement procedures, disconnect the power and remove the cover, as described in the [“Removing the Chassis Cover”](#) section on page B-2. After you complete the module replacement procedures, install the chassis cover as described in the [“Installing the Chassis Cover”](#) section on page B-6.

## Safety Warnings



**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**

---

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

---



**Warning**

---

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

---



**Warning**

---

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

---

**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**

**Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first.** Statement 1026

## Removing the Chassis Cover

Cisco IAD2801 series integrated access devices have a cover that slides off the rear of the chassis.

### Removing the Cover from Cisco IAD2801 Series Integrated Access Devices

To remove the cover from a Cisco IAD2801, follow these steps:

**Step 1**

Make sure that the router is turned off and is disconnected from the power supply.

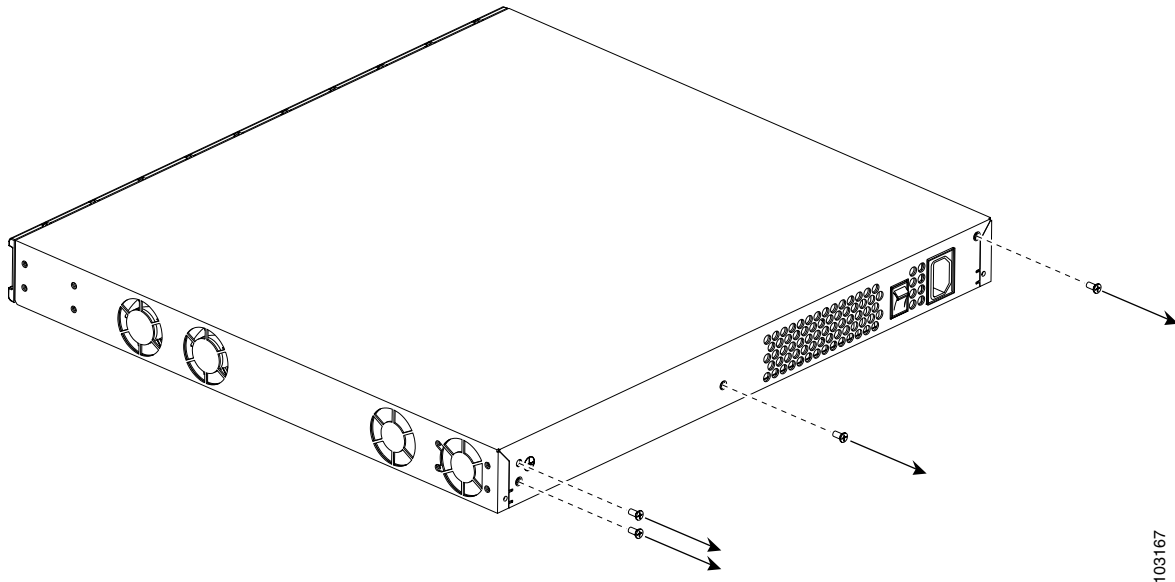
**Warning**

**Before opening the unit, disconnect the telephone-network cables to avoid contact with telephone-network voltages.** Statement 1041

**Step 2**

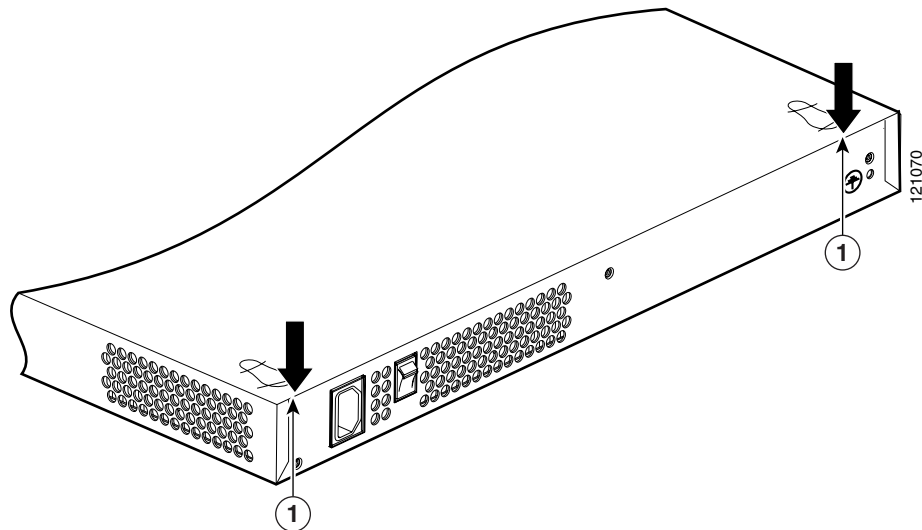
Use a Phillips screwdriver to remove the ground connection screw. Use a flat-blade screwdriver or a hex driver to remove the three screws that hold the chassis and the chassis cover together, as shown in [Figure B-1](#).

