



Doc. No. 78-1445-03
Customer Order Number: DOC-781445=

700-Watt DC-Input Power Supply Installation and Replacement Instructions

Product Number: PWR/7-DC and PWR/7-DC=

This document contains instructions for installing or replacing a direct current (DC)-input power supply in the Cisco 7000 and Cisco 7507 chassis.

Note The DC-input power supply installation and functionality are identical for both chassis; therefore, throughout this document, both chassis are referred to as *the chassis*, with differences clearly noted.

The DC-input power supply is optional equipment for the chassis. A second, identical DC-input power supply, when installed, provides redundant power. In systems with redundant power, the power supplies are load-sharing and fully hot-swappable; you can remove and replace one supply, while the remaining supply immediately ramps up to full power to maintain uninterrupted system operation. Sections in this document include the following:

- Product Overview, page 2
- Installation Safety, ESD Precautions, and Tools Required, page 6

Note The following section, “Installation,” provides instructions for replacing a power supply in a system that is already operating. If you are installing a new system, and you ordered a copy, refer to the *Cisco 7000 Hardware Installation and Maintenance* or *Cisco 7507 Hardware Installation and Maintenance* publications. Because the chassis are shipped without the power supplies installed, refer to these publications for initial power supply installation and startup procedures. Both of these publications are also available on UniverCD.

- Installation, page 10
- Checking the Installation, page 19
- Cisco Information Online, page 35



Caution The following applies to Cisco 7000 chassis only: if you remove AC-input power supplies from a Cisco 7000 and replace them with DC-input power supplies, you might need to replace the LED board in the Cisco 7000 if the chassis was shipped *before* November 1, 1994. In this earlier chassis, the LED circuitry will not recognize and indicate the presence of the new DC-input power supplies.

If the chassis was shipped after November 1, 1994, no LED board replacement is required.

To replace the LED board (Product Number MAS-7000-LED=), refer to the configuration note *Cisco 7000 and Cisco 7507 LED Board Replacement* (Document Number 78-1060-xx, where xx is the latest version), which ships with the LED board spare part or is available on UniverCD.

Product Overview

The DC-input power supply is a modular power supply for the Cisco 7000 and Cisco 7507 multiprotocol, multimedia routers. The DC-input power supply is optional equipment in the chassis. A second, identical power supply, if installed, provides redundant power. Power supplies reside in power supply bays in the rear of the router chassis, as shown for the Cisco 7000 in Figure 1 and the Cisco 7507 in Figure 2.

Figure 1 DC-Input Power Supplies in Cisco 7000

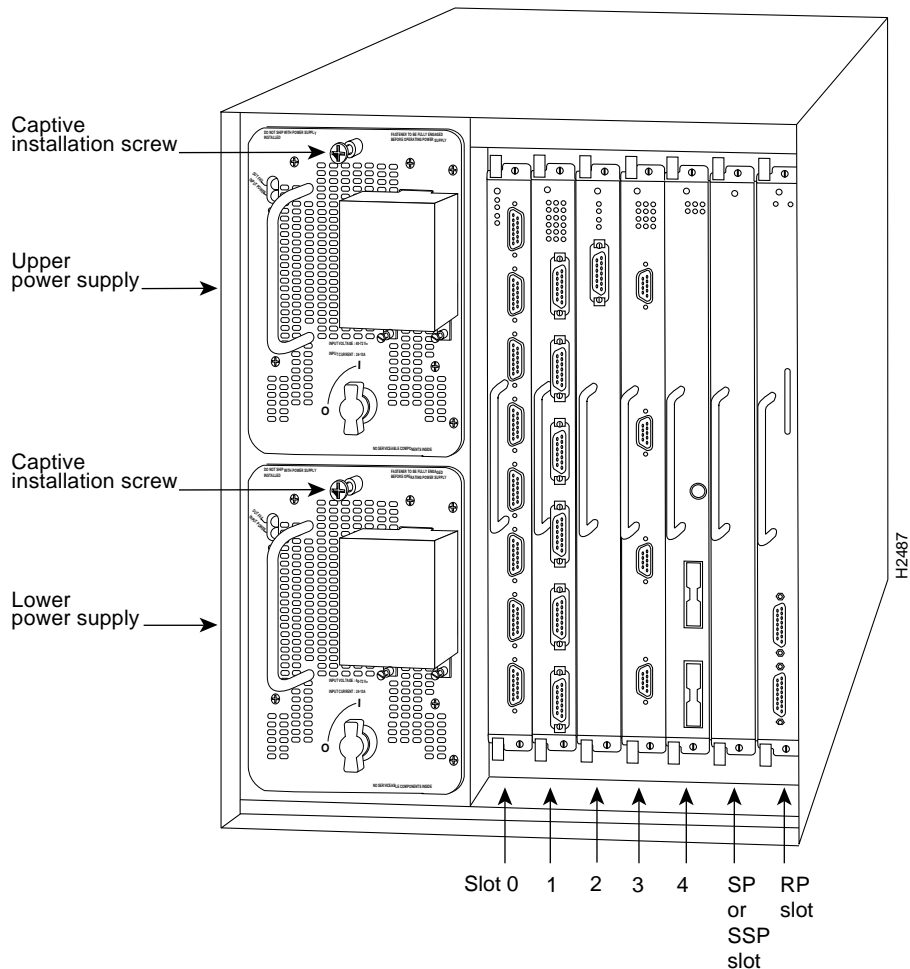
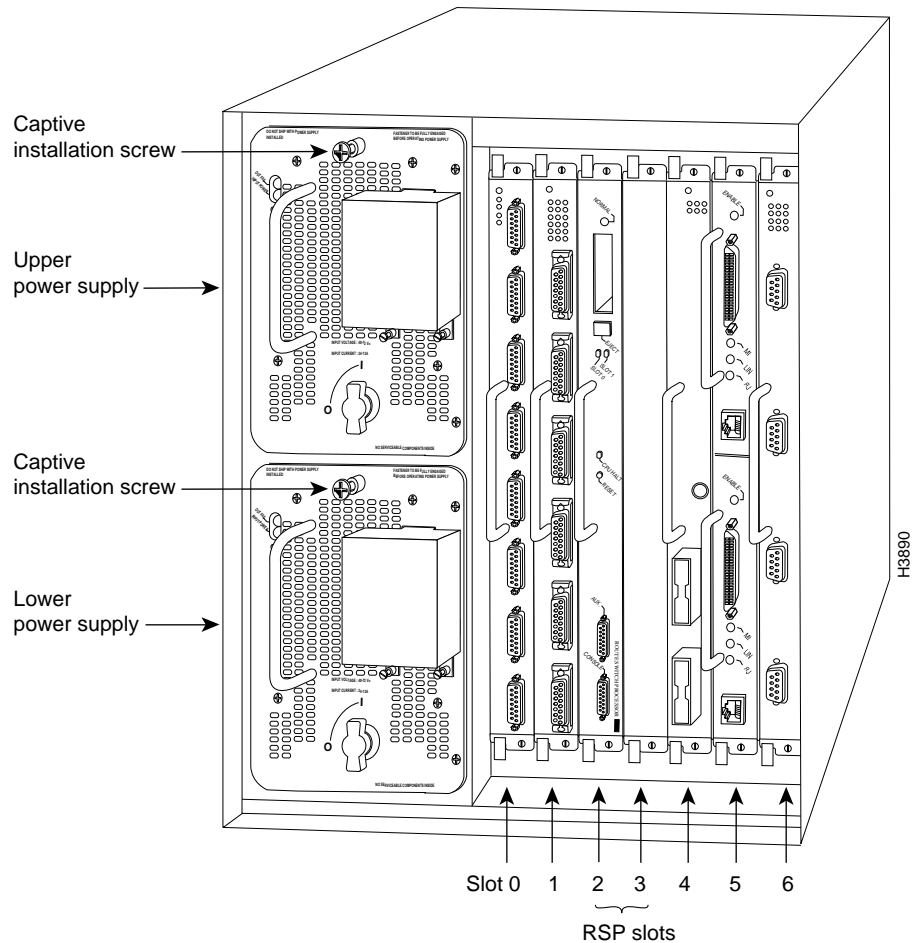


Figure 2 DC-Input Power Supplies in Cisco 7507



The lower power supply bay contains the first (or standard) power supply, and the upper bay contains the second (optional) supply in systems with redundant power.



Caution To prevent tipping over the chassis when only one power supply is used, install it in the lower power supply bay to maintain a low center of gravity in the chassis.

Dual power supplies are automatically load-sharing and redundant, which means that you can install or replace a second power supply on line. During normal operation, dual supplies provide system power simultaneously (load sharing). When you remove one supply, the remaining supply immediately ramps up to provide full power and maintain uninterrupted power to the system. Whenever possible, connect each power supply to a separate DC source.

Table 1 lists the DC-input power supply specifications.

Table 1 DC-Input Power Supply Specifications

Specification	Rating
DC-input voltage	-40 volts (V) minimum -48V nominal -72V maximum
DC voltages supplied and steady-state maximum current ratings	+5.2V @ 100 amps (A) +12V @ 15A -12V @ 3A +24V @ 5A
Input power requirement	1000 watts (W)
Power output	700W
Heat dissipation	1024 Btu/hr (300W)
Weight	14 pounds (6.35 kilograms)
Wire gauge for power cable	8 American Wire Gauge (AWG)

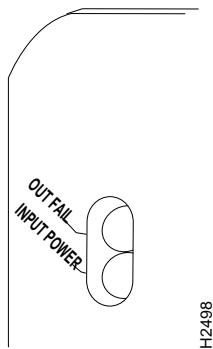


Caution To prevent problems with the chassis, *do not mix DC-input and AC-input power supplies in the same chassis*. Your chassis must have *either* DC-input or AC-input power supplies.

On the chassis front panel, the upper power and lower power LEDs go on when the power supply in the corresponding bay is installed and supplying power to the system. Both the upper and lower power LEDs should be on in systems with redundant power.

The power supply LEDs include the input power LED and the out fail LED. (See Figure 3.) The green input power LED is on when the input power is applied. The yellow out fail LED is normally off, but flashes at power on for a lamp test.

