Part No. 313070-C Rev 00
August 2002

4401 Great America Parkway
Santa Clara, CA 95054

Installing a DC Power Supply in a 8000 Series Switch

NORTEL NETWORKS™

Copyright © 2002 Nortel Networks

Trademarks

Nortel Networks, the Nortel Networks logo, the Globemark, and Unified Networks are trademarks of Nortel Networks.

Adobe and Acrobat Reader are trademarks of Adobe Systems Incorporated.

Statement of conditions

In the interest of improving internal design, operational function, and/or reliability, Nortel Networks Inc. reserves the right to make changes to the products described in this document without notice.

Nortel Networks Inc. does not assume any liability that may occur due to the use or application of the product(s) or circuit layout(s) described herein.

International Regulatory Statements of Conformity

This is to certify that the Nortel Networks 8000 Series chassis and components installed within the chassis were evaluated to the international regulatory standards for electromagnetic compliance (EMC) and safety and were found to have met the requirements for the following international standards:

- EMC - Electromagnetic Emissions – CISPR 22, Class A
- EMC - Electromagnetic Immunity – CISPR 24
- Electrical Safety – IEC 60950, with CB member national deviations

Further, the equipment has been certified as compliant with the national standards as detailed below.

National electromagnetic compliance (EMC) statements of compliance

FCC statement (USA only)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures may be necessary to correct the interference at their own expense.

ICES statement (Canada only)

Canadian Department of Communications Radio Interference Regulations

This digital apparatus (8000 Series chassis and installed components) does not exceed the Class A limits for radio-noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique (8000 Series chassis) respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada.

CE marking statement (Europe only)

EN 55 022 statements

This is to certify that the Nortel Networks 8000 Series chassis and components installed within the chassis are shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC. Conformity is declared by the application of EN 55 022 Class A (CISPR 22).

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

Achtung: Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention: Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l’utilisateur de prendre les mesures spécifiques appropriées.

EN 55 024 statement

This is to certify that the Nortel Networks 8000 Series chassis is shielded against the susceptibility to radio interference in accordance with the application of Council Directive 89/336/EEC. Conformity is declared by the application of EN 55 024 (CISPR 24).

EC Declaration of Conformity

This product conforms to the provisions of the R&TTE Directive 1999/5/EC.

VCCI statement (Japan/Nippon only)

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

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

BSMI statement (Taiwan only)

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A.

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

MIC notice (Republic of Korea only)

This device has been approved for use in Business applications only per the Class A requirements of the Republic of Korea Ministry of Information and Communications (MIC). This device may not be sold for use in a non-business application.

National safety statements of compliance

CE marking statement (Europe only)

EN 60 950 statement

This is to certify that the Nortel Networks 8000 Series chassis and components installed within the chassis are in compliance with the requirements of EN 60 950 in accordance with the Low Voltage Directive. Additional national

differences for all European Union countries have been evaluated for compliance. Some components installed within the 8000 Series chassis may use a nickel-metal hydride (NiMH) and/or lithium-ion battery. The NiMH and lithium-ion batteries are long-life batteries, and it is very possible that you will never need to replace them. However, should you need to replace them, refer to the individual component manual for directions on replacement and disposal of the battery.

NOM statement (Mexico only)

The following information is provided on the devices described in this document in compliance with the safety requirements of the Norma Oficial Méxicana (NOM):

Exporter:	Nortel Networks, Inc. 4655 Great America Parkway Santa Clara CA 95054 USA
Importer:	Nortel Networks de México, S.A. de C.V. Avenida Insurgentes Sur #1605 Piso 30, Oficina Col. San Jose Insurgentes Deleg-Benito Juarez México D.F. 03900 Tel: 52 5 480 2100 Fax: 52 5 480 2199
Input:	100 to 240 VAC, 50 to 60 Hz, 12 A max. per power supply –48 to –60 VDC, 29 A max. per power supply single supply, two supply or two + one redundant supply configurations

Información NOM (unicamente para México)

La información siguiente se proporciona en el dispositivo o en los dispositivos descritos en este documento, en cumplimiento con los requisitos de la Norma Oficial Méxicana (NOM):

Exportador:	Nortel Networks, Inc. 4655 Great America Parkway Santa Clara, CA 95054 USA
Importador:	Nortel Networks de México, S.A. de C.V. Avenida Insurgentes Sur #1605 Piso 30, Oficina Col. San Jose Insurgentes Deleg-Benito Juarez México D.F. 03900 Tel: 52 5 480 2100 Fax: 52 5 480 2199

Embarcar a:100 to 240 V CA, 50 to 60 Hz, 12 A max. por fuente de poder
–48 to –60 V CD, 29 A max. por fuente de poder
una fuente, dos fuentes o dos + configuraciones de una fuente redundante

Nortel Networks Inc. software license agreement

NOTICE: Please carefully read this license agreement before copying or using the accompanying software or installing the hardware unit with pre-enabled software (each of which is referred to as "Software" in this Agreement). BY COPYING OR USING THE SOFTWARE, YOU ACCEPT ALL OF THE TERMS AND CONDITIONS OF THIS LICENSE AGREEMENT. THE TERMS EXPRESSED IN THIS AGREEMENT ARE THE ONLY TERMS UNDER WHICH NORTEL NETWORKS WILL PERMIT YOU TO USE THE SOFTWARE. If you do not accept these terms and conditions, return the product, unused and in the original shipping container, within 30 days of purchase to obtain a credit for the full purchase price.

1. License grant. Nortel Networks Inc. ("Nortel Networks") grants the end user of the Software ("Licensee") a personal, nonexclusive, nontransferable license: a) to use the Software either on a single computer or, if applicable, on a single authorized device identified by host ID, for which it was originally acquired; b) to copy the Software solely for backup purposes in support of authorized use of the Software; and c) to use and copy the associated user manual solely in support of authorized use of the Software by Licensee. This license applies to the Software only and does not extend to Nortel Networks Agent software or other Nortel Networks software products. Nortel Networks Agent software or other Nortel Networks software products are licensed for use under the terms of the applicable Nortel Networks Inc. Software License Agreement that accompanies such software and upon payment by the end user of the applicable license fees for such software.

2. Restrictions on use; reservation of rights. The Software and user manuals are protected under copyright laws. Nortel Networks and/or its licensors retain all title and ownership in both the Software and user manuals, including any revisions made by Nortel Networks or its licensors. The copyright notice must be reproduced and included with any copy of any portion of the Software or user manuals. Licensee may not modify, translate, decompile, disassemble, use for any competitive analysis, reverse engineer, distribute, or create derivative works from the Software or user manuals or any copy, in whole or in part. Except as expressly provided in this Agreement, Licensee may not copy or transfer the Software or user manuals, in whole or in part. The Software and user manuals embody Nortel Networks' and its licensors' confidential and proprietary intellectual property. Licensee shall not sublicense, assign, or otherwise disclose to any third party the Software, or any information about the operation, design, performance, or implementation of the Software and user manuals that is confidential to Nortel Networks and its licensors; however, Licensee may grant permission to its consultants, subcontractors, and agents to use the Software at Licensee's facility, provided they have agreed to use the Software only in accordance with the terms of this license.

3. Limited warranty. Nortel Networks warrants each item of Software, as delivered by Nortel Networks and properly installed and operated on Nortel Networks hardware or other equipment it is originally licensed for, to function substantially as described in its accompanying user manual during its warranty period, which begins on the date Software is first shipped to Licensee. If any item of Software fails to so function during its warranty period, as the sole remedy Nortel Networks will at its discretion provide a suitable fix, patch, or workaround for the problem that may be included in a future Software release. Nortel Networks further warrants to Licensee that the media on which the Software is provided will be free from defects in materials and workmanship under normal use for a period of 90 days from the date Software is first shipped to Licensee. Nortel Networks will replace defective media at no charge if it is returned to Nortel Networks during the warranty period along with proof of the date of shipment. This warranty does not apply if the media has been damaged as a result of accident, misuse, or abuse. The Licensee assumes all responsibility for selection of the Software to achieve Licensee's intended results and for the installation, use, and results obtained from the Software. Nortel Networks does not warrant a) that the functions contained in the software will meet the Licensee's requirements, b) that the Software will operate in the hardware or software combinations that the Licensee may select, c) that the operation of the Software will be uninterrupted or error free, or d) that all defects in the operation of the Software will be corrected. Nortel Networks is not obligated to remedy any Software defect that cannot be reproduced with the latest Software release. These warranties do not apply to the Software if it has been (i) altered, except by Nortel Networks or in accordance with its instructions; (ii) used in conjunction with another vendor's product, resulting in the defect; or (iii) damaged by improper environment, abuse, misuse, accident, or negligence. THE FOREGOING WARRANTIES AND LIMITATIONS ARE EXCLUSIVE REMEDIES AND ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Licensee is responsible for the security of its

own data and information and for maintaining adequate procedures apart from the Software to reconstruct lost or altered files, data, or programs.

