

---

**Meridian 1**  
**Succession 1000**  
**Succession 1000M**  
Succession 3.0 Software

---

# DECT

## Description, Planning, Installation, and Operation

Document Number: 553-3001-370  
Document Release: Standard 1.00  
Date: October 2003

---

Copyright © 2003 Nortel Networks  
All Rights Reserved

Produced in Canada

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.

---



---

# 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)





---

# Contents

---

<b>About this document</b> .....	<b>11</b>
Subject .....	11
Applicable systems .....	11
Intended audience .....	13
Conventions .....	13
Related information .....	16
<b>Product description</b> .....	<b>19</b>
Contents .....	19
Overview .....	19
Mobility card (DMC8) .....	21
Base stations .....	33
Handsets .....	37
Optivity Telephony Manager .....	44
Systems window .....	61
Subscriptions window .....	81
DMC boards window .....	100
Radio Fixed Part (base station) window .....	104
Active Alarm Snapshot window .....	108
Performance Collection window .....	112
Multi-site Mobility Networking .....	116
Messaging and alarms .....	117

<b>Engineering guidelines . . . . .</b>	<b>121</b>
Contents . . . . .	121
System capabilities and limits . . . . .	121
DMC8 engineering guidelines . . . . .	126
 <b>Site planning . . . . .</b>	 <b>135</b>
Contents . . . . .	135
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
 <b>Installation and configuration . . . . .</b>	 <b>231</b>
Contents . . . . .	231
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

---

Configuring DECT on the OTM server . . . . .	303
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
<b>System administration . . . . .</b>	<b>411</b>
Contents . . . . .	411
Windows access to the DECT application . . . . .	412
Web-based browser access to the DECT application . . . . .	415
DECT Systems window . . . . .	420
Adding DECT systems . . . . .	424
Deleting DECT systems . . . . .	445
Configuring non-concentrated handsets . . . . .	447
Configuring concentrated handsets on a PBX . . . . .	456
Retrieving subscription data for handsets . . . . .	467
Enabling subscriptions . . . . .	469
Activating the PIN on the handsets . . . . .	471
Subscribing the C4010, C4010 Ex, C4020 handsets . . . . .	472
Subscribing the C4050 handset . . . . .	480
Working with handset subscriptions . . . . .	484
Deleting TNs that are not on the switch . . . . .	501
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
<b>System maintenance .....</b>	<b>537</b>
Contents .....	537
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
<b>Appendix A: Upgrade a DECT system to a SNMP managed system .....</b>	<b>589</b>
Overview .....	589
Backing up the DMC4 data with Windows Manager .....	590
Uploading OTM supporting firmware to the DMC4 Relay card .....	592
Closing the Windows Manager .....	594
Changing the DMC4 Relay card default IP address .....	595
Connecting the DMC4 Relay to the OTM server .....	597
Adding the DECT system .....	600
Synchronizing data with the DECT system .....	604
Confirming the active software package on the DMC4 Relay card .....	606
Activating the firmware on all DMC4s .....	607
<b>Appendix B: Performance Collection file samples .....</b>	<b>609</b>

Equipment Performance Collection file sample . . . . .	609
User Performance Collection file sample . . . . .	611



---

## 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)**

<b>This Meridian 1 system...</b>	<b>Maps to this Succession 1000M system</b>
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)**

<b>This Meridian 1 system...</b>	<b>Maps to this Succession 1000M system</b>
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**

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



**DANGER — Serious Injury**

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



**CAUTION — Data Loss**

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



**CAUTION — Equipment Damage**

Advise of a procedure that can result in equipment damage.



**CAUTION — Service Interruption**

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



**WARNING — Personal Injury**

Advise 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.
<div>END</div>	

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**

To access Nortel Networks documentation online, click the **Technical Documentation** link under **Support** on the Nortel Networks home page:

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

### **CD-ROM**

To obtain Nortel Networks documentation on CD-ROM, contact your Nortel Networks customer representative.



---

# Product description

---

## Contents

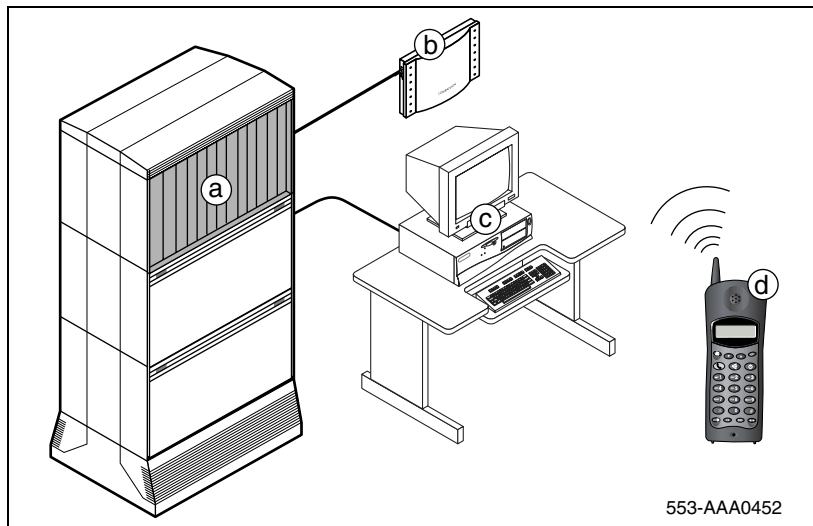
This section contains information on the following topics:

Overview .....	19
Mobility card (DMC8) .....	21
Base stations .....	33
Handsets .....	37
Optivity Telephony Manager .....	44
Systems window .....	61
Subscriptions window .....	81
DMC boards window .....	100
Radio Fixed Part (base station) window .....	104
Active Alarm Snapshot window .....	108
Performance Collection window .....	112
Multi-site Mobility Networking .....	116
Messaging and alarms .....	117

## 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

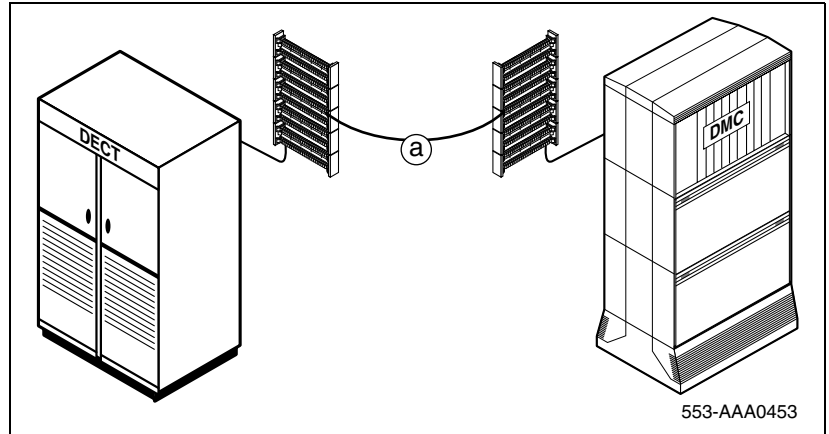
If there is no digital connection to the network, the appropriate clock controller must be installed and operated in free run mode.



**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**

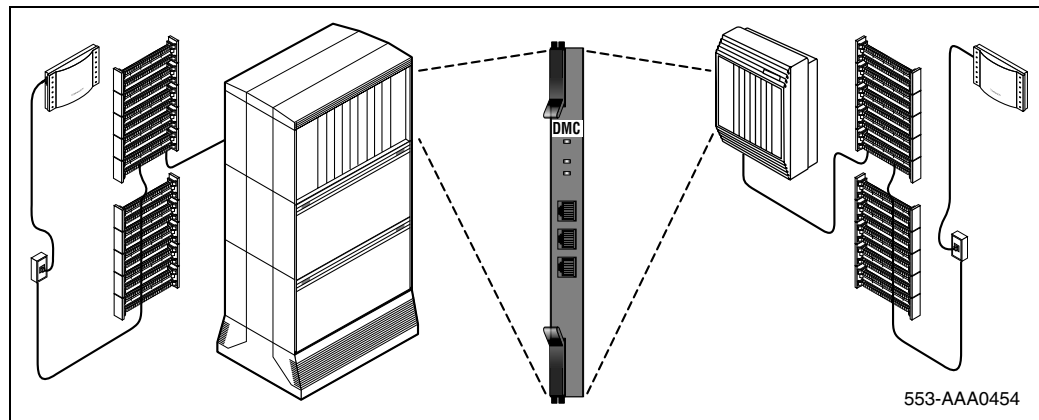


Where multiple DECT systems share the same radio coverage area, the DECT synchronization port must be used. The DECT synchronization port is accessed through an MDF connection. Failure to connect the DECT synchronization ports of each system can lead to service interruptions.

## 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.

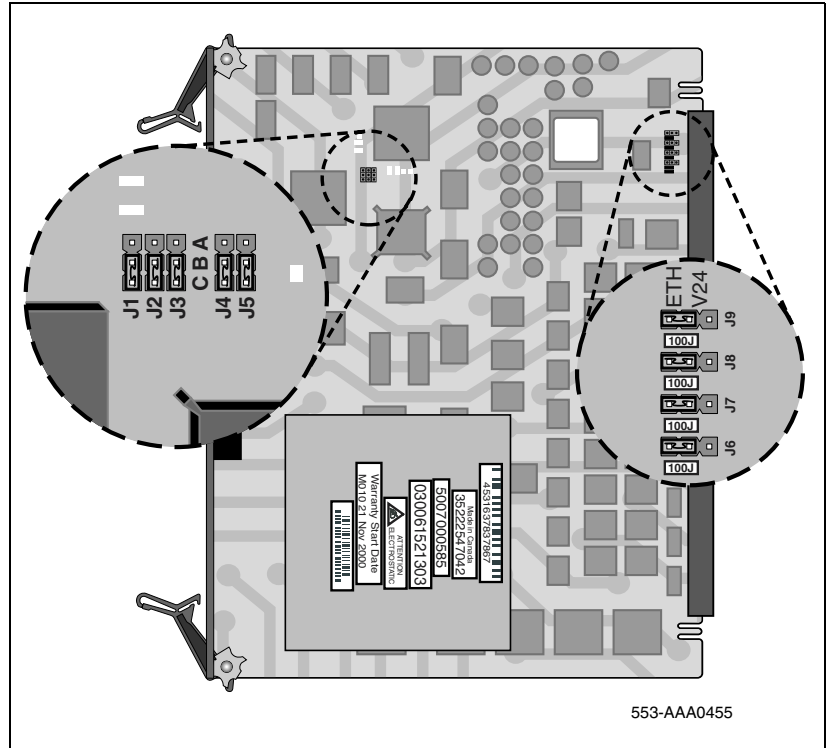
The DMC8s are interconnected by faceplate cables, allowing them to pass information to each other.

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.

## DMC8 options

**Figure 4**  
**DMC8 options**



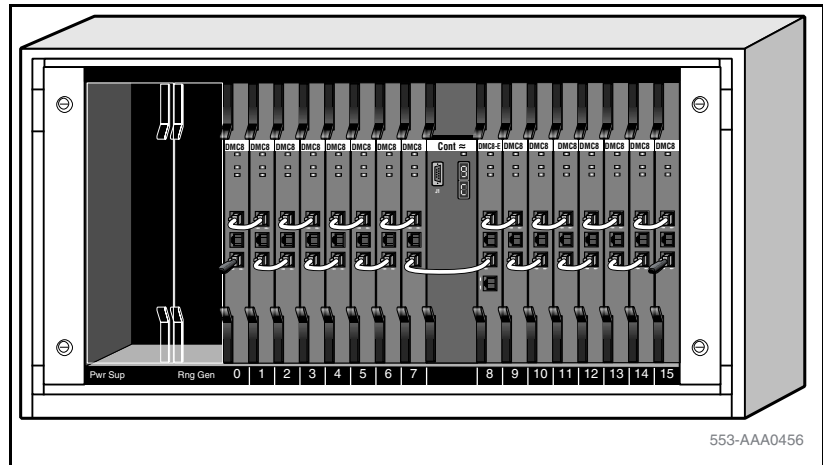
The component side of the DMC8 contains jumpers J1, J2, and J3. The jumpers indicate card status.

### DMC8 – Expander (DMC8-E)

The NTCW01AB DMC8-E DECT Mobility Card – Expander provides the same functions as a DMC card.

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.

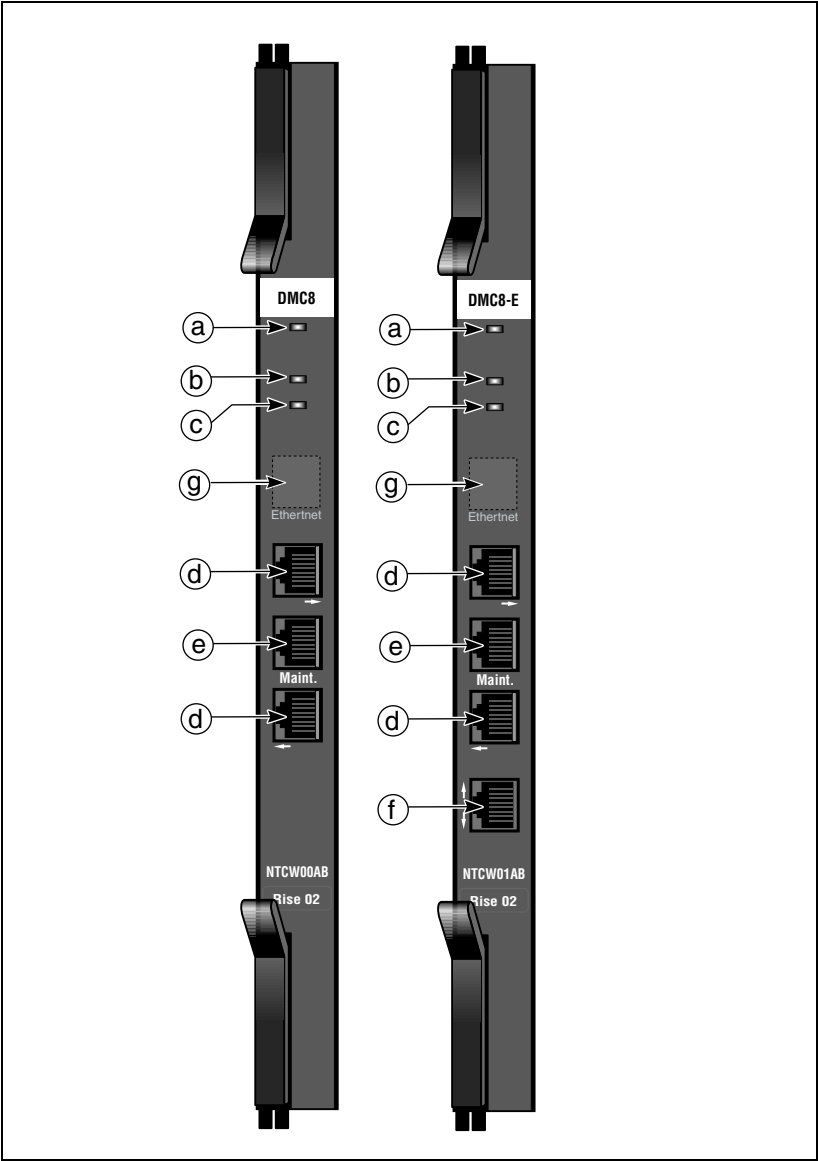
An NTCW25AA DME daughterboard is required to provide Ethernet OTM access. The daughterboard is also required to enable DECT Messaging. The DME daughterboard is not required for serial OTM access. Only one DME daughterboard is required per system.

## 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](#).

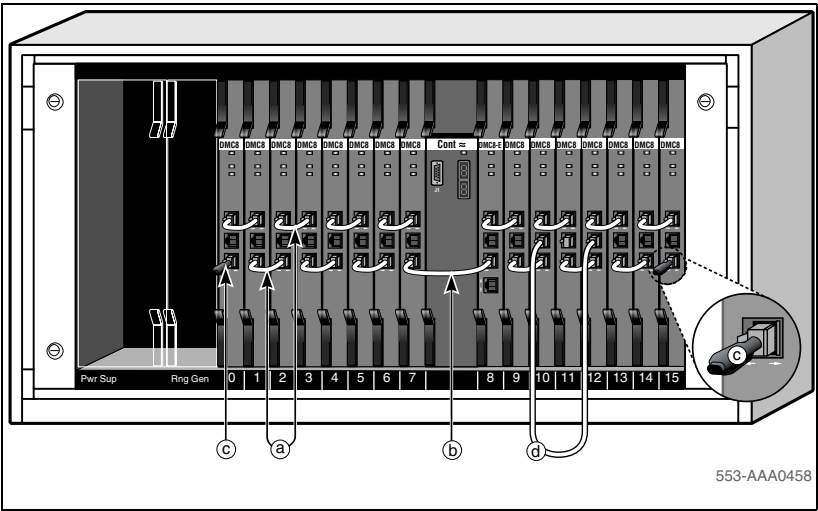
The faceplate cabling layout plan must specify that the DMC8 to DMC8-E cable connects into the ports as shown in Figure 7 on [page 28](#).



**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**

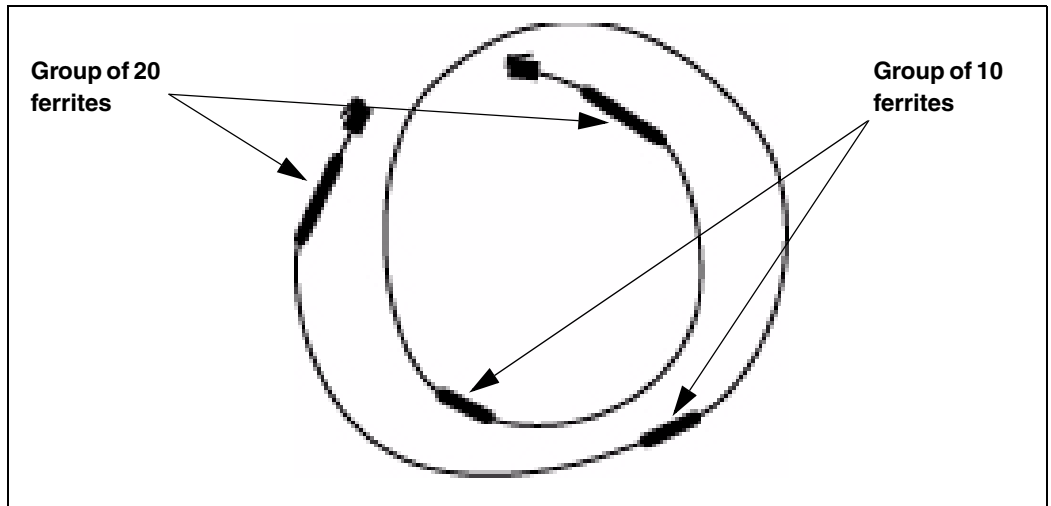


Figure 9 shows the following:

- 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**

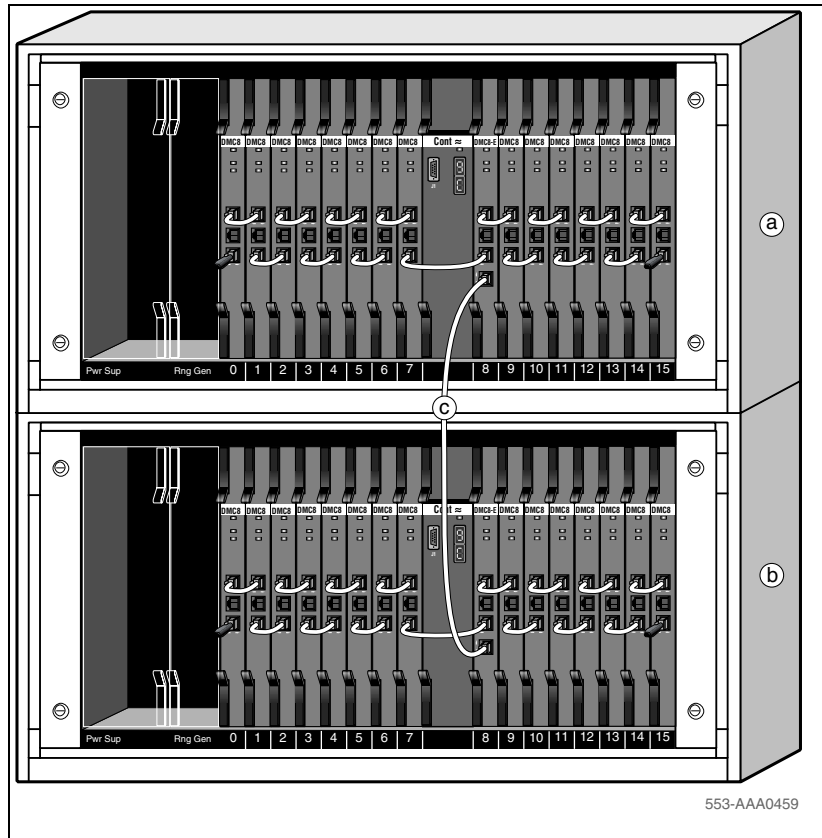
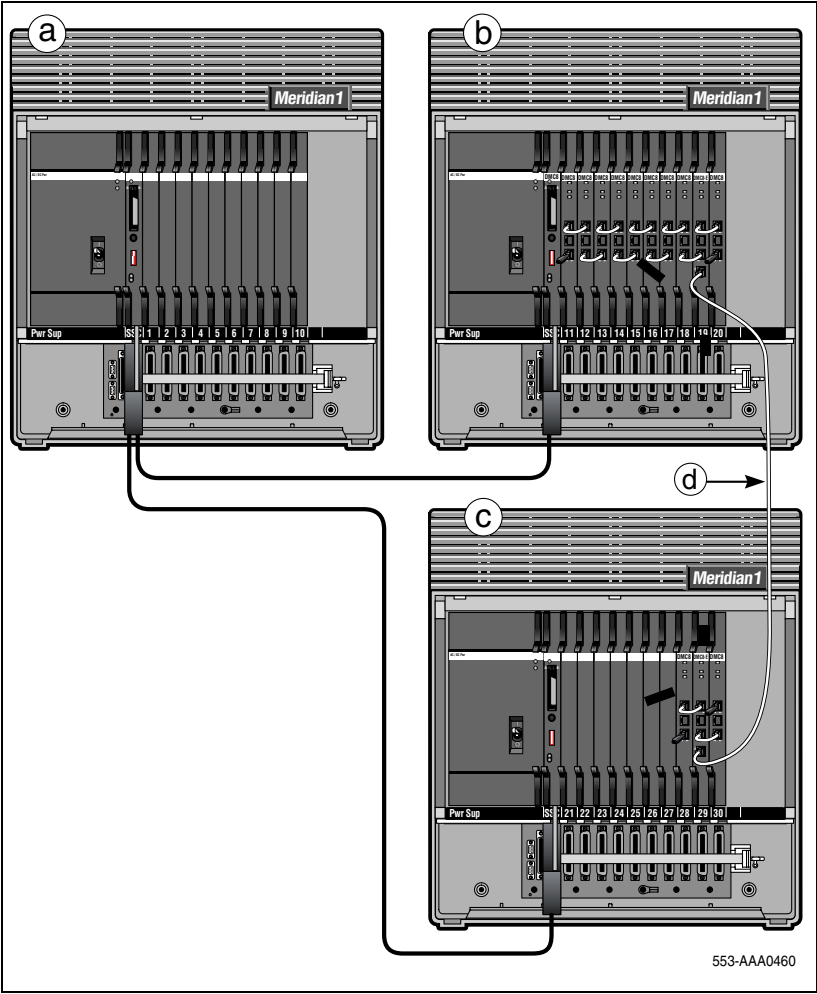


Figure 10 shows the following:

- 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.

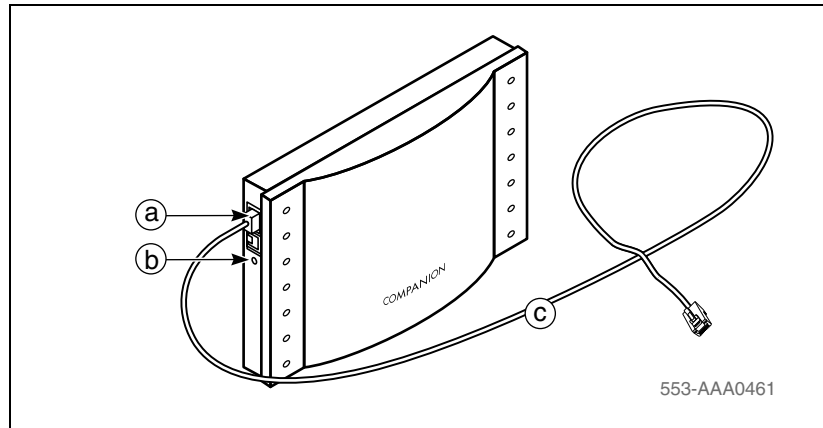
The base station has the following features:

- 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**



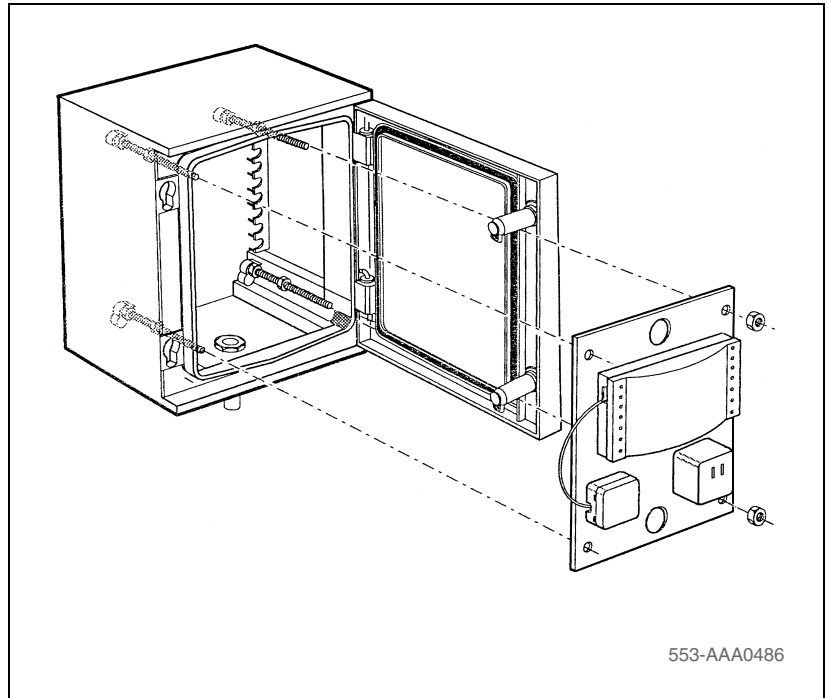
Base stations connected to a DMC8 or DMC8-E card can use phantom power in some conditions, and must use local power in other conditions. An application on the Optivity Telephony Manager (OTM) can enable or disable phantom power.

**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.

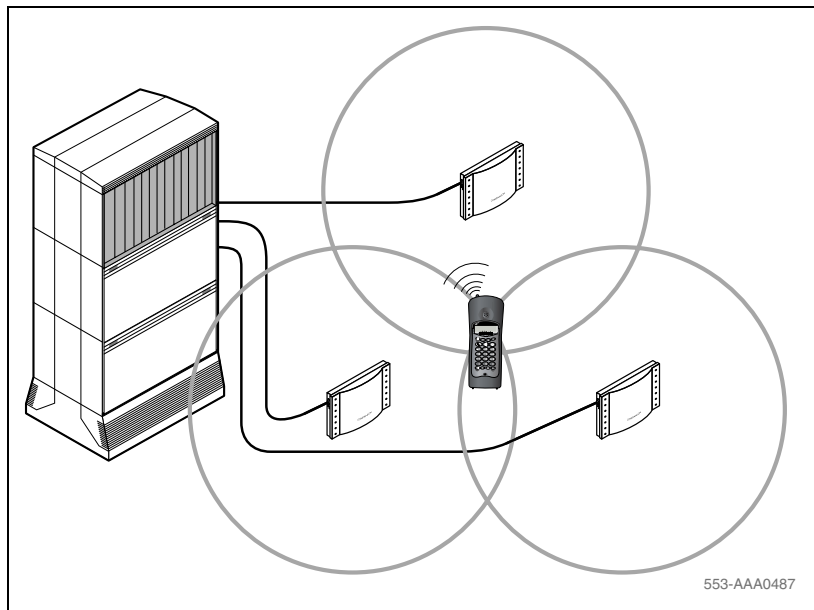
The environmental housing mounts to existing walls.

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**

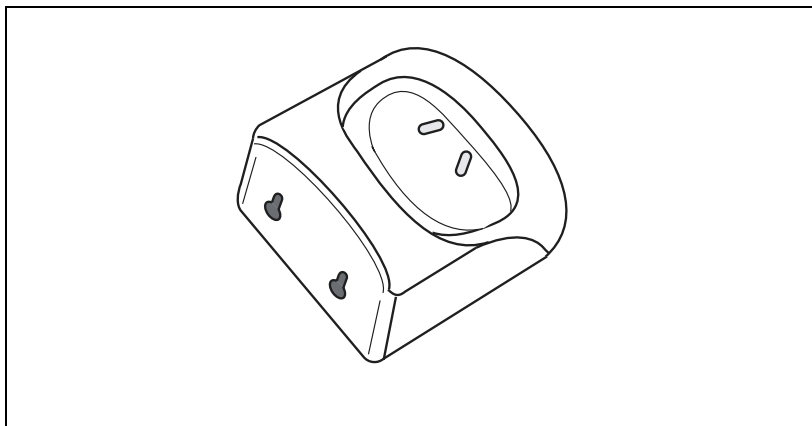
- Belt clip
- Headset for the C4020 only

**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

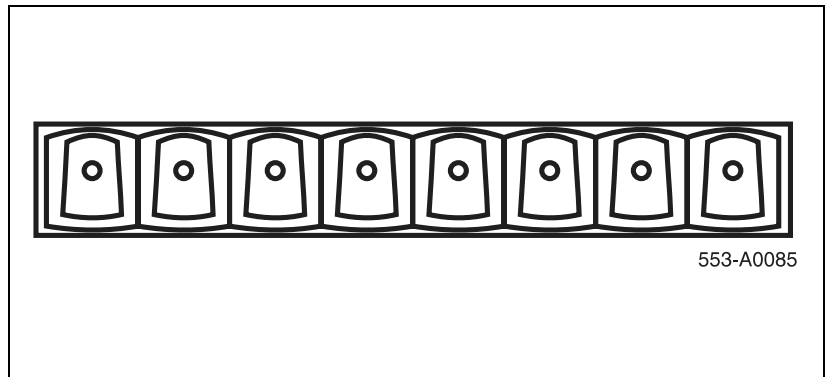
### Accessories

- 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.

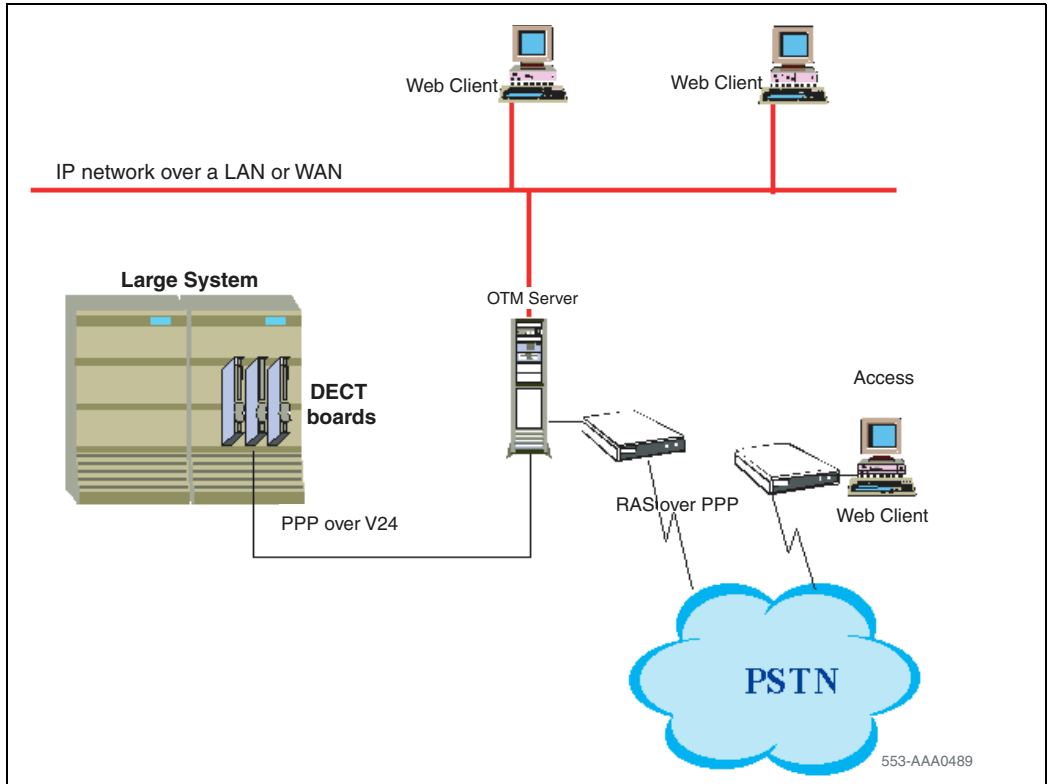
[Figure 19](#) on [page 50](#) shows an overview of an OTM server connected to a DECT system, over a dedicated LAN interface.

### Remote Access Service (RAS)

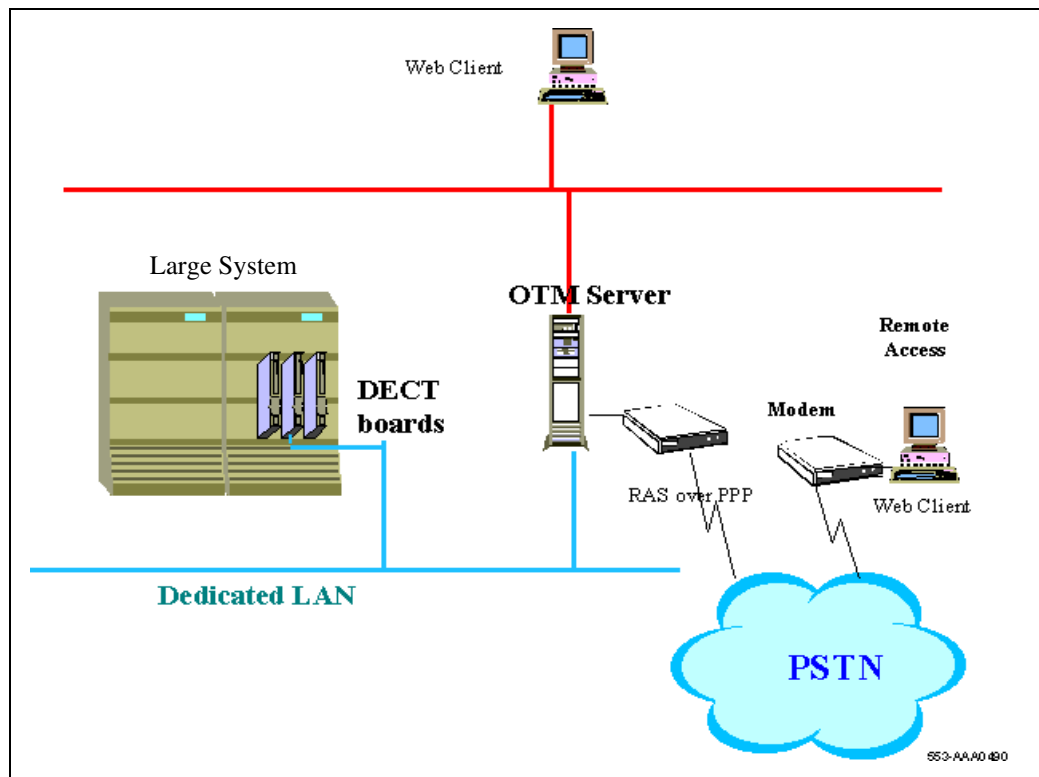
A computer in a network provides access to remote users through analog modem or ISDN connections. It includes the dial-up protocols and access control (authentication), and can be a regular file server with remote access software or a proprietary system. The modems can be internal or external to the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



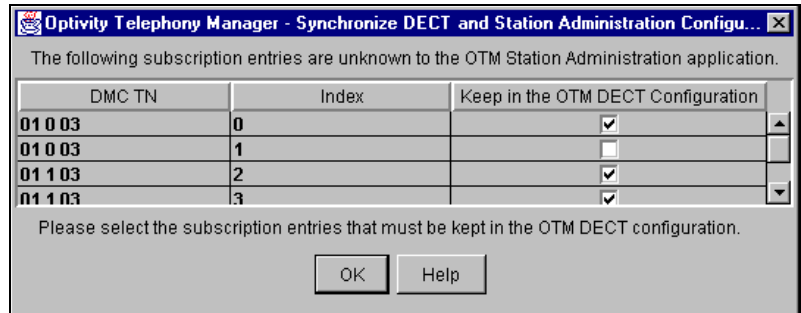
**Figure 19**  
**Local OTM server access to a DECT system by dedicated LAN**



## 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.

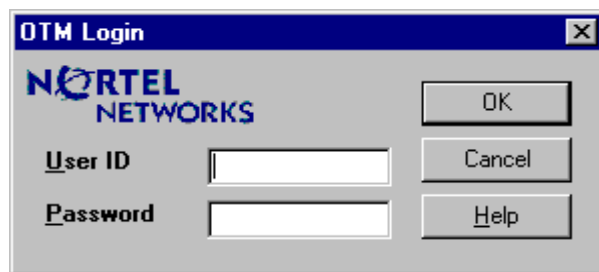
## Access with the Windows-based navigator

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



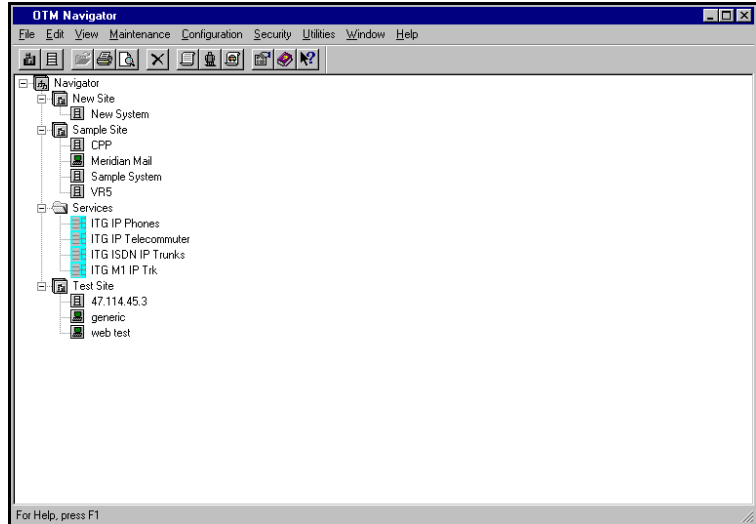
*Note:* See *Optivity Telephony Manager: System Administration* (553-3001-330) for details about the OTM login dialog box.



## 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**

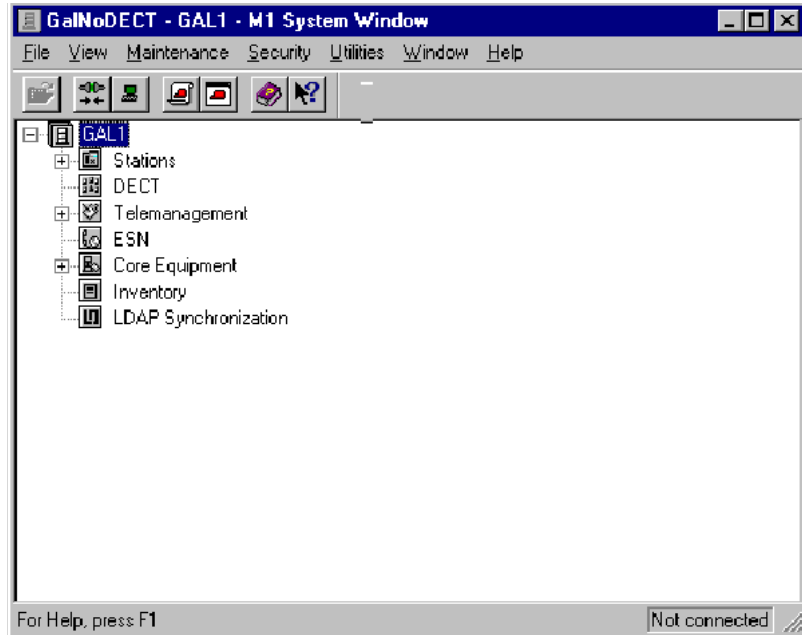


**Note:** See *Optivity Telephony Manager: System Administration* (553-3001-330) for details about the OTM Navigator window.

## Open DECT Application

Open the DECT application by double clicking on DECT (shown in [Figure 23](#)), or open through the **F**ile 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

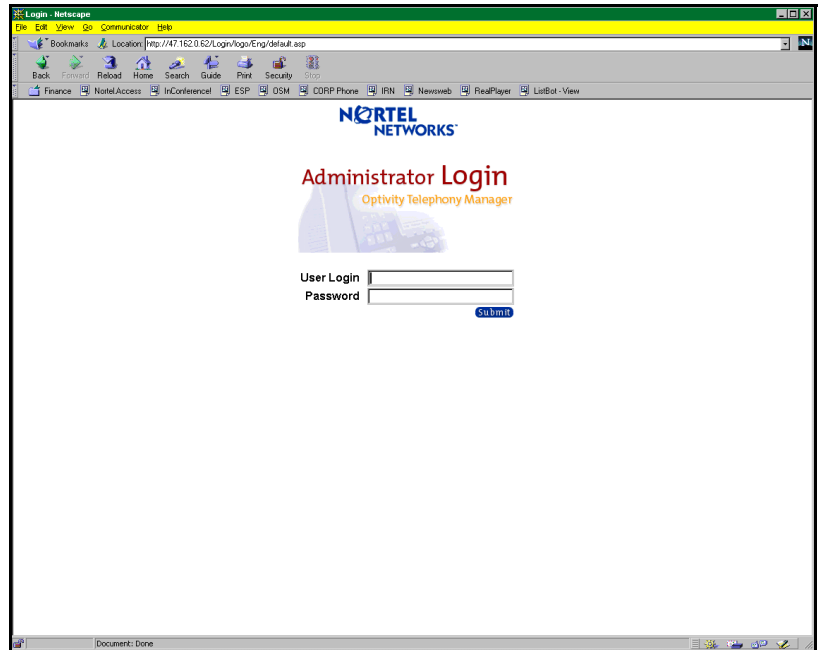
For more detailed information on web-based navigators, see *Optivity Telephony Manager: System Administration* (553-3001-330).

### 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](#).

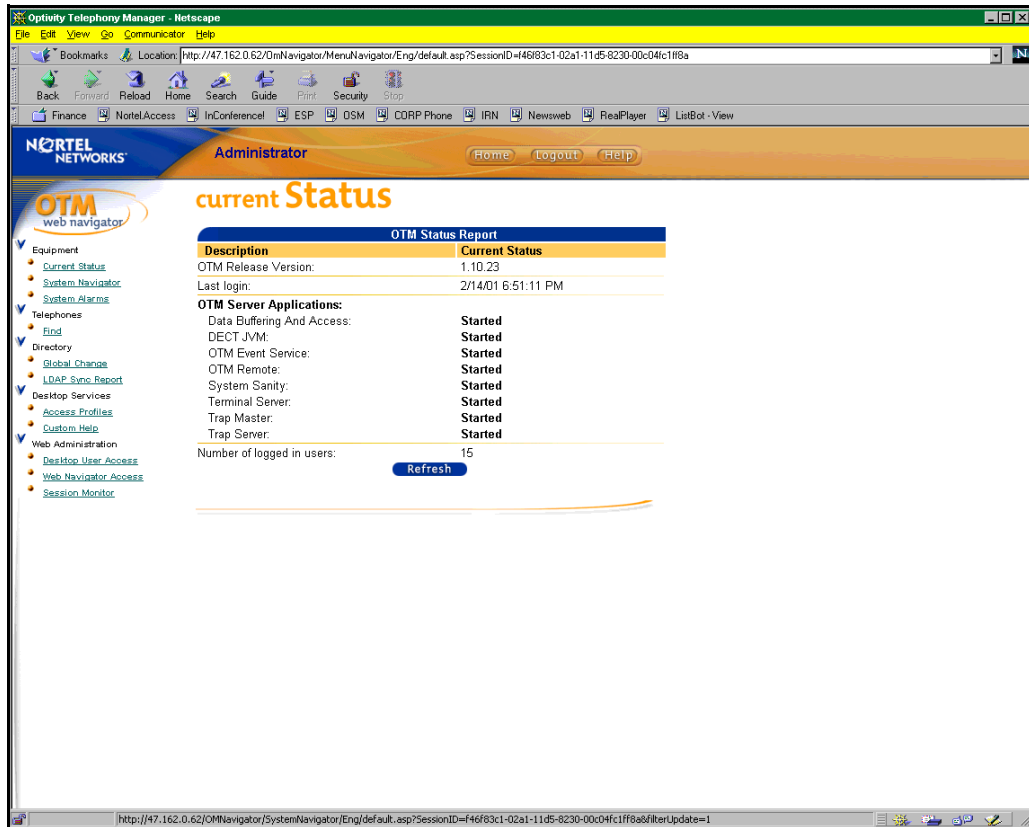
**Figure 24**  
**OTM web Administrator login**



## 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:

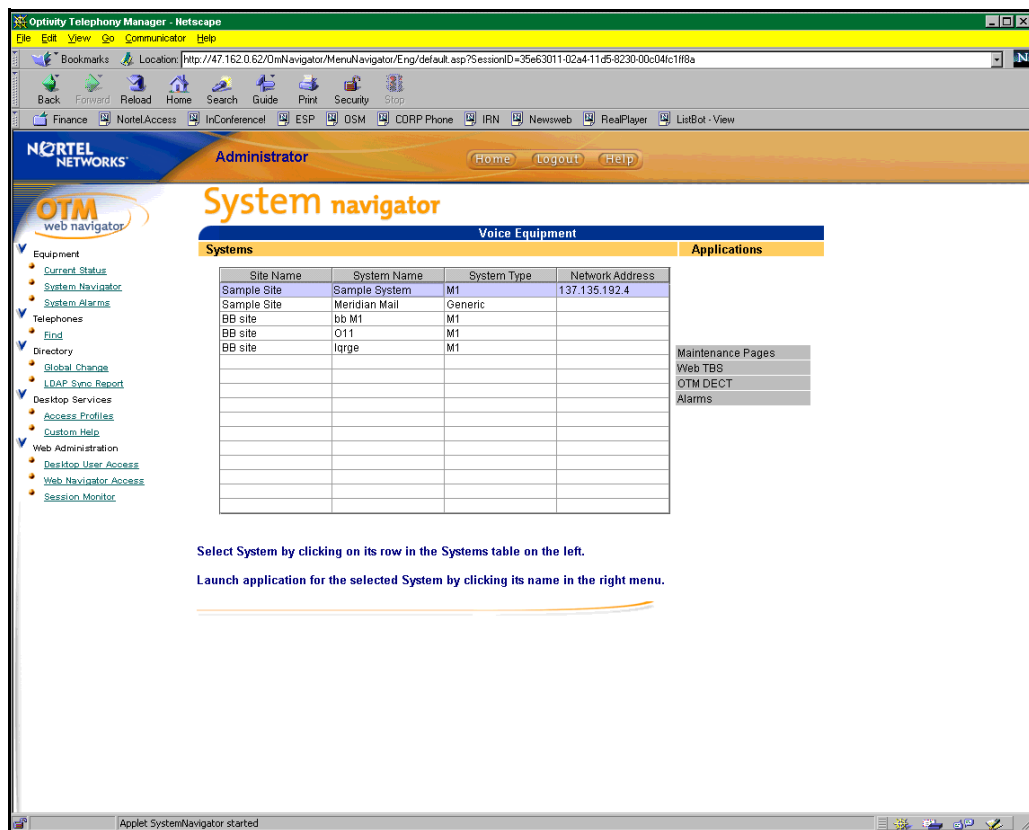
- OTM software release version
- Time and date of the last login
- OTM server applications

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

**System Alarms - Netscape**

# Alarm browser

## System Alarms

Time	Severity:	Source:	Code:	Device:	Data:

☐ Auto refresh      Page **0** of 0     

**Alarm Filter**

Show: ☒ All   ☐ Critical   ☐ Major   ☐ Minor   ☐ Info   ☐ Other

System: **137.135.192.4 (Sample Site-Sample System)**        

**Alarm Details**

Device time:  
Receive time:  
Severity:  
Source:  
Site/System:  
Code:  
Device:

Data:

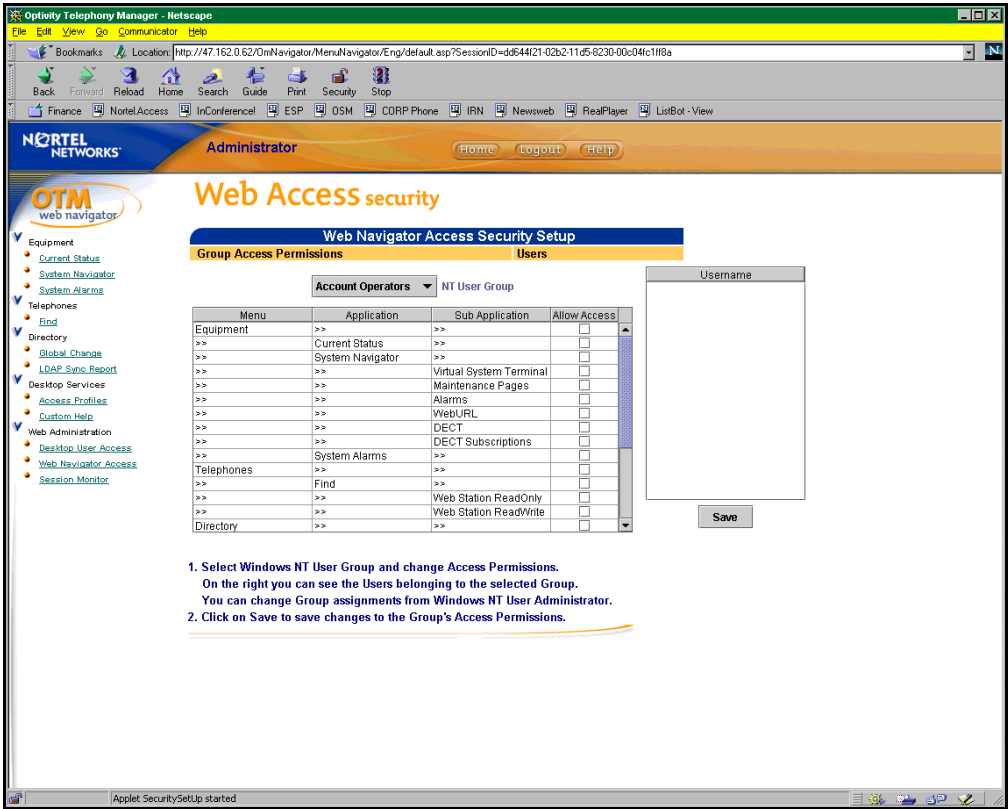
The Alarm Browser enables the system alarms to be examined.

