
Meridian 1
Succession 1000
Succession 1000M
Succession 3.0 Software

DECT

Description, Planning, Installation, and Operation

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Revision history

October 2003

Standard 1.00. This document is a new NTP for Succession 3.0. It was created to support a restructuring of the Documentation Library, which resulted in the merging of multiple legacy NTPs. This new document consolidates information previously contained in the following legacy documents, now retired:

- *DECT Site Planning* (553-3601-101)
- *DECT Provisioning* (553-3601-102)
- *DECT Overview* (553-3601-103)
- *DECT Installation* (553-3601-203)
- *DECT Operation* (553-3601-301)

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About this document

This document is a global document. Contact your system supplier or your Nortel Networks representative to verify that the hardware and software described are supported in your area.

Subject

This document contains information about the DECT system.

Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Succession 3.0 Software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support** on the Nortel Networks home page:

<http://www.nortelnetworks.com/>

Applicable systems

This document applies to the following systems:

- Meridian 1 Option 11C Chassis
- Meridian 1 Option 11C Cabinet
- Meridian 1 Option 51C
- Meridian 1 Option 61
- Meridian 1 Option 61C
- Meridian 1 Option 61C CP PII
- Meridian 1 Option 81

- Meridian 1 Option 81C
- Meridian 1 Option 81C CP PII
- Succession 1000
- Succession 1000M Chassis
- Succession 1000M Cabinet
- Succession 1000M Half Group
- Succession 1000M Single Group
- Succession 1000M Multi Group

Note that memory upgrades may be required to run Succession 3.0 Software on CP3 or CP4 systems (Options 51C, 61, 61C, 81, 81C).

System migration

When particular Meridian 1 systems are upgraded to run Succession 3.0 Software and configured to include a Succession Signaling Server, they become Succession 1000M systems. [Table 1](#) lists each Meridian 1 system that supports an upgrade path to a Succession 1000M system.

Table 1
Meridian 1 systems to Succession 1000M systems (Part 1 of 2)

This Meridian 1 system...	Maps to this Succession 1000M system
Meridian 1 Option 11C Chassis	Succession 1000M Chassis
Meridian 1 Option 11C Cabinet	Succession 1000M Cabinet
Meridian 1 Option 51C	Succession 1000M Half Group
Meridian 1 Option 61	Succession 1000M Single Group
Meridian 1 Option 61C	Succession 1000M Single Group
Meridian 1 Option 61C CP PII	Succession 1000M Single Group
Meridian 1 Option 81	Succession 1000M Multi Group

Table 1
Meridian 1 systems to Succession 1000M systems (Part 2 of 2)

This Meridian 1 system...	Maps to this Succession 1000M system
Meridian 1 Option 81C	Succession 1000M Multi Group
Meridian 1 Option 81C CP PII	Succession 1000M Multi Group

Note the following:

- When an Option 11C Mini system is upgraded to run Succession 3.0 Software, that system becomes a Meridian 1 Option 11C Chassis.
- When an Option 11C system is upgraded to run Succession 3.0 Software, that system becomes a Meridian 1 Option 11C Cabinet.

For more information, see one or more of the following NTPs:

- *Small System: Upgrade Procedures (553-3011-258)*
- *Large System: Upgrade Procedures (553-3021-258)*
- *Succession 1000 System: Upgrade Procedures (553-3031-258)*

Intended audience

This document is intended for sales representatives, planners, installers, site maintenance personnel and administrators.

Conventions

Terminology

In this document, the following systems are referred to generically as “system”:

- Meridian 1
- Succession 1000
- Succession 1000M

The following systems are referred to generically as “Small System”:

- Succession 1000M Chassis
- Succession 1000M Cabinet
- Meridian 1 Option 11C Chassis
- Meridian 1 Option 11C Cabinet

The following systems are referred to generically as “Large System”:

- Meridian 1 Option 51C
- Meridian 1 Option 61
- Meridian 1 Option 61C
- Meridian 1 Option 61C CP PII
- Meridian 1 Option 81
- Meridian 1 Option 81C
- Meridian 1 Option 81C CP PII
- Succession 1000M Half Group
- Succession 1000M Single Group
- Succession 1000M Multi Group

The call processor in Succession 1000 and Succession 1000M systems is referred to as the “Succession Call Server”.

Caution, Danger, Warning tables

These tables are strategically placed in this document to advise the reader of potential hazards. A brief description is provided within each of the following tables.



DANGER — Electric Shock

Advises of the risk of a serious injury or death caused by an electric shock.



DANGER — Electrostatic Sensitive Device

Advises of a procedure that can result in equipment damage due to ElectroStatic Discharge (ESD).



DANGER — Serious Injury

Advises of the risk of a serious injury or death caused by an immediate hazard.



CAUTION — Data Loss

Advises of a procedure that can result in a loss of data.



CAUTION — Equipment Damage

Advises of a procedure that can result in equipment damage.



CAUTION — Service Interruption

Advises of a procedure that can result in an interruption of service.



WARNING — Personal Injury

Advises of the risk of a minor or moderate injury caused by an immediate hazard.

Step Action table

Procedures in this document are contained in Step Action tables. The following example explains the how a procedure is arranged in this table format.

Table 2
A Sample Step Action table

Step	Action
1	This portion of the step action table details the required step.
	This portion of the step action table details the action to carry out the above step.
2	This portion of the step action table details the required step.
	This portion of the step action table details the action to carry out the above step.



Related information

This section lists information sources that relate to this document.

NTPs

The following NTPs are referenced in this document:

- *Optivity Telephony Manager: System Administration* (553-3001-330)
- *Small System: Installation and Configuration* (553-3011-210)
- *Large System: Installation and Configuration* (553-3021-210)
- *Succession 1000 System: Installation and Configuration* (553-3031-210)
- *DECT: Description, Planning, Installation, and Operation* (553-3001-370)
- *DECT Programming and Provisioning Record* (553-3601-250)
- *DECT Messaging* (P0989045)

Online

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CD-ROM

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Product description

Contents

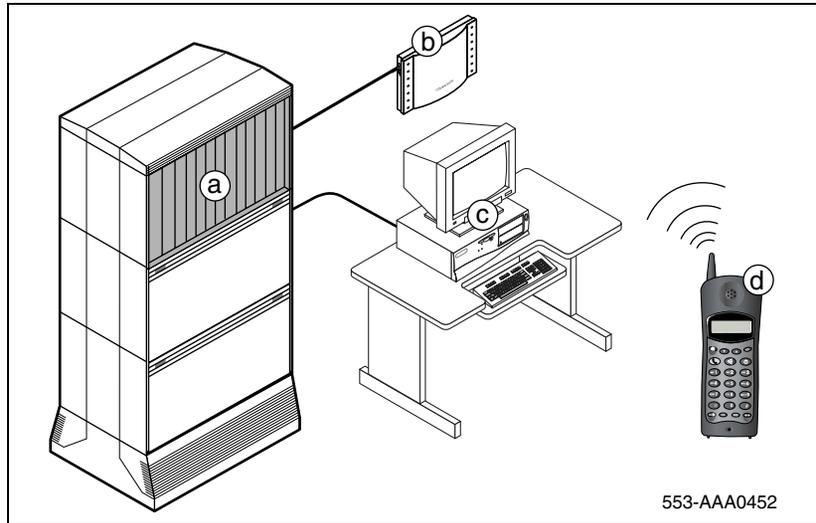
This section contains information on the following topics:

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Overview

DECT allows users to move freely about their work sites while conducting telephone conversations using wireless handsets. DECT is an acronym for Digital Enhanced Cordless Telecommunications.

Figure 1
Main parts of the DECT system



The DECT system is in a Large System IPE shelf or a Small System cabinet or chassis. DECT has four main components:

- a** DECT mobility cards
- b** Base station
- c** Handsets
- d** Optivity Telephony Manager (OTM) with DECT application

Clock requirements

The following clock controller cards are mandatory:

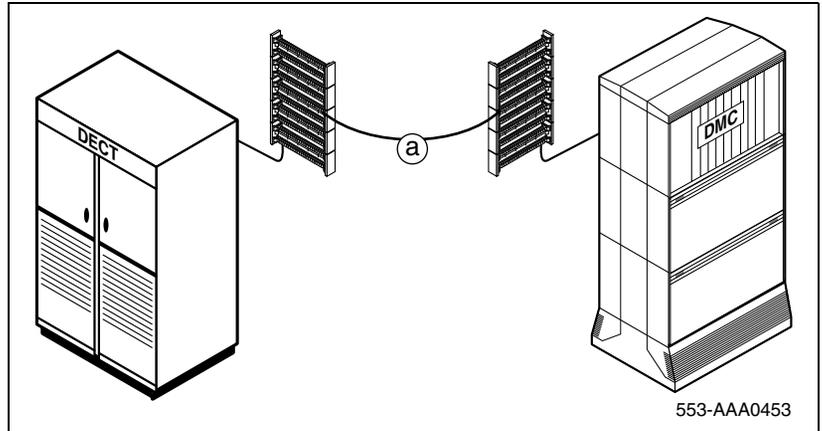
- NTRB53 Clock Controller card for a Large System
- NTAK20BD Clock Controller daughterboard or NTAK79AA card with a built-in clock controller for a Small System

If there is no digital connection to the network, the appropriate clock controller must be installed and operated in free run mode.

Note: On EMC-hardened Cabinet systems, the clock controller must be in one of the first three slots of the CPU cabinet.

Synchronization port

Figure 2
DECT synchronization

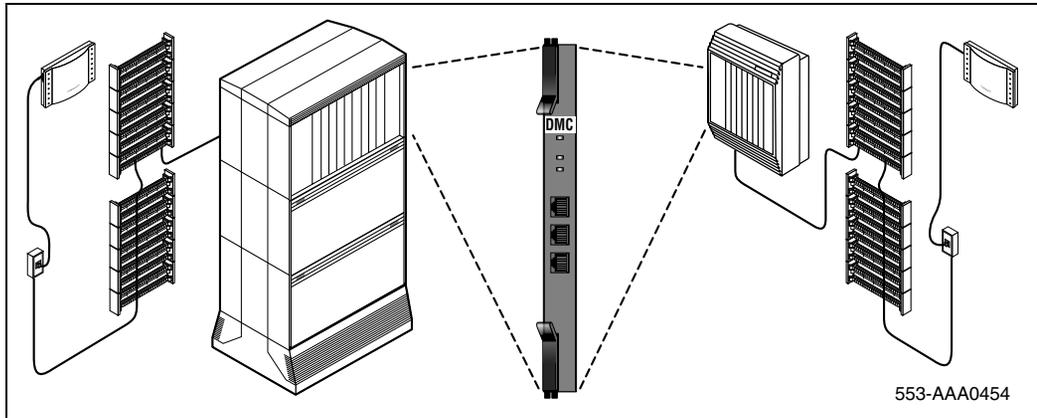


Where multiple DECT systems share the same radio coverage area, the DECT synchronization port must be used. The DECT synchronization port is accessed through an MDF connection. Failure to connect the DECT synchronization ports of each system can lead to service interruptions.

Mobility card (DMC8)

The NTCW00AB DMC8 DECT Mobility Card provides an interface between the base stations and the Meridian 1, Succession 1000M, or Succession 1000.

Figure 3
DECT Mobility Card



The DECT system supports a mix of DMCs and DMC8s. A DMC8 supports up to eight base stations.

All DMC8s support a Point-to-Point Protocol (PPP) connection to the DECT Manager with an NTCW12DA cable. The DMC8 card requires a NTCW25AA DECT Manager Ethernet (DME) daughterboard installed to support an Ethernet connection.

Each DMC8 is programmed in the database using LD 10.

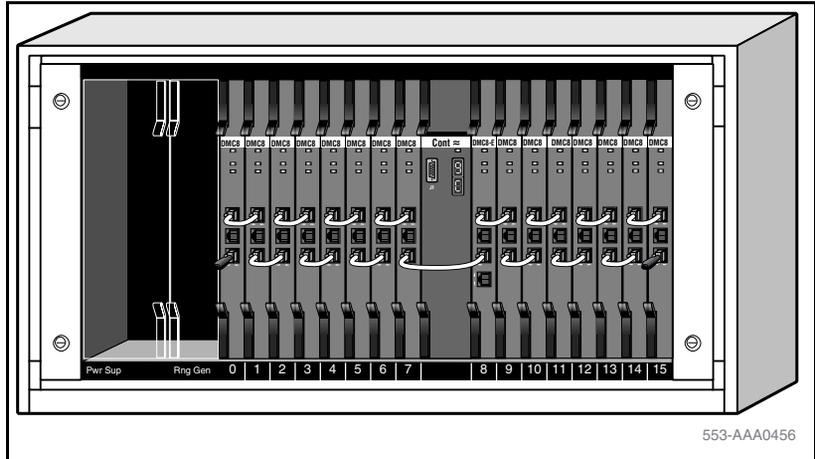
The DMC8s are interconnected by faceplate cables, allowing them to pass information to each other.

DMC8s must be in an IPE shelf or in a cabinet or chassis.

There is no call switching in the DMC8 card. All call switching occurs within the Meridian 1, Succession 1000M, or Succession 1000.

The DMC8-E has additional circuitry required to regenerate faceplate cable signals when a system contains more than eight DMC8s. The DMC8-E connects two shelves or cabinets in a DECT system.

Figure 5
DECT Mobility Card – Expander



If the DMC8-E is used in an IPE module, it must be located in card slot 8. Do not install a DMC8 in slot 8 of an IPE module.

If the DMC8-E is used in an Small System cabinet or chassis, it must be located in card slot 9, 19 or 29. Do not install a DMC8 in slot 9, 19 or 29 of a Small System cabinet or chassis.

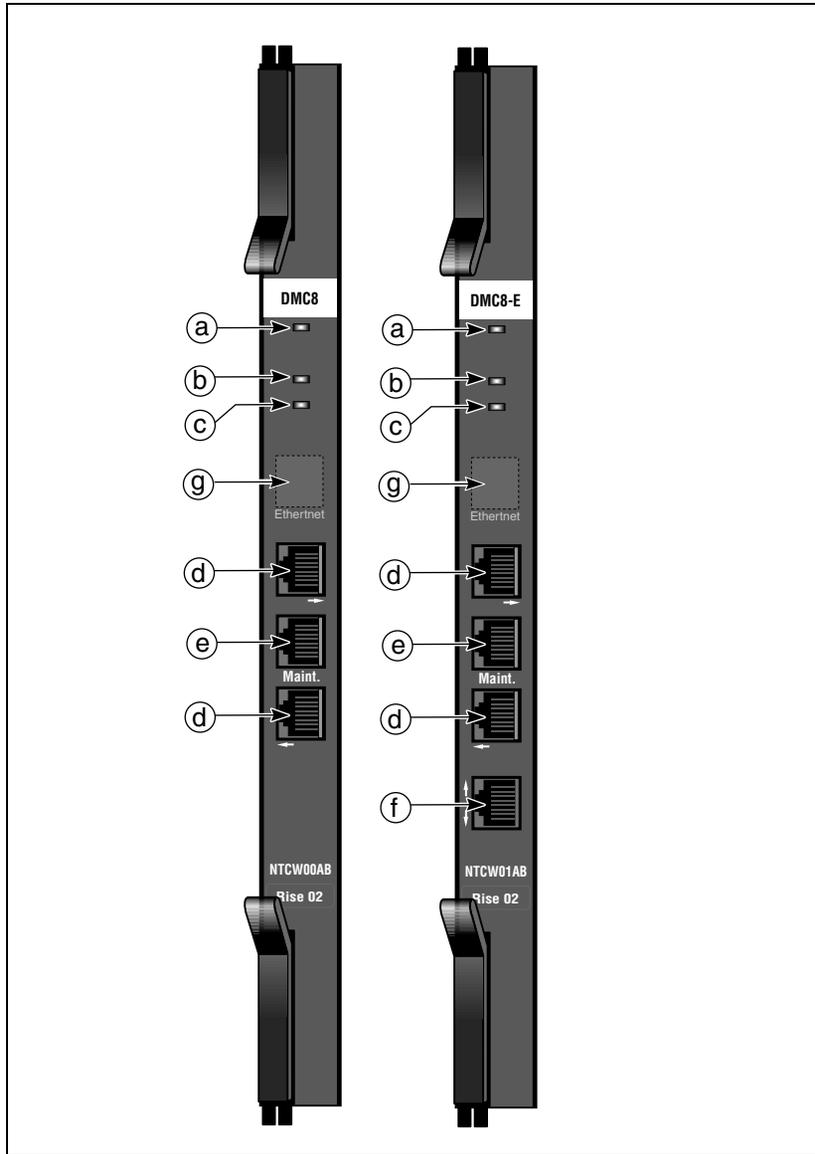
An NTCW25AA DME daughterboard is required to provide Ethernet OTM access. The daughterboard is also required to enable DECT Messaging. The DME daughterboard is not required for serial OTM access. Only one DME daughterboard is required per system.

Faceplate features

Figure 6 on [page 26](#) shows the following DMC8 and DMC8-E faceplate features:

- a** Red LED (indicates the same status as all IPE cards)
- b** Yellow LED (indicates DECT sub-system status)
- c** Green LED (indicates DECT sub-system status)
- d** DMC8 to DMC8 faceplate cable port
- e** DMC8 bypass faceplate cable port
- f** DMC8-E to DMC8-E faceplate cable port
- g** For future use

Figure 6
DMC8 and DMC8-E faceplate features



Faceplate cables

The faceplate cables form the 20 Mb/s bus that connects all DMCs. The faceplate cables meet the standard for Unshielded Twisted-Pair category of performance 5 (UTP Cat 5).

Signalling and PCM are sent to all DMCs over the faceplate cables, allowing a DMC8 to pass a call to another DMC8.

The cables shown in [Figure 7](#) on [page 28](#) are as follows:

- a** DMC8 to DMC8 faceplate cable
- b** DMC8 to DMC8-E faceplate cable
- c** DMC8 faceplate termination
- d** DMC8 bypass faceplate cable

The DMC8 to DMC8 cable extends the 20Mb/s bus to all DMCs.

The DMC8 to DMC8-E cable extends the 20Mb/s bus past the XPEC card in the IPE shelf.

The DMC8 faceplate termination balances the impedance at either end of the 20Mb/s bus.

The DMC8 bypass faceplate cable bypasses DMC8s to be inserted in or removed from an operational system. The DMC8 bypass faceplate cable is shown in [Figure 7](#) on cards 10 and 12.

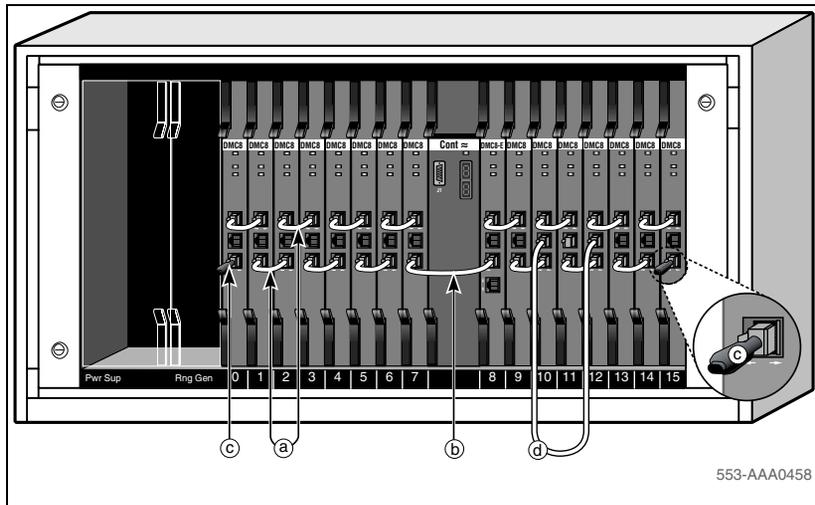
The DMC8-E to DMC8-E faceplate cable connects two shelves or two cabinets. The DMC8-E to DMC8-E faceplate cable is shown in [Figure 9](#) on [page 30](#).

The faceplate cabling layout plan must specify that the DMC8 to DMC8-E cable connects into the ports as shown in Figure 7 on [page 28](#).

 **CAUTION — Service Interruption**

Customers must use UTP Cat 5 faceplate cables supplied by Nortel Networks. Faceplate termination must be used on the DMCs at both ends of the faceplate cabling.

Figure 7
Faceplate cables



Inter-shelf or cabinet faceplate connections



CAUTION — Service Interruption

The DMC8-E to DMC8-E faceplate cable has four sets of movable ferrites. The position of the ferrites on the cable is important. See [Figure 8](#). Each end of the cable must have a group of 20 ferrites. One quarter the distance from each end of the cable must have a group of 10 ferrites. The maximum length of the cable is 1.5 meters, limiting the position of DECT shelves 0 and 1 to adjacent IPE modules or Small System cabinets/chassis.

Figure 8
Cable ferrites

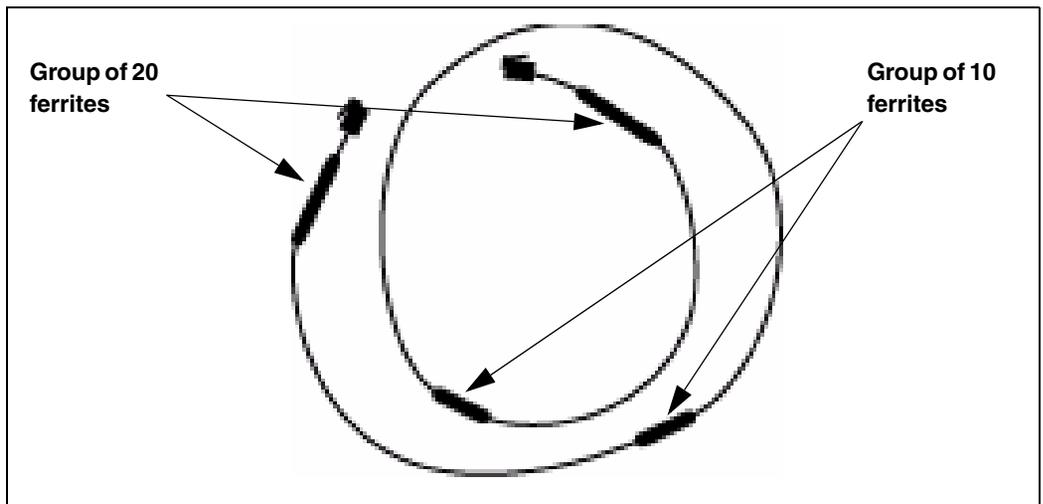


Figure 9 shows the following:

- a DECT shelf 0
- b DECT shelf 1
- c DMC8-E to DMC8-E faceplate cable connection between DMC8-Es on DECT IPE shelves

Figure 9
IPE inter-shelf faceplate connections

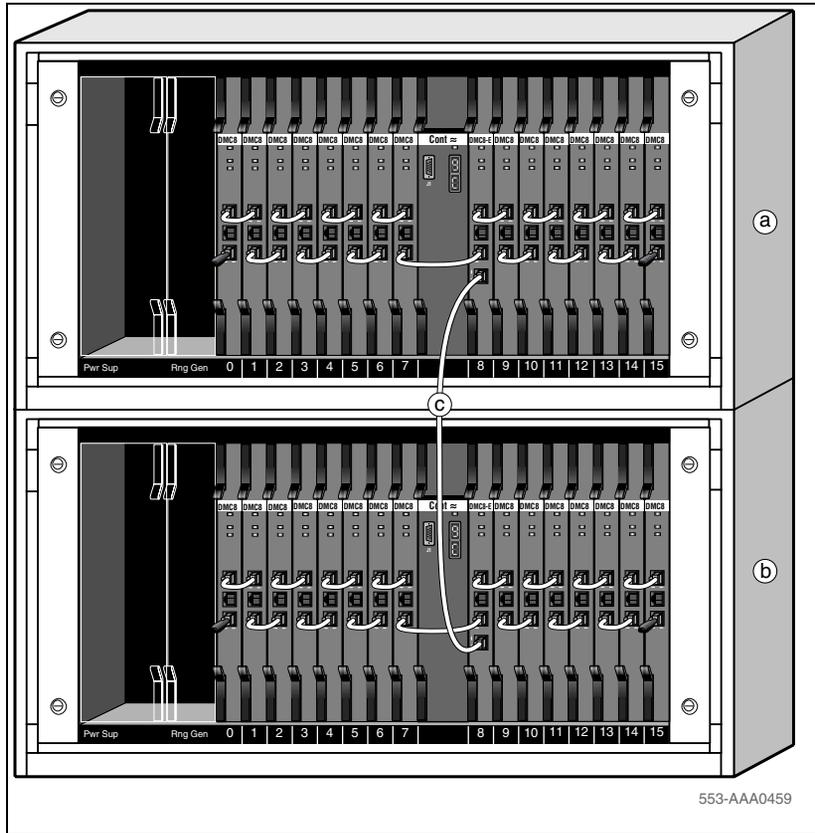
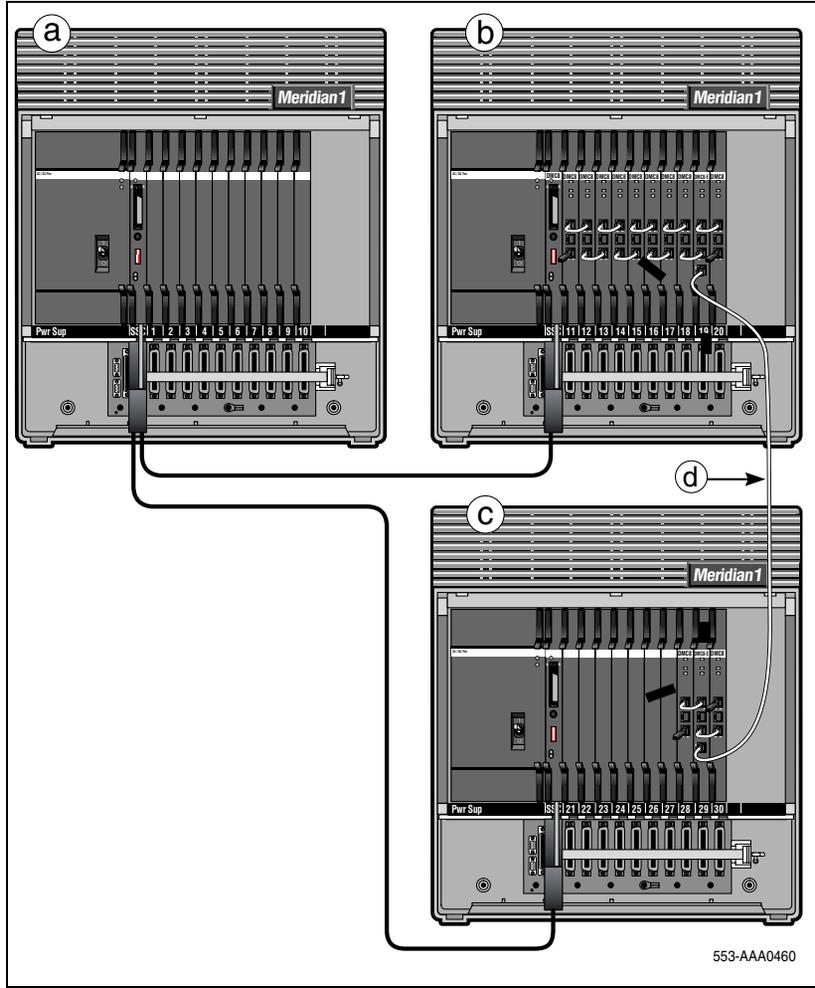


Figure 10 shows the following:

- a** Main cabinet
- b** Expansion cabinet
- c** Second expansion cabinet
- d** DMC8-E to DMC8-E faceplate cable connection between the DMC8-Es on the first and second cabinets

Figure 10
Inter-cabinet faceplate connections



Base stations

There are three base station models available:

- C4600 – supports six active call radio links
- C4610 – supports 12 active call radio links
- C4610E (with external antenna) – supports 12 active call radio links

Base stations are IP40-compliant wall-mounted transceivers that provide digital radio links to handsets.



CAUTION — Service Interruption

For maximum line length before signal degradation occurs, use UTP Cat 5 cabling between the base station and the shelf or cabinet. If the line length exceeds 100 ohms for the 4610 base station, an external power supply must be used. The maximum distance when using external power with UTP Cat 5 cabling is approximately 1.7 km.

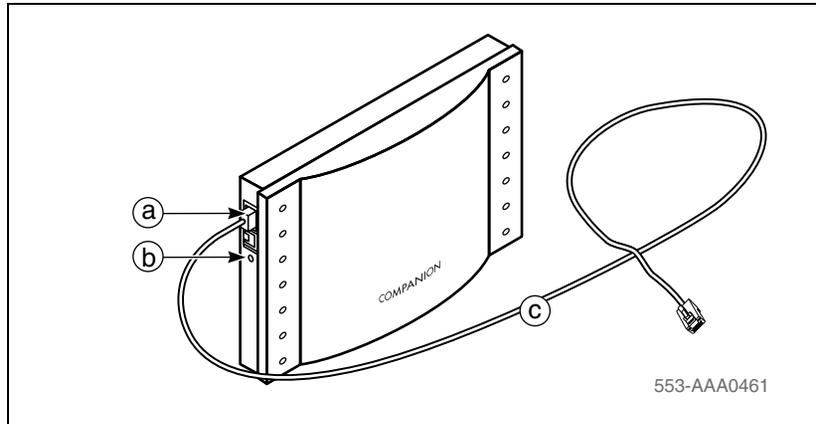
The base station has the following features:

- RJ45 socket connection to a one meter UTP Cat 5 cable
- RJ45 socket connection to an external or local power supply
- Green LED (C4600) or a yellow LED (C4610), which when lit, indicates synchronization to its DMC8
- One meter UTP Cat 5 cable connected through an RJ45 Connect Box and MDF to an IPE I/O panel or Small System cabinet I/O panel

Two sources can power the base station:

- The DMC8 and DMC8-E feeding phantom power over the UTP Cat 5 cable signaling pairs, connected to (a) in [Figure 11](#) on [page 34](#)
- A local power supply, connected to (b) in [Figure 11](#) on [page 34](#)

Figure 11
Base Station



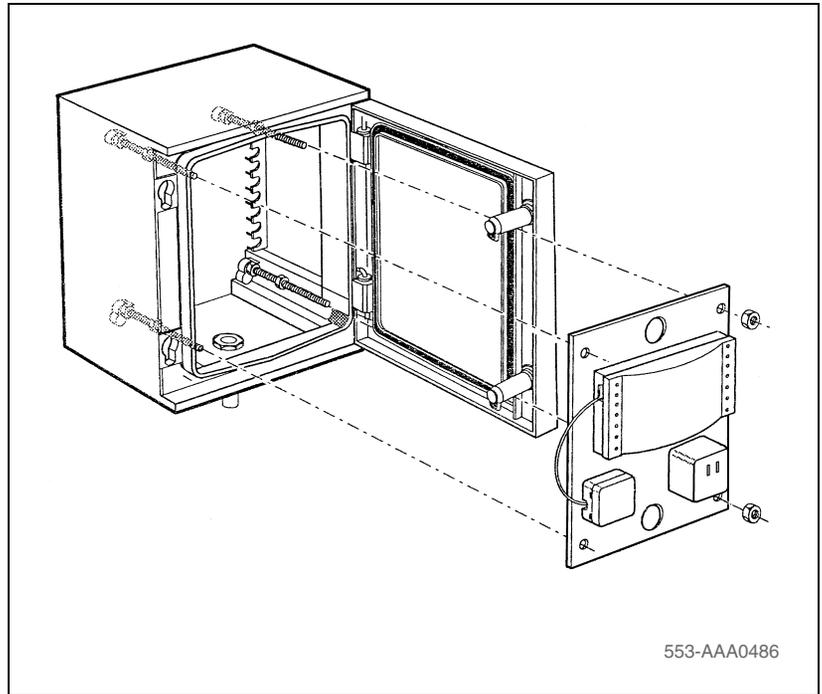
Base stations connected to a DMC8 or DMC8-E card can use phantom power in some conditions, and must use local power in other conditions. An application on the Optivity Telephony Manager (OTM) can enable or disable phantom power.

Note: The maximum line length for a twelve-channel base station using phantom power is 1.0 km. The maximum line length for a six-channel base station, regardless of power, or a twelve-channel base station using external power, is 1.7 km.

Base station housing

The base station environmental housing is IP66 compliant. The housing must be used indoors if a base station is subject to conductive pollution, or outdoors if base stations are mounted externally.

Figure 12
Base station environmental housing



The environmental housing kit includes all of the relevant cables and installation material.

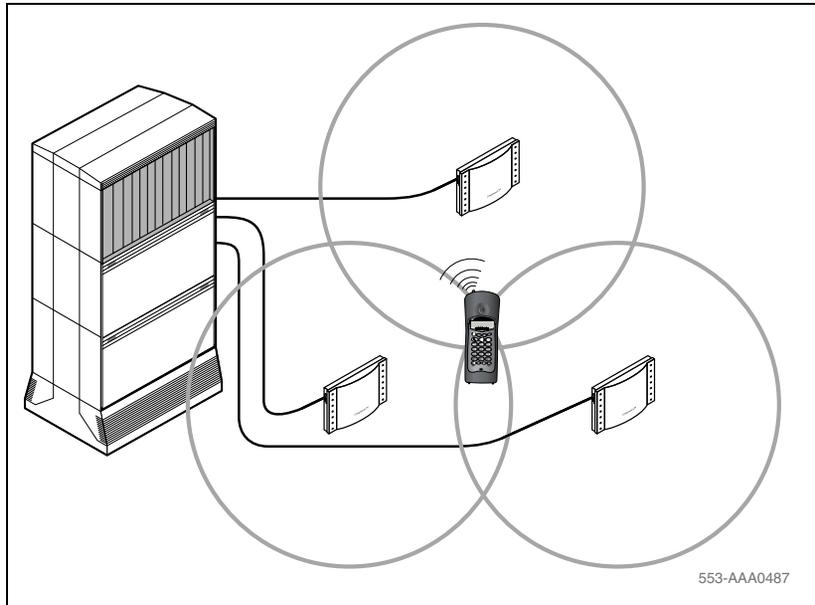
The environmental housing mounts to existing walls.

Signaling lines provide power to the external base stations.

Base station cell

A base station cell is the radio signal area covered by a single base station. The base stations are positioned so the cells overlap. A DECT handset can make and receive calls when it is within a base station cell. When the handset moves from one cell to another, the cell overlap allows the handset to move without interruptions.

Figure 13
Base station cell



The cell radius varies from 20m to 100m.

The number of base stations required to cover a certain area depends on many factors, such as the following:

- Size of the area of coverage
- Radio propagation characteristics of the buildings
- Materials used for walls, floors, lift shafts, reinforced glass, doors
- Strong magnetic fields from radar, welding equipment, manufacturing equipment, and high energy electronic devices
- Density of telephone users in an area and amount of telephone traffic

Handsets

Four handset models are available:

- C4010
- C4010 Ex
- C4020
- C4050

The handsets are battery-powered, pocket-sized, portable telephones.

C4010, C4010 Ex, and C4020 handsets

The C4010 is the base model. The C4010 Ex and C4020 handsets have additional features or features that are different from the C4010 model. The C4010 Ex design lets it operate safely in an explosive atmosphere. The C4020 accepts a headset and has a vibrate alert feature.

Figure 14
DECT C4010 handset and C4010 Ex handset



Handset attributes

- Up to 8 hours talk time
- Up to 60 hours standby mode
- Up to 8 days power-save standby mode (cannot receive calls in this mode)
- Subscribe to a maximum of 8 DECT systems
- Directory dialling from a 20-name phone book

- Off-hook number preparation with correction option
- Last number re-dial
- Recall
- Automatic encryption
- Adjustable alerter volume
- Adjustable ear-piece volume in 5 steps
- Six ringing melodies
- Manual ringer mute on incoming calls
- Handsfree operation

Power supply

- 3.6V/600mAh NiMh rechargeable battery pack

Dimensions

- Handset 135 x 58 x 19 mm
- Charger 85 x 75 x 50 mm

Color and finish

- The C4010 and C4020 handset color is charcoal grey, with a non-gloss finish
- The C4010Ex handset is yellow

Weight

- Handset 135 g

Accessories

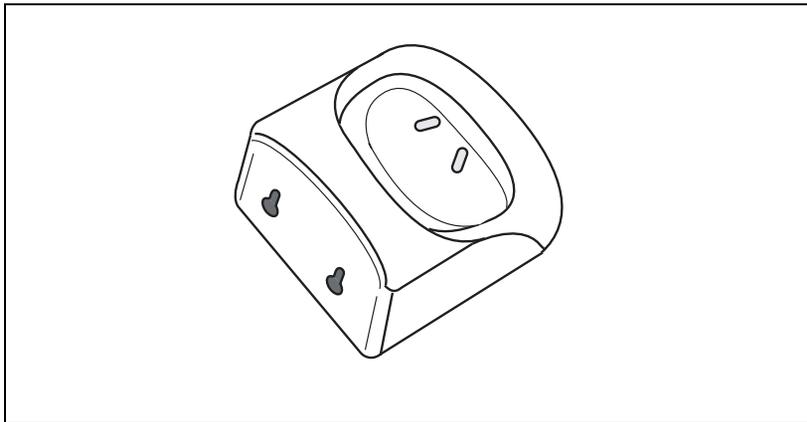
- Belt clip
- Headset for the C4020 only

C4010 battery charger

- Desktop or wall mounted battery charger

- Mains supply required is 230V/50 Hz
- Power consumption

Figure 15
C4010 battery charger



C4050 handset

Figure 16
C4050 handset



Handset attributes

- Up to nine hours speech time
- Standby time of up to 130 hours
- Subscribe to a maximum of 10 DECT systems
- Local directory with alpha search function for 100 entries
- Incoming call indication LED light-ring (red)
- Charging indication LED light-ring (green)

- Visual and audible incoming call signal
- Volume control during a call
- Name display (16 characters) and number display (32 digits)
- Last number redial for up to 20 entries
- Caller list of 20 calls
- Caller filter for 10 entries with on/off settings
- Re-dial function for up to 20 entries
- On-hook number preparation
- Microphone mute
- Prompts in ten languages
- Calling Line Identification (CLID)
- Key click on or off
- Automatic off-hook on an incoming call, selectable
- Keypad lock
- Headset option
- Ringer, 30 melody selectable
- Ringer volume control, off, plus seven steps
- Tone ringing through the headset in normal speech volume
- Ringer mute while charging, selectable

Power supply

- Two standard AAA 650 mAh NiMh rechargeable batteries

Dimensions

- Handset 140 x 51 x 25.5 mm
- Charger 130 x 82 x 65 mm

Color and finish

- Dark grey and silver with a non-gloss finish

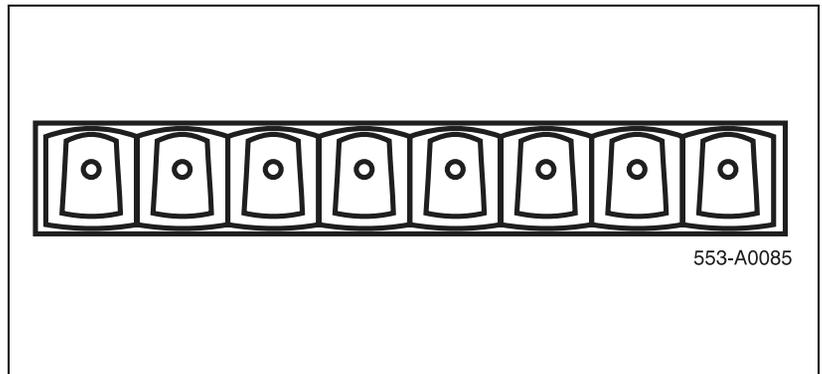
Accessories

- Belt clip
- Carry case
- Headset
- Desktop charger
- Data charger and data cable

C4050 battery charger

- Charging time maximum eight hours
- Spare batteries have a 24-hour charging time

Figure 17
C4050 charging rack



Subscription and de-subscription

Subscription is the process of adding a handset to a DECT system. The handset can then make and receive calls.

A user can subscribe a handset to more than one DECT system. This feature is useful for a company that has multiple DECT sites. See [Implementing and operating MSMN](#), page 404.

De-subscription is the process of removing a handset from a DECT system. The handset user is then prevented from making and receiving calls.

Note: Refer to the C4010/C4020 Cordless Handset User Guide, and the C4050 Handset User Guide for a detailed description of how to use handset features and system features.

Optivity Telephony Manager

The Optivity Telephony Manager (OTM) provides a single point of access and control to manage multiple applications on a Meridian 1, Succession 1000M, or Succession 1000 system.

OTM provides a DECT Application and OTM Common Services to manage a DECT system. OTM runs on Windows NT 4.0, Windows 98, and Windows 2000 as a server, plus Windows 95 as client.

Note: For an overview of OTM, see *Optivity Telephony Manager: System Administration* (553-3001-330).

DECT Application

Features

The DECT Application allows a user to:

- Launch the Application from OTM using Windows and Web navigators
- View DECT provisioning using the DECT Systems window
- View the DMC8 configuration using the Boards window
- View base station configuration using the Radio Fixed Part window
- View subscription information using the Subscriptions window
- Upgrade firmware using the DECT Systems window
- Subscribe handsets using the Subscription window
- Support DMC8 and DMC (serial only) cards
- Synchronize (update) the DECT Application database to the DECT system configuration when the OTM connects to the DECT system

- Collect performance data using the Performance Collection window
- View On-line Help

Common Services

The following DECT management features are provided by OTM Common Services:

- OTM Alarm Management provides alarm collection and alarm processing, as well as the following:
 - a web-based alarm browser to view alarms, past alarms and occurring alarms
 - a Windows-based alarm browser to view alarms that occur while the browser is open
 - an Alarm Notification application to notify personnel of an alarm occurrence by pager or E-mail. This application can forward the alarm to an upstream processor
 - a PC Event log and Viewer to view events and alarms generated from the DECT Application in a report layout
- Backup and restore to create and restore an OTM backup file of the DECT application data
- User profiles to enable configuration of different types of DECT users
- On-line help to provide help for common services features

For more information about the Common Services features, see *Optivity Telephony Manager: System Administration (553-3001-330)*.

OTM navigators

The DECT Application uses two navigators to manage a DECT system:

- a Windows-based navigator
- a web-based navigator

A Windows-based navigator, with the Microsoft Windows interface, can access all DECT Application features. A web-based navigator, that uses the web (http) interface, can access most but not all DECT Application features.

Use the Windows-based navigator to manage a DECT system at the keyboard and mouse of an OTM server. See [Access with the Windows-based navigator, page 52](#).

Use a web-based navigator to manage a DECT system from a client PC. See [Access with the web-based navigator, page 54](#).

Provisioning features

The following provisioning features are available to both Windows-based and web-based navigators:

- Define DECT system
- DECT system names
- DECT Concentration mode
- DECT system Access Right
- Transmission parameters
- DMC8 provisioning
- Firmware provisioning
- Base Station provisioning

Operation features

The following operation features are available to both Windows-based and web-based navigators:

- DECT system connectivity
- DECT system connection control
- Read data from a DECT system on demand
- Define handsets with the overlays in the OTM database
- Define handsets in the DECT database
- Subscribe handsets

Maintenance features

The following maintenance features are available to both Windows-based and web-based navigators:

- Operational status monitoring
- Alarm management
- Date and time
- Upstream Manager IP address
- Basic browser
- DECT system data synchronization with the DECT Manager database
- Performance
- PC Event Log

Windows-based navigator features

The following features are only available at an OTM server using the Windows-based navigator. The OTM server enables the following:

- Define DECT system sites
- Define PBX system
- Configure handsets with the Station Administration feature of OTM
- OTM Alarm Notification
- PC Event log and Viewer
- Backup and restore the DECT Manager database to and from a file
- Define a user profile for Windows-based applications
- Define user management for Windows-based applications

Security features

For information about the Security features, see *Optivity Telephony Manager: System Administration* (553-3001-330).

OTM server connections to DECT

[Figure 18](#) on [page 49](#) shows an overview of an OTM server connected to a DECT system over a V.24 interface.

Web clients access the OTM server over a LAN, WAN and the Public Switched Telephone Network using modems. For the OTM to communicate over PPP with DECT, configure Remote Access Service (RAS) for modem dial out. See “Access with the web-based navigator” on [page 54](#). For more information about OTM access, see *Optivity Telephony Manager: System Administration* (553-3001-330).

A client, in this context, is a DECT application that runs on a personal computer or workstation, and depends on an OTM server to perform some operations. For example, a DECT Application client is an application that enables personnel to manage a DECT system.

[Figure 19](#) on [page 50](#) shows an overview of an OTM server connected to a DECT system, over a dedicated LAN interface.

Remote Access Service (RAS)

A computer in a network provides access to remote users through analog modem or ISDN connections. It includes the dial-up protocols and access control (authentication), and can be a regular file server with remote access software or a proprietary system. The modems can be internal or external to the device.

ISDN is an international telecommunications standard for providing a digital service from the customer's premises to the dial-up telephone network.

Figure 18
Local OTM server access to a DECT system by V.24

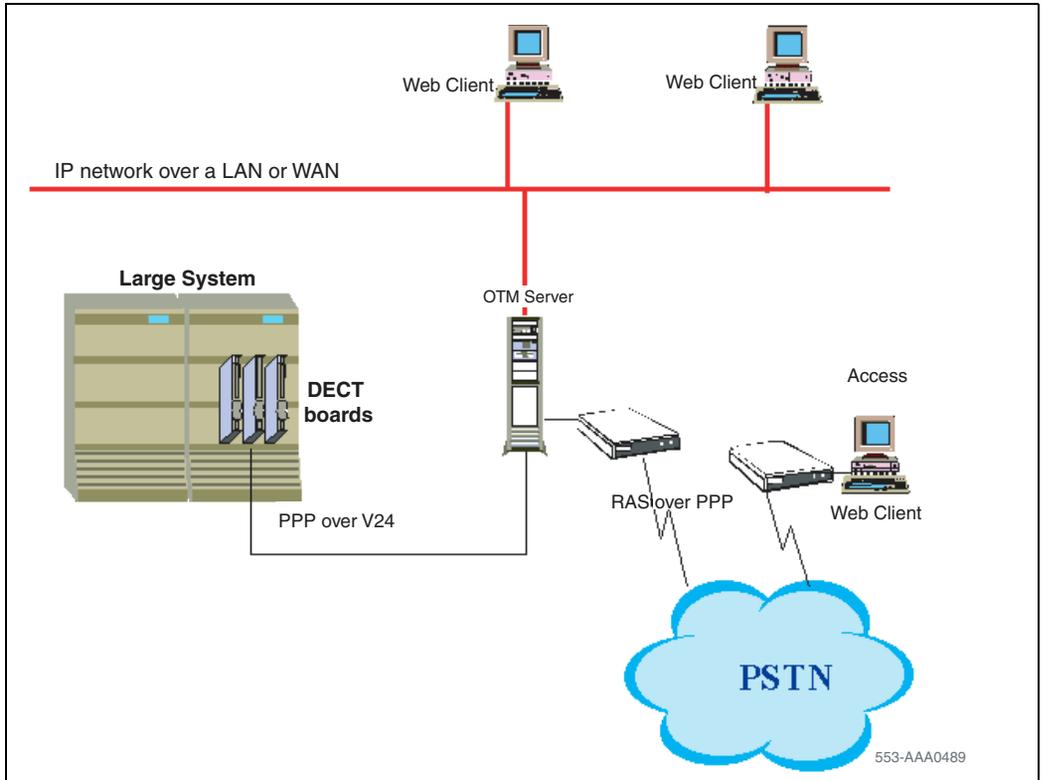
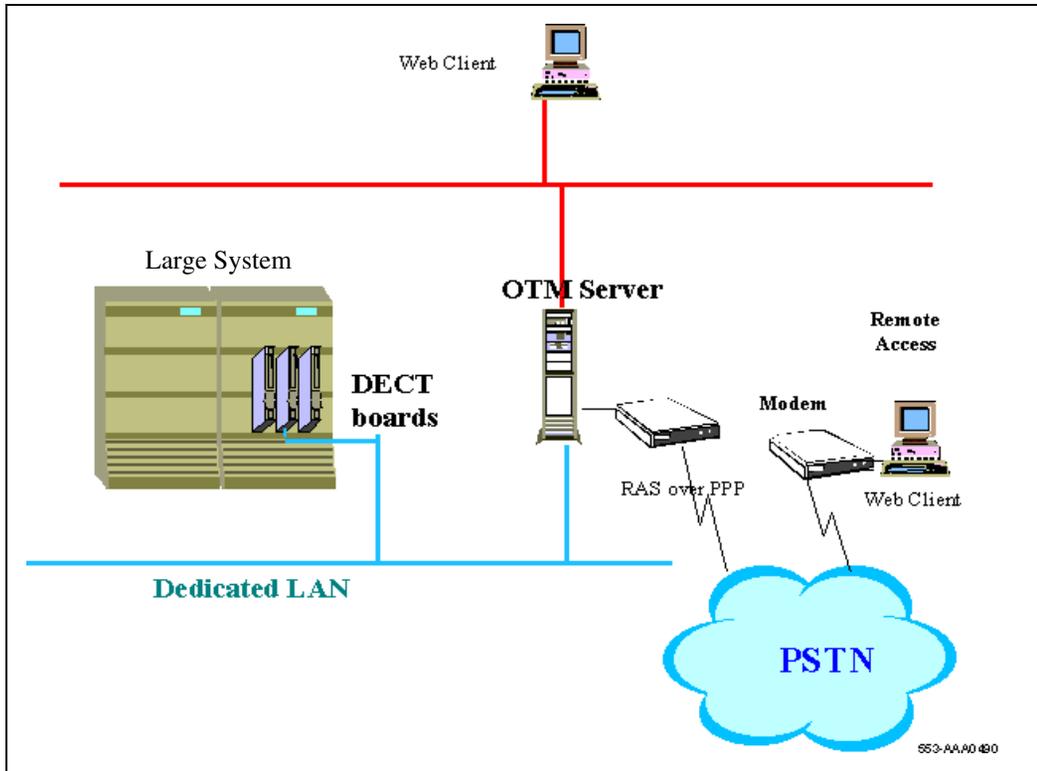


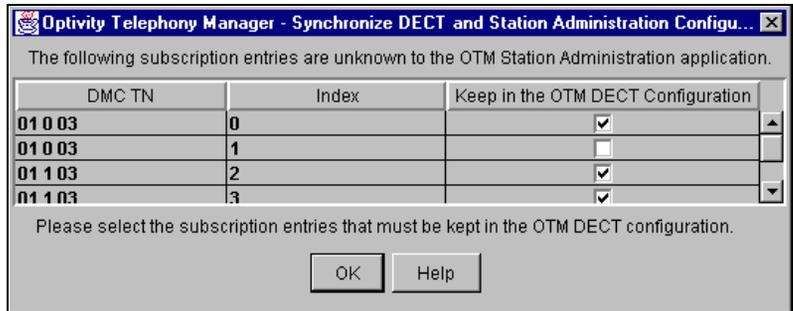
Figure 19
Local OTM server access to a DECT system by dedicated LAN



Synchronize DECT and Station Administration Configuration

The **Synchronize DECT** and **Station Administration Configuration** dialog is selected from the Operations menu (**Retrieve OTM Configuration**) if there is a mismatch. If there is no mismatch, synchronization occurs and [Figure 20](#) on [page 51](#) does not appear.

Figure 20
Synchronize DECT and Station Administration Configuration Mismatch



DECT systems support configured and subscribed handsets as TNs. The Meridian 1, Succession 1000M, or Succession 1000 has matching TN handsets configured in LD 10.

PBX to DECT system synchronization

If the PBX configuration data is available through the OTM Station Administration database, then a synchronization facility is available to import the data into the DECT Manager. Synchronization is subject to the following rules:

- A handset not listed in the DECT Manager, but present in the OTM database, is added in the DECT Manager list.
- If the DECT Manager lists a handset, but the OTM database does not, the DECT Manager prompts to either keep or remove the handset.

To add handsets to the DECT manager, select **Configure** from the **Operations** menu. See “Synchronize DECT and Station Administration Configuration” on [page 50](#).

The **Synchronize DECT and Station Administration Mismatch** dialog box highlights DMC TNs in the DECT Manager that are not configured in the OTM Station Administration. Those subscriptions must be kept in the DECT manager so they can be checked. See [Figure 20](#) on [page 51](#).

If there is no mismatch that OTM cannot resolve automatically, the Synchronize DECT and Station Administration dialog does not appear.

Two examples of mismatches that OTM cannot resolve automatically are as follows:

- There are no entries in the Station Administration database, or
- The DECT Manager does not have a DMC configured in a PBX TN location, but an entry exists in the Station Administration database.

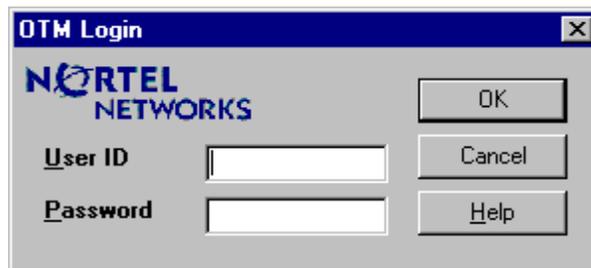
Access with the Windows-based navigator

For access from a web-based navigator, see “Access with the web-based navigator” on [page 54](#).

Login to the OTM

Access the OTM Login dialog box using the Start menu, under Programs, **OTM**. The login dialog appears as shown in [Figure 21](#). After entering a User ID and Password, the OTM Windows Navigator window appears, as shown in [Figure 22](#).

Figure 21
OTM login dialog box

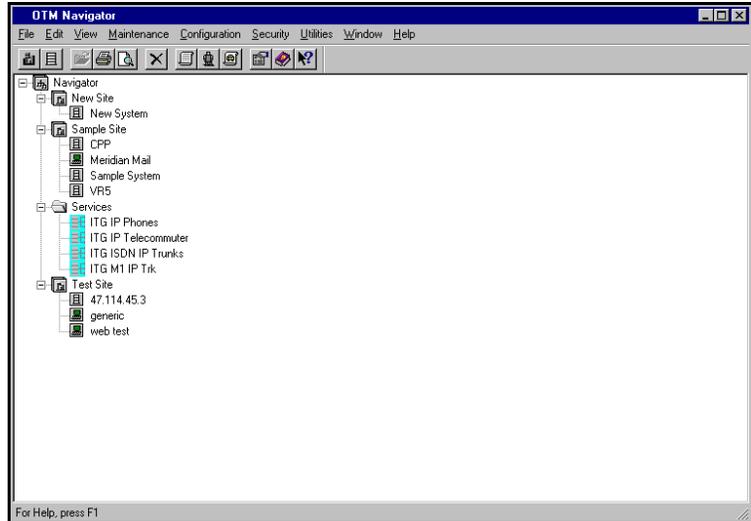


Note: See *Optivity Telephony Manager: System Administration* (553-3001-330) for details about the OTM login dialog box.

Select the PBX that supports DECT

In the OTM Navigator window, select the system that supports DECT to be administered. Double-click on the system (shown as *Sample Site* in Figure 22), and the M1 System Window appears. See Figure 23 on page 54.

Figure 22
OTM Navigator window

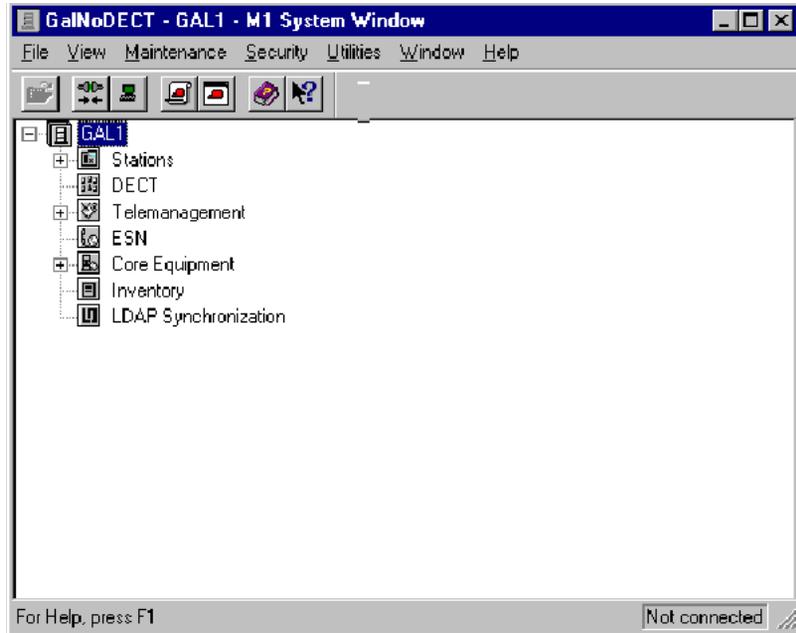


Note: See *Optivity Telephony Manager: System Administration* (553-3001-330) for details about the OTM Navigator window.

Open DECT Application

Open the DECT application by double clicking on DECT (shown in [Figure 23](#)), or open through the File menu. This action displays the DECT System window, shown in [Figure 29](#) on [page 62](#).

Figure 23
M 1 System Window



Access with the web-based navigator

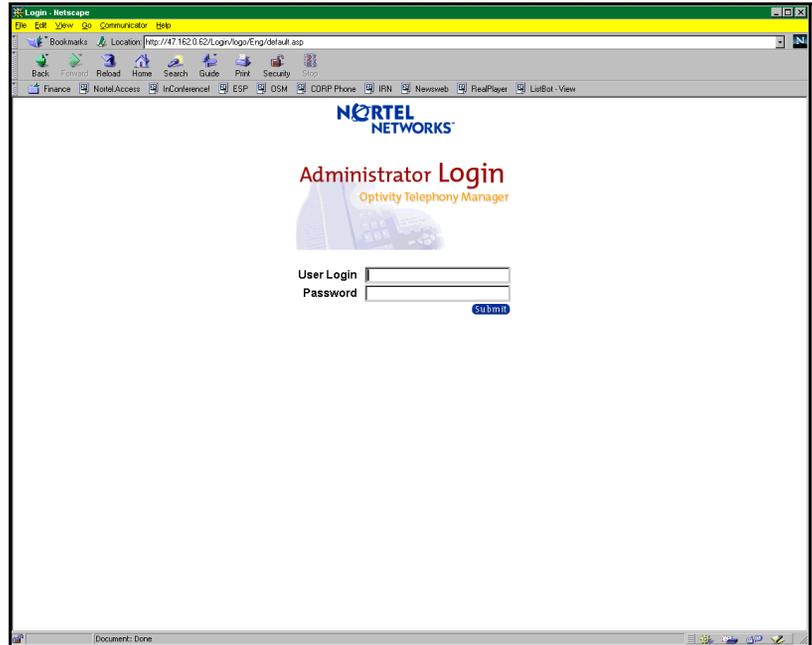
For more detailed information on web-based navigators, see *Optivity Telephony Manager: System Administration (553-3001-330)*.

Administrator Login

To open the OTM web Administrator login screen, seen in [Figure 24](#), enter the URL `http:otm_server_name` or use the `ip_address`, in either the Microsoft Internet Explorer web browser or the Netscape Navigator web browser.

To launch the Administrator Login, click on the applet launch logo. See [Figure 24](#).

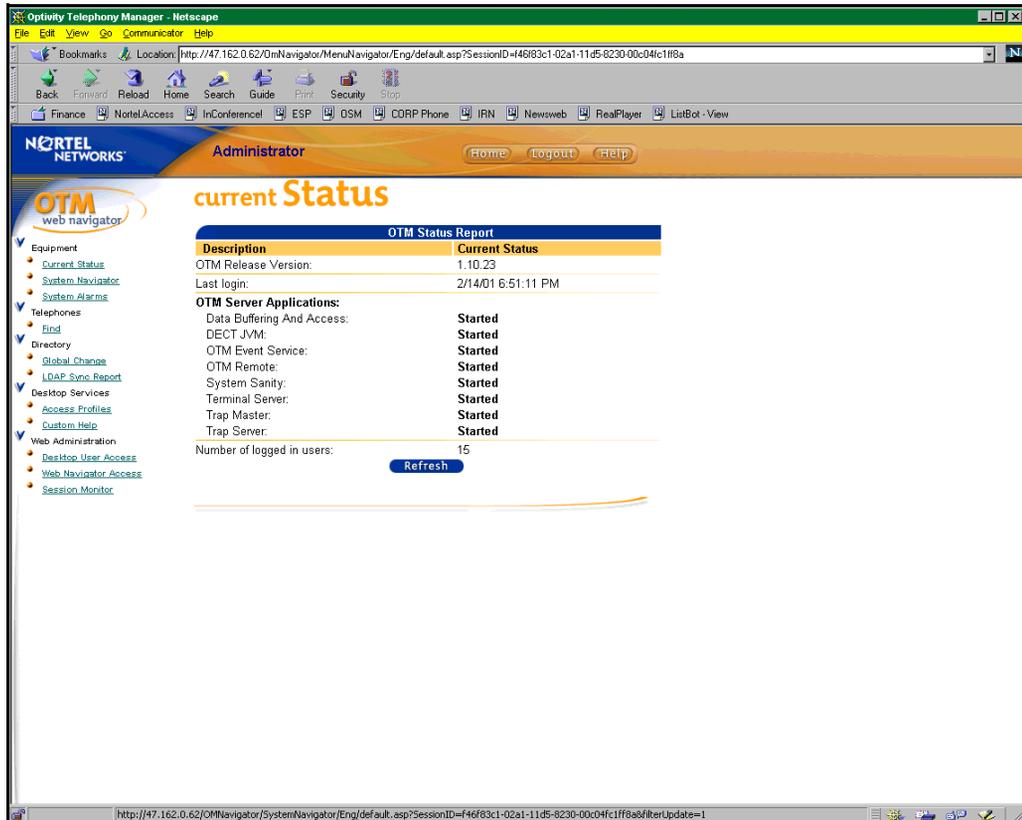
Figure 24
OTM web Administrator login



Current Status

The Current Status screen appears after logging in through the Administrator Login screen. See [Figure 25](#).

Figure 25
OTM web navigator current Status



The screen in [Figure 25](#) displays the current status of:

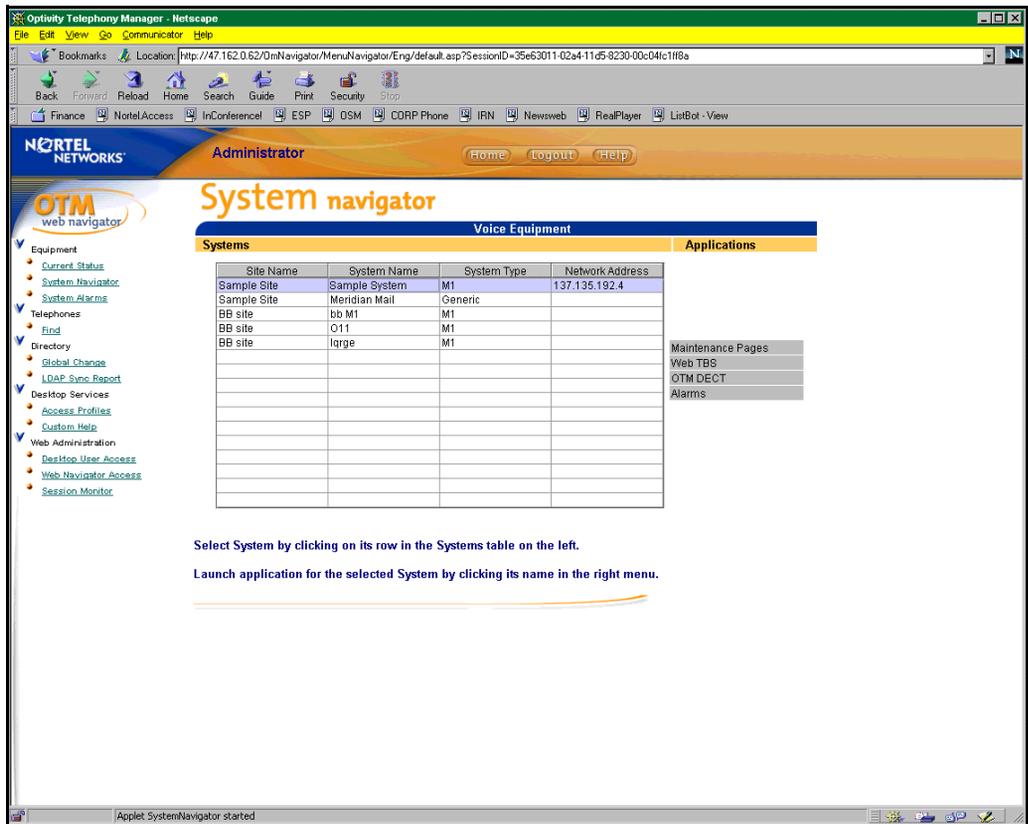
- OTM software release version
- Time and date of the last login
- OTM server applications

The Current Status screen allows web navigator access to the items listed on the left side of the screen.

System navigator

To select the System navigator, click on [System Navigator](#) in the list on the left of the Current Status screen. See Figure 25 on [page 56](#).

Figure 26
OTM web system navigator



The System navigator window opens, as seen in [Figure 26](#).

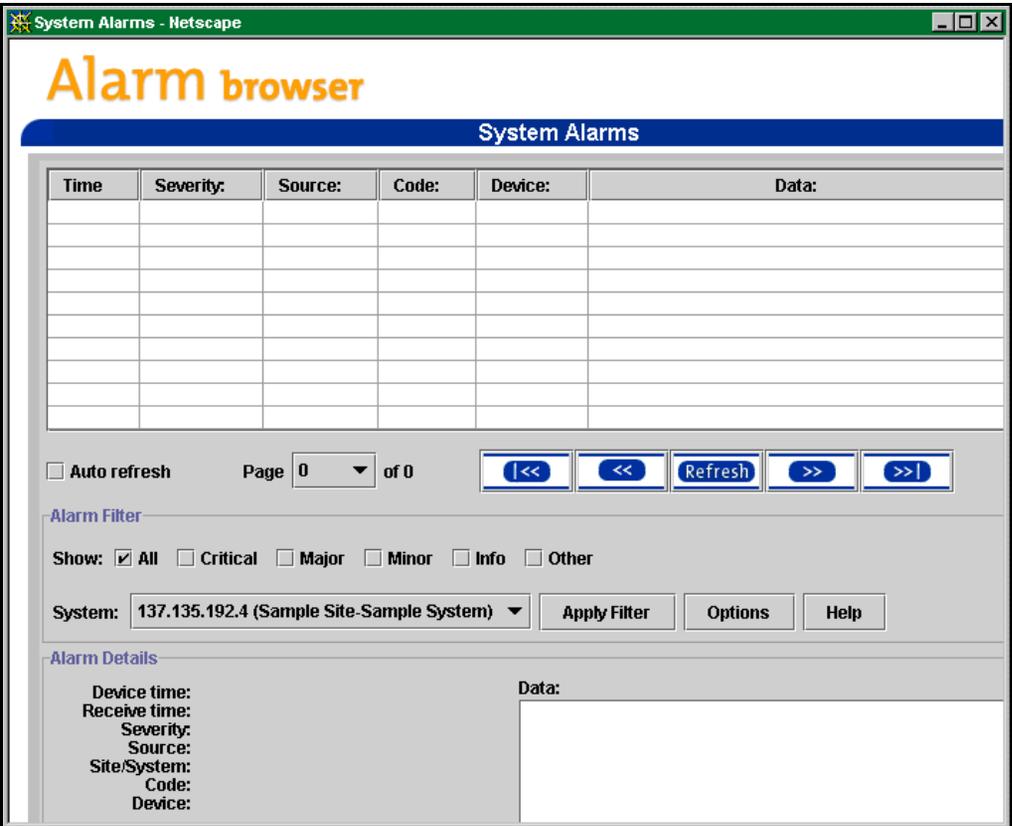
Select a DECT system(s). From the grey box on the left of the System navigator window, select an application to be opened for that system. For example, select OTM DECT to open the Systems window (see [page 61](#)). Select Alarms to open the Alarm browser window. See [page 58](#).

Alarm browser

The Alarm browser, seen in [Figure 27](#), can be opened from the System navigator window in one of two ways:

- by clicking on **System Alarms** in the list on the left of the screen
- by selecting **Alarms** in the gray box on the right of the screen

Figure 27
OTM web system Alarm browser



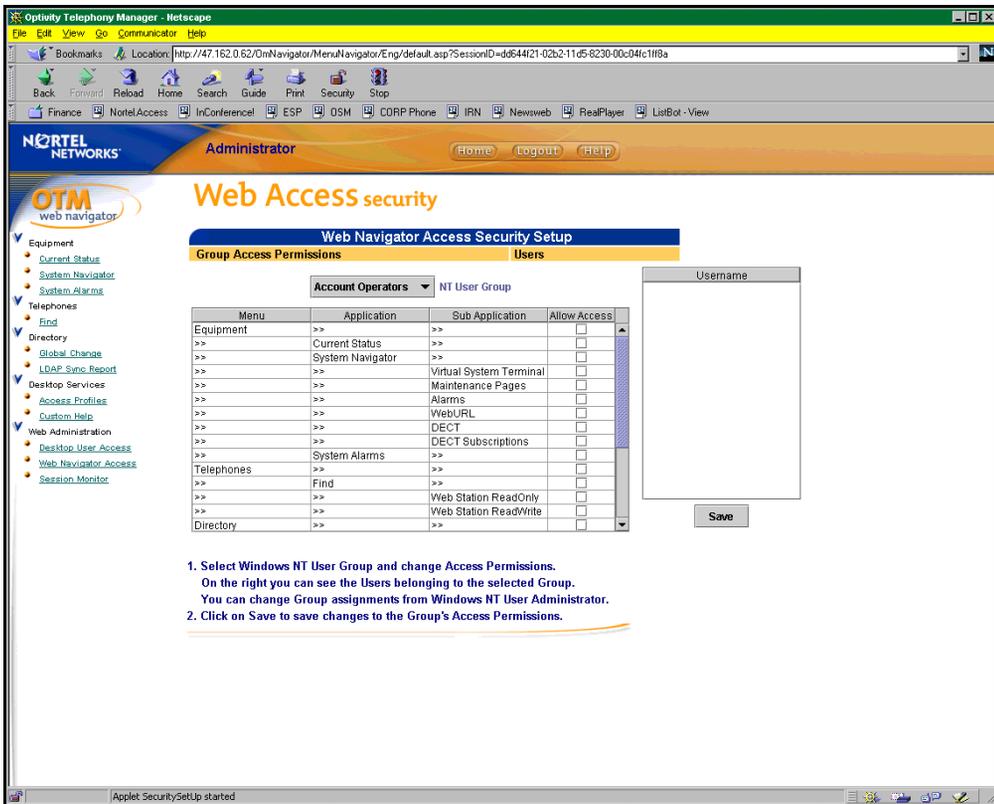
The Alarm Browser enables the system alarms to be examined.

Web Access security

To open the Web Access security screen, click on Web Navigator Access from the list on the left in the System Navigator window, as seen in Figure 26 on [page 57](#).

The Web Access security window opens. See [Figure 28](#).

Figure 28
Web Access security



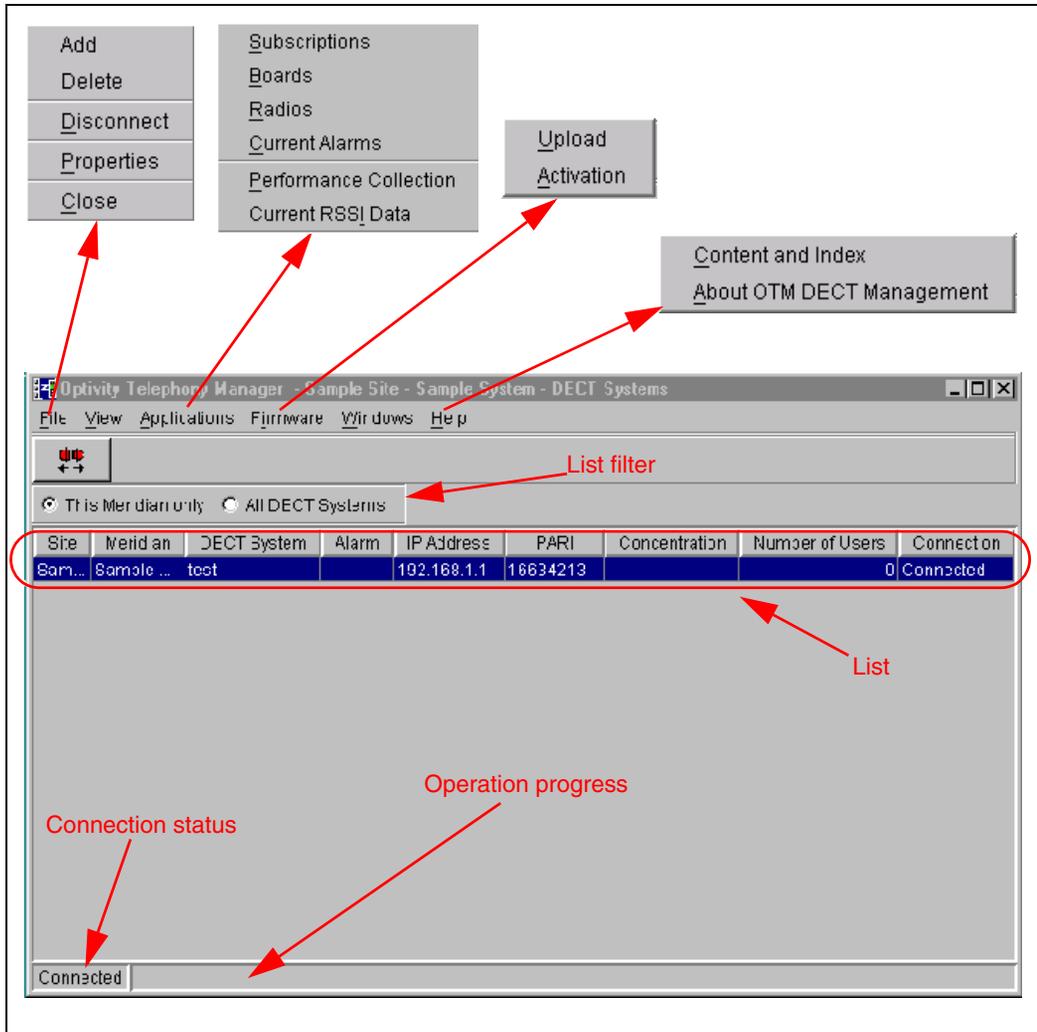
Group and individual access permissions can be changed by the Windows NT User Administrator.

Systems window

Use the DECT Systems window to enable the following features:

- Select a DECT system to view database details, or select all DECT systems to view database details.
- Add a DECT system.
- Delete a DECT system.
- Connect to, disconnect from, lock or unlock a connection between the OTM server and a DECT system. See “Connecting to a DECT system” on [page 421](#).
- Open the following windows for the selected DECT systems:
 - Subscriptions
 - DMC Boards
 - Base station Radio Fixed Parts
 - Active Alarm Snapshot
 - Performance Collection
 - Current RSSI data

Figure 29
DECT Systems window



Menu

The DECT Systems window displays the following:

- **F**ile – contains a pull-down menu that allows one of the following to be selected:
 - **A**dd – creates a new DECT system with default values and opens the DECT System Properties window
 - **D**elete – removes a DECT system from the OTM server/OTM client
 - **C**onnect / **L**ock / **D**isconnect – the same functions as the Connect/ Disconnect tool. See “Connecting to a DECT system” on [page 421](#).
 - **P**roperties – opens the DECT System Properties window ([Figure 30](#) to [Figure 41](#))
 - **C**lose – closes the client application and all DECT windows opened by that client
- **V**iew – contains a pull-down menu that allows the following bars to be shown or hidden:
 - **T**ool bar
 - **S**tatus bar
- **A**pplications – contains a pull-down menu that allows the following windows to be opened:
 - **S**ubscriptions ([Figure 47](#) on [page 81](#))
 - **B**oards (DMC) ([Figure 60](#) on [page 100](#))
 - **R**adios (base stations) ([Figure 62](#) on [page 104](#))
 - **C**urrent Alarms
 - Performance Collection ([Figure 66](#) on [page 112](#))
 - Current RSSI data ([Figure 68](#) on [page 115](#))
- **F**irmware – contains a pull-down menu that allows the following windows to be opened:
 - **U**pload – loads firmware to DMC ([Figure 42](#) on [page 77](#))
 - **A**ctivation – makes firmware active

- **Help** – contains a pull-down menu used to select the following:
 - Content and Index
 - About OTM DECT Management application
- **Tool bar icon** – used to click a tool button to do the following:

	Opens a connection to a DECT system selected in the List, when the Connection status shows <i>Disconnected</i> . When opened, the icon turns red. See “Connecting to a DECT system” on page 421 .
	Locks the connection to a DECT system when the Connection status is <i>Connected</i> . This prevents another user from closing the connection.
	Disconnects from a DECT system when the Connection status is <i>Connected</i> .
	Unlocks the connection from a DECT system when the Connection status is <i>Connected/Locked</i> .

Note: While the Connection status is *Connecting* or *Disconnecting*, the Connect/Disconnect tool is disabled. The status bar shows the connection progress.

- **List filter** – select one of the following:
 - **This Meridian only** – lists the DECT System data selected from the M1 System Window. See [Figure 23](#) on [page 54](#).
 - **All DECT systems** – lists every DECT systems data managed by the OTM server
- **List field** – shows the following for the DECT system or systems selected from the M 1 System Window ([Figure 23](#) on [page 54](#)):
 - Site name/location ([Figure 30](#) on [page 62](#))
 - PBX name ([Figure 30](#))
 - DECT system name ([Figure 30](#))
 - Presence of an alarm ([Figure 40](#) on [page 75](#))

- IP address, for the DECT system ([Figure 36](#) on [page 71](#))
- Primary Access Rights Identifier ([Figure 38](#) on [page 73](#))
- Concentration mode ([Figure 30](#))
- Number of subscribed handsets ([Figure 30](#))
- Connection status
- **Connection status field** – shows the current state of the connection, where:
 - **Disconnected** – indicates no communication between the OTM server and a DECT system.
 - **Connected** – indicates communication between the OTM server and a DECT system for an operation initiated by a user. The connection disconnects when the operation is finished.
- **Operation progress field** – shows the last received event associated with the connection, such as the following:
 - Disconnecting
 - Connecting
 - Modem Busy
 - Dialing

System Properties dialog

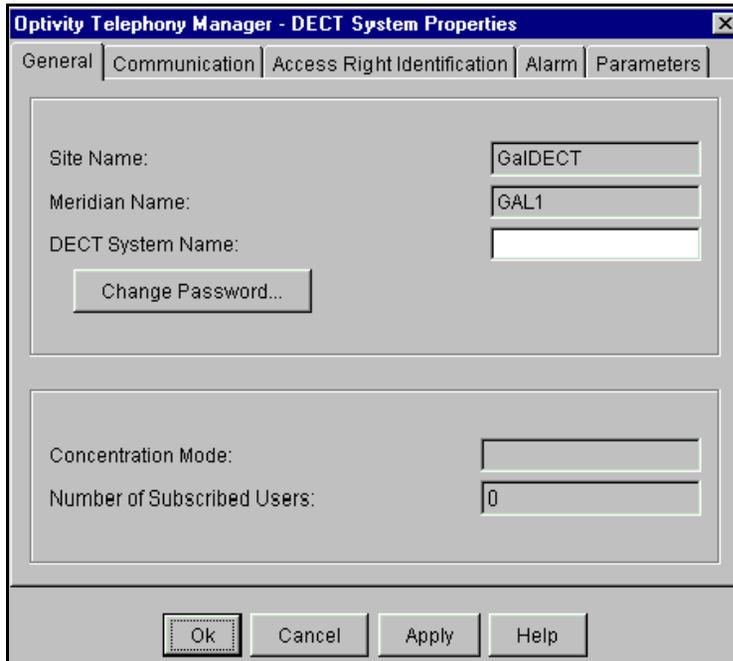
The DECT System Properties dialog is selected from the File menu. The DECT System Properties window has five tabs:

- General
- Communication
- Access Right Identification
- Alarm
- Parameters

See [Figure 30](#) on [page 66](#).

DECT System Properties dialog – General tab

Figure 30
DECT System Properties – General tab

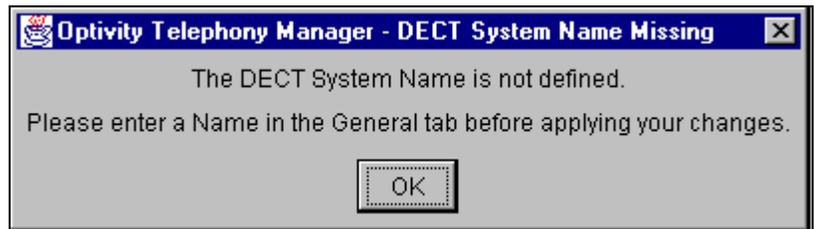


The General tab enables the following options:

- View Site Name.
- View Meridian Name.
- View or change the DECT System Name ([Figure 31 on page 67](#) and [Figure 32 on page 67](#)).
- Change the password ([Figure 33 on page 68](#)).
- View if Concentration Mode is active or not active.
- View Number of Subscribed Users.

The **DECT System Name Missing** window appears when a DECT system name is not entered. See [Figure 31](#).

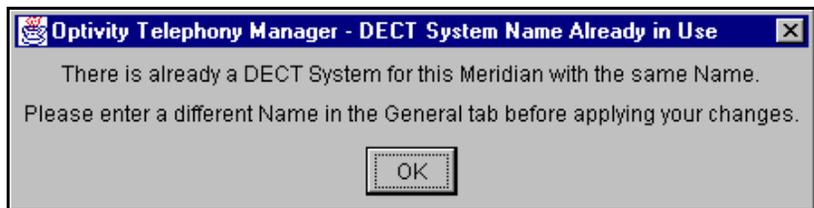
Figure 31
DECT System Name Missing dialog



The application will not save a system unless a unique name has been provided.

The **DECT System Name Already in Use** window appears when a DECT system name is the same as the name of another system. See [Figure 32](#).

Figure 32
DECT System Name Already in Use dialog



The **Change DECT System Password** window is selected from the **DECT System Properties – General** tab. See [Figure 33](#).

Figure 33
Change DECT System Password dialog

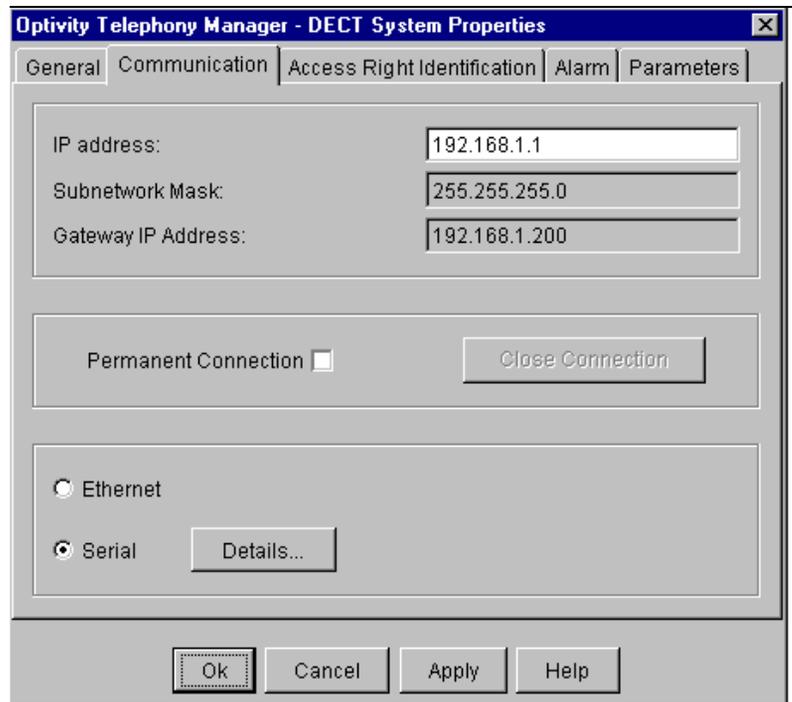


If the new password does not match the confirmed password, a dialog box opens and warns that the passwords do not match and allows the passwords to be changed.

DECT System Properties dialog – Communication tab

The DECT System Properties dialog is selected from the **File** menu. See Figure 34 on [page 69](#).

Figure 34
DECT System Properties – Communication tab



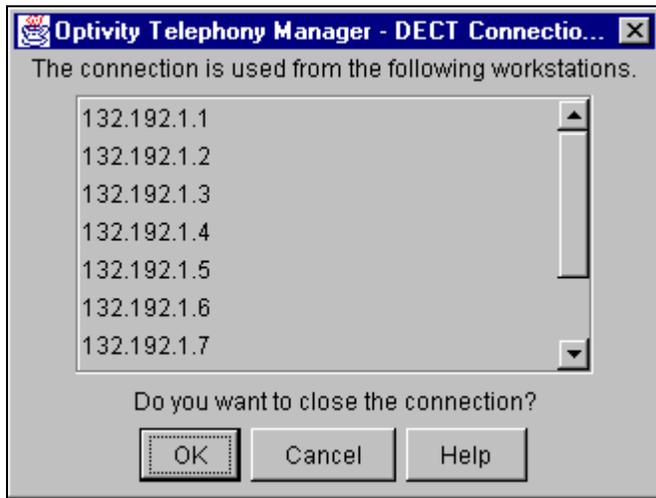
The **Communication** tab enables the following features:

- View or change the unique IP address; used if the connection is Serial or Ethernet.
- View the Subnetwork Mask.
- View the Gateway IP address.
- Check a Permanent Connection to keep the connection open and open the connection when the OTM starts.
- Select Close Connection (see [Figure 35](#) on [page 70](#)).
- Select Ethernet or Serial connection.
- Select Details for the Serial connection (see [Figure 36](#) on [page 71](#)).

- Select a new DECT system definition by pressing the OK button. This causes the manager to try to connect to a new DECT system and write the system name in MIB2, after the following is done:
 - Enter the new system IP address.
 - Specify the new system name.

The **Close Connection** dialog opens when the **Close Connection** button on the DECT System Properties – Communication tab is clicked. See [Figure 35](#).

Figure 35
Close Connection dialog



DECT System Detailed Connection settings properties is selected from the Details button of the **DECT System Properties – Communication** tab. See [Figure 36](#).

Figure 36
DECT System Detailed Connection settings properties

OTM - DECT System Detailed Connection settings properties [X]

OTM Server IP Interface: 192.168.1.200

COM Port: COM2

Modem

Phone Number:

Data Rate: 38 400

Stop Bits: 1

Parity: none

Data Bits: 8

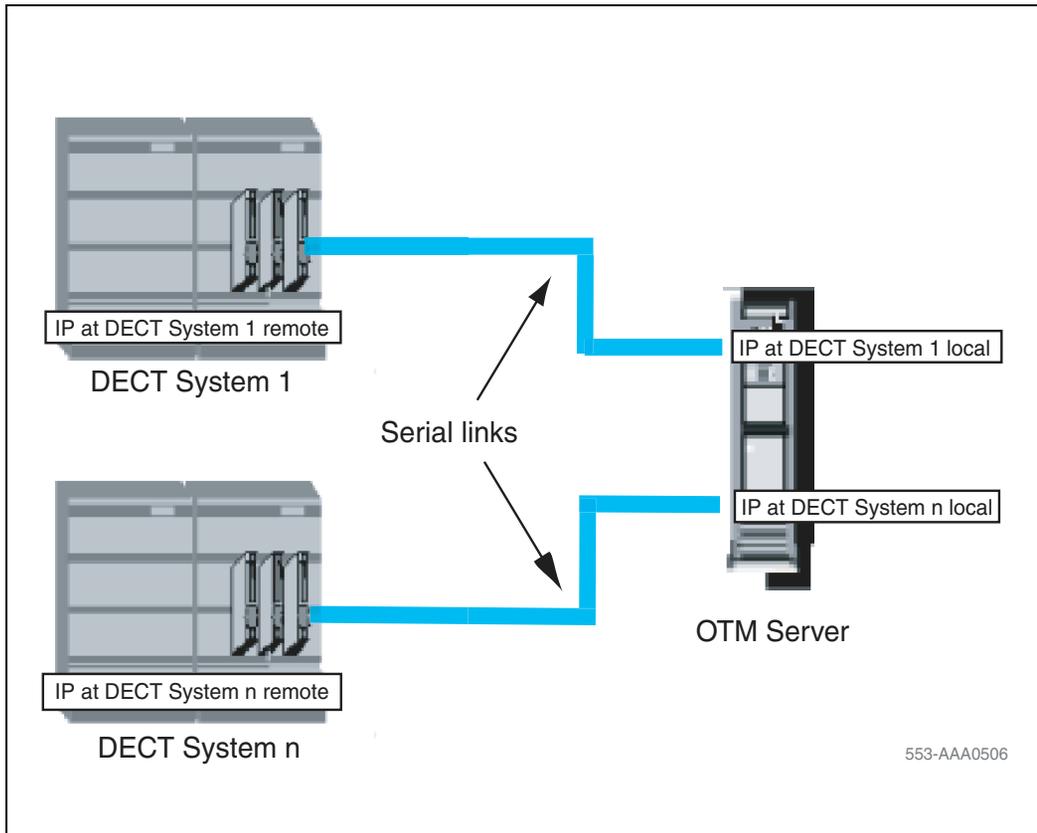
Delay (s): 0

Ok Cancel Help

DECT System Detailed Connection settings properties enables the following options:

- View or change the OTM Server IP interface assigned to the PC RAS port interface on the same network as DECT.
- View or select the COM Port attached to either DECT or the modem.
- Select a modem mode.
- View or change the Phone Number that dials the modem.

Figure 37
Local and remote IP address for serial connections

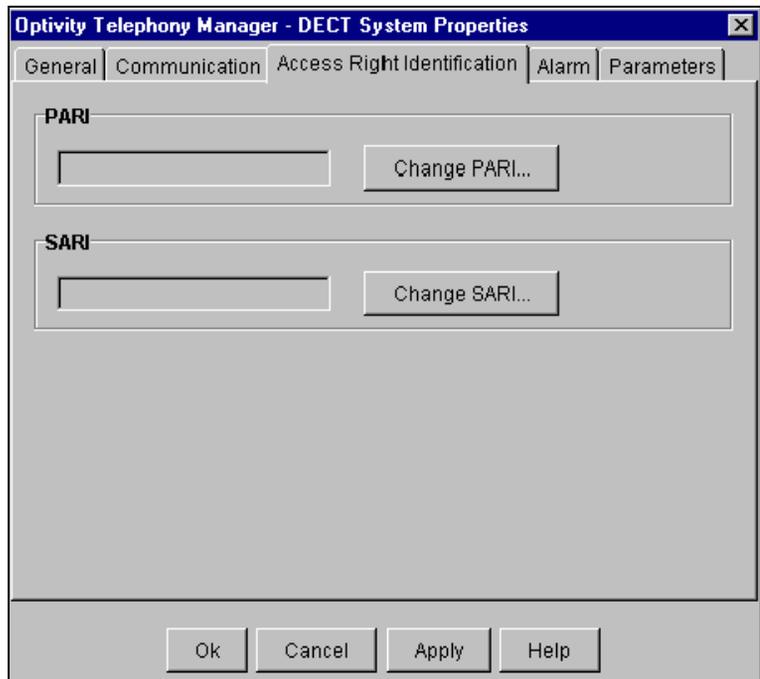


Supply an IP address for local and remote ends of the serial link, so the OTM can route IP traffic to the correct DECT system. See [Figure 37](#).

DECT System Properties dialog – Access Right Identification tab

The **DECT System Properties** dialog is selected from the **File** menu. See [Figure 38](#).

Figure 38
DECT System Properties – Access Right Identification tab



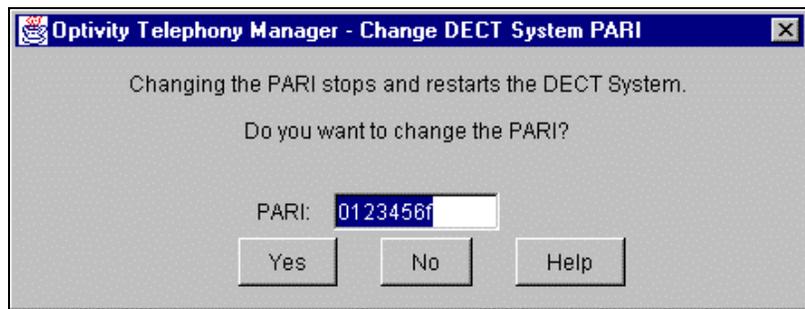
There are two Access Right Identifications, a Primary Access Right Identification (PARI) and a Secondary Access Right Identification (SARI),

which identify each DECT system. The Access Right Identification enables the following:

- View or change the PARI. See [Figure 39](#) on [page 74](#).
- View or change the SARI. (A SARI dialog box is similar to that shown in [Figure 39](#).)

The **Change DECT System PARI** window appears when the **Change PARI...** button on the **Access Right Identification** tab is pressed. See [Figure 39](#).

Figure 39
Change PARI dialog



Do not change the PARI or SARI until connected to the DECT system requiring the new PARI or SARI.

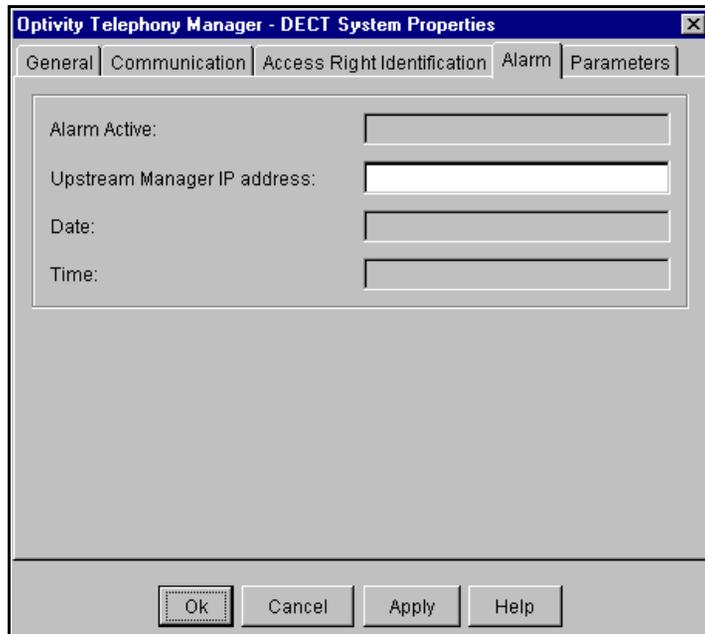
During synchronization, a dialog warns if a DECT system has a different PARI or SARI than the OTM DECT manager.

See “Multi-site Mobility Networking subscriptions” on [page 98](#) for additional information about changing the PARI and SARI.

DECT System Properties dialog – Alarm tab

The DECT System Properties dialog is selected from the File menu. See [Figure 40](#).

Figure 40
DECT System Properties – Alarm tab



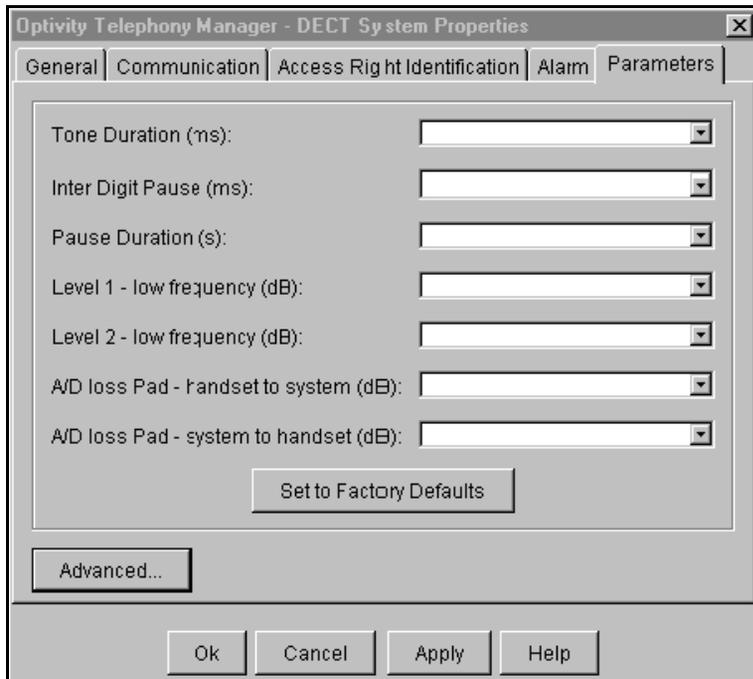
The Alarm enables the following options:

- View a **Yes** or **No** in the active alarm when the manager is connected to a DECT system with an active alarm.
- View or change the Upstream Manager IP address. The DECT system can send alarms to an upstream manager.
- View or change the Date and Time, used to timestamp alarms. When not connected, the Date and Time fields are blank. When the DECT system is reset, the time and date are not updated.

DECT System Properties dialog – Parameters tab

The DECT System Properties dialog is selected from the File menu. See [Figure 41](#).

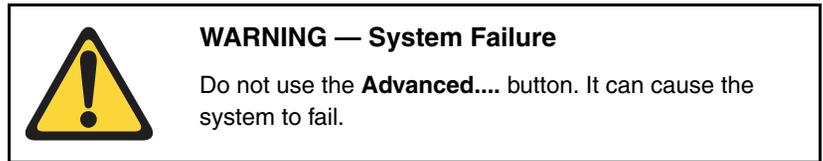
Figure 41
DECT System Properties – Parameters tab



The Parameters tab enables the following options:

- View or change Tone Duration in milliseconds.
- View or change Inter Digit Pulse width in milliseconds.
- View or change Level 1 – low frequency in decibels.
- View or change Level 2 – low frequency in decibels.

- View or change Analog/Digital loss pad – handset to system in decibels.
- View or change Analog/Digital loss pad – system to handset in decibels.
- Set all parameters to Factory Default values.



The DECT System Properties Parameters are read from DECT on synchronization.

Firmware upload and activation

The Firmware upload dialog is selected from the Firmware menu.

Figure 42
Firmware upload with DMC-4 dialog



The designator DMC is used to differentiate between the NTCW00AA DMC card and the NTCW00AB DMC8 card.

This dialog alerts that a DMC card cannot support a firmware upload. If **OK** is selected, a file chooser allows a firmware file to be selected from the Client

or from the OTM server. See [Figure 44](#) on [page 79](#). When **OK** is selected, the existing standby firmware can be replaced with new firmware.

Do one of the following:

- Accept the firmware for DECT.
- Cancel the firmware upload for DECT.

See [Figure 42](#) on [page 77](#).

