



Preparing for Installation

This chapter tells you how to prepare for the installation of the Cisco 6260 system.

The chapter contains the following sections:

- [Safety Requirements, page 2-1](#)
- [Site Requirements, page 2-11](#)
- [Required Tools and Equipment, page 2-15](#)
- [Unpacking the Cisco 6260 System, page 2-17](#)
- [Verifying Contents, page 2-17](#)
- [Inspecting for Damage, page 2-17](#)



Caution

Before you start the installation procedures, read the entire chapter for important information and safety warnings.

2.1 Safety Requirements

This section describes safety requirements for the Cisco 6260 system. Before you install the Cisco 6260 system, ensure that all the criteria in this section are met. The section describes the following safety requirements:

- [Safety Guidelines, page 2-1](#)
- [Preventing Electrostatic Discharge Damage, page 2-9](#)
- [General Maintenance Guidelines, page 2-9](#)






2.1.1 Safety Guidelines

Before working on the equipment, be aware of standard safety guidelines and the hazards that are involved in working with electrical circuitry to prevent accidents. Adhere to the following cautions and warnings and those throughout the guide for safe and hazard-free installation.



Note

To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information for the Cisco 6260 System* document.

- 
Caution Installing the cards in the chassis with the power leads reversed can damage the line cards.
- 
Caution If fuses are already installed in the fuse and alarm panel, remove them. You can replace the fuses after the system is installed. Do not power up the system while you install and connect the system.
- 
Caution If the power connections are improperly made and power is applied while the cards are installed, the cards and chassis could be damaged.
- 
Caution It is important that the chassis cooling fans run continuously.
- 
Caution Any card that is only partially connected to the backplane can disrupt system operation.

2.1.2 Warning Definition



Warning

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. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device.

Waarschuwing

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 standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document *Regulatory Compliance and Safety Information* (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.

Varoitus

Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta *Regulatory Compliance and Safety Information* -kirjastesta (määräysten noudattaminen ja tietoa turvallisuudesta).

Attention	Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document <i>Regulatory Compliance and Safety Information</i> (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.
Warnung	Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument <i>Regulatory Compliance and Safety Information</i> (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.
Avvertenza	Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento <i>Regulatory Compliance and Safety Information</i> (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.
Advarsel	Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du være oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet <i>Regulatory Compliance and Safety Information</i> (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.
Aviso	Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento <i>Regulatory Compliance and Safety Information</i> (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.
¡Advertencia!	Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado <i>Regulatory Compliance and Safety Information</i> (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.
Varning!	Denna varningssymbol 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 vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förekommer i denna publikation i dokumentet <i>Regulatory Compliance and Safety Information</i> (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.

**Warning**

Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages.

**Warning**

Do not work on the system or connect or disconnect cables during periods of lightning activity.

**Warning**

Read the installation instructions before you connect the system to its power source.

**Warning**

For personal safety, the ground wire must connect to safety (earth) ground at both the equipment and supply side of the DC wiring (unless the local electrical code requirements are different).

**Warning**

Incorrect connection of this or connected equipment to a general purpose outlet could result in a hazardous situation.

**Warning**

Do not touch the power supply when the power cord is connected. For systems with a power switch, line voltages are present within the power supply even when the power switch is off and the power cord is connected. For systems without a power switch, line voltages are present within the power supply when the power cord is connected.

**Warning**

Secure all power cabling when installing this unit to avoid disturbing field-wiring connections.

**Warning**

The power supply circuitry for the equipment can constitute an energy hazard. Before you install or replace the equipment, remove all jewelry (including rings, necklaces, and watches). Metal objects can come into contact with exposed power supply wiring or circuitry inside the DSLAM equipment. This could cause the metal objects to heat up and cause serious burns or weld the metal object to the equipment.

**Warning**

The customer 48 volt power system must provide reinforced insulation between the primary AC power and the 48 VDC output.

**Warning**

Hold the PEM by the sheet-metal carrier (top and front) only. Internal components may be hot.

**Warning**

Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.

**Warning**

Care must be given to connecting units to the supply circuit so that wiring is not overloaded.



Warning

Network hazardous voltages are present in the T1 PRI cable. If you detach the cable, detach the end away from the router first to avoid possible electric shock. Network hazardous voltages are also present in the area of the T1 PRI (RJ-48C) ports, regardless of whether power is off or on.



