

555-7101-215

# CallPilot

Installation and Configuration

Part 2: 702t Server Hardware Installation

Product release 1.07

Standard 1.0

May 2000

---

---

**NORTEL**  
**NETWORKS™**

*How the world shares ideas.*

P0905787

# CallPilot

## Installation and Configuration

### Part 2: 702t Server Hardware Installation

---

Publication number:	555-7101-215
Product release:	1.07
Document release:	Standard 1.0
Date:	May 2000

---

Copyright © 2000 Nortel Networks, All Rights Reserved

Printed in the United States of America

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

The process of transmitting data and call messaging between the Meridian 1 and CallPilot is proprietary to Nortel Networks. Any other use of the data and the transmission process is a violation of the user license unless specifically authorized in writing by Nortel Networks prior to such use. Violations of the license by alternative usage of any portion of this process or the related hardware constitutes grounds for an immediate termination of the license and Nortel Networks reserves the right to seek all allowable remedies for such breach.

Nortel Networks, the Nortel Networks logo, the Globemark, How the World Shares Ideas, and, Unified Networks, BNR, CallPilot, DMS, DMS-100, DMS-250, DMS-MTX, DMS-SCP, DPN, Dualmode, Helmsman, IVR, MAP, Meridian, Meridian 1, Meridian Link, Meridian Mail, Norstar, SL-1, SL-100, Supernode, Symposium, Telesis, and Unity are trademarks of Nortel Networks.

LOGITECH is a trademark of Logitech, Inc.

MICROSOFT, MS-DOS, POWERPOINT, WINDOWS, and WINDOWS NT are trademarks of Microsoft Corporation.

PCANYWHERE is a trademark of Symantec Corporation.

US ROBOTICS, the US ROBOTICS logo and SPORTSTER are trademarks of US Robotics.



# Publication history

**May 2000**

Standard 1.0 of the *CallPilot 702t Server Hardware Installation* is released.



# Contents

<b>1</b>	<b>Before you begin</b>	<b>9</b>
	Installation flowchart . . . . .	10
	Site inspection checklist . . . . .	11
	Customer-supplied equipment checklist . . . . .	12
	Required parts from Nortel Networks . . . . .	13
	Required tools and additional materials . . . . .	19
	702t Physical Dimensions . . . . .	20
	Preinstalled software . . . . .	21
<b>2</b>	<b>Safe handling of CallPilot components</b>	<b>23</b>
	General safety . . . . .	24
	Handling components . . . . .	26
	Handling hard disks . . . . .	28
<b>3</b>	<b>Unpacking and inspecting the server hardware</b>	<b>31</b>
	Overview . . . . .	32
	Unpacking procedure . . . . .	33
	Front panel features . . . . .	37
	Inspecting the chassis interior . . . . .	39
	Rear panel diagram — PCI and ISA slot locations . . . . .	45
	Slot assignments . . . . .	46
	IRQ mapping table . . . . .	50
<b>4</b>	<b>Connecting the peripheral devices to the server</b>	<b>53</b>
	Connecting peripherals to the server . . . . .	54
	Nortel Networks software feature key adapter . . . . .	56
<b>5</b>	<b>Adding a modem for Remote Access Service</b>	<b>59</b>
	Preparing the modem for connection . . . . .	60
	Adding a modem for Remote Access Service . . . . .	63

<b>6</b>	<b>Starting up and shutting down the server</b>	<b>65</b>
	Overview . . . . .	66
	Starting up the server and logging on . . . . .	67
	Shutting down the server . . . . .	68
	<b>Index</b>	<b>69</b>

# Chapter 1

---

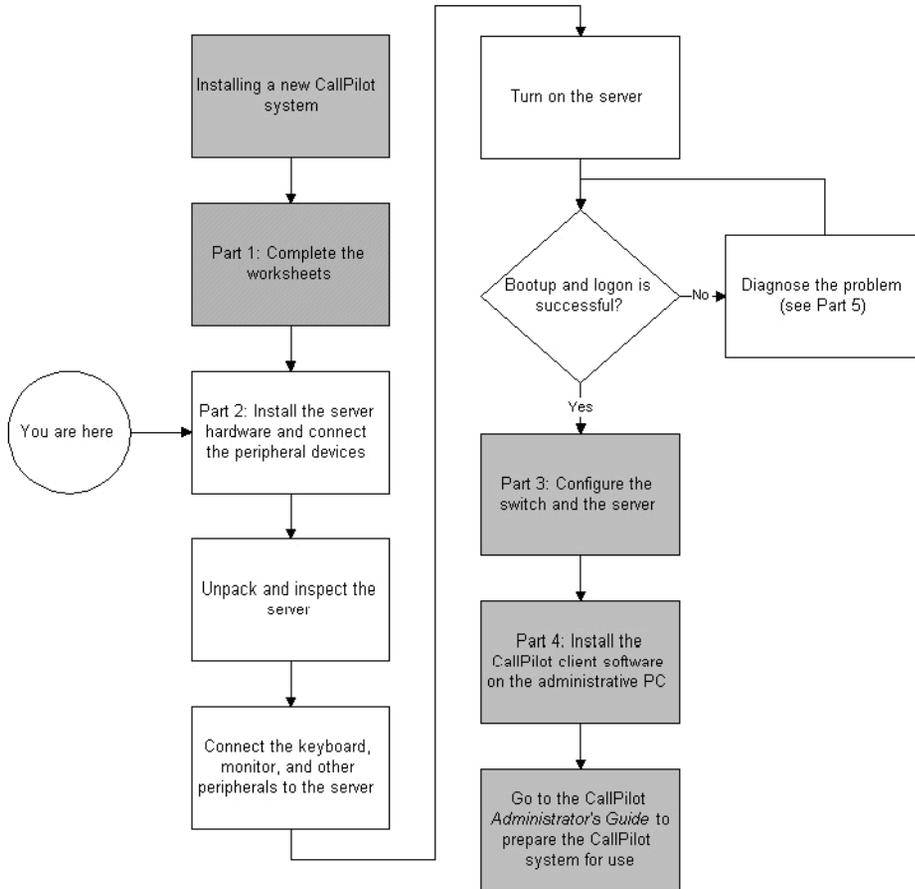
## Before you begin

### In this chapter

<a href="#">Installation flowchart</a>	10
<a href="#">Site inspection checklist</a>	11
<a href="#">Customer-supplied equipment checklist</a>	12
<a href="#">Required parts from Nortel Networks</a>	13
<a href="#">Required tools and additional materials</a>	19
<a href="#">702t Physical Dimensions</a>	20
<a href="#">Preinstalled software</a>	21

# Installation flowchart

The following flowchart shows the steps to complete in *Part 2: 702t Server Hardware Installation*.



# Site inspection checklist

## Introduction

Before you start, ensure that the following items have been checked. Use this checklist to inspect the site for the 702t server installation.

Check	Description
	The area is clean and clear of debris.
	There is adequate space for equipment.
	Desk, shelf, or table space is available for the server SVGA monitor, keyboard, mouse, and modem.
	There is room around the equipment for adequate air flow for ventilation.
	There are no heat sources near the equipment.
	There is adequate space for access to the front, side, and rear panels of the server.
	The area is isolated from strong electromagnetic fields and electrical noise sources (air conditioners, large fans, motors, radio or TV transmitters, or high-frequency security devices).
	There are adequate grounded electrical outlets or power bars for all the equipment. There is one outlet for each of the following components: <ul style="list-style-type: none"> <li>■ server</li> <li>■ monitor</li> <li>■ modem power cord</li> <li>■ CLAN hub power cord (CLAN is optional)</li> <li>■ PC client and monitor</li> </ul>
	There are adequate grounded electrical outlets or power bars for the ELAN hub power cord.

# Customer-supplied equipment checklist

Use this checklist to ensure that you have the required equipment to be supplied by the customer.