Figure 43
Firmware upload dialog

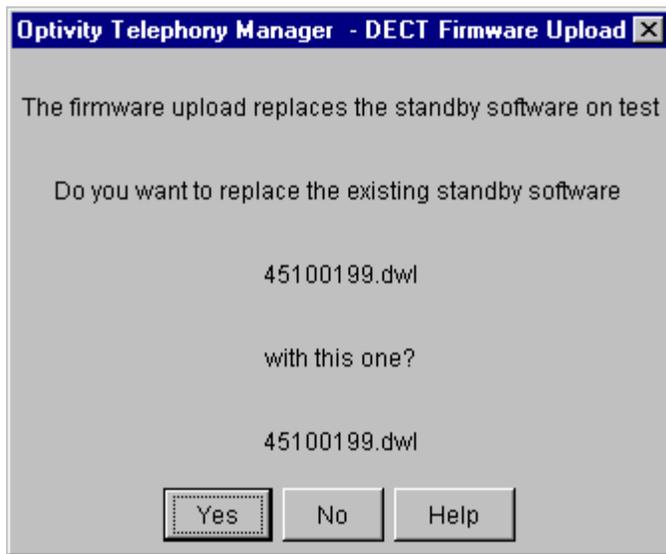
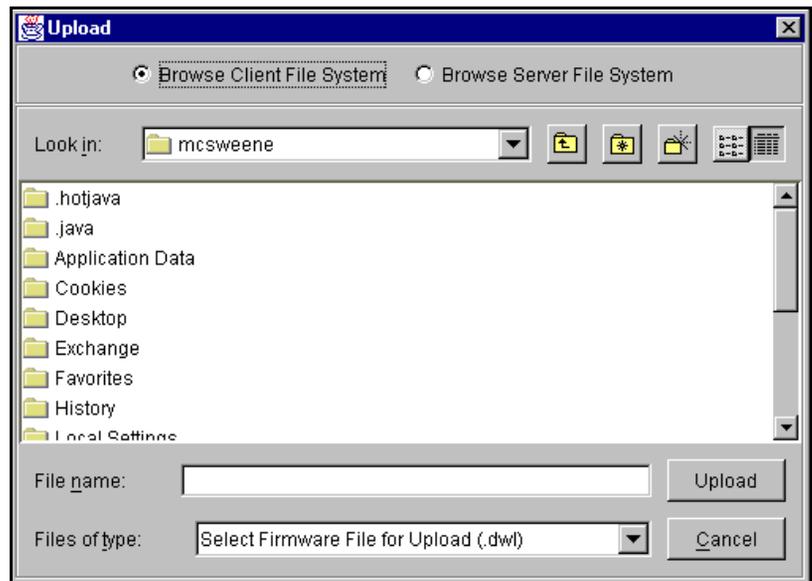


Figure 44
Firmware activation dialog



Figure 45
Upload file chooser



The **Upload** radio buttons enable the following options:

- Browse files on the Client PC.
- Browse files on the OTM Server.

Select a file from either the client or the server to upload to DECT.

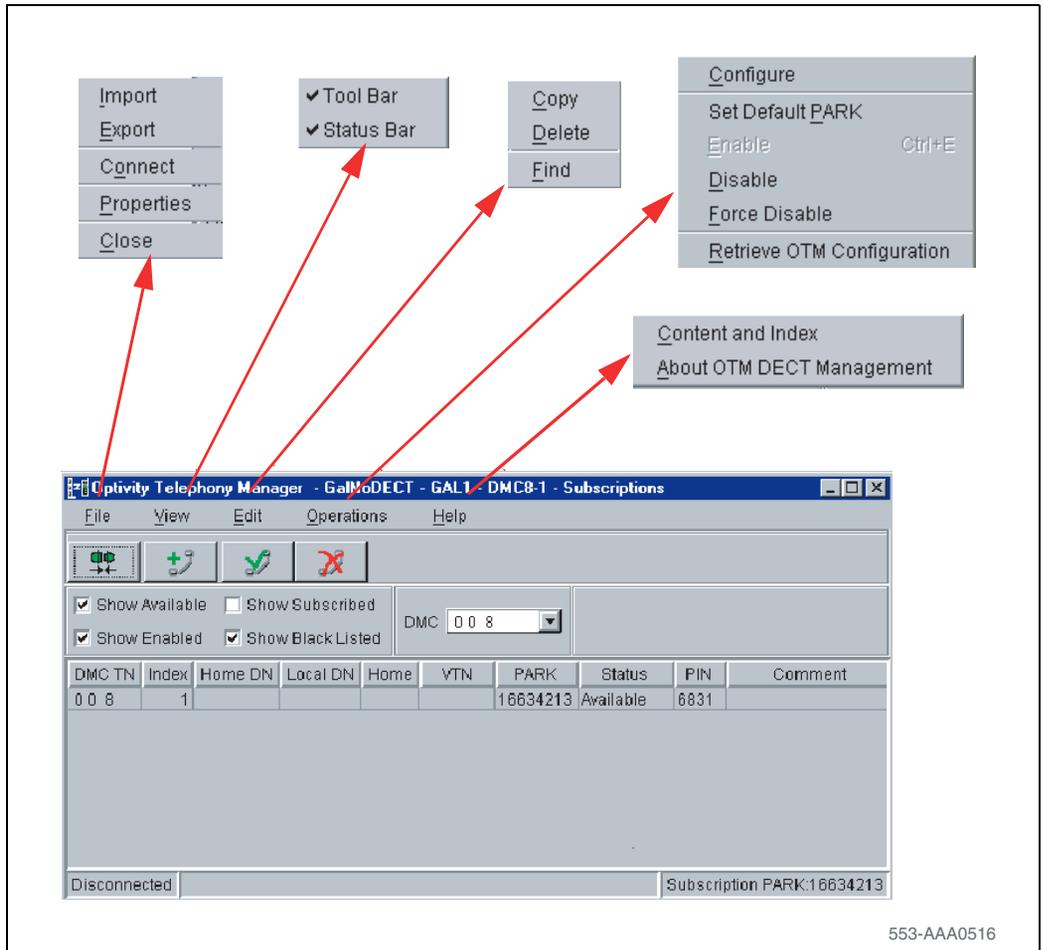
Figure 46
Progress indicator



Subscriptions window

The Subscriptions window is selected from the DECT Systems window Applications menu. See [Figure 47](#).

Figure 47
Subscriptions window



553-AAA0516

Features

The Subscriptions window enables the following:

- Connect to, disconnect from, lock or unlock a connection between the OTM server and a DECT system.
- Choose to show, in any combination, (see [Figure 49](#) on [page 87](#) and [Figure 50](#) on [page 88](#)) handsets that are:
 - Available
 - Subscribed
 - Enabled
 - Blacklisted
 - Configured on one DMC8 or all DMC8s
- Subscribe (configure) handsets.
- De-subscribe handsets.
- Copy subscription data.
- Move subscription data.
- Delete subscription data.
- Find subscription data.
- Export subscription data.
- Import subscription data.

Note: To use a handset, the handset must first be programmed on the system using LD 10.

Menu

The Subscriptions window displays the following:

- **File** – contains a pull-down menu allowing one of the following to be selected:
 - **I**mport – a subscription from a file (see [Figure 53](#) on [page 92](#))
 - **E**xport – a subscription to a file (see [Figure 54](#) on [page 93](#))

- **C**onnect – **L**ock, **U**nlock, **D**isconnect
- **P**roperties – includes data in the subscription list and International Portable User Identifier (IPUI) (see [Figure 58](#) on [page 97](#))
- **C**lose – close the Subscriptions window
- **V**iew – contains a pull-down menu that shows or hides the following:
 - **T**ool bar
 - **S**tatus bar
- **E**dit – contains a pull-down menu to open the following dialog boxes:
 - **C**opy (see [Figure 51](#) on [page 89](#))
 - **D**elete (see [Figure 50](#) on [page 88](#))
 - **F**ind (see [Figure 55](#) on [page 94](#))
- **O**perations – contains a pull-down menu to open the following windows:
 - **C**onfigure – to program a handset on the system. See [Figure 48](#) on [page 86](#).
 - **S**et Default **P**ARK – enter the default Portable Access Rights Key. See [Figure 59](#) on.)
 - **E**nable – to subscribe a handset
 - **D**isable – to de-subscribe a handset from one DECT system (see [Figure 56](#) on [page 95](#)) or de-subscribe a handset from all DECT systems, for example, Multi Site Mobility Networking. See the section “Multi-site Mobility Networking subscriptions” on [page 98](#).
 - **F**orce Disable – to return the subscription to the available state, and requests the system to disable the subscription. However, there is no interaction between the system and handset. See [Figure 57](#) on [page 96](#).
 - **R**etrieve OTM Configuration – to retrieve the handset configuration from the OTM Station Administration database. If there is a mismatch between the Station Administration configuration and the DECT application configuration, see [Figure 20](#) on [page 51](#).
- **H**elp – contains a pull-down menu to select the following:

- [Content and Index](#)
- [About DECT application](#)
- **Tool bar** – click the appropriate tool button to do the following:

	Connect	Performs same functions as “Systems window” on page 61 .
	Lock	Performs same functions as “Systems window” on page 61 .
	Unlock	Performs same functions as “Systems window” on page 61 .
	Disconnect	Performs same functions as “Systems window” on page 61 .
	Enable	Subscribes a handset.
	Disable	De-subscribes a handset.
	Configure	Programs a handset.

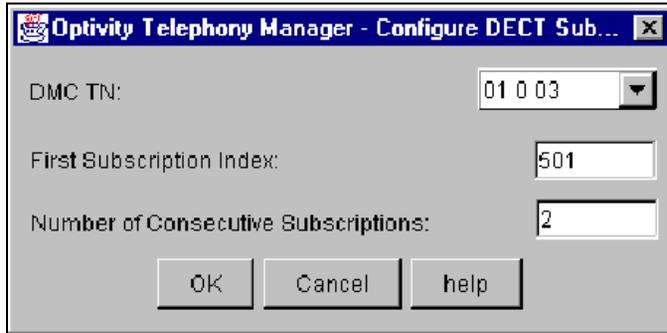
- **List filter** – to show or hide details of handsets that are:
 - Available (see [Figure 49](#) on [page 87](#) and [Figure 50](#) on [page 88](#))
 - Subscribed ([Figure 49](#) and [Figure 50](#))
 - Enabled ([Figure 49](#) and [Figure 50](#))
 - Black-listed ([Figure 49](#) and [Figure 50](#))

Note: DMC restricts the list to subscription data for one DMC or lists subscription data for all DMC

- **List** – to show the following subscription details for handsets assigned to a <sitename>, a <PBX name>, a <DECT system name>. See the [Figure 47](#) title bar on [page 81](#).
 - DMC TN
 - Index – 32 units or 510 virtual units for concentration on a DMC
 - Concentrated handset Home DN
 - Concentrated handset Local DN – different than Home DN for visitor concentrated handset
 - Virtual TN for concentration handsets
 - Subscription PARK
 - Subscription status – updated by SNMP traps from DECT
 - PIN code appears during subscription activation
 - An 80-character comment
- **Pop up menu** – available when at least one subscription is selected. The pop-up menu contains the following items:
 - Configure
 - Enable
 - Disable
 - Copy
 - Move
 - Delete
 - Export
 - Properties
 - Help
- **Status bar** – shows the following:
 - Connection status
 - Operation status
 - Current subscription PARK

Configure and enable subscriptions

Figure 48
Configure DECT Subscription dialog

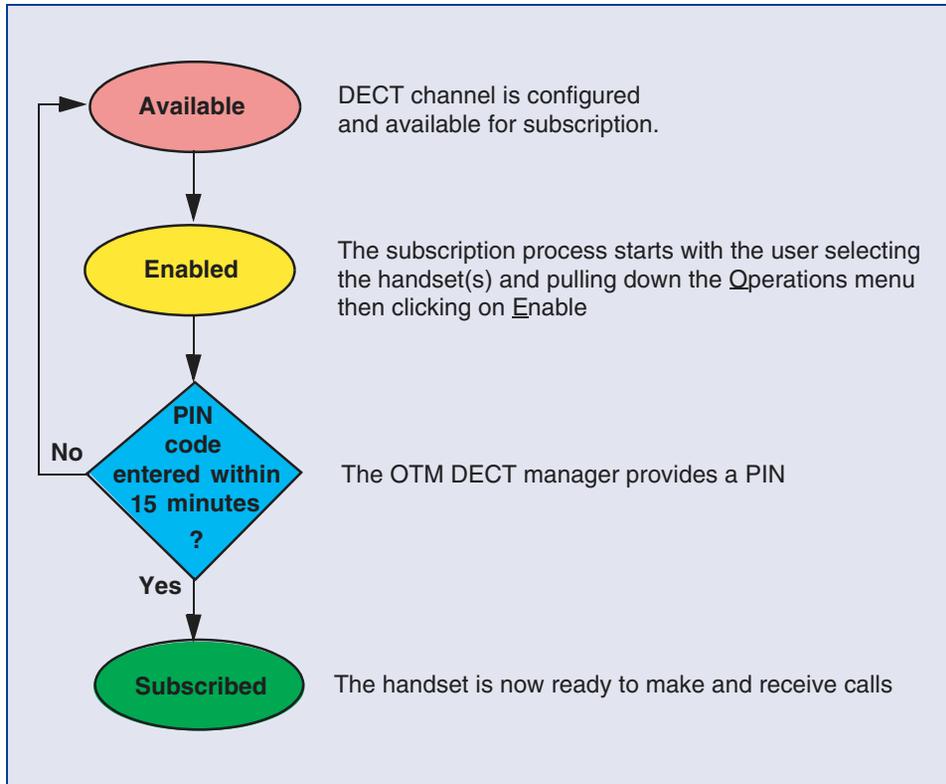


Configure DECT Subscription enables the following:

- Select a DMC TN.
- Enter the first subscription index (unit, as in l s c u).
- Select a number of consecutive subscriptions.

When configured, the subscription becomes available and the subscription can be enabled. During the enable process, the DECT manager generates a PIN code for the subscription. See [Figure 49](#) on [page 87](#).

Figure 49
Enable a subscription

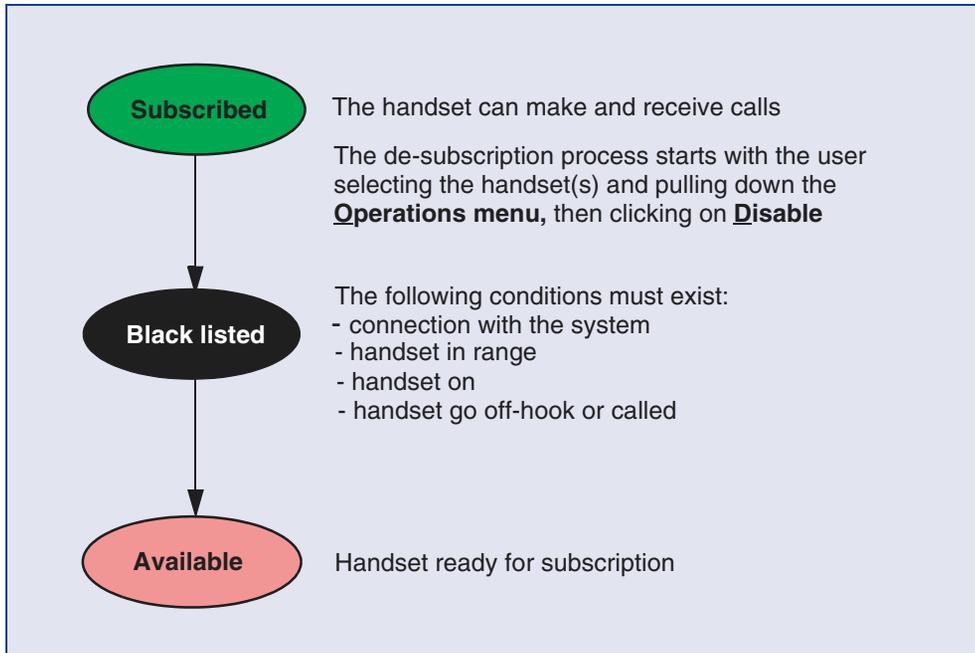


Disable subscriptions

A subscription can be de-subscribed in the following ways:

- As a single handset
- In a list of selected handsets
- For all handsets on a DMC

Figure 50
Disable a subscription



553-AAA0519

Launching an on-air de-subscription requires an open connection to DECT.

When the DECT Manager starts the de-subscription, DECT holds the de-subscription until one of the following occurs:

- The handset makes or receives a call.
- The DECT Manager removes the subscription.

The DECT system notifies the DECT Manager that the handset is de-subscribed.

The DECT Manager can stop a handset from operating on all the DECT systems where the handset is subscribed with a given International Portable User Identifier (IPUI).

To stop a handset from operating, the handset must be within radio range and ready for on-air de-subscription. The process removes handset subscription data from:

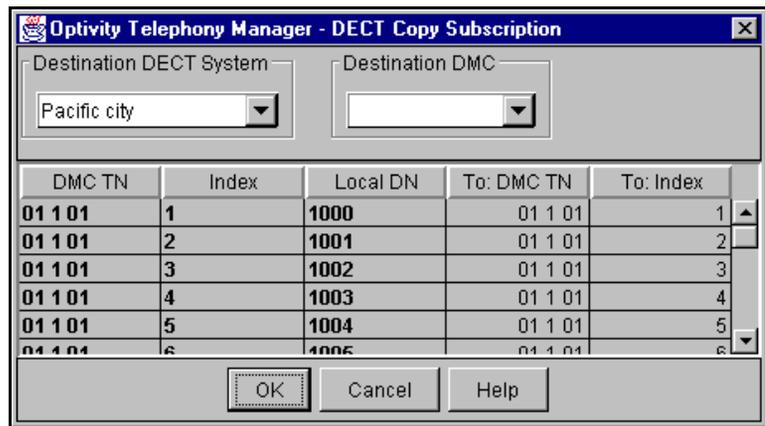
- a the DECT system DMCs,
- b the handset, and
- c the DECT managers handset and DECT system files.

When the handset's subscription data is removed, the handset no longer works on any DECT system.

Copy subscriptions

The **DECT Copy Subscription** dialog is selected from the Edit menu.

Figure 51
DECT Copy Subscription dialog



The **DECT Copy Subscription** dialog allows subscriptions to be copied from a DMC on DECT system A and then pasted into a DMC on DECT system B. The subscriptions must have a *Subscribed* status.

Ensure the connection to the destination system is open. Select the Destination DECT system and the Destination DMC from the DECT Copy Subscription dialog.

Subscriptions can be copied from:

- a** a single handset subscription,
- b** a list of selected subscriptions, or
- c** a DMC.

Note: Subscriptions cannot be copied within the same DECT system. When a subscription is copied, only DECT data is copied, not the PBX data.

In [Figure 51](#) on [page 89](#), the source subscription data appears in the three left columns: DMC TN, Index, and Local DN. View the source subscription from the Subscription window. The destination subscription data is in columns **To: DMC TN**, and **To: Index**. Index is the Unit on the DMC. When the dialog opens, the source DMCs and destination DMCs are the same.

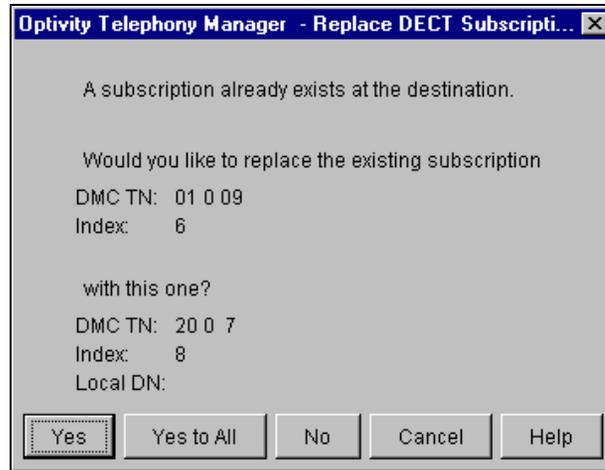
When copying subscription data, ensure a connection exists between the source DECT system and the destination DECT system.

The Copy Subscription feature provides a way to support Multi-site Mobility Networking, by allowing handsets to be subscribed without being on the Distributor Premises.

Replace subscriptions

The **Replace DECT Subscription** dialog allows an action to be confirmed if more than one subscription will be overwritten at the destination. See [Figure 52](#).

Figure 52
Replace DECT Subscription dialog



Move subscriptions

The **Move Subscriptions** dialog is selected from the **Edit** menu.

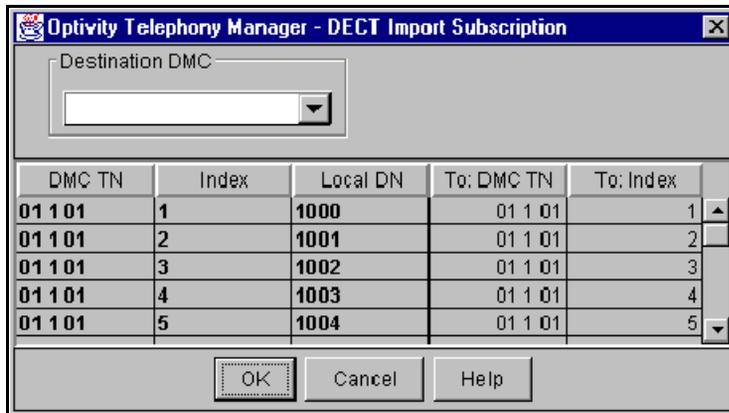
Move Subscriptions is similar to Copy, except for the following. The Move Subscriptions dialog allows subscriptions to be cut/removed from a DMC on DECT system A, and the subscriptions pasted into a DMC on the same DECT system, or on DECT system B.

When using Move, the source DECT system and the destination DECT system must be connected.

Import subscriptions

The **DECT Import Subscriptions** dialog is selected from the File menu. See [Figure 53](#).

Figure 53
DECT Import Subscription dialog



Import Subscriptions is similar to Copy, except for the following. The import dialog allows subscriptions to be copied from an import file and the subscriptions pasted into a DMC on a DECT system.

To paste a subscription, ensure a connection to the destination DECT system.

Delete subscriptions

The Delete operation allows handset information to be removed from the manager and the DECT system, but not the handset. The Delete operation does not require the handset to be available for on-air de-subscription. The Delete operation:

- a removes DECT handset subscription data,
- b retains the handsets subscription data, if the handset had subscription data. (As the handset does not remove its subscription data, it continues operating on all the DECT systems where this subscription is relevant.), and
- c removes the DECT manager handsets subscription data including comments and PBX Station Administration data.

The DECT Manager can be used to remove subscription records from:

- a** a single handset subscription,
- b** a list of selected subscriptions, or
- c** a DMC or from all DMCs at once.

The subscription removal requires an open connection to the DECT system.

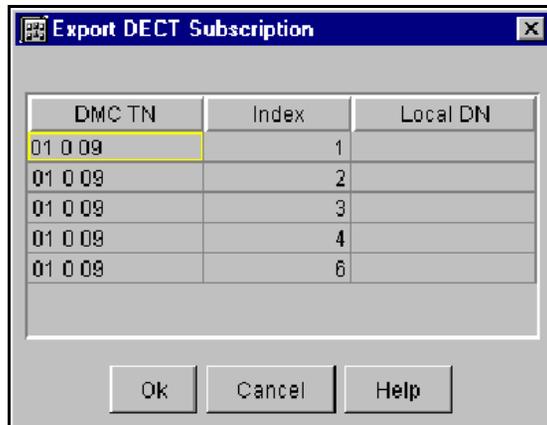
Remove subscription records for the following reasons:

- To clean a Multi Site Mobility Networking DECT system subscriptions on the distributors premises.
- To move a DMC from one DECT system to another.

Export subscriptions

The **Export DECT Subscriptions** dialog is selected from the **File** menu.

Figure 54
Export Subscription dialog



Export Subscriptions is similar to Copy, except for the following. The export dialog copies subscriptions from a DECT system and pastes them into a file. See [Figure 54](#).

Note: Import and Export support Multi-site Mobility Networking and Subscription on the Distributor Premises to a DECT system normally managed by OTM “B”, not OTM “A”.

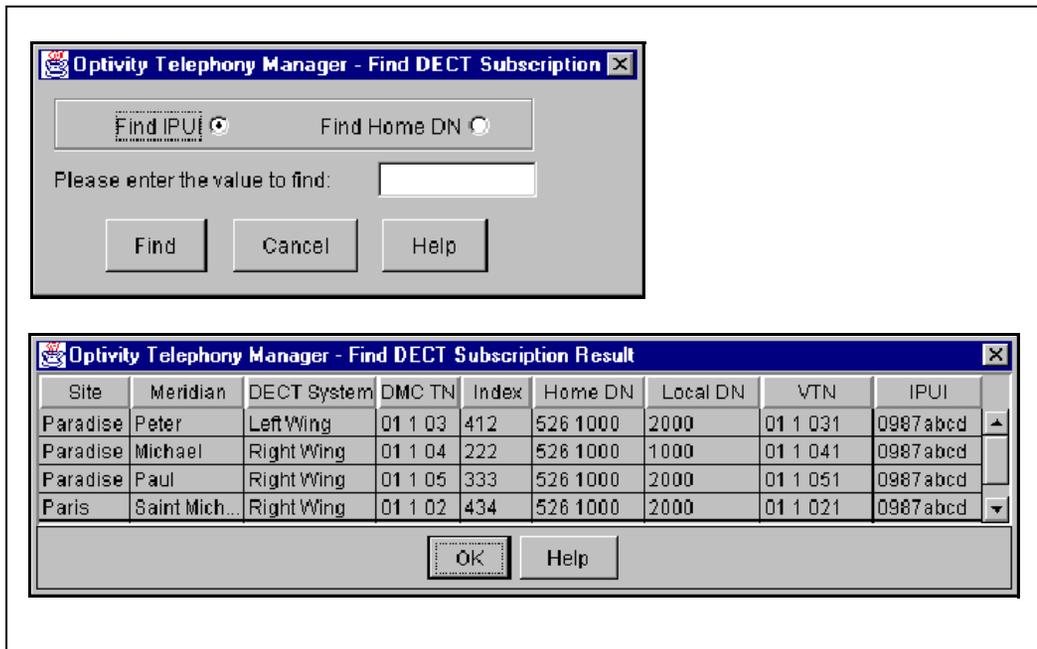
Find subscriptions

The **Find DECT Subscriptions** dialog is selected from the **Edit** menu.

The Find operation allows subscription information to be located by searching for an IPUi or a Home DN, using the Find DECT Subscription dialog. See [Figure 55](#) on [page 94](#).

The Find action displays the subscription information in the **Find DECT Subscription Result** dialog box.

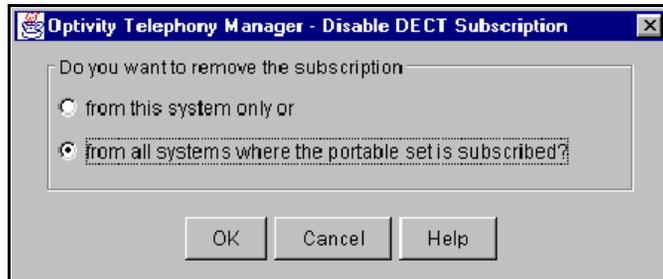
Figure 55
Find Subscription dialog



Disable subscriptions

The **Disable DECT Subscriptions** dialog is selected from the Operations menu.

Figure 56
Disable DECT Subscription dialog



Use the **Disable DECT Subscriptions** window to disable a handset from all DECT systems used in Multi-site Mobility Networking systems. See [Figure 56](#).

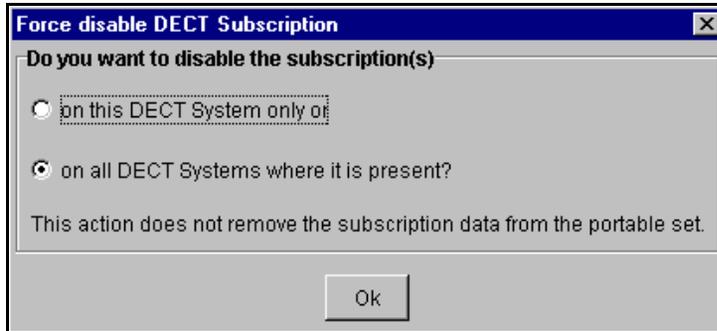
Use **from this system only or** if the handset is on-air on this DECT system. This DECT system contacts the handset. When contact is established, the subscription is removed from the handset. The subscription is removed from both the system database and the OTM server database. The other DECT systems remove subscription data in the background, and the OTM server updates its database for these systems.

If **from all systems where the portable set is subscribed** is used, all DECT systems are asked to contact the handset. The first DECT system to contact the handset removes the handset's subscription. The subscription is removed from the first DECT system database, and the OTM server database. The other DECT systems remove subscription data in the background and the OTM server updates its database for these systems.

Force disable subscriptions

The **Force disable DECT Subscriptions** dialog is selected from the Operations menu.

Figure 57
Force disable DECT Subscription dialog



Force disable returns the subscription to the available state and requests the system to disable the subscription. However, there is no interaction between the system and handset.

Force disable can be used when the handset is not in range or on-air.

Select **on this DECT System only** or to remove the handset subscription from only this DECT system and remove the handset subscription from all other DECT systems in the background. See [Figure 57](#).

Select **on all DECT Systems where it is present?** to remove the handset subscription from all systems at the same time. See [Figure 57](#).

Subscription Properties

The **DECT Subscription Properties** sheet is selected from the **File** menu. The **DECT Subscription Properties** sheet is shown in [Figure 58](#).

Figure 58
DECT Subscription Properties



The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT Subscription Proper...". The dialog contains several input fields for configuring DECT subscription properties:

DMC TN	01 1 03
Index	1
Comment:	
Home DN	560 1000
Local DN	2000
Home	No
VTN	01 1 03 12
IPUI:	ab6574893
Subscription PARK:	34abe677
Subscription Status:	Enabled
Subscription PIN:	1234

At the bottom of the dialog are four buttons: OK, Cancel, Apply, and Help.

Features

The DECT Subscription properties sheet enables the following:

- View the DMC Terminal Number.
- View the Index. Index is the TN unit, as programmed in LD 10 in a non-concentrated system, and a virtual TN unit in a concentrated system.
- Change and apply Comments, up to 80 characters.
- View Home Directory Number (where the handset is configured on the PBX as the home location).

- View Local Directory Number.
- View Home handset only.
- View handset Virtual Terminal Number.
- View the International Portable User Identifier (IPUI).
- View the subscription PARK.
- View the subscription status.
- View the subscription PIN.

DECT Subscription Properties sheet definition

The DECT Subscription Properties sheet displays the same subscription data as the Subscriptions window list items.

Multi-site Mobility Networking subscriptions

In Multi-site Mobility Networking (MSMN), users can take their DECT handsets to other sites in the network, and make and receive calls as if they were at their home location. A handset is subscribed in a given DECT system and can be used in one or many DECT systems.

For information on MSMN feature description, feature interaction, feature packaging, and operating parameters, see “Multi-site Mobility Networking” on [page 116](#). For information on MSMN feature implementation and operation, refer to [Implementing and operating MSMN, page 404](#).

Every handset has a Portable Access Rights Key (PARK). Every DECT system has a Primary Access Rights Identifier (PARI), and can have a Secondary Access Rights Identifier (SARI).

The handset PARK and DECT system PARI and SARI are used by the handset and DECT system to identify each other. The PARK and PARI/SARI match allow the handset to work with a DECT system.

In an MSMN network, for example, DECT system “A” has a PARI matching a handset PARK while DECT systems “B,” “C,” and “D” have a SARI matching the handset PARK.

The DECT Manager user programs the SARI in the DECT system. The DECT Manager provides the PARI during the on-air subscription, and the PARI is programmed into the handset at subscription time. See [Figure 38](#) on [page 73](#) and [Figure 39](#) on [page 74](#).

For example, a handset can be subscribed to a DECT system on a distributor's premises, where the handset is not to be in operation. Then the subscription data is downloaded to a DECT system where the handset is to be in operation. The PARI, where the handset is subscribed, and the SARI, where the handset is used, are not always the same. The PARI matching the destination DECT system to the handset is provided during the on-air subscription.

Figure 59
DECT Default Subscription PARI dialog



The DECT Manager provides the ability to specify the PARI given to the handset, to support Multi-site Mobility Networking and Subscription on the distributor premises. See [Figure 39](#) on [page 74](#). The PARI normally defaults to the PARI of the system where the on-air subscription occurs. For MSMN, the default PARI must be equal to the network SARI value for any subscription activity to take place.

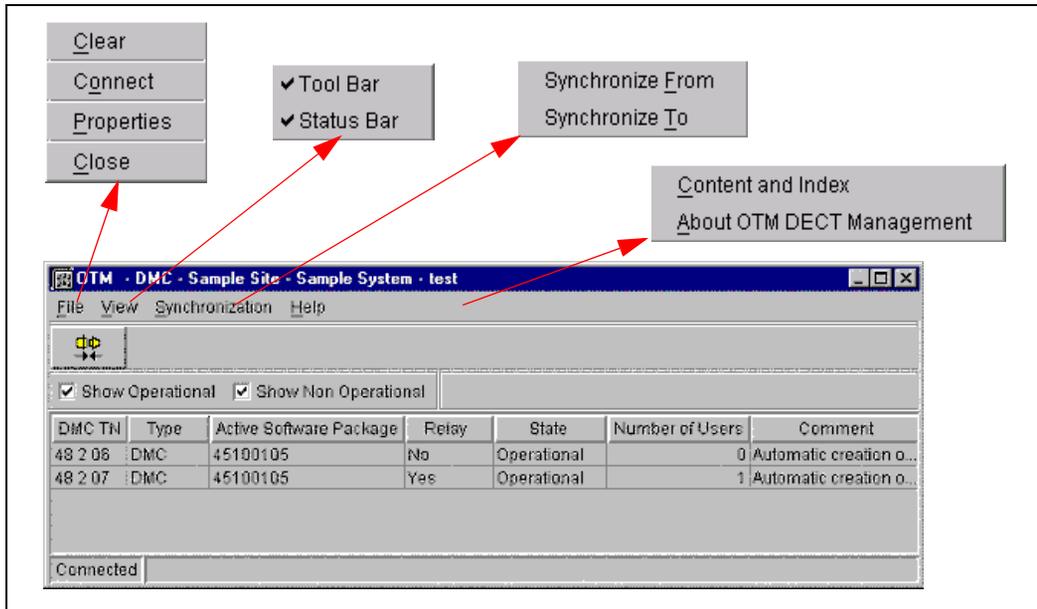
The PARI used by the OTM DECT subscription application is subject to the following conditions:

- PARI is limited to the lifetime of the subscription application.
- Two users can use a different PARI on the same DECT system at the same time.
- PARI is not recorded in persistent storage.

DMC boards window

The **DMC Boards** window, seen in [Figure 60](#), is selected from the DECT Systems window **A**pplications menu, seen in [Figure 29](#) on [page 62](#).

Figure 60
DMC Boards window



Features

The Boards (DMC) window enables the following options:

- Examine DMC details.
- Connect to, disconnect from, lock or unlock a connection between the OTM manager and a DECT system.
- Show Operational DMC, Non-operational DMC, or both.
- Open a properties sheet.

Menu

The Boards window displays the following DMC data:

- **File** – contains a pull-down menu to select one of the following:
 - Clear – erases all subscriptions, sets all base stations to installed status and line powered, allows the DMC to be programmed in a new DECT system.
 - Connect – Lock, Unlock, Disconnect, works the same as the Connect/Disconnect tool.
 - Properties – see [Figure 61](#) on [page 103](#).
 - Close – closes the DMC window.
- **View** – contains a pull-down menu to show or hide the following:
 - Tool bar.
 - Status bar.
- **Synchronization** – contains a pull-down menu to enable the following:
 - Synchronize From – subscription and base station alarm muting/power source configuration data from a DMC to the OTM server.
 - Synchronize To – subscription and base station alarm muting/power source configuration data from the OTM server to a DMC.
- **Help** – contains a pull-down menu to select the following:
 - Content and Index.
 - About DECT application.
- **Tool bar** – used to click a tool button to do the following:

	Connect	Performs same functions as “Menu” on page 101 .
	Lock	Performs same functions as “Menu” on page 101 .

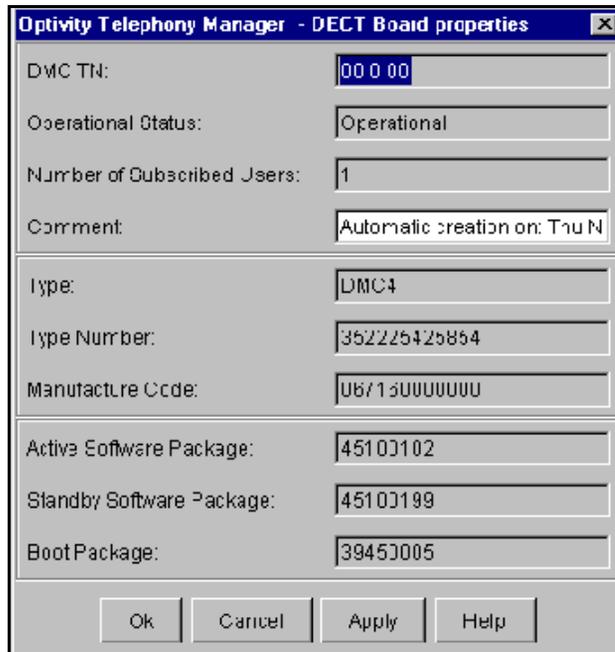
	Unlock	Performs same functions as “Menu” on page 101 .
	Disconnect	Performs same functions as “Menu” on page 101 .

- **List filter** – to show list details of only the operational DMC or non-operational DMC or both.
- **List** – shows the following DMC details:
 - DMC TN.
 - DMC type.
 - Relay DMC.
 - Operational state – when DMC operational status changes, the OTM server updates the status.
 - Number of handsets on a DMC.
 - An 80-character comment.
- **Pop up menu** – supports the following actions:
 - Synchronize from DMC.
 - Synchronize to DMC.
 - Properties.
 - Help.
- **Properties** – displays additional information about DMC. Only the comment can be modified. See [Figure 61](#) on [page 103](#).

DECT Board properties sheet

The **DECT Board properties** sheet (see [Figure 61](#)) is selected from the **File** menu.

Figure 61
Board (DMC) properties sheet



The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT Board properties". It contains several input fields for configuring a DMC board. The fields and their values are as follows:

Field	Value
DMC TN:	00 0 00
Operational Status:	Operational
Number of Subscribed Users:	1
Comment:	Automatic creation on: TRUE
Type:	DMC4
Type Number:	352225425854
Manufacture Code:	067150000000
Active Software Package:	45103102
Standby Software Package:	45103199
Boot Package:	39453005

At the bottom of the dialog box, there are four buttons: "Ok", "Cancel", "Apply", and "Help".

Options

The DECT Board properties sheet enables the following options:

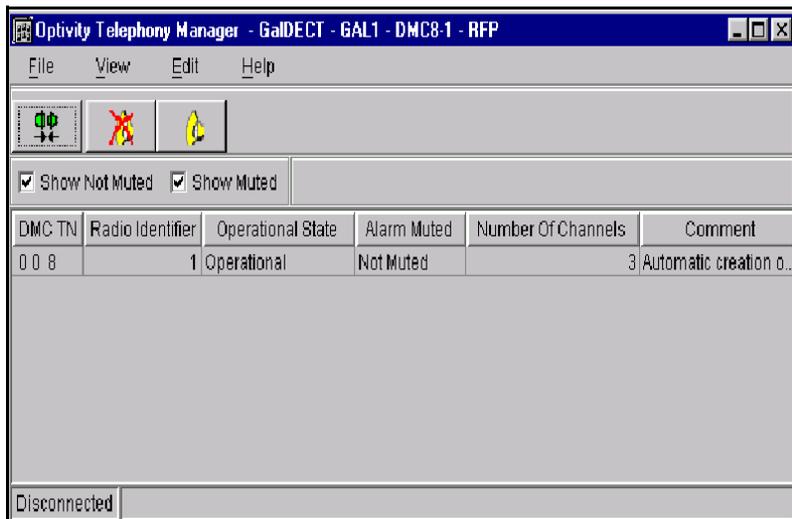
- View DMC details.
- View operational status. When the DMC operational status changes on DECT, the OTM updates the status.
- Change and apply comments, up to 80 characters.
- View DMC Type Number.

- View DMC Manufacture Code.
- View DMC Standby Software Package.
- View DMC Boot Package.
- View DMC Protocol Version.
- Open the help file.
- Close the properties sheet.

Radio Fixed Part (base station) window

The Radio Fixed Part (**RFP**) window (see [Figure 62](#)) is selected from the DECT Systems window **A**pplications menu. See [Figure 29](#).

Figure 62
RFP (base station) window



The **RFP** window enables the following:

- Examine base station details.

- Connect to, disconnect from, lock or unlock a connection between the OTM server and a DECT system.
- Choose to show Muted base stations, or Not Muted base stations, or both.

	Mute	Keeps a base station from generating alarm messages.
	Cancel Mute	Allows a base station to generate alarm messages.

- Open a properties sheet.

Menu

The **RFP** window displays the following base station data:

- **File** – contains a pull-down menu to select one of the following:
 - Connect / Lock / Unlock / Disconnect, works the same as the Connect/Disconnect tool.
 - Properties, opens the Radio Fixed Part properties sheet.
 - Close, closes the Radio Fixed Part window.
- **View** – contains a pull-down menu to show or hide the following:
 - Tool bar.
 - Status bar.
- **Edit** – contains a pull-down menu to do the following:
 - Mute Alarms – keeps a selected base station from generating alarms.
 - Cancel Mute Alarms – allows a selected base station to generate alarms.

Note: View alarms on the OTM Alarm browsers (common services) or on the Active Alarm Snapshot window. See [Figure 64](#) on [page 109](#).

- **Help** – contains a pull-down menu to select the following:
 - Content and Index.
 - About DECT application.
- **Tool bar icon** – click the tool button to do the following:

	Connect	Performs same functions as noted in File above.
	Lock	Performs same functions as noted in File above.
	Unlock	Performs same functions as noted in File above.
	Disconnect	Performs same functions as noted in File above.
	Mute	Keeps a selected base station from generating alarms.
	Cancel	Allows a selected base station to generate alarms.

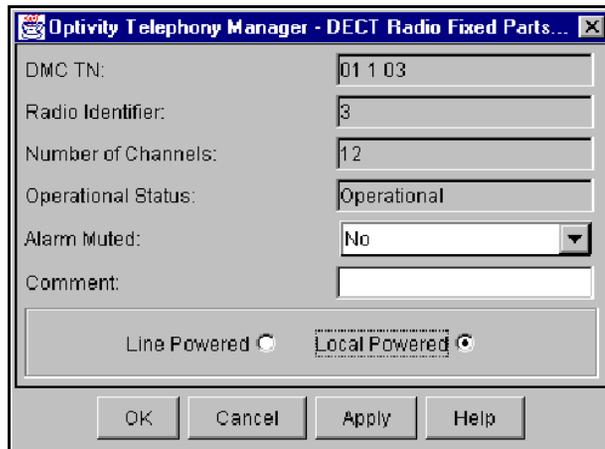
- **List filter** – to select a list showing base stations allowed to generate alarms, or base stations not allowed to generate alarms, or both.
- **List** – displays the following:
 - DMC TN – connected to a base station.
 - Radio Identifier – identifies the base station (1 to 4) connected to the DMC and the base station (1 to 8) connected to the DMC8.
 - Operational State – indicates if a base station is operational or is not operational.
 - Alarm Muted – indicates if a base station is allowed to generate alarms or not.

- Number of Channels – identifies the base station as either a 6-channel or a 12-channel base station.
- Comment – an 80-character comment field in the DECT application.
- **Pop-up menu** – appears when at least one base station, also known as a Radio Fixed Part (RFP), is selected and right-clicked. Selecting one or more base stations by clicking/double-clicking on a Radio Identifier, or highlighting a row in the list, displays a Properties sheet. See [Figure 63](#) on [page 107](#).
- **Help** – select **C**ontent and **I**ndex or **A**bout DECT application.

DECT Radio Fixed Parts (base station) properties sheet

The DECT Radio Fixed Parts properties sheet is selected from the pop-up menu.

Figure 63
Radio Fixed Part (base station) properties sheet



The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT Radio Fixed Parts...". It contains the following fields and controls:

- DMC TN: 01 1 03
- Radio Identifier: 3
- Number of Channels: 12
- Operational Status: Operational
- Alarm Muted: No (dropdown menu)
- Comment: (empty text box)
- Line Powered:
- Local Powered:
- Buttons: OK, Cancel, Apply, Help

The DECT Radio Fixed Parts properties sheet options

The RFP properties sheet enables the following:

- View base station details.
- View Operational Status. When the base station operational status changes, the OTM server updates the status.
- Change and apply Alarm Muting.
- Change and apply comments – up to 80 characters.
- Select Line Power (powered by the DMC card) or Local Powered.
- Open the help file.
- Close the properties sheet.

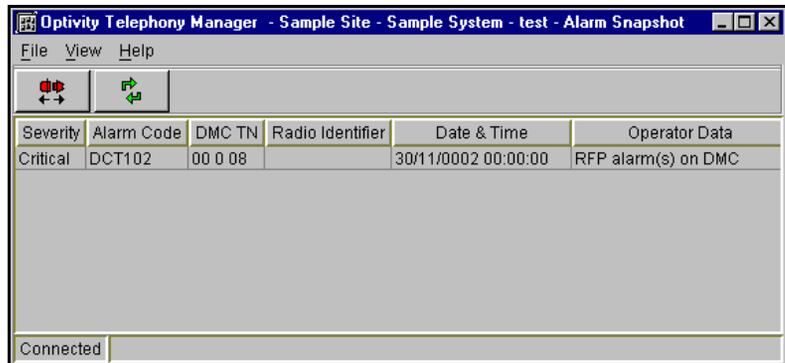
RFP properties sheet definition

The Radio Fixed Part properties sheet displays the same base station data as the Radio Fixed Part window list items. The properties sheet also shows the power source for the selected base station.

Active Alarm Snapshot window

The Active Alarm Snapshot window is selected from the DECT Systems window Applications menu.

Figure 64
Active Alarm Snapshot window



Features

The Active Alarm Snapshot window enables the following:

- Connect to the Active Alarm Snapshot window.
- Refresh the window.
- Open a properties sheet.

Menu

The Active Alarm Snapshot window displays the alarm data stored in the DMC. The alarm data displayed does not change or update until manually refreshed.

- **File** – contains a pull-down menu to select one of the following:
 - Connect / Lock / Unlock / Disconnect – the same functions as the Connect/Disconnect tool.
 - Properties – opens the Active Alarm Snapshot, [Figure 65](#).
 - Close – closes the Active Alarm Snapshot window.
- **View** – contains a pull-down menu to select the following:
 - Tool bar – to show or hide.

- Status bar – to show or hide.
- Refresh – updates the Active Alarm Snapshot window with the latest alarm data from the DECT system selected in the title bar. A separate DMC TN cannot be selected to refresh.
- **H**elp – contains a pull-down menu to select the following:
 - Content and Index.
 - About DECT application.
- **T**ool bar – used to click a tool button to do the following:

	Connect	Performs same functions as noted in File above.
	Lock	Performs same functions as noted in File above.
	Unlock	Performs same functions as noted in File above.
	Disconnect	Performs same functions as noted in File above.
	Refresh	Updates the Active Alarm Snapshot window with the latest alarm data from the DECT system selected in the title bar. A separate DMC TN cannot be selected to refresh.

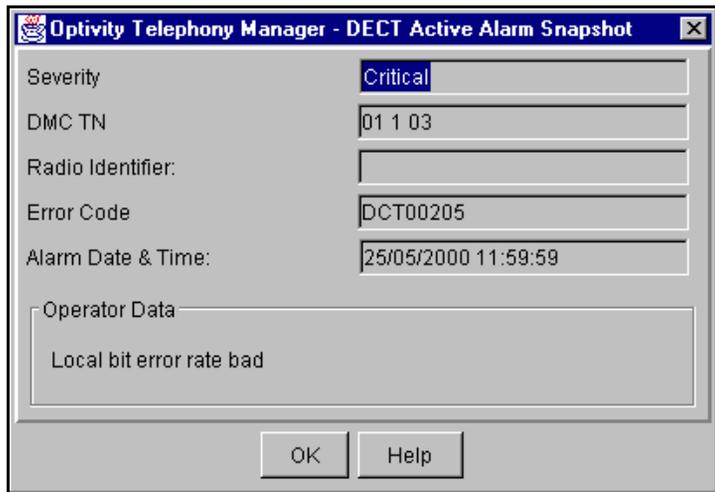
- **L**ist – shows read-only data about the following:
 - Severity – always labeled as Critical.
 - Error Code – a three digit code. Refer to the DECT Operation Administration and Maintenance NTP for the meaning of the Error Codes.
 - DMC TN – indicates the location of the card that originated the alarm.
 - Radio Identifier (base station identifier) – indicates the base station that is the source of an alarm.

- Date and Time – when the alarm occurred.
- Operator Data – describes the alarm and the faulty component, if applicable.
- **Pop-up menu** – appears when at least one RFP (base station) is selected, and right clicked. The **DECT Active Alarm Snapshot** window opens. See [Figure 65](#).
- **Help** – displays Content and Index, and About DECT application.

DECT Active Alarm Snapshot properties sheet

The **DECT Active Alarm Snapshot** properties sheet, shown in [Figure 65](#), is selected from the pop-up menu. The Active Alarm Snapshot properties sheet displays the same alarm data as the Active Alarm Snapshot window list items.

Figure 65
Active alarm properties sheet



The Active Alarm Snapshot properties sheet enables the following:

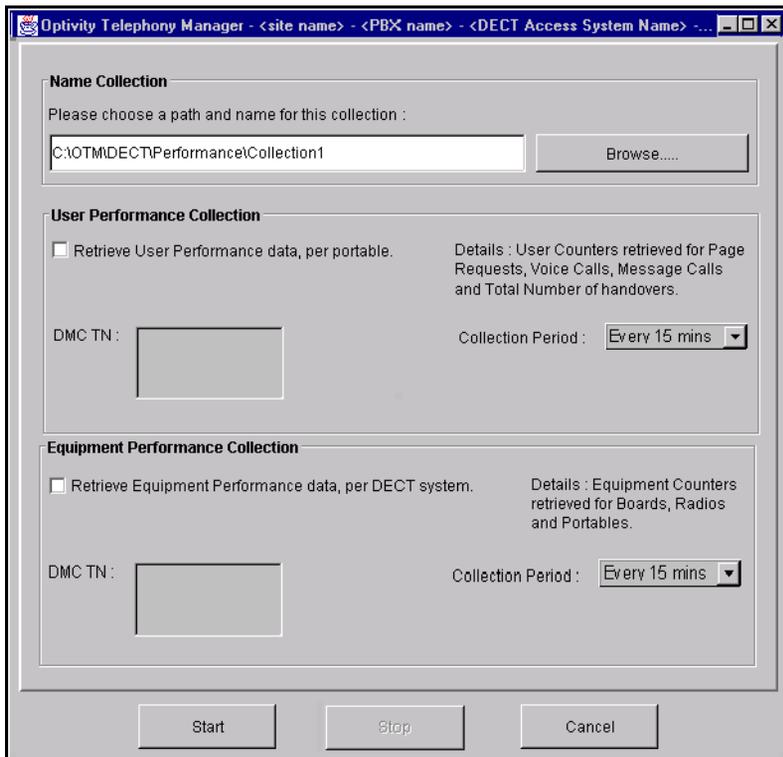
- View alarm (DECT system message) details.

- Close the properties sheet.
- Open the help file.

Performance Collection window

The Performance Collection window, as seen in [Figure 66](#), is selected from the DECT Systems window Applications menu.

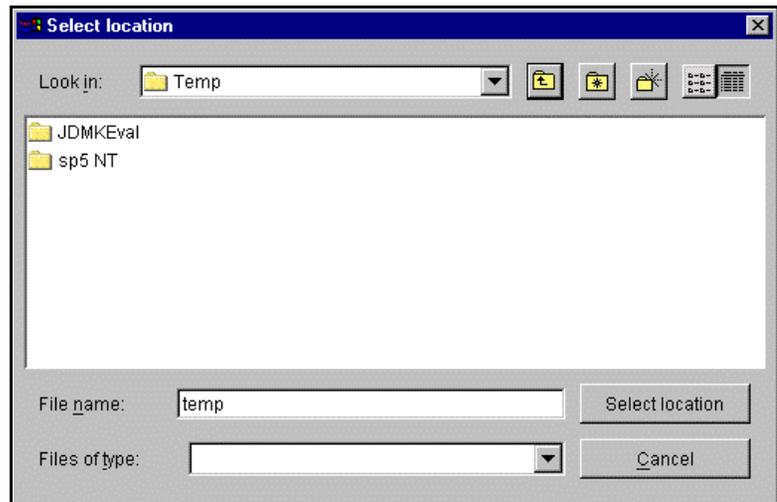
Figure 66
Performance Collection window



The Performance Collection window displays the following:

- **Name** – to select the directory to store the Performance Collection file.
- **User Performance Collection** – collects counter data on handset user related activities.
- **Equipment Performance Collection** – collects counter data on DMC related activities.

Figure 67
Select location



The Performance Collection window enables the following:

- Start and stop User Performance Collection counters.
- Start and stop Equipment Performance Collection counters.

Performance Collection additional information

The OTM DECT Manager user starts and stops performance counter collection. Performance collection cannot be scheduled. The collection begins when it is manually started, and ceases when manually stopped.

The collection period can be set for 15 minutes, 30 minutes, one hour, or one day. The performance counters are on the DMCs. DMC TNs can be selected.

User (handset) data and Equipment (DECT system) data can be collected separately. User (handset) data and Equipment (DECT system) data collection periods can be set separately.

The OTM DECT Manager stores the performance files. Rebooting the OTM DECT Manager does not destroy the files.

The back up and restore application on the OTM DECT Manager does not back up and restore the performance files.

Retrieve RSSI Snapshot window

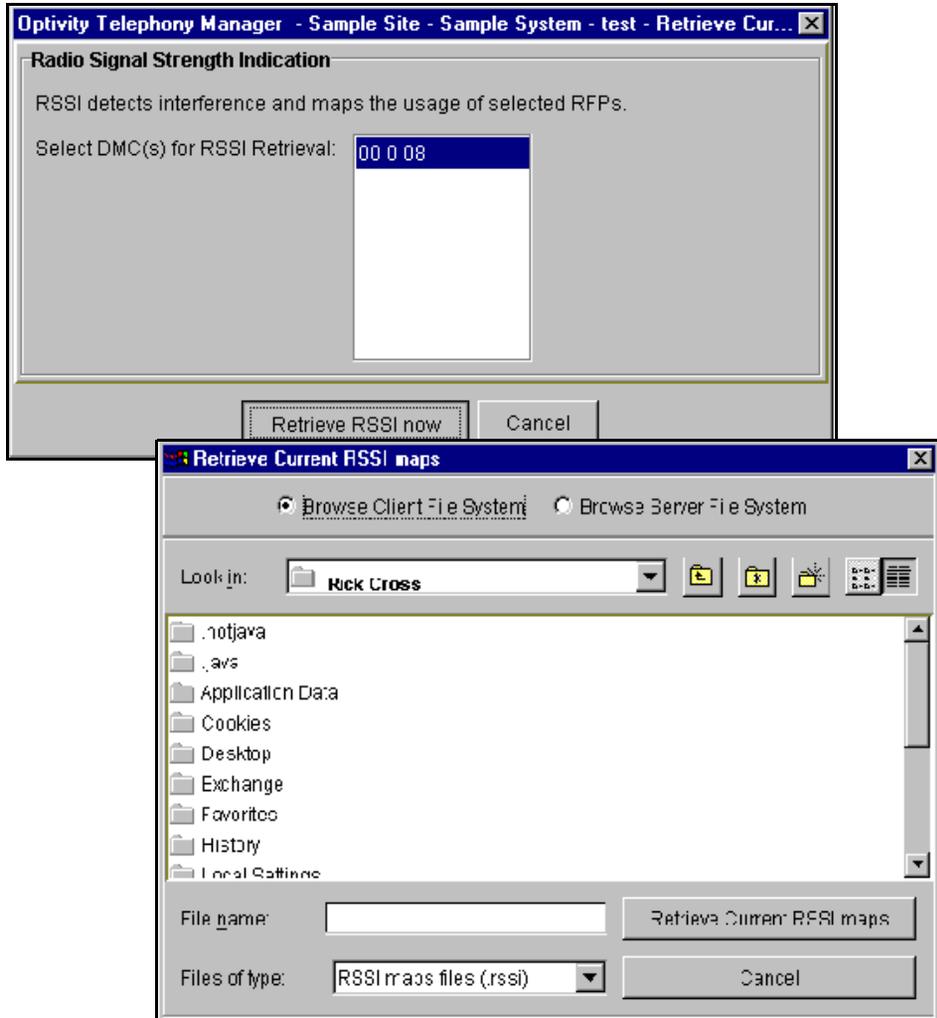
The Retrieve Radio Signal Strength Indication (RSSI) Snapshot window, shown in Figure 68 on [page 115](#), is selected from the DECT Systems window Applications menu.

The Retrieve RSSI window enables the following:

- View Radio Signal Strength Indication details.
- Scroll and select a DMC card for RSSI information retrieval.

The Retrieve RSSI Snapshot window collects, on request, the RSSI for a selected DMC card.

Figure 68
Retrieve RSSI Snapshot window



Retrieve RSSI Snapshot attributes

The OTM server collects the RSSI as an ASCII file. The OTM server user must indicate where to store the RSSI file.

Multi-site Mobility Networking

Multi-site Mobility Networking (MSMN) allows a DECT handset user to make and receive calls at any MCDN node. When the handset user visits a MCDN node, the MSMN feature automatically performs the following actions:

- Detects the visiting handset when it is on.
- Forwards calls to the visiting handset from the users home node.

The Call Forward dial tone indicates when MSMN activation was not successful. Turn the handset off and on again to re-activate the MSMN feature.

The MSMN feature requires concentrated DMCs. A concentrated system has each handset configured to a Virtual TN (VTN) on phantom loops. Concentration allows up to 510 handsets to share the DMCs 32 time slots and is a blocking system. See “System concentration traffic” on [page 121](#).

A non-concentrated system has each handset configured to a DMC8 TN. A non-concentrated DMC8 has 32 handset TNs assigned to 32 time slots and is non-blocking.

Separate DECT systems on a PBX can be concentrated or non-concentrated.

Operating parameters

The MSMN feature can not support a mix of concentrated DMCs and non-concentrated DMCs within the same DECT system.

All DMCs, either new, empty for redundancy, or used for base station coverage, must have at least one handset configured to ensure system operation.

The C4010/C4020 handset can subscribe to a maximum of eight DECT systems.

The C4050 handset can subscribe to a maximum of eight DECT systems.

Feature interactions

Call forward from a MADN handset

A MADN handset at a remote node can activate Call Forward (CFW) at the home node. When the handset shares a DN with another set(s), the CFW lamp lights on the shared DN set(s). If the handset is not the MARP, the shared DN MARP set can cancel call forward. If the handset is the MARP, the handset overrides any call forward which is setup from other shared DN set(s).

Card audit

Card audit does not work with VTNs.

Network Message Service

The MSMN feature does not change the handling of unanswered network calls. The Meridian Mail or Call Pilot network mail service does not change with multiple DNs configured against a single mailbox. The visiting DN receives the Message Waiting Indication (MWI) at the visited site.

Feature packaging

The MSMN feature requires the following packages:

- Multi-site Mobility Networking (MSMN) package 370.
- Meridian 1 Companion Option (MCMO) package 240.
- Phantom TN (PHTN) package 254.
- Meridian Companion Enhanced Capacity (MC32) package 350.
- Flexible Feature Codes (FFC) package 139.

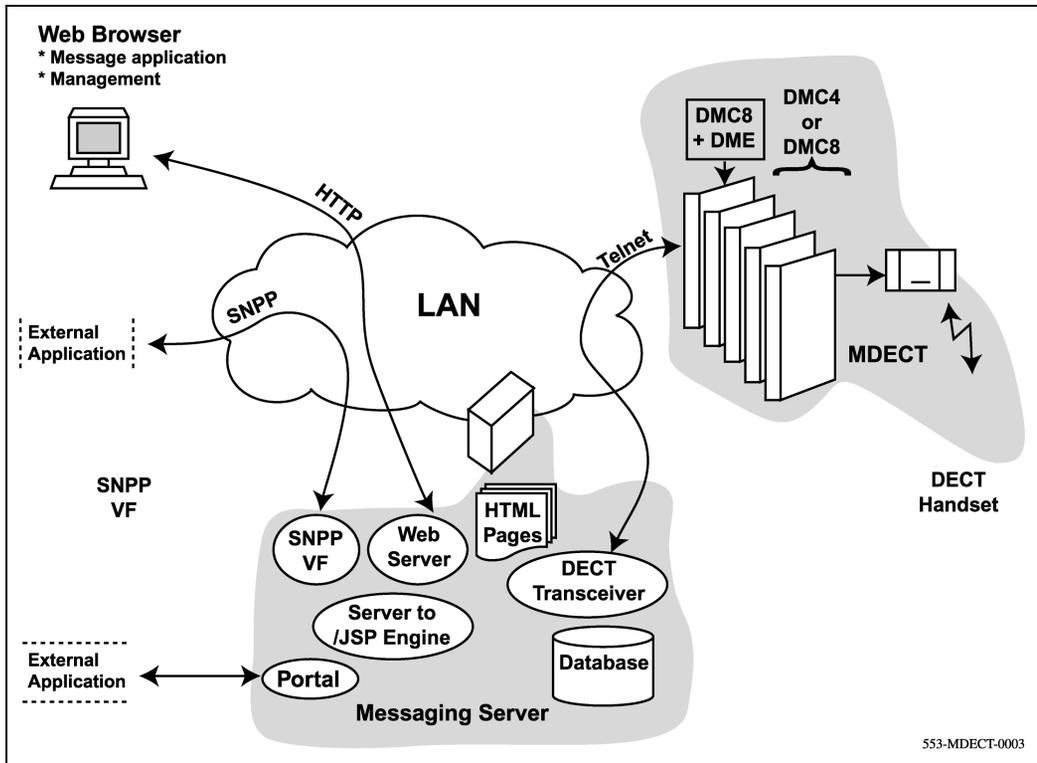
Messaging and alarms

The DECT Messaging system allows text messages to be sent to and from C4040 and C4050 handsets. When there is an incoming message, the handset alerts the user in various ways, depending on the message's priority. The handsets are subscribed to the DECT system using OTM.

Note: For more detailed information on DECT Messaging, refer to *DECT Messaging* (P0989045).

DECT Messaging is a data system. It operates independently of the voice system. Text messages can be received even if the handset is in use. (The only exception is if the handset is ringing.)

Figure 69
DECT Messaging system overview



553-MDECT-0003

Messaging Server

The DECT Messaging system uses a Messaging Server that interfaces to DECT through a DMC8 card. The Messaging Server acts as an interface between the DECT system to external systems and applications, such as alarms.

The Messaging Server supports two standard interfaces to connect to external systems:

- Telelocator Alphanumeric Protocol (TAP) over a serial link.
- Simple Network Paging Protocol (SNPP) over IP.

The Messaging Server provides the following functionality:

- The ability to send messages to a DECT handset from a standard web browser.
- Connection from external paging systems into DECT using standard protocols and interfaces. It supports both hard-wired serial connections and dial-up over modems.
- Handset-to-handset messaging.
- Connection over the IP network to DECT.
- Standard interfaces to allow external applications to be built.
- Web management of subscriber information and configuration data.
- An audit trail of all messages and responses kept by the system. These can be time-stamped to allow administrators to see what has happened at particular times, and to allow statistics to be generated.

Alarms

External applications, such as alarms and radio paging replacement, are supported by DECT Messaging. When an external alarm is triggered from the alarm system, the alarm sends a text message to the DECT Messaging system. The DECT Messaging system forwards the text message to the DECT handset.

External systems can be connected using TAP and SNPP protocols. The supported protocols are:

- SNPP RFC1861 – for LAN access.
- TAP v1.8 – for external paging systems.

Engineering guidelines

Contents

This section contains information on the following topics:

System capabilities and limits	121
DMC8 engineering guidelines	126

System capabilities and limits

This section examines several issues surrounding DECT's capabilities and limits. Information about system hardware and software parameters is also provided.

System concentration traffic

A DECT system without concentration supports a maximum number of 1024 handsets. With the concentration feature, in theory, the handset limit is 510 per DECT Mobility Card x 32 cards = 16320 handsets. However, in practice, traffic limits the number of handsets per card.

Each IPE card slot supports 32 channels of voice and data at the same time through the DS30X interface. Concentration removes the existing fixed ratio of 32 handsets per DMC.

Blocking

Calls in DECT can be blocked at many stages, including the following:

- At the base station – when all channels (6 or 12) of an base station are in use, calls through that base station (both to and from a PP) are rejected.
- At the Backbone interface – when the base stations of one DMC together have 32 radio connections, calls through those base stations (both to and from a handset) are rejected.
- At the IPE backplane interface – when all 32 speech channels to the DS30X interface on the a DMC8 are occupied, calls to and from handsets which have that specific DMC8 as their home DMC8 are rejected.
- At the Network interface – usually the IPE shelf connectivity is a blocking configuration, where the number of network timeslots provided for a shelf is less than the actual number of terminals configured on that shelf.

Traffic definitions

Busy hour traffic – Busy hour traffic is the hour of the day during which a telephone system carries the most calls, voice or data. The unit for busy hour traffic is the Erlang or Centi Call Second (CCS).

Erlang – One Erlang is equal to the continuous use of a circuit for one hour.

CCS – One hundred Call Seconds (CCS) or 100 seconds of continuous use of a circuit. Normally referred to as CCS per hour. For example, a call on a circuit for one hour is equal to 36 CCS.
(60 minutes x 60 seconds = 3600/100 = 36 CCS)

Blocking – A condition when a telephone call does not complete, and the calling party normally hears a busy signal.

Grade of Service – Grade of Service, given as a decimal fraction, indicates the probability of call blocking. For most applications, acceptable figures for blocking are between 0.01 and 0.03.

Traffic assumptions used for table calculations

The following are traffic assumptions used for table calculations:

- A handset that always has good radio contact with a base station assumes that the radio deployment is acceptable.
- The Grade of Service used in all calculations is 1%.
- There is little or no overlap between base stations. (In practice, there is overlap, but to apply standard traffic calculations, it is necessary to simplify the calculation). For example, where there are two 6-channel base stations in the same cell, they will deliver a higher traffic flow.
- Ignore radio channels for handover. The traffic calculations allocate a slightly higher traffic capability to a base station than it can have in practice.
- Blocking occurs at three main areas: the base stations, the backplane, and the network loops. The traffic calculations only use the Erlang values where blocking occurs. For example, if there are three areas each delivering 10 Erlangs, traffic calculations take the total traffic capability as 10 Erlangs, not as 30 Erlangs. Real traffic capacity in this example is possibly more than 10 Erlangs.
- Handset handover continues without interruption.
- Handsets are distributed equally between the system DMC cards.
- All calculations are based on resident handset users. Visiting handset users have a negligible effect on traffic. In unusual circumstances where a site has a large number of visiting handset users, traffic capacity can require adjustments.

System hardware parameters

Tables 3, 4, 5, and 6 detail the minimum and maximum configurations for DECT with the Concentration feature.

Table 3
Minimum configuration

System type	Shelves or cabinets	DMC8	DMC8-E	Base station	Handset
All systems	1	1	0	1 to 8 [†]	1 to 510 [†]

[†]Due to number of Virtual TNs available. Subject to engineering rules and constraints.

Table 4
Maximum Large System configuration

System type	Shelves	DMC8	DMC8-E	Base station	Handset
Large System	2	30	2	256 [†]	16 320 [†]

[†]Due to number of Virtual TNs available. Subject to engineering rules and constraints.

Table 5
Maximum Option 11 configuration

System type	Cabinets	DMC8	DMC8-E	Base station	Handset
Cabinet system without CPU cabinet	2	18	2	160 [†]	640 [†]
Cabinet system with CPU cabinet	2	17*	2	152 [†]	640 [†]
Chassis system (Main cabinet)	1**	3*	0	16 [†]	640 [†]
Chassis system (Expansion cabinet)	1**	3*	1	32 [†]	640 [†]

*One of the DMC8 positions in the CPU cabinet is required by the NTA20 Clock Controller Daughterboard.

** DECT can only exist in one cabinet. The cabinets cannot be joined.

†Due to number of Virtual TNs available. Subject to engineering rules and constraints.

Table 6
Maximum Succession CSE 1000 configuration

System type	Cabinets	DMC8	DMC8-E	Base station	Handset
the first Media Gateway	1***	3	1	32†	640†
all other Media Gateways	1***	4	0	32†	640†

† Due to number of Virtual TNs available. Subject to engineering rules and constraints.

*** DECT can only exist in one Media Gateway. The Media Gateways cannot be joined.

If a cabinet or Media Gateway has a “9th slot”, the slot must be provisioned with a DMC8-E card. All other cards are DMC8s.

The DECT system components have the following capacities:

- One NTCW00AB DMC8 or one NTCW01AB DMC8-E can support up to 8 base stations.
- One C4600 base station can support 6 active calls.
- One C4610 base station can support 12 active calls.
- One C4610E base station can support 12 active calls.

Multiple DECT systems can co-exist in the same PBX system if they are synchronized to the same clock source. However, from a user’s perspective, the DECT systems are separate.

System software parameters

The software that operates the DECT system resides as firmware in the DMCs. The firmware consists of an operating program and a system database configuration. The operating program controls base station and handset functions. The operating program also communicates with the system and the OTM DECT Manager. The system data defines hardware and hardware addressing.

The DMC8/DMC8-E with the ensuing software releases supports the following:

- Release 23 can support basic configuration, CLID and CPND, DECT card addressing within OA&M, and 16 users on each card.
- Release 24.2x can support up to 32 handsets on each card.

Release 25.xx can support up to 510 handsets with Concentration and MSMN.

DMC8 engineering guidelines

This section describes the recommended engineering guidelines for the installation of phantom powered base stations.

The optimum capacity mix of 6-channel and 12-channel base stations is six 6-channel and two 12-channel base stations. Using three or more 12-channel base stations per DMC8 is possible but is not an efficient use of the DMC8's 32 channels.

Nortel Networks recommends that the 12-channel base stations be distributed over the DMC8s.

[Table 7](#) lists engineering guidelines for various deployments of phantom-powered base stations.

Table 7
DMC8 engineering guidelines for 6-channel RFP (base station) and 12-channel RFP (base station) (Part 1 of 2)

System	Number of base stations that can be phantom powered per shelf or cabinet	Total
Large System	eight 6-channel or six 6-channel + two 12-channel @ 0.5 km	128
	seven 6-channel or five 6-channel + two 12-channel @ 1.0 km	112
	seven 6-channel @ 1.7 km	112
	new base stations – any mix at 1.7 km	128
Cabinet	seven 6-channel or five 6-channel + two 12-channel @ 0.5 km	70
	six 6-channel or four 6-channel + two 12-channel @ 1.0 km	60
	six 6-channel @ 1.7 km	60
	new base stations – any mix at 1.7 km	80
Chassis	eight 6-channel or six 6-channel + two 12-channel @ 0.5 km	32
	eight 6-channel or six 6-channel + two 12-channel @ 1.0 km	32
	eight 6-channel @ 1.7 km	32
	new base stations – any mix at 1.7 km	32

Table 7
DMC8 engineering guidelines for 6-channel RFP (base station) and 12-channel RFP (base station) (Part 2 of 2)

System	Number of base stations that can be phantom powered per shelf or cabinet	Total
Succession 1000	eight 6-channel or six 6-channel + two 12-channel @ 0.5 km	32
	eight 6-channel or six 6-channel + two 12-channel @ 1.0 km	32
	eight 6-channel @ 1.7 km	32
	new base stations – any mix at 1.7 km	32

Using the maximum of eight base stations on a DMC8 imposes engineering restrictions on the remaining slots, as listed in [Table 8](#).

Table 8
DMC8 Ordering Tool – system slot restrictions for different base station lengths (Part 1 of 2)

System	Base station average line length	Required number of unoccupied slots
Large System	0.5 km	no restrictions
	1.0 km	for every 1 – 15 slots, one slot must be unoccupied
	1.7km	for every 1 – 6 slots, one slot must be unoccupied
Cabinet	0.5 km	for every 1 – 9 slots, one slot must be unoccupied
	1.0 km	for every 1 – 8 slots, one slot must be unoccupied
	1.7km	for every 1 – 15 slots, one slot must be unoccupied
Chassis	0.5 km	no restrictions
	1.0 km	no restrictions
	1.7km	no restrictions

Table 8
DMC8 Ordering Tool – system slot restrictions for different base station lengths (Part 2 of 2)
(Continued)

System	Base station average line length	Required number of unoccupied slots
Succession 1000	0.5 km	no restrictions
	1.0 km	no restrictions
	1.7km	no restrictions

Netprice Order Tool

The Netprice Order Tool makes certain approximations in provisioning DMC8. This provides a simplified configuration that meets the needs of most sites.

DECT on Large Systems

The Order Tool allows the first 80 base stations to be phantom powered. When more than 80 base stations are requested, the extra base stations are assumed to be local powered. Power adapters are provided as follows:

- C4610 ac adapters
= (sum of 6-channel and 12-channel base stations) – 80
- Adapters must be purchased separately

Note: Because it is not possible to determine how the cards are spread over the two shelves, it is assumed that there are 80 phantom powered base stations per system.

DECT on Cabinet system

The Order Tool allows the first 40 base stations to be phantom powered. When more than 40 base stations are requested, the extra base stations are assumed to be local powered. Power adapters are provided as follows:

- C4610 ac adapters
= (sum of 6-channel and 12-channel base stations) – 80
- Adapters must be purchased separately

DECT on Chassis system

All base stations can be powered from the cabinet power supply.

DECT on Succession 1000

All base stations can be powered from the Media Gateway power supply.

Rules with new base stations

With the new base stations, the provisioning rules are relaxed to allow the maximum number of base stations to be provisioned for each shelf, without the requirements.

Base station combinations for handsets on a DMC8

Low traffic for a 0.1 Erlang capacity

Table 9 shows the 6-channel and 12-channel base station combinations required to support a maximum number of handsets on a DMC card. The calculations are based on each handset generating 0.1 Erlangs of traffic.

Table 9
Number of handsets for a 0.1 Erlang capacity

	Number of 12-channel base stations									
	0	1	2	3	4	5	6	7	8	
0	0	58	117	176	176	220	220	220	220	
1	19	77	136	195	220	220	220	220		
2	38	97	155	214	220	220	220			
3	57	116	174	220	220	220				
4	76	135	194	220	220					
5	95	154	213	220						
6	114	173	220							
7	133	192								
8	152									

Medium traffic for a 0.15 Erlang capacity

Table 10 shows the 6-channel and 12-channel base station combinations required to support a maximum number of handsets on a DMC card. The calculations are based on each handset generating 0.15 Erlangs of traffic.

Table 10
Number of handsets for a 0.15 Erlang capacity

	Number of 12-channel base stations									
	0	1	2	3	4	5	6	7	8	
	0	0	39	78	117	146	146	146	146	146
1	12	51	91	130	146	146	146	146		
2	25	64	103	143	146	146	146			
3	38	77	116	146	146	146				
4	50	90	129	146	146					
5	30	102	146	146						
6	76	115								
7	89	128								
8	101									

High traffic for a 0.2 Erlang capacity

Table 11 shows the 6-channel and 12-channel base station combinations required to support a maximum number of handsets on a DMC card. The calculations are based on each handset generating 0.2 Erlangs of traffic.

Table 11
Number of handsets for a 0.2 Erlang capacity

	Number of 12-channel base stations									
	0	1	2	3	4	5	6	7	8	
	0	0	29	58	88	110	110	110	110	110
1	9	38	68	97	110	110	110	110		
2	19	48	77	107	110	110	110			
3	28	58	87	110	110	110				
4	38	67	97	110	110					
5	47	77	106	110						
6	57	86	110							
7	66	96								
8	76									

Superloop and IPE shelf calculations

Table 12 shows the maximum number of handset users on a DMC8 card for varying traffic levels.

Table 12
Handset capacity/DMC8 for Superloop/IPE

Superloops per IPE shelf	Low traffic 0.1 Erlang	Medium traffic 0.15 Erlang	High traffic 0.2 Erlang
2	138 handsets/DMC	92 handsets/DMC	69 handsets/DMC
1	69 handsets/DMC	46 handsets/DMC	34 handsets/DMC
0.5	34 handsets/DMC	23 handsets/DMC	17 handsets/DMC
Cabinet system	220 handsets/DMC	146 handsets/DMC	110 handsets/DMC

Note: Superloops do not apply to Chassis systems or Succession 1000 systems.

Simplified guidelines

Use Table 12 to calculate the superloop capacity.

Low traffic example of one superloop on each IPE shelf

- Sixty-nine (69) handsets per DMC8 card x 16 DMC8 cards per shelf = 1104 (1000)

Medium traffic example of one superloop on each IPE shelf

- Forty-six (46) handsets per DMC8 card x 16 DMC8 cards per shelf = 736 (750)

High traffic example of one superloop on each IPE shelf

- Thirty-four (34) handsets per DMC8 card x 16 DMC8 cards per shelf = 544 (500)

Site planning

Contents

This section contains information on the following topics:

Overview	135
Site survey	136
Deployment	148
Deployment tool	168
How to use the deployment tool	182
DECT Deployment Kit 2.	184
Deploying DECT.	187
Correcting problems with audio quality	191
Deploying an external base station	191
Single and multiple floor deployment	193
Cell re-engineering for high traffic areas	206
Cell division requirements in special cases.	219
High handset density deployment	222
Deployment review	226

Overview

Site planning starts with a site survey and ends with deployment. The site survey process is an information gathering process. The information received in the site survey determines customer requirements and the number of cells required to support traffic.

Deployment is the process of locating base stations at the site. The module titled “Installing the base station” on [page 239](#) contains general information about the deployment process. This module includes information about a key piece of deployment equipment, the Companion DECT Radio Deployment Tool. The section titled “Preparing the tool for deployment” on [page 171](#) explains how to prepare equipment for deployment.

Other modules describe in detail the procedures related to deployment. These procedures vary according to site details and user requirements.

Site survey

The site survey begins by researching the customer’s requirements. The research will identify a variety of information such as contact names, the number of handset users, and building details.

Customer requirements

The customer must provide:

- a a site contact name and telephone number;
- b site plans;
- c building details;
- d information on available house cabling;
- e radio coverage requirements; and,
- f number of users.

On-site contact

The on-site contact provides:

- a time and date scheduling;
- b access to restricted or locked areas; and,
- c additional information when required.

Site plans

A complete set of site plans are required. Dimensions must be clearly stated on the plans.

Building details

System deployment and installation depends upon the following building details.

- Building identification
- Construction materials, such as walls, floors, ceilings
- Type of use, such as an office, hotel, factory, or store
- Dimensions
- Number of floors
- Height of floors
- Partitioning of floors

Position and use of available cabling

Cables that connect the base station to the DECT system must meet or exceed the UTP Cat 3 standard. UTP Cat 5 is recommended as it provides a greater line length before signal degradation occurs. New cabling is required if the existing cabling does not meet the standard.

Radio coverage

A base station coverage list is required to indicate:

- a** areas where radio coverage is required;
- b** areas excluded from radio coverage due to the proximity of sensitive electronic equipment;
- c** areas where radio coverage is not required;
- d** areas where radio coverage is not feasible or requires specific base stations;

- e objects inside buildings; and,
- f details of furniture, cupboards, and machinery on every floor of the building's interior

Base station installations can be required to be out of sight. A customer could request base stations to be mounted in unsuitable locations, such as stone columns, air ducts or horizontally on the ceiling. Radio coverage cannot be guaranteed when base stations are mounted in unsuitable locations.

Know in advance where coverage is required. Some examples of coverage areas are:

- elevators
- stairwells
- toilets
- outdoor areas

Number of handset users

The following information must be available.

- 1 The number of handset users
- 2 The potential growth of handset users
- 3 The areas of above average and below average traffic density Number of cells required to support traffic

Traffic requirements are determined for each cell. The deployer will calculate system requirements to support user traffic.

Customer review

After the site survey and before the deployment process, the person deploying the site must review coverage requirements with the customer representative. The person deploying the site must explain to the customer representative how the survey is conducted. The customer representative must tell fellow employees that a person deploying the site will be taking measurements in their work place.

Site survey example

The site survey process is an information gathering process. The information received in the site survey determines customer requirements and the number of cells required to support traffic.

A normal site survey

The site survey process includes gathering:

- 1 Survey materials
- 2 Site contact information
- 3 Site plans or maps
- 4 Building information
- 5 Existing cable information
- 6 Base station radio coverage information
- 7 Handset user information
- 8 Reviewing the work

Methods and examples for surveying more detailed sites are shown in the Detailed Site Planning section of this guide. Use one or more of the following surveying methods in the site survey:

- Single floor
- Subsequent system installation
- High handset density area
- Multiple systems installation

Site planning example: Able-Studio

This section describes a site survey for Able-Studio, a fictitious company. Follow this example to conduct the site survey.

The facts for Able-Studio

- The contact is Rolf Sundby at 555-0000. A guest lab coat is necessary to be on the site. Get this lab coat from Rolf.

- The sales representative has recommended DECT.
- The location of the users' offices (and their wired telephones) often changes within the coverage area.
- Not all users have offices and desk telephones. Some users only have handsets.
- The customer does not need coverage in the toilet facility.
- The telephone switch room is next to the toilet facility.
- The customer has no installation restrictions.

The site survey process for Able-Studio

The technician must gather the following information to conduct a site survey:

- 1 [Gather survey items, page 140](#)
- 2 [Identifying site contacts, page 141](#)
- 3 [Obtaining site plans, page 142](#)
- 4 [Gathering building information, page 144](#)
- 5 [Identifying existing cabling, page 145](#)
- 6 [Assessing radio coverage, page 145](#)
- 7 [Profiling handset use, page 147](#)

Gather survey items

Obtain the following items before beginning the site survey. The items are not customer supplied.

- Pick up the DECT tool kit (consisting of tripod and deployment tool kit).
- Get the appropriate Companion Provisioning Record.
- Gather a pencil, an eraser, a ruler, and colored pencils.

Identifying site contacts

Gather the following information and enter it into the work-order and the Provisioning records. The installer requires the following information.

Table 13
Identifying site contacts (Part 1 of 2)

Step	Action
1	Get the company name.
	Record this information.
2	Get the company address.
	Record this information.
3	Contact name.
	Record this information.
4	Obtain the contact telephone number.
	Record this information.
5	Obtain scheduling times and date.
	Record this information.
6	Access to controlled areas.
	Record this information.
7	Obtain any keys or codes needed for secured site areas where radio coverage is required.
8	Obtain additional contact information, if required.
	Record this information.

Table 13
Identifying site contacts (Part 2 of 2)

Step	Action
9	Obtain any required safety equipment, such as a hard hat or safety glasses.
10	Find out if there is an another DECT system within the radio coverage area.
	Record this information.



Obtaining site plans

Obtain two scaled plans. The scale is required to check wiring distances from the controller to the base stations. The scale is in the form of a measured line so that it remains in proportion to the floor plan through reduction copiers.

Figure 70
Example of a site coverage floor plan

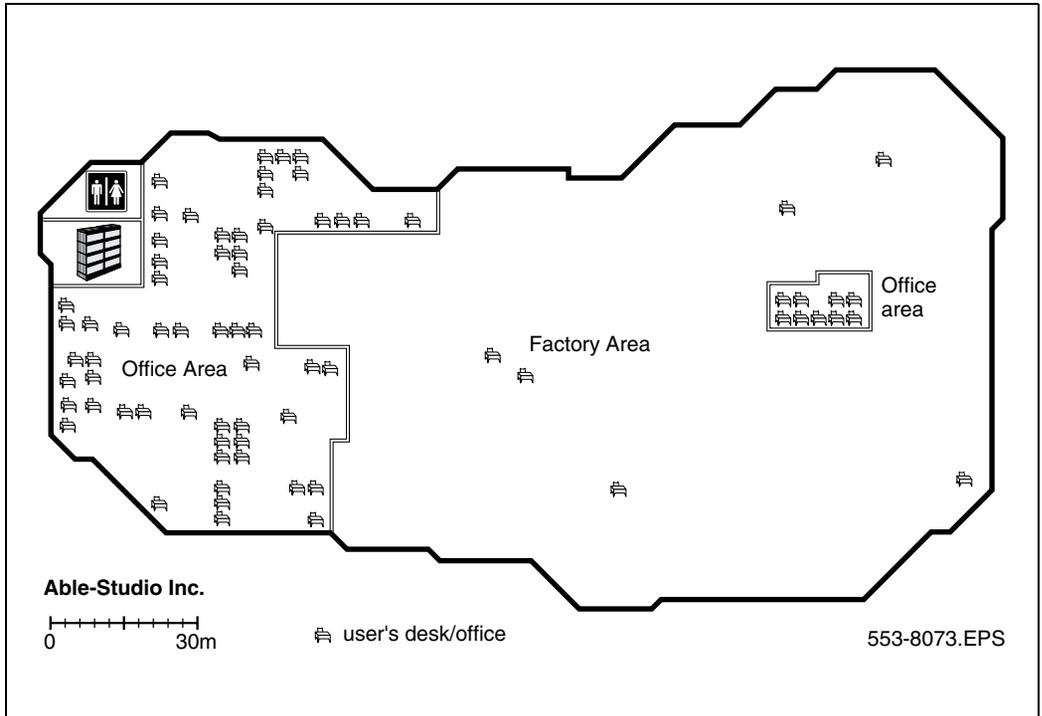


Table 14
Obtaining site plans

Step	Action
1	Obtain two site plans/maps, with dimensions marked.
	One working copy to identify critical points, cell centers, and cell boundaries. One clean copy to attach to the site Provisioning Record for the installer, customer, or maintenance.



Gathering building information

Gather the following information and enter it into the work-order.

Table 15
Gathering building information

Step	Action
1	Obtain building identification.
	Record this information.
2	Obtain information on construction materials, such as walls, floors, ceilings.
	Record this information.
3	Note the type of use of facilities, such as office, hotel, factory, store.
	Record this information.
4	Find the number of floors.
	Record this information. If the building contains atriums, multiple floors, floors not all the same shape or any unusual conditions, see "Multiple floor deployment" on page 201 .
5	Find the height of floors.
	Record this information.
6	Ask about the partitioning of floors.
	Record this information.
7	Discuss the details of furniture, cupboards, and machinery in the interior of buildings on every floor.
	Record this information.
8	Ask about other building details, as necessary.
	Record this information.



Identifying existing cabling

Gather the following information and enter it into the work-order.

Table 16
Identifying existing cabling

Step	Action
1	Obtain the location of the telephone switching room.
	Determine the total length of the cable.
2	Ask about the existing cabling for base station to MDF wiring.
	Wiring from the base station to the shelf or cabinet must be at least UTP Cat 3. UTP Cat 5 is recommended as it provides greater line length before signal degradation occurs.
3	Review the possibility of new UTP Cat 5 cabling required.
	If the cabling is not at least UTP Cat 3, have UTP Cat 5 installed.

**Assessing radio coverage**

Note: If the customer requires the base stations be installed out of sight, this can reduce the coverage capability of each base station. It can limit the performance of the system and substantially increase the cost.

Gather the following information and enter it into the work-order.

Table 17
Assessing radio coverage

Step	Action
1	Inquire about areas where radio coverage is required.
	Record this information.
2	Ask about areas where radio coverage is not required.
	Record this information.
3	Ask about external or outdoor radio coverage.
	Record this information.
4	Discuss areas where radio coverage is not feasible or requires specific base stations.
	Record this information.
5	Discuss areas excluded from radio coverage due to the proximity of sensitive electronic equipment.
	Record this information.
6	Ask about objects inside buildings that could affect radio coverage.
	Record this information.
7	Discuss unsuitable base station locations, such as stone columns, air ducts or horizontally on the ceiling.
8	Discuss what base stations are to be installed out of sight.
	Discuss with the customer. See the preceding note.
9	Inquire about areas of special coverage, such as, elevators, stairwells, toilets.



Profiling handset use

Areas of above average traffic density can have a low number of incumbent users but many incoming users. These can include areas such as cafeterias, restaurants, canteens, and meeting room areas where handset users tend to gather.

A further example of above average traffic density is an environment where all occupants of a given area are provided with handsets. This area will require special planning.

Areas of below average traffic density are areas infrequently accessed by users, such as store rooms and maintenance areas.

Obtain the following information and enter it into the work-order.

Table 18
Profiling handset users

Step	Action
1	Document the number of handset users.
	Record this information.
2	Get an estimate of the potential growth of handset users.
	Record this information.
3	Locate areas of above average and below average traffic density.
	Record this information. See the preceding note.
4	Determine which users have a wired telephone in their office.
	Record this information.

Table 18
Profiling handset users

Step	Action
5	Determine the locations of users' offices.
	Record this information.
6	Ask about the mobility of the users. For example, will the users move from cell to cell, or is the area of movement restricted, such that the users will always be within one cell?
	Record this information.



Deployment

A deployment determines the locations of base stations and cells. The deployment process consists of the following steps.

- [Identifying initial critical points on the floor plan \(page 148\).](#)
- [Locating cell centers \(page 149\).](#)
- [Determining cell boundaries \(page 151\).](#)
- [Identifying critical points and cell boundaries \(page 153\).](#)
- [Marking the points, centers, and boundaries on the floor plan \(page 154\).](#)

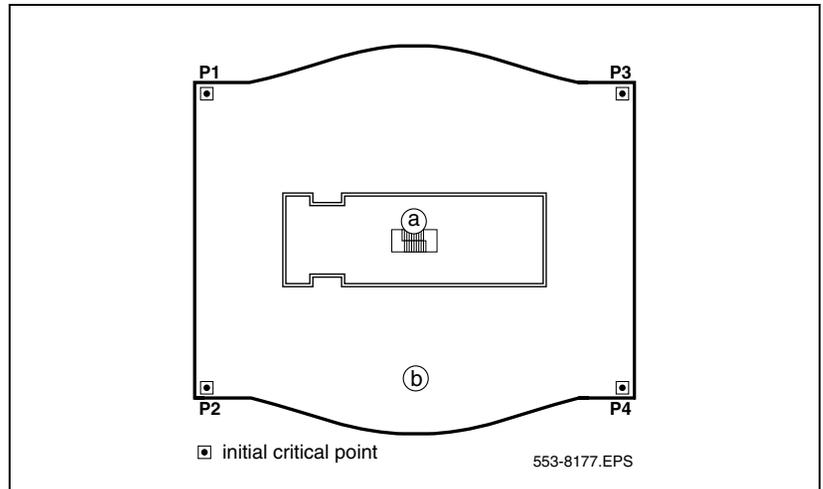
Identifying initial critical points on the floor plan

A critical point is a place that can be difficult for the radio signal to reach, such as a corner of a room, lifts and stairwells. Initial critical points are shown in [Figure 71](#) as P1, P2, P3, and P4.

[Figure 71](#) shows the following:

- a** stairwell
- b** second floor plan

Figure 71
Critical points



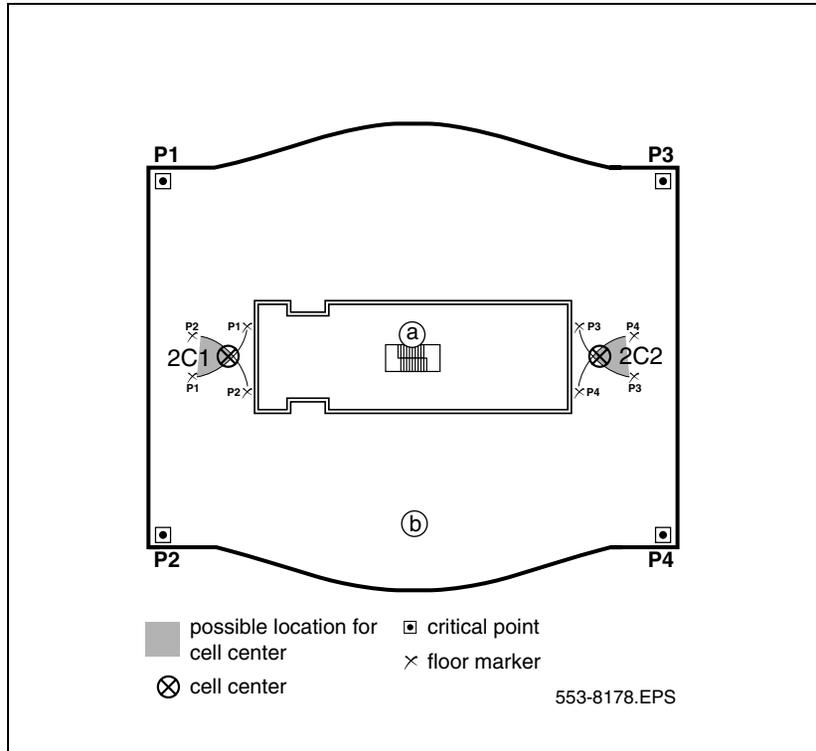
Locating cell centers

Figure 72 shows the following:

- a stairwell
- b second floor plan

A cell center is located by placing the deployment tool at one critical point, for example P1, then using the deployment handset to obtain a change in audio quality. The audio quality change determines the cell boundary contour. This process is repeated at an adjacent critical point, for example P2. Where the cell boundaries of both critical points meet is the cell center. The cell center position is marked on a floor plan. The cell center determines the location of a base station, shown in Figure 72, as arc 2C1.

Figure 72
Cell centers



Rules and guidelines for selecting cell centres

Comply with the following when selecting cell centres.

- Ensure that the installation complies with local electrical codes.
- Install base stations indoors where there is no condensation and the temperature remains between 0°C and 50°C.
- Install base stations within 1500 meters of the Main Distribution Frame (MDF). Wiring from the base station to the shelf or cabinet must be at least UTP Cat 3. UTP Cat 5 is recommended as it provides a greater line length before signal degradation occurs.

- Position base stations upright on walls. Base stations must be at least 30 centimeters from the ceiling.
- Position base stations at least 1 m from large concrete or stone columns and from any major building structural members such as support beams or columns.
- Position the base stations high enough to clear obstructions between the base stations and the cell edge close to the ceiling.
- Mount the base stations clear of obstacles such as pipes or ducts.
- Do not install base stations in spaces that transport air, such as ducts or plenums.
- Do not mount base stations on the ceiling.

Determining cell boundaries

A specific RSSI value on the handset defines the cell boundary range. Links can be made outside the cell boundary but the audio quality of the link is poor. The link drops when the handset and the base station are too far apart.

As shown in Figure 73, the cell boundary is the furthest point from the cell center where a clear radio signal can be heard.

The range from the cell center to the cell boundary, or the distance to a potential cell center from a critical point, is determined by using the cell boundary value and the deployment tool.

Figure 73
Cell boundary terminology

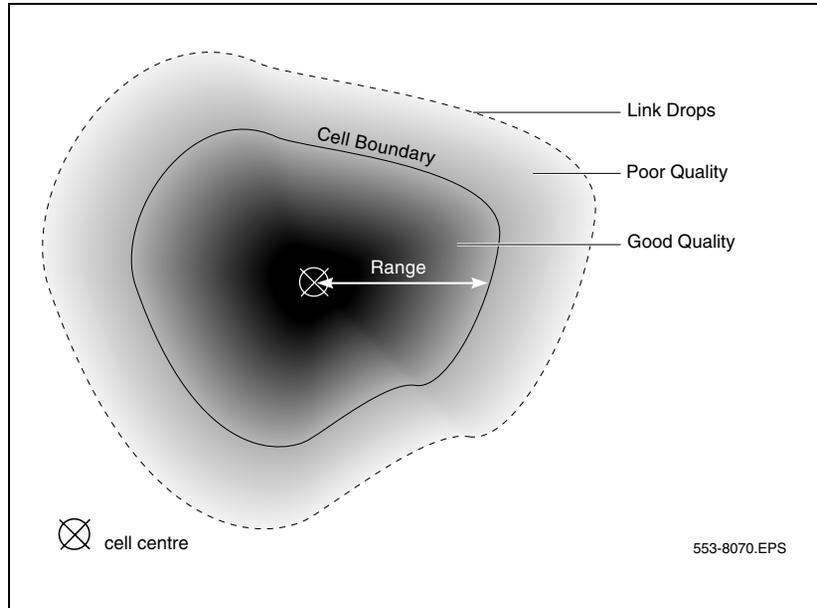
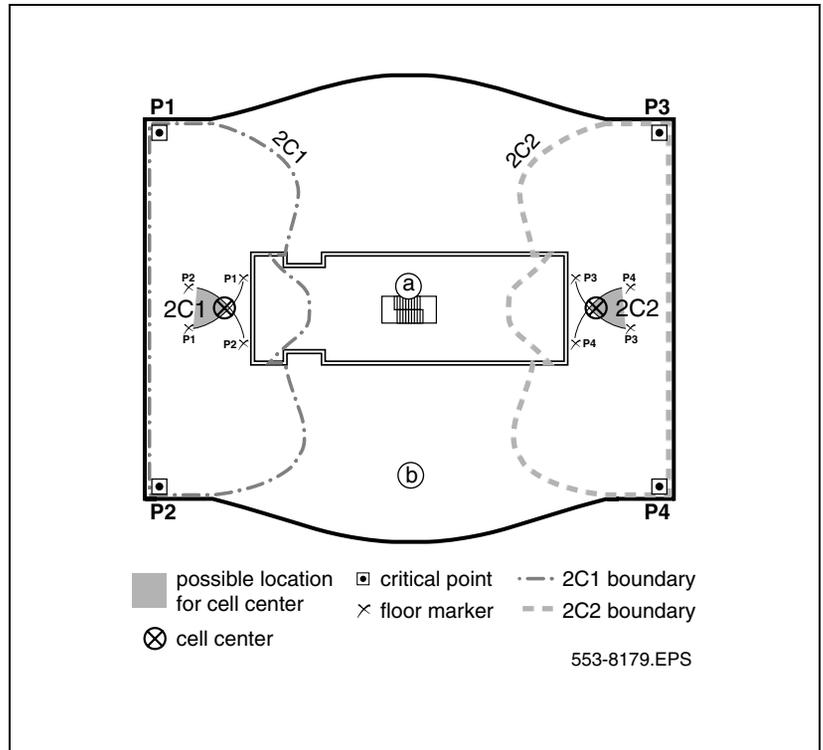


Figure 74 shows the following:

- a** stairwell
- b** second floor plan

A cell boundary for the cell center is determined by placing the deployment tool at the cell center, for example 2C1, and using the deployment handset to establish the cell boundary. The cell boundary contour is marked on the floor plan, and shown in Figure 74 by a dash-dot line.

Figure 74
Cell boundaries



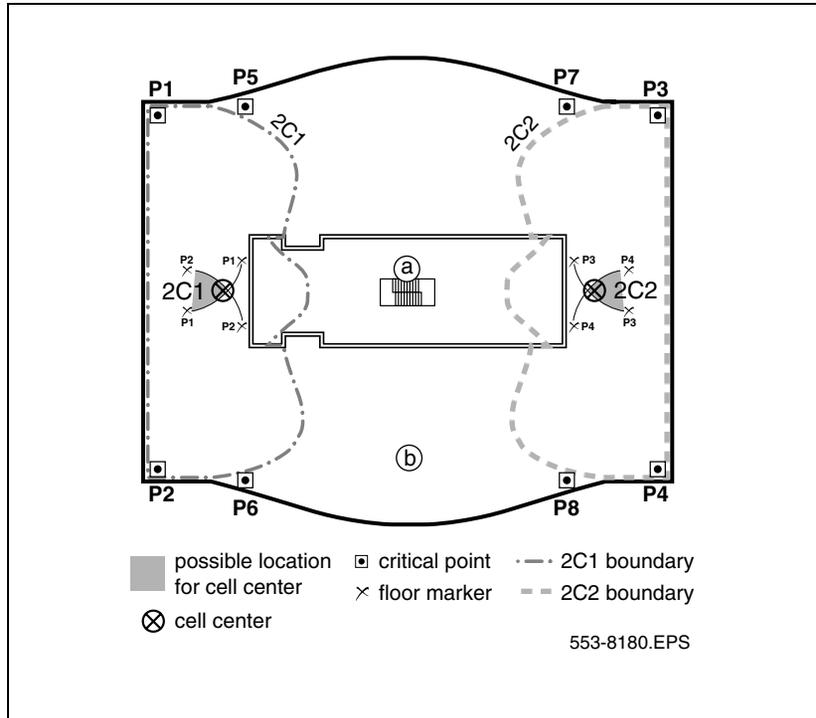
Identifying critical points and cell boundaries

Figure 75 shows the following:

- a stairwell
- b second floor plan

Additional critical points, shown in Figure 75 as P5, P6, P7, and P8, are identified to ensure base station radio coverage for the entire area.