4. Limitation of liability. IN NO EVENT WILL NORTEL NETWORKS OR ITS LICENSORS BE LIABLE FOR ANY COST OF SUBSTITUTE PROCUREMENT; SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES; OR ANY DAMAGES RESULTING FROM INACCURATE OR LOST DATA OR LOSS OF USE OR PROFITS ARISING OUT OF OR IN CONNECTION WITH THE PERFORMANCE OF THE SOFTWARE, EVEN IF NORTEL NETWORKS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL THE LIABILITY OF NORTEL NETWORKS RELATING TO THE SOFTWARE OR THIS AGREEMENT EXCEED THE PRICE PAID TO NORTEL NETWORKS FOR THE SOFTWARE LICENSE.

5. Government licensees. This provision applies to all Software and documentation acquired directly or indirectly by or on behalf of the United States Government. The Software and documentation are commercial products, licensed on the open market at market prices, and were developed entirely at private expense and without the use of any U.S. Government funds. The license to the U.S. Government is granted only with restricted rights, and use, duplication, or disclosure by the U.S. Government is subject to the restrictions set forth in subparagraph (c)(1) of the Commercial Computer Software—Restricted Rights clause of FAR 52.227-19 and the limitations set out in this license for civilian agencies, and subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause of DFARS 252.227-7013, for agencies of the Department of Defense or their successors, whichever is applicable.

6. Use of software in the European Community. This provision applies to all Software acquired for use within the European Community. If Licensee uses the Software within a country in the European Community, the Software Directive enacted by the Council of European Communities Directive dated 14 May, 1991, will apply to the examination of the Software to facilitate interoperability. Licensee agrees to notify Nortel Networks of any such intended examination of the Software and may procure support and assistance from Nortel Networks.

7. Term and termination. This license is effective until terminated; however, all of the restrictions with respect to Nortel Networks' copyright in the Software and user manuals will cease being effective at the date of expiration of the Nortel Networks copyright; those restrictions relating to use and disclosure of Nortel Networks' confidential information shall continue in effect. Licensee may terminate this license at any time. The license will automatically terminate if Licensee fails to comply with any of the terms and conditions of the license. Upon termination for any reason, Licensee will immediately destroy or return to Nortel Networks the Software, user manuals, and all copies. Nortel Networks is not liable to Licensee for damages in any form solely by reason of the termination of this license.

8. Export and re-export. Licensee agrees not to export, directly or indirectly, the Software or related technical data or information without first obtaining any required export licenses or other governmental approvals. Without limiting the foregoing, Licensee, on behalf of itself and its subsidiaries and affiliates, agrees that it will not, without first obtaining all export licenses and approvals required by the U.S. Government: (i) export, re-export, transfer, or divert any such Software or technical data, or any direct product thereof, to any country to which such exports or re-exports are restricted or embargoed under United States export control laws and regulations, or to any national or resident of such restricted or embargoed countries; or (ii) provide the Software or related technical data or information to any military end user or for any military end use, including the design, development, or production of any chemical, nuclear, or biological weapons.

9. General. If any provision of this Agreement is held to be invalid or unenforceable by a court of competent jurisdiction, the remainder of the provisions of this Agreement shall remain in full force and effect. This Agreement will be governed by the laws of the state of California.

Should you have any questions concerning this Agreement, contact Nortel Networks Inc., 2375 N. Glenville Dr., Richardson, TX 75082.

LICENSEE ACKNOWLEDGES THAT LICENSEE HAS READ THIS AGREEMENT, UNDERSTANDS IT, AND AGREES TO BE BOUND BY ITS TERMS AND CONDITIONS. LICENSEE FURTHER AGREES THAT THIS AGREEMENT IS THE ENTIRE AND EXCLUSIVE AGREEMENT BETWEEN NORTEL NETWORKS AND LICENSEE, WHICH SUPERSEDES ALL PRIOR ORAL AND WRITTEN AGREEMENTS AND COMMUNICATIONS BETWEEN THE PARTIES PERTAINING TO THE SUBJECT MATTER OF THIS AGREEMENT. NO DIFFERENT OR ADDITIONAL TERMS WILL BE ENFORCEABLE AGAINST NORTEL NETWORKS UNLESS NORTEL NETWORKS GIVES ITS EXPRESS WRITTEN CONSENT, INCLUDING AN EXPRESS WAIVER OF THE TERMS OF THIS AGREEMENT.

Contents

Figures

Tables

Preface

This guide provides information about the DC power supply used in the 8000 Series chassis and instructions for adding and replacing a DC power supply in the following 8000 Series chassis models:

- 8006 Chassis
- 8010 Chassis
- 8010co Chassis

For a list of related publications, see the release notes that accompany your software.

Before you begin

This guide is intended for qualified service personnel who need to add or replace a DC power supply in a 8000 Series chassis. A qualified service person should have appropriate technical training and experience and be aware of the hazards involved in installing and replacing customer-replaceable units.

Text conventions

This guide uses the following text conventions:

italic text	Indicates new terms and book titles.

Hard-copy technical manuals

You can print selected technical manuals and release notes free, directly from the Internet. Go to the www.nortelnetworks.com/documentation URL. Find the product for which you need documentation. Then locate the specific category and model or version for your hardware or software product. Use Adobe* Acrobat Reader* to open the manuals and release notes, search for the sections you need, and print them on most standard printers. Go to Adobe Systems at the www.adobe.com URL to download a free copy of the Adobe Acrobat Reader.

You can purchase selected documentation sets, CDs, and technical publications through the Internet at the www1.fatbrain.com/documentation/nortel/ URL.

How to get help

If you purchased a service contract for your Nortel Networks product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller for assistance.

If you purchased a Nortel Networks* service program, contact one of the following Nortel Networks Technical Solutions Centers:

Technical Solutions Center	Telephone
Europe, Middle East, and Africa	(33) (4) 92-966-968
North America	(800) 4NORTEL or (800) 466-7835
Asia Pacific	(61) (2) 9927-8800
China	(800) 810-5000

An Express Routing Code (ERC) is available for many Nortel Networks products and services. When you use an ERC, your call is routed to a technical support person who specializes in supporting that product or service. To locate an ERC for your product or service, go to the http://www.nortelnetworks.com/help/contact/erc/index.html URL.

Chapter 1
About the DC power supply

Each DC power supply provides 850 watts (W) of power to the switch.

Figure 1 shows the 8004 DC Power Supply used in the 8006, 8010, and 8010co Chassis.

Figure 1 DC power supply

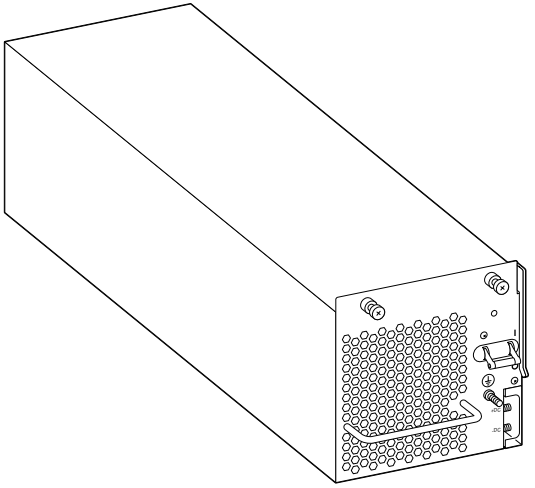


Table 1 describes the power supply LED on the DC power supply.