Check	Description
	A PC that can be used as an Administration Client PC. Refer to Part 4 of this Installation binder for details on the Administration Client PC.
	A web server PC if the customer has purchased Web Messaging. Refer to the Web Messaging documentation for details.
	For the Desktop Messaging feature, a TCP/IP-based CLAN that can connect Desktop Messaging users to the server.
	A hub for the CLAN if a CLAN is present (or an appropriate alternative).
	Jacks and a cable ready to connect the server to the CLAN. CLAN is optional.
	Switch line card (see switch hardware and software requirements in Part 3 of this Installation binder).
	A TCP/IP-based ELAN that connects the switch and the server. The administrative PC can also be on the ELAN or the CLAN.
	Ethernet connections ready at the Meridian 1 switch (cables and Ethernet transceivers/MAUs).
	A hub for the ELAN if applicable (or appropriate alternative).
	An ELAN hub power cord.
	(Optional) A cable ready to connect the ELAN to the customer WAN.

# Required parts from Nortel Networks

## Standard items

When a customer orders a CallPilot system, certain parts are standard items for the features or switch-connectivity specified. These are marked in the table below as a standard item.

## Orderable options

Customers order some items as options. These are marked in the table below as an orderable option. The orderable options listed in this section are not in the CallPilot shipment unless they were ordered.

Check	Description	Standard item or orderable option	Part number
<b>Common items</b>			
	Keycode printed on a 4" x 4" label that also lists the purchased features	standard item	n/a
	CallPilot server	standard item	n/a
	Keyboard	standard item	NTRH9048
	Mouse	standard item	NTRH9014
	SVGA 14" monitor	standard item	NTRH9011
	MPB16-4 board(s)	standard item	NTRH20BA
	MPC-8 card(s) if required to provide the number of channels purchased for CallPilot	standard item	NTRH01AA
	SCbus cable	standard item	NTRH2011
	Modem for Remote Access	orderable option	NTRH9016

Check	Description	Standard item or orderable option	Part number
<b>Additional items for Meridian 1</b>			
	MGate card(s)	standard item	NTRHB18CA
	MGate Dual Connect cable(s) if required (see Part 3 of this Installation binder for cabling requirements)	standard item	NTRH2013
	MGate Single DS30XV Interconnect cable(s) if required (see Part 3 of this Installation binder for cabling requirements)	standard item	NTRH2012
<b>Additional items for MSL-100/DMS-100</b>			
	Dialogic DTI/480SC board(s)	standard item	NTRH9065
	T1 Cable(s)	standard item	A0788107
	T1 card(s)	orderable option	NTRH9065
	<p>SMDI Link Modem Connection equipment (if the switch has an IOC shelf and is more than 15.2 m or 50 feet from the server)</p> <ul style="list-style-type: none"> <li>■ General DataComm modems (2 modems)</li> </ul>	orderable option	A0620530
	<ul style="list-style-type: none"> <li>■ IOC cable</li> </ul>	orderable option	(for newer IOC shelf model, use NT0X96HJ; for older IOC shelf model, use NT0X96EH)

Check	Description	Standard item or orderable option	Part number
	<p><b>Note:</b> A cable is also required to connect the two modems. Pinout information for this cable is provided in Part 3 of this Installation binder. This cable is created or supplied by the customer or installer.</p>	n/a	n/a
	<p>SMDI Link Modem Connection equipment (if the switch has an IOM and is more than 229 m or 750 feet from the server)</p> <ul style="list-style-type: none"> <li>■ General DataComm modems (2 modems)</li> <li>■ Modem cable for connection to CallPilot</li> <li>■ IOM cable</li> <li>■ Smart Connector</li> </ul> <p><b>Note:</b> A cable is also required to connect the two modems. Pinout information for this cable is provided in Part 3 of this Installation binder. This cable is created or supplied by the customer or installer.</p>	<p>orderable option</p> <p>orderable option</p> <p>orderable option</p> <p>orderable option</p> <p>n/a</p>	<p>A0620530</p> <p>TBD</p> <p>NT0X96LU</p> <p>NTFX34AA</p> <p>n/a</p>
	<ul style="list-style-type: none"> <li>■ DB9 (F) to DB25 (M) Null Modem cable</li> </ul>	orderable option	A0601464
	<ul style="list-style-type: none"> <li>■ IOC cable</li> </ul>	orderable option	(for newer IOC shelf model, use NT0X96HJ; for older IOC shelf model, use NT0X96EH)

Check	Description	Standard item or orderable option	Part number
	SMDI Link Direct Connection equipment <ul style="list-style-type: none"> <li>■ DB9 (F) to DB25 (M) Null Modem cable</li> <li>■ IOM cable</li> <li>■ Smart Connector</li> </ul>	orderable option orderable option orderable option	A0601464 NT0X96LU NTFX34AA
<b>Additional items for Lucent Definity Generic 3 (2-wire port type)</b>			
	VB-2009 card(s)	standard item	NTRH9060
	VTG cable(s) (included in VB2000 card package)	standard item	A0788198
	46 m (150 feet) Switchboard cable(s)	standard item	A0795111
<b>Additional items for the following Lucent switches (4-wire port type): System 75, System 85, Definity Generic 1, Definity Generic 3</b>			
	VB-2001 card(s)	standard item	NTRH9056
	VTG cable(s) (included in VB2000 card package)	standard item	A0788198 (orderable option)
	46 m (150 feet) Switchboard cable(s)	standard item	A0795111
<b>Additional items for the following Mitel switches: SX-200D, SX-200 Light, SX-2000 Light, SX-2000 S, SX-2000 VS</b>			
	VB-2007 card(s)	standard item	NTRH9059
	VTG cable(s) (included in VB2000 card package)	standard item	A0788198
	46 m (150 feet) Switchboard cable(s)	standard item	A0795111

Check	Description	Standard item or orderable option	Part number
<b>Additional items for the following Rolm switches: S8000 CBX, 9000 CBX, 9751 CBX</b>			
	VB-2002 card(s)	standard item	NTRH9057
	VTG cable(s) (included in VB2000 card package)	standard item	A0788198
	46 m (150 feet) Switchboard cable(s)	standard item	A0795111
<b>Software media</b>			
	CallPilot Server CD	standard item	NTUB40AC
	Web server CD (if Web Messaging was purchased)	standard item	NTUB45AC
	CallPilot Admin Client CD	standard item	NTUB41AC
	CallPilot Language Prompts CD	standard item	NTUB44AC
	CallPilot Desktop Messaging CD	standard item	NTUB42AC
	CallPilot Performance Enhancement Packages (PEPs) CD (optional)	standard item	NTUB43AC
	Windows NT OS Recovery CD. This is required for a customer-site installation. It is only required if you need to reinstall the software.	standard item	NTRH8027
	Windows NT Install CD	standard item	NTRH8033
	Emergency Repair Disk (blank diskette)	standard item	NTR3R9501
	Application Server Driver CD	Standard item	NTRH8101

<b>Check</b>	<b>Description</b>	<b>Standard item or orderable option</b>	<b>Part number</b>
<b>Documentation</b>			
	CallPilot Installation and Maintenance documentation binder <ul style="list-style-type: none"><li>■ English</li><li>■ French</li></ul>	standard item	NTRG10AD NTRG10BD
	CallPilot documentation CD	standard item	NTRG19AC

# Required tools and additional materials

## Introduction

Use this checklist for the tools and materials you need to perform installation, maintenance, and diagnostics tasks.