### 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.

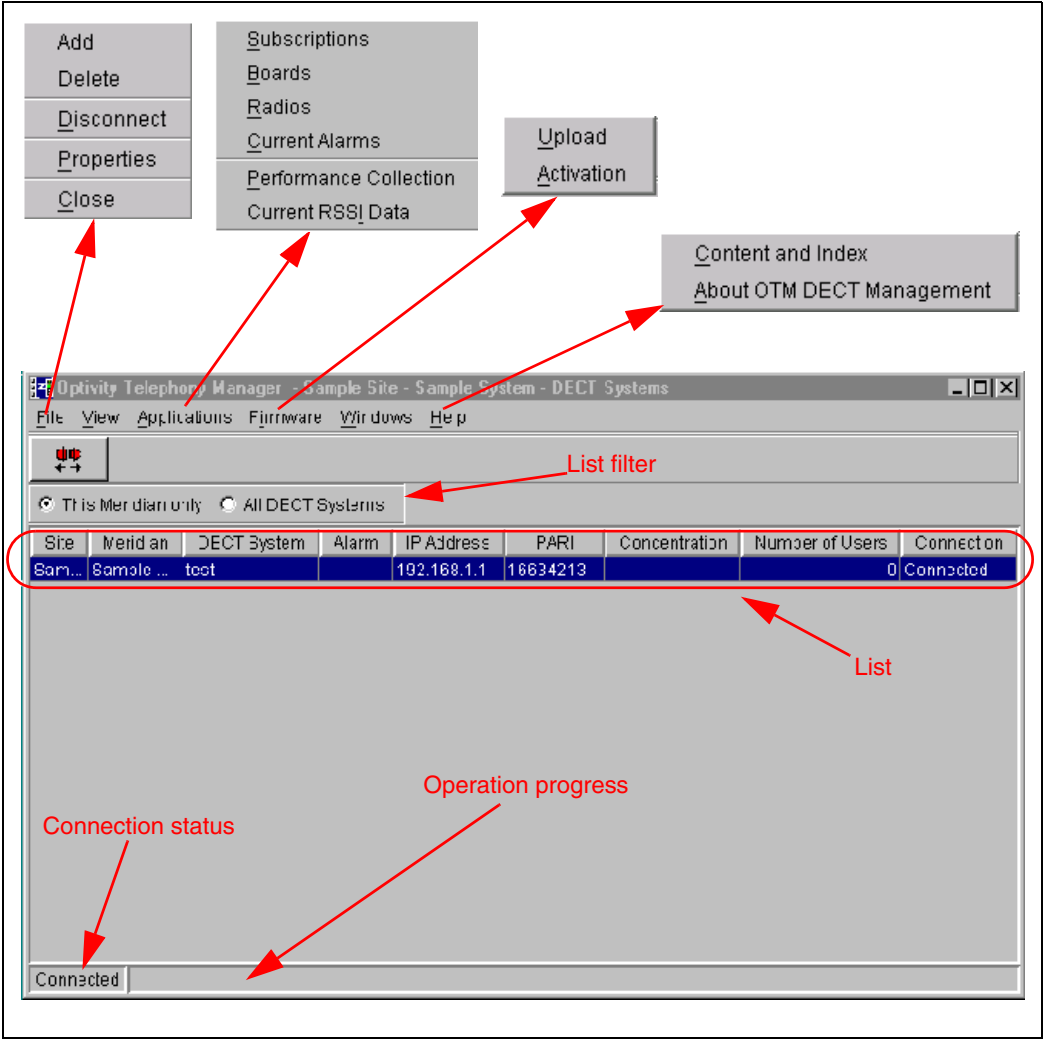


## Systems window

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:

- **File** – 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
- **View** – contains a pull-down menu that allows the following bars to be shown or hidden:
  - **T**ool bar
  - **S**tatus bar
- **Applications** – 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
  - **P**erformance Collection ([Figure 66](#) on [page 112](#))
  - **C**urrent RSSI data ([Figure 68](#) on [page 115](#))
- **Firmware** – 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 <a href="#">page 421</a> .
	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

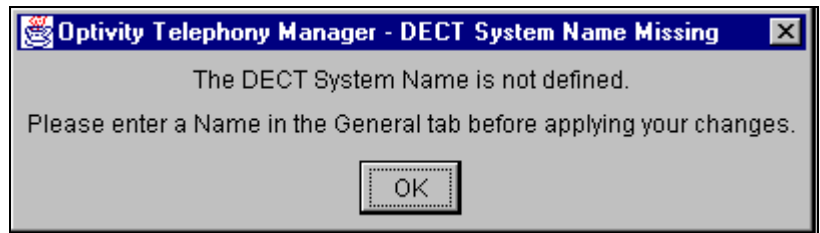
The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT System Properties". It has five tabs: "General", "Communication", "Access Right Identification", "Alarm", and "Parameters". The "General" tab is selected. Inside the dialog, there are two main sections. The top section contains three labels with corresponding text boxes: "Site Name:" with the value "GalDECT", "Meridian Name:" with the value "GAL1", and "DECT System Name:" with an empty box. Below these is a "Change Password..." button. The bottom section contains two labels with corresponding text boxes: "Concentration Mode:" with an empty box and "Number of Subscribed Users:" with the value "0". At the bottom of the dialog are four buttons: "Ok", "Cancel", "Apply", and "Help".

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](#).

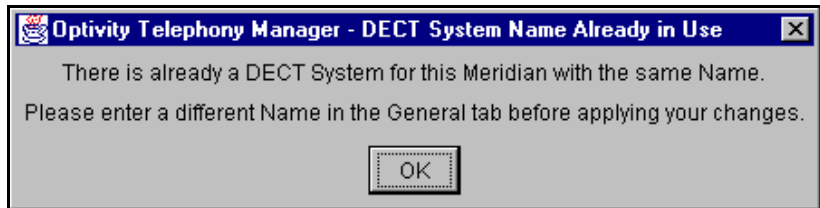
**Figure 31**  
**DECT System Name Missing dialog**



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

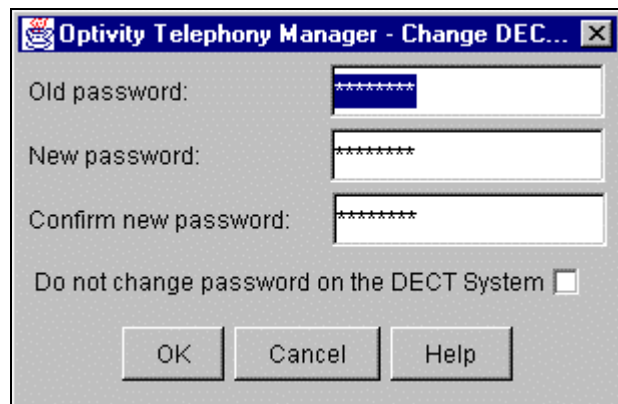
The **DECT System Name Already in Use** window appears when a DECT system name is the same as the name of another system. See [Figure 32](#).

**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**



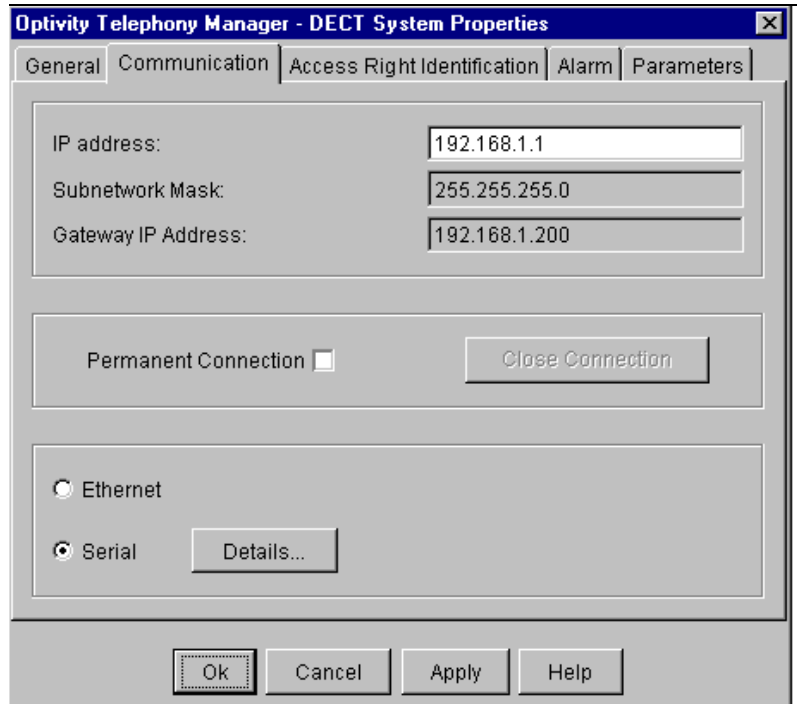
If the new password does not match the confirmed password, a dialog box opens and warns that the passwords do not match and allows the passwords to be changed.

### **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**



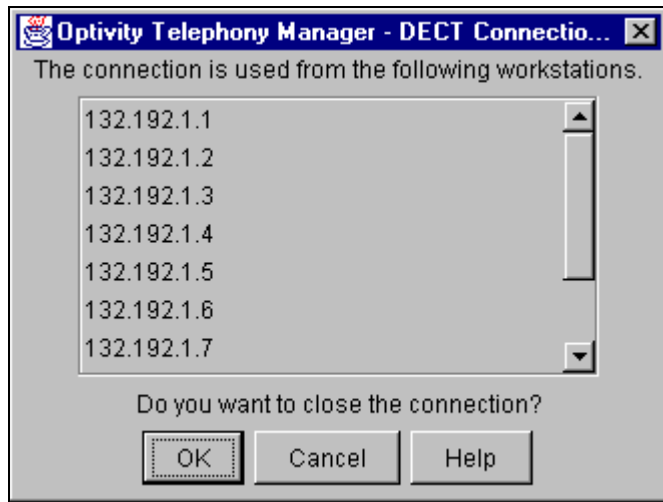
The **Communication** tab enables the following features:

- 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.

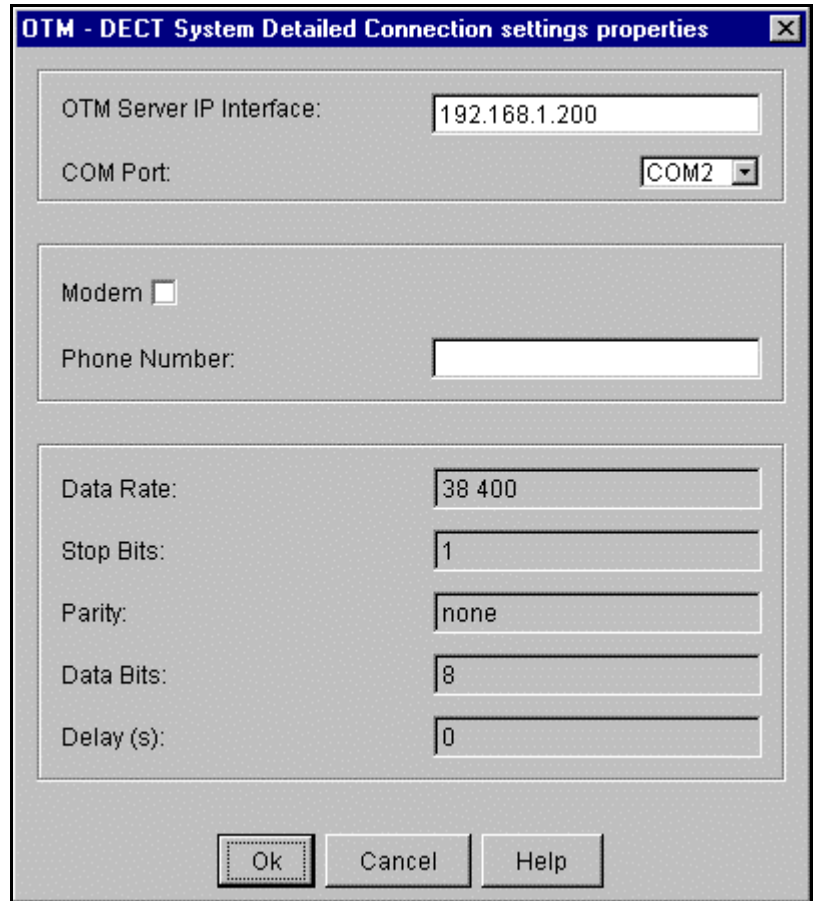
The **Close Connection** dialog opens when the **Close Connection** button on the DECT System Properties – Communication tab is clicked. See [Figure 35](#).

**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**



The image shows a Windows-style dialog box titled "OTM - DECT System Detailed Connection settings properties". It contains several input fields and a checkbox. The "OTM Server IP Interface" field is set to "192.168.1.200". The "COM Port" dropdown menu is set to "COM2". There is an unchecked "Modem" checkbox. The "Phone Number" field is empty. The "Data Rate" field is set to "38 400". The "Stop Bits" field is set to "1". The "Parity" field is set to "none". The "Data Bits" field is set to "8". The "Delay (s)" field is set to "0". At the bottom, there are three buttons: "Ok", "Cancel", and "Help".

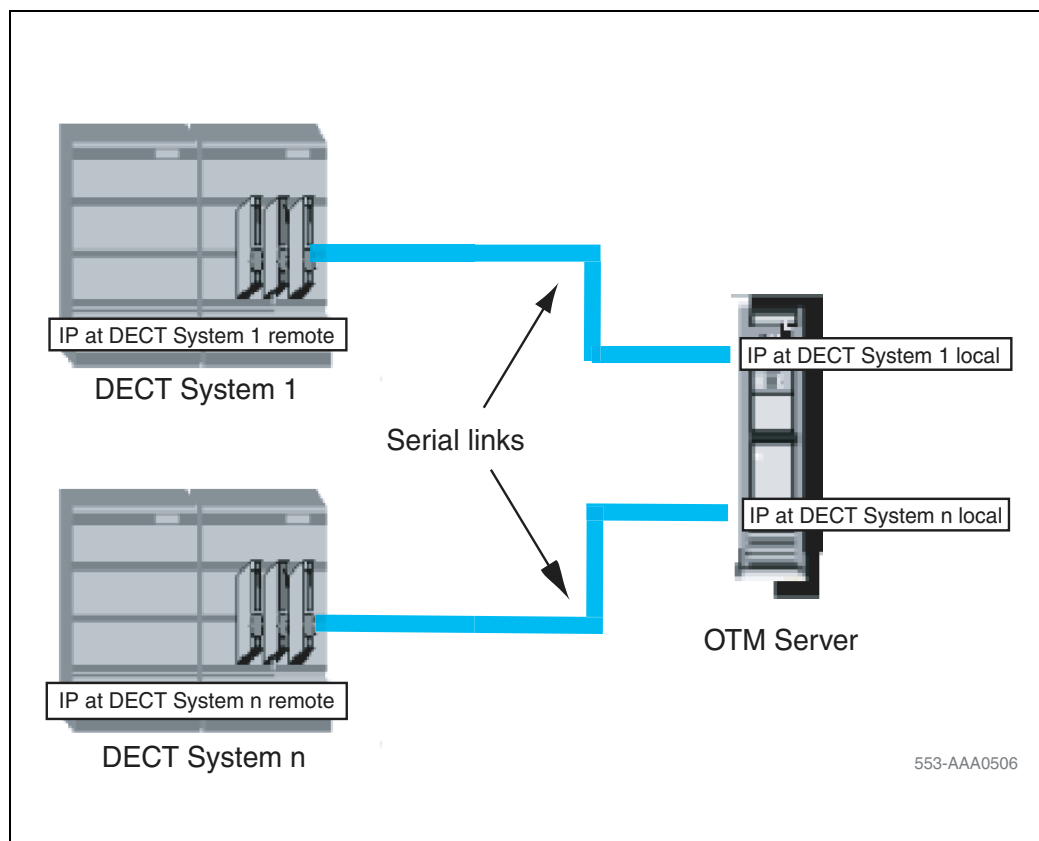
OTM Server IP Interface:	192.168.1.200
COM Port:	COM2
Modem	<input type="checkbox"/>
Phone Number:	
Data Rate:	38 400
Stop Bits:	1
Parity:	none
Data Bits:	8
Delay (s):	0

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**



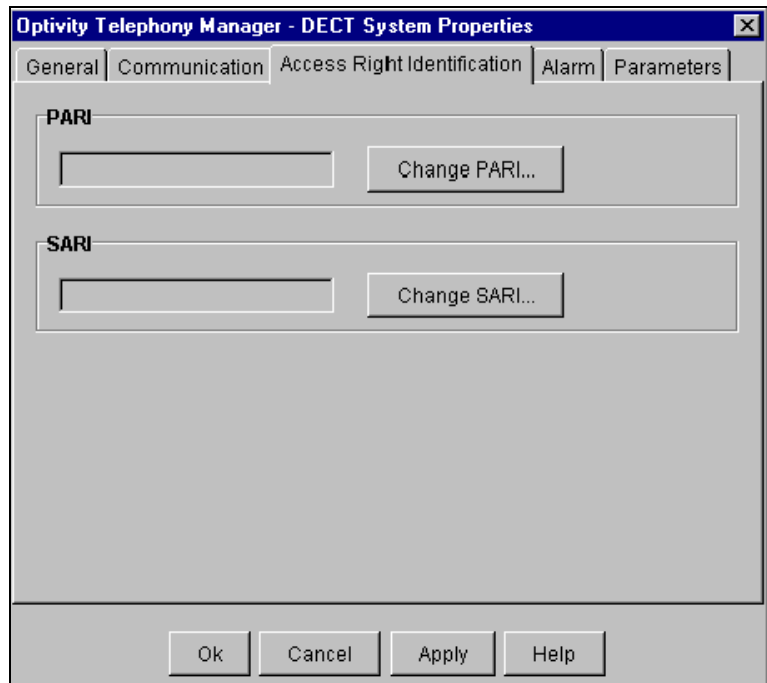
Supply an IP address for local and remote ends of the serial link, so the OTM can route IP traffic to the correct DECT system. See [Figure 37](#).

### **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**



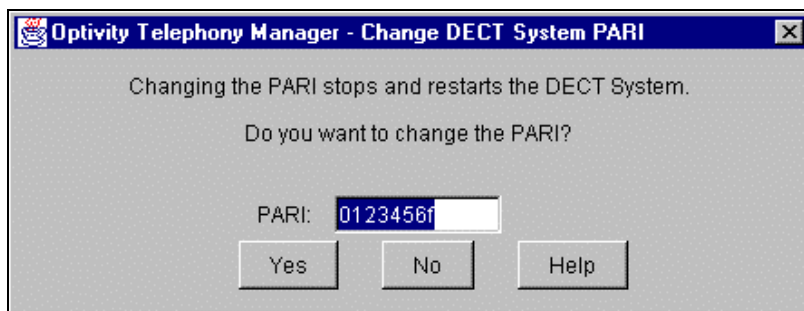
There are two Access Right Identifications, a Primary Access Right Identification (PARI) and a Secondary Access Right Identification (SARI),

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**

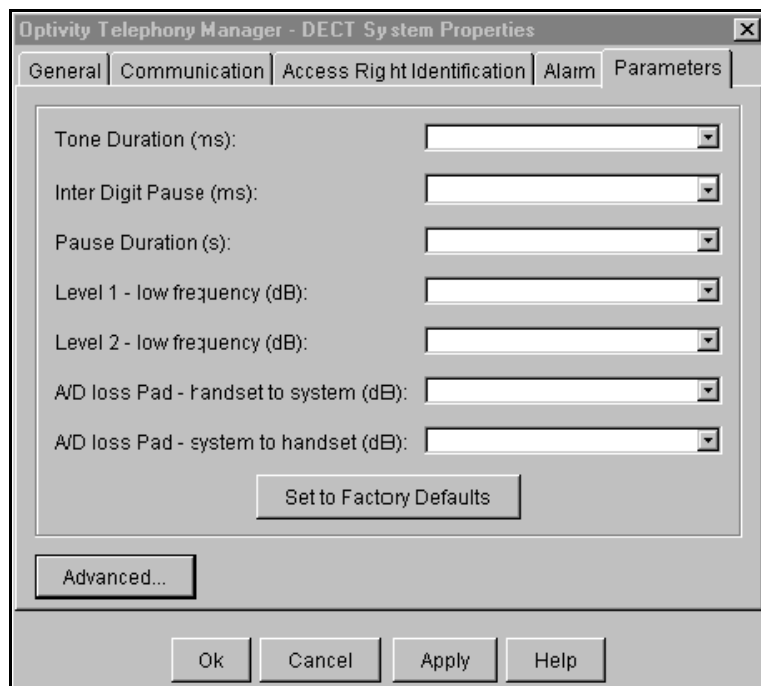
The screenshot shows a dialog box titled "Optivity Telephony Manager - DECT System Properties". It has five tabs: "General", "Communication", "Access Right Identification", "Alarm", and "Parameters". The "Alarm" tab is selected. Inside the dialog, there are four input fields with labels to their left: "Alarm Active:", "Upstream Manager IP address:", "Date:", and "Time:". Each field is currently empty. At the bottom of the dialog, there are four buttons: "Ok", "Cancel", "Apply", and "Help". The "Ok" button is highlighted with a dashed border.

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.

**WARNING — System Failure**

Do not use the **Advanced....** button. It can cause the system to fail.

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

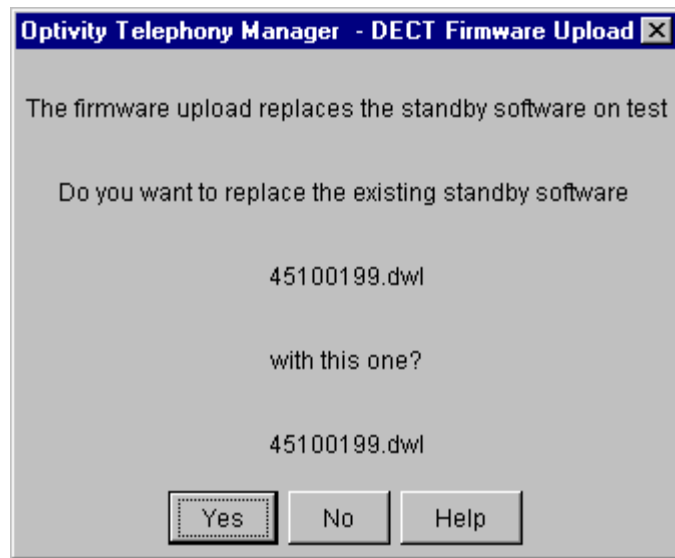
or from the OTM server. See [Figure 44](#) on [page 79](#). When **OK** is selected, the existing standby firmware can be replaced with new firmware.

Do one of the following:

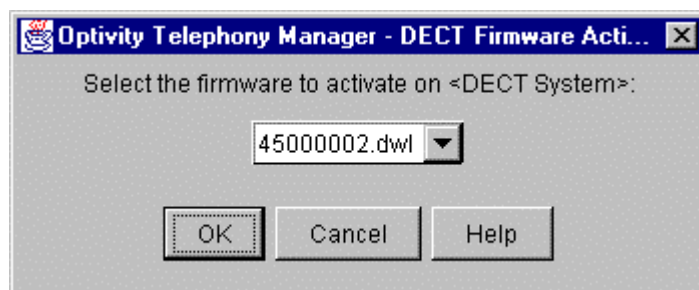
- Accept the firmware for DECT.
- Cancel the firmware upload for DECT.

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

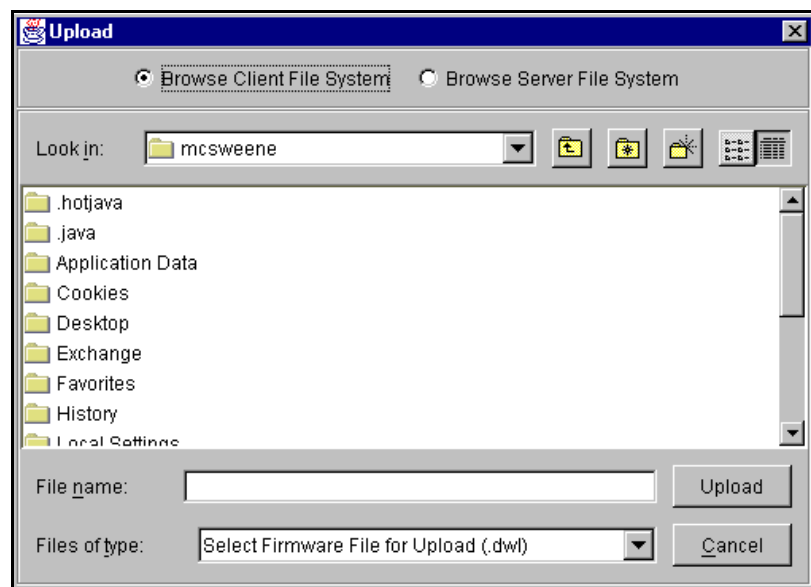
**Figure 43**  
**Firmware upload dialog**



**Figure 44**  
**Firmware activation dialog**



**Figure 45**  
**Upload file chooser**

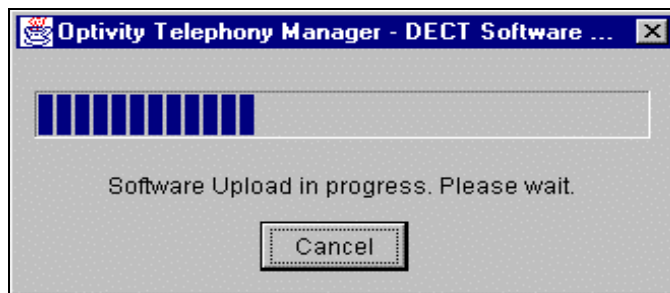


The **Upload** radio buttons enable the following options:

- 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.

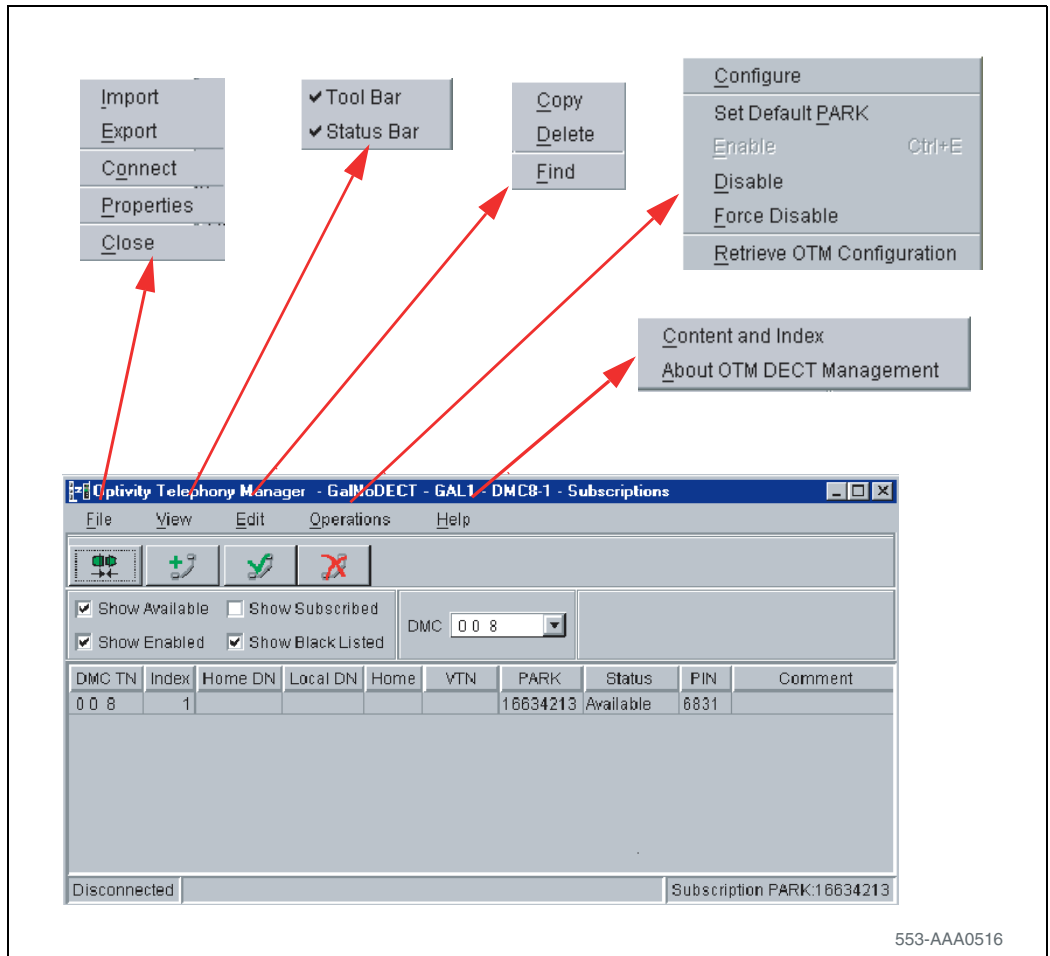
**Figure 46**  
**Progress indicator**



## Subscriptions window

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

**Figure 47**  
Subscriptions window



## 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:
  - **Import** – a subscription from a file (see [Figure 53](#) on [page 92](#))
  - **Export** – a subscription to a file (see [Figure 54](#) on [page 93](#))

- Connect – Lock, Unlock, Disconnect
- Properties – includes data in the subscription list and International Portable User Identifier (IPUI) (see [Figure 58](#) on [page 97](#))
- Close – close the Subscriptions window
- **View** – contains a pull-down menu that shows or hides the following:
  - Tool bar
  - Status bar
- **Edit** – contains a pull-down menu to open the following dialog boxes:
  - Copy (see [Figure 51](#) on [page 89](#))
  - Delete (see [Figure 50](#) on [page 88](#))
  - Find (see [Figure 55](#) on [page 94](#))
- **Operations** – contains a pull-down menu to open the following windows:
  - Configure – to program a handset on the system. See [Figure 48](#) on [page 86](#).
  - Set Default PARK – enter the default Portable Access Rights Key. See [Figure 59](#) on.)
  - Enable – to subscribe a handset
  - Disable – 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](#).
  - Force 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](#).
  - Retrieve 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](#).
- **Help** – 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 <a href="#">page 61</a> .
	Lock	Performs same functions as “Systems window” on <a href="#">page 61</a> .
	Unlock	Performs same functions as “Systems window” on <a href="#">page 61</a> .
	Disconnect	Performs same functions as “Systems window” on <a href="#">page 61</a> .
	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](#))

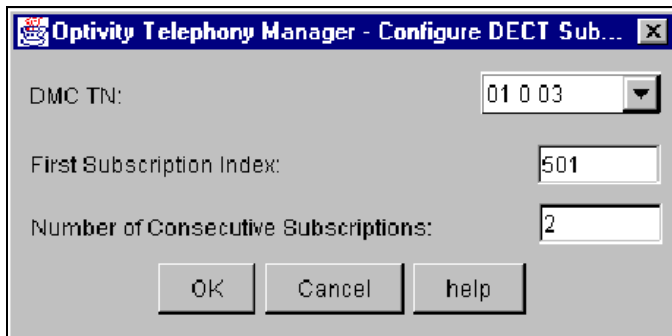
**Note:** DMC restricts the list to subscription data for one DMC or lists subscription data for all DMC



- **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**

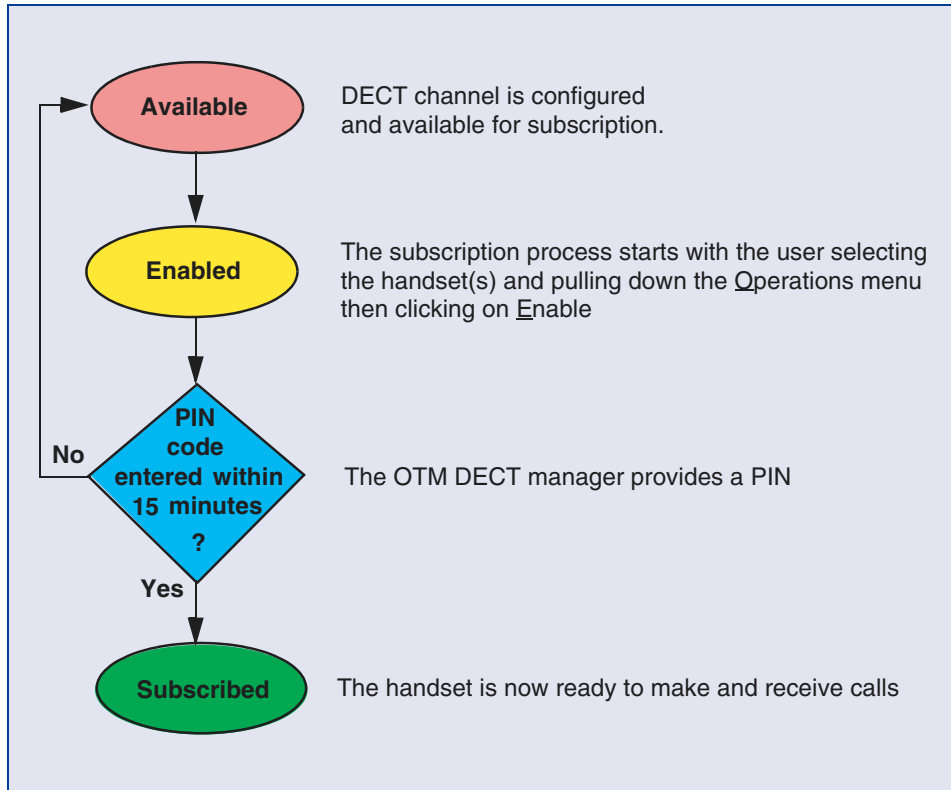


**Configure DECT Subscription** enables the following:

- 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**

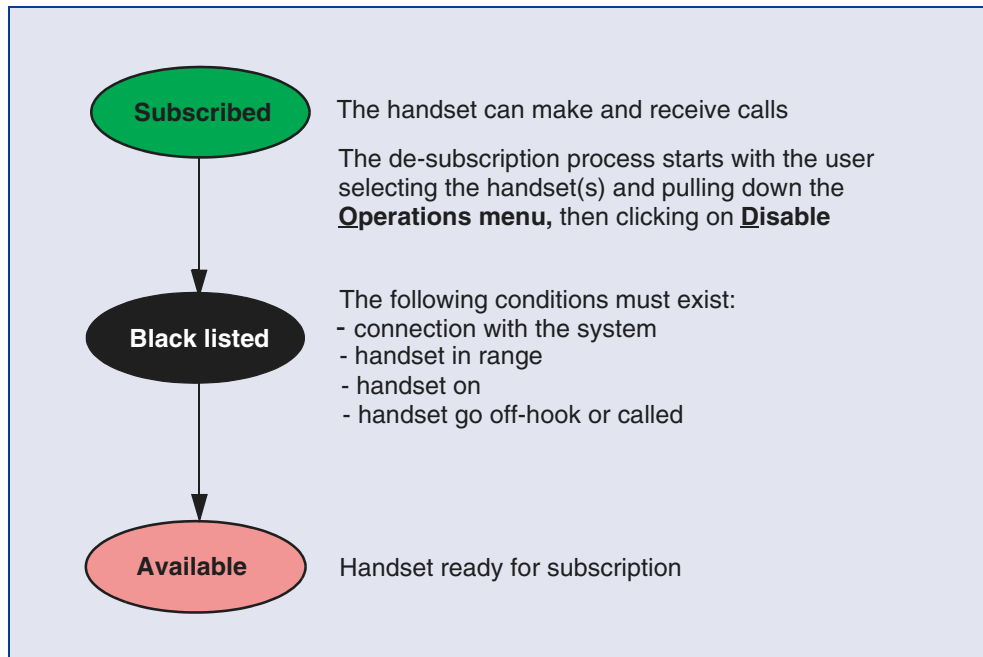


## Disable subscriptions

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:

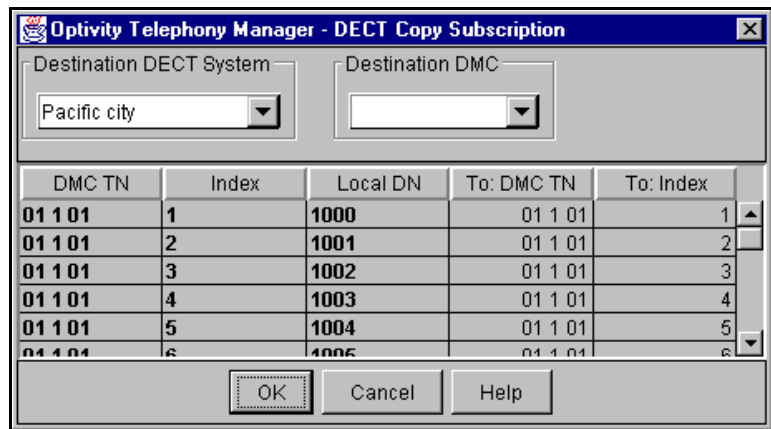
- a the DECT system DMCs,
- b the handset, and
- c the DECT managers handset and DECT system files.

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.

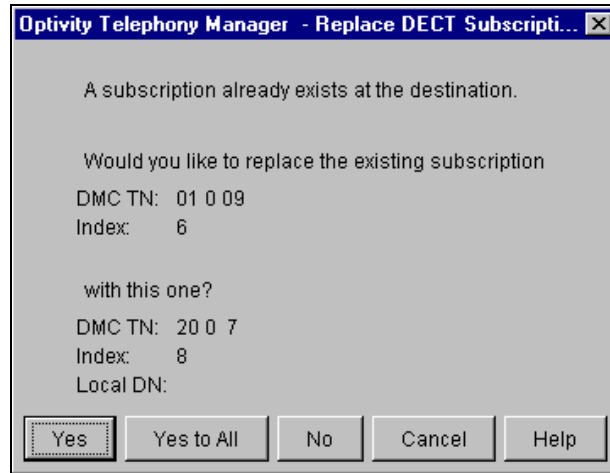
When copying subscription data, ensure a connection exists between the source DECT system and the destination DECT system.

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**

DMC TN	Index	Local DN	To: DMC TN	To: Index
01 1 01	1	1000	01 1 01	1
01 1 01	2	1001	01 1 01	2
01 1 01	3	1002	01 1 01	3
01 1 01	4	1003	01 1 01	4
01 1 01	5	1004	01 1 01	5

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.

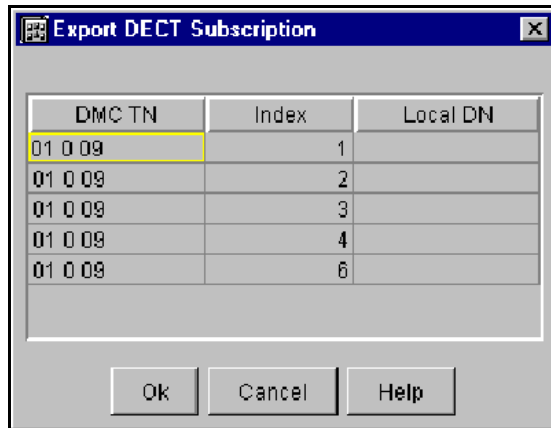
Remove subscription records for the following reasons:

- 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”.

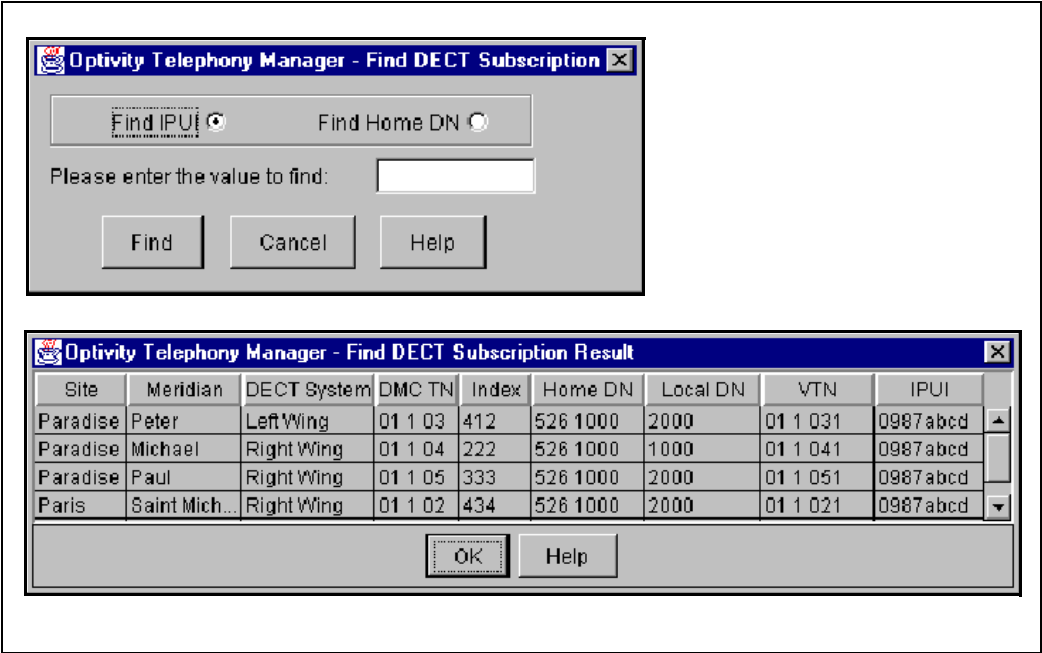
Find subscriptions

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.

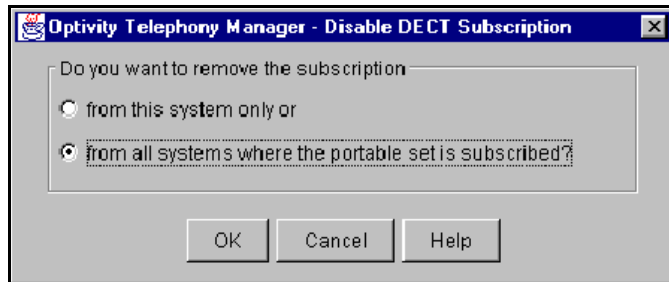
**Figure 55**  
Find Subscription dialog



## 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](#).

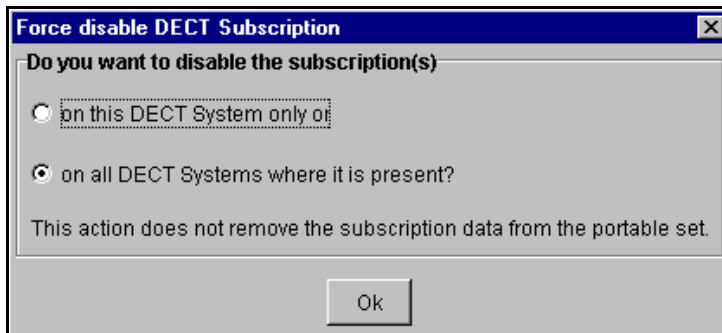
Use **from this system only or** if the handset is on-air on this DECT system. This DECT system contacts the handset. When contact is established, the subscription is removed from the handset. The subscription is removed from both the system database and the OTM server database. The other DECT systems 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 Properties". It contains several input fields for configuring DECT subscription properties. The fields are organized into three main sections. The first section includes "DMC TN" (01 1 03), "Index" (1), and "Comment:" (empty). The second section includes "Home DN" (560 1000), "Local DN" (2000), "Home" (No), and "VTN" (01 1 03 12). The third section includes "IPUI:" (ab6574893), "Subscription PARK:" (34abe677), "Subscription Status:" (Enabled), and "Subscription PIN:" (1234). At the bottom, there are four buttons: "OK", "Cancel", "Apply", and "Help".

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

OK Cancel Apply 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).

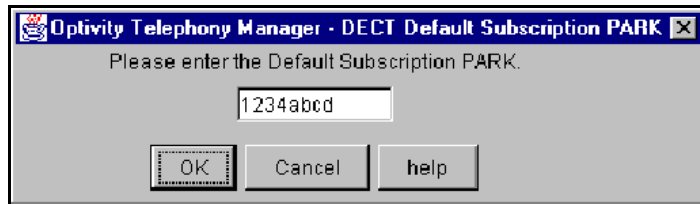
The handset PARK and DECT system PARI and SARI are used by the handset and DECT system to identify each other. The PARK and PARI/SARI match allow the handset to work with a DECT system.