Figure 3 Power Supply LEDs—Upper Left Corner View



The out fail LED lights if the power supply shuts down for either of the following reasons:

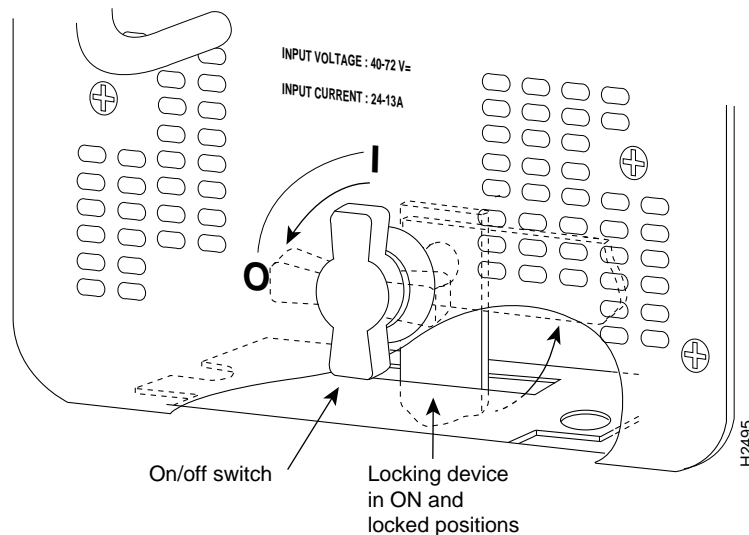
- Power supply DC-output failure, which could be caused by loss of DC-input power (input line failure or operator turned off system power) or an actual failure in the DC-input power supply
- Power supply shutdown, initiated by the power supply because it detected an out-of-tolerance temperature or voltage condition in the power supply

In systems with a single power supply, and in systems with redundant power when both power supplies are shutting down, the out fail LED lights momentarily as the system ramps down, but goes out when the power supply has completely shut down. In systems with redundant power and one power supply still active, the out fail LED on the failed power supply will remain on (powered by the active supply).

The power supplies feature the following three safety interlock features:

- An on/off switch with a locking mechanism (see Figure 4) on each power supply prevents the power supply from being removed from the chassis when the power supply switch is in the on (I) position. When the switch is on, a metal tab extends into a slot in the chassis. When the switch is off (O), the tab is raised and clears the slot.

Figure 4 On/Off Switch Locking Mechanism



- A captive installation screw at the top of the power supply front panel provides electrical grounding and prevents the power supply from vibrating or sliding out of the bay and dislodging from the power connectors in the backplane.
- Nylon ties on the DC input cable provide strain relief and prevent the power supply power cable from accidentally being pulled out.

The power supplies are self-monitoring. Each supply monitors its own temperature and internal voltages. An internal fan in each power supply draws cooling air from the front of the chassis through the power supply and out the back of the chassis. An air dam keeps the power supply airflow separate from that of the rest of the chassis (which is cooled by the system blower).

Installation Safety, ESD Precautions, and Tools Required

Before you begin this installation, review the safety guidelines in this section to avoid injuring yourself or damaging the equipment. This section also provides power requirements to consider if you are adding a second power supply to your system for redundant power, and lists of the tools and parts you need to perform this installation.



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.

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.

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.

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.

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.

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.

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.

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.

¡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.

Warning! 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.



Caution If you remove AC-input power supplies from a Cisco 7000 and replace them with DC-input power supplies, you might need to replace the LED board in the Cisco 7000, *if* the chassis was shipped *before* November 1, 1994. In this earlier chassis, the LED circuitry will not recognize and indicate the presence of the new DC-input power supplies.

If the chassis was shipped after November 1, 1994, no LED board replacement is required.

To replace the LED board (Product Number MAS-7000-LED=), refer to the configuration note *Cisco 7000 Front Chassis Panel and LED Board Replacement* (Document Number 78-1060-01), which ships with the LED board spares or is available on UniverCD.

Safety Guidelines

The following guidelines will help to ensure your safety and protect the equipment. This list is not inclusive of all potentially hazardous situations, so *be alert*.

- Never try to lift the chassis by yourself; *two people are required* to lift the chassis.



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. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies or on the interface processors, or by the plastic panels on the front of the chassis. These handles were not designed to support the weight of the chassis. (For translations of this safety warning, refer to the section “Chassis Lifting Warning” on page page 23.)



Warning Do not use a ramp inclined at more than 10 degrees. (For translations of this safety warning, refer to the section “Ramp Warning” on page page 24.)

- Always disconnect all power cords and interface cables before moving the chassis.



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. (For translations of this safety warning, refer to the section “Power Supply Warning” on page page 24.)

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. (For translations of this safety warning, refer to the section “Power Supply Disconnection Warning” on page page 25.)



Warning This unit might have more than one power cord. To reduce the risk of electric shock, disconnect the two power supply cords before servicing the unit. (For translations of this safety warning, refer to the section “Electric Shock Warning” on page page 26.)

- Keep tools and chassis components away from walk areas.
- Do not work alone if potentially hazardous conditions exist.

- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.



Warning This unit is intended for installation in restricted access areas. (For translations of this safety warning, refer to the section “Restricted Area Warning” on page page 27.)



Warning Secure all power cabling when installing this unit to avoid disturbing field-wiring connections. (For translations of this safety warning, refer to the section “Power Cabling Warning” on page page 27.)

Lifting the Chassis Safely

This section is only applicable if you *do not* have clear access to the power supply bays and must move a rack-mounted chassis. If you *do* have clear access to the power supply bays, proceed to the next section, “Safety with Electricity.”

If space behind a rack-mounted chassis is limited, or if access to the power supply bays is partially blocked by a power strip or other equipment, you may have to slide the chassis partially out of the front of the rack before inserting the power supplies. The minimum requirement is for one person to support the front of the chassis and another person to push it outward from the back and insert the power supply. If you suspect that pushing the chassis out the front of the rack may topple the rack, make sure enough people are available to support the rack while you perform this procedure.

The chassis weighs approximately 120 pounds with 1 power supply and 7 interface processors installed.

Whenever you move or lift the chassis or any heavy object, observe the following guidelines:

- Never move suddenly or twist your body while supporting a heavy object.



Caution To prevent damage, never attempt to lift the chassis with the handles on the power supplies or the interface processors. These handles are not designed to support the weight of the chassis.

- Before sliding a chassis forward in a rack, ensure that doing so will not cause the rack to topple forward. If you suspect it might, obtain additional assistance to help support the rack before moving the chassis.

Safety with Electricity

You can remove or install a redundant (second) power supply without turning off the other supply. Before removing a redundant power supply, ensure that the first supply is powered on to ensure uninterrupted operation.

Follow these basic guidelines when working with any electrical equipment:

- Before beginning any procedures requiring access to the chassis interior, locate the emergency power-off switch for the room in which you are working.
- Disconnect all power and external cables before moving a chassis.
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit; always check.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.

In addition, use the guidelines that follow when working with any equipment that is connected to telephone wiring or other network cabling.



Warning Do not work on the system or connect or disconnect cables during periods of lightning activity. (For translations of this safety warning, refer to the section “Lightning Activity Warning” on page 28.)

- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- 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) damage, which can occur when electronic boards or components are handled improperly, can result in complete or intermittent failures. The processor modules each comprise a printed circuit board that is fixed in a metal carrier. EMI shielding, connectors, and a handle are integral components of the carrier. However, the fan control board is a printed circuit board that is not intended for handling and has no frame or shielding. Handle a processor module or fan tray by the metal frame or carrier only; avoid touching the board (particularly avoid touching any components, traces, or the metal *fingers* on the edge connector).

Following are guidelines for preventing ESD damage:

- Always use an ESD-preventive wrist strap or ankle strap and ensure that it makes good skin contact.
- When removing or installing a fan tray, connect the equipment end of a ground strap to an unpainted surface of the chassis, such as a handle on the power supply.
- When removing or installing a power supply, connect the equipment end of a ground strap to the chassis ground screw on the interface processor end of the chassis, or to an unpainted surface inside the noninterface processor end of the chassis, such as the chassis frame.

- Handle printed circuit boards, such as the arbiter, by the edges only; avoid touching the board components, traces, or connector pins.
- Place removed printed circuit boards or components that contain boards on an antistatic surface or in a static shielding bag. Place a removed board component-side-up; place a removed processor module or fan tray board-side-up.
- If you are returning a replaced part to the factory, immediately place it in a static shielding bag to avoid ESD damage to the board.
- Avoid contact between the board and clothing. The wrist strap only protects the board from ESD voltages on the body; ESD voltages on clothing can still cause damage.



Caution For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohm.

Tools Required

You need the following tools to install or replace a power supply:

- A 1/4-inch flat-blade and Number 2 Phillips screwdriver.
- Small, wire cutter.
- If the chassis is mounted in an equipment rack and cables from other equipment fall in front of the power supply bays, you will need cable ties to temporarily anchor the cables out of the way.
- If access to the power supply bays is partially blocked by a power strip or other permanent rack fixture, you will need a 1/4-inch flat-blade screwdriver to temporarily detach the ears from the equipment rack mounting strips.
- ESD-preventive wrist strap.

Before beginning the power supply installation, check the installation screws on all power supplies and check the area around the power supply bays to determine which tools you will need.

The new or replacement power supply and the power cable that you supply are the only parts you need to complete this installation.

If you remove a power supply and leave the bay empty, install a cover plate over the empty bay. The chassis is shipped with a cover plate installed over the upper bay. If the plate is not available, contact a service representative to order a replacement (Product Number MAS-7KPSCOVER).

Circuit Breaker (30A) Warning



Warning This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 30A U.S. (240 VAC, 20A international) is used on the phase conductors (all current-carrying conductors). (For translations of this safety warning, refer to the section "Circuit Breaker (30A) Warning" on page page 28.)

Installation

The following section describes the procedures for removing an existing power supply and installing a new one. It also contains procedures for installing power supplies in a rack-mounted chassis when the power supply bays are partially blocked.

If cables from other equipment are in front of the bay, move them aside and temporarily secure them with cable ties. If you must remove a rack-mounted chassis from the rack, proceed to the following section, “Removing a Rack-Mounted Chassis.” Otherwise, if you now have clear access to the power supply bays, proceed to the section “Removing a Power Supply” on page 13 to replace an existing supply, or to the section “Inserting a Power Supply” on page 16 to install a new power supply for redundant power.

In systems with redundant power, you can install, remove, or replace one of the power supplies without affecting system operation. When power is removed from one supply, the redundant power feature causes the second supply to ramp up to full power and maintain uninterrupted system operation.

Note This procedure is not for new system installation; perform this procedure *only* if you have already connected the system to network interfaces and performed the first-time startup procedures described in the *Cisco 7000 Hardware Installation and Maintenance* or *Cisco 7507 Hardware Installation and Maintenance* publications, which are available on UniverCD or in print.