Check	Description
	Phillips cross-head screwdriver
	standard slot-head screwdriver (1/4" and 1/2")
	set of hex nut drivers
	sidecutters
	jumper removal tool
	tape measure for determining cable lengths
	tweezers
	antistatic ESD wrist strap (recommended)
	pen or pencil for writing notes, cable lengths, and cable identifications
	flashlight for examining the interior of a chassis
	cable tie wraps
	pen or pencil for noting cable lengths and labeling cables
	cable identification labels
	equipment log. This is used to record the model and serial number of the system, installed options, and other information.
	null modem serial cable (useful for troubleshooting)
	laptop computer and CD-ROM drive (to read documentation on CD and to connect directly to the server for troubleshooting)

## 702t Physical Dimensions

Height	49.2 cm (19.3 inches)
Width	21.08 cm (8.3 inches) (chassis), 10 inches with feet
Depth	44.96 cm (17.7 inches)
Clearance Front	21.59 cm (8.5 inches)
Clearance Rear	12.70 cm (5 inches)
Clearance Side	7.62 cm (3 inches). Additional side clearance is required for service.
Weight of fully loaded system with 6 SCSI drives 6 Populated boards, CD-ROM Floppy, and Tape	22.05 kg (48.50 lbs)

# Preinstalled software

## What is installed at the factory

The following software is installed at the factory before the server ships:

- Windows NT 4.0 Server operating system
- Windows NT Service Pack 5, with specific configuration
- SNMP and Remote Access Service (RAS)
- software for the switch-connectivity hardware
- CallPilot software
- RAID software, if this option is included with the server
- pcANYWHERE32 version 8.0



### CAUTION

---

#### **Risk of impact to CallPilot response time**

Do not activate screen savers on CallPilot servers. Screen savers consume significant CPU and impact CallPilot's response time.



# Chapter 2

---

## Safe handling of CallPilot components

### In this chapter

<a href="#">General safety</a>	24
<a href="#">Handling components</a>	26
<a href="#">Handling hard disks</a>	28

# General safety

## Introduction

If you need to replace or upgrade any system parts, follow Nortel Networks safety guidelines to prevent personal injury and damage to the server or replacement parts.



### **WARNING**

---

#### **Risk of personal injury and equipment damage**

Field maintenance must always be performed by fully qualified, trained personnel.

Nortel Networks recommends the following safety guidelines for performing installation and maintenance procedures:

- Plug the computer and peripheral devices into properly grounded power sources to prevent electric shock.
- Use a surge protector or uninterruptible power supply to protect your system from sudden increases and decreases in electrical power.
- Ensure that nothing rests on peripheral cables, and that cables cannot be tripped over or stepped on.
- Do not push foreign objects into any server opening.
- When handling components, protect the server from electrostatic discharge by wearing an antistatic wrist strap attached to an unpainted metal surface on the switch.

## Cooling and airflow

For proper cooling and airflow, always install the chassis top cover before turning on the system. You risk damaging system parts if you operate the system without the cover in place.

## **Precautionary messages**

This guide provides warnings regarding known risks related to hardware installation and handling.

Do not ignore these warnings.

# Handling components

## Introduction

Electrostatic discharge (ESD) affects the performance and decreases the useful life of system components. ESD can seriously damage component parts, such as hard disks.

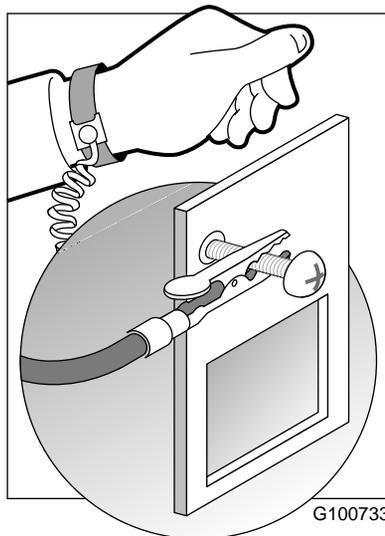
### ATTENTION

Nortel Networks recommends performing maintenance procedures at an ESD workstation whenever possible.

## Antistatic wrist strap

If an ESD workstation is not available, wear an antistatic wrist strap. Ground the ESD wrist strap by attaching it to an unpainted metal surface on the switch.

This diagram shows the lead from the ESD wrist strap clipped to an exposed screw on the chassis.



## Discharging static

When working with server components, periodically touch a nearby unpainted surface to discharge any accumulated static.

## Precautions for handling components

Nortel Networks recommends taking these precautions before implementing any procedure that includes handling component boards:

- After removing a board from its protective wrapper or from the server, place the board component-side up on a conductive foam pad. If possible, also use antistatic floor pads and workbench pads.
- Do not slide a board over any surface.
- Do not touch board components or gold-edge connectors on the board.
- Hold a board by the top edge or by the side edges.

## Installing boards

When installing boards on the server, remember the following details:

- The backplane is flexible and supported with stand-offs.
- Board slots resist connector insertion.
- Firm, steady force seats a board in its slot properly.
- Boards seat with friction followed by a solid stop.
- External connector plates, attached to add-in boards, are seated in the rear panel and secured with a screw.

# Handling hard disks

## Introduction

Hard disks are extremely sensitive to vibration and physical shock. To protect equipment and prolong the useful life of hard drives, Nortel Networks recommends taking the following precautions.

## Avoid vibration or physical shock

Hard disks are susceptible to even slight vibrations. You can damage a hard disk if it is placed on a table that is accidentally knocked or moved. Use caution when handling hard disks to prevent damage.

## Handle hard disks with care

After removing a hard disk from its protective wrapper or from the server, place it on an antistatic, padded workbench or workstation to avoid movement or jarring.

## Check for shipping damage

If a replacement hard disk is shipped alone as an upgrade or replacement, note any dents or damage on the padded container and packaging. Keep the container as proof that the part was damaged during shipping and handling.

## Precautions when removing hard drives

**Note:** Refer to Part 5 (hardware maintenance) of this binder for detailed instructions.

- In a non-RAID system, perform a proper system shutdown and then remove the drives.
- In a RAID system, the drives are hot-swappable and can be removed without a system shutdown.

## **Store hard disks carefully**

Store hard disks in their original padded containers. Store the packaged disks away from places where they can be moved, jarred, or damaged by the environment.



# Chapter 3

---

## Unpacking and inspecting the server hardware

### In this chapter

<a href="#">Overview</a>	32
<a href="#">Unpacking procedure</a>	33
<a href="#">Front panel features</a>	37
<a href="#">Inspecting the chassis interior</a>	39
<a href="#">Rear panel diagram — PCI and ISA slot locations</a>	45
<a href="#">Slot assignments</a>	46
<a href="#">IRQ mapping table</a>	50

# Overview

## Introduction

The following table lists the installation steps to perform in this chapter:

Check	Description
	Unpack the server and supplied equipment, software, and documentation. See <a href="#">“Unpacking procedure” on page 33</a> .
	Familiarize yourself with the server. See <a href="#">“Front panel features” on page 37</a> .
	Check the interior of the server for any loose or damaged parts. See <a href="#">“Inspecting the chassis interior” on page 39</a> .
	Review the slot assignments. You need this information later in the installation. See <a href="#">“Slot assignments” on page 46</a> .
	Refer to the IRQ information if you have to troubleshoot a system problem. See <a href="#">“IRQ mapping table” on page 50</a> .

# Unpacking procedure

## Introduction

Follow this procedure to unpack the server and peripherals.



### **WARNING**

---

#### **Risk of personal injury**

The 702t CallPilot server weighs approximately 17 kg (38 lb) as shipped from manufacturing. To prevent personal injury, have someone help you to unpack and position the server.

## To unpack the equipment

- 1 Carefully open the cardboard carton containing the server.
- 2 Remove the server from the carton and set it on the floor.
- 3 Remove the top cover. The server has been shipped with protective foam.
- 4 Carefully remove the foam and replace the top cover.



### **CAUTION**

---

#### **Risk of equipment damage**

Damage might result to the server if the protective foam is not removed and the server is powered up.

- 5 Carefully open the cartons containing the monitor, keyboard, mouse, modem, and ELAN hub (if supplied), and set the peripherals aside.
- 6 Put all manuals, CD-ROMs, operating system disks, any disks for peripherals, and the Windows NT emergency repair disk in a safe place.
- 7 Save all packing materials and cartons in case you must return any equipment to the carrier.
- 8 As you unpack each item, check it off against the packing list.