Table 1 Power supply LED

State	Meaning
Off	No output is present.
On (green)	Power supply output is normal.

The 8006, 8010, and 8010co Chassis have three bays for power supplies. The power supply bays are numbered 1, 2, and 3 left to right as viewed from the front of the chassis.

Figure 2 shows the location of the DC power supplies in the 8010co Chassis.

Figure 2 Location of DC power supplies in the 8010co Chassis

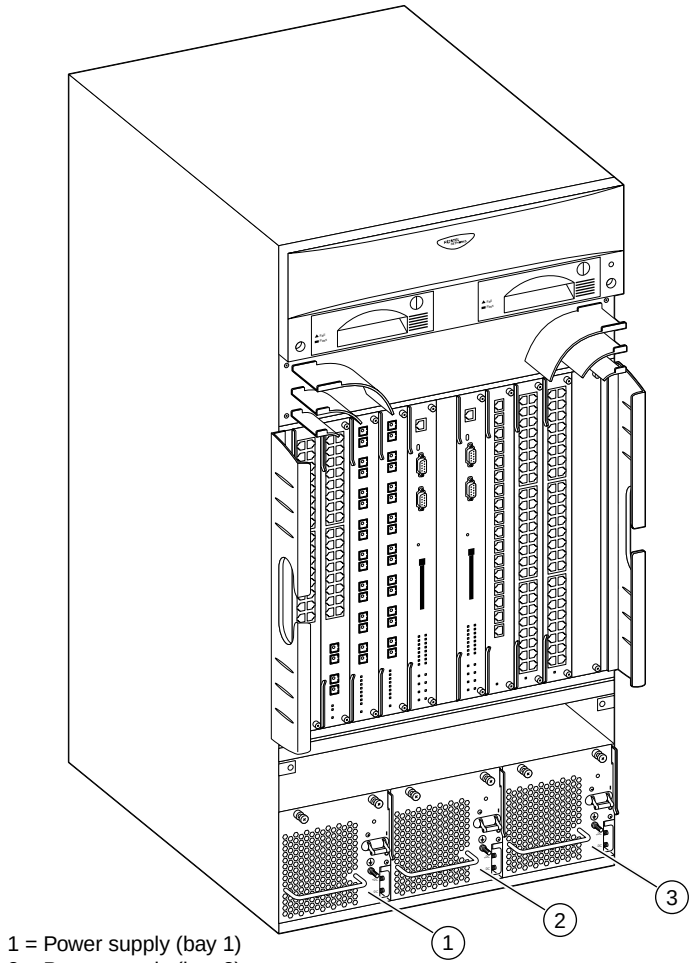
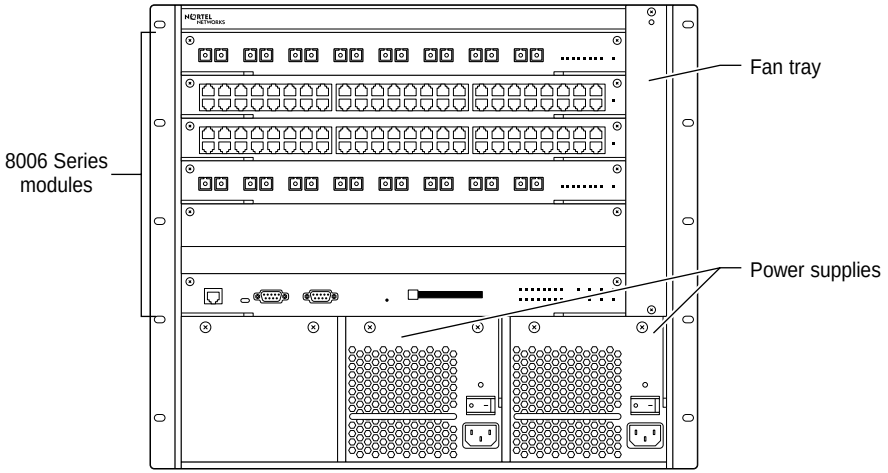


Figure 3 shows the location of the DC power supplies in the 8006 Chassis. (The 10-slot 8010 Chassis closely resembles the 6-slot 8006 Chassis.)

Figure 3 Location of DC power supplies in the 8006 and 8010 Chassis



The 8000 Series chassis ships with no installed power supplies. Install the first power supply in the leftmost bay. For instructions on how to install the power supplies, see “Installing the DC power supply” on page 28.

Redundant and nonredundant power supply configurations

For the 8006 and 8010 Chassis, the number of power supplies that you need to install— 1,2, or 3—depends on the number of modules installed in the chassis and whether you want an optional redundant power supply. For the 8010co Chassis, the number of power supplies that you need to install— 2 or 3— depends on whether you want an optional redundant power supply (Table 2).

Table 2 Number of power supplies to install

Chassis	Number of modules[1]	Number of power supplies	
		Required	Redundant configuration
8006	1—5	1	2
	6	2	3

Table 2 Number of power supplies to install

Chassis	Number of modules[1]	Number of power supplies	
		Required	Redundant configuration
8010	1—5	1	2
	6—10	2	3
8010co	1—10	2	3

1 Includes 1 or 2 CPU modules

If a chassis has a redundant power supply and one power supply fails, the chassis continues to operate with no interruption of service.

Note: When you connect each power supply to a separate DC power source, the redundant power supply also provides protection against the failure or disconnection of a power source.

If a chassis has the minimum required number of power supplies and one power supply fails, the system loses power and network connectivity.

Power supply specifications

Table 3 provides the electrical specifications for the DC power supply.

Table 3 8004PS DC Power Supply specifications

Specification	Value
Input voltage	-48 to -60 VDC
Input current	29 - 23 A
Input power	1308 W
Input volt amperes	1.3 kVA
Output power	850 W
Thermal output	4464 Btu/hr maximum

Table 3 8004PS DC Power Supply specifications (continued)

Specification	Value
Crimp lugs	
Two-hole lug terminal	Panduit LCD6-14A-L or equivalent
One-hole terminal	Panduit LCA6-14H-L or equivalent

Chapter 2
Adding and replacing DC power supplies

This chapter provides instructions for installing DC power supplies in the 8000 Series chassis. This chapter includes the following topics:

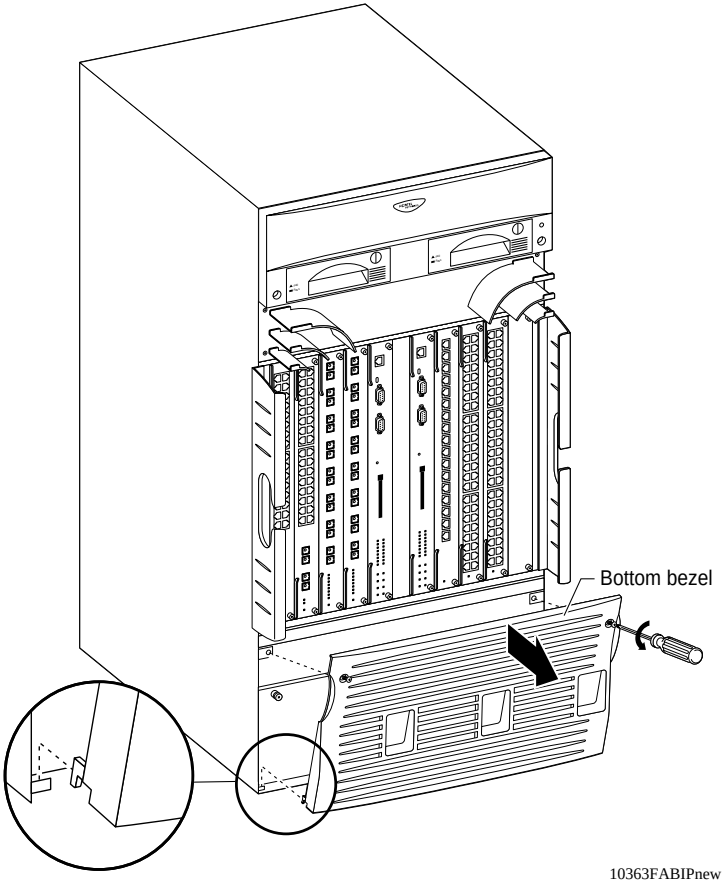
Removing the bottom bezel (8010co Chassis)

To access the 8010co Chassis power supplies, you must remove the bottom front bezel.

