



Doc. No. 78-1060-02

Cisco 7000 and Cisco 7507 LED Board Replacement Instructions

Product Number: MAS-7KLED

Customer Order Number: DOC-781060=

This document contains instructions for replacing the top and bottom front chassis panels and the LED board in the Cisco 7000 and Cisco 7507.

Note The LED board 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 top and bottom front chassis panels comprise plastic bezels on a metal frame and should be replaced if they become warped or broken. The LED board, which contains the light-emitting diodes (LEDs) for the three front-panel system status indicators (normal, upper power, and lower power), is mounted inside the front of the chassis.

The sections in this document include the following:

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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 chassis, *if it 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 replacement is necessary, use this document to replace the LED board. (This document is also available on UniverCD.)

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

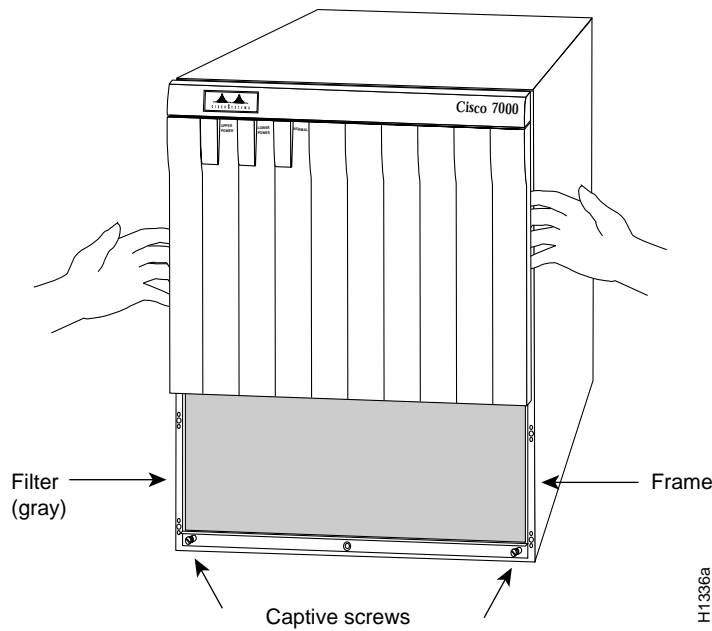
Product Overview

This section describes the top and bottom front chassis panels and the LED board.

Top and Bottom Front Chassis Panels

The top and bottom front chassis panels each comprise a plastic injected-molded bezel on a metal frame. The top front panel covers the entire front chassis opening and attaches to the bottom of the chassis frame with two captive screws. (See Figure 1)

Figure 1 Chassis Top Front Panel (Shown with Bottom Front Panel Removed)



The lower section of the top front panel houses the air filter, which cleans intake air drawn in by the blower. Three cutouts in the top of the panel contain semiopaque black plastic windows, through which the three system

LEDs are visible when they are on. EMI shielding surrounds the entire outer edge of the top front panel. The shielding acts as a spring, and compresses when you push the panel into the chassis to keep the panel fitted tightly into the chassis opening.

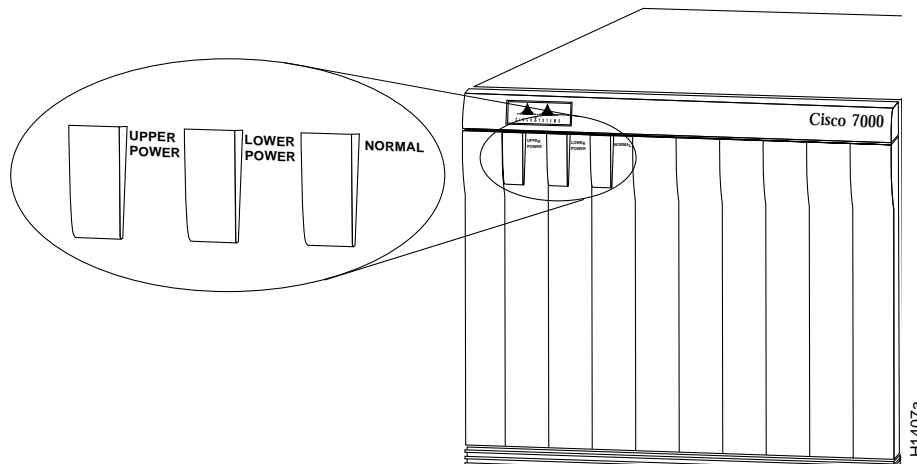
The bottom front panel is vented and covers the lower area of the top front panel that houses the air filter. The bottom front panel fits over the lower section of the top front panel and attaches to the chassis with ball studs. You must remove the bottom front panel before you can remove the top front panel. You can remove the bottom front panel while the system is operating to access or clean the air filter, but always turn system power off before removing the top front panel.