## If components are damaged

### Dead On Arrival (DOA) policy

DOA equipment is new product identified within 90 days of shipment as inoperable at the time of initial installation. DOA items have obvious material defects that are detected when the item is unpacked, or they have electronic failures that are discovered when (or before) the item is placed in service. Nortel Networks repairs or replaces DOAs.

DOAs reported within 90 days from the original ship date are replaced with new products and given priority shipment.

DOAs reported after 90 days are handled under normal warranty coverage. See “Repair warranty” under the “Return Policies and Procedures” section.

If any DOA-replaced equipment is not returned within 45 days to the Repair and Distribution center in Nashville, the distributor is invoiced for the replacement equipment at the current NDP of the equipment. Returns received after invoicing has occurred are subject to a minimum 15 percent restocking charge.

In the event of a DOA, distributors should contact the Santa Clara Customer Response Center. Please identify the DOA equipment when requesting a replacement.

### DOA procedure

- 1 To report a DOA, contact the Customer Response Center at 1-800-321-2649, and select option #3.
- 2 Provide the following information:
  - ordering code
  - item description
  - original P0 number (or NTI number)
  - the address where the equipment is to be shipped
  - distributor bill to number or address
  - P0 number for the DOA replacement shipment
- 3 Upon arrival of the DOA replacement equipment at the requested site, immediately return the defective equipment to the following address:

Nortel Networks  
Repair and Distribution Center  
640 Massman Drive  
Nashville, TN 37210  
Attn: RA# \_\_\_\_\_  
1-800-321-2649

- 4 In all shipments, include a packing slip from the distributor that includes the following information:
  - the distributor's address
  - DOA RA#
  - the quantity of items to be returned
  - the ordering code of items being returned
  - the PO number
- 5 Return the Advance-replacement DOA equipment in the original packaging.

If the parts or components are missing, or if equipment appears to be used, distributors are invoiced. If the advance replacement is an upgrade or update, distributors are responsible for proper packaging. Improper packaging resulting in obvious damage to the equipment causes the warranty to be voided.

If such damage occurs, return the equipment to the distributor. Contact a repair representative at 1-800-321-2649 if you need new packaging materials.

## **If components are missing**

Notify your distributor purchasing group to place a shipping discrepancy order with Nortel Networks customer care center IE COM, Santa Clara, or Nashville.

### **Shipment/Order discrepancies**

An order discrepancy exists when Nortel Networks shipping documents or the equipment received, or both, do not agree with the distributor's receiving documents (including references to back orders). File any discrepancies with the appropriate Customer Response Center Representative within 30 days of the distributor's receipt of shipment. To resolve order discrepancies, provide the PO number or Nortel Networks reference number.

**Proof-of-delivery**

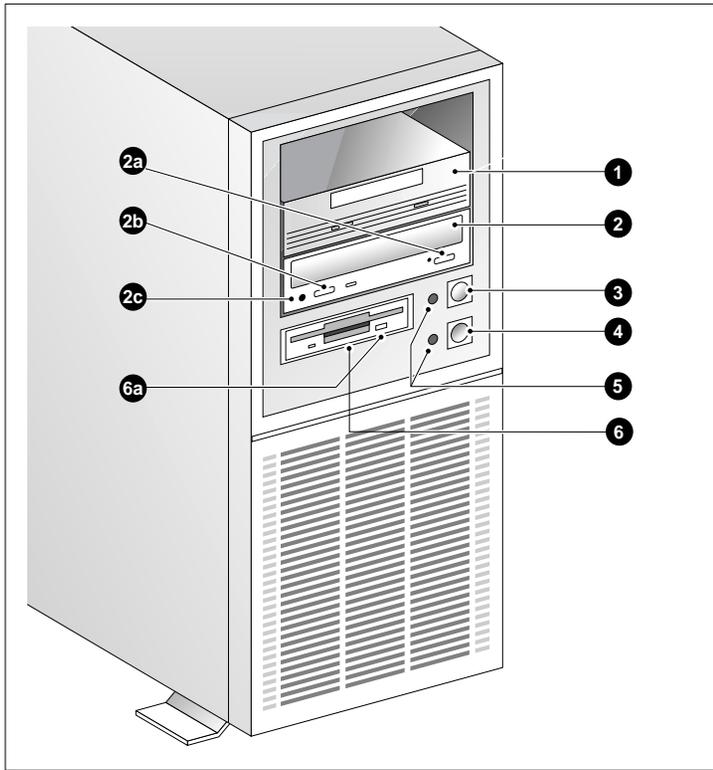
Proof-of-delivery (POD) is provided upon request. Nortel Networks accepts distributors' POD requests up to 90 days from the initial shipping date. No POD requests are considered after the 90-day period.

Both orders require the original purchase order so that the specific processing and criteria can be applied.

# Front panel features

## 702t server front view

This diagram shows the front panel features of the 702t server. The legend for this diagram is on the following page.



G100823

## Front panel features

This table describes the details shown in the preceding diagram.

<b>Part</b>	<b>Function</b>
1. Backup tape drive	Allows backup of hard drive data.
2. CD-ROM drawer	Holds CD-ROM disk.
2a. Drawer push button	Push in to open the CD-ROM drawer; push again to close the drawer.
2b. Volume control	Controls headphone volume for audio output.
2c. Headphone jack	Jack for audio output from CD-ROM.
3. ON/OFF push button	Turns power to server on and off.
4. Reset push button	Momentarily disconnects power to the server. Do not use for restart; use the software restart instead.
5. Indicator lights	Indicate when the server is powered up, and when the disk drives are active.
6. Floppy drive	Drive for 3 1/2" disks.
6a. Floppy eject button	Ejects floppy disk.

# Inspecting the chassis interior

## To inspect the inside of the server

To remove the server chassis cover and inspect the interior, follow these steps.



### WARNING

---

#### Risk of personal injury

Be careful when you handle the sharp edges of the side panel and chassis to prevent personal injury.



### CAUTION

---

#### Risk of equipment damage

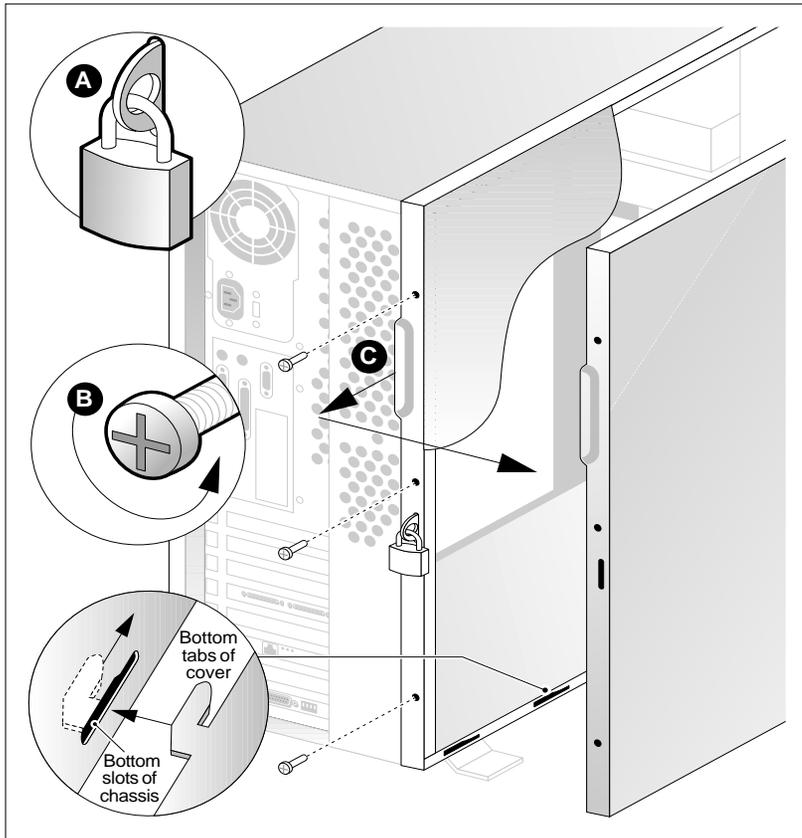
Use an ESD wrist strap to protect static-sensitive components

- 1 If a padlock is installed on the back of the system, unlock and remove it. Refer to “A” shown in the diagram on [page 40](#).
- 2 Remove and save the three screws from the back of the side cover. Refer to “B” shown in the diagram on [page 40](#).  
**Note:** You need the screws to reattach the side cover.
- 3 Place the fingertips of your left hand under the built-in handle on the back of the cover.
- 4 Pull the cover approximately 2.5 cm (1 inch) away from the front of the server until it stops. Refer to “C” shown in the diagram on [page 40](#).
- 5 Use your left hand to pull the back end of the cover toward you to disengage the bottom row of tabs from the notches in the chassis, as shown in the diagram on [page 40](#).
- 6 Use both hands to lift the cover upward to disengage the top row of tabs from the notches in the top edge of the chassis.
- 7 Set the cover aside.
- 8 Clip the lead from your ESD wrist strap to an unpainted section of the chassis or an exposed screw.