Figure 75
Additional critical points and cell boundaries



Marking the points, centers, and boundaries on the floor plan

This section describes how to label critical points, cell centers, and cell boundaries on the floor plan.

Mark the information clearly on the floor plans during the survey. The customer, the sales group, the installer, and maintenance personnel need to read these floor plans.

Use a different color for each cell. Use the same color for each cell center and its corresponding cell boundaries. Indicate the information on the floor plan as follows:

- **critical points** – mark \blacksquare on the floor plan.
- **cell centers** – mark \otimes on the floor plan.
- **cell center** - label each as xCn where x is the floor and n is the next sequential cell center.
- **cell boundaries** – mark wide, colored lines on the floor plan.

For example, label a cell center on the second floor as 2C3. The 2 before the C indicates that the cell center is on the second floor. The 3 after the C indicates that this cell is the third cell in sequence in the site planning process.

Table 19
Example cell labels

Floor	Cell label
First floor	2C1, 2C2, 2C3
Ground floor	1C1, 1C2, 1C3
Basement level one	-1C1, -1C2, -1C3
Basement level two	-2C1, -2C2, -2C3

Figure 76
Example cell boundaries

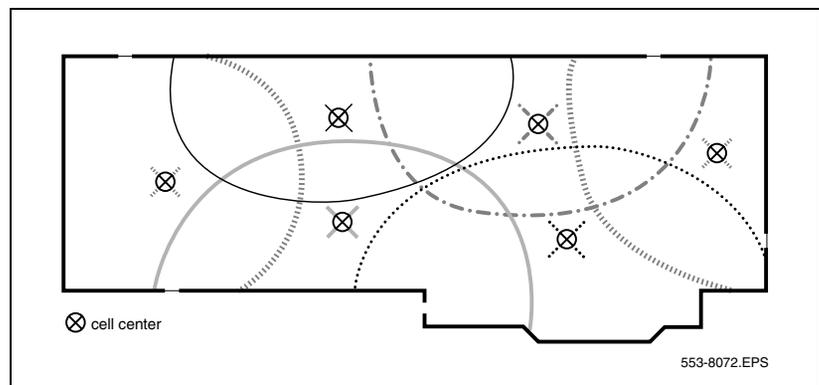


Figure 77
Points, centers, and boundaries on the floor plan

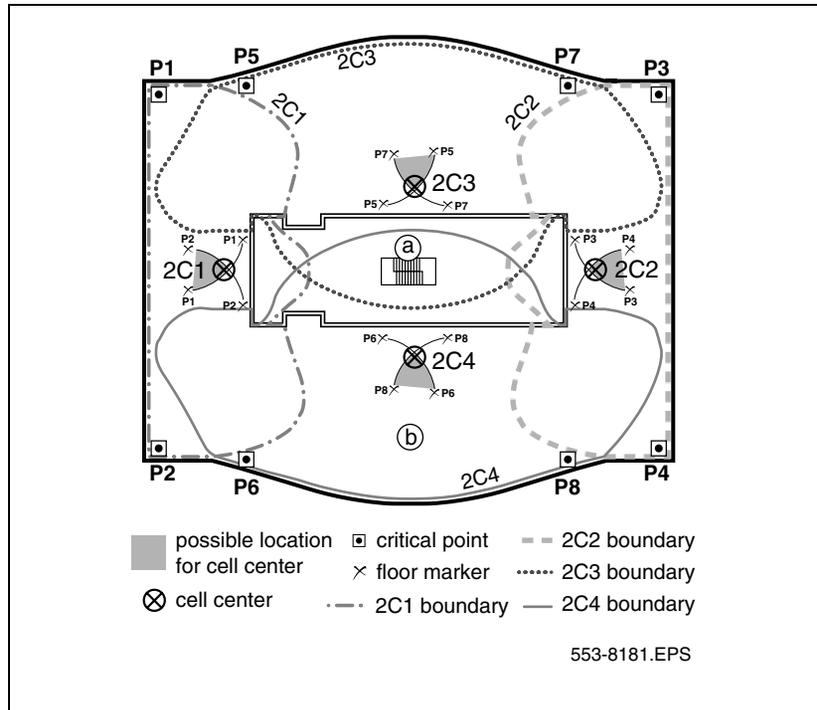


Figure 77 shows a typical floor plan marked-up after determining subsequent cell boundaries. The completed floor plan would appear as follows:

- Initial critical points are shown at P1, P2, P3, and P4.
- Cell centers are located where arcs from P1/P2, P3/P4 intersect.
- 2C1 and 2C2 show cell centers or base station locations.
- Dashed and dotted lines show cell boundaries.
- Additional critical points are shown at P5 P6 P7 P8.
- 2C3 and 2C4 cell centers provide full coverage of the floor.

Two copies of the floor plan are required. One copy is used during the site planning. The second copy is marked with the information from the site planning copy and attached to [Provisioning records, page 233](#) for the installer.

Deployment illustrations

These illustrations represent the deployment process from start to finish.

Figure 78
Example of initial critical points

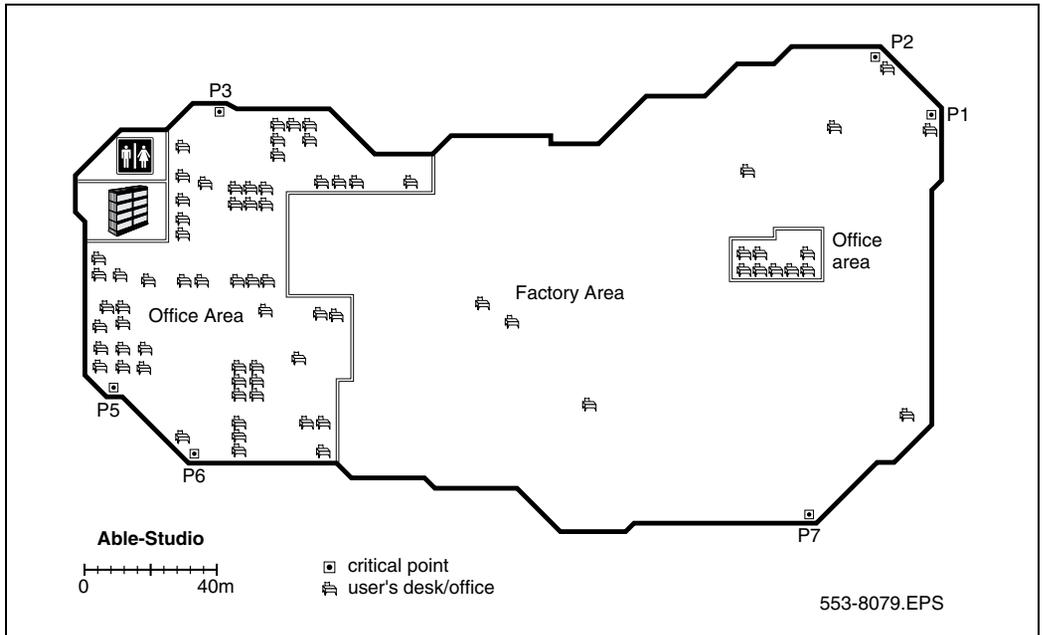


Figure 79
Cell contour of the initial critical point

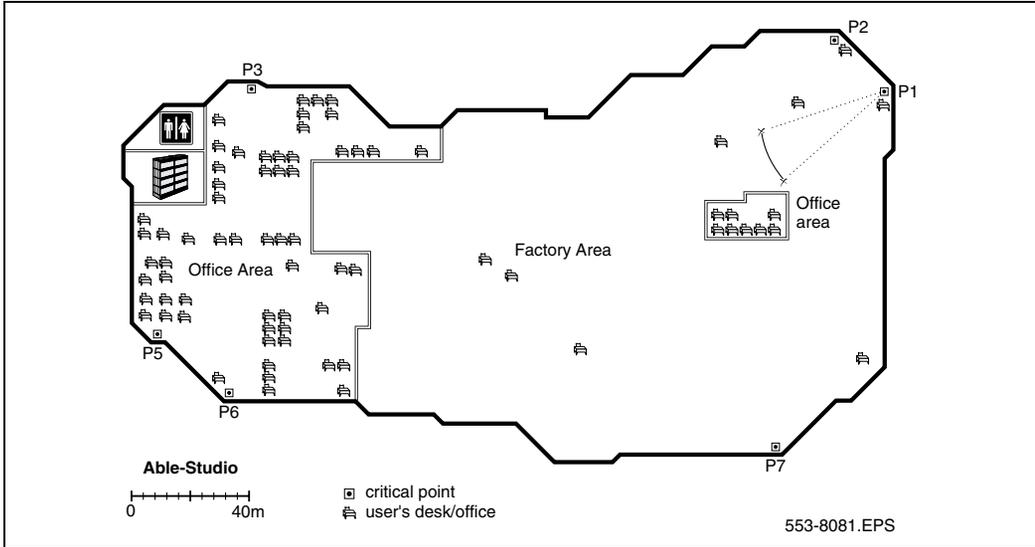


Figure 80
Cell contour of the closest adjacent critical point to the initial critical point

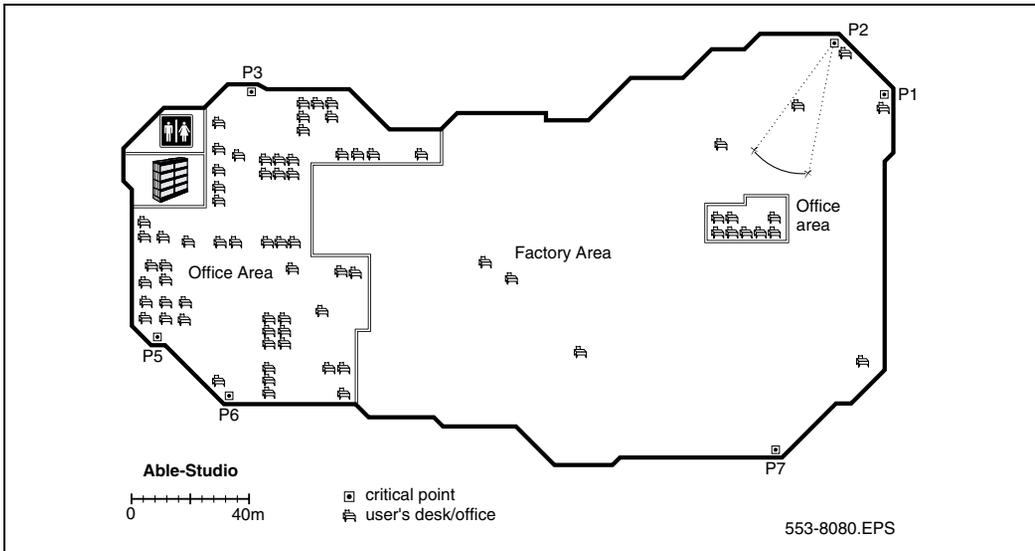


Figure 81
Example of a cell center

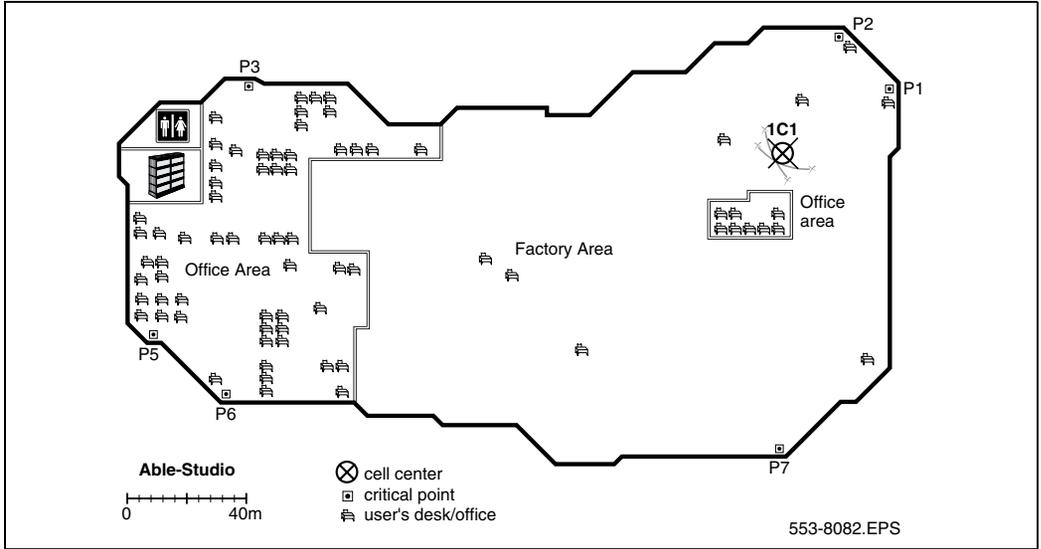


Figure 82
Example of a cell center boundary

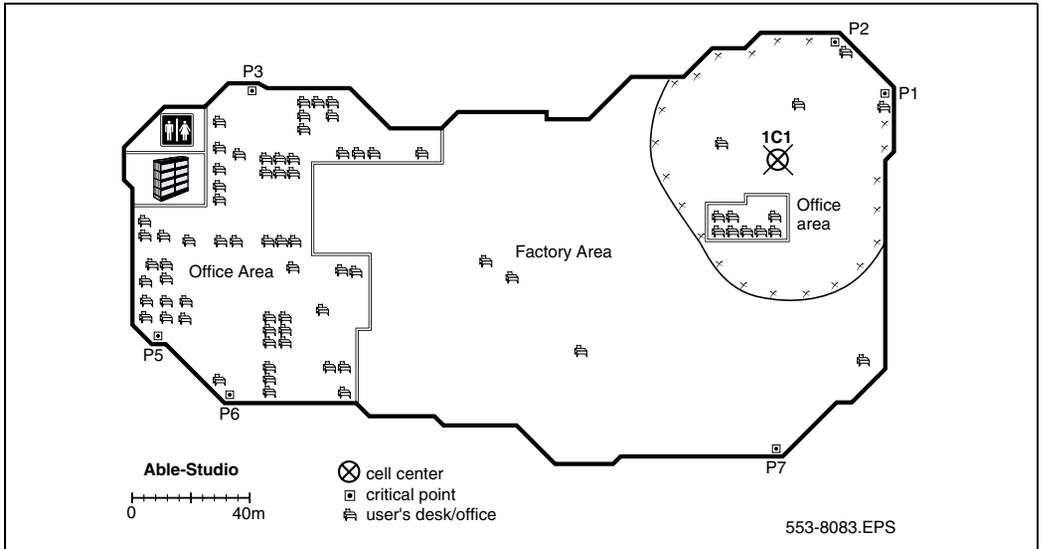


Figure 83
Example of new critical points (P8 and P9)

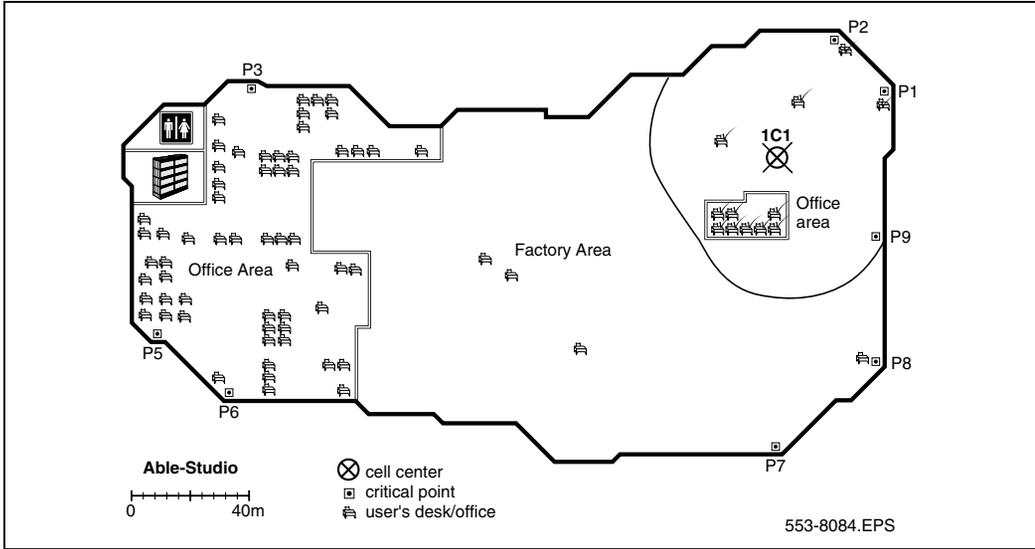


Figure 84
Example of deployment for cell center 1C2

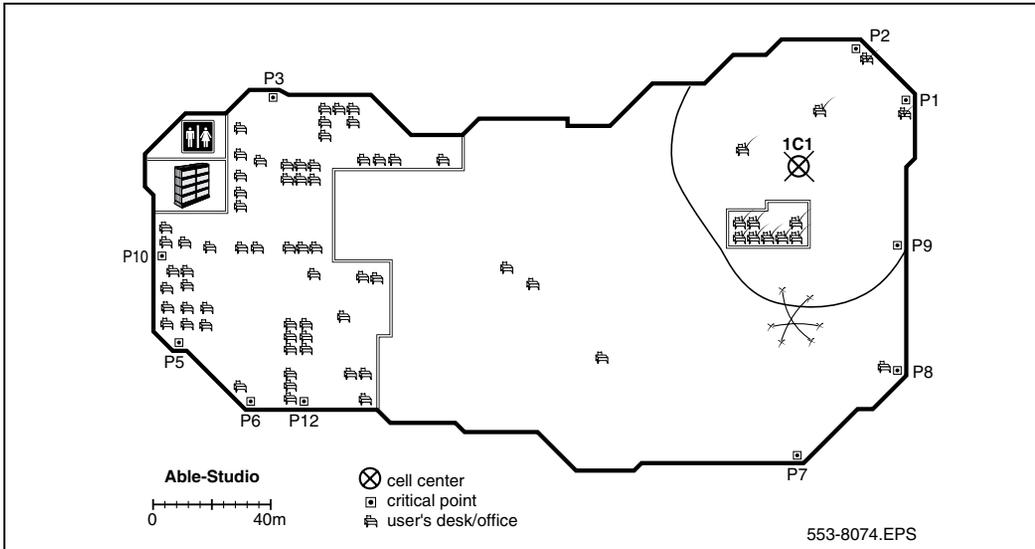


Figure 85
Example of deployment for cells 1C3 and 1C4

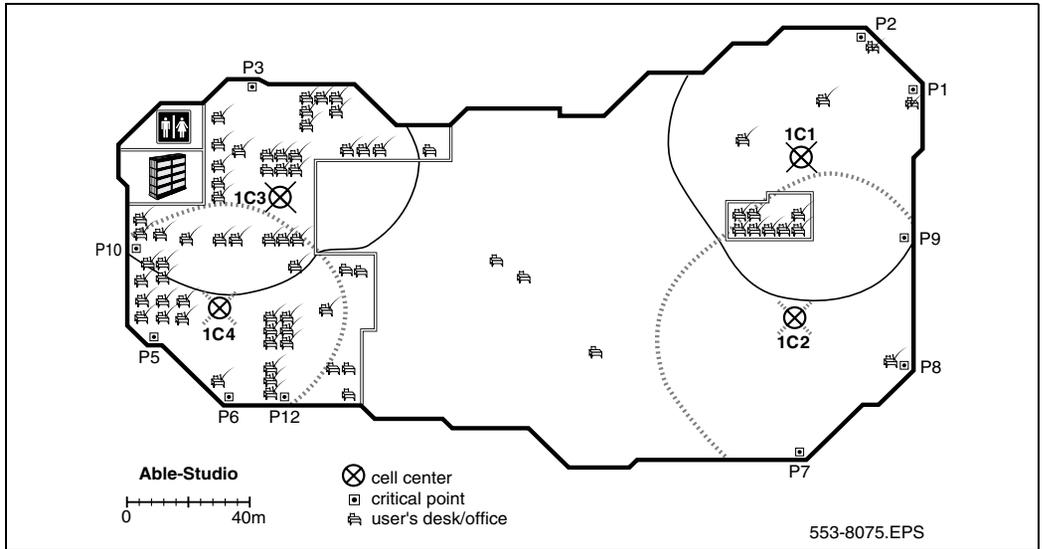


Figure 86
Identify new critical points (P11, P12, P13, P14, P15, P16, P17)

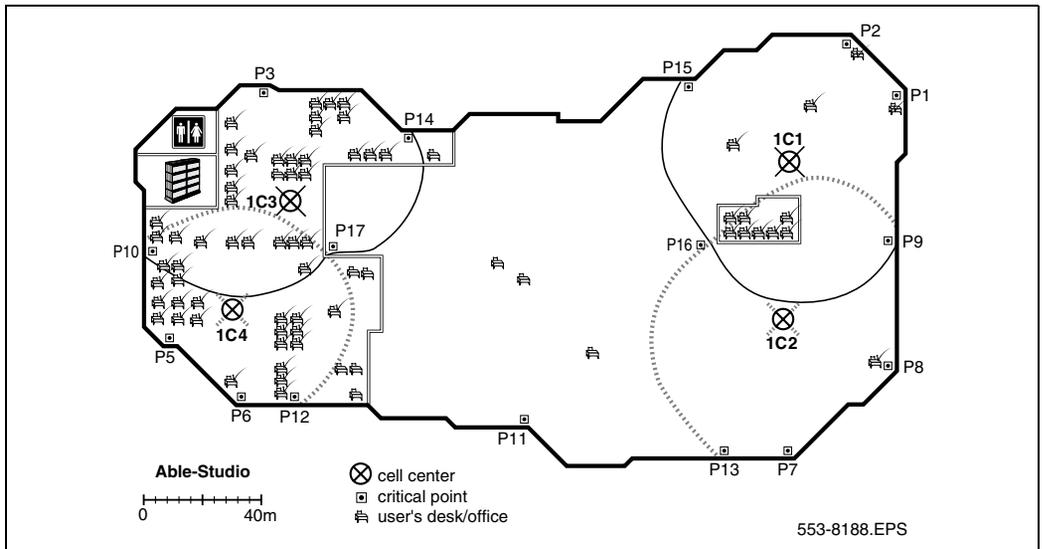


Figure 87
Contours formed by critical points P11, P13 and P16

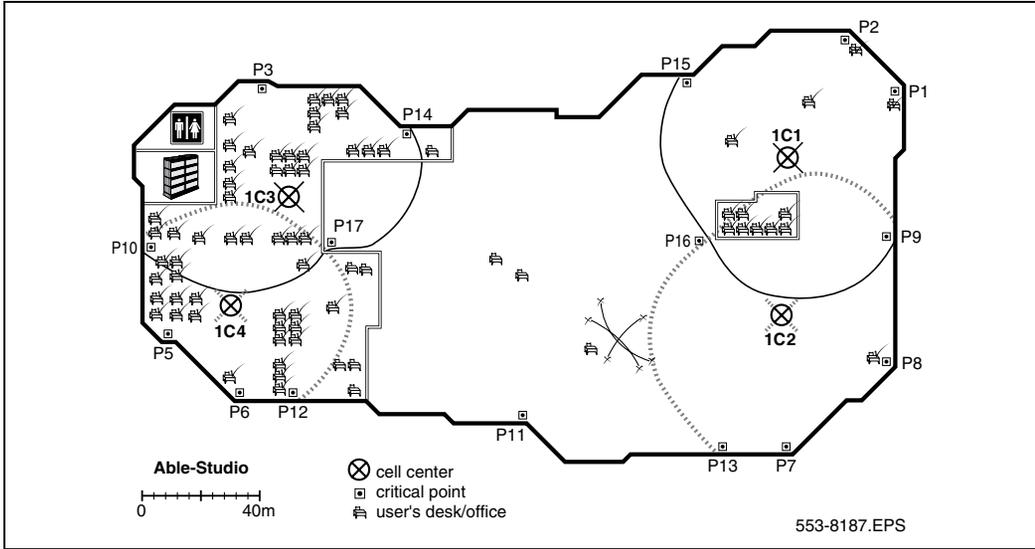


Figure 88
Cell center 1C5 formed by critical points P11, P13 and P16

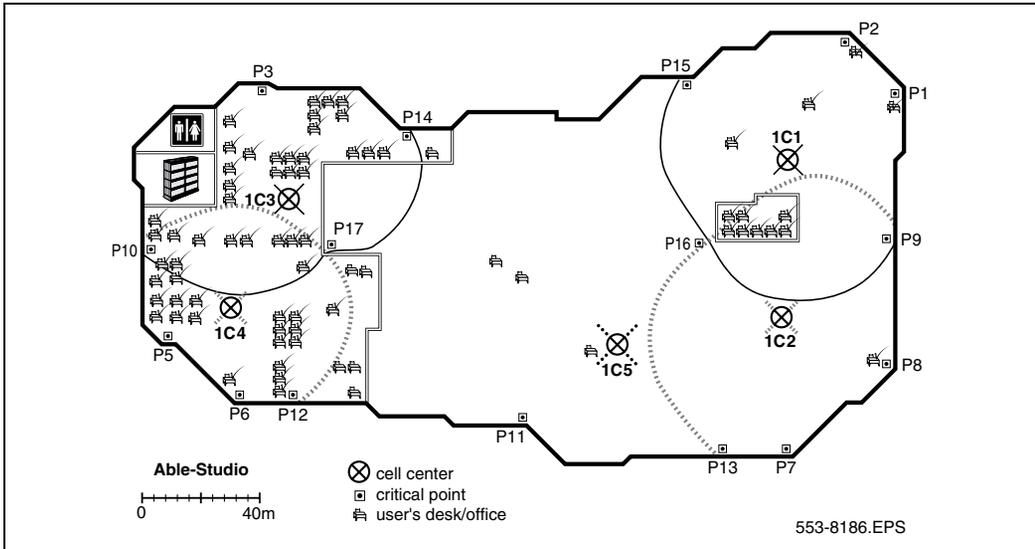


Figure 89
Cell boundary 1C5 formed by critical points P11, P13 and P16

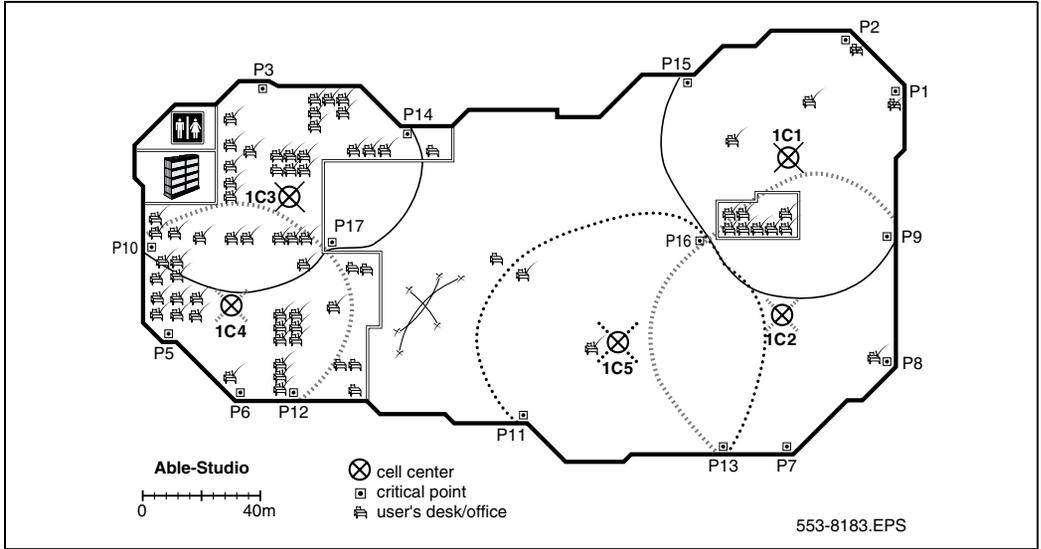


Figure 90
Example of critical point cell boundaries

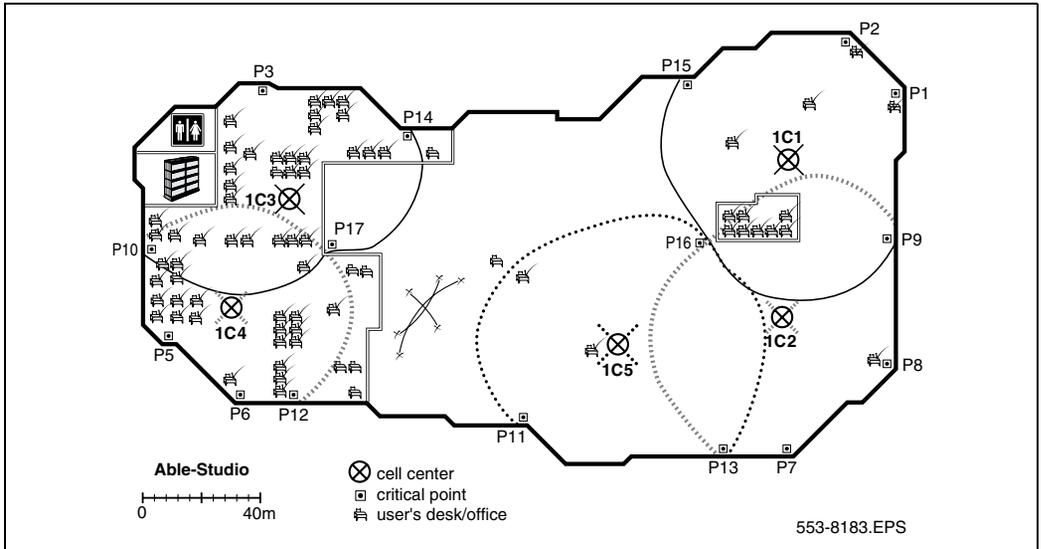


Figure 91
Example of cell center boundary 1C6

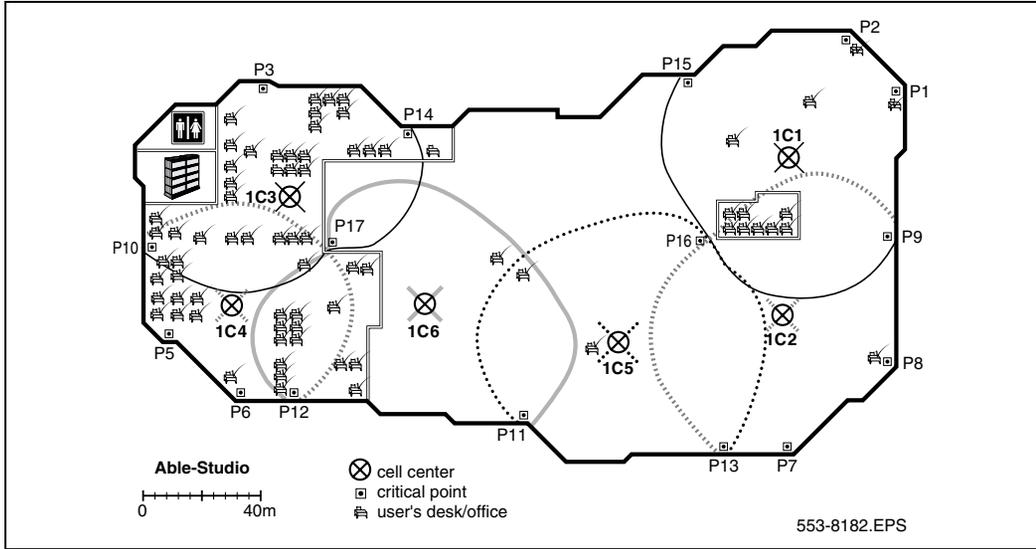
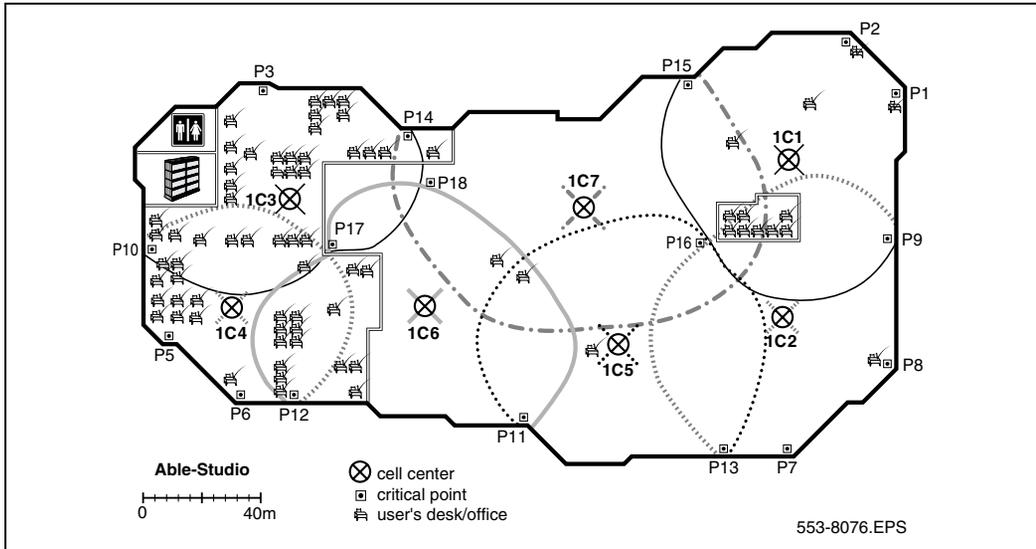


Figure 92
Example of a floor plan showing complete radio coverage



Deployment terms

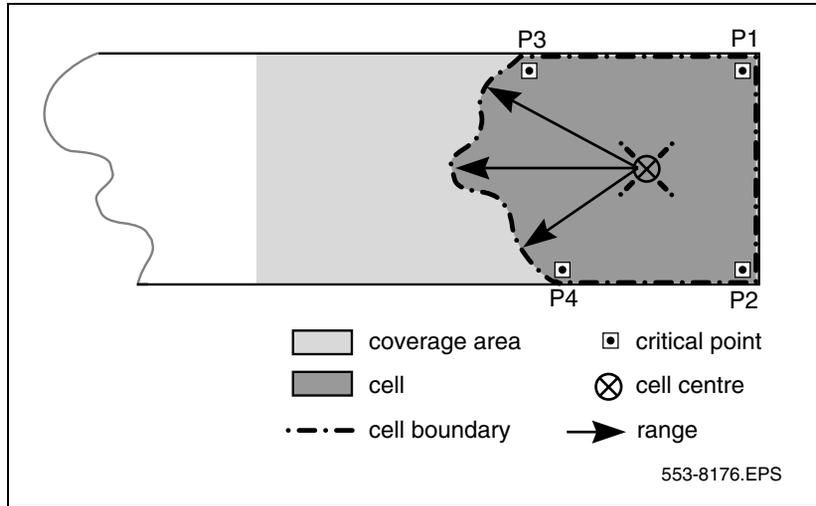
Terms associated with deployment are listed in the following table.

Table 20
Deployment terms

Term	Definition
Coverage area	An area where a handset can be used to make and receive calls.
Cell	The coverage area provided by the base station antennas.
Cell boundary	The parameter of a cell coverage area.
Critical point	A point or location defined as the extreme corner of a coverage area, that can be difficult for the radio signal to reach.
Cell centre	The installation point of the base station serving the cell.
Range	The distance from a cell centre to its cell boundary.
Traffic table	Traffic tables record site traffic information from the floor plan and the customer. The traffic table helps to determine the required number of base stations for each cell.

The following figure, [Figure 93](#), illustrates these terms.

Figure 93
Example showing deployment terms



Coverage terms

The terms used in this guide are described in [Table 21](#) and illustrated in [Figure 94](#).

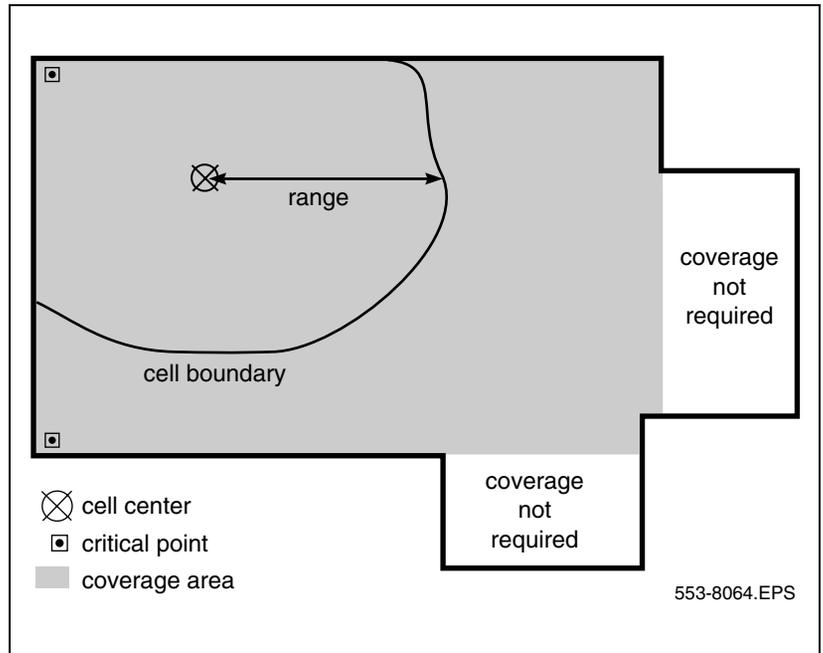
Table 21
Coverage terms

Term	Definition
Estimated number of handsets	The average number of handsets expected in a particular cell.
Cell	The coverage area provided by a base station.
Cell boundary	The edge of a cell showing the cell coverage area.
Cell center	The place where all the base stations are installed.
Companion DECT Radio Deployment Tool	The tool used to determine the radio range of a base station.
Critical point	A point or location defined as an outer corner of a coverage area, or points that can be difficult for the radio signal to reach.

Table 21
Coverage terms

Term	Definition
Coverage area	The area defined by the customer in which a handset user should be able to make and receive calls.
Link	When a handset and a base station are in radio communication with each other.
Range	The distance from a cell center to the cell boundary.
Office	The location where a handset user spends the majority of their day.
Traffic table	Traffic tables record site traffic information from the floor plan and the customer. The traffic table helps to determine the required number of base stations for each cell.

Figure 94
Coverage terms



Deployment tool

The DECT Deployment Tool (deployment tool) determines cell centers and cell boundaries. See [Figure 104](#) and [Figure 105](#) on [page 185](#).

Figure 95
Deployment tool carrying case and packing details

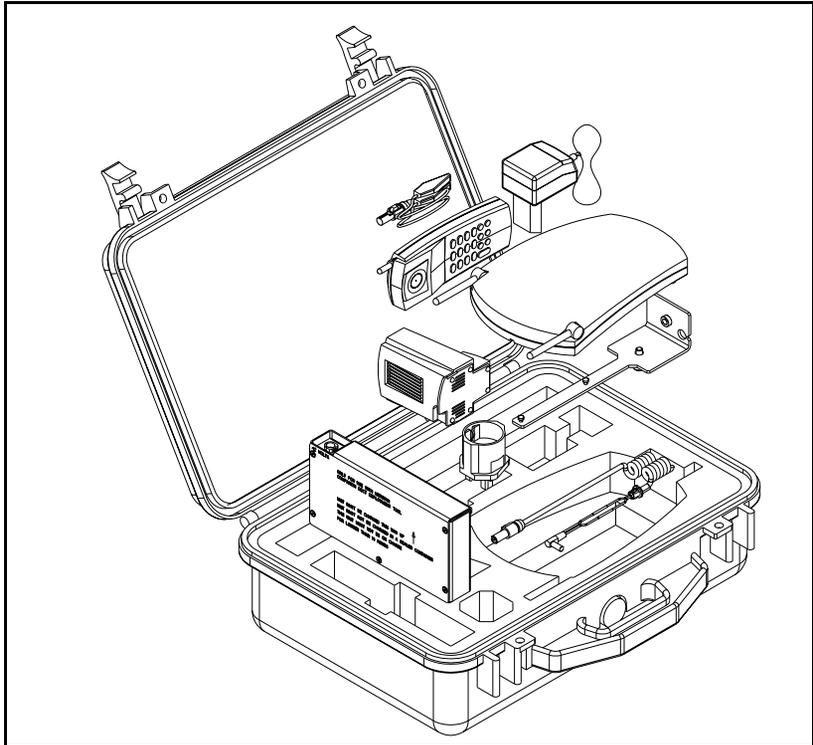
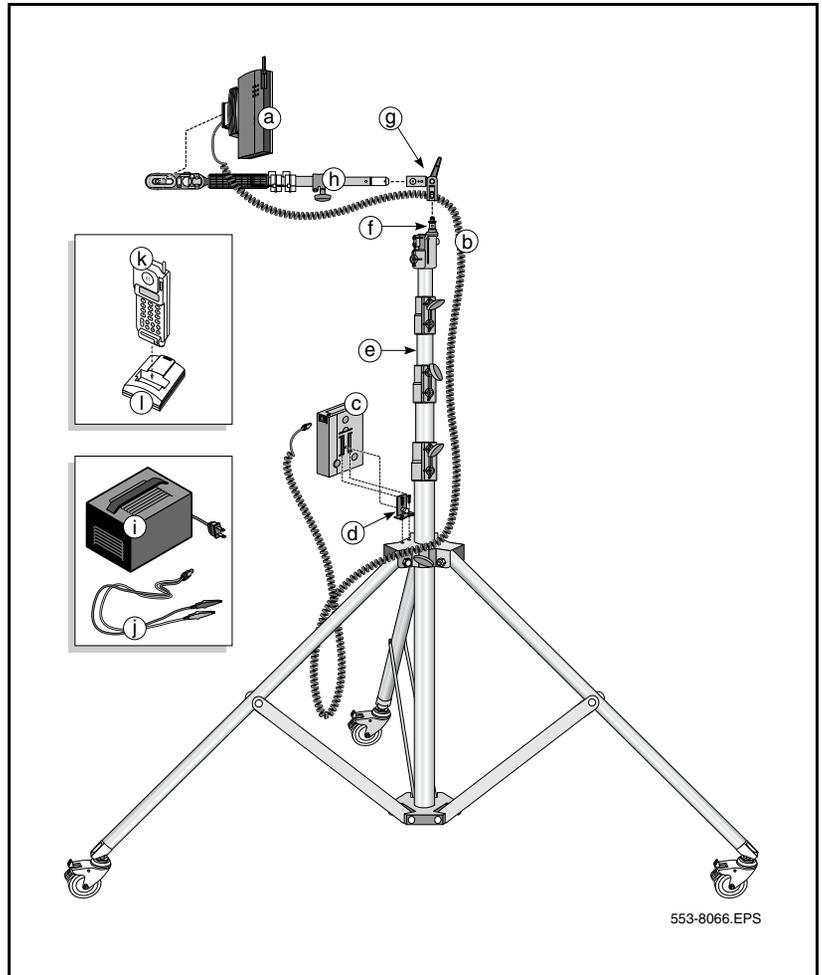


Figure 96
Assembled deployment tool



Key

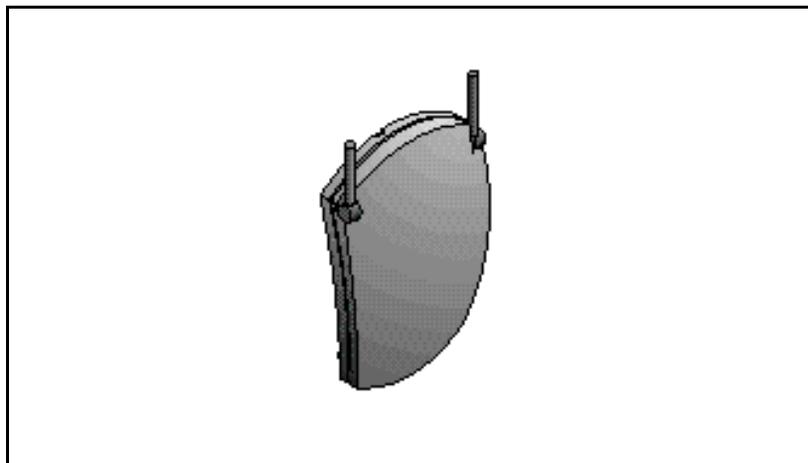
- a base station
- b power cord
- c battery

- d battery mount
- e adjustable tripod
- f extender arm connector
- g extender arm swivel and clamp
- h extender arm
- i battery charger (separately ordered)
- j battery charger cable
- k deployment handset
- l deployment handset battery charger

The deployment tool tripod is available in three heights:

- 2.4 meters
- 3.6 meters
- 4.8 meters

Figure 97
Deployment tool base station



Do not position the deployment tool base station next to large concrete or stone columns. This affects the contour of the cell boundary. Keep the deployment tool base station at least 1 m from such columns.

Preparing the tool for deployment

Preparing the tool for deployment involves:

- 1 “Charging the deployment tool battery” on [page 171](#)
- 2 “Charging the deployment handset battery” on [page 173](#)
- 3 “Assembling the deployment tool” on [page 175](#)
- 4 “Testing the deployment handset” on [page 179](#)

Charging the deployment tool battery

Charge the deployment tool battery for at least six hours before using.

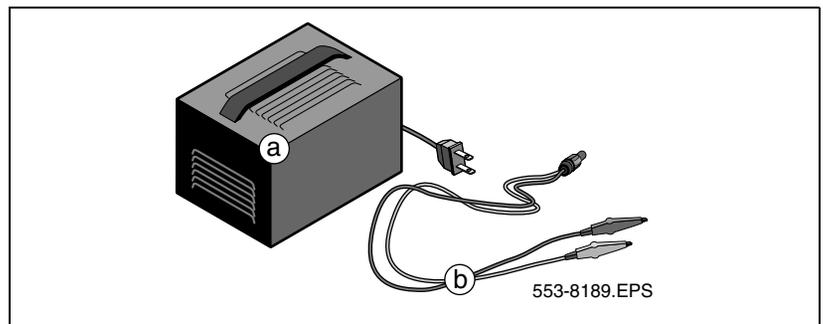


CAUTION — Equipment Damage

Use the Nortel Networks' battery charger. This charger is a separately ordered item. Failure to use an automatic shut-off battery charger can damage the battery.

Do not use the battery supplied with the CT2 deployment tool. The CT2 and DECT batteries are not interchangeable.

Figure 98
Deployment tool battery charger



Key

- a battery charger (must be ordered separately)
- b battery charger cable

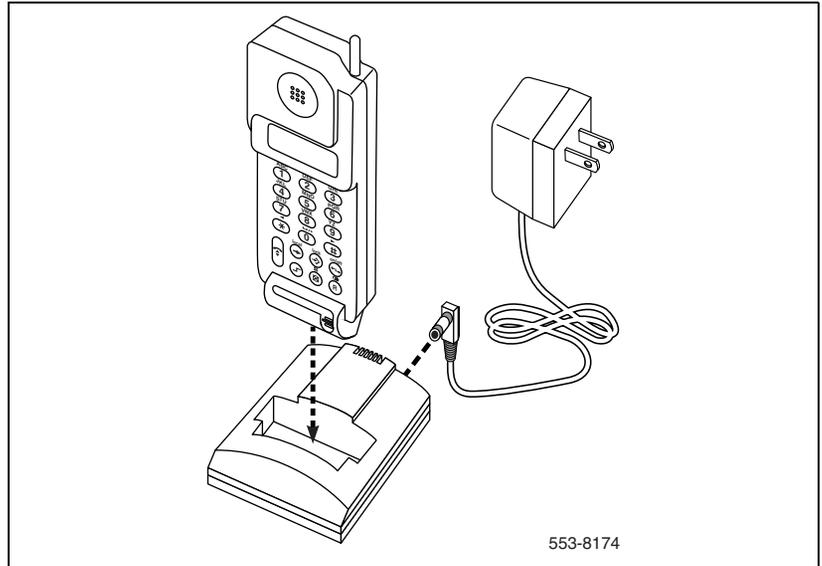
Table 22
Charging the deployment tool battery

Step	Action
1	Set up the deployment tool battery charging equipment.
	Remove the deployment tool battery, charger, and charger cord from the yellow case.
2	Charge the deployment tool battery.
	Connect the charger cord plug into the battery. Connect the red alligator clip to the positive lead of the charger, and the black clip to the negative lead of the charger. Connect the battery charger to the ac mains.
3	Remove the deployment tool battery from the charger after it is charged.
	The battery must charge for at least six hours.



Charging the deployment handset battery

Figure 99
Deployment handset battery charger



Charging time

Charge the deployment handset battery for at least 12 hours before using the first time. Charge the handset at least six hours before any subsequent use.

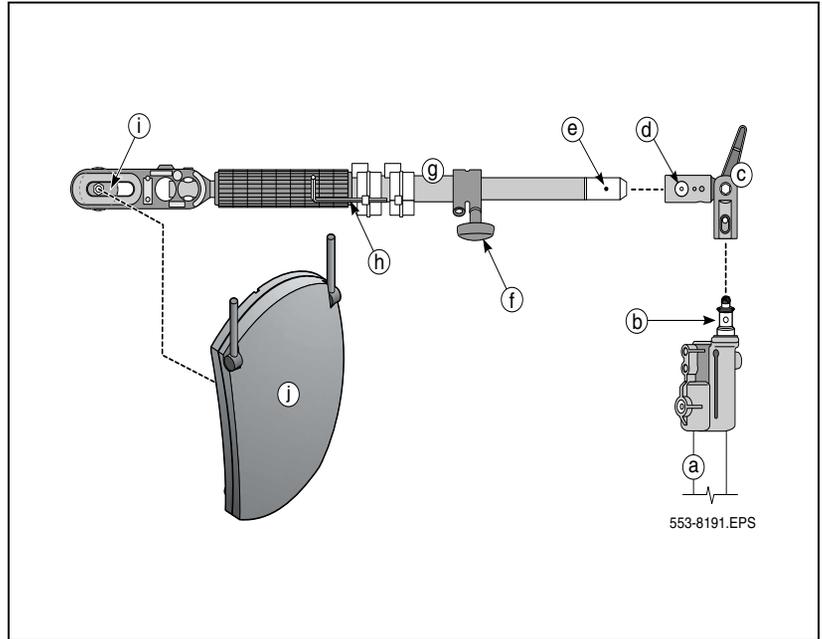
Table 23
Charging the deployment handset battery

Step	Action
1	Set up the deployment handset battery charging equipment.
	Remove the deployment handset battery, charger and charger cord from the yellow case.
2	Charge the deployment tool battery.
	Connect the charger cord to the charging stand. Connect the charger cord to the AC mains. Place the handset into the charging stand. The red LED flashes while the handset is charging.
3	Remove the handset from the charger when it is ready for use.



Assembling the deployment tool

Figure 100
Deployment tool extension details



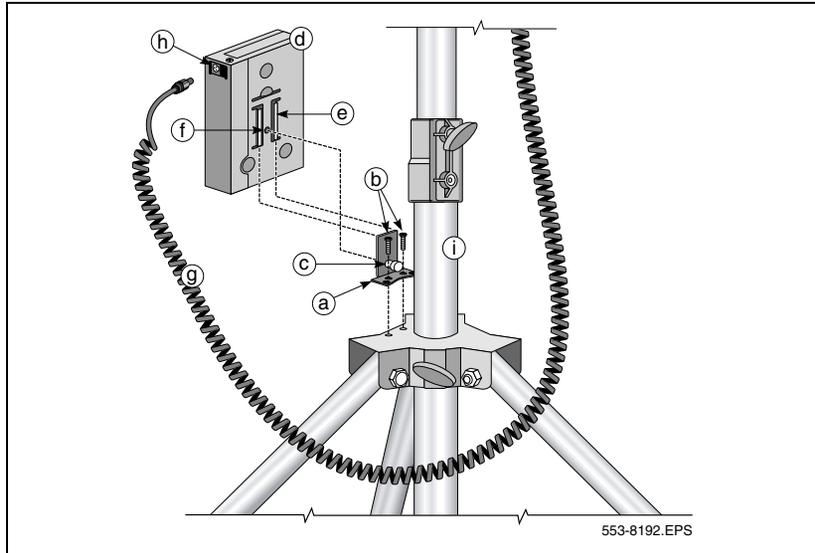
Key

- a** adjustable tripod
- b** extender arm connector
- c** extender arm swivel
- d** detente stop
- e** detente
- f** extension thumb screw
- g** telescopic extension
- h** allen key

- i base station attaching thumb screw
- j base station

Note: The deployment tool battery and the deployment handset battery must be charged for at least six hours before use.

Figure 101
Deployment tool battery details



Key

- a battery mount
- b allen screws
- c thumb screw
- d battery pack
- e guides
- f thumb screw nut
- g power cord

- h power cord receptacle
- i tripod

Table 24
Assembling the deployment tool (Part 1 of 2)

Step	Action
1	Set up the tripod.
	Remove the tripod from its carrying case and set upright. Lock the casters.
2	If required, install the extension arm fitting on the tripod. If not required, go to step 4.
	Place the extension arm fitting, shown in Figure 104 on page 184 , onto the brass fitting on the top of the tripod.
3	If required, secure the extension arm fitting.
	Use the Allen key attached to the extender arm to secure the extension arm fitting allen screw.
4	Mount the extension arm on the tripod.
	Place the brass end of the extension arm into the fitting, so that the keying hole of the extension arm mates with the retaining thumb screw locking device of the tripod fitting. The thumb screw locking device will click into the keying hole of the extension arm.
5	Position the extension arm.
	Orient the arm into the proper position. Secure the tripod fitting and the extension arm thumb screw.
6	Affix the base station to the extension arm.
	Remove the base station from the yellow case. Mount the base station onto the end of the arm. Screw the arm's brass thumb screw into the bottom of the base station and secure into place with the grey lock thumb screw.
7	Position the antenna.
	Rotate the antenna from its stowed position, against the body of the base station, to its upright operating position.
8	Position the base station. The normal position is with the antenna pointing upwards.

Table 24
Assembling the deployment tool (Part 2 of 2)

Step	Action
	Secure the base station with the arm thumb screw.
9	Mount the battery fixture on the tripod.
	Remove the battery bracket, shown in Figure 101 , from the yellow case. Screw the battery bracket onto the tripod caster brace, with the two machine screws.
10	Mount the battery.
	Pull the release pin on the bracket back and slide the battery grooves on to the bracket. Ensure the bracket pin locks into the battery.
11	Connect the base station to the battery.
	Plug the base station power cord connector into the upper right edge of the battery.



Testing the deployment handset

Figure 102
Handset display and keypad details



Table 25
Testing the deployment tool handset

Step	Action
1	Start the test and establish a link with the base station.
	Remove the handset from its charger.
2	Turn on the handset.
	Press the shift key $\sqrt{\quad}$ and press the ON/OFF button. The handset displays DECT HANDSET .
3	Select system mode.
	Press the shift key and press the local key. The handset displays SYSTEM .
4	Select the monitor mode.
	Press the star key. The handset displays MONITOR MODE .
5	Select the monitor mode code.
	Press the lock button. The handset displays CODE .
6	Enter the monitor mode code.
	On the dial pad, enter 2530. Press the lock button.
7	Interpret the handset RSSI display and test tone.
	Follow the explanation in "How the deployment tool works" on page 180 and "How to use the deployment tool" on page 182 .



How the deployment tool works

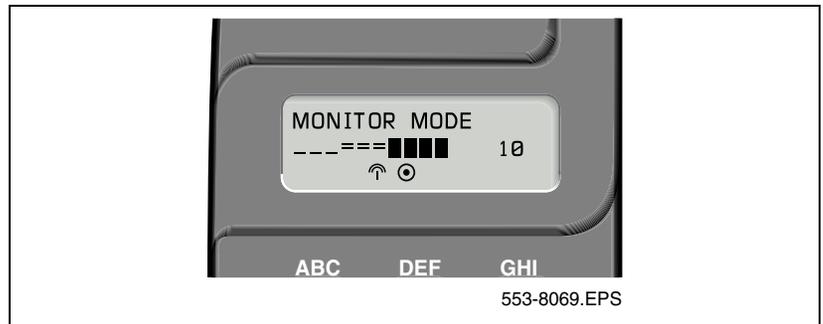
The deployment tool base station and the deployment handset establish a radio link when:

- a the handset is in the deployment mode; and,
- b the handset and base station are within range of one another.

The closer the handset is to the base station the stronger the link. As the handset moves away from the base station, a point is reached where the signal is no longer reliable for telephone conversations.

When a link is established, the handset emits a continuous 1.4kHz tone and displays a Radio Signal Strength Indication (RSSI).

Figure 103
Deployment handset link display



The display, shown in [Figure 103](#), means as follows:

- A circle and dot indicates a locked signal.
- The antenna symbol indicates a link establishment.
- The number 10 indicates an RSSI value.
- The dash, equal sign and shaded box icons indicate signal strength.

The maximum RSSI is 10. As signal strength diminishes, the number 10 decreases and the icons disappear. For example, at signal strength 7, the three shaded boxes that are on the right side of the display disappear. At signal strength 5, all the shaded boxes and one of the equal sign icons disappear.

The signal strength diminishes as the distance between the handset and the base station increases. The tone will remain unchanged until the handset is out of range of the base station.

How to use the deployment tool

The deployment tool is assembled as shown in Figure 96 on [page 169](#), with the extension arm parallel to the floor. Position the base station antenna upwards. Place the base station as close to the wall as possible and at the height recommended for base stations.

To test the deployment tool, stand in an open area approximately three to five meters away from the deployment tool on its tripod. Establish a link between the base station and the handset. Keep the deployment tool base station in plain view. Ensure there are no obstructions (including people).

Walk away from the base station and observe the deployment handset link display. As the deployment handset moves away from the base station, the RSSI value changes. When the RSSI value changes from 7 to 6 and the last shaded block disappears, the cell boundary has been reached.

When the cell boundary is reached, stop and listen to the tone. Make sure the tone is clear with no tone changes, tone break-up, modulation, mutes or clicks.

Do not select a cell edge that has an RSSI reading of less than 6. However, keep the following in mind.

- There can be environments that cause poor tone at a RSSI meter reading of between 7 and 10. In this case, get help from the Nortel Networks' support team.
- The tone stops when the radio link is lost.

Interpreting handset tones

The handset tones indicate how close the handset is to the deployment tool base station.

- Steady tone – the handset is within the cell boundary, or at the cell boundary edge.
- Tone change, tone break-up, modulation, mute or click – the handset is beyond cell boundary edge.

Rules for outdoor deployment

- 1** Cover outdoor areas before covering indoor areas. Use the deployment tool to determine outdoor cell centers.
- 2** Use the deployment handset to determine the outdoor coverage provided by a base station located indoors.
- 3** External housings for outdoor base stations must be mounted directly on walls or similar vertical surfaces.
- 4** When using the deployment tool outdoors, ensure that the deployment tool does not fall over or come in contact with electrical wires and cables.
- 5** If an outdoor critical point cannot be reached, inform the customer.
- 6** Do not use the deployment tool on windy days.
- 7** Do not use the deployment tool in bad weather.
- 8** Keep all personnel away from the apparatus.
- 9** Follow all safety requirements.
- 10** Use batteries to power the deployment tool.
- 11** Charge the batteries indoors.

DECT Deployment Kit 2

The DECT Deployment Kit 2 is shown in [Figure 104](#). Refer to the DeTeWe User Manual that accompanies each kit for additional information.

Figure 104
Deployment Kit 2 and carrying case



The following information can be used in conjunction with the DeTeWe User Manual that accompanies the deployment tool.

- 1 The two DeTeWe handsets with the kit are subscribed to the base station and are numbered 13 and 15. Refer to [Figure 105](#) on [page 185](#) to view the assembled base station and the DeTeWe handsets.
- 2 The  key on the handset is the Off-Hook key.

- 3 To enter Site Survey Mode on the handset:
 - Press Menu
 - Scroll to System
 - Dial ***76#
 - Scroll to Site Survey
 - Press OK
- 4 The FE value for the PP is the number of detected Sync/ACRC errors within the last 100 receiving frames (i.e., 1 sec.).
- 5 The FE value for the FP is the number of received Q1/Q2 bit information within the last 100 receiving frames (i.e., 1 sec.).

Figure 105
Assembled Deployment Kit 2 and DeTeWe handsets



Figure 106
Deployment Kit 2 base station



Deploying DECT

Follow the procedure in [Table 26](#) to deploy the DECT system.

Table 26
Deploying a DECT system (Part 1 of 4)

Step	Action
1	Identify and mark initial critical points.
	Mark critical initial points on the floor plan with the symbol:  . Figure 78 on page 157 shows the initial critical points: P1, P2, P3, P5, P6 and P7.
2	Demarcate the cell contour for the critical point farthest from the center of the full coverage area.
	<p>To demarcate a cell contour:</p> <ol style="list-style-type: none"> a Set up the deployment tool base station. Raise the deployment tool base station as high as possible, or until it is at the height recommended for base stations. b Establish a link. See “Deployment tool” on page 168 for details. c Measure the range into the coverage area in a few directions to determine where a cell centre can be located and still be within range of the critical point. Listen to the deployment tool handset while moving away from the base station. When the RSSI value changes from 7 to 6, the cell boundary has been detected. d Mark the cell boundary on the floor plan with a small x. e Repeat steps c and d until there are enough x’s to draw a thin contour arc through the x’s. <p>In Figure 79 on page 158, P1 is the initial critical point.</p>
3	Demarcate the cell contour of the closest adjacent critical point to the first critical point.
	See step 2 for details. In Figure 80 on page 158 , P2 is the closest adjacent critical point to the first critical point.

Table 26
Deploying a DECT system (Part 2 of 4)

Step	Action
4	Use the cell contours to locate a cell center.
	<p>Locate the cell center where the cell contours meet. Choose a position on the floor plan that:</p> <ul style="list-style-type: none"> • is furthest from the critical points, • still provides good audio quality at the critical point, • complies with the Rules and guidelines for selecting cell centres, page 150, and • is in the coverage area. <p>With a pencil, label the cell center on the floor plan with the symbol: ⊗ xCn, where x = the floor and n = is the cell number in sequence of the entire plan.</p> <p>In Figure 81 on page 159, IC1 is a cell center.</p>
5	Demarcate a cell boundary.
	<p>To demarcate a cell boundary:</p> <ol style="list-style-type: none"> a Set up the deployment tool base station at the cell center. b Establish a link. c Refer to the floor plan and check audio quality in user offices within the cell. If a user office is in a zone where audio quality deteriorates, relocate the cell center closer to the critical point or the office. d Walk into all of the areas (rooms) necessary to demarcate the complete cell boundary. Radio signals travel further in uncluttered areas than they do in cluttered areas. Record the cell boundary. e Find the cell boundary by measuring the range and marking it on the floor plan with a small x. Repeat steps c and d until there are enough x's so that a contour arc can be drawn around the cell center. <p>See Figure 82 on page 159 for an example of a cell boundary.</p>

Table 26
Deploying a DECT system (Part 3 of 4)

Step	Action
6	Mark and label the cell boundary on the floor plan
	<p>Follow these steps:</p> <ul style="list-style-type: none"> a Mark each office within the cell that is isolated from the office area. b Label any subsequent critical point on the floor plan the following symbol:  c Mark the cell contour on the floor plan. Trace a contour line through the x's with a marker. d Trace the cell boundaries and cell centers with colored markers.
7	Identify new critical points.
	<p>Follow these steps:</p> <ul style="list-style-type: none"> a Identify one new critical point just inside of where the cell boundary meets the outside wall. In Figure 83 on page 160, this new critical point is P9. b Identify another new critical point which is adjacent to the first new critical point. Locate this critical point on the opposite side of the cell boundary area. In Figure 83 on page 160, the cell boundary area is IC1 and the new critical point is P8.
8	Mark and label these new critical points on the floor plan with the symbol:  .
	See step 6 on page 189 for details.
9	Using the critical points from step 7 , demarcate new cell contours, a new cell center and a new cell boundary.
	<p>See steps 2 to 5 starting on page 187 for details.</p> <p>Note: Cell contour arcs must pass near the cell boundary of adjacent cells. For an example of this, see Figure 84 on page 160.</p>

Table 26
Deploying a DECT system (Part 4 of 4)

Step	Action
10	Demarcate additional cell contours, centers and boundaries at the other end of the building.
	Repeat steps 1 to 8 as necessary to demarcate new cell boundaries at the other end of the building. In Figure 85 on page 161 , new cells are formed around cell centers IC3 and IC4.
11	Identify new critical points:
	<p>These critical points must be:</p> <ul style="list-style-type: none"> • adjacent to a critical point and on the opposite side of the cell boundary area. (critical point = P11 in Figure 86 on page 161, where cell boundary area = IC2), • just inside of where the cell boundary meets the outside wall (P12, P13, P14 and P15 in Figure 86 on page 161), and • where cell boundaries meet (P16 and P17 in Figure 86 on page 161).
12	Demarcate additional cell boundaries to cover all areas of the building.
	<p>Repeat steps 1 to 8 as necessary to demarcate new cell boundaries in the middle of the building.</p> <p>Refer to Figures 87, 88, and 89 starting on page 162. Critical points P11, P13 and P16 form:</p> <ul style="list-style-type: none"> • contours in Figure 87 on page 162 • the cell center 1C5 in Figure 88 on page 162 • a new cell boundary in Figure 89 on page 163 <p>Refer to Figures 90 and 91 starting on page 163. Critical points P11, P12 and P17 form:</p> <ul style="list-style-type: none"> • contours in Figure 90 on page 163 • a new boundary based on cell center 1C6 in Figure 91 on page 164 <p>Figure 87 on page 162 shows a floor plan with complete radio coverage. The floor plan is made complete by cell boundary 1C7.</p>



Correcting problems with audio quality

If a user office is near the critical point and the audio quality deteriorates within the user office, then the deployment tool and the cell center are not properly located.

Table 27
Correcting problems with audio quality

Step	Action
1	Move the cell center closer to the office or work area in question.
2	Repeat the coverage test in that area and ensure that coverage is sufficient.
	This can impact the coverage at other points, and you must ensure that all critical points are still properly covered by the new location.
3	Go into every location where users make and receive calls.
	This includes washrooms, coffee areas, and meeting rooms. Do not speculate where users may make calls.



Deploying an external base station

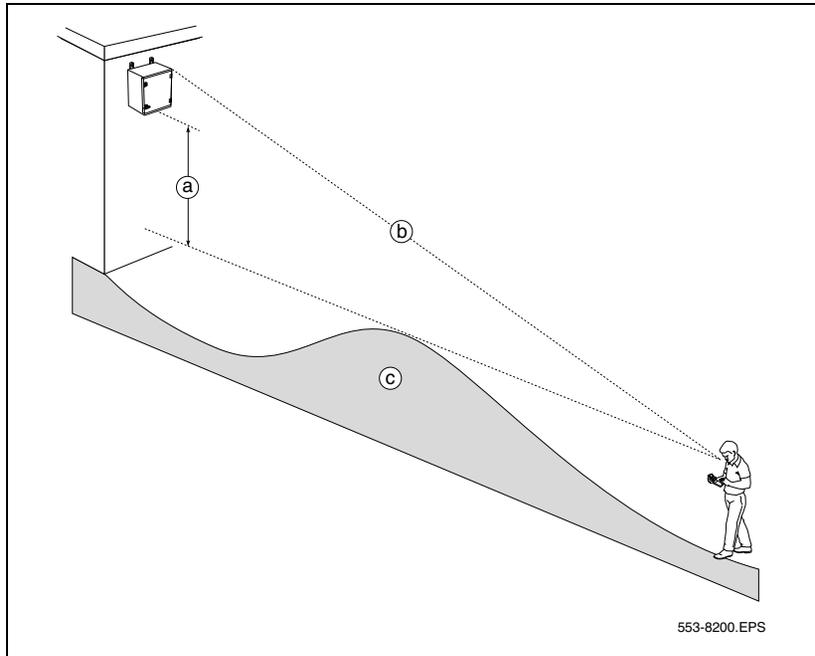
Follow [Procedure 1](#) to deploy an external base station.

Procedure 1 Deploying an external base station

- 1 On the site plan, note each of the critical points that are to be reached.
- 2 Position the deployment tool at the potential location for a cell center that is closest to the critical point.
- 3 Check for outdoor coverage to the critical point with the deployment handset.

- 4 If the critical point is reached, your cell center is at the position of the deployment tool. Determine the cell boundary. If you cannot reach the critical point, determine and record the cell boundary that you did reach on the site plan.
- 5 For each critical point, determine the potential location of external base stations. The location should be:
 - a. outdoors,
 - b. as close as possible to the critical point that you need to reach, and
 - c. more than 4 m above the highest ground to be covered.

Figure 107
Elevation of external base station and terrain



Key

- a External housing positioned at least 4 m from the ground.
 - b Clear line of sight to the external housing at the cell boundary.
 - c The range does not encompass any structures or earth mounds more than 2 m tall and more than 2 m wide.
- 6 If the critical point cannot be reached, inform the customer to determine if planning should continue.
- 7 Repeat this procedure until all of the outdoor areas have been completely covered.

End of Procedure

Single and multiple floor deployment

Whether the deployment situation involves a single floor or multiple floors, the deployment process uses basic rules:

- 1 Deploy the external or outdoor areas first.
- 2 Deploy from one side of the coverage area, then deploy the opposite side of the coverage area.
- 3 Finish by deploying the middle of the coverage area.

Follow these rules to prevent cell centers from clustering at one end of the site.

Check the floor plan to be sure that there are no areas where a handset in the required coverage area could be outside the range of a cell center.

Defining a cell typically takes 25 to 40 minutes.

Single-floor deployment

Deploying a single floor coverage area involves methods that apply to all other applications of coverage. For multi-floor deployment, see [page 201](#).

Use one or all of the following methods of deploying cells.

When determining a cell center, one or all of the following methods of deploying cells are used:

- **Single cell deployment** – covers the distance between two outside corners at the end of a coverage area with one cell.
- **Double cell deployment** – covers the distance between two outside corners at the end of a coverage area with two cells.
- **Multi cell deployment** – covers the distance between two outside corners at the end of a coverage area with more than two cells.

Always begin with the single-cell method, because the range is not always known; therefore, it is not known how many cells are needed to cover the area between the critical points.

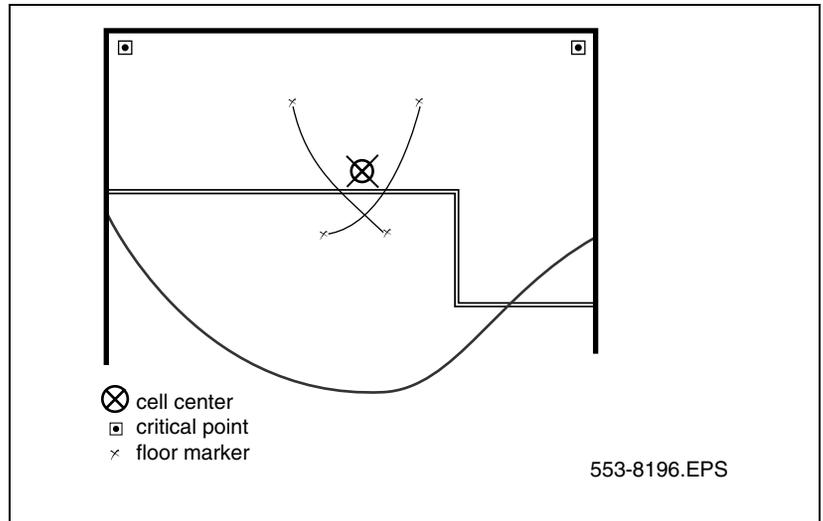
Start at the “short” side of the coverage area. First cover the corners, then the side between those corners, and finally inward to the center of the coverage area. Repeat the process for the other end of the coverage area.

By deploying the site using this method, cell centers are distributed throughout the site. If the site is deployed from one end to the other, cell centers can be clustered at one end of the site.

Single cell deployment

Always start with the single-cell technique regardless of the width between the two critical points. using this technique, one cell center is found that serves two critical points, as shown in Figure 108.

Figure 108
Single cell distance



Procedure 2
Single cell deployment

- 1 Identify the initial critical points. Mark them on the floor plan with a . Use different color pencils for each critical point.
- 2 Choose the first critical point at the edge of the coverage area furthest away from the center of the coverage area. Place the deployment tool at this critical point.
- 3 Establish a link. Refer to “Deployment tool” on [page 168](#) for details.
- 4 Measure the range into the coverage area in a few directions to determine where a cell centre can be located, and still remain within range of the critical point. Observe the deployment tool handset RSSI value while moving away from the base station. When the display value changes from 7 to 6, the cell boundary has been detected.
- 5 Record the cell boundary by marking a small **x** on the floor plan where the cell boundary value was reached. Use a pencil that is the same color as the critical point where the deployment tool is located.

- 6 Repeat step 4 and 5 several times, walking in different directions to determine where the cell center can be located and still remain within range of the critical point.
- 7 Draw a thin contour line through the x's to mark an arc on the floor plan.
- 8 Choose the other critical point adjacent to the first critical point and repeat steps 3 to 7.
- 9 If the contour lines do not cross, or if they cross close to the edge of the coverage area between the two critical points, then see "Double cell deployment" on page 196. Choose a position on the floor plan for the cell center that:
 - a. is furthest from the critical points and still provides good audio quality at the critical point,
 - b. complies with the "Rules and guidelines for selecting cell centres" on [page 150](#), and
 - c. is in the coverage area.
- 10 With a pencil, label the cell center on the floor plan with ~~X~~ xCn. The x is the floor, and n is the cell number in sequence of the entire plan.
- 11 Place the deployment tool at each cell center to locate the cell boundary.
- 12 Mark the cell boundary on the floor plan.
- 13 Repeat this task for the remaining coverage area from the extremes of the coverage area toward the center until the entire floor has been covered.
- 14 If the cell boundary covers any other critical points, ignore these critical points when proceeding with coverage deployment.

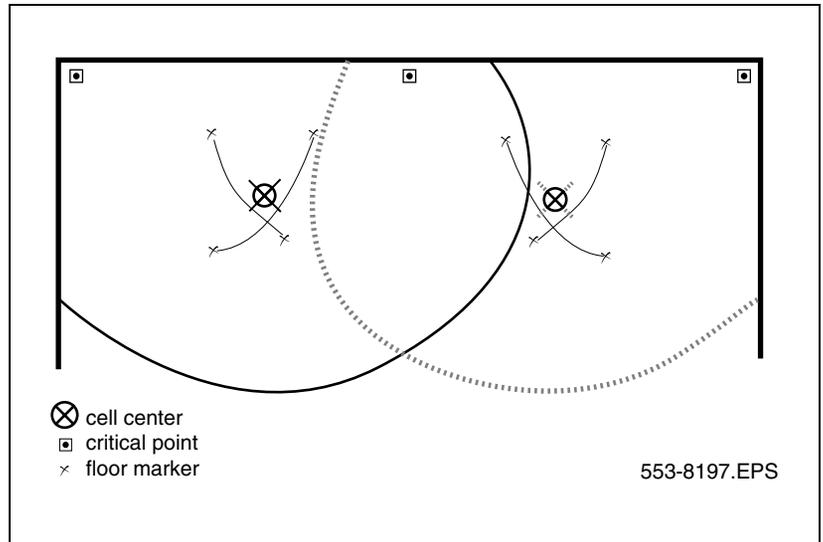
Note: If it is not possible to place the base station at the exact crossover points of the arcs, place the base station as close as possible to the crossover.

End of Procedure

Double cell deployment

Use the double cell technique only if referred here from the single-cell technique. Before beginning this technique, there should be two critical points that one cell center cannot serve. Using the double cell technique, two locations for cell centers that cover three critical points will be found, as shown in Figure 109.

Figure 109
Double cell distance



Procedure 3
Double cell deployment

- 1 Mark a third critical point mid-way between the two critical points already identified.
- 2 Place the deployment tool at this mid-way critical point.
- 3 Establish a link.
- 4 Walk briskly into the coverage area within range of either of the first two critical points until the cell boundary is reached.
- 5 Record the cell boundary by marking a small **x** on the floor plan where the cell boundary is located.
- 6 Repeat step 4 and 5 several times, walking in different directions to determine where the cell center can be located and still be within range of the critical point.
- 7 Draw a thin contour line through the **x**'s to mark an arc on the floor plan.
- 8 Repeat steps 2 through 5 walking into the coverage area of the other of the first two critical points.

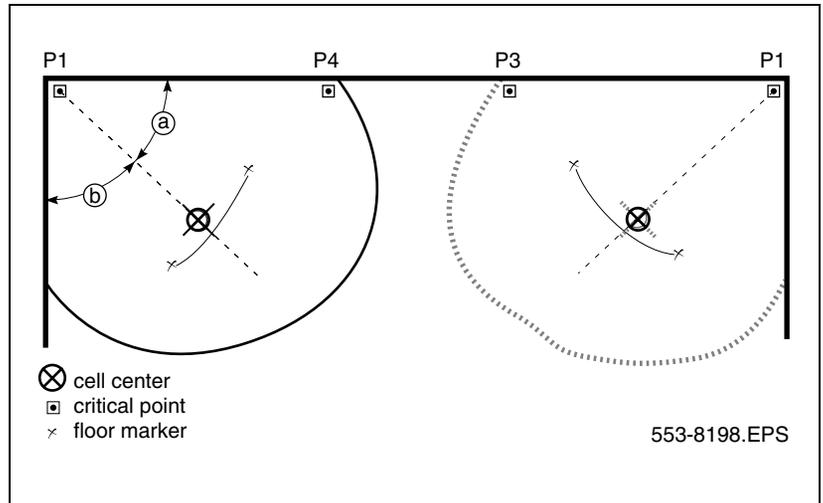
- 9 If the contour lines do not cross, or if the amount of overlap between the cells is less than 1/2 the distance between the cell center and the cell boundary, then see “Multi cell deployment” on page 198.
- 10 Choose a position on the floor plan for the cell center that:
 - a. is furthest from the critical points and still provides good audio quality at the critical point,
 - b. complies with the “Rules and guidelines for selecting cell centres” on [page 150](#), and
 - c. is in the coverage area.
- 11 Mark each cell center on the floor plan  and label them **1C1** and **1C2**.
- 12 Place the deployment tool at each cell center to find the cell boundary and mark it on the floor plan.
- 13 Repeat this technique for the remaining coverage area from the outer extremes of the coverage area toward the center until the entire floor has been covered. If the cell boundary covers any other critical points, ignore these critical points when proceeding with coverage deploying.

End of Procedure

Multi cell deployment

Use the multi cell technique only if referred here from the double cell technique. Before beginning this technique, there should be two critical points that one cell center cannot serve. Using the multi cell technique, two cell centers, each one serving one of the two critical points, are found, as shown in Figure 110.

Figure 110
Multi-cell distance

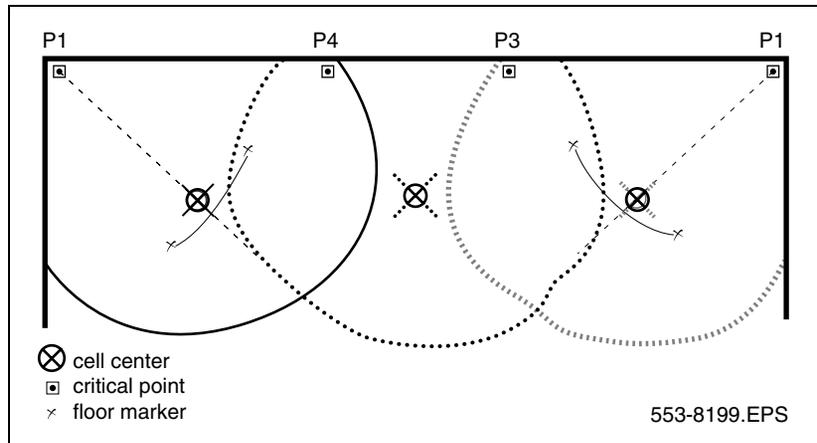


Procedure 4
Multi-cell deployment

- 1 Choose a position on the floor plan for the cell center that:
 - a. is furthest from the critical points and still provides good audio quality at the critical point,
 - b. complies with the “Rules and guidelines for selecting cell centres” on [page 150](#), and
 - c. is in the coverage area.
- 2 Place the deployment tool at critical point **P1**.
- 3 Establish a link.
- 4 Walk briskly into the coverage area away from the critical point until the cell boundary is reached.
- 5 Mark a small x on the floor plan where the cell boundary is found.
- 6 Repeat step 4 and 5 several times, walking in different directions from the critical point to establish an arc. The arc is at the cell boundary and is within range of the critical point.
- 7 Draw a thin contour line to mark an arc through the x’s on the floor plan.

- 8 Repeat steps 4 through 7 walking into the coverage area of critical point **P2**.
- 9 Locate the cell center on the arc along a line from the critical point that is equal distant from the adjacent walls.
- 10 Mark each cell center on the floor plan ~~⊗~~ and label them **1C1** and **1C2**.
- 11 Place the deployment tool at each cell center.
- 12 Locate the cell boundary and mark it on the floor plan. (Mark the contours in different colors for easy differentiation of cell centers.)
- 13 Define and mark on the plan any subsequent critical points, where each cell boundary crosses the edge of the coverage area.
- 14 If the cell boundary covers any other critical points, ignore these critical points when proceeding with coverage deploying.
- 15 Repeat the multi cell technique for the remaining area to be covered, from the extremes of the coverage area toward the center, until all of the floor is covered.

Figure 111
Multi cell distance using the single cell technique



- 16 Use the subsequent critical points to fill in the coverage area between the first two cells using the “Single cell deployment” on [page 194](#). An example of this is shown in [Figure 111](#).

End of Procedure

Multiple floor deployment

This applies to deployment scenarios in the following situations:

- The coverage area is on more than one floor.
- The floors are not adjacent to each other.

Checking for through-the-floor coverage

The first step in covering a multi-floor building is assessing the availability of through-the-floor coverage. In buildings mainly constructed of wood, through-the-floor coverage can be used. However, due to the construction of most modern buildings with raised floors, high metal content, and reinforced concrete, through-the-floor coverage with DECT is limited.

Table 28
Checking for through-the-floor coverage (Part 1 of 2)

Step	Action
1	Place the deployment tool in a middle floor of the site.
2	Go to the floor above the deployment tool and establish a link with the deployment handset.
3	Measure the deployment contour as if the base station was on this floor, instead of the floor below.
	If only a small area is covered (less than 10 meters radius), then there is effectively no through-the-floor coverage on the floor above an installed base station.

Table 28
Checking for through-the-floor coverage (Part 2 of 2)

Step	Action
4	Go to the floor below the deployment tool and repeat the above process.
	If the area that can be covered is small, then there is no through-the-floor coverage below a base station location.
5	If there is no through floor coverage or just small coverage.
	Deploy each floor using critical points, or if the floors are exactly similar, deploy as multi floors with the same layout.



Assess floor layout

The deployment procedure changes according to the similarities and differences of the floors.

All floors have the same layout

To begin a multi-floor deployment when all of the floors have the same layout, deploy one floor and enter the data on the floor plan. Use the data from the deployed floor for other identical floors.

For example, if floor 2 of an office tower is laid out with cubicle style offices with a perimeter of enclosed offices, and floor 3 is designed and laid out in the **exact** same manner, then both floors can have the exact same installation profile for base stations.

All floors do not have the same layout

If there are **any deviations** in the floor plan from floor to floor, use the critical point method to deploy each distinct floor. For more information, see “Preparing the tool for deployment” on page 171.

Note: Do not underestimate the importance of changes in floor layout. Simple changes in a room from a meeting room to a storage room can have significant impact on the coverage from a base station.

Multi-floor coverage situations

The following situations require multi-floor coverage:

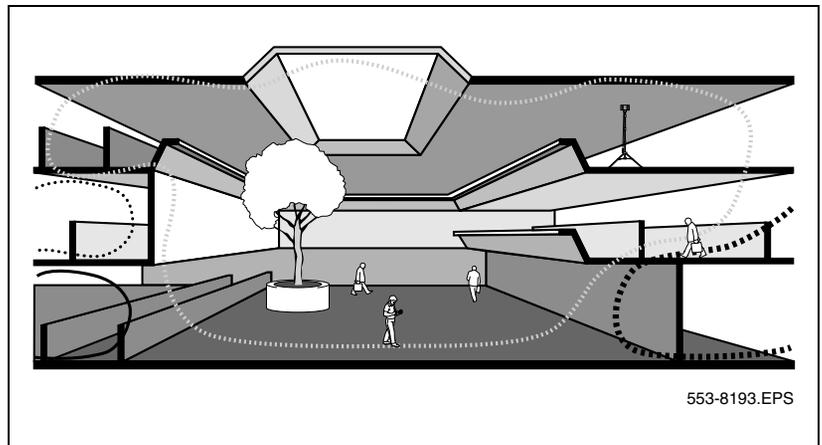
- 1 Atriums (page 203).
- 2 High rise buildings (page 204).
- 3 Unusual conditions (page 204).

Use Multi-floor coverage procedure, if instructed to do so, from [Gathering building information](#), page 144.

Atriums

Cells in an atrium, as shown in Figure 112 on [page 203](#), are usually larger than the cells of the rest of the building. This section gives guidelines on how to plan an atrium. There are no precise steps to follow when deploying an atrium, however there are points to consider. Also see “Unusual conditions” on [page 204](#).

Figure 112
An atrium



Consider the following when deploying an atrium:

- Plan atriums to their full height.
- Plan an atrium as one full size room, not floor by floor.

- Place cell centers within an atrium only when they are intended to cover the atrium.
- Do not put cell centers into an atrium if they are intended to serve adjacent areas.
- To serve adjacent areas, put the cell centers into these areas.
- Deploy the atrium first if the atrium is more than a third the size of the building, or more than one cell in size.
- If cell centers in adjacent dense areas serve one floor of an atrium, check the coverage of the cell on all of the floors that meet with the atrium.

High rise buildings

Deploy high rises buildings as unusual conditions of multi-floor deployment.

Test through-the-floor coverage first. If there is no through-the-floor coverage, then deploy each floor. Repeat as many floors as possible where the floor layout is the exact same as any other, in all other cases deploy floor by floor. A floor with many meeting rooms will deploy differently from a building with cubicle style offices.

Unusual conditions

There are no precise steps to follow when deploying for an unusual condition; however, there are points to be considered.

To plan an unusual condition, consider the following situations:

- 1 [Cell centers are too close \(page 204\)](#)
- 2 [Cell centers are too far apart \(page 205\)](#)
- 3 [Too many cell centers \(page 205\)](#)

Cell centers are too close

If cell centers are deployed less than 10 meters apart, the handsets can initiate unnecessary handovers. Unnecessary handovers result in excessive internal messaging and degraded speech quality.

Cell centers are too far apart

If cell centers are deployed too far apart, the edge of a cell does not overlap the coverage from another cell.

Cell centers must be located within the edge of other cell centers to provide satisfactory overlap.

Overlap can be difficult to achieve where coverage is received from the floor above or the floor below. Internal structures can cause overlap deficiencies.

It is not necessary that the cell center be on the same floor or an adjacent floor of the area that it is covering. It is only necessary to be within the cell boundary, as indicated by the deployment tool.

The installation of base stations in places other than the location shown on the plan can cause coverage problems; for example, if the base station is mounted on the opposite side of a wall from its planned location.

Consider the following when choosing base station locations:

- Choose locations only where it is possible to mount base stations.
- Install base stations as close as possible to planned locations.
- Follow safety codes or aesthetic considerations.
- Allow sufficient access for installation of base stations.
- Provide clear installation instructions.
- Test the coverage during post-deployment checks.

Too many cell centers

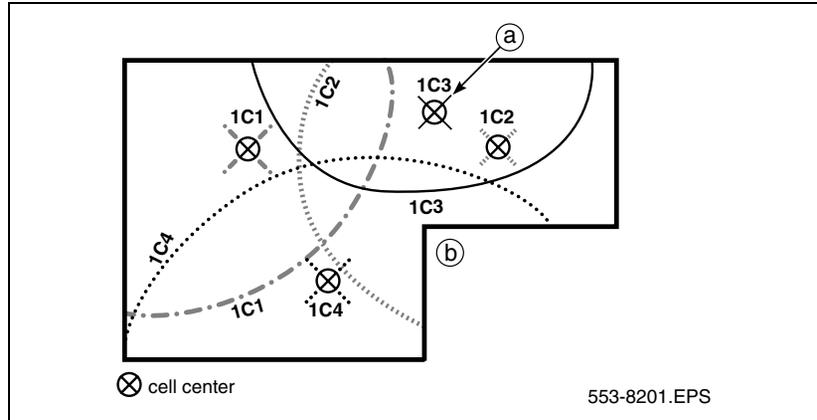
The primary concern with deploying too many cell centers is cost. To deploy the correct number of cell centers and reduce cost, do the following:

- Check the coverage and traffic volume before adding additional cells.
- Remove a cell served by other cells unless it is required for high handset density.
- Check the coverage area of each cell.

- Verify that there is at least one area that each cell serves that is not served by another cell.

In the example shown in [Figure 113](#), cell 1C3 is redundant unless required for high handset density.

Figure 113
Locating redundant cells



Cell re-engineering for high traffic areas

To accommodate the demand in high traffic areas, follow the “The cell re-engineering process” on [page 207](#).

Traffic volume

The deployment process ensures coverage throughout the service area. It does not, however, take into account the effect of traffic. In a high traffic area, a shortage of radio channels at the base station can cause calls to be blocked.

Two options are available to support the volume of telephone calls in cells that carry heavy traffic:

- increase the number of cells deployed
- use 12-channel base stations

The calculation of expected telephone traffic includes an allowance for the user population in a cell, and the roaming user.

About the 12-channel base station

An optional 12-channel base station must be used where telephone traffic levels exceed those that can be carried on the standard 6-channel base station. The radio performance of the 12-channel unit is the same as that of the 6-channel unit so the cell sizes are the same for both units.

Do not connect more than two 12-channel base stations to a DMC card. Two 6-channel base stations can also be attached to a DMC serving two 12-channel units. If loop resistance exceeds 100 ohms, external power must be used.

The cell re-engineering process

The cell re-engineering process involves:

- 1 “Estimating traffic within a cell” on [page 208](#).
- 2 “Separating the coverage area and recording the number of offices” on [page 209](#).
- 3 “Creating an estimate table” on [page 210](#).
- 4 “Calculating the number of users inside the cell with an office” on [page 211](#).
- 5 “Calculating the number of users with an office outside the cell who walk into the cell” on [page 212](#).
- 6 “Calculating the number of users without an office” on [page 213](#).
- 7 “Totalling the estimate for users in a cell” on [page 214](#).
- 8 “Calculating the data for all remaining cells” on [page 215](#).
- 9 “Creating a table to document “telephone types in a cell”” on [page 216](#).
- 10 “Determining cell re-engineering” on [page 217](#).

Estimating traffic within a cell

Modify the previous deployment procedure to adjust the estimated number of users. To carry out this procedure:

- Determine the number of handset users with an office within each cell.
- Determine how many of these users have wired sets.
- Determine how many users without an office are normally in each cell.

Some users have both wired and handset telephones; other users rely on handsets only.

Re-engineered cells for high traffic areas are represented by an adjusted estimate for the two groups: handset and wireless, and handset only. Use the adjusted estimate to determine whether the cell sizes, indicated by the earlier deployment procedure, can handle the telephone traffic.

If the traffic handling capacity of the cells is not adequate, use 12-channel base stations and subdivide them into smaller cells to ensure the traffic is handled properly in accordance with these instructions.

Separating the coverage area and recording the number of offices

Figure 114
Example of dividing the coverage area and recording offices

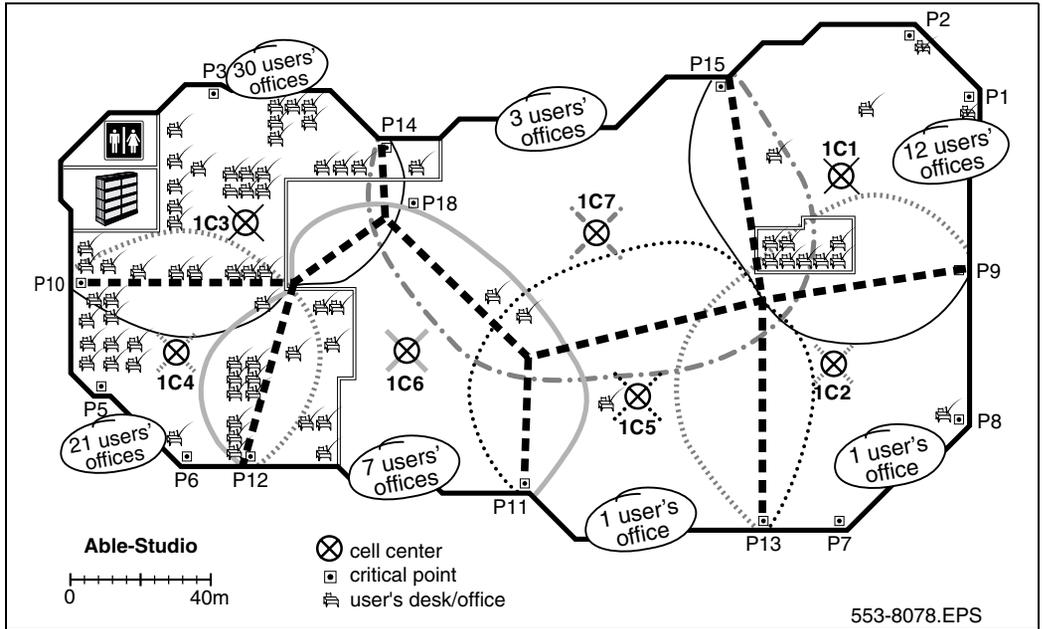


Table 29
Separating the coverage area and record the number of offices

Step	Action
1	Divide the floor plan into cell areas.
	Mark the cell areas on the floor plan, one area for each cell, splitting cell overlap areas in half. Shown in Figure 114 as heavy dotted lines.
2	Count the number of users' offices in each cell area.
	Record the number of users' offices on the floor plan in each cell area.



Creating an estimate table

Use this table later to estimate the number of handset users for each cell.

Table 30
Estimate users in a cell

	1C1	1C2	1C3	1Cn
Users inside the cell with an office				
Users with an office outside of a cell who walk into the cell				
Users without an office				
Users in a cell				

Table 31
Creating an estimate table

Step	Action
1	Make an estimate table.
	Include as many columns as there are cell centers.
2	Label the rows.
	Example shown in Table 30 on page 210.
3	Label each column heading with the cell center indicator.
	Use this table to determine how many times to subdivide each cell to carry the handset telephone traffic.



Calculating the number of users inside the cell with an office

Table 32
Example of the table first row calculation

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4						
Users with an office outside of a cell who walk into the cell							
Users without an office							
Users in a cell							

Table 33
Calculating the number of users inside the cell with an office

Step	Action
1	Calculate the estimate for users in the first cell with an office. Use the formula: (Users with an office in the cell × 0.7)
2	Enter the result in the row, “users inside the cell with an office”. In the example shown in Figure 114 on page 209 , twelve users in cell 1C1 spend 70% of their time in their offices. (12 × 0.7 = 8.4)



Note: Traffic engineering has determined that handset users with an office spend seventy percent of their time within their home cell.

Calculating the number of users with an office outside the cell who walk into the cell

Table 34
Example of the table second row calculation

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4						
Users with an office outside of a cell who walk into the cell	3.2						
Users without an office							
Users in a cell							

Table 35
Calculating the number of users with an office outside the cell who walk into the cell

Step	Action
1	Calculate the estimate for users in the first cell with an office outside of the cell who walk into the cell.
	Use the formula: $\frac{(\text{Total users with an office} - \text{Users with an office inside the cell}) \times 0.3}{(\text{Total number of cells} - 1)}$
2	Enter the result in the row, "users with an office outside the cell who walk into the cell."
	For the example shown in Figure 114 on page 209 , there are a total of 75 telephone users in Able-Studio, minus the 12 users already in cell 1C1. Therefore, 63 users can walk into cell 1C1. However, the 63 walk in users only spend 30% of their time outside their offices. There are seven cells on the floor plan minus cell 1C1. Accordingly, an estimate of 3.2 walk-in users can be in cell 1C1. $\frac{(75 - 12) \times 0.3}{(7 - 1)} = 3.2$



Calculating the number of users without an office

Table 36
Example of the table third row calculation

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4						
Users with an office outside of a cell who walk into the cell	3.2						
Users without an office	0						
Users in a cell							

Table 37
Calculating the number of users without an office

Step	Action
1	Calculate the estimate for users in the first cell without an office.
	Use the formula: $\frac{\text{Total number of users without an office}}{\text{Number of cells}}$
2	Enter the result in the row, "users without an office".
	In the example shown in Figure 114 on page 209 , there are no users without an office.



Totalling the estimate for users in a cell

Table 38
Example of the table first column total

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4						
Users with an office outside of a cell who walk into the cell	3.2						
Users without an office	0						
Users in a cell	11.6						

Table 39
Totalling the estimate for users in a cell

Step	Action
1	Total the estimate for the number of users in the first cell by adding the three rows in the first column.
2	Enter the result in the bottom row "users in a cell".
	For the example shown in Figure 114 on page 209 , the 1C1 handset estimate equals 11.6. $8.4 + 3.2 + 0 = 11.6.$



Calculating the data for all remaining cells

Table 40
Example of a completed estimate table

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4	0.7	21.0	14.7	0.7	4.9	2.1
Users with an office outside of a cell who walk into the cell	3.2	3.7	2.3	2.7	3.7	3.4	3.6
Users without an office	0	0	0	0	0	0	0
Users in a cell	11.6	4.4	23.3	17.7	4.4	8.3	5.7

Table 41
Calculating the data for all remaining cells

Step	Action
1	Repeat the last four tasks to calculate all the remaining user cell estimates.
2	Enter the result in the estimate table.
	The information contained in Figure 114 on page 209 , is shown entered into Table 41 . This table will be used to note the results of the calculations for cells that require re-engineering.



Creating a table to document “telephone types in a cell”

Use a table like [Table 42](#) to record the different telephone types in each cell.

Table 42
Telephone types in a cell

	1C1	1C2	1C3	1Cn
User telephone types				

Use the following symbols in each cell to denote the type of telephones in use in the cell:

- **H&W** refer to a cell in which all the users have both wired and handsets (wireless sets).
- **H** refers to a cell in which users have only handsets (wireless sets).
- **M** refers to a mix of H and H&W users.

Table 43
Creating a table to document “telephone types in a cell”

Step	Action
1	Make a Telephone types table.
2	Label the row, “User telephone types” and include as many columns as there are cell centers.
3	Label each column heading with the cell center indicator.
	The information in this table is used to determine the number of cells that require re-engineering.