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 PARK during the on-air subscription, and the PARK 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 PARK matching the destination DECT system to the handset is provided during the on-air subscription.

**Figure 59**  
**DECT Default Subscription PARK dialog**



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

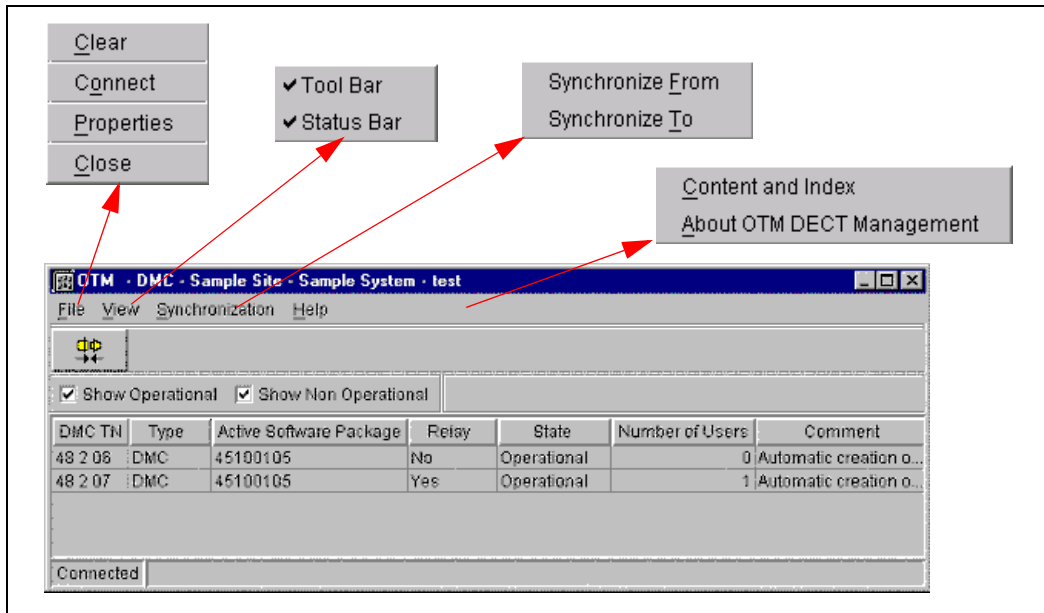
The PARK used by the OTM DECT subscription application is subject to the following conditions:

- PARK is limited to the lifetime of the subscription application.
- Two users can use a different PARK on the same DECT system at the same time.
- PARK 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 <a href="#">page 101</a> .
	Lock	Performs same functions as “Menu” on <a href="#">page 101</a> .

	Unlock	Performs same functions as “Menu” on <a href="#">page 101</a> .
	Disconnect	Performs same functions as “Menu” on <a href="#">page 101</a> .

- **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 DECT board. The fields are organized into two main sections. The first section includes "DMC TN:" (00 0 00), "Operational Status:" (Operational), "Number of Subscribed Users:" (1), and "Comment:" (Automatic creation on: TRUE). The second section includes "Type:" (DMC4), "Type Number:" (352225425854), "Manufacture Code:" (067150000000), "Active Software Package:" (45103102), "Standby Software Package:" (45103199), and "Boot Package:" (39453005). At the bottom, there are four buttons: "Ok", "Cancel", "Apply", and "Help".

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

Ok Cancel Apply Help

### Options

The DECT Board properties sheet enables the following options:

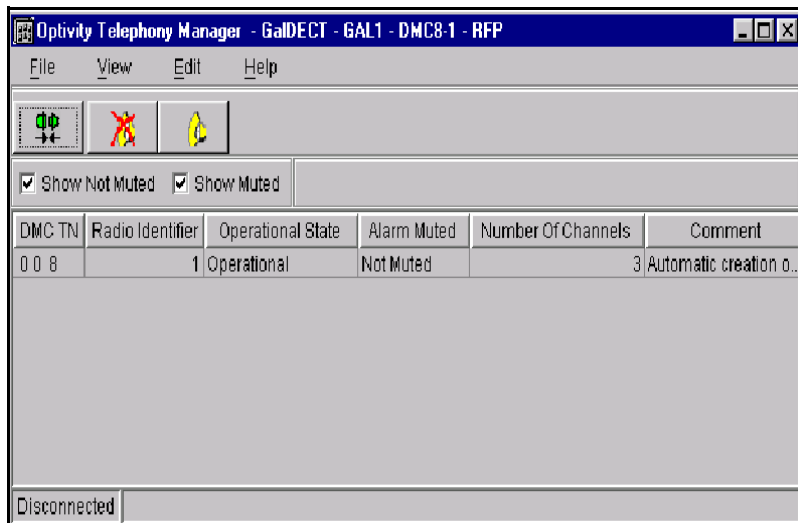
- View DMC details.
- View operational status. When the DMC operational status changes on DECT, the OTM updates the status.
- Change and apply comments, up to 80 characters.
- View DMC Type Number.

- 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 Content and Index or About 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**

Uptivity Telephony Manager - DECT Radio Fixed Parts...

DMC TN: 01 1 03

Radio Identifier: 3

Number of Channels: 12

Operational Status: Operational

Alarm Muted: No

Comment:

Line Powered ☐ Local Powered ☒

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**

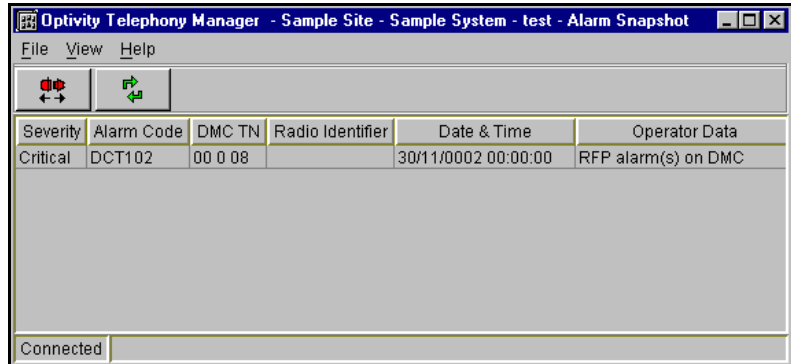
The Radio Fixed Part properties sheet displays the same base station data as the Radio Fixed Part window list items. The properties sheet also shows the power source for the selected base station.

## **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.
- **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 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.

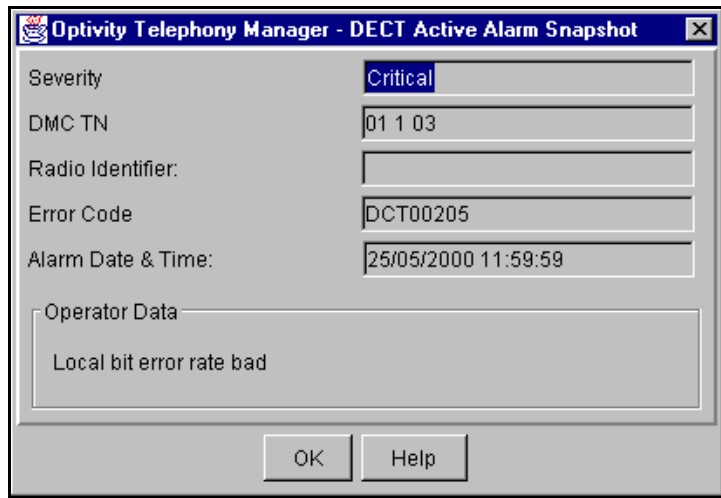
- **List** – shows read-only data about the following:
  - Severity – always labeled as Critical.
  - Error Code – a three digit code. Refer to the DECT Operation Administration and Maintenance NTP for the meaning of the Error Codes.
  - DMC TN – indicates the location of the card that originated the 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 screenshot shows a window titled "Optivity Telephony Manager - <site name> - <PBX name> - <DECT Access System Name> ...". The window is divided into three main sections:

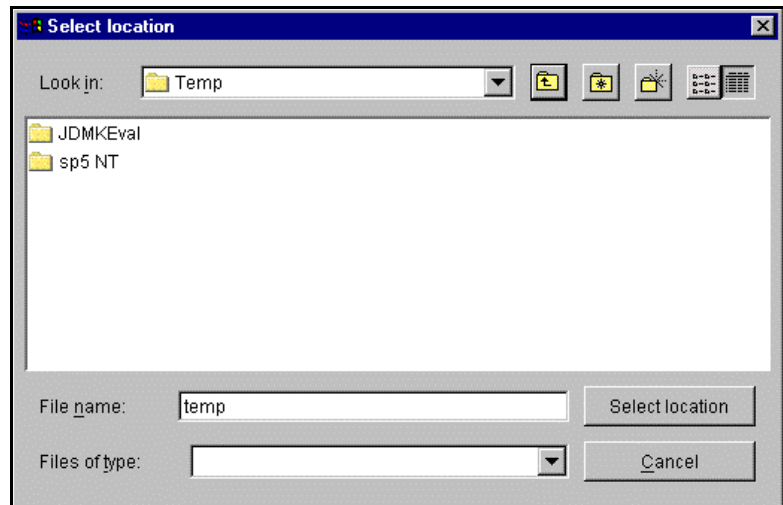
- Name Collection:** A section with the text "Please choose a path and name for this collection :". Below this is a text box containing "C:\OTM\DECT\Performance\Collection1" and a "Browse...." button.
- User Performance Collection:** A section with a checkbox labeled "Retrieve User Performance data, per portable." and a "Details" text: "User Counters retrieved for Page Requests, Voice Calls, Message Calls and Total Number of handovers." Below the checkbox is a "DMC TN:" label and an empty text box. To the right is a "Collection Period:" label and a dropdown menu set to "Every 15 mins".
- Equipment Performance Collection:** A section with a checkbox labeled "Retrieve Equipment Performance data, per DECT system." and a "Details" text: "Equipment Counters retrieved for Boards, Radios and Portables." Below the checkbox is a "DMC TN:" label and an empty text box. To the right is a "Collection Period:" label and a dropdown menu set to "Every 15 mins".

At the bottom of the window are three buttons: "Start", "Stop", and "Cancel".

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

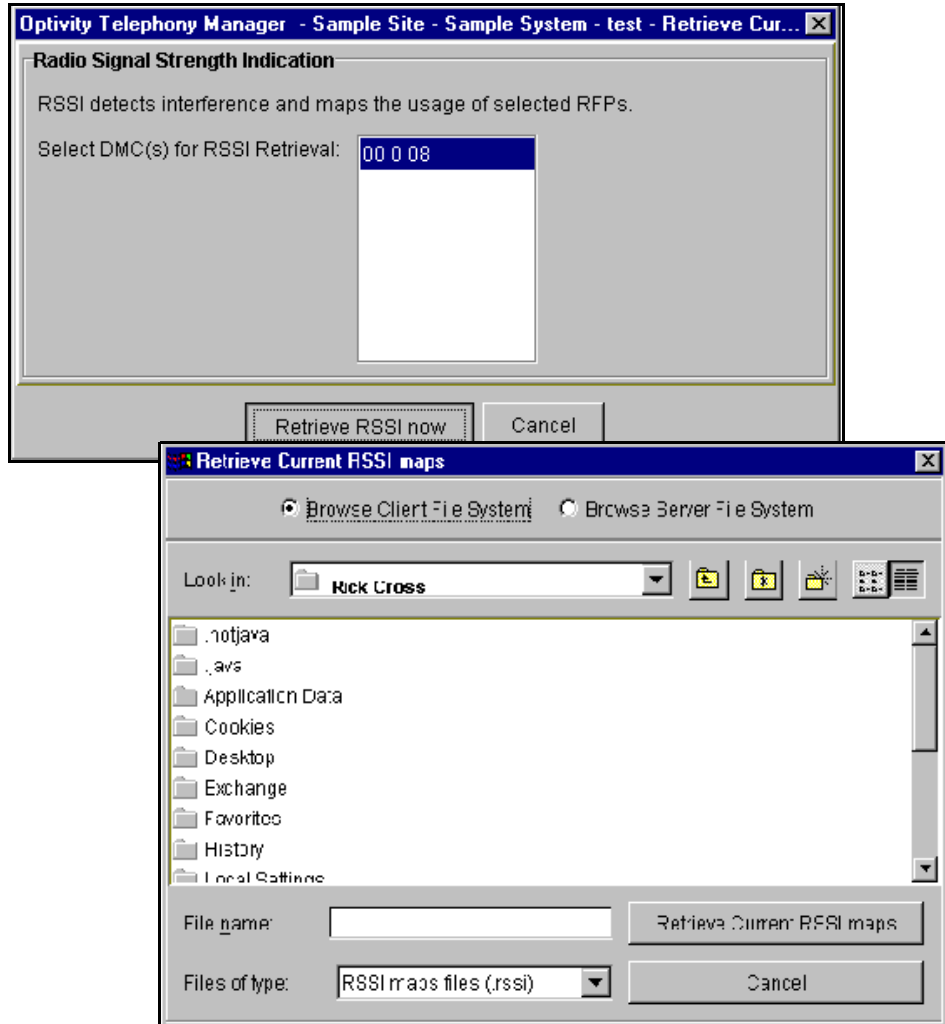
The Retrieve Radio Signal Strength Indication (RSSI) Snapshot window, shown in Figure 68 on [page 115](#), is selected from the DECT Systems window Applications menu.

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.

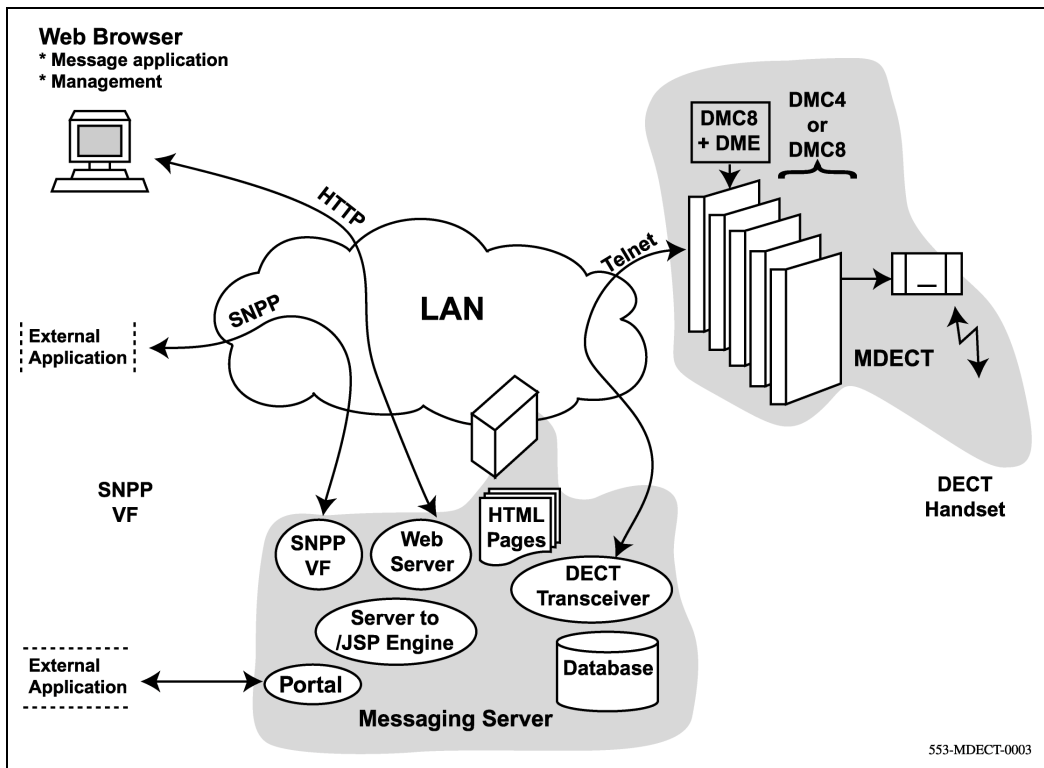
## Messaging and alarms

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**



## 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:

<a href="#">System capabilities and limits</a> .....	121
<a href="#">DMC8 engineering guidelines</a> .....	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 <sup>†</sup>	1 to 510 <sup>†</sup>

<sup>†</sup>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 <sup>†</sup>	16 320 <sup>†</sup>

<sup>†</sup>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 <sup>†</sup>	640 <sup>†</sup>
Cabinet system with CPU cabinet	2	17 <sup>*</sup>	2	152 <sup>†</sup>	640 <sup>†</sup>
Chassis system (Main cabinet)	1 <sup>**</sup>	3 <sup>*</sup>	0	16 <sup>†</sup>	640 <sup>†</sup>
Chassis system (Expansion cabinet)	1 <sup>**</sup>	3 <sup>*</sup>	1	32 <sup>†</sup>	640 <sup>†</sup>



\*One of the DMC8 positions in the CPU cabinet is required by the NTAK20 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)**

<b>System</b>	<b>Number of base stations that can be phantom powered per shelf or cabinet</b>	<b>Total</b>
Large System	eight 6-channel <b>or</b> six 6-channel + two 12-channel @ 0.5 km	128
	seven 6-channel <b>or</b> 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 <b>or</b> five 6-channel + two 12-channel @ 0.5 km	70
	six 6-channel <b>or</b> 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 <b>or</b> six 6-channel + two 12-channel @ 0.5 km	32
	eight 6-channel <b>or</b> 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 <b>or</b> six 6-channel + two 12-channel @ 0.5 km	32
	eight 6-channel <b>or</b> 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)**

<b>System</b>	<b>Base station average line length</b>	<b>Required number of unoccupied slots</b>
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 6-channel base stations	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 6-channel base stations	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 6-channel base stations	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.

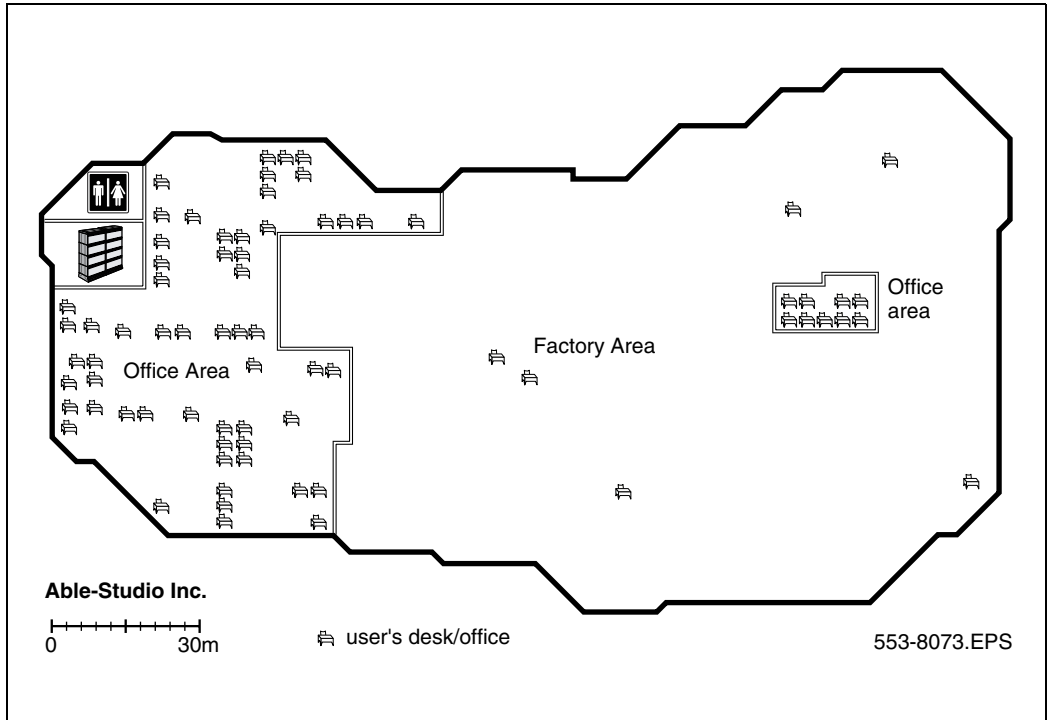
**Table 13**  
**Identifying site contacts (Part 2 of 2)**

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 <a href="#">page 201</a> .
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

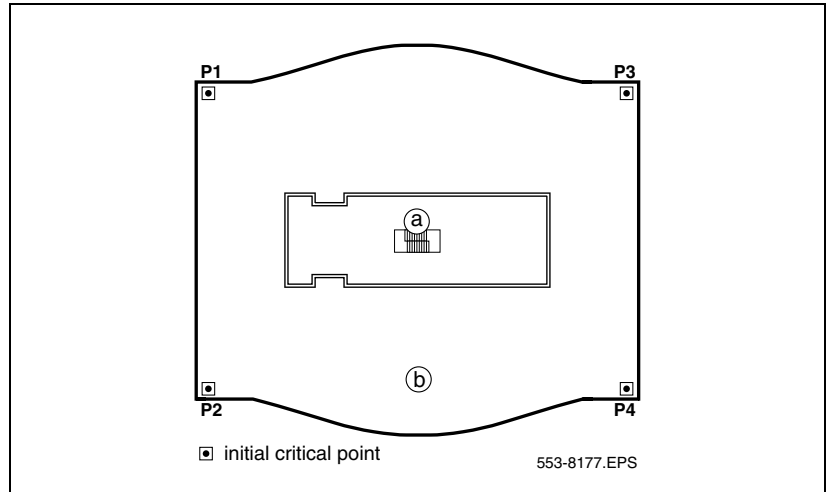
A critical point is a place that can be difficult for the radio signal to reach, such as a corner of a room, lifts and stairwells. Initial critical points are shown in [Figure 71](#) as P1, P2, P3, and P4.

[Figure 71](#) shows the following:

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



**Figure 71**  
**Critical points**



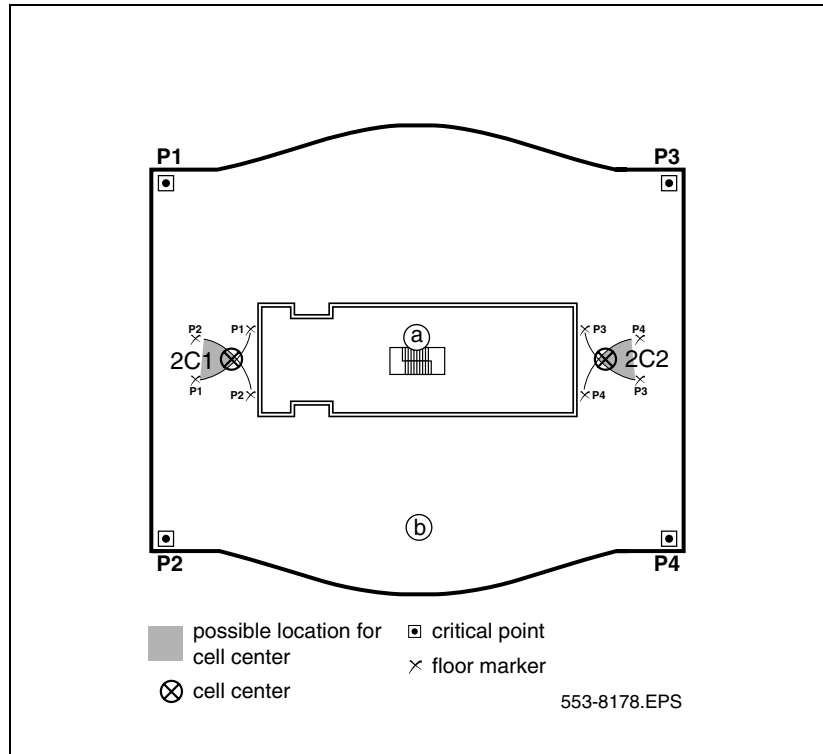
## Locating cell centers

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**

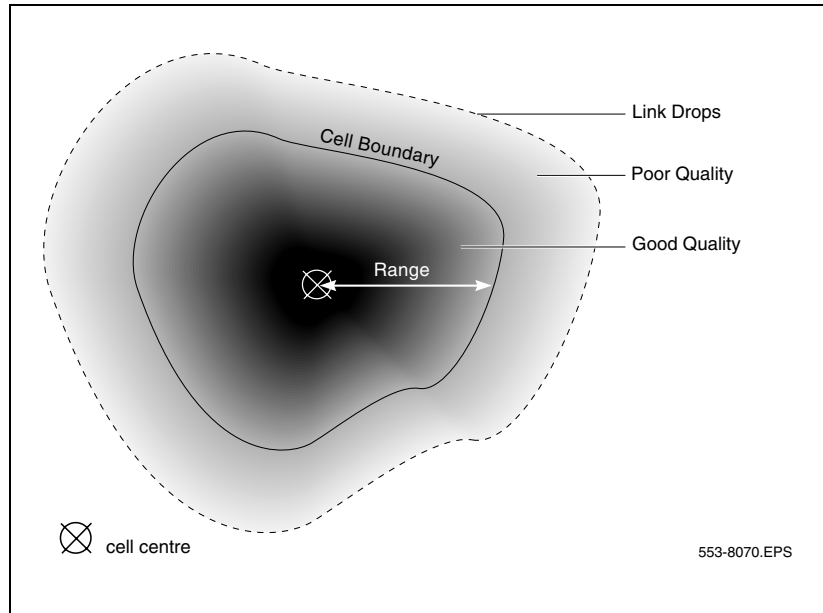
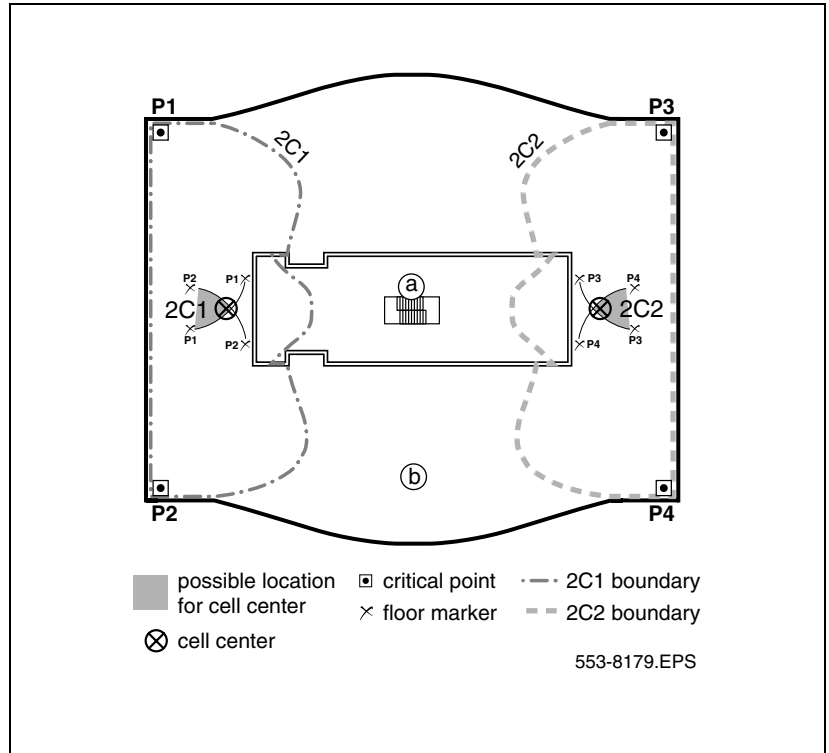


Figure 74 shows the following:

- 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**



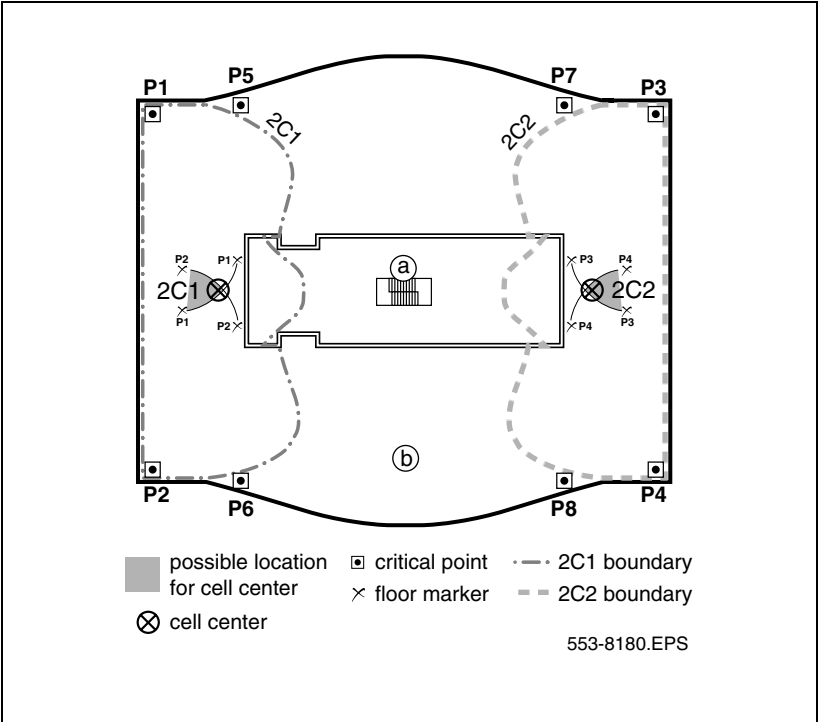
## Identifying critical points and cell boundaries

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:

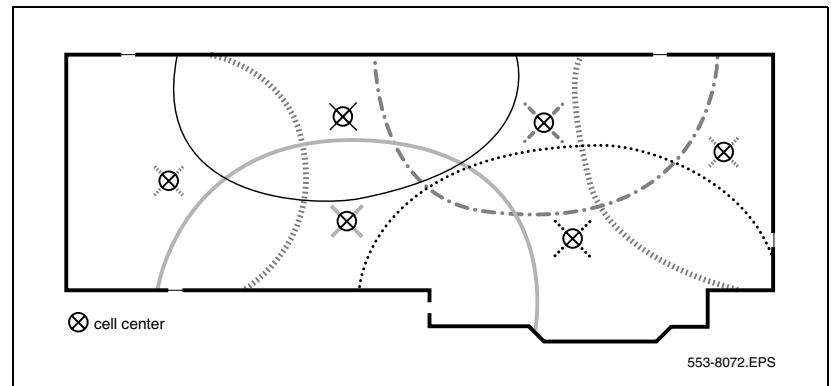
- **critical points** – mark  on the floor plan.
- **cell centers** – mark  on the floor plan.
- **cell center** - label each as xCn where x is the floor and n is the next sequential cell center.
- **cell boundaries** – mark wide, colored lines on the floor plan.

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

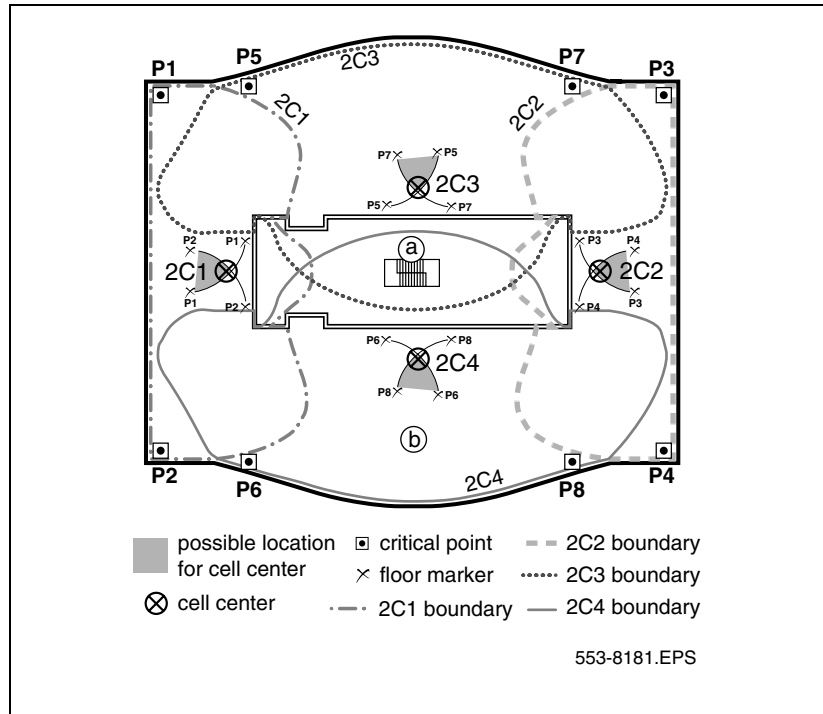


Figure 77 shows a typical floor plan marked-up after determining subsequent cell boundaries. The completed floor plan would appear as follows:

- 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.

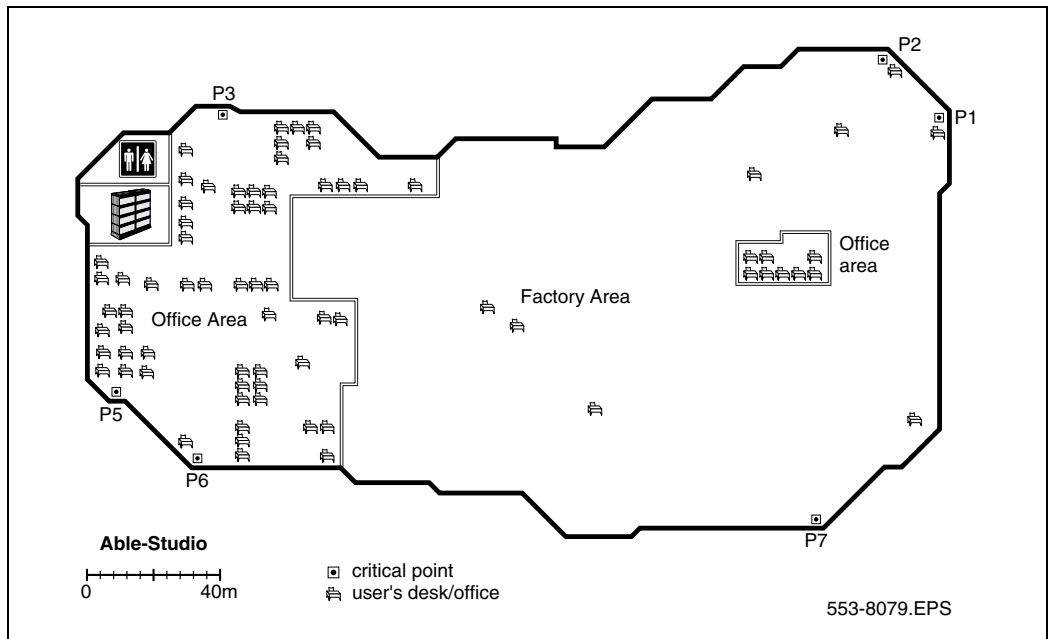


Two copies of the floor plan are required. One copy is used during the site planning. The second copy is marked with the information from the site planning copy and attached to [Provisioning records, page 233](#) for the installer.

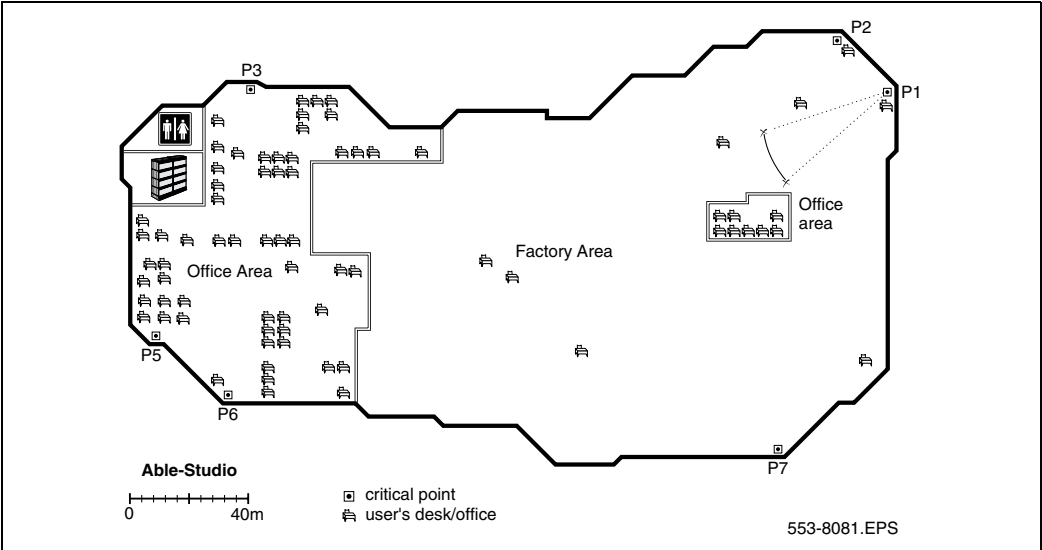
## Deployment illustrations

These illustrations represent the deployment process from start to finish.

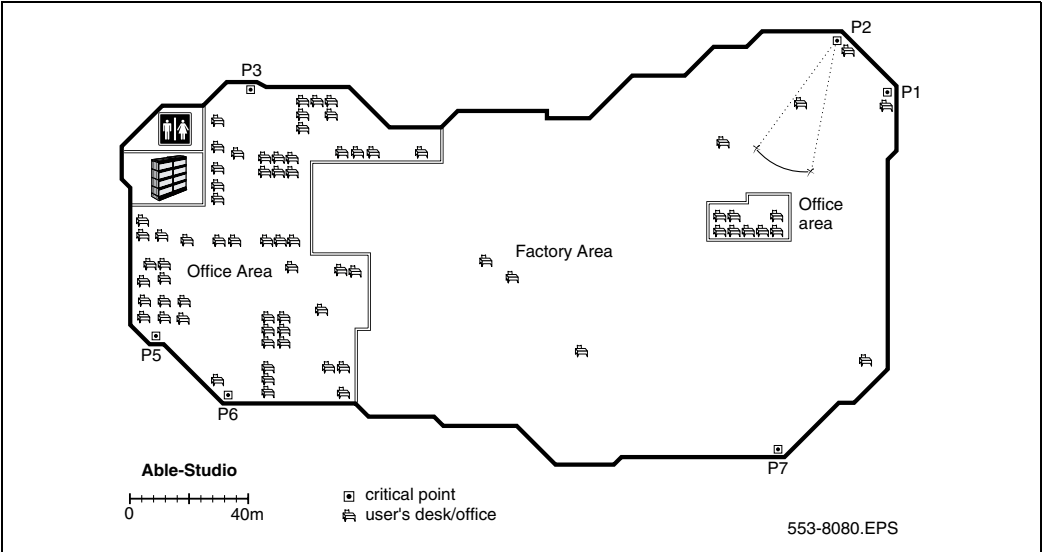
**Figure 78**  
**Example of initial critical points**



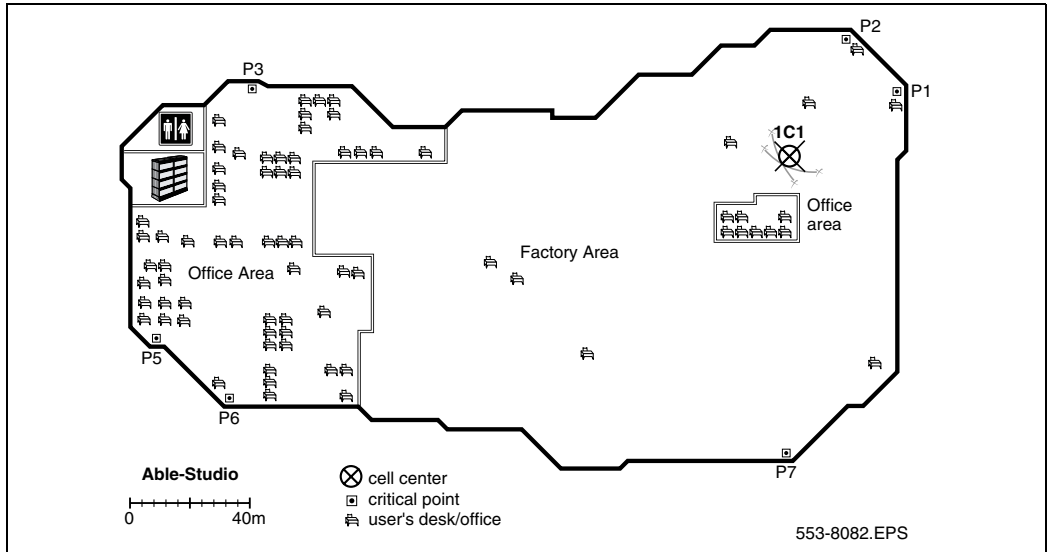
**Figure 79**  
**Cell contour of the initial critical point**



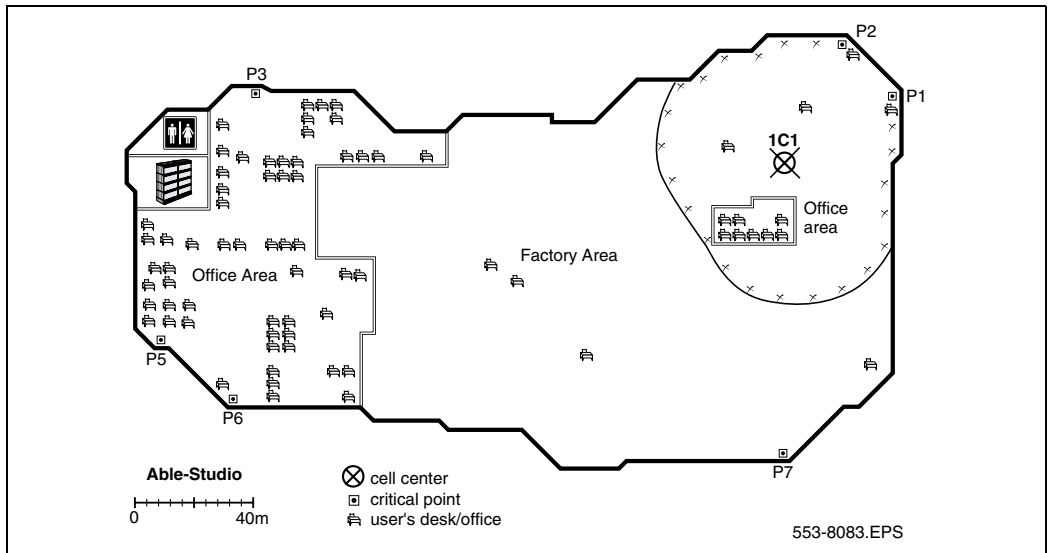
**Figure 80**  
**Cell contour of the closest adjacent critical point to the initial critical point**



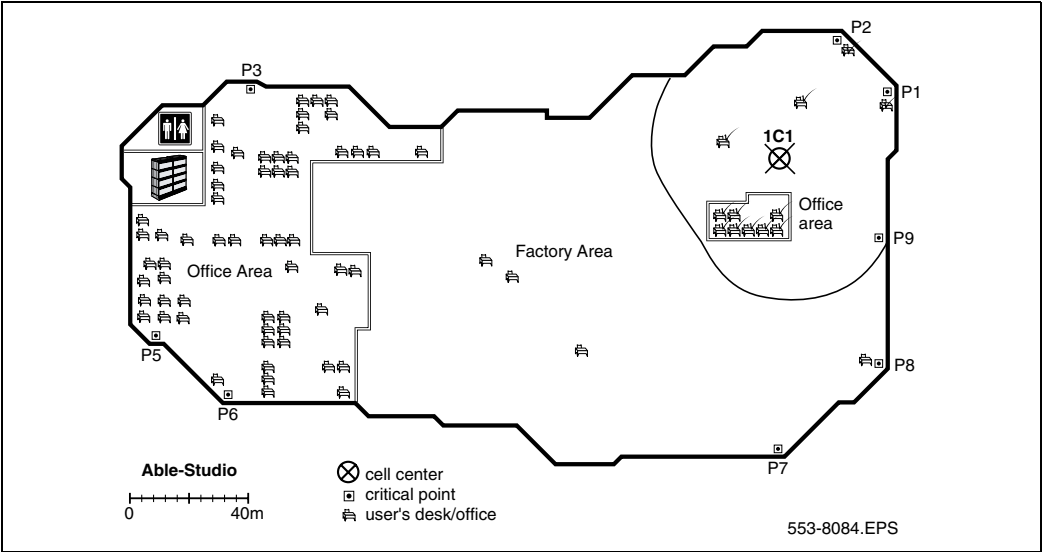
**Figure 81**  
**Example of a cell center**



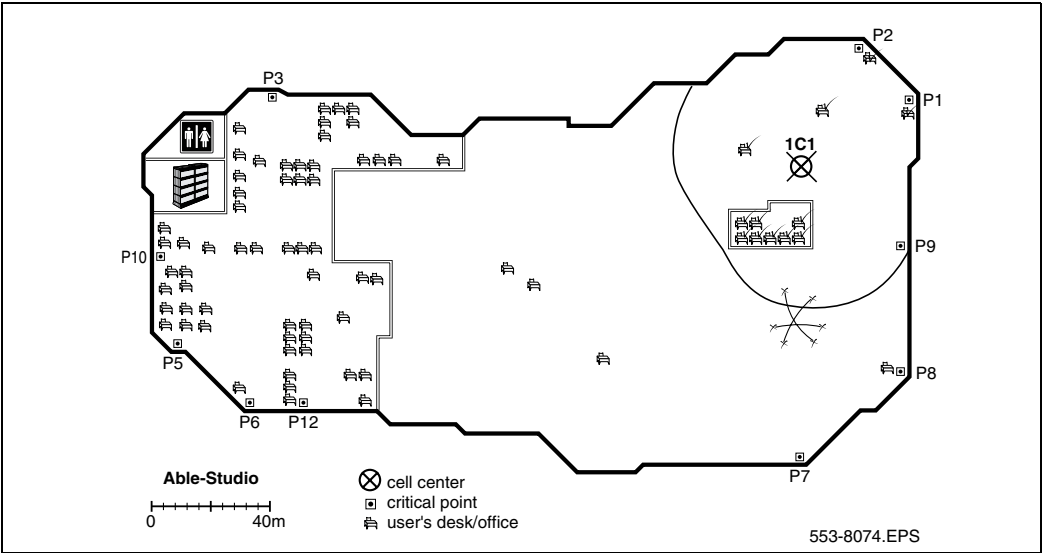
**Figure 82**  
**Example of a cell center boundary**



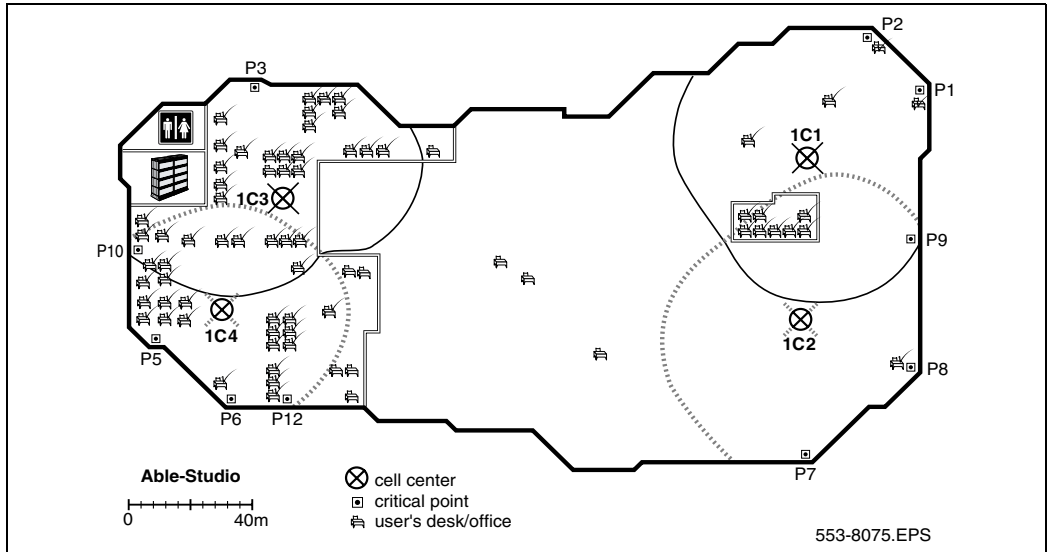
**Figure 83**  
**Example of new critical points (P8 and P9)**