- 9 Carefully check the network adapter card to ensure it is fully seated on the motherboard. Identify the network card by its LAN jacks.
- 10 Check jumper settings.
- 11 Check for any loose wires or foreign objects (for example, loose screws) inside the chassis.

## Removing the side panel

This diagram identifies the screws to remove the side panel cover of the chassis.



**Note:** The illustration shows a customer-supplied padlock (A).

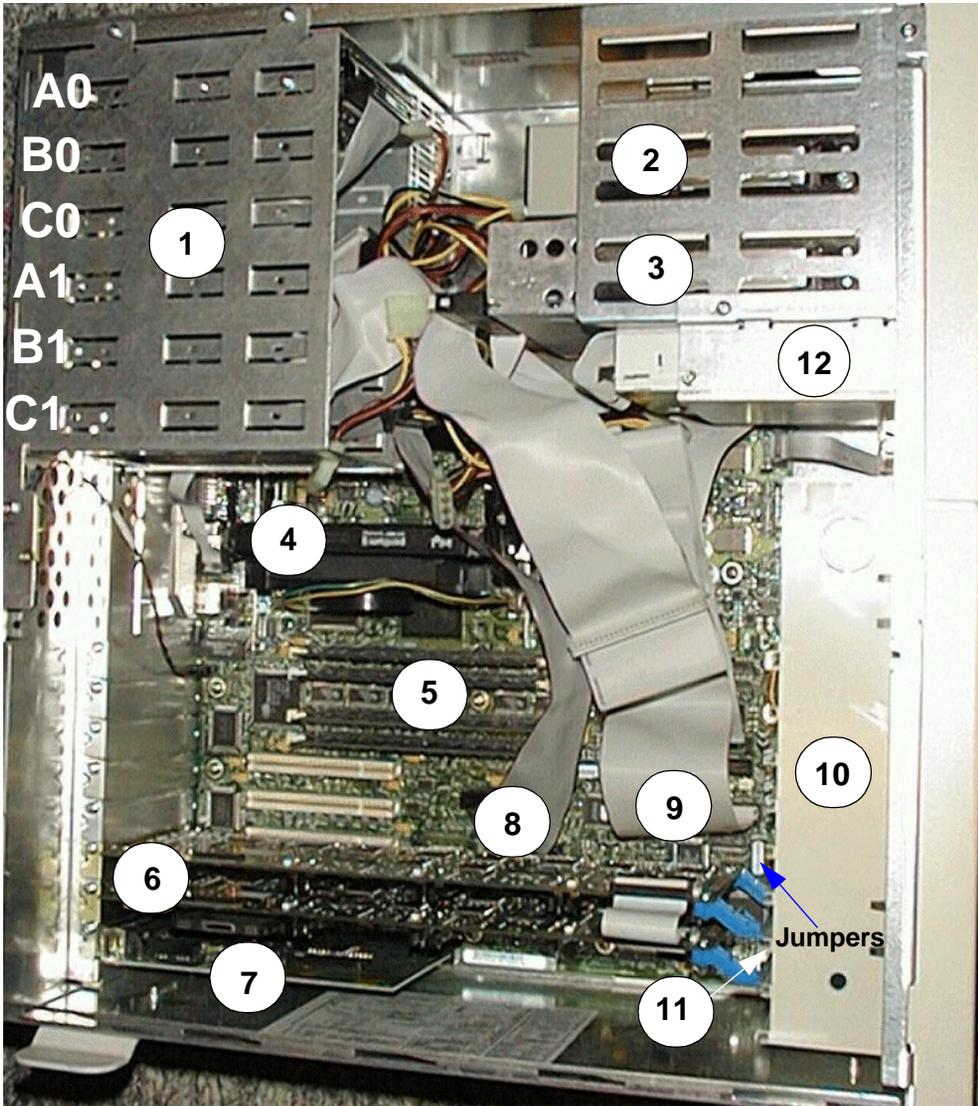
## Identifying the interior components of the server

The photograph on page [42](#) identifies the interior features of the CallPilot chassis. The legend below applies to this diagram. Perform a visual check for loose boards or foreign matter in the chassis.

Index	Description
1	Internal SCSI hard drive bays (From the top, A-0, B-0, C-0, A-1, B-1, C-1)
2	Tape drive
3	CD-ROM
4	CPU
5	Dual Inline Memory Modules (DIMMs) — memory slots
6	Multimedia processing boards (MPB16) two available slots
7	CLAN card
8	Wide SCSI Connector
9	Narrow SCSI Connector
10	Fan assembly
11	Jumpers for Baseboard Jumper settings These are located along the right edge on the backplane.
12	Floppy disk

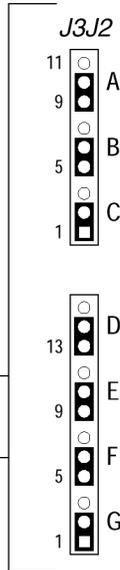
For the slot assignments for expansion cards, refer to [“Slot assignments” on page 46](#).

### 702t server interior features



## Jumper settings

There are two jumper blocks (J2J1 and J3J2) on the motherboard that can be used to customize certain settings. The jumper blocks are located on the bottom right corner of the motherboard. Use default settings as shown in the following diagram, unless otherwise noted.



The jumper settings for the 702t system are shown in the following table. Default settings are shown in bold.

J2J1 Jumpers	Pins		Function
CMOS Clear (CMOS Clr)	<b>1-2</b>	<b>Protect</b>	Preserves BIOS settings.
	2-3	Erase	Resets BIOS settings to Intel defaults.
Password Clear (Pswd Clr)	<b>5-6</b>	<b>Protect</b>	Preserves the system password.
	6-7	Erase	Clears the system password.