Determining cell re-engineering

Table 44
Example of a completed estimate table

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
Users inside the cell with an office	8.4	0.7	21.0	14.7	0.7	4.9	2.1
Users with an office outside of a cell who walk into the cell	3.2	3.7	2.3	2.7	3.7	3.4	3.6
Users without an office	0	0	0	0	0	0	0
Users in a cell	11.6	4.4	23.3	17.7	4.4	8.3	5.7

Table 45
Example of a completed telephone types table

	1C1	1C2	1C3	1C4	1C5	1C6	1C7
User telephone types	H&W	H&W	M	M	H&W	H&W	H&W

Table 46
Cell re-engineering

Estimate for:		
Users with both a handset and a wired telephone	Users with only a handset	Action
From 0 up to 20	From 0 up to 12	Keep cell size as deployed.
Greater than 20 but no more than 80	Greater than 12, but no more than 40	Install a 12-channel base station or sub divide the cell ^a .
Greater than 80	Greater than 40	Sub divide the cell ^a to meet the above conditions.
<p>a. For details on how to subdivide cells, refer to High handset density deployment, page 222. Use a 12-channel base station in areas of high traffic capacity. Cell subdivision is appropriate when it helps to improve coverage where the loop resistance exceeds 100 ohms or when a DMC can not support more than two 12-channel units.</p>		

Note: Use [Table 46](#) only for user types H&W and H. For user type “M” see [page 220](#).

Table 47
Determining cell re-engineering (Part 1 of 2)

Step	Action
1	Locate the estimate for users in the first cell.
	In the example shown in Table 44 on page 217 , the handset estimate is 11.6.
2	Determine the telephone types in the first cell.
	In the example shown in Table 45 on page 217 , the telephone type is H&W.
3	Locate the telephone type column in Table 45 on page 217 .
	In the example H&W is the “users with both a handset and a wired telephone”.
4	Find the handset estimate range in Table 46 on page 218 .
	In the example, 11.6 falls within the “From 0 up to 20” category.

Table 47
Determining cell re-engineering (Part 2 of 2)

Step	Action
5	Determine if a cell requires division or will use a 12-channel base station.
	In the example "From 0 up to 20", division is not required.
6	Repeat the above steps to determine the required number of cells that need subdivision, except for telephone types M. For M see "A mix of users with and without wired telephones in a cell" on page 220 .
7	Transfer the results of Table 47 into the Provisioning records.



Cell division requirements in special cases

This section describes how to determine cell division in the following special cases where:

- a no office information is available; and,
- b there is a mix of handset users with and without wired telephones.

No office information

If it is not known where any of the users offices are, calculate the estimated number of handsets for each cell using this formula:

$$\frac{\text{Number of handsets}}{\text{Number of cells}}$$

The formula assumes that users are located evenly throughout the cells. However, most users offices are clustered in specific areas of a building.

The formula has limitations, as cells can vary in size. The method described starting on [page 206](#) gives more accurate cell division results.

A mix of users with and without wired telephones in a cell

Use this procedure for mixed handset users. This procedure then enables the telephone traffic generated by handset users, to be equated to that of handset and wired users. Combine the two groups for cell size recalculation purposes.

Table 48
Adjustment for users without wired telephones (Part 1 of 2)

Estimated number of handsets for users without wired telephones	Adjusted estimated number of handsets for each cell
0	0
1	2
2	3
3	5
4	7
5	9
6	11
7	12
8	14
9	16
10	18
11	20
12	22
13	24
14	25
15	27
16	29
17	31
18	34
19	36

Table 48
Adjustment for users without wired telephones (Part 2 of 2)

Estimated number of handsets for users without wired telephones	Adjusted estimated number of handsets for each cell
20	38
21	40
22	42
23	44
24	46
25	48
26	49
27	50
28	53
29	55
30	57
31	60
32	62
33	64
34	66
35	69
36	71
37	73
38	76
39	78
40	80

Table 49
Adjusting for users without wired telephones

Step	Action
1	Count the number of user's offices that have handsets and wired telephones (H&W), and record the number.
2	Count the number of user's offices that have only wireless handsets, (H).
3	Use Table 48 to determine the equivalent number of H&W users and record this number.
4	Add the numbers received from steps 1 and 3 to determine and adjust the value for the number of users with wired telephones.
5	Use Table 48 to determine the criteria shown in the left column to determine if the cell has to be resized in the same manner described in the section "Determine cell re-engineering".



High handset density deployment

The high handset density deployment includes limiting the expected number of handsets for each cell center.

Note: Use the high handset density procedure if instructed to do so from Table 46, "Cell re-engineering," on page 218. Do not use more than one base station for each cell centre.

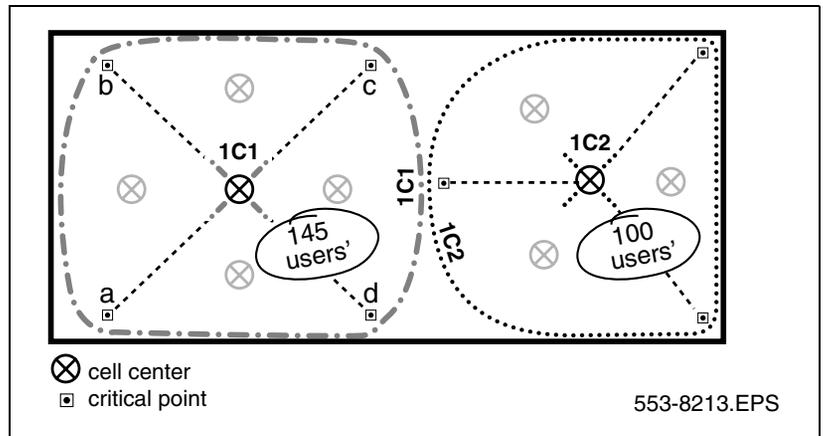
Limiting the anticipated number of handsets

Limit the anticipated number of handsets for each cell centre to the limits shown in [Table 46 on page 218](#). Only subdivide high handset density areas. If a cell falls into the category of a high density area, use the procedure on the following page to subdivide the cell.

Subdividing a cell

To subdivide the area for smaller cells, divide the cell into as many smaller cells as necessary to provide for the number of users in the area.

Figure 115
Example of a subdivided cell



In Figure 115, cell 1C1 has 140 handset users and cell 1C2 has 100 handset users. For example, [Table 46 on page 218](#) indicates the following:

- If the handset users in cell 1C1 are all handset only users, one cell can support 39 handset only users. Therefore, four cells are needed to support 140 users ($140 \div 39 = 3.5$ cells).
- If the handset users in cell 1C1 are handset and wired telephone users, and one cell can support 83 users, then two cells are needed to support 140 handset and wired telephone users ($140 \div 83 = 1.6$ cells).

Table 50
High handset density deployment (Part 1 of 2)

Step	Action
1	Determine the number of handset users in the high handset density cell.
	Count the number of users. Include users served by through-the-floor coverage of this cell.
2	Calculate the cell subdivisions as required.
	Divide the number of users by the appropriate value (12 or 20) shown in Table 46 on page 218 . Round up the result to the next whole number. The result will equal the number of cells required after subdividing the cell.
3	Divide the cell.
	Draw lines from the cell center to the critical points on the cell boundary. Shown in Figure 115 , the cell 1C1 divides into four sectors and cell 1C2 divides into three sectors.
4	Relocate new cell centers.
	Mark new cell centers within the sectorized areas.
5	Check the number of handset users in the new cell areas.
	Count the number of user offices within each smaller sector. Make sure there are fewer user offices within the cell than the traffic limit.
6	Check the locations.

Table 50
High handset density deployment (Part 2 of 2)

Step	Action
	Take the deployment tool to the locations that have been calculated on the floor plan. Make sure that there is a location that meets the guidelines on page 150 .
7	Check the new cells for complete coverage.
	Use the deployment handset to check coverage.
8	Repeat the anticipated handsets for each cell calculation to make sure that each smaller cell provides appropriate traffic coverage to the users in the area.



Deployment review

Review the plan to make sure that the sales group can use it. The plan must be complete for the installer, legible for maintenance purposes, and acceptable to the customer.

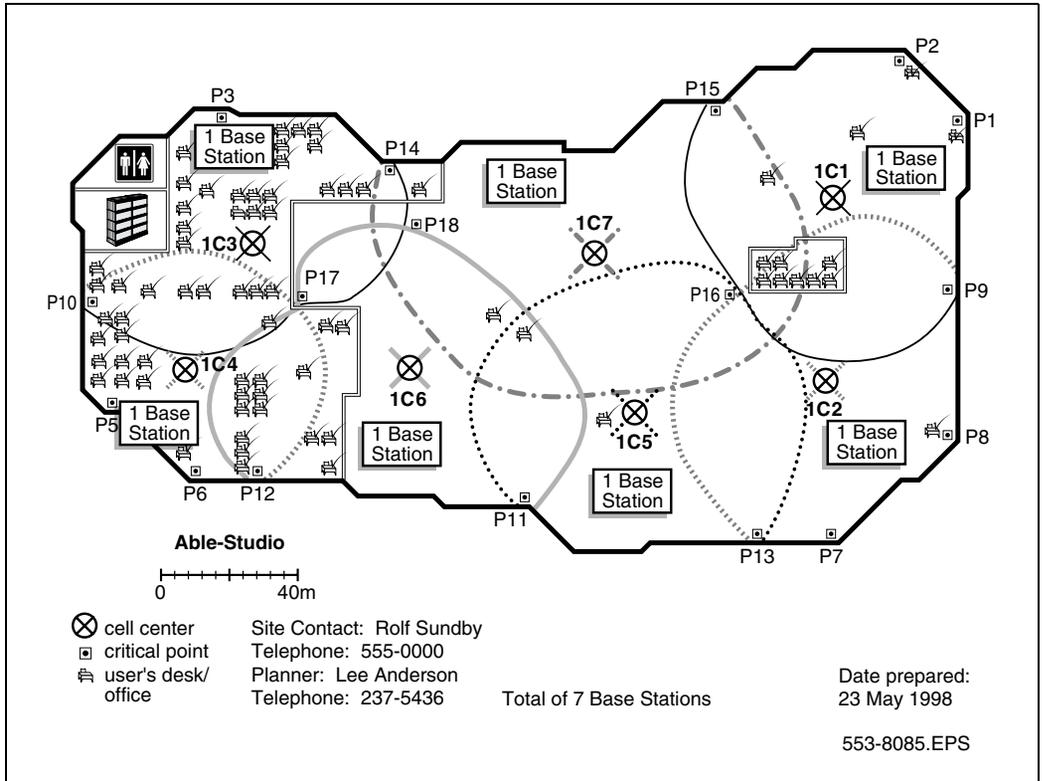
Completing a floor plan

Table 51
Completing a floor plan

Step	Action
1	Record the planner's name and telephone number on the floor plans.
2	Record the name of the customer company on the floor plans.
3	Record the site contact's name and telephone number on the floor plans.
4	Record any installation restrictions.
5	Record the details of the installation of an identified cell on the floor plans, recording any 12-channel base stations.
6	Record the positions of users' offices on the floor plans.



Figure 116
Example of a completed floor plan



Checking system capacity

Table 52
Checking system capacity

Step	Action
1	Check that the system does not exceed the Companion DECT system capacity: that is, no more than 512 handsets or 128 base stations for the system with no more than sixty-four 12-channel base stations.
2	Check that there is no 'cell' limit for a Companion DECT system. The limit is the total count of the base stations.
3	Check that the limits on base stations and handsets are independent of each other. Increasing the handset count does not decrease the number of base stations available to install, as in a Companion CT2 system.
4	If more than 128 base stations are deployed, it is necessary to replan the site with multiple systems. See the Detailed Site Planning section.
5	Make sure that the location of the controller is not more than 1500 m (wiring length for Category 5 UTP) from all 6-channel base stations or 1000 m from 12-channel base stations (unless external power is used). If the location is farther than the allowed distance, the customer needs to examine other installation and equipment configurations with the sales representative and Nortel Networks support personnel.



Review with the customer

When the planning is finished, show the customer:

- a the final positions of the base stations with a walk-about; and,
- b the areas, if any, where the coverage requirements cannot be met.

Record floor plan information

Provide the planning information to the installer or the sales group. It is important that this information be communicated in a clear and accurate way.

Neatly transfer the information from the working copy to the clean copy of the floor plan. Use the colored markers to mark the cell boundaries and matching cell centers.

Record or attach the following information to the floor plans.

- 1 All areas needing coverage.
- 2 The location of the controller.
- 3 The total number of all base stations.
- 4 All the named cell centers (for example, 2C5) and their matching cell boundaries.
- 5 All the critical points that were used.
- 6 Any installation restrictions.
- 7 Any notes detailing the installation at a identified cell, recording any 12-channel base stations.
- 8 The location of any base station servicing outdoor areas, and the current restrictions on the placing of those base stations.
- 9 Attach a completed traffic table with the floor plans.

Record provisioning record information

Record the following information on the applicable provisioning record.

- 1 The date prepared
- 2 The Customer information
- 3 The Deployer information (name)
- 4 The cell numbers
- 5 The location of the base stations (cell centers)
- 6 The calculated number of users in each cell
- 7 Include some notes on the agreed coverage area of the site and any information for the installer

Review the work

At the completion of the site plan, ensure that you have:

- a a customer, satisfied with the plan for a Companion system;
- b a clean floor plan with all the information, as shown in Figure 116;
- c a traffic table; and,
- d a completed provisioning record.

Installation and configuration

Contents

This chapter contains information on the following topics:

Before you begin	231
Unpacking the equipment	232
Provisioning records	233
Installing the base station	239
Installing additional IPE shelves or Small System cabinets	259
Installing DMC8 and faceplate cables	270
Installing the OTM DECT application	289
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Configuring handsets and retrieve subscription data	322
Base Station Powering and Muting	345
Adding a V.24 serial connection	348
Implementing and operating MSMN	404

Before you begin

The following three tasks must be completed before DECT is installed.

- 1 The site survey
- 2 The deployment
- 3 The installation of the house wiring for base stations

After these tasks have been completed, the following information and materials are required before continuing with DECT installation.

- Site work order
- List of equipment to be installed, showing quantities
- A marked-up floor plan
- A volt/ohm meter
- Hand tools and hardware, such as:
 - screwdrivers and pliers
 - spanners and socket wrenches
 - drill and drill bits
 - screws and screw anchors
 - punch-down tools for MDF and RJ45 Connect Box
 - cable continuity checking equipment

Unpacking the equipment

To unpack the equipment, complete the steps in the following table.

Table 53
Unpacking and examining the equipment

Step	Action
1	Check the items shipped for discrepancies against the list of equipment required for the installation.
	If any items are missing, take the action that is appropriate for this situation.
2	Carefully unpack and examine the equipment for damage.
	If any items are missing, take the action that is appropriate for this situation.



Note: Store the equipment containers away from the installation area. Use the containers to return damaged equipment.

Using the Provisioning Records, marked-up floor plans, and the site work order, the installation proceeds in this sequence:

- 1 Install base station
- 2 Install additional IPE shelves or cabinets
- 3 Install DMC8 cards and faceplate cables
- 4 Install OTM DECT application
- 5 Configure DECT on the OTM server
- 6 Configure handsets and retrieve subscription data
- 7 Handset subscription
- 8 Base Station Power and Muting
- 9 Add a V.24 serial connection

Provisioning records

The Companion Provisioning Records consists of the following:

- System Site Information Record
- Provisioning Information Record
- Installation Record
- System Programming Record
- Handset User Information Record

A copy of these records should be kept at the customer site. Vendors involved in maintaining DECT should also have a copy of these records.

Note: Use a pencil to record information that can vary. Make photocopies of the tables as necessary.

System information record

Contacts

Client	
Company name	
Address	
Contact name	
Telephone number	
Billing number	
Date received	

Supplier	
Company name	
Address	
Contact name	
Telephone number	
Invoice number	
Date shipped	

Installer	
Name	
Installation date	

Installing the base station

Following the DECT base station rules, installation involves the following tasks:

- Install C4600 and C4610 base stations:
 - Install Base Station wiring to the MDF.
 - Install the C4610 base station external power supply.
- Install base station in the external housing.
- Attach the external housing to a wall.
- Connect the external housing wiring to the MDF.

Rules and guidelines

The following rules and guidelines apply to base station installation.

- For dc-powered systems, an input voltage of at least –48 volts is required for maximum base station line length.
- One hundred ohms is the maximum line length for a C4610 high traffic base station. If the line measurement approaches 100 ohms, use an external power supply.
- If the exact location is not accessible, mount the base station as close as possible to the location in the site survey.
- Mount the base station in a vertical position, not horizontally, on a ceiling.
- Lead the base station cable directly away from the base station. Surplus cable can cause base station malfunctions.
- Place the base station where it is unlikely to be damaged. For example, a base station in a warehouse must be placed where it cannot be damaged by a forklift truck.
- Surrounding objects must not affect the base station. For example, a base station in a car park needs to be placed higher than any vehicle parked next to it.

- The minimum distance between two base stations must be greater than two meters.
- Do not mount base stations on large concrete or stone columns, air ducts or large metal objects.
- The external base station is powered from the line connection and does not require a mains connection.
- Use the external housing kit to mount any base station out-of-doors.
- Use the external housing kit for any base station subject to conductive pollution or dust that could become conductive due to condensation.

Compatibility

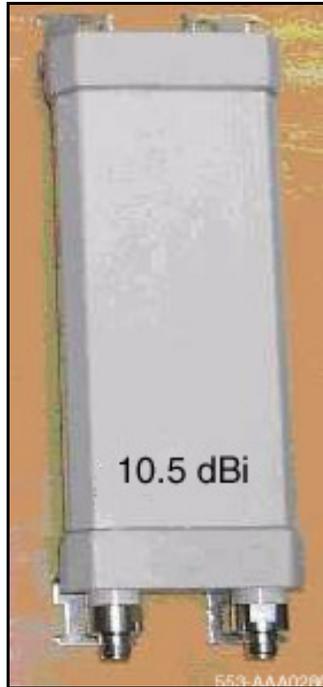
The C4600, C4610, and C4610E base stations are compatible with all software releases for DECT, Meridian 1, Succession 1000, and Succession 1000M systems. The base stations are backward compatible.

C4610E and external antenna

The C4610E 12-channel base station has an adaptor to support an external antenna. The external antenna increases the operating distance between the base station and the DECT handset. Nortel Networks recommends the use of a Hoper & Suhner dual-planar directional antenna. Directional antennas are suitable for use in places such as large halls, outside parking lots, and between buildings. See Figure 117 on [page 241](#).

Note: The Huber & Suhner 8.0dBi and 10.5dBi antenna packages were tested with the C4610E base station. Other third-party directional antenna are available, but have not been tested with this base station.

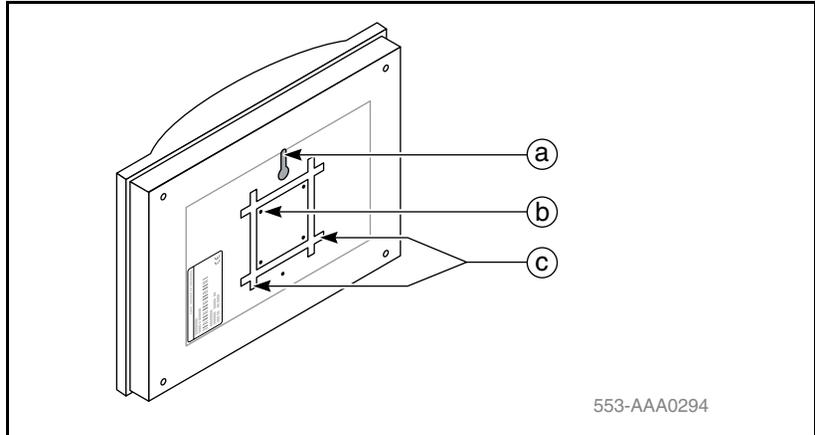
Figure 117
A Huber & Suhner dual-planar directional antenna



Installing C4600, C4610, and C4610E base stations

Consult the work order and marked-up floor plan to determine the position of the base station, then perform the steps in Table 54 on page 243.

Figure 118
Base station mounting details



Key

- a** screw mounting slot
- b** screw and cable tie retaining washer hole
- c** cable tie grooves

Table 54
Installing C4600, C4610, and C4610E base station

Step	Action
1	Locate the base station mounting position.
2	Install the base station mounting screw. If required, drill the holes for a screw anchor and install the anchor.
3	Fasten the base station on the wall or a building protrusion. Hang the base station on the screw or use cable ties to mount the base station. Insert the cable ties in the vertical or horizontal grooves on the back of the base station. Secure the cable ties to the base station with the retaining washers and screws provided. Fasten the cable ties to the building protrusion.
4	If installing the C4610E base station, install the external antenna according to the manufacturer's instructions.



Installing the wiring to the MDF

Consult the work order and marked-up floor plan to determine the base station to MDF connections, then follow the steps in Table 55 on page 245.

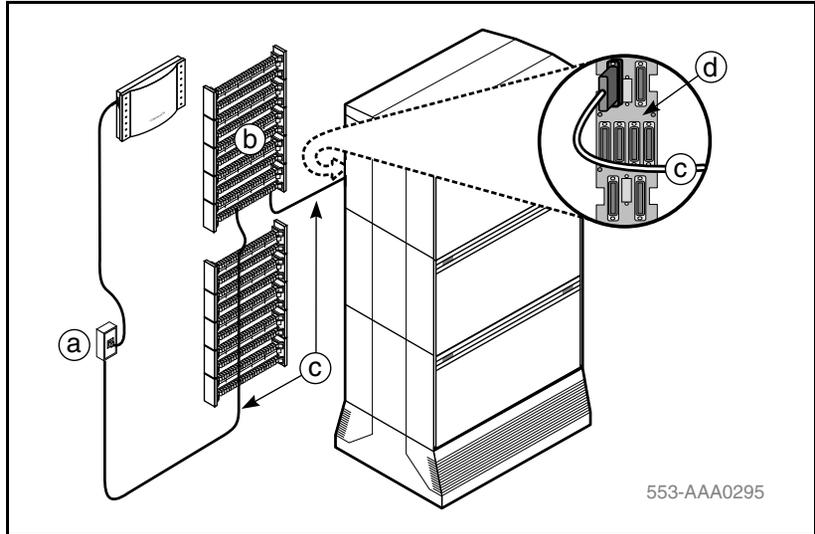


CAUTION — Service Interruption

For maximum line length before signal degradation occurs, use UTP Cat 5 cabling between the base station and the shelf or cabinet. If the line length exceeds 100 ohms for the 4610 base station, an external power supply must be used.

The maximum distance when using external power with UTP Cat 5 cabling is approximately 1.7 km.

Figure 119
Base station, MDF, and I/O panel details



Key

- a RJ45 Connection Box
- b MDF
- c recommended UTP Cat 5 cable
- d IPE shelf I/O connector panel

Table 55
Installing Base Station wiring to the MDF

Step	Action
1	Connect one end of the NTCW10 cable into the base station RJ45 jack. Use the supplied cable.
2	Install the RJ45 Connection Box. Use the NTCW10 cable length to measure the location of the RJ45 Connection Box.
3	See Table 56 on page 246 for connection details.
	<p>Note 1: Ensure that the cable is <i>twisted pair</i> from beginning to end.</p> <p>Note 2: If there are other twisted pairs available then ensure that the other pairs in the cable are not used for analogue interfaces.</p>
4	Connect the free end of the NTCW10 cable into the RJ45 Connection Box.



Note: The BIX tip and ring connections shown in [Table 56 on page 246](#) correspond to standard BIX designation. The first pair are labeled T0 and R0. See *Large System: Installation and Configuration* (553-3021-210), chapter *Planning and designating the Modular Distribution Frame (MDF)*.

Figure 120
RJ45 Connection Box pin-out

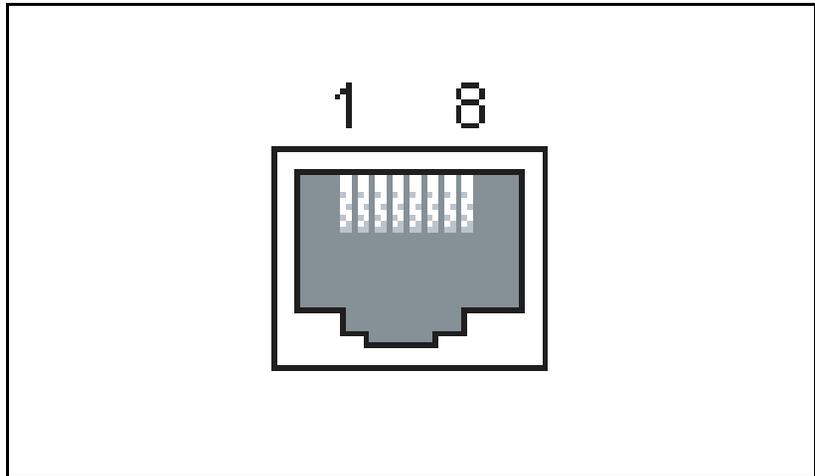


Table 56
Base station RJ45 to BIX MDF connections (Part 1 of 2)

Base station number	RJ45 Connection Box	MDF connection
Base station 1	5	T8
	4	R8
	6	T9
	3	R9
Base station 2	5	T10
	4	R10
	6	T11
	3	R11

Table 56
Base station RJ45 to BIX MDF connections (Part 2 of 2)

Base station number	RJ45 Connection Box	MDF connection
Base station 3	5	T12
	4	R12
	6	T13
	3	R13
Base station 4	5	T14
	4	R14
	6	T15
	3	R15
Base station 5	5	T16
	4	R16
	6	T17
	3	R17
Base station 6	5	T18
	4	R18
	6	T19
	3	R19
Base station 7	5	T20
	4	R20
	6	T21
	3	R21
Base station 8	5	T22
	4	R22
	6	T23
	3	R23

Installing the external power supply

For the C4600, C4610, and C4610E base stations, an external power supply must be installed if the UTP Cat 5 line resistance exceeds 100 ohms.

Figure 121
C4610 base station external power

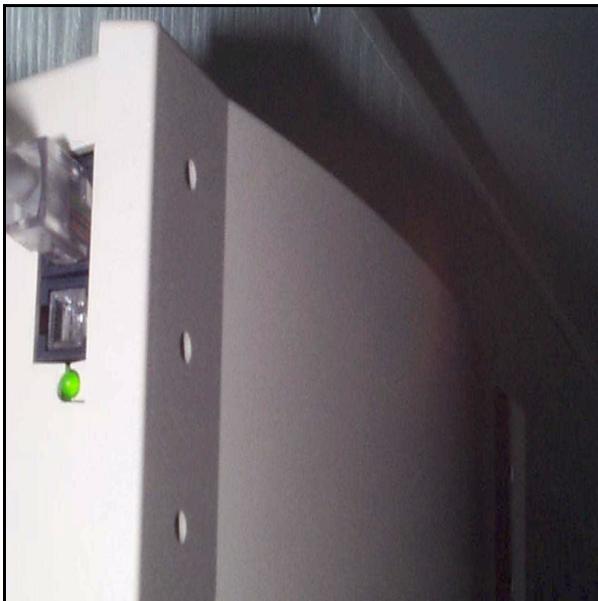


Figure 122
C4610E external power and external antenna connectors

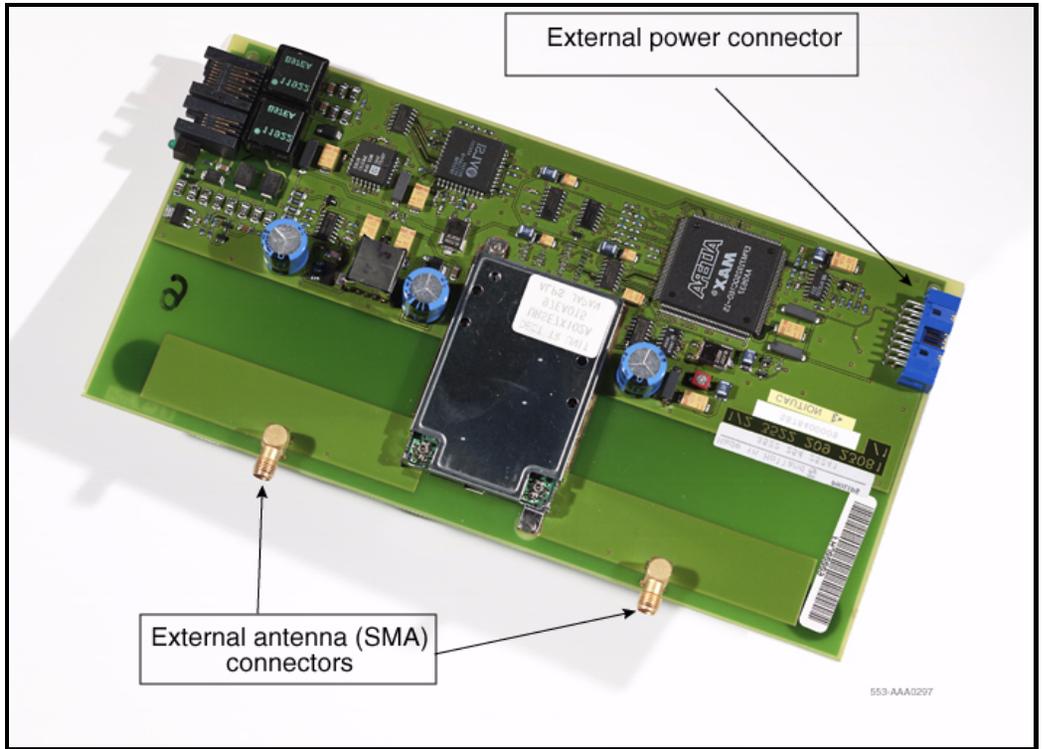


Table 57
Installing the C4610 base station external power supply

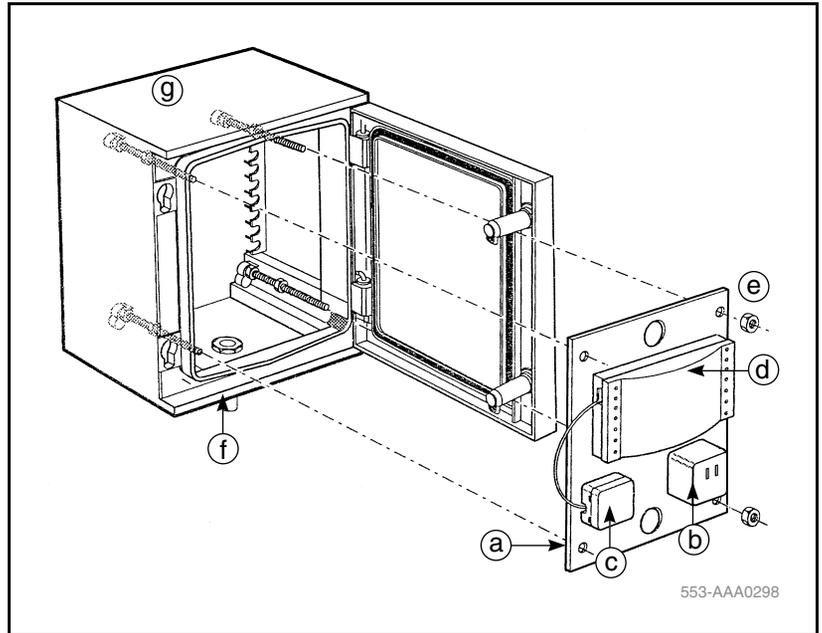
Step	Action
1	Remove the plastic stopper from the C4610 base station power socket.
	The power socket is located next to the yellow LED.
2	Plug the external power supply jack into the C4610 base station power socket.
3	Connect the external power supply to the ac mains outlet.



Installing the external housing

Consult the work order, then perform the steps in Table 59 on page 255.

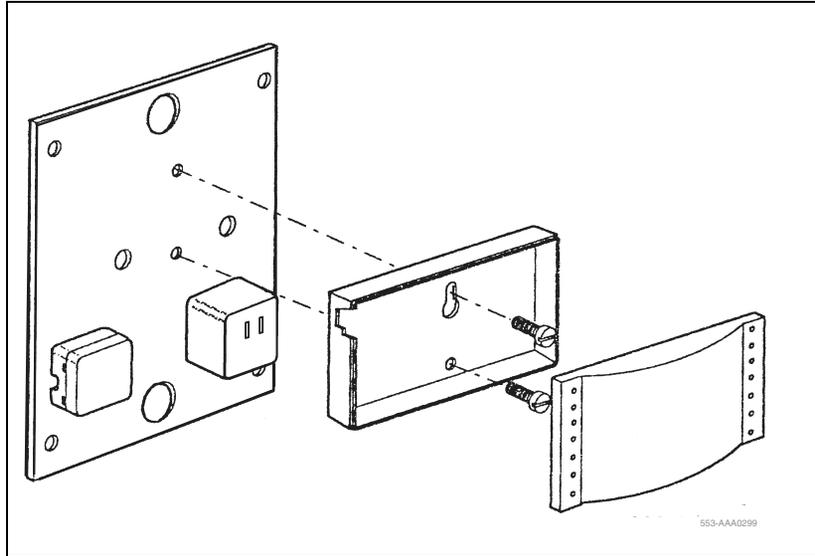
Figure 123
External housing details



Key

- a component mounting plate
- b power transformer (not used)
- c cable connecting box
- d base station
- e plate retaining nuts
- f cable outlet
- g external housing cabinet

Figure 124
Base station mounting details



CAUTION — Equipment Damage

The following procedure requires the removal of the base station cover. The circuit board is attached to the base station cover. Do not damage the circuit board or bend the two antennas on the bottom of the circuit board.

Table 58
Installing the base station in the external housing

Step	Action
1	Open the external housing cover. Insert the external housing key and turn clockwise.
2	Remove the base station mounting plate. Unscrew the four nuts securing the plate and pull the plate from the cabinet.
3	Remove the base station cover. See the preceding caution note on page 252 . Carefully pry one corner of the cover from the base station, then the other corner.
4	Remove the base station lower screw hole cover. Push the screw hole cover out of the base station.
5	Mount the base station to the housing plate. Affix with the screws as shown in Figure 124 .
6	Replace the base station cover. Snap the cover in place.
7	Connect the connecting box cable to the base station. Snap the connecting box cable into the base station RJ45 Connection Box. Lead the cable away from the base station for optimal performance of the antennas.
8	Replace the base station mounting plate. Secure the plate with the four nuts.



Attaching the external housing to a wall

Consult the work order and marked-up floor plan to determine the mounting position of the base station external housing, then perform the steps listed in [Table 59](#).

Figure 125
External housing mounting lugs

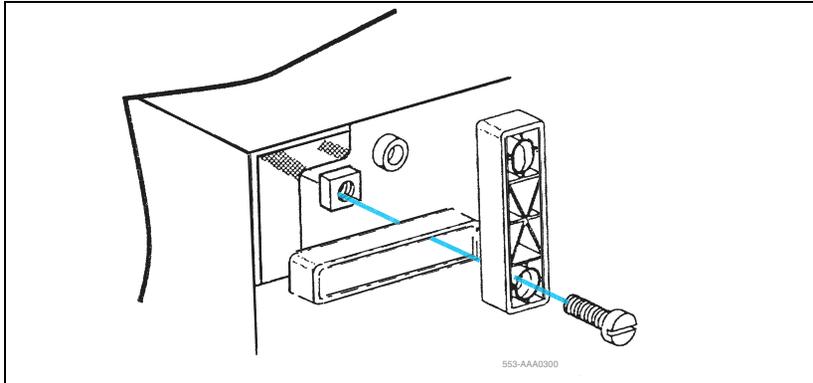
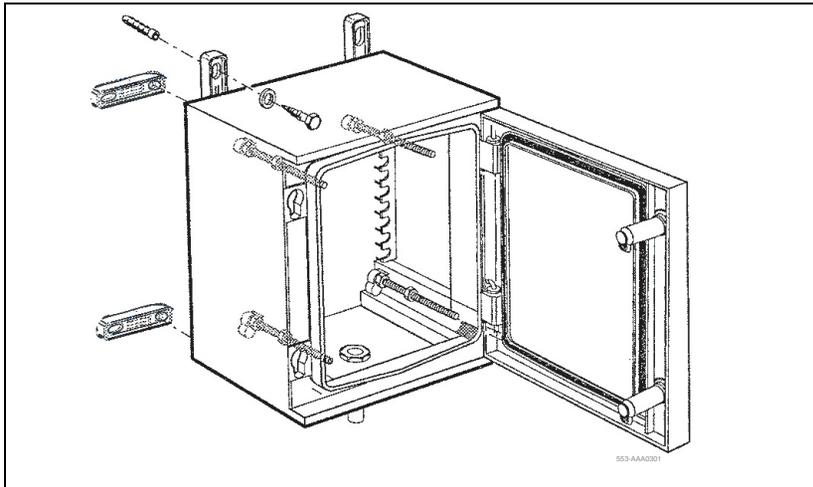


Figure 126
External housing wall mounting





DANGER — Electric Shock

Do not drill into electrical wires that are embedded in the wall.

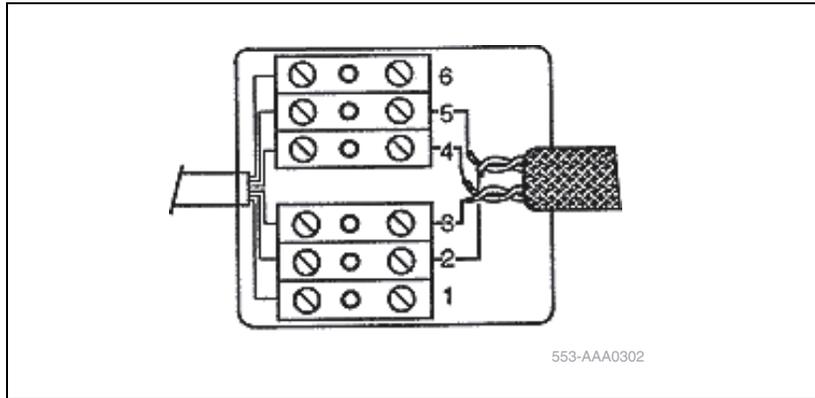
Table 59
Attaching the external housing to a wall

Step	Action
1	Choose the vertical or horizontal mounting position.
	See Figure 125 on page 254 for details. Reposition mounting lugs if necessary.
2	Drill mounting holes in the wall.
	Use the drilling jig to align the holes.
3	Mount the external housing to the wall.
	See Figure 126 on page 254 for details. Use the screws, and appropriate inserts, to fasten the housing to the wall.
	

Connecting the external housing wiring to the MDF

Consult the work order, then perform the steps in [Table 60](#).

Figure 127
External housing MDF connection details



Note: The BIX tip and ring connections shown in [Table 61 on page 257](#) correspond to standard BIX designation. The first pair are labelled T0 and R0. See *Large System: Installation and Configuration* (553-3021-210), chapter *Planning and designating the Modular Distribution Frame (MDF)*.

Table 60
Connecting the external housing wiring to the MDF (Part 1 of 2)

Step	Action
1	Lead the building cable into the external housing.
	Route the cable through the cable outlet in the external housing.

Table 60
Connecting the external housing wiring to the MDF (Part 2 of 2)

Step	Action
2	Secure the cable in the connecting box.
	Use a cable tie-wrap.
3	Connect the external housing wiring from the connecting box to the MDF.
	<p>Note: See Figure 127 on page 256 and Table 61 on page 257 for wiring connections. For DMC8 types NTCW00AB and NTCW01AB, connect from base station 1 to base station 8.</p> <p>Note: To support base stations 5, 6, 7, and 8 on NT8D37 (AA and DC) IPE modules requires 24 tip and ring pair backplane to I/O panel connections. To re-cable NT8D37 from 16 pair to 24 pair, see <i>Large System: Installation and Configuration</i> (553-3021-210), Appendix B.</p>
	

Table 61
External housing base station to BIX MDF connections (Part 1 of 2)

External housing base station number	External housing connector box in number	MDF connection
Base station 1	3	T8
	4	R8
	2	T9
	5	R9
Base station 2	3	T10
	4	R10
	2	T11
	5	R11

Table 61
External housing base station to BIX MDF connections (Part 2 of 2)

External housing base station number	External housing connector box in number	MDF connection
Base station 3	3	T12
	4	R12
	2	T13
	5	R13
Base station 4	3	T14
	4	R14
	2	T15
Base station 5	4	T16
	5	R16
	6	T17
	3	R17
Base station 6	4	T18
	5	R18
	6	T19
	3	R19
Base station 7	4	T20
	5	R20
	6	T21
	3	R21
Base station 8	4	T22
	5	R22
	6	T23
	3	R23

Installing additional IPE shelves or Small System cabinets

Installing additional IPE shelves or cabinets includes the following tasks:

- Install additional IPE modules.
- Install additional cabinets:
 - Install IPE module wiring to the MDF.
 - Install cabinet wiring to the MDF.

Installing additional IPE modules

Consult the work order and marked-up floor plan to determine if additional IPE modules are required, then perform the steps in [Table 62](#).

Note: If unfamiliar with this process, refer to *Large System: Installation and Configuration* (553-3021-210).

Table 62
Installing additional IPE modules (Part 1 of 2)

Step	Action
1	Remove the IPE module front and rear covers.
	Remove the covers from the module on which the DECT module will sit.
2	Remove the air grills.
	Release the air grill tabs or Southco® fasteners and lift the air grill off.
3	Remove the top cap.
	Loosen and remove the three front and rear top cap bolts. Lift off top cap.
4	Unfasten the column LED.
	Remove the LED bracket bolts.
5	Remove the I/O back panel cover.
	Unlock the four Southco fasteners.

Table 62
Installing additional IPE modules (Part 2 of 2)

Step	Action
6	Disconnect the column LED.
	Unlock LED wiring connector latches on the module backplane. Detach the LED wiring connector.
7	Disconnect the thermal sensor connector.
	Unlock the sensor connector latches on the 36 pin orange/brown colored connector, located to the left of the LED connector. Unplug the sensor connector.
8	Remove the EMI perf panel.
	Lift directly up.
9	Place the new module on top of the column.
	Keep hands and fingers out from under the module when placing the module on top of the equipment column.
10	Connect the new module wiring.
	Install the sensor connector of the new module into the vertical connector housing of the module below.
11	Secure the new module.
	Insert the five bolts and lock washers into the base of the new module. Tighten the bolts into the original module.
12	Attach the power cable.
	Connect the ribbon cable of the new module to J2 of the module below.
13	Re-install the EMI perf panel and the LED.
	Install the LED connector and the sensor connector on the new module.
14	Replace the air grills and covers.
	Reverse the procedure for steps 1 to 4.



Installing additional Small System cabinets

Consult the work order and marked-up floor plan to determine if additional Small System cabinets are required, then perform the steps in [Table 63](#).

Note: If not familiar with this process, refer to *Large System: Installation and Configuration* (553-3021-210).



DANGER — Electrostatic Sensitive Device

Wear a properly connected antistatic wrist strap to handle circuit cards. Only touch the edges. Do not touch the contacts or components. Set the cards on a protective antistatic bag. If an antistatic bag is not available, hand-hold the card, or set it in a card cage unseated from the connectors.

Table 63
Installing additional Small System cabinets (Part 1 of 3)

Step	Action
1	Mount the expansion cabinet. For a wall mount, draw a level line, rest the bottom of mounting bracket on the line, screw the mounting bracket to the wall. Hang the cabinet on the mounting bracket. Fasten the bottom of the cabinet to the wall. For a floor mount, install the cabinet on the pedestal. Position the cabinet according to the equipment layout plan.
2	Remove the drip tray. Slide drip tray outward.
3	Install ground wire. As a minimum, use #6AWG ground wire. Tag the main ground connection at the ground source to ensure it is not accidentally discontinued. Test the ground.
4	Install the power supply.

Table 63
Installing additional Small System cabinets (Part 2 of 3)

Step	Action
	Wear the anti-static wrist strap. Turn power supply circuit breaker to OFF. Check the option switches on the power supply.
5	Install the fiber routing guide.
	Mount the guide in the area below the circuit cards and secure with the existing screws.
6	Connect the fiber optic cable or copper cable as applicable.
	For the A0618443 cable, remove the two plugs on the Fiber Receiver card. Connect the cable to the card so the "V" shaped groove is facing inward. For the glass fiber optic cable, remove the plug on one connector on the card, and the cap on the cable. Insert the connector and secure with a half turn clockwise. Wind the excess cable on the storage device.
7	Insert the circuit cards in the expansion cabinet.
	Refer to "Install DMC8-Es" Table 70 on page 277 and the work order for card placement.
8	Install or expand the MDF cross-connect terminal.
	Consult the marked-up floor plan for the MDF addition location.
9	Install cables from the cabinet to the MDF cross-connect.
	Consult the marked-up floor plan for the cable location.
10	Install PFTU and SDI cable if required.
	Consult the marked-up floor plan for the cable location.
11	Replace the expansion cabinet drip tray.
	Slide the drip tray inward.
12	Remove the main cabinet cover and drip tray.
	Undo the catches on the main cabinet and slide the drip tray outward.
13	Install a Fiber Routing guide in the main cabinet, if required.

Table 63
Installing additional Small System cabinets (Part 3 of 3)

Step	Action
	The Fiber Routing guide is secured to the under side of the bottom card rail and uses the screws to the left of the CPU card label and under the card 2 label.
14	Turn the power supply circuit breaker to OFF.
15	Unseat the NTDK20 SSC card and install a Fiber Expansion daughterboard.
	Connect the Fiber Expansion daughterboard to the connector "Fiber 1" if this is the first expansion cabinet, or to "Fiber 2" if this is the second expansion cabinet.
16	Connect the fiber optic cable to the Fiber Expansion daughterboard.
	For the A0618443 cable, remove the two plugs on the Fiber Receiver card. Connect the cable to the card so the "V" shaped groove is facing inward. For the glass fiber optic cable, remove the plug on one connector on the card and the cap on the cable. Insert the connector and secure with a half turn clockwise. Wind the excess cable on the storage device.
17	Re-seat the NTDK20 SCC card.
18	Route the fiber optic cable through the Fiber Routing Guide.
19	Set the circuit breaker in the main cabinet to ON.
	The system reloads. Check time and date using LD 2.
20	Re-install the drip tray in the main cabinet.
21	Re-install the main cabinet cover.



Installing IPE module wiring to the MDF

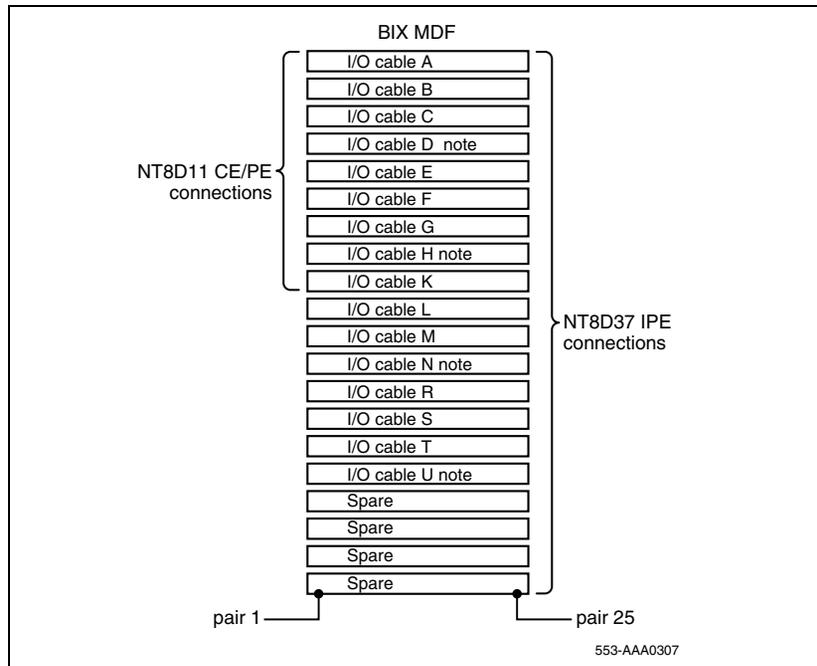
Consult the work order to determine the layout of the module I/O panel to MDF cabling route, then perform the steps in Table 64 on page 266.



CAUTION — Service Interruption

The existing MDF cabling can be used; however, UTP Cat 5 – NTCW15, NTCW16, or NTCW17 MDF to PBX cabling is recommended, as it provides a greater line length before signal degradation occurs.

Figure 128
IPE I/O cable to BIX MDF termination



Note: In NT8D11AC or NT8D11DC CE/PE and NT8D37AC or NT8D37DC IPE modules, these BIX connectors are not used. However, they are used in the NT8D11BC or NT8D11EC CE/PE and NT8D37BA or NT8D37 EC IPE modules.

Figure 129
IPE I/O cable to Krone MD termination

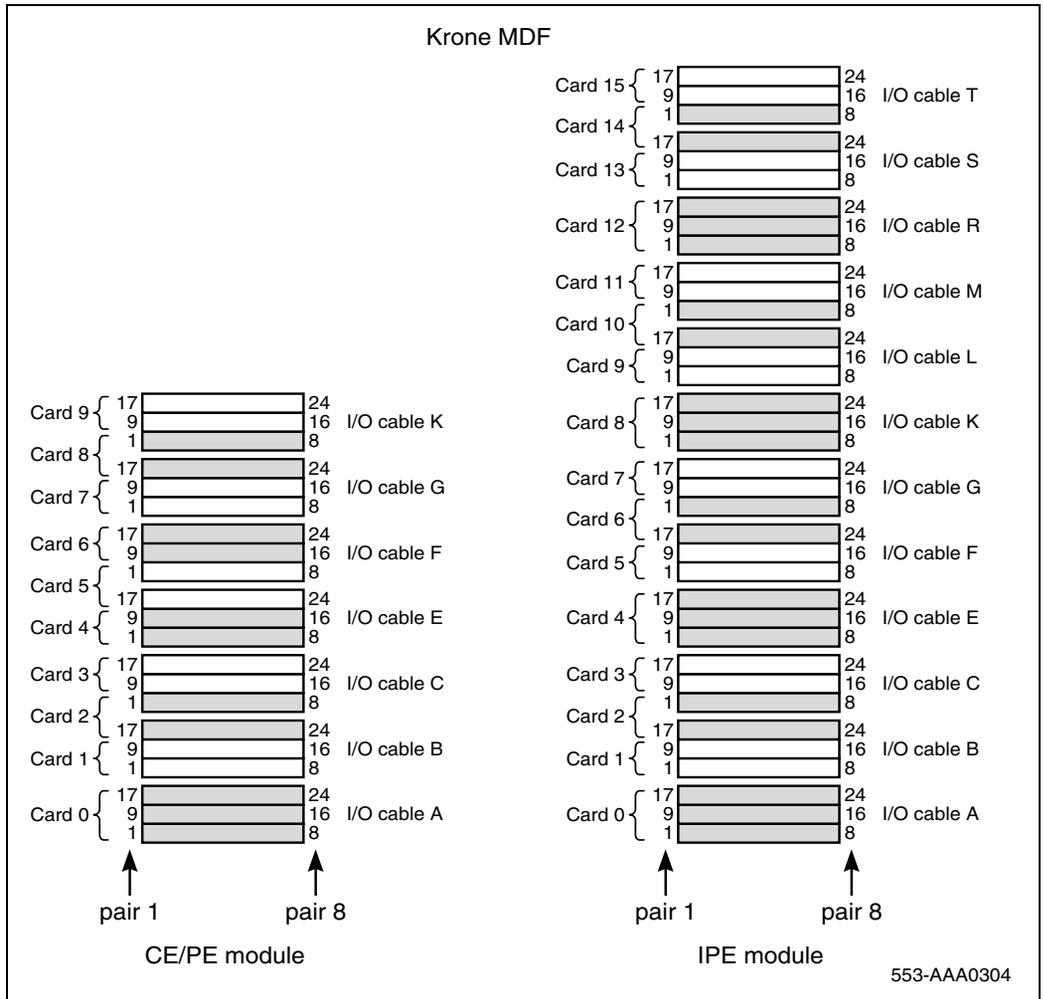


Table 64
Installing IPE module wiring to the MDF

Step	Action
1	Identify the UTP Cat 5 twenty-five pair MDF cable.
	Label both ends of the cable with the IPE module number and the I/O panel letter designation.
2	Connect the IPE or cabinet end of the cable.
	Insert the cable's Amphenol [®] connector into the appropriate I/O panel connector. See Table 65 .
3	Run the cable to the MDF.
4	Terminate the cable on the MDF.
	For BIX MDF, refer to Figure 128 on page 264 to locate the BIX connectors and Table 65 on page 266 to locate the cable color code. For Krone MDF, refer to Figure 129 on page 265 to locate the Krone connectors and Table 65 to locate the cable color code.
	

Table 65
Color code for 25 pair cable (Part 1 of 2)

Amphenol pin number	Tip	Ring
	Body/Band	Body/Band
26/1	White/Blue	Blue/White
27/2	White/Orange	Orange/White
28/3	White/Green	Green/White
29/4	White/Brown	Brown/White
30/5	White/Slate	Slate/White
31/6	Red/Blue	Blue/Red
32/7	Red/Orange	Orange/Red
33/8	Red/Green	Green/Red

Table 65
Color code for 25 pair cable (Part 2 of 2)

Amphenol pin number	Tip	Ring
	Body/Band	Body/Band
34/9	Red/Brown	Brown/Red
35/10	Red/Slate	Slate/Red
36/11	Black/Blue	Blue/Black
37/12	Black/Orange	Orange/Black
38/13	Black/Green	Green/Black
39/14	Black/Brown	Brown/Black
40/15	Black/Slate	Slate/Black
41/16	Yellow/Blue	Blue/Yellow
42/17	Yellow/Orange	Orange/Yellow
43/18	Yellow/Green	Green/Yellow
44/19	Yellow/Brown	Brown/Yellow
45/20	Yellow/Slate	Slate/Yellow
46/21	Violet/Blue	Blue/Violet
47/22	Violet/Orange	Orange/Violet
48/23	Violet/Green	Green/Violet
49/24	Violet/Brown	Brown/Violet
50/25	Violet/Slate	Slate/Violet

Installing Small System cabinet wiring to the MDF

Consult the work order to determine the Small System cabinet-to-MDF cabling route, then perform the steps in Table 66 on page 269.

Figure 130
Option 11 MDF details

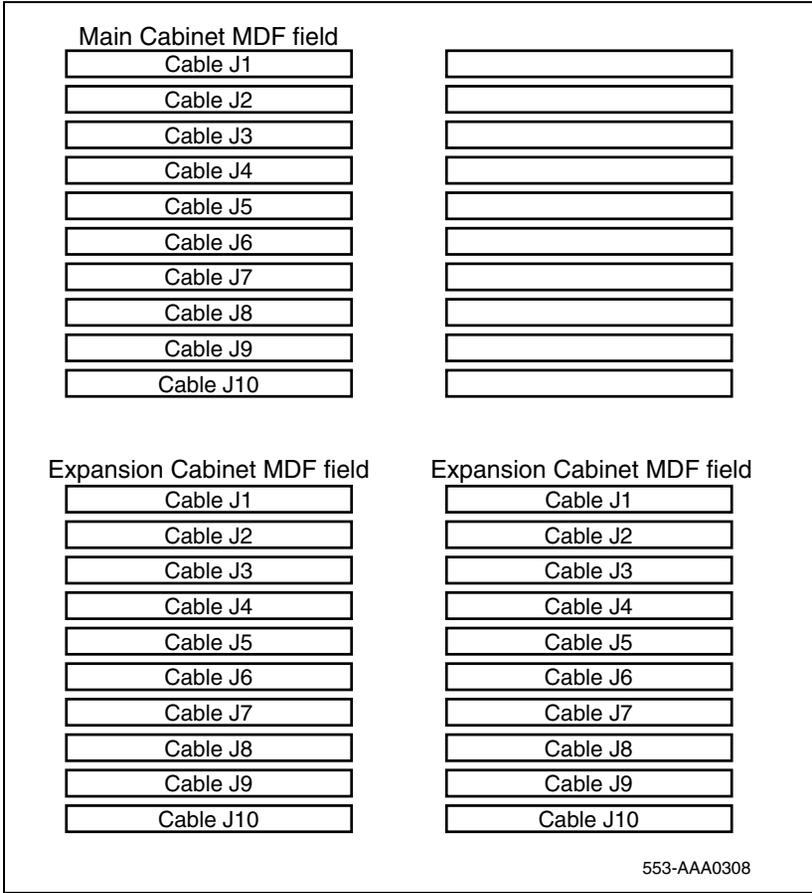


Table 66
Installing Small System cabinet wiring to the MDF

Step	Action
1	Identify the UTP Cat 5 twenty five pair MDF cable.
	Label both ends of the cable with the cabinet jack number.
2	Connect the cabinet end of the cable.
	Insert the cable's Amphenol connector into the appropriate cabinet connector jack.
3	Run the cable to the MDF.
4	Terminate the cable on the MDF.
	For BIX MDF, refer to Figure 130 on page 268 to locate the BIX connectors and Table 65 on page 266 to locate the cable color code.



Chassis expander installation

For information on installing an Chassis expander, refer to *Small System: Installation and Configuration* (553-3011-210).

Succession 1000 Media Gateway Expansion installation

For information on installing a Media Gateway Expansion, refer to *Succession 1000 System: Installation and Configuration* (553-3031-210).

Installing DMC8 and faceplate cables

Installing the DMC8 cards and faceplate cables involves the following tasks:

- 1 Cross-connect base stations to the DMC8 positions.
- 2 Cross-connect base stations to the DMC8 Relay card.
- 3 Install DMC8 and DMC8-E in an IPE shelf.
- 4 Install DMC8-E in a Cabinet system.
- 5 Install faceplate cables and inter-shelf/cabinet cable.

Compatibility

The NTCW00AB DMC8 and NTCW01AB DMC8-E are compatible with the following software releases:

- Release 23 and later supports basic configuration, CLID and CPND, DECT card addressing within OA&M, 16 users per card.
- Release 24B and later supports 32 users per card.
- Release 25 and later supports MSMN and Concentration.

Cross-connecting base stations to the DMC8 positions

Consult the work order to determine the cross-connect details and perform the following steps.



CAUTION — Service Interruption

The jumper wire on the MDF must be at least UTP Cat 3. UTP Cat 5 is recommended as it provides a greater line length before signal degradation occurs.

Table 67
Cross-connecting base stations to the DMC8 positions

Step	Action
1	Cross-connect from the base station house side connector to the DMC8 equipment side connector.
	<p>Connect a jumper wire from the tip and ring of the house side connector to the tip and ring of the equipment side connector. Refer to Table 68 on page 271 for the tip and ring designators. For DMC8s type NTCW00AB and NTCW01AB, connect from base station 1 to base station 8.</p> <p>Note: To support base stations 5, 6, 7, and 8 on NT8D37 (AA and DC) IPE modules, use 24 tip and ring pair backplane to I/O panel connections. To re-cable NT8D37 from 16 pair to 24 pair, see <i>Large System: Installation and Configuration (553-3021-210)</i>.</p>
2	Cross-connect the remaining base stations.
	Repeat step one until all base stations are cross-connected.



Note: The BIX tip and ring connections shown in [Table 68](#) correspond to standard BIX designation. The first pair are labeled T0 and R0. See *Large System: Installation and Configuration (553-3021-210)*, chapter *Planning and designating the Modular Distribution Frame (MDF)*.

Table 68
Base station tip and ring connections (Part 1 of 3)

Base station number	Base station MDF connection	DMC8 MDF connection
Base station 1	T8	T8
	R8	R8
	T9	T9
	R9	R9

Table 68
Base station tip and ring connections (Part 2 of 3)

Base station number	Base station MDF connection	DMC8 MDF connection
Base station 2	T10 R10 T11 R11	T10 R10 T11 R11
Base station 3	T12 R12 T13 R13	T12 R12 T13 R13
Base station 4	T14 R14 T15 R15	T14 R14 T15 R15
Base station 5	T16 R16 T17 R17	T16 R16 T17 R17
Base station 6	T18 R18 T19 R19	T18 R18 T19 R19
Base station 7	T20 R20 T21 R21	T20 R20 T21 R21

Table 68
Base station tip and ring connections (Part 3 of 3)

Base station number	Base station MDF connection	DMC8 MDF connection
Base station 8	T22	T22
	R22	R22
	T23	T23
	R23	R23

Cross-connecting base stations to the DMC8 Relay card

Consult the work order to determine the cross-connect details, then perform the steps in Table 69 on page 274.

Figure 131
DMC8 Relay card to base station connections

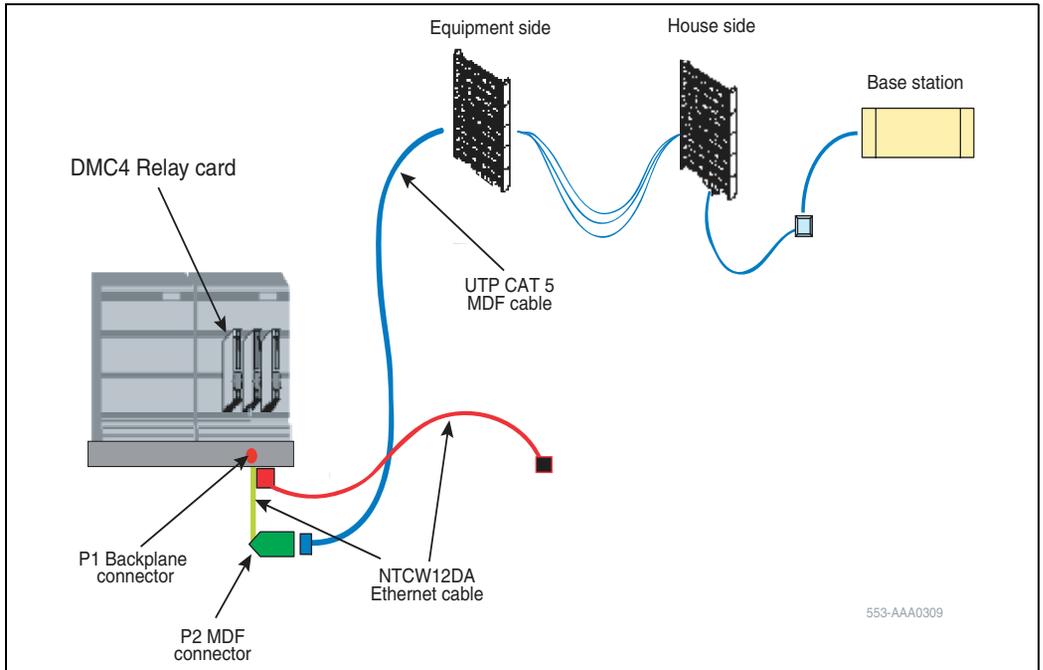


Table 69
Cross-connecting base stations to the DMC8 positions

Step	Action
1	Connect the NTCW12DA cable to the DMC8 Relay card.
	Insert P1 into the DMC8 Relay card backplane connector located on the PBX shelf/module or the Cabinet.
2	Connect the MDF cable to the NTCW12DA cable.
	Insert the MDF cable connector into P2.
3	Connect the MDF cable to the equipment side MDF cross-connect terminal block.
	See the chapter in <i>Large System: Installation and Configuration</i> (553-3021-210) that discusses <i>cabling lines and trunks</i> . See the chapter in <i>Small System: Installation and Configuration</i> (553-3011-210) that discusses <i>installing and connecting cross-connect terminal to cabinets</i> .
4	Cross-connect from the base station house-side connector to the DMC8 Relay card equipment side connector.
	Connect a jumper wire from the tip and ring of the house-side connector to the tip and ring of the equipment-side connector. Refer to Table 68 on page 271 for the tip and ring designators. For DMC8s, type NTCW00AB and NTCW01AB connect from base station 1 to base station 8. To support base stations 5, 6, 7, and 8 on NT8D37 (AA and DC) IPE modules requires 24 tip and ring pair backplane to I/O panel connections. To re-cable NT8D37 from 16 pair to 24 pair, see <i>Large System: Installation and Configuration</i> (553-3021-210).
	

Installing DMC8 and DMC8-E in an IPE shelf

Refer to the work order and marked-up floor plan to determine the position of the DMC8 and DMC8-E, then perform the steps in Table 70 on page 277.



DANGER — Electrostatic Sensitive Device

Wear a properly connected antistatic wrist strap to handle circuit cards. Only touch the edges. Do not touch the contacts or components. Set the cards on a protective antistatic bag, whenever possible. If an antistatic bag is not available, hand-hold the card, or set it in a card cage removed from the connectors.



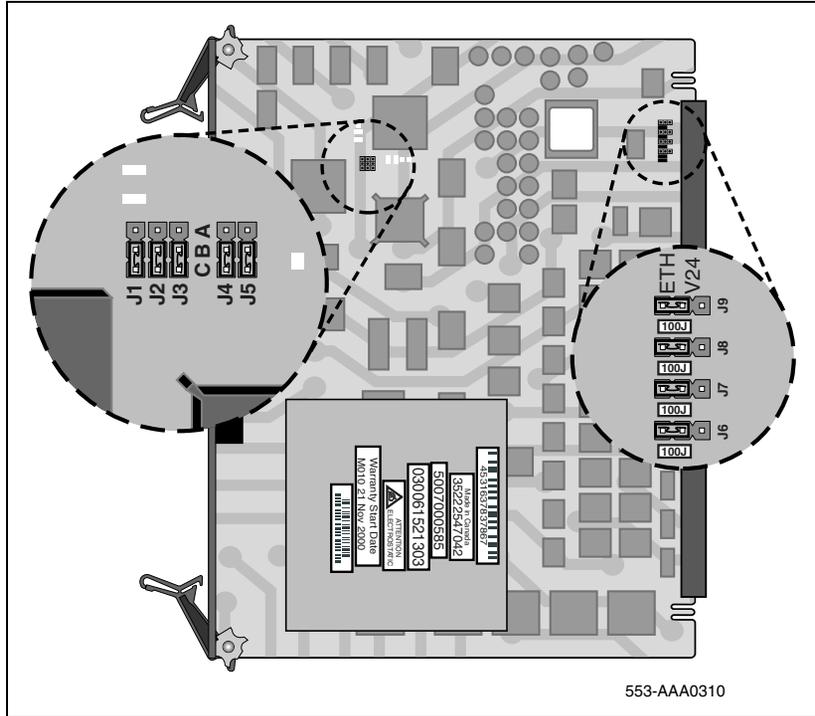
CAUTION — Service Interruption

Only install DMC8-Es in slot 8.

Note 1: Install the DMC8s next to each other so the faceplate cables connect to the ports.

Note 2: See “System software parameters” on [page 126](#) for DMC8 and DMC8-E software package compatibility.

Figure 132
DMC8/DMC8-E jumper details



See [Table 70](#) for card jumper settings.



CAUTION — Service Interruption

Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the ETH position for operation on a dedicated LAN.

Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the V.24 position for operation on a serial connection to the OTM server.

Table 70
Installing DMC8 and DMC8-E in an IPE shelf

Step	Action
1	Install J1 jumper straps on the DMC8 and the DMC8-Es for Card ID. For pre-Release 23 software, strap A B. For post-Release 23 software, and Multi-Site Mobility Networking, strap B C.
2	Install J2 jumper straps on the DMC8 and the DMC8-Es for the system type. Strap A B for IPE shelf.
3	Install J3 jumper straps on the DMC8 and the DMC8-Es for cabinet or IPE shelf number. For shelf 0, the lower TN IPE shelf, strap B C. For shelf 1, the higher TN IPE shelf, strap A B.
4	Install J6 to J9 jumper straps on the DMC8 and the DMC8-Es used as the Relay card for either V.24 connection or Ethernet connection. For the V.24 connection strap jumpers J6 to J9 to the V24 position. For the Ethernet connection strap jumpers J6 to J9 to the ETH position.
5	Insert DMC8-E(s), if required. Place DMC8-E(s) in slot 8.
6	Insert DMC(s). Place DMC8s in the slots as indicated on the work order. Do not place DMC8s in slot 8.



Figure 133
Example of a full system housed in two IPE shelves

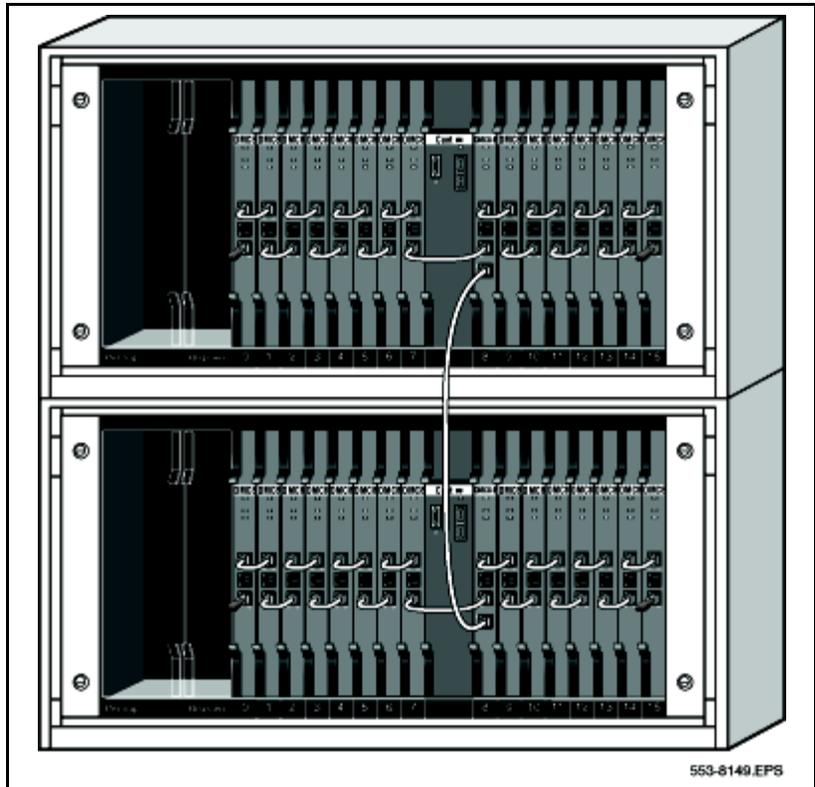


Figure 134
Example of a 16 card system housed in two IPE shelves

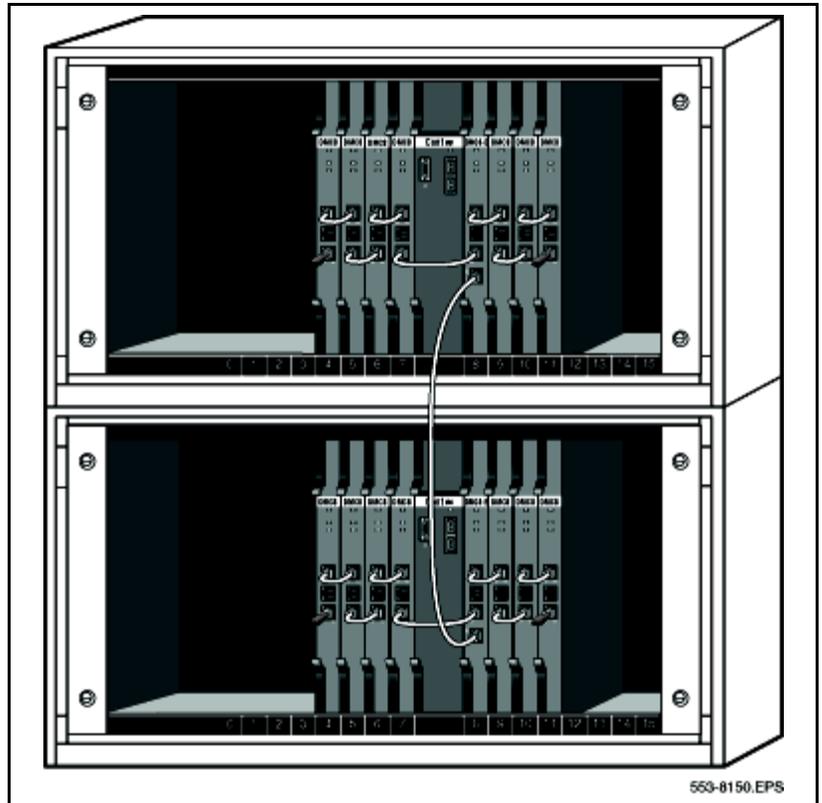
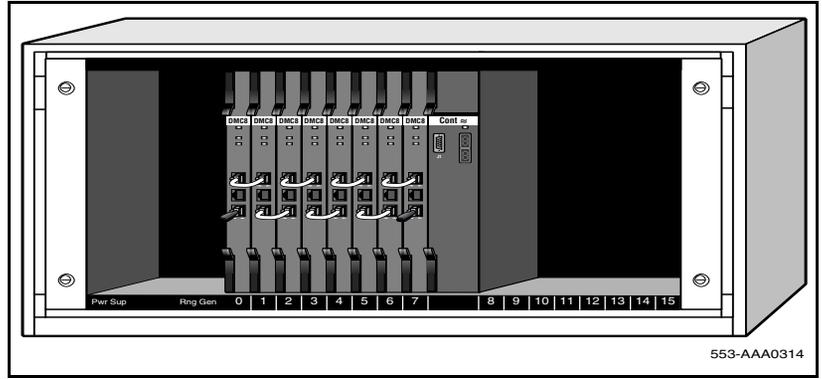


Figure 136
Example of an eight card system housed in one IPE shelf



Installing DMC8-E in a Small System or Succession 1000

Consult the work order and marked-up floor plan to determine the position of the DMC8 and DMC8-Es, then perform the steps in Table 71 on page 283.



DANGER — Electrostatic Sensitive Device

Wear a properly connected antistatic wrist strap when handling circuit cards. Handle cards by the edges only. Do not touch the contacts or components. Set the cards on a protective antistatic bag, whenever possible. If an antistatic bag is not available, hand-hold the card, or set it in a card cage unseated from the connectors.



CAUTION — Service Interruption

Do not install DMC8-Es into any slot except slots 9, 19, or 29.

Note 1: The DMC8s must be adjacent to each other so the faceplate cables can be connected to the ports.

Note 2: See [System software parameters, page 126](#) for DMC8 and DMC8-E software package compatibility.

Figure 137
DMC8/DMC8-E jumper details



See [Table 70](#) for card jumper settings.

**CAUTION — Service Interruption**

Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the ETH position for operation on a dedicated LAN.

Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the V.24 position for operation on a serial connection to the OTM server.

Table 71
Installing DMC8-E in a Cabinet, Chassis, Media Gateway, or Media Gateway Expansion
 (Part 1 of 2)

Step	Action
1	Install J1 jumper straps on the DMC8 and the DMC8-Es for Card ID. For pre Release 23 software strap A B. For post Release 23 software, and Multi-Site Mobility Networking, strap B C.
2	Install J2 jumper straps on the DMC8 and the DMC8-Es for system type. Strap B C for Option 11C, 11C Mini, Media Gateway, or Media Gateway Expansion.
3	Install J3 jumper straps on the DMC8 and the DMC8-Es for shelf number. For the lower TN cabinet, strap B C. For the higher TN cabinet, strap A B.
4	Insert DMC8-E(s), if required. Place DMC8-E(s) in slot 9, slot 19 or slot 29. See examples in Figure 138 , Figure 139 , Figure 140 , and Figure 141 .

Table 71
Installing DMC8-E in a Cabinet, Chassis, Media Gateway, or Media Gateway Expansion
(Part 2 of 2)

Step	Action
5	Install J6 to J9 jumper straps on the DMC8 and the DMC8-Es used as the Relay card for either V.24 connection or Ethernet connection.
	For the V.24 connection strap jumpers J6 to J9 to the V24 position. For the Ethernet connection strap jumpers J6 to J9 to the ETH position.
6	Insert DMC8(s).
	Place DMC8s in the slots as indicated on the work order. Do not place DMC8s in slot 9, slot 19 or slot 29.



Figure 138
Example of full Small System without CPU cabinet

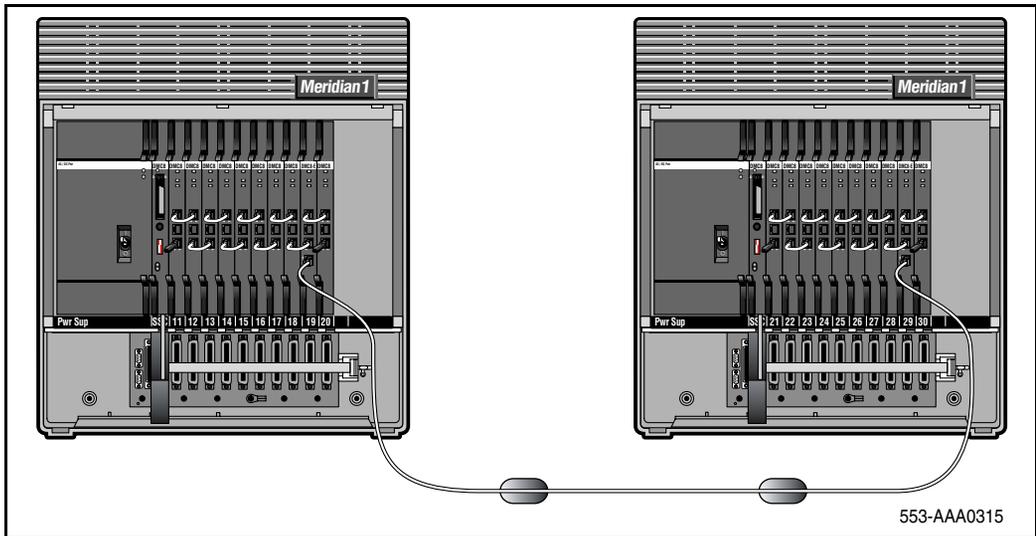


Figure 139
Example of full Small System with CPU cabinet

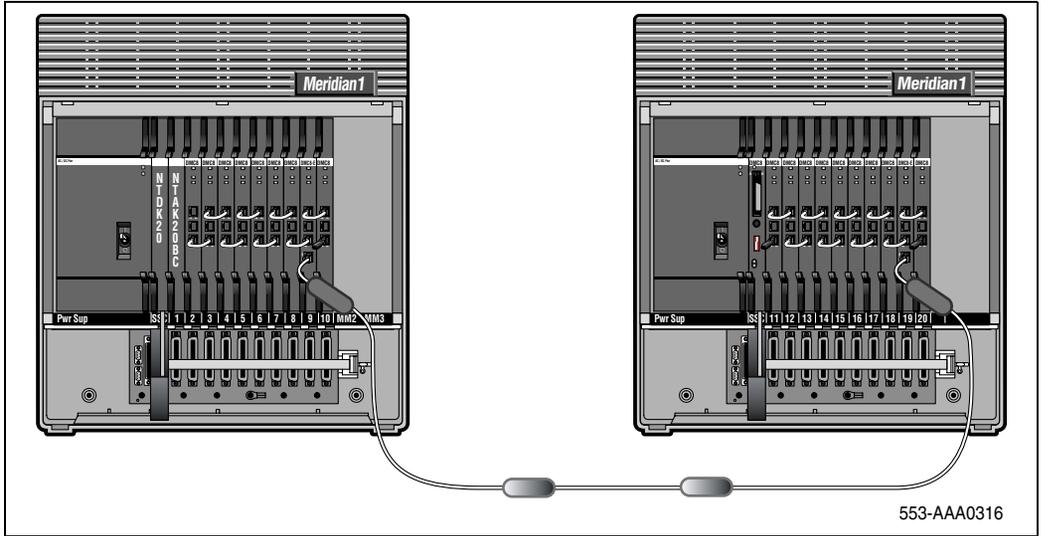


Figure 140
Example of an 8-card system in two Cabinets

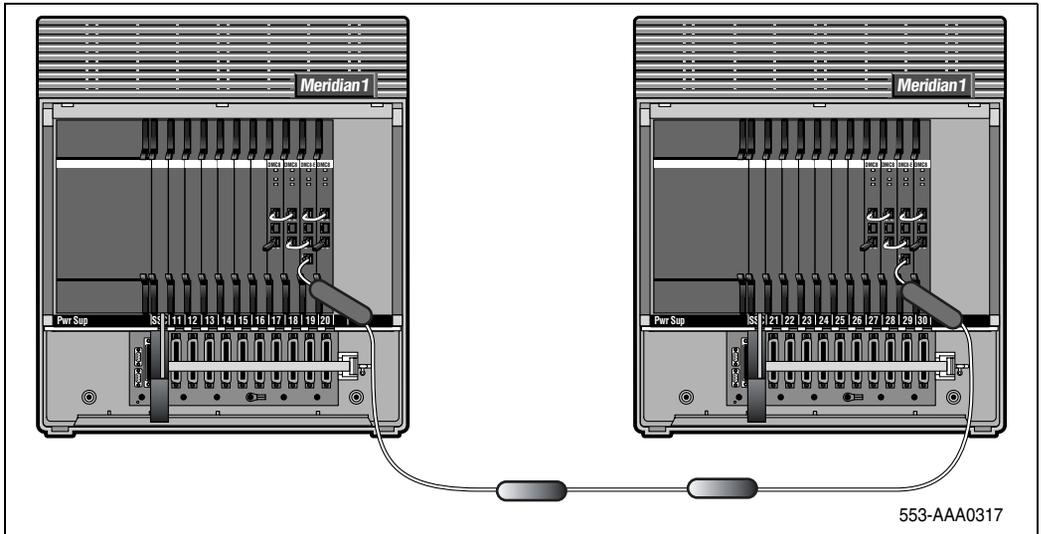
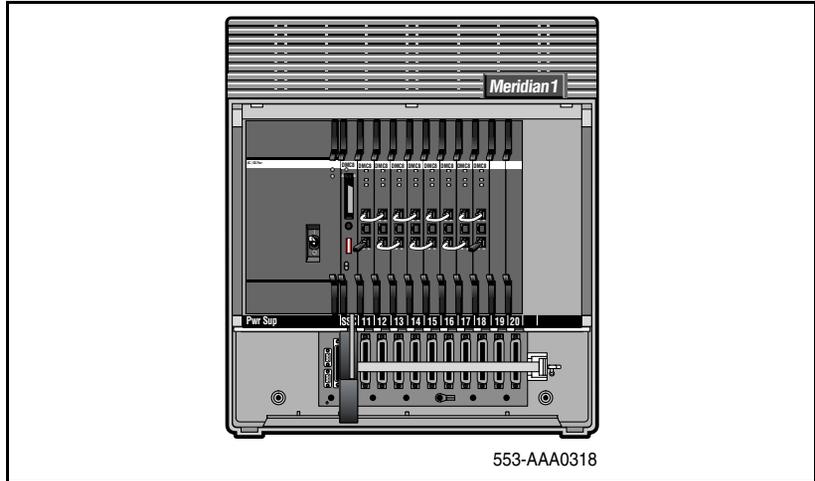


Figure 141
Example of an 8-card system in one Cabinet



Chassis installation

For information on installing circuit cards, refer to *Small System: Installation and Configuration* (553-3011-210).

Figure 142
Chassis and expander connected with 2 NTDK95 and CE-MUX/DS-30SX bus cables

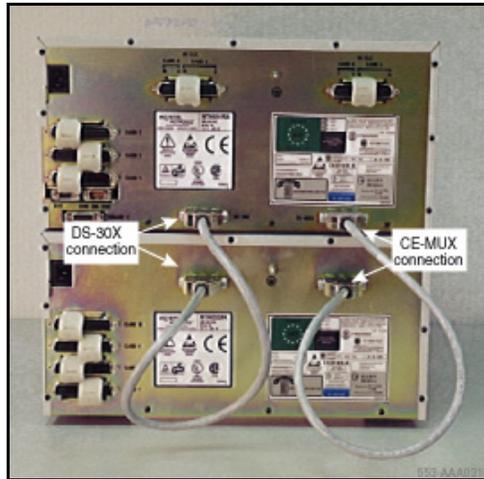
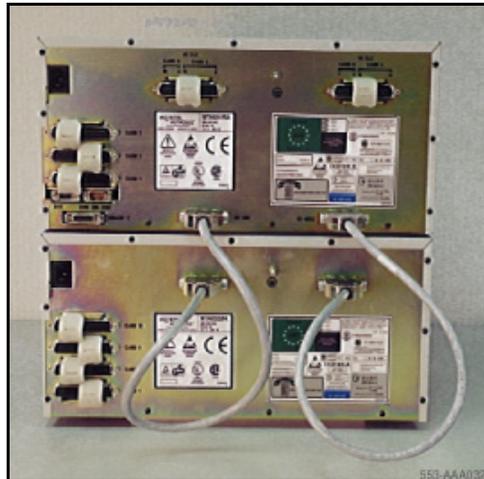


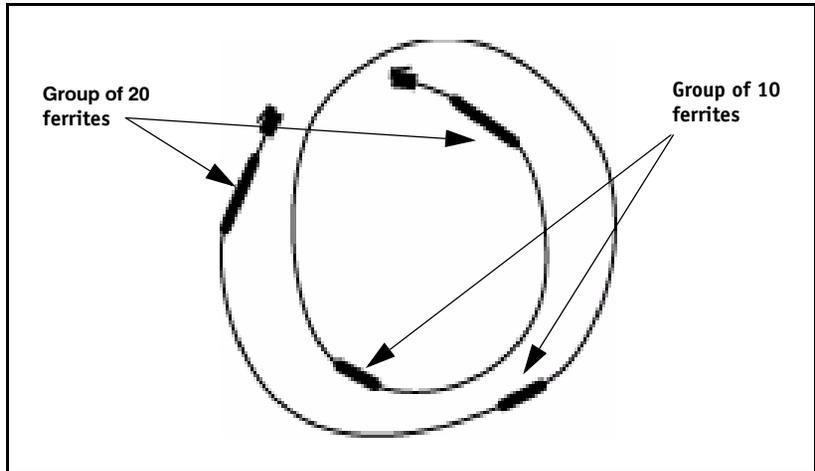
Figure 143
Media Gateway and Media Gateway Expansion cabling



Installing faceplate cables and inter-shelf/cabinet cable

Consult the work order to determine the position of the faceplate cable layout and NTCW11EA DMC8-E to DMC8-E inter-shelf cables, then perform the steps in [Table 72 on page 289](#).

Figure 144
NTCW11EA DMC8-E to DMC8-E faceplate cable



CAUTION — Service Interruption

The NTCW11EA DMC8-E to DMC8-E faceplate cable has four sets of movable ferrites. The position of the ferrites on the cable is important.

Each end of the cable must have a group of 20 ferrites. One quarter of the distance from each end of the cable must have a group of 10 ferrites. The maximum length of the cable is 1.5 meters, limiting the position of DECT shelves 0 and 1 to adjacent IPE modules or Small System cabinets.

Consult the work order to determine the position of the terminator plugs, then perform the following steps.

Table 72
Installing faceplate cables and inter-shelf/cabinet cable

Step	Action
1	Connect the DMC8 to DMC8 faceplate cables.
	Arrange the NTCW11AA DMC8 to DMC8 cables so that the DMC8 to DMC8-E cable is connected into the ports shown in Figures 133 to Figure 136 .
2	If required, connect the NTCW11BA DMC8 to DMC8-E cable on the IPE shelf. Not required on Option 11C.
	Plug the cable into the lower port of the DMC8 in slot 7. Plug the other end of the cable into the arrow pointing left port of the DMC8-E in slot 8. See Figure 133 , Figure 134 , and Figure 135 .
3	Connect the NTCW11EA DMC8-E to DMC8-E inter-IPE shelf or inter-cabinet cable, if required.
	Plug the DMC8-E to DMC8-E cable into each DMC8-E lower port.



Installing the OTM DECT application

Installing OTM DECT application involves the following tasks:

- Ensure the DECT application is on the OTM server:
 - Ensure a communications profile is associated with the DECT application.
 - Add a communications profile for the DECT application.
 - Add an Ethernet profile.

Connecting to a DECT system

When the first connection to a new, installed DECT system is opened, the OTM DECT Application retrieves the DMC configuration from the OTM database. The OTM DECT Application reads the parameters from the DECT system for the manager database.

Perform one of the following actions to open a connection to a DECT system from an OTM DECT Application:

- Check the Permanent Connection box, allowing the connection to open when the OTM server starts. See Figure 34 on [page 69](#).
- Select a DECT system in the list and click the Connect icon.
- Select an action on the menu bar that requires a system connection. For example, when **Firmware > Upload** is chosen, the connection opens to carry out the upload and then closes.

Note: Do not use this type of connection for subscription actions. When using this type of connection, the subscription status is not refreshed when an on-air subscription or de-subscription occurs.

The status bar of the application provides progress feedback while the connection opens.

Synchronizing the DECT Application to a DECT system

When the DECT Manager connects to DECT, synchronization occurs. Synchronization compares the database on the DECT Manager to the DECT system. Database mismatches are flagged by dialogs. The opportunity is then given to change either the system data or manager data.

A number of synchronization steps occur during connection. The Synchronization process flags changes made to a DECT system database by other managers.

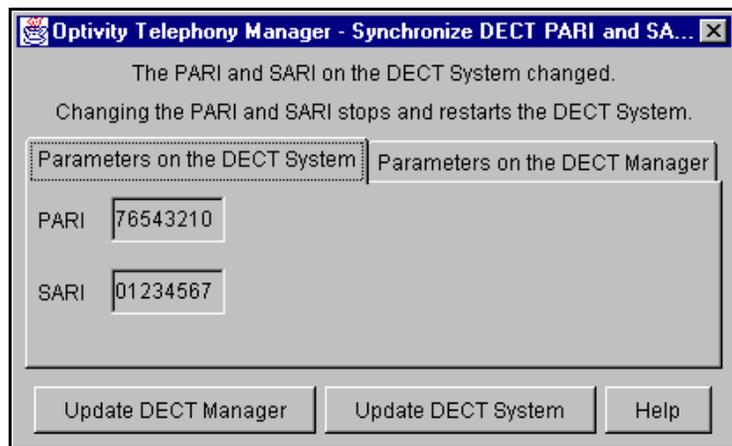
Two types of synchronization occur when the connection state goes from **Disconnected** to **Connected**:

- 1 When the File menu or tool button is used to connect. The synchronization can be controlled through dialogs.
- 2 When the OTM re-establishes a permanent connection to DECT. A synchronization report is available in the Event log on the OTM server.

When connecting to a DECT system that has data that does not match the OTM DECT Application data, do one of the following:

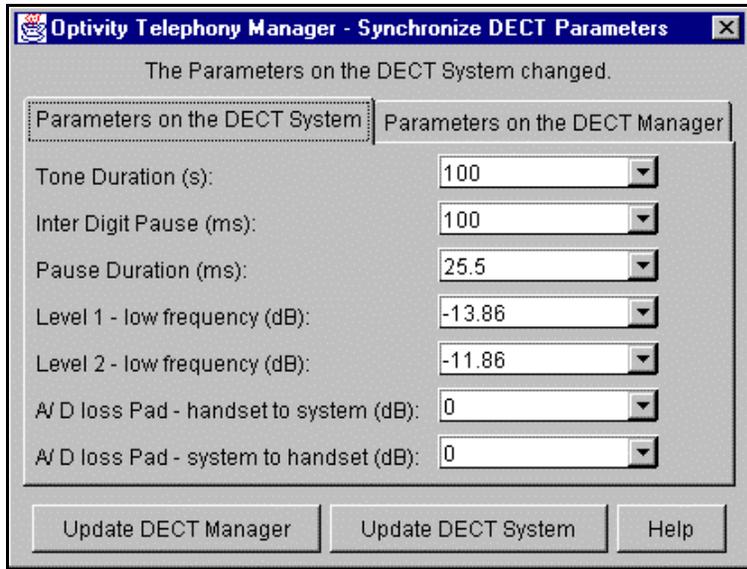
- Update the OTM DECT Application database from DECT data.
- Update DECT data with the OTM DECT Application database.

Figure 145
Synchronize DECT PARI and SARI Mismatch dialog



If there is a PARI or SARI mismatch between the OTM DECT Application database, and the DECT database, the mismatch dialog enables the update of PARI and SARI parameters on both the connected DECT system and the OTM DECT Application. See [Figure 145](#).

Figure 146
Synchronize DECT Parameters Mismatch dialog



If there is a Parameter mismatch between the OTM DECT Application database, and the DECT system database, the mismatch dialog enables the update of Parameters on both the connected DECT system and the OTM DECT Application. See [Figure 146](#).

Figure 147
Synchronize DECT Board Configuration Mismatch dialog

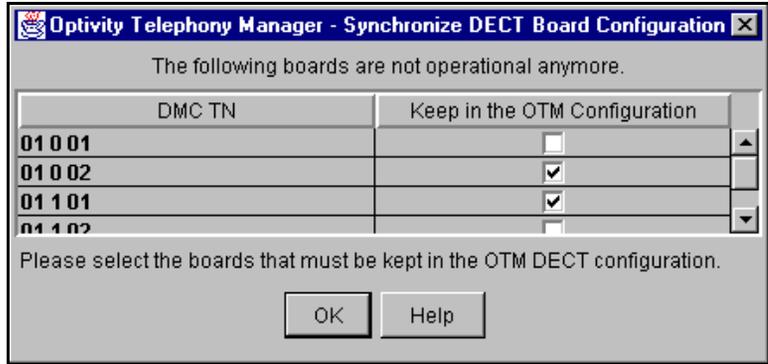


Figure 147 shows DMC TNs (Boards) listed in the OTM DECT Application database that are not operational on the DECT system. Delete the check in the check boxes. This allows the DMCs that are no longer required in the OTM DECT Application database to be removed.

Figure 148
Synchronize DECT Radio Fixed Part Configuration Mismatch dialog

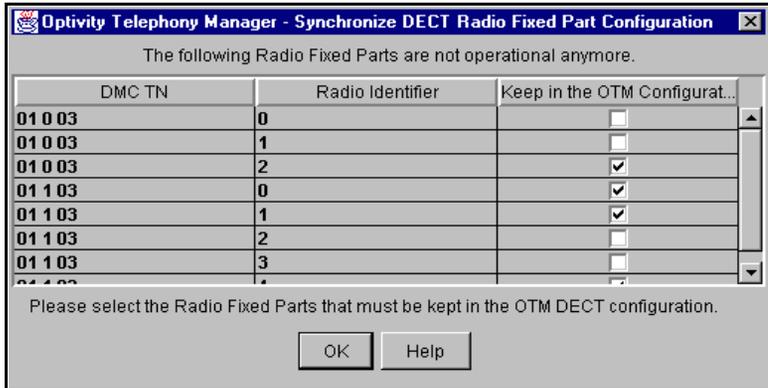


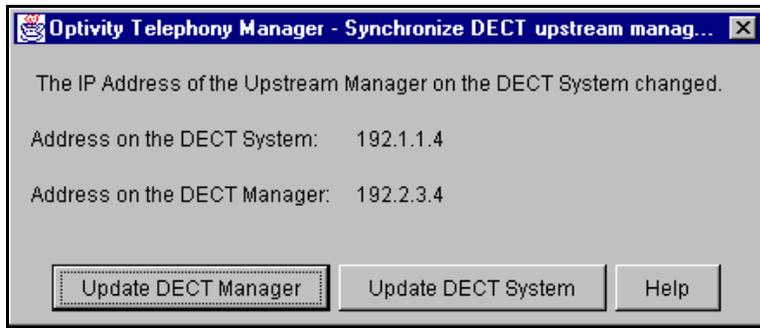
Figure 148 shows Radio Fixed Parts (base stations) listed in the OTM DECT Application database that are not operational on DECT. Delete the check in the check boxes. This allows the base stations no longer required in the OTM DECT Application database to be removed.

Figure 149
Synchronize Radio Fixed Part Settings Mismatch dialog



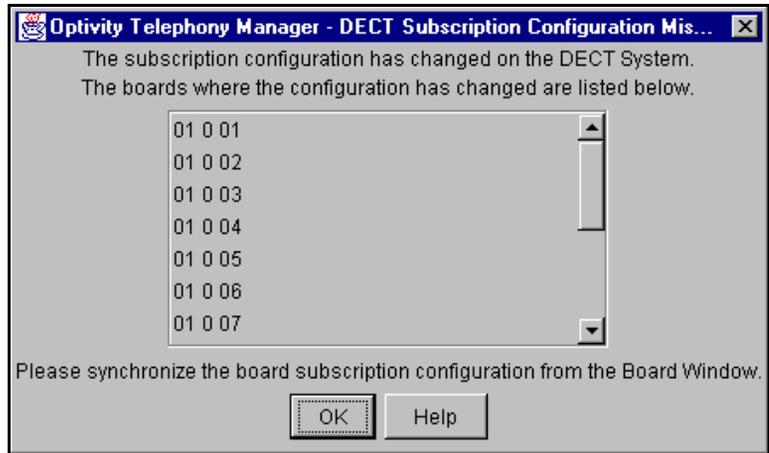
A Power Source/Alarm Muting setting was changed by another manager. Figure 149 says that the OTM DECT Application database automatically updates to match the changed settings.

Figure 150
Synchronize DECT Upstream Manager IP Address Mismatch dialog



If there is an Upstream Manager IP address mismatch between the OTM DECT Application database and the DECT system database, the mismatch dialog enables an update of the Upstream Manager IP address on both the connected DECT system and the OTM DECT Application. See Figure 150.

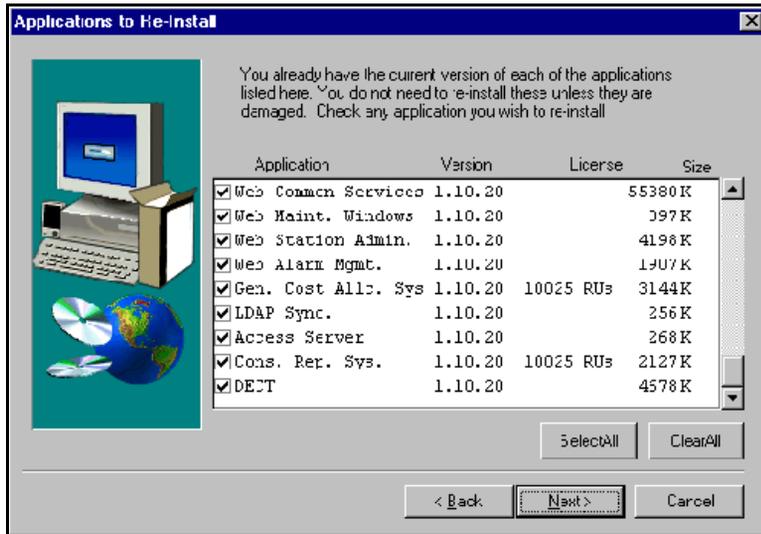
Figure 151
DECT Subscription Configuration Mismatch dialog



The dialog warns of a DMC mismatch between DECT and the OTM server database. The manager cannot automatically solve the mismatch. The mismatch must be solved manually.

Ensuring the DECT application is on the OTM server

Figure 152
Applications to Re-install



Complete the following steps.