Removing a Rack-Mounted Chassis

This section describes how to proceed if your system is installed in an equipment rack and you do not have clear access to the power supply bays. If the chassis is not in a rack, or if you already have clear access to the power supply bays, you do not need to perform these steps. Proceed to the sections that follow.

Note The installation must comply with the 1993 National Electrical Code and other applicable codes.

If you determine that moving the chassis is unavoidable, you will need to disconnect all power and interface cables. Be sure to label the cables to avoid crossing them when you reconnect them to the chassis. The configuration worksheet provided near the end of this document can help you reconnect the cables to the correct ports if you complete it as you disconnect cables from the interface processors. (For the Cisco 7000, refer to Figure 9, and for the Cisco 7507, refer to Figure 10.)



Caution This procedure might shift the chassis’ center of gravity toward the front of the rack and may cause the rack or the chassis to tip. Before performing this procedure, ensure your safety by verifying that you have sufficient assistance to support the rack and the chassis to prevent injury from tipping or falling.

To slide the chassis out of the front of the rack to gain access to the power supply bays, do the following:

Step 1 Check the power supply bays. If cables from other equipment fall in front of the power supply bay, carefully gather the cables (using care not to strain them) and use cable ties to anchor them away from the power supply bays. If no other equipment blocks access to the bay, proceed to the sections that follow.

Step 2 Before proceeding, ensure that at least one other person is available to support the front of the chassis as you push it out the front of the rack and insert the power supplies.



Warning Before performing any of the following procedures, 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. (For translations of this safety warning, refer to the section “DC Power Disconnection Warning” on page page 29.)

Step 3 Turn all power supplies OFF and disconnect all power and interface cables from the rear of the chassis. Use the configuration worksheet provided at the end of this document to record interface port connections and avoid crossing cables when you reconnect them. (For the Cisco 7000, refer to Figure 9, and for the Cisco 7507, refer to Figure 10.)

Step 4 Use a 1/4-inch flat-blade screwdriver to loosen the four binder-head screws that secure the left and right ears to the front mounting strips on the equipment rack.



Caution To prevent damage, never attempt to lift or support the front of the chassis with the plastic front panels. The panels can break away, which could cause the chassis to drop.

Step 5 Position at least one person in front of the rack to support the front undersides of the chassis and prevent it from falling as you push it forward out of the rack. Grasp the chassis along the metal undersides *behind* the plastic front panels. If possible, position two people in front of the rack, one person to support each side of the chassis.



Warning The next step shifts the chassis’ center of gravity to the front of the rack and may cause the rack or the chassis to tip or fall. Before proceeding, ensure your safety by verifying that you have sufficient assistance to prevent injury due to the rack toppling and/or the chassis falling out of the rack.

Step 6 From the rear of the equipment rack, slowly push the chassis forward out of the rack until there is enough clearance for the power supplies to be inserted into the bay.

Step 7 Proceed to the section “Inserting a Power Supply” on page 16, and follow the steps indicated as quickly and safely as possible.

Step 8 Push the chassis back into the rack until the ears meet the mounting strip on both sides of the equipment rack.

Step 9 Secure each ear to the rack mounting strip with two binder-head screws.

Step 10 Reconnect all interface cables to the ports on the rear of the chassis. If you completed the configuration worksheet before you disconnected the cables, use it as a guideline to reconnect the cables. (For the Cisco 7000, refer to Figure 9, and for the Cisco 7507, refer to Figure 10.)

Step 11 Proceed to the section “Checking the Installation” on page 19 to apply power and check the installation.

Removing a Power Supply

If you are replacing the power supply in a single-supply system, remove the existing supply from the lower bay first, if possible, and install the new power supply in the lower bay to maintain a low center of gravity in the chassis. (You will have to interrupt system operation to do so.) Always install a filler plate over an empty power supply bay to prevent electrical shock and to protect the backplane connectors from contamination.

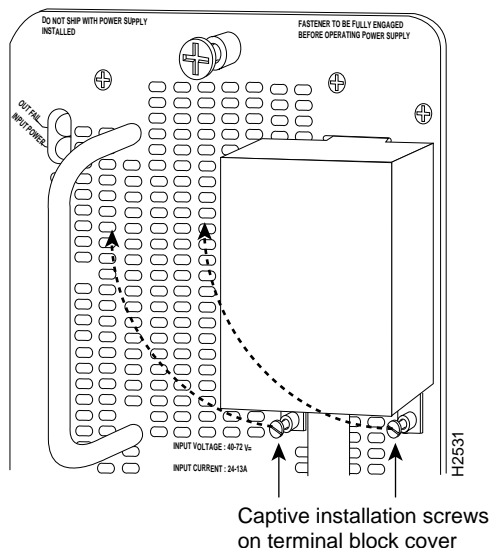


Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position. (For translations of this safety warning, refer to the section “DC Power Disconnection Warning” on page 29.)

Following is the procedure for removing a power supply:

- Step 1** On the DC-input power supply to be removed, turn the switch to OFF (O). (The interlock tab will retract into the unit.)
- Step 2** Use a screwdriver to loosen the captive installation screws on the terminal block cover. (See Figure 5.)
- Step 3** Lift and remove the terminal block cover. (See Figure 5.)

Figure 5 Removing the Terminal Block Cover



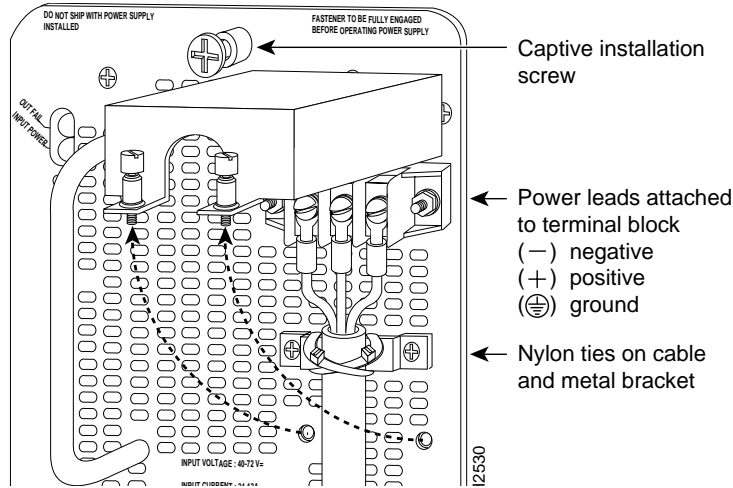
- Step 4** Use the wire cutter to cut *only* the nylon ties that secure the cable to the metal bracket. (See Figure 6.)



Warning When installing the unit, the ground connection must always be made first and disconnected last. (For translations of this safety warning, refer to the section “Ground Connection Warning” on page 30.)

- Step 5** Use a screwdriver to remove the three power leads from the terminal block. (See Figure 6.)
- Step 6** Use a screwdriver to reinstall the terminal block cover. (The terminal block cover should stay with the power supply.) *Do not* overtighten the captive installation screws on the terminal block cover. The recommended torque is 8.2 0.4 inch-lb
- Step 7** Use a screwdriver to loosen the captive installation screw on the supply. (See Figure 6.)

Figure 6 Removing the Nylon Ties and Power Leads



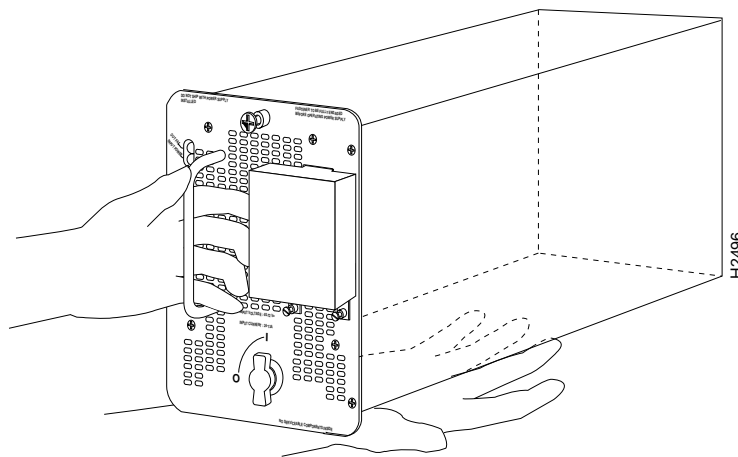
Step 8 Grasp the power supply handle and pull the supply out of the bay. Place one hand underneath to support the bottom of the supply as you pull it out of the bay. (See Figure 7.)

If the power supply resists when you attempt to pull it out of the bay, the switch is probably not fully in the OFF (O) position, or the captive installation screw at the top of the supply is not fully loosened. Turn the power switch fully counterclockwise to OFF (O), and check the captive installation screw, then try removing the supply again.



Caution To prevent dropping the power supply, use both hands to handle it. The power supply weighs approximately 14 pounds.

Figure 7 Handling a Power Supply



Step 9 If the power supply bay is to remain empty, install a cover plate (Product Number MAS-7KBLANK) over the opening and secure the captive mounting screw. If you are installing a replacement power supply, proceed to the section “Inserting a Power Supply.” Otherwise, reconnect all power and interface cables on the rear of the chassis and restart the system.

Inserting a Power Supply

Always install the first power supply in the lower power supply bay and the second, if any, in the upper bay. In systems with dual power supplies and when separate power sources are available, connect each power supply to separate input lines so in case of an input line failure, the second source will probably still be available.



Caution If you remove AC-input power supplies from a Cisco 7000 and replace them with DC-input power supplies, you might need to replace the LED board in the Cisco 7000, *if* the chassis was shipped *before* November 1, 1994. In this earlier chassis, the LED circuitry will not recognize and indicate the presence of the new DC-input power supplies.

If the chassis was shipped after November 1, 1994, no LED board replacement is required.

To replace the LED board (Product Number MAS-7000-LED=), refer to the configuration note *Cisco 7000 Front Chassis Panel and LED Board Replacement* (Document Number 78-1060-01), which ships with the LED board spares or is available on UniverCD.

Following is the procedure for inserting a power supply:



Warning Before performing any of the following procedures, 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. (For translations of this safety warning, refer to the section “DC Power Disconnection Warning” on page 32.)

Step 1 Always fill the lower power supply bay first. If you will install the new power supply in the upper bay and a cover plate is installed over it, use a screwdriver to loosen the captive screw and remove the plate.