The chassis panels provide shielding against electromagnetic interference (EMI) and work with the blower and air filter to maintain a constant flow of cooling air through the chassis. Replace the chassis panels if they become warped or broken.

LED Board Location and Description

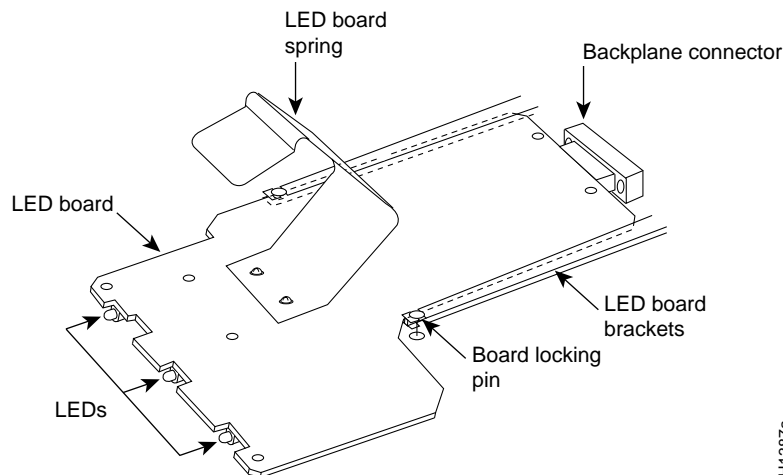
The LED board contains the three LEDs that report system software (normal) and power supply (upper power and lower power) status through semiopaque panels on the front of the chassis. Figure 2 shows the three system status indicators.

Figure 2 System Status Indicators (Front-Panel LEDs)