Warning

The telecommunications lines must be disconnected 1) before unplugging the main power connector or 2) while the housing is open.



Warning

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



Warning

To reduce the risk of electric shock when servicing any individual unit, disconnect the power cord or cords that connect the unit to the AC powerstrip or DC busbar. When working with a DC system, remove the busbar connector before working on a device. Exposed live voltages are present at the device end; exposure to these may cause injury.



Warning

A voltage mismatch can cause equipment damage and may pose a fire hazard. If the voltage indicated on the label is different from the power outlet voltage, *do not connect the chassis to that receptacle.*



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.



Warning

The ports labeled "Ethernet," "10BaseT," "Token Ring," "Console," and "AUX" are safety extra-low voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. Because the BRI circuits are treated like telephone-network voltage, avoid connecting the SELV circuit to the telephone network voltage (TNV) circuits.



Warning

Ethernet cables must be shielded when used in a central office environment.



Warning

An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the terminal block plug.

**Warning**

This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.

**Warning**

Metal objects heat up when connected to power and ground, and can cause serious burns.

**Warning**

To prevent personal injury or damage to the chassis, lift the unit only by grasping the chassis underneath its lower edge.

**Warning**

Never attempt to lift the chassis with the handles on the power supplies, fan trays, or the switching modules. These handles are not designed to support the weight of the chassis. Using them to lift or support the chassis can result in severe damage to the equipment and serious bodily injury.

**Warning**

Two people are required to lift the chassis. Use the handles on the chassis sides. To prevent injury, keep your back straight and lift with your legs, not your back. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies, the filter module, or on the blower assembly. These handles are not designed to support the weight of the chassis.

**Warning**

If you use wiring terminations, use only the recommended ferrules. These terminations should be the appropriate size for the wires and should clamp the conductor firmly.

**Warning**

Before connecting or disconnecting ground or power wires to the chassis, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position. Use a voltmeter to test for 0 (zero) voltage at the power terminals on the chassis.

**Warning**

This unit has more than one power supply connection; all connections must be removed completely to completely remove power from the unit.

**Warning**

Only a DC power source that is isolated from AC mains with reinforced insulation, and that complies with the other safety extra-low voltage (SELV) requirements in one or more of the following: UL 60950, UL1950, CSA 950, EN 60950, and IEC950, can be connected to a Cisco 6260 system. This requirement ensures that in a catastrophic power source fault condition, hazardous voltages are not present on power terminals and connectors.

**Warning**

Class 1 Laser product.


Warning

Do not stare into the beam or view it directly with optical instruments.


Warning

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


Warning

When installing the unit, always make the ground connection first and disconnect it last.


Warning

This equipment is to be installed and maintained by service personnel only as defined by AS/NZS 3260 Clause 1.2.14.3 Service Personnel.


Warning

A readily accessible two-poled disconnect device must be incorporated in the fixed wiring.


Warning

To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.


Warning

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.


Warning

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.


Warning

Use copper conductors only.


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.


Warning

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


Warning

Connect the unit only to DC power source that complies with the Safety Extra-Low Voltage (SELV) requirements in IEC 60950 based safety standards.

**Warning**

Do not use this product near water; for example, near a bathtub, washbowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.

**Warning**

Never install telephone wiring during an electrical storm.

**Warning**

Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

**Warning**

Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

**Warning**

Use caution when installing or modifying telephone lines.

**Warning**

Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

**Warning**

Do not use a telephone to report a gas leak in the vicinity of the leak.

**Warning**

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on the port adapters; these types of handles are not designed to support the weight of the unit. Lift the unit only by grasping the chassis underneath its lower edge.

**Warning**

This equipment needs to be grounded. Use a green and yellow 14 AWG ground wire to connect the host to earth ground during normal use.

**Warning**

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

**Warning**

The DS3 ports are not intended to be connected to cables that run outside the building where it is installed. For any connections outside the building, the DS3 ports must be connected to a network termination unit (NTU). NTU devices should comply with appropriate national safety standards such as UL 1950, CSA 950, EN 60950, IEC 950, and AS 3260.

**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.

**Warning**

High-performance devices on this card can get hot during operation. To remove the card, hold it by the faceplate and bottom edge. Allow the card to cool before touching any other part of it or before placing it in an antistatic bag.

**Warning**

Do not reach into a vacant slot or chassis while you install or remove a module or a fan. Exposed circuitry could constitute an energy hazard.