Note If you remove a cover plate from a power supply bay, save the plate and replace it whenever the system is operating with one power supply.

Step 2 Check the switch on the face of the power supply, and place it in the OFF (O) position. The interlock tab should not extend out of the unit.

Step 3 Hold the power supply by the handle and place your other hand underneath to support the bottom. (See Figure 7.)



Caution To prevent dropping the power supply and injuring yourself, use both hands to handle it. The power supply weighs approximately 14 pounds.

Step 4 Position the power supply so that it is aligned to go straight into the bay.

Step 5 Push the power supply all the way into the bay. Do not use unnecessary force; firmly push the supply back into the bay until the power supply front panel is flush with the chassis rear panel.



Caution When inserting a power supply into the bay, do not use unnecessary force; slamming the power supply into the bay can damage the connectors on the rear of the supply and inside the chassis. To prevent problems with the Cisco 7000, do not mix DC-input and AC-input power supplies in the same chassis. Your Cisco 7000 must have either DC-input or AC-input power supplies.

Step 6 Using a screwdriver, tighten the captive installation screw on the top of each power supply. (See Figure 8.)



Caution Always tighten the captive installation screw at the top of the power supply before turning on the power switch. This screw prevents the power supply from shifting away from the internal connector and provides proper grounding for the supply. Do not overtighten the terminal block cover captive screws or the terminal block contact screws. The recommended torque is 8.2 0.4 inch-lb

Step 7 Using a screwdriver, loosen the captive installation screws on the terminal block cover, then lift and remove the cover. (See Figure 8.)



Warning When stranded wiring is required, use approved wiring terminations, such as closed-loop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor. (For translations of this safety warning, refer to the section “DC Power Supply Warning” on page page 31.)

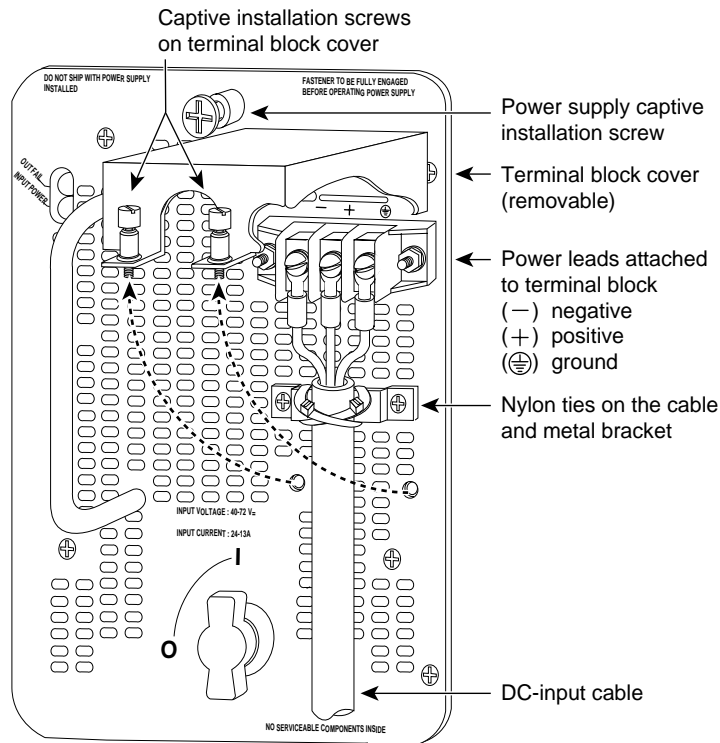


Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position. (For translations of this safety warning, refer to the section “DC Power Disconnection Warning” on page page 32.)



Warning The illustration shows the DC power supply terminal block. Wire the DC power supply using the appropriate lugs at the wiring end, as illustrated. The proper wiring sequence is ground to ground, positive to positive (line to L), and negative to negative (neutral to N). Note that the ground wire should always be connected first and disconnected last. (For translations of this safety warning, refer to the section “DC Power Supply Wiring Warning” on page 33.)

Figure 8 Installing the Power Cable Leads, Nylon Ties, and Cover



H2486



Warning Incorrectly wiring the terminal block could create a dangerous shock hazard and could damage the power supply, power source, and the chassis components.

Step 8 To provide strain relief for the three DC-input cable, attach two nylon ties around the cable and the metal bracket. (See Figure 8.)

Step 9 Install the terminal block cover over the terminal block, and tighten the captive installation screws. (See Figure 8.) *Do not* overtighten the captive installation screws on the terminal block cover. The recommended torque is 8.2 0.4 inch-lb



Warning To prevent a short-circuit or shock hazard after wiring the DC-input power supply, replace the terminal block cover.

Step 10 Connect the opposite end of the DC-input cable to the DC power source.

Note Do not turn on any power supplies until you are ready to power up the system. The interlock switch that locks the power supply in the slot also turns on the system power.

Step 11 If you are installing or replacing a second power supply, repeat step 1 through step 11 for the second power supply.

Step 12 Proceed to the following section “Checking the Installation” to apply power and check the installation.

Checking the Installation

To complete the installation turn the power supply on and observe the LEDs on the power supply to verify that the new supply is operating properly using the following steps:

Step 1 Review the descriptions of the power supply LEDs on page 4.

Step 2 Check the following components to make sure they are secure:

- Each power supply is inserted all the way into its bay, and the captive installation screw is tightened.
- All power supply cables are attached to the terminal blocks and secured with nylon ties.
- At the DC power-source end of the power cable, make sure the leads are securely attached to the DC power, and make certain the source power is within the range indicated on the power supply.
- When two supplies are present, make sure the second cable is connected to a separate DC power source if possible.



Warning After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position. (For translations of this safety warning, refer to the section “DC Power Connection Warning” on page page 34.)

Step 3 Turn the power supply ON (I) by turning the switch clockwise one-quarter turn.

If the power supply switch resists, the power supply is probably not fully inserted into the bay. Turn the power switch fully counterclockwise to OFF (O), pull the power supply out of the bay about 2 inches, then push the power supply firmly back into the slot. Do not slam the supply into the slot; doing so can damage the connectors on the supply and the backplane. Tighten the captive installation screw before proceeding.

Step 4 Verify that the out fail LED stays off.

- If the out fail LED goes on, move the power supply to the other bay if possible and turn the power switch ON (I). If the LEDs go on properly when the supply is installed in the other bay, suspect a faulty backplane power connector.
- If the out fail LED goes on when the power supply is installed in the other bay, suspect a power supply failure or an adverse environmental condition (the power supply has detected an overvoltage or overtemperature condition and has shut down).
- If two power supplies are installed, and the out fail LED goes on only on one power supply, assume that the power supply or DC source (for that supply) is faulty.
- If the out fail LED lights on two supplies that are connected to the same DC source, suspect that the DC source is faulty, or that an overvoltage or overtemperature condition is causing the power supplies to shut down.
- If the out fail LED lights on two supplies that are connected to separate DC sources, assume that an overvoltage or overtemperature condition is causing the power supplies to shut down.

If the power supply fails (and you need to order a replacement) and you did not record the type of power supply in your chassis, you will have to check the chassis in order to make this determination.



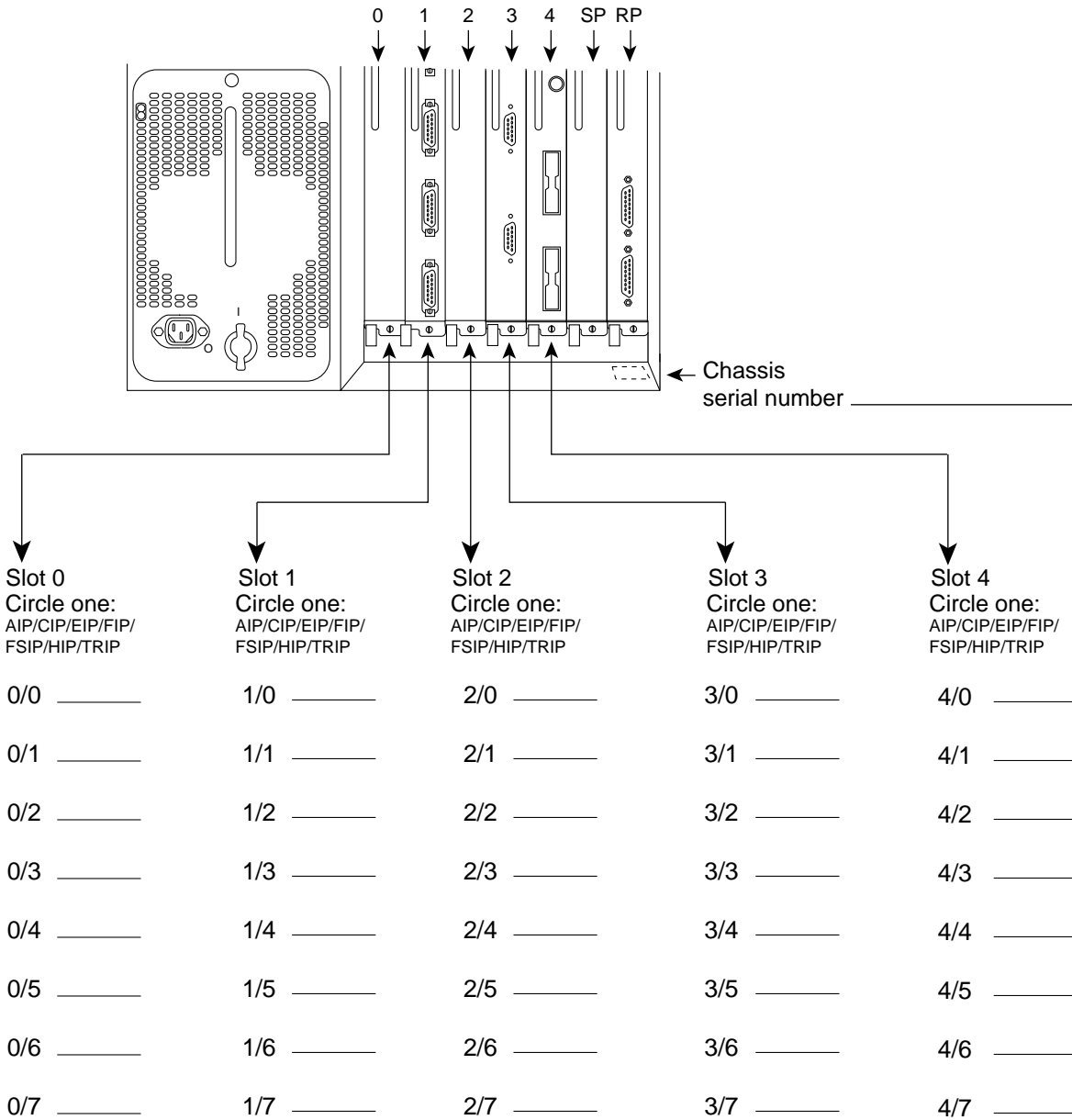
Timesaver In the Cisco 7000 chassis, with Maintenance Release 9.17(10) and later, the system can identify which type of power supplies are in your chassis: DC-input or AC-input. As a general precaution, use the **show environment all** command and note the type of power supply indicated in each of your chassis (indicated as either “700W DC” or “700W AC”). Record and save this information in a secure place.

