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# Getting Started with the Contivity 2600

**NORTEL**  
NETWORKS™

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# Contents

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## Preface11

Conventions .....	11
Documentation .....	11
Text .....	12
User Interface help button .....	12
Related publications .....	12
Nortel Networks technical publications .....	13
Nortel Networks Customer Service .....	14

## Chapter 1

### Introducing the Contivity15

The Contivity .....	15
Components list .....	18

## Chapter 2

### Cabling and LEDS19

Connecting the Cables .....	20
Power Cord Requirements .....	20
Current rating .....	21
Wall outlet connector .....	21
Power supply connector .....	21
Cord length and flexibility .....	21
LAN interface connections .....	22
Dual V.35 WAN interface (optional) .....	23
Single WAN interface V.35 or X.21 (optional) .....	25
Single V.35 WAN Interface .....	25
T1 CSU/DSU WAN interface .....	28
T3 HSSI interface (optional) .....	30

Serial interface cable .....	32
Understanding the LEDs .....	33
Front panel LEDs .....	33
Private LAN LEDs .....	34
V.35/X.21 single LEDs .....	35
Public LAN LEDs .....	37

### **Chapter 3**

#### **Rack Mounting39**

Rack-mount shelf installation procedure .....	40
Attaching a shelf for a rack-mounted installation .....	40
Desktop operation .....	43

### **Chapter 4**

#### **Changing Hardware Configurations45**

Removing the front bezel .....	46
Removing the front bezel and the top cover .....	47
System board .....	48
Installing option cards .....	50
Installing additional DIMMs .....	52

### **Chapter 5**

#### **Using the Recovery Diskette55**

### **Appendix A**

#### **Specifications61**

#### **Index63**

---

## Figures

---

Figure 1	An intranet and the internet make up an extranet . . . . .	16
Figure 2	The Contivity 2600 front view . . . . .	17
Figure 3	The back of the Contivity . . . . .	20
Figure 4	The 10/100BASE-TX Pinouts . . . . .	22
Figure 5	dual V35 interface . . . . .	23
Figure 6	The single V.35/X.21 WAN interface . . . . .	25
Figure 7	The T1 CSU/DSU interface . . . . .	28
Figure 8	The T3 interface . . . . .	30
Figure 9	The front panel LEDs . . . . .	33
Figure 10	Private LAN port LEDs . . . . .	34
Figure 11	The single V.35/X.21 LEDs . . . . .	35
Figure 12	The T1 CSU/DSU LEDs . . . . .	36
Figure 13	Shelf installation for a chassis rack mount . . . . .	37
Figure 14	Shelf installation for a chassis rack mount . . . . .	40
Figure 15	Removing the front bezel . . . . .	41
Figure 16	Replacing front bezel . . . . .	42
Figure 17	Attaching Rubber Feet to Bottom of Chassis . . . . .	43
Figure 18	Removing the front bezel . . . . .	46
Figure 19	Removing the top cover . . . . .	48
Figure 20	The Contivity's system board . . . . .	49
Figure 21	Installing LAN, WAN, or Hardware Accelerator cards. . . . .	51
Figure 22	Installing additional memory . . . . .	52
Figure 23	The Recovery Diskette Display . . . . .	56



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# Tables

---

Table 1	Components and accessories of a Contivity 2600 .....	18
Table 2	The DB28S-to-V.35 cable pinouts .....	24
Table 3	The DB28S-to-V.35 cable pinouts .....	26
Table 4	DB28S-to-X.21 cable pinouts .....	27
Table 5	The T1 CSU/DSU cable pinouts .....	29
Table 6	T3 cable pinouts .....	30
Table 7	Multiple DB9 and DB25 connector pinouts .....	32
Table 8	The LAN port LED indicators .....	34
Table 9	The single V.35/X.21 LED indicators .....	35
Table 10	The T1 CSU/DSU LED indicators .....	36
Table 11	The 10/100BASE-TX LAN LED card indicators .....	37
Table 12	Physical specifications and operating environment .....	61



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## Preface

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This guide takes you through the necessary tasks to get your Nortel Networks™ Contivity 2600™ up and running. Topics include:

- Introducing the Contivity
- Assigning a system identity
- Managing the Contivity
- Installing the Extranet Access Client
- Rack mounting
- Changing hardware configurations

Complete details for configuring and monitoring the Contivity are in *Managing the Contivity*.

## Conventions

This guide refers to the Contivity 2600 as the Contivity. It assumes that you are familiar with Web browsers and their general operation.

## Documentation

This document uses the following conventions to distinguish among notes of varying importance.



**Note:** *Take notice.* Notes contain helpful suggestions or references to materials contained in this document.

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**Caution:** *Be careful.* In this situation, you might do something that could result in damage to the equipment or loss of data.

---



**Warning:** *Danger.* You are in a situation that could cause bodily injury. Before working on equipment, beware of the hazards involved with electrical circuitry and standard practices for preventing accidents, such as disconnecting equipment from its power source.

---

## Text

This guide uses the following text conventions:

italic text	Indicates new terms and book titles
screen text	Indicates system output, for example, prompts and system messages. Example: <code>Set Nortel Networks Trap Monitor Filters</code>
arrow (→)	Shows menu paths. Example: <code>Services → Available</code> identifies the Contivity services that are available.

## User Interface help button

Click the Help button that is located in the upper right of displays to learn about fields on a given page. Where appropriate, the information provides cause and effect of an action; otherwise, it might offer troubleshooting steps.

## Related publications

The following list shows the associated documentation that you will need to configure and manage the Contivity and describes the document's objectives.

- *Release Notes* provide the latest information, including known problems, workarounds, and special considerations.
- *Managing the Contivity* (included on the CD) provides complete details to configure, monitor, and troubleshoot the Contivity.

## Nortel Networks technical publications

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- The “CD ROMs” section lists available CDs.
- The “Guides/Books” section lists books on technical topics.
- The “Technical Manuals” section lists available printed documentation sets.

Make a note of the part numbers and prices of the items that you want to order. Use the “Marketing Collateral Catalog description” link to place an order and to print the order form.

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<b>Technical Solutions Center</b>	<b>Telephone Number</b>
United States and Canada	800-2LANWAN (800-252-6926); enter Express Routing Code (ERC): 176#
Valbonne, France	33-4-92-96-69-68
Sydney, Australia	61-2-9927-8800
Tokyo, Japan	81-3-5402-7041

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# Chapter 1

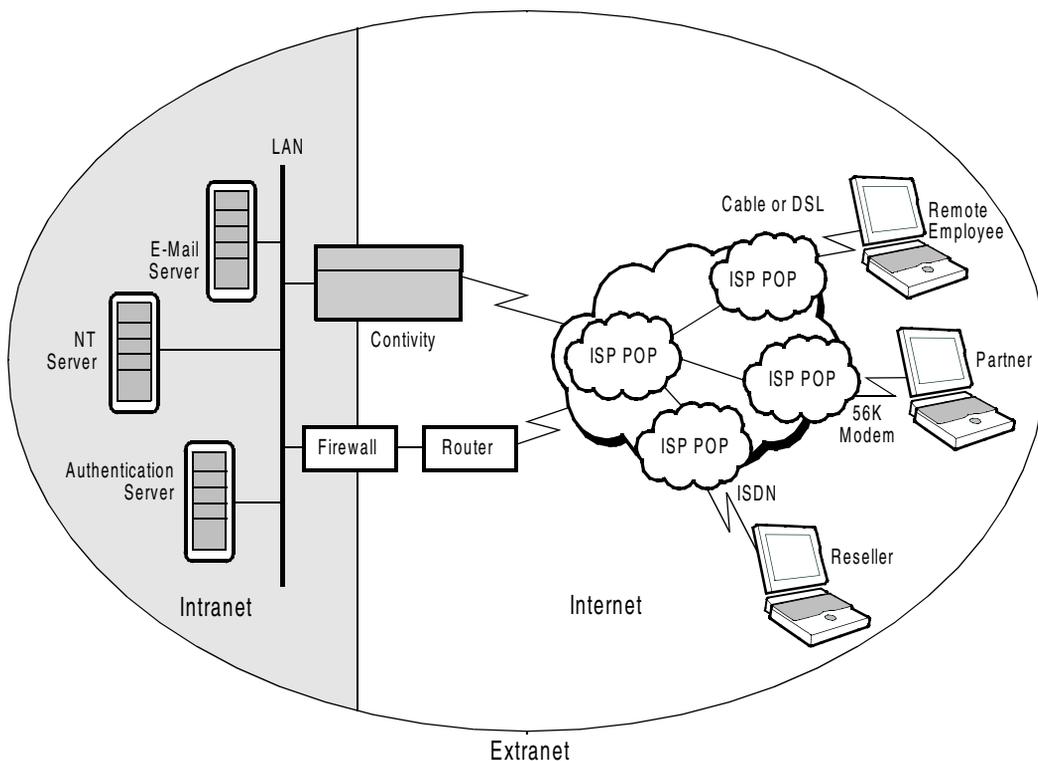
## Introducing the Contivity

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### The Contivity

The Nortel Networks Contivity 2600 provides scalable, secure, manageable extranet access for up to 1000 simultaneous users across the Public Data Network (PDN).