To remove the bottom front bezel:

1. Using a Phillips screwdriver, loosen the 2 captive screws that secure the bezel to the chassis (Figure 4).
2. Pull the top of the bezel forward and then lift the bezel from the two tabs on the bottom of the chassis.

Figure 4 Removing the bottom front bezel from the 8010co Chassis



Removing and installing a power filler panel

A power filler panel maintains the proper cooling airflow in the 8000 Series chassis. When you install a power supply in a bay for the first time, you must first remove the power filler panel from the power bay. If you remove a power supply from the chassis without replacing it, you must install a power filler panel.

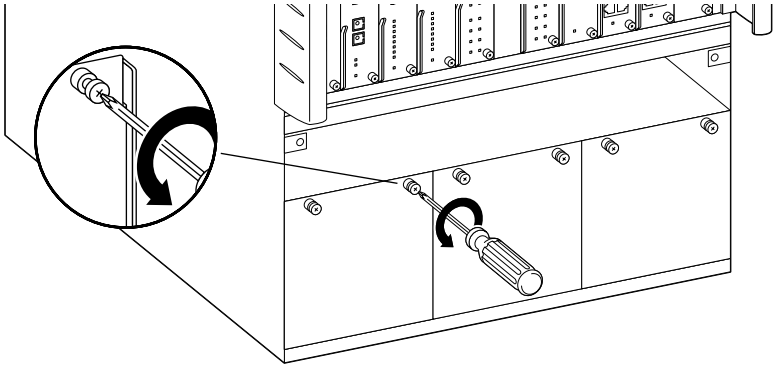
To remove a power filler panel:

1. For the 8010co Chassis, remove the bottom front bezel.

   For instructions, see "Removing the bottom bezel (8010co Chassis)" on page 24.

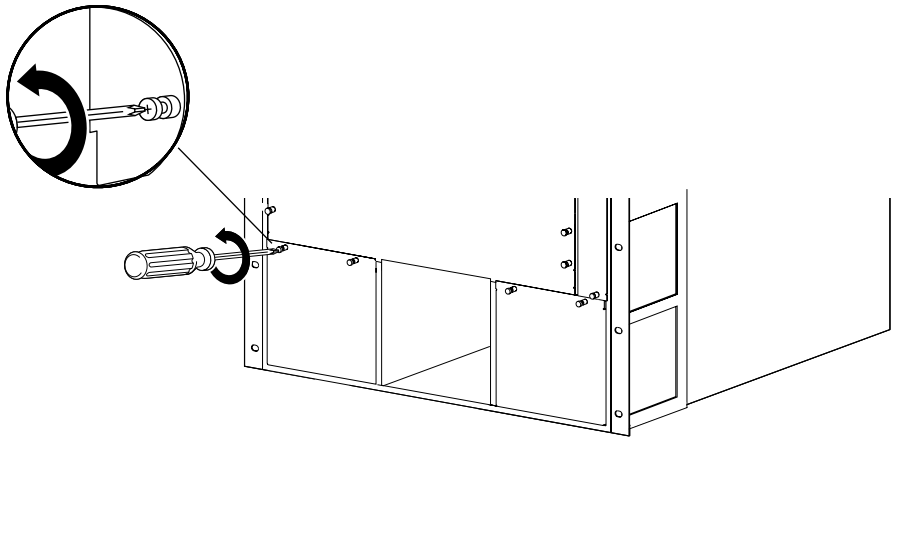
2. Using a Phillips screwdriver, loosen the 2 captive screws that secure the power filler panel to the chassis until the power filler panel disengages (Figure 5 and Figure 6).

Figure 5 Removing a power filler panel: 8010co Chassis



10416FA

Figure 6 Removing a power filler panel: 8006 and 8010 Chassis



8957FBO

3 Pull the power filler panel out of the chassis.

Caution: Save the power filler panel in case you need to operate the 8000 Series chassis with a power supply removed.

To install a power filler panel:

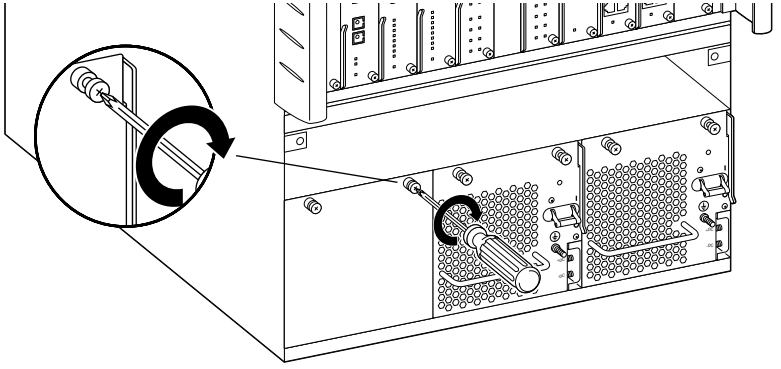
1 For the 8010co Chassis, remove the bottom front bezel.

For instructions, see “Removing the bottom bezel (8010co Chassis)” on page 24.

2 Place the power filler panel in the empty power supply bay (Figure 7 and Figure 8).

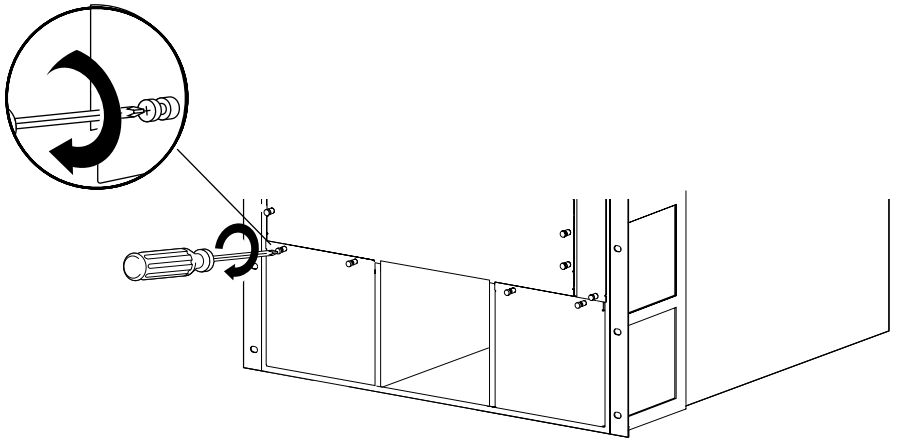
3 Tighten the 2 captive screws until the power filler panel is seated firmly.

Figure 7 Installing a power filler panel: 8010co Chassis



10415FA

Figure 8 Installing a power filler panel: 8006 and 8010 Chassis



8957FBI

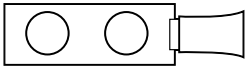
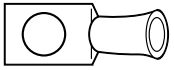
Installing the DC power supply

Danger: Due to high-energy hazards, only qualified service personnel are permitted to connect the 8000 Series chassis to the DC power source.

In addition to the DC power supply and a guide for installing it, your DC power supply shipment contains several hardware accessories. Verify that the items in the shipping container match those on the shipment packing list.

Use Table 4 as a checklist to verify the contents of the shipping container.

Table 4 DC power supply shipping accessories

Check	Accessory		Use to
	2 two-hole crimp lug terminals with attached tubing		Connect the positive and negative power inputs.
	1 one-hole crimp lug terminal with attached tubing		Connect the ground stud.
	5 nuts		Connect all leads.
	5 lock washers		Connect all leads.
	1 washer		Connect the ground stud.