Note If you are currently using software other than Maintenance Release 9.17(10) or later in your Cisco 7000, then the **show environment all** command will indicate the AC-input power supply as “850W.” A DC-input power supply will still be indicated as “700W.”

This completes the power supply installation. Refer to the *Cisco 7000 Hardware Installation and Maintenance* and *Cisco 7507 Hardware Installation and Maintenance* publications for installation troubleshooting procedures, and to the *Router Products Configuration Guide* for descriptions and examples of software features and commands. Both of these publications are available on UniverCD or in print.

Note If the power supply fails to operate properly after several attempts to initialize it, refer to the following section to contact a service representative for assistance.

Figure 9 Cisco 7000 Port Configuration Worksheet



Router name _____ Prepared by _____

Location _____ Date _____

H1324a

Figure 10 Cisco 7507 Port Configuration Worksheet

0 1 2 3 4 5 6

← Chassis serial number _____

<p>Slot 0</p> <p>Circle one: AIP/CIP/EIP/FEIP/FIP/ FSIP/HIP/TRIP/MIP</p>	<p>Slot 1</p> <p>Circle one: AIP/CIP/EIP/FEIP/FIP/ FSIP/HIP/TRIP/MIP</p>	<p>Slot 2</p> <p>RSP2</p>	<p>Slot 3</p> <p>RSP2</p>	<p>Slot 4</p> <p>Circle one: AIP/CIP/EIP/FEIP/FIP/ FSIP/HIP/TRIP/MIP</p>	<p>Slot 5</p> <p>Circle one: AIP/CIP/EIP/FEIP/FIP/ FSIP/HIP/TRIP/MIP</p>	<p>Slot 6</p> <p>Circle one: AIP/CIP/EIP/FEIP/FIP/ FSIP/HIP/TRIP/MIP</p>
0/0 _____	1/0 _____			4/0 _____	5/0 _____	6/0 _____
0/1 _____	1/1 _____			4/1 _____	5/1 _____	6/1 _____
0/2 _____	1/2 _____			4/2 _____	5/2 _____	6/2 _____
0/3 _____	1/3 _____			4/3 _____	5/3 _____	6/3 _____
0/4 _____	1/4 _____			4/4 _____	5/4 _____	6/4 _____
0/5 _____	1/5 _____			4/5 _____	5/5 _____	6/5 _____
0/6 _____	1/6 _____			4/6 _____	5/6 _____	6/6 _____
0/7 _____	1/7 _____			4/7 _____	5/7 _____	6/7 _____

Router name _____ Prepared by _____

Location _____ Date _____

H38889

Translated Safety Warnings

Following are translations of the safety warnings that appear throughout this publication:

Chassis Lifting Warning



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. To prevent damage to the chassis and components, never attempt to lift the chassis with the handles on the power supplies or on the interface processors, or by the plastic panels on the front of the chassis. These handles were not designed to support the weight of the chassis.

Waarschuwing Er zijn twee mensen nodig om het frame op te tillen. Het frame dient onder de onderste rand vastgegrepen en met beide handen omhooggetild te worden. Om te voorkomen dat u letsel oploopt, dient u uw rug recht te houden en met behulp van uw benen, niet uw rug, te tillen. Om schade aan het frame en de onderdelen te voorkomen, mag u nooit proberen om het frame op te tillen aan de handvatten op de voedingen of op de interface-processors of aan de kunststof panelen aan de voorkant van het frame. Deze handvatten zijn niet ontworpen om het gewicht van het frame te dragen.

Varoitus Asennuspohjan nostamiseen tarvitaan kaksi henkilöä. Ota ote asennuspohjan alareunasta ja nosta molemmin käsin. Pitäen selkäsi suorana nosta jalkojen (ei selän) avulla, jotta välttäisit loukkaantumista. Älä yritä nostaa asennuspohjaa virtalähteen tai liitäntäproessorin kahvoista tai asennuspohjan etuosan muovipaneeleista, jotta estät asennuspohjan ja rakenneosien vaurioitumisen. Näitä kahvoja ei ole suunniteltu kestämään asennuspohjan painoa.

Attention Il faut deux personnes pour soulever le châssis. Le saisir par son rebord inférieur et soulever des deux mains. Pour éviter tout trauma de la région lombaire, garder le dos droit et soulever la charge en redressant les jambes. Pour éviter d'endommager le châssis et ses composants, ne jamais tenter de le soulever par les poignées des blocs d'alimentation ou des processeurs d'interface, ni par les panneaux en plastique à l'avant du châssis. Ces poignées ne sont pas prévues pour supporter le poids du châssis.

Warnung Zum Anheben des Chassis werden zwei Personen benötigt. Fassen Sie das Chassis unterhalb der unteren Kante an und heben es mit beiden Händen an. Um Verletzungen zu vermeiden, ist der Rücken aufrecht zu halten und das Gewicht mit den Beinen, nicht mit dem Rücken, anzuheben. Um Schäden an Chassis und Bauteilen zu vermeiden, heben Sie das Chassis nie an den Kunststoffabdeckungen vorne am Chassis oder mit den Griffen am Netzgerät oder an den Schnittstellenprozessoren an. Diese Griffe sind nicht so konstruiert, daß sie das Gewicht des Chassis tragen könnten.

Avvertenza Il telaio va sollevato da due persone. Afferrare il telaio al di sotto del bordo inferiore e sollevare con entrambe le mani. Per evitare infortuni, mantenere la schiena diritta e sollevare il peso con le gambe, non con la schiena. Per evitare danni al telaio ed ai componenti, non provare mai a sollevare il telaio tramite le maniglie sugli alimentatori o sui processori di interfaccia oppure tramite i pannelli in plastica sulla parte anteriore del telaio. Queste maniglie non sono state progettate per sostenere il peso del telaio.

Advarsel Det er nødvendig med to personer for å løfte kabinettet. Ta tak i kabinettet under den nedre kanten, og løft med begge hender. Unngå personskade ved å holde ryggen rett og løfte med bena, ikke ryggen. Unngå skade på kabinettet og komponentene ved å aldri prøve å løfte kabinettet etter håndtakene på strømforsyningsenhetene, grensesnittprosessorene eller i plastpanelene foran på kabinettet. Disse håndtakene er ikke beregnet på å tåle vekten av kabinettet.

Aviso São necessárias duas pessoas para levantar o chassis. Agarre o chassis imediatamente abaixo da margem inferior, e levante-o com ambas as mãos. Para evitar lesões, mantenha as suas costas direitas e levante o peso com ambas as pernas, sem forçar as costas. Para prevenir danos no chassis e nos seus componentes, nunca tente levantá-lo pelas asas das unidades abastecedoras de energia, nem pelos processadores de interface, ou pelos painéis plásticos localizados na frente do chassis. Estas asas não foram criadas para suportar o peso do chassis.

¡Advertencia! Se necesitan dos personas para levantar el chasis. Sujete el chasis con las dos manos por debajo del borde inferior y levántelo. Para evitar lesiones, mantenga la espalda recta y levántelo con la fuerza de las piernas y no de la espalda. Para evitar daños al chasis y a sus componentes, no intente nunca levantar el chasis por las asas de las fuentes de alimentación o de los procesadores de interfase, ni por los paneles de plástico situados en el frontal del chasis. Las asas no han sido diseñadas para soportar el peso del chasis.

Warning! Det krävs två personer för att lyfta chassit. Fatta tag i chassit under den nedre kanten och lyft med båda händerna. För att undvika skador skall du hålla ryggen rak och lyfta med benen, inte ryggen. Chassit och delarna kan skadas om du försöker lyfta chassit i handtagen på strömförsörjningsenheterna eller gränssnittsprocessorerna, eller i plastpanelerna på chassits framsida. Handtagen är inte konstruerade för att hålla chassits tyngd.

Ramp Warning



Warning Do not use a ramp inclined at more than 10 degrees.

Waarschuwing Gebruik een oprijplaat niet onder een hoek van meer dan 10 graden.

Varoitus Älä käytä sellaista kaltevaa pintaa, jonka kaltevuus ylittää 10 astetta.

Attention Ne pas utiliser une rampe dont l'inclinaison est supérieure à 10 degrés.

Warnung Keine Rampen mit einer Neigung von mehr als 10 Grad verwenden.

Avvertenza Non usare una rampa con pendenza superiore a 10 gradi.

Advarsel Bruk aldri en rampe som heller mer enn 10 grader.

Aviso Não utilize uma rampa com uma inclinação superior a 10 graus.

¡Advertencia! No usar una rampa inclinada más de 10 grados.

Warning! Använd inte ramp med en lutning på mer än 10 grader.

Power Supply Warning



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.

Waarschuwing U dient de voeding niet aan te raken zolang het netsnoer aangesloten is. Bij systemen met een stroomschakelaar zijn er lijnspanningen aanwezig in de voeding, zelfs wanneer de stroomschakelaar uitgeschakeld is en het netsnoer aangesloten is. Bij systemen zonder een stroomschakelaar zijn er lijnspanningen aanwezig in de voeding wanneer het netsnoer aangesloten is.

Varoitus Älä kosketa virtalähdettä virtajohdon ollessa kytkettynä. Virrankatkaisimella varustetuissa järjestelmissä on virtalähteen sisällä jäljellä verkkojännite, vaikka virrankatkaisin on katkaistu-asennossa virtajohdon ollessa kytkettynä. Järjestelmissä, joissa ei ole virrankatkaisinta, on virtalähteen sisällä verkkojännite, kun virtajohto on kytkettynä.