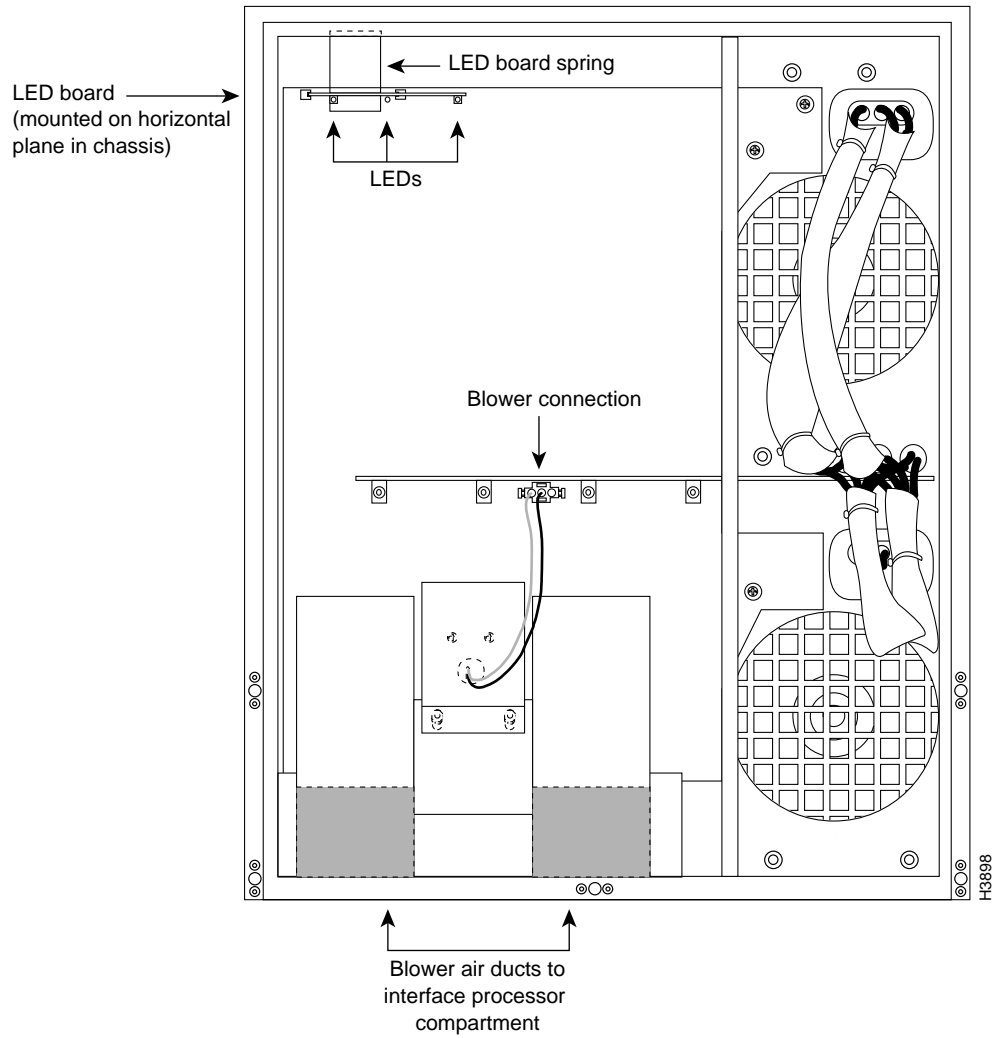
The LED board is mounted to the backplane on a horizontal plane near the top of the chassis interior (shown edge-on in Figure 4). The board slides into two brackets mounted to the front of the backplane, and a connector on the rear of the LED board mates with a connector on the backplane.

Figure 3 LED Board



Two pins in the brackets and a metal spring that butts up against the ceiling of the chassis keep the board in place. (See Figure 3.) You must remove the top front chassis panel to access the LED board. Carefully follow the top front chassis panel removal instructions to avoid damaging the LEDs or the LED board.

Figure 4 Internal Chassis Front View (Showing the LED Board Location)



Prerequisites

Before you begin an installation, review the safety guidelines in this section to avoid injuring yourself or damaging the equipment.



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.

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*.

- Always turn all power supplies off and disconnect power cords before removing the top front chassis panel. Dangerous current levels are present on the backplane when power is on.
- Do not work alone when potentially hazardous conditions exist.
- Carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Before beginning any procedures requiring access to the chassis interior, locate the emergency power-off switch for the room in which you are working.
- Never assume that power has been disconnected from a circuit; always check.

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

- Never install telephone wiring during a lightning storm.



Warning Do not work on the system or connect or disconnect cables during periods of lightning activity. (For translation of this safety warning, refer to the section “Lightning Activity Warning” on page 15.)

- 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 has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.



Warning Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages. (For translation of this safety warning, refer to the section “Chassis Warning—Disconnecting Telephone-Network Cables” on page 15.)



Caution Always handle an LED board by the edges only; avoid touching the board components, traces, or connector pins.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) damage, which occurs when electronic boards or components are improperly handled, can result in complete or intermittent failures. The processor modules each comprise a printed circuit board that is fixed in a metal carrier. Electromagnetic interference (EMI) shielding, connectors, and a handle are integral components of the carrier. The LED board, however, is not intended to be handled and has no frame or shielding. Handle the LED board by the edges only; never touch the board components, traces, or connector pins.

Following are guidelines for preventing ESD damage:

- Always use an ESD strap and ensure that it makes good skin contact.