Before you begin the installation, verify that you have these tools and materials:

- Cable
- Crimping tool for crimping the lugs onto the cable
- Heat gun to shrink the tubing around the cable (optional)
- 7/16-inch hex wrench
- Phillips screwdriver

Note: If you are installing a 8010co Chassis and you ordered the optional breaker interface panel (BIP), go to "Installing the power supply" on page 30.

Preparing cables

Nortel Networks does not supply the cables for connecting the DC power supply to the DC input power source. Select cables that comply with the electrical code of the country where you will use the DC power supply.

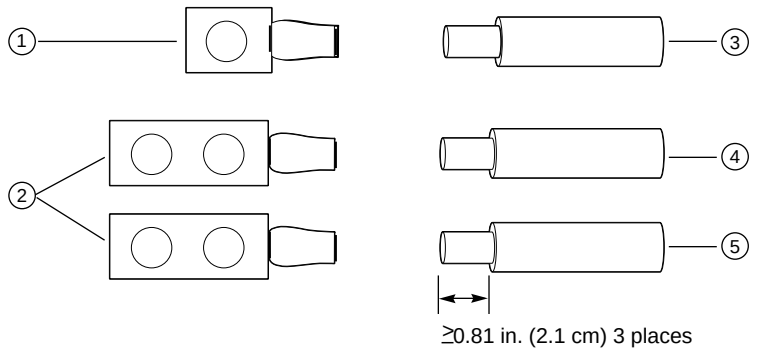
Caution: You have the sole responsibility of ensuring that the connection cable used with the 8004DC Power Supply is appropriate for use with the DC power source to which the power supply is connected. Consider gauge, flammability, and mechanical serviceability when determining which cables to use.

If you ordered the optional breaker interface panel (BIP), Nortel Networks ships the cables for connecting the BIP to the DC power supply. Go to "Installing the power supply" on page 30.

To prepare cables for connecting the power supply:

1 Strip 0.81 in. (2.1 cm) of insulation from the ends of the cables (Figure 9).

Figure 9 Cable stripping requirements



2 Crimp the lugs onto the cables using a standard crimping tool.

Failure to properly crimp the lugs onto the cables constitutes a safety hazard.

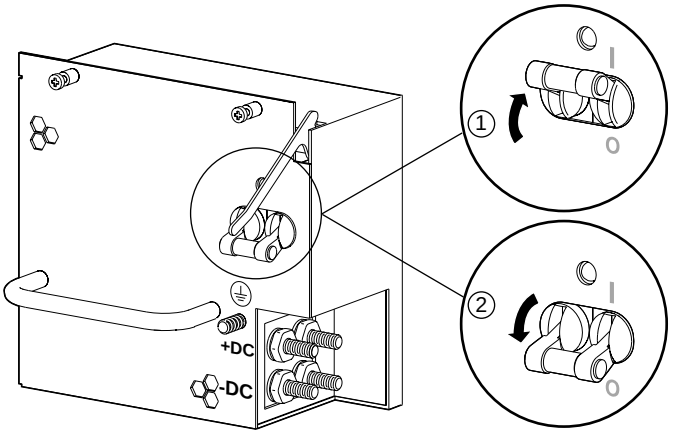
3 If necessary, use a heat gun to shrink the tubing around the cable.

Installing the power supply

To install a DC power supply:

1 Make sure that the power switch is turned off (Figure 10).

Figure 10 DC power supply power switch



2 For the 8010co Chassis, remove the bottom front bezel.

For instructions, see “Removing the bottom bezel (8010co Chassis)” on page 24.

3 Remove the filler panel from the power bay if necessary.

For instructions, see “Removing and installing a power filler panel” on page 25.

Caution: Save the power filler panel in case you need to operate the 8000 Series chassis with a power supply removed.

4 If you are replacing a failed power supply, remove the failed supply.

For instructions, see “Removing the DC power supply” on page 38.

5 Grasp the handle of the new power supply.

6 Push the new power supply partway into the bay, leaving the terminal block at the side of the power supply exposed (Figure 11 and Figure 12).

Note: If you are installing the power supply in a 8010co Chassis and you have the optional breaker interface panel (BIP), go to *Installing the Breaker Interface Panel for the 8010co Chassis*.

Figure 11 Inserting the DC power supply: 8010co Chassis

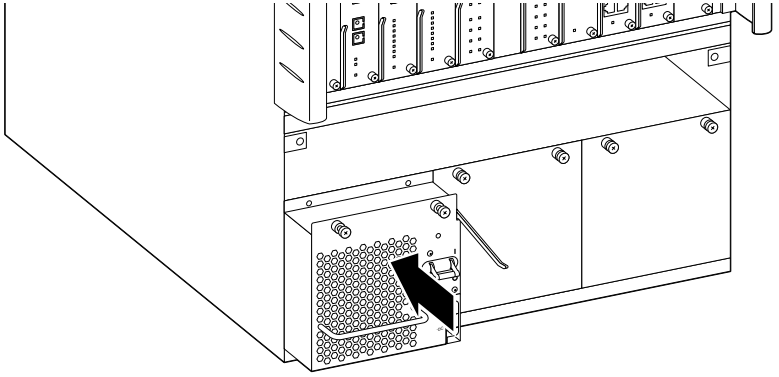
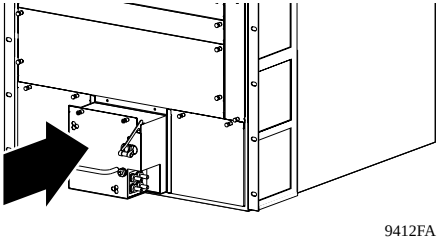


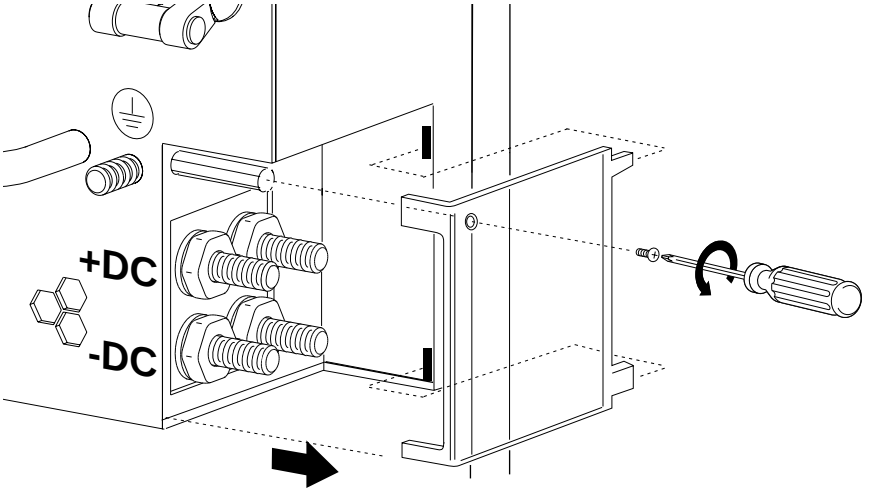
Figure 12 Inserting the DC power supply: 8006 and 8010 Chassis



7 Using a Phillips screwdriver, remove the screw that secures the plastic safety cover to the power supply, and then remove the cover (Figure 13).

Set the cover aside; you will replace it later.

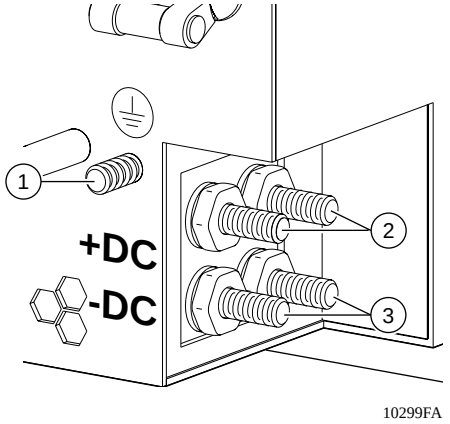
Figure 13 Removing the plastic safety cover from the DC power supply



8 Note the positions of the ground stud and of the positive and negative power inputs (Figure 14).

The +VDC and -VDC inputs to the power supply are isolated from frame ground. Either +VDC or -VDC may be referenced to frame ground.