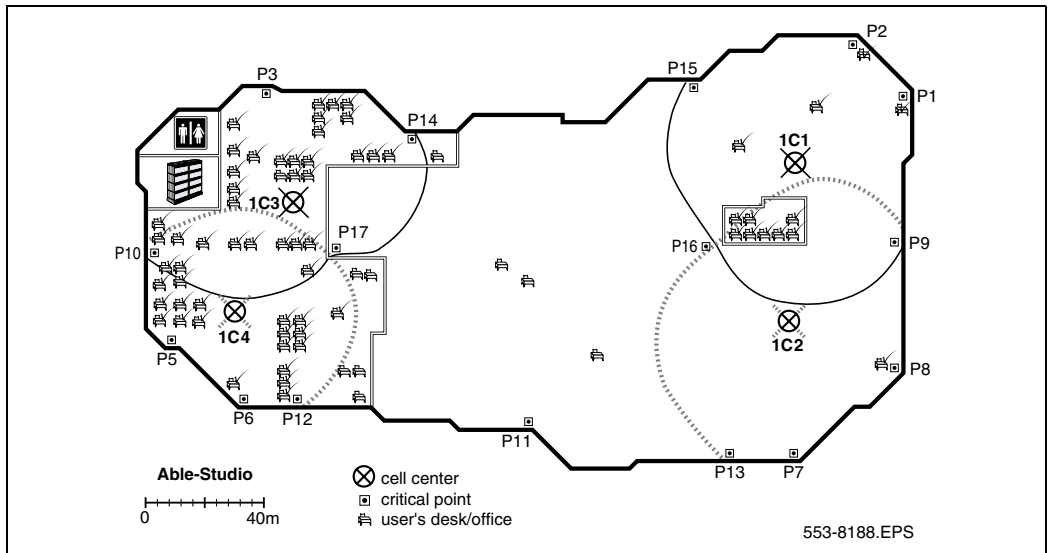
**Figure 84**  
**Example of deployment for cell center 1C2**



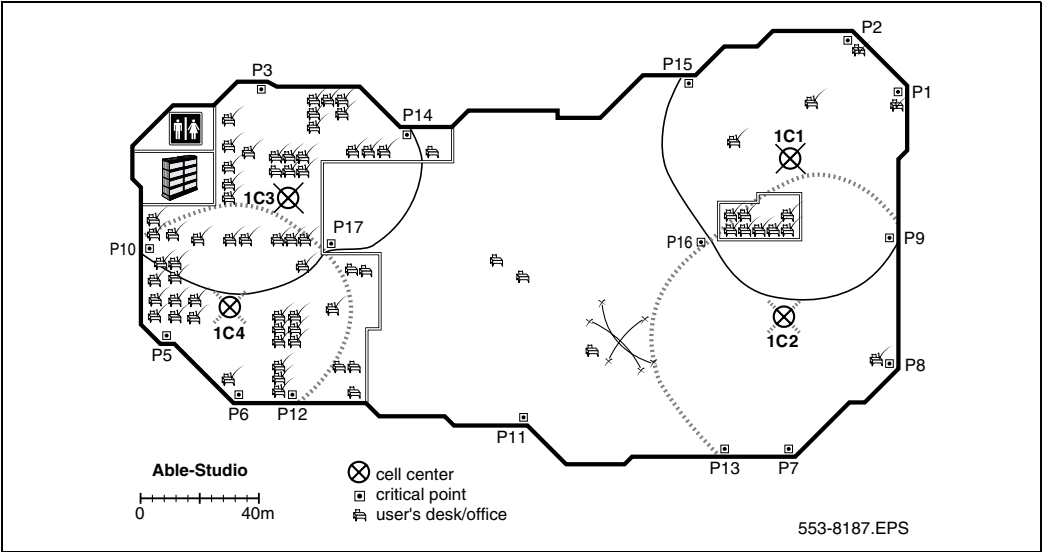
**Figure 85**  
Example of deployment for cells 1C3 and 1C4



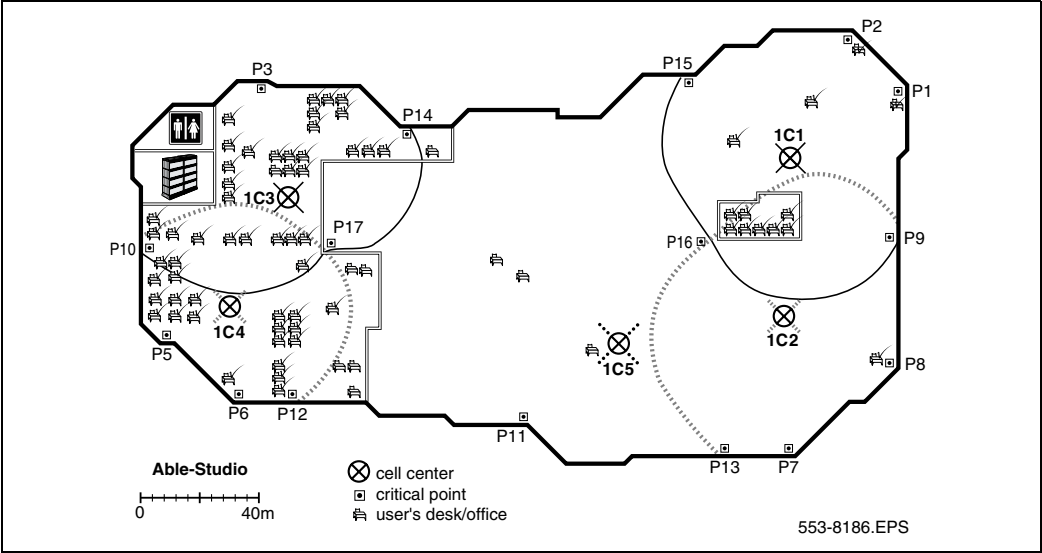
**Figure 86**  
Identify new critical points (P11, P12, P13, P14, P15, P16, P17)



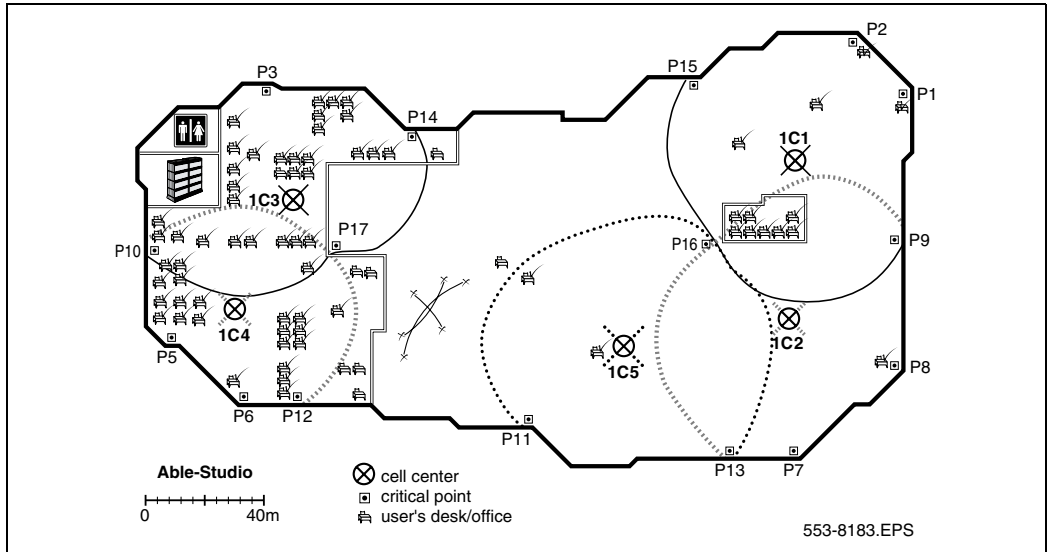
**Figure 87**  
 Contours formed by critical points P11, P13 and P16



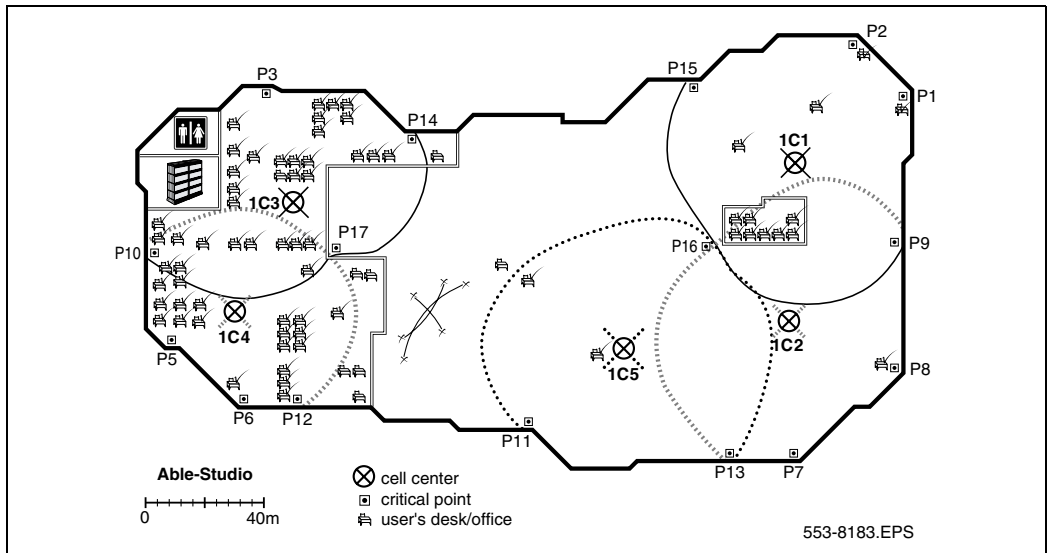
**Figure 88**  
 Cell center 1C5 formed by critical points P11, P13 and P16



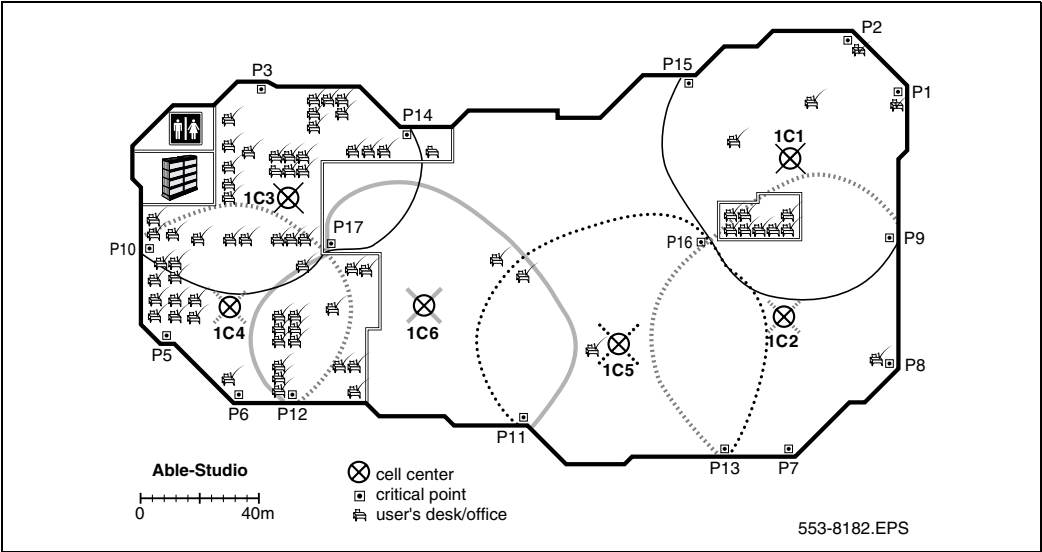
**Figure 89**  
Cell boundary 1C5 formed by critical points P11, P13 and P16



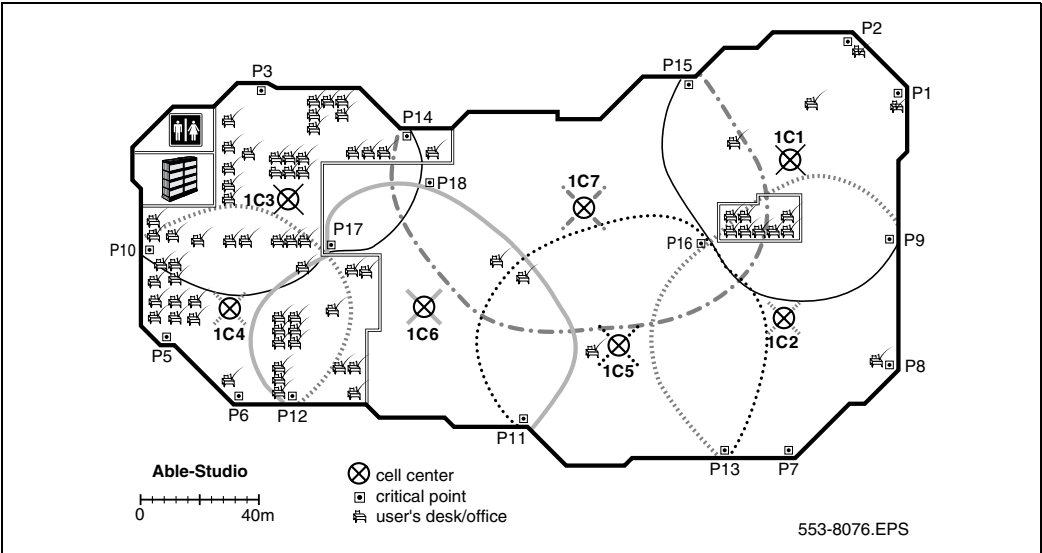
**Figure 90**  
Example of critical point cell boundaries



**Figure 91**  
**Example of cell center boundary 1C6**



**Figure 92**  
**Example of a floor plan showing complete radio coverage**





## Deployment terms

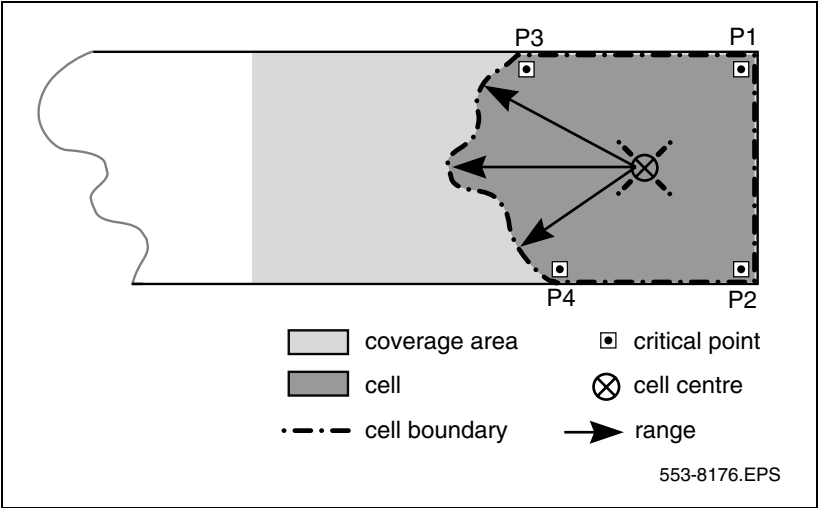
Terms associated with deployment are listed in the following table.

**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

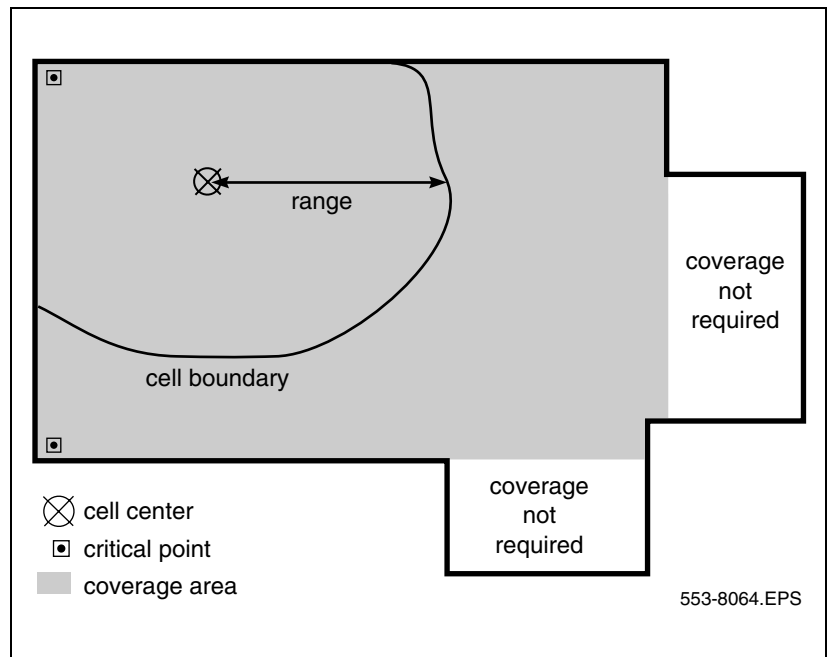
The terms used in this guide are described in [Table 21](#) and illustrated in [Figure 94](#).

**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**

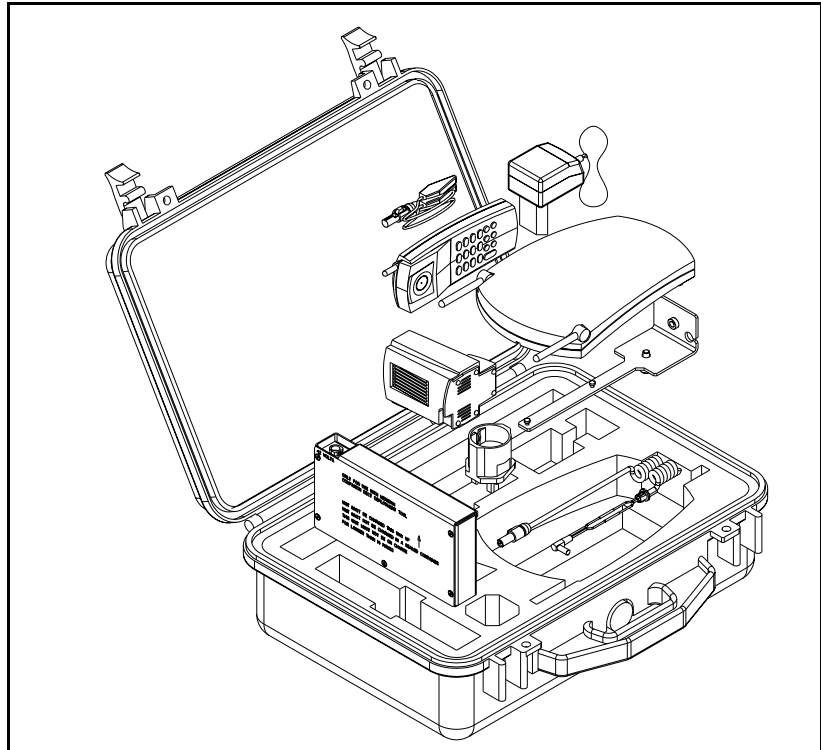
Term	Definition
Coverage area	The area defined by the customer in which a handset user should be able to make and receive calls.
Link	When a handset and a base station are in radio communication with each other.
Range	The distance from a cell center to the cell boundary.
Office	The location where a handset 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**

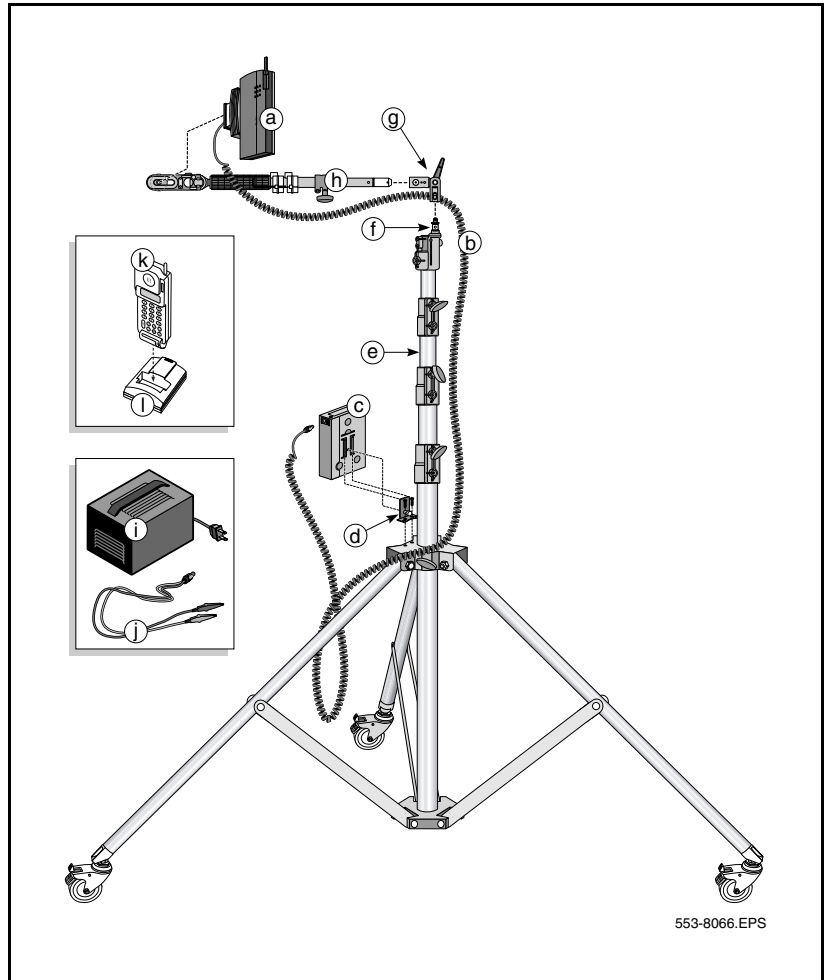
## Deployment tool

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**

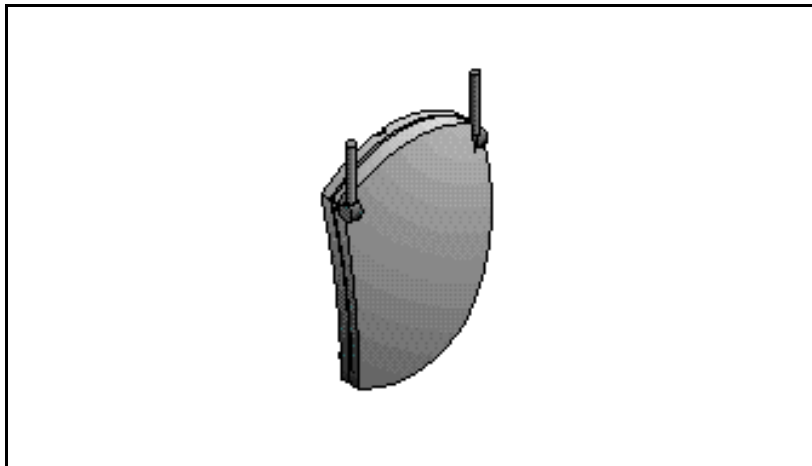
- a** base station
- b** power cord
- c** battery

- 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.

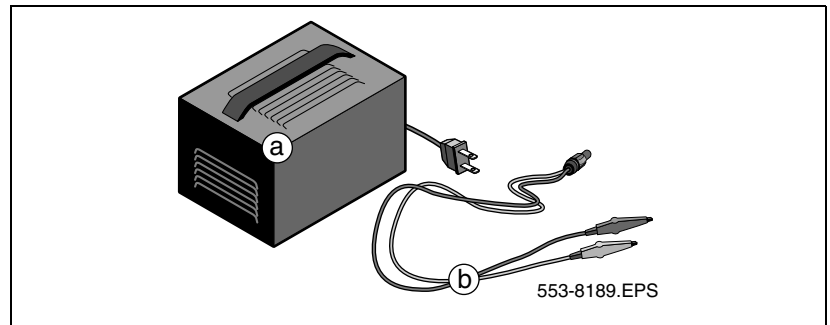


#### CAUTION — Equipment Damage

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

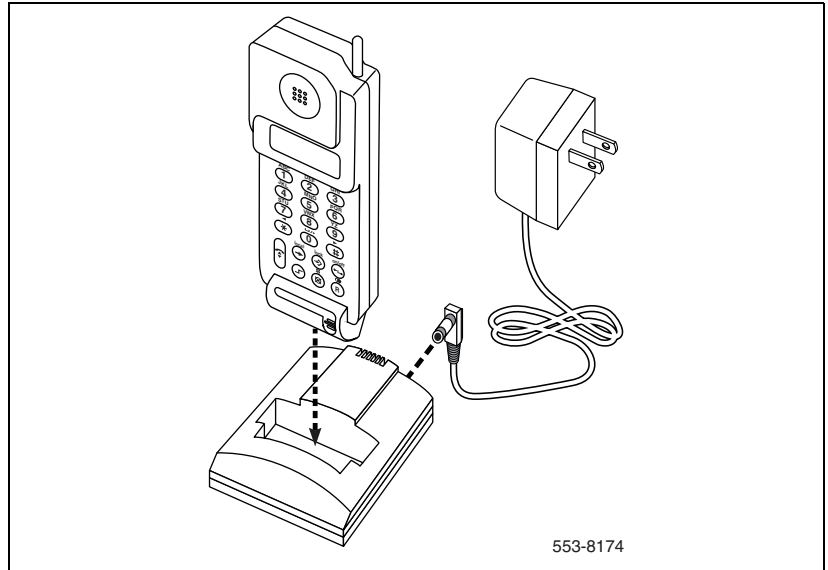
Step	Action
1	Set up the deployment tool battery charging equipment.
	Remove the deployment tool battery, charger, and charger cord from the yellow case.
2	Charge the deployment tool battery.
	Connect the charger cord plug into the battery. Connect the red alligator clip to the positive lead of the charger, 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.
<div>END</div>	



## 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.

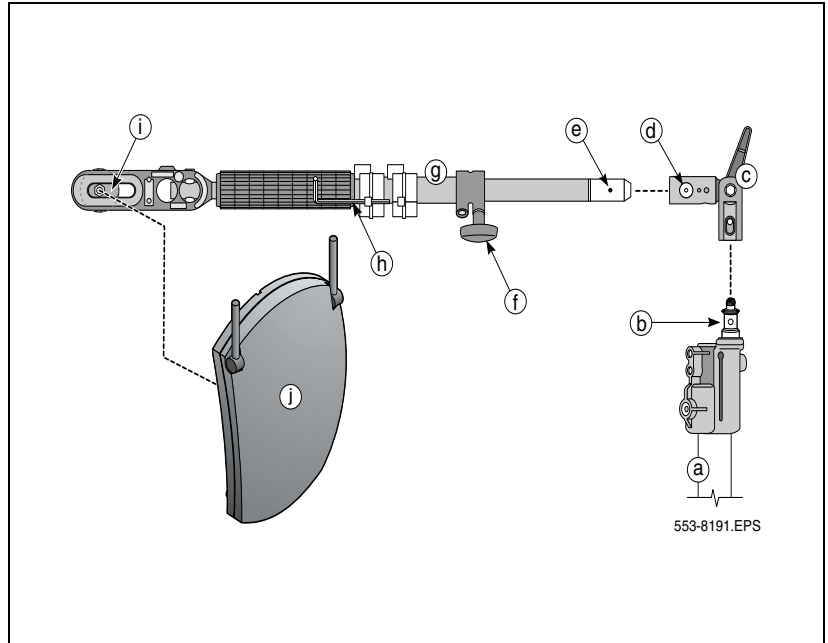
**Table 23**  
**Charging the deployment handset battery**

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**



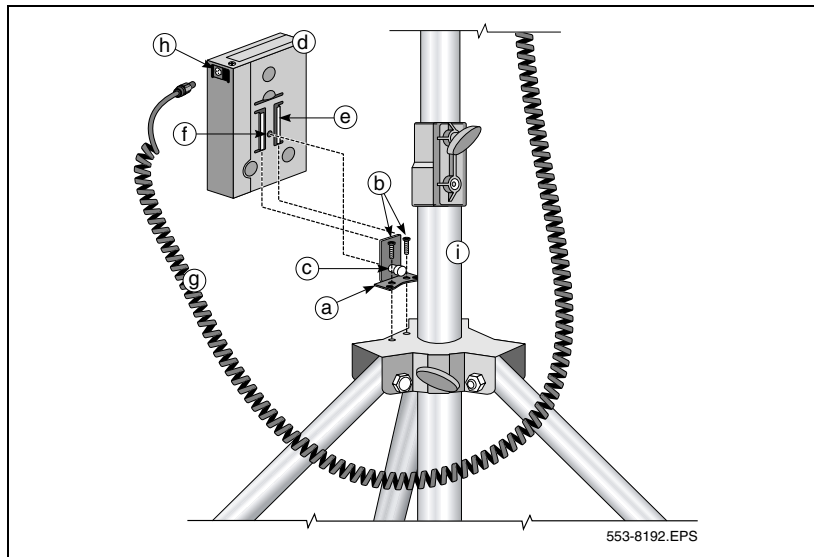
### Key

- 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
<b>1</b>	Set up the tripod.
	Remove the tripod from its carrying case and set upright. Lock the casters.
<b>2</b>	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 <a href="#">page 184</a> , onto the brass fitting on the top of the tripod.
<b>3</b>	If required, secure the extension arm fitting.
	Use the Allen key attached to the extender arm to secure the extension arm fitting allen screw.
<b>4</b>	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 thump screw locking device of the tripod fitting. The thump screw locking device will click into the keying hole of the extension arm.
<b>5</b>	Position the extension arm.
	Orient the arm into the proper position. Secure the tripod fitting and the extension arm thumb screw.
<b>6</b>	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.
<b>7</b>	Position the antenna.
	Rotate the antenna from its stowed position, against the body of the base station, to its upright operating position.
<b>8</b>	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 <a href="#">Figure 101</a> , 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  and press the ON/OFF button. The handset displays <b>DECT HANDSET</b> .
3	Select system mode.
	Press the shift key and press the local key. The handset displays <b>SYSTEM</b> .
4	Select the monitor mode.
	Press the star key. The handset displays <b>MONITOR MODE</b> .
5	Select the monitor mode code.
	Press the lock button. The handset displays <b>CODE</b> .
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 <a href="#">page 180</a> and "How to use the deployment tool" on <a href="#">page 182</a> .
	

## How the deployment tool works

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

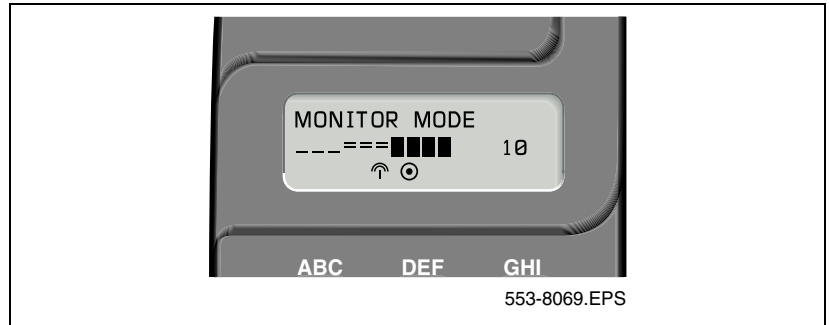
- a** the handset is in the deployment mode; and,
- b** the handset and base station are within range of one another.



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 <a href="#">page 157</a> 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> <ul style="list-style-type: none"> <li>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.</li> <li>b Establish a link. See “Deployment tool” on <a href="#">page 168</a> for details.</li> <li>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.</li> <li>d Mark the cell boundary on the floor plan with a small x.</li> <li>e Repeat steps c and d until there are enough x’s to draw a thin contour arc through the x’s.</li> </ul> <p>In Figure 79 on <a href="#">page 158</a>, P1 is the initial critical point.</p>
3	Demarcate the cell contour of the closest adjacent critical point to the first critical point.
	See <a href="#">step 2</a> for details. In Figure 80 on <a href="#">page 158</a> , 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"> <li>• is furthest from the critical points,</li> <li>• still provides good audio quality at the critical point,</li> <li>• complies with the <a href="#">Rules and guidelines for selecting cell centres, page 150</a>, and</li> <li>• is in the coverage area.</li> </ul> <p>With a pencil, label the cell center on the floor plan with the symbol: <del>✕</del> <b>xCn</b>, where <b>x</b> = the floor and <b>n</b> = is the cell number in sequence of the entire plan.</p> <p>In Figure 81 on <a href="#">page 159</a>, IC1 is a cell center.</p>
5	Demarcate a cell boundary.
	<p>To demarcate a cell boundary:</p> <ol style="list-style-type: none"> <li>Set up the deployment tool base station at the cell center.</li> <li>Establish a link.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ol> <p>See Figure 82 on <a href="#">page 159</a> 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"> <li>a Mark each office within the cell that is isolated from the office area.</li> <li>b Label any subsequent critical point on the floor plan the following symbol: .</li> <li>c Mark the cell contour on the floor plan. Trace a contour line through the x's with a marker.</li> <li>d Trace the cell boundaries and cell centers with colored markers.</li> </ul>
7	Identify new critical points.
	<p>Follow these steps:</p> <ul style="list-style-type: none"> <li>a Identify one new critical point just inside of where the cell boundary meets the outside wall. In Figure 83 on <a href="#">page 160</a>, this new critical point is P9.</li> <li>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 <a href="#">page 160</a>, the cell boundary area is IC1 and the new critical point is P8.</li> </ul>
8	Mark and label these new critical points on the floor plan with the symbol:  .
	See <a href="#">step 6 on page 189</a> for details.
9	Using the critical points from <a href="#">step 7</a> , demarcate new cell contours, a new cell center and a new cell boundary.
	<p>See <a href="#">steps 2 to 5</a> starting on <a href="#">page 187</a> for details.</p> <p><b>Note:</b> Cell contour arcs must pass near the cell boundary of adjacent cells. For an example of this, see Figure 84 on <a href="#">page 160</a>.</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 <a href="#">steps 1</a> to 8 as necessary to demarcate new cell boundaries at the other end of the building. In Figure 85 on <a href="#">page 161</a> , 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"> <li>• adjacent to a critical point and on the opposite side of the cell boundary area. (critical point = P11 in Figure 86 on <a href="#">page 161</a>, where cell boundary area = IC2),</li> <li>• just inside of where the cell boundary meets the outside wall (P12, P13, P14 and P15 in Figure 86 on <a href="#">page 161</a>), and</li> <li>• where cell boundaries meet (P16 and P17 in Figure 86 on <a href="#">page 161</a>).</li> </ul>
12	Demarcate additional cell boundaries to cover all areas of the building.
	<p>Repeat <a href="#">steps 1</a> to 8 as necessary to demarcate new cell boundaries in the middle of the building.</p> <p>Refer to <a href="#">Figures 87</a>, 88, and 89 starting on <a href="#">page 162</a>. Critical points P11, P13 and P16 form:</p> <ul style="list-style-type: none"> <li>• contours in Figure 87 on <a href="#">page 162</a></li> <li>• the cell center 1C5 in Figure 88 on <a href="#">page 162</a></li> <li>• a new cell boundary in Figure 89 on <a href="#">page 163</a></li> </ul> <p>Refer to <a href="#">Figures 90</a> and 91 starting on <a href="#">page 163</a>. Critical points P11, P12 and P17 form:</p> <ul style="list-style-type: none"> <li>• contours in Figure 90 on <a href="#">page 163</a></li> <li>• a new boundary based on cell center 1C6 in Figure 91 on <a href="#">page 164</a></li> </ul> <p>Figure 87 on <a href="#">page 162</a> 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

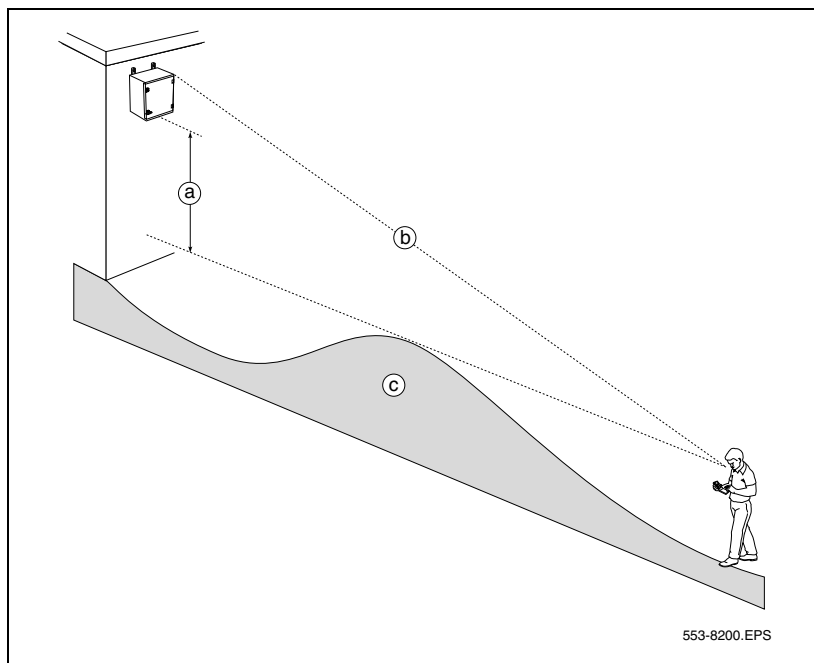
Follow [Procedure 1](#) to deploy an external base station.

### **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.

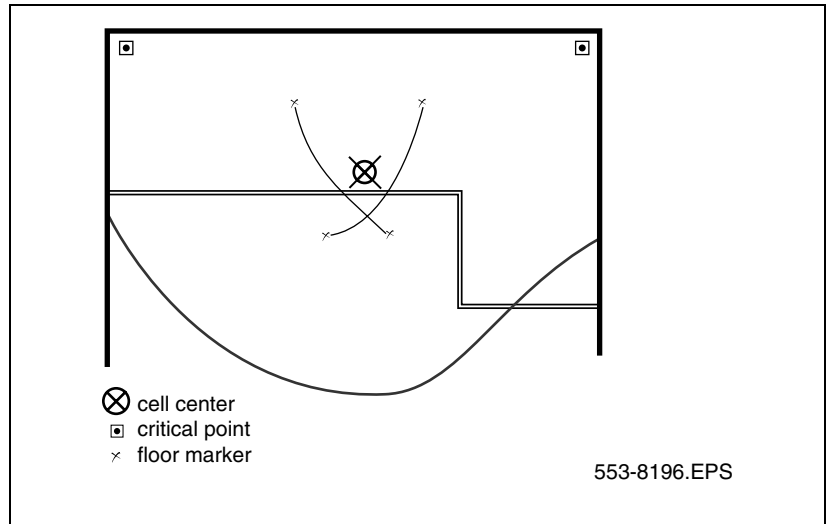
Start at the “short” side of the coverage area. First cover the corners, then the side between those corners, and finally inward to the center of the coverage area. Repeat the process for the other end of the coverage area.

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 × 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

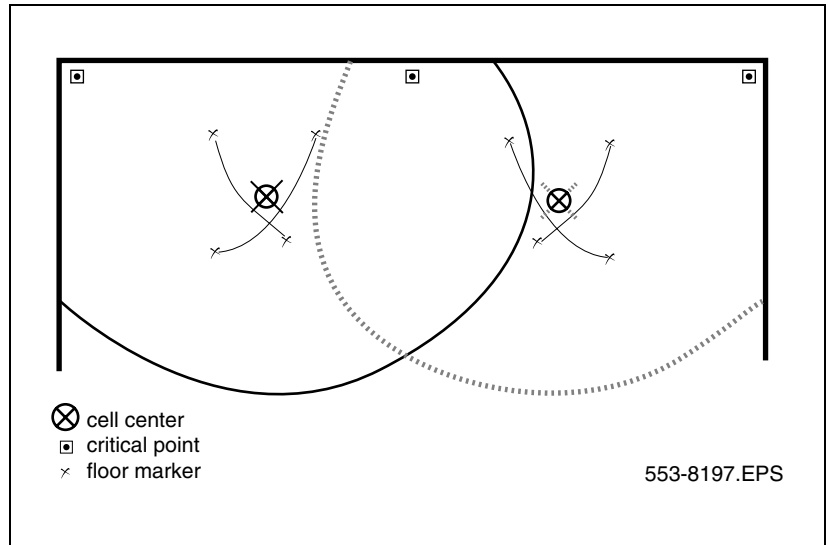
---

### 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.

---

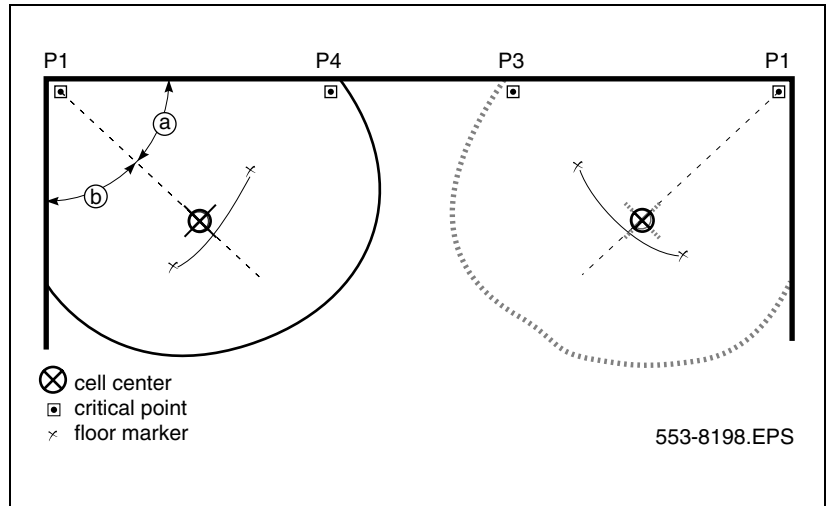
**End of Procedure**

---

### **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**

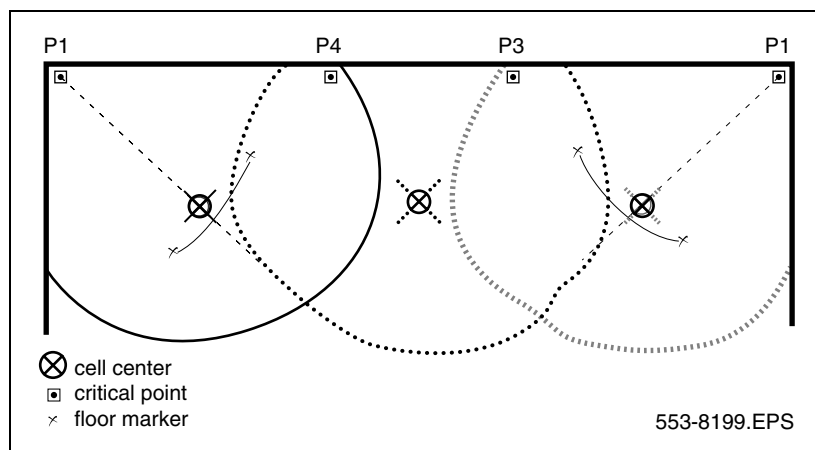


**Procedure 4**  
**Multi-cell deployment**

- 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.
	Follow the procedure on <a href="#">Table 25 on page 180</a> .
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:

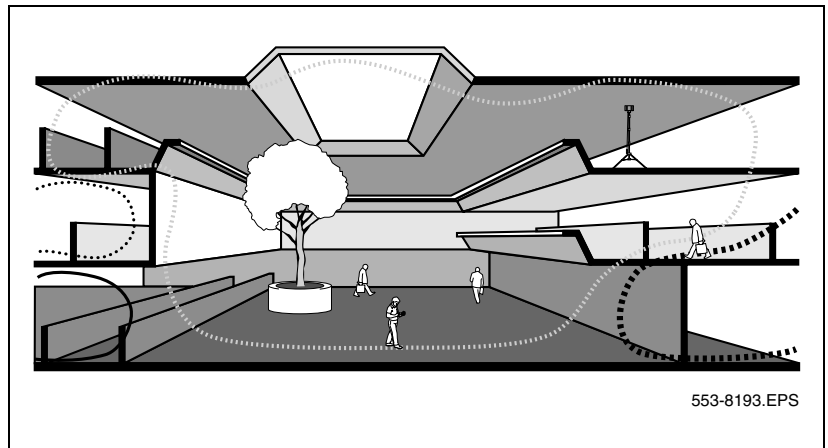
- 1 Atriums (page 203).
- 2 High rise buildings (page 204).
- 3 Unusual conditions (page 204).

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***

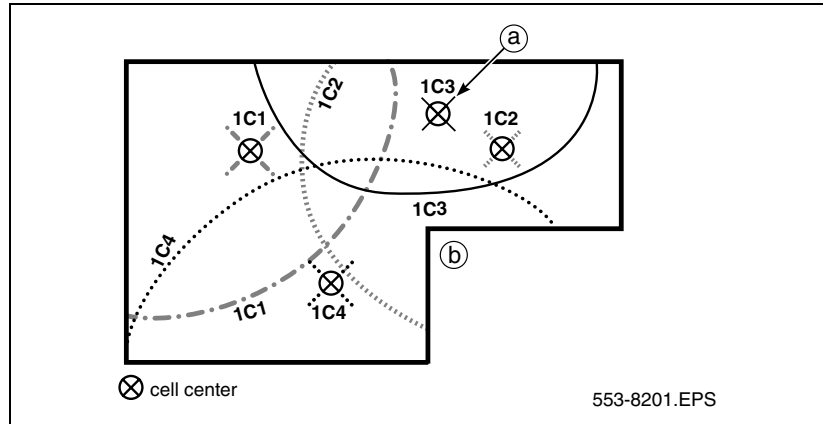
The primary concern with deploying too many cell centers is cost. To deploy the correct number of cell centers and reduce cost, do the following:

- 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

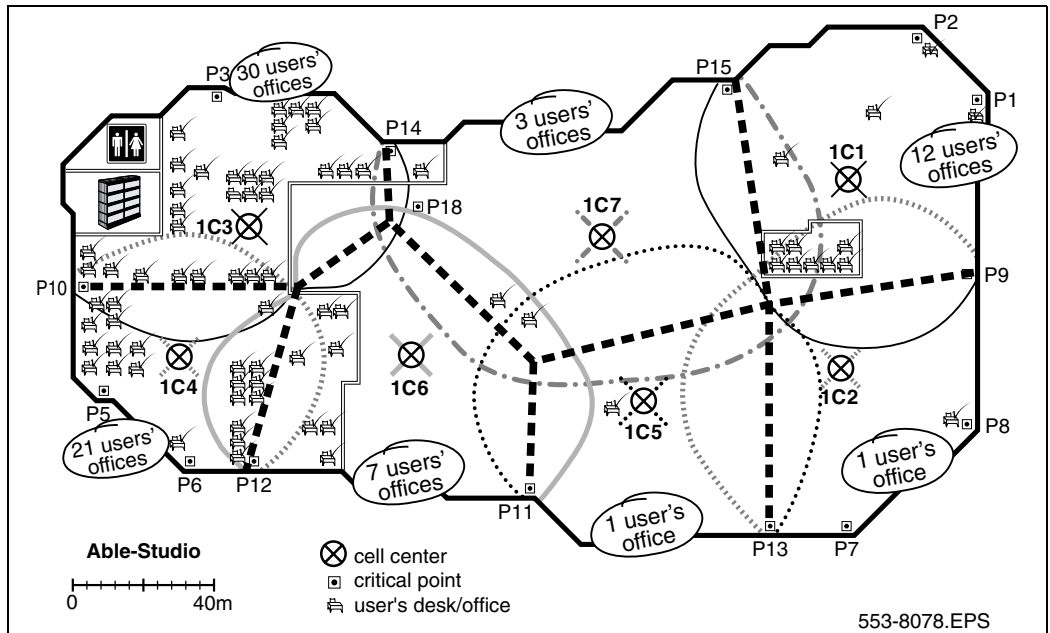


Table 29

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.
END	


### 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 $\times$ 0.7)
2	Enter the result in the row, "users inside the cell with an office".
	In the example shown in <a href="#">Figure 114</a> on <a href="#">page 209</a> , twelve users in cell 1C1 spend 70% of their time in their offices. ( $12 \times 0.7 = 8.4$ )
	


**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 <a href="#">Figure 114</a> on <a href="#">page 209</a> , 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 <a href="#">Figure 114</a> on <a href="#">page 209</a> , 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 <a href="#">Figure 114</a> on <a href="#">page 209</a> , 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 <a href="#">Figure 114</a> on <a href="#">page 209</a> , is shown entered into <a href="#">Table 41</a> . 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.
<div>END</div>	

**Determining cell re-engineering**

**Table 44**  
**Example of a completed estimate table**

	<b>1C1</b>	<b>1C2</b>	<b>1C3</b>	<b>1C4</b>	<b>1C5</b>	<b>1C6</b>	<b>1C7</b>
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**

	<b>1C1</b>	<b>1C2</b>	<b>1C3</b>	<b>1C4</b>	<b>1C5</b>	<b>1C6</b>	<b>1C7</b>
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 <sup>a</sup> .
Greater than 80	Greater than 40	Sub divide the cell <sup>a</sup> to meet the above conditions.
<p><b>a.</b> For details on how to subdivide cells, refer to <a href="#">High handset density deployment, page 222</a>. 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 <a href="#">Table 44 on page 217</a> , the handset estimate is 11.6.
2	Determine the telephone types in the first cell.
	In the example shown in <a href="#">Table 45 on page 217</a> , the telephone type is H&W.
3	Locate the telephone type column in <a href="#">Table 45 on page 217</a> .
	In the example H&W is the “users with both a handset and a wired telephone”.
4	Find the handset estimate range in <a href="#">Table 46 on page 218</a> .
	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 <a href="#">page 220</a> .
7	Transfer the results of <a href="#">Table 47</a> 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)**

<b>Estimated number of handsets for users without wired telephones</b>	<b>Adjusted estimated number of handsets for each cell</b>
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 <a href="#">Table 48</a> 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 <a href="#">Table 48</a> 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.