- When removing or installing an LED board, connect the equipment end of the ground strap to an unpainted surface of the chassis, such as the vertical metal frame that is exposed when the front chassis panels are removed.
- Handle boards by the edges only; avoid touching the board components, traces, or connector pins.
- Place a removed board component-side-up on an antistatic surface or in a static shielding bag. If you are returning the board to the factory, immediately place it in a static shielding bag to avoid ESD damage.
- 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.

Note For safety, periodically check the resistance value of the antistatic strap. The measurement should be within the range of 1 and 10 megohms.

List of Parts and Tools

You need the following tools to replace a front chassis panel or an LED board:

- If you are replacing the top front chassis panel or the LED board, you need a 3/16-inch flat-blade or Number 2 Phillips screwdriver to remove the top front chassis panel. Earlier chassis (the first several hundred shipped) used slotted screws, and later chassis used Phillips screws to secure the top front panel to the chassis.
- If you are replacing an LED board, you need an antistatic mat, foam pad, or bag for the removed board (immediately place a removed board into an antistatic bag if you will return it to the factory)

No tools are required to remove or replace the bottom front panel or the LED board.

Removing and Replacing the Front Chassis Panels

You must remove the top and bottom front chassis panels to access the chassis interior to replace the LED board. Carefully follow the instructions for removing and replacing the top front panel; you can damage or destroy the LED board or top front panel by forcing a misaligned panel onto or off of the chassis body.



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 translation of this safety warning, refer to the section “Power Supply Disconnection Warning” on page 16.)



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 translation of this safety warning, refer to the section “Electric Shock Warning” on page 17.)

Note The following warning is for units with DC-input 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 translation of this safety warning, refer to the section “DC Power Disconnection Warning” on page 17.)

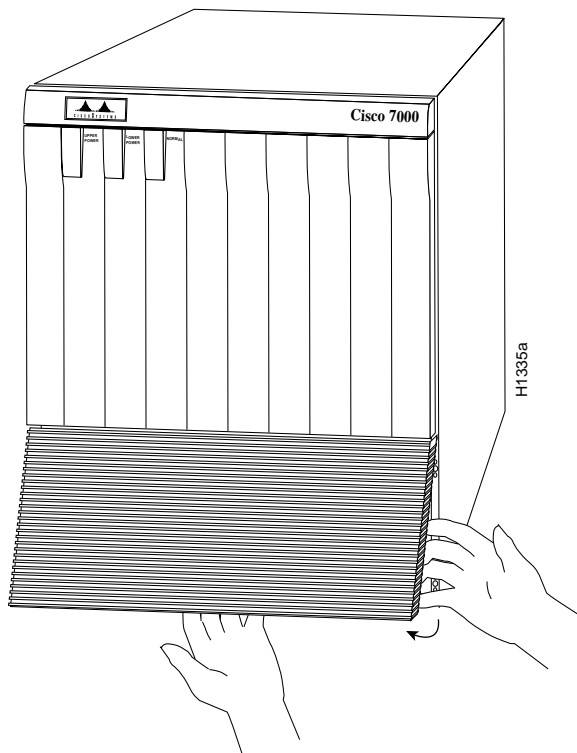
Removing the Panels

You must remove the bottom front panel before you can remove the top front panel. The plastic bottom front panel is attached to the chassis with ball studs. The top front panel is attached to the chassis with two captive screws. The EMI shielding around the outer edge of the top front panel acts as a spring, and compresses when you push the panel into the chassis to keep the panel fitted tightly into the chassis opening.

To remove the front panels, perform the following steps:

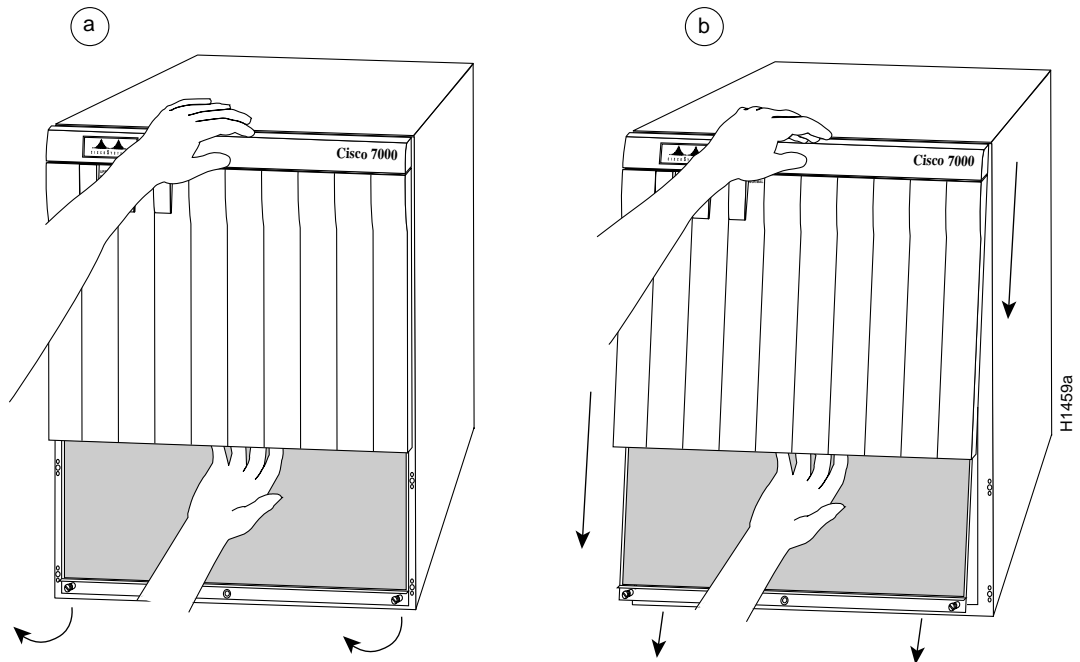
- Step 1** Grasp the bottom edge of the bottom chassis panel.
- Step 2** Pull the bottom of the panel out about one inch, then place your fingers behind the sides of the panel and pull it off the chassis. (See Figure 5.)
- Step 3** On the top front panel, use a screwdriver to loosen the two captive screws at the bottom edge of the panel frame.

Figure 5 Removing the Bottom Front Panel



- Step 4** Place one hand against the top front center of the panel to brace it. (See Figure 6a.) The top of the panel acts as a pivot point when you pull the bottom out and away from the chassis.

Figure 6 Removing the Top Front Panel



- Step 5** With your other hand, grasp the front of the panel by inserting your fingers into the opening on the underside of the bezel. (See Figure 6a.)
- Step 6** While pushing slightly against the top of the panel to constrain it, pivot the bottom edge of the frame outward about two inches. (See Figure 6a.) Because of the tightly compressed EMI shielding, you will have to use significant force to pull the bottom of the panel outward. However, be careful that you do not pull the panel more than two inches away from the chassis, or you can damage the inner bezel or LED board.
- Step 7** When the bottom of the frame clears the chassis opening, keep your hands in the same positions and pull the panel downward and off the chassis. (See Figure 6b.)

Replacing the Panels

To replace the front panels, perform the following steps:

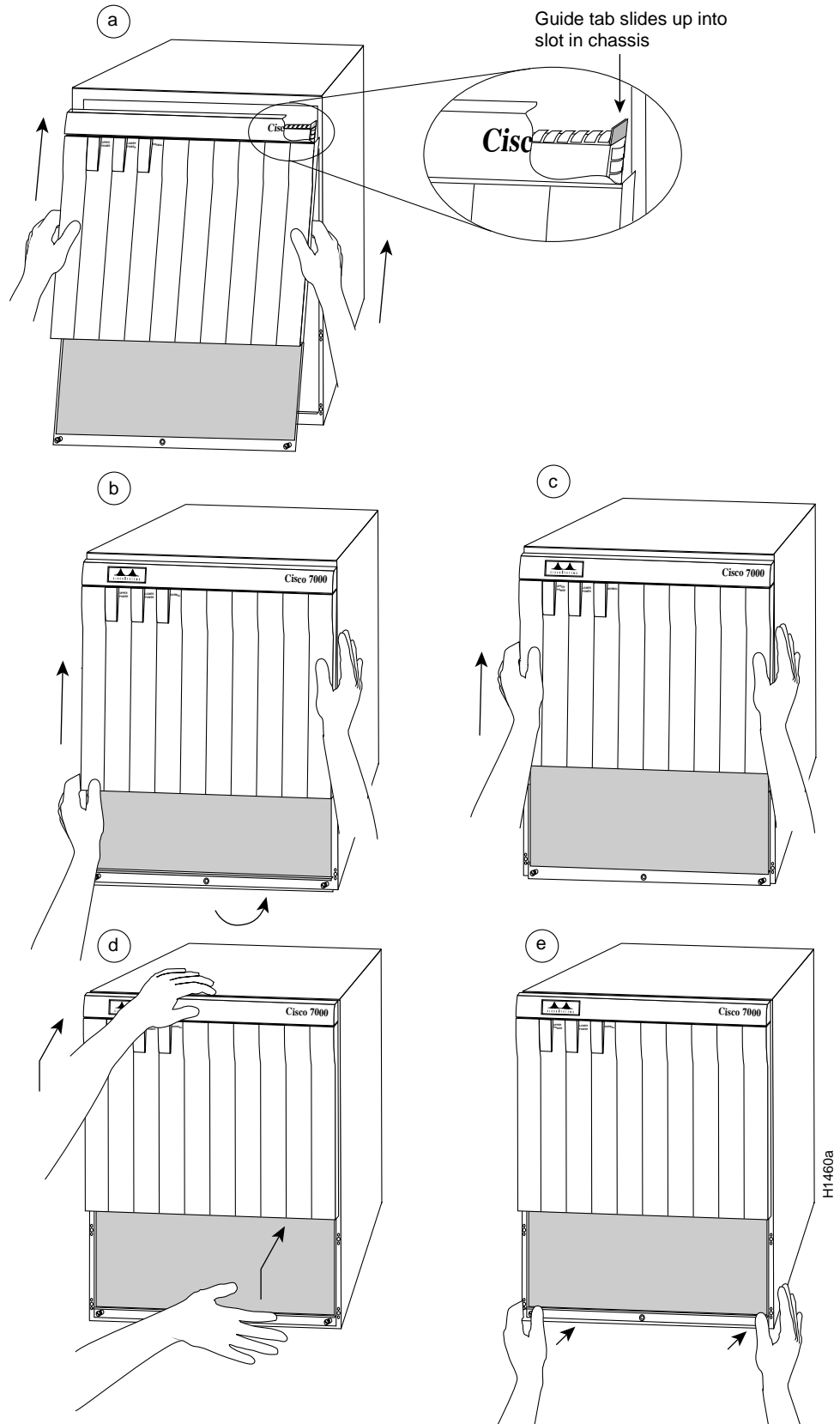
- Step 1** Grasp the sides of the top panel with both hands. (See Figure 7a on page 11.)
- Step 2** Two guide tabs at the top edges of the panel fit into two slots in the top edges of the chassis opening. Tilt the top of the panel back (away from you) about 30 degrees from vertical and slide the two guide tabs into the chassis slots. (See Figure 7a.)
- Step 3** Check the top of the panel and make sure it is lined up with the top of the chassis opening. Failure to align the panel at this point can result in equipment damage when performing the next step.
- Step 4** Push the panel upward to push the tabs into the slots (see Figure 7a) and pivot the bottom of the panel toward the chassis until the panel frame meets the chassis. (See Figure 7b.) Maintain a steady upward pressure to keep the guide tabs in the chassis slots.
- Step 5** When the panel is flush against the front of the chassis, push the panel upward until the bottom of the panel is level with the bottom of the chassis opening. (See Figure 7c.)