Figure B-1 Removing the Cisco IAD2801 Chassis Screws



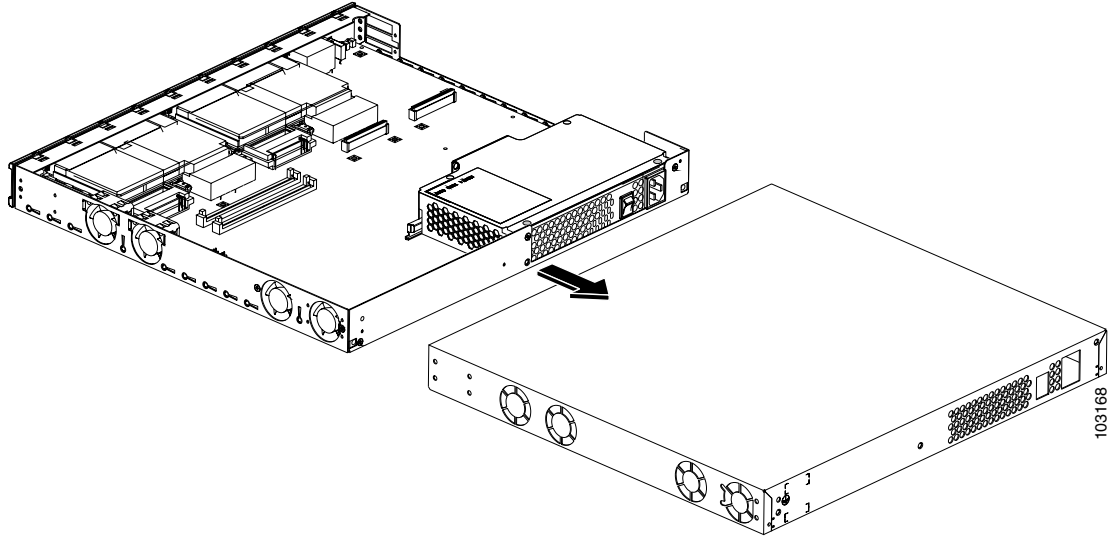
- Step 3** Insert a flat-blade screwdriver between the chassis and chassis cover at the screwdriver pry points on the bottom of the chassis, indicated in [Figure B-2](#). Rotate the screwdriver 90 degrees to disengage the chassis cover from the chassis. It may be necessary to turn the unit upside down on a flat surface to access the pry points.

Figure B-2 Screwdriver Pry Points



- Step 4** Gently slide the chassis cover of the router away from the bottom of the chassis, as shown in [Figure B-3](#).