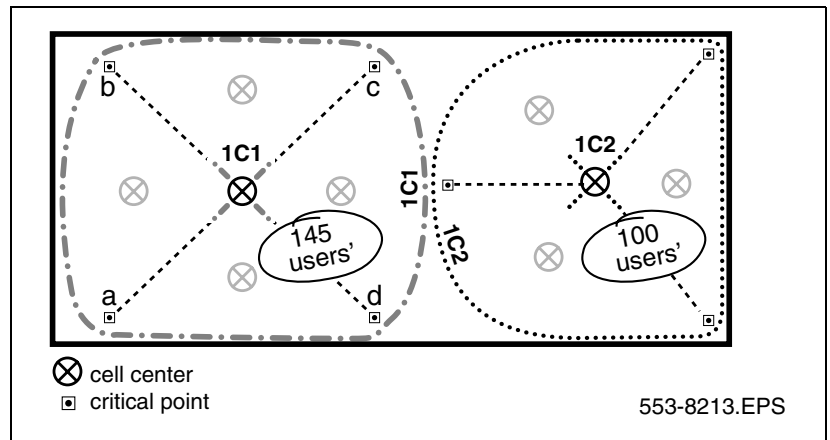
## Limiting the anticipated number of handsets

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 <a href="#">Table 46 on page 218</a> . 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 <a href="#">Figure 115</a> , 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 <a href="#">page 150</a> .
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

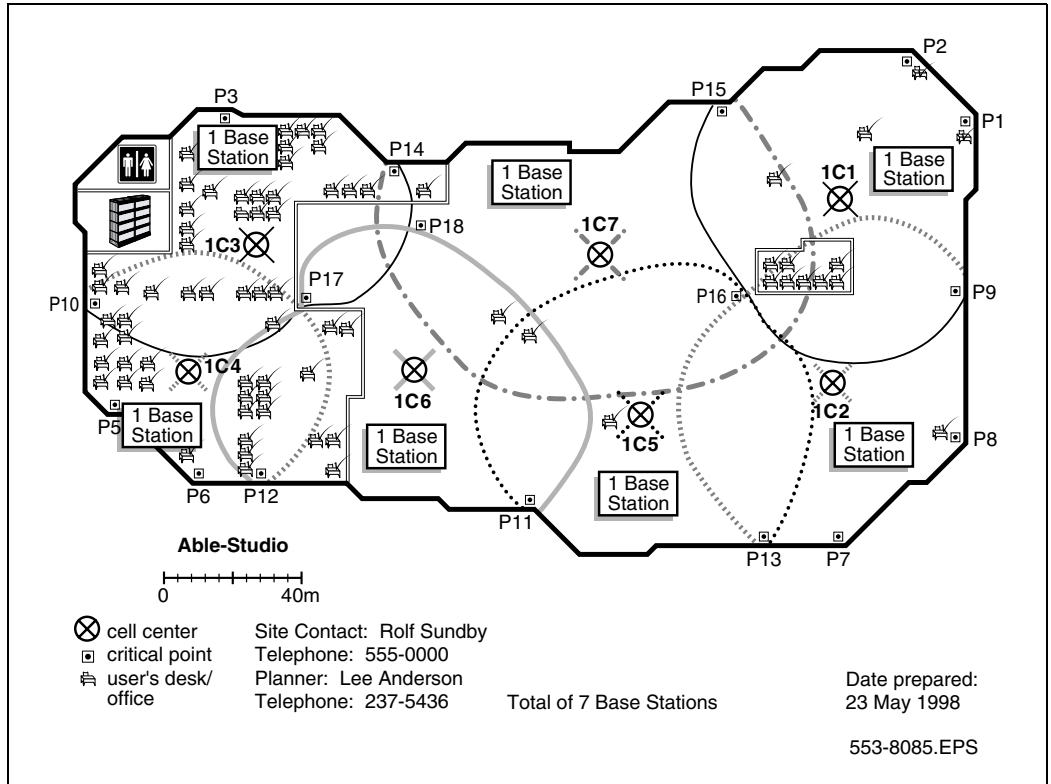
Review the plan to make sure that the sales group can use it. The plan must be complete for the installer, legible for maintenance purposes, and acceptable to the customer.

### 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.
<div>END</div>	

**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
Configuring DECT on the OTM server . . . . .	303
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**

<b>Client</b>	
Company name	
Address	
Contact name	
Telephone number	
Billing number	
Date received	

<b>Supplier</b>	
Company name	
Address	
Contact name	
Telephone number	
Invoice number	
Date shipped	

<b>Installer</b>	
Name	
Installation date	

## Provisioning information record

## Base station cell

Sheet \_\_\_\_\_

[illegible]

Installation record

Base station connection

Sheet \_\_\_\_\_

Base station number	MDF designator or I/O panel label	MDF RJ45 number





**System programming record**

System name: \_\_\_\_\_  
PARI licence string: \_\_\_\_\_

**Handset user information record**

Sheet \_\_\_\_\_

User name	DN	WRLS TN	MCRD/ MCRA	CLS	CNDD/ CNDA

## 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

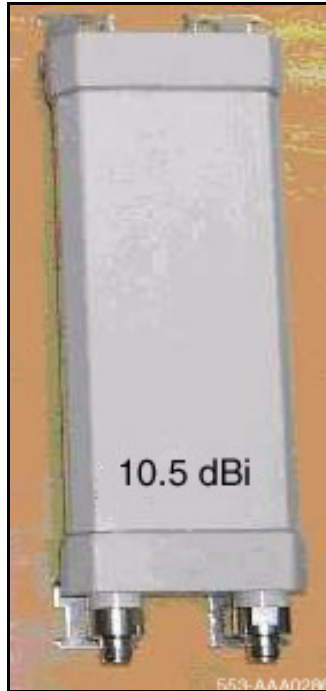
The C4600, C4610, and C4610E base stations are compatible with all software releases for DECT, Meridian 1, Succession 1000, and Succession 1000M systems. The base stations are backward compatible.

## 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.

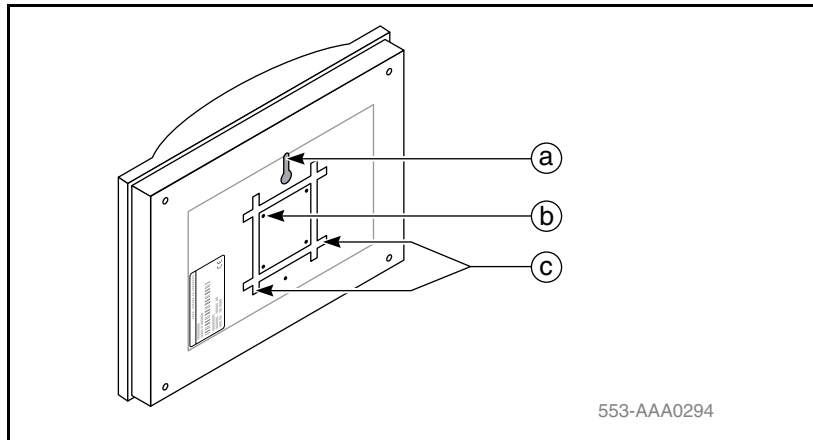
**Figure 117**  
**A Huber & Suhner dual-planar directional antenna**



## **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.

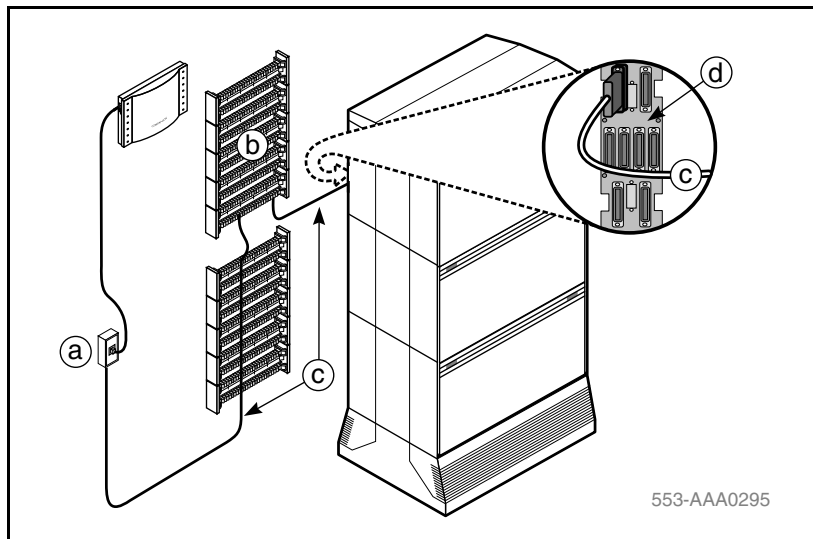


#### **CAUTION — Service Interruption**

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

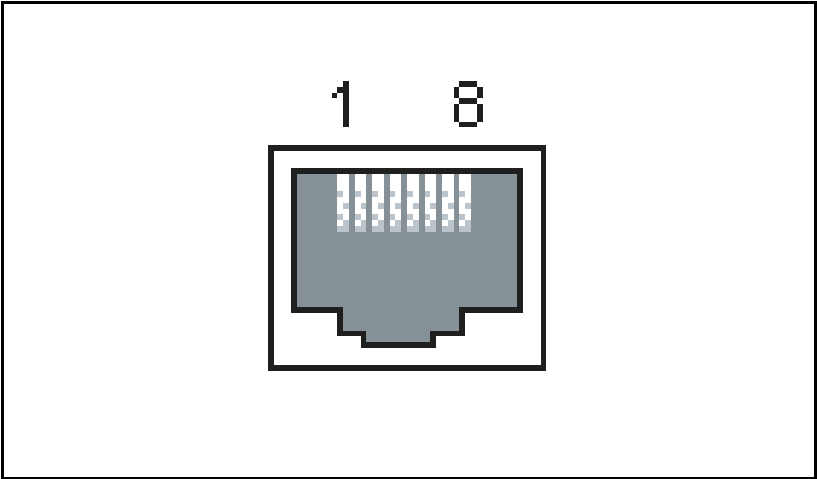


**Table 55**  
**Installing Base Station wiring to the MDF**

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 <a href="#">page 246</a> for connection details.
	<p><b>Note 1:</b> Ensure that the cable is <b>twisted pair</b> from beginning to end.</p> <p><b>Note 2:</b> 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

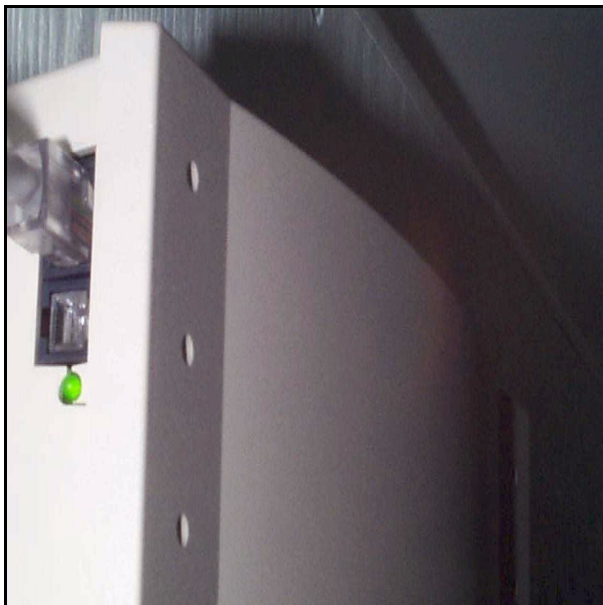
**Table 56**  
**Base station RJ45 to BIX MDF connections (Part 2 of 2)**

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

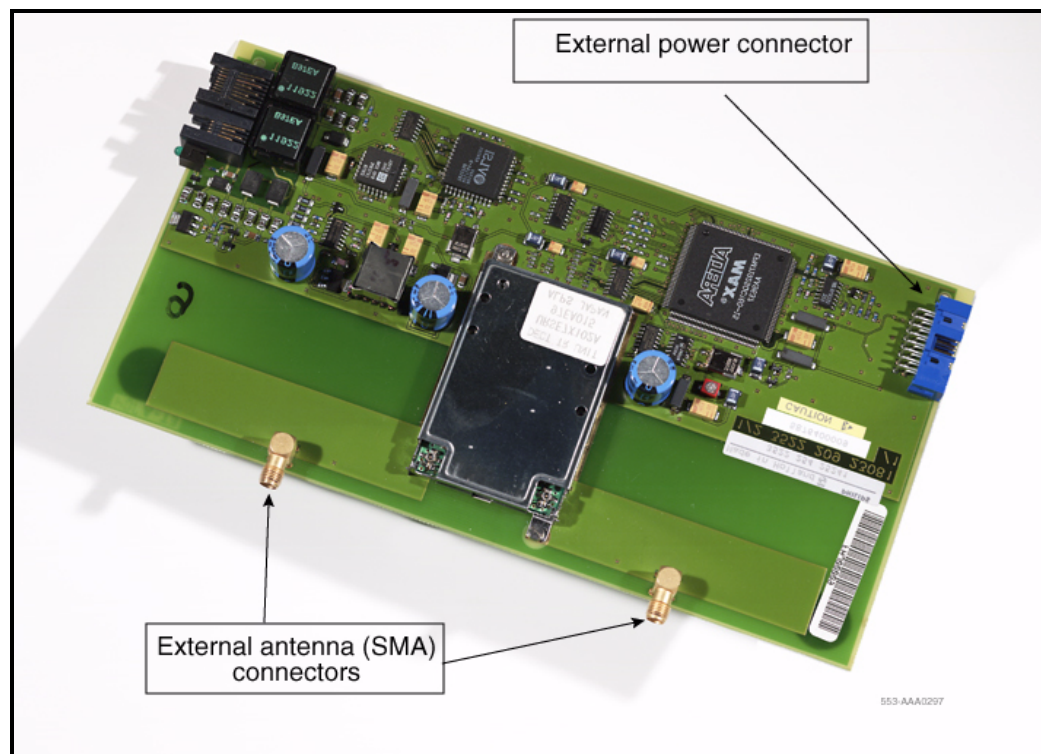
## Installing the external power supply

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**



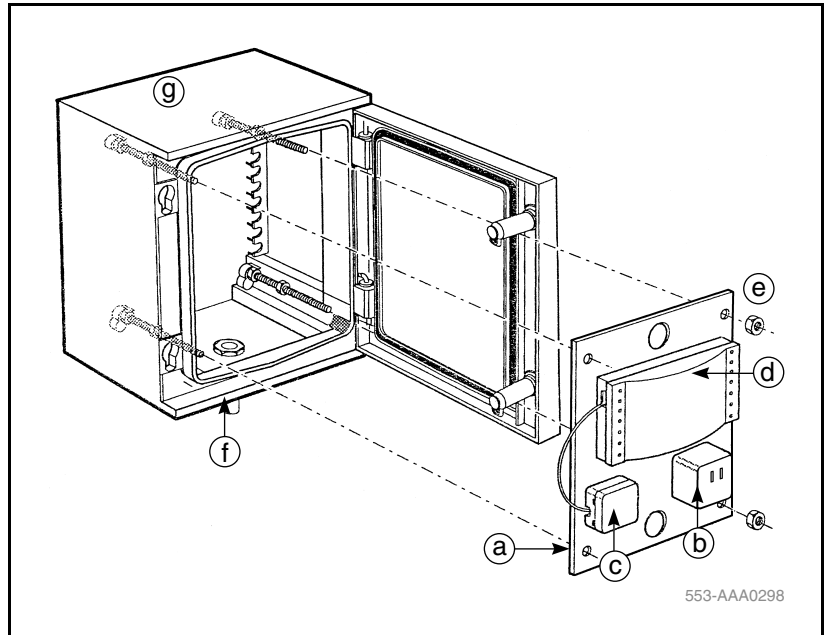
**Table 57**  
**Installing the C4610 base station external power supply**

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.
<div>END</div>	

## Installing the external housing

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

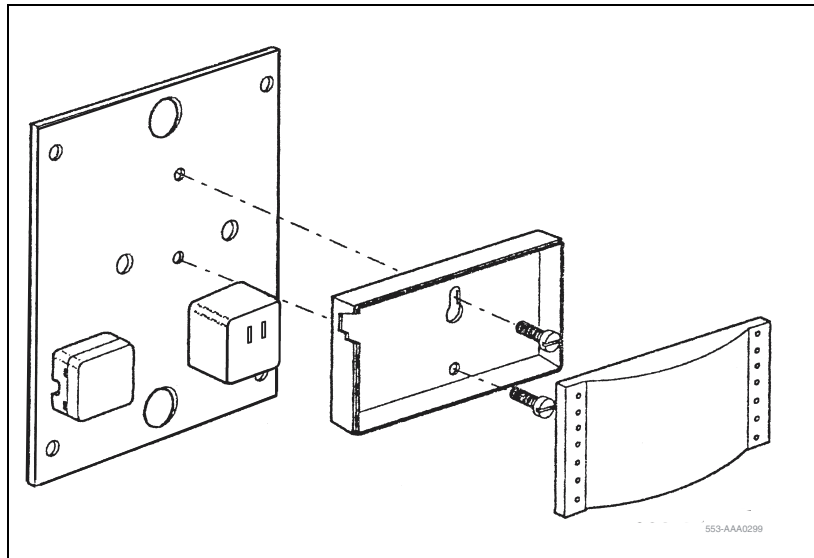
**Figure 123**  
**External housing details**



### 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.



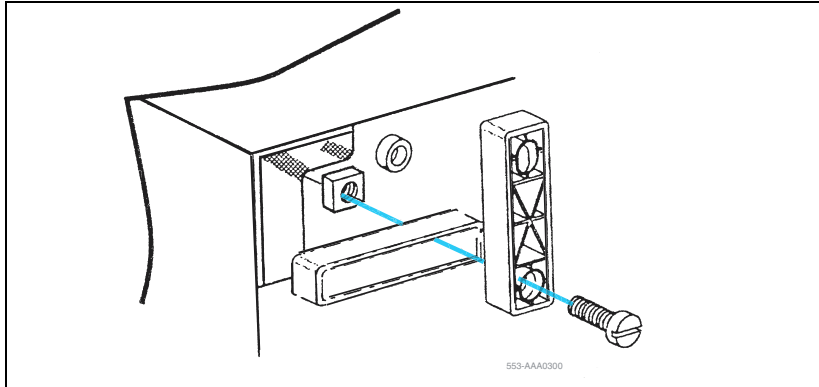
**Table 58**  
**Installing the base station in the external housing**

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 <a href="#">page 252</a> .
	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 <a href="#">Figure 124</a> .
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.
	

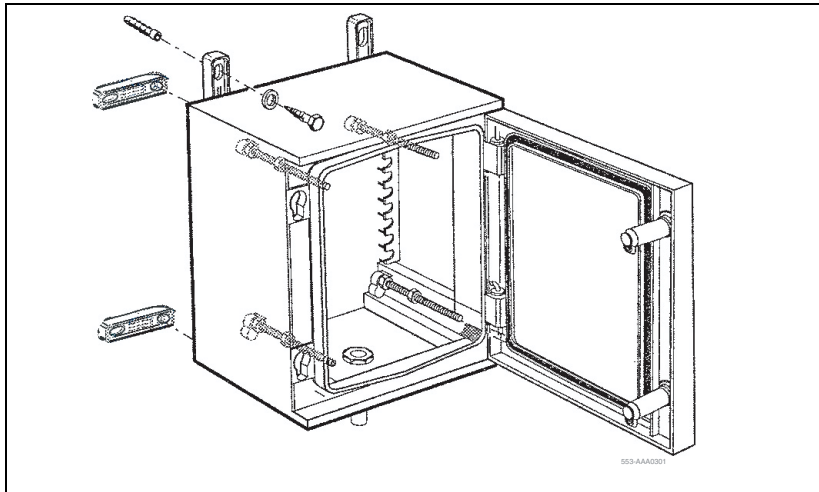
## Attaching the external housing to a wall

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.

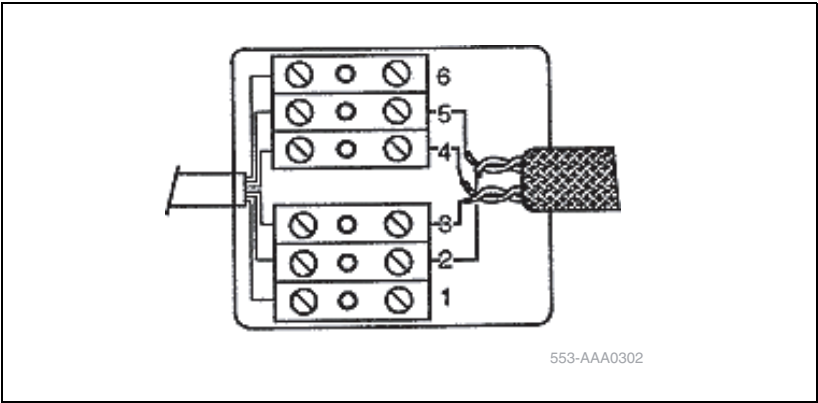
**Table 59**  
**Attaching the external housing to a wall**

Step	Action
1	Choose the vertical or horizontal mounting position.
	See Figure 125 on <a href="#">page 254</a> 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 <a href="#">page 254</a> 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><b>Note:</b> See Figure 127 on <a href="#">page 256</a> and Table 61 on <a href="#">page 257</a> for wiring connections. For DMC8 types NTCW00AB and NTCW01AB, connect from base station 1 to base station 8.</p> <p><b>Note:</b> 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)**

<b>Step</b>	<b>Action</b>
	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.
<b>14</b>	Turn the power supply circuit breaker to OFF.
<b>15</b>	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.
<b>16</b>	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.
<b>17</b>	Re-seat the NTDK20 SCC card.
<b>18</b>	Route the fiber optic cable through the Fiber Routing Guide.
<b>19</b>	Set the circuit breaker in the main cabinet to ON.
	The system reloads. Check time and date using LD 2.
<b>20</b>	Re-install the drip tray in the main cabinet.
<b>21</b>	Re-install the main cabinet cover.
	

### Installing IPE module wiring to the MDF

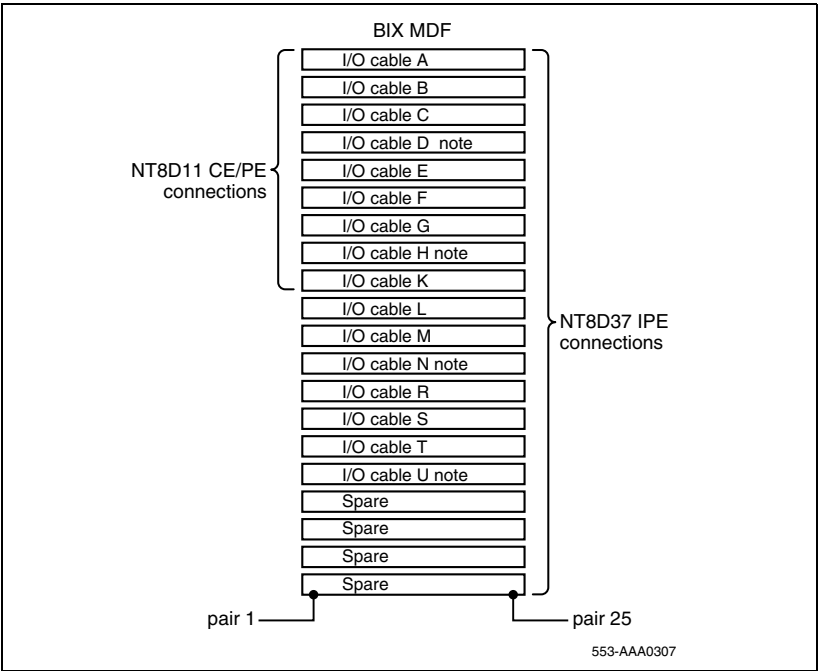
Consult the work order to determine the layout of the module I/O panel to MDF cabling route, then perform the steps in Table 64 on page 266.



**CAUTION — Service Interruption**

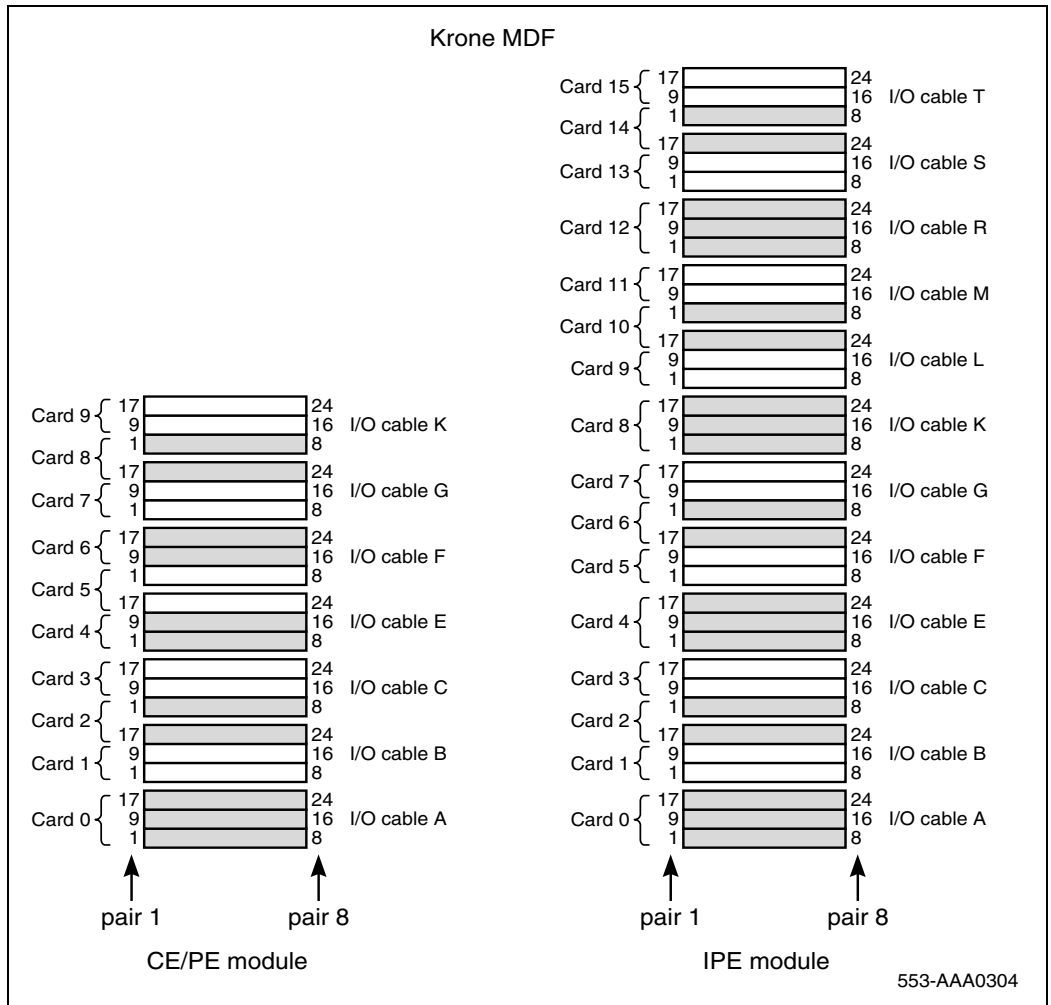
The existing MDF cabling can be used; however, UTP Cat 5 – NTCW15, NTCW16, or NTCW17 MDF to PBX cabling is recommended, as it provides a greater line length before signal degradation occurs.

**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 <a href="#">Table 65</a> .
3	Run the cable to the MDF.
4	Terminate the cable on the MDF.
	For BIX MDF, refer to Figure 128 on <a href="#">page 264</a> to locate the BIX connectors and <a href="#">Table 65 on page 266</a> to locate the cable color code. For Krone MDF, refer to Figure 129 on <a href="#">page 265</a> to locate the Krone connectors and <a href="#">Table 65</a> 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

Main Cabinet MDF field	
Cable J1	
Cable J2	
Cable J3	
Cable J4	
Cable J5	
Cable J6	
Cable J7	
Cable J8	
Cable J9	
Cable J10	
Expansion Cabinet MDF field	
Cable J1	Cable J1
Cable J2	Cable J2
Cable J3	Cable J3
Cable J4	Cable J4
Cable J5	Cable J5
Cable J6	Cable J6
Cable J7	Cable J7
Cable J8	Cable J8
Cable J9	Cable J9
Cable J10	Cable J10

553-AAA0308



**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 <a href="#">page 268</a> to locate the BIX connectors and <a href="#">Table 65 on page 266</a> 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.
	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 <a href="#">Table 68 on page 271</a> for the tip and ring designators. For DMC8s type NTCW00AB and NTCW01AB, connect from base station 1 to base station 8.  <b>Note:</b> 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</i> (553-3021-210).
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	T10
	R10	R10
	T11	T11
	R11	R11
Base station 3	T12	T12
	R12	R12
	T13	T13
	R13	R13
Base station 4	T14	T14
	R14	R14
	T15	T15
	R15	R15
Base station 5	T16	T16
	R16	R16
	T17	T17
	R17	R17
Base station 6	T18	T18
	R18	R18
	T19	T19
	R19	R19
Base station 7	T20	T20
	R20	R20
	T21	T21
	R21	R21

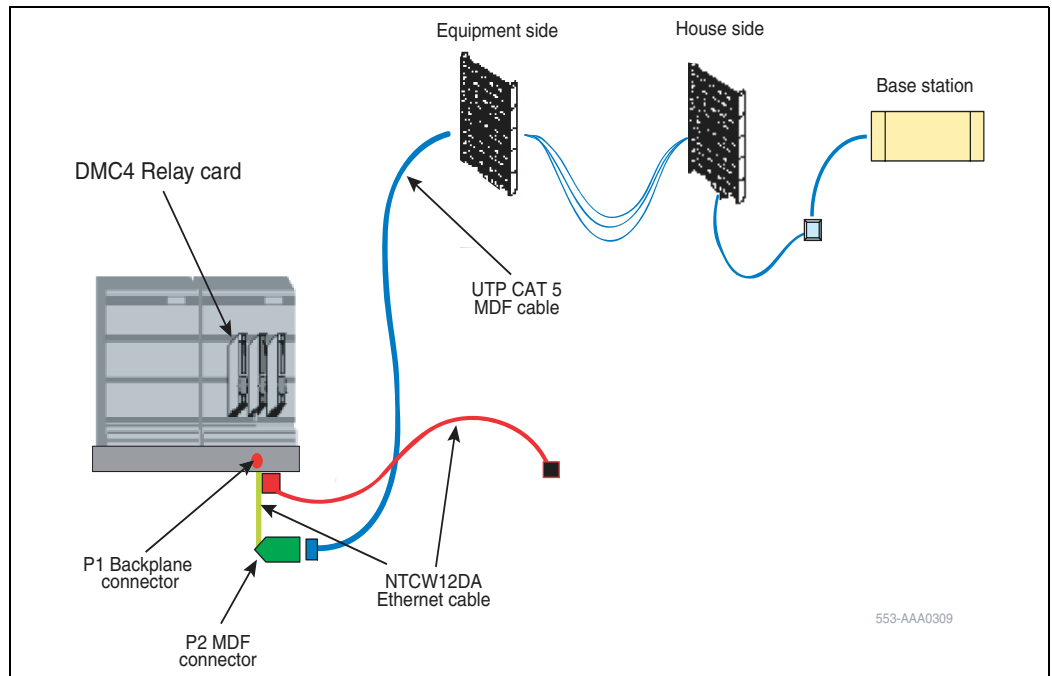
**Table 68**  
**Base station tip and ring connections (Part 3 of 3)**

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.
	<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>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).</p>
	

## 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.



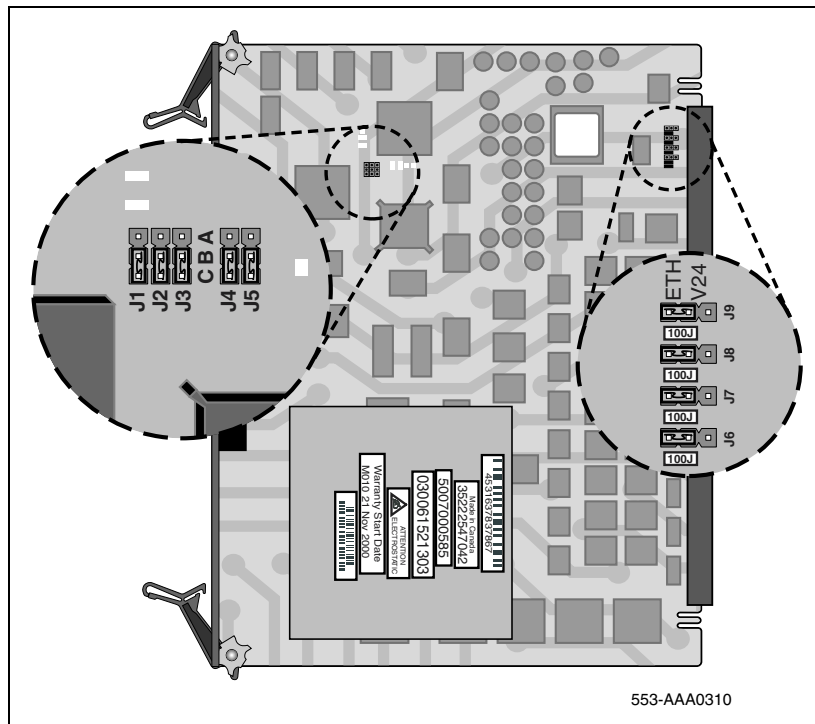
### **CAUTION — Service Interruption**

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.

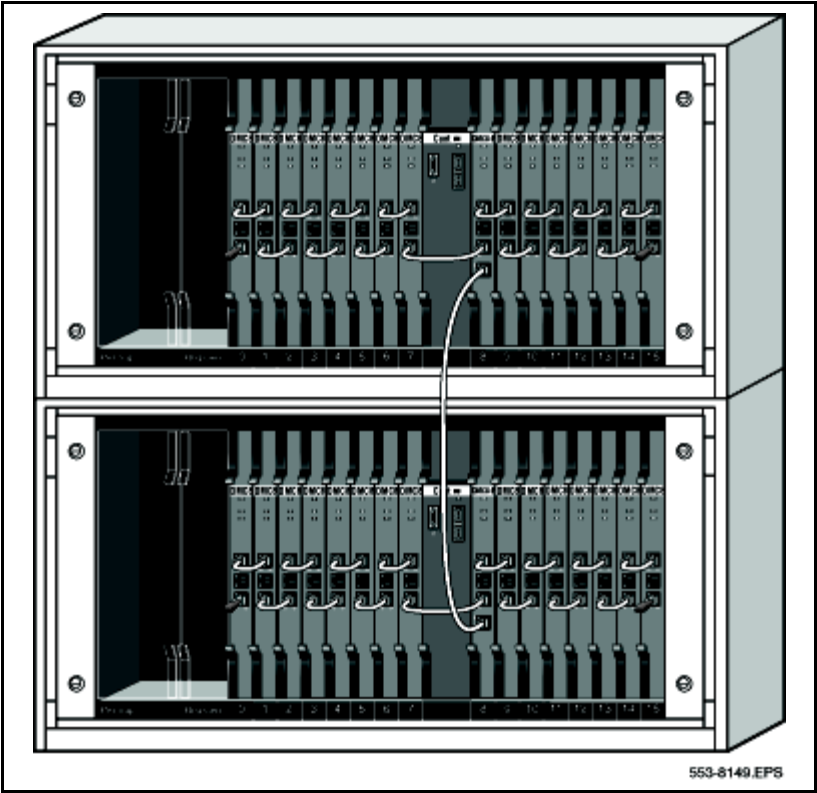
Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the V.24 position for operation on a serial connection to the OTM server.



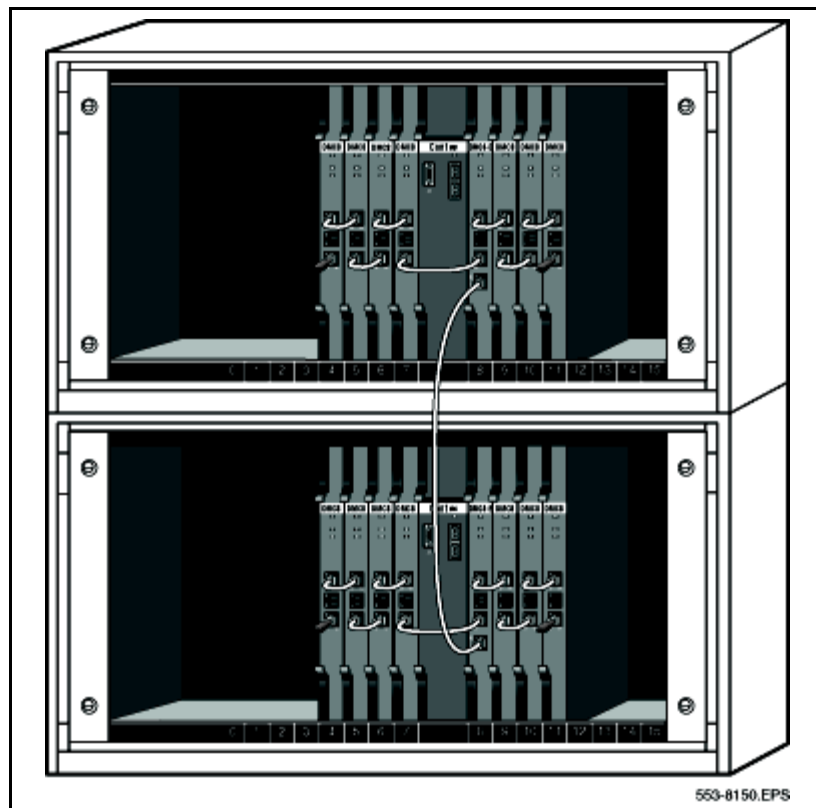
**Table 70**  
**Installing DMC8 and DMC8-E in an IPE shelf**

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.
	

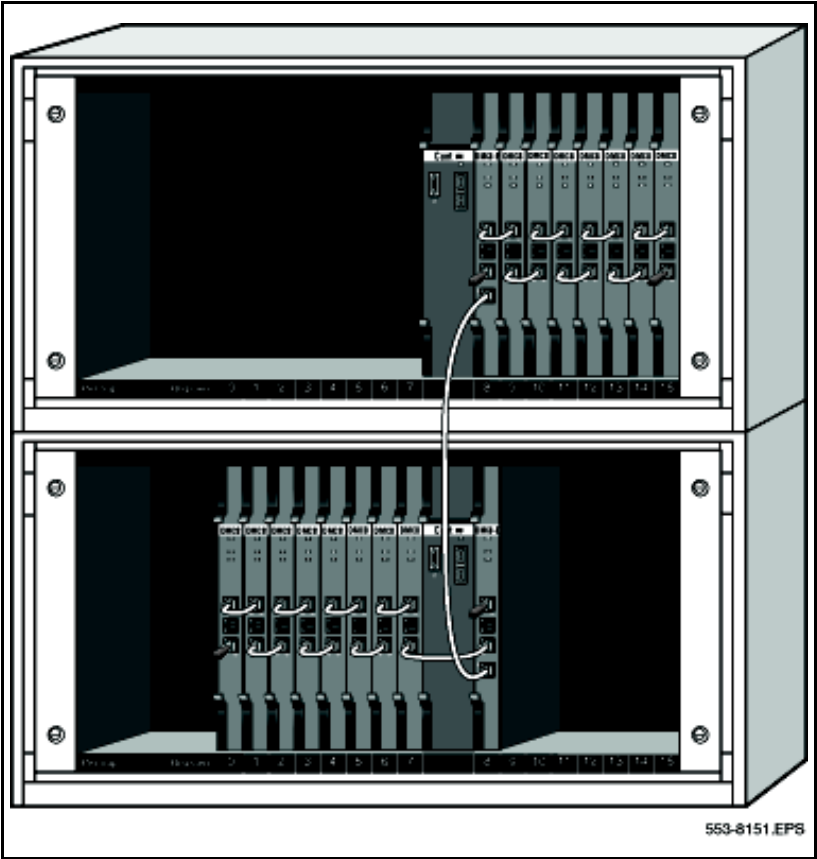
**Figure 133**  
**Example of a full system housed in two IPE shelves**



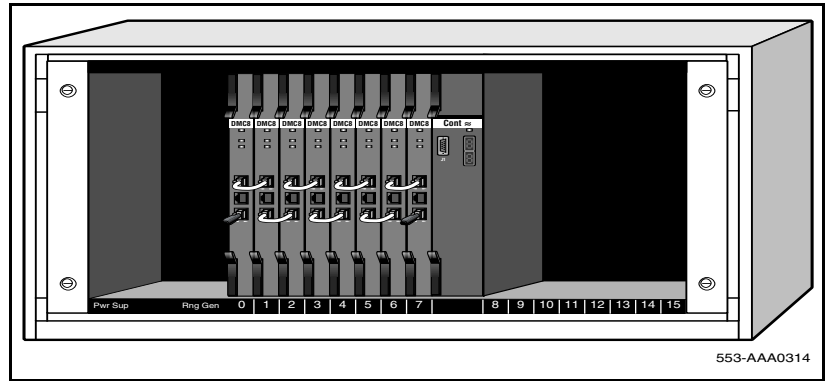
**Figure 134**  
**Example of a 16 card system housed in two IPE shelves**



**Figure 135**  
**Example of a 17 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.



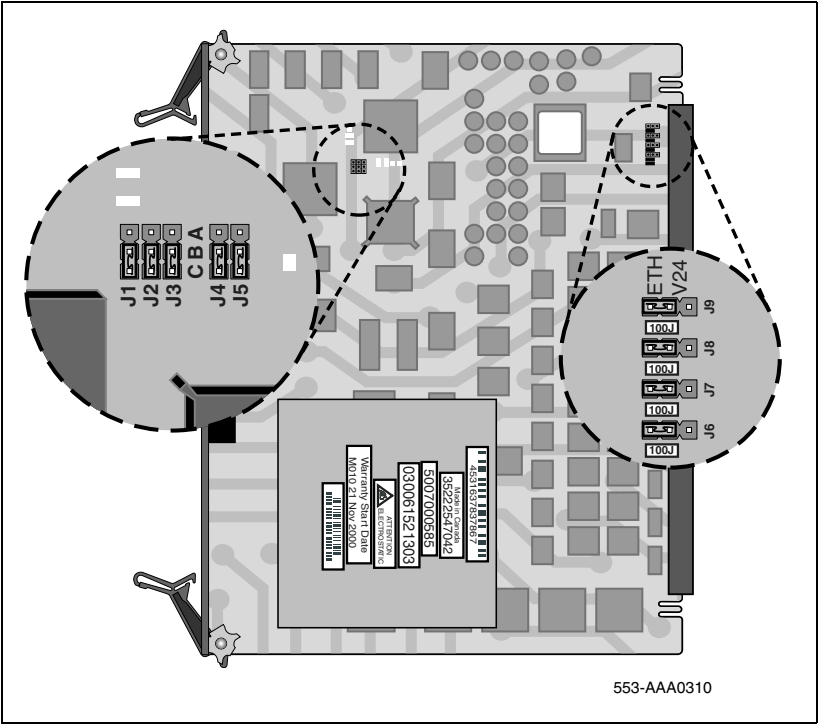
### **CAUTION — Service Interruption**

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)

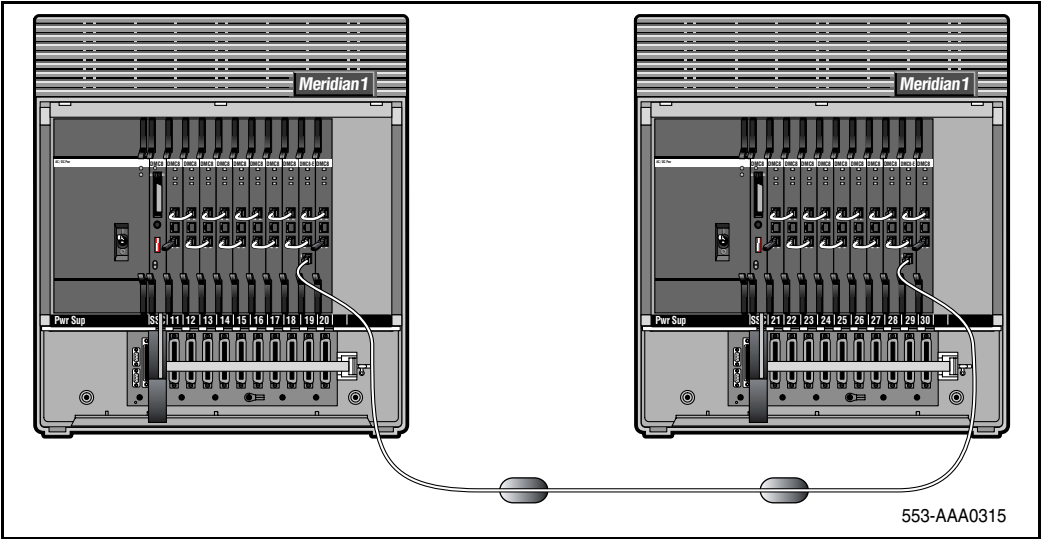
Step	Action
1	Install J1 jumper straps on the DMC8 and the DMC8-Es for Card ID.
	For pre Release 23 software strap A B. For post Release 23 software, and Multi-Site Mobility Networking, strap B C.
2	Install J2 jumper straps on the DMC8 and the DMC8-Es for system type.
	Strap B C for Option 11C, 11C Mini, 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 <a href="#">Figure 138</a> , <a href="#">Figure 139</a> , <a href="#">Figure 140</a> , and <a href="#">Figure 141</a> .