Attention Ne pas toucher le bloc d'alimentation quand le cordon d'alimentation est branché. Avec les systèmes munis d'un commutateur marche-arrêt, des tensions de ligne sont présentes dans l'alimentation quand le cordon est branché, même si le commutateur est à l'arrêt. Avec les systèmes sans commutateur marche-arrêt, l'alimentation est sous tension quand le cordon d'alimentation est branché.

Warnung Berühren Sie das Netzgerät nicht, wenn das Netzkabel angeschlossen ist. Bei Systemen mit Netzschalter liegen Leitungsspannungen im Netzgerät vor, wenn das Netzkabel angeschlossen ist, auch wenn das System ausgeschaltet ist. Bei Systemen ohne Netzschalter liegen Leitungsspannungen im Netzgerät vor, wenn das Netzkabel angeschlossen ist.

Avvertenza Non toccare l'alimentatore se il cavo dell'alimentazione è collegato. Per i sistemi con un interruttore di alimentazione, tensioni di linea sono presenti all'interno dell'alimentatore anche quando l'interruttore di alimentazione è in posizione di disattivazione (off), se il cavo dell'alimentazione è collegato. Per i sistemi senza un interruttore, tensioni di linea sono presenti all'interno dell'alimentatore quando il cavo di alimentazione è collegato.

Advarsel Berør ikke strømforsyningsenheden når strømledningen er tilkoblet. I systemer som har en strømbryter, er det spenning i strømforsyningsenheden selv om strømbryteren er slått av og strømledningen er tilkoblet. Når det gjelder systemer uten en strømbryter, er det spenning i strømforsyningsenheden når strømledningen er tilkoblet.

Aviso Não toque na unidade abastecedora de energia quando o cabo de alimentação estiver ligado. Em sistemas com interruptor, a corrente eléctrica estará presente na unidade abastecedora, sempre que o cabo de alimentação de energia estiver ligado, mesmo quando o interruptor se encontrar desligado. Para sistemas sem interruptor, a tensão eléctrica dentro da unidade abastecedora só estará presente quando o cabo de alimentação estiver ligado.

¡Advertencia! No tocar la fuente de alimentación mientras el cable esté enchufado. En sistemas con interruptor de alimentación, hay voltajes de línea dentro de la fuente, incluso cuando el interruptor esté en Apagado (OFF) y el cable de alimentación enchufado. En sistemas sin interruptor de alimentación, hay voltajes de línea en la fuente cuando el cable está enchufado.

Warning! Vidrör inte strömförsörjningsenheden när nätsladden är ansluten. För system med strömbrytare finns det nätspänning i strömförsörjningsenheden även när strömmen har slagits av men nätsladden är ansluten. För system utan strömbrytare finns det nätspänning i strömförsörjningsenheden när nätsladden är ansluten.

Power Supply Disconnection Warning



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.

Waarschuwing Voordat u aan een frame of in de nabijheid van voedingen werkt, dient u bij wisselstroom toestellen de stekker van het netsnoer uit het stopcontact te halen; voor gelijkstroom toestellen dient u de stroom uit te schakelen bij de stroomverbreker.

Varoitus Kytke irti vaihtovirtalaitteiden virtajohto ja katkaise tasavirtalaitteiden virta suojakytkimellä, ennen kuin teet mitään asennuspohjalle tai työskentelet virtalähteiden läheisyydessä.

Attention Avant de travailler sur un châssis ou à proximité d'une alimentation électrique, débrancher le cordon d'alimentation des unités en courant alternatif ; couper l'alimentation des unités en courant continu au niveau du disjoncteur.

Warnung Bevor Sie an einem Chassis oder in der Nähe von Netzgeräten arbeiten, ziehen Sie bei Wechselstromeinheiten das Netzkabel ab bzw. schalten Sie bei Gleichstromeinheiten den Strom am Unterbrecher ab.

Avvertenza Prima di lavorare su un telaio o intorno ad alimentatori, scollegare il cavo di alimentazione sulle unità CA; scollegare l'alimentazione all'interruttore automatico sulle unità CC.

Advarsel Før det utføres arbeid på kabinettet eller det arbeides i nærheten av strømforsyningsenheter, skal strømfledningen trekkes ut på vekselstrømsenheter og strømmen kobles fra ved strømbryteren på likestrømsenheter.

Aviso Antes de trabalhar num chassis, ou antes de trabalhar perto de unidades de fornecimento de energia, desligue o cabo de alimentação nas unidades de corrente alternada; desligue a corrente no disjuntor nas unidades de corrente contínua.

¡Advertencia! Antes de manipular el chasis de un equipo o trabajar cerca de una fuente de alimentación, desenchufar el cable de alimentación en los equipos de corriente alterna (CA); cortar la alimentación desde el interruptor automático en los equipos de corriente continua (CC).

Warning! Innan du arbetar med ett chassi eller nära strömförsörjningsenheter skall du för växelströmsenheter dra ur nätsladden och för likströmsenheter bryta strömmen vid överspänningsskyddet.

Electric Shock Warning



Warning This unit might have more than one power cord. To reduce the risk of electric shock, disconnect the two power supply cords before servicing the unit.

Waarschuwing Dit toestel kan meer dan één netsnoer hebben. Om het risico van een elektrische schok te verminderen, dient u de stekkers van de twee netsnoeren uit het stopcontact te halen voordat u het toestel een servicebeurt geeft.

Varoitus Tässä laitteessa saattaa olla useampi kuin yksi virtajohto. Irrota molemmat virtalähteestä tulevat johtimet ennen laitteen huoltamista, jotta vältät sähköiskun vaaran.

Attention Il est possible que cette unité soit munie de plusieurs cordons d'alimentation. Pour éviter les risques d'électrocution, débrancher les deux cordons d'alimentation avant de réparer l'unité.

Warnung Diese Einheit hat möglicherweise mehr als ein Netzkabel. Zur Verringerung der Stromschlaggefahr trennen Sie beide Netzgerätekabel ab, bevor Sie die Einheit warten.

Avvertenza Questa unità potrebbe essere dotata di più di un cavo di alimentazione. Per ridurre il rischio di scossa elettrica, scollegare i due cavi di alimentazione prima di procedere alla manutenzione dell'unità.

Advarsel Denne enheten kan være utstyrt med mer enn én strømlledning. Koble fra de to strømlledningene før det utføres reparasjonsarbeid på enheten for å redusere faren for elektriske støt.

Aviso Esta unidade poderá ter mais do que um cabo de alimentação. Para reduzir o risco de choque eléctrico, desligue os dois cabos de alimentação antes de efectuar reparações na unidade.

¡Advertencia! Puede ser que este equipo posea más de un cable de alimentación. Para reducir el riesgo de descarga eléctrica, desenchufar los dos cables antes de proceder al mantenimiento de la unidad.

Warning! Denna enhet kan vara försedd med mer än en nätsladd. För att minska risken för elektriska stötar skall båda nätsladdarna dras ur innan du utför underhållsarbete på enheten.

Restricted Area Warning



Warning This unit is intended for installation in restricted access areas.

Waarschuwing Dit toestel is bedoeld voor installatie op plaatsen met beperkte toegang.

Varoitus Tämä laite on tarkoitettu asennettavaksi paikkaan, johon pääsy on rajoitettua.

Attention Cet appareil est à installer dans des zones d'accès réservé.

Warnung Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen.

Avvertenza Questa unità deve essere installata in aree ad accesso limitato.

Advarsel Denne enheten er laget for installasjon i områder med begrenset adgang.

Aviso Esta unidade foi concebida para instalação em áreas de acesso restrito.

¡Advertencia! Esta unidad ha sido diseñada para instalarse en áreas de acceso restringido.

Warning! Denna enhet är avsedd för installation i områden med begränsat tillträde.

Power Cabling Warning



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

Waarschuwing Zet alle stroomkabels vast wanneer dit toestel wordt geïnstalleerd om te voorkomen dat de verbindingen van de veldbedrading worden verstoord.

Varoitus Kiinnitä kaikki voimakaapelit tiukkaan tätä laitetta asentaessasi, jotta vältät kentän johdinkytkentöjen vioittumista.

Attention Lors de l'installation de cet appareil, fixer tous les câbles d'alimentation pour éviter de provoquer des perturbations aux raccordements des câblages propres au site.

Warnung Bei der Installation dieser Einheit die Netzverkabelung befestigen, um die Störung von Feldkabelanschlüssen zu vermeiden.

Avvertenza In fase di installazione dell'unità, assicurare tutti i cablaggi di alimentazione per evitare di alterare i collegamenti degli avvolgimenti di campo.

Advarsel Når denne enheten installeres, må alle kraftledninger sikres for å unngå at feltkabelkoblingene forstyrres.

Aviso Para evitar problemas com as ligações de rede de campanha, prenda todos os cabos de corrente quando instalar esta unidade.

¡Advertencia! Sujetar todo el cableado de alimentación cuando se instale este equipo para evitar que se mezcle con las conexiones del cableado "in situ".

Warning! Fäst allt starkströmskablage vid installation av denna enhet så att fältkopplingen inte rubbas.

Lightning Activity Warning



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

Waarschuwing Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.

Varoitus Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.

Attention Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.

Warnung Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.

Avvertenza Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.

Advarsel Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lynet.

Aviso Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).

¡Advertencia! No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.

Warning! Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.

Circuit Breaker (30A) Warning



Warning This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 30A U.S. (240 VAC, 20A international) is used on the phase conductors (all current-carrying conductors).

Waarschuwing Dit produkt is afhankelijk van de installatie van het gebouw voor kortsluit-(overstroom)beveiliging. Controleer of er een zekering of stroomverbreker van niet meer dan 120 Volt wisselstroom, 30 A voor de V.S. (240 Volt wisselstroom, 20 A internationaal) gebruikt wordt op de fasegeleiders (alle geleiders die stroom voeren).

Varoitus Tämä tuote on riippuvainen rakennukseen asennetusta oikosulkusuojuuksesta (ylivirtasuojauksesta). Varmista, että vaihevirtajohtimissa (kaikissa virroitetuissa johtimissa) käytetään Yhdysvalloissa alle 120 voltin, 30 ampeerin ja monissa muissa maissa 240 voltin, 20 ampeerin sulaketta tai suojakytkintä.

Attention Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifier qu'un fusible ou qu'un disjoncteur de 120 V alt., 30 A U.S. maximum (240 V alt., 20 A international) est utilisé sur les conducteurs de phase (conducteurs de charge).

Warnung Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 20 A (bzw. in den USA 120 V Wechselstrom, 30 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.