The Contivity's features include the most popular tunneling protocols: IP Security (IPsec), Point-to-Point Tunneling Protocol (PPTP), Layer 2 Forwarding Tunneling Protocol (L2TP), and Layer 2 Forwarding (L2F). IPsec uses digital certificates, password-based keys, and tokens for authentication; PPTP, L2TP, and L2F use Challenge Handshake Authentication Protocol (CHAP) or Password Authentication Protocol (PAP) for authentication. The PPTP and L2TP implementations for the Contivity support MS-CHAP authentication with 56- to 128-bit key encryption. [Figure 1](#) shows an intranet and an extranet.

**Figure 1** An intranet and the internet make up an extranet

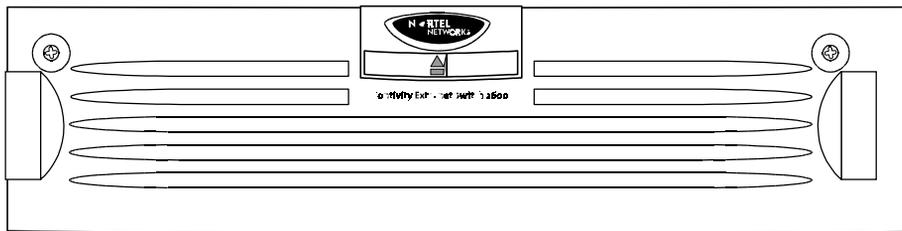
The Contivity provides more security than traditional remote access schemes due to the combination of authorization, authentication, privacy, and access control on a per user basis. Additionally, the IPsec protocol and related Internet Security Association and Contivity Key Management Protocol (ISACKMP) and Oakley key establishment protocol support further enhance the security offering.

For authentication and access control, the Contivity supports an internal or external Lightweight Directory Access Protocol (LDAP) server, and external Remote Authentication Dial-In User Service (RADIUS) servers. To restrict access, the Contivity uses packet filtering based on Protocol ID, Direction, Source and Destination IP addresses, Source and Destination Ports, and TCP connection establishment.

The unique quality of service (QoS) mechanisms include call admission and packet forwarding priorities, and support for Resource ReSerVation Protocol (RSVP).

The HTML and Java Web management interface allows different Switch administrators to have different access rights, including configuration, status, and monitoring. The Contivity offers RADIUS accounting support and extensive logging, including events, system, configuration, and security logs. [2Figure 2](#) shows the front view of the Contivity 2600.

**Figure 2** The Contivity 2600 front view



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## Components list

Table 1 lists all of the components and accessories of the Contivity 2600. If for any reason you have not received all of the materials ordered, contact Nortel Networks Customer Service.

**Table 1** Components and accessories of a Contivity 2600

Description	Quantity
Contivity 2600	1
Power cord (ordered separately)	As appropriate
Molded serial cable DB9/DB25-to-DB9/DB25	1
Contivity CD	1
Recovery diskette	1
IP Address Configuration Utility diskette	1
<i>Getting Started with the Contivity 2600</i> (this book)	1
<i>Release Notes</i>	1
Mounting frame and hardware	1
Options: <ul style="list-style-type: none"> <li>• 10/100BASE-TX LAN interface</li> <li>• Dual V.35 interface</li> <li>• Single V.35 interface</li> <li>• Single X.21 interface</li> <li>• T1 CSU/DSU interface</li> <li>• T3 HSSI interface</li> <li>• Hardware accelerator</li> <li>• Memory</li> </ul>	Optional

---

## Chapter 2

# Cabling and LEDS

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This chapter provides the following information:

- Connecting power
- LAN/WAN connections to:
  - 10/100BASE-TX LAN interface
  - Dual V.35 interface
  - Single V.35 interface
  - Single X.21 interface
  - T1 CSU/DSU interface
  - T3 HSSI interface
- Serial interface connection
- Understanding the LEDS



**Caution:** Cabling for all WAN, LAN, and Serial connections are not to be routed outside the building environment.

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## Connecting the Cables

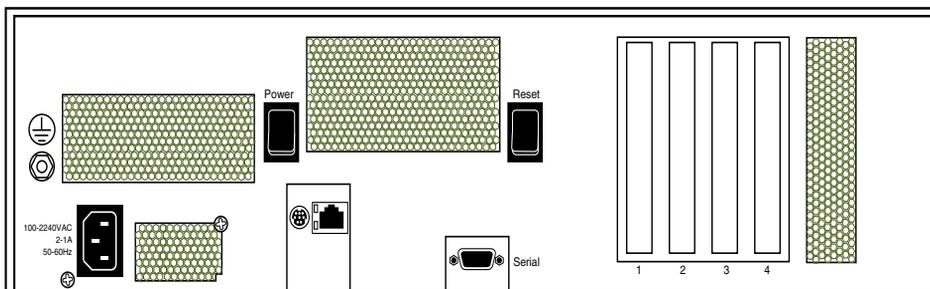
Use the following procedure to connect the Contivity's cables.



**Warning:** Connect the LAN/WAN and serial port cables before you plug the Contivity's power cord into the outlet.

- 1 Connect the 10/100BASE-TX LAN RJ-45 connector to the Contivity and all other LAN/WAN connections. [Figure 3](#) shows the back of the Contivity.

**Figure 3** The back of the Contivity



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## Power Cord Requirements



**Warning:** Do not modify or use the AC power cord if it is not the exact type that is required for your power outlet.



**Caution:** You should protect your Switch by plugging it into a surge suppressor.

## **Current rating**

The power cord must be rated for the available AC voltage, and must have a current rating that is at least 125 percent of the Contivity's current rating (refer to Appendix A).

## **Wall outlet connector**

The power cord must terminate in a male plug with appropriate grounding. The power cord must have certification marks from an acceptable regional agency.

## **Power supply connector**

The connector that you plug into the Contivity power supply AC receptacle must be an IEC 320, Sheet C13 female.

## **Cord length and flexibility**

The power cord must be less than 4.5 meters (14.7 feet) long, and it must be a flexible HAR (harmonized) cord or VDE-certified cordage to comply with the Contivity's safety certifications.

## LAN interface connections

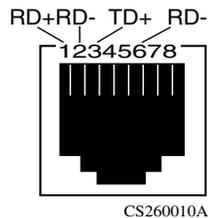
At least one LAN interface connection is for Web management.

**100BASE-TX** connections require Category 5, twisted-pair wire. The 100BASE-TX specification supports 100 Mb/s transmission over two pairs of Category 5 twisted-pair Ethernet wiring; one pair each for transmit and receive operations.

The maximum recommended cable segment length is 100 meters between a 100BASE-TX repeater and a workstation (due to signal timing requirements). This wiring scheme complies with the EIA 568 wiring standard.

[4Figure 4](#) shows the Contivity connector's 10/100BASE-TX pinouts.

**Figure 4** The 10/100BASE-TX Pinouts



**10BASE-T** connections can use Category 3, 4, or 5 twisted-pair wiring. The LAN connectors on the rear of the Contivity are RJ-45 straight through.