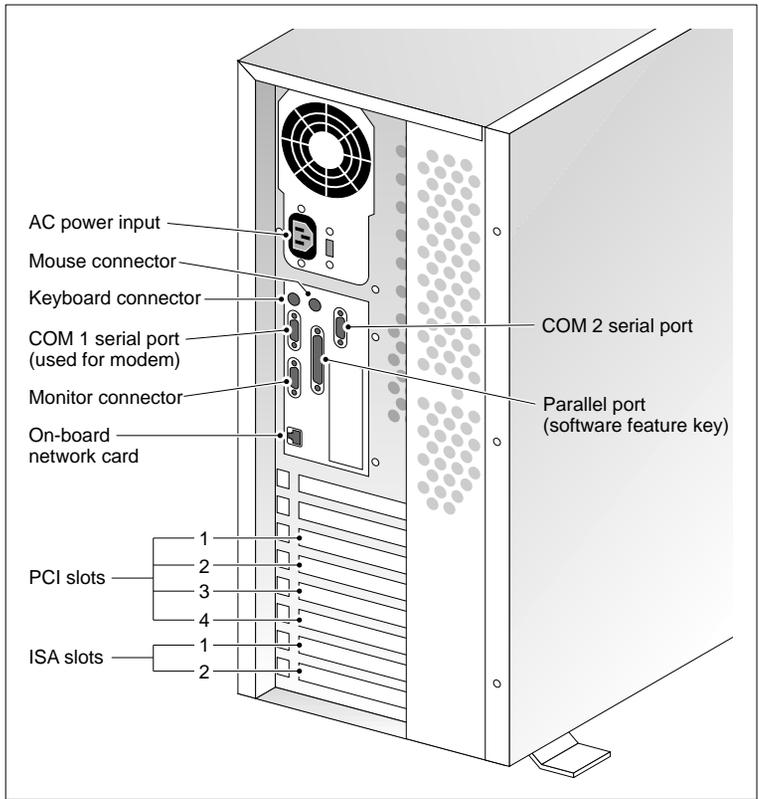
<b>J2J1 Jumpers</b>	<b>Pins</b>		<b>Function</b>
Recovery Boot (Rcvry Boot)	<b>9-10</b>	<b>Normal</b>	System attempts to start using BIOS in Flash memory.
	10-11	Recovery	Loads BIOS from a floppy if Flash version has been corrupted.
Boot Block Write Protect (Boot Block WR EN)	13-14	Protect	BIOS boot block is write-protected.
	<b>14-15</b>	<b>Open</b>	BIOS can be flash-updated.

<b>J3J2 Jumpers</b>	<b>Pins</b>		<b>Function</b>
FRB Timer Enable (FRB DIS)	<b>1-2</b>	<b>Enable</b>	FRB operation enabled. (System can start from CPU 1 if CPU 0 fails.)
	2-3	Disable	FRB operation disabled.
Chassis Intrusion Detection (Intrud det dis)	<b>5-6</b>	<b>Enable</b>	Switch indicates cover removal and replacement.
	6-7	Disable	Intrusion switches are disabled.
Host Bus In-Order Queue (BMC Forced Update Mode)	<b>13-14</b>	<b>Max</b>	Set at maximum to increase system performance.
	14-15	Min	Set to minimum for debugging older, slower ISA/Legacy cards.

# Rear panel diagram – PCI and ISA slot locations

## Introduction

Refer to [“Slot assignments” on page 46](#) for slot assignments.



G100809

# Slot assignments

## Introduction

Some of the cards listed below are preinstalled at the factory. You must install others cards on-site as instructed in the following tables.

These tables represent the maximum capacity for each connection type. Your server might vary depending on what was ordered from Nortel Networks. Therefore, your server might not have all of the slots populated.

The slots listed from top to bottom match the orientation of slots on the motherboard. For example, PCI slot 1 is the top PCI slot in the chassis, if the chassis is standing on its feet.

Expansion slot	Slot assignments depending on switch configurations with RAID and Token Ring Customer LAN only			
	Meridian 1	MSL-100/ DMS-100 (T1)	Lucent, Mitel, or Rolm (DSE)	Matra (analog)
<sup>a</sup> On-board network card	ELAN IRQ 10	Unused	Unused	Unused
PCI slot 1 Bus 0 Dev 0B	RAID IRQ 15	RAID IRQ 15	RAID IRQ 15	RAID IRQ 15
PCI slot 2 Bus 0 Dev 0C	CLAN IRQ 5	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>
PCI slot 3 Bus 0 Dev 0E	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-2T #1 IRQ 11
Shared Slot				
PCI slot 4 Bus 0 Dev 10	MPB16-4 #2 IRQ 11	MPB16-4 #2 IRQ 11	MPB16-4 #2 IRQ 11	MPB16-2T #2 IRQ 11
ISA slot 1 Bus NA Dev NA	Unused	Unused	VB2000 #1 IRQ 5	Unused
ISA slot 1 Bus NA Dev NA	Unused	DTI/480SC #1 IRQ 5	VB2000 #2 IRQ 5	Not used

a.The on-board network card is built onto the motherboard. This card does not have a slot.

b.Customer CLAN is Token Ring in this case with IRQ 10.

Expansion slot	Slot assignments depending on switch configurations without RAID and Token Ring Customer LAN only			
	Meridian 1	MSL-100/ DMS-100 (T1)	Lucent, Mitel, or Rolm (DSE)	Matra (analog)
<sup>a</sup> On-board network card	ELAN IRQ 10	Unused	Unused	Unused
PCI slot 1 Bus 0 Dev 0B	CLAN IRQ 5	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>
PCI slot 2 Bus 0 Dev 0C	Unused	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-2T #1 IRQ 11
PCI slot 3 Bus 0 Dev 0E	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-2T #1 IRQ 11
Shared Slot				
PCI slot 4 Bus 0 Dev 10	MPB16-4 #1 IRQ 11	Unused	Unused	MPB16-2T #1 IRQ 11
ISA slot 1 Bus NA Dev NA	Unused	DTI/480SC #1 IRQ 5	VB2000 #1 IRQ 5	Unused
ISA slot 1 Bus NA Dev NA	Unused	DTI/480SC #1 IRQ 5	VB2000 #2 IRQ 5	Not used

a.The on-board network card is built onto the motherboard. This card does not have a slot.

b.Customer CLAN is Token Ring in this case with IRQ 10.

Expansion slot	Slot assignments depending on switch configurations with RAID and Ethernet Customer LAN only			
	Meridian 1	MSL-100/ DMS-100 (T1)	Lucent, Mitel, or Rolm (DSE)	Matra (analog)
<sup>a</sup> On-board network card	ELAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>	CLAN IRQ 10 <sup>b</sup>
PCI slot 1 Bus 0 Dev 0B	RAID IRQ 15	RAID IRQ 15	RAID IRQ 15	RAID IRQ 15
PCI slot 2 Bus 0 Dev 0C	CLAN IRQ 5	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	Unused
PCI slot 3 Bus 0 Dev 0E	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-4 #1 IRQ 11	MPB16-2T #1 IRQ 11
Shared Slot				
PCI slot 4 Bus 0 Dev 10	MPB16-4 #1 IRQ 11	Unused	Unused	MPB16-2T #2 IRQ 11
ISA slot 1 Bus NA Dev NA	Unused	DTI/480SC #1 IRQ 5	VB2000 #1 IRQ 5	Unused
ISA slot 1 Bus NA Dev NA	Unused	DTI/480SC #1 IRQ 5	VB2000 #2 IRQ 5	Not used

a. The on-board network card is built onto the motherboard. This card does not have a slot.

b. Customer CLAN must be Ethernet with IRQ 10.

# IRQ mapping table

## Introduction

The following table displays the assignments for each Interrupt Request Line (IRQ) with the associated slot or device. You do not need this information for installation, but you might need it for troubleshooting.

IRQ	Slot/device
0	Timer
1	Chipset
2	System/unused
3	Serial Port 2 (COM2)
4	Serial Port 1 (COM1)
5	Reserved for connections cards when they are used. Otherwise, this is available for CLAN as needed.
6	Floppy controller
7	Parallel port (LPT1)
8	Real Time Clock
9	ACPI SCI Interrupt
10	On-board network card
11	Available for application
12	PS/2 Mouse
13	Math coprocessor
14	Primary EIDE controller

<b>IRQ</b>	<b>Slot/device</b>
15	PCI slot 1 - RAID/On-Board SCSI controllers. <b>Note:</b> Both SCSI controllers are on IRQ 15, which allows the SSU to automatically resolve any IRQ conflict.