Avvertenza Questo prodotto dipende dall'installazione dell'edificio per quanto riguarda la protezione contro cortocircuiti (sovracorrente). Verificare che un fusibile o interruttore automatico, non superiore a 120 VCA, 30 A U.S. (240 VCA, 20 A internazionale) sia stato usato nei fili di fase (tutti i conduttori portatori di corrente).

Advarsel Dette produktet er avhengig av bygningens installasjoner av kortslutningsbeskyttelse (overstrøm). Kontroller at det brukes en sikring eller strømbryter som ikke er større enn 120 VAC, 30 A (USA) (240 VAC, 20 A internasjonalt) på faselederne (alle strømførende ledere).

Aviso Este produto depende das instalações existentes de protecção contra curto-circuito (sobrecarga). Assegure-se de que um fusível ou disjuntor não superior a 240 VAC, 20A é utilizado nos condutores de fase (todos os condutores de transporte de corrente).

¡Advertencia! Este equipo utiliza el sistema de protección contra cortocircuitos (o sobrecorrientes) del propio edificio. Asegurarse de que se utiliza un fusible o interruptor automático de no más de 240 voltios en corriente alterna (VAC), 20 amperios del estándar internacional (120 VAC, 30 amperios del estándar USA) en los hilos de fase (todos aquellos portadores de corriente).

Warning! Denna produkt är beroende av i byggnaden installerat kortslutningsskydd (överströmsskydd). Kontrollera att säkring eller överspänningsskydd används på fasledarna (samtliga strömförande ledare) ¥ för internationellt bruk max. 240 V växelström, 20 A (i USA max. 120 V växelström, 30 A).

DC Power Disconnection Warning



Warning Before performing any of the following procedures, 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.

Waarschuwing Voordat u een van de onderstaande procedures uitvoert, dient u te controleren of de stroom naar het gelijkstroom circuit uitgeschakeld is. Om u ervan te verzekeren dat alle stroom UIT is geschakeld, kiest u op het schakelbord de stroomverbreker die het gelijkstroom circuit bedient, draait de stroomverbreker naar de UIT positie en plakt de schakelaarhendel van de stroomverbreker met plakband in de UIT positie vast.

Varoitus Varmista, että tasavirtapiirissä ei ole virtaa ennen seuraavien toimenpiteiden suorittamista. Varmistaaksesi, että virta on KATKAISTU täysin, paikanna tasavirrasta huolehtivassa kojetaulussa sijaitseva suojakytkin, käännä suojakytkin KATKAISTU-asentoon ja teippaa suojakytkimen varsi niin, että se pysyy KATKAISTU-asennossa.

Attention Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifier que le circuit en courant continu n'est plus sous tension. Pour en être sûr, localiser le disjoncteur situé sur le panneau de service du circuit en courant continu, placer le disjoncteur en position fermée (OFF) et, à l'aide d'un ruban adhésif, bloquer la poignée du disjoncteur en position OFF.

Warnung Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält. Um sicherzustellen, daß sämtlicher Strom abgestellt ist, machen Sie auf der Schalttafel den Unterbrecher für die Gleichstromschaltung ausfindig, stellen Sie den Unterbrecher auf AUS, und kleben Sie den Schaltergriff des Unterbrechers mit Klebeband in der AUS-Stellung fest.

Avvertenza Prima di svolgere una qualsiasi delle procedure seguenti, verificare che il circuito CC non sia alimentato. Per verificare che tutta l'alimentazione sia scollegata (OFF), individuare l'interruttore automatico sul quadro strumenti che alimenta il circuito CC, mettere l'interruttore in posizione OFF e fissarlo con nastro adesivo in tale posizione.

Advarsel Før noen av disse prosedyrene utføres, kontroller at strømmen er frakoblet likestrømkretsen. Sørg for at all strøm er slått AV. Dette gjøres ved å lokalisere strømbryteren på brytertavlen som betjener likestrømkretsen, slå strømbryteren AV og teipe bryterhåndtaket på strømbryteren i AV-stilling.

Aviso Antes de executar um dos seguintes procedimentos, certifique-se que desligou a fonte de alimentação de energia do circuito de corrente contínua. Para se assegurar que toda a corrente foi DESLIGADA, localize o disjuntor no painel que serve o circuito de corrente contínua e coloque-o na posição OFF (Desligado), segurando nessa posição a manivela do interruptor do disjuntor com fita isoladora.

¡Advertencia! Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF). Para asegurarse de que toda la alimentación esté cortada (OFF), localizar el interruptor automático en el panel que alimenta al circuito de corriente continua, cambiar el interruptor automático a la posición de Apagado (OFF), y sujetar con cinta la palanca del interruptor automático en posición de Apagado (OFF).

Warning! Innan du utför någon av följande procedurer måste du kontrollera att strömförsörjningen till likströmskretsen är bruten. Kontrollera att all strömförsörjning är BRUTEN genom att slå AV det överspänningsskydd som skyddar likströmskretsen och tejpa fast överspänningsskyddets omkopplare i FRÅN-läget.

Ground Connection Warning



Warning When installing the unit, the ground connection must always be made first and disconnected last.

Waarschuwing Bij de installatie van het toestel moet de aardverbinding altijd het eerste worden gemaakt en het laatste worden losgemaakt.

Varoitus Laitetta asennettaessa on maahan yhdistäminen aina tehtävä ensiksi ja maadoituksen irti kytkeminen viimeiseksi.

Attention Lors de l'installation de l'appareil, la mise à la terre doit toujours être connectée en premier et déconnectée en dernier.

Warnung Der Erdanschluß muß bei der Installation der Einheit immer zuerst hergestellt und zuletzt abgetrennt werden.

Avvertenza In fase di installazione dell'unità, eseguire sempre per primo il collegamento a massa e disconnetterlo per ultimo.

Advarsel Når enheten installeres, må jordledningen alltid tilkobles først og frakobles sist.

Aviso Ao instalar a unidade, a ligação à terra deverá ser sempre a primeira a ser ligada, e a última a ser desligada.

¡Advertencia! Al instalar el equipo, conectar la tierra la primera y desconectarla la última.

Warning! Vid installation av enheten måste jordledningen alltid anslutas först och kopplas bort sist.

DC Power Supply Warning



Warning When stranded wiring is required, use approved wiring terminations, such as closed-loop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor.

Waarschuwing Wanneer geslagen bedrading vereist is, dient u bedrading te gebruiken die voorzien is van goedgekeurde aansluitingspunten, zoals het gesloten-lus type of het grijperschop type waarbij de aansluitpunten omhoog wijzen. Deze aansluitpunten dienen de juiste maat voor de draden te hebben en dienen zowel de isolatie als de geleider vast te klemmen.

Varoitus Jos säikeellinen johdin on tarpeen, käytä hyväksyttyä johdinliitääntä, esimerkiksi suljettua silmukkaa tai kourumaista liitääntä, jossa on ylöspäin käännetty kiinnityskorvat. Tällaisten liitääntöjen tulee olla kooltaan johtimiin sopivia ja niiden tulee puristaa yhteen sekä eristeen että johdinosan.

Attention Quand des fils torsadés sont nécessaires, utiliser des douilles terminales homologuées telles que celles à circuit fermé ou du type à plage ouverte avec cosses rebroussées. Ces douilles terminales doivent être de la taille qui convient aux fils et doivent être refermées sur la gaine isolante et sur le conducteur.

Warnung Wenn Litzenverdrahtung erforderlich ist, sind zugelassene Verdrahtungsabschlüsse, z.B. für einen geschlossenen Regelkreis oder gabelförmig, mit nach oben gerichteten Kabelschuhen zu verwenden. Diese Abschlüsse sollten die angemessene Größe für die Drähte haben und sowohl die Isolierung als auch den Leiter festklemmen.

Avvertenza Quando occorre usare trecce, usare connettori omologati, come quelli a occhio o a forcilla con linguette rivolte verso l'alto. I connettori devono avere la misura adatta per il cablaggio e devono serrare sia l'isolante che il conduttore.

Advarsel Hvis det er nødvendigt med flertrådede ledninger, bruges godkendte ledningsafslutninger, som for eksempel lukket sløfje eller spadetype med oppoverbøjede kabelsko. Disse afslutningene skal ha riktig størrelse i forhold til ledningene, og skal klemme sammen både isolasjonen og ledningen.

Aviso Quando forem requeridas montagens de instalação eléctrica de cabo torcido, use terminações de cabo aprovadas, tais como, terminações de cabo em circuito fechado e planas com terminais de orelha voltados para cima. Estas terminações de cabo deverão ser do tamanho apropriado para os respectivos cabos, e deverão prender simultaneamente o isolamento e o fio condutor.

¡Advertencia! Cuando se necesite hilo trenzado, utilizar terminales para cables homologados, tales como las de tipo "bucle cerrado" o "espada", con las lengüetas de conexión vueltas hacia arriba. Estos terminales deberán ser del tamaño apropiado para los cables que se utilicen, y tendrán que sujetar tanto el aislante como el conductor.

Warning! När flertrådiga ledningar krävs måste godkända ledningskontakter användas, t.ex. kabelsko av sluten eller öppen typ med uppåtvänd tapp. Storleken på dessa kontakter måste vara avpassad till ledningarna och måste kunna hålla både isoleringen och ledaren fastklämda.

DC Power Disconnection Warning



Warning Before performing any of the following procedures, 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.

Waarschuwing Voordat u een van de onderstaande procedures uitvoert, dient u te controleren of de stroom naar het gelijkstroom circuit uitgeschakeld is. Om u ervan te verzekeren dat alle stroom UIT is geschakeld, kiest u op het schakelbord de stroomverbreker die het gelijkstroom circuit bedient, draait de stroomverbreker naar de UIT positie en plakt de schakelaarhendel van de stroomverbreker met plakband in de UIT positie vast.

Varoitus Varmista, että tasavirtapiirissä ei ole virtaa ennen seuraavien toimenpiteiden suorittamista. Varmistaaksesi, että virta on KATKAISTU täysin, paikanna tasavirrasta huolehtivassa kojetaulussa sijaitseva suojakytkin, käännä suojakytkin KATKAISTU-asentoon ja teippaa suojakytkimen varsi niin, että se pysyy KATKAISTU-asennossa.

Attention Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifiez que le circuit en courant continu n'est plus sous tension. Pour en être sûr, localiser le disjoncteur situé sur le panneau de service du circuit en courant continu, placer le disjoncteur en position fermée (OFF) et, à l'aide d'un ruban adhésif, bloquer la poignée du disjoncteur en position OFF.