Table 73
Ensuring the DECT application is on the OTM server

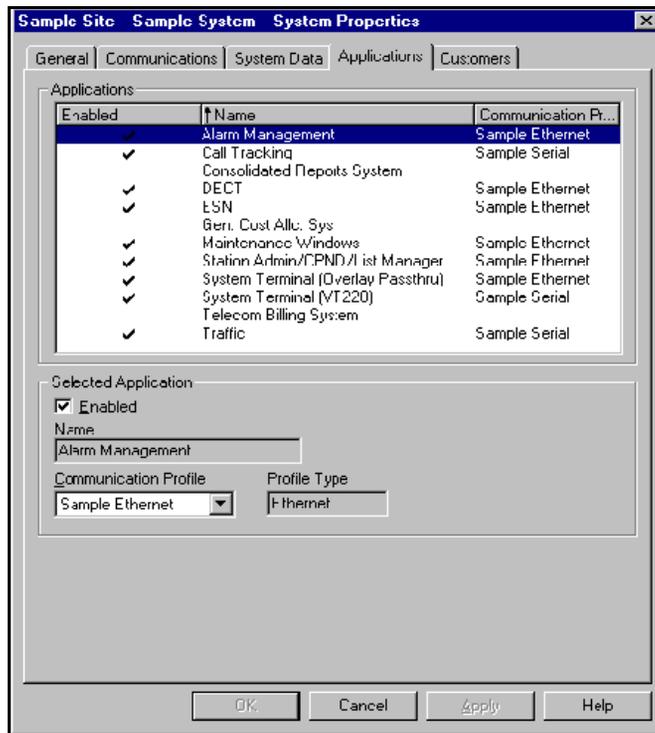
Step	Action
1	If there is a check in the DECT box in the Applications to Re-install dialog. Go to "Configuring DECT on the OTM server" on page 303 .
2	If there is no check in the DECT box in the Applications to Re-install dialog. Note: Installation is like any other application.
	Select the check-box and click on the Next button.



Ensuring a Communications Profile is associated with the DECT application

The DECT application must be associated with a Communications Profile.

Figure 153
Systems Properties – Applications



The following describes the **OK**, **Cancel**, and **Apply** button actions:

- **OK** adds the changes that were made, then returns to the previous screen.
- **Apply** adds the changes and leaves the properties open so that other information can be added to this properties dialog.
- **Cancel** closes the dialog box without adding the changes.

Complete the following steps.

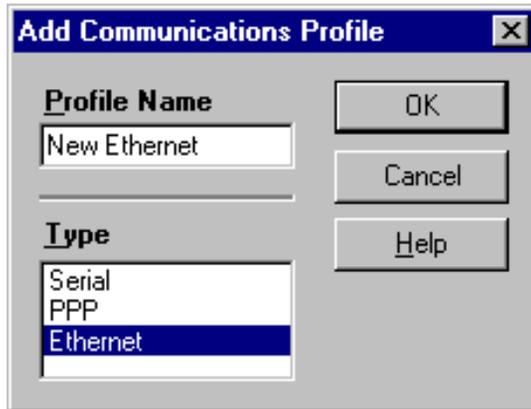
Table 74
Ensuring a Communications Profile is associated with the DECT application

Step	Action
1	Open the Systems Properties sheet.
	Choose Properties from the OTM Navigator window File menu.
2	Select the Applications tab.
	Click on the Applications tab.
3	If there is a check in the Enabled column next to DECT in the Name column.
	Go to “Configuring DECT on the OTM server” on page 303 .
4	If there is no check in the Enabled column next to DECT in the Name column.
	Highlight DECT in the name column.
5	Select a Communication Profile.
	Choose any entry from the Communication Profile drop-down list. Note: If there are no entries in the Communication Profile drop-down list, go to “Adding a Communications Profile for the DECT application” on page 299 .
6	Accept the changes.
	Click the OK button.



Adding a Communications Profile for the DECT application

Figure 154
Add Communications Profile



Complete the following steps.

Table 75
Adding new PBX Communications Profile (Part 1 of 2)

Step	Action
1	In the Navigator window, select the Sample Site.
	Double click on Sample Site .
2	Choose the Properties dialog.
	Click on Properties from the File menu.
3	Open the Add Communications Profile dialog.
	Click on the Communications tap and click Add .
4	Select a communications type.

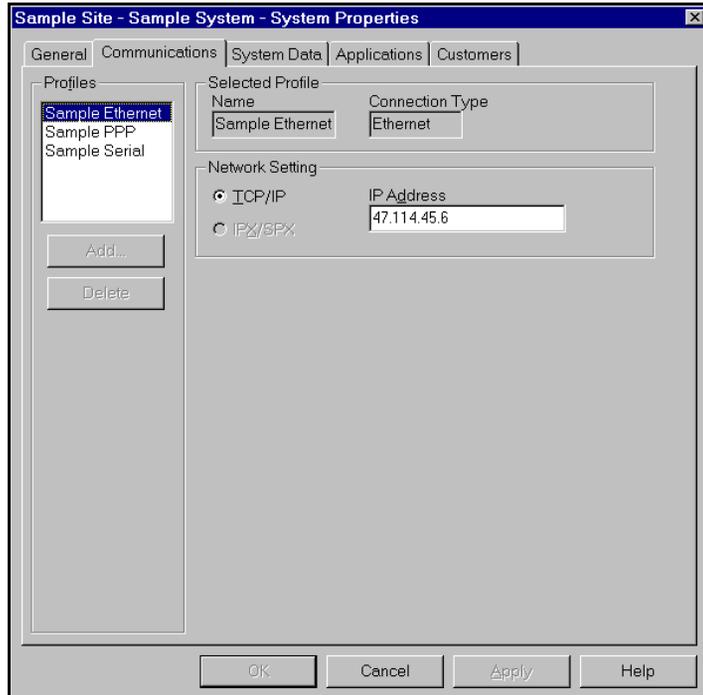
Table 75
Adding new PBX Communications Profile (Part 2 of 2)

Step	Action
	Highlight Ethernet in the Type box. Note: The DECT application does not use the Communications Profile. Unless there is another application that requires a specific Communications Profile, choosing Ethernet is the least complicated profile to implement.
5	Program the Profile Name.
	Enter a Profile Name .
6	Accept the changes.
	Click OK .



Adding an Ethernet profile

Figure 155
System Properties – Communications



Complete the following steps.

Table 76
Adding the PBX Ethernet profile

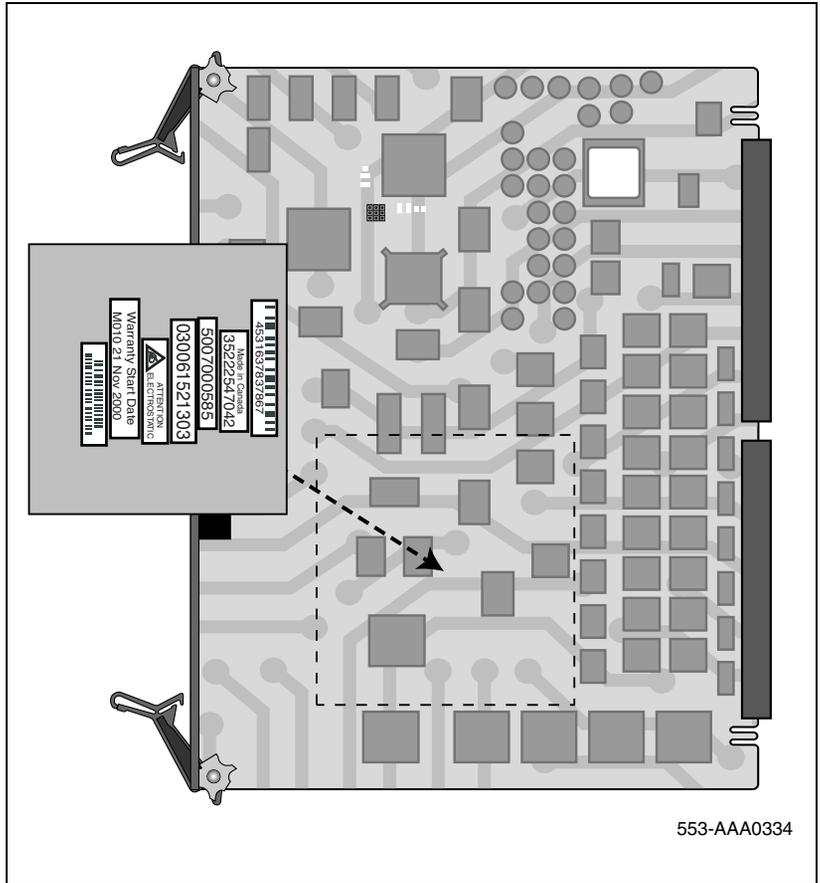
Step	Action
1	Fill in the communications information for the Ethernet profile.
	Enter any IP address. Note: Unless there is another application that requires a specific IP address, enter a non-existing address.
2	Accept changes.
	Click Apply .
3	Return to configuring a communications profile.
	Go to “Ensuring a Communications Profile is associated with the DECT application” on page 297 .



Configuring DECT on the OTM server

Installing the DME on the DMC8 Relay card

Figure 156
NTCW25AA DECT Manager Ethernet (DME) daughterboard location



The NTFZ38AA Ethernet Management Connection package is available, containing the following:

- a one NTCW25AA DECT Mobility Ethernet (DME) card, and
- b one NTCW12DA DMC8 I/O cable.

Table 77
Installing the DME on the DMC8 Relay card

Step	Action
1	Unpack the NTCW25AA DECT Manager Ethernet (DME) daughterboard.
	Remove the packing material.
2	Install the DME.
	Carefully position the daughterboard over the four standoff posts and press onto the DMC8 relay card.



Changing the DMC8 Relay card default IP address

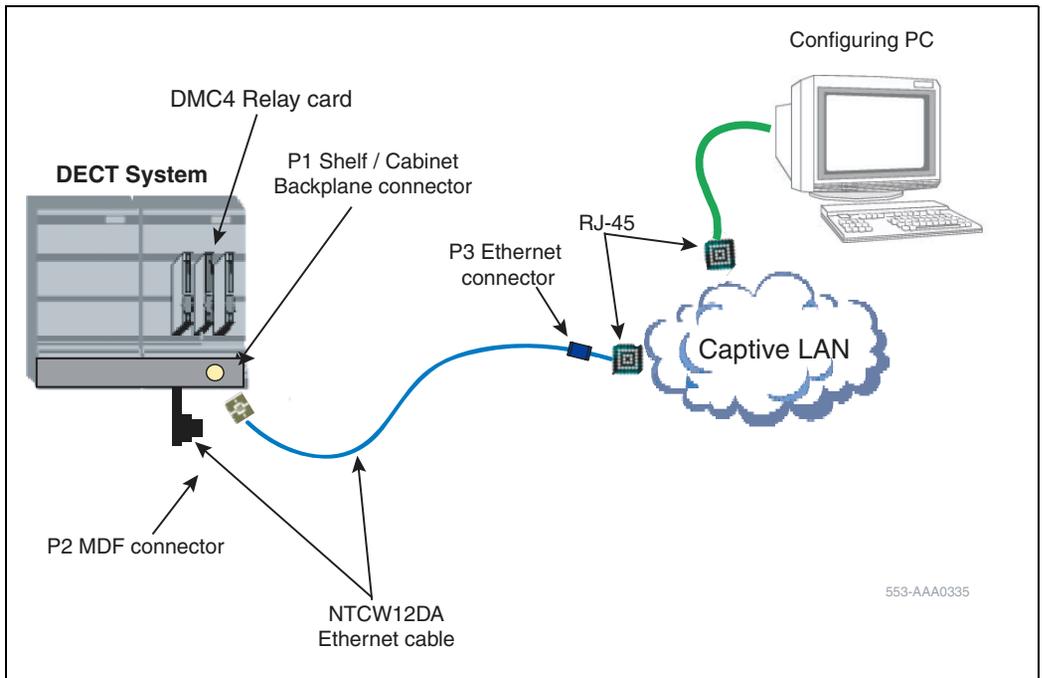
Connecting the DMC8 Relay card to a configuring PC



CAUTION — Service Interruption

The DMC8 is shipped with a default IP address 192.168.1.1. The default address must be changed to conform to the network IP address plan.

Figure 157
NTCW12DA Ethernet cable to configuring PC connections



For information on connecting OTM through a V.24 serial connection, see “Adding a V.24 serial connection” on [page 348](#).

Note: The configuring PC can be the OTM server or another PC. If the configuring PC is the OTM server, the Captive LAN shown in Figure 157 will be the OTM Server Dedicated LAN shown in Figure 131 on [page 273](#).

Consult the work order to determine the DMC8 Relay card location, then perform the steps in Table 78 on page 306.

Note: The Relay card can be any of the DMC 8 or DMC8-E cards. Usually, the lowest-numbered card is used

Table 78
Connecting the DMC8 Relay card to a configuring PC

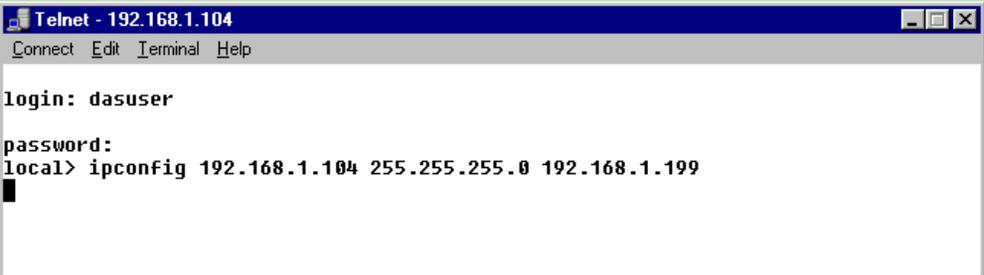
Step	Action
1	Connect the NTCW12DA cable to the connector on the backplane of the DMC8 Relay card.
	Insert P1 into the DMC8 Relay card backplane connector located on the PBX shelf/module or Cabinet.
2	If the Configuring PC is on a captive LAN, link the DMC8 Relay card to the Configuring PC.
	Insert P3 into the captive LAN RJ45 connector.
3	If the Configuring PC is on the OTM server dedicated LAN,
	Insert P3 into the OTM server dedicated LAN RJ45 connector. See “Connecting the DMC8 Relay card to the OTM server” on page 308 .



Resetting the DMC8 Relay card default IP address to the LAN IP address

The DMC8 Relay card default IP address 192.168.1.1 must be changed to conform to the server network IP address plan.

Figure 158
Telnet 192.168.1.1



```

Telnet - 192.168.1.104
Connect Edit Terminal Help

login: dasuser
password:
local> ipconfig 192.168.1.104 255.255.255.0 192.168.1.199

```

Complete the following steps.

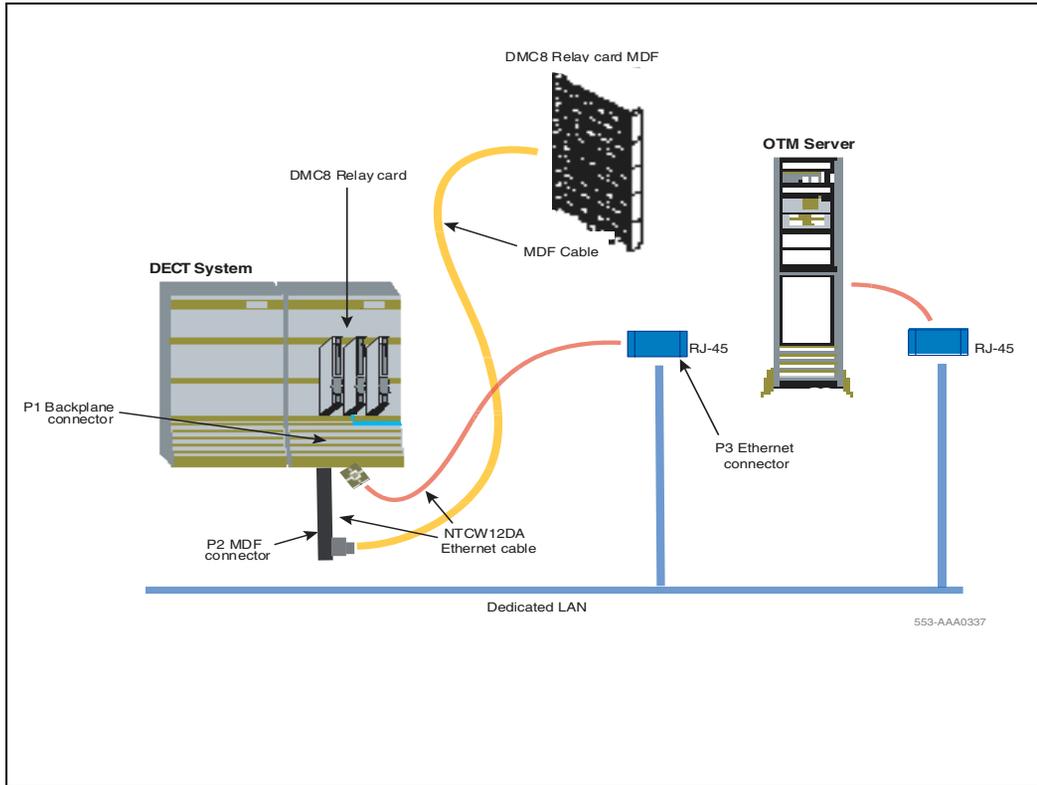
Table 79
Resetting the DMC8 Relay card default IP address to the LAN IP address

Step	Action
1	Open the Telnet dialog. Click on Start>Accessories>Telnet.
2	Enter user name and password. Type user name dasuser and password dasuser .
3	When the connection prompt local appears, change the DMC8 Relay card address. Enter the following command: ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz xxx.xxx.xxx.xxx = new IP address of the DMC8 Relay card. yyy.yyy.yyy.yyy = subnet mask, usually 255.255.255.0 zzz.zzz.zzz.zzz = IP address if this is the gateway for the network. Note: zzz.zzz.zzz.zzz should be set to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OTM server, zzz.zzz.zzz.zzz should be set to the IP address of the interface which is on the same network as the DMC8 Relay card.



Connecting the DMC8 Relay card to the OTM server

Figure 159
NTCW12DA Ethernet cable to OTM Server LAN connections



Complete the following steps.

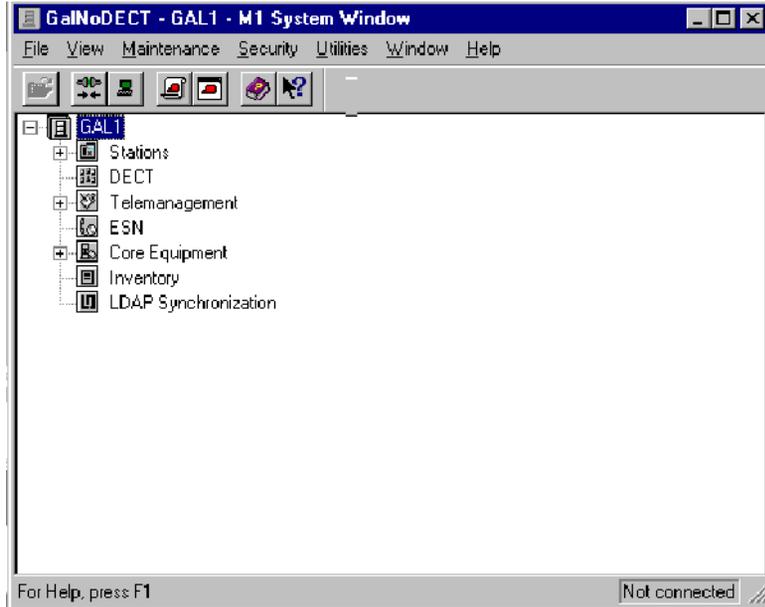
Table 80
Connecting the DMC8 Relay card to a Captive LAN

Step	Action
1	If the DMC8 Relay card was configured on a captive LAN, remove the NTCW12DA Ethernet cable from the captive LAN.
	Disconnect P3 from the captive LAN RJ45 connector.
2	Connect the NTCW12DA cable to the OTM Server Dedicated LAN.
	Insert P3 into the Dedicated LAN RJ45 connector.



Launching the DECT application

Figure 160
M1 System Window



Complete the following step:

Table 81
Launching the DECT application

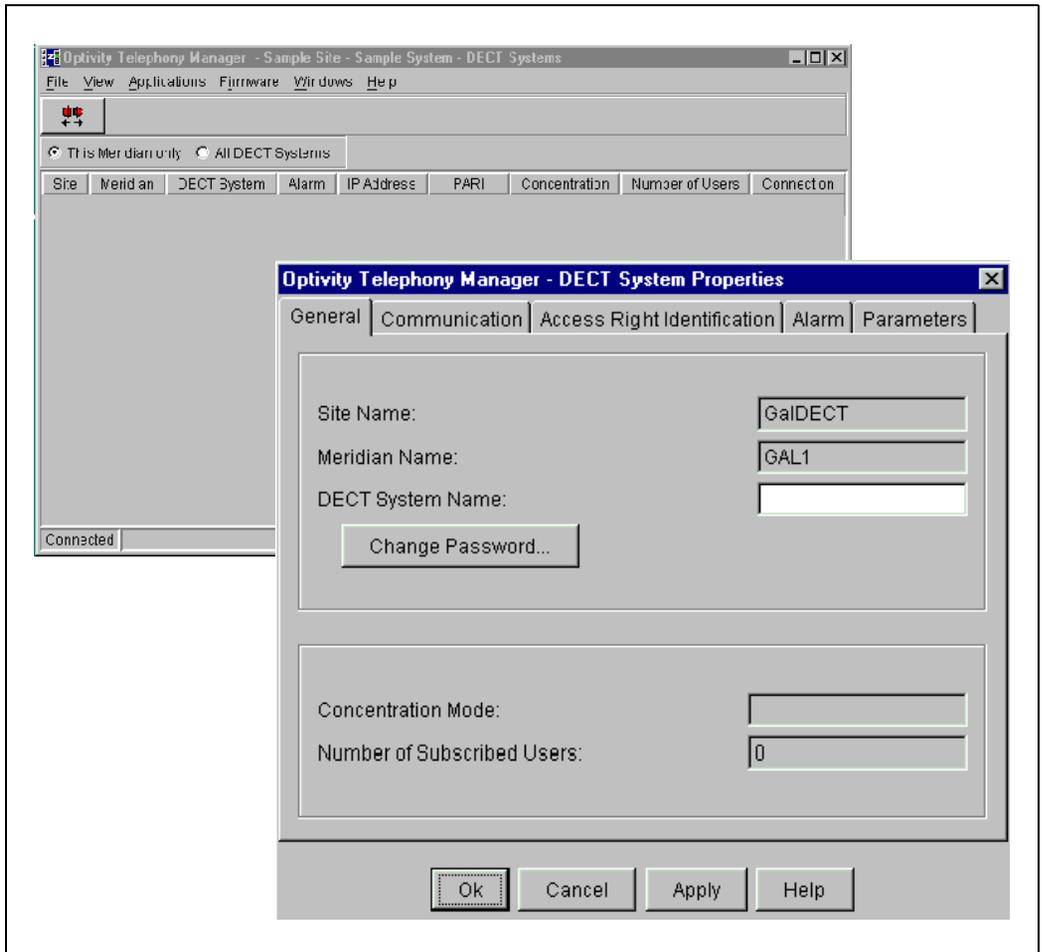
Step	Action
1	Launch the DECT application. Double click on the DECT icon.



Adding DECT

Adding General System Properties

Figure 161
DECT systems and DECT System Properties



Complete the following steps.

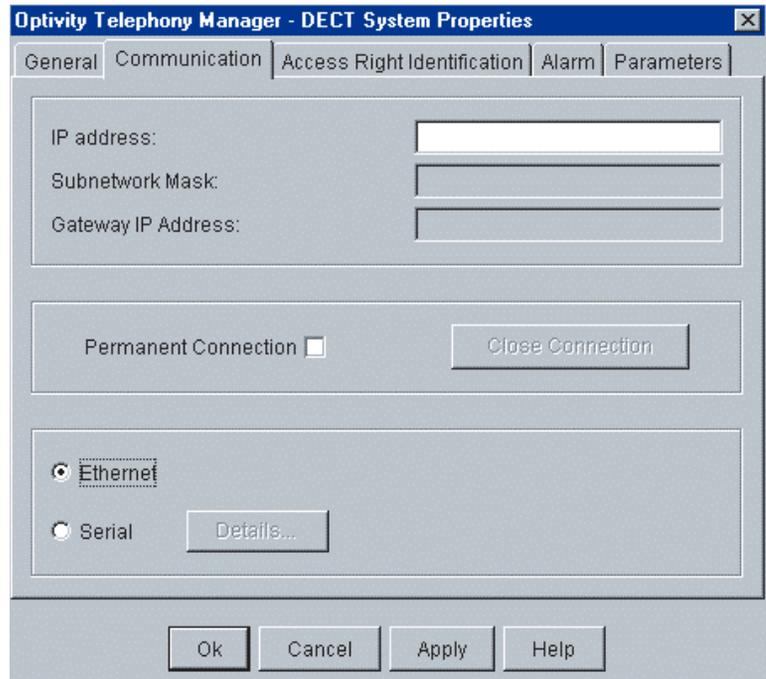
Table 82
Adding DECT

Step	Action
1	Open the DECT System Properties dialog.
	Pull down File>Properties .
2	Enter the DECT system name.
	Type the system name in the DECT System Name box.
3	Accept the changes.
	Click on the Apply button.



Setting the DECT system IP address to match the DMC8 Relay card

Figure 162
System Properties – Communication



Complete the following steps.

Table 83
Setting the IP address of the DMC8 Relay card in the manager

Step	Action
1	Open the Communications dialog.
	Click on the Communications tab.
2	Enter the IP address.
	Type the IP address that was entered in Table 79 on page 307 .
3	If the communication link is Ethernet, select Ethernet .
	Click on the Ethernet radio button.
4	If the communication link is Serial, select Serial .
	Click on Serial radio button, and go to “Adding a V.24 serial connection” on page 348 .
5	Accept the changes.
	Click on the OK button.
	Note: When the OK button or Apply button is clicked at this point, the manager attempts to connect to the DECT system to write the MIB2 system name.
6	If required, program an Upstream Manager.
	Go to page 315 .
7	If an Upstream Manager is not required.
	Go to “Synchronizing data with DECT” on page 316 .



Adding the upstream manager IP address, if required**Figure 163**
System Properties – Alarm

The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT System Properties". It has five tabs: "General", "Communication", "Access Right Identification", "Alarm", and "Parameters". The "Alarm" tab is selected. Inside the dialog, there are four input fields:

- Alarm Active: []
- Upstream Manager IP address: []
- Date: []
- Time: []

At the bottom of the dialog, there are four buttons: "Ok", "Cancel", "Apply", and "Help". The "Ok" button is highlighted with a dashed border.

Complete the following steps.

Table 84
Adding the upstream IP address, if required

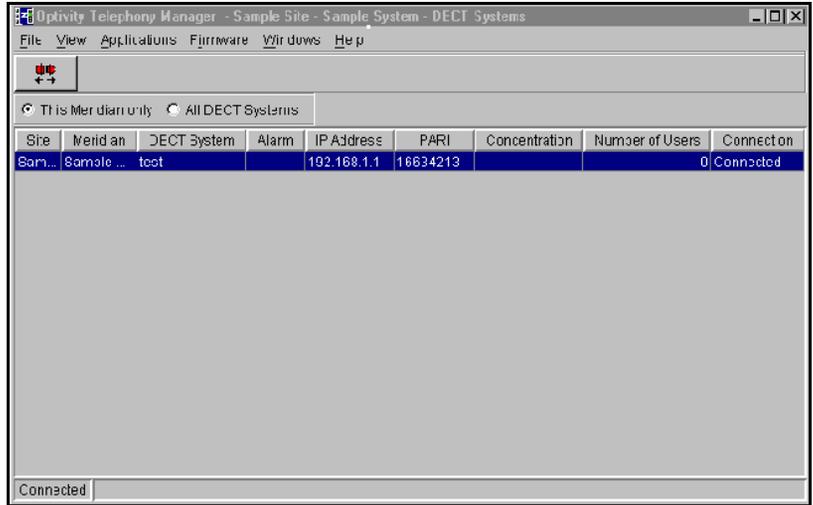
Step	Action
1	Open the DECT System Properties dialog.
	Pull down File>Add .
2	Open the Alarm dialog.
	Click on the Alarm tab.
3	Enter the IP address.
	Type the Upstream manager IP address.
4	Accept the changes.
	Click on the OK button.



Synchronizing data with DECT

When the DECT manager connects to DECT, synchronization occurs. Synchronization compares the database on the manager to the database of the DECT system. Database mismatches are flagged by dialogs. The opportunity to change either the DECT system data or the manager data is given.

Figure 164
DECT Systems



Complete the following steps:

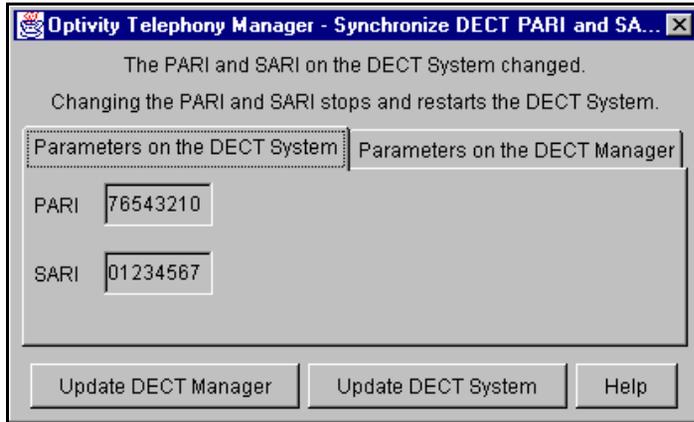
Table 85
Synchronizing data with the DECT system

Step	Action
1	If the toolbar icon is red , the connection to the DECT system is enabled. Disconnect from the DECT system.
	Double click on the icon, or use File>Disconnect . Go to “Synchronizing DECT PARI and SARI” on page 318 .
2	If the toolbar icon is green , re-connect to the DECT system
	Double click on the red icon, or use File>Connect .



Synchronizing DECT PARI and SARI

Figure 165
Synchronize DECT PARI and SARI Mismatch dialog



Complete the following step:

Table 86
Synchronizing DECT PARI and SARI

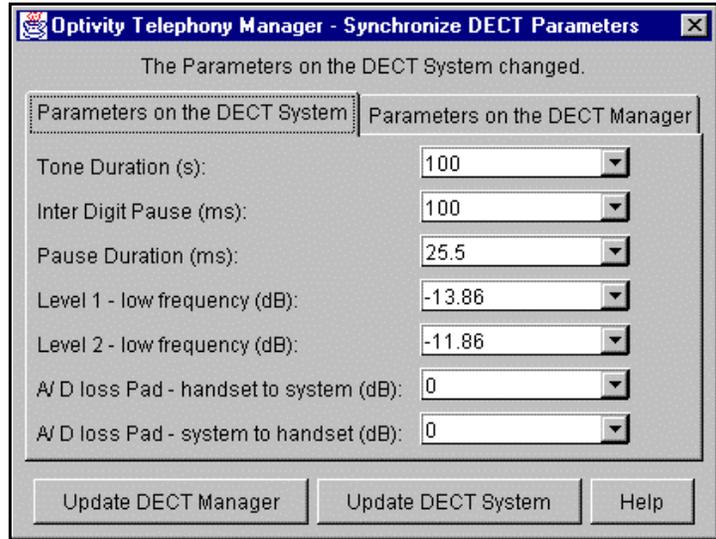
Step	Action
1	Store the DECT system PARI SARI parameters in the OTM Manager database.
	Click on the Update DECT Manager button.



Synchronizing DECT parameters

Figure 166

Synchronize DECT Parameters Mismatch dialog



Complete the following step:

Table 87
Synchronizing DECT Parameters

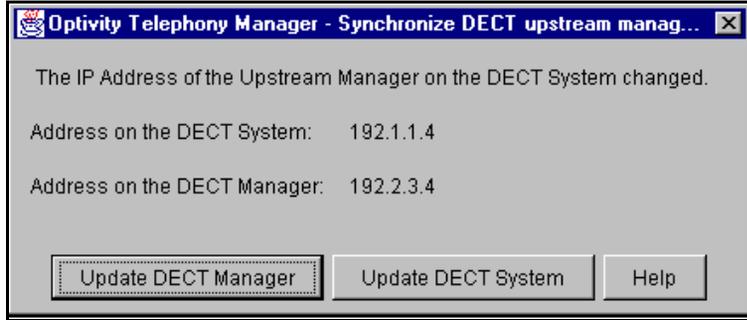
Step	Action
1	Store the DECT system DECT Parameters in the OTM Manager database.
	Click on the Update DECT Manager button.



Synchronizing DECT Upstream Manager IP address

Figure 167

Synchronize DECT Upstream Manager IP address mismatch dialog



Complete the following step:

Table 88
Synchronizing DECT Upstream Manager IP address

Step	Action
1	Store the DECT system Upstream Manager IP address in the OTM Manager database.
	Click on the Update DECT Manager button.



Un-installing DECT Manager – Caution

Before un-installing DECT Manager, read the following information.



CAUTION — Service Interruption

When the OTM DECT Manager is un-installed, the Sentinel driver is also un-installed, even if other applications require the driver. Any attempt to launch other OTM systems or applications generates the message:

“No dongle attached to the PC.”

It is necessary to re-install the Sentinel driver. Download the driver from the internet. Go to

www.rainbow.com.tech/downloads.html

In the product drop-down menu, scroll down and select **System Drivers**.

On the System Drivers page, select the **Sentinel System Driver – Driver Only** file and download the zipped file. After download is complete, unzip the file and install the driver.

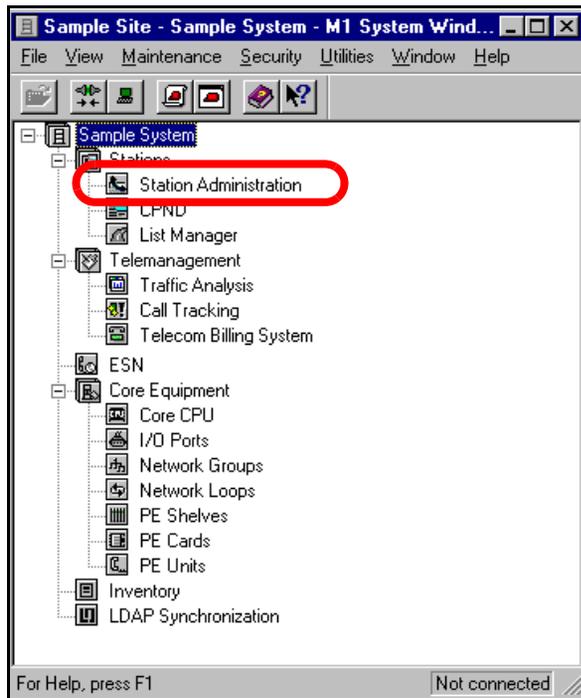
Configuring handsets and retrieve subscription data

Configuring non-concentrated Large System handsets

For information about System Administration, see *Optivity Telephony Manager: System Administration* (553-3001-330).

Opening the Station Administration window

Figure 168
System Window



Complete the following step:

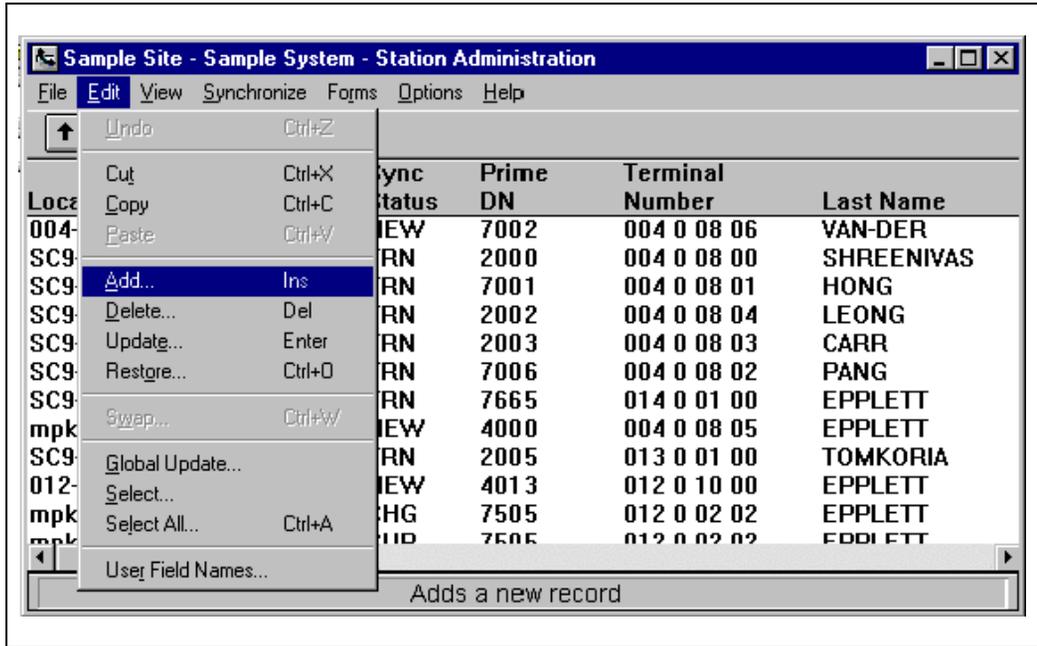
Table 89
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on Station Administration in the M1 System Window.



Accessing Add Station dialog

Figure 169
Station Administration window



Complete the following step:

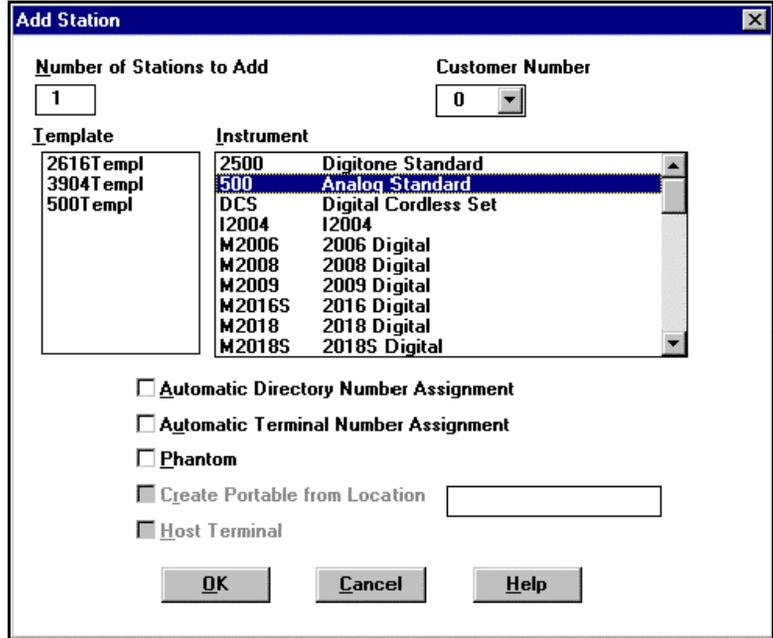
Table 90
Accessing Add Station dialog

Step	Action
1	Access Add Station dialog.
	From the Edit pull-down menu, click on Add .



Adding 500 analog standard

Figure 170
Add Station dialog



Complete the following step:

Table 91
Adding 500 analog standard

Step	Action
1	Add 500 analog standard.
	Highlight 500 Analog Standard , and click OK .



Accessing features

Figure 171
500 dialog

Complete the following step:

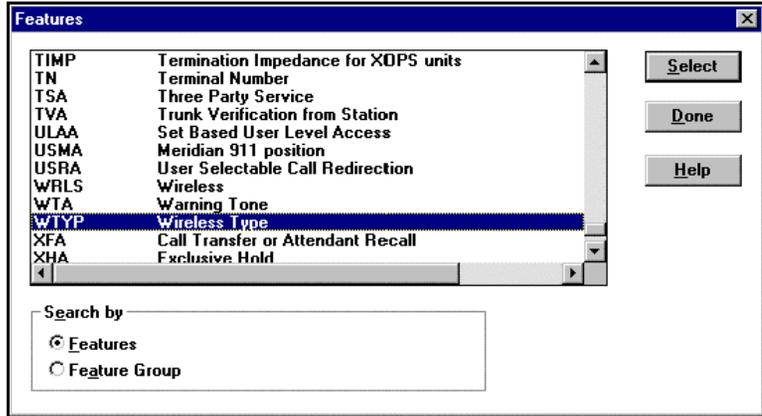
Table 92
Accessing features

Step	Action
1	Access the features. Click on the Features button.



Accessing wireless type

Figure 172
Features dialog



Complete the following step:

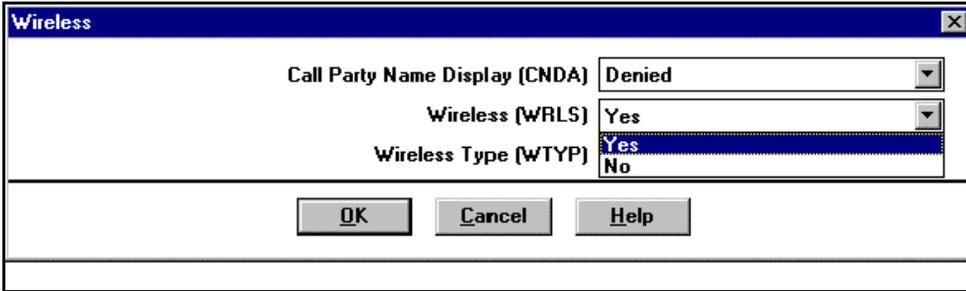
Table 93
Accessing wireless type

Step	Action
1	Access wireless type.
	Highlight Wireless Type , and click on the Select button.



Selecting wireless type

Figure 173
Wireless dialog



Complete the following step:

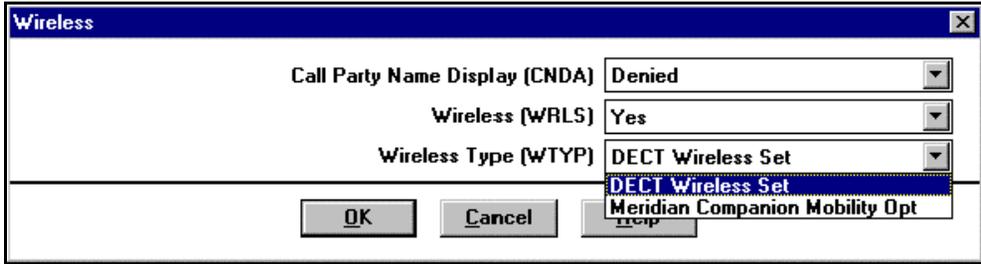
Table 94
Selecting wireless type

Step	Action
1	Select wireless type. From the Wireless Type (WTYP) pull-down menu select YES .



Selecting DECT wireless set

Figure 174
Wireless dialog



Complete the following step:

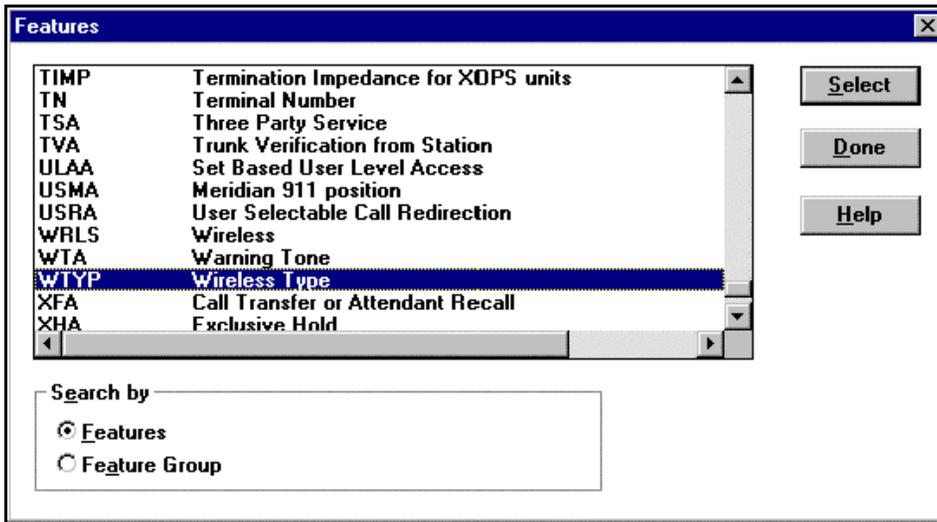
Table 95
Selecting DECT wireless set

Step	Action
1	Select DECT handset.
	From the Wireless Type (WTYP) pull-down menu, click on DECT Wireless Set . Click OK .



Accepting changes

Figure 175
Features dialog



Complete the following step:

Table 96
Accepting changes

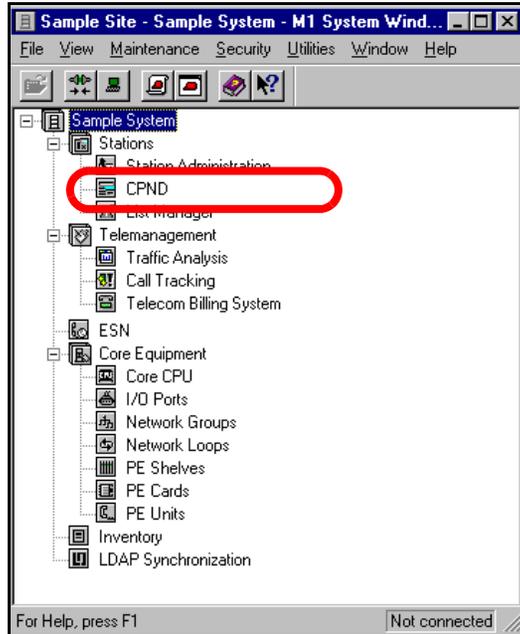
Step	Action
1	Accept changes.
	Click on the Done button.



Configuring concentrated handsets on a Large System

Opening Station Administration window

Figure 176
M1 System Window



Complete the following step.

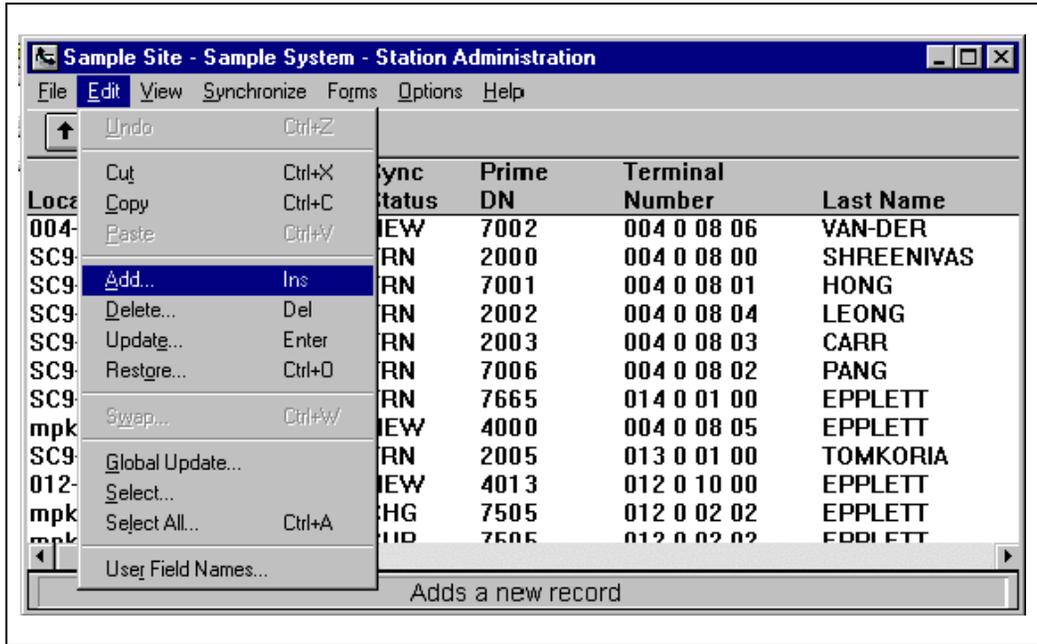
Table 97
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on Station Administration in the System Window.



Accessing Add Station dialog

Figure 177
Station Administration window



Complete the following step:

Table 98
Accessing Add Station dialog

Step	Action
1	Access Add Station dialog.
	From the Edit pull-down menu, click on Add .



Selecting Digital Cordless Set

Figure 178
Add Station dialog

Add Station

Number of Stations to Add: Customer Number:

Template	Instrument
2616Templ	2500 Digitone Standard
3904Templ	500 Analog Standard
500Templ	DCS Digital Cordless Set
	I2004 I2004
	M2006 2006 Digital
	M2008 2008 Digital
	M2009 2009 Digital
	M2016S 2016 Digital
	M2018 2018 Digital
	M2018S 2018S Digital

Automatic Directory Number Assignment
 Automatic Terminal Number Assignment
 Phantom
 Create Portable from Location
 Host Terminal

Table 99
Selecting Digital Cordless Set

Step	Action
1	Select Digital Cordless Set.
	Highlight DCS . Click on the OK button.



Selecting Features

Figure 179
DCS dialog

The screenshot shows a window titled "DCS" with the following elements:

- First Name:** Text input field with a "Directory" button to its right.
- Last Name:** Text input field with a "Clear" button to its right.
- Single Line Features:** A list box containing:
 - CFW Forward
 - SCU SpdCall User
 - SCC SpdCall Cntl** (highlighted)
 - SSU Sys Speed
 - PHD PermanentHld
 Below the list box are "Set" and "Clear" buttons.
- Speed Call List No.:** Text input field.
- Customer:** A dropdown menu showing "0".
- Location:** Text input field.
- Department:** Text input field.
- Virtual Terminal Number:** Text input field.
- Directory Number:** Text input field.
- CLID Entry:** Text input field.
- Hunt to:** Text input field.
- Buttons:** "OK", "Cancel", "Features", "Admin..", "Validate", and "Help" are arranged vertically on the right side.
- Keypad:** A 3x3 grid of black squares is located at the bottom center.

Table 100
Selecting Features

Step	Action
1	Select the features.
	Click on the Features button.



Selecting wireless type

Figure 180
Features dialog

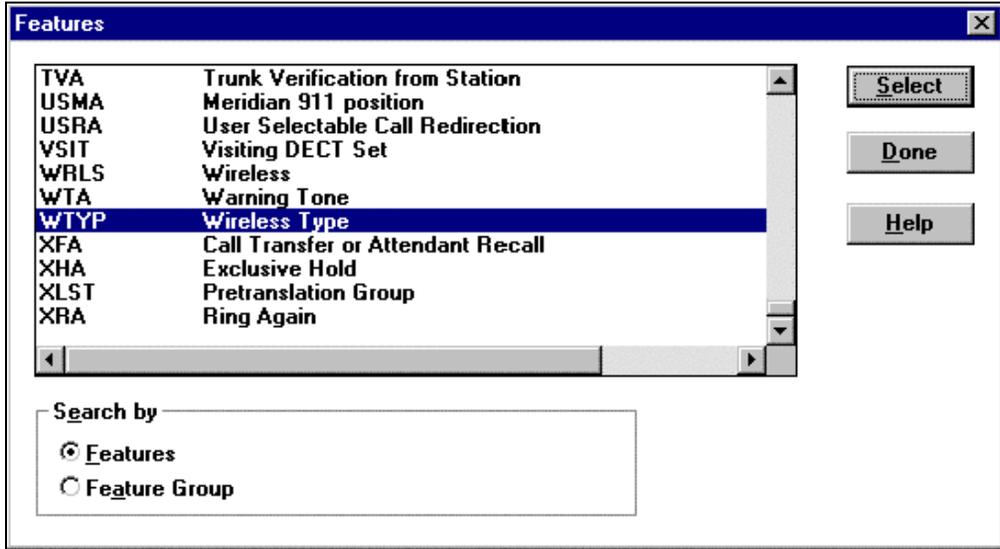


Table 101
Selecting wireless type

Step	Action
1	Select wireless type.
	Highlight WTyp , and click on the Select button.



Selecting Visiting DECT SET or local calling only

Figure 181
Wireless dialog

Table 102
Selecting Visiting DECT Set or local calling only

Step	Action
1	Select Visiting DECT Set as Yes if the handset is to visit this PBX. Select No if this handset is to be used for local calling only.
	If Visiting DECT Set is Yes , go to step 2. If this handset is to be used for local calling only, go to step 3.
2	Select a Home DN. Enter a DN in the Home Directory Number (HMDN) box.
3	If the handset is to be used for local calling only, from the Visiting DECT Set (VSIT) list, select No .
4	Accept changes. Click on the OK button.



Selecting an index

Figure 182
Features dialog

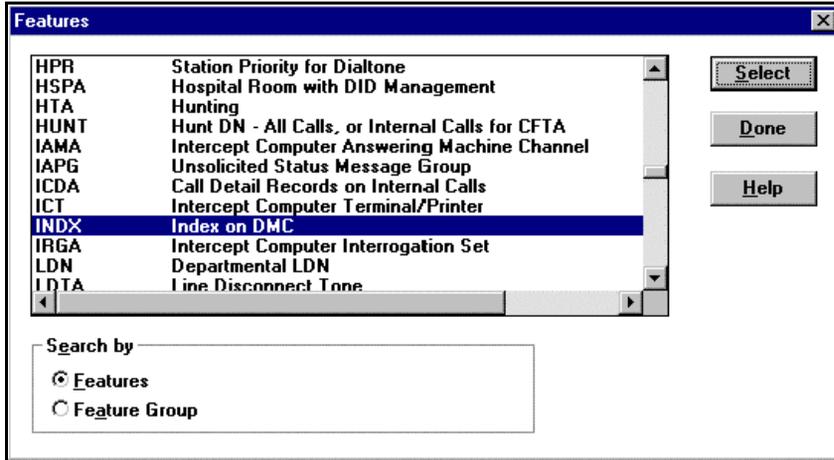


Table 103
Selecting an index

Step	Action
1	Select an index.
	Highlight INDX , and click on the Select button.



Provisioning hardware

Figure 183
Hardware Provisioning dialog

Table 104
Provisioning hardware

Step	Action
1	Select a DMC TN.
	Enter a TN in the DECT Mobility Controller (DMC) box.
2	Select an index.
	Enter an index in the Index on DMC (INDX) box. Index range is 0 to 509. Note: The Terminal Number (TN) is a virtual TN and is selected by the system.
3	Accept changes.
	Click the OK button.



Accepting changes

Figure 184
Features dialog

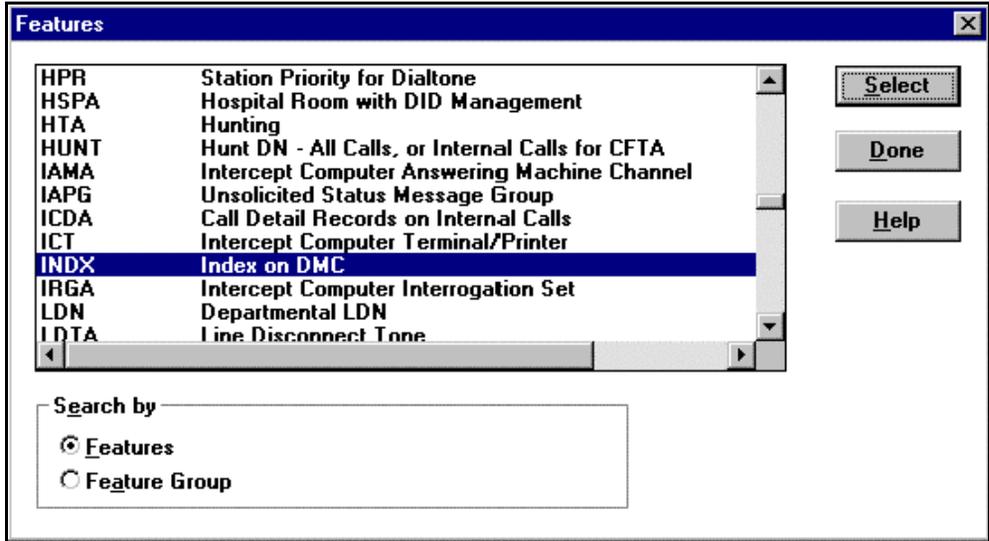


Table 105
Accepting changes

Step	Action
1	Accept changes.
	Click on the Done button.



Selecting Single Line Features

Figure 185
500 dialog

Table 106
Selecting Single Line Features

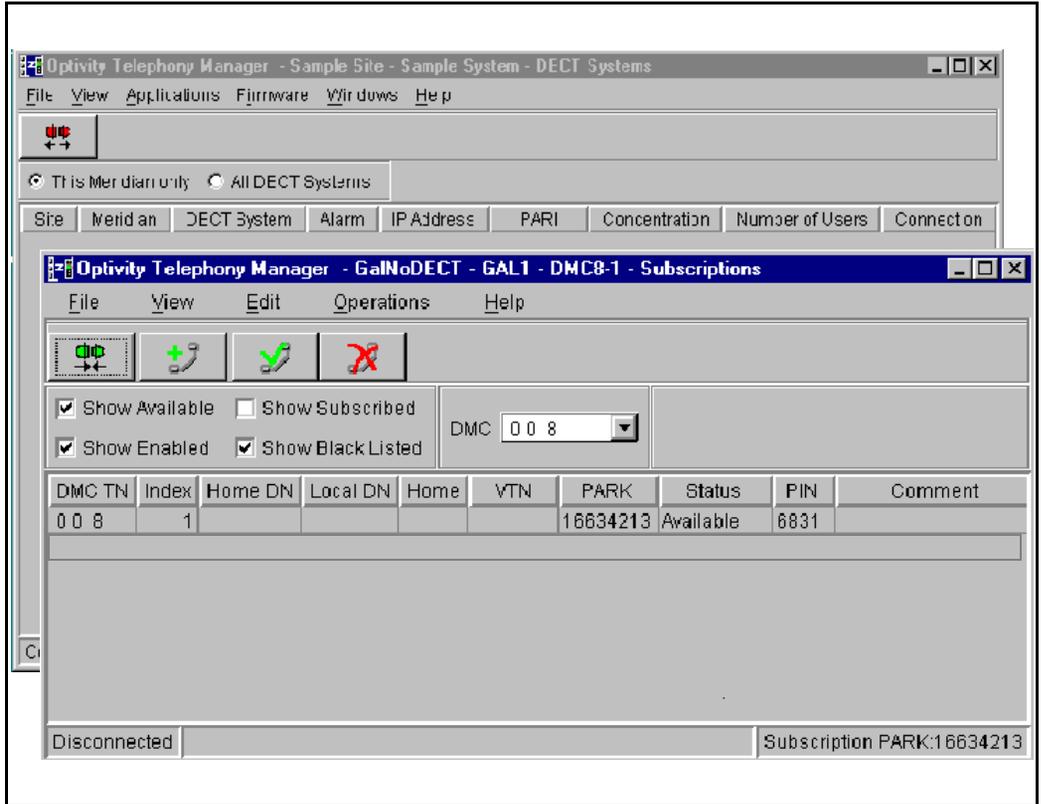
Step	Action
1	For information on other Single Line Features.
	Refer to the OTM Station Administration in <i>Optivity Telephony Manager: System Administration</i> (553-3001-330).



Note: Complete the “System programming record” on [page 238](#) and “Provisioning information record” on [page 235](#).

Retrieving subscription data for handsets

Figure 186
DECT Systems window and Subscriptions window



Complete the following steps.

Table 107
Subscribing handsets

Step	Action
1	Launch the Subscriptions window from the DECT Systems window.
	Click on the Applications pull-down menu, click on Subscriptions .
2	Retrieve the subscription configuration data from the OTM Station Administration database. Note: At this point, no handset data appears in the Subscriptions window.
	In the Subscriptions window, click on the Operations pull-down menu, click on Retrieve OTM Configuration .
3	Open the Configure DECT Subscription dialog. Note: At this point, all handsets configured on OTM Station Administration are shown in the Subscriptions window
	Click on the File pull-down menu, click on Add or click on  .
	

Enabling subscription

Figure 187
Subscriptions window



Complete the following steps for each handset:

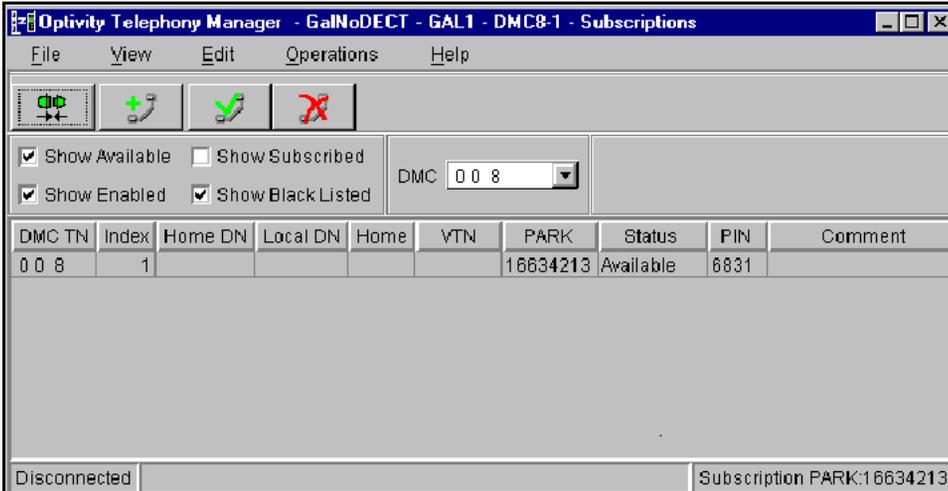
Table 108
Configuring handsets

Step	Action
1	Note: At this point, there are no PINs shown in the Subscriptions window. Select a handset from the list.
	Click on one handset in the list to highlight a row.
2	Enable handsets.
	Click on the Operations pull-down menu, click on Enable or click on  .



Activating the PIN on the handsets

Figure 188
Subscriptions window



Complete the following step:

Table 109
Obtaining the PIN

Step	Action
1	<p>Note: At this point, in the Subscriptions window, the PINs are shown and the Status is Enabled.</p> <p>Subscribe the DECT handsets.</p>
	See "Handset subscription" on page 345 .



Note: When a handset is subscribed, the Subscription window shows the Status column as Subscribed and does not show a PIN.

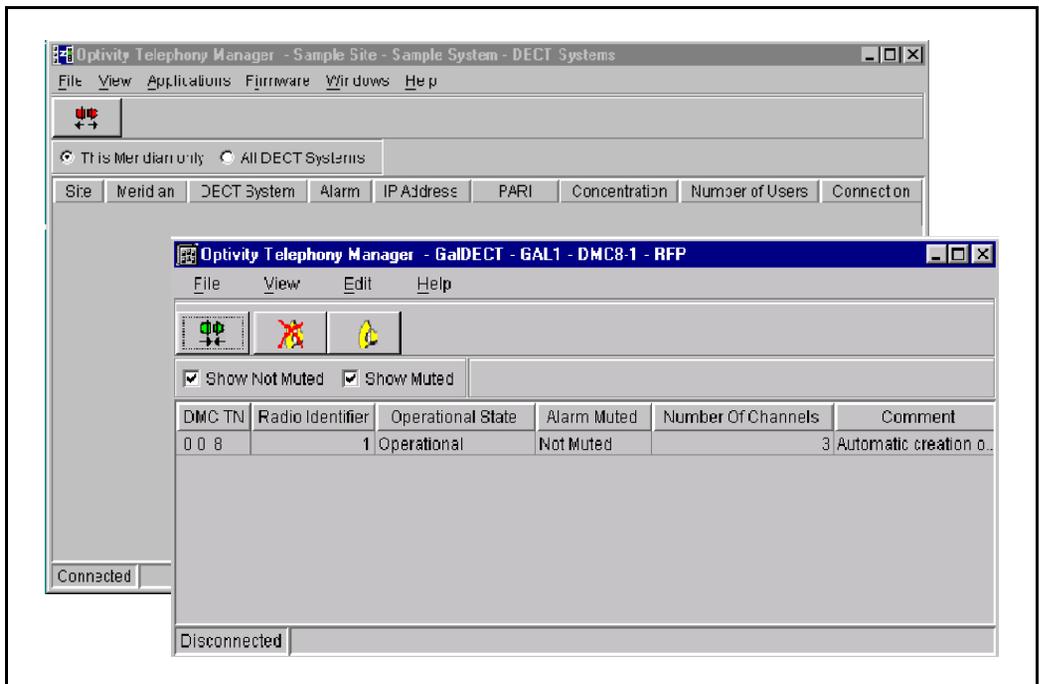
Handset subscription

For detailed information on subscribing a handset, refer to [Subscribing the C4010, C4010 Ex, C4020 handsets, page 472](#) and [Subscribing the C4050 handset, page 480](#), or the individual handset's User Guide.

Base Station Powering and Muting

Opening RFP window

Figure 189
DECT Systems main window and RFP window



Complete the following steps:

Table 110
Opening RFP window

Step	Action
1	Launch the DECT Systems window.
2	Launch the Boards window.
	On the DECT Systems window, click on the Applications pull-down menu, click on Boards .
3	Select a base station from the list.
	Click on one RFP in the list to highlight a row.
4	Open the Radio Fixed Part properties dialog.
	Click on the File pull-down menu, click on Properties .



Setting base station alarm muting, line power, and comments

Figure 190
DECT Radio Fixed Parts

Complete the following steps:

Table 111
Setting alarm muting, line power, and comments for base stations

Step	Action
1	Set alarm muting. Select No to deny alarm muting or Yes to allow alarm muting.
	Click on No or Yes .
2	Enter up to 80 characters for comments.
	Type comments.
3	Select local powered or line powered for the selected base station.
	Click the Line Powered or Local Powered radio button.
4	Apply the selections.
	Click the OK button.



Adding a V.24 serial connection

DMC8 to OTM server serial connections

A DMC8 Relay card-to-OTM server serial connection is required if a DME daughterboard is not present on the relay card. There are two types of serial connections:

- When the relay card and OTM server are *local*, and connected *without* a modem
- When the relay card and OTM server are *remote*, and connected *with* a modem



CAUTION — Service Interruption

Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the V.24 position for operation on a serial connection to the OTM server.

Serial connection for Windows 2000

For information on how to configure a serial connection using Windows 2000, see “V.24 connection using Windows 2000” on [page 385](#).

Connecting the relay card to a local OTM server without a modem

Figure 191
DMC8 Relay card connection to a local OTM server without a modem

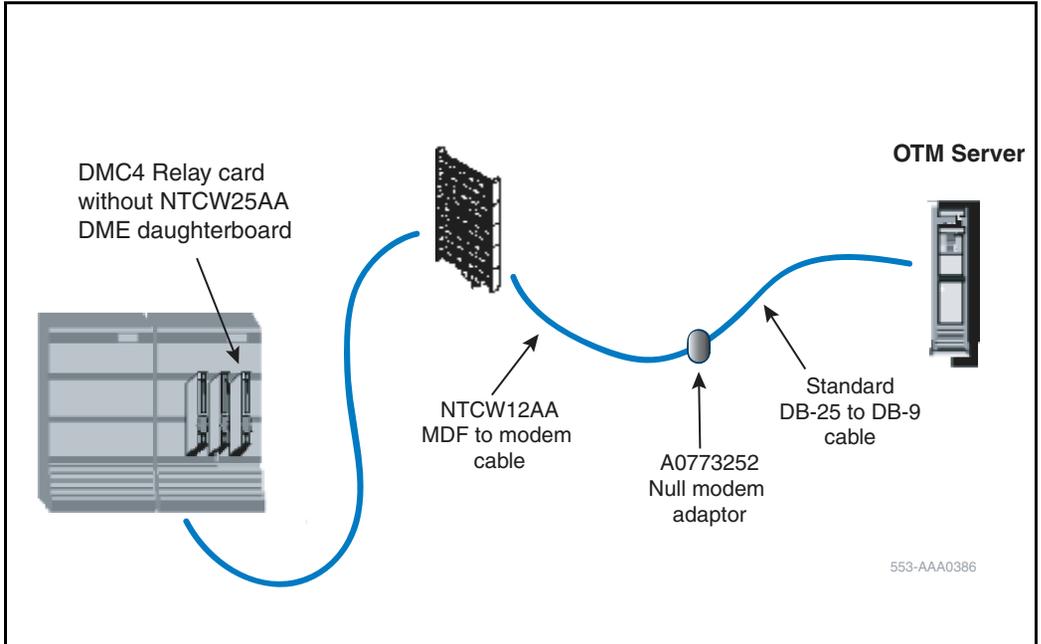


Table 112
Connecting the Relay card to a local OTM server

Step	Action
1	Connect the NTCW12AA cable to the DMC8 Relay card MDF connector.
	Refer to Table 113 on page 350 for the NTCW12AA cable tip and ring connections.
2	Choose the OTM server COM port from the work order.
	Connect the DB-9 cable connector into the OTM COM port.
3	Install the null modem plug.
	Connect the DB-25 connector end and the NTCW12AA cable end into the AO773252 null modem adapter.



Note: The BIX tip and ring connections shown in [Table 113 on page 350](#) correspond to standard BIX designation. The first pair are labeled T0 and R0. See the *planning and designating the MDF* section in *Large System: Installation and Configuration (553-3021-210)*.

Table 113
NTCW12AA cable to MDF connections

DMC8 Relay card MDF connection	Cable color	DB25 connector pin number	Signal designator
T1	Grey	8	V.24DCD
R2	Yellow	4	V.24RTS
T3	Blue	2	V.24TXD
R3	Red	3	V.24RXD
T4	Pink	7	V.24GND

Connecting the relay card to a remote OTM server with modems

Figure 192
DMC8 relay card connection to a remote OTM server

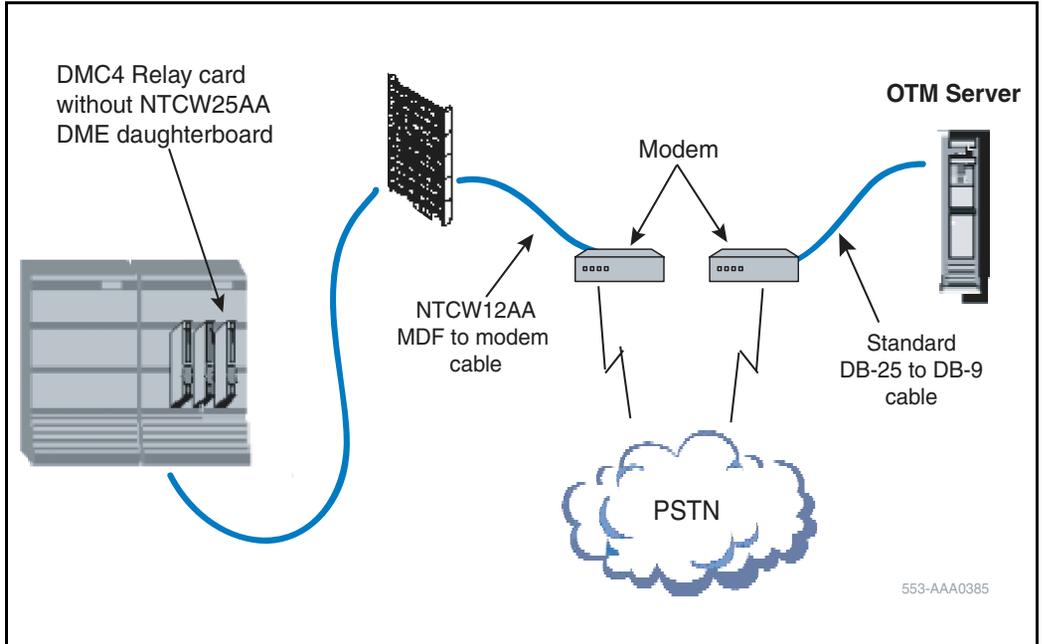


Table 114
Connecting the remote OTM server to a modem

Step	Action
1	Connect the OTM COM port to the modem.
	Connect the DB-9 end of the V.24 cable to the OTM COM port. Connect the DB-25 end of the V.24 cable to the modem.
2	Set up the OTM modem.
	Follow the manufacturers set-up procedures. Set modem as follows: <ul style="list-style-type: none">• Line speed = 38400b/s• No parity• 1 stop bit• 8 bit words• No output control• No timer
3	Connect the modem to the Public Switched Telephone Network.
	Plug a teledapt cable into the modem RJ-11 jack. Connect the other end of the teledapt cable to the PSTN.



Table 115
Connecting the DMC8 Relay card to a modem

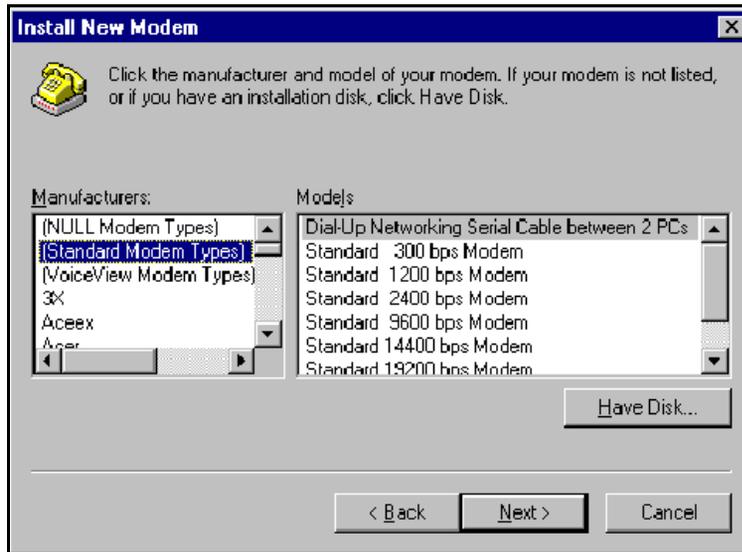
Step	Action
1	Connect the NTCW12AA cable to the DMC8 Relay card MDF connector.
	Refer to Table 113 on page 350 for the NTCW12AA cable tip and ring connections.
2	Set up the OTM modem.
	Follow the manufacturers set-up procedures. Set modem as follows: <ul style="list-style-type: none"> • Line speed = 38400b/s • No parity • 1 stop bit • 8 bit words • No output control • No timer
3	Connect the NTCW12AA cable to the modem.
4	Connect the OTM modem to the Public Switched Telephone Network (PSTN).
	Plug a teledapt cable into the modem RJ11 jack. Connect the other end of the teledapt cable to the PSTN.



Installing a virtual modem on the PC

A virtual modem is required for a local serial connection.

Figure 193
Install New Modem



Complete the following steps:

Table 116
Installing a modem on the PC

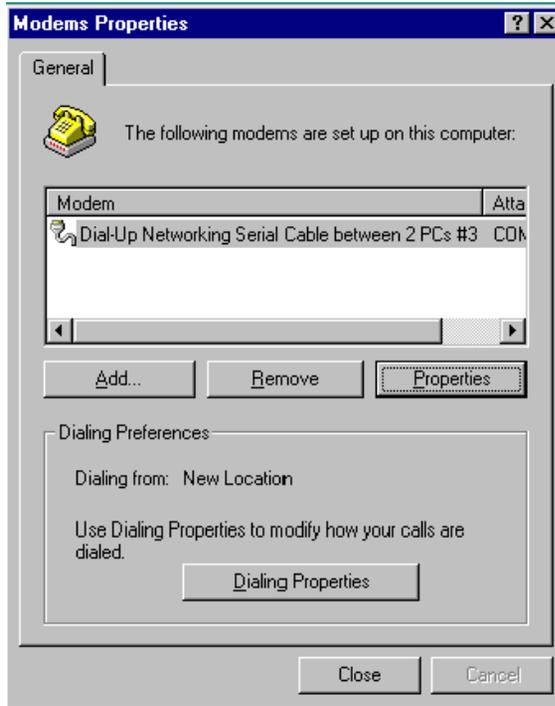
Step	Action
1	Go to Control Panel.
	Click on Modem .
2	In the Manufacturers field.
	Select [Standard Modem Types].
3	In the Models field.
	Select Dial-Up Networking Serial Cable between 2 PCs .
4	Continue.
	Click on Next .



Configuring modem properties

The properties must be configured to interface serially to the DECT system.

Figure 194
Model Properties



Complete the following steps:

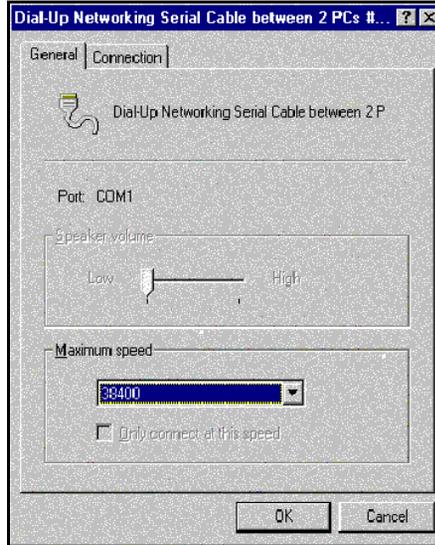
Table 117
Configuring modem properties

Step	Action
1	Go to Control Panel.
	Click on Modem .
2	Select the modem installed.
	Click on the modem in the list.
3	Open the properties dialog.
	Click the Properties button.



Setting modem speed

Figure 195
Dial-Up Networking Serial Cable between 2PCs #... General tab



Complete the following steps:

Table 118
Setting modem speed

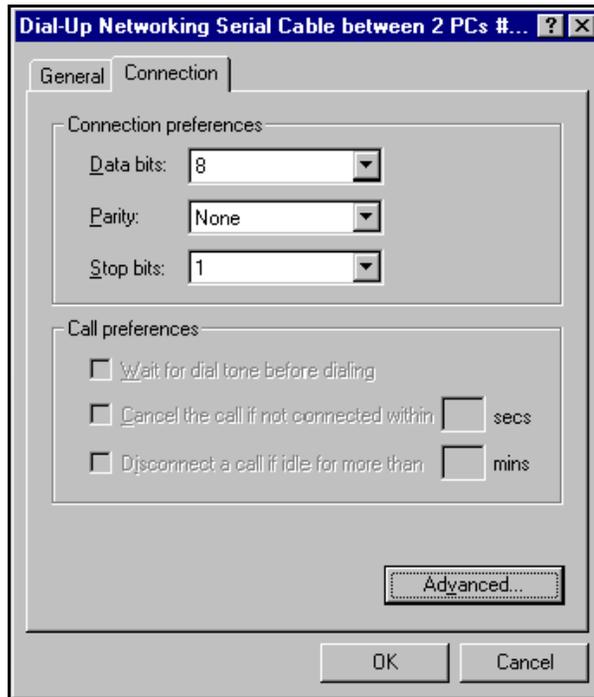
Step	Action
1	Select maximum modem speed. Choose 38400 .
2	Apply selection. Click OK .



Setting connection preferences

Figure 196

Dial-Up Networking Serial Cable between 2 PCs #... Connection tab



Complete the following steps:

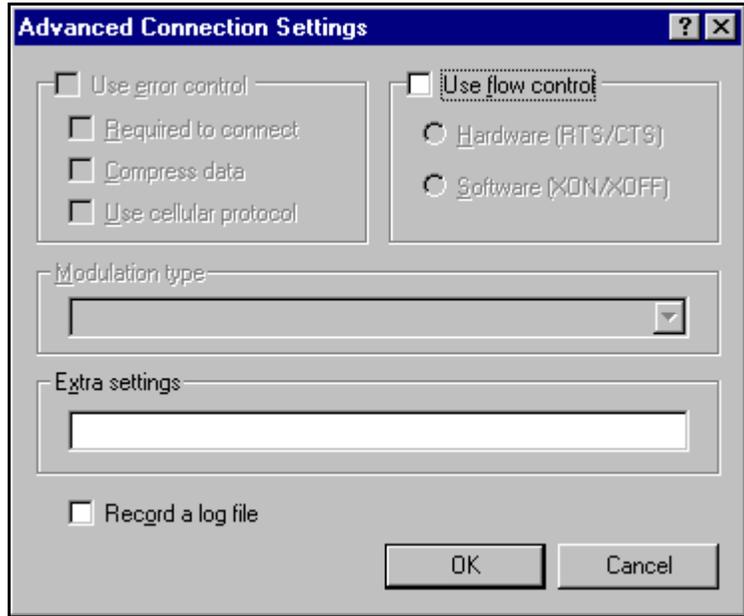
Table 119
Setting connection preferences

Step	Action
1	Set Data bits.
	Select 8 .
2	Set Parity.
	Select None .
3	Set Stop bits
	Select 1 .
4	Open Advanced dialog.
	Click on the Advanced button.



Disabling flow control

Figure 197
Advanced Connection Settings



Complete the following step:

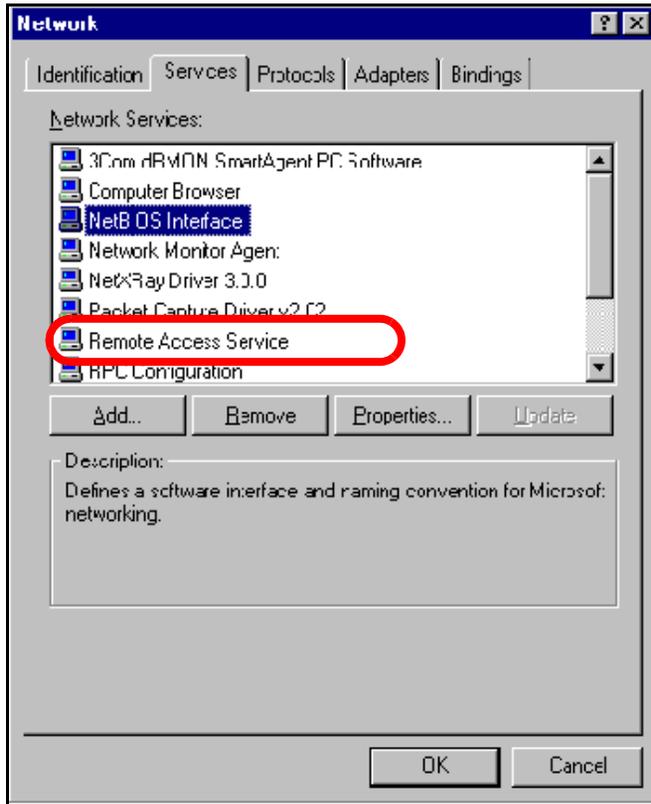
Table 120
Disabling flow control

Step	Action
1	Ensure that flow control is disabled.
	Remove check from the Use flow control box.



Configuring Remote Access Service (RAS)

Figure 198
Network – Services



Complete the following steps:

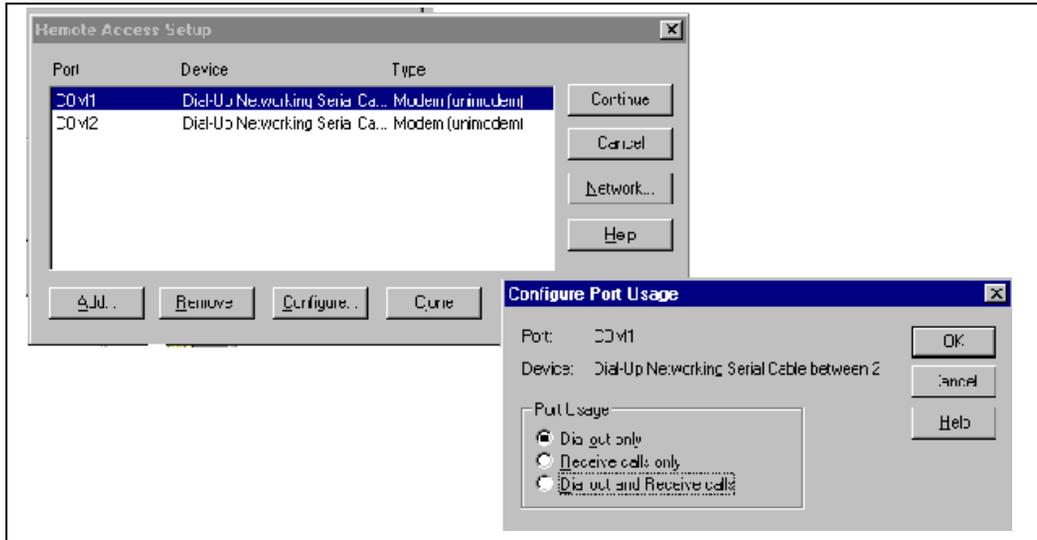
Table 121
Configuring Remote Access Service

Step	Action
1	Open the Network property dialog.
	Start> Control Panel> click on the network icon.
2	Select Services.
	Click on Services tab.
3	Select the Remote Access Service.
	Click on Remote Access Service .



Setting RAS modem and port usage

Figure 199
Remote Access Setup and Configure Port Usage



Complete the following steps:

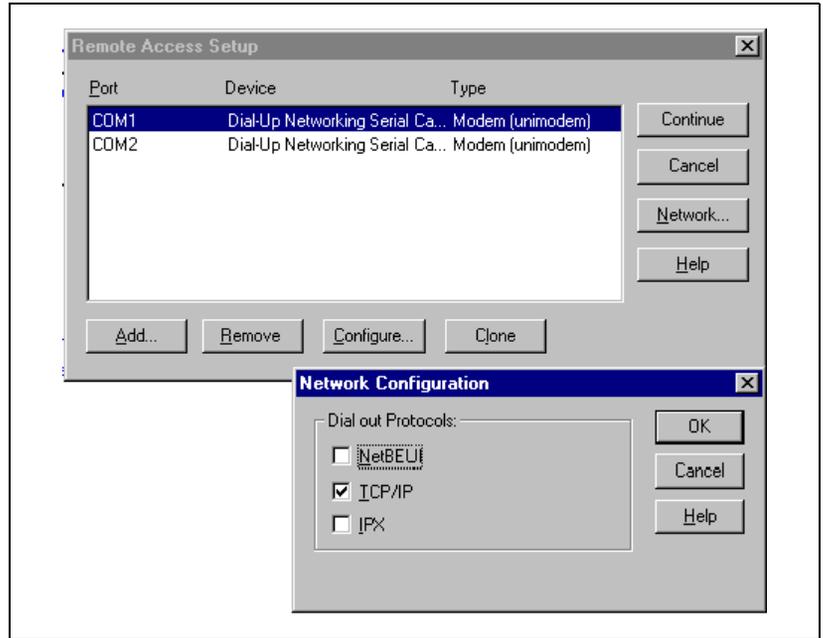
Table 122
Setting modem and port usage

Step	Action
1	Select a modem. Highlight a device.
2	Configure. Click on the Configure... button.
3	Select Port Usage. Click on the Dial out only radio button.



Configuring RAS setup and network

Figure 200
Remote Access Setup and Network Configuration



Complete the following steps:

Table 123
Configuring Remote Access Service

Step	Action
1	Select a modem.
	Highlight a device.
2	Select Network.

Table 123
Configuring Remote Access Service

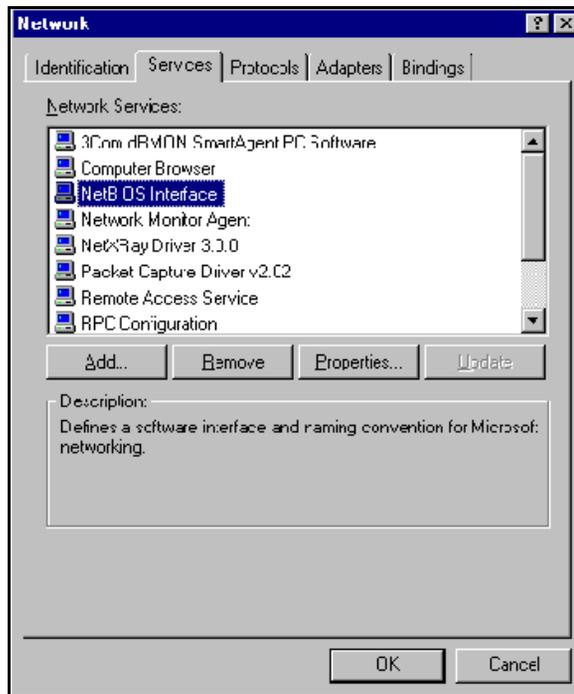
Step	Action
	Click on the Network button.
3	Select TCP/IP protocol for this port.
	Click a check in the TCP/IP box.



Configuring NetBIOS services

The NetBIOS Interface Service must be installed. If this is not done, there will be no PPP protocols configured on the RAS ports.

Figure 201
Network – Services



Complete the following steps:

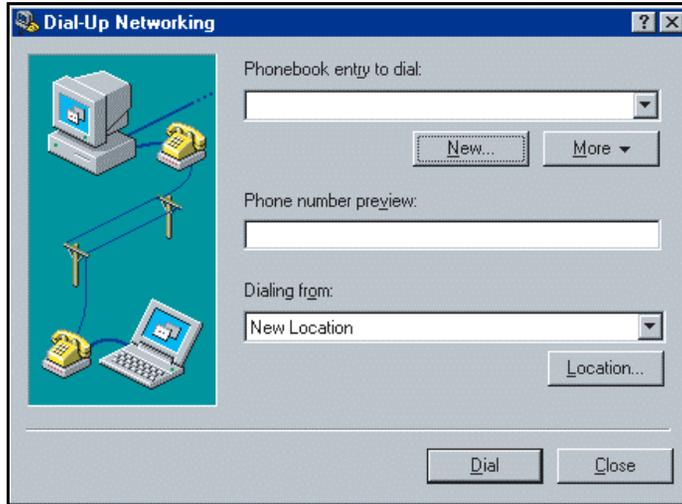
Table 124
Configuring Remote Access Service

Step	Action
1	Ensure that the NetBIOS Interface Service is installed.
	Double-click on the Control Panel's Network and Dial-up Connections icon. Right-click on the appropriate connection. Click Properties . Click the Services tab.
2	Observe if the NetBIOS Interface is on the list of Network Services.
	If the NetBIOS Interface is on the list of Network Services, click Close . Go to "Setting up and configuring a RAS Phone book entry" on page 369 . If the NetBIOS Interface is not on the list of Network Services, click Add . See Figure 201.
3	The Select Network Component appears. Select the required network component.
	Select Protocol . Click Add
4	The Select Network Protocol window opens. Select the desired protocol.
	Select NetBIOS Interface . Click Install . Click Close .
	

Setting up and configuring a RAS Phone book entry

Opening the Dial-up Networking dialog

Figure 202
Dial-up Networking dialog



Complete the following steps:

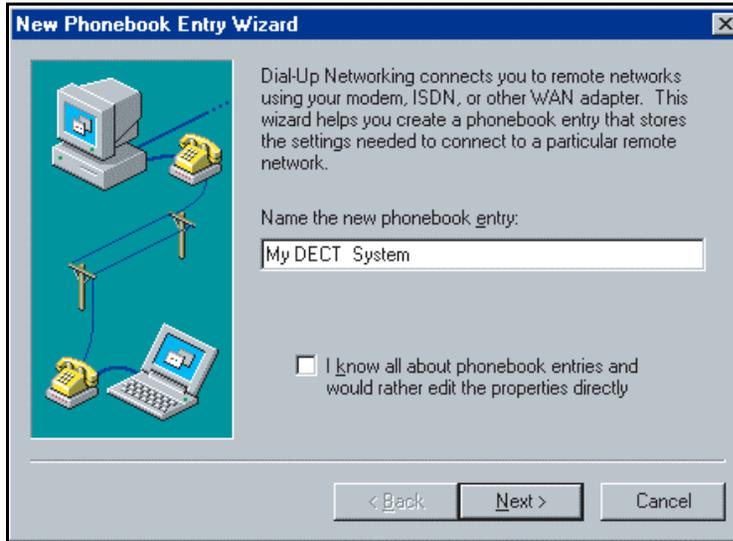
Table 125
Opening the Dial-up Networking dialog

Step	Action
1	Open the Dial-up Networking property dialog on Windows NT. Start> Program> Accessories> Dial-up Networking.
2	Continue. Press the New button.



Setting up the phone book entry name

Figure 203
New Phonebook Entry Wizard



Complete the following steps:

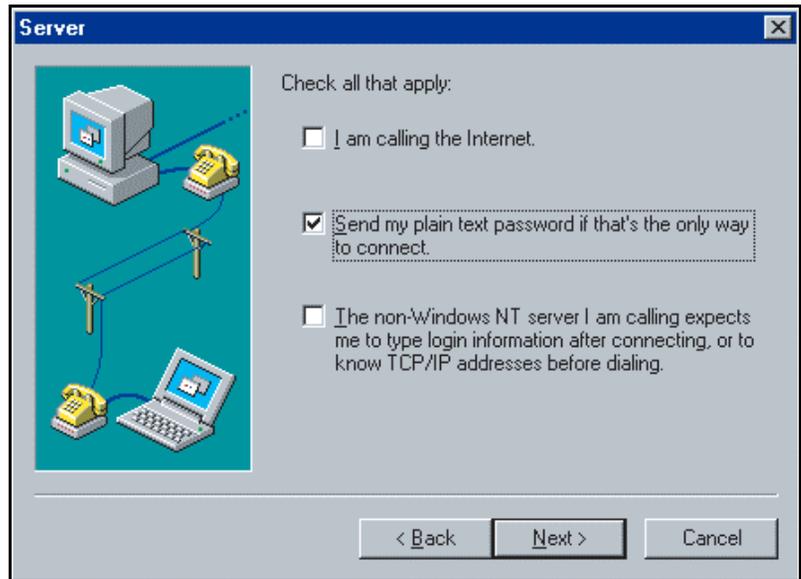
Table 126
Setting up the phone book entry name

Step	Action
1	Name the phone book entry. Enter the system name.
2	Accept the changes. Press the Next button.



Setting up the server dialog

Figure 204
Server



Complete the following steps:

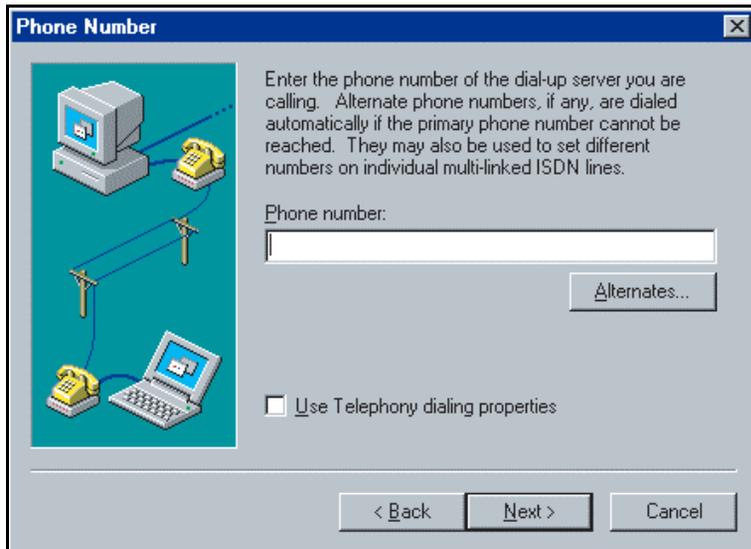
Table 127
Configuring Remote Access Service

Step	Action
1	Set up the server dialog. Check the Send my plain text password... box.
2	Accept the changes. Press the Next button.



Going to the next dialog

Figure 205
Phone Number



Complete the following step:

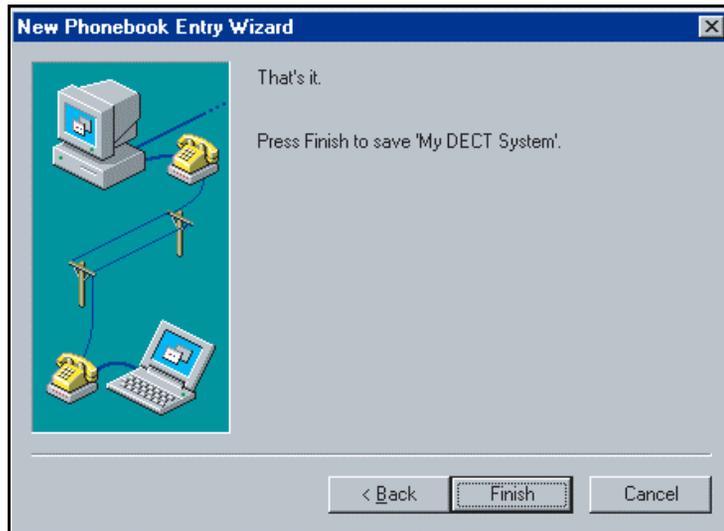
Table 128
Going to the next dialog

Step	Action
1	Omit this dialog.
	Press the Next button.



Completing set up

Figure 206
New Phonebook Entry Wizard



Complete the following step:

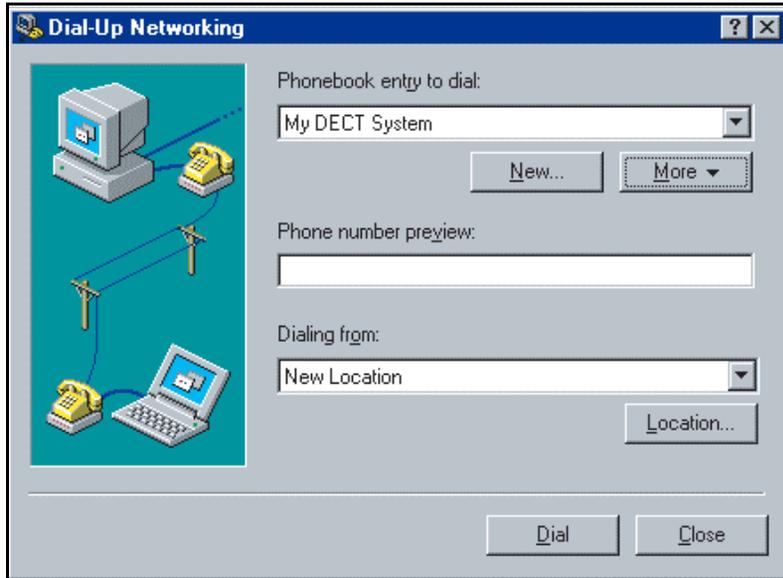
Table 129
Setting up complete

Step	Action
1	Complete the set up. Press the Finish button.



Configuring the networking dial-up

Figure 207
Dial-Up Networking



Complete the following steps:

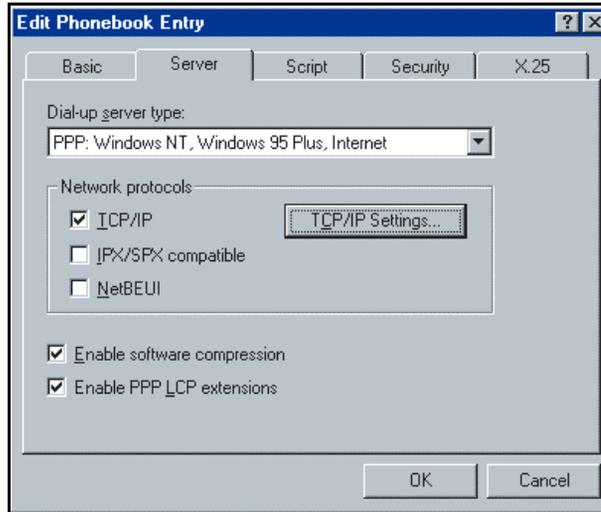
Table 130
Configuring the networking dial-up

Step	Action
1	Open the Dial-up Network property dialog on Windows NT. Start> Program> Accessories> Dial-up Networking.
2	Select edit phone book. Under the More drop-down list, select Edit entry and modem properties.



Configuring the Dial using an entry

Figure 208
Edit Phonebook Entry – Basic



Complete the following steps:

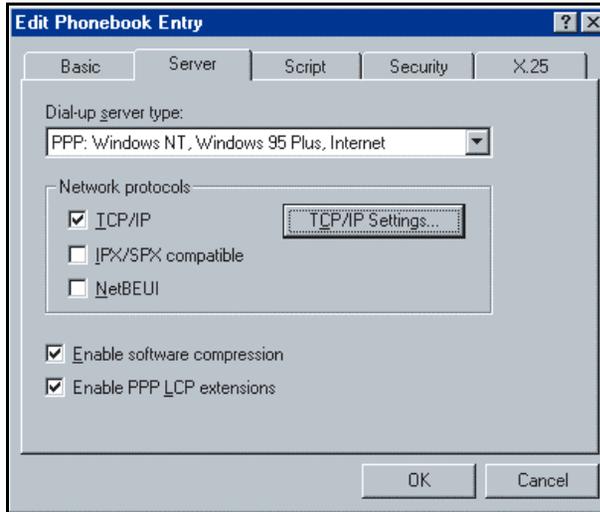
Table 131
Configuring the Dial using an entry

Step	Action
1	Configure an entry from the Dial using drop-down list. Note: The list shows modems that were previously configured.
	Select an appropriate entry from the Dial using drop-down list.
2	Accept the changes.
	Press the OK button.