2.1.3 Preventing Electrostatic Discharge Damage

Proper electrostatic discharge (ESD) protection is required whenever you handle Cisco equipment. ESD damage, which can occur when electronic cards or components are improperly handled, results in complete or intermittent failures. Use an antistatic strap during handling.

Follow these guidelines to prevent ESD damage:

- Always use an ESD ankle or wrist strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to the ESD jack on the top of the chassis at the right front corner.
- When you install a component, use available ejector levers or captive installation screws to properly seat the bus connectors in the backplane or midplane. These devices prevent accidental removal, provide proper grounding for the system, and help to ensure that bus connectors are properly seated.
- When you remove a component, use available ejector levers or captive installation screws to release the bus connectors from the backplane or midplane.
- Handle the I/O module by the edges only; avoid touching the printed circuit boards or connectors.
- Avoid touching the printed circuit boards or connectors on the NI-2 cards or line cards.
- Place a removed component board-side-up on an antistatic surface or in a static-shielding container. If you plan to return the component to the factory, immediately place it in a static-shielding container.
- Avoid contact between the printed circuit boards and clothing. The wrist strap protects components from ESD voltages on the body only; ESD voltages on clothing can still cause damage.

**Caution**

Periodically check the resistance value of the antistatic strap. Ensure that the measurement is between 1 and 10 megohms.

2.1.4 General Maintenance Guidelines

This section covers the following topics:

- [Hot Swapping Cards, page 2-10](#)
- [Hot Swapping I/O Modules, page 2-10](#)

- [Installation and Replacement Suggestions, page 2-10](#)

2.1.4.1 Hot Swapping Cards

Hot swapping allows you to remove and replace cards without disconnecting the system power. The Cisco 6260 chassis supports hot swapping for the following cards:

- Quad-port DMT ATU-C (4xDMT)
- Quad-port DMT ATU-C over ISDN (4xDMT over ISDN)
- Quad-port flexi ATU-C (4xflexi)
- Quad-port STU-C (4xSDSL)
- Octal-port DMT ATU-C (8xDMT)
- Octal-port DMT ATU-C (8xDMT over ISDN)
- Octal-port G.SHDSL SHTU-C (8xG.SHDSL)

When the system detects that you have added or removed a line card, it automatically runs diagnostic and discovery routines and acknowledges the presence or absence of the line card. If you remove and replace a line card with one of the same type, the newly installed line card receives the same provisioning as the original card. The system resumes operation without any operator intervention.



Note

Hot swapping line cards interrupts service for the subscribers assigned to that line card.

The Cisco 6260 also supports hot swapping for the DS3/2DS3 and OC-3c/OC-3c NI-2 cards. Hot swapping active NI-2 cards interrupts service for the entire system until the NI-2 card is replaced or until a redundant NI-2 takes over system operations. However, you can hot swap standby NI-2 cards without interrupting service.

2.1.4.2 Hot Swapping I/O Modules

Hot swapping allows you to remove and replace an I/O module without disconnecting the system power. The Cisco 6260 chassis supports hot swapping for the I/O module, but removing the I/O module interrupts the service for the entire system until it is replaced.



Caution

The I/O module must be installed and replaced by a trained technician only.

2.1.4.3 Installation and Replacement Suggestions

The following are recommended installation and replacement practices for the Cisco 6260 system cards and modules.



Caution

Any card that is only partially connected to the backplane can disrupt system operation.

- Do not force the line card into its slot. This action can damage the pins on the backplane if they are not aligned properly with the card.
- Ensure that the card is straight and not at an angle when you install the card in the slot. Installing the card at an angle can damage the card. Use the guide rails to install the card correctly.

- Fully depress the ejector tabs to ensure that the card connector mates with the backplane correctly. Firmly seat the card in the slot by locking the card.
- Ensure that the I/O module is straight and parallel to the top of the chassis when you attach the module to the chassis. The pins on the connectors can be damaged if the module is not installed correctly.