**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.

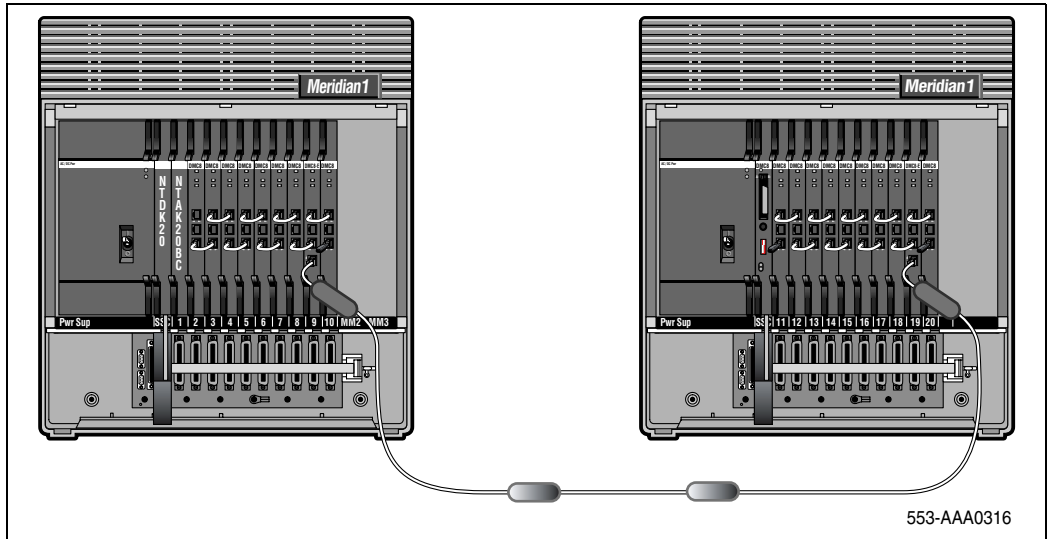


**Figure 138**  
**Example of full Small System without CPU cabinet**

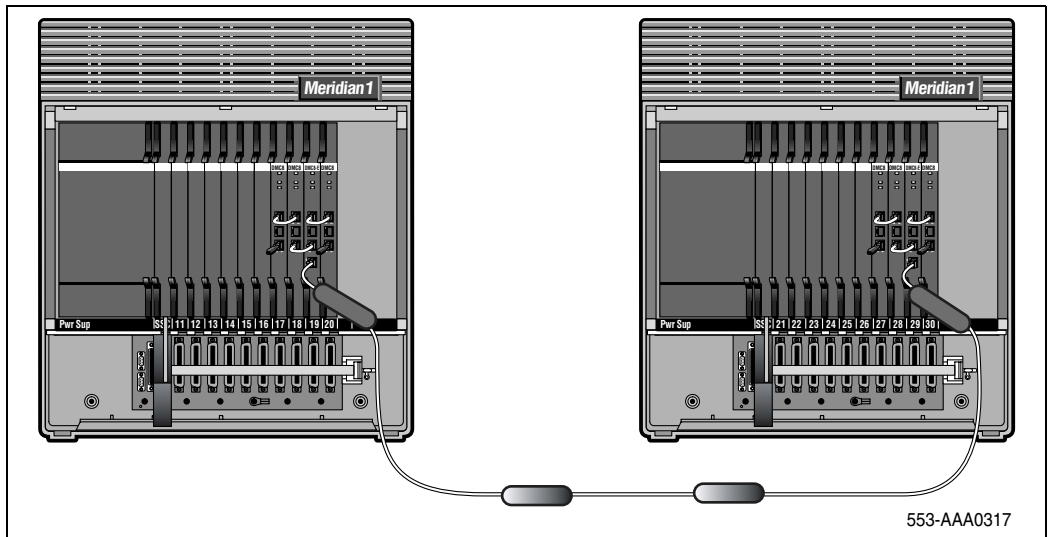




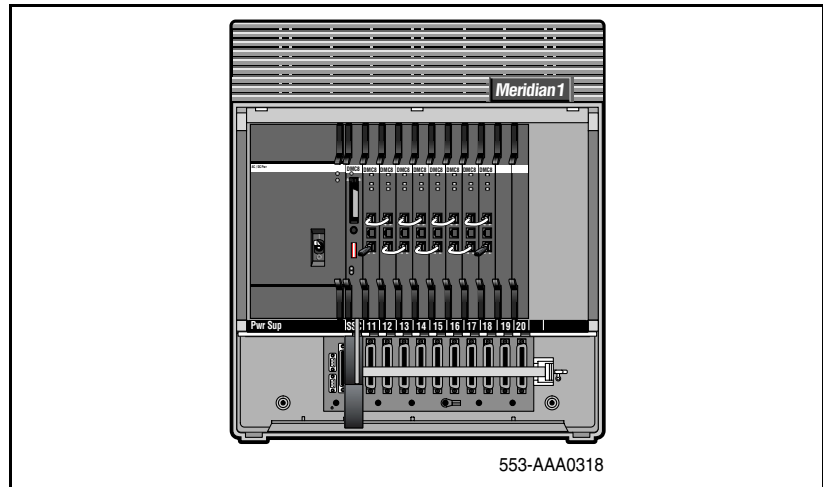
**Figure 139**  
Example of full Small System with CPU cabinet



**Figure 140**  
Example of an 8-card system in two Cabinets



**Figure 141**  
**Example of an 8-card system in one Cabinet**

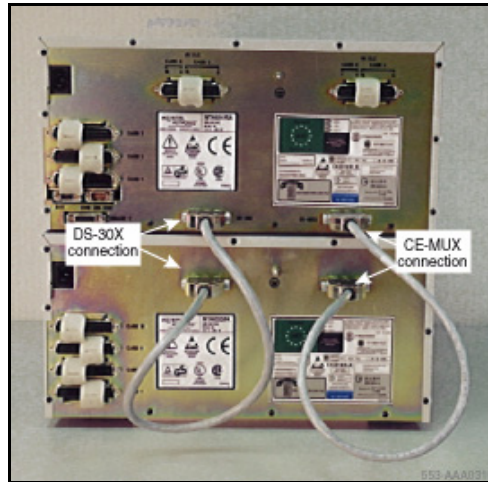


## Chassis installation

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

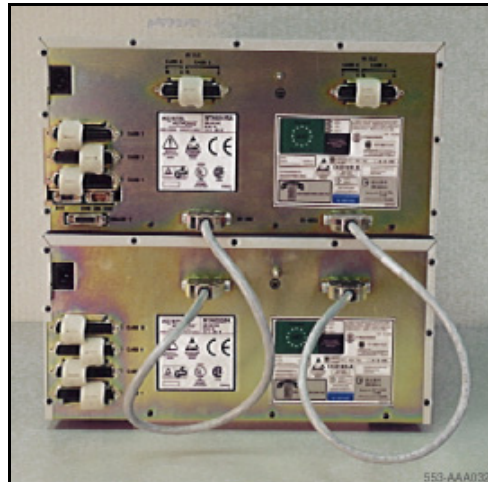
**Figure 142**

**Chassis and expander connected with 2 NTDK95 and CE-MUX/DS-30SX bus cables**



**Figure 143**

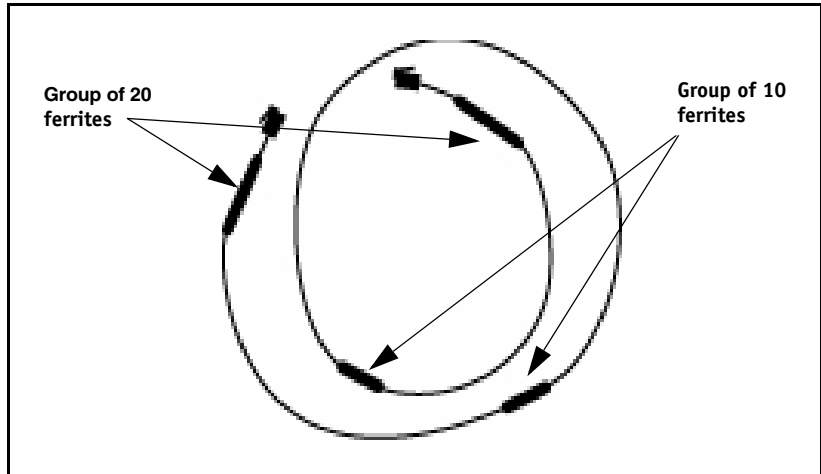
**Media Gateway and Media Gateway Expansion cabling**



## 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 <a href="#">Figures 133 to Figure 136</a> .
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 <a href="#">Figure 133</a> , <a href="#">Figure 134</a> , and <a href="#">Figure 135</a> .
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.

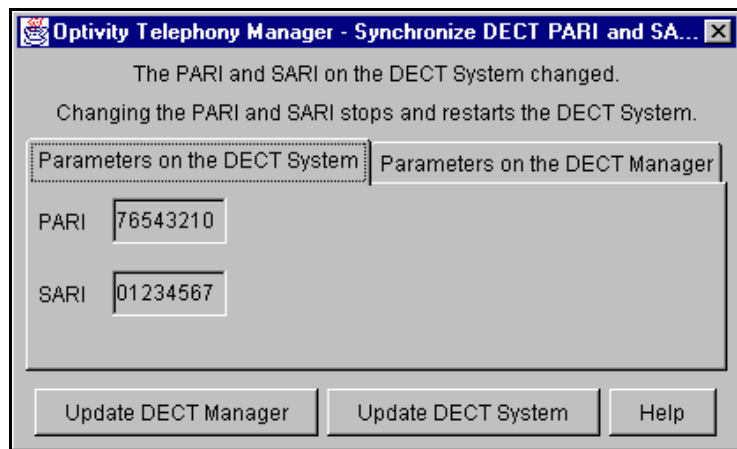
Two types of synchronization occur when the connection state goes from **Disconnected** to **Connected**:

- 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:

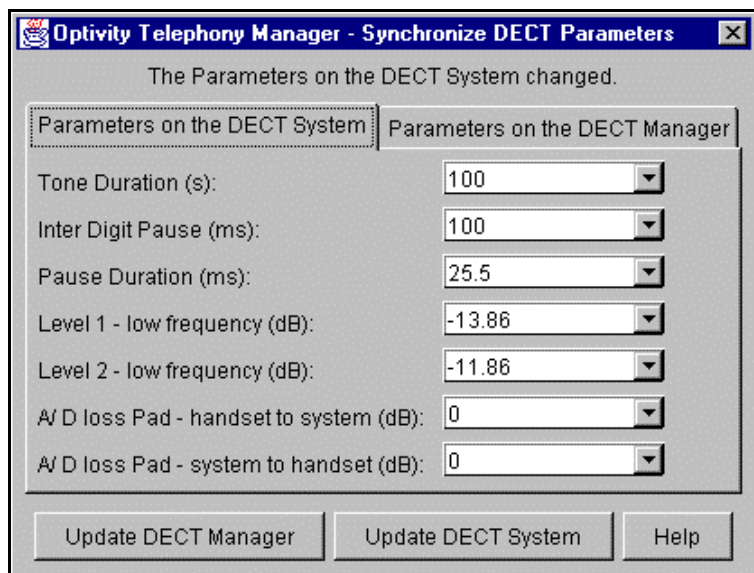
- Update the OTM DECT Application database from DECT data.
- Update DECT data with the OTM DECT Application database.

**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](#).



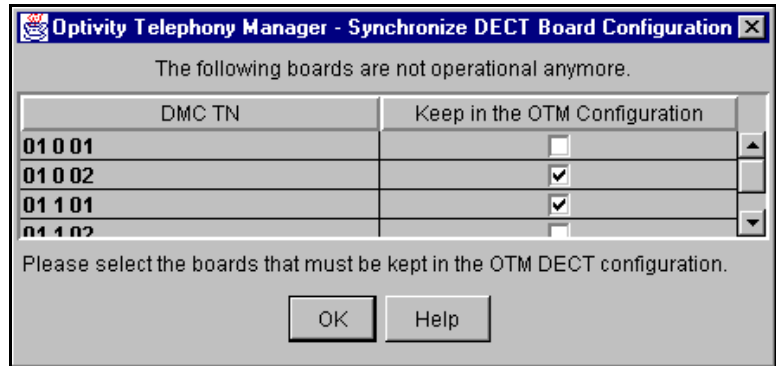
**Figure 147****Synchronize DECT Board Configuration Mismatch dialog**

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.

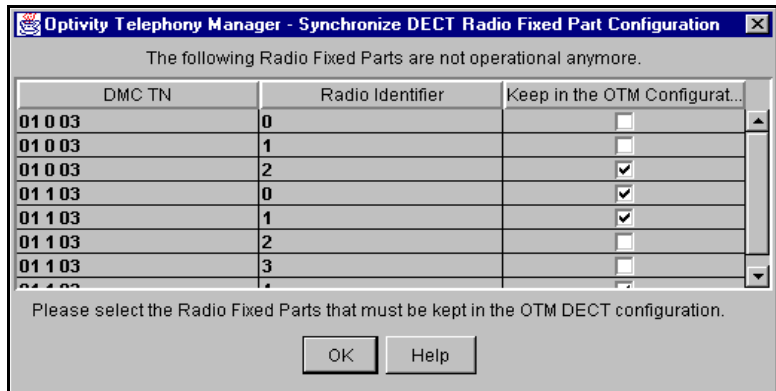
**Figure 148****Synchronize DECT Radio Fixed Part Configuration Mismatch dialog**

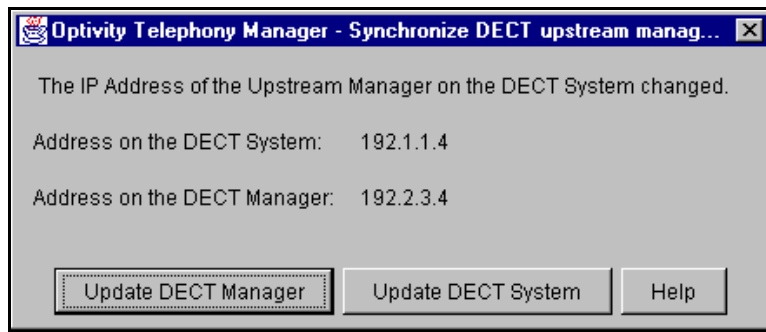
Figure 148 shows Radio Fixed Parts (base stations) listed in the OTM DECT Application database that are not operational on DECT. Delete the check in the check boxes. This allows the base stations no longer required in the OTM DECT Application database to be removed.

**Figure 149**  
**Synchronize Radio Fixed Part Settings Mismatch dialog**



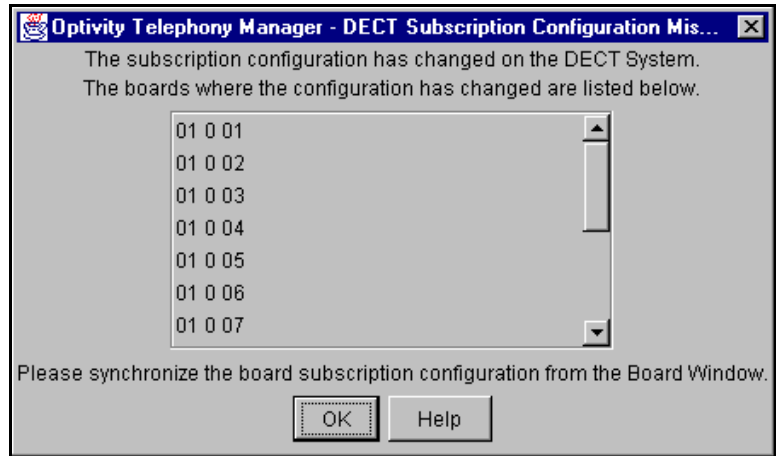
A Power Source/Alarm Muting setting was changed by another manager. Figure 149 says that the OTM DECT Application database automatically updates to match the changed settings.

**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.

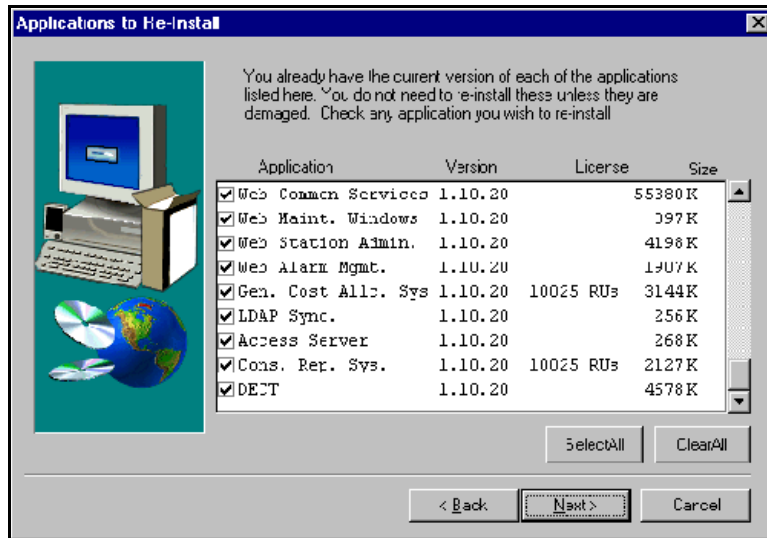
**Figure 151**  
**DECT Subscription Configuration Mismatch dialog**



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**

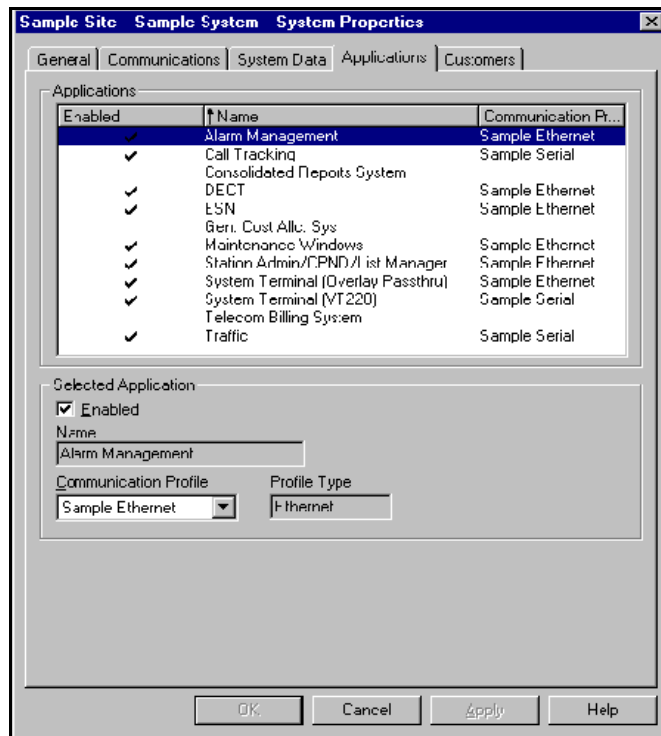
Step	Action
1	If there is a check in the DECT box in the Applications to Re-install dialog. Go to "Configuring DECT on the OTM server" on <a href="#">page 303</a> .
2	If there is no check in the DECT box in the Applications to Re-install dialog. <b>Note:</b> Installation is like any other application.
	Select the check-box and click on the <b>Next</b> 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.

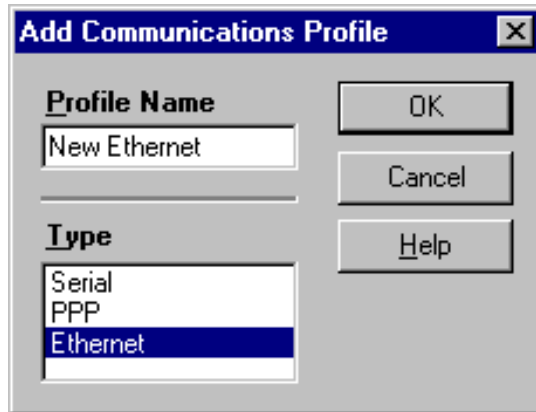
Complete the following steps.

**Table 74**  
**Ensuring a Communications Profile is associated with the DECT application**

Step	Action
1	Open the Systems Properties sheet.
	Choose <b>Properties</b> from the OTM Navigator window <b>File</b> menu.
2	Select the Applications tab.
	Click on the <b>Applications</b> 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 <a href="#">page 303</a> .
4	If there is no check in the Enabled column next to DECT in the Name column.
	Highlight <b>DECT</b> in the name column.
5	Select a Communication Profile.
	Choose any entry from the <b>Communication Profile</b> drop-down list.  <b>Note:</b> If there are no entries in the Communication Profile drop-down list, go to “Adding a Communications Profile for the DECT application” on <a href="#">page 299</a> .
6	Accept the changes.
	Click the <b>OK</b> button.
<div>END</div>	

## 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 <b>Sample Site</b> .
2	Choose the Properties dialog.
	Click on <b>Properties</b> from the <b>File</b> menu.
3	Open the <b>Add Communications Profile</b> dialog.
	Click on the <b>Communications</b> tab and click <b>Add</b> .
4	Select a communications type.

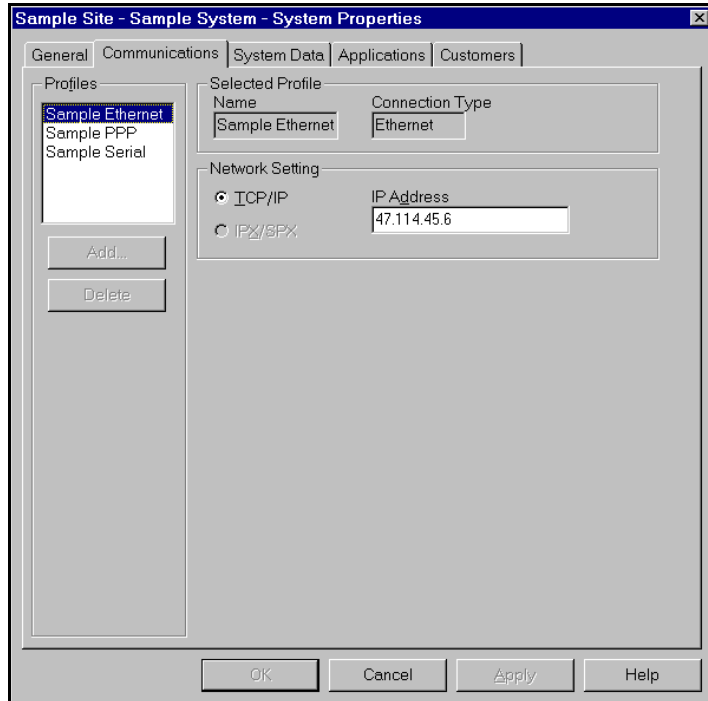
Table 75  
Adding new PBX Communications Profile (Part 2 of 2)

Step	Action
	Highlight <b>Ethernet</b> in the <b>Type</b> box.  <b>Note:</b> 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 <b>Profile Name</b> .
6	Accept the changes.
	Click <b>OK</b> .
	




## Adding an Ethernet profile

**Figure 155**  
**System Properties – Communications**



Complete the following steps.

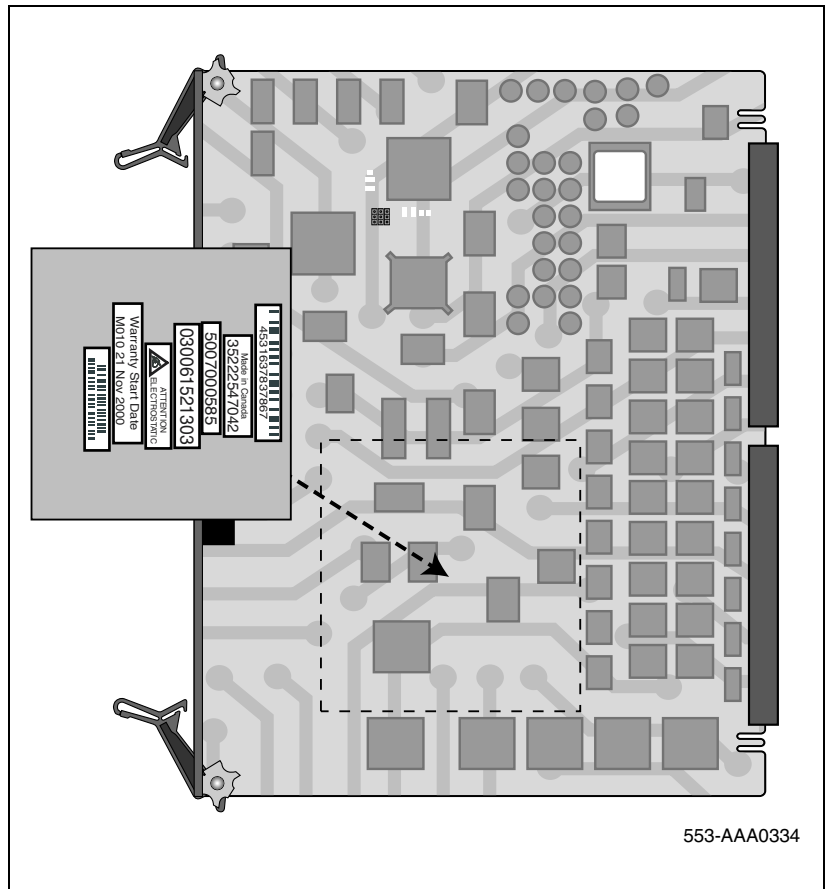
**Table 76**  
**Adding the PBX Ethernet profile**

Step	Action
1	Fill in the communications information for the <b>Ethernet</b> profile.
	Enter any IP address. <b>Note:</b> Unless there is another application that requires a specific IP address, enter a non-existing address.
2	Accept changes.
	Click <b>Apply</b> .
3	Return to configuring a communications profile.
	Go to “Ensuring a Communications Profile is associated with the DECT application” on <a href="#">page 297</a> .
	

## 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

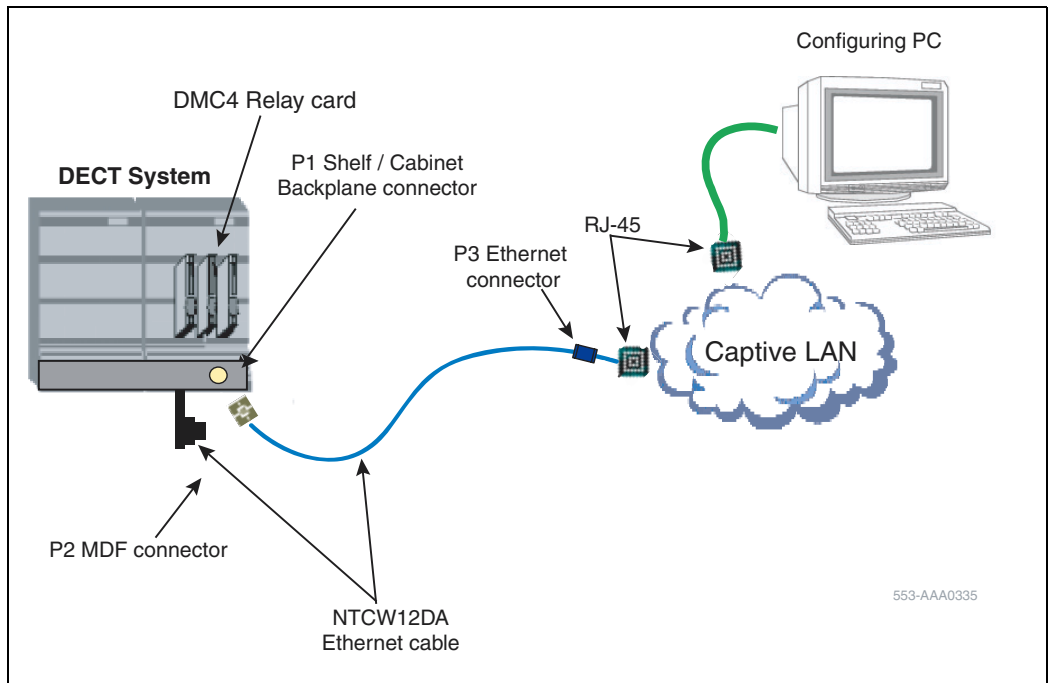
### Connecting the DMC8 Relay card to a configuring PC



#### 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

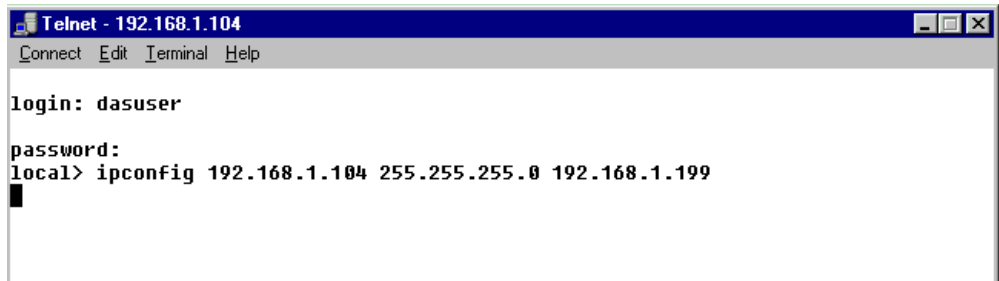
**Table 78**  
**Connecting the DMC8 Relay card to a configuring PC**

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 <a href="#">page 308</a> .
<div>END</div>	

**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**



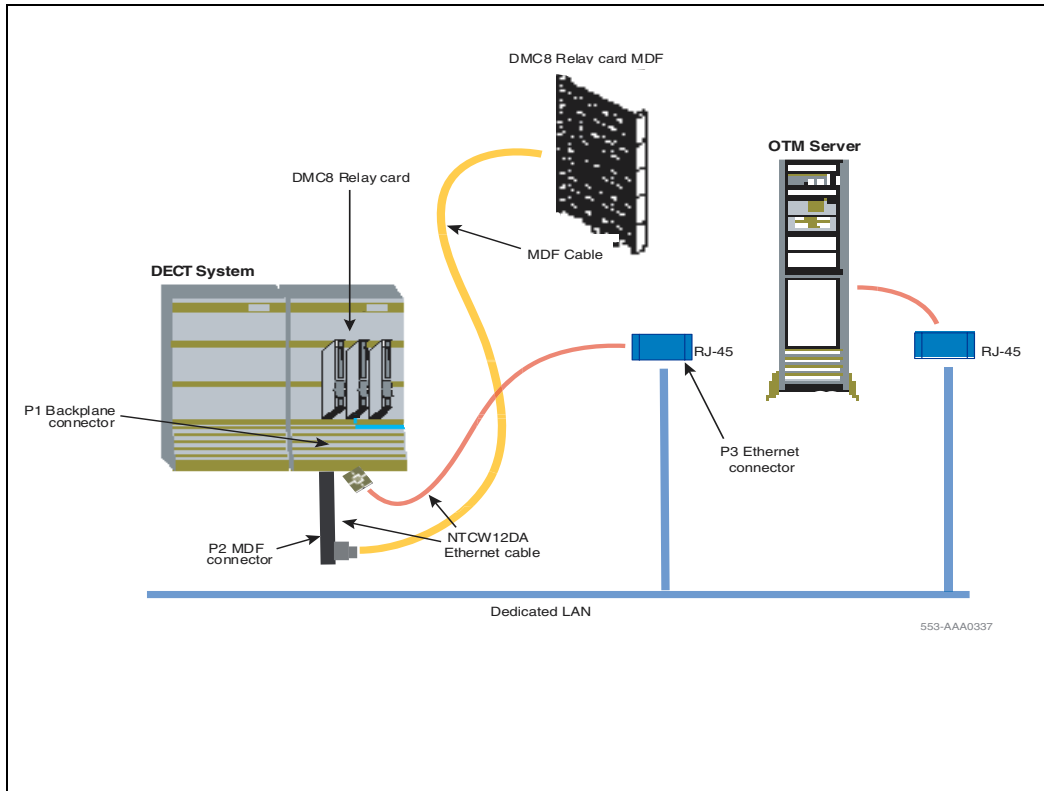
Complete the following steps.

**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 <b>dasuser</b> and password <b>dasuser</b> .
3	When the connection prompt <b>local</b> appears, change the DMC8 Relay card address.
	<p>Enter the following command:</p> <p><b>ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz</b></p> <p><b>xxx.xxx.xxx.xxx</b> = new IP address of the DMC8 Relay card.</p> <p><b>yyy.yyy.yyy.yyy</b> = subnet mask, usually <b>255.255.255.0</b></p> <p><b>zzz.zzz.zzz.zzz</b> = IP address if this is the gateway for the network.</p> <p><b>Note:</b> <b>zzz.zzz.zzz.zzz</b> should be set to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OTM server, <b>zzz.zzz.zzz.zzz</b> should be set to the IP address of the interface which is on the same network as the DMC8 Relay card.</p>
	

## Connecting the DMC8 Relay card to the OTM server


**Figure 159**  
**NTCW12DA Ethernet cable to OTM Server LAN connections**





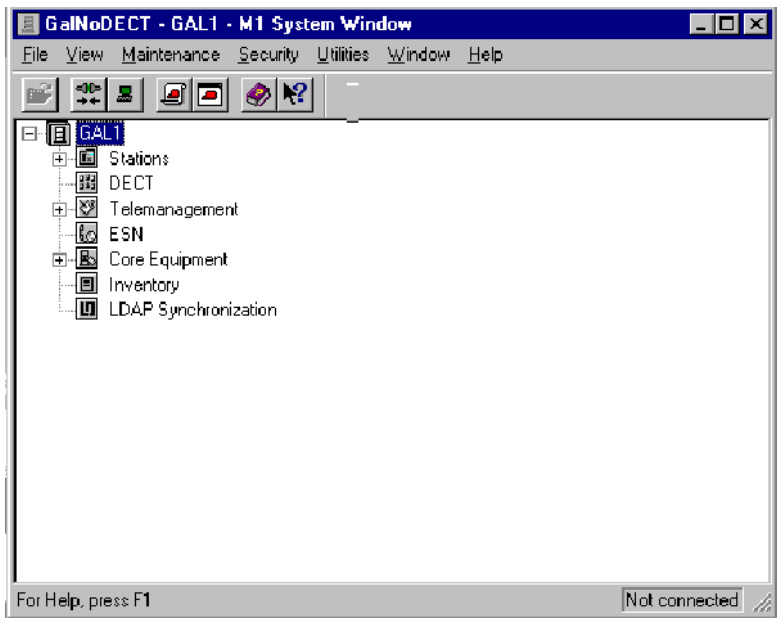
Complete the following steps.

**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:

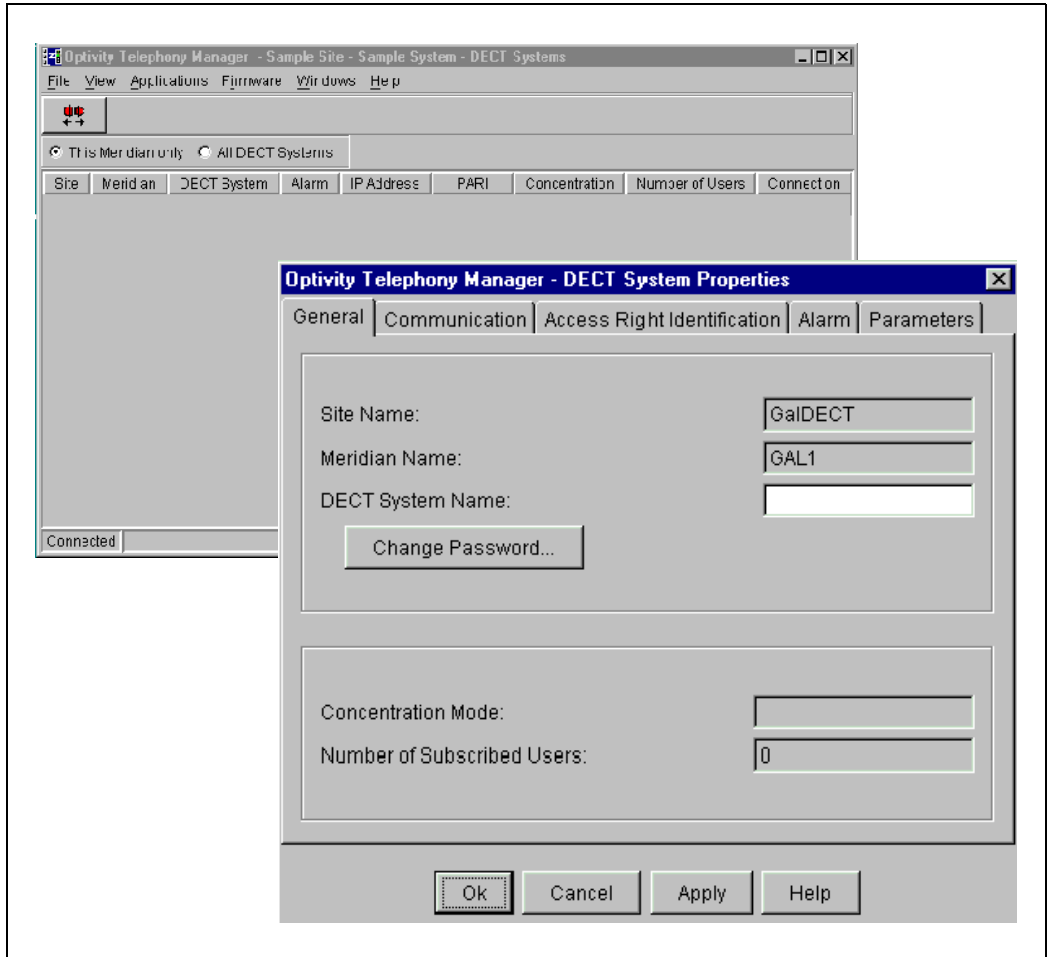
Table 81  
Launching the DECT application

Step	Action
1	Launch the DECT application.
	Double click on the DECT icon.
<div>END</div>	

## 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 <b>File&gt;Properties</b> .
2	Enter the DECT system name.
	Type the system name in the <b>DECT System Name</b> box.
3	Accept the changes.
	Click on the <b>Apply</b> button.
	

## Setting the DECT system IP address to match the DMC8 Relay card

**Figure 162**  
**System Properties – Communication**

The screenshot shows the 'Optivity Telephony Manager - DECT System Properties' dialog box with the 'Communication' tab selected. The dialog has five tabs: 'General', 'Communication', 'Access Right Identification', 'Alarm', and 'Parameters'. The 'Communication' tab contains the following elements:

- Three text input fields for 'IP address:', 'Subnetwork Mask:', and 'Gateway IP Address:'.
- A 'Permanent Connection' checkbox, which is currently unchecked.
- A 'Close Connection' button.
- Two radio button options: 'Ethernet' (selected) and 'Serial'.
- A 'Details...' button next to the 'Serial' option.
- Four buttons at the bottom: 'Ok', 'Cancel', 'Apply', and 'Help'.

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 <b>Communications</b> tab.
2	Enter the IP address.
	Type the IP address that was entered in <a href="#">Table 79 on page 307</a> .
3	If the communication link is Ethernet, select <b>Ethernet</b> .
	Click on the <b>Ethernet</b> radio button.
4	If the communication link is Serial, select <b>Serial</b> .
	Click on <b>Serial</b> radio button, and go to “Adding a V.24 serial connection” on <a href="#">page 348</a> .
5	Accept the changes.
	Click on the <b>OK</b> button.  <b>Note:</b> 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 <a href="#">page 315</a> .
7	If an Upstream Manager is not required.
	Go to “Synchronizing data with DECT” on <a href="#">page 316</a> .
<div>END</div>	

**Adding the upstream manager IP address, if required**

**Figure 163**  
**System Properties – Alarm**

**Optivity Telephony Manager - DECT System Properties**

General | Communication | Access Right Identification | **Alarm** | Parameters

Alarm Active:

Upstream Manager IP address:


Date:

Time:

Ok Cancel Apply Help

Complete the following steps.

**Table 84**  
**Adding the upstream IP address, if required**

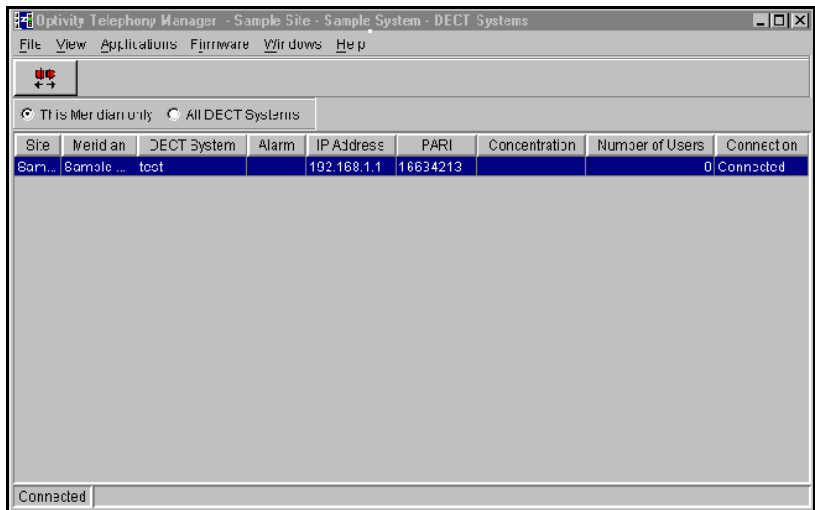
Step	Action
1	Open the DECT System Properties dialog.
	Pull down <b>File&gt;Add</b> .
2	Open the Alarm dialog.
	Click on the <b>Alarm</b> tab.
3	Enter the IP address.
	Type the Upstream manager IP address.
4	Accept the changes.
	Click on the <b>OK</b> button.
	

## 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**



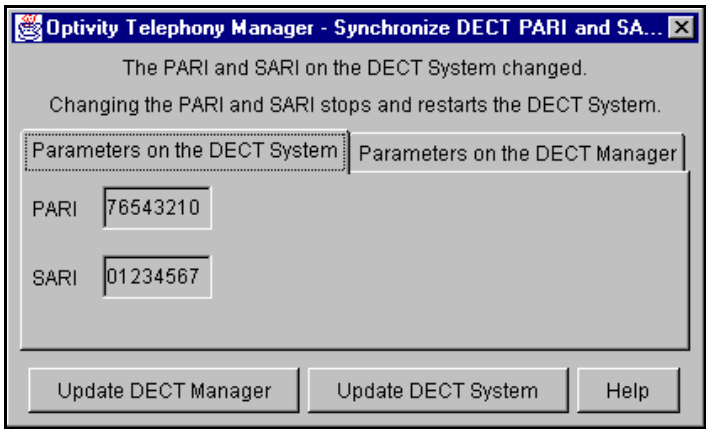
Complete the following steps:

**Table 85**  
**Synchronizing data with the DECT system**

Step	Action
1	If the toolbar icon is <b>red</b> , the connection to the DECT system is enabled. Disconnect from the DECT system.
	Double click on the icon, or use <b>File&gt;Disconnect</b> . Go to “Synchronizing DECT PARI and SARI” on <a href="#">page 318</a> .
2	If the toolbar icon is <b>green</b> , re-connect to the DECT system
	Double click on the red icon, or use <b>File&gt;Connect</b> .
	


Synchronizing DECT PARI and SARI

Figure 165  
Synchronize DECT PARI and SARI Mismatch dialog



Complete the following step:

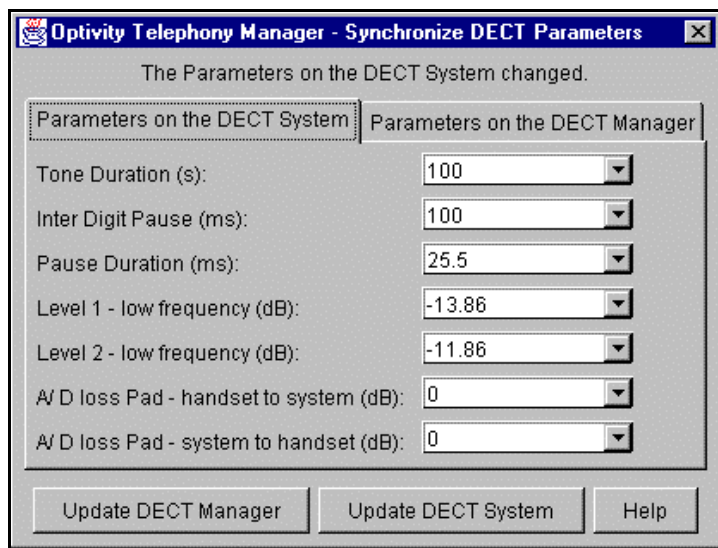
Table 86  
Synchronizing DECT PARI and SARI

Step	Action
1	Store the DECT system PARI SARI parameters in the OTM Manager database.
	Click on the <b>Update DECT Manager</b> button.
	

## Synchronizing DECT parameters


Figure 166

Synchronize DECT Parameters Mismatch dialog



Complete the following step:

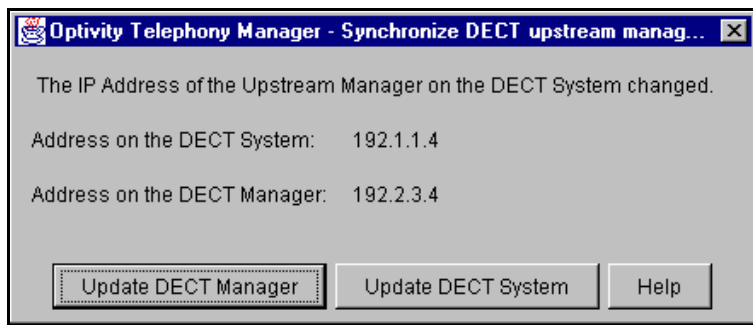
Table 87  
Synchronizing DECT Parameters

Step	Action
1	Store the DECT system DECT Parameters in the OTM Manager database.
	Click on the <b>Update DECT Manager</b> 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 <b>Update DECT Manager</b> 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](http://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.