Configuring the Dial-up server type

Figure 209
Edit Phonebook Entry – Server



Complete the following steps:

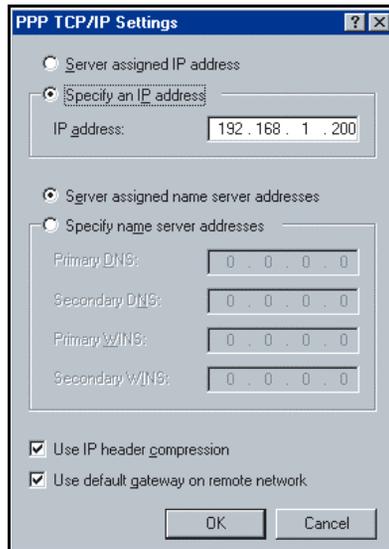
Table 132
Configuring the Dial-up server type

Step	Action
1	Configure the Dial-up server type. Select PPP: Windows NT... and check the boxes shown in Figure 209 on page 376 .
2	Open the PPP TCP/IP Settings dialog. Press the TCP/IP settings button.



Configuring IP address

Figure 210
PPP TCP/IP Settings



Complete the following steps:

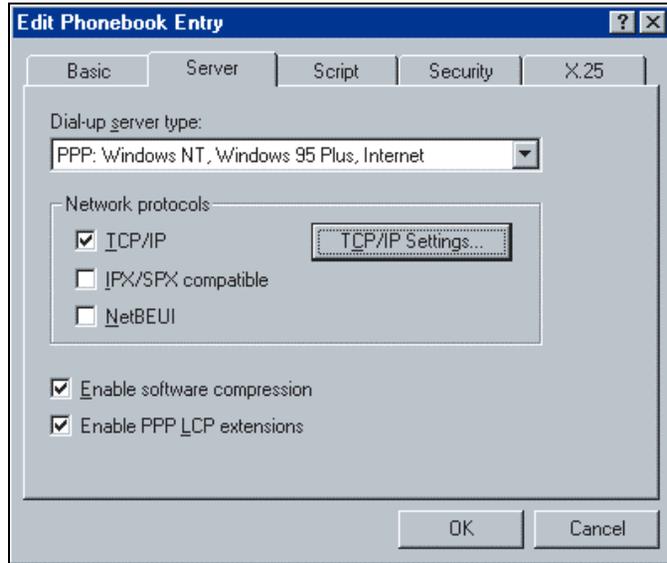
Table 133
Configuring IP address

Step	Action
1	Select the settings. Click the Specify an IP address and the Server assigned name server address radio buttons. Click on both check boxes.
2	Specify an IP address. Enter the IP address.



Accepting the configuration changes

Figure 211
Services



Complete the following step:

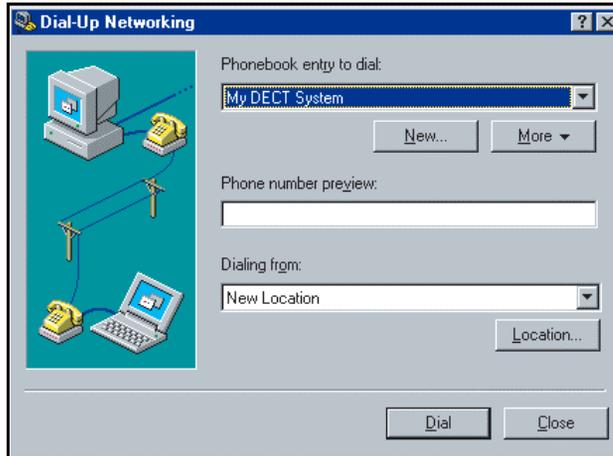
Table 134
Accepting the configuration changes

Step	Action
1	Accept the configuration changes.
	Press the OK button.



Establishing the RAS connection

Figure 212
Dial-Up Networking



Complete the following steps:

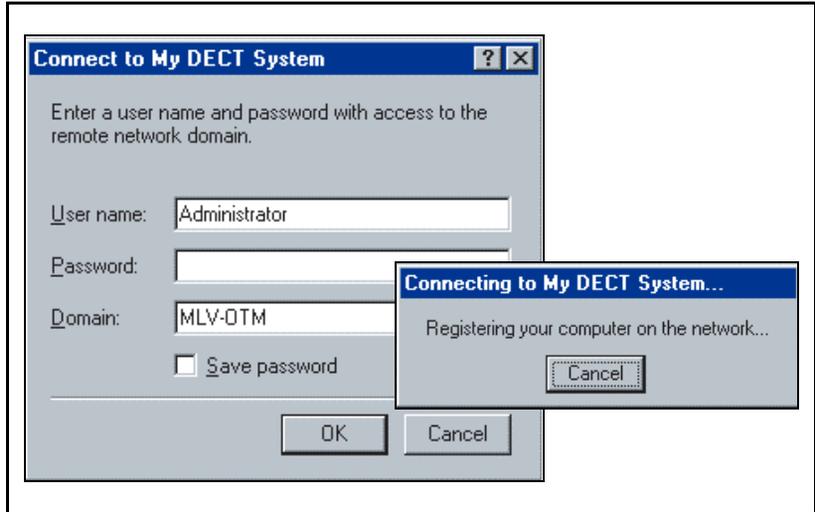
Table 135
Establishing the RAS connection

Step	Action
1	Open the Dial-up Network property dialog on Windows NT. Start> Program> Accessories> Dial-up Networking.
2	Select the Phonebook entry to dial. Highlight the entry.
3	Dial. Press the Dial button.



Establishing a connection to the DECT system

Figure 213
Connect to my DECT system



Complete the following step:

Table 136
Establishing a connection to the DECT system

Step	Action
1	Establish access. Note: No input to this dialog needed.
	Press the OK button.



Establishing connection complete

Figure 214
Connection Complete



Complete the following step:

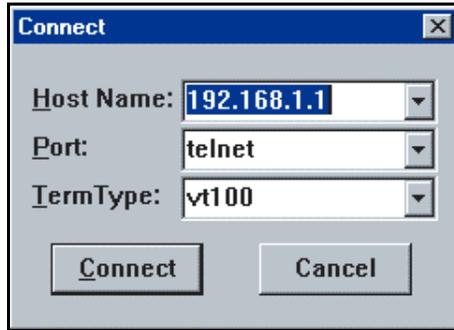
Table 137
Establishing connection complete

Step	Action
1	Finish.
	Press the OK button.



Setting the IP address through Telnet

Figure 215
Connect



Complete the following steps:

Table 138
Setting the IP address through Telnet

Step	Action
1	Open the Dial-up Network property dialog on Windows NT. Start> Program> Accessories> Telnet.
2	Address the DMC8 Relay card using the card's default IP address. Enter 192.168.1.1 in the Host Name: box.
3	Connect to the DMC8 Relay card. Press the Connect button.



Configuring the IP address

Figure 216
Telnet 192.168.1.1

```
Telnet - 192.168.1.1
Connect Edit Terminal Help

login: dasuser
password:
local> ipconfig
wrong format..
ipconfig <ipaddress> <subnet>[ <gateway>]

local> ipconfig 192.168.1.25 255.255.255.0 192.168.1.200
```

Complete the following steps:

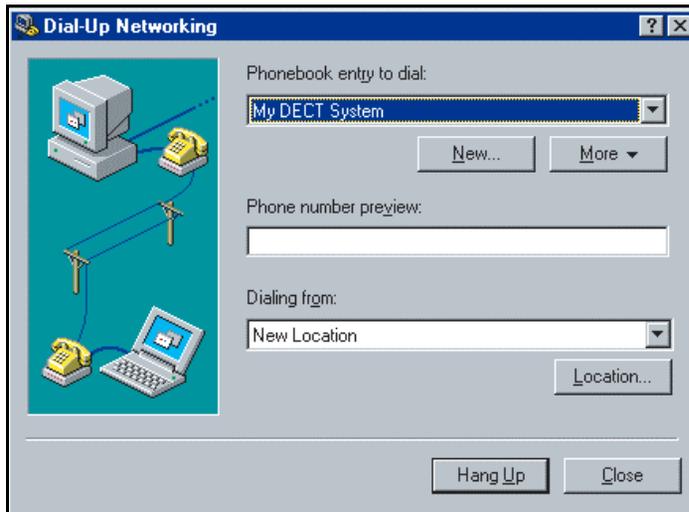
Table 139
Configuring the IP address

Step	Action
1	Login.
	Enter dasuser .
2	Password.
	Enter dasuser .
3	Configure the IP address.
	Use ipconfig as shown on the bottom line in Figure 216 on page 383 .
4	Disconnect the Telnet connection.
	Click on the close box in the upper right corner.



Hanging-up the RAS connection

Figure 217
Dial-up networking



Complete the following step:

Table 140
Hanging up the RAS connection

Step	Action
1	Hang up the RAS connection.
	Click the Hang Up button.



V.24 connection using Windows 2000

For the OTM-DECT Manager to communicate with DECT remotely over Point-to-Point Protocol (PPP), RAS must be configured for dial-out using the appropriate modem. See “Configuring Remote Access Service (RAS)” on [page 362](#).

Note 1: The DECT system can also directly communicate over a modem to a remote OTM-DECT Manager.

Note 2: The back-end process must be visible to make a connection. See “Launching OTM-DECT back-end” on [page 401](#) for more information. If the back-end is closed in error, OTM-DECT will not operate.

Configuring the dial-up

Configure dial-up on the OTM server using Windows 2000. Perform the following steps.

- 1 Select the **Control Panel > Phone and Modem Options > Modems** tab.
- 2 Click **Add**.
- 3 Click check box **Don't detect my modem...** Click **NEXT**.
- 4 From Manufacturer's List Type list, select **Standard Modem**.
- 5 From Model's list, select **Communications cable between two computers**. Click **Next**.

Note: Step 5 is required only if there is no Ethernet connection to the DMC8 card.

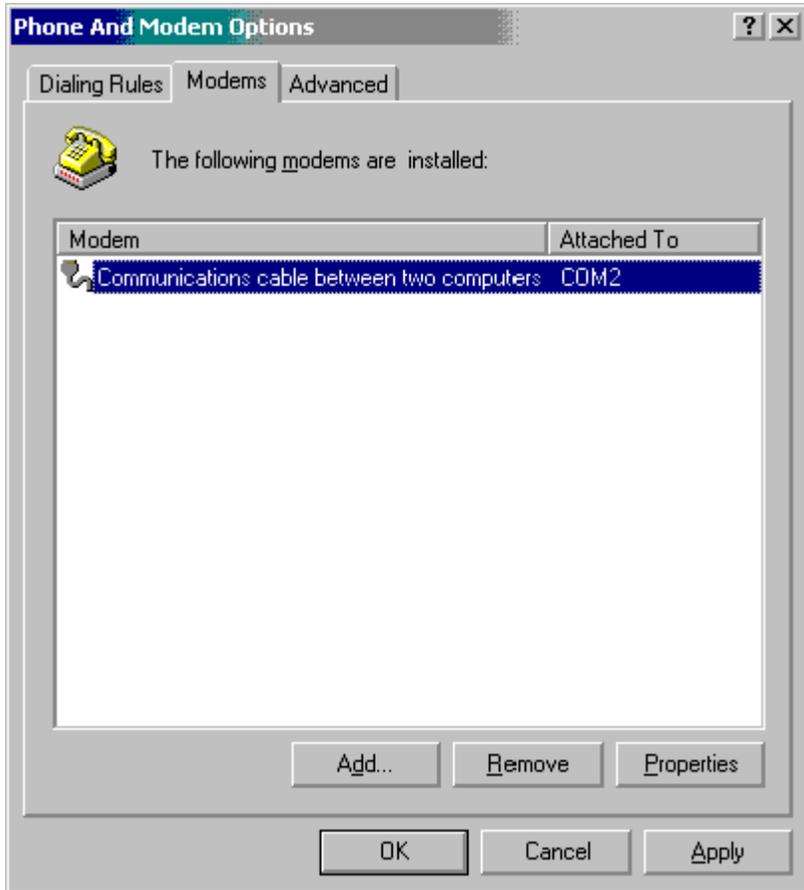
- 6 Select a COM port supported by the PC. Click **Next**.
- 7 Click **Finish**.

Configuring the modem

Configure the modem properties for serial interface. To configure the modem, perform the following steps.

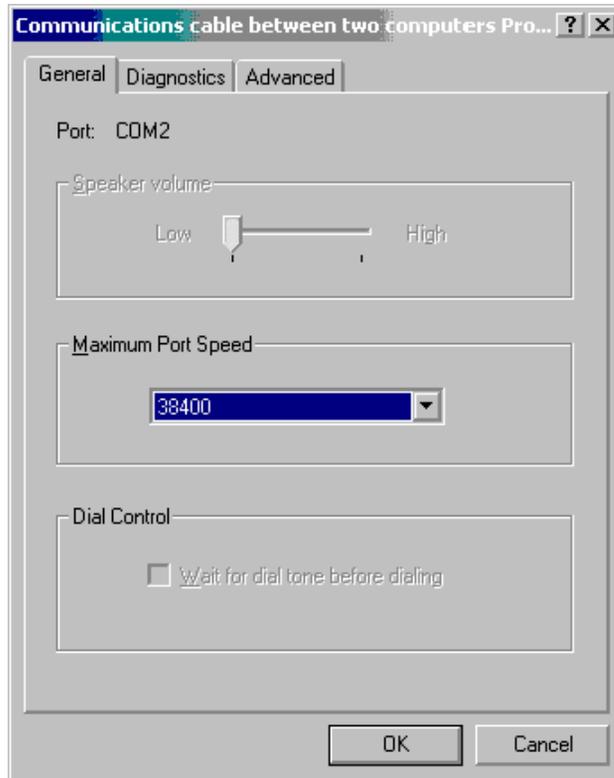
- 1 Select **Control Panel > Phone and Modem Options > Modems** tab.
- 2 Select the modem **Communications cable between two computers**. Click **Properties**. See Figure 218 on [page 386](#).

Figure 218
Control Panel > Phone and Modem Options > Modems tab



- 3 In the **Maximum Port Speed** drop-down menu, select **38400**.
See Figure 219 on [page 387](#).

Figure 219
Modem tab – Properties button



- 4 Click the **Advanced** tab.
- 5 Set the **Data** bits to **8**.
Set the **Parity** bits to **None**.
Set the **Stop** bits to **1**.
- 6 Click **OK**.

Configuring network and dial-up connections

Note: Ensure that the NetBIOS Interface Service is installed; otherwise PPP is not configured on the RAS ports.

To configure network and dial-up connections, perform the following steps.

- 1 Select **Control Panel > Network and Dial-up Connections**.
- 2 Click the **Make new connection** icon. The Connection Wizard starts. See [Figure 220](#).

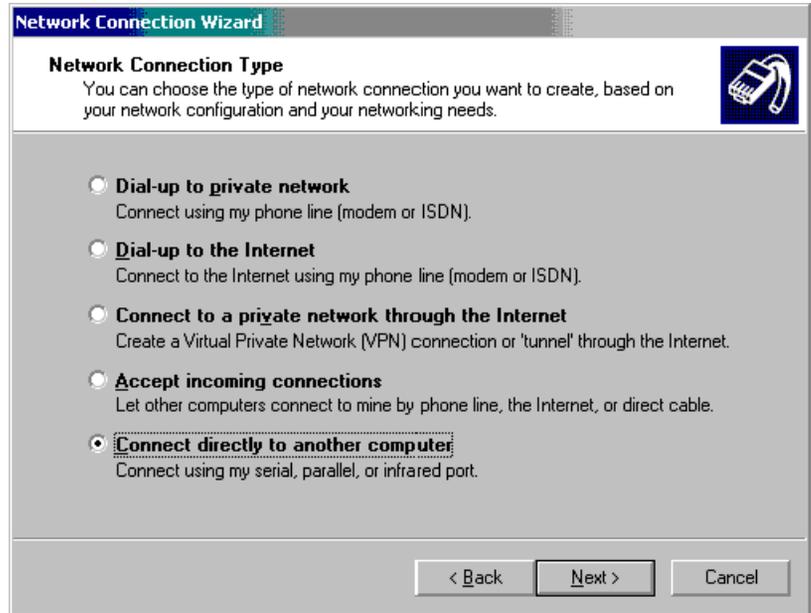
Figure 220
Network Connection Wizard



- 3 Click **Next**.
- 4 Click the **Connect directly to another computer** radio button. Click **Next**. See [Figure 221](#) on [page 389](#).

Note: If using a modem connection to the DMC8 card, click the **Dial up to private network** radio button.

Figure 221
Network Connection Type radio buttons



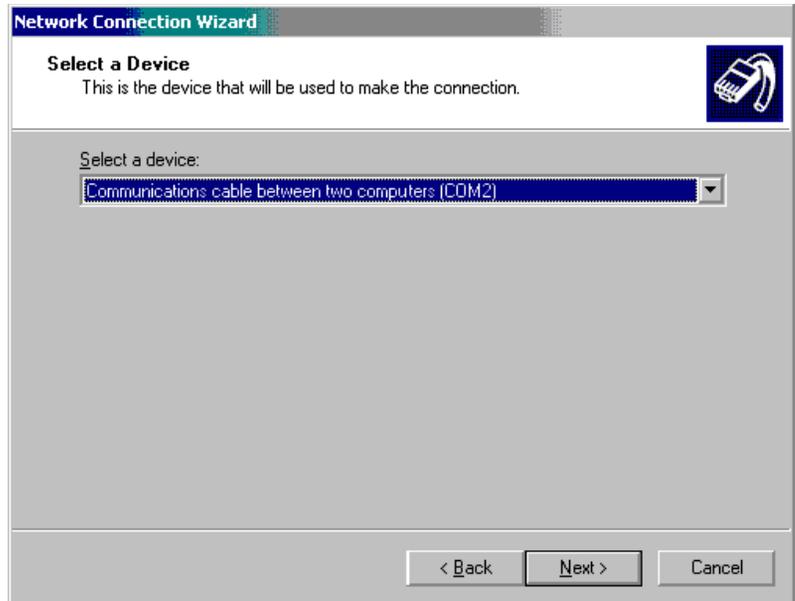
5 Click the **Guest** radio button. Click **Next**. See Figure 222 on [page 390](#).

Figure 222
Host or Guest



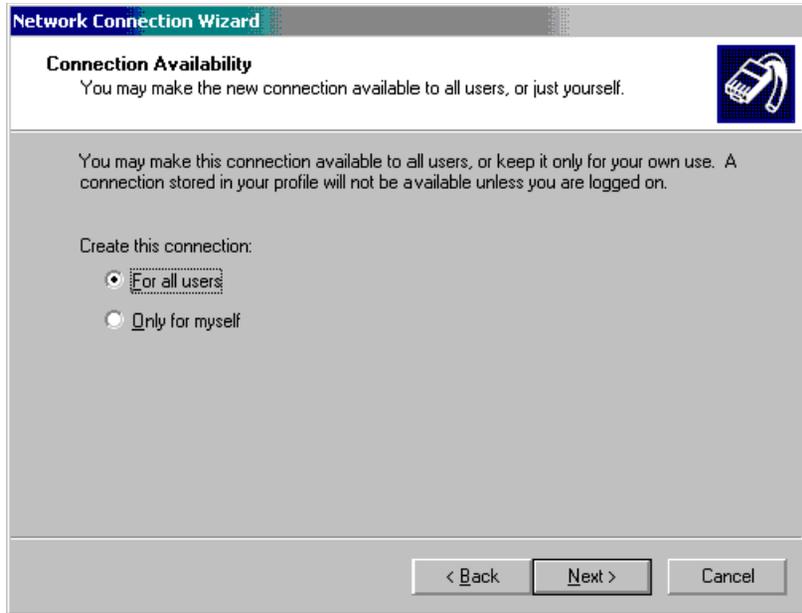
- 6 From the **Select a Device** drop-down list, select **Communications cable between two computers**. Click **Next**. See Figure 223 on [page 391](#).

Figure 223
Select a Device



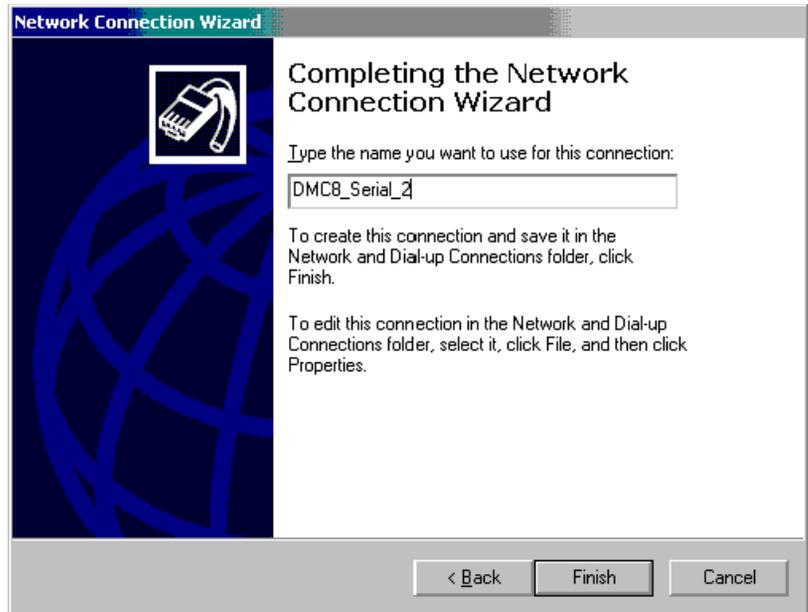
- 7 Click the **For all users** radio button. Click **Next**. See Figure 224 on [page 392](#).

Figure 224
Connection Availability



- 8 Type a name for the connection. Click **Finish**.
See Figure 225 on [page 393](#).

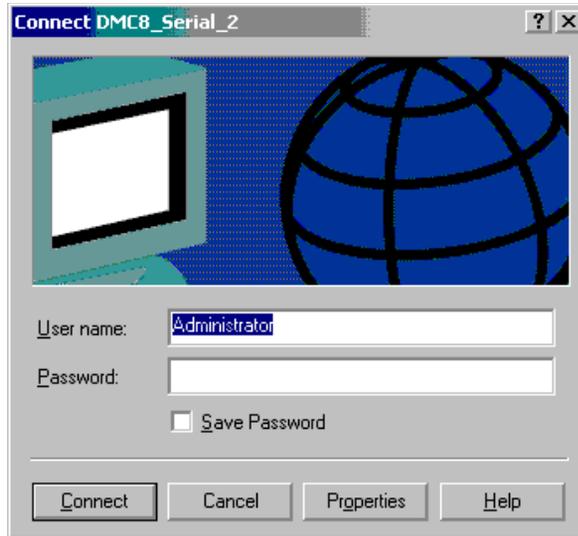
Figure 225
Completing the Network Connection Wizard



A new window appears automatically. The window is titled with the connection name entered earlier. See Figure 226 on [page 394](#).

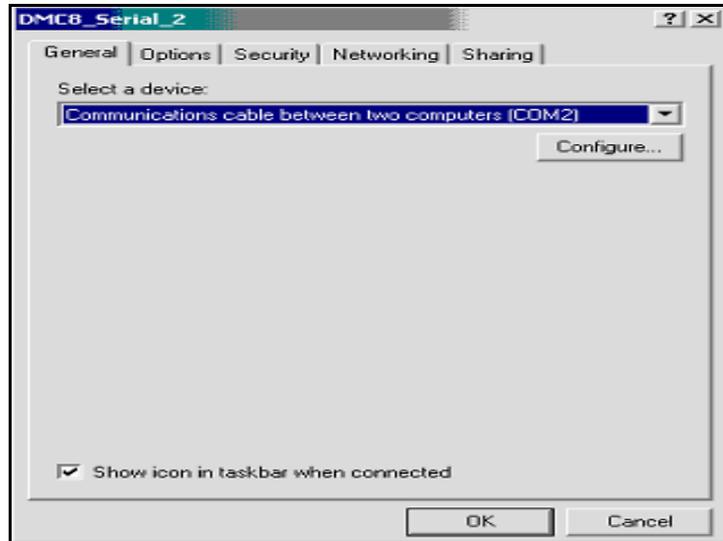
It is not necessary to enter a user name or password.

Figure 226
New connection window



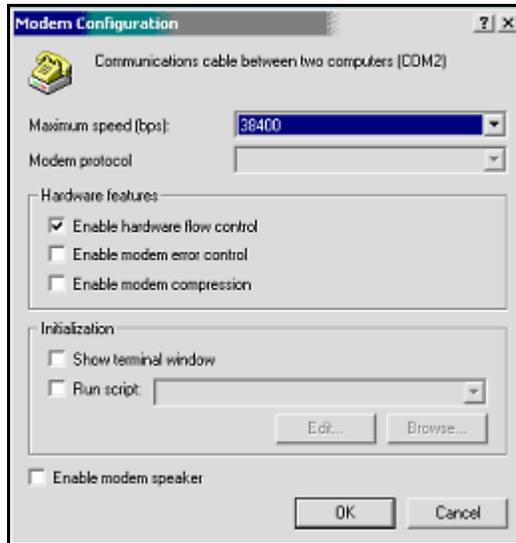
- 9 Click **Properties**. A new window opens.
- 10 Select the **General** tab. Select **Communications cable between two computers (COM2)** from the **Select a device** drop-down menu. See Figure 227 on [page 395](#).

Figure 227
General tab



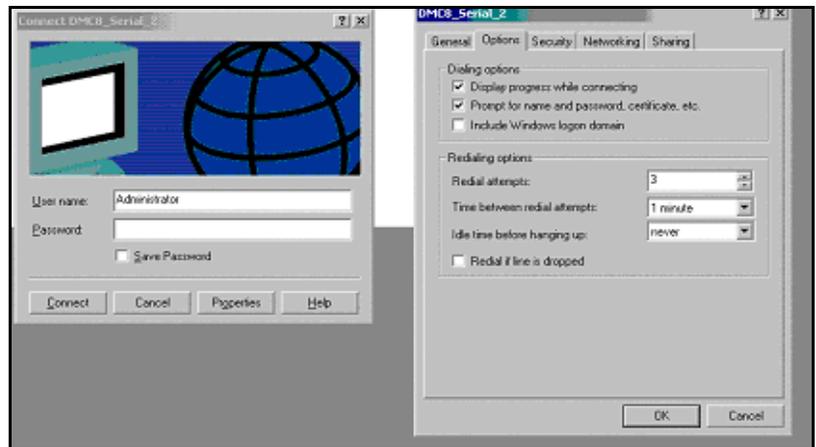
- 11 Click **Configure**. The Modem Configuration window opens. Ensure that the **Maximum speed (bps)** is 38400 bauds. See [Figure 228](#) on [page 396](#). Click **OK**.

Figure 228
Modem Configuration window



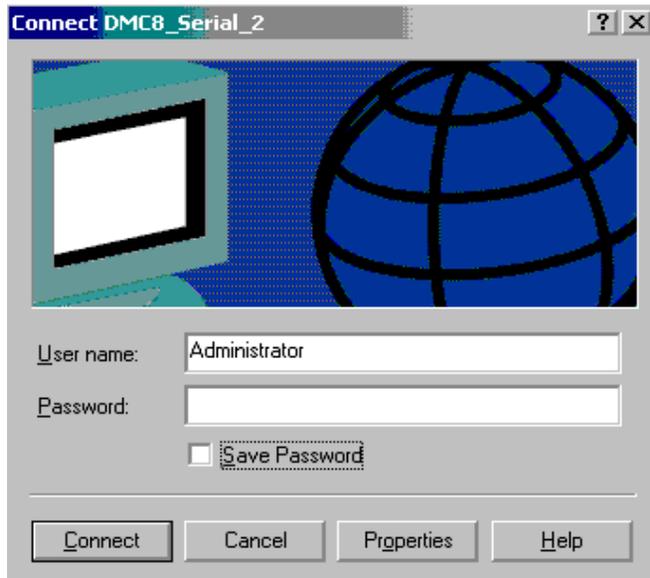
- 12 Select the **Security** tab. Click the **Security Options – Typical** radio button. Select **Allow unsecured password** from the drop-down menu. Click **OK**. See Figure 229 on [page 397](#).

Figure 229
Security tab



- 13** Click the **Networking** tab. Select **Internet Protocol (TCP/IP)**. Click **Properties**.
- 14** Click the radio button for **Use the following IP address**. Enter the IP address of the OTM server.
- 15** Click **Advanced**. Check all three boxes in the PPP Settings window. Click **OK**.
- 16** On the **Networking** tab, click **OK**.
- 17** Click **Connect** in the named dial-up connection window. See Figure 230 on [page 398](#). No password is required.

Figure 230
Connect to the DMC8



The screen shown in [Figure 231](#) appears.

Figure 231
Registering on the network



The screen shown in [Figure 232](#) on [page 399](#) appears when a successful connection has been made.

Figure 232
Connection complete screen



- 18 Disconnect the connection by following the on-screen instructions. Close the screen.
- 19 Restart the OTM PC.

DECT Access System configuration

It is necessary to configure the DECT Access System (DAS). Perform the following steps.

- 1 In OTM-DECT, add a new DAS.
- 2 Select the **Communications** tab.
- 3 Enter the IP address of the DMC8 card.
- 4 Select **Serial** and click **Details**.
- 5 Select the COM port that DAS uses to connect to the PC.
- 6 Enter the IP address of the OTM Server in the **OTM Server IP Interface** field.

Note: The IP address of both the DMC8 card and the OTM Server must have the same subnet mask. See [Table 141](#) for an example.

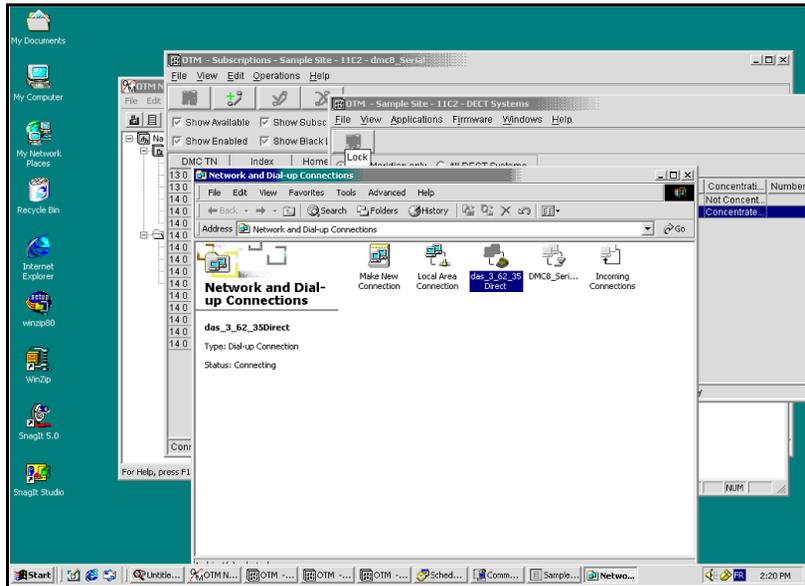
Table 141
Sample IP addresses with the same subnet mask

DMC8 IP address	192.168.100.35
OTM Server IP address	192.168.100.179

Error messages

If the error message (Connection event) shown in Figure 233 appears, verify the device manager for COM2 in **Control Panel > System > Hardware > Device Manager > Ports > COM2**.

Figure 233
Connection event



Launching OTM-DECT back-end



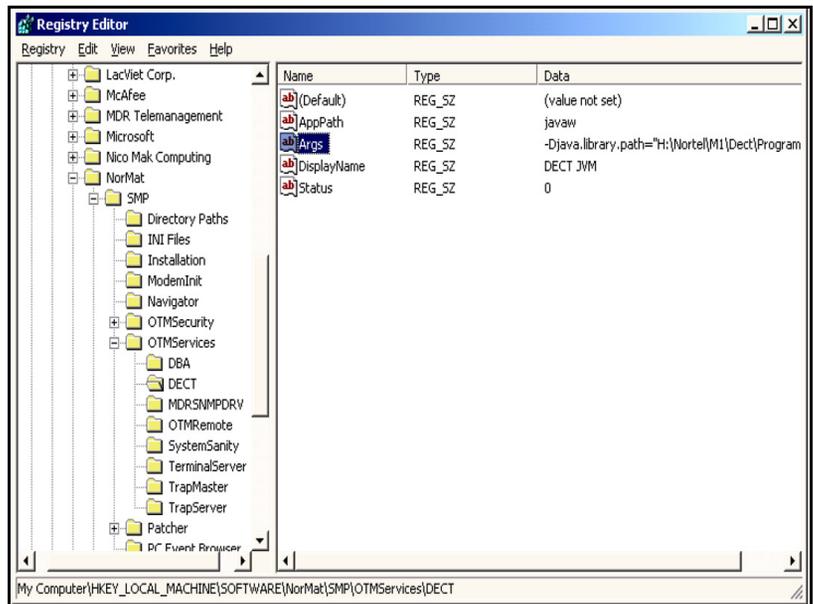
CAUTION

Always ensure the Windows Registry is backed up before opening the Registry and its keys.

To launch the OTM-DECT back-end, perform the following steps.

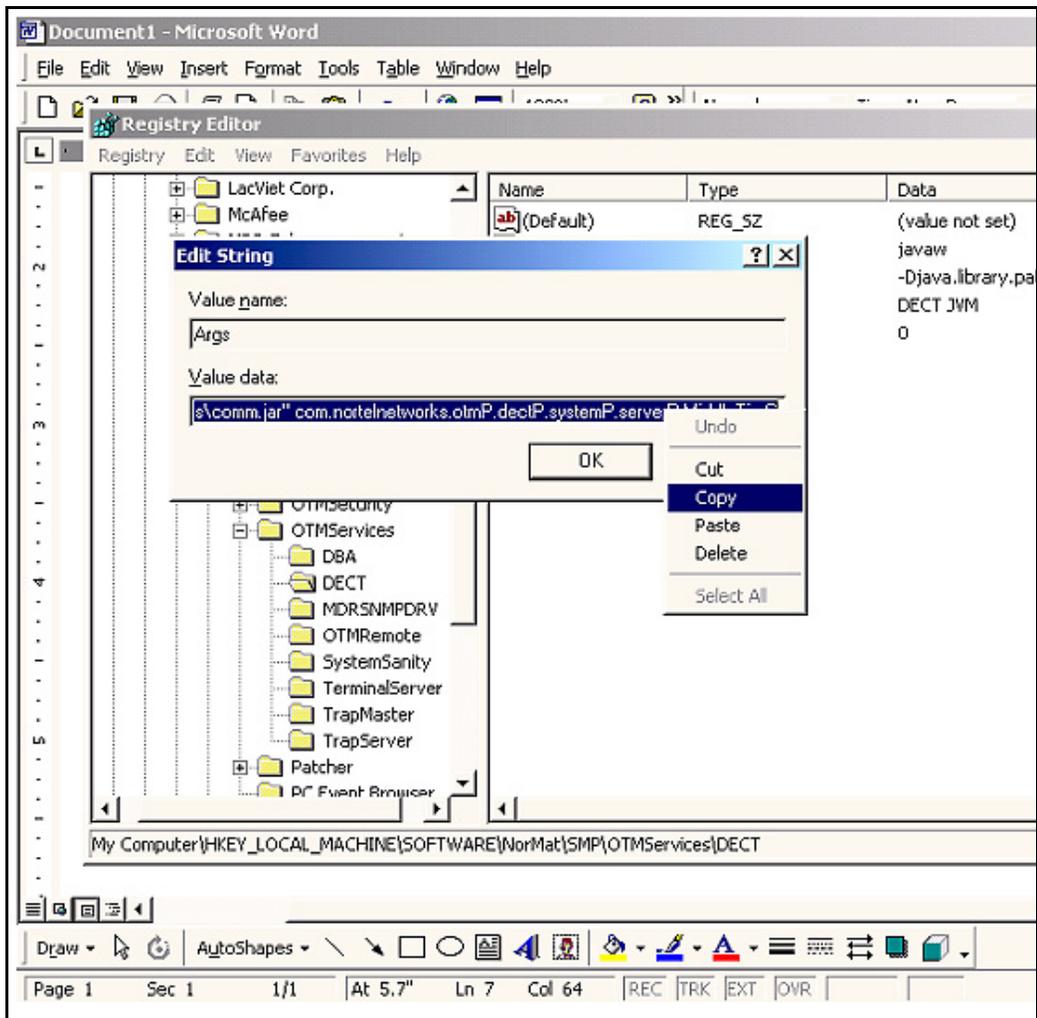
- 1 Open the Windows Registry.
Start > Run> regedit
 See [Figure 234](#) on [page 401](#).

Figure 234
Windows Registry



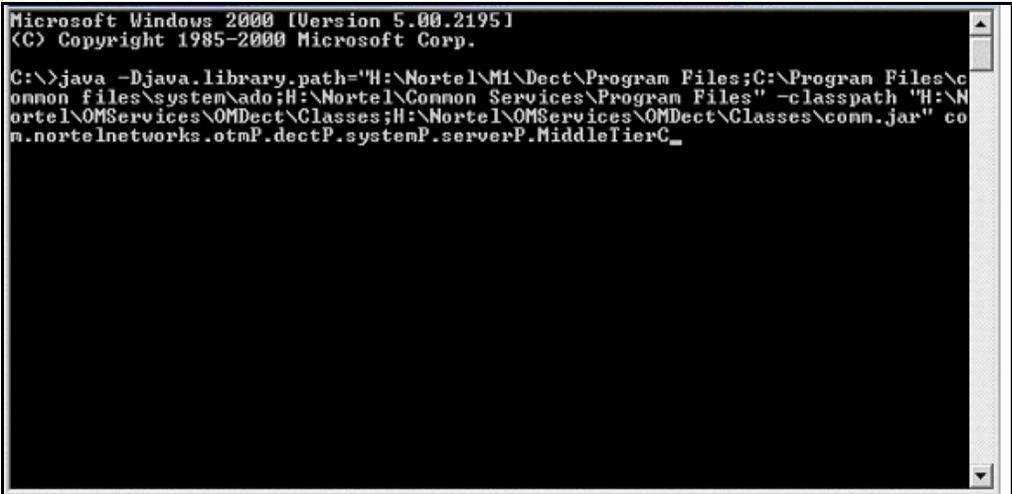
- 2 Copy the value of the key
HKEY_LOCAL_MACHINE\SOFTWARE\NorMat\SMP\OTMServices\DECT\Args
See [Figure 235](#) on [page 402](#).

Figure 235
Registry key HKEY-LOCAL_MACHINE



- 3 Open a command prompt window. At the command prompt, type **java** *paste copied text here*
(At the command prompt, type **java**, press the space bar once, and paste the contents of the clipboard.)
See [Figure 236](#) on [page 403](#).

Figure 236
Command prompt with pasted text

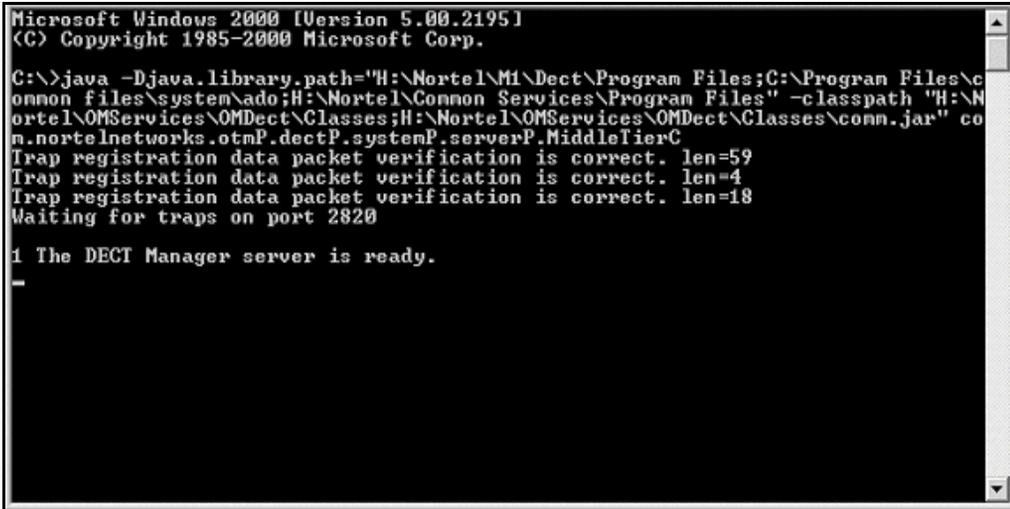
A screenshot of a Windows command prompt window. The title bar reads "Microsoft Windows 2000 [Version 5.00.2195] (C) Copyright 1985-2000 Microsoft Corp.". The command prompt shows the following text:

```
C:\>java -Djava.library.path="H:\Nortel\M1\Dect\Program Files;C:\Program Files\connon files\system\ado;H:\Nortel\Connon Services\Program Files" -classpath "H:\Nortel\OMServices\OMDect\Classes;H:\Nortel\OMServices\OMDect\Classes\conn.jar" com.nortelnetworks.otmP.dectP.systemP.serverP.MiddleTierC_
```

The text is wrapped across several lines. The window has a standard Windows 2000 interface with a scroll bar on the right side.

- 4 Press the **Enter** key.
The OTM-DECT back-end is launched. See [Figure 237](#).

Figure 237
OTM-DECT back-end is launched



```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>java -Djava.library.path="H:\Nortel\M1\Dect\Program Files;C:\Program Files\com
mon files\system\ado;H:\Nortel\Common Services\Program Files" -classpath "H:\N
ortel\OMServices\OMDect\Classes;H:\Nortel\OMServices\OMDect\Classes\conn.jar" co
m.nortelnetworks.otmP.dectP.systemP.serverP.MiddleTierC
Trap registration data packet verification is correct. len=59
Trap registration data packet verification is correct. len=4
Trap registration data packet verification is correct. len=18
Waiting for traps on port 2820

1 The DECT Manager server is ready.
-
```

Implementing and operating MSMN

Implementing the MSMN feature

The sequence of actions required to configure this feature are as follows:

- 1 Configure a phantom superloop using LD 97, if required.
- 2 Create the new DCS sets in LD 10.
- 3 Configure the RCFW data in LD 57 and LD 15 for handsets assigned as a visitor.
- 4 Use the DECT manager to configure sets on the DMC8.
- 5 Pre-subscribe the visiting handset one time at the MCDN node.

Note: Subscription includes both overlay configuration and DECT Manager configuration. For DECT Manager configuration, see “Configuring DECT on the OTM server” on [page 303](#).

LD 10 – Add/Change DCS data block or data blocks. (Part 1 of 2)

Prompt	Response	Description
REQ:	NEW NEW 1-255 CHG ECHG	<p>NEW = Add a Digital Cordless Set</p> <p>NEW X = The generation of new DCS units stop when the maximum Index of 509 is reached on a single DMC8 or VTNs on the system run out or WRLS ISM limits reached. All new DCS must be on the same DMC8.</p> <p>CHG = Allows the DCS configuration to change to another DMC8. All new DCS must be on the same DMC8.</p> <p>ECHG = This command can change either the VSIT response or the HMDN response.</p>
TYPE:	DCS	<p>Digital Cordless Set.</p> <p>Differentiates between analog sets and non-concentrated digital Companion DECT handsets.</p> <p>If TYPE=DCS, the system allocates the next available VTN, and WRLS defaults to YES and WTYP defaults to DECT. If package #350 is included, MWUN defaults to 32.</p> <p>CLS defaults to ERCA, allowing the Enhanced RCFW feature.</p>
TN	I s c u c u	<p>TN on Large System.</p> <p>TN on Small System and Succession 1000.</p> <p>The system provides the Virtual TN for the handset.</p>
CDEN	(4D)	<p>Card Density. Only valid value for IPE is 4D. Normal input is <CR>.</p>
WRLS	YES	<p>WiReLess analog Set – entry defaults to YES with no user input; value cannot be CHG’ed.</p>
WTYP	DECT	<p>Wireless TYPE – entry defaults to DECT with no user input; value cannot be CHG’ed.</p>

LD 10 – Add/Change DCS data block or data blocks. (Part 2 of 2)

Prompt	Response	Description
MWUN	32	<p>Maximum number of Wireless UNits – entry defaults to 32 with no user input – value cannot be CHG'ed.</p> <p>Note: If MWUN = 32, CDEN automatically changes to 8D, and prints as an 8D unit.</p>
DMC8	l s c c	<p>Location of the actual DMC8.</p> <p>Assigns a TN to a DECT Mobility Card located on an IPE shelf or cabinet.</p>
INDX	0. 509	<p>DMC8 index to map the Virtual TN to a DMC8 TN.</p> <p>Starting index on DMC8, each unit increments to the next available unit.</p>
VSIT	(NO) YES	<p>ViSITing DECT set. Determines the difference between a local handset and a visiting handset.</p> <p>VSIT available if the MSMN Package is unrestricted.</p> <p>YES = visiting DECT set. NO = local DECT set.</p>
HMDN	x...x	<p>HoMe Directory Number. Sets the DN as a valid MCDN network DN.</p> <p>NMDN available if VSIT = YES.</p>

LD 10 – Copy DCS data block or data blocks.

Prompt	Response	Description
REQ:	CPY 1 – 32	<p>CPY n = The generation of new units stop when the following occurs:</p> <p>maximum index of 509 is reached on a single DMC8 or VTNs on the system run out or</p> <p>WRLS ISM limits reached.</p> <p>All DCS must be on the same DMC8.</p>
DMC8	l s c l	<p>Location of the actual DMC8 to copy on an IPE shelf or cabinet.</p>

LD 10 – Remove DCS data block or data blocks.

Prompt	Response	Description
REQ:	OUT 1-255	<p>OUT X = Removing units stops when the maximum index of 509 is reached on a single DMC8. All new DCS must be on the same DMC8.</p>
DMC8	l s c l	<p>Location of the actual DMC8 to out on an IPE shelf or cabinet.</p>

LD 10 – Convert handset type 500 to DCS

Prompt	Response	Description
REQ	CDCS	Convert Digital Cordless Set – convert from a non-concentrated to a concentrated system after software upgrade. The conversion routine converts the 500 units to DCS units and moves them from the actual TN to a virtual TN.

Note: To convert from concentrated to non-concentrated, OUT all DCS units and re-subscribe the handsets.

The CDCS conversion routine prints each TN as it is moved, in the following format:

500 TN 1 s c 00 = DCS TN L S C Index#.

where: L S C = virtual TN

Index# = default of the unit number of the 500 type set.

LD 20 – Print actual DMC8 TN and virtual DMC8 TN list.

Prompt	Response	Description
REQ	PRT	Request.
TYPE	DCS	Digital Cordless Set.
TN	l s c	Terminal Number for DMC8 card on IPE shelf or Cabinet
	l	Virtual Terminal Number on an IPE shelf or Cabinet
	l s c u	Terminal Number for Large System
	c u	Terminal Number for Small System and Succession 1000

The print routine outputs the following format:

INDX Index # VTN lll s cc uu

where: Index # = Index number of virtual TN.

 lll s cc uu = Virtual TN of unit.

LD 81 – Print DCS features.

Prompt	Response	Description
REQ	LST	Request.
FEAT	VSIT	Feature Request - DECT visitors.
HMDN	Xx / <cr>	HoMe Directory Number. Specify a single HMDN or print all HMDN on system.

The LD 81 output format is as follows:

**DCS Cust# Local DN TN lll s cc uu HMDN Home
DN Last Activity Date.**

where:

- Cust# = Customer Number
- Local DN = Local Directory Number of user
- lll s cc uu = TN of unit
- Home DN = Home directory number of user
- Last Activity Date = Last date of service change activity for user

LD 83 – Prints DCS terminal numbers with a unit type of DCS instead of 500.

Operating the MSMN feature

To activate the MSMN feature, perform the following steps.

- 1 Turn the handset on within the coverage range of a visited Companion DECT system.
- 2 Enter the coverage range of a visited Companion DECT system from another Companion DECT system with the handset turned on.

To deactivate the MSMN feature, perform the following steps.

- 1 Turn the handset off within coverage range of the visited Companion DECT system. (The handset must have the DECT Detach feature.)
- 2 Turn the handset on at the home Companion DECT system. (Any CFW related to the handset is cancelled.)
- 3 Enter the coverage range of the home Companion DECT system with the handset on. (Any CFW related to the handset is cancelled.)

System administration

Contents

This section contains information on the following topics:

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Adding DECT systems	424
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Configuring concentrated handsets on a PBX.	456
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Enabling subscriptions	469
Activating the PIN on the handsets	471
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Subscribing the C4050 handset.	480
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Updating data on OTM or updating data on a DECT system.	502
Provisioning a DECT system remotely.	504
Subscribing a DECT system remotely	507
Modifying system properties.	510
Keeping or removing non-operational DMC8 cards from OTM	527

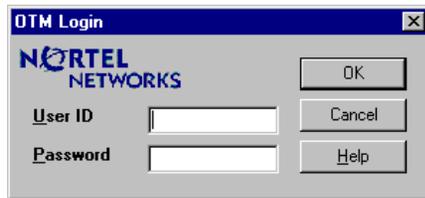
Keeping or removing non-operational base stations from OTM 528
 Resolving a subscription configuration mismatch 529
 User Access security 531
 Troubleshooting 534

Windows access to the DECT application

For access from a web-based browser, see “Web-based browser access to the DECT application” on page 415.

Logging into the OTM

Figure 238
OTM login dialog box



Complete the following steps.

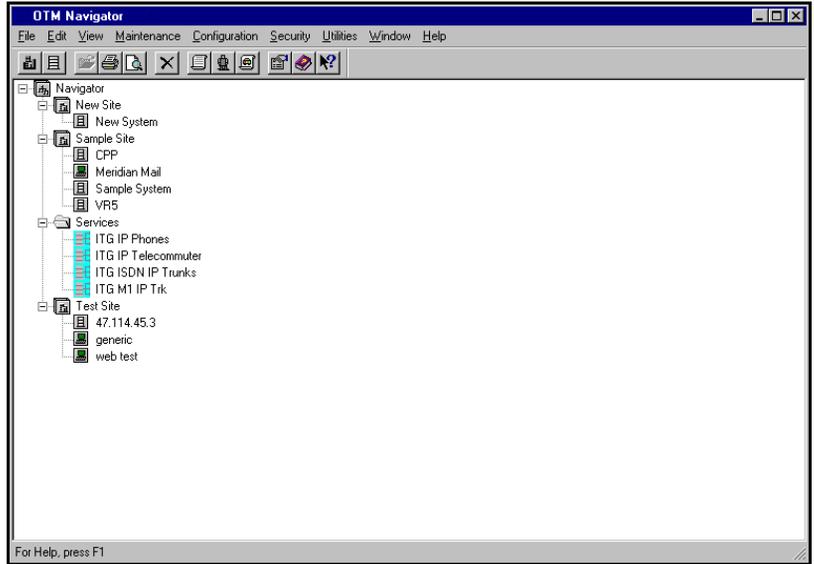
Table 142
Login to the OTM

Step	Action
1	Access the OTM Login dialog box.
	Click on Start>Programs>OTM .
2	Login.
	Enter User ID , Password , and click OK .



Selecting the PBX that supports DECT

Figure 239
OTM Navigator window



Complete the following step.

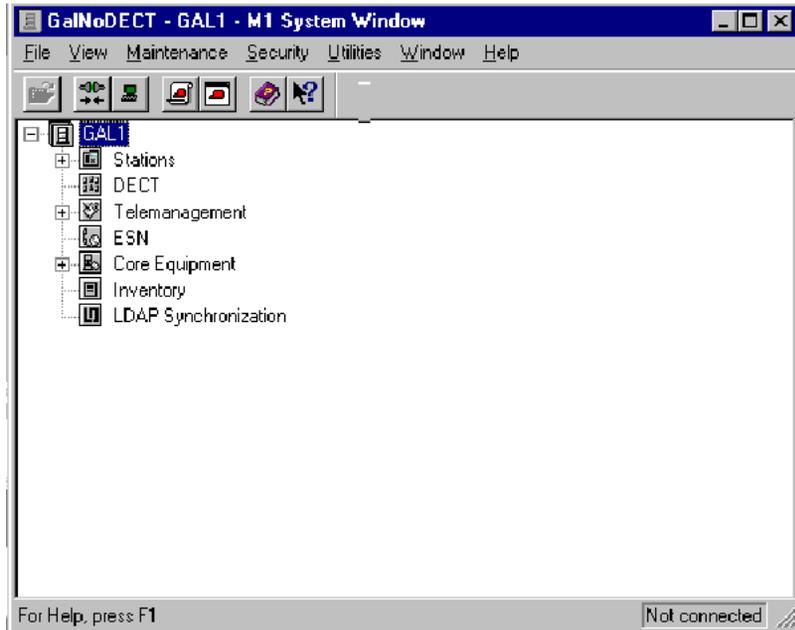
Table 143
Selecting the PBX that supports DECT

Step	Action
1	Select the system.
	Double click on XXX (shown as Sample System in Figure 239).



Launching the DECT Application

Figure 240
System Window



Complete the following step.

Table 144
Launching the DECT application

Step	Action
1	Launch the DECT application.
	Double click on DECT , or pull-down File menu and click DECT .



Web-based browser access to the DECT application

For more detailed information on web-based browsers, see *Optivity Telephony Manager: System Administration (553-3001-330)*.

MS Internet Explorer and VeriSign Digital Certificates

If using Internet Explorer as a web browser on Windows NT4 Server, Windows NT4 Workstation or Windows 9x platforms, it is necessary to import the VeriSign Class 3 certification into the client authentication repository.

The VeriSign certificates must have the same characteristics, including expiration date. The certificates are used to sign the OTM DECT applet. The VeriSign certificates must be in the Internet Explorer certificate store so that the Java Plug-in 1.2.2 can recognize the OTM DECT certificate.

If the OTM DECT certificate is not recognized, the system generates a **Fatal navigational error**.

Procedure 5 Install VeriSign certificates

- 1 Using the web browser, follow the steps in Table 145 on page 416 to log on to the OTM server.
- 2 Ensure that the JRE (Java) version is the same (minimum JRE 1.2.2_006). To do this, at a command prompt on both the client and server side, enter
java -version
- 3 At the web client PC use the web browser to go to the following URL:
http://server_name/omdect/VeriSignCertificates.html
- 4 Click the VeriSign Class 3 certificates link.
A screen appears, asking if the VeriSignClass3CA.p7b file is to be saved, and where to save it.
- 5 Save that file to the local PC being used.
- 6 Right-click on the file. From the pop-up menu that appears, select **Install Certificate** to import the certificate.
- 7 An Installation Wizard appears. Click **Next** until installation is complete.

- 8 Connect to the OTM server using the Web Client, and log in. Launch OTM DECT for normal access.

Note: This procedure applies only to Internet Explorer web browsers. It is not applicable to Netscape.

Opening the Web Administrator Login

Figure 241
Internet Explorer and Netscape Communicator



Complete the following steps.

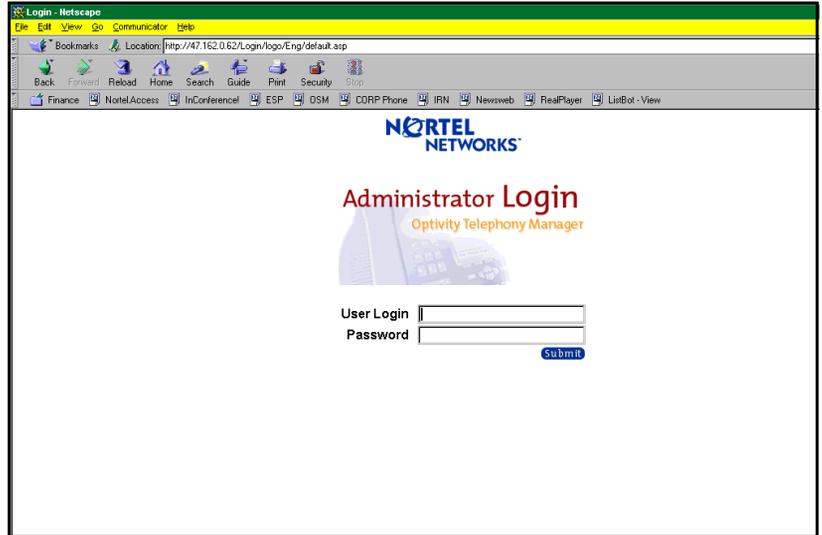
Table 145
Opening the Administrator Login

Step	Action
1	Open a Web browser.
	Click on Internet Explorer icon or Netscape Communicator icon.
2	Open the Administrator login screen.
	Enter the URL http://<otm_server_name>/admin or use the ip_ address .



Web Administrator Login

Figure 242
OTM web Administrator Login



Complete the following steps.

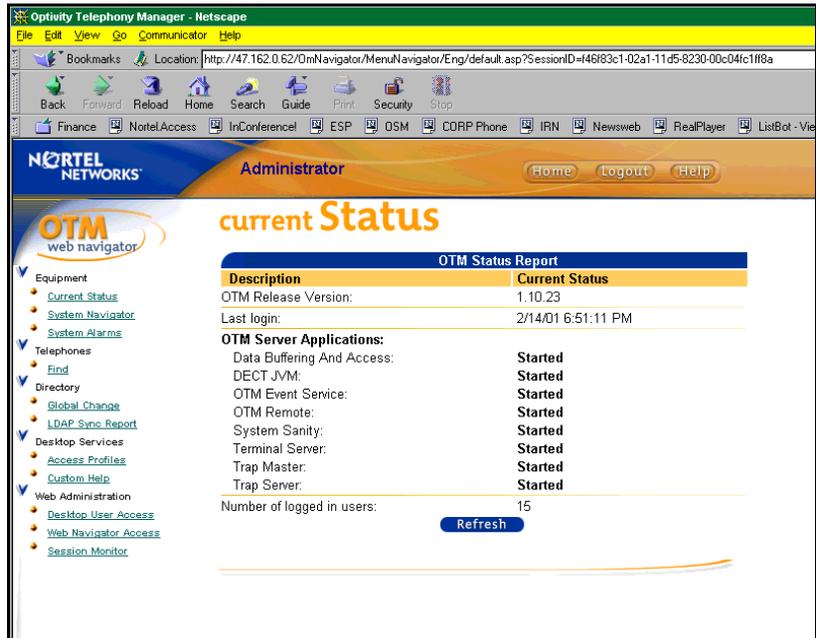
Table 146
Opening the OTM web Administrator Login

Step	Action
1	Select the Administrator Login.
	Click on the applet launch logo.
2	Login.
	Enter User Login , Password , and click Submit .



Opening the Web current Status

Figure 243
OTM web navigator current Status



Complete the following step.

Table 147
Opening the current Status

Step	Action
1	Open System Navigator screen.
	Click on System Navigator in the Equipment list on the left.



Opening the web System navigator

The System navigator is selected by clicking on **System Navigator** in the list on the left of the screen shown in Figure 243 on [page 418](#).

Figure 244
OTM web System navigator

The screenshot shows the OTM web System navigator interface. The browser title is "Optivity Telephony Manager - Netscape". The URL is "http://147.162.0.62/OtmNavigator/MenuNavigator/Eng/default.asp?SessionID=35e63011-02d4-11d5-8230-00c04c11f8a". The page displays the "System navigator" section with a "Voice Equipment" table and an "Applications" menu.

Site Name	System Name	System Type	Network Address
Sample Site	Sample System	M1	137.135.192.4
Sample Site	Mendrian Mail	Generic	
BB site	bb M1	M1	
BB site	O11	M1	
BB site	large	M1	

Maintenance Pages
Web TBS
OTM DECT
Alarms

Select System by clicking on its row in the Systems table on the left.
Launch application for the selected System by clicking its name in the right menu.

Complete the following steps.

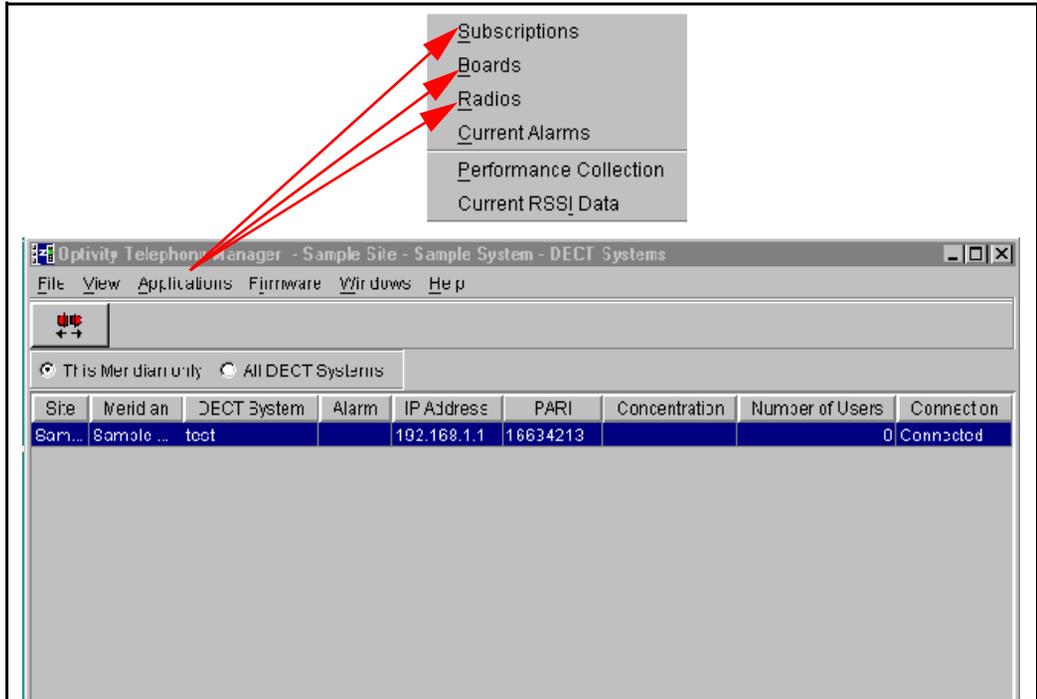
Table 148
Opening the web System navigator

Step	Action
1	Select a DECT system. Highlight a system in the Systems list.
2	Open the DECT systems window. Click on OTM DECT in the grey box on the left.

END

DECT Systems window

Figure 245
DECT Systems window



Opening Subscriptions, Boards, and RFP windows

Table 149
Opening Subscriptions, Boards, and RFP windows

Step	Action
1	Select a DECT system. Highlight a system from the list.
2	Open one of the following from the DECT Systems window: <ul style="list-style-type: none"> • Subscriptions window • Boards (DMC) window • Radios (base station) window
	Click on the appropriate entry in the Applications pull-down menu.



Connecting to a DECT system

Complete the following steps.

Table 150
Connecting to a DECT system (Part 1 of 2)

Step	Action
1	Select a DECT system from the DECT Systems window list. Highlight a DECT system.

Table 150
Connecting to a DECT system (Part 2 of 2)

Step	Action
2	Perform one of the following actions from the DECT Systems window: <ol style="list-style-type: none"><li>1 connect to a DECT system<li>2 disconnect from a DECT system<li>3 lock a connection to a DECT system<li>4 unlock a connection from a DECT system
	From the Applications pull-down menu click on the following items, or click on the following icon: <ol style="list-style-type: none"><li>1 Connect or  (green)<li>2 Disconnect or  (yellow)<li>3 Lock or  (red)<li>4 Unlock or  (yellow)

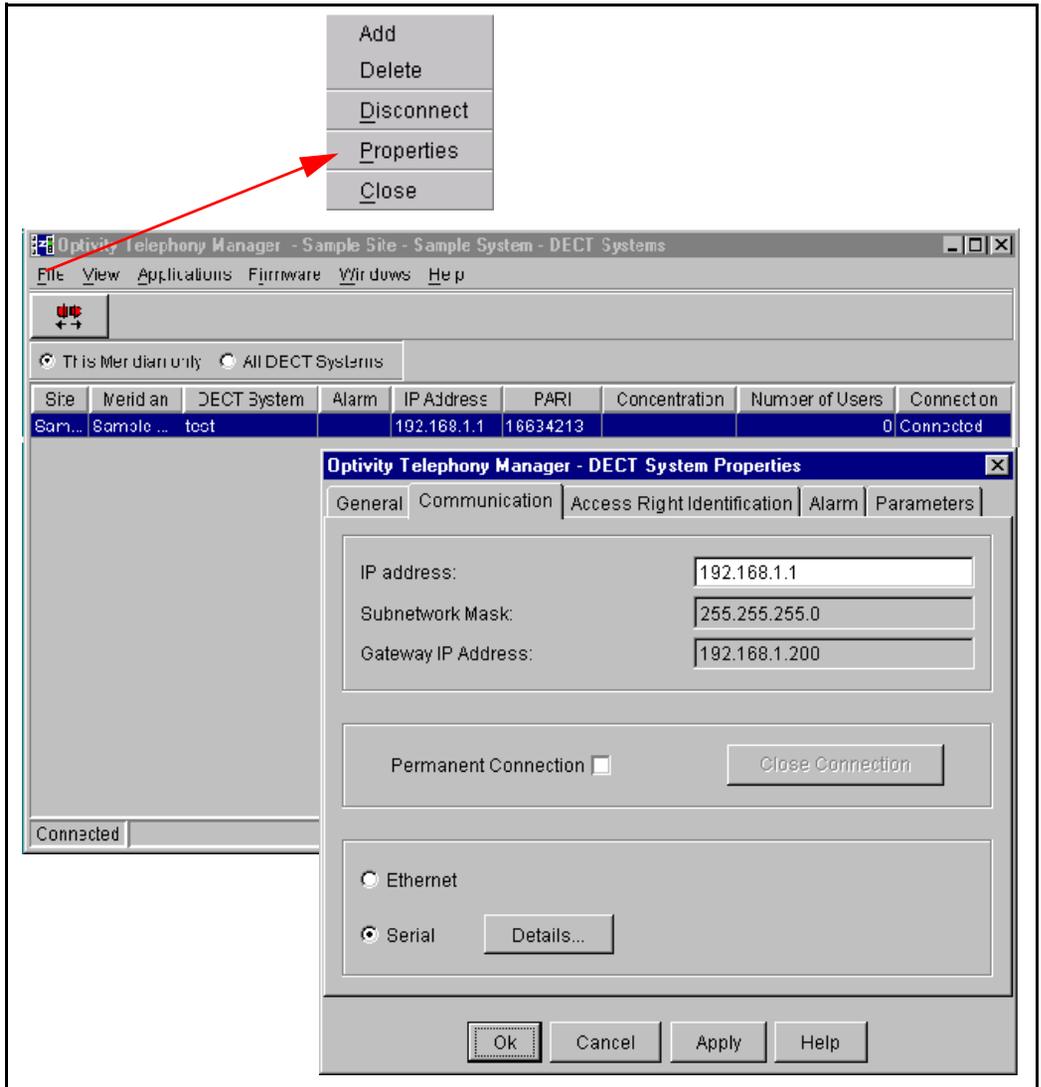


Note: While the Connection status is **Connecting** or **Disconnecting**, the Connect/Disconnect tool is disabled. The status bar shows the connection progress.

Establishing a permanent connection to a DECT system

Figure 246

DECT Systems window and DECT System Properties window



Complete the following steps.

Table 151
Establishing a permanent connection to a DECT system

Step	Action
1	Select a DECT system from the DECT Systems window list.
	Highlight a DECT system.
2	Connect to a DECT system.
	From the Applications pull-down menu, click on Connect or click on the  (green) icon.
3	Open the Properties dialog.
	From the File pull-down menu, click on Properties .
4	Select Permanent Connection.
	Check the Permanent Connection box.
5	Accept the changes.
	Click on the OK button.



Adding DECT systems

Adding a DECT system involves:

- 1 “Adding new site properties” on [page 425](#)
- 2 “Adding the system on the OTM server” on [page 427](#)
- 3 “Adding properties – General tab” on [page 429](#)
- 4 “Adding a Communications Profile for DECT application” on [page 431](#)
- 5 “Adding the System Data Properties” on [page 433](#)
- 6 “Adding the System Applications Properties” on [page 435](#)
- 7 “Adding the Customer Properties” on [page 437](#)

- 8 “Adding the Customer0 General Properties” on [page 439](#)
- 9 “Adding the Customer0 Features Properties” on [page 441](#)
- 10 “Adding the Customer0 Numbering Plans Properties” on [page 443](#)

Adding new site properties

Figure 247
New Site Properties

New Site Properties

General

Site Name **Short Name**

Second Site S2 Add System...

Site Location

Address
2305 Mission College Blvd.

City State/Province
Santa Clara CA

Country Zip/Postal Code
USA 95052

Contact Information

Name
Administrator

Phone Number Job Title
555-1212 System Admin.

Comments

OK Cancel Apply Help

Complete the following steps.

Table 152
Adding new site properties

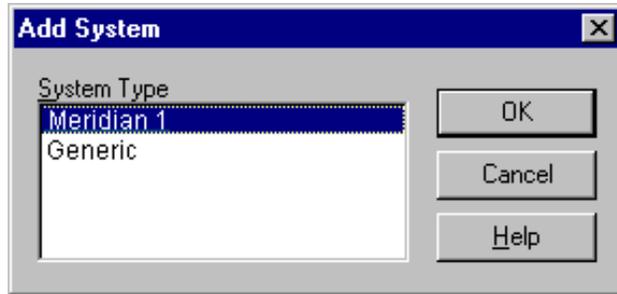
Step	Action
1	Open the New Site Properties window.
	In the OTM Windows Navigator, choose Add Site from the Configuration menu.
2	The Site Name appears in the Navigator tree. The Short Name is an abbreviated site name that displays in the Alarm Banner.
	Enter the Site Name and Short Name . Note: Bold fields in the dialog sheets indicate required information.
3	In the Site Location box.
	Enter the Site Location information.
4	In the Contact Information box.
	Enter the contact name and related information, and click Apply .
5	To add a new system to this site.
	Click Add System .
6	When the Site information is entered, click one of the following buttons to add the site to the Navigator tree.
	<p>OK adds the site and closes the property sheet.</p> <p>Apply adds the site and leaves the property sheet open allowing another system to be added to this site (repeat step 5 to add another system).</p> <p>Cancel closes the dialog box without adding the site.</p>



Adding the system on the OTM server

As many systems (including non-Nortel Networks systems) as the license permits can be added to a site. Administrator privileges are required to add a system.

Figure 248
Add System



Complete the following steps.

Table 153
Adding the PBX on the OTM server (Part 1 of 2)

Step	Action
1	In the Navigator window, select the site.
	If adding a new system from within the New Site Properties window, go to step 3 in this procedure.
2	Open the Add System dialog.
	Choose Add System from the Configuration menu or the right mouse button pop-up menu.

Table 153
Adding the PBX on the OTM server (Part 2 of 2)

Step	Action
3	Program the Add System dialog box. It might be necessary to install additional software to enable other system types not listed here. Follow the installation instructions included with the order.
	Select the system type, and then click OK .



Adding properties – General tab

Figure 249
New System Properties – General tab

The screenshot shows a dialog box titled "New System Properties" with a close button (X) in the top right corner. The dialog has five tabs: "General" (selected), "Communications", "System Data", "Applications", and "Customers".

Under the "General" tab, there are three input fields: "System Name", "Short Name", and "System Type". The "System Type" field contains the text "Meridian 1".

Below these fields is a section titled "System Location" with a checkbox labeled "Same as Site". Under this section are four input fields: "Address", "City", "State/Province", "Country", and "Zip/Postal Code".

Below the "System Location" section is a section titled "Contact Information" with a checkbox labeled "Same as Site". Under this section are three input fields: "Name", "Phone Number", and "Job Title".

At the bottom of the dialog is a "Comments" text area.

At the bottom of the dialog are four buttons: "OK", "Cancel", "Apply", and "Help".

Complete the following steps.

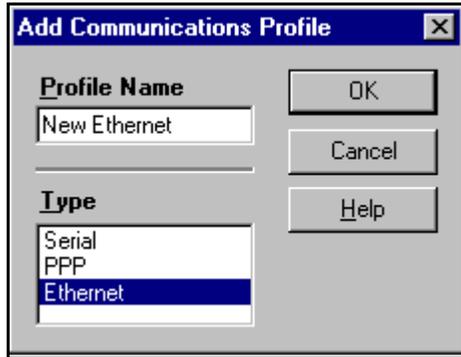
Table 154
Adding the properties – General

Step	Action
1	Select the General tab.
	Click the System Properties – General tab.
2	Program the System Name and Short Name (required fields), and other information as needed.
	Enter the System Name and Short Name .
3	System Location and Contact Information can be the same as site information.
	Click the Same as Site checkbox.
4	Accept changes.
	Click the OK button.



Adding a Communications Profile for DECT application

Figure 250
Add Communications Profile



Complete the following steps.

Table 155
Adding a new Communications Profile (Part 1 of 2)

Step	Action
1	In the Navigator window, select the Sample Site.
	Double click on Sample Site .
2	Choose the Properties dialog.
	Click on Properties from the File menu.
3	Open the Add Communications Profile dialog.
	Click on the Communications tap and click Add .
4	Select a communications type.

Table 155
Adding a new Communications Profile (Part 2 of 2)

Step	Action
	Highlight Ethernet in the Type box. Note: The DECT application does not use the Communications Profile. Unless there is another application that requires a specific Communications Profile, choosing Ethernet is the least complicated profile to implement.
5	Program the Profile Name.
	Enter a Profile Name .
6	Accept the changes.
	Click OK .



Adding the System Data Properties

Figure 251
System Properties – System Data tab

Sample Site - Sample System - System Properties

General Communications System Data Applications Customers

Machine Information

Machine: 61C 060E Release: 25

Issue: 25 System ID: Cutover Date: 2/11/2000

System Parameters

Maximum Speed Call Lists: 100 Maximum ACD Agents: 0

MARP allowed Multiple Loop DN

Packages

Enabl...	↑O...	Code	Description
<input checked="" type="checkbox"/>		1	OPTF Extended PBX Features
<input checked="" type="checkbox"/>		2	CUST Multi-Customer
<input checked="" type="checkbox"/>		3	AIOD Auto. Inden. of Out. Dial
<input checked="" type="checkbox"/>		4	CDR Call Detail Recording
<input checked="" type="checkbox"/>		5	CTY CDR - TTY
<input checked="" type="checkbox"/>		6	CLNK CDR - Mag. Tape
<input checked="" type="checkbox"/>		7	RAN Recorded Announcements

Enable All Disable All

OK Cancel Apply Help

Complete the following steps.

Table 156
Adding the System Data Properties

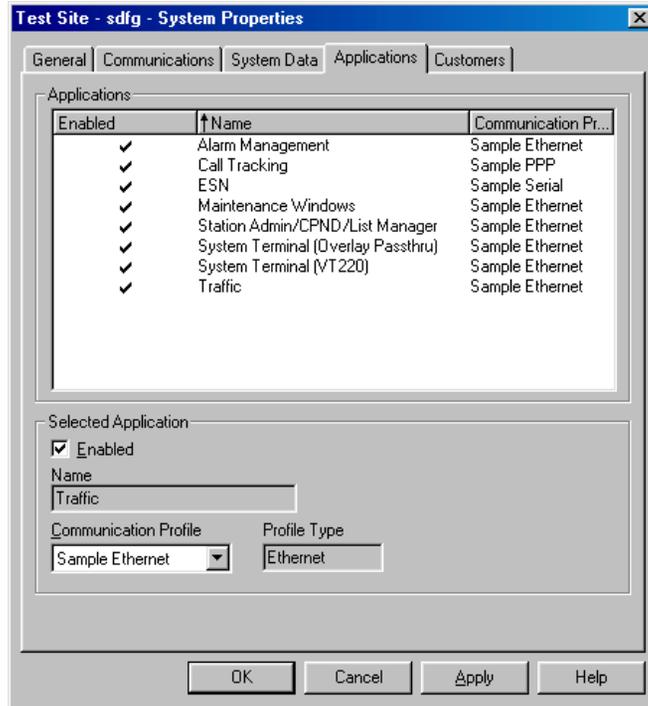
Step	Action
1	Select the System Data tab.
	Click the System Properties – System Data tab.
2	Program the Machine Information.
	Enter the Machine type and Release version for the system. Note: For example, for a Meridian 1 Option 61C CP PII running Release 25 software, enter 61C in the Machine field and use the drop down box to select 25 for Release.
3	Program the System Parameters.
	Enter the appropriate values for the system.
4	Program Packages.
	Enable or disable M1 packages as appropriate for the system.
5	Note: This data can be copied directly from an installed switch by scheduling an upload with the File menu Update System Data command in the System window. Update System Data uses the communication profile for Station Administration. However, configure the Release number here first to allow available applications to appear properly in the Applications Tab.



Adding the System Applications Properties

This tab defines the OTM applications that will appear in the System window and the communications profile to be used with each application. An application must be enabled for it to be available in the System window.

Figure 252
System Properties – Applications



Complete the following steps.

Table 157
Adding the System Applications Properties

Step	Action
1	Select the system Applications tab.
	Click the System Properties – Applications Data tab.
2	To enable an application.
	<ul style="list-style-type: none"> • Select the application in the Applications box. • Select a Communications Profile from the drop-down list in the Selected Application box. • A checkmark appears next to the application and the Enabled box is also checked.
3	To disable an application.
	<ul style="list-style-type: none"> • Select the application in the Applications box. • In the Selected Application box, click the Enabled checkbox to remove the checkmark.



Adding the Customer Properties

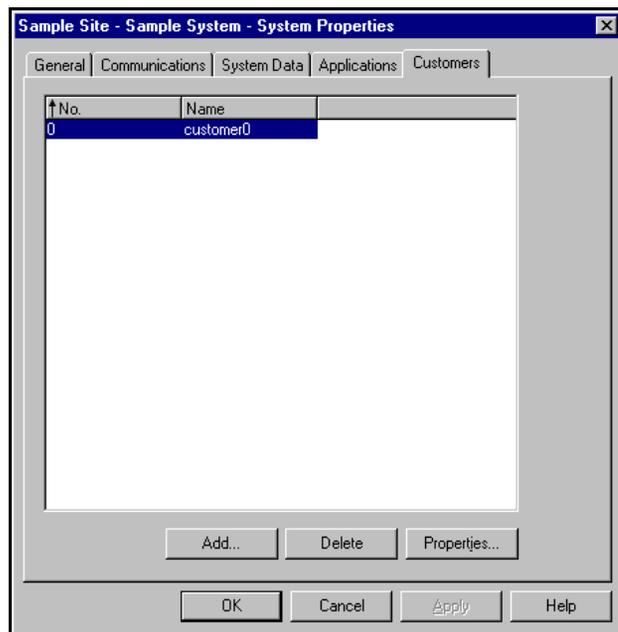
This tab lists the customers currently defined for this system. The following action can be performed:

- add new customers
- delete customers
- review the properties of a selected customer

When a new customer is added, configure the features and numbering plans that are available to the customer. This information is not automatically updated. It must be updated by using LD 15 Customer Data Block.

Note: Customer information is required for System Administration/CPND and ESN applications.

Figure 253
System Properties – Customers



Complete the following steps.

Table 158
Adding the customer properties

Step	Action
1	Select the system Customers tab.
	Click the System Properties – Customers Data tab.
2	Select a customer number.
	Click OK .
3	Update the PBX.
	Use LD 15 Customer Data Block.



Adding the Customer0 General Properties

Figure 254
Customer0 Properties – General

The screenshot shows a dialog box titled "Customer0 - [Customer 0] Properties" with a close button (X) in the top right corner. The dialog has three tabs: "General", "Features", and "Numbering Plans", with "General" selected. The "General" tab contains the following fields:

- Customer Name:** A text box containing "Customer0".
- Number:** A text box containing "0".
- Directory Numbers:** A group box containing three empty text boxes.
- HLOC:** A text box containing "30".
- Scheduler System ID:** A group box containing:
 - User ID:** A text box containing "admin1".
 - Password:** A text box containing "xxxxx".

At the bottom of the dialog are four buttons: "OK", "Cancel", "Apply", and "Help".

Complete the following steps.

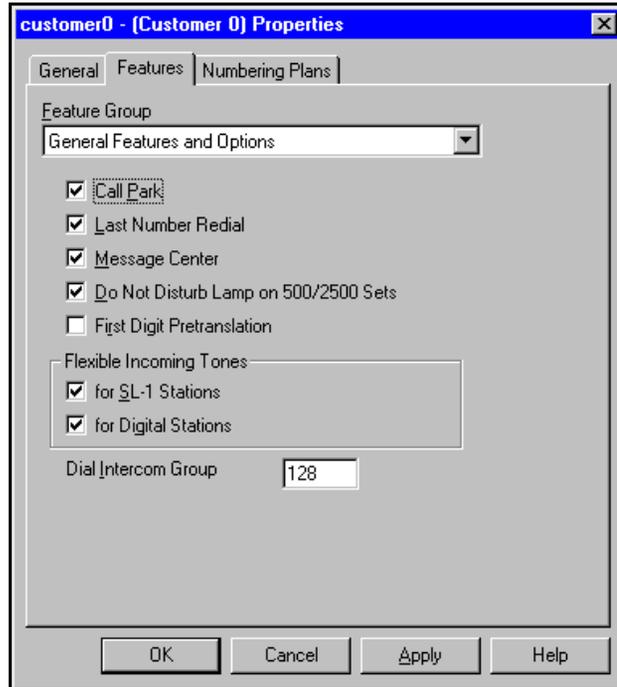
Table 159
Adding the Customer0 General Properties

Step	Action
1	Select the General tab.
	Click the General tab.
2	Program the Customer Name and Number.
	Enter the Customer Name and Number .
3	Program the Home Location Code.
	Enter the HOLC as defined in LD 90.
4	Program the Scheduler System ID , if using applications with scheduled activities, such as Station Administration/CPND, ESN, and Traffic.
5	Accept changes.
	Click Apply .



Adding the Customer0 Features Properties

Figure 255
Customer 0 Properties – Features



Complete the following steps.

Table 160
Adding the Customer0 Features Properties

Step	Action
1	Select the Features tab.
	Click the Features tab.
2	Program Features Group.
3	Accept changes.
	Click Apply .



Adding the Customer0 Numbering Plans Properties

Figure 256
Customer Properties – Numbering Plans

DID	DN Type	from	to
✓	ACD DN	4000	4010
✓	ACD DN	8900	8910
	ACD Position ID	4020	4099
	ESN AC1	6	6
✓	Message Center DN	5500	5599
	Private Line DN	5600	5699
✓	Regular DN	4100	4999
	Regular DN	5000	5499

Selected Line

DN Type: ACD DN [Add]

Range: from 4000 to 4010 [Delete]

Direct Inward Dial

Exchange: 555 []

Usage: []

OK Cancel Apply Help

Complete the following steps.

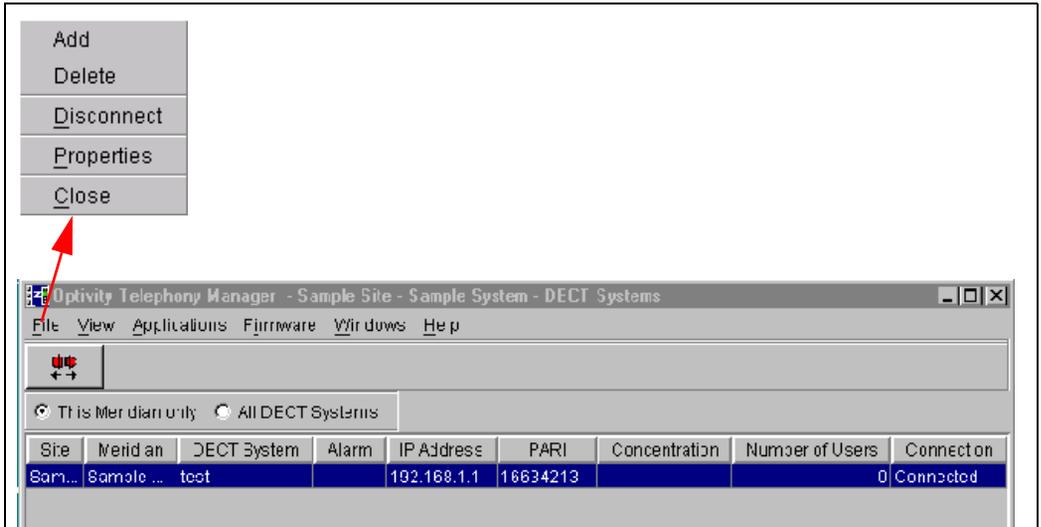
Table 161
Adding the Customer0 Numbering Plans Properties

Step	Action
1	Select the Numbering Plans tab.
	Click the Numbering Plans tab.
2	Program the customer information appropriate for the PBX.
3	Accept changes.
	<p>Click one of the following buttons to save the information:</p> <ul style="list-style-type: none"> • OK adds the customer and returns to the System properties sheet. • Apply adds the customer and leaves the Customer properties open so that other information can be added for this customer. • Cancel closes the dialog box without adding the customer.
END	

Note: At this point the DECT application is installed in the OTM server.

Deleting DECT systems

Figure 257
DECT Systems window



Complete the following steps.

Table 162
Deleting DECT systems (Part 1 of 2)

Step	Action
1	Using Windows, login to OTM. Select the system that supports DECT. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports DECT. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .

Table 162
Deleting DECT systems (Part 2 of 2)

Step	Action
3	Select a DECT system to delete.
	Highlight a DECT system from the list.
4	Delete the DECT system.
	From the File pull-down menu, click on Delete .



Configuring non-concentrated handsets

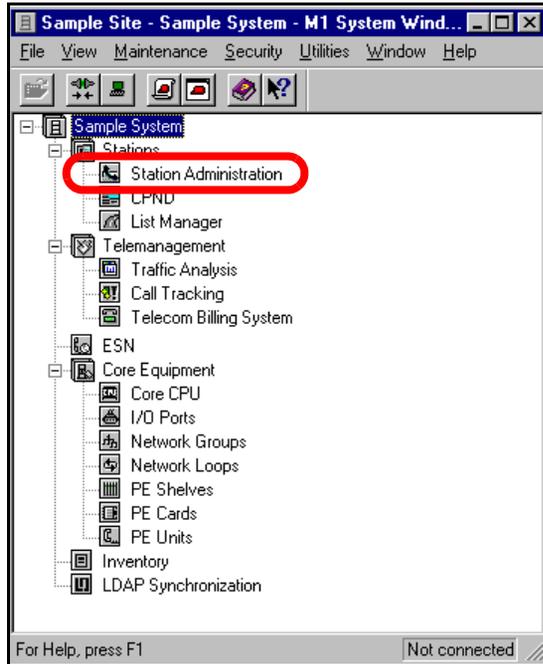
For information about System Administration, see *Option 11C Customer Controlled Backup and Restore (CCBR)* (553-3011-330).

Configuring non-concentrated handsets involves:

- 1 “Accessing the Add Station window” on [page 449](#)
- 2 “Adding 500 analog standard” on [page 450](#)
- 3 “Accessing features” on [page 451](#)
- 4 “Accessing wireless type” on [page 452](#)
- 5 “Selecting wireless type” on [page 453](#)
- 6 “Selecting DECT wireless set” on [page 454](#)
- 7 “Accepting changes” on [page 455](#)

Opening Station Administration window

Figure 258
M1 System Window



Complete the following step.

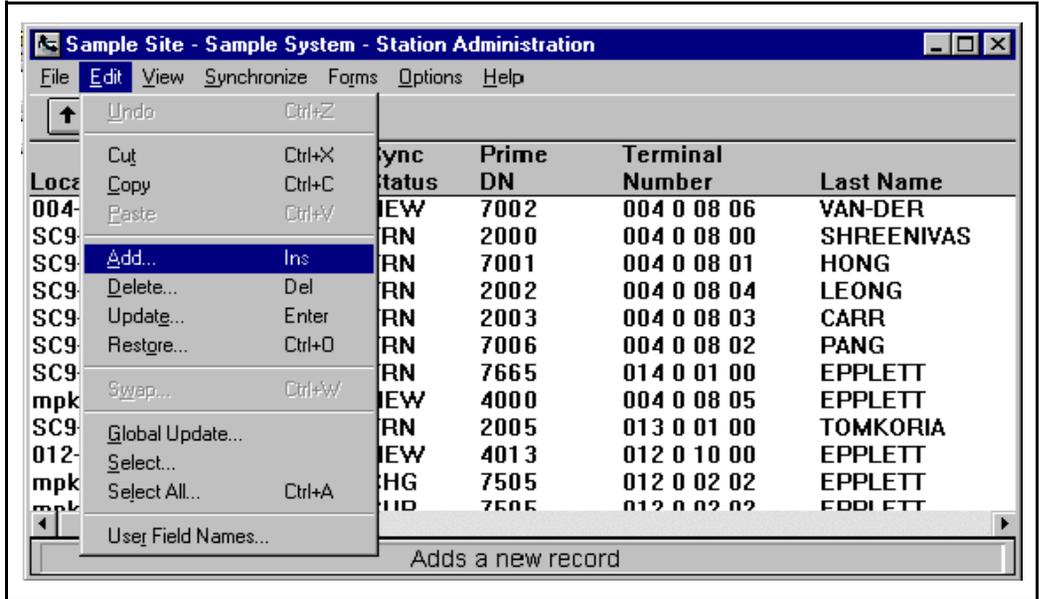
Table 163
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on Station Administration in the M 1 System Window.



Accessing the Add Station window

Figure 259
Station Administration window



Complete the following steps.

Table 164
Accessing Add Station window

Step	Action
1	Access Add Station window.
	From the Edit pull-down menu, click on Add .



Adding 500 analog standard

Figure 260
Add Station window

The screenshot shows a dialog box titled "Add Station". At the top, there are two fields: "Number of Stations to Add" with a value of "1" and "Customer Number" with a value of "0". Below these are two columns: "Template" and "Instrument". The "Template" column lists "2616Templ", "3904Templ", and "500Templ". The "Instrument" column lists "2500 Digitone Standard", "500 Analog Standard" (which is highlighted in blue), "DCS Digital Cordless Set", "I2004", "M2006 2006 Digital", "M2008 2008 Digital", "M2009 2009 Digital", "M2016S 2016 Digital", "M2018 2018 Digital", and "M2018S 2018S Digital". Below the list are several checkboxes: "Automatic Directory Number Assignment", "Automatic Terminal Number Assignment", "Phantom", "Create Portable from Location" (with an empty text box next to it), and "Host Terminal". At the bottom are three buttons: "OK", "Cancel", and "Help".

Complete the following step.

Table 165
Adding 500 analog standard

Step	Action
1	Add 500 analog standard.
	Highlight 500 Analog Standard , and click on the OK button.



Accessing features

Figure 261
500 dialog

Complete the following step.

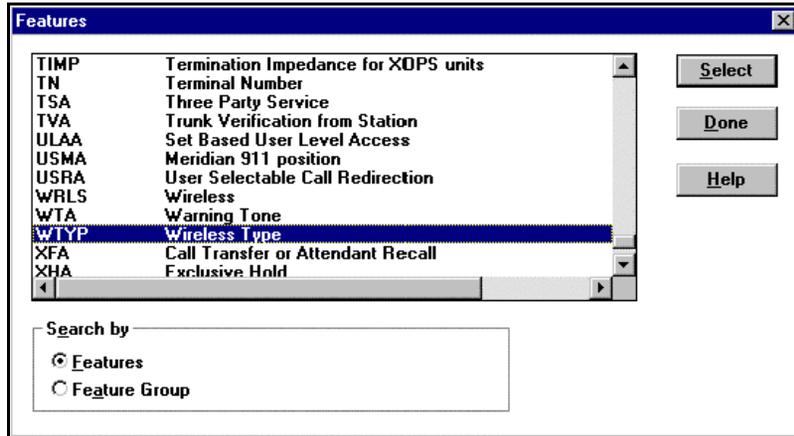
Table 166
Accessing features

Step	Action
1	Access features. Click on the Features button.



Accessing wireless type

Figure 262
Features window



Complete the following step.

Table 167
Accessing wireless type

Step	Action
1	Access wireless type.
	Highlight Wireless Type , and click on the Select button.



Selecting wireless type

Figure 263
Wireless window

The screenshot shows a dialog box titled "Wireless". It has three dropdown menus: "Call Party Name Display (CNDA)" with "Denied" selected, "Wireless (WRLS)" with "Yes" selected, and "Wireless Type (WTYP)" with "Yes" selected. Below the dropdowns are three buttons: "OK", "Cancel", and "Help".

Complete the following step.

Table 168
Selecting wireless type

Step	Action
1	Select wireless type. From the Wireless Type (WTYP) pull-down menu, click on YES .



Selecting DECT wireless set

Figure 264
Wireless window

Complete the following step.

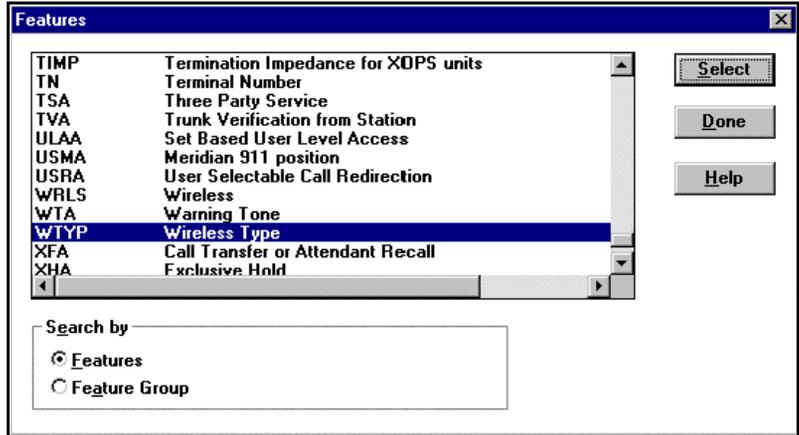
Table 169
Selecting DECT wireless set

Step	Action
1	Select DECT handset.
	From the Wireless Type (WTYP) pull-down menu, click on DECT Wireless Set , and click on the OK button.



Accepting changes

Figure 265
Features window



Complete the following step.

Table 170
Accepting changes

Step	Action
1	Accept changes.
	Click on the Done button.

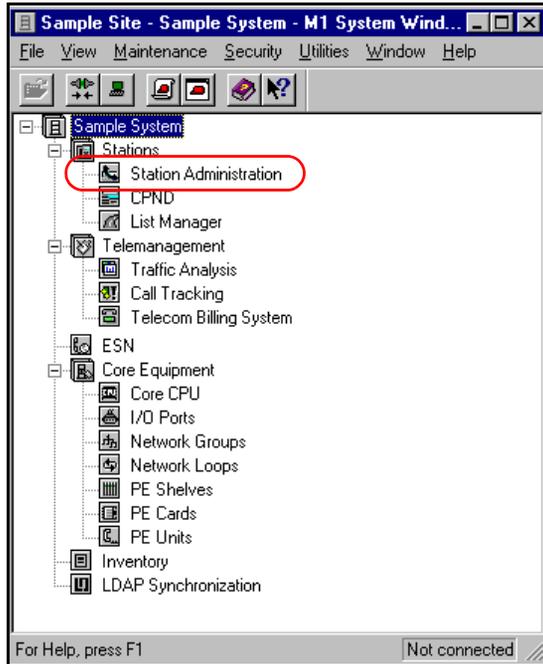
Configuring concentrated handsets on a PBX

Configuring non-concentrated handsets involves:

- 1 “Opening the Station Administration window” on [page 457](#)
- 2 “Accessing the Add Station window” on [page 458](#)
- 3 “Selecting Digital Cordless Set” on [page 459](#)
- 4 “Selecting features” on [page 460](#)
- 5 “Selecting wireless type” on [page 461](#)
- 6 “Selecting Visit DECT Set or local calling” on [page 462](#)
- 7 “Selecting an index” on [page 463](#)
- 8 “Provisioning the hardware” on [page 464](#)
- 9 “Accepting changes” on [page 465](#)
- 10 “Single line features” on [page 466](#)
- 11 “Opening the Station Administration window” on [page 457](#)
- 12 “Opening the Station Administration window” on [page 457](#)

Opening the Station Administration window

Figure 266
M1 System Window



Complete the following step.

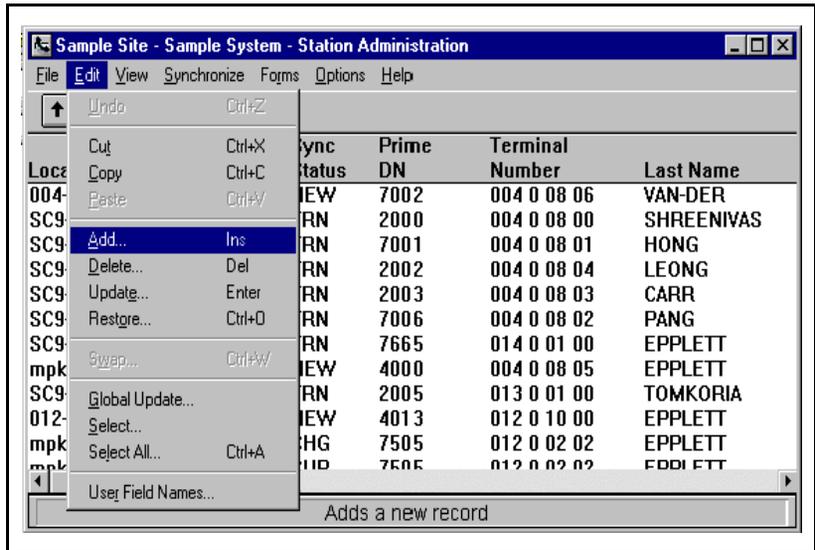
Table 171
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on Station Administration in the System Window.



Accessing the Add Station window

Figure 267
Station Administration window



Complete the following step.

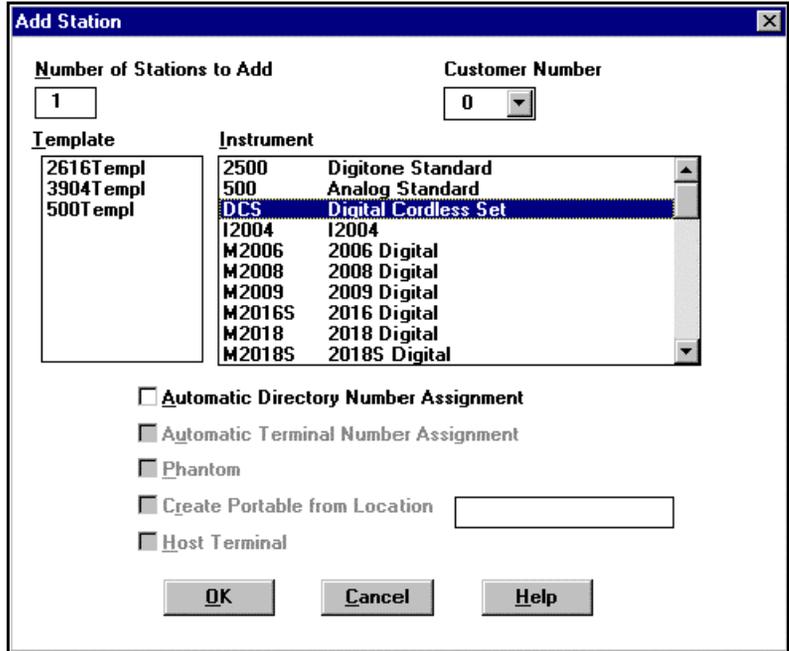
Table 172
Accessing Add Station window

Step	Action
1	Access Add Station dialog.
	From the Edit pull-down menu, click on Add .