## Dual V.35 WAN interface (optional)

The Dual V.35 WAN connectors are located on a PCI card that offers two separate DB28S connectors that provide the signals needed to interface to V.35 equipment. Included in the accessory box are two cables that map the DB28S signals to a standard V.35 connector. You will need a DSU/CSU (digital service unit/channel service unit) between the WAN connection and the Contivity. This section documents the connector and cables used with the V.35 WAN Synchronous Adapters.

[Figure 5](#) shows the dual V.35 interface.

**Figure 5** dual V35 interface



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The cables provided with the WAN PCI card enables the WAN adapter to function as DTE (Data Terminal Equipment). Table 2 on the following page shows the DB28S-to-V.35 cable pinouts.

**Table 2** The DB28S-to-V.35 cable pinouts

Standard-wired end 28-pin male	Signal name	Pair # & conductor	Special-wired end 34-pin male	Notes
2	TDA	pair 1A	P	
14	TDB	pair 1B	S	
3	RDA	pair 2A	R	
16	RDB	pair 2B	T	
24	ETA	pair 3A	U	
11	ETB	pair 3B	W	
17	RCA	pair 4A	V	
9	RCB	pair 4B	X	
15	TCA	pair 5A	Y	
12	TCB	pair 5B	AA	
4	RTS	pair 6A	C	
		pair 6B	no conn	
5	CTS	pair 7A	D	
		pair 7B	no conn	
6	DSR	pair 8A	E	
		pair 8B	no conn	
8	DCD	pair 9A	F	
		pair 9B	no conn	
20	DTR	pair 10A	H	
		pair 10B	no conn	
7	SGND	pair 11A	B	
		pair 11B	no conn	
1	CGND	pair 12A	A	
		pair 12B	no conn	

Note the following information about the V.35 DTE cable construction:

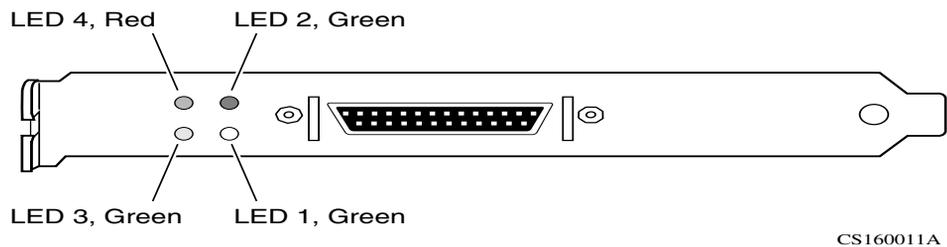
1. Braid must enter and make contact inside metal connector hood. V.35 conn strain relief must be conductive.
2. All hoods must be metal. V.35 strain relief must be conductive.

## Single WAN interface V.35 or X.21 (optional)

The V.35 and X.21 WAN connectors are located on a PCI card that offers a separate DB28S connector that provide the signals needed to interface to V.35 and X.21. Included in the accessory box are two cables that map the signals to a standard V.35 connector. You will need a DSU/CSU (digital service unit/channel service unit) between the WAN connection and the Contivity. This section documents the connector and cables used with the V.35 and/or those used with X.21 WAN Synchronous Adapters.

The cables provided with the WAN PCI card enables the WAN adapter to function as DTE (Data Terminal Equipment). Figure 6 shows the single V.35/X.21 WAN interface.

**Figure 6** The single V.35/X.21 WAN interface



### Single V.35 WAN Interface

Table 3 on the following page shows the DB28S-to-V.35 cable pinouts. Table 4 shows the DB28S-to-X.21 cable pinouts.

**Table 3** The DB28S-to-V.35 cable pinouts

Standard-wired end 28-pin male	Signal name	Pair # & conductor	Special-wired end 34-pin male	Notes
2	TXDA	pair 1A	P	
14	TXDB	pair 1B	S	
3	RXDA	pair 2A	R	
16	RXDB	pair 2B	T	
15	TXCA	pair 3A	Y	
12	TXCB	pair 3B	AA	
17	RXCB	pair 4A	V	
9	RXCB	pair 4B	X	
24	SCTEA	pair 5A	U	
11	SCTEB	pair 5B	W	
4	RTSA	pair 6A	C	
19	RTSB	pair 6B	no conn	Note 2
5	CTSA	pair 7A	D	
13	CTSB	pair 7B	no conn	Note 2
6	DSRA	pair 8A	E	
22	DSRB	pair 8B	J	
20	DTRB	pair 9A	H	
23	DTRB	pair 9B	no conn	Note 2
8	DCDA	pair 10A	F	
10	DCDB	pair 10B	no conn	Note 2
18	LL	pair 11A	L	
21	RL	pair 11B	N	
25	TM	pair 12A	NN	
26	M0<-SIGNAL GROUND	pair 12B	B	Note 3
27	M1<-SIGNAL GROUND	pair 13A	B	Note 3
28	M2	pair 13B	no conn	Note 2
1	SHIELD	pair 14A	A	Note 1
7	SIGNAL GROUND	pair 14B	B	Note 3

The following notes apply to the Single V.35 DTE cable:

1. At each end, the cable shield and connector shell must connect respectively to pin A of the 34-pin connector and pin 1 of the standard 28-pin connector.
2. The term "no conn" means the wire is not connected to a pin in the 34-pin connector.
3. Wires 12B, 13A, and 14B connect to pin B in the 34-pin connector.
4. Unused pins in the 34-pin connector need not be present.
5. Do not connect Shield to Signal Ground as these are separate signals.
6. The pair suffix A or B refers to an individual wire within a twisted pair.

Table 4 shows the DB28S-to-X.21 cable pinouts.

**Table 4** DB28S-to-X.21 cable pinouts

Standard-wired end 28-pin male	Signal name	Pair ## & conductor	Special-wired end 37-pin male	Notes
2	TXDA	pair 1A	2	
14	TXDB	pair 1B	9	
3	RXDA	pair 2A	4	
16	RXDB	pair 2B	11	
15	TXCA	pair 3A	6	
12	TXCB	pair 3B	13	
17	RXCB	pair 4A	pair 5a	Note 5
9	RXCB	pair 4B	pair5b	Note 5
24	SCTEA	pair 5A	pair4a	Note 5
11	SCTEB	pair 5B	pair4b	Note 5
4	RTSA	pair 6A	3	
19	RTSB	pair 6B	10	
5	CTSA	pair 7A	12	
13	CTSB	pair 7B	no conn	
6	DSRA	pair 8A	no conn	Note 2
22	DSRB	pair 8B	no conn	Note 2
20	DTRB	pair 9A	no conn	Note 2
23	DTRB	pair 9B	no conn	Note 2
8	DCDA	pair 10A	no conn	Note 2
10	DCDB	pair 10B	no conn	Note 2
18	LL	pair 11A	no conn	Note 2
21	RL	pair 11B	no conn	Note 2
25	TM	pair 12A	no conn	Note 2
26	M0	pair 12B	no conn	Note 2
27	M1	pair 13A	no conn	Note 2
28	M2<-SIGNAL GROUND	pair 13B	8	Note 3
1	SHIELD	pair 14A	1	Note 1
7	SIGNAL GROUND	pair 14B	8	Note 3

The following notes apply to the Single X.21 DTE cable:

1. At each end, cable shield and back shell must connect to pin 1 of connector.
2. "no conn" means the wire is not connected to a pin in the 15-pin connector.
3. Wires 13B and 14B connect to pin 8 in the 15-pin connector.
4. Unused pins in the 15-pin connector need not be present.
5. Wires of pair 4 connect to wires of pair 5, but not to any pins in the DA-15. Do NOT interconnect Shield to Signal Ground – they are separate signals.
6. The pair suffix A or B refers to an individual wire within a twisted pair.

## T1 CSU/DSU WAN interface

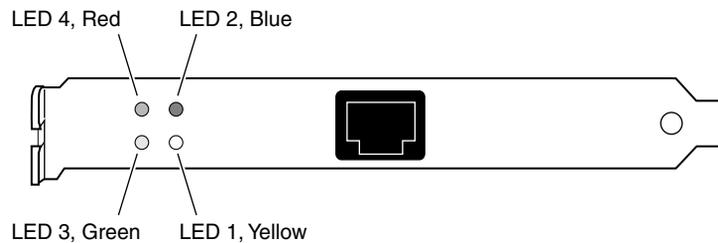


**Note:** The T1 CSU/DSU WAN interface cable is not supplied by Nortel Networks.

---

This cable has 8-pin male connectors on each end. The T1 CSU/DSU WAN crossover cable crosses the blue wire pair with the orange wire pair. This is different from the commonly available crossover cable used for 10BaseT, which crosses the green wire pair with the orange wire pair. [Figure 7](#) shows the T1 CSU/DSU interface.