Figure 14 DC power supply input and ground stud location



1 = Ground stud
2 = Positive power inputs
3 = Negative power inputs

9 Refer to Table 5 to verify the proper connection of the positive and negative power leads.

Table 5 Correct cable connection to the DC power supply

Type of DC voltage	Voltage lead	Power supply terminal
Positive	Ground	Ground
	Positive voltage	+ terminal
	Return	– terminal
Negative	Ground	Ground
	Negative voltage	– terminal
	Return	+ terminal

Danger: Make sure that the DC power source is off by switching off the circuit breaker or disconnected at the remote end before you connect the terminal leads to the power supply.

10 Attach the earth ground lead to the ground stud on the power supply (Figure 15). Use the washers in this order:

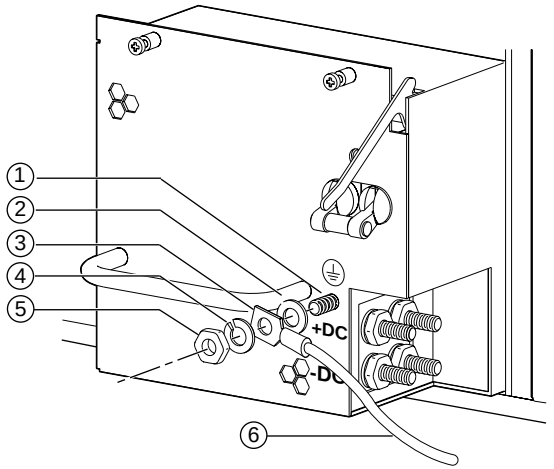
a Flat washer

b Crimp lug

c Lock washer

d Hex nut

Figure 15 Attaching the earth ground lead to the ground stud

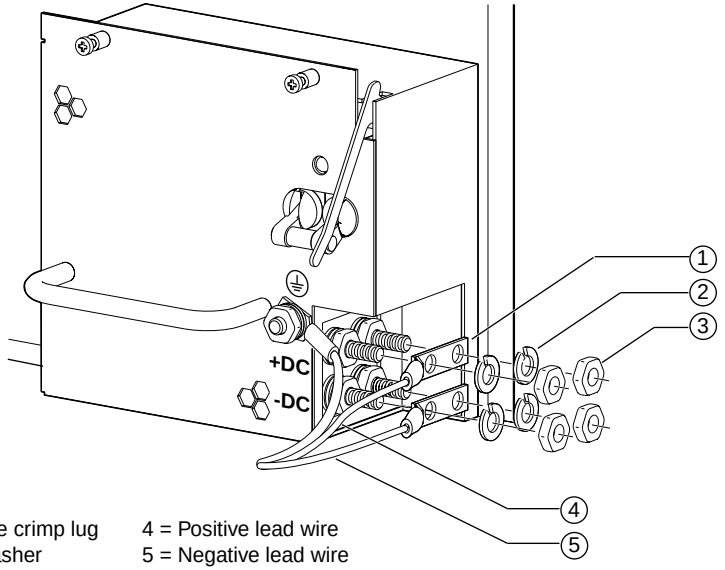


1 = Grounding stud
2 = Flat washer
3 = Crimp lug
4 = Lock washer
5 = Hex nut
6 = Earth ground lead

10297FA

11 Attach the positive voltage lead to the positive terminal on the power supply, inserting a lock washer between the crimp lug and each hex nut (Figure 16).

Figure 16 Attaching the voltage leads to the power supply terminals



1 = Two-hole crimp lug
2 = Lock washer
3 = Hex nut
4 = Positive lead wire
5 = Negative lead wire

10300FA

12 Attach the negative voltage lead to the negative terminal on the power supply inserting a lock washer between the crimp lug and each hex nut (Figure 16).

13 Using a 7/16 in. hex wrench, tighten the hex nut on each terminal.

14 Attach the earth ground cable to the system or rack ground for your DC input power source.

15 Firmly slide the power supply all the way into the bay (Figure 17 and Figure 18).

16 Tighten the retaining screws until the power supply is seated firmly.

Figure 17 Tightening the retaining screws on the DC power supply: 8010co Chassis

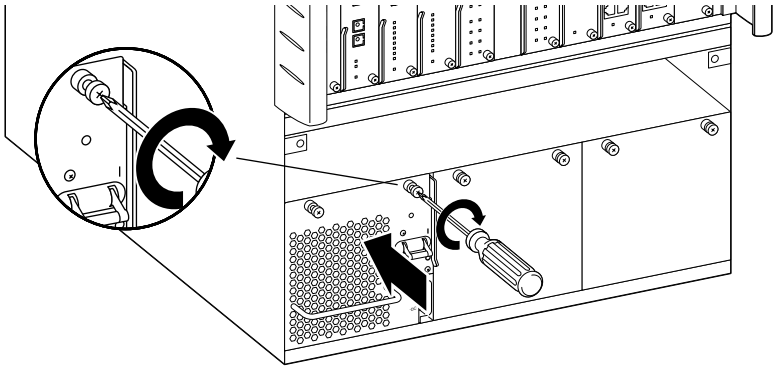
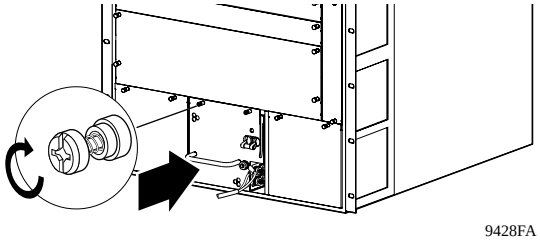


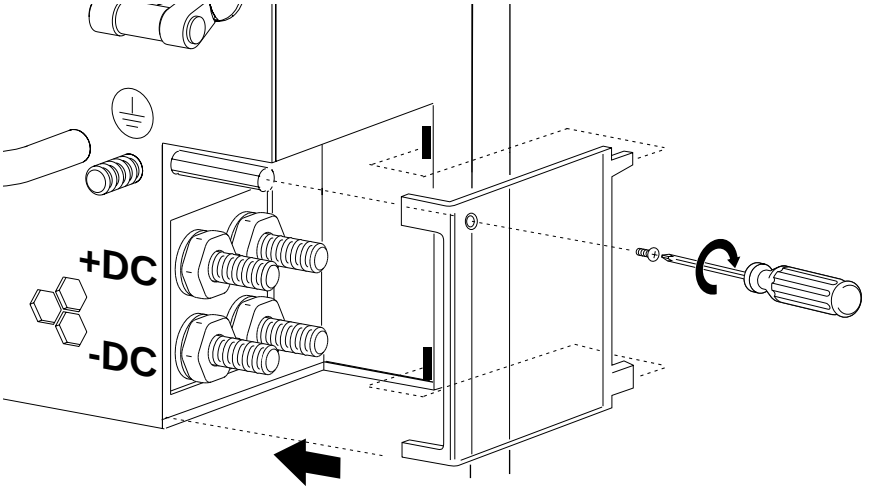
Figure 18 Tightening the retaining screws on the DC power supply: 8006 and 8010 Chassis



17 Attach the positive and negative terminal leads to the DC input power source according to the proper safety and technical specifications for your 48 V power distribution system.

18 Using a Phillips screwdriver, replace the plastic safety cover on the power supply (Figure 19).

Figure 19 Replacing the plastic safety cover on the DC power supply



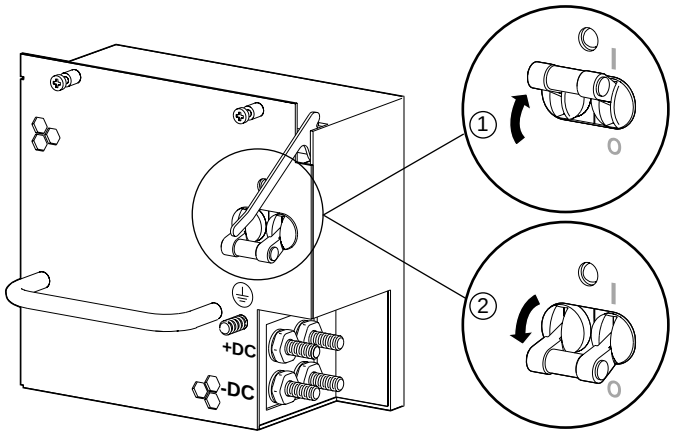
19 For the 8010co Chassis, replace the bottom front bezel.