Selecting Digital Cordless Set

Figure 268
Add Station dialog



Complete the following step.

Table 173
Selecting Digital Cordless Set

Step	Action
1	Select Digital Cordless Set.
	Highlight DCS , and click on the OK button.



Selecting features

Figure 269
DCS window

The screenshot shows a window titled "DCS" with the following elements:

- First Name:** Text input field with a "Directory" button to its right.
- Last Name:** Text input field with a "Clear" button to its right.
- Single Line Features:** A list box containing:
 - CFW Forward
 - SCU SpdCall User
 - SCC SpdCall Cntl** (highlighted)
 - SSU Sys Speed
 - PHD PermanentHld
 Below the list are "Set" and "Clear" buttons.
- Speed Call List No.:** Text input field.
- Customer:** A dropdown menu showing "0".
- Location:** Text input field.
- Department:** Text input field.
- Virtual Terminal Number:** Text input field.
- Directory Number:** Text input field.
- CLID Entry:** Text input field.
- Hunt to:** Text input field.
- Buttons:** A vertical column of buttons on the right side: "OK", "Cancel", "Features", "Admin..", "Validate", and "Help".
- Keypad:** A 3x3 grid of black squares at the bottom center.

Complete the following step.

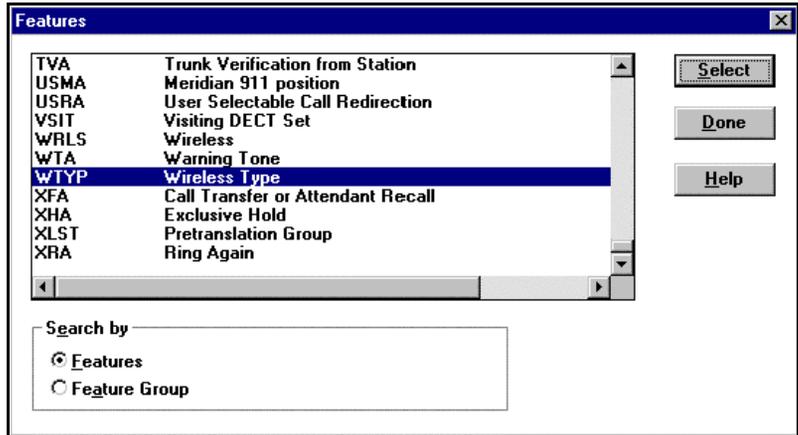
Table 174
Selecting features

Step	Action
1	Select features. Click on the Features button.



Selecting wireless type

Figure 270
Features window



Complete the following step.

Table 175
Selecting wireless type

Step	Action
1	Select wireless type.
	Highlight WTYP , and click the Select button.



Selecting Visit DECT Set or local calling

Figure 271
Wireless Visiting DECT Set

Complete the following steps.

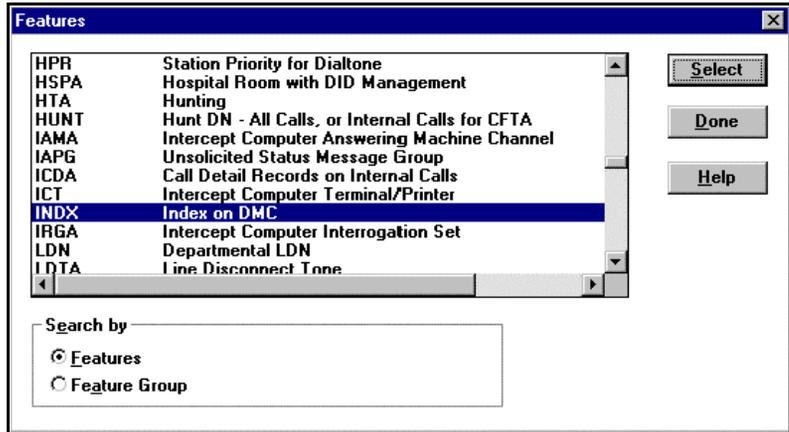
Table 176
Selecting Visit or local

Step	Action
1	Select Visit DECT Set as Yes if this handset is visiting this PBX. Select No if this handset is to be configured for local calling only.
	If Visiting DECT Set is Yes, go to step 2. If the handset is configured for local calling only, go to step 4.
2	Select visiting
	From the Visiting DECT Set (VSIT) list, select Yes .
3	Select a Home DN.
	Enter a DN in the Home Directory Number (HMDN) box.
4	Configure for local calling only.
	From the Visiting DECT Set (VSIT) list, select No .
5	Accept changes.
	Click on the OK button.



Selecting an index

Figure 272
Features window



Complete the following step.

Table 177
Selecting an index

Step	Action
1	Select an index.
	Highlight INDX , and click on the Select button.



Provisioning the hardware

Figure 273
Hardware Provisioning window

The screenshot shows a dialog box titled "Hardware Provisioning" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- DECT Mobility Controller (DMC): A text input field.
- Index on DMC (INDX): A text input field.
- Terminal Number (TN): A text input field.
- Card Density (CDEN): A dropdown menu currently displaying "Octal Density".
- Maximum Wireless Units (MWUN): A dropdown menu currently displaying "16".

At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help".

Complete the following steps.

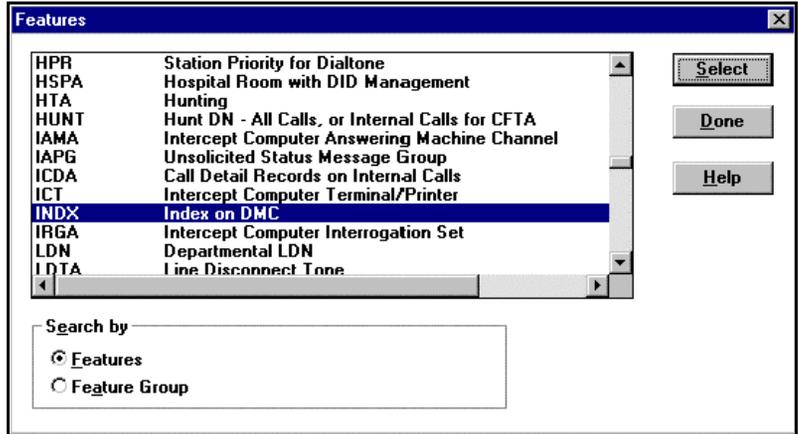
Table 178
Provisioning hardware

Step	Action
1	Select a DMC TN. Enter a TN in the DECT Mobility Controller (DMC) box.
2	Select an index. Enter an index in the Index on DMC (INDX) box. (Index range is 0 to 509.) Note: The Terminal Number (TN) is a virtual TN and selected by the PBX system. Note: Index 0-509 on PBX is seen as Index 1-510 in OTM.
3	Accept changes. Click on the OK button.



Accepting changes

Figure 274
Features window



Complete the following step.

Table 179
Accepting changes

Step	Action
1	Accept changes.
	Click on the Done button.



Single line features

Figure 275
500 window

Complete the following step.

Table 180
Single Line Features

Step	Action
1	For information on other Single Line Features.
	Refer to the OTM Station Administration in <i>Optivity Telephony Manager: System Administration</i> (553-3001-330).



Retrieving subscription data for handsets

Figure 276

DECT Subscriptions window, Synchronize DECT and Administration Config window

The screenshot shows the Optivity Telephony Manager interface. The main window is titled "Optivity Telephony Manager - GalNoDECT - GAL1 - DMC8-1 - Subscriptions". It features a menu bar (File, View, Edit, Operations, Help) and a toolbar with icons for adding, deleting, and refreshing. Below the toolbar are checkboxes for "Show Available", "Show Subscribed", "Show Enabled", and "Show Black Listed", along with a "DMC" dropdown menu set to "0 0 8". A table displays subscription data:

DMC TN	Index	Home DN	Local DN	Home	VTN	PARK	Status	PIN	Comment
0 0 8	1					16634213	Available	6831	

A context menu is open over the table, listing options: Configure, Set Default PARK, Enable (Ctrl+E), Disable, Force Disable, and Retrieve OTM Configuration. A red arrow points from the "Retrieve OTM Configuration" option to a dialog box titled "Optivity Telephony Manager - Synchronize DECT and Station Administration Configuration...".

The dialog box contains the text: "The following subscription entries are unknown to the OTM Station Administration application." Below this is a table:

DMC TN	Index	Keep in the OTM DECT Configuration
01 0 03	0	<input checked="" type="checkbox"/>
01 0 03	1	<input type="checkbox"/>
01 1 03	2	<input checked="" type="checkbox"/>
01 1 03	3	<input checked="" type="checkbox"/>

Below the table, it says: "Please select the subscription entries that must be kept in the OTM DECT configuration." There are "OK" and "Help" buttons at the bottom.

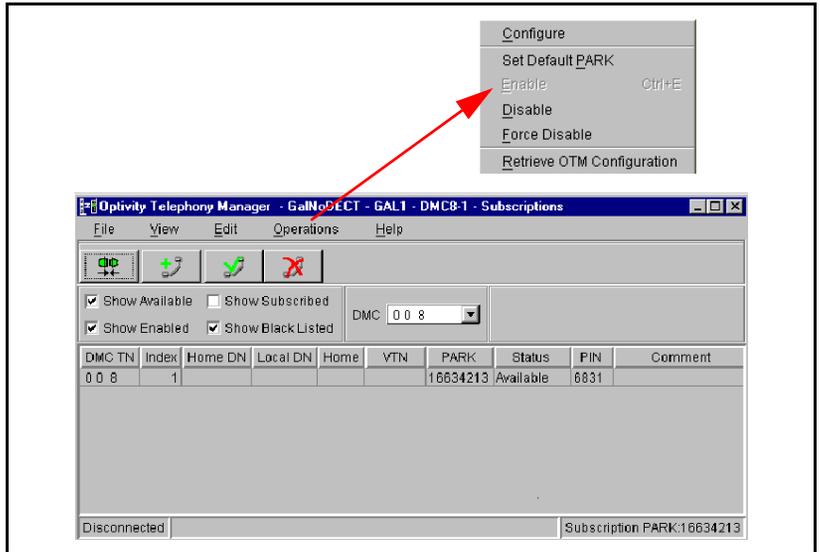
Complete the following steps.

Table 181
Retrieving subscription data for handsets

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Retrieve the subscription configuration data from the OTM Station Administration database.
	In the Subscriptions window, click on the Operations pull-down menu, click on Retrieve OTM Configuration .
5	Note: At this point, all handsets configured on OTM Station Administration are shown in the Subscriptions window. Open the Configure DECT Subscription dialog.
	Click the File pull-down menu. Click Add or  .
	

Enabling subscriptions

Figure 277
Subscriptions window



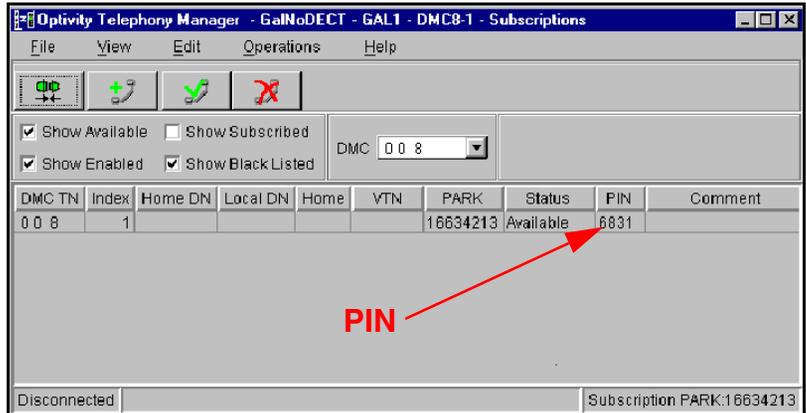
Complete the following steps for each handset:

Table 182
Enabling handsets

Step	Action
1	Note: At this point, there are no PINs shown in the Subscriptions window. Select a handset from the list.
	Click on one handset in the list to highlight a row.
2	Enable handsets.
	Click on the Operations pull-down menu. Click Enable or click on  .
	

Activating the PIN on the handsets

Figure 278
Subscriptions window



Complete the following step:

Table 183
Obtaining the PIN

Step	Action
1	<p>Note: At this point, in the Subscriptions window, the PINs are shown and the Status is Enabled.</p> <p>Subscribe the C4010, C4010Ex, C4040, and C4050 handsets.</p>
	<p>See “Subscribing the C4010, C4010 Ex, C4020 handsets” on page 472, and “Subscribing the C4050 handset” on page 480.</p>



Note: When a handset is subscribed, the Subscription window shows the Status column as Subscribed and does not show a PIN.

Subscribing the C4010, C4010 Ex, C4020 handsets

Subscribing the C4010, C4010Ex and C4020 handsets involves:

- 1 “Distributing handsets and installing battery chargers” on [page 473](#)
- 2 “Subscribing handsets” on [page 476](#)

Figure 279
C4010 handset and C4010 Ex handset

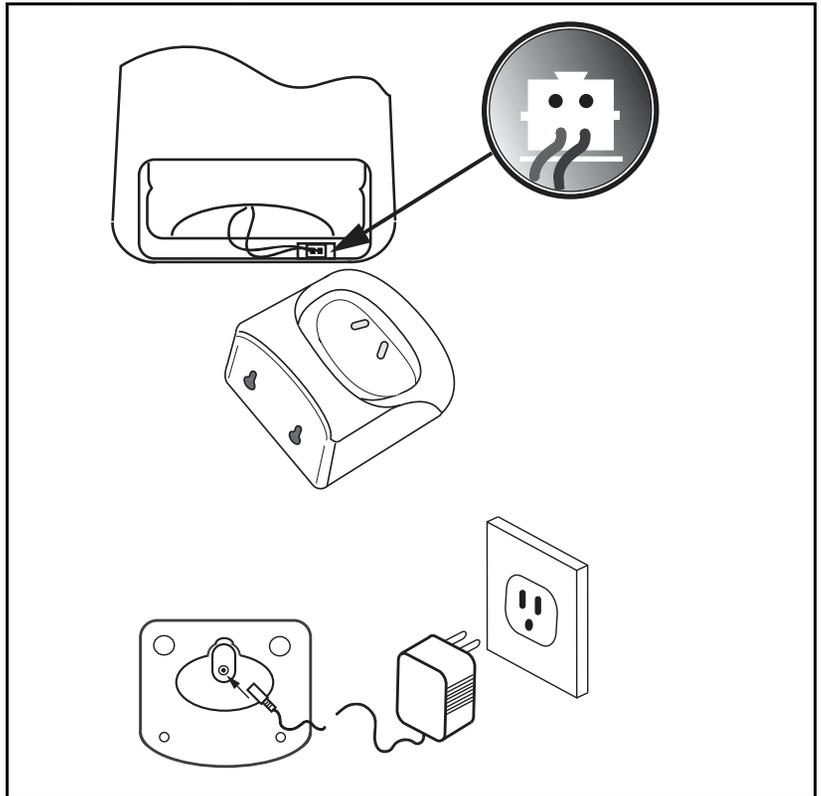


Distributing handsets and installing battery chargers

Consult the work order for a list of handset users and their locations.

	DANGER — Serious Injury
Never charge a C4010Ex battery in an explosive atmosphere.	

Figure 280
Battery details, charger details, and connections



Complete the following steps.

Table 184
Installing battery charger and charge batteries (Part 1 of 2)

Step	Action
1	Take the handset package to the user location.
2	Unpack the handset and its accessories, as applicable.
3	Insert the handset battery pack, as applicable. Note: Use only the approved battery for the C4010 Ex handset.
4	Unpack the handset battery charger and its accessories.
5	Mount the battery charger.
	Place the charger on the desk, or mount the charger on the wall, as applicable. Note: Never mount a battery charger in an explosive atmosphere.
6	Install the mounting screws. Use screws with a maximum diameter of 4 mm.
	Turn the two screws into the wall at a distance of 45 mm from each other. Make sure that the screw heads protrude by 2.5 to 3 mm.
7	Hang the charger on the screws.

Table 184
Installing battery charger and charge batteries (Part 2 of 2)

Step	Action
8	Install the power supply.
	Plug the power supply cable into the connector located on the side of the charger, then plug the ac adapter into the 230 V ac mains socket.
9	Place the handset into the charger.
	Note: The battery icon appears on the handset display screen indicating the battery is charging, whether the battery is installed or not.



CAUTION — Service Interruption

Charge the C4010, C4010 Ex, and C4020 battery at least 12 hours before using the handset for the first time. This will ensure maximum battery life.

Subscribing handsets

Consult the work order for a list of subscription names.

Complete the following steps.

Table 185
Subscribing C4010, C4010 Ex, C4020 handsets

Step	Action
1	Select Language.
2	Select Declare base . Press the Declare base key.
3	Declare base number? 12345678. Press the Ok key.
4	Enter code refers to the PIN code. Note: The Subscriptions screen displays the PIN. The PIN is only valid for 16 minutes. Enter the PIN. To delete the last digit that was entered, press Erase , or select the digit and enter a new digit. Press the Ok key.



Table 186
Entering handset name and DN identity

Step	Action
1	Select Menu .
	Press the Menu key.
2	Select Handset name .
	Dial 86.
3	Enter the Handset name and/or the handset DN to identify the handset.
	To enter a character, press keys 0 to 9 as shown in Table 187 on page 478. For example, to enter E press the 3 key twice. To move to the next character, pause three seconds. To delete a character, press Erase , or select the digit and enter a new digit. Note: Handset DNs are programmed in LD 10, not in the DECT database.
4	Confirm the name and DN.
	Press Ok .



Use the Southern handset keypad alphabet equivalent listed in [Table 187](#) for the following languages:

- English
- French
- German
- Dutch
- Spanish
- Italian

Table 187
Southern handset key pad alphabet equivalent

Key	1	2	3	4	5	6	7	8	9
0	0								
1	-	/	space	1	,	.	:	,	●
2	A	B	C	2	Á	À	Ä	ß	
3	D	E	F	3	É	È			
4	G	H	I	4	í	ì			
5	J	K	L	5					
6	M	N	O	6	Ñ	Ö	Ó	Ô	
7	P	Q	R	S	7				
8	T	U	V	8	Ü	Ú			
9	W	X	Y	Z	9				

Use the Northern handset key pad alphabet equivalent listed in [Table 188](#) for the following languages:

- English
- Portuguese
- Swedish
- Norwegian
- Finnish
- Danish

Table 188
Northern handset key pad alphabet equivalent

Key	1	2	3	4	5	6	7	8	9
0	0								
1	–	/	space	1	,	.	:	,	●
2	A	B	C	2	Å	Ä	Ã	Á	Æ
3	D	E	F	3	Ê				
4	G	H	I	4					
5	J	K	L	5					
6	M	N	O	6	Ö	Ó	Ô		
7	P	Q	R	S	7				
8	T	U	V	8	Ú				
9	W	X	Y	Z	9				

Subscribing the C4050 handset

Subscribing the C4010, C4010Ex and C4020 handsets involves:

- 1 “Distributing handsets and installing battery chargers” on [page 481](#)
- 2 “Subscribing handsets” on [page 482](#)

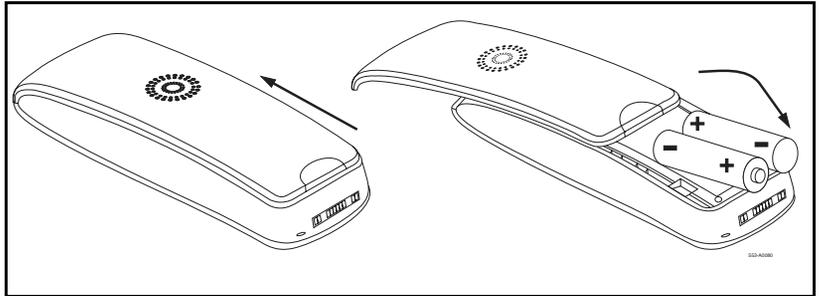
Figure 281
C4050 handset



Distributing handsets and installing battery chargers

Consult the work order for a list of handset users and their locations.

Figure 282
Battery details, charger details, and connections



Complete the following steps.

Table 189
Installing battery charger and charge batteries (Part 1 of 2)

Step	Action
1	Take the handset package to the user location.
2	Unpack the handset and its accessories, as applicable.
3	Insert the handset battery pack, as applicable. Note: Use only the approved battery for the C4050 handset.
4	Unpack the handset battery charger and its accessories.
5	Mount the battery charger.

Table 189
Installing battery charger and charge batteries (Part 2 of 2)

Step	Action
	Place the charger on the desk.
6	Install the power supply.
	Plug the power supply cable into the connector located on the side of the charger, then plug the ac adapter into the 230 V ac mains socket.
7	Place the handset into the charger.
	Note: The LED ring on the handset is green when the batteries are charging.





CAUTION — Service Interruption

Charge the C4050 battery at least eight hours before using the handset for the first time. This will ensure maximum battery life.

Subscribing handsets

Consult the work order for a list of subscription names.

Complete the following steps.

Table 190
Subscribing C4050 handsets (Part 1 of 2)

Step	Action
1	Select Menu.

Table 190
Subscribing C4050 handsets (Part 2 of 2)

Step	Action
	Press Menu .
2	Select System.
	Scroll to System . Press OK .
3	Select Subscription.
	Press OK .
4	Select Options.
	Scroll to New . Press OK .
5	Enter PARK if two DECT systems overlap.
	Press OK .
6	Enter the PIN code. Note: The Subscriptions window displays the PIN. The PIN is only valid for 15 minutes.
	Enter the PIN code.
7	Enter the system name.
8	Enter the handset DN.
9	Enter the handset users name.



Table 191
Handset key pad alphabet equivalent

Key	1	2	3	4	5	6	7	8	9	10	11
0	0	space	@	\$	&						
1	1	?	!	,	.	:	;	“	‘		
2	A	B	C	2	Ä	Å	À	Á	Ã	Æ	Ç
3	D	E	F	3	È	É	Ê	Ë			
4	G	H	I	4	ì	í	î	ï			
5	J	K	L	5							
6	M	N	O	6	Ñ	Ö	Ò	Ó	Ô	Õ	Ø
7	P	Q	R	S	7	ß					
8	T	U	V	8	Ü	Ù	Ú	Û			
9	W	X	Y	Z	9						
*	*	-	+	=	~	<	>	^	%		
#	#	()	{	}	[]	/	\	_	

Note: Complete the “System programming record” on [page 238](#) and the “Provisioning information record” on [page 235](#).

Working with handset subscriptions

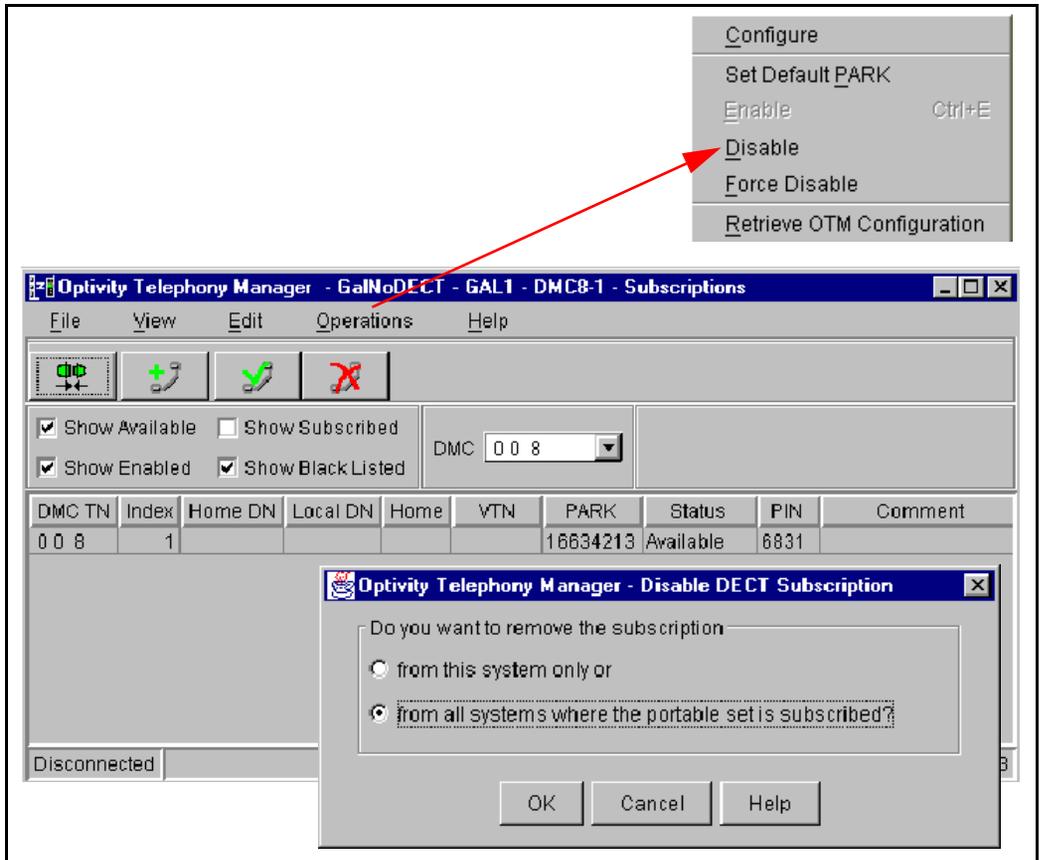
Procedures are available for:

- 1 “Disabling a handset subscription” on [page 485](#)
- 2 “Copying a handset subscription” on [page 487](#)
- 3 “Moving a handset subscription” on [page 490](#)
- 4 “Finding a handset subscription” on [page 493](#)
- 5 “Importing a handset subscription” on [page 495](#)

- 6 “Exporting a handset subscription” on [page 497](#)
- 7 “Force disabling a handset subscription” on [page 499](#)

Disabling a handset subscription

Figure 283
DECT Subscriptions window and Disable DECT Subscription window



Note: For further information, refer to “Delete subscriptions, page 92” and “Multi-site Mobility Networking, page 116.”

Complete the following steps.

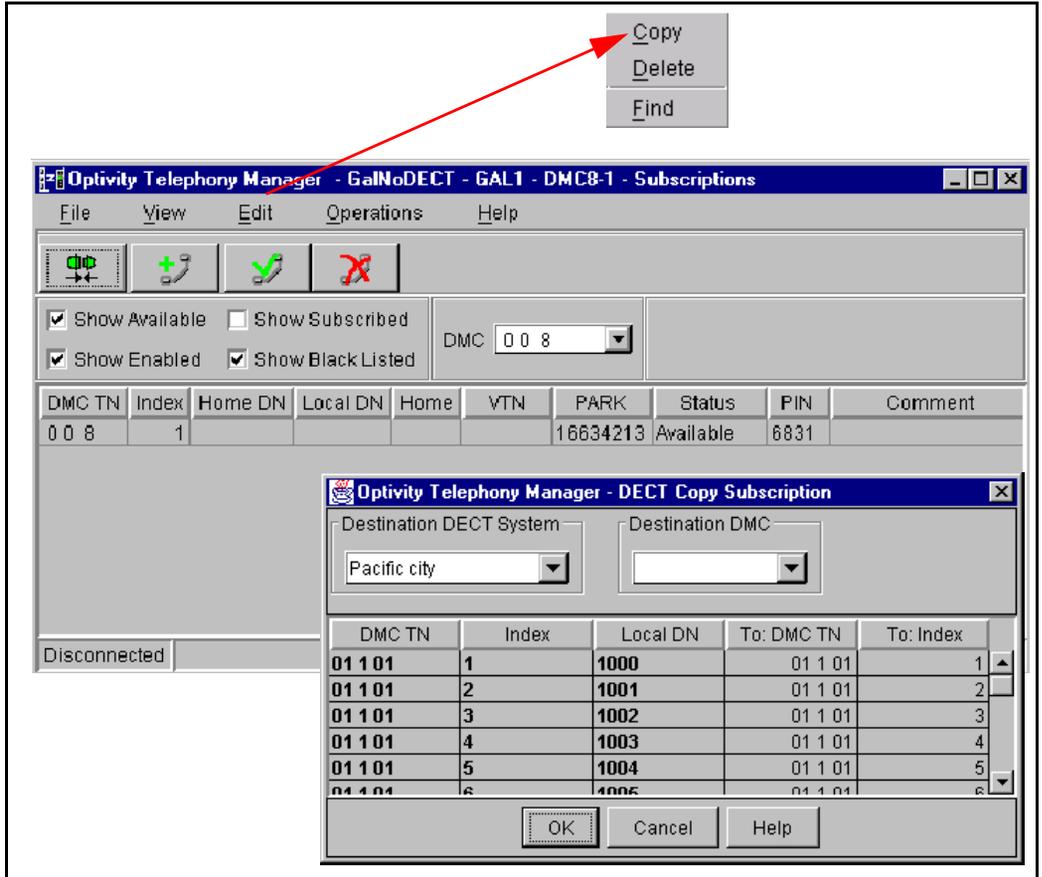
Table 192
Disabling handset subscription

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Select a handset subscription(s) for disabling. Note: A single handset, a list of handsets, or all handsets on a DMC can be selected.
	Highlight a DMC TN and an Index , or several indexes in the list.
5	Disable the handset subscription(s).
	From the Operations pull-down menu, click Disable .
6	Disable from this system only.
	Click OK .
7	Disable from all systems where the portable set is subscribed.
	Click OK .



Copying a handset subscription

Figure 284
DECT Subscriptions window and DECT Copy Subscription window



Note: For further information, refer to “[Copy subscriptions, page 89.](#)”

Complete the following steps.

Table 193
Copying a handset subscription (Part 1 of 2)

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Select the source DECT system to copy the subscription.
	Highlight the DECT system in the DECT Systems window.
4	Open the Subscriptions window.
	Follow the instructions on page 420 .
5	Open the DECT Copy Subscription dialog.
	From the Edit pull-down menu, click on Copy .
6	Select a DECT system where the copied subscription will be put.
	Pull-down the Destination DECT System list and highlight a system name.
7	Select DMC on the DECT system where the copied subscription will be put.
	Pull-down the Destination DMC list and highlight a DMC.
8	Select a handset subscription(s) to copy.
	Note: Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a DMC TN and an Index (or more than one index) in the list.

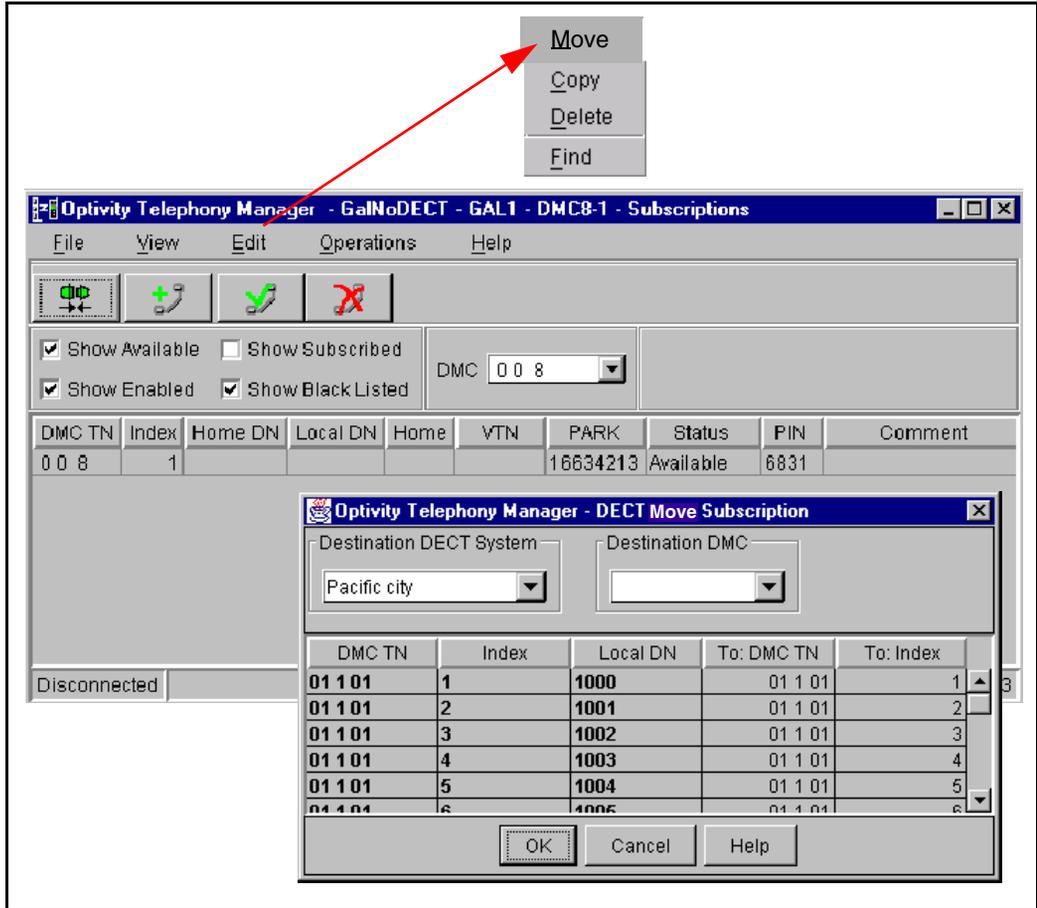
Table 193
Copying a handset subscription (Part 2 of 2)

Step	Action
9	Select a DMC or Index for the subscription(s).
	Highlight a To: DMC TN or a To: Index (or more than one index) in the list.
10	Accept the changes.
	Click on the OK button.



Moving a handset subscription

Figure 285
DECT Subscriptions window and DECT Move Subscription window



Note: For further information, refer to “[Move subscriptions, page 91.](#)”

Complete the following steps.

Table 194
Moving a handset subscription (Part 1 of 2)

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Open the DECT Move Subscription dialog.
	From the Edit pull-down menu, click on Move .
5	Select a DECT system where the moved subscription is to be put.
	Pull-down the Destination DECT System list and highlight a system name.
6	Select DMC on the DECT system where the moved subscription is to be put.
	Pull-down the Destination DMC list and highlight a DMC.
7	Select DMC on the DECT system the moved subscription is to be put.
	Pull-down the Destination DMC list and highlight a DMC.
8	Select a handset subscription(s) to move.
	Note: Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a DMC TN and an Index (or more than one index) in the list.

Table 194
Moving a handset subscription (Part 2 of 2)

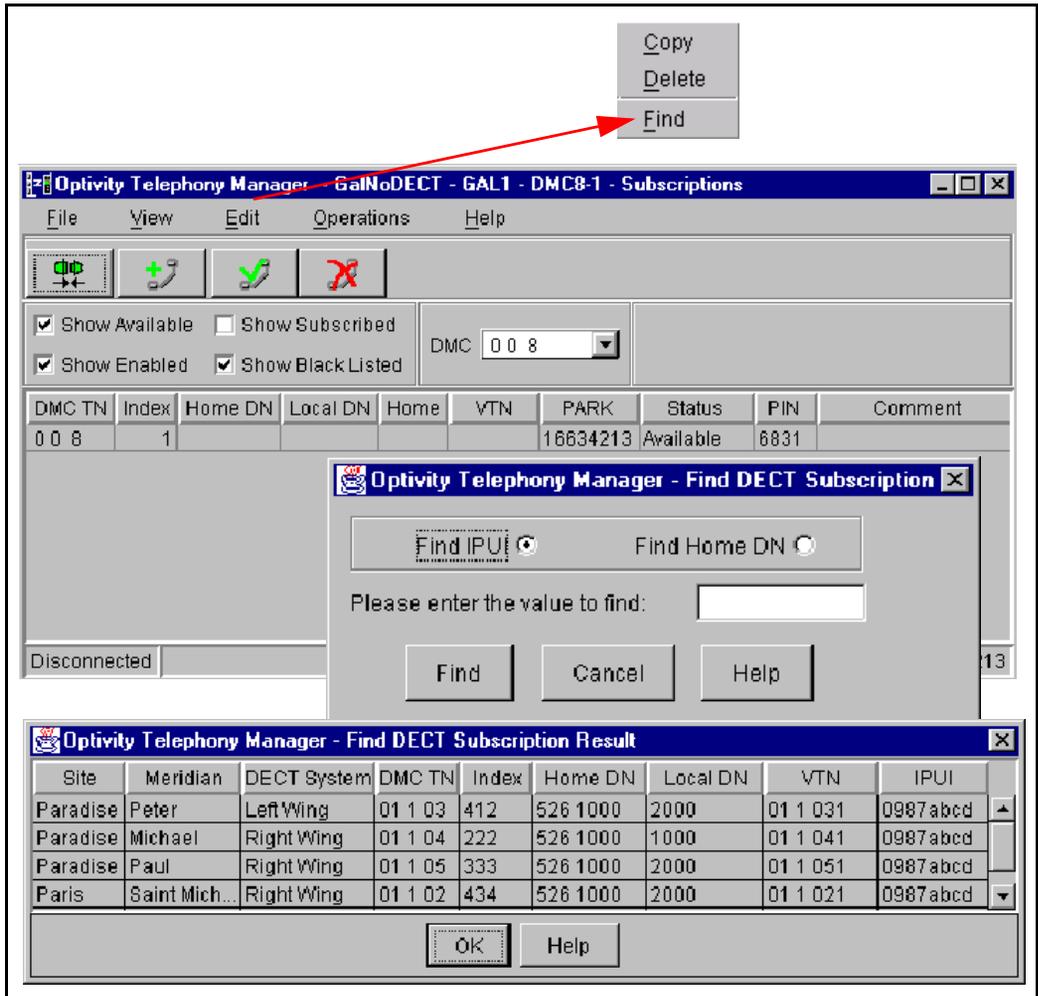
Step	Action
9	Select a DMC or Index for the subscription(s).
	Highlight a To: DMC TN or a To: Index (or more than one index) in the list.
10	Accept the changes.
	Click OK .



Finding a handset subscription

Figure 286

DECT Subscriptions window and Find DECT Subscription window



Note: For further information, refer to “[Find subscriptions, page 94.](#)”

Complete the following steps.

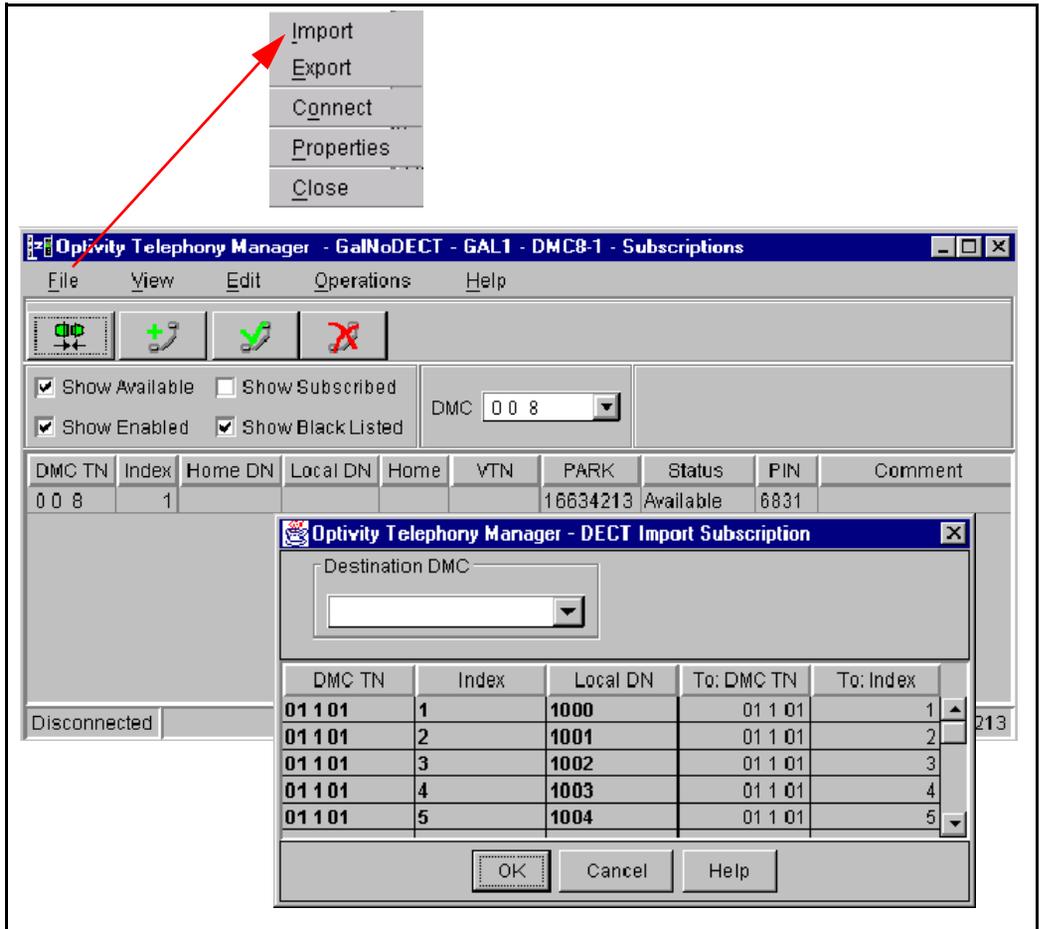
Table 195
Finding a handset subscription

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Open the Find DECT Subscription dialog.
	From the Edit pull-down menu, click on Find .
5	Select find criteria.
	Click on Find IPUI or Find Home DN , enter the value, and click on the Find button.
6	View the results.



Importing a handset subscription

Figure 287
DECT Subscriptions window and DECT Import Subscription window



Note: For further information, refer to “[Import subscriptions, page 91.](#)”

Complete the following steps.

Table 196
Importing a handset subscription

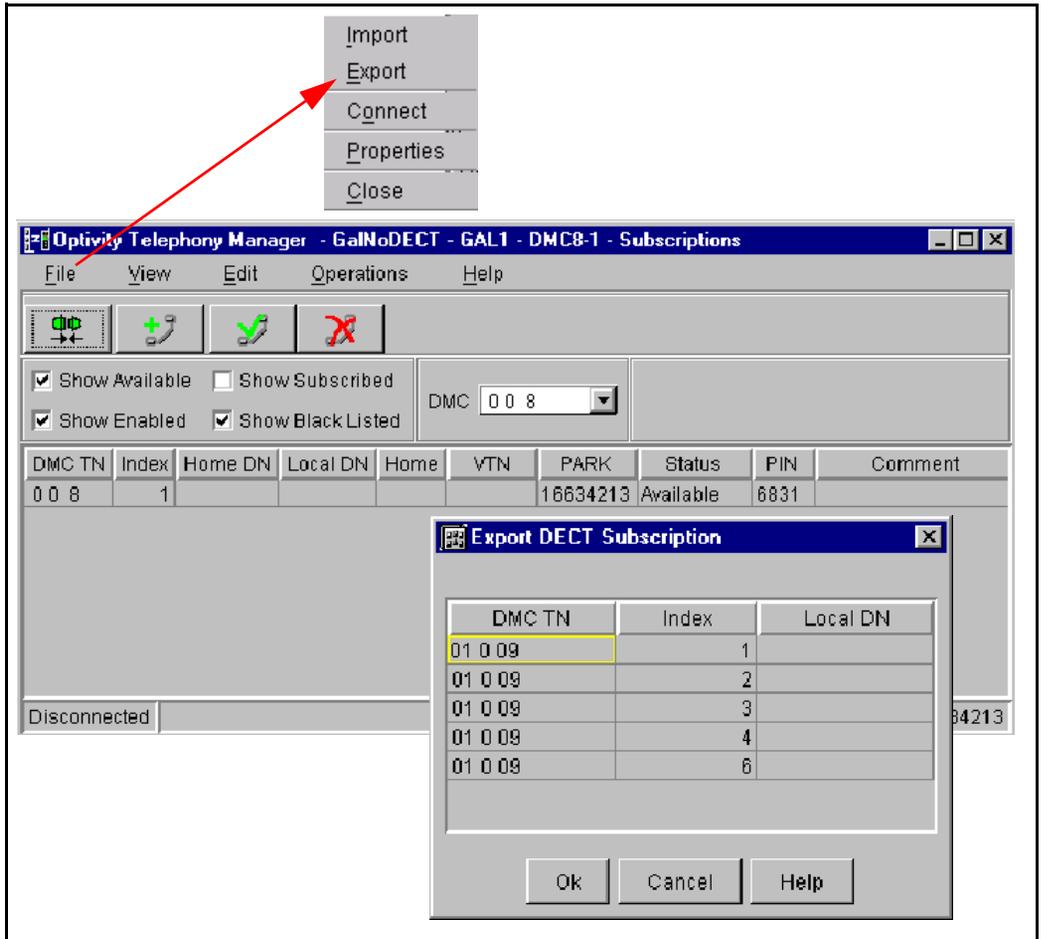
Step	Action
1	Access the DECT Application. Follow the instructions in “Windows access to the DECT application” on page 412 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window. Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window. Follow the instructions on page 420 .
4	Open the DECT Import Subscription dialog. From the File pull-down menu, click on Import .
5	Select a DECT system where the imported subscription is to be put. Pull-down the Destination DMC list and highlight a DMC.
6	Select DMC to be imported. Pull-down the Destination DMC list and highlight a DMC.
7	Select a handset subscription(s) to import. Note: Select a single handset, a list of handsets, or all handsets on a DMC. Highlight a DMC TN and an Index , or several indexes in the list.
8	Select a DMC or Index for the subscription(s). Highlight a To: DMC TN or a To: Index , or several To: indexes in the list.
9	Accept the changes. Click OK .



Exporting a handset subscription

Figure 288

DECT Subscriptions window and Export Subscription window



Note: For further information, refer to [“Export subscriptions, page 93.”](#)

Complete the following steps.

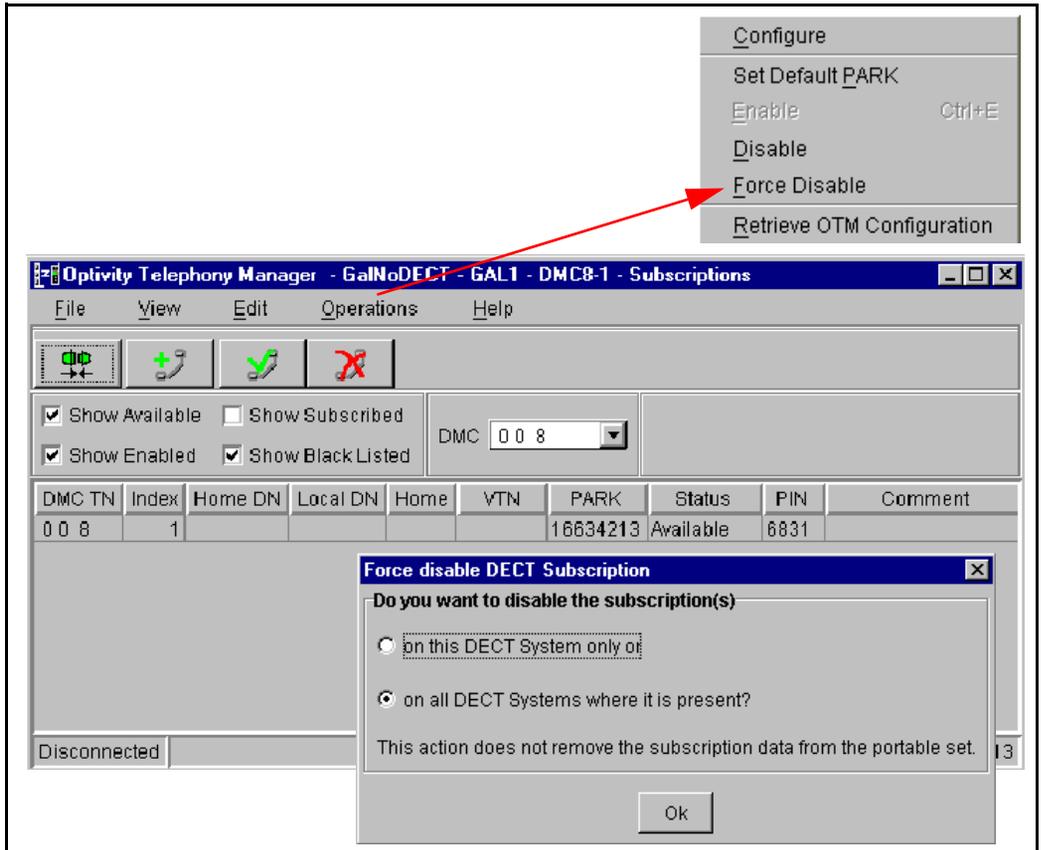
Table 197
Exporting a handset subscription

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Open the Export DECT Subscription dialog.
	From the Find pull-down menu, click on Export .
5	Select a handset subscription(s) to export. Note: A single handset, a list of handsets, or all handsets on a DMC can be selected.
	Highlight a DMC TN and an Index , or several indexes in the list.
6	Select a DMC or Index for the subscription(s).
	Highlight a To: DMC TN or a To: Index , or several To: indexes in the list.
7	Accept the changes.
	Click on the OK button.
8	Paste the subscriptions into a file.
	.



Force disabling a handset subscription

Figure 289
DECT Subscriptions window and Force disable DECT Subscription window



Note: For more information, refer to [Force disable subscriptions](#), page 95.

Complete the following steps.

Table 198
Force disabling a handset subscription

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Open the Force Disable DECT Subscription dialog.
	From the Operations pull-down menu, click on Force Disable .
5	Select a handset subscription(s) for Force Disabling. Note: Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a DMC TN and an Index (or more than one index) in the list.
6	Disable the handset subscription(s).
	From the Operations pull-down menu, click on Force Disable .
7	Disable from this system only.
	Click on OK button.
8	Disable from all systems where the portable set is subscribed.
	Click OK .



Deleting TNs that are not on the switch

To remove configured sets (TRN status) that are no longer on the switch, perform the following steps

Table 199
Removing configured sets

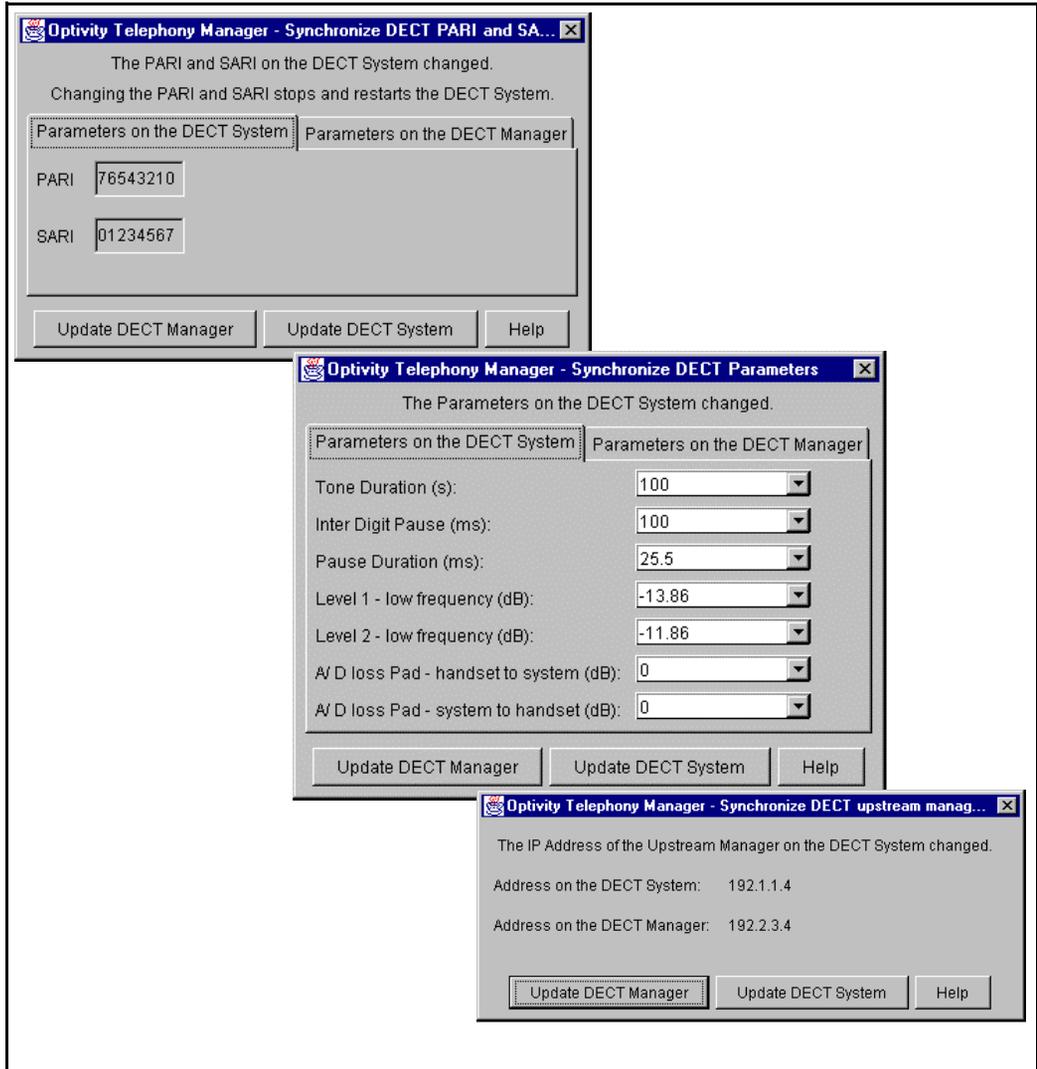
Step	Action
1	Using Windows, log in to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Use a web-based navigator to open the Administrator login screen and log in. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the Subscriptions window.
	Follow the instructions on page 420 .
4	Open the DECT Move Subscription dialog.
	From the Edit pull-down menu, click Global update .
5	Select the sync status SSTAT .
	Set Old value to the current status. Set New value to NEW .
6	Delete the TN's from the switch.



Note: Perform this procedure after 500 analog TNs have been converted to concentrated TNs.

Updating data on OTM or updating data on a DECT system

Figure 290
Mismatch dialogs



When the DECT manager connects to a DECT system, synchronization flags any differences between the DECT manager database and the DECT system database with mismatch dialogs. These dialogs are useful when provisioning DECT systems off-site.

See “Provisioning a DECT system remotely” on [page 504](#), and “Subscribing a DECT system remotely” on [page 507](#).

Complete the following steps.

Table 200
Updating data on OTM

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Select a DECT system.
	Highlight a DECT system from the list.
4	Connect to a DECT system.
	From the Applications pull-down menu, click on Connect or click on the  (green) icon.
5	If any of the dialogs in Figure 291 on page 504 appear, it is necessary to decide to update either the DECT manager or the DECT system.
	Click on either the Update DECT Manager button, or Update DECT System button.

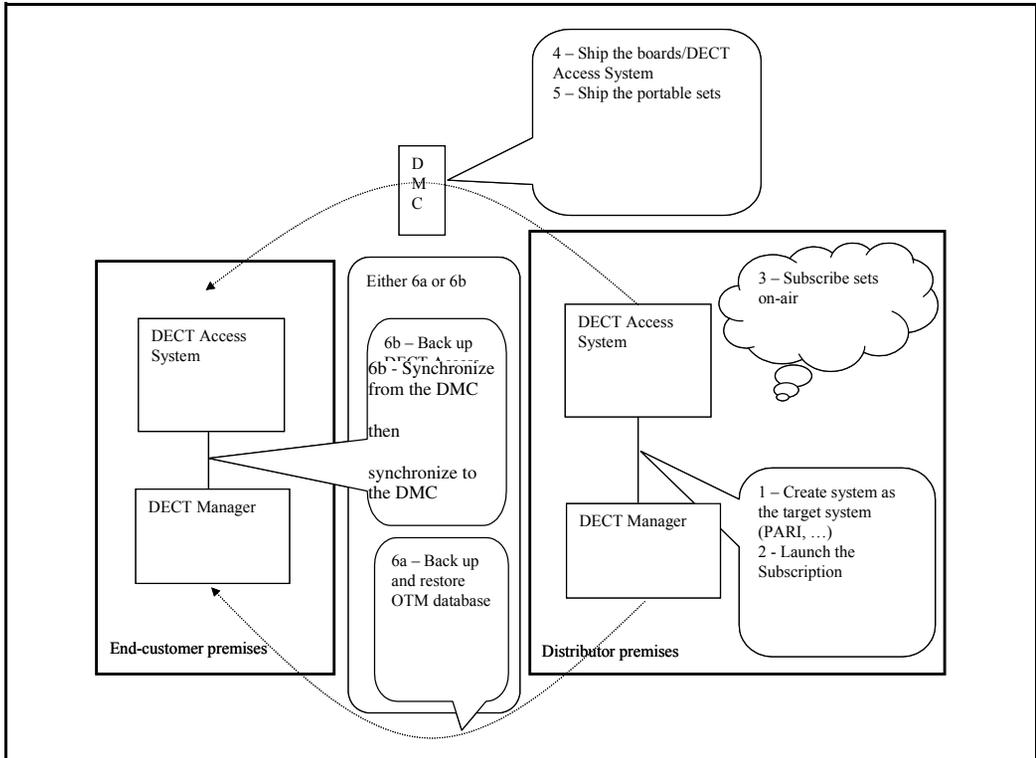


Provisioning a DECT system remotely

A distributor can use a DECT system in the distributor's premises lab to configure a system and subscribe sets on it. If the DECT Access System and board configuration are the same on both the distributor's and the customer's DECT systems, and if the handsets are properly programmed on the customer-PBX-side, then the DMCs can be placed in the customer's system and the handsets will function properly.

Remote DMC8 provisioning where the customer site has a DECT manager

Figure 291
Remote DMC8 provision where the customer site has a DECT manager



Complete the following step.

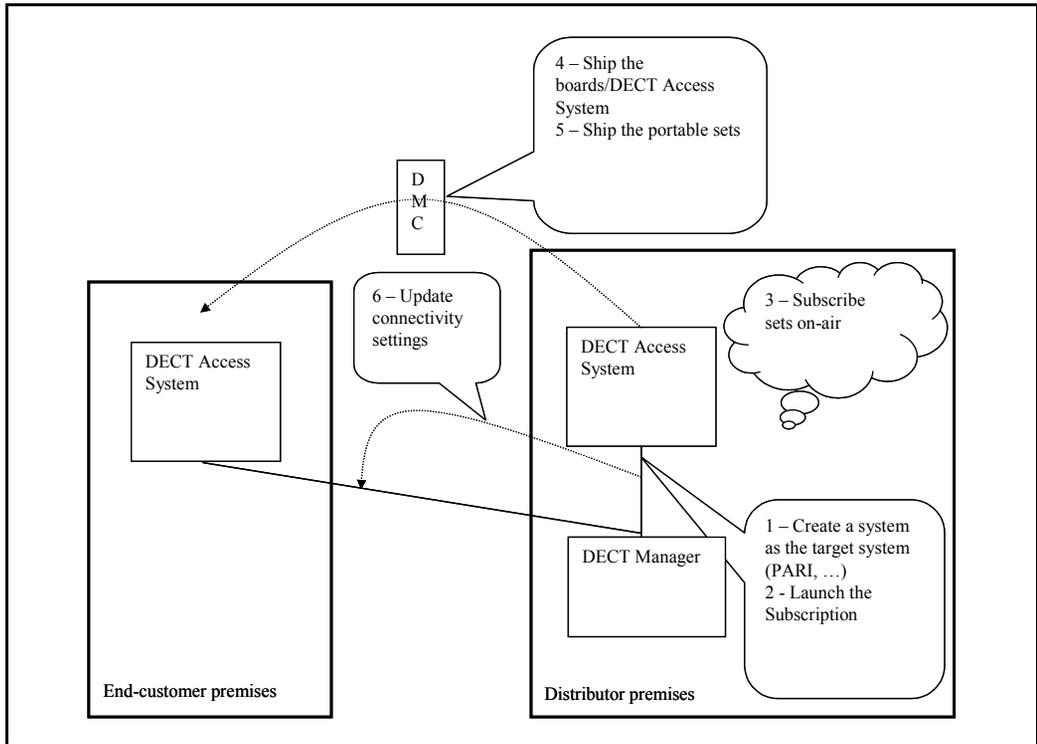
Table 201
Provisioning remotely – the customer site has a DECT manager

Step	Action
1	Remotely provision DMC8s for a customer site.
	Follow the steps 1 to 6a/6b shown in Figure 291 on page 504 .



Remote DMC8 provisioning where the customer site does *not* have a DECT manager

Figure 292
Remote DMC8 provision where customer site does not have a DECT manager



Complete the following step.

Table 202

Provisioning remotely – the customer site does not have a DECT manager

Step	Action
1	Remotely provision a customer site.
	Follow steps 1 to 6 shown in Figure 292 on page 506 .



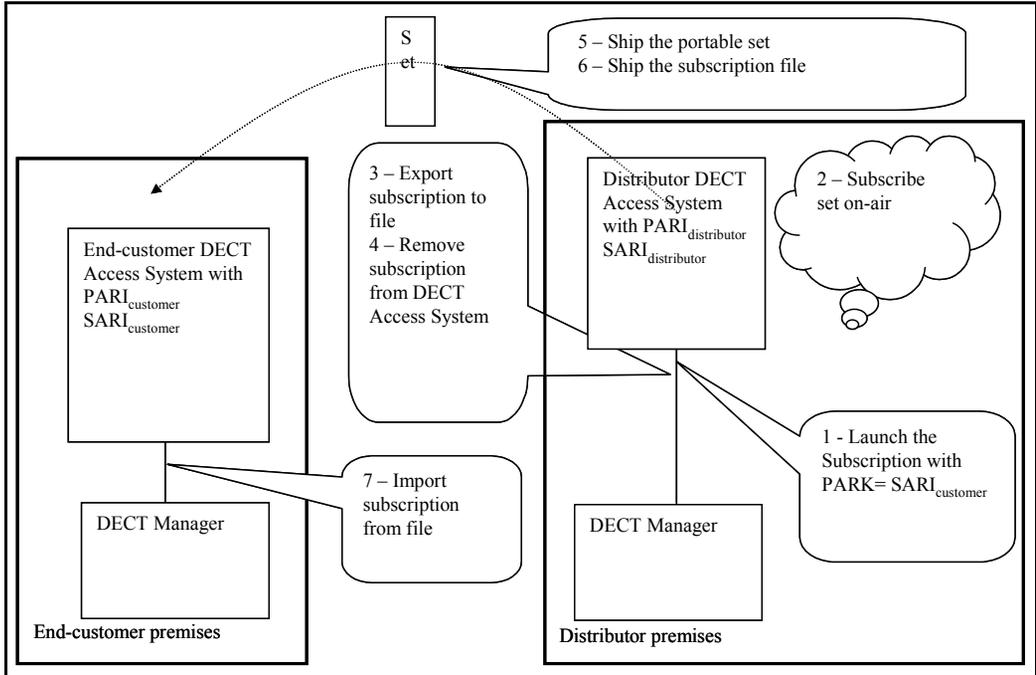
Subscribing a DECT system remotely

A handset can subscribe itself to any DECT system, regardless of the DECT system Primary Access Rights Identifier (PARI) and Secondary Access Rights Identifier (SARI). In other words, from the handset itself, the handset can be subscribed to a DECT system where the handset is not necessarily intended to be operational. The customer may or may not have a DECT manager on site.

Remote handset subscription where the customer site has a DECT manager

Figure 293

Remote handset subscription where the customer site has a DECT manager



Complete the following step.

Table 203

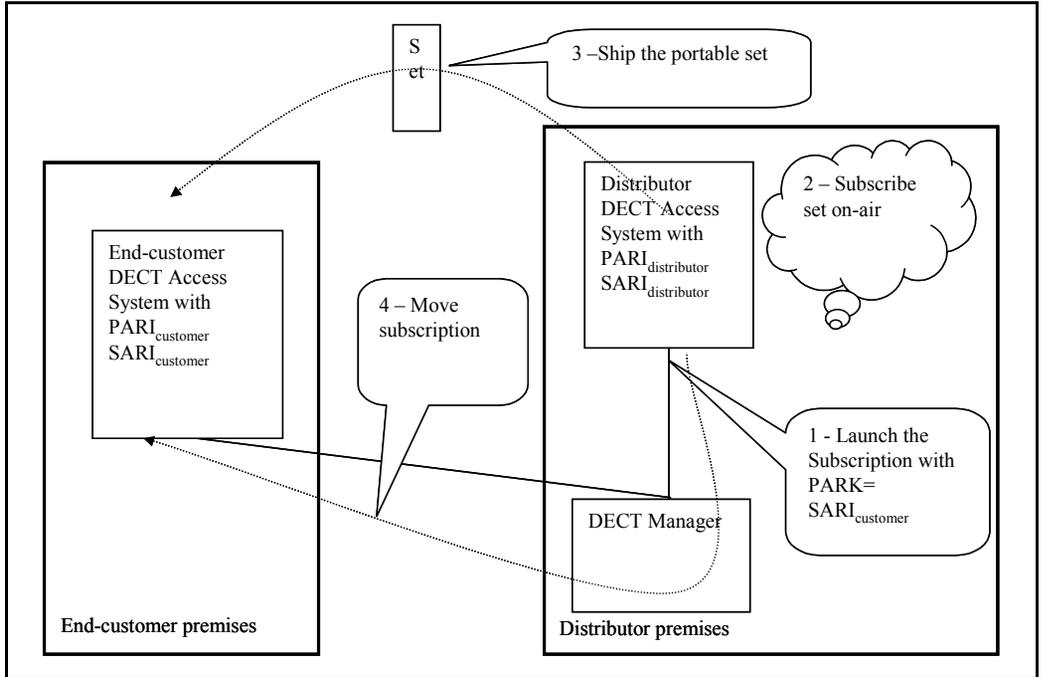
Updating IP address on OTM

Step	Action
1	Remotely provision a customer site.
	Follow steps 1 to 7 shown in Figure 293 .
END	

Remote handset subscription where the customer site does not have a DECT manager

Figure 294

Remote handset subscription where customer site does not have a DECT manager



Complete the following step.

Table 204
Updating IP address on OTM

Step	Action
1	Remotely provision a customer site.
	Follow steps 1 to 4 shown in Figure 294 .



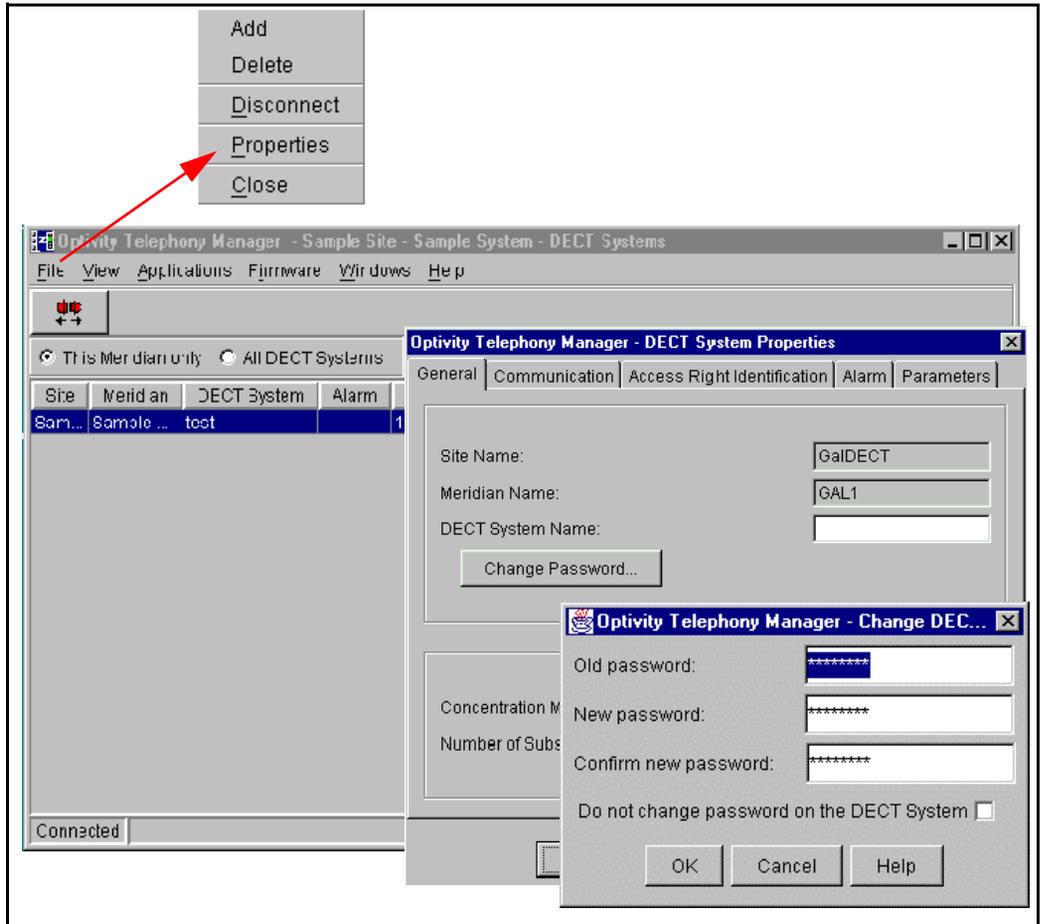
Modifying system properties

Several system properties can be modified. Procedures are included for:

- 1 “Changing passwords” on [page 511](#)
- 2 “Changing the DECT system name” on [page 513](#)
- 3 “Changing the IP address on OTM DECT manager” on [page 515](#)
- 4 “Changing the IP address on the DECT system DMC8 Relay card” on [page 517](#)
- 5 “Changing a PARI or SARI” on [page 519](#)
- 6 “Changing the Upstream Manager IP address” on [page 521](#)
- 7 “Changing the time and date” on [page 523](#)
- 8 “Changing parameters” on [page 525](#)

Changing passwords

Figure 295
DECT Systems window and Change DECT Password



Note: For lost passwords, see [Recovering a password, page 585](#).

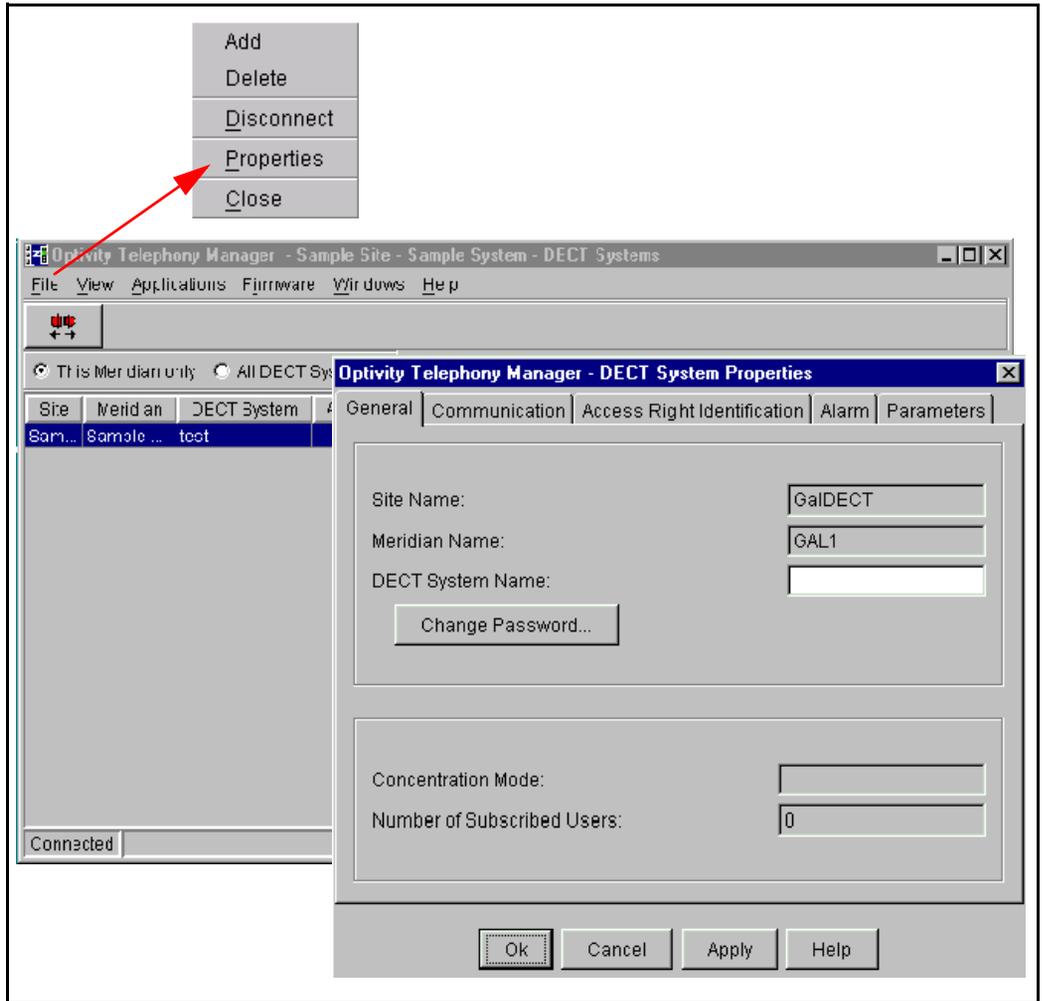
Complete the following steps.

Table 205
Changing passwords

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties , and click on the General tab.
4	Select Change Password.
	Click on the Change Password button.
5	Change the password.
	Enter the Old Password , enter the New Password , confirm the New Password , and click OK .



Changing the DECT system name

Figure 296**DECT Systems window and DECT System Properties – General tab**

Complete the following steps.

Table 206
Changing the DECT system name

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties , and click on the General tab.
4	Change the DECT system name.
	Enter the new name in the DECT System Name box.

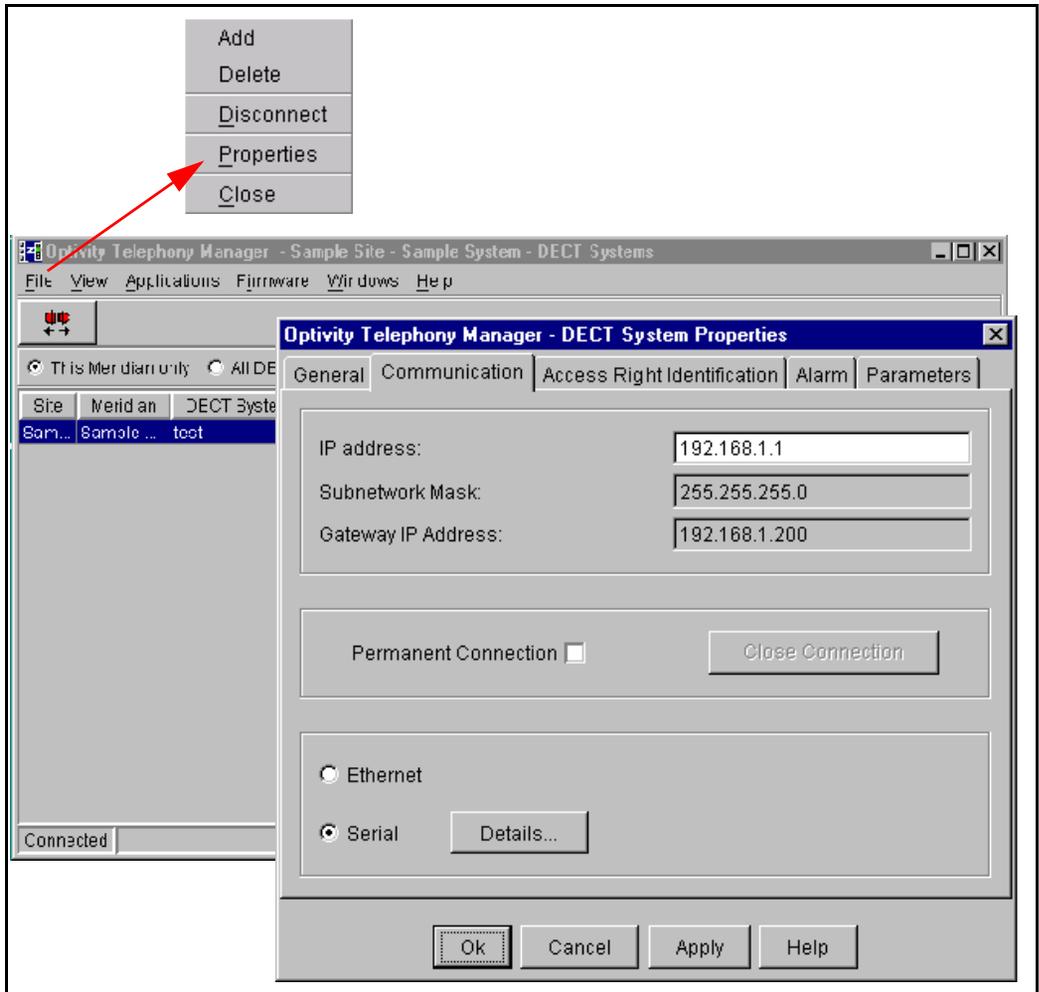


Changing the IP address on OTM DECT manager

Before changing the IP address on the OTM DECT manager, close the connection. After the change on the DECT system, open the connection as a safety check.

Figure 297

DECT Systems window and DECT System Properties – Communication tab



Complete the following steps.

Table 207
Changing the IP address on the DECT system

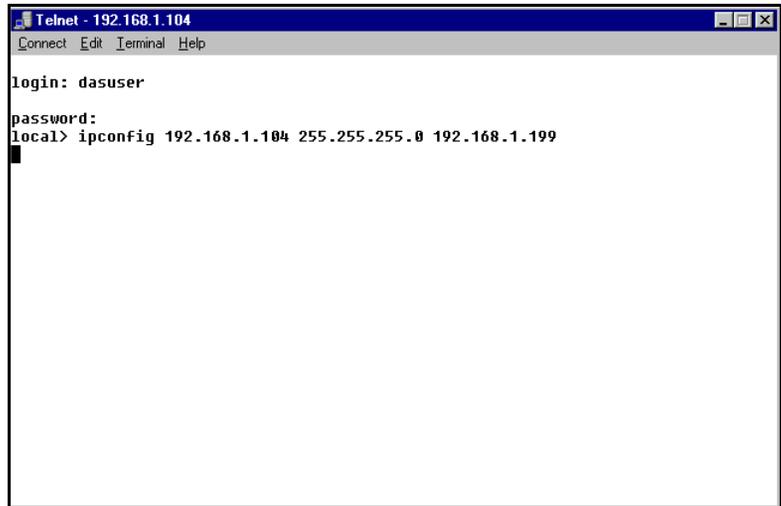
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties , and click on the Communication tab.
4	Select Ethernet.
	Click on the Ethernet radio button.
5	Accept the changes.
	Click OK .



Changing the IP address on the DECT system DMC8 Relay card

Before changing the DMC8 Relay card's IP address through Telnet, close the connection. After the change on the DECT system, open the connection as a safety check.

Figure 298
Telnet 192.168.1.1



```
Telnet - 192.168.1.104
Connect Edit Terminal Help

login: dasuser
password:
local> ipconfig 192.168.1.104 255.255.255.0 192.168.1.199
```

Complete the following steps.

Table 208
Changing the IP address on DECT system DMC8 Relay card

Step	Action
1	Open the Telnet dialog.
	Click on Start>Accessories>Telnet .
2	Enter user name and password.
	Type user name dasuser and password dasuser .
3	When the connection prompt local appears, change the DMC8 Relay card address.
	<p>Enter the following command:</p> <p>ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz</p> <p>xxx.xxx.xxx.xxx = new IP address of the DMC8 Relay card.</p> <p>yyy.yyy.yyy.yyy = subnet mask, usually 255.255.255.0</p> <p>zzz.zzz.zzz.zzz = IP address if this is the gateway for the network.</p> <p>Note: Set zzz.zzz.zzz.zzz to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OTM server, set zzz.zzz.zzz.zzz to the IP address of the interface, which is on the same network as the DMC8 Relay card.</p>

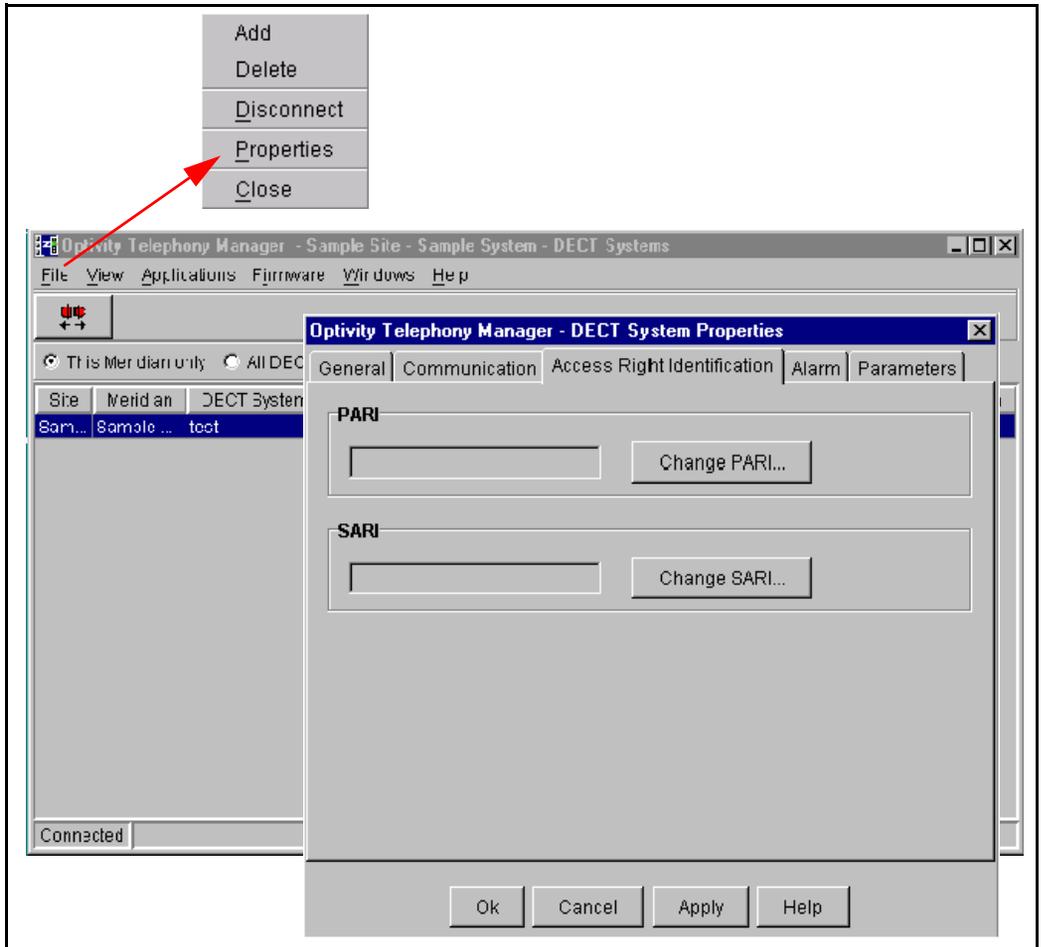


Changing a PARI or SARI

Note: When the PARI or SARI changes, the DECT system resets and the connection closes. If the connection is permanent, the OTM manager attempts to open in the background.

Figure 299

DECT Systems window and DECT System Properties – Access tab



Complete the following steps.

Table 209
Changing a PARI or SARI

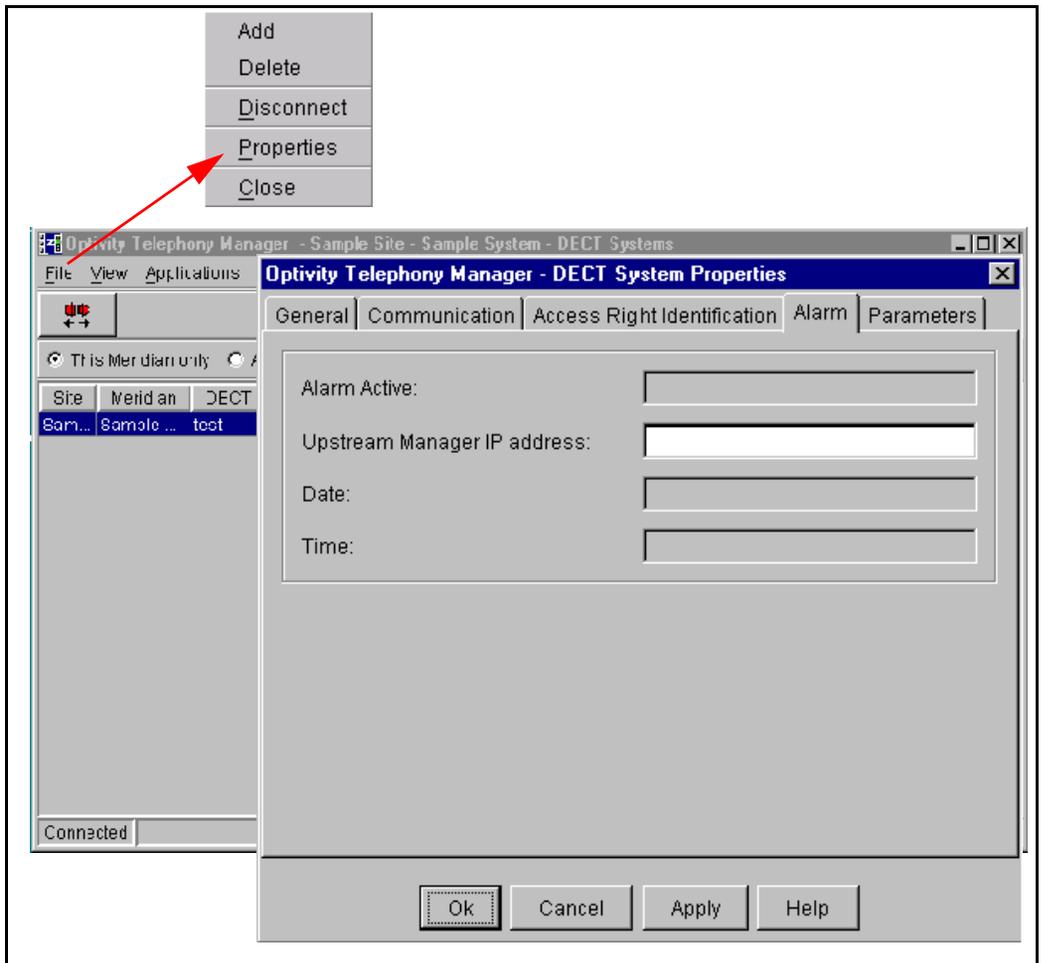
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties , and click on the Access Right Identification tab.
4	Change the PARI or SARI.
	Enter the PARI or SARI .
5	Accept the changes.
	Click on the OK button.



Changing the Upstream Manager IP address

Note: An upstream manager IP address can only be programmed on the DMC8 Relay card.

Figure 300
DECT Systems window and DECT System Properties – Alarm tab



Complete the following steps.

Table 210
Changing the Upstream Manager IP address

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties . Click the Alarm tab.
4	Change the Upstream Manager IP address.
	Enter the Upstream Manager IP address .
5	Accept the changes.
	Click on the OK button.

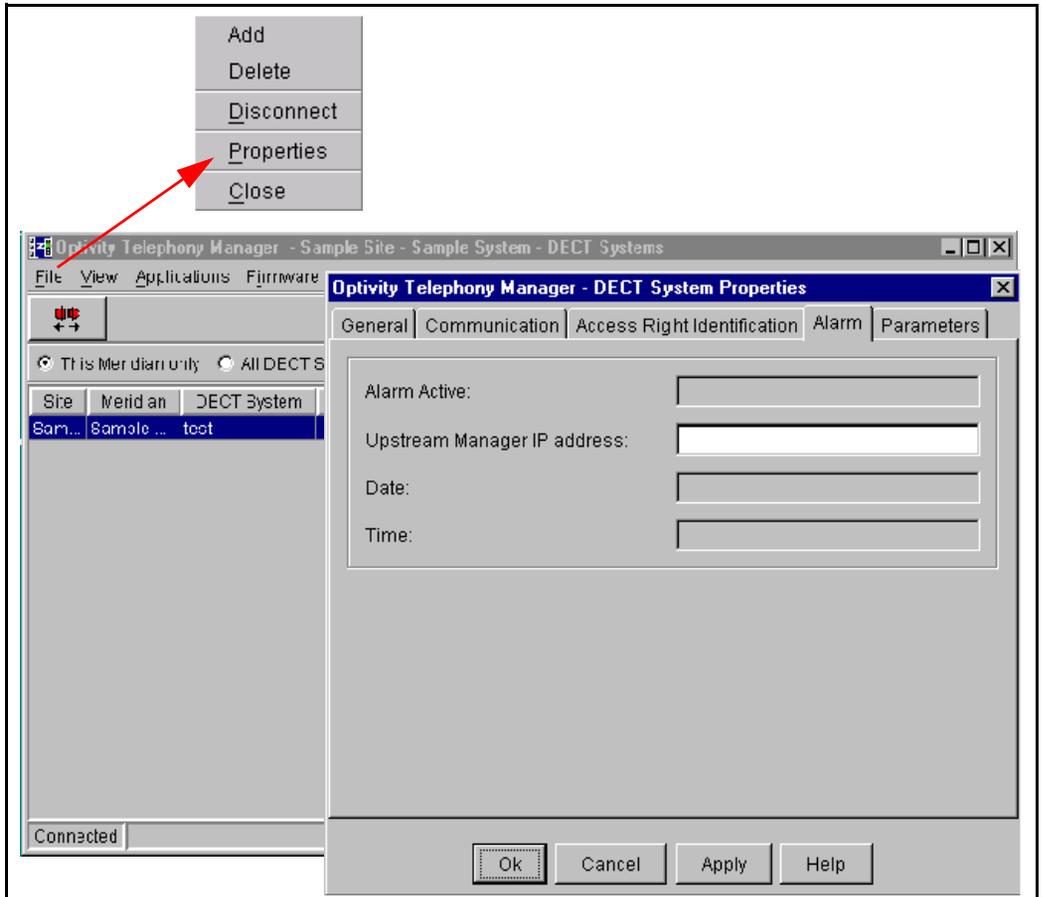


Changing the time and date

The time and date is used to time stamp the alarms.

Note: The time and date must be changed when the DECT system reboots or a DMC resets.

Figure 301
DECT Systems window and DECT System Properties – Alarm tab



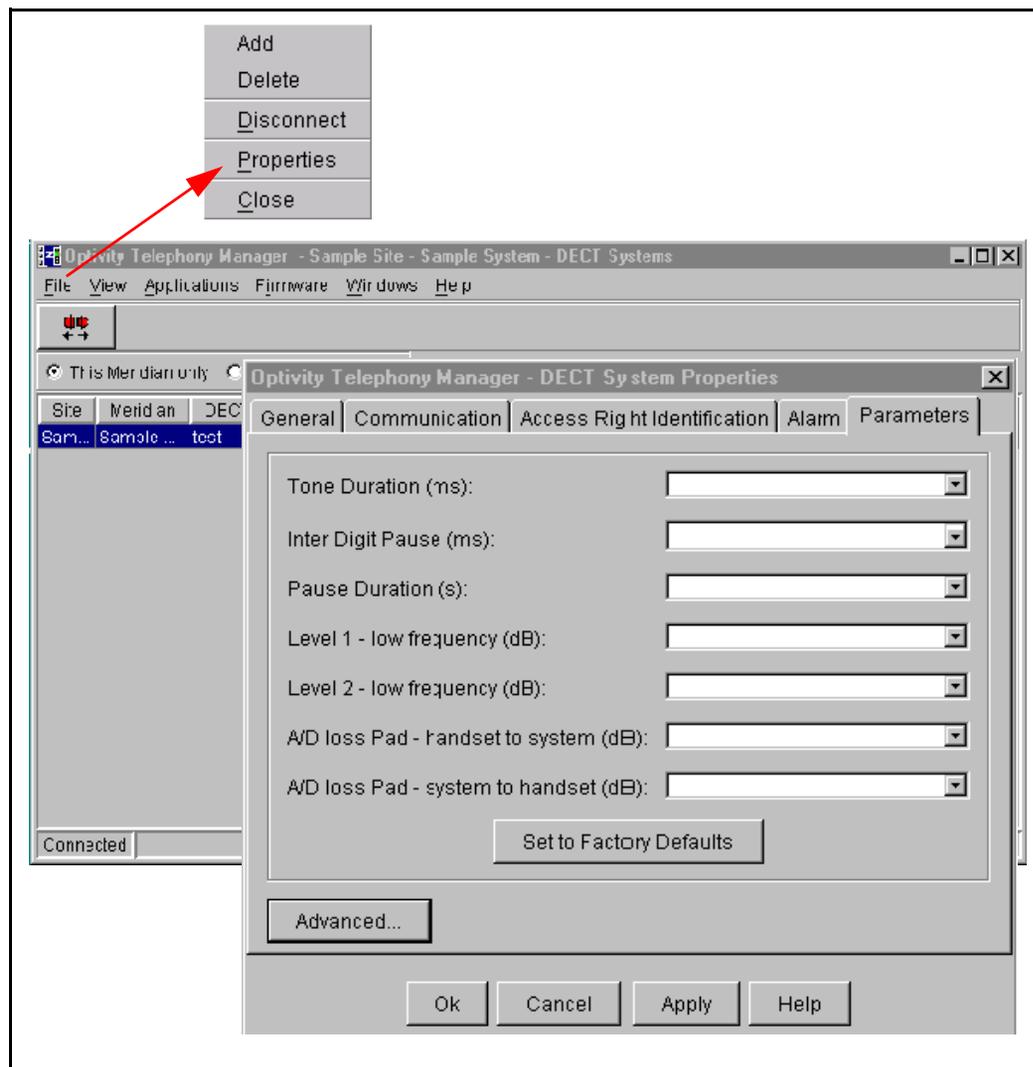
Complete the following steps.

Table 211
Changing time and date

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on, page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Connect to a DECT system.
	From the Applications pull-down menu click on Connect or  (green).
4	Open the DECT Systems Properties dialog.
	From the File pull-down menu, click on Properties . Click the Alarm tab.
5	Change the time and date.
	Enter the Date and Time .
6	Accept the changes.
	Click the OK button.



Changing parameters

Figure 302**DECT Systems window and DECT System Properties – Parameters tab**

Complete the following steps.

Table 212
Changing parameters

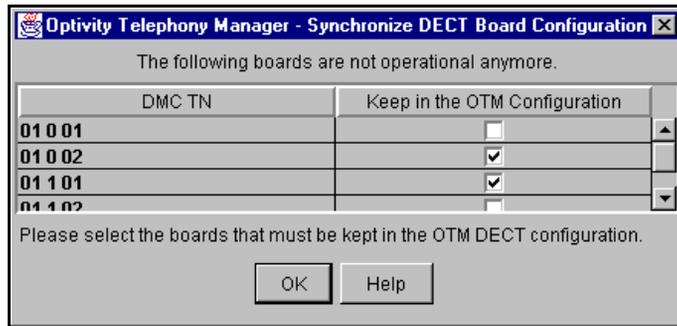
Step	Action
1	Using Windows, log in to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on, page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DECT System Properties dialog.
	From the File pull-down menu, click on Properties . Click the Parameters tab.
4	Change the parameters.
	From the appropriate pull-down menus, highlight the parameter time/level.
5	Accept the changes.
	Click the OK button.



Keeping or removing non-operational DMC8 cards from OTM

Note: Figure 303 on page 527 only appears when a connection is established and there is a mismatch. If there is a permanent connection and the DECT system configuration changes, the OTM DECT manager is updated automatically. The change is noted in the OTM event log.

Figure 303
Synchronize DECT Board Configuration window



Complete the following steps.

Table 213
Keeping or removing non-operational DMC8 cards from OTM

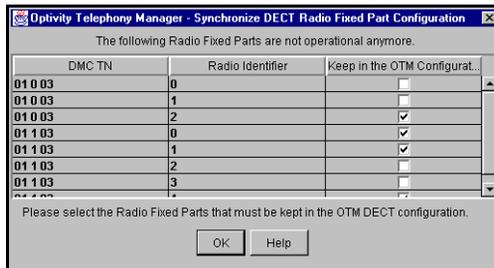
Step	Action
1	To keep DMC8 cards, Delete the check mark from the appropriate box.
2	To remove DMC8 cards, Put a check mark in the appropriate box.
3	Accept the changes. Click the OK button.



Keeping or removing non-operational base stations from OTM

Note: Figure 304 only appears when a connection is established and there is a mismatch. If there is a permanent connection and the DECT system configuration changes, the OTM DECT manager is updated automatically and the change is noted in the OTM event log.

Figure 304
Synchronize DECT Radio Fixed Part Configuration window



Complete the following steps.

Table 214
Keeping or removing non-operational base stations from OTM

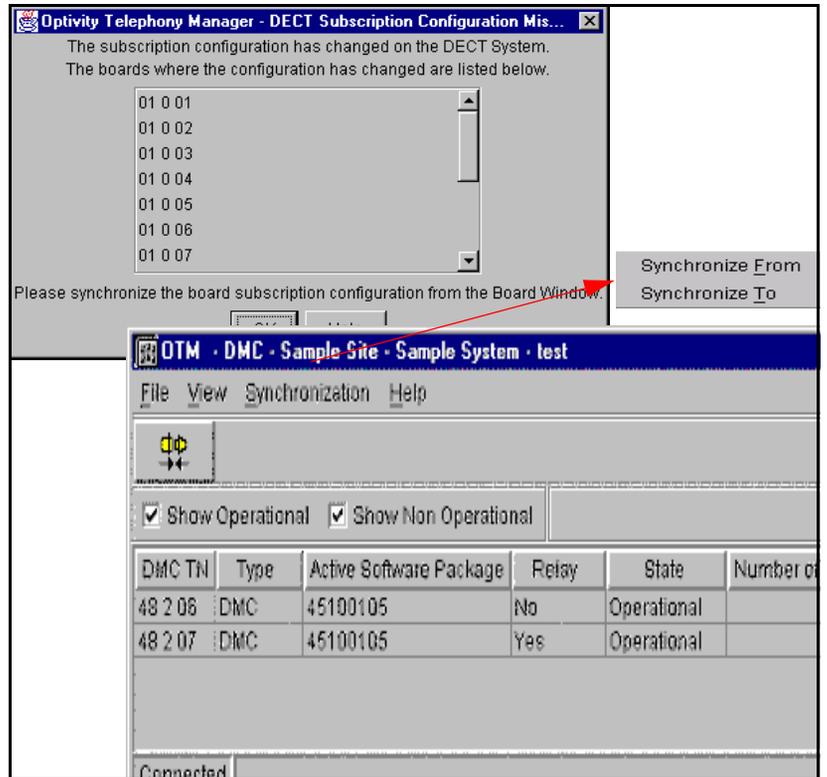
Step	Action
1	To keep base stations, Delete the check mark from the appropriate box.
2	To remove base stations, Put a check mark in the appropriate box.
3	Accept the changes. Click the OK button.



Resolving a subscription configuration mismatch

Note: Figure 305 appears when subscriptions are enabled with the Subscriptions window Operation pull-down menu and clicking on Configure.

Figure 305
DECT Subscriptions Configuration Mismatch window, and DMC window



Complete the following steps.