**Figure 7** The T1 CSU/DSU interface



CS160012A

Table 4 shows the T1 CSU/DSU cable pinouts.

**Table 5** The T1 CSU/DSU cable pinouts

Standard-wired end 28-pin male	Signal name	Pair # & conductor	Special-wired end 8-pin male	Notes
1	RXDA->TXDA	wht/org pair 2A	5	
2	RXDB>TXDA	orange pair 2B	4	
3	not used	wht/grn pair 3A	3	
4	TXDB<-RXDB	blue pair 2B	2	
6	TXDA<-RXDA	wht/blu pair 1A	1	
7	not used	green pair 3B	6	
8	not used	wht/brn pair 4A	7	
9	not used	brown pair 4B	8	

The cable will operate properly if pins 3, 6, 7, and 8 are not connected.



**Warning:** Do not use Ethernet cable. The T1 CSU/DSU will appear to work, but will not work to specifications. Data may be corrupted.

## T3 HSSI interface (optional)

The Single T3 WAN connection is located on a PCI card which has a 50-pin SCSI II female connector that provides the signals needed to interface to a T3 modem or Modem Eliminator. Included in the accessory box is a cable, which maps the T3 signals out to a 50-pin SCSI II male connector. [Figure 8](#) shows the T3 Interface.

**Figure 8** The T3 interface

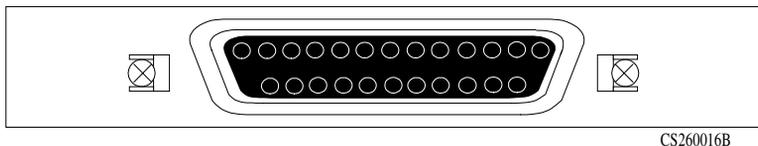


Table 6 show the T3 cable pinouts.

**Table 6** T3 cable pinouts

50-pin SCSI male	Signal Names	50-pin SCSI male
1	GND	1
2	RCB	2
3	CAB	3
4	RDB	4
5	LCB	5
6	STB	6
7	GND	7
8	TAB	8
9	TTB	9
10	LAB	10
11	TDB	11
12	LBB	12
13	GND	13
19	GND	19
24	TESTB	24
25	GND	25

**Table 6** T3 cable pinouts (continued)

26	GND	26
27	RCA	27
28	CAA	28
29	RDA	29
30	LCA	30
31	STA	31
32	GND	32
33	TAA	33
34	TTA	34
35	LAA	35
36	TDA	36
37	LBA	37
38	GND	38
44	GND	44
49	TESTA	49
50	GND	50

## Serial interface cable

Nortel Networks ships a serial cable with the Contivity to enable configuration of the Management IP address, subnet mask, and default gateway address, and other configurable parameters. Nortel Networks recommends that you use the IP Address Configuration Utility diskette for easy initial IP address configuration. Later, you can use the serial interface configuration menu to perform management functions.

The serial cable provided with the Contivity is a DB9/DB25-to-DB9/DB25. This provides a crossover (transmit-to-receive and receive-to-transmit). The DB9 connector goes into the Contivity and the other DB9 or DB25 connector goes into your workstation. Table 7 shows the multiple cable DB9/DB25 serial interface cable pinouts.

**Table 7** Multiple DB9 and DB25 connector pinouts

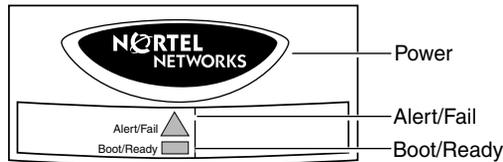
Serial Port DB9 Connector		Serial Port DB25 Connector			Serial Port DB25 Connector		Serial Port DB9 Connector	
Pinout	Signal	Pinout	Signal		Pinout	Signal	Pinout	Signal
2	RXD	3	TXD	>	2	RXD	3	TXD
3	TXD	2	RXD	>	3	TXD	2	RXD
4	DTR	20	DSR	>	6	DTR	6	DSR
5	Ground	7	Ground	>	7	Ground	5	Ground
6	DSR	6	DTR	>	20	DSR	4	DTR
7	RTS	4	RTS	>	5	CTS	8	CTS
8	CTS	5	CTS	>	4	RTS	7	RTS

# Understanding the LEDS

## Front panel LEDS

The front panel, shown in [Figure 9](#), has a lighted Nortel Networks logo, and 2 LEDS. These LEDS indicate the status of the Contivity Extranet Switch.

**Figure 9** The front panel LEDS



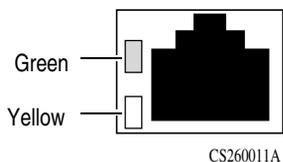
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- The **Power LED** is the lighted Nortel Networks logo. It is blue when the power is on.
- The triangular **Alert/Fail LED** is set to yellow or red by the Contivity Extranet Switch software. Yellow indicates a non-fatal status requiring attention. Red indicates hardware errors that also cause the beeping condition. While both conditions require attention, red indicates more serious errors. This LED indicates the Health Check status that is described in Health Check reports. Refer to *Managing the Contivity Extranet Switch* for information on Health Check.
- The **Boot/Ready LED** displays yellow or green. Yellow indicates a boot in process/non-ready state. A steady green indicates the box has reached a state of readiness. The Boot LED lights at power up and is changed to green when the software is ready.

## Private LAN LEDs

Figure 10 shows the private LAN port LEDs located on the back of the Contivity. Look at the condition of the LEDs, then examine [Table 8](#) shows the corresponding LED table to better understand the indications.

**Figure 10** Private LAN port LEDs



**Table 8** The LAN port LED indicators

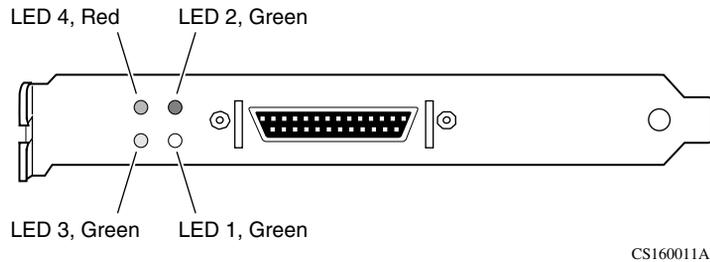
LED	Indicator	Description
Yellow	On	The cable connections between the LAN port and the hub are good.
	Off	The cable connections between the LAN port and the hub are faulty.
	Flashing	The LAN port is sending or receiving network data. The frequency of the flashes increases with increased traffic.
Green	On	The LAN port is operating at 100 Mb/s.
	Off	The LAN port is operating at 10 Mb/s.

Start the Contivity and confirm that the LAN interfaces are cabled properly by examining LEDs located on the I/O card panel.

## V.35/X.21 single LEDs

Figure 11 shows the Single V.35/X.21 LEDs. Look at the condition of the LEDs located on the LMC 1000 Single V.35 WAN PCI interface card. Table 9 shows the corresponding LED table to better understand the indications.

**Figure 11** The single V.35/X.21 LEDs

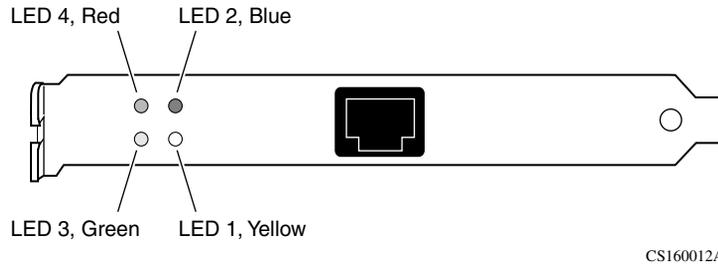


**Table 9** The single V.35/X.21 LED indicators

LED	Description
LED1, Green	Power is on to the adapter and the onboard microcode is loaded.
LED2, Green	The signals CDC and DSR are on between the DSU and the adapter. LED2 detects receive link status.
LED3, Green	Cable is detected.
LED4, Red	No external transmit clock source is available.