Warnung Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält. Um sicherzustellen, daß sämtlicher Strom abgestellt ist, machen Sie auf der Schalttafel den Unterbrecher für die Gleichstromschaltung ausfindig, stellen Sie den Unterbrecher auf AUS, und kleben Sie den Schaltergriff des Unterbrechers mit Klebeband in der AUS-Stellung fest.

Avvertenza Prima di svolgere una qualsiasi delle procedure seguenti, verificare che il circuito CC non sia alimentato. Per verificare che tutta l'alimentazione sia scollegata (OFF), individuare l'interruttore automatico sul quadro strumenti che alimenta il circuito CC, mettere l'interruttore in posizione OFF e fissarlo con nastro adesivo in tale posizione.

Advarsel Før noen av disse prosedyrene utføres, kontroller at strømmen er frakoblet likestrømkretsen. Sørg for at all strøm er slått AV. Dette gjøres ved å lokalisere strømbryteren på brytertavlen som betjener likestrømkretsen, slå strømbryteren AV og teipe bryterhåndtaket på strømbryteren i AV-stilling.

Aviso Antes de executar um dos seguintes procedimentos, certifique-se que desligou a fonte de alimentação de energia do circuito de corrente contínua. Para se assegurar que toda a corrente foi DESLIGADA, localize o disjuntor no painel que serve o circuito de corrente contínua e coloque-o na posição OFF (Desligado), segurando nessa posição a manivela do interruptor do disjuntor com fita isoladora.

¡Advertencia! Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF). Para asegurarse de que toda la alimentación esté cortada (OFF), localizar el interruptor automático en el panel que alimenta al circuito de corriente continua, cambiar el interruptor automático a la posición de Apagado (OFF), y sujetar con cinta la palanca del interruptor automático en posición de Apagado (OFF).

Warning! Innan du utför någon av följande procedurer måste du kontrollera att strömförsörjningen till likströmskretsen är bruten. Kontrollera att all strömförsörjning är BRUTEN genom att slå AV det överspänningsskydd som skyddar likströmskretsen och tejpa fast överspänningsskyddets omkopplare i FRÅN-läget.

DC Power Supply Wiring Warning



Warning The illustration shows the DC power supply terminal block. Wire the DC power supply using the appropriate lugs at the wiring end, as illustrated. The proper wiring sequence is ground to ground, positive to positive (line to L), and negative to negative (neutral to N). Note that the ground wire should always be connected first and disconnected last.

Waarschuwing De figuur toont de aansluitstrip van de gelijkstroomvoeding. Breng de bedrading aan voor de gelijkstroomvoeding met behulp van de juiste aansluitpunten aan het draadeinde zoals aangegeven. De juiste bedradingsvolgorde is aarde naar aarde, positief naar positief (lijn naar L) en negatief naar negatief (neutraal naar N). Let op dat de aarddraad altijd het eerst verbonden en het laatst losgemaakt wordt.

Varoitus Kuva esittää tasavirran pääterasiasa. Liitä tasavirtalähde johdon avulla käyttäen sopivia kiinnityskorvia johdon päässä kuvan esittämällä tavalla. Oikea kytkentäjärjestys on maaajohto maaajohtoon, positiivinen positiiviseen (johto L:ään) ja negatiivinen negatiiviseen (nollajohto N:ään). Ota huomioon, että maaajohto on aina yhdistettävä ensin ja irrotettava viimeisenä.

Attention La figure illustre le bloc de connexion de l'alimentation en courant continu. Câbler l'alimentation en courant continu en fixant les cosses qui conviennent aux extrémités câblées conformément au schéma. La séquence de câblage à suivre est terre-terre, positif-positif (ligne sur L), et négatif-négatif (neutre sur N). Noter que le fil de masse doit toujours être connecté en premier et déconnecté en dernier.

Warnung Die Abbildung zeigt den Terminalblock des Gleichstrom-Netzgeräts. Verdrahten Sie das Gleichstrom-Netzgerät unter Verwendung von geeigneten Kabelschuhen am Verdrahtungsende (siehe Abbildung). Die richtige Verdrahtungsfolge ist Erde an Erde, positiv an positiv (Leitung an L) und negativ an negativ (neutral an N). Beachten Sie bitte, daß der Erdungsdraht immer als erster verbunden und als letzter abgetrennt werden sollte.

Avvertenza L'illustrazione mostra la morsettiere dell'alimentatore CC. Cablare l'alimentatore CC usando i connettori adatti all'estremità del cablaggio, come illustrato. La corretta sequenza di cablaggio è da massa a massa, da positivo a positivo (da linea ad L) e da negativo a negativo (da neutro a N). Tenere presente che il filo di massa deve sempre venire collegato per primo e scollegato per ultimo.

Advarsel Figuren viser likestrømforsyningsenhetens tilkoplingsterminal. Likestrømforsyningsenheten tilkoples ved hjelp av passende kabelsko som festes i enden av ledningene, slik som vist i figuren. Riktig tilkoplingssekvens er jord til jord, positiv til positiv (linje til L), og negativ til negativ (nøytral til N). Husk at jordingsledningen alltid bør tilkoples først og frakoples sist.

Aviso A figura mostra o bloco do terminal de fornecimento de corrente contínua. Ligue o fornecimento de corrente contínua utilizando as extremidades apropriadas no final do cabo, conforme ilustrado. A sequência correcta de instalação é terra-a-terra, positivo-positivo (linha para L), e negativo-negativo (neutro para N). Note que o fio de terra deverá ser sempre o primeiro a ser ligado, e o último a ser desligado.

¡Advertencia! La figura muestra la caja de bornes de la fuente de alimentación. Cablear la fuente de alimentación de corriente continua, usando las lengüetas de conexión apropiadas, en el extremo del cable tal como se muestra. Las conexiones deben realizarse en el siguiente orden: tierra con tierra, positivo con positivo (la línea con la L) y negativo con negativo (el neutro con la N). Tenga en cuenta que el conductor de tierra siempre tiene que conectarse el primero y desconectarse el último.

Warning! Illustrationen visar anslutningsplinten för likströmförsörjningsenheten. Koppla ledningarna till strömförsörjningsenheten med lämpliga kabelskor i ledningsändarna som bilden visar. Korrekt kopplingssekvens är jord till jord, positiv till positiv (linje till L) och negativ till negativ (neutral till N). Observera att jordledningen alltid skall anslutas först och kopplas bort sist.

DC Power Connection Warning



Warning After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position.

Waarschuwing Nadat de bedrading van de gelijkstroom voeding aangebracht is, verwijdert u het plakband van de schakelaarhendel van de stroomverbreker en schakelt de stroom weer in door de hendel van de stroomverbreker naar de AAN positie te draaien.

Varoitus Yhdistettyäsi tasavirtalähteen johdon avulla poista teippi suojakytkimen varresta ja kytke virta uudestaan kääntämällä suojakytkimen varsi KYTKETTY-asentoon.

Attention Une fois l'alimentation connectée, retirer le ruban adhésif servant à bloquer la poignée du disjoncteur et rétablir l'alimentation en plaçant cette poignée en position de marche (ON).

Warnung Nach Verdrahtung des Gleichstrom-Netzgeräts entfernen Sie das Klebeband vom Schaltergriff des Unterbrechers und schalten den Strom erneut ein, indem Sie den Griff des Unterbrechers auf EIN stellen.

Avvertenza Dopo aver eseguito il cablaggio dell'alimentatore CC, togliere il nastro adesivo dall'interruttore automatico e ristabilire l'alimentazione spostando all'interruttore automatico in posizione ON.

Advarsel Etter at likestrømsenheten er tilkoblet, fjernes teipen fra håndtaket på strømbryteren, og deretter aktiveres strømmen ved å dreie håndtaket på strømbryteren til PÅ-stilling.

Aviso Depois de ligar o sistema de fornecimento de corrente contínua, retire a fita isoladora da manivela do disjuntor, e volte a ligar a corrente ao deslocar a manivela para a posição ON (Ligado).

¡Advertencia! Después de cablear la fuente de alimentación de corriente continua, retirar la cinta de la palanca del interruptor automático, y restablecer la alimentación cambiando la palanca a la posición de Encendido (ON).

Warning! När du har kopplat ledningarna till strömförsörjningsenheten för inmatad likström tar du bort teipen från överspänningsskyddets omkopplare och slår på strømmen igen genom att ställa överspänningsskyddets omkopplare i TILL-läget.

Cisco Information Online

Cisco Information Online (CIO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CIO to obtain additional content and services.

Available 24 hours a day, 7 days a week, CIO provides a wealth of standard and value-added services to Cisco's customers and business partners. CIO services include product information, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CIO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously—a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CIO (called "CIO Classic") supports Zmodem, Kermit, Xmodem, FTP, Internet e-mail, and fax download options, and is excellent for quick access to information over lower bandwidths. The WWW version of CIO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CIO in the following ways:

- WWW: <http://www.cisco.com>
- Telnet: [cio.cisco.com](telnet://cio.cisco.com)
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; data bits: 8; parity: none; stop bits: 1; and baud rates up to 14.4 kbps.

For a copy of CIO's Frequently Asked Questions (FAQ), contact cio-help@cisco.com. For additional information, contact cio-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

This document can be used in conjunction with the *Cisco 7000 Hardware Installation and Maintenance* or *Cisco 7507 Hardware Installation and Maintenance* publication. (1445d700.fm)

Catalyst, CD-PAC, CiscoFusion, Cisco IOS, CiscoPro, CiscoView, CiscoVision, CiscoWorks, ControlStream, EtherChannel, HubSwitch, LAN²LAN, LAN²LAN Enterprise, LAN²LAN Remote Office, LAN²PC, Newport Systems Solutions, *Packet*, PC²LAN/X.25, Point and Click Internetworking, RouteStream, SMARTnet, SwitchProbe, SynchroniCD, *The Cell*, VirtualStream, WNIC, Workgroup Director, Workgroup Stack, and XCI are trademarks, Access by Cisco and Bringing the power of internetworking to everyone are service marks, and Cisco, Cisco Systems, the Cisco Systems logo, EtherSwitch, IGRP, Kalpana, LightStream, and UniverCD are registered trademarks of Cisco Systems, Inc. All other trademarks, service marks, registered trademarks, or registered service marks mentioned in this document are the property of their respective owners.

Copyright © 1995, Cisco Systems, Inc.
All rights reserved. Printed in USA
958(2)R