# Chapter 4

---

## Connecting the peripheral devices to the server

### In this chapter

<a href="#">Connecting peripherals to the server</a>	54
<a href="#">Nortel Networks software feature key adapter</a>	56

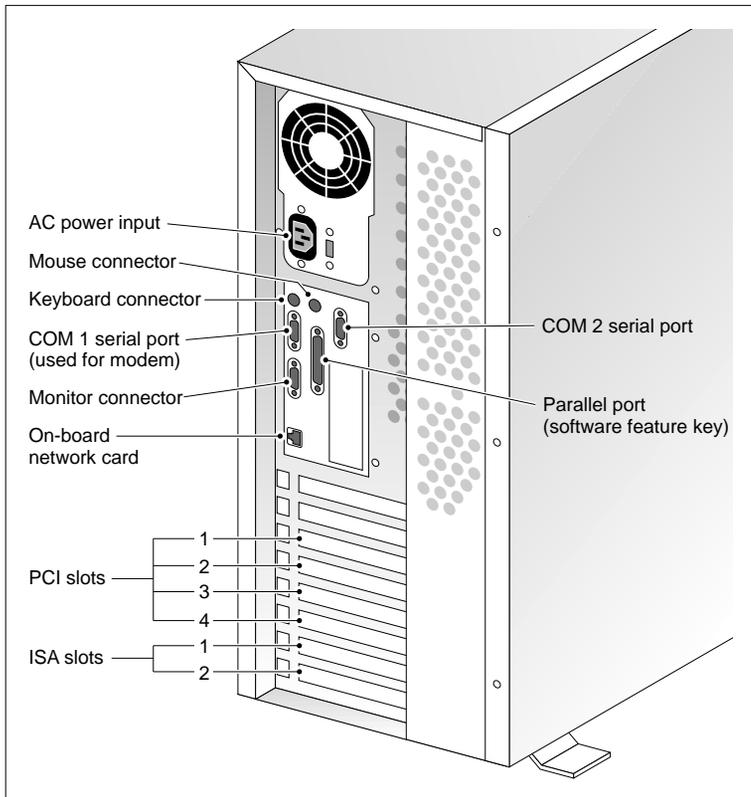
# Connecting peripherals to the server

## Before you begin

A legend is located adjacent to the peripheral connector panel at the back of the server. This legend shows the symbol for each peripheral and which connector to use.

## Rear panel

This diagram shows the server connections for the power cord and peripherals.



G100809

## Other peripheral devices

You can install or use only Nortel Networks approved peripheral devices on your server. Installation or use of unapproved peripheral devices can result in system failure.

### To connect the mouse, keyboard, and monitor

- 1 Make sure the machine is not plugged into a power source.
- 2 Plug the keyboard connector into the keyboard PS/2 connector at the rear of the chassis.
- 3 Plug in the mouse connector into its PS/2 connector. Check the legend for correct connections.
- 4 Plug in the monitor connector. Tighten the screws on the connector.
- 5 Plug the AC cord into the back of the panel. Plug the other end into a wall receptacle or power bar.

**Note:** *Do not* turn on the server at this time.

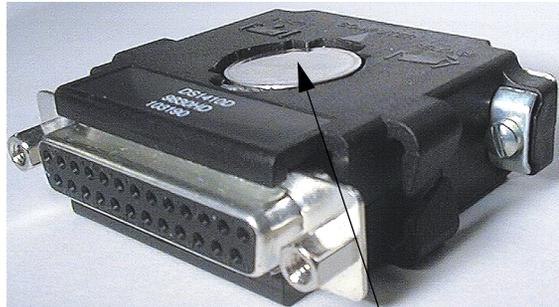
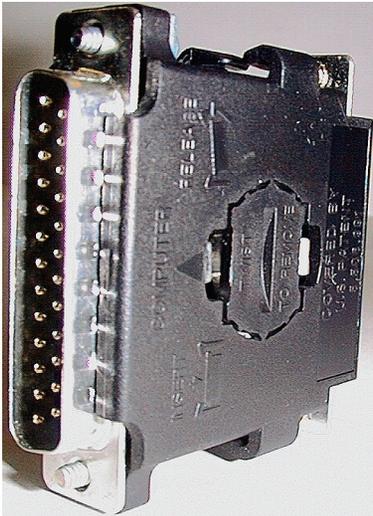
# Nortel Networks software feature key adapter

## Introduction

The software feature key is a security device that stores the unique serial number of the server. The feature key is embedded in the Nortel Networks software feature key adapter, which plugs into the parallel port.

## Software feature key adapter

The following illustrations show the software feature key adapter. The actual software feature key is embedded in the adapter, as shown below.



Software feature key

## Requirements

For installation you require a Phillips No. 1 screwdriver.

## To install the software feature key adapter

- 1 Ensure that there is no cable connected to the parallel port.

**Note:** The parallel port is also known as the printer port or LPT1. It is located on the rear of the chassis. See the diagram of the rear panel in [“Connecting peripherals to the server” on page 54](#).

- 2 Plug the male end of the adapter into the parallel port.



# Chapter 5

---

## Adding a modem for Remote Access Service

### In this chapter

<a href="#">Preparing the modem for connection</a>	60
<a href="#">Adding a modem for Remote Access Service</a>	63

# Preparing the modem for connection

## Introduction

Before you can connect the modem to the CallPilot server, you must set the DIP switches. You must correctly set DIP switch 4 or the CallPilot server fails to start.

**Note:** This section applies only to the US Robotics 33.6 External Sportster fax modem. If your modem is different, refer to the documentation for your modem.

The following is a picture of the supported external fax modem.



## Required equipment

To install the modem, you need the following equipment:

- an analog external modem (NTRH9016) that includes
  - an RJ-11 analog phone cord
  - a power adapter cord
- a 25-pin male to 9-pin female shielded serial cable (A0601464)
- an analog line jack
- tweezers

## To set the modem DIP switches

Use a pair of tweezers to set the DIP switches as described in the “Change to” column of the following table.

**Note:** The DIP switches are located on the back of the modem. ON is down. OFF is up.

DIP switch	Default setting	Change to	Function
1	OFF	OFF	Data Terminal Ready (DTR) override <ul style="list-style-type: none"> <li>■ OFF: Normal DTR operations (The computer must provide a DTR signal for the modem to accept commands. Drop DTR to terminate a call.)</li> <li>■ ON: The modem ignores DTR (override)</li> </ul>
2	OFF	OFF	Verbal/numeric result codes <ul style="list-style-type: none"> <li>■ OFF: Verbal (word) results</li> <li>■ ON: Numeric results</li> </ul>
3	ON	ON	Result code display <ul style="list-style-type: none"> <li>■ OFF: Suppresses result codes</li> <li>■ ON: Enables result codes</li> </ul>
4	OFF	ON	Command mode local echo suppression <ul style="list-style-type: none"> <li>■ OFF: Displays keyboard commands</li> <li>■ ON: Suppresses echo</li> </ul>
5	ON	ON	Auto answer suppression <ul style="list-style-type: none"> <li>■ OFF: The modem answers on the first ring, or higher if specified in NVRAM</li> <li>■ ON: Disables auto answer</li> </ul>

---

<b>DIP switch</b>	<b>Default setting</b>	<b>Change to</b>	<b>Function</b>
6	OFF	OFF	Carrier Detect (CD) override <ul style="list-style-type: none"><li>■ OFF: The modem sends a CD signal when it connects with another modem; it drops the CD on disconnect</li><li>■ ON: CD is always ON (override)</li></ul>
7	OFF	OFF	Power-on and ATZ reset software defaults <ul style="list-style-type: none"><li>■ OFF: Loads Y or Y1 configuration from user-defined non-volatile memory (NVRAM)</li><li>■ ON: Loads &amp;F0-Generic template from read-only memory (ROM)</li></ul>
8	ON	ON	AT command set recognition <ul style="list-style-type: none"><li>■ OFF: Disables command recognition (dumb mode)</li><li>■ ON: Enables recognition (smart mode)</li></ul>

---

# Adding a modem for Remote Access Service

## Introduction

When you add a modem to your server, you can access the server by a remote service PC. Remote Access Service (RAS) enables you to perform many activities remotely, including maintenance and diagnostics. Nortel Networks support requires RAS.