Removing and Replacing the Front Chassis Panels

- Step 6** While holding the panel in place, place one palm against the top front center of the panel to brace it, and place the other against the lip near the bottom edge of the frame. (See Figure 7d.)
- Step 7** Push the panel upward and back into the chassis opening until the tabs on the front sides of the panel are flush against the front of the chassis. (See Figure 7e.) You will have to use significant force to compress the EMI shielding enough to fit into the opening. If the panel resists, pull it slightly downward and make sure that the panel is lined up with the top and sides of the opening in the chassis.
- Step 8** When the tabs on the front sides of the panel are flush against the sides of the chassis, tighten the two captive screws in the bottom edge of the frame.
- Step 9** To replace the bottom front panel, place the ball studs on the back of the panel over the holes in the front lip of the chassis and push the panel onto the chassis until the ball studs snap into place.

This completes the chassis front panel removal and replacement procedures.

Figure 7 Replacing the Top Front Panel



Removing and Replacing the LED Board

The LED board slides horizontally into two mounting brackets near the top of the chassis interior and connects directly to the backplane. You must turn all system power off and remove the top and bottom front chassis panels to access the chassis interior.



Warning Read the installation instructions before you connect the system to its power source. (For translation of this safety warning, refer to the section “Installation Warning” on page 19.)



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 translation of this safety warning, refer to the section “Electric Shock Warning” on page 17.)

Note The following warning is for units with DC-input 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 translation of this safety warning, refer to the section “DC Power Disconnection Warning” on page 17.)

Removing the LED Board

To remove the existing LED board, perform the following steps:

- Step 1** Ensure that all system power is turned OFF and that power cords are disconnected from the power supplies or the power source.
- Step 2** Follow the steps in the section the section “Removing the Panels” on page 8 to remove the top and bottom front chassis panels.
- Step 3** If you have not already done so, slip on an ESD-prevention grounding strap. (A disposable wrist strap is included with all spare boards.) Connect the equipment end of the strap to an unpainted surface inside the chassis, such as the metal frame that is exposed when the front panels are removed.
- Step 4** Locate the LED board (see Figure 4), which is mounted on a horizontal plane in two plastic brackets near the top of the chassis.
- Step 5** Two steel pins near the front of the brackets hold the board in place. (See Figure 3.) On each pin, place your thumb on the top of the pin and your forefinger underneath the bracket to support it, and press the pins down and out of the guide holes in the board.



Caution Handle the LED board by the edges only to avoid damage from ESD.

- Step 6** Grasp the edges of the board and place a finger on the top of the LED board spring to depress it.

- Step 7** Keep the spring depressed as you pull the board straight out at a 90-degree orientation to the backplane.
- Step 8** Place the board in an antistatic bag if returning it to the factory.

Installing a New LED Board

To install the new LED board, perform the following steps:

- Step 1** Ensure that the power supplies are still turned OFF and disconnected from the power source, and that you are still wearing a ground strap.



Caution Handle the LED board by the edges only to avoid damage from ESD.

- Step 2** Hold the board with the LEDs toward you, with the spring on the top, and with the LEDs and components on the underside of the board. Grasp the edges of the board and place a finger on the top of the LED board spring to depress it. (See Figure 3.)
- Step 3** Slide the back edge of the board (the end with the connector) into the guides in the plastic brackets. (See Figure 3.)
- Step 4** Keep the spring depressed as you push the board straight in at a 90-degree orientation to the backplane until the connector on the LED board is fully seated in the backplane connector.
- Step 5** Slowly release the spring and allow it to spring up against the chassis ceiling.
- Step 6** A steel pin at the front of each bracket holds the board in place (see Figure 3). On each side, place your thumb underneath the pin and your forefinger on top of the bracket to support it, and press the pin up through the guide in the board. If the pin does not extend fully upward, push the board firmly into the backplane connector until the pins align with the guide holes in the board.
- Step 7** Refer to the section “Replacing the Panels” on page 9 to replace the top and bottom front chassis panels before you restart the system to verify the installation.

This completes the LED board installation.

Proceed to the next section to restart the system and verify that the new LED board functions correctly.

Installation Checkout

Perform the following steps to verify that the new LED board functions correctly.

Note The following warning is for units with DC-input power supplies.



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 translation of this safety warning, refer to the section “DC Power Connection Warning” on page 18.)