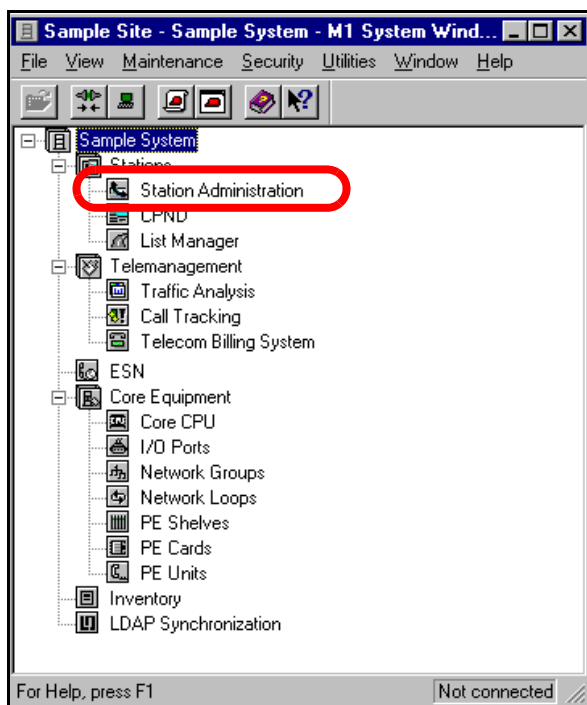
## Configuring handsets and retrieve subscription data

### 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**



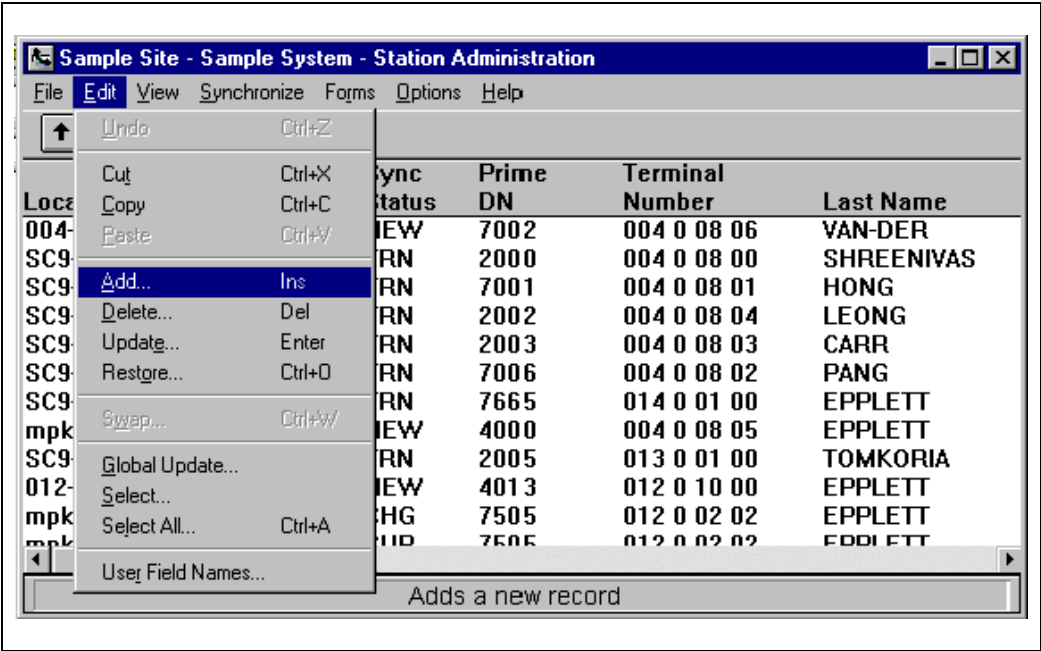
Complete the following step:

**Table 89**  
**Opening the Station Administration window**

Step	Action
1	Open the Station Administration window.
	Click on <b>Station Administration</b> 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 <b>Edit</b> pull-down menu, click on <b>Add</b> .

END



## Adding 500 analog standard

Figure 170  
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
	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

OK Cancel Help

Complete the following step:

Table 91  
Adding 500 analog standard

Step	Action
1	Add 500 analog standard.
	Highlight <b>500 Analog Standard</b> , and click <b>OK</b> .



Accessing features

Figure 171  
 500 dialog

First Name

Directory

Last Name

Clear

Single Line Features

CFW

Forward

SCU

SpdCall User

SCC

SpdCall Cntl

SSU

Sys Speed

PHD

PermanentHld

Set

Clear

Redirection DN Length

Customer

0

OK

Location

Cancel

Department

Features

Terminal Number

Admin..

Directory Number

Validate

CLID Entry

Help

Hunt to

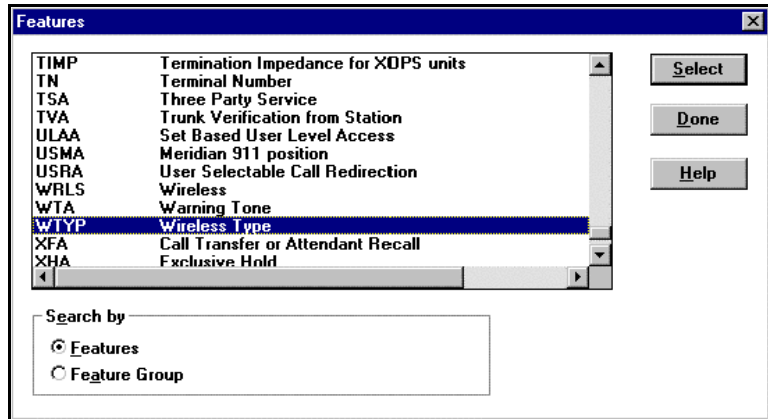
Complete the following step:

Table 92  
 Accessing features

Step	Action
1	Access the features.
	Click on the <b>Features</b> button.
<div>END</div>	

## Accessing wireless type

Figure 172  
Features dialog



Complete the following step:

Table 93  
Accessing wireless type

Step	Action
1	Access wireless type.
	Highlight <b>Wireless Type</b> , and click on the <b>Select</b> button.



Selecting wireless type

Figure 173  
Wireless dialog

Wireless

Call Party Name Display (CNDA)

Denied

Wireless (WRLS)

Yes

Wireless Type (WTYP)

Yes

No

OK

Cancel

Help

Complete the following step:

Table 94  
Selecting wireless type

Step	Action
1	Select wireless type.
	From the <b>Wireless Type (WTYP)</b> pull-down menu select <b>YES</b> .
<div>END</div>	

Selecting DECT wireless set

Figure 174  
Wireless dialog

Wireless

Call Party Name Display (CNDA) Denied

Wireless (WRLS) Yes

Wireless Type (WTYP) DECT Wireless Set

DECT Wireless Set

Meridian Companion Mobility Opt

OK Cancel Help

Complete the following step:

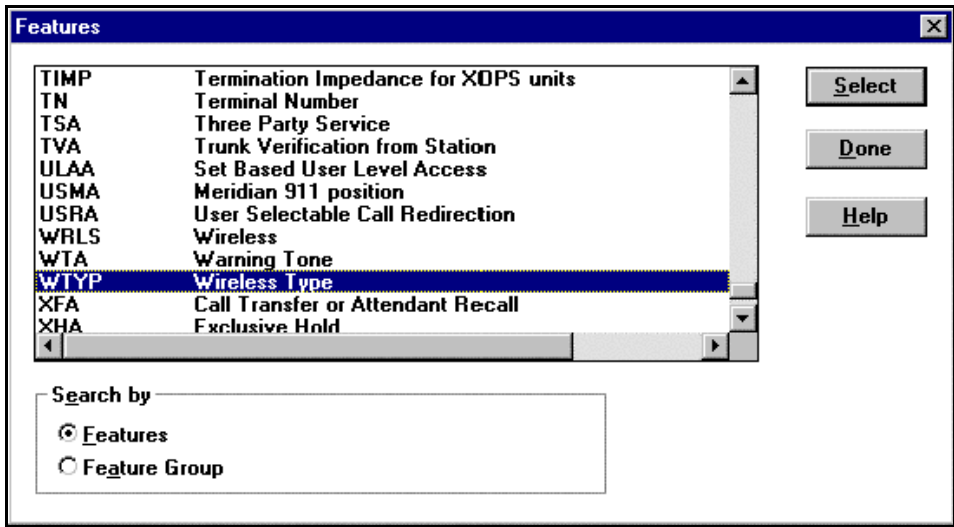
Table 95  
Selecting DECT wireless set

Step	Action
1	Select DECT handset.
	From the <b>Wireless Type (WTYP)</b> pull-down menu, click on <b>DECT Wireless Set</b> . Click <b>OK</b> .

END

Accepting changes

Figure 175  
Features dialog



Complete the following step:

Table 96  
Accepting changes

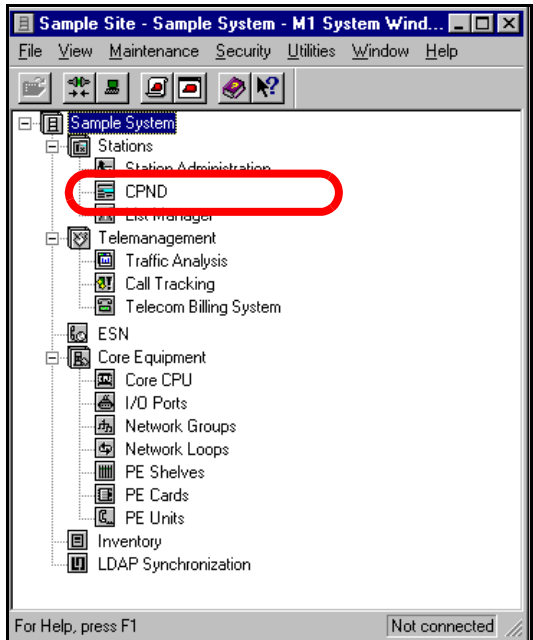
Step	Action
1	Accept changes. Click on the <b>Done</b> button.

END

## Configuring concentrated handsets on a Large System


### Opening Station Administration window

Figure 176  
M1 System Window



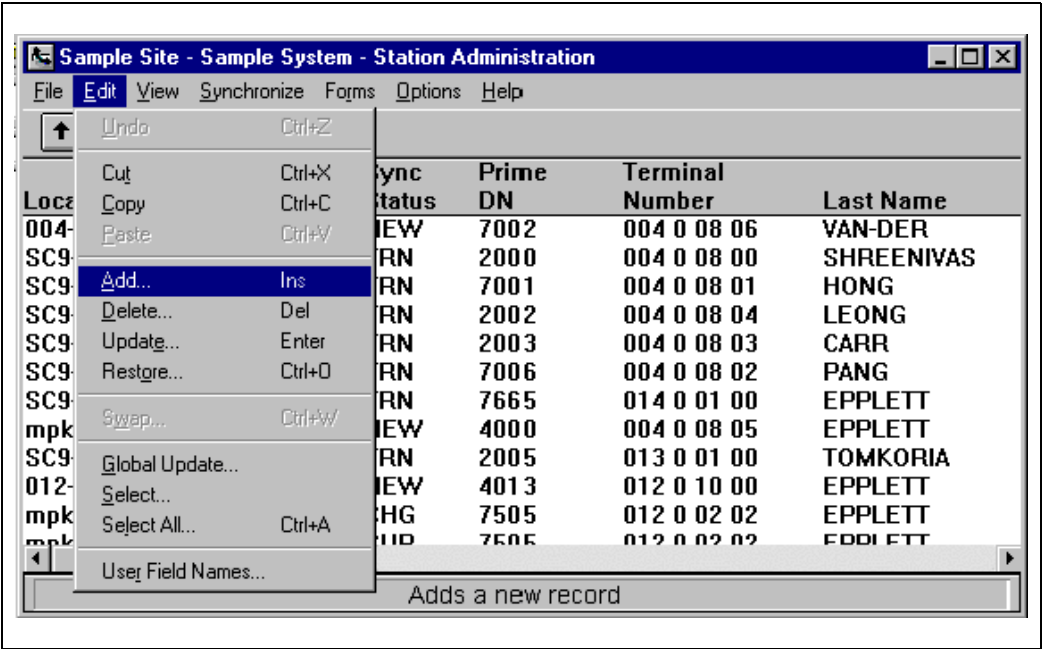
Complete the following step.

Table 97  
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on <b>Station Administration</b> 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 <b>Edit</b> pull-down menu, click on <b>Add</b> .

END



## 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	<b>DCS Digital Cordless Set</b>
	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 <b>DCS</b> . Click on the <b>OK</b> button.



Selecting Features

Figure 179  
DCS dialog

DCS

First Name

Directory

Last Name

Clear

Single Line Features

CFWForward

SCUSpdCall User

SCCSpdCall Cntl

SSUSys Speed

PHDPermanentHld

Set

Clear

Speed Call List No.

Customer

0

OK

Location

Cancel

Department

Features

Virtual Terminal Number

Admin..

Directory Number

Validate

CLID Entry

Help

Hunt to

Table 100  
Selecting Features

Step	Action
1	Select the features.
	Click on the <b>Features</b> button.

END

## Selecting wireless type

Figure 180  
Features dialog

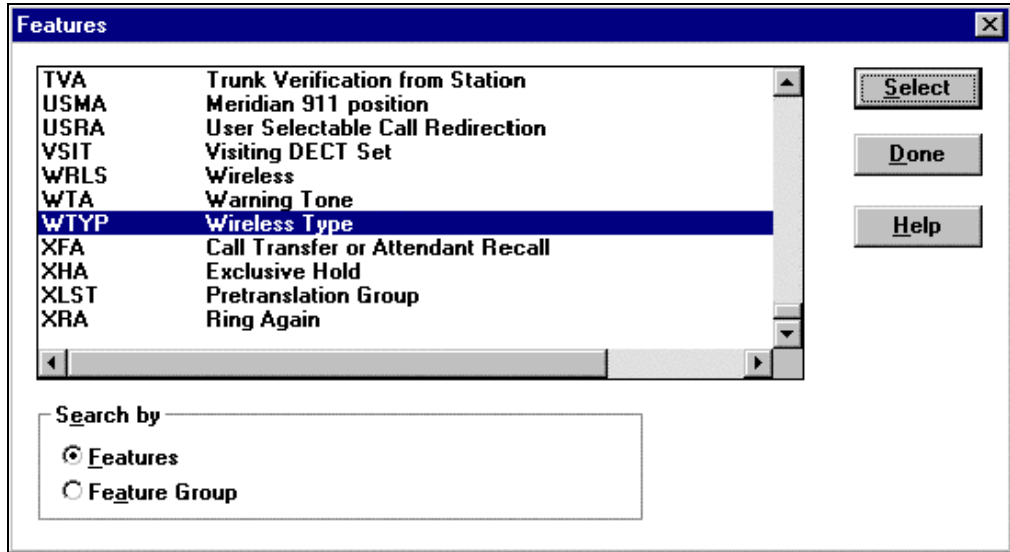



Table 101  
Selecting wireless type

Step	Action
1	Select wireless type.
	Highlight <b>WTYP</b> , and click on the <b>Select</b> button.



Selecting Visiting DECT SET or local calling only

Figure 181  
 Wireless dialog

Wireless

Visiting DECT Set (VSIT)

No

Home Directory Number (HMDN)

Call Party Name Display (CNDA)

Denied

Wireless (WRLS)

Yes

Wireless Type (WTYP)

DECT Wireless Set

OK

Cancel

Help

Table 102  
 Selecting Visiting DECT Set or local calling only

Step	Action
1	Select <b>Visiting DECT Set</b> as <b>Yes</b> if the handset is to visit this PBX. Select <b>No</b> if this handset is to be used for local calling only.
	If <b>Visiting DECT Set</b> is <b>Yes</b> , 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 <b>Home Directory Number (HMDN)</b> box.
3	If the handset is to be used for local calling only, from the <b>Visiting DECT Set (VSIT)</b> list, select <b>No</b> .
4	Accept changes.
	Click on the <b>OK</b> button.
<div>END</div>	

## Selecting an index

Figure 182  
Features dialog

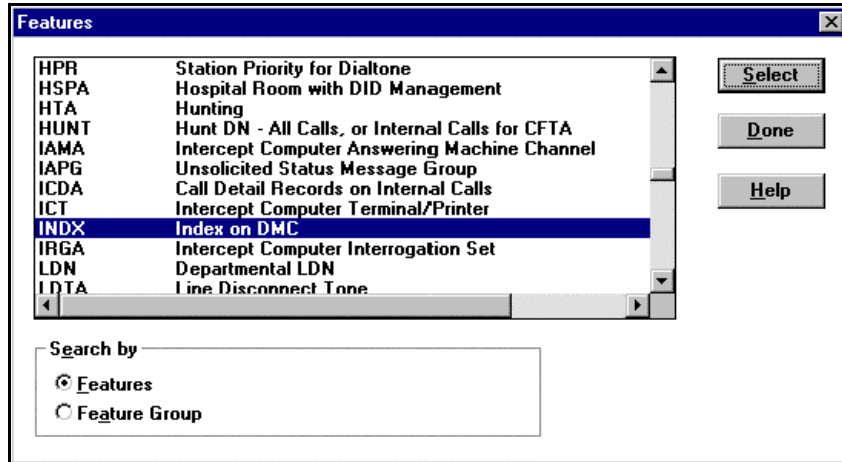



Table 103  
Selecting an index

Step	Action
1	Select an index.
	Highlight <b>INDX</b> , and click on the <b>Select</b> button.
	

Provisioning hardware

Figure 183  
Hardware Provisioning dialog

Hardware Provisioning

DECT Mobility Controller (DMC)

Index on DMC (INDX)

Terminal Number (TN)

Card Density (CDEN)

Octal Density

Maximum Wireless Units (MWUN)

16

OK

Cancel

Help

Table 104  
Provisioning hardware

Step	Action
1	Select a DMC TN.
	Enter a TN in the <b>DECT Mobility Controller (DMC)</b> box.
2	Select an index.
	Enter an index in the <b>Index on DMC (INDX)</b> box. Index range is 0 to 509. <b>Note:</b> The Terminal Number (TN) is a virtual TN and is selected by the system.
3	Accept changes.
	Click the <b>OK</b> button.
<div>END</div>	

## Accepting changes

Figure 184  
Features dialog

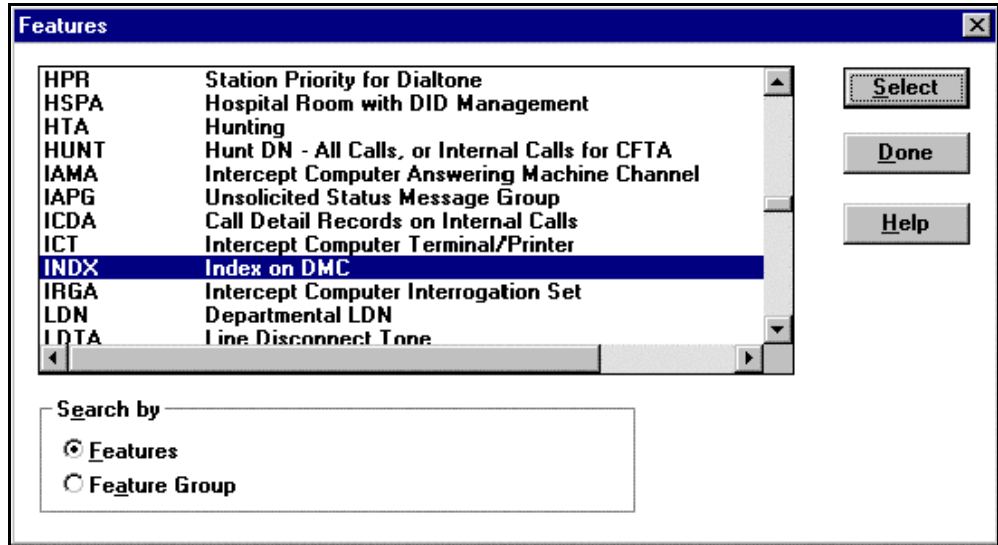


Table 105  
Accepting changes

Step	Action
1	Accept changes.
	Click on the <b>Done</b> button.



Selecting Single Line Features

Figure 185  
500 dialog

500

First Name

Directory

Last Name

Clear

Single Line Features

CFW

Forward

SCU

SpdCall User

SCC

SpdCall Cntl

SSU

Sys Speed

PHD

PermanentHld

Set

Clear

Redirection DN Length

Customer

0

Location

Department

Terminal Number

Directory Number

CLID Entry

Hunt to

OK

Cancel

Features

Admin..

Validate

Help

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](#).

553-3001-370

Standard 1.00

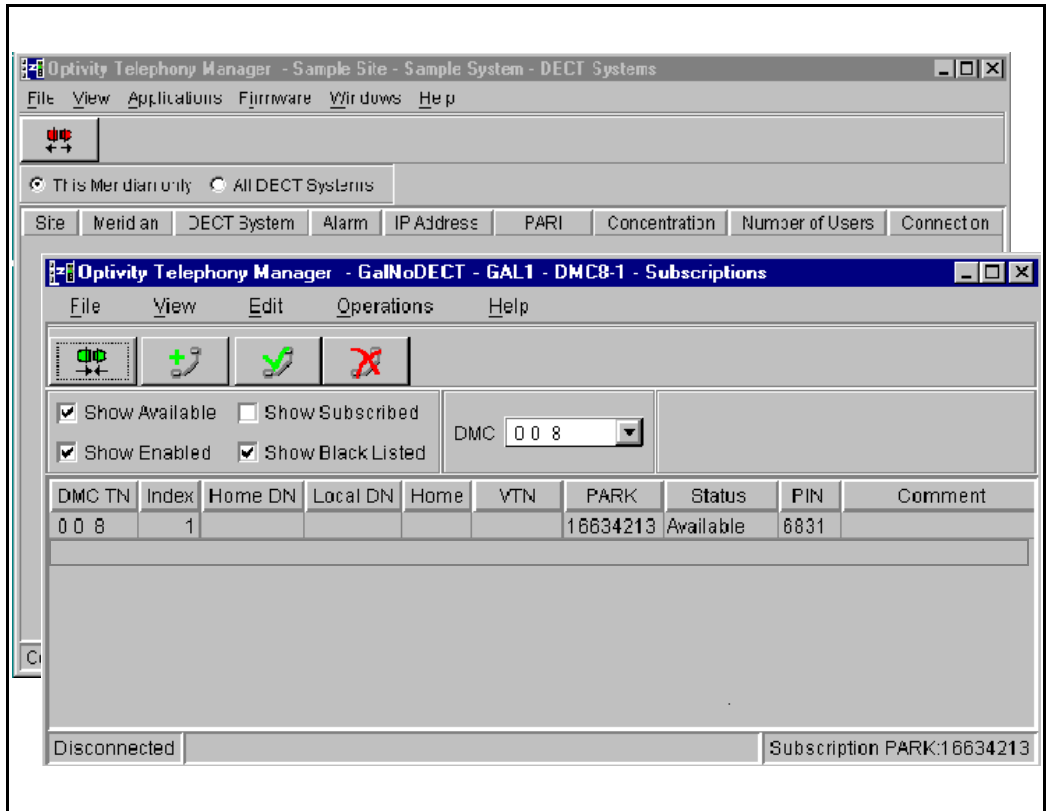
October 2003



## Retrieving subscription data for handsets


Figure 186

DECT Systems window and Subscriptions window



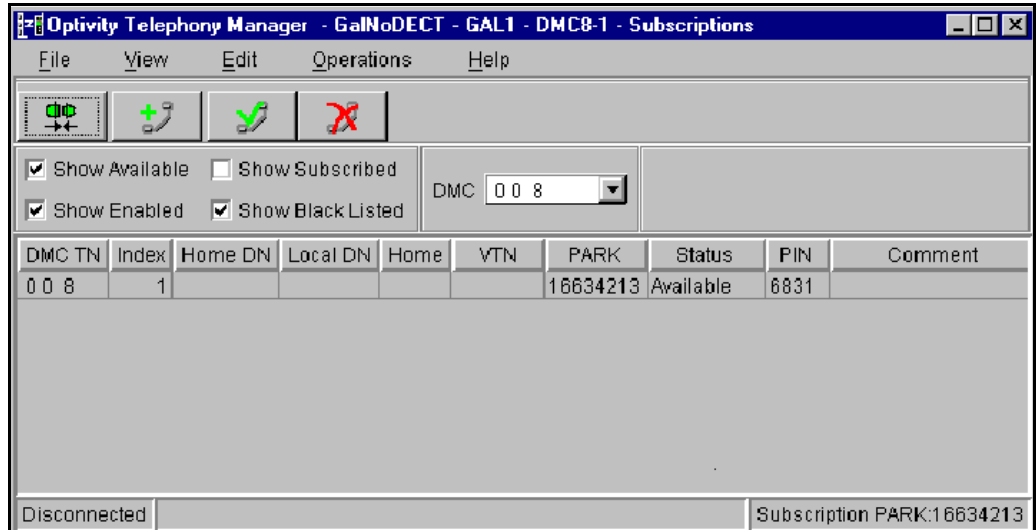
Complete the following steps.

Table 107  
 Subscribing handsets

Step	Action
1	Launch the Subscriptions window from the DECT Systems window.
	Click on the <b>Applications</b> pull-down menu, click on <b>Subscriptions</b> .
2	Retrieve the subscription configuration data from the OTM Station Administration database.  <b>Note:</b> At this point, no handset data appears in the Subscriptions window.
	In the Subscriptions window, click on the <b>Operations</b> pull-down menu, click on <b>Retrieve OTM Configuration</b> .
3	Open the Configure DECT Subscription dialog.  <b>Note:</b> At this point, all handsets configured on OTM Station Administration are shown in the Subscriptions window
	Click on the <b>File</b> pull-down menu, click on <b>Add</b> or click on  .
<div>END</div>	



## Enabling subscription

**Figure 187**  
Subscriptions window



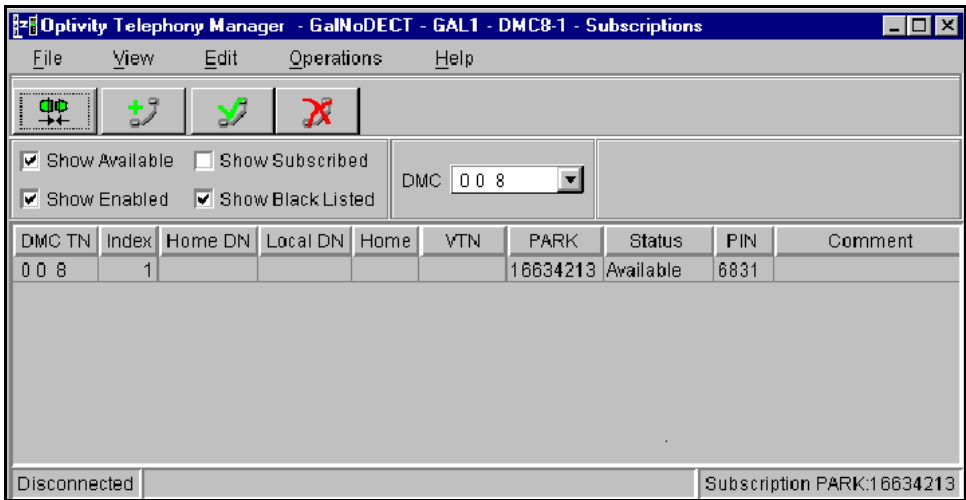
Complete the following steps for each handset:

**Table 108**  
Configuring handsets

Step	Action
1	<p><b>Note:</b> At this point, there are no PINs shown in the Subscriptions window. Select a handset from the list.</p> <p>Click on one handset in the list to highlight a row.</p>
2	<p>Enable handsets.</p> <p>Click on the <b>Operations</b> pull-down menu, click on <b>Enable</b> or click on .</p>
	

Activating the PIN on the handsets

Figure 188  
Subscriptions window



Complete the following step:

Table 109  
Obtaining the PIN

Step	Action
1	<p><b>Note:</b> 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 <a href="#">page 345</a> .

END

**Note:** When a handset is subscribed, the Subscription window shows the Status column as Subscribed and does not show a PIN.

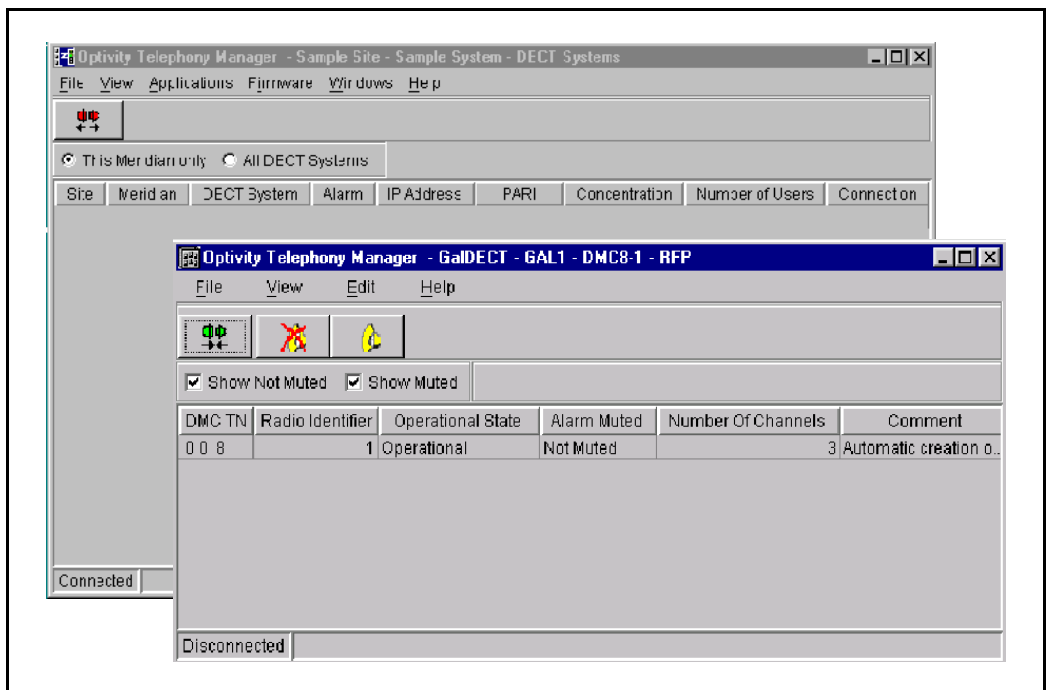
## Handset subscription

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 <b>Applications</b> pull-down menu, click on <b>Boards</b> .
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 <b>File</b> pull-down menu, click on <b>Properties</b> .
<div>END</div>	

## 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 <b>No</b> to deny alarm muting or <b>Yes</b> to allow alarm muting.
	Click on <b>No</b> or <b>Yes</b> .
2	Enter up to 80 characters for comments.
	Type comments.
3	Select local powered or line powered for the selected base station.
	Click the <b>Line Powered</b> or <b>Local Powered</b> radio button.
4	Apply the selections.
	Click the <b>OK</b> 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**

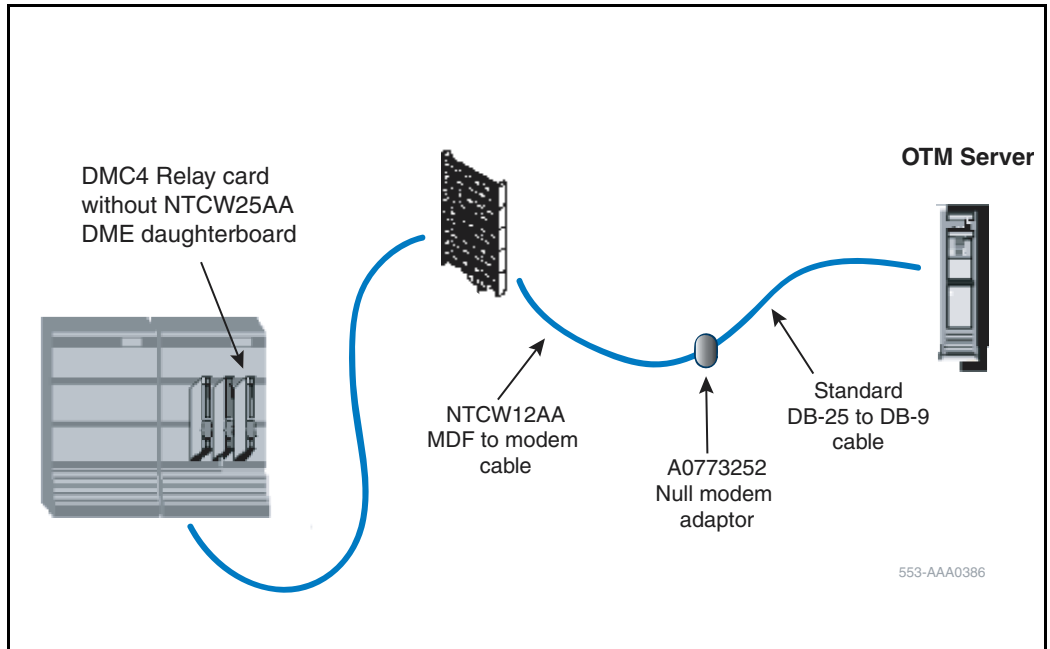
Ensure that the DMC8/DMC8-E Relay card jumpers J6 to J9 are in the V.24 position for operation on a serial connection to the OTM server.

### 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 <a href="#">Table 113 on page 350</a> 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.
	

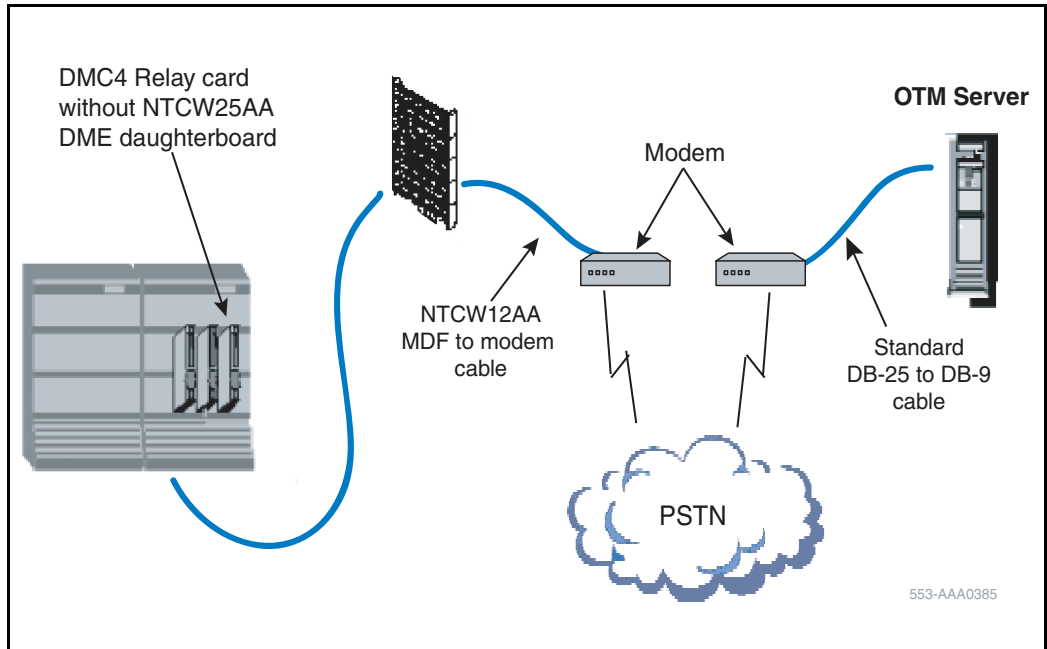
**Note:** The BIX tip and ring connections shown in [Table 113 on page 350](#) correspond to standard BIX designation. The first pair are labeled T0 and R0. See the *planning and designating the MDF* section in *Large System: Installation and Configuration* (553-3021-210).

**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.
	<p>Follow the manufacturers set-up procedures. Set modem as follows:</p> <ul style="list-style-type: none"> <li>• Line speed = 38400b/s</li> <li>• No parity</li> <li>• 1 stop bit</li> <li>• 8 bit words</li> <li>• No output control</li> <li>• No timer</li> </ul>
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.
	

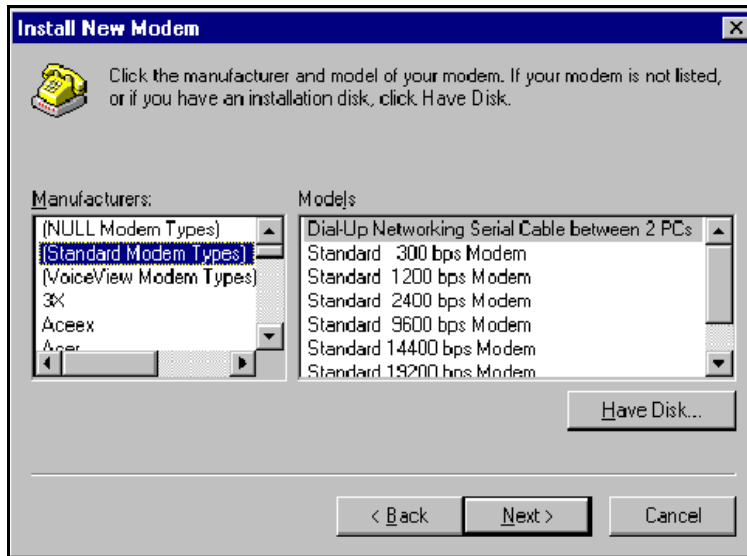
**Table 115**  
**Connecting the DMC8 Relay card to a modem**

Step	Action
1	Connect the NTCW12AA cable to the DMC8 Relay card MDF connector.
	Refer to <a href="#">Table 113 on page 350</a> for the NTCW12AA cable tip and ring connections.
2	Set up the OTM modem.
	<p>Follow the manufacturers set-up procedures. Set modem as follows:</p> <ul style="list-style-type: none"> <li>• Line speed = 38400b/s</li> <li>• No parity</li> <li>• 1 stop bit</li> <li>• 8 bit words</li> <li>• No output control</li> <li>• No timer</li> </ul>
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 <b>Modem</b> .
2	In the Manufacturers field.
	Select <b>[Standard Modem Types]</b> .
3	In the Models field.
	Select <b>Dial-Up Networking Serial Cable between 2 PCs</b> .
4	Continue.
	Click on <b>Next</b> .
	

## Configuring modem properties

The properties must be configured to interface serially to the DECT system.


**Figure 194**  
**Model Properties**





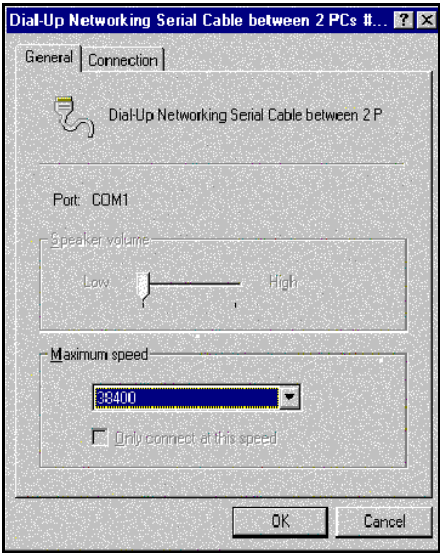
Complete the following steps:

**Table 117**  
**Configuring modem properties**

<b>Step</b>	<b>Action</b>
<b>1</b>	Go to Control Panel.
	Click on <b>Modem</b> .
<b>2</b>	Select the modem installed.
	Click on the modem in the list.
<b>3</b>	Open the properties dialog.
	Click the <b>Properties</b> button.
	

Setting modem speed

Figure 195  
Dial-Up Networking Serial Cable between 2PCs #... General tab



Complete the following steps:

Table 118  
Setting modem speed

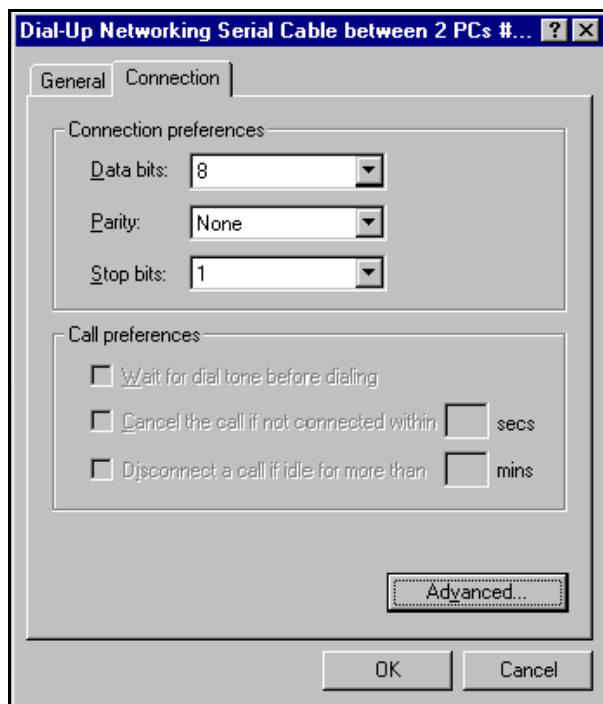
Step	Action
1	Select maximum modem speed.
	Choose <b>38400</b> .
2	Apply selection.
	Click <b>OK</b> .

END

## Setting connection preferences

Figure 196

Dial-Up Networking Serial Cable between 2 PCs #... Connection tab



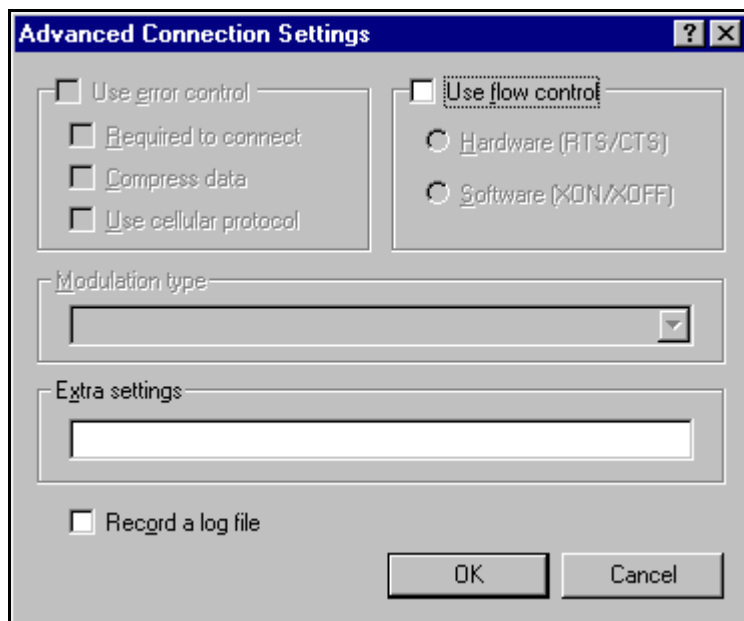
Complete the following steps:

Table 119  
 Setting connection preferences

Step	Action
1	Set Data bits.
	Select <b>8</b> .
2	Set Parity.
	Select <b>None</b> .
3	Set Stop bits
	Select <b>1</b> .
4	Open Advanced dialog.
	Click on the <b>Advanced</b> button.
<div>END</div>	


## Disabling flow control

Figure 197  
Advanced Connection Settings



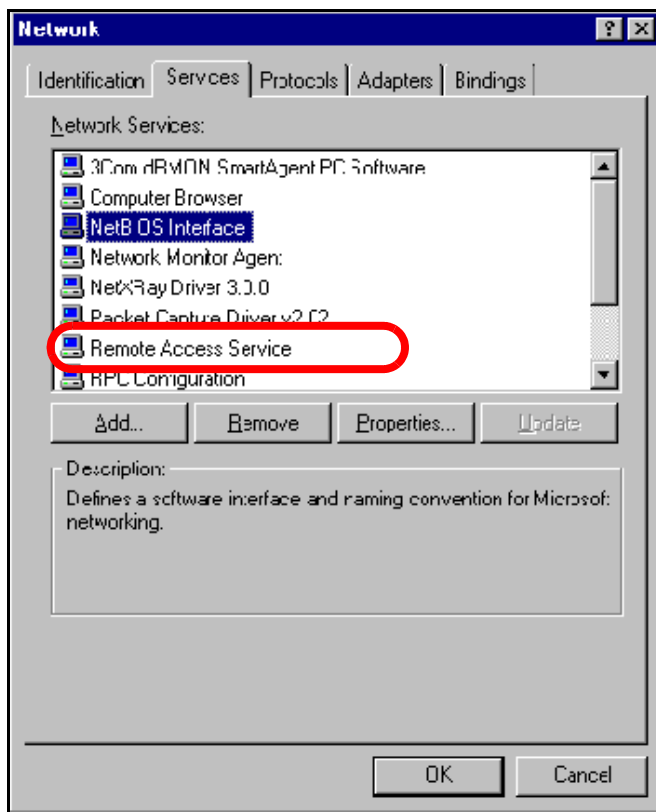
Complete the following step:

Table 120  
Disabling flow control

Step	Action
1	Ensure that flow control is disabled.
	Remove check from the <b>Use flow control</b> box.
	


## Configuring Remote Access Service (RAS)

**Figure 198**  
**Network – Services**



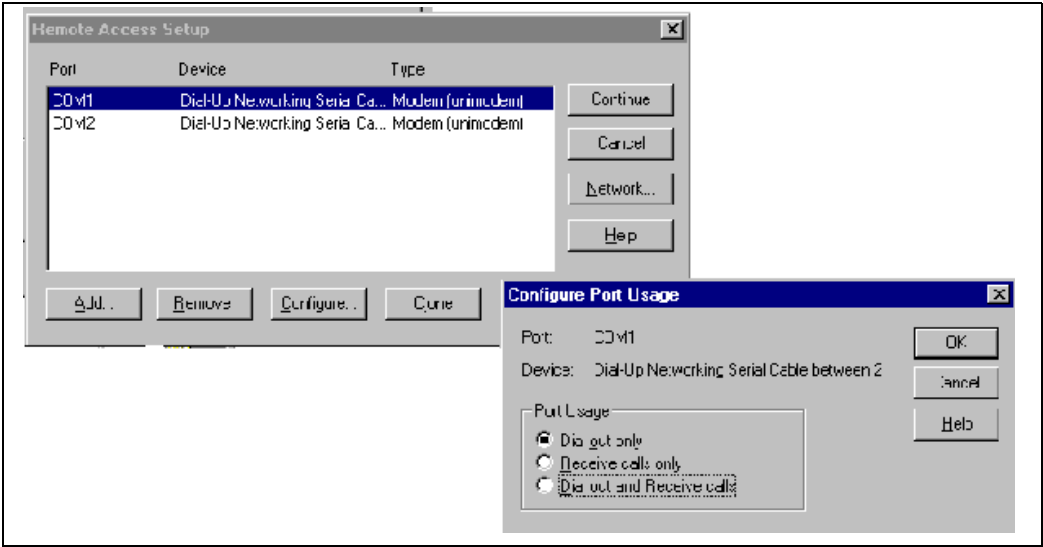
Complete the following steps:

**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 <b>Remote Access Service</b> .
	

Setting RAS modem and port usage

Figure 199  
Remote Access Setup and Configure Port Usage



Complete the following steps:

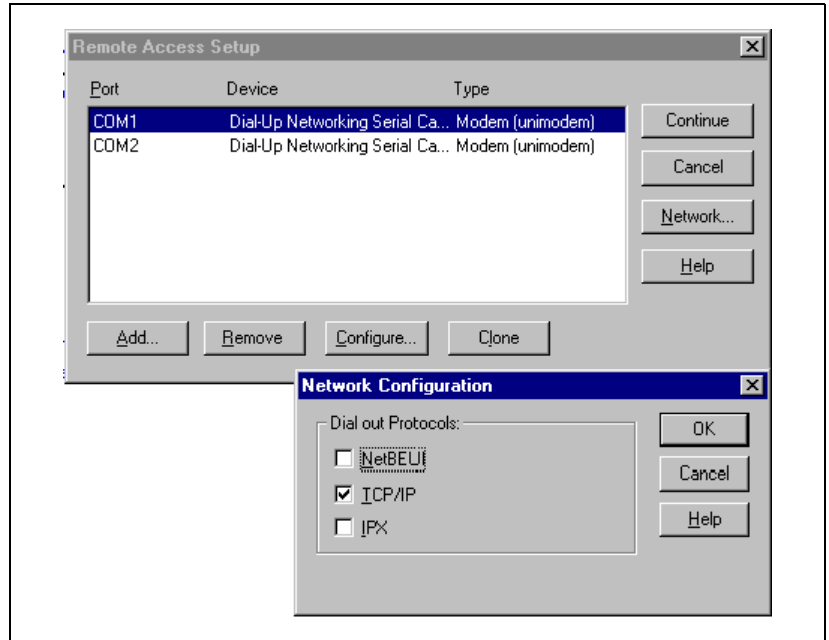
Table 122  
Setting modem and port usage

Step	Action
1	Select a modem.
	Highlight a device.
2	Configure.
	Click on the <b>Configure...</b> button.
3	Select Port Usage.
	Click on the <b>Dial out only</b> radio button.
<div>END</div>	



## 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

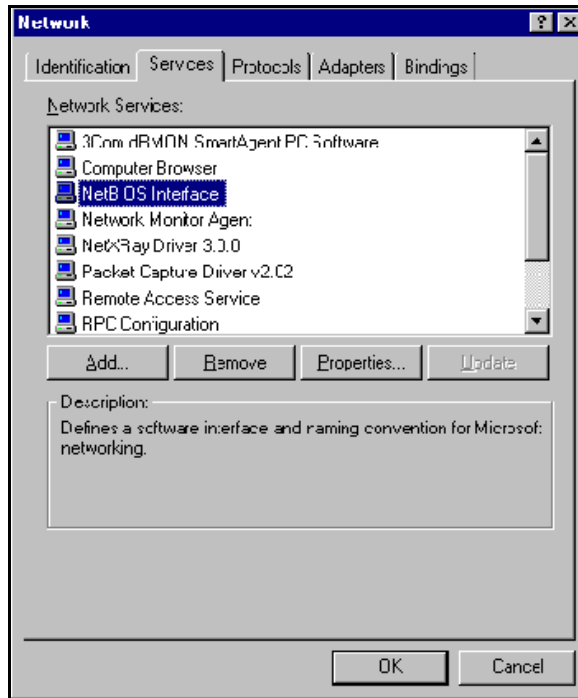
Configuring Remote Access Service

Step	Action
	Click on the <b>Network</b> button.
3	Select TCP/IP protocol for this port.
	Click a check in the <b>TCP/IP</b> 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:

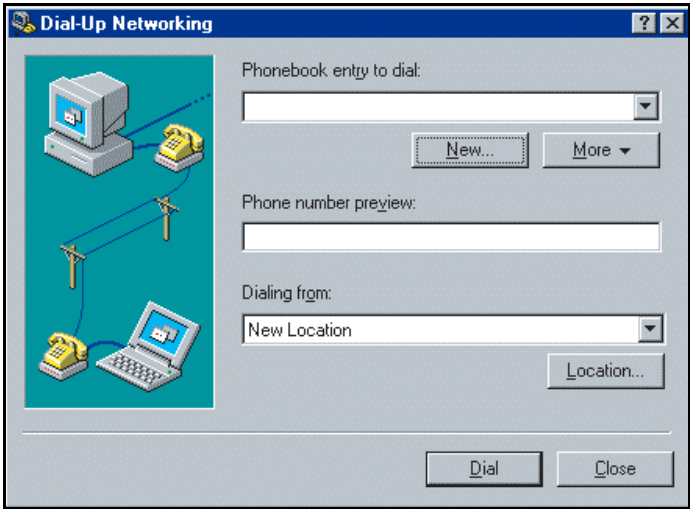
**Table 124**  
**Configuring Remote Access Service**

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 <b>Properties</b> . Click the <b>Services</b> 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 <b>Close</b> . Go to "Setting up and configuring a RAS Phone book entry" on <a href="#">page 369</a> . If the NetBIOS Interface is not on the list of Network Services, click <b>Add</b> . See Figure 201.
3	The Select Network Component appears. Select the required network component.
	Select <b>Protocol</b> . Click <b>Add</b>
4	The Select Network Protocol window opens. Select the desired protocol.
	Select <b>NetBIOS Interface</b> . Click <b>Install</b> . Click <b>Close</b> .
	