2.2 Site Requirements

This section describes requirements for the site at which the Cisco 6260 system is to be installed. Before you install the Cisco 6260 system, ensure that all the criteria in this section are met. The section describes the following:

- [Environmental Requirements, page 2-11](#)
- [Power Requirements, page 2-13](#)
- [Rack-Mounting Requirements, page 2-14](#)

2.2.1 Environmental Requirements

Proper operation of the Cisco 6260 system depends on a proper environment. Before you install the Cisco 6260 system, ensure that all the criteria in this section are met. This section describes the following environmental requirements:

- [Temperature, Altitude, and Humidity, page 2-11](#)
- [Ventilation, page 2-12](#)
- [Space, page 2-12](#)

2.2.1.1 Temperature, Altitude, and Humidity

The Cisco 6260 system can tolerate a wide range of temperatures. [Table 2-1](#) provides the Cisco recommendations for temperature, altitude, and humidity conditions in a central office (CO) environment.

Table 2-1 CO Operating Environment Requirements

Environmental Specifications	Description
Temperature	41° to 104°F (5° to 40°C)—Operating 23° to 131°F (–5° to 55°C)—Short-term operating
Altitude	0 to 10,000 ft (0 to 3048 m)
Humidity	5 to 95% (noncondensing)



Warning

To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of 104°F (40°C).

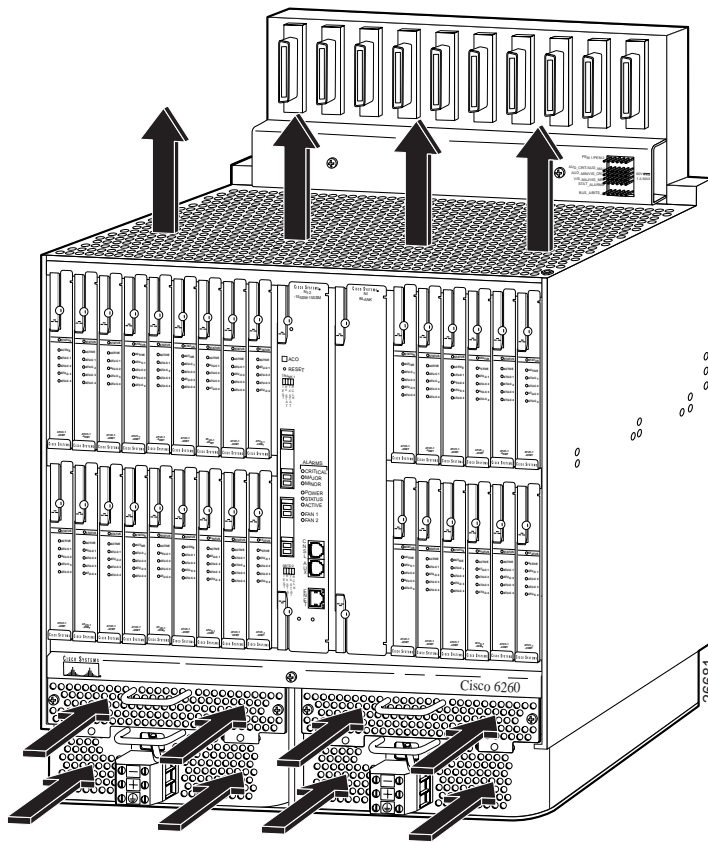
2.2.1.2 Ventilation

The Cisco 6260 fans maintain a suitable operating temperature for the internal circuitry. Ensure that the air intake vents at the lower front of the chassis and the air exhaust vents on the top of the chassis are not obstructed in any way.

The third-party POTS splitters do not dissipate heat and should be positioned at the bottom of the rack.

The air intake vents are located at the bottom front of the chassis, and the air exhaust vents are located on top of the chassis, as depicted in [Figure 2-1](#).

Figure 2-1 Air Flow Through Intake and Exhaust Vents on the Cisco 6260 Chassis.



2.2.1.3 Space

The Cisco 6260 system fits in either a 19-inch (48.26 cm) wide rack or a 23-inch (58.42 cm) wide rack, if extenders are installed. See [Table 2-2](#) for individual rack space requirements.

The Cisco 6260 chassis is 23.5 inches (59.69 cm) in height and 10.86 inches (27.58 cm) in depth, taking 13.43 rack units (RUs) of space per chassis. (An RU is equal to 1.75 inches or 4.45 cm.)



Note

Refer to the appropriate vendor documentation for the dimensions of the third-party POTS splitter.

Depending on your configuration type, plan accordingly so that the CO rack accommodates your needs. Use [Table 2-2](#) to calculate the rack space necessary for your Cisco 6260 system configuration.