- Step 1** Turn all power supplies back ON and observe the three system status indicators on the front panel.
- Step 2** When you turn each power supply ON, the corresponding upper power and lower power LEDs on the front panel should go on for each bay in which a power supply is installed and turned ON. If any do not go on, do the following:
- Check the AC power LED on the power supply. If it is on, suspect that the front panel LED has failed and proceed with the installation checkout to determine if the other LEDs go on.
 - If the AC power LED is not on, or if the DC fail LED is on, ensure that the power supply is fully inserted in the power supply bay and that the captive installation screw on the top of the supply is tightened. The switch will not turn completely to the ON (I) position unless the supply is installed correctly.
 - Ensure that the power cord is fully seated in the power supply port and that the retention clip is snapped up around the plug.
 - Check the cable connection at the power source and ensure that it is connected properly.
 - If the AC Power on the power supply still fails to go on, suspect a power supply failure. If a second (redundant) power supply is available and functioning properly, proceed with the installation checkout.
- Step 3** After the system boots successfully, verify that the front panel normal LED goes on. If it does not go on, do the following:
- Check the normal LED on the RP (in the Cisco 7000) or the RSP2 (in the Cisco 7507). If it is on, the system software is functioning properly. Turn all power supplies OFF and reseal the LED board by following steps 2 through 6 in the section “Installing a New LED Board” on page 13.
 - If the (RP or RSP2) normal LED fails to go on, the system software has failed to boot properly. Toggle the power supplies OFF then ON again and observe the behavior of the LEDs on the RP or RSP2, so that you can report it to a service representative if you need to call for technical assistance.

This completes the installation checkout.

Translated Safety Warnings

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

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 lyner.

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.

Chassis Warning—Disconnecting Telephone-Network Cables



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

Waarschuwing Voordat u het frame opent, dient u de verbinding met het telefoonnetwerk te verbreken door de kabels te ontkoppelen om zo contact met telefoonnetwerk-spanningen te vermijden.

Varoitus Vältä joutumista kosketuksiin puhelinverkostojännitteiden kanssa irrottamalla puhelinverkon kaapelit ennen asennuspohjan aukaisemista.

Attention Avant d'ouvrir le châssis, débrancher les câbles du réseau téléphonique afin d'éviter tout contact avec les tensions d'alimentation du réseau téléphonique.

Warnung Bevor Sie das Chassis öffnen, ziehen Sie die Telefonnetzkabel aus der Verbindung, um Kontakt mit Telefonnetzspannungen zu vermeiden.

Avvertenza Prima di aprire il telaio, scollegare i cavi della rete telefonica per evitare di entrare in contatto con la tensione di rete.

Advarsel Før kabinettet åpnes, skal kablene for telenettet kobles fra for å unngå å komme i kontakt med spenningen i telenettet.

Aviso Antes de abrir o chassis, desligue os cabos da rede telefónica para evitar contacto com a tensão da respectiva rede.

¡Advertencia! Antes de abrir el chasis, desconectar el cableado dirigido a la red telefónica para evitar contacto con voltajes de la propia red.

Warning! Koppla loss ledningarna till telefonnätet innan du öppnar chassit så att kontakten med telefonnätsspänningen bryts.

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 strømledningen trekkes ut på CE 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 strømmen 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 strømledning. Koble fra de to strømledningene 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.

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 schakelaarhandel 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 a 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 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 suojakytikimen varresta ja kytke virta uudestaan kääntämällä suojakytikimen 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 strömmen igen genom att ställa överspänningsskyddets omkopplare i TILL-läget.

Installation Warning



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

Waarschuwing Raadpleeg de installatie-aanwijzingen voordat u het systeem met de voeding verbindt.

Varoitus Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.

Attention Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.

Warnung Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.

Avvertenza Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.

Advarsel Les installasjonsinstruksjonene før systemet kobles til strømkilden.

Aviso Leia as instruções de instalação antes de ligar o sistema à sua fonte de energia.

¡Advertencia! Ver las instrucciones de instalación antes de conectar el sistema a la red de alimentación.

Warning! Läs installationsanvisningarna innan du kopplar systemet till dess strömförsörjningsenhet.

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