**Figure B-3** Removing the Cisco IAD2801 Chassis Cover



**Step 5** Place the router bottom on an antistatic mat, and begin installing modules.

## Locating Modules

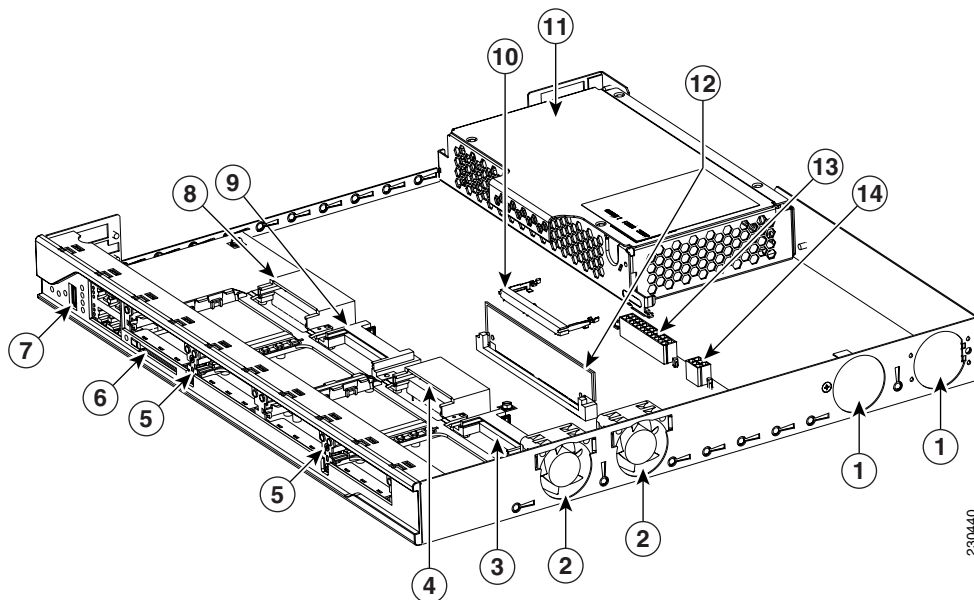
Figure B-4 shows the locations of the DIMMs, PVDMs, and power supply in the Cisco IAD2801.



**Note**

Advanced integration modules (AIM) are not supported on the Cisco IAD2801.

**Figure B-4** Module Locations in Cisco IAD2801 Series Integrated Access Devices



|   |                                        |    |                                   |
|---|----------------------------------------|----|-----------------------------------|
| 1 | ILP fan vents/vent blocking plate      | 8  | VIC, VWIC, WIC, or HWIC connector |
| 2 | System fans                            | 9  | VIC, VWIC, or WIC connector       |
| 3 | VIC or VWIC connector                  | 10 | DIMM socket                       |
| 4 | VIC, VWIC, WIC, or HWIC connector      | 11 | Mainline power supply             |
| 5 | Card guide center rail                 | 12 | PVDM 0                            |
| 6 | External CompactFlash memory card slot | 13 | Main power supply connector       |
| 7 | Universal serial bus (USB) port        | 14 | ILP supply connector              |

## Replacing the Power Supply

To install the main power supply in a Cisco IAD2801, remove the chassis cover as described in the [“Removing the Chassis Cover”](#) section on page B-2, and perform the procedure in the [“Installing the Main Power Supply in a Cisco IAD2801”](#) section on page B-5.



### Caution

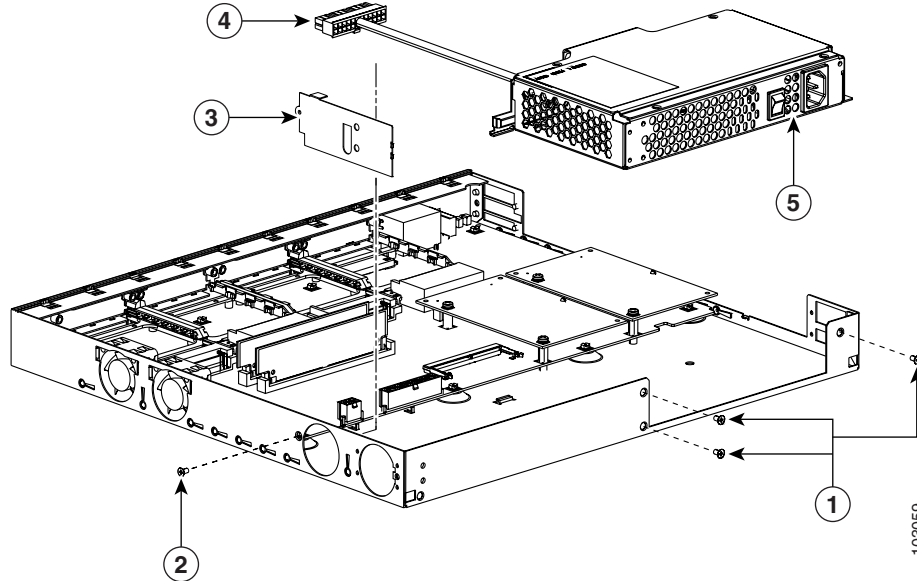
To comply with Telcordia NEBS GR-1089-Core and EN 300386 requirements, you must use foil twisted-pair cable that is properly grounded at both ends.

## Installing the Main Power Supply in a Cisco IAD2801

To replace the main power supply in a Cisco IAD2801, perform the following steps. See [Figure B-4](#) for the locations of connectors and other components within the Cisco IAD2801.