For instructions, see “Replacing the bottom bezel (8010co Chassis)” on page 45.

20 Turn the DC input power source on, or reset the power source circuit breaker, to provide power to the power supply.

21 Turn the power supply switch to the on position (Figure 20).

Figure 20 DC power supply power switch



Note: When you first install a 8000 Series chassis that requires two power supplies, you must turn on both power supply units within 2 seconds of each other. If you wait longer to turn on the second power supply, both power supplies shut down. To correct this condition, turn off both power supplies, wait at least 30 seconds, and then turn on both power supplies again within 2 seconds.

If the LED on the power supply does not turn on, contact the Nortel Networks Technical Solutions Center.

Removing the DC power supply

You can remove a redundant power supply without affecting the operation of the 8000 Series switch. When you remove a power supply, the LED on the power supply turns off, and the 8000 Series chassis automatically redistributes the load to the remaining power supplies.

Caution: To maintain proper cooling, never operate the chassis with an empty power supply bay. If you are replacing a failed power supply and you do not have a power filler panel, leave the failed power supply installed until a replacement power supply is available.

To remove a DC power supply:

1. For the 8010co Chassis, remove the bottom front bezel.

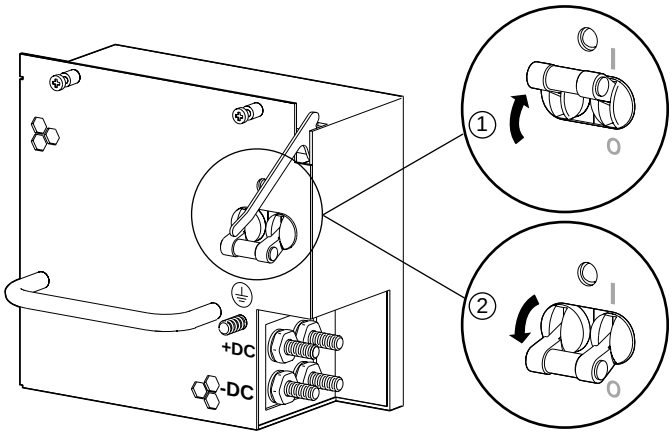
   For instructions, see "Removing the bottom bezel (8010co Chassis)" on page 24.

2. If you have a 8010co Chassis and the optional breaker interface panel (BIP), set the BIP circuit breakers to the off position.

   For information, see *Installing the Breaker Interface Panel for the 8010co Chassis*.

3 Turn the power supply switch to the off position (Figure 21).

Figure 21 DC power supply power switch



1 = On
2 = Off

10298FA

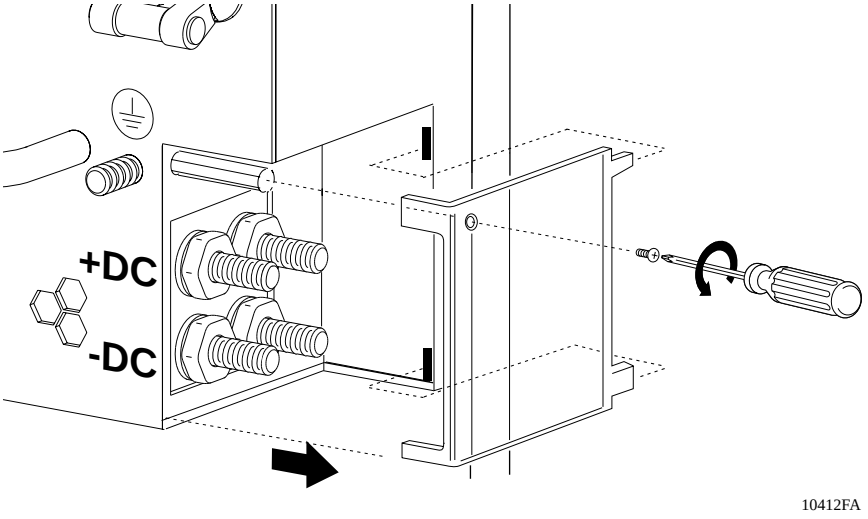
4 Disable the incoming power from the DC input power source. You may need to switch a circuit breaker or turn off the DC input power source.

Danger: Make sure that the DC power source is off by switching off the circuit breaker or disconnected at the remote end before you connect or disconnect cables on the power supply.

5 Using a Phillips screwdriver, remove the screw that secures the plastic safety cover to the power supply, and then remove the cover (Figure 22).

Set the cover aside; you will replace it later.

Figure 22 Removing the plastic safety cover from the DC power supply

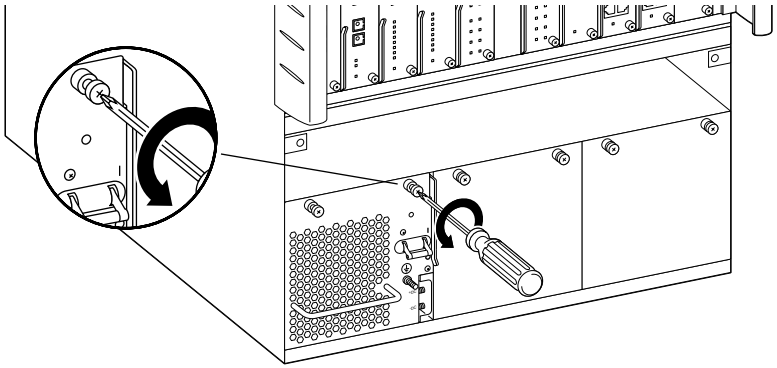


6 Disconnect the positive and negative terminal leads from the DC input power source.

7 Disconnect the earth ground cable from the system or rack ground of your DC input power source.

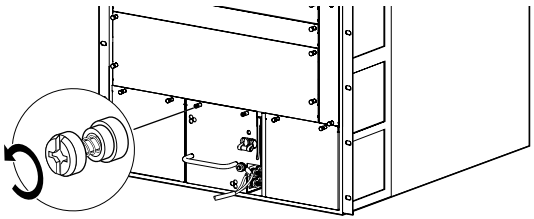
8 Loosen the retaining screws on the power supply (Figure 23 and Figure 24).

Figure 23 Loosening the retaining screws on the DC power supply: 8010co Chassis



10338FA

Figure 24 Loosening the retaining screws on the DC power supply: 8006 and 8010 Chassis



9431FA

9 Lift the extractor lever to disconnect the power supply from the backplane connector (Figure 25 and Figure 26).

Figure 25 Disconnecting the DC power supply from the backplane: 8010co Chassis

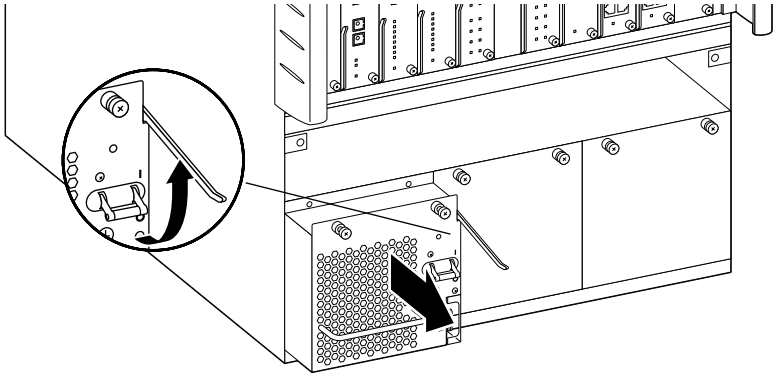
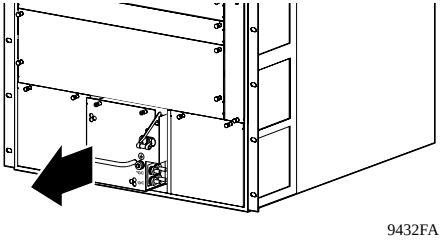