Figure 12 shows the T1 CSU/DSU LEDs. Look at the condition of the LEDs located on the T1 Integrated CSU/DSU PCI interface card. Table 10 shows the corresponding LED table to better understand the indications.

**Figure 12** The T1 CSU/DSU LEDs



**Table 10** The T1 CSU/DSU LED indicators

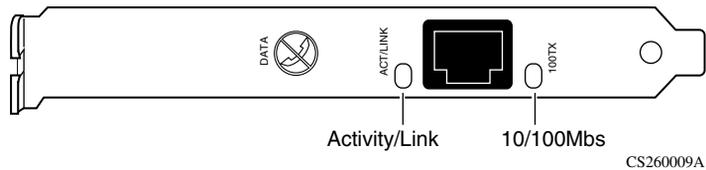
LED	Description
LED1, Yellow	Yellow alarm LED is lit when the far-end equipment is in the red alarm condition.
LED2, Blue	Blue alarm LED is lit when receiving an upstream failure denoted by an alarm indication signal (AIS).
LED3, Green	Normal operation.
LED4, Red	Red alarm is lit when a loss-of-signal (LOS) or out-of-frame (OOF) condition is detected on the receive signal.

## Public LAN LEDS

Figure 13 shows the PCI card 10/100BASE-TX public LAN LEDS. Look at the condition of the LEDS. Table 11 shows the corresponding LED table to better understand the indications. Figure 13 shows a shelf being attached in preparation for a rack-mount installation.

**Figure 13** Shelf installation for a chassis rack mount

The 10/100BASE-TX LAN LEDS



**Table 11** The 10/100BASE-TX LAN LED card indicators

LED	Indicator	Description
ACT/ LINK, Green	On or Flashing	The card is sending or receiving network data. The frequency of the flashes increases with increased traffic.
	Off	The card is not sending or receiving data.
10/100 TX, Green	On	Operating at 100 Mb/s.
	Off	Operating at 10 Mb/s.



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## Chapter 3

# Rack Mounting

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the Contivity can be mounted into a rack or placed on a desktop. This chapter describes the method you can use to mount your Switch into a chassis rack and also shows how to mount rubber feet, should you prefer desktop operation.

Nortel Networks recommends the following standard rack-mounting considerations:

- The maximum recommended ambient temperature is 40 degrees Celsius. Make sure the internal temperature of the rack also does not exceed 40 degrees Celsius.
- Do not block the power supply vents or otherwise restrict air flow when installing the Contivity into a rack.
- Stabilize your rack properly so that it does not tip over under the weight of the Contivity and other devices.
- Make sure that the electrical branch circuits are capable of handling the Contivity *and* other units in the rack before installing and turning on the Contivity.
- Maintain a reliable Earthing path in the rack system. the Contivity is intended to connect to an Earth ground.

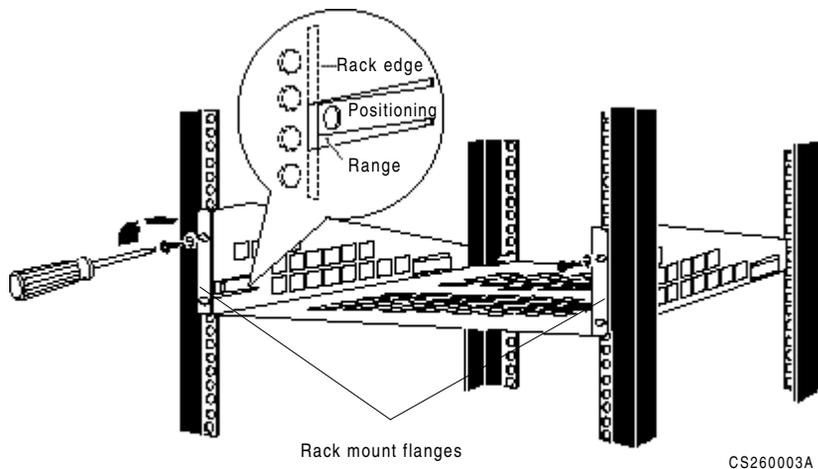
## Rack-mount shelf installation procedure

Nortel Networks recommends that you have two people available when installing the unit into the rack. Figure 14 shows a shelf being attached in preparation for a rack-mount installation

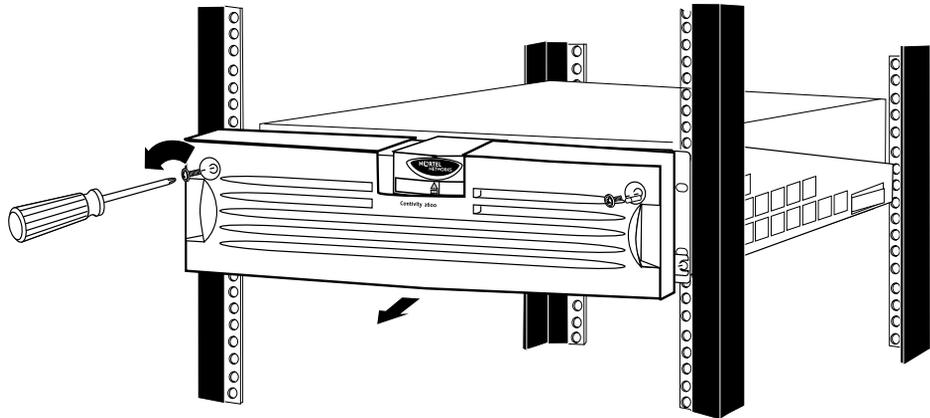
### Attaching a shelf for a rack-mounted installation

- 1 Position the rack-mount shelf as shown in [Figure 14](#) shows a shelf being attached in preparation for a rack-mount installation.

**Figure 14** Shelf installation for a chassis rack mount



- 2 Ensure the positioning flange snaps in place to support the shelf.
- 3 Screw in the two upper rack-mounting screws. Repeat this step on the other side of the chassis.
- 4 Place the Contivity on the rack-mount shelf.
- 5 Remove the front bezel, as shown in [Figure 15](#).

**Figure 15** Removing the front bezel

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- 6 Note that you *do not* need to turn off the Contivity if you are *only* removing the front bezel.



**Warning:** When handling the Contivity outside of the rack-mount shelf, do not use the piece with the Nortel Networks logo and the LEDs as a handle.

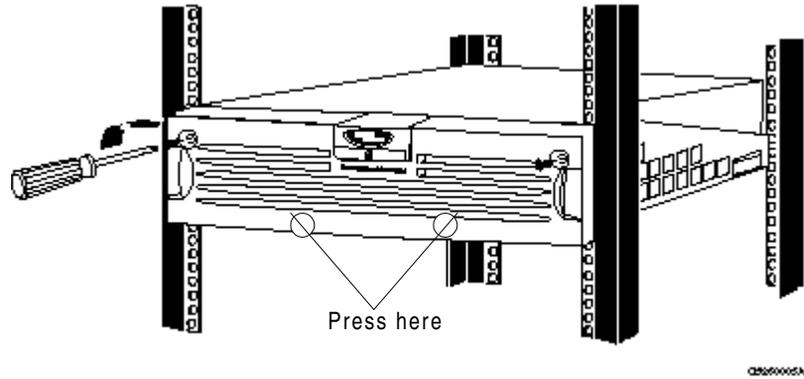
Note that the first few times you remove the front bezel it might seem to resist removal. This is simply because the ball studs and socket clips are new. After a few times, removal is easier.

To remove the front bezel, you need a Phillips screwdriver.

- 7 Using the screwdriver, turn each of the two screws on the front bezel a quarter turn counter-clockwise.
- 8 Grip the two handles and firmly pull the bezel towards you to unsnap it from the chassis.

- Secure the Contivity to the rack-mount shelf by screwing in the lower rack-mount screw position. Replace the bezel as shown in [Figure 16](#). Turn the front screws one-quarter turn clockwise to lock the bezel in place on the chassis.