Table 2-2 Rack Space Calculation for the Cisco 6260 System Configurations

Line	Instructions	Calculation
Cisco 6260 with a POTS Splitter Configuration		
1	Total number of Cisco 6260 chassis in the rack (include subtending host and subtended node chassis).	
2	Total number of POTS splitters ¹ in the rack.	
3	Number of RUs required for the POTS splitter ² .	
4	Multiply 13.43 RUs by the total number of chassis on line 1.	
5	Multiply line 3 by the total number of POTS splitters on line 2.	
6	Add lines 4 and 5 for the total number of RUs needed with your Cisco 6260 with a POTS splitter configuration.	
Cisco 6260 without a POTS Splitter Configuration		
6	Total number of Cisco 6260 chassis in the rack.	
7	Multiply 13.43 RUs by the total number of chassis on line 6 for the total number of RUs needed with your Cisco 6260 without a POTS splitter configuration.	

1. Third-party POTS splitter

2. See the documentation that accompanied the third-party POTS splitter to determine the number of RUs required. One RU is equal to 1.75 inches (4.45 cm).

2.2.2 Power Requirements

The CO power source or rectifier supplies external power to the system as –48V direct current (DC) from the fuse and alarm panel. Power connections from the fuse and alarm panel are wired separately to the Cisco 6260 chassis. Connections for single- and dual-power feeds are provided. The power input connections are redundant, and only one is required for system operation. The nominal voltage is –48 VDC; the minimum operating value is –36 VDC; and the maximum operating value is –60 VDC.



Caution

Before you connect the system to a power source, verify that the power source is properly grounded and that it falls within the internal power supply rating.

The typical power required for your Cisco 6260 system will depend on your configuration type. Use [Table 2-3](#) to calculate the power required for each of the Cisco 6260 system components and the total power required for the system.

Table 2-3 Power Calculation for the Cisco 6260 System

Line	Instructions	Calculation
1	If you are using 4xDMTs, multiply 16.5W by the total number of 4xDMTs installed in the chassis.	
2	If you are using 4xDMT over ISDNs, multiply 16.5W by the total number of 4xDMT over ISDNs installed in the chassis.	

Table 2-3 Power Calculation for the Cisco 6260 System

Line	Instructions	Calculation
3	If you are using 4xflexis, multiply 17.5W by the total number of 4xflexis installed in the chassis.	
4	If you are using 4xSDSLs, multiply 9W by the total number of 4xSDSLs installed in the chassis.	
5	If you are using 8xDMTs, multiply 24W by the total number of 8xDMTs installed in the chassis.	
6	If you are using 8xDMT over ISDNs, multiply 24 W by the total number of 8xDMT over ISDNs installed in the chassis.	
7	If you are using 8xG.SHDSLs, multiply 16.5W by the total number of 8xG.SHDSLs installed in the chassis.	
8	Multiply 33.5W by the number of NI-2 cards installed in the chassis.	
9	Enter 50W for each PEM.	
10	Enter 34.5W for each fan tray.	
11	Add lines 1 through 10. This is the typical power required for the Cisco 6260.	

2.2.3 Rack-Mounting Requirements

We recommend that you mount the Cisco 6260 system in a rack. Ensure that vertical hole spacing on the rack rails meets standard EIA-310-C or ETS300 requirements—1 inch (2.54 cm) spacing.

The Cisco 6260 fits into a 19-inch wide rack, or an ETSI 600-mm-wide (23-inch-wide) rack or cabinet.



Warning

Two people are required to lift the chassis. Grasp the chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back.



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.

2.3 Required Tools and Equipment

Table 2-4 lists the tools and equipment you need to install and connect the Cisco 6260 system components as detailed in Chapter 3, “Installing a Cisco 6260 with a POTS Splitter Configuration,” and Chapter 4, “Installing a Cisco 6260 Without a POTS Splitter Configuration.”

Table 2-4 also lists the tools and equipment you need to remove and install the Cisco 6260 system components as detailed in Chapter 6, “Upgrading and Maintaining the Cisco 6260 System.”