## To add a modem to the server

- 1 Ensure that the AC cord is not plugged in.
- 2 Connect the large 25-pin male connector to the back of the modem. Tighten the connector screws.
- 3 Connect the 9-pin female connector to COM1 at the rear of the server. Tighten the connector screws.
- 4 Connect one end of the telephone cable to the modem RJ-11 jack labeled LINE.
- 5 Connect the other end of the telephone cable to the RJ-11 jack in the wall.
- 6 Connect the power cord to the modem and plug the other end into a wall receptacle or power bar. Turn on the modem.



# Chapter 6

---

## Starting up and shutting down the server

### In this chapter

<a href="#">Overview</a>	66
<a href="#">Starting up the server and logging on</a>	67
<a href="#">Shutting down the server</a>	68

# Overview

## Introduction

The following table lists the installation steps to perform in this chapter.

Check	Description
	Turn on the peripheral devices and the server, and verify proper startup. See <a href="#">“Starting up the server and logging on” on page 67</a> .
	Shut down the server before continuing with the remaining installation steps. See <a href="#">“Shutting down the server” on page 68</a> .



### CAUTION

---

#### **Risk of impact to CallPilot response time**

Do not activate screen savers on CallPilot servers. Screen savers consume significant CPU resources and impact CallPilot's response time.

# Starting up the server and logging on

## To start the server and log on

- 1 Ensure that the modem power switch is On.
- 2 Turn the monitor power switch to On.
- 3 Press the server power switch On.

**Result:** The startup process begins.

- 4 Allow the startup process to continue until the Windows NT logon window appears.
- 5 Press Ctrl-Alt-Del.

**Result:** You are prompted to enter a User ID and Password.

- 6 Enter **Administrator** as the user ID.
- 7 Enter **abc123** as the password.

**Note:** The default password **abc123** must be changed during the Configuration Wizard step, which is described in Part 3 of this Installation binder.

- 8 Click OK.

**Result:** The Windows NT desktop appears.

To interpret the POST beep codes that your 702t server emits, refer to the hardware maintenance guide for this server.

Dialog boxes might appear that state if 702t server is ready to accept calls. These dialog boxes are part of the CallPilot system ready indicator feature and are not applicable until you have run the Configuration Wizard.

# Shutting down the server

## Introduction

Before continuing with the installation, you must shut down the server. To power down the server, follow the procedure in this section.

## To shut down the server

- 1 Press the CTRL, ALT, and Delete keys simultaneously.

**Result:** The Windows NT Security dialog box appears.

- 2 Select Shut down.

**Result:** The Shutdown Computer dialog box appears.

- 3 Select Shutdown.

- 4 Click Ok.

**Result:** The Computer Shutdown window displays the message `It is now safe to turn off your computer.`

- a. You might be informed that an SQLAnywhere service is running with connections, and asked if you want to end it.

- b. Click Yes or End Task.

**Result:** You might also be asked if you want to save ACD proxy changes.

- c. Click No.

# Index

## A

- adding peripherals to the server 54
- antistatic wrist strap 26

## B

- beep codes 67
- BIOS
  - boot block 44
  - reset with CMOS Clear 43
- BMC Forced Update Mode jumper 44
- Boot Block Write Protect 44

## C

- cables 12
- chassis
  - inspecting the interior 39
  - Intrusion Detection 44
- checklist
  - customer-supplied equipment and data 12
  - site inspection 11
- CLAN 12
- clear password 43
- CMOS Clear 43
- COM1 63
- components
  - safety precautions 27
- customer-supplied equipment and data checklist 12

## D

- data
  - customer-supplied 12
- diagnostics

- beep codes 67
- diagram
  - server connections for the power cord and peripherals 54
- DIP switches, setting
  - modem 61
- discharging static 27
- dongle 56

## E

- ELAN 12
- electrostatic discharge
  - antistatic wrist strap 26
  - discharging static 27
- equipment
  - customer-supplied 12
- ESD
  - antistatic wrist strap 26
  - discharging static 27
- Ethernet
  - connections 12
- expansion cards
  - slot assignments 33
- expansion slots
  - slot assignments 33

## F

- fax modem
  - picture 60
- FRB Timer Enable 44
- front panel 37, 38

## H

- hard disks

- checking for shipping damage 28
- safety precautions
  - jarring 28
  - physical shock 28
  - storage 29
  - vibration 28
- Host Bus In-Order Queue 44

## I

- in-order queue 44
- inspecting the chassis
  - interior features 39
- inspection of site checklist 11
- installation
  - hardware 19
- intrusion detection 44
- IRQ mapping table 49
- ISA slots 33

## J

- jacks 12
- jumper settings 43

## K

- keylock 56

## M

- materials checklist 19
- modem 63
  - DIP switches, setting 61
  - picture 60
- motherboard
  - jumper settings 43

## P

- Password Clear 43
- PCI slots 33

- slot assignments 33
- peripherals
  - adding to the server 54
- pictures
  - external fax modem 60
- POST
  - See Power-On Self Test (POST) 67
- powering up 67
- precautions, safety
  - components 27
  - hard disks
    - checking for shipping damage 28
    - jarring 28
    - physical shock 28
    - storage 29
    - vibration 28

## Q

- queue
  - host bus 44

## R

- Recovery Boot jumper 44
- removal of side panel 40
- requirements
  - customer-supplied equipment and data 12
- reset BIOS 43
- RJ-11 63

## S

- safety precautions 29
  - antistatic wrist strap 26
  - components 27
  - discharging static 27
  - hard disks
    - checking for shipping damage 28
    - jarring 28
    - physical shock 28
    - storage 29
    - vibration 28
- serial number of the server 56

- server
  - adding peripherals 54
  - inspecting the interior 39
  - powering up 67
  - serial number 56
- setting
  - modem DIP switches 61
- settings
  - jumper block 43
- shutting down 68
- side panel
  - removal 40
- site inspection checklist 11
- slot assignments 33
  - IRQ mapping table 49
- software feature key 56
- SQLAnywhere 68
- switches
  - intrusion 44
- switches, setting DIP
  - modem 61
- system
  - turning on 67
- system password
  - clear 43
- System Setup Utility (SSU)
  - slot assignments 33

## T

- tools 19
- turning the server on 67

## U

- unpacking
  - equipment 33

## W

- wrist strap, antistatic 26
- write protect boot block 44





# CallPilot

## Installation and Configuration

### Part 2: 702t Server Hardware Installation

Toronto Information Products  
Nortel Networks  
522 University Avenue, 14th Floor  
Toronto, Ontario, Canada  
M5G 1W7

Copyright © 2000 Nortel Networks, All Rights Reserved

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

The process of transmitting data and call messaging between the Meridian 1 and CallPilot are proprietary to Nortel Networks. Any other use of the data and the transmission process is a violation of the user license unless specifically authorized in writing by Nortel Networks prior to such use. Violations of the license by alternative usage of any portion of this process or the related hardware constitutes grounds for an immediate termination of the license and Nortel Networks reserves the right to seek all allowable remedies for such breach.

Nortel Networks, the Nortel Networks logo, the Globemark, How the World Shares Ideas, and, Unified Networks, BNR, CallPilot, DMS, DMS-100, DMS-250, DMS-MTX, DMS-SCP, DPN, Dualmode, Helmsman, IVR, MAP, Meridian, Meridian 1, Meridian Link, Meridian Mail, Norstar, SL-1, SL-100, Supernode, Symposium, Telesis, and Unity are trademarks of Nortel Networks.

LOGITECH is a trademark of Logitech, Inc.  
MICROSOFT, MS-DOS, POWERPOINT, WINDOWS, and WINDOWS NT are trademarks of Microsoft Corporation.  
PCANYWHERE is a trademark of Symantec Corporation.  
US ROBOTICS, the US ROBOTICS logo and SPORTSTER are trademarks of US Robotics.

Publication number: 555-7101-215  
Product release: 1.07  
Document release: Standard 1.0  
Date: May 2000

Printed in the United States of America

**NORTEL**  
**NETWORKS™**

*How the world shares ideas.*