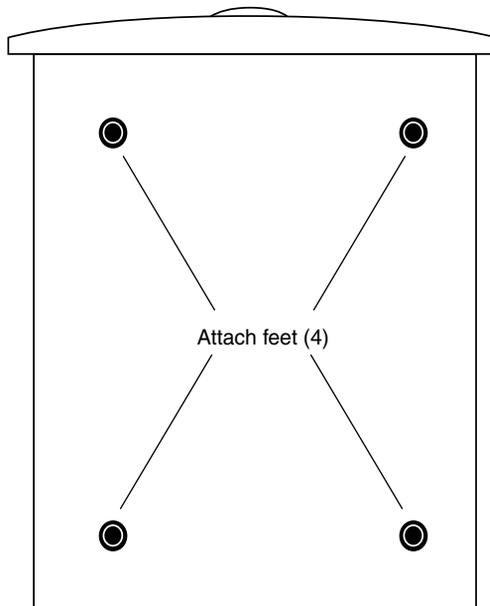
**Figure 16** Replacing front bezel



## Desktop operation

Four rubber feet are included that can be attached to the bottom of the Contivity, should you want to use it from a desktop. [Figure 17](#) shows the placement of these rubber feet.

**Figure 17** Attaching Rubber Feet to Bottom of Chassis



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## Chapter 4

# Changing Hardware Configurations

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This chapter describes how Nortel Networks trained service personnel can change existing hardware configurations, including installing LAN, WAN, or Hardware Accelerator cards and how to add memory.



**Warning:** Wear an antistatic band when handling electronic components for the Contivity to avoid damaging them.

---



**Note:** Turn off the Contivity and unplug it before installing LAN, WAN, or Hardware Accelerator cards or system memory.

---

To access the diskette drive for system recovery operations, you must first remove the Contivity's front bezel. To install LAN or WAN cards or to install additional memory, you must remove the Contivity's front bezel and top cover.

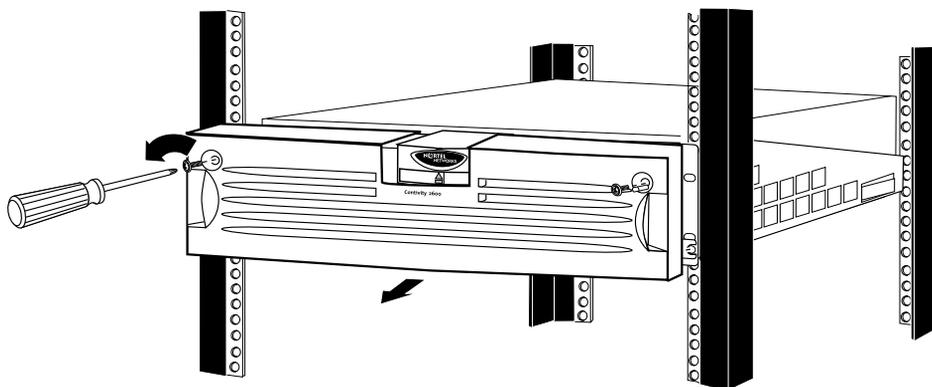
## Removing the front bezel

You must remove the bezel to insert the recovery diskette. Note that you *do not* need to turn off the Contivity if you are *only* removing the front bezel. [Figure 18](#) shows you how to remove the front bezel from the Contivity.



**Warning:** When handling the Contivity outside of the rack-mount shelf, do not use the piece with the Nortel Networks logo and the LEDs as a handle.

**Figure 18** Removing the front bezel



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Note that the first few times you remove the front bezel it might seem to resist removal. This is simply because the ball studs and socket clips are new. After a few times, removal is easier.

To remove the front bezel, you need a Phillips screwdriver.

- 1 Using the screwdriver, turn each of the two screws on the front bezel a quarter turn counter-clockwise.
- 2 Grip the two handles and firmly pull the bezel towards you to unsnap it from the chassis.

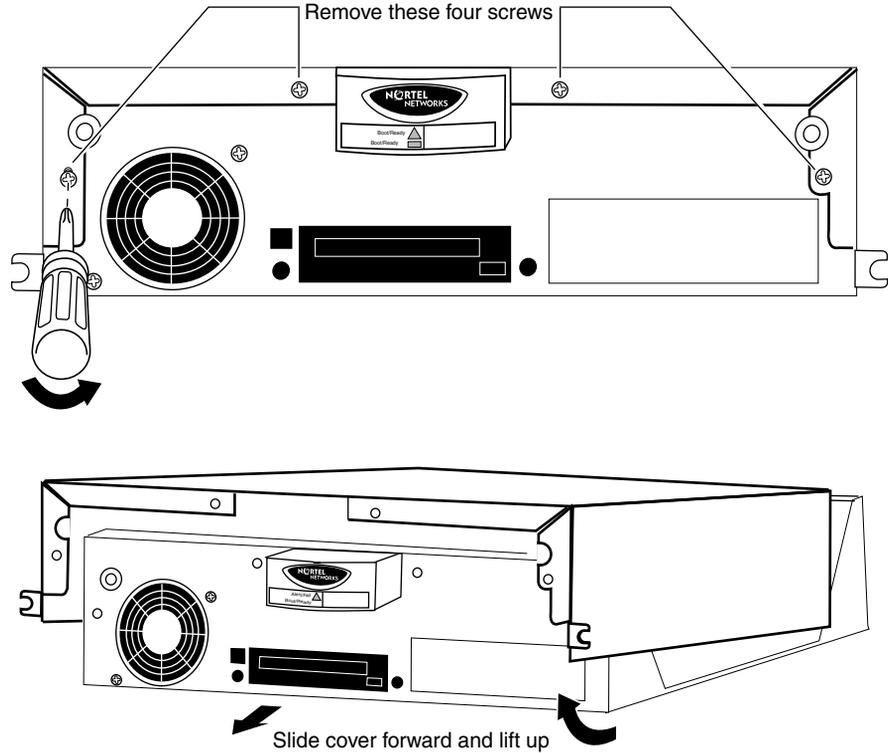
## Removing the front bezel and the top cover

To install LAN, WAN, or Hardware Accelerator cards or to install additional memory, you must remove the Contivity's front bezel and then you must remove the Contivity's top cover.

To remove the front bezel and cover you need a Phillips screwdriver. Note that you *do* need to turn off the Contivity to remove the top cover.

- 1** Turn off the Contivity's power and unplug it.
- 2** Using the Phillips screwdriver, turn each of the two screws on the front bezel a quarter turn counter-clockwise as shown in [Figure 18](#).
- 3** Grip the two handles and firmly pull the bezel towards you to unsnap it from the chassis. Do not use the piece with the Nortel Networks logo and the LEDs as a handle.
- 4** Using the Phillips-head screwdriver, remove the four screws that secure the cover to the chassis as show in [19Figure 19](#).

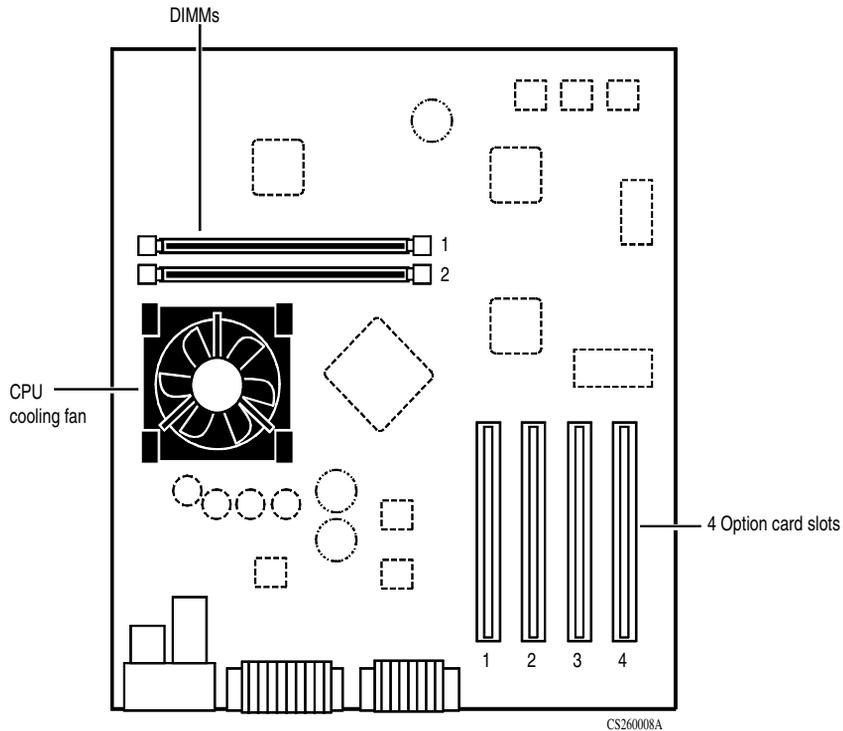
**Figure 19** Removing the top cover



- 5 Slide the top cover forward approximately 1/4 inch, then lift the lid 2 to 3 inches, and move it away from the chassis.