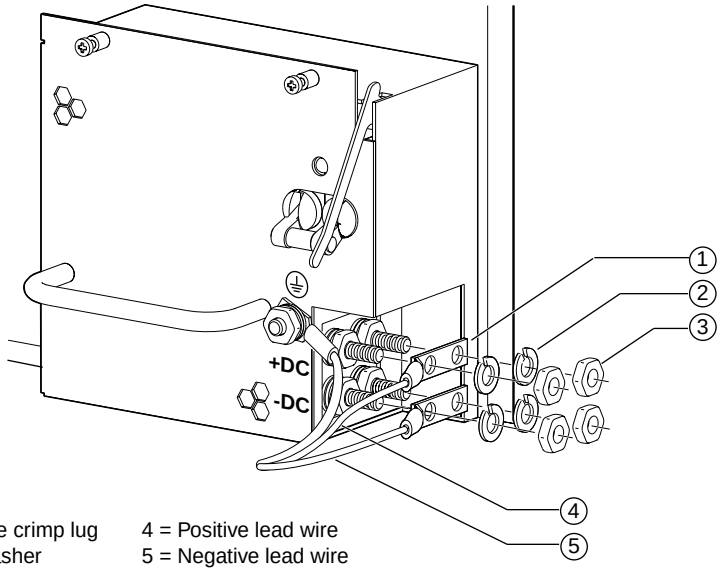
Figure 26 Disconnecting the DC power supply from the backplane: 8006 and 8010 Chassis



10 Slide the power supply partway out of the chassis.

11 Disconnect the positive and negative voltage leads from the power supply terminals (Figure 27).

Figure 27 Disconnecting the positive and negative voltage leads

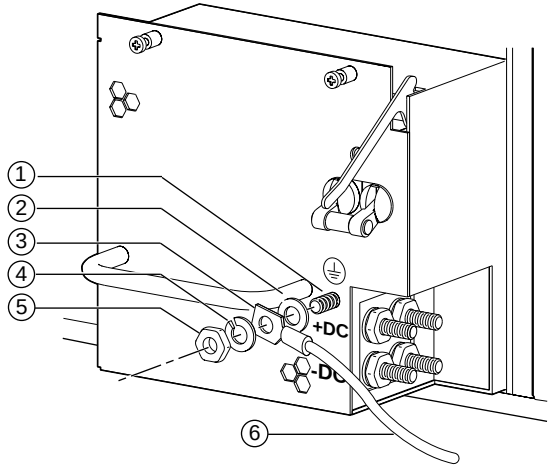


1 = Two-hole crimp lug
2 = Lock washer
3 = Hex nut
4 = Positive lead wire
5 = Negative lead wire

10300FA

12 Disconnect the earth ground lead from the ground stud on the power supply (Figure 28).

Figure 28 Disconnecting the earth ground lead from the DC power supply

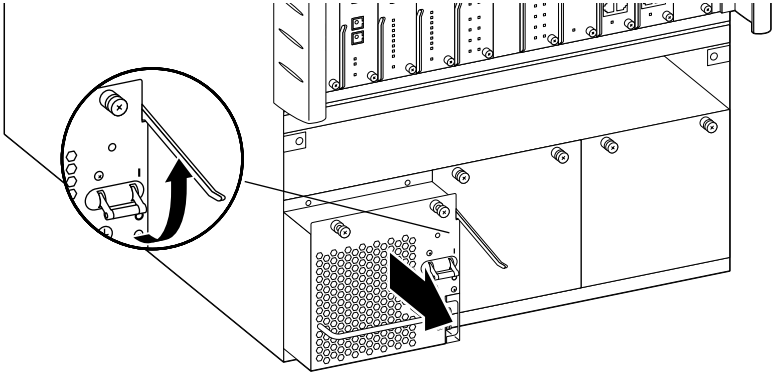


1 = Grounding stud
2 = Flat washer
3 = Crimp lug
4 = Lock washer
5 = Hex nut
6 = Earth ground lead

10297FA

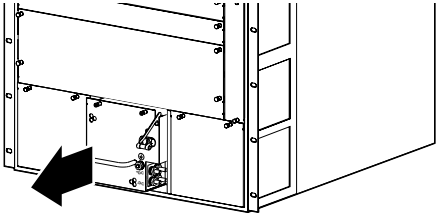
13 Slide the power supply all the way out of the chassis and set it aside (Figure 29 and Figure 30).

Figure 29 Removing the DC power supply from the 8010co Chassis



10337FA

Figure 30 Removing the DC power supply from the 8006 and 8010 Chassis



9432FA

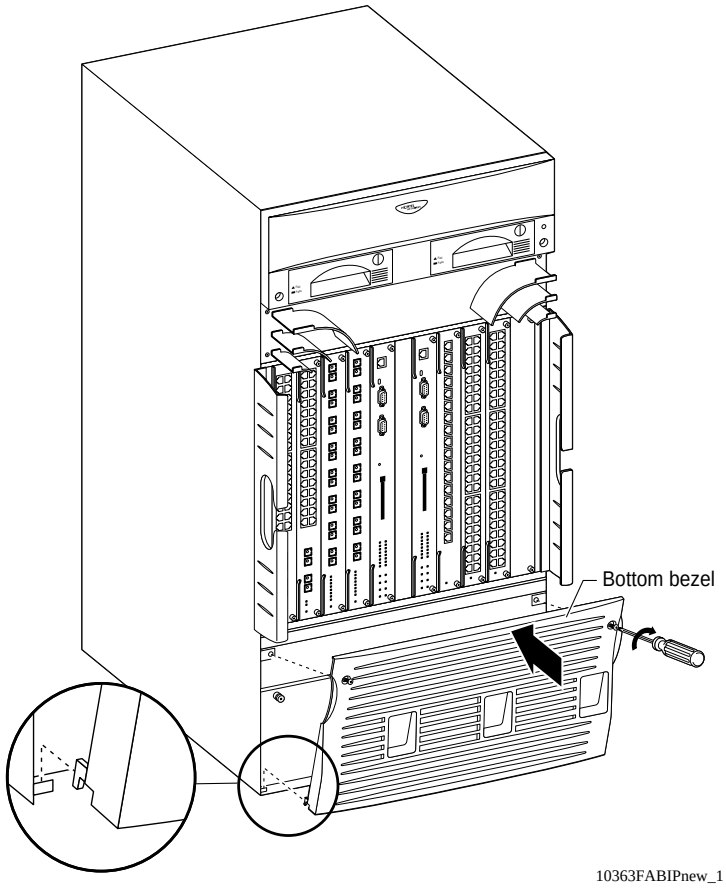
14 Install a new power supply (see “Installing the DC power supply” on page 28) or install a power filler panel (see “Removing and installing a power filler panel” on page 25).

Replacing the bottom bezel (8010co Chassis)

To replace the bottom front bezel:

1 Hook the two bezel slots on the two chassis tabs (Figure 31).

Figure 31 Replacing the bottom front bezel on the 8010co Chassis



2 Align the captive screws with the holes on the front of the chassis (Figure 31).

3 Push the sides of the bezel into place.

4 Using a Phillips screwdriver, tighten the 2 screws to secure the bezel to the chassis (Figure 31).

Appendix A
Technical specifications for the DC Power Supply

This appendix lists the specifications for the DC power supply.

8004DC Power Supply specifications

Nominal input voltage:	-48 /-60 VDC
Input current:	29 - 23 A
Input power:	1308 W
Input volt amperes:	1.3 kVA
Output power:	850 W
Thermal output:	4464 Btu/hr maximum
Crimp lugs:	
Two-hole lug terminal:	Panduit LCD6-14A-L or equivalent
One-hole terminal:	Panduit LCA6-14H-L or equivalent

System power specifications

	8004DC
Input voltage:	-48/-60 VDC
Input current:	3 x 29 -23 A
Output power	1700 W maximum
Thermal output	8928 Btu/hr maximum