Table 2-4 Tool and Equipment Requirements Checklist

Check	Tools and Equipment
Hardware Components	
	Cisco 6260 chassis
	Line cards (if not already installed in the Cisco 6260 chassis) <ul style="list-style-type: none"> • 4xDMT • 4xDMT over ISDN • 4xflexi • 4xSDSL • 8xDMT • 8xDMT over ISDN • 8xG.SHDSL
	NI-2 card(s) (if not already installed in the Cisco 6260 chassis) <ul style="list-style-type: none"> • DS3/2DS3 • DS3+T1/E1 IMA • OC-3c/OC-3c SMF¹ or MMF²
	I/O module (if not already installed in the Cisco 6260 chassis) <ul style="list-style-type: none"> • E3 • E1 • OC-3c
	Blank faceplates
	Fan trays (if not already installed in the Cisco 6260 chassis)
	PEMs (if not already installed in the Cisco 6260 chassis)
	Champ cables
	Third-party vendor POTS splitter ³
Software Components	
	<ul style="list-style-type: none"> • Cisco IOS • CDM⁴
Tools	
	A 3/16-inch flat-head screwdriver
	A Phillips-head screwdriver

Table 2-4 Tool and Equipment Requirements Checklist (continued)

Check	Tools and Equipment
	Necessary equipment for ESD protection—Required whenever you handle Cisco DSLAM equipment, which includes the chassis and cards
	Mounting screws—To mount the Cisco 6260 to the rack
	Wire-wrapping tool
	Wire stripper
	Wire for connections: <ul style="list-style-type: none"> • 12 american wire gauge (AWG) black and red copper solid or stranded—Used for Cisco 6260 chassis power connections • 10 AWG or thicker green or green with yellow stripes copper stranded—Used for the Cisco 6260 chassis grounding
	Tie wraps (optional)
	Ferrites that yield an impedance of 53 ohms at 25 MHz and 177 ohms at 100 MHz—For connecting the Ethernet to the management network
	Coaxial cable: <ul style="list-style-type: none"> • Type 734A or equivalent • Type 735A or equivalent
	Fiber cable (SMF or MMF)—Used to connect the OC-3c NI-2 card
	RJ-45 serial cable to connect the console and auxiliary connectors
	RJ-45 connector, straight-through 10BaseT/100BaseTX Ethernet, half/full-duplex compliant with IEEE 802.3

1. SMF = single-mode fiber.
2. MMF = multimode fiber.
3. The third-party vendor POTS splitter is used in a Cisco 6260 with a POTS splitter configuration only.
4. CDM = Cisco DSL Manager.

**Note**

The Cisco 6260 system has no internal user-serviceable parts.

**Warning**

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

2.4 Unpacking the Cisco 6260 System

Each Cisco 6260 system chassis is securely packaged in a shipping box. The Cisco 6260 system components ship with the line cards and NI-2 card(s) installed in the chassis.

**Caution**

Proper ESD protection is required whenever you handle Cisco DSLAM equipment. Installation and maintenance personnel should be properly grounded using ground straps to eliminate the risk of ESD damage to the equipment. Cards are subject to ESD damage whenever they are removed from the chassis.

To unpack the Cisco 6260 system, complete the following steps:

Step 1 Inspect the packing containers.

If any damage or other signs of mishandling are evident, inform both the local freight carrier and Cisco before unpacking. Your freight carrier can provide you with the procedures necessary to file a claim for damages.

Step 2 Carefully open the box.

Step 3 Remove all packing material.

Step 4 Remove the chassis from the box.

**Warning**

Two people are required to lift the chassis. Grasp the chassis underneath the lower edge and lift with both hands. To prevent injury, keep your back straight and lift with your legs, not your back.

Step 5 Carefully open the additional boxes, remove the packing material, and remove the contents.

Step 6 Open the accessory kits and boxes that contain the cables, ferrites, and management software. Do not use a knife to open these boxes.

2.5 Verifying Contents

To verify that your shipment is complete, make sure that you received everything on your packing list, and then compare your packing list to your order. If any items are missing or you need additional information, contact the Cisco Technical Assistance Center (TAC) at one of the following:

- 800 553-2447
- 408 526-7209
- tac@cisco.com

2.6 Inspecting for Damage

After you verify that all of the equipment is included, carefully examine the assemblies, cards, and cables for any damage resulting from shipping. If you suspect any damage from shipping, contact your local freight carrier for procedures on damage claims.

If you observe any physical defects in the items you ordered, obtain standard warranty service by delivering the defective part, accompanied by a copy of the dated proof-of-purchase, to the Cisco Systems Corporate Service Center or an Authorized Cisco Systems Service Center during the applicable warranty period. Contact the Cisco TAC for the location of your nearest service center.

See the back of the title page for Cisco Systems supplementary warranty information for hardware and software products.