## System board

[Figure 20](#) shows the Contivity's system board, in particular the DIMMs, option card slots, and the CPU cooling fan.

**Figure 20** The Contivity's system board

**Warning:** Beware of danger if battery is incorrectly replaced. Replace with the *same* or an *equivalent battery* only, as recommended by the manufacturer's instructions.



**Danger:** In spite of the above warning, which is mandated for regulatory approval, *you should not change the battery*. If you suspect a dead battery, contact Nortel Networks Customer Support.

## Installing option cards

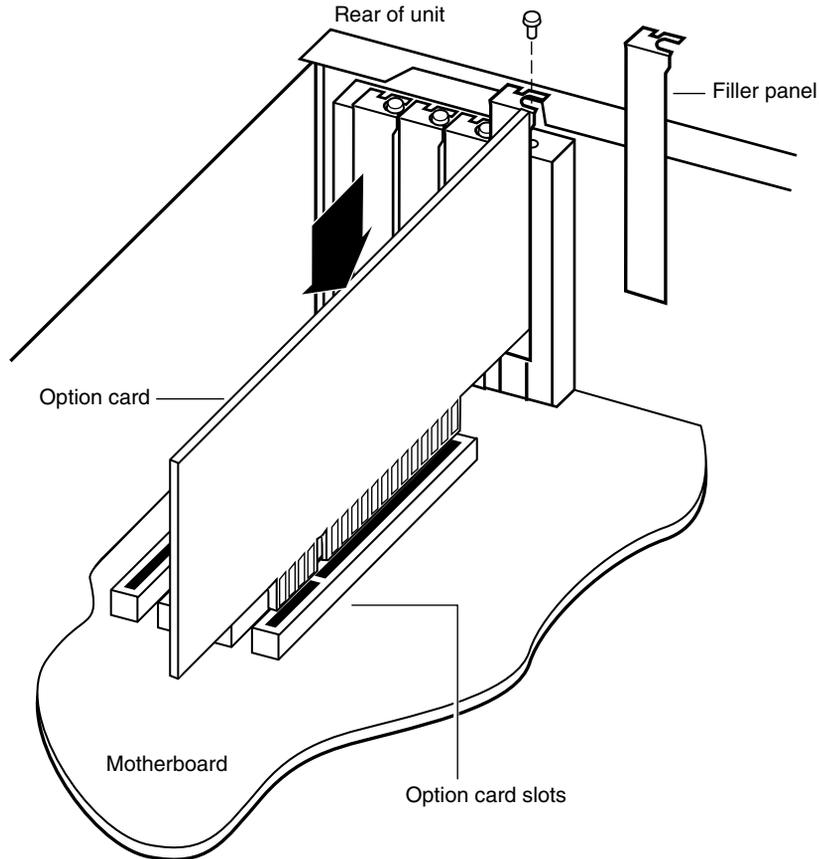
[Figure 21](#) shows you how to install LAN, WAN, or Hardware Accelerator option cards into the Contivity. You can use Slots 1 to 4 for any mix of LAN, WAN, Hardware Accelerator cards.

To remove the front bezel and cover, you need a Phillips screwdriver.

- 1 Power off the Contivity.
- 2 Remove the power cord.
- 3 Remove the front bezel as shown in [Figure 18](#).
- 4 Remove the top cover as shown in [Figure 19](#).

- 5 Remove the filler panel screw and pull out the filler panel as shown in [Figure 21](#).

**Figure 21** Installing LAN, WAN, or Hardware Accelerator cards.



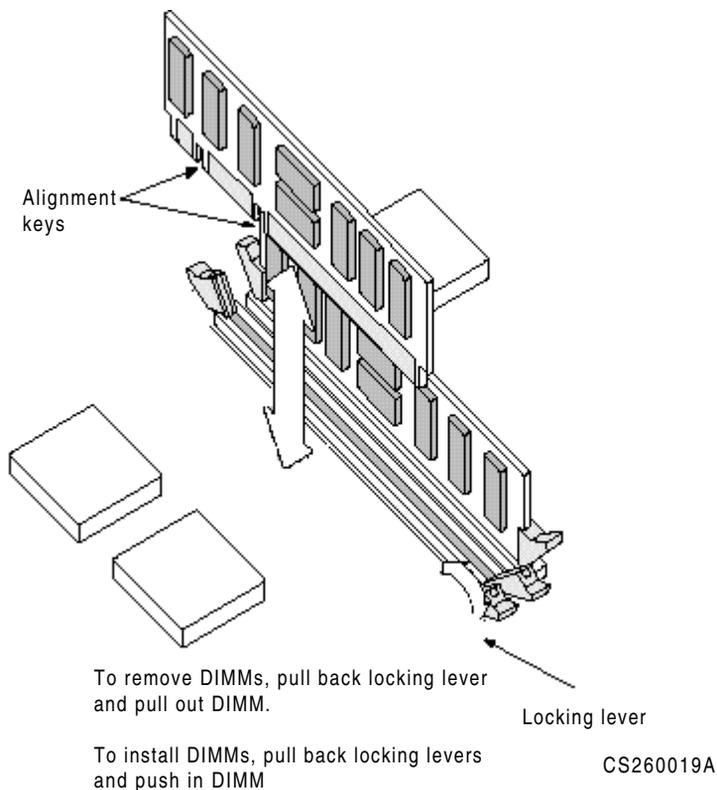
CS2600017A

- 6 Slide the option card into the intended slot.  
Make sure the card seats firmly and evenly into the card slot. If the card is not seated properly, it will not work.
- 7 Replace the card and screw.
- 8 Replace the top cover.
- 9 Replace the front bezel.

## Installing additional DIMMs

[Figure 22](#) shows you how to unlock a Dual Inline Memory Module (DIMM) and remove or install the DIMM in the next available slot (for example, if the DIMM # 1 slot is populated, then add the next DIMM to the DIMM # 2 slot).

**Figure 22** Installing additional memory



To install a DIMM, follow these steps.

- 1** Turn off the Contivity.
- 2** Remove the power cord.
- 3** Remove the front bezel as shown in [Figure 18](#).
- 4** Remove the top cover as shown in [Figure 19](#).
- 5** Press down the locking levers on both sides of the DIMM.
- 6** Pull the DIMM up to remove it from the slot.
- 7** Place a new DIMM in the slot, making sure to properly position the DIMM's alignment keys. Make sure the DIMM is pressed firmly into the socket.
- 8** Pull up the locking levers on both sides of the DIMM, and snap in the DIMM, as necessary.
- 9** Replace the top cover.
- 10** Replace the front bezel.



---

## Chapter 5

# Using the Recovery Diskette

---

Remove the Switch's front cover. Insert the recovery diskette into the drive and press the Reset button on the back of the Switch. This supplies the Switch with a minimal configuration utility that allows you to view the Switch from a Web browser.

At your Web browser, enter the Management IP address of your Switch. The Recovery Diskette display shown in [Figure 23](#) appears, which allows you to:

- Restore the factory default configuration or the backup configuration.
- Reformat the Switch's hard disk.
- Apply a new software version to the Switch.
- Perform file maintenance.
- View the Event log.
- Restart the system.

Figure 23 The Recovery Diskette Display



## Recovery Diskette

The Recovery Diskette allows you to reset or restore the files on your Switch. Use these features cautiously, as they delete or restore the major settings inside the Switch.