Table 215
Selecting login options

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 414 .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
3	Open the DMC window.
	Follow the instructions on, page 420 .
4	Store DMC changes from the DECT system in the OTM server,
	In the Synchronization pull-down menu, click on Synchronize From .
5	Make OTM server changes to the DMCs in the DECT system,
	In the Synchronization pull-down menu, click on Synchronize To .



User Access security

Security can be accessed either through a web-based navigator or through Windows.

Web-based navigator Access security

Group access to DECT OA&M features or handset subscriptions can be allowed or denied with the Web Access security window.

Figure 306
OTM Web Access security

The screenshot shows the 'Web Access security' configuration page for 'Group Access Permissions' under 'Users'. The 'Account Operators' dropdown is set to 'NT User Group'. The table below lists the access permissions for various menu items.

Menu	Application	Sub Application	Allow Access
Equipment	>>	>>	<input type="checkbox"/>
>>	Current Status	>>	<input type="checkbox"/>
>>	System Navigator	>>	<input type="checkbox"/>
>>	>>	Virtual System Terminal	<input type="checkbox"/>
>>	>>	Maintenance Pages	<input type="checkbox"/>
>>	>>	Alarms	<input type="checkbox"/>
>>	>>	WebURL	<input type="checkbox"/>
>>	>>	DECT	<input type="checkbox"/>
>>	>>	DECT Subscriptions	<input type="checkbox"/>
>>	System Alarms	>>	<input type="checkbox"/>
Telephones	>>	>>	<input type="checkbox"/>
>>	Find	>>	<input type="checkbox"/>
>>	>>	Web Station ReadOnly	<input type="checkbox"/>
>>	>>	Web Station ReadWrite	<input type="checkbox"/>
Directory	>>	>>	<input type="checkbox"/>

Below the table, there is a 'Username' input field and a 'Save' button.

- Select Windows NT User Group and change Access Permissions.
On the right you can see the Users belonging to the selected Group.
You can change Group assignments from Windows NT User Administrator.
- Click on Save to save changes to the Group's Access Permissions.

Complete the following steps.

Table 216
Accessing security – web-based navigator

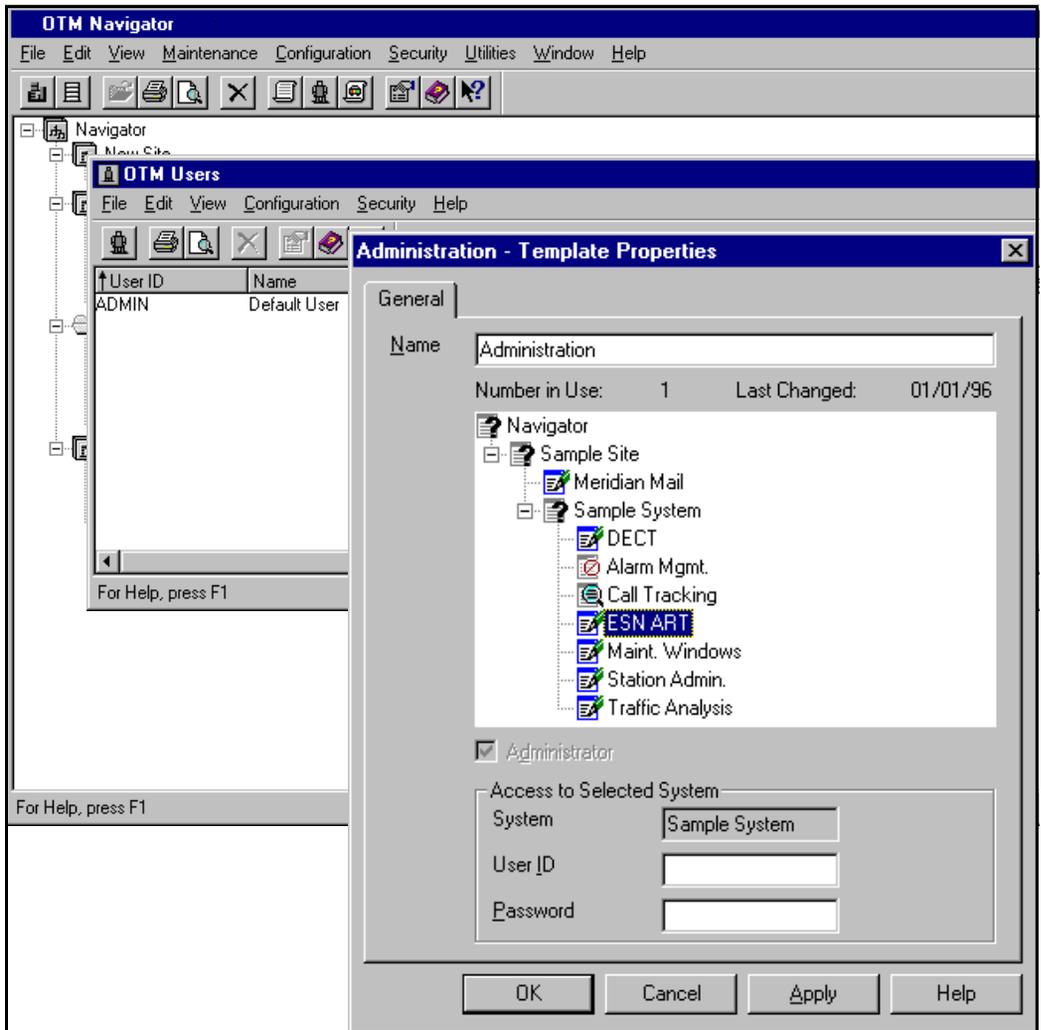
Step	Action
1	Using Windows, login to OTM. Select the system that supports DECT. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 415 to page 419 .
2	Select Web Navigator Access.
	Click on Web Navigator Access .
3	Follow the on-screen instructions.
	A check in the Allow Access column boxes permits access for the selected users group. No check in the boxes denies access to the selected users group.



Windows Access security

Allow or deny Group access to DECT OA&M features with the Windows Administration – Template Properties dialog.

Figure 307
OTM Navigator, OTM Users, and Template Properties



Complete the following steps.

Table 217
Accessing security – Windows

Step	Action
1	Using Windows, login to OTM to open the OTM Navigator window. See "Logging into the OTM" on page 412 .
2	Open the OTM Users window. From the Security pull-down menu, click on OTM Users .
3	Open the Template Properties. From the Configuration pull-down menu, click on User Templates .
4	Select the appropriate access level for the user group. Click the left mouse button on the icon to change the access, as follows:  – Read and write access  – Read only access*  – No access Note: * Choosing read only access allows read and write access.



Troubleshooting

This section provides information to help solve common problems.

Disconnecting

The passwords on a DMC8 Relay card and a system on the OTM DECT must match.

The default password for both a DMC8 Relay card and an OTM DECT system is **Arsenal**.

If the password on a DMC8 Relay card is not the same as the OTM DECT password, OTM will not be able to connect to the relay card. If the DMC8 Relay card is rebooted, the mismatched password will be accepted for only five minutes. Then the card will disconnect again.

To solve the problem, ensure the password on the system in OTM DECT and the password on the DMC8 Relay card are the same.

It is recommended that the passwords be reset to the default **Arsenal**.

To change the OTM DECT password, see “Changing passwords” on [page 511](#).

Note: Select the option “Do not change password on the DECT system”.

To change the password on the DMC8 relay card, see “Recovering a password” on [page 585](#).

Note: Do **not** select the option “Do not change password on the DECT system.”

Unable to connect with Web Client

If unable to connect to OTM DECT with Internet Explorer, see “MS Internet Explorer and VeriSign Digital Certificates” on [page 415](#), for more information.

System maintenance

Contents

This section contains information on the following topics:

Alarm Code maintenance actions	537
LED status for DMC8/DMC8-E and base station.	550
Removing and inserting a DMC8 for maintenance.	553
Adding a DMC8 card to a DECT system	561
Removing and re-installing a base station for maintenance	564
Uploading and activating firmware.	569
Recovering from a firmware upload failure	570
Retrieving current RSSI data.	573
Performance Collection.	576
Setting parameters.	584
Recovering a password	585

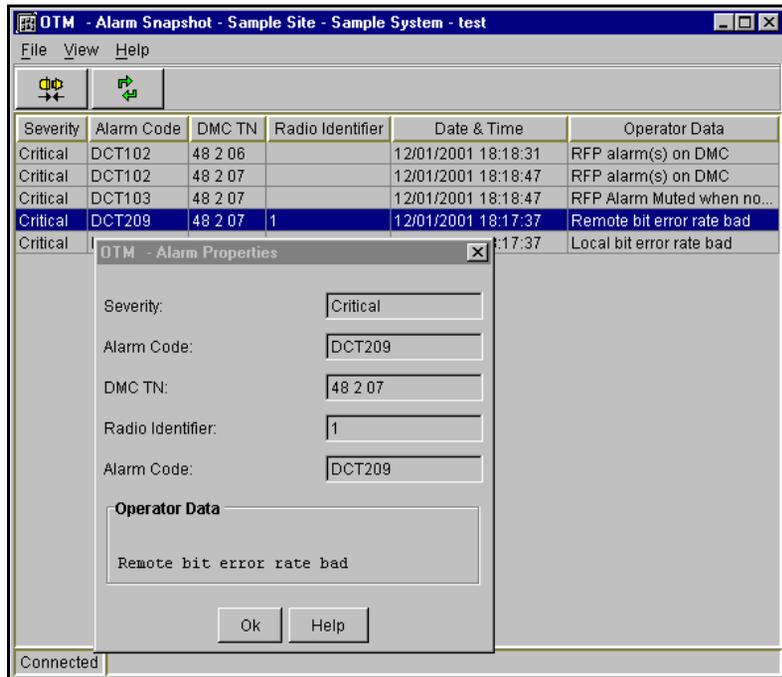
Alarm Code maintenance actions

Alarm Codes can be viewed with one of the following:

- “Windows Alarm Snapshot” on [page 538](#)
- “Web Alarm browser” on [page 546](#)
- “Windows Alarm Notification” on [page 548](#)

Windows Alarm Snapshot

Figure 308
Alarm Snapshot window and Alarm Properties window



Note: The Alarm Snapshot window is a static display. The Alarm Snapshot window only shows the alarms present at the time the window was opened. The window must be refreshed for an up-to-date display. The web-based alarm browser displays alarm history and occurring alarms.

Complete the following steps.

Table 218
Alarm Code maintenance actions

Step	Action
1	Using Windows, and login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window. Open the Current Alarms window.
	Follow the instructions on page 412 to page 421 .
2	Refresh the Alarm Snapshot window.
	Click on the  icon.
3	Examine the alarm code, and take the appropriate maintenance action.
	See Table 220 on page 547 .



Note: The Windows Alarm Notification browser ([page 548](#)) only displays alarms that have occurred since the window was opened. The Web Alarm browser ([page 546](#)) has a circular log that provides information on a limited history of alarms. The Web Alarm browser records alarms at all times.

Table 219
Alarms (Part 1 of 6)

Alarm code	Alarm description	Maintenance action
DMC8 operational state Synthesis		
DCT001	All DMC8 cards are operational. (DCT001 only displayed in the Alarm browsers. DCT001 does not show in the Alarm Snapshot list.)	Information only, no action needed.
DCT002	At least one DMC8 card is not operational. (DCT002 only displayed in the Alarm browsers. DCT002 does not show in the Alarm Snapshot list.)	Remove the DMC8 and insert the DMC8 again to reboot. If the reboot fails, replace the DMC8.
<p>Note: When at least one DMC8 card becomes inoperable, DCT002 appears in the alarm browser history. When all the DMC8 cards become operational again, DCT001 appears in the browser history.</p>		
Presence of an alarm		
DCT101	No alarms. (DCT101 only displayed in the Alarm browsers).	Information only, no action needed.
DCT102	<ol style="list-style-type: none"> 1 DCT102 displayed in the Alarm browsers is an alarm on a DMC8. 2 DCT102 displayed in the Alarm Snapshot is an alarm on a base station. 	<ol style="list-style-type: none"> 1 Open the Alarm Snapshot window for alarm details and perform the corresponding maintenance actions. 2 Look for one or more DCT202 to DCT215 alarms in the Alarm Snapshot window, and perform the corresponding maintenance actions.
DCT103	Base station alarm muted when no alarms. Look for one or more DCT501 alarms for details.(DCT103 only displayed in the Alarm Snapshot window.)	Configure the base station using the OTM, or disconnect the base station.

Table 219
Alarms (Part 2 of 6)

Alarm code	Alarm description	Maintenance action
DCT104	Faceplate cable alarm(s) on DMC8. Look for one or more DCT302 to DCT307 alarms for details.(DCT104 only displayed in the Alarm Snapshot window.)	Perform the DCT302 to DCT307 maintenance action.
DCT105	Software alarm(s) on DMC8. Look for one or more DCT401 to DCT403 alarms for details. (DCT105 only displayed in the Alarm Snapshot window.)	Perform the DCT402 to DCT407 maintenance action.
Base station alarms		
DCT201	No base station alarm. (DCT201 only displayed in the Alarm browsers.)	Information only, no action needed.
DCT202	Local receiver signal missing (base station disconnected). If a re-connection does not solve the problem, one of the following could be the cause: <ol style="list-style-type: none"> 1 the base station 2 the base station's DMC8 card(s) 3 a cable problem between the base station and a DMC8 card. 	Disconnect the base station for 30 seconds. <ol style="list-style-type: none"> 1 Replace the base station. 2 Replace the base station's DMC8. 3 Check the faceplate cabling.
DCT203	Local loss of receiver slot synchronization.	Perform the DCT202 maintenance action.
DCT204	Local loss of receiver frame synchronization.	Perform the DCT202 maintenance action.
DCT205	Local bit error rate bad.	Perform the DCT202 maintenance action.
DCT206	Remote receiver signal missing.	Perform the DCT202 maintenance action.

Table 219
Alarms (Part 3 of 6)

Alarm code	Alarm description	Maintenance action
DCT207	Remote loss of receiver slot synchronization.	Perform the DCT202 maintenance action.
DCT208	Remote loss of receiver frame synchronization.	Perform the DCT202 maintenance action.
DCT209	Remote bit error rate bad.	Perform the DCT202 maintenance action.
DCT210	Synthesizer out of synchronization.	Perform the DCT202 maintenance action.
DCT211	Power amp out of order.	Perform the DCT202 maintenance action.
DCT212	Round-trip delay changed.	Perform the DCT202 maintenance action.
DCT213	RFP synthesizer type changed.	Perform the DCT202 maintenance action.
DCT214	LFC out of synchronization with BMC.	Disconnect and reinsert the DMC8.
DCT215	Error due to synchronization-port mutation.	Can affect the interpretation of the alarm snapshot or alarm browser applications; however, the alarm should clear automatically within 200 seconds.
Faceplate cable alarms		
DCT301	No faceplate cable alarm. (DCT301 only displayed in the Alarm browsers.)	Information only, no action needed.

Table 219
Alarms (Part 4 of 6)

Alarm code	Alarm description	Maintenance action
DCT302	The DMC8card is working; however, there is a loss of faceplate cable synchronization.	<p>Remove all the DMC8s. Check the strap setting on the DMC8s. Check the faceplate cabling. Reinsert all the DMC8 cards.</p> <p>If the above procedure does not solve the problem, try to find which DMC8 card gives the error condition by inserting the DMC8 cards one at a time with a minute in between insertions.</p> <p>If needed, replace the defective DMC8 card or the defect faceplate cables.</p>
DCT303	<p>No faceplate cable synchronization found.</p> <p>The DMC8 card responsible for this alarm cannot pass the alarm on to the DMC8 Relay card.</p>	Perform the DCT302 maintenance action.
DCT304	The DMC8 card is working; however, someone connected a faceplate cable section to the DMC8, causing a counter difference.	Do not connect faceplate cables to a DMC8 on an active DECT system.
DCT305	The DMC8 card is working; however, there is a timing signal loss within the DMC8.	Perform the DCT302 maintenance action.
DCT306	The DMC8 card is working; however, the input of the faceplate cable controller is locked.	Perform the DCT302 maintenance action.
DCT307	The DMC8 card is working; however, the processor is overloaded with too many faceplate cable messages, causing an I/O transmit overflow.	Perform the DCT302 maintenance action. If the DCT302 action does not solve the problem, try provisioning an additional DMC8.

Table 219
Alarms (Part 5 of 6)

Alarm code	Alarm description	Maintenance action
Software alarms		
DCT401	The DMC8 card is working; however, there is a subscription database corruption.	In the Boards window, Synchronize From the DMC8, then Synchronize To the DMC8.
DCT402	<p>The DMC8 card is located in a card slot position that does not match the DMC8 card subscription data card slot address. The mismatch is due to one of the following:</p> <ul style="list-style-type: none"> • the DMC8 card is placed in the wrong card slot position • the DMC8 card will not come into service 	Perform the DCT401 maintenance action.
DCT403	<p>Duplicate subscription in the system.</p> <p>A subscription is moved from a source DMC8 card to a destination DMC8 card; however, the original subscription is still present on the source DMC8 card.</p> <p>The DCT403 alarm should always come from both the source and destination DMC8 cards.</p>	Perform the DCT401 maintenance action. If the problem does not clear, look for duplicated subscription IPUi in the Subscription Property dialog. Delete the unnecessary subscription from the source DMC8.

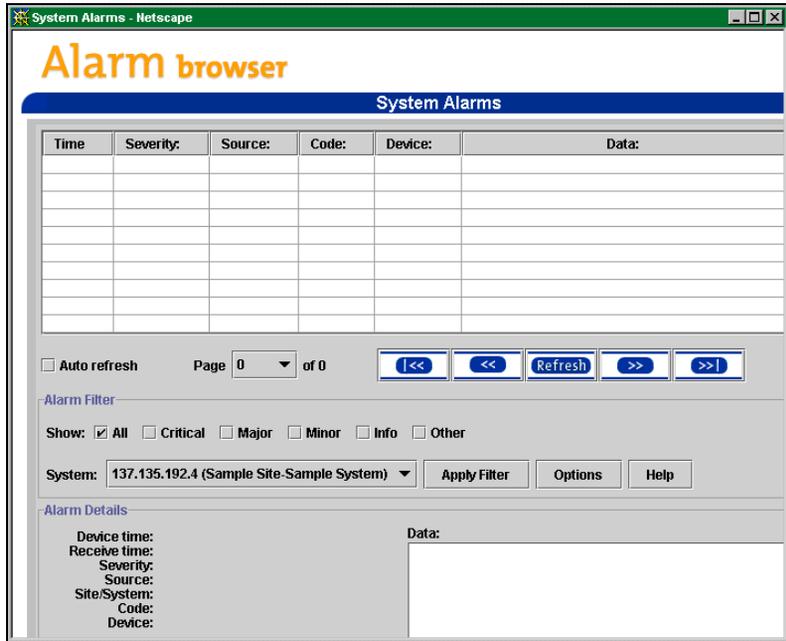
Table 219
Alarms (Part 6 of 6)

Alarm code	Alarm description	Maintenance action
DCT404	<p>(DCT404 only displayed in the Alarm browsers.) One of the following events occurred:</p> <ul style="list-style-type: none"> the power was turned on the DMC8 was inserted into the shelf backplane a software exception restarted the DMC8 	If this alarm was caused by a software exception, examine the alarm browsers for details.
Radio Fixed Part alarm muted		
DCT501	Alarms are muted in the RFP window, however the base station does not have any intrinsic alarms.	Use the RFP window to Cancel Mute Alarms .
Backplane controller unit		
DCT601	This alarm is used by Nortel Networks designers.	Information only, no action needed.

Web Alarm browser

The web Alarm browser has a circular log that provides information on a limited history of alarms. The Web Alarm browser records alarms at all times.

Figure 309
OTM web System Alarm browser



Complete the following steps.

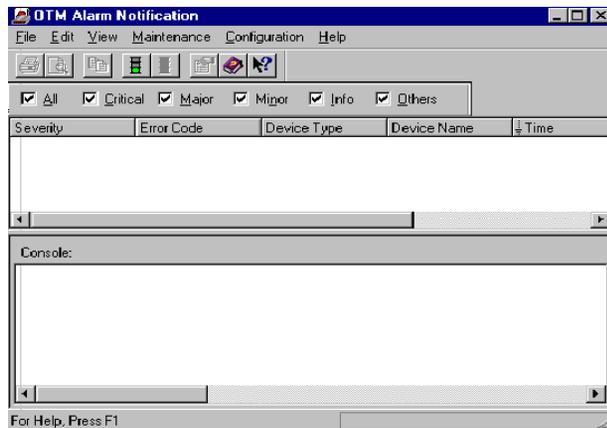
Table 220
Alarm Code maintenance actions

Step	Action
1	Using a web-based navigator, open the login screen and log in. Select the System Navigator. Select the system that supports the DECT system. Select Alarms.
	Follow the instructions on page 415 to page 419 .
2	Examine the code, and take the appropriate maintenance action.
	See Table 219 on page 540 .
	

Windows Alarm Notification

Alarm Notification provides an alert by pagers, E-mail, and forwards SNMP traps to an upstream processor. For more information about the Alarm Notification, see *Optivity Telephony Manager: System Administration* (553-3001-330).

Figure 310
Alarm Notification



Complete the following steps.

Table 221
Alarm Notification

Step	Action
1	Using Windows, open the login screen, login, select the Alarm Notification from the Utilities menu of the OTM Windows Navigator.
	Follow the instructions on, page 415 to page 419 .
2	Examine the Message ID, and take the appropriate maintenance action.
	See Table 219 on page 540 .

Event Monitor window

The Event Monitor window displays the system's Event Log, allowing all recent system events stored in the history file to be viewed. For more information about the Alarm management, see *Optivity Telephony Manager: System Administration* (553-3001-330).

Figure 311
Event Log

Severity	Date	Time	Applicat	User	Data Group	Computer	Message ID	Message
Info	4/4/01	3:37:26 PM	DECT	ADMIN		47.162.0.62	DCT01001	User ADMIN
Info	4/4/01	2:17:31 PM	DECT	DECT Fr		47.162.0.60	DCT01001	User DECT
Info	4/3/01	5:15:23 PM	DECT	ADMIN		47.162.0.62	DCT01001	User ADMIN
Info	4/3/01	4:26:27 PM	DECT	DECT Fr		47.162.0.60	DCT01001	User DECT
Info	4/12/01	11:13:52 AM	DECT	DECT B: Sample Site - Sample Sys		47.162.0.62	DCT02000	Connection

Complete the following steps.

Table 222
Event Log

Step	Action
1	Using Windows, login to OTM. Select the Event Log Viewer from the Maintenance menu of OTM Windows Navigator.
	Follow the instructions on page 415 to page 419 .
2	Examine the Application column.
	DECT indicates a DECT event.
3	Examine the Data Group column.
	Gives the Site name, PBX name, DECT name.

Table 222
Event Log

Step	Action
4	Examine the Message ID column.
	Non-error logs range from 1 to 9999. Error logs range from 10000 to 19999.
5	Examine the Message column.
	Messages are the explanation of Message ID number codes.



LED status for DMC8/DMC8-E and base station

The system LED status indicates the functioning of the DMC8/DMC8-E, base station power and card subsystem operation.

Table 223
DMC8/DMC8-E red LED status

Red LED State	Description	Action
On	The card is in one of the following states: <ol style="list-style-type: none"> 1 not programmed 2 disabled 3 has faults 	<ol style="list-style-type: none"> 1 Program the card. See page 529. 2 Re-enable the card. Use LD 32 ENLC I s c. 3 Replace the card. See page 553.
Flashes three times	Card is doing a self test.	Wait.
Off	<ol style="list-style-type: none"> 1 The card is in service if the yellow LED is off and the green LED is on. 2 The card has no power if all LEDs are off. 	<ol style="list-style-type: none"> 1 No action. 2 Restore power.

Table 224
DMC8/DMC8-E yellow/green LED status (Part 1 of 2)

Yellow LED Status	Green LED Status	Description	Action
Off	Off	Power down.	Restore power.
On	Off	Hardware testing by boot program.	Wait.
On	On	Wait for download command by the boot program.	Wait.
On	Loop‡	No valid main program found by the boot program. Card is continuously restarting.	Start firmware distribution with the DECT Manager.
Slow flash†	On	Faults caused by one of the following: <ul style="list-style-type: none"> • software download in progress • software distribution in progress • subscription or configuration data is saving to the flash ROM 	Wait. Do not remove the card, removal corrupts the flashROM data.
Off	Fast flash††	Card is synchronizing to the faceplate cable bus.	Wait.

Legend for LED action:

† Slow flash = 2 seconds On and 2 seconds Off

††Fast flash = 1 second On and 1 second Off

‡ Loop for no program = 3 seconds On and 0.25 seconds Off

‡ Loop for corrupted program = 12 seconds On and 0.25 seconds Off

Table 224
DMC8/DMC8-E yellow/green LED status (Part 2 of 2)

Yellow LED Status	Green LED Status	Description	Action
Off	Slow flash†	<ol style="list-style-type: none"> 1 Card has no PARI, or has an incomplete PARI. 2 Card has detected an error. 	<ol style="list-style-type: none"> 1 Contact the technical support group. 2 Replace the card. See page 553.
Off	On	Card is in service.	No action required.
Slow flash†	Slow flash†	Simultaneous occurrence of: <ul style="list-style-type: none"> • card has no PARI, or incomplete PARI and • either software distribution is in progress or subscription or configuration data is saving to the flashROM 	Contact the technical support group.

Legend for LED action:

† Slow flash = 2 seconds On and 2 seconds Off

††Fast flash = 1 second On and 1 second Off

‡ Loop for no program = 3 seconds On and 0.25 seconds Off

‡ Loop for corrupted program = 12 seconds On and 0.25 seconds Off

Table 225
Base station LED status

Green	Description	Action
Off	No power.	Check DMC8 to base station cables.
Flashes	Input power present but no output power.	Check DMC8 LED Status and Alarm Reports. Check DMC8 to base station cables.
On	Power present and communications with DMC8 established.	No action required.

Removing and inserting a DMC8 for maintenance



CAUTION — Service Interruption

Do not bypass the DMC8-E or the DMC8 immediately to the left of the DMC8-E. A bypassed DMC8-E can not regenerate the faceplate bus signals in the left half of the shelf.

Although the separated left half of the shelf remains in synchronization, system performance decreases as follows:

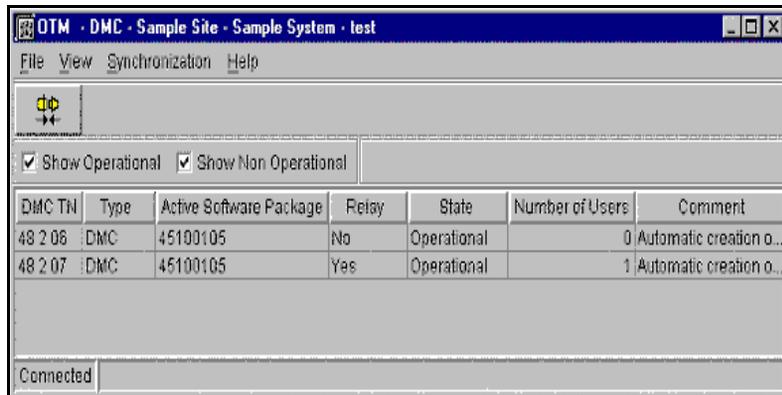
- Any calls passing through the separated part of the faceplate bus are dropped.
- Handsets configured on a DMC in the separated half cannot make or receive calls through a base station in the other half.

To remove, re-seat, or insert DMC8 card, perform the following actions:

- Backup the data from the DMC8 card to be removed.
- Remove the faulty DMC8 card.
- Insert a working DMC8 card.
- Restore the data to the DMC8 card that was replaced.

Backing up a DMC8 card's configuration and subscription information

Figure 312
DMC window



Complete the following steps.

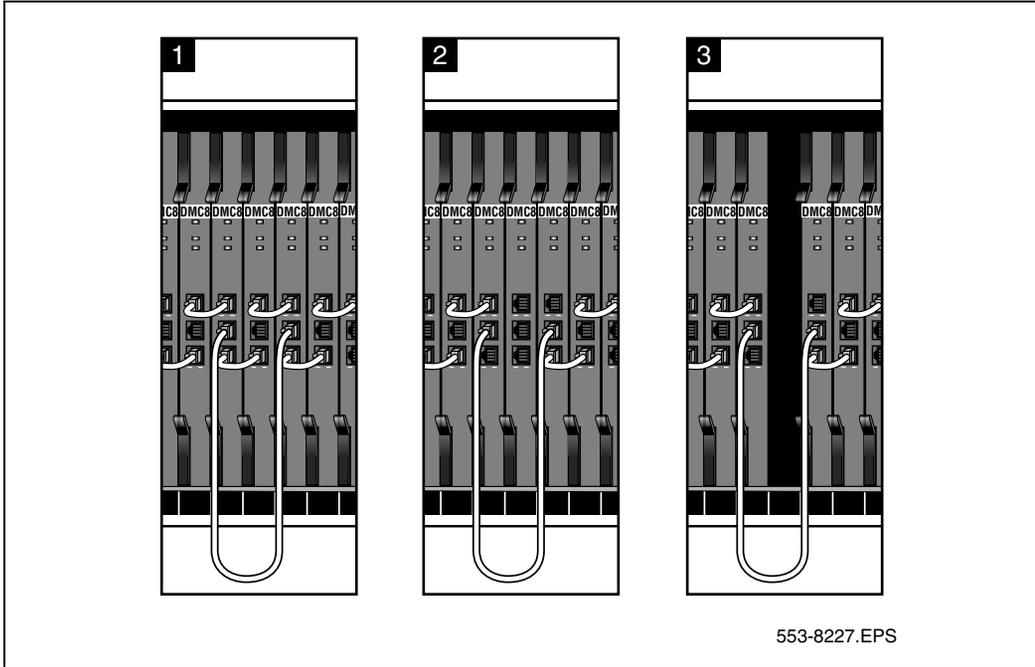
Table 226

Backing up a DMC8 card's configuration and subscription information

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window. Open the Boards window.
	Follow the instructions on page 412 to page 421 .
2	Select the DMC8 card.
	Highlight the DMC8 card in the list.
3	Save the DMC8 data on the OTM.
	From the Synchronization pull-down menu, click on Synchronize From .
	

Removing a faulty DMC8 card

Figure 313
DMC8 card removal



Complete the following steps.

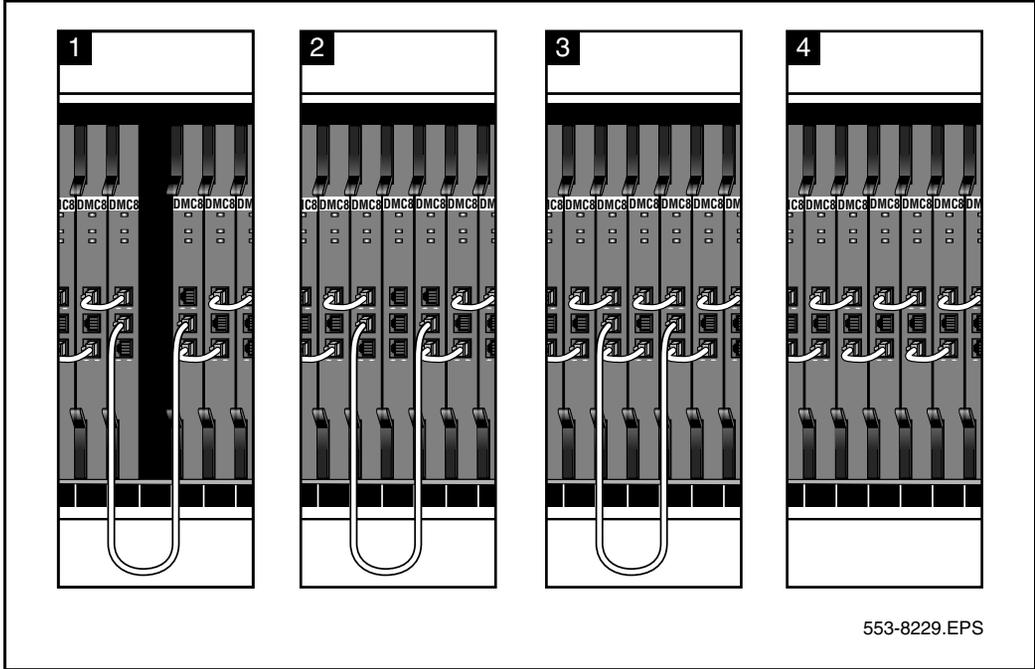
Table 227
Removing a faulty DMC8 card

Step	Action
1	Connect the maintenance bypass cable.
	Plug the maintenance bypass cable into the Maint port of the DMC8 cards on either side of the DMC8card to be removed.
2	Disconnect the faceplate cables.
	Detach the faceplate cables from the DMC8 card to be removed and from the cards on either side of it.
3	Remove the DMC8.
	Release the card locking devices and lever the card out of the shelf backplane.



Inserting a serviceable DMC8 card

Figure 314
DMC8 card insertion



Complete the following steps.

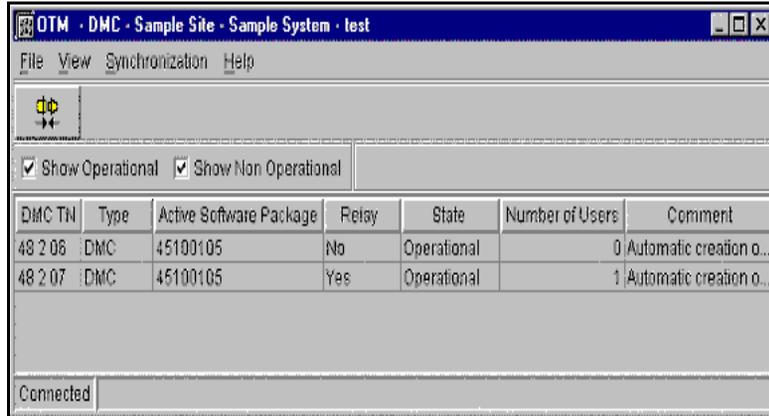
Table 228
Inserting a serviceable DMC8 card

Step	Action
1	Insert the DMC8 card.
	Lever the card into the shelf backplane and latch the card locking devices.
2	Connect the faceplate cables.
	Insert the faceplate cables into the DMC8 card just inserted and into the cards on either side of it.
3	Disconnect the maintenance bypass cable.
	Remove the maintenance bypass cable from the Maint port of the DMC8 cards on either side of the replaced DMC8 card.



Restoring subscription data to the serviceable DMC8 card

Figure 315
DMC window



Complete the following steps.

Table 229
Restoring subscription data to the serviceable DMC8 card

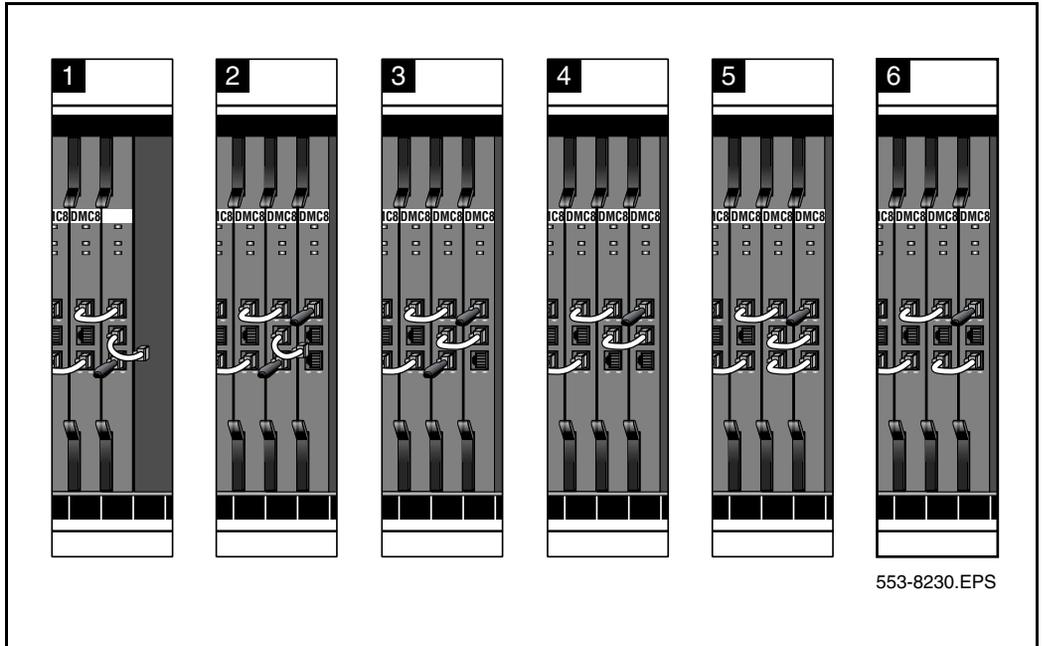
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window, and open the Boards window.
	Follow the instructions on page 412 to page 421 .
2	Select the DMC8.
	Highlight the DMC8 in the list.
	Save the DMC8 data on the OTM.
	From the Synchronization pull-down menu, click on Synchronize To .



Note: Restore only one DMC (Board) at a time.

Adding a DMC8 card to a DECT system

Figure 316
Add a DMC8 card to the system



Complete the following steps.

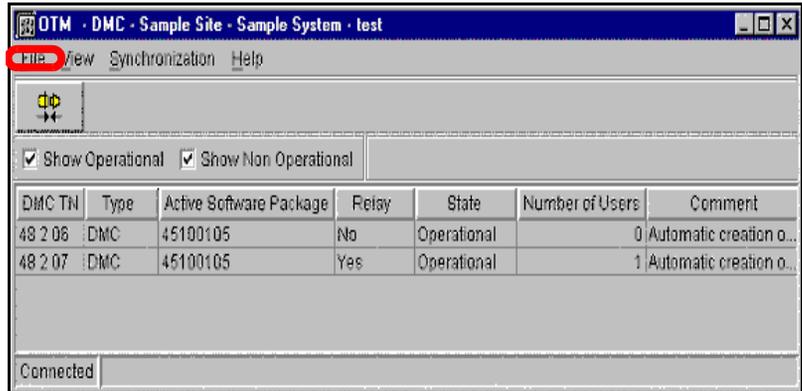
Table 230
Adding a DMC8 card to a DECT system

Step	Action
1	Connect the bypass cable. Plug the bypass cable into the Maint port of the existing DMC8.
2	Insert the DMC8 card, with a terminating plug installed, into the top  port. Lever the card into the shelf backplane and latch the card locking devices.
3	Connect the bypass cable to the added DMC8 card. Plug the bypass cable into the Maint port of the added DMC8 card.
4	Remove the terminating plug from the existing card. Remove the terminating plug from the bottom  port of the existing DMC8 card.
5	Connect the faceplate cable. Insert the faceplate cables into the bottom  port of the existing DMC8 card and the added DMC8 card.
6	Disconnect the bypass cable. Remove the maintenance bypass cable from the Maint port of the existing DMC8 card and the added DMC8 card.
7	Add the DMC8 card to the database. Use the procedure on page 560 .



Reusing a DMC8 card in another DECT system

Figure 317
DMC window



Complete the following steps.

Table 231
Reusing a DMC8 card in another DECT system

Step	Action
1	Select the DMC8card to be reused. Highlight the DMC8 in the list.
2	Delete the subscriptions from the DMC8 card memory. From the File pull-down menu, click on Clear .



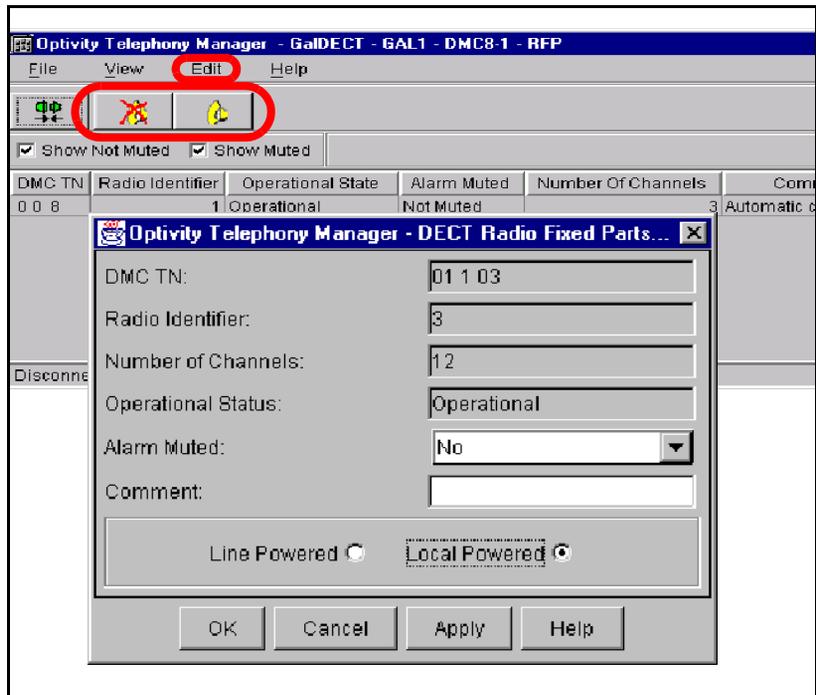
Removing and re-installing a base station for maintenance

Removing and re-installing a base station for maintenance involves:

- 1 “Muting alarms on a base station” on [page 564](#)
- 2 “Canceling mute alarms on a base station” on [page 566](#)
- 3 “Disconnecting and re-installing a base station” on [page 567](#)

Muting alarms on a base station

Figure 318
RFP window, and DECT Radio Fixed Parts properties window



Complete the following steps.

Table 232
Muting alarms on a base station

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window, and open the RFP window.
	Follow the instructions on page 412 to page 421 .
2	Select the DMC8 to mute.
	Highlight the DMC8 in the list.
3	Mute the alarms.
	From the File pull-down menu, click on Mute Alarms , or click on the  icon.



Canceling mute alarms on a base station

Complete the following steps.

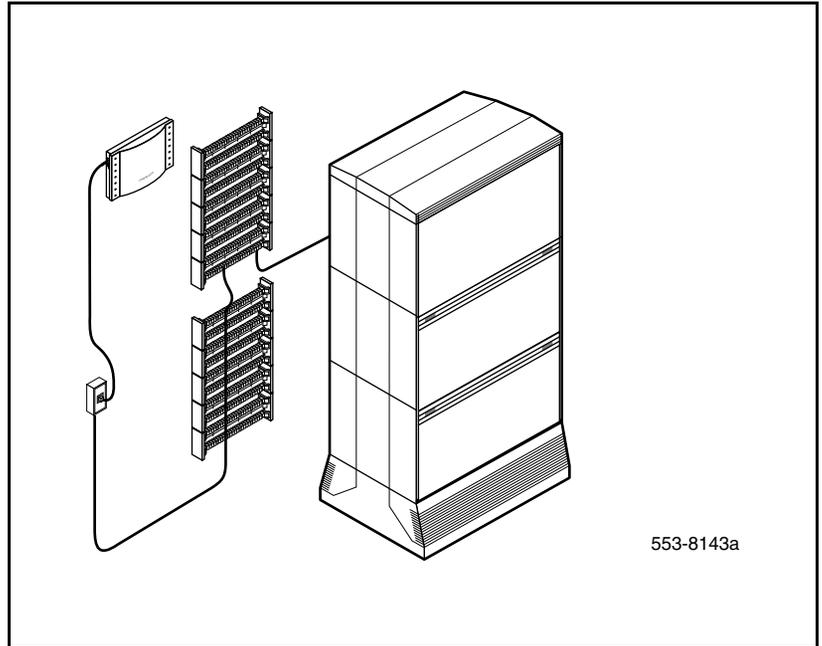
Table 233
Canceling mute alarms on a base station

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window, and open the RFP window.
	Follow the instructions on page 412 to page 421 .
2	Select the DMC8 to cancel mute alarms.
	Highlight the DMC8 in the list.
3	Cancel mute alarms.
	From the File pull-down menu, click on Cancel Mute Alarms , or click on the  icon.



Disconnecting and re-installing a base station

Figure 319
Disconnect/re-install the base station



Note: After disconnecting the cable to the base station, wait for 60 seconds before reconnecting another base station.

Complete the following steps.

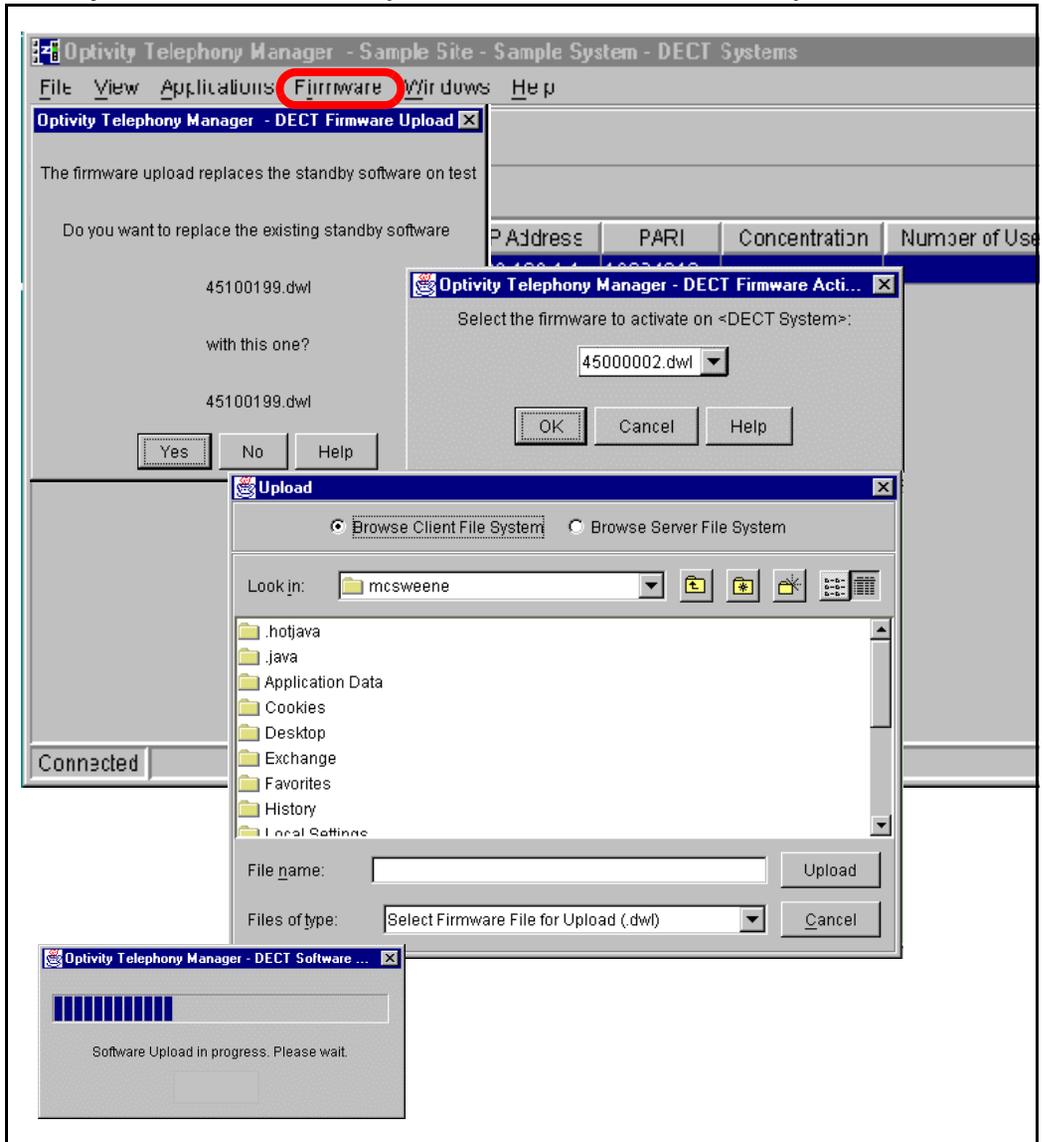
Table 234
Disconnecting/reinstalling a base station

Step	Action
1	Disconnect the RJ45 cable, MDF side.
	Unplug the RJ45 cable from the wall socket of the RJ45 Connection Box.
2	Disconnect the RJ45 cable, base station side.
3	Remove the unserviceable base station from the mounting plate.
4	Re-install a serviceable base station on the mounting plate.
5	Re-connect the RJ45 cable to the base station.
6	Re-connect the RJ45 cable, MDF side.



Uploading and activating firmware

Figure 320

DECT systems, DECT Firmware Upload, DECT Firmware Activation, Upload

Complete the following steps.

Table 235
Uploading and activating firmware

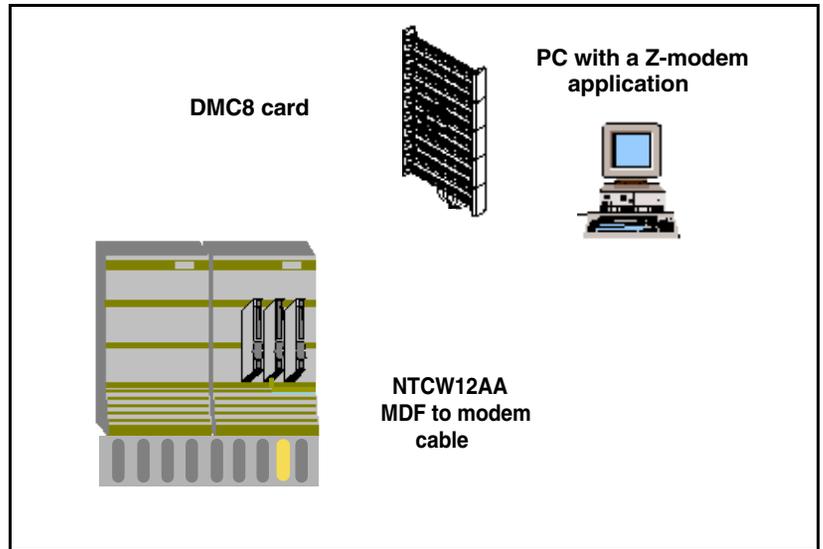
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on page 412 to page 421 .
2	Open the Firmware upload dialog.
	Select the Firmware pull-down menu, and click on Upload .



Recovering from a firmware upload failure

It is possible to upload DMC firmware with the V.24 port of a DMC8 card using a PC equipped with Z-modem protocol. During the upload, the DMC8 card deletes the active and standby firmware, and stores the uploaded firmware as the active firmware. When the upload completes, the boot program starts the uploaded firmware.

Figure 321
Recovery upload to a DMC8 card



Complete the following steps.

Table 236
Recovering from a firmware upload failure (Part 1 of 2)

Step	Action
1	Configure the COM port settings. baud rate = 19200 data bits = 8 parity = no parity stop bit = no flow control
2	Connect the NTCW12AA cable to the DMC8 card to be uploaded.
	Refer to Table 237 on page 572 for the NTCW12AA cable tip and ring connections.

Table 236
Recovering from a firmware upload failure (Part 2 of 2)

Step	Action
3	Locate the OTM server COM port.
	Connect the NTCW12AA cable connector into the PC COM port.
4	Unseat the DMC8 card.
	Disconnect the DMC8 card from the shelf backplane.
5	Access Z-modem application; for example, Windows HyperTerminal.
	Start > Programs > Accessories > HyperTerminal.
6	Initiate the file transfer.
	Start the Z-modem application on the PC.
7	Activate the boot program.
	Insert the DMC8 card into the shelf backplane.



Note: The BIX tip and ring connections shown in [Table 237 on page 572](#) correspond to standard BIX designation. The first pair are labeled T0 and R0. See the section in *Large System: Installation and Configuration* (553-3021-210) that deals with planning and designating the MDF.

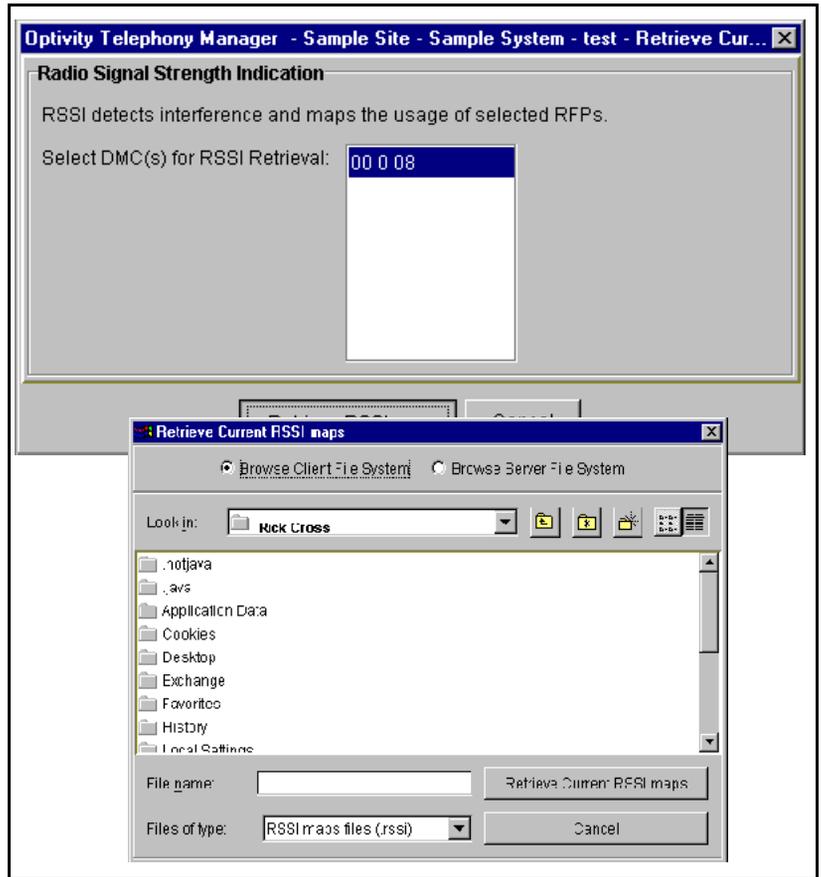
Table 237
NTCW12AA cable to MDF connections

DMC8 Relay card MDF connection	Cable color	DB25 connector pin number	Signal designator
T1	Grey	8	V.24DCD
R2	Yellow	4	V.24RTS
T3	Blue	2	V.24TXD
R3	Red	3	V.24RXD
T4	Pink	7	V.24GND

Retrieving current RSSI data

The Radio Signal Strength Indication (RSSI) shows interference and usage by a certain base station. A snapshot of the RSSI data is retrieved and stored in a file when the user requests it. If the file already existed, the new snapshot data is appended to the last snapshot data in the file.

Figure 322
Retrieve Current RSSI window, and Retrieve Current RSSI maps window



Complete the following steps.

Table 238
Retrieving current RSSI data

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window, and open the Current RSSI Data window.
	Follow the instructions on page 412 to page 421 .
2	Select a DMC8 card or cards for RSSI information retrieval.
	Scroll and highlight a TN in the Select DMC(s) for RSSI Retrieval: box.
3	Retrieve the RSSI data.
	Click on the Retrieve RSSI now button.
4	Store the RSSI data.
	Select a file location.
	

RSSI file format

The data for each RFP is a nibble for indication of the RSSI value for each slot (24) for each carrier (10). This results in 10 (number of carriers) times 24 (number of slots) nibbles equal to 240 nibbles (120 octets).

Figure 323
RSSI file format

```

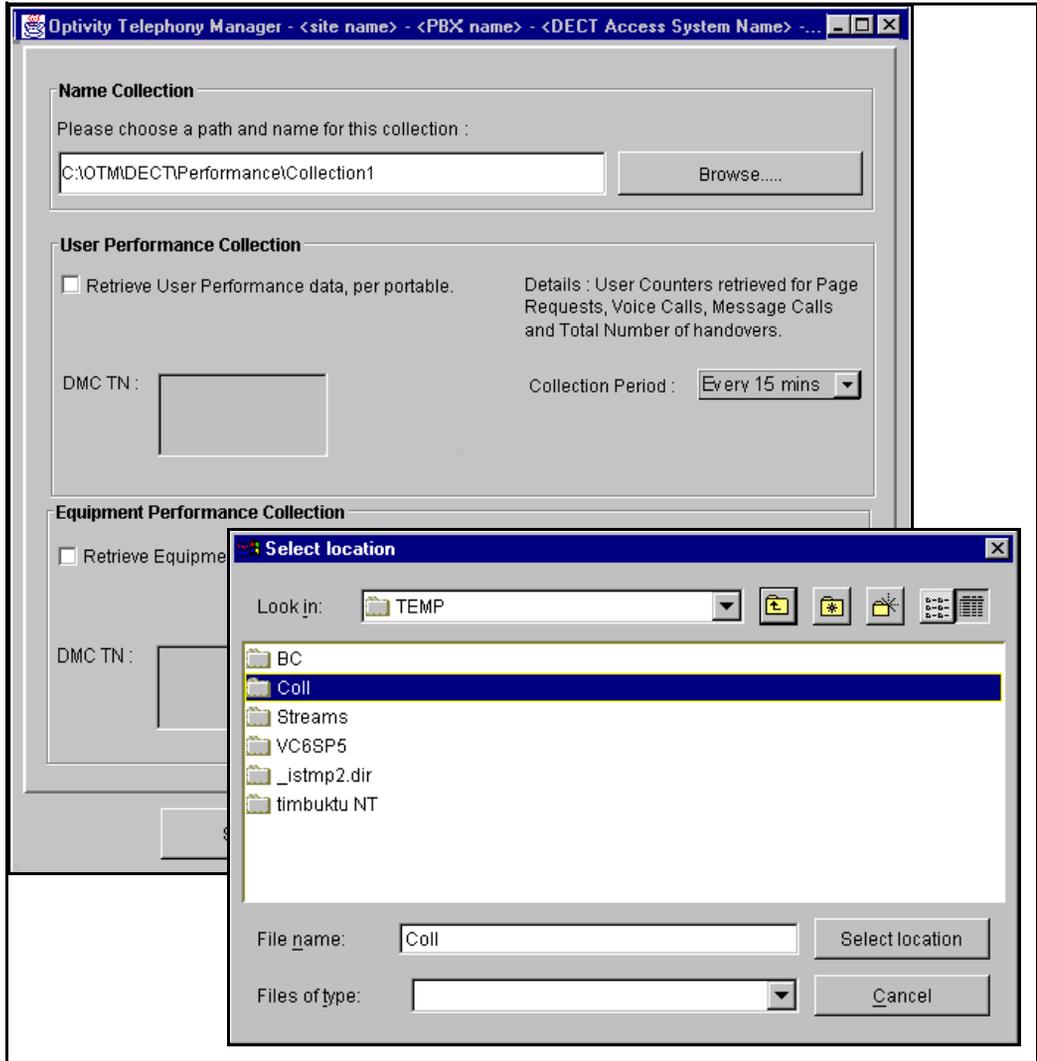
-----
-----
Wed Apr 18 16:00:42 CEST 2001
-----
-----
DMC TN : 48 1 07

RFP 1 :
0F0F0FFF0FFF0F0F0FFF0FFF0F0F0FFF0FFF0F0F0FFF0FFF5F0F0FFF0FFF0F0F0FFF0FFF0F
FF0F3F5FFF5FFF0F0F0FFF0FFF0F1F0FFF0FFF0F0F0FFF0FFF0F0F0F0F1F0F0F0F0F0F0F0FFF0FFF0FFF
0FFF0F0FFF0FFF0F0F0FFF0FFF0F0F0FFF0FFF0F0F0FFF0FFF

RFP 2 :
FOFFF0F0FFF0FFF4F0F0FFF0FFF0F0F0FFF0FFF8F0F0FFF0FFF0F0F0F0FFF3F0F0F0FFF0F0FFF0FFF0F0
FFF0F0F0F0FFF0F0F0F0FFF0FFF0F0F0FFF0FFF0F0FFF0FFF3F5F5FFF0FFF0F0FFF0FFF0F0FFF0FFF0F0
FFF0FFF0F0FFF0FFF0F0FFF0FFF0F0FFF0FFF0F0FFF0FFF0F0FFF
    
```

Performance Collection

Figure 324
Performance Collection window and Select location dialog



**CAUTION — Service Interruption**

Check to ensure the Performance Collection is not using all the OTM server storage space.

Complete the following steps.

Table 239

Collecting performance data: User Performance, Equipment Performance (Part 1 of 2)

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window, and open the Performance Collection window.
	Follow the instructions on page 412 to page 421 .
2	Select a collection name.
	Enter a name or browse for a collection name.
3	Select the check box User Performance Collection or Equipment Performance Collection , or both.
	Click on the check box.
4	Select a collection period. Note: The User Performance Collection period and the Equipment Performance Collection period are independent of each other.
	Highlight a time from the Collection Period box.
5	Select a DMC8 card.
	Highlight a TN from the DMC TN box.

Table 239

Collecting performance data: User Performance, Equipment Performance (Part 2 of 2)

Step	Action
6	Start the collection.
	Click the Start button.
7	Stop the collection.
	Click the Stop button.



Collecting Equipment Performance data

Equipment Performance Collection file format

File name: (for example) epm-brdPP_YYYYMMDDHHMMSS.xml,
epm-brd24_20010418170920.xml.

DTD Document Type Definition: <<Epm.zip>>

Counter description (in the DTD order)

See “Equipment Performance Collection file sample” on [page 609](#)

Board (DMC8) statistical performance data

Table 240
Board statistical performance data

Counter	Description
1	Indicators, not used
2	Number of dropped calls
3	Number of page failures
4	Number of page retries
5	Number of page requests
6	Number of page rejects
7	Number of voice calls
8	Number of message call
9	Number of dropped voice calls
10	Number of dropped message calls
11	Number of dropped voice calls in active phase
12	Number of dropped message calls in active phase
13	Number of dropped voice calls in passive phase
14	Number of dropped message calls in passive phase
15	Number of successful supplementary service calls
16	Number of supplementary service calls with no response
17	Number of supplementary service call rejects
18	Number of slip events on BBC highway A
19	Number of slip events on BBC highway B
20	Number of DECT clock errors

RFP (base station) statistical performance data

Table 241
RFP statistical performance data (Part 1 of 2)

Counter	Description
1	Indicators: 1 = 6 Channel RFP, 2 = 12 Channel RFP, 3 = Unknown
2	Number of times BMC overrun occurred
3	Number of times TBC established
4	Number of NT Handshake failures
5	Current radio head error code. See Radio Head Errors section below.
6	Number of units of 100 ms since last radio head error
7	Bit counter pre-set (the measured RFP cable delay in DECT bits)
8	Number of times dummy bearer 0 was set-up
9	Number of times dummy bearer 1 was set-up
10	Number of times dummy bearer 0 was replaced
11	Number of times dummy bearer 1 was replaced
12	Number of frames with corrupted A fields (R-CRC check failed)
13	Number of frames with corrupted B-fields (X-CRC check failed)
14	Number of bad syncs
15	Number of muted frames
16	Total duration of calls using this RFP in units of 10 ms
Radio Head Errors	
17	Number of times Local Receiver Signal Missing
18	Number of times Local Loss Receiver Slot Sync
19	Number of times Local Loss Receiver Frame Sync
20	Number of times Local Bit Error Rate Bad
21	Number of times Remote Receiver Signal Missing
22	Number of times Remote Loss Receiver Slot Sync
23	Number of times Remote Loss Receiver Frame Sync

Table 241
RFP statistical performance data (Part 2 of 2)

Counter	Description
24	Number of times Remote Bit Error Rate Bad
25	Number of times Synthesizer Out Of Sync
26	Number of times Power Amp Out Of Order
27	Number of times Round Trip Delay Changed
28	Number of times RFP Synthesizer Type Changed
29	Number of times LFC Out Of Sync With BMC
30	Number of times Error Due To Sync Port Mutation

RFP (base station) Error Codes

Error codes are shown in decimal and in (hexadecimal).

Table 242
RFP Error codes (Part 1 of 2)

Error code	Description
1 (0x01)	Local Receiver Signal Missing
2 (0x02)	Local Loss of Receiver Slot Sync
3 (0x03)	Local Loss of Receiver Frame Sync
4 (0x04)	Local Bit Error Rate Bad
5 (0x05)	Remote Receiver Signal Missing
6 (0x06)	Remote Loss of Receiver Slot Sync
7 (0x07)	Remote Loss of Receiver Frame Sync
8 (0x08)	Remote Bit Error Rate Bad
9 (0x09)	Synthesizer Out Of Sync
10 (0x0A)	Power Amp Out Of Order
11 (0x0B)	Round Trip Delay Changed
12 (0x0C)	RFP Synthesizer Type Changed

Table 242
RFP Error codes (Part 2 of 2)

Error code	Description
13 (0x0D)	LFC Out Of Sync With BMC
14 (0x0E)	Error Due To Sync Port Mutation
255 (0xFF)	No Error

RFP-Channel occupation performance data

The 13 RFP-channel occupation counters give the number of seconds that n RFP channels were free (n = 0 – 12).

Backbone-Channel occupation statistical performance data

The 33 Backbone-channel occupation counters give the number of seconds that n backbone channels were free (n = 0 – 32).

Speech-Channel occupation statistical performance data

The 33 Speech-channel occupation counters give the number of seconds that n speech channels were free (n = 0 – 32).

Collecting User Performance data**User Performance Collection file format**

File name: upm-brdPP_YYYYMMDDHHMMSS.xml

Example: upm-brd24_20010418170924.xml

DTD Document Type Definition: <<Upm.zip>>

See “User Performance Collection file sample” on [page 611](#).

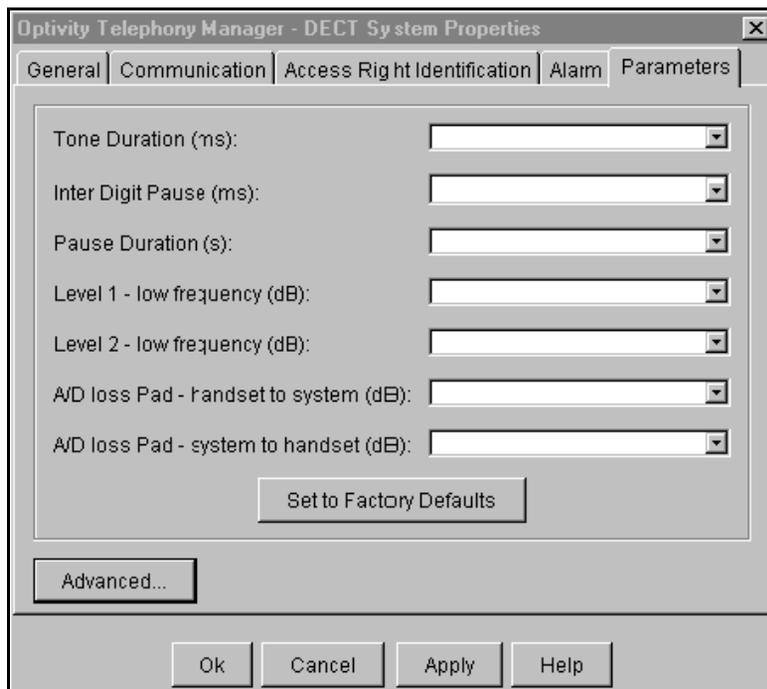
Statistical Performance Data

Table 243
Statistical Performance Data

Counter	Description
1	Indicators, not used
2	Number of page failures
3	Number of page retries
4	Number of page requests
5	Number of page rejects
6	Number of voice calls
7	Number of message calls
8	Number of voice calls, dropped in passive state
9	Number of voice calls, dropped in active state
10	Number of message calls, dropped in passive state
11	Number of message calls, dropped in active state
12	Number of hand overs
13	Number of failed hand overs
14	Number of aborted hand overs
15	Number of delayed hand overs
16	Current Circuit Number (0xFF, if none)

Setting parameters

Figure 325
DECT System Properties – Parameters tab



Complete the following steps.

Table 244
Setting parameters

Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system, Launch the DECT application. Open the DECT Systems window. Open the Properties dialog, and click on the Parameters tab.
	Follow the instructions on page 412 to page 421 .
2	Select the parameter.
	Select a pull-down menu item, and click Apply .

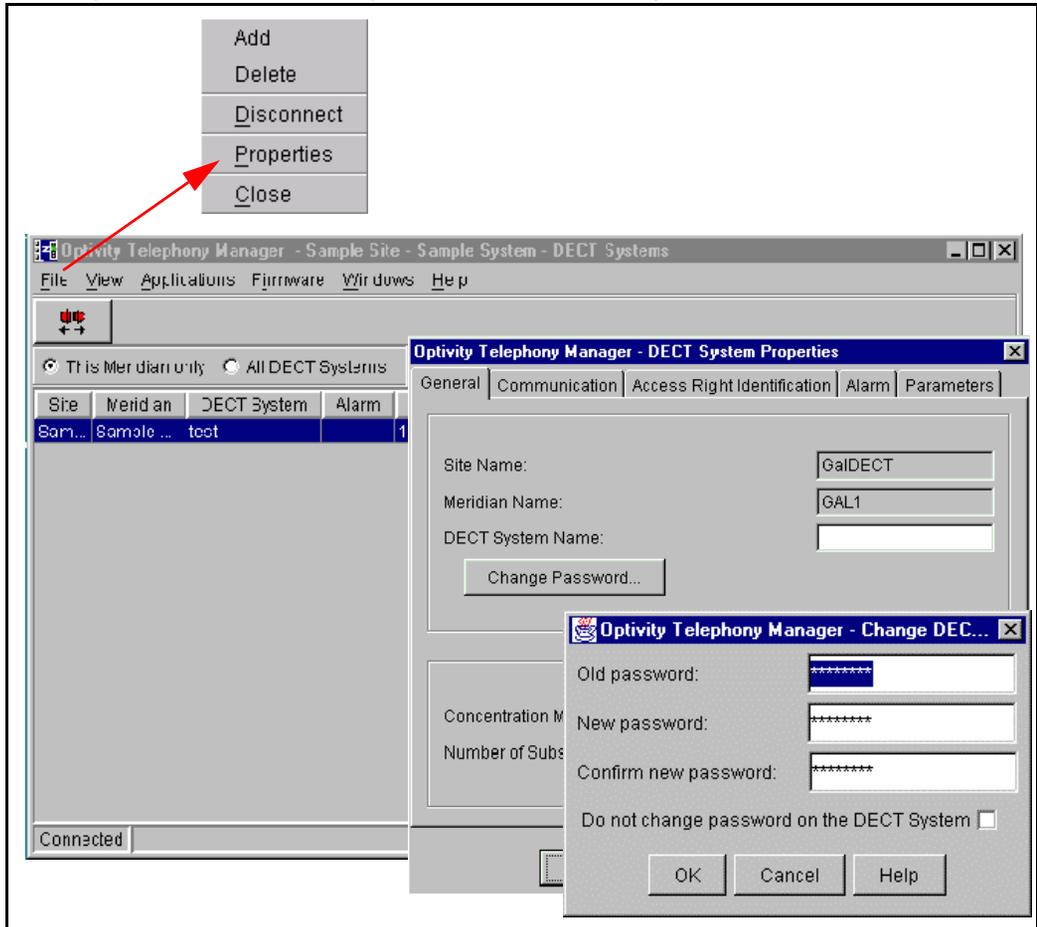


Recovering a password

The DECT system password can be changed by a customer and the distributor managing the system would not know the changed password. The password could be damaged in the OTM database by a disk crash and not backed up, or the password can be forgotten. Passwords cannot be accessed from the OTM.

The OTM provides a mechanism allowing the password to be reset to the factory password. The password can be changed in the DECT system and the OTM DECT database, or in the OTM DECT database only.

Figure 326
DECT Systems window, DECT Systems Properties, Change DECT Password



Complete the following steps.

Table 245
Recovering a password

Step	Action
1	Using Windows, login to OTM. Select the system that supports DECT. Launch the DECT application. Open the DECT Systems window. Open the Properties dialog, and click on the General tab.
	Follow the instructions on page 412 to page 414 .
2	Select password change.
	Click on Change Password .
3	Change to the factory default password. Note: The default is case sensitive.
	Type Arsenal in the New password box.
4	Confirm the password.
	Type Arsenal in the Confirm new password box.
5	Set up for a password change the on the DECT system.
	Remove the DMC8 Relay card, and reinsert the DMC8 Relay card.
6	Connect to the DECT system <i>within five minutes</i> .
	From the Applications pull-down menu click on Connect or the  (green) icon.
	

Appendix A: Upgrade a DECT system to a SNMP managed system

Overview

There are two types of managers for DECT systems:

- Windows Manager
- OTM with DECT application

The Windows Manager, a non-SNMP device, is used to manage the first generation of DECT systems. An OTM with a DECT application manages the present generation of DECT systems.

Note: The following terms are used in this appendix:

- The DMC (NTCW00AA) and DMC-E (NTCW01AA) are referred to as DMC4 and DMC4-E.
- A DECT system equipped with both DMC4/DMC4-E and DMC8/DMC8-E is referred to as a Mixed DECT system.

An OTM can manage a DMC4/DMC4-E DECT system or a Mixed DECT system.

In a DMC4/DMC4-E DECT system, or a Mixed DECT system managed by an OTM, the DMCs must run SNMP software.

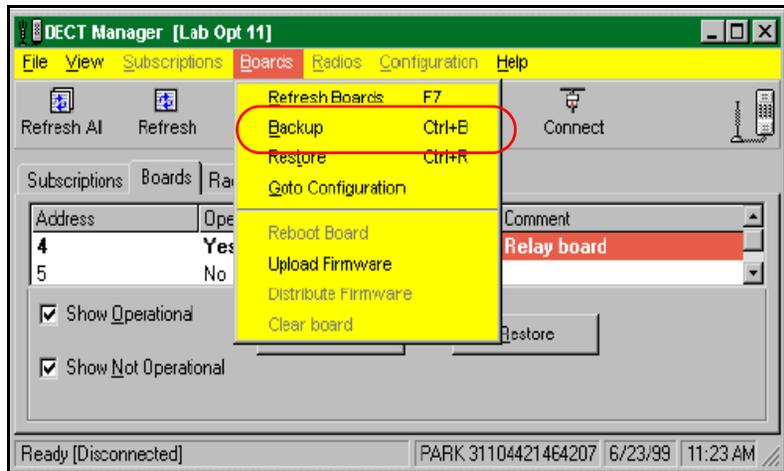
A Mixed DECT system must be managed by an OTM. In a Mixed DECT system, a DMC8/DMC8-E must be the relay card.

In a DMC4/DMC4-E DECT system or a Mixed DECT system managed by an OTM, the DMCs must run 451001xx.dwl software, and the DMC8s/DMC8-Es must run 470001xx.dwl software. If DECT Messaging is used, the DMCs must run 451002xx.dwl software, and the DMC8s/DMC8-Es must run 470002xx.dwl software

Connecting an OTM to a DMC4 Relay card using an Ethernet connection is not supported. Only a V.24 connection can be used.

Backing up the DMC4 data with Windows Manager

Figure 327
DECT Manager window



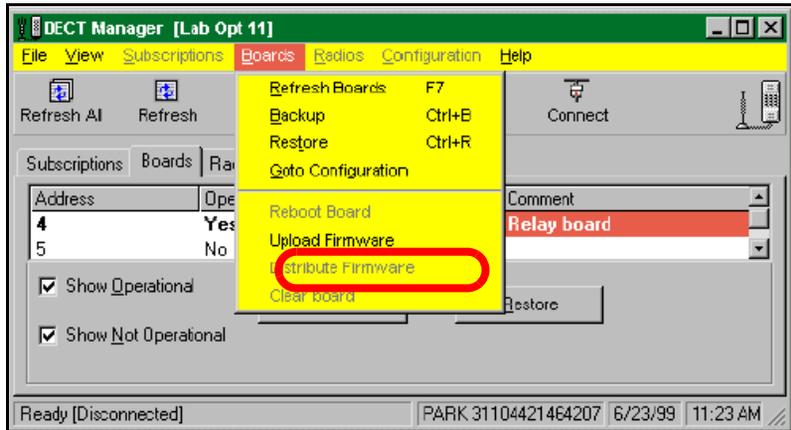
Complete the following steps.

Table 246
Backup the DMC data with Windows Manager

Step	Action
1	Launch the Windows Manager program.
	Double click on the DECT-Manager icon.
2	Select the Companion system.
	Highlight the system and click on the OK button.
3	Select the Boards tab.
	Place the cursor on the tab and click.
4	Select all DMC4s.
	Highlight all addresses.
5	Backup the DMC4 data.
	Click on the Backup button.
6	Close the connection to the relay card.
	From the toolbar, click on the Connect icon.
	

Uploading OTM supporting firmware to the DMC4 Relay card

Figure 328
DECT Manager window



Complete the following steps.

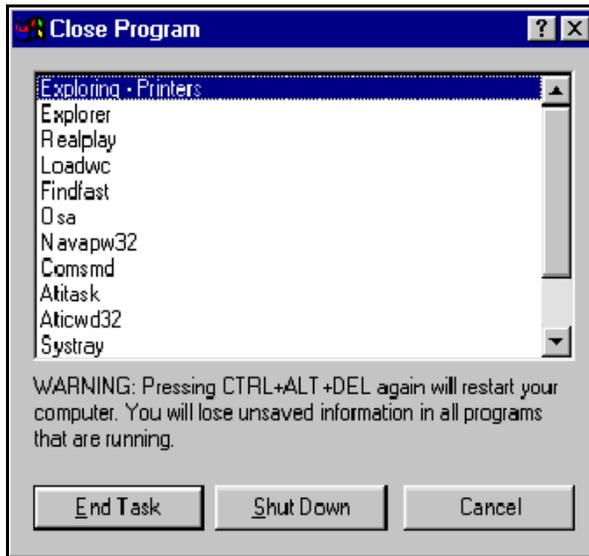
Table 247
Upload OTM supporting firmware to the DMC4 Relay card

Step	Action
1	Load the OTM supporting 451001xx.dwl firmware file on the Windows Manager PC.
2	Select the Companion system.
	Highlight the system and click on the OK button.
3	Select the Boards tab.
	Place the cursor on the tab and click.
4	Select the Relay DMC4.
	Highlight the address.
5	Upload the 451001xx.dwl firmware file to the Relay DMC.
	From the Boards pull-down menu, click on Upload firmware .



Closing the Windows Manager

Figure 329
Close Program dialog



Complete the following steps.

Table 248
Close the Windows Manager

Step	Action
1	Open the Close Program dialog.
	Press the Ctrl + Alt + Delete keys.
2	Disable the Windows Manager.
	Select DECT Manager and press the End Task button.



Changing the DMC4 Relay card default IP address

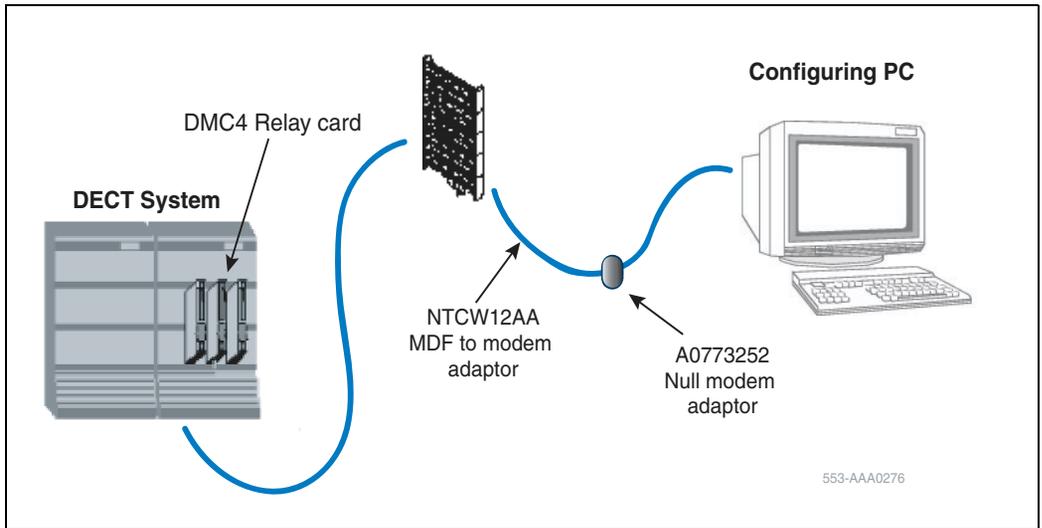
Connect the DMC4 Relay card to a configuring PC



CAUTION — Service Interruption

The DMC4 address must be changed to conform to the network IP address plan.

Figure 330
NTCW12AA cable to configuring PC connections



Note: The configuring PC can be the OTM server or another PC.
If the configuring PC is the OTM server, the Configuring PC shown in [Figure 330](#) will be the OTM Server shown in [Figure 332](#) on [page 598](#).

Table 249
Connect the DMC4 relay card to a configuring PC

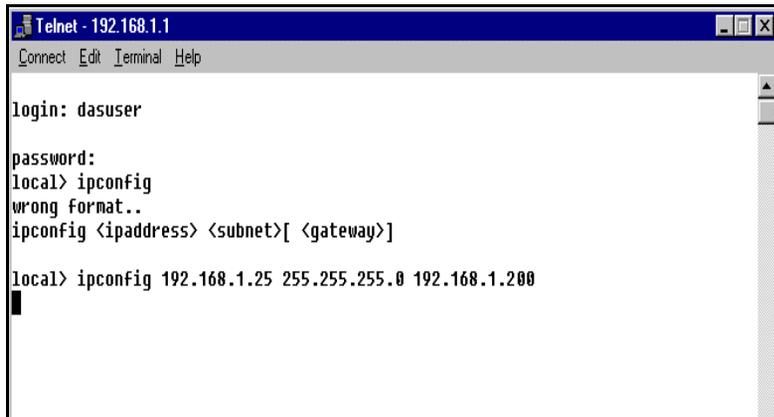
Step	Action
1	Connect the NTCW12AA cable to the Configuring PC.
	Insert the NTCW12AA cable into the A0773252 Null Modem Adaptor and connect to the Configuring PC.



Resetting the DMC4 Relay card to the server IP address

Change the Relay DMC4 IP address to conform to the server network IP address plan.

Figure 331
Telnet 192.168.1.



```
Telnet - 192.168.1.1
Connect Edit Terminal Help

login: dasuser
password:
local> ipconfig
wrong format..
ipconfig <ipaddress> <subnet>[ <gateway>]

local> ipconfig 192.168.1.25 255.255.255.0 192.168.1.200
```

Complete the following steps.

Table 250
Reset the Relay DMC4 IP address to the LAN IP address

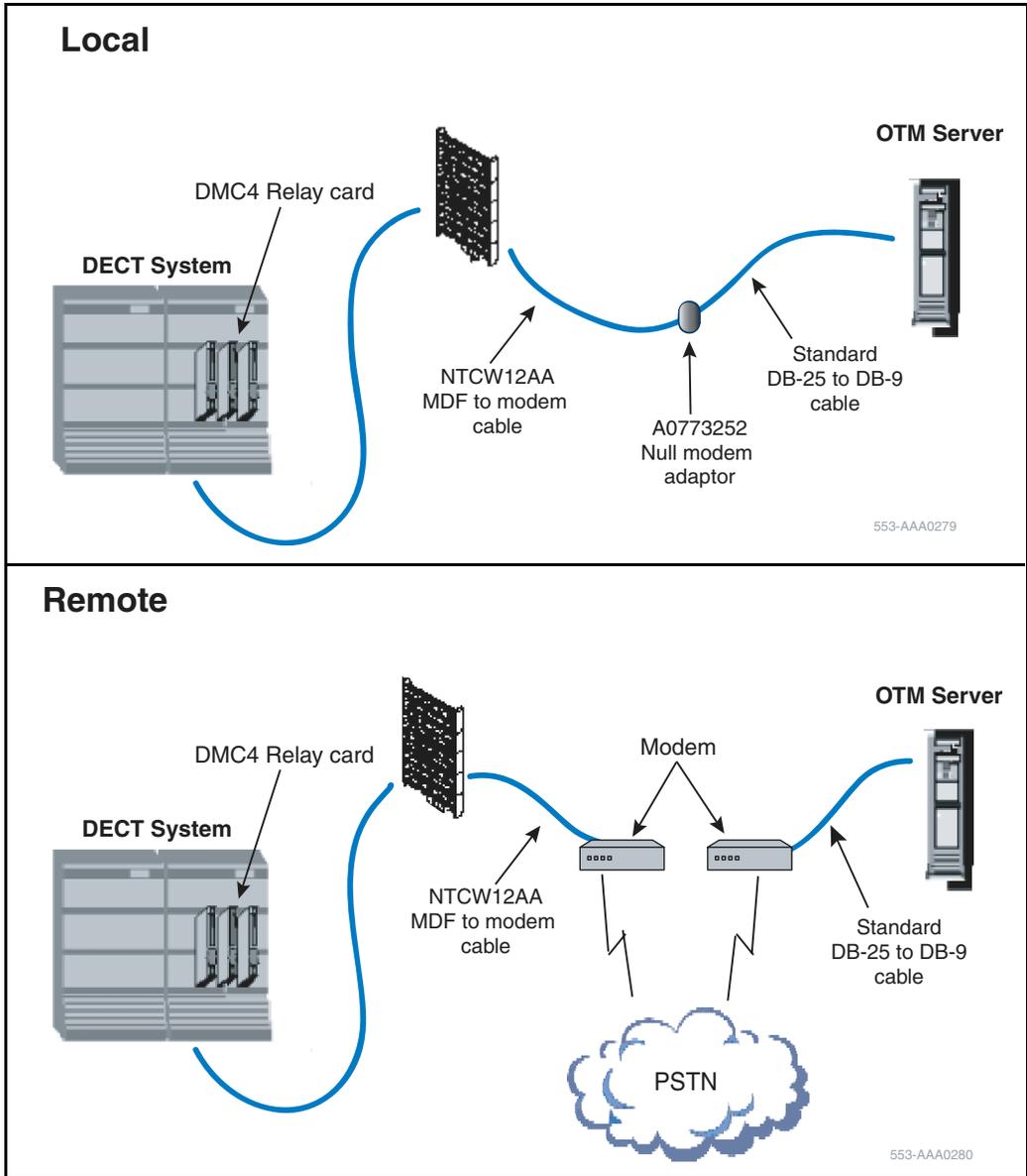
Step	Action
1	Open the Telnet dialog.
	Click on Start>Accessories>Telnet.
2	Enter user name and password.
	Type user name dasuser and password dasuser .
3	When the connection prompt local appears, change the Relay DMC4 card address.
	<p>Enter the following command:</p> <p>ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz</p> <p>xxx.xxx.xxx.xxx = new IP address of the Relay DMC4 card.</p> <p>yyy.yyy.yyy.yyy = subnet mask, usually 255.255.255.0</p> <p>zzz.zzz.zzz.zzz = IP address if this is the gateway for the network.</p> <p>Note: zzz.zzz.zzz.zzz should be set to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OT server, zzz.zzz.zzz.zzz should be set to the IP address of the interface, which is on the same network as the DMC4 Relay card.</p>



Connecting the DMC4 Relay to the OTM server

Connect the OTM server to a DMC4 Relay card using a V.24 connection. Connecting an OTM to a DMC4 Relay card using an Ethernet connection is not supported.

Figure 332
OTM Server to DMC4 relay connections (local and remote)



Complete the following step.

Table 251
Connect the DMC4 Relay to the OTM server

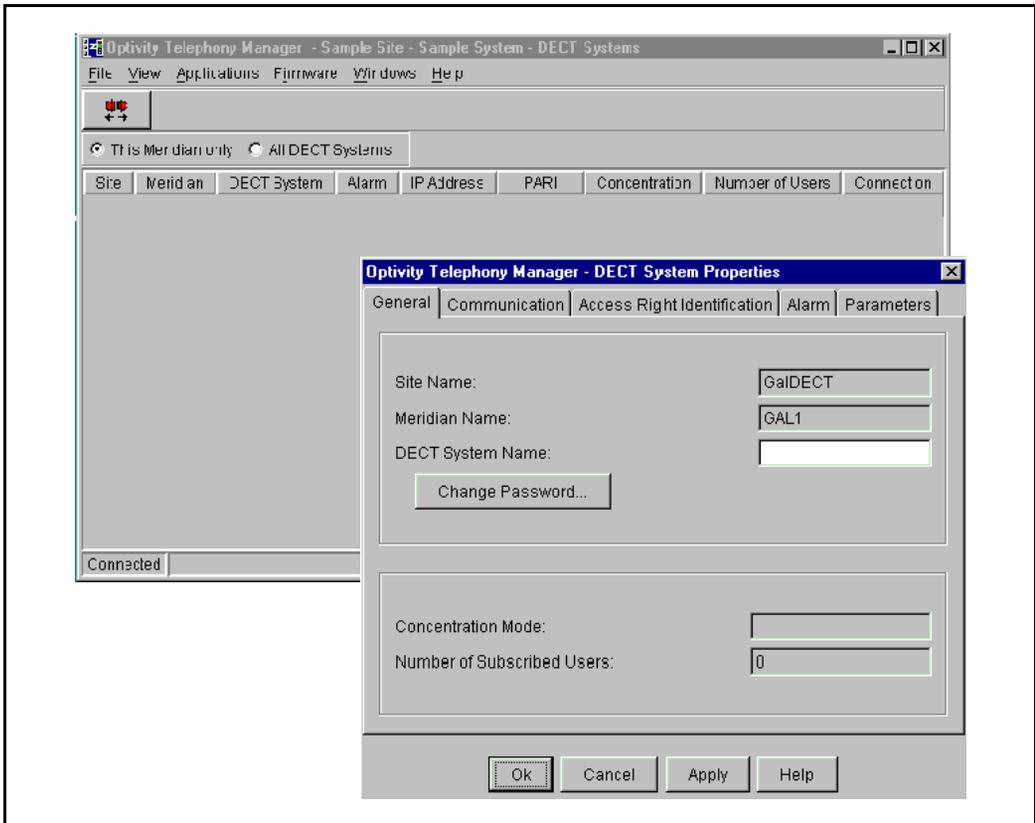
Step	Action
1	Connect the OTM server to the DMC4 Relay card.
	Refer to "Adding a V.24 serial connection" on page 348 .



Adding the DECT system

Adding General System Properties

Figure 333
DECT systems and DECT System Properties



Complete the following steps.

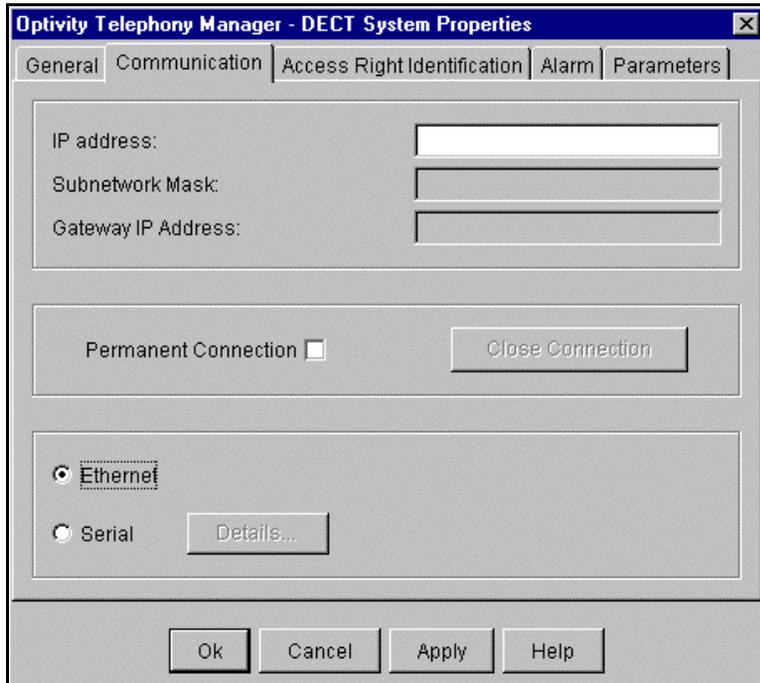
Table 252
Add the DECT system

Step	Action
1	Open the DECT System Properties dialog.
	Pull down File>Add .
2	Enter the DECT system name.
	Type the system name in the DECT System Name box.
3	Accept the changes.
	Click on the Apply button.



Setting the DECT system IP address to match the DMC4 Relay card

Figure 334
System Properties – Communication



Complete the following steps.

Table 253**Set the IP address of the DMC4 Relay card in the manager**

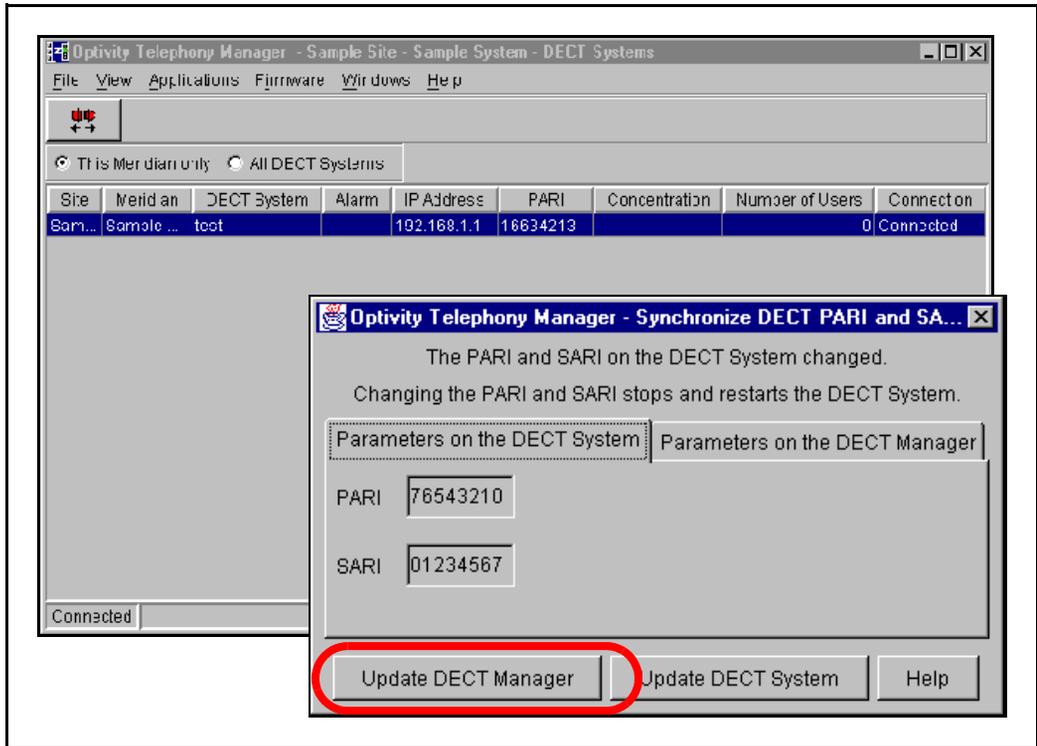
Step	Action
1	Open the Communications dialog.
	Click on the Communications tab.
2	Enter the IP address.
	Type the IP address that was entered in Table 250 on page 597 .
3	Select Serial .
	Click on Serial radio button, and go to “Adding a V.24 serial connection” on page 348 .
4	Accept the changes.
	Click on the OK button.
	Note: When the OK button or Apply button is clicked at this point, the manager attempts to connect to the DECT system to write the MIB2 system name.



Synchronizing data with the DECT system

When the DECT manager connects to the DECT system, synchronization occurs. The OTM database can be updated with the DECT system data.

Figure 335
DECT systems, and a synchronize dialog



Complete the following steps.

Table 254
Synchronize data with the DECT system

Step	Action
1	If the toolbar icon is red , indicating the DECT system connection is enabled, disconnect from the DECT system.
	Double click on the icon, or use File>Disconnect . Go to step 3.
2	If the toolbar icon is green .
	Go to step 3.
3	Re-connect to the DECT system.
	Double click on the red icon, or use File>Connect .
4	Store the DECT system data in the OTM Manager database.
	Click on the Update DECT Manager button on all synchronization dialogs.
	

Confirming the active software package on the DMC4 Relay card

Figure 336
DMC window and DECT Board properties dialog

DMC TN	Type	Active Software Package	Relay	State	Number of Users	Comment
48 2 06	DMC	45100105	No	Operational	0	Automatic creation o...
48 2 07	DMC	45100105	Yes	Operational	1	Automatic creation o...

Complete the following steps.

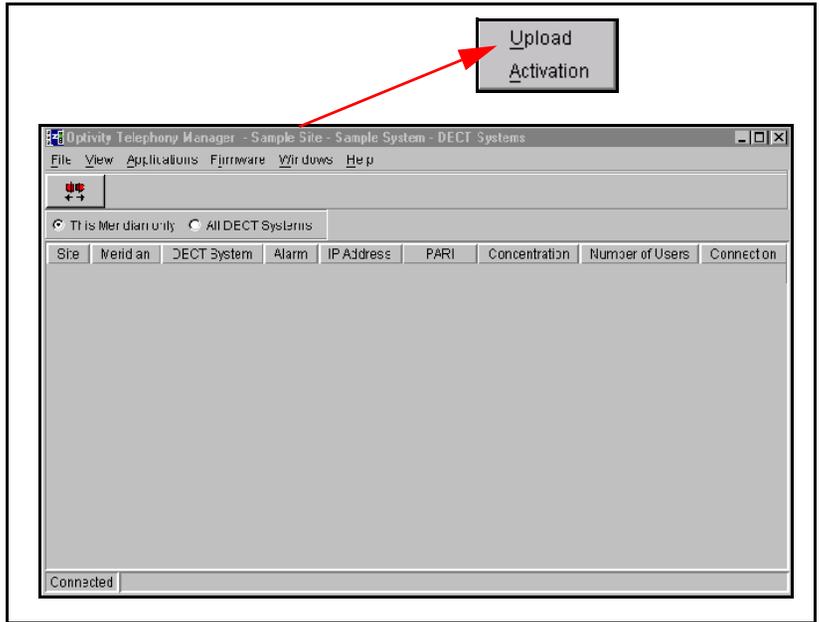
Table 255
Confirm the active software package on the DMC4 Relay card

Step	Action
1	Examine the Active Software Package on the DMC4 relay in the DMC window list. Active Software Package must be 451001xx.dwl firmware, the same one that was loaded on page 592 .
2	Close the DMC window. Click on the close box.



Activating the firmware on all DMC4s

Figure 337
DECT Systems window



Complete the following step.

Table 256
Activate the firmware on all DMC4s

Step	Action
1	Activate the 451001xx.dwl firmware the same as was loaded on page 592 to all DMC4s.
	From the Firmware pull-down menu, click on Activate .



Monitoring the firmware activation

Figure 338
DMC window

DMC TN	Type	Active Software Package	Reply	State	Number of Users	Comment
48 2 06	DMC	45100105	No	Operational	0	Automatic creation o...
48 2 07	DMC	45100105	Yes	Operational	1	Automatic creation o...

Complete the following step.

Table 257
Monitor the firmware activation

Step	Action
1	Examine the Active Software Package on the DMC4 relay card in the DMC window list.
	Active Software Package must be 451001xx.dwl firmware on all DMCs. See page 592 .




```
</data>  
</file>
```

User Performance Collection file sample

```
<?xml version="1.0"?>  
<file>  
<header>  
<systeminfo PARI="44446666"/>  
<boardinfo boardnumber="24"/>  
<package package_id="45100105"/>  
</header>  
<data>  
<ppstat RecNum="2">  
<dateandtime>2001,1,12,18,17,37,0</dateandtime>  
<ipui>40110000E5A97B7F84</ipui>  
<dnr>20801</dnr>  
<counters>0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,255</counters>  
</ppstat>  
</data>  
</file>
```


Meridian 1, Succession 1000,
Succession 1000M

DECT

Description, Planning, Installation, and Operation

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