- 
- Step 1** Disconnect the power supply cable from the main power supply connector.
  - Step 2** Remove the screws that fasten the main power supply to the chassis. See [Figure B-5](#).

Figure B-5 Cisco IAD2801 Main Power Supply Removal



|   |                                      |   |                      |
|---|--------------------------------------|---|----------------------|
| 1 | Main power supply fastening screws   | 4 | Main power connector |
| 2 | Vent blocking plate fastening screws | 5 | Main power supply    |
| 3 | Vent blocking plate                  |   |                      |

- Step 3** Lift the main power supply out of the chassis.
- Step 4** Install the new power supply.
- Step 5** Connect the main power supply cable to the main power supply connector.

## Installing the Chassis Cover

Cisco IAD2801 series integrated access devices have a cover that slides onto the chassis from the rear of the chassis. For cover installation procedures, see the [“Installing the Cover on Cisco IAD2801 Series Integrated Access Devices”](#) section on page B-7.



## Installing the Cover on Cisco IAD2801 Series Integrated Access Devices

To install the chassis cover on a Cisco IAD2801, follow these steps:

- 
- Step 1** Slide the top cover of the router back on the bottom of the chassis by pushing it in the direction opposite than shown in [Figure B-3 on page B-4](#), “[Removing the Cisco IAD2801 Chassis Cover.](#)”
  - Step 2** Replace the three screws and the ground connection that you removed when you opened the chassis. See [Figure B-1 on page B-3](#), “[Removing the Cisco IAD2801 Chassis Cover.](#)”
-





## APPENDIX **C**

# Removing and Installing CompactFlash Memory Cards

---

This document describes installing and replacing CompactFlash memory cards in Cisco IAD2801 series integrated access devices. It contains the following sections:

- [Preventing Electrostatic Discharge Damage, page C-1](#)
- [Removing a CompactFlash Memory Card, page C-2](#)
- [Installing a CompactFlash Memory Card, page C-2](#)

## Preventing Electrostatic Discharge Damage

CompactFlash memory cards are sensitive to electrostatic discharge (ESD) damage, which can occur when electronic cards or components are handled improperly, results in complete or intermittent failures.

To prevent ESD damage, follow these guidelines:

- Always use an ESD wrist or ankle strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to an unfinished chassis surface.
- Place a removed CompactFlash memory card on an antistatic surface or in a static shielding bag. If the card will be returned to the factory, immediately place it in a static shielding bag.
- Avoid contact between the card and clothing. The wrist strap protects the card from ESD voltages on the body only; ESD voltages on clothing can still cause damage.
- Do not remove the wrist strap until the installation is complete.



### Caution

---

For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohms (Mohms).

---

## Removing a CompactFlash Memory Card

To remove a CompactFlash memory card from the chassis, perform the following steps:


**Caution**

Do not remove a CompactFlash memory card from the chassis while it is being accessed. The CF LED blinks to indicate when flash memory is being accessed. Removing the CompactFlash memory card from the router while flash memory is being accessed can cause damage to your router.

- 
- Step 1** Press the ejector button next to the CompactFlash memory card. The ejector button moves outward so that it projects from the panel.
- Step 2** Press the ejector button again. This ejects the CompactFlash memory card part-way out of its slot.
- Step 3** Pull the CompactFlash memory card out of its slot.
- Step 4** Push the ejector button in until the button is flush with the bezel.


**Caution**

To prevent damage to the ejector mechanism, the ejector button must remain pressed all the way in (flush against the bezel) when not being used to eject a CompactFlash memory card.

## Installing a CompactFlash Memory Card

To install a CompactFlash memory card, perform the following steps:

- 
- Step 1** Make sure that the ejector button is fully seated so that it does not project out from the panel.


**Note**

If the ejector button is projecting out from the panel, push it in until it is flush with the bezel.

- Step 2** Insert the CompactFlash memory card into the slot until it is fully seated. The ejector button remains flush with the panel.


**Note**

If the ejector button is projecting from the panel after you insert the CompactFlash memory card, remove the CompactFlash memory card, press the ejector button until it clicks, and reinsert the CompactFlash memory card.


**Caution**

To prevent damage to the ejector mechanism, the ejector button must remain fully seated when not being used to eject a CompactFlash memory card.



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