**Diskette Software Version:** V02\_50.86

**Diskette Software Build Date:** Aug 10 1999, 11:40:05

**Hard Disk Software Version:** V02\_50.86

**System Serial Number:** 44

Option	Action															
<p>Restore</p> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Restore"/> </div>	<p><b>Restore Factory Configuration</b></p> <p><input type="radio"/> Restore original factory settings. This option resets the Switch's configuration file to the original values it had when shipped from the factory. The system software and internal LDAP database entries will not be altered. Important: If you choose this option, the Switch will need to be reconfigured as if it were new.</p> <p><b>Restore Backups</b></p> <p>Restore a backup image from one of the selected servers. When restoring backup files, all configuration files, internal LDAP databases, and system software will be restored from the selected backup directory. This option should only be used to restore (or install) a complete system image to the Switch, and should not be used as a method of upgrading the Switch.</p> <p style="font-size: x-small;">Note: To upgrade the Continuity Extranet Switch, use the Admin-&gt;Upgrades feature of the management interface.</p> <table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 15%;">Host</th> <th style="width: 20%;">Path</th> <th style="width: 20%;">User ID</th> <th style="width: 15%;">Password</th> <th style="width: 15%;">Confirm Password</th> </tr> </thead> <tbody> <tr> <td><input type="radio"/> 10.9.0.10</td> <td>backup/sn44</td> <td>Administrator</td> <td>*****</td> <td>*****</td> </tr> <tr> <td><input type="radio"/></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Host	Path	User ID	Password	Confirm Password	<input type="radio"/> 10.9.0.10	backup/sn44	Administrator	*****	*****	<input type="radio"/>				
Host	Path	User ID	Password	Confirm Password												
<input type="radio"/> 10.9.0.10	backup/sn44	Administrator	*****	*****												
<input type="radio"/>																
<p>Reformat hard disk</p> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Reformat"/> </div>	<p>Formats the hard disk in the Switch. Use this option cautiously. It will destroy all the information on the Switch's hard disk.</p>															
<p>Apply new version</p> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Apply"/> </div>	<p>Changes the version of software executing on the Switch. Use this option to change to other software versions which exist on the Switch's hard disk. To retrieve new versions, use the Admin-&gt;Upgrades feature of the management interface. When applying a new software version, the current version will be preserved under a unique name. Select the desired software version:</p> <div style="border: 1px solid gray; padding: 2px; margin-top: 5px;">             (No version selected) ▾         </div>															
<p>Perform file maintenance</p> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="Files"/> </div>	<p>Presents a listing of directories and files on the Switch.</p>															
<p>View event log</p> <div style="text-align: center; margin-top: 10px;"> <input type="button" value="View"/> </div>	<p>The Event log allows you to see system Events that have occurred on the Switch. This log should be used to resolve problems that occur when trying to use the various options of the Recovery diskette.</p>															
<p>Restart system</p>	<p>To restart the system, remove the diskette and press the Reset button on the back of the Switch.</p>															

**1** Restore the configuration:

To restore the factory default configuration or the backup configuration, select the hard disk drive to which you want to restore the system files; either ide0 (drive 0) or ide1 (drive 1) and then do one of the following:

- Restore the factory configuration by selecting Restore Factory Configuration, then click Restore to return the Switch to its original factory default configuration. This erases data contained in flash memory and also in the configuration file.



**Warning:** Selecting this option requires you to rebuild your entire Switch configuration again from scratch

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An online message specifies the result of the Factory Configuration reset action.

- Or you can restore the Switch's previously backed-up configuration by clicking Restore. If you previously chose to automatically back-up the file systems, then the Backup Server Host (or IP address) and Path Name, User ID, and Password appear in the table.

Click the radio button of the preferred backup server. The backed-up file system, including software image and configuration files, from the latest backup copy residing on the designated server will be restored onto the hard drive of your Switch.

You can use the same backup server for multiple Switches. Each Switch creates a unique directory based on its serial number. The following example shows the Host, Path, and Serial Number (where the serial number [SN] is five digits):

```
C:/software/backup/v101/SN01001
```

The Serial Number is used to differentiate backup configurations from multiple Switches that are saved on the same backup server. The Serial Number uniquely identifies each Switch's backup data.

A blank row in the server backup field always appears to allow you to manually enter a backup server in case you did not configure automatic backup server locations.

Alternatively, a new factory default software image and file system can be restored to the Switch's hard disk. Specify the name or address and path of the network file server onto which the software from the Nortel Networks CD has been installed.



**Note:** This will restore the disk to an operable but “clean” condition (for example, configuration values will be at factory defaults).

---

To view your Switch's Serial Number when the Switch is operational, click Status→System from the Navigational Menu. The Serial Number is also listed on the bar code label on the back of the Switch.

- 2 Click Reformat your Switch's Hard Disk if you must reformat the hard disk, for example if you:
  - Have problems restoring your configuration that are not caused by the network or the file/backup server from which the file restoration is being retrieved.
  - Want to reconfigure the Switch from scratch.
  - Install a new disk.



**Caution:** Selecting this option will completely wipe out anything that previously resided on the hard disk.

---

An online message indicates whether the Reformatting of the Hard Disk was successful.

- 3 Click the drop-down list box to view the available software image and file systems that are stored on the hard disk and select the image version that you want to activate.
- 4 Click Files to bring up the File Maintenance display, which allows you to view the entire hard disk file system.
- 5 Click View to display the Event Log beneath the Recovery Diskette display. This is especially useful if a Restore operation fails.
- 6 Set the boot disk by clicking the drop-down list box to select the hard disk drive from which you want to boot the Switch; either ide0 (drive 0) or ide1 (drive 1). Then click Set.

- 7** Click Synchronize to immediately synchronize the primary and secondary disks. Thereafter, the disks will automatically synchronize every hour.
- 8** Upgrade the system boot software by clicking the drop-down list box to select a drive onto which you want to update the system boot software. Click Upgrade to rewrite the boot software onto the hard disk. You would do this if the system boot sector were to become corrupted.
- 9** Restart the system by removing the diskette and pressing the Reset button on the back of the Switch. Then reposition your Web browser to the Management IP address, and press “Reload” or “Refresh” from your browser menu to access the management page of the software running on the hard disk.



---

# Appendix A

## Specifications

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[Table 12](#) shows the Physical Specifications and Operating environment for the Contivity Extranet Switch 2600.

**Table 12** Physical specifications and operating environment

Specification	Description
Physical	
Depth	21.0 in. (53.34 cm)
Width	17.75 in. (45.09 cm) (19 in. rack mount)
Height	3.5 in. (8.89 cm)
Weight	26 lbs. (11.82 kg)
Electrical	
Voltage	100 - 240 VAC
Current	2.0/1.0 A
Frequency	50/60 HZ
<b>Operating Environment</b>	
Temperature	32 - 110° F (0 - 45° C)
Relative Humidity	10 - 90% noncondensing



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# Index

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## Numbers

100BASE-TX interface 22

10BASE-T interface 22

## B

backup  
configuration 57

## C

Category 3, 4  
wiring requirements 22

Category 5  
wiring requirements 22

connecting cables 20

Contivity Extranet Switch  
introducing the 15

conventions 12

customer support 14

## D

DB26S to V.35  
connector 23, 25  
pinouts 23, 25

DB9 or DB25  
connectors 32

DIMMs  
installing 52

documentation map 12

DSU/CSU  
required 23, 25

## F

factory default 55, 57  
configuration 57

front bezel  
removing 46

## H

hard drive  
reformat 58

## L

LAN cards  
installing 50

## P

product support 14

publications, Nortel Networks 13

## R

rack mount 37, 40

recovery  
diskette  
using the 55

recovery diskette  
drive 46

reset button 59

RJ-45  
pinouts 22

## S

safety

- power off 50, 53
- serial cable connectors 32
- serial interface
  - connector 32
- serial number 57
- software
  - version 58
  - new 55
- support, Nortel Networks 14

## T

- technical publications 13
- technical support 14
- text conventions 12

## U

- user interface 12

## W

- WAN cards
  - installing 50
- WAN connection
  - DSU/CSU 23, 25