# Setting up and configuring a RAS Phone book entry

## Opening the Dial-up Networking dialog

**Figure 202**  
Dial-up Networking dialog



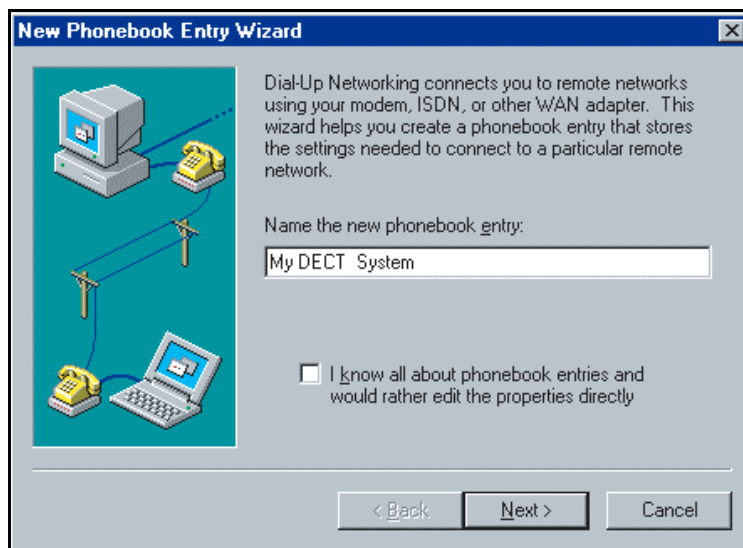
Complete the following steps:

**Table 125**  
Opening the Dial-up Networking dialog

Step	Action
1	Open the Dial-up Networking property dialog on Windows NT.
	<b>Start&gt; Program&gt; Accessories&gt; Dial-up Networking.</b>
2	Continue.
	Press the <b>New</b> button.
<div>END</div>	


## Setting up the phone book entry name

**Figure 203**  
**New Phonebook Entry Wizard**



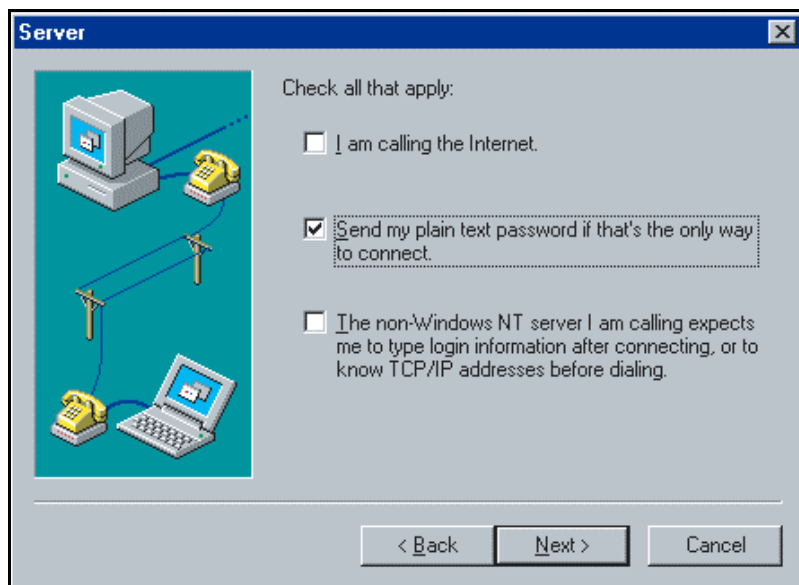
Complete the following steps:

**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 <b>Next</b> button.
	


## Setting up the server dialog

Figure 204  
Server



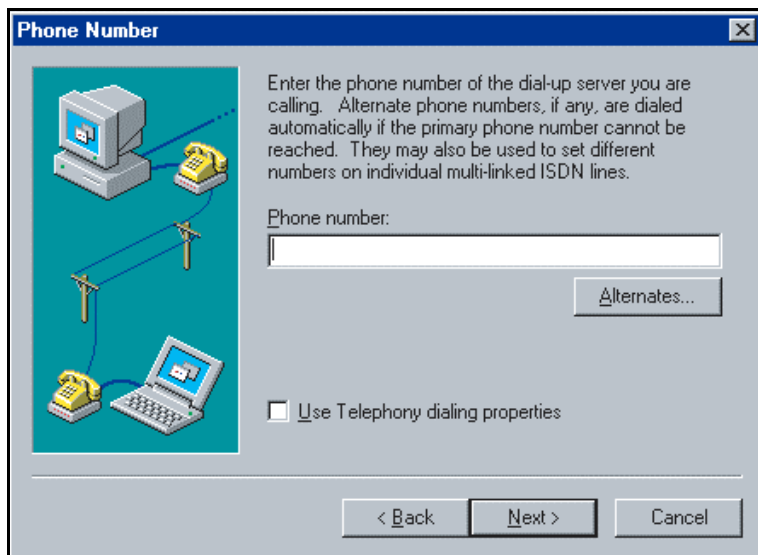
Complete the following steps:

Table 127  
Configuring Remote Access Service

Step	Action
1	Set up the server dialog.
	Check the <b>Send my plain text password...</b> box.
2	Accept the changes.
	Press the <b>Next</b> button.
	

## Going to the next dialog

**Figure 205**  
**Phone Number**



Complete the following step:

**Table 128**  
**Going to the next dialog**

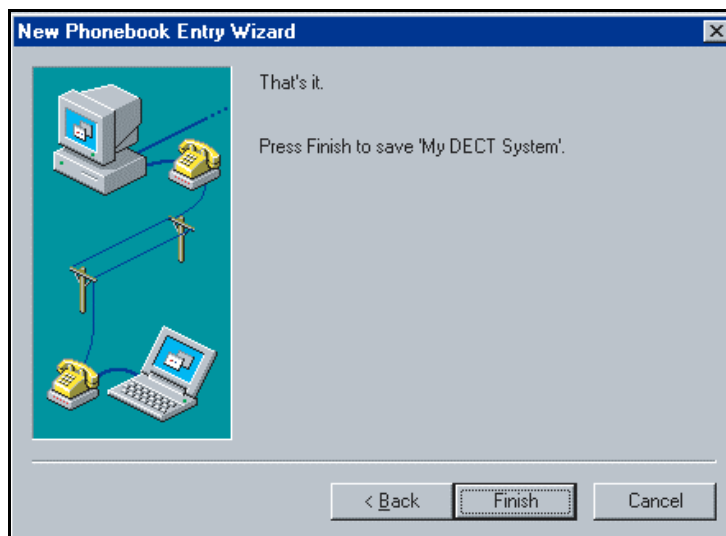
Step	Action
1	Omit this dialog.
	Press the <b>Next</b> button.





## Completing set up

**Figure 206**  
**New Phonebook Entry Wizard**



Complete the following step:

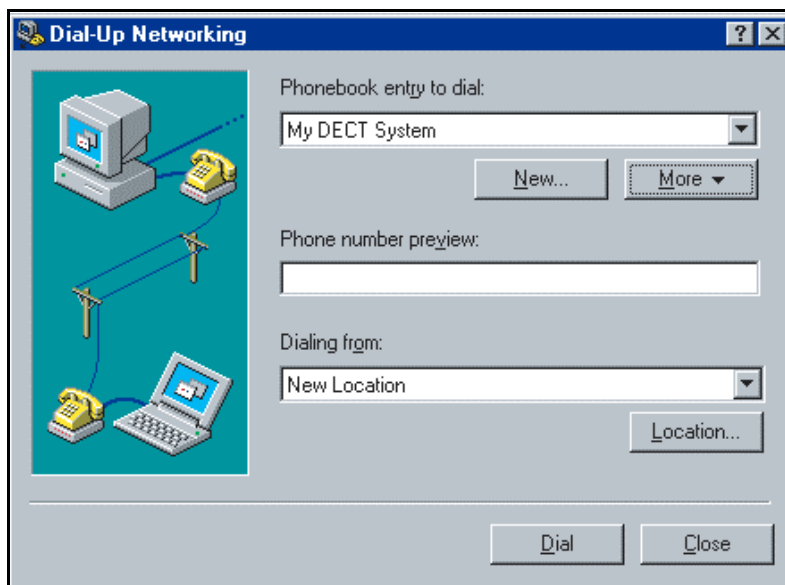
**Table 129**  
**Setting up complete**

Step	Action
1	Complete the set up.
	Press the <b>Finish</b> button.

END


## Configuring the networking dial-up

**Figure 207**  
**Dial-Up Networking**



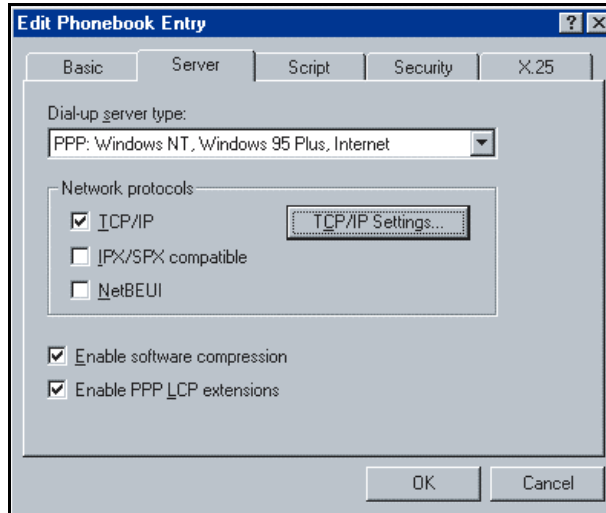
Complete the following steps:

**Table 130**  
**Configuring the networking dial-up**

Step	Action
1	Open the Dial-up Network property dialog on Windows NT.
	<b>Start&gt; Program&gt; Accessories&gt; Dial-up Networking.</b>
2	Select edit phone book.
	Under the <b>More</b> drop-down list, select <b>Edit entry and modem properties.</b>
	


## Configuring the Dial using an entry

**Figure 208**  
**Edit Phonebook Entry – Basic**



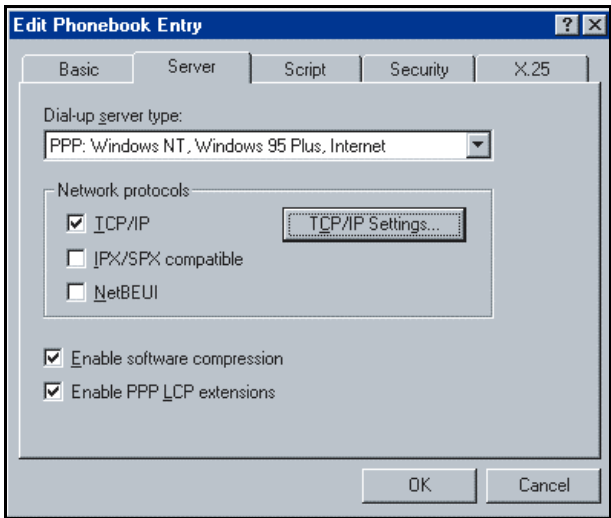
Complete the following steps:

**Table 131**  
**Configuring the Dial using an entry**

Step	Action
1	Configure an entry from the Dial using drop-down list. <b>Note:</b> 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 <b>OK</b> 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 <b>PPP: Windows NT...</b> and check the boxes shown in Figure 209 on <a href="#">page 376</a> .
2	Open the PPP TCP/IP Settings dialog.
	Press the <b>TCP/IP</b> settings button.
	

Configuring IP address

Figure 210  
PPP TCP/IP Settings

PPP TCP/IP Settings

☐ Server assigned IP address

☒ Specify an IP address

IP address: 192.168.1.200

☒ Server assigned name server addresses

☒ Specify name server addresses

Primary DNS: 0.0.0.0

Secondary DNS: 0.0.0.0

Primary WINS: 0.0.0.0

Secondary WINS: 0.0.0.0


☒ Use IP header compression

☒ Use default gateway on remote network

OK Cancel

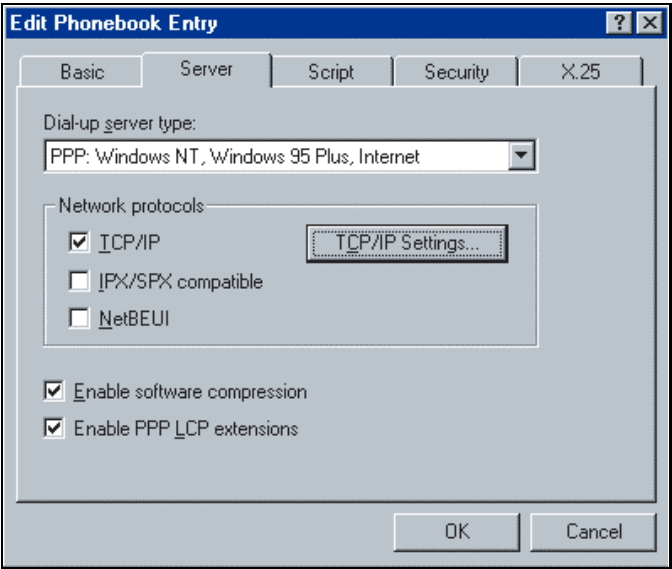
Complete the following steps:

Table 133  
Configuring IP address

Step	Action
1	Select the settings. Click the <b>Specify an IP address</b> and the <b>Server assigned name server address</b> radio buttons. Click on both check boxes.
2	Specify an IP address. Enter the IP address.
	

Accepting the configuration changes

Figure 211  
Services



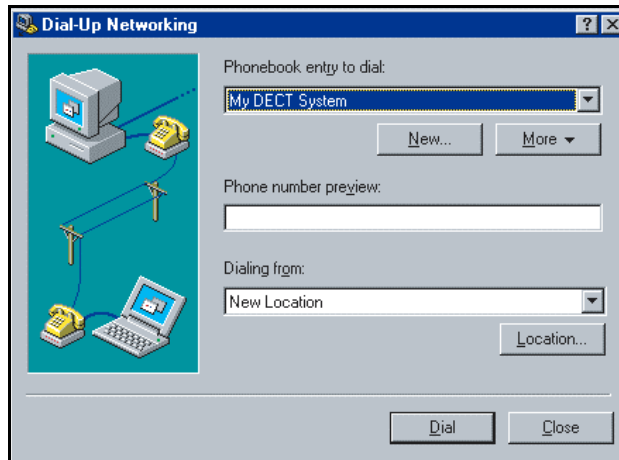
Complete the following step:

Table 134  
Accepting the configuration changes

Step	Action
1	Accept the configuration changes.
	Press the <b>OK</b> button.
<div>END</div>	


## Establishing the RAS connection

**Figure 212**  
**Dial-Up Networking**



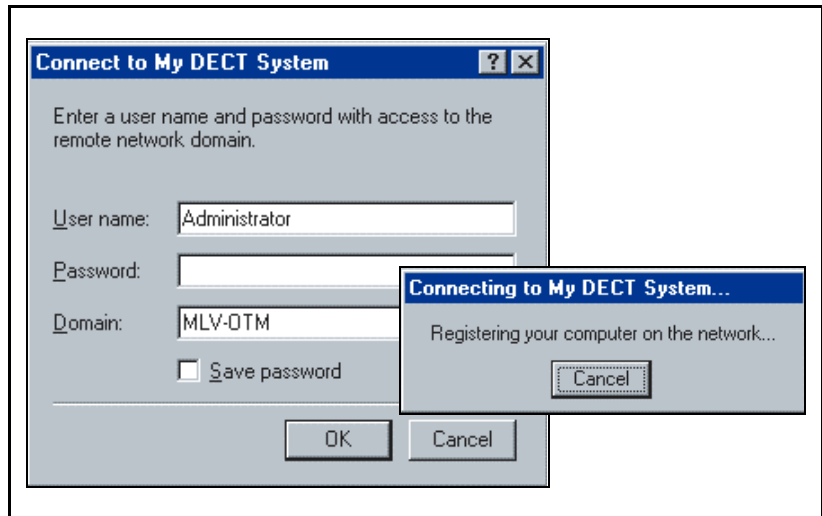
Complete the following steps:

**Table 135**  
**Establishing the RAS connection**

Step	Action
1	Open the Dial-up Network property dialog on Windows NT. <b>Start&gt; Program&gt; Accessories&gt; Dial-up Networking.</b>
2	Select the Phonebook entry to dial. Highlight the entry.
3	Dial. Press the <b>Dial</b> button.
	


## Establishing a connection to the DECT system

**Figure 213**  
**Connect to my DECT system**



Complete the following step:

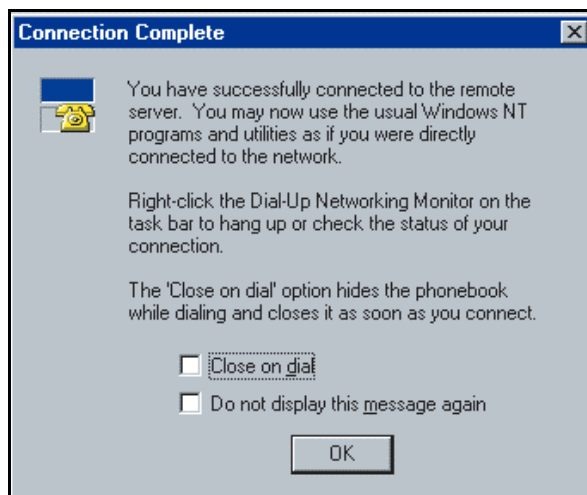
**Table 136**  
**Establishing a connection to the DECT system**

Step	Action
1	Establish access. <b>Note:</b> No input to this dialog needed.
	Press the <b>OK</b> button.
	



## Establishing connection complete

**Figure 214**  
**Connection Complete**



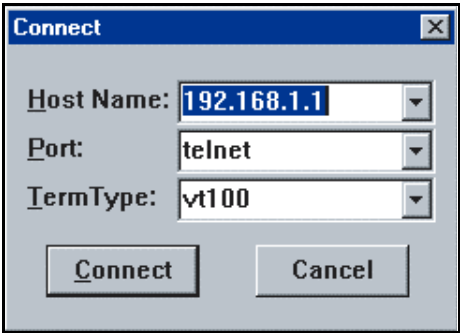
Complete the following step:

**Table 137**  
**Establishing connection complete**

Step	Action
1	Finish.
	Press the <b>OK</b> 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.
	<b>Start&gt; Program&gt; Accessories&gt; Telnet.</b>
2	Address the DMC8 Relay card using the card's default IP address.
	Enter 192.168.1.1 in the <b>Host Name:</b> box.
3	Connect to the DMC8 Relay card.
	Press the <b>Connect</b> 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
█
```

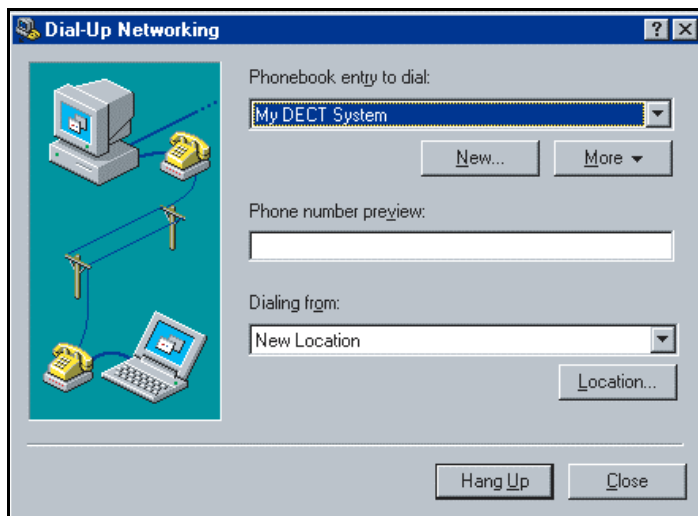
Complete the following steps:

Table 139  
Configuring the IP address

Step	Action
1	Login.
	Enter <b>dasuser</b> .
2	Password.
	Enter <b>dasuser</b> .
3	Configure the IP address.
	Use <b>ipconfig</b> as shown on the bottom line in <a href="#">Figure 216</a> on <a href="#">page 383</a> .
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 <b>Hang Up</b> 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.

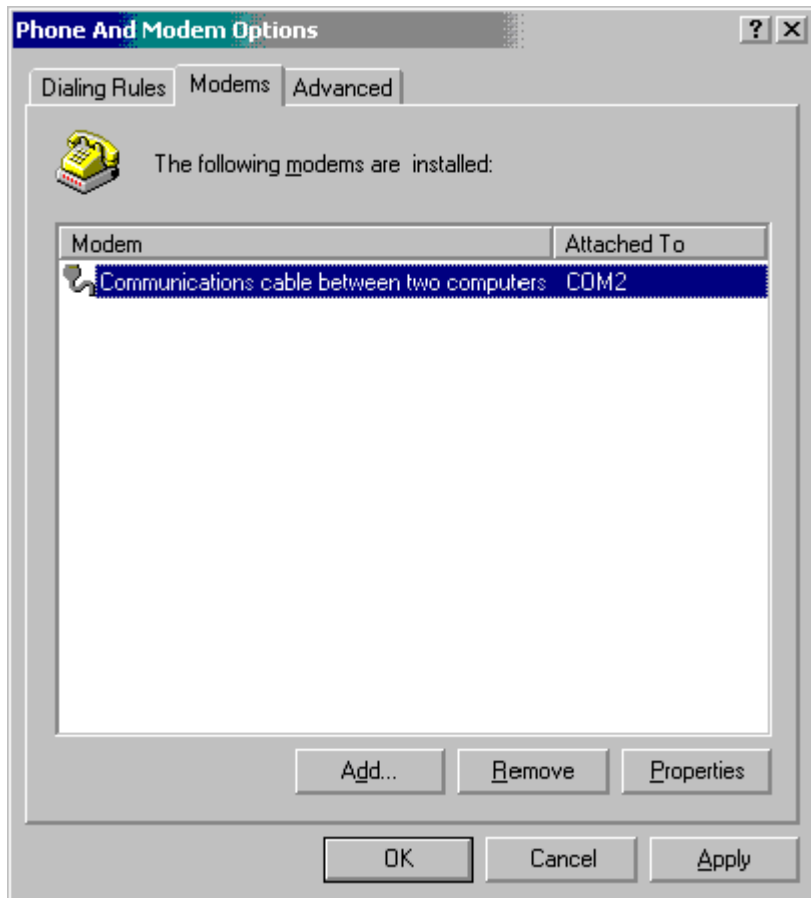
- 6 Select a COM port supported by the PC. Click **Next**.
- 7 Click **Finish**.

### Configuring the modem

Configure the modem properties for serial interface. To configure the modem, perform the following steps.

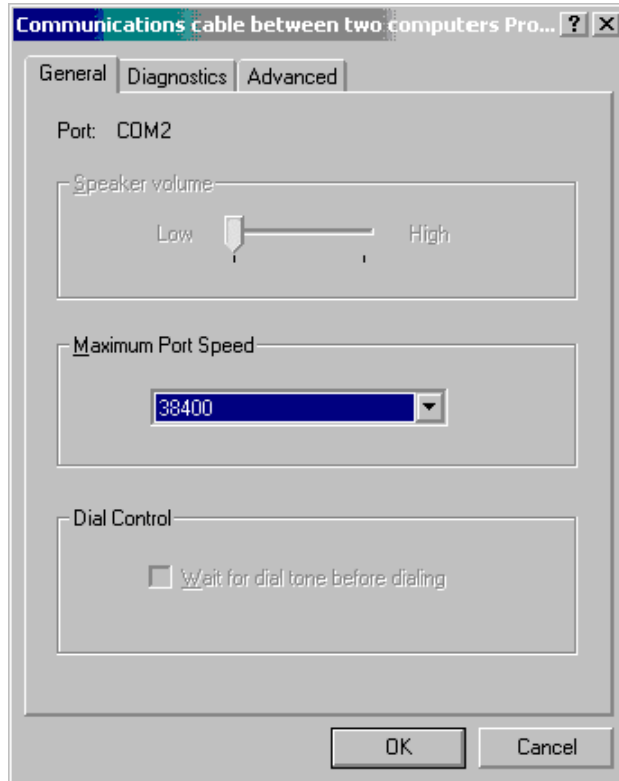
- 1 Select **Control Panel > Phone and Modem Options> Modems** tab.
- 2 Select the modem **Communications cable between two computers**. Click **Properties**. See Figure 218 on [page 386](#).

**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**

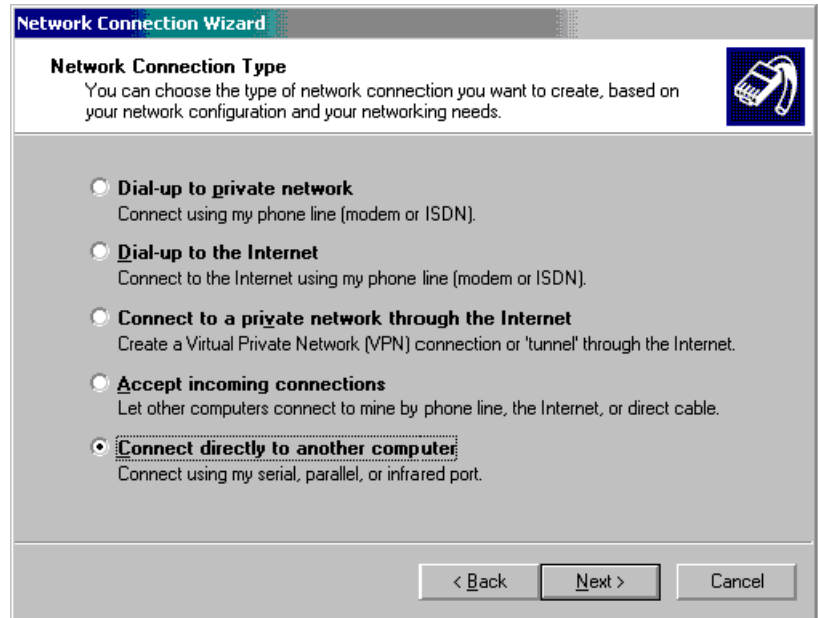


- 3    Click **Next**.
- 4    Click the **Connect directly to another computer** radio button. Click **Next**. See Figure 221 on [page 389](#).

**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**



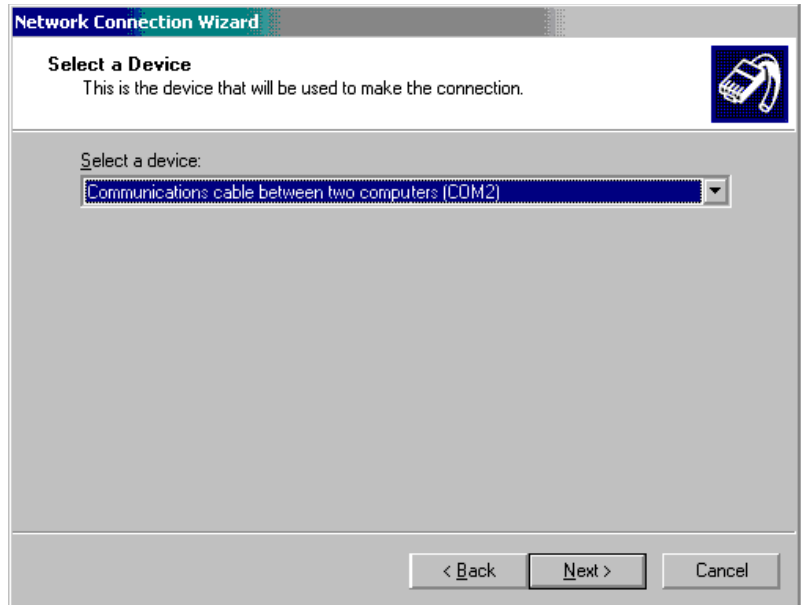
**5** Click the **Guest** radio button. Click **Next**. See Figure 222 on [page 390](#).

**Figure 222**  
**Host or Guest**



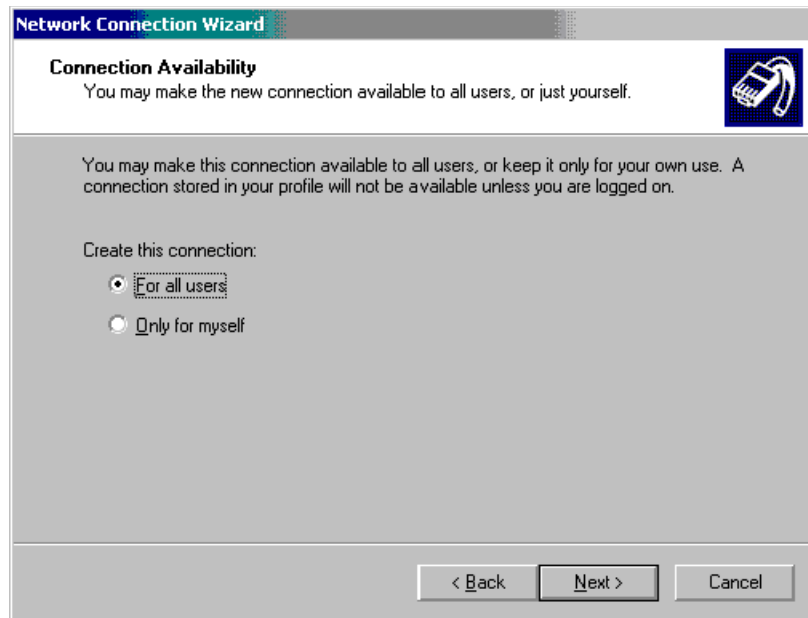
- 6 From the **Select a Device** drop-down list, select **Communications cable between two computers**. Click **Next**. See Figure 223 on [page 391](#).

**Figure 223**  
**Select a Device**



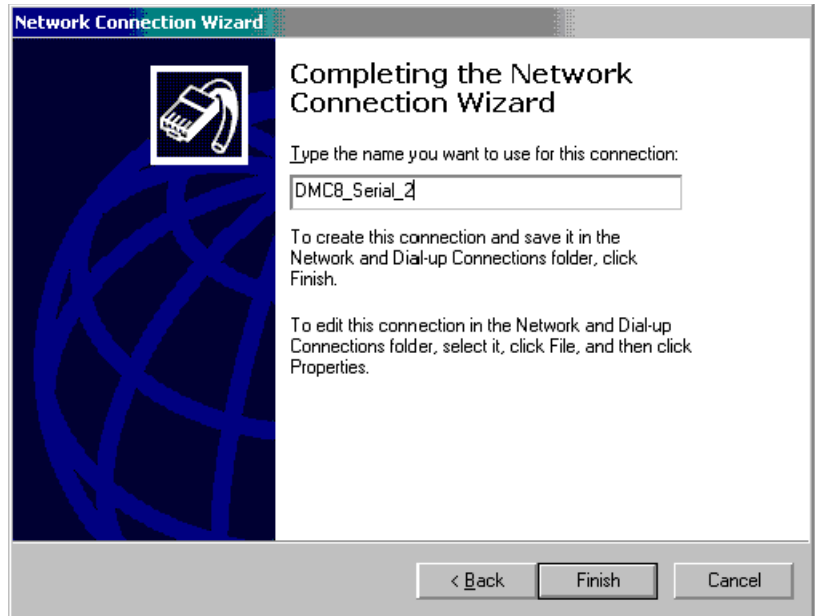
- 7 Click the **For all users** radio button. Click **Next**. See Figure 224 on [page 392](#).

**Figure 224**  
**Connection Availability**



- 8**    Type a name for the connection. Click **Finish**.  
See Figure 225 on [page 393](#).

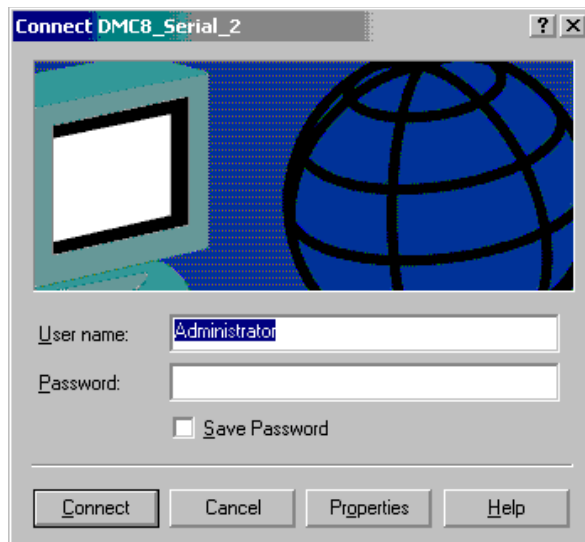
**Figure 225**  
**Completing the Network Connection Wizard**



A new window appears automatically. The window is titled with the connection name entered earlier. See Figure 226 on [page 394](#).

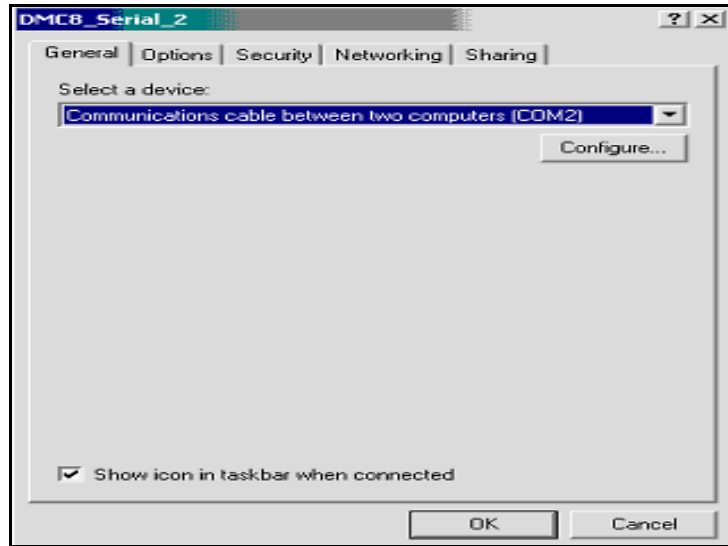
It is not necessary to enter a user name or password.

**Figure 226**  
**New connection window**



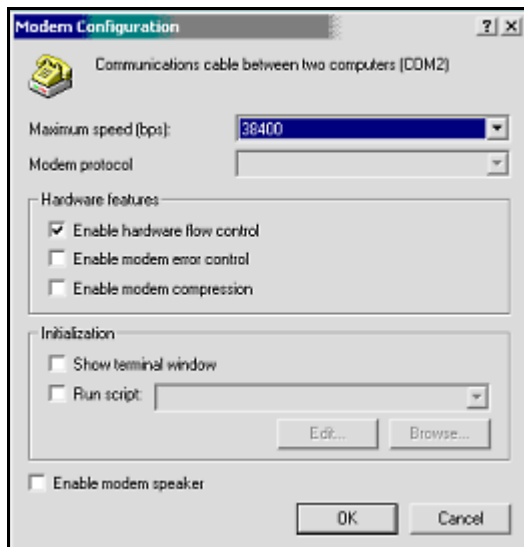
- 9 Click **Properties**. A new window opens.
- 10 Select the **General** tab. Select **Communications cable between two computers (COM2)** from the **Select a device** drop-down menu. See Figure 227 on [page 395](#).

**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**.

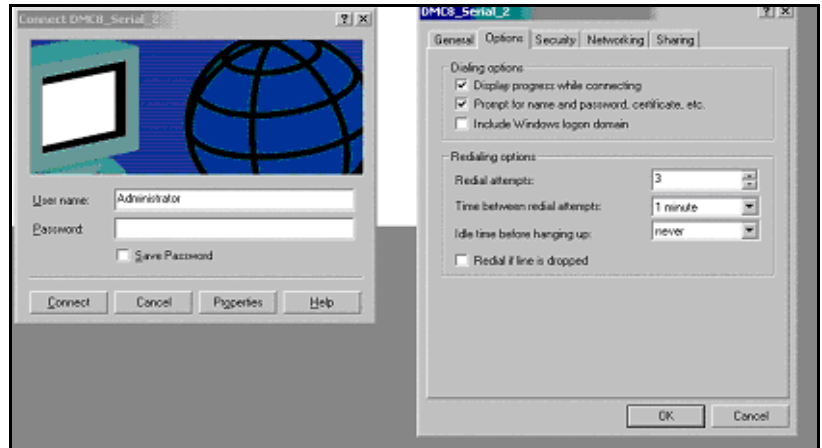
**Figure 228**  
**Modem Configuration window**



- 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](#).

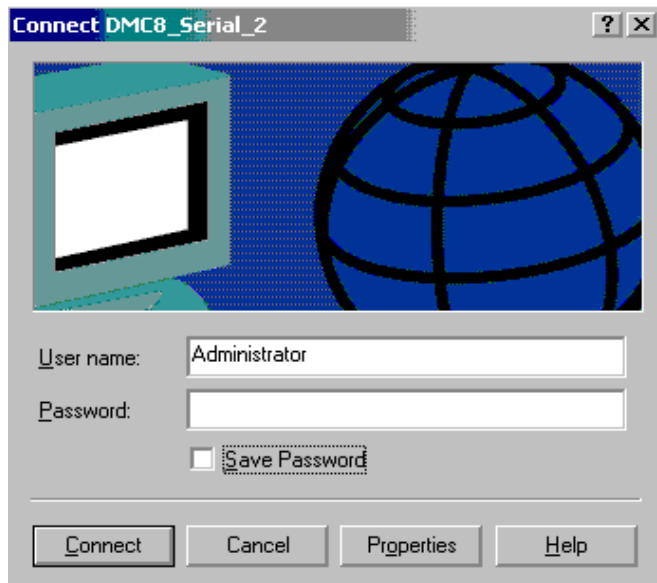


**Figure 229**  
**Security tab**



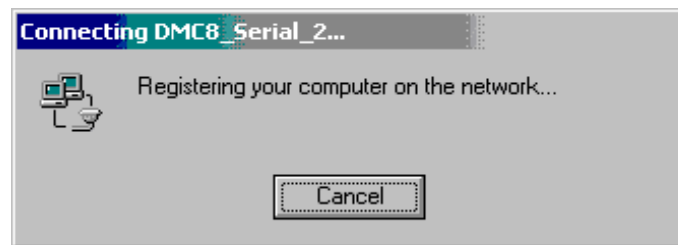
- 13** Click the **Networking** tab. Select **Internet Protocol (TCP/IP)**. Click **Properties**.
- 14** Click the radio button for **Use the following IP address**. Enter the IP address of the OTM server.
- 15** Click **Advanced**. Check all three boxes in the PPP Settings window. Click **OK**.
- 16** 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.

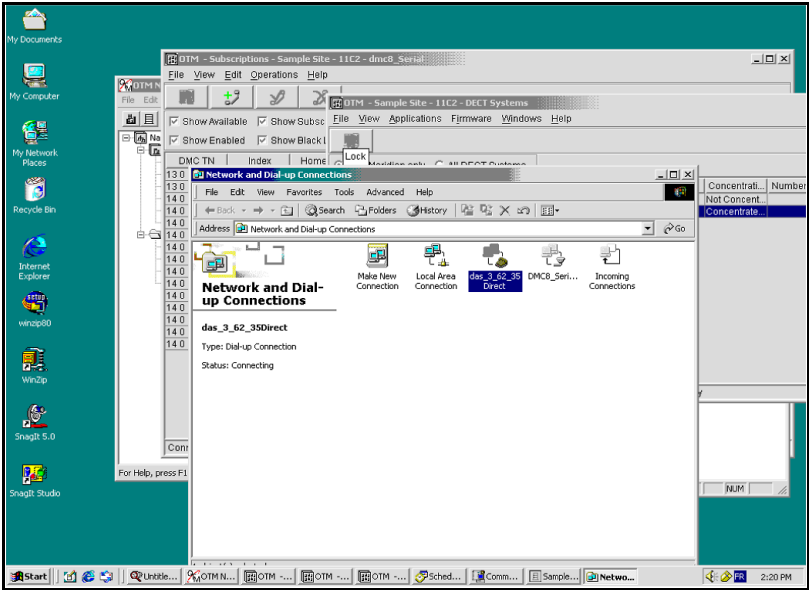
**Table 141**  
**Sample IP addresses with the same subnet mask**

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



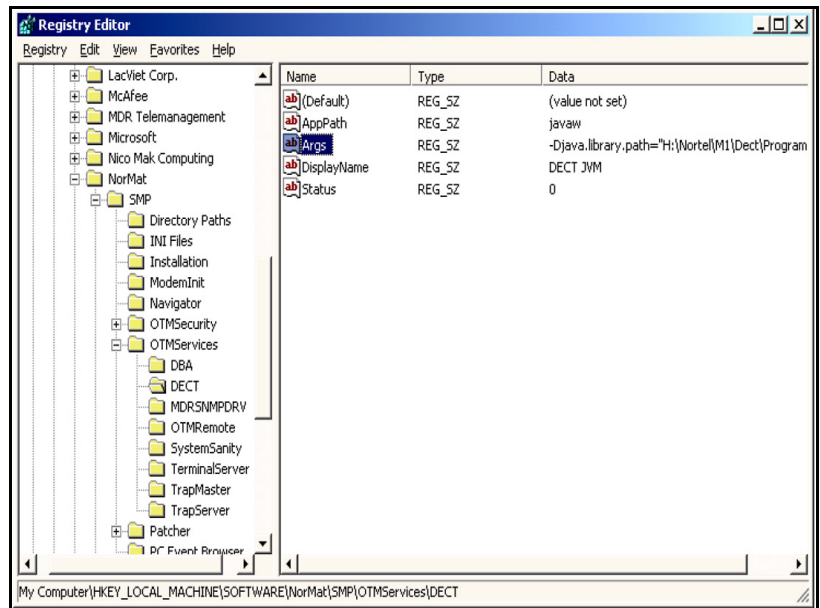
### CAUTION

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.

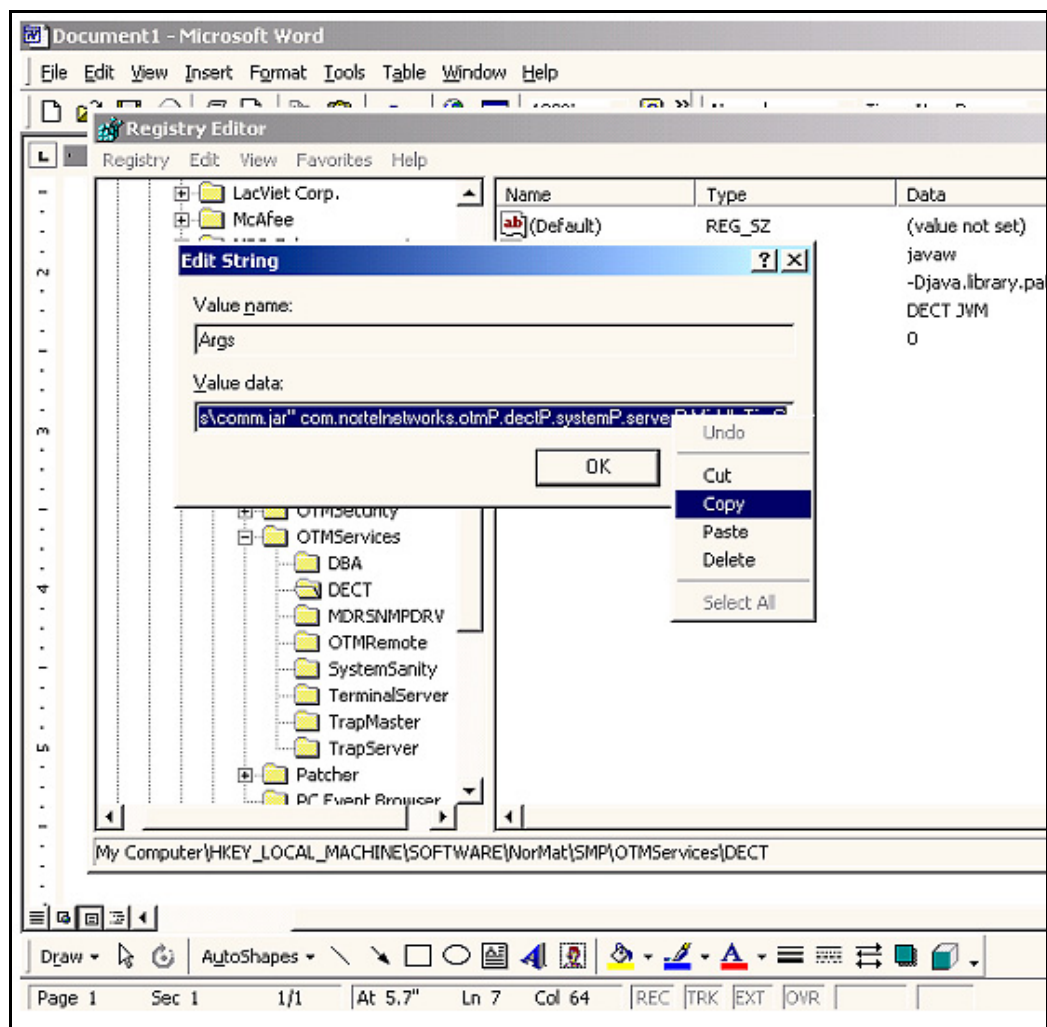
- 1 Open the Windows Registry.  
**Start > Run> regedit**  
 See [Figure 234](#) on [page 401](#).

**Figure 234**  
**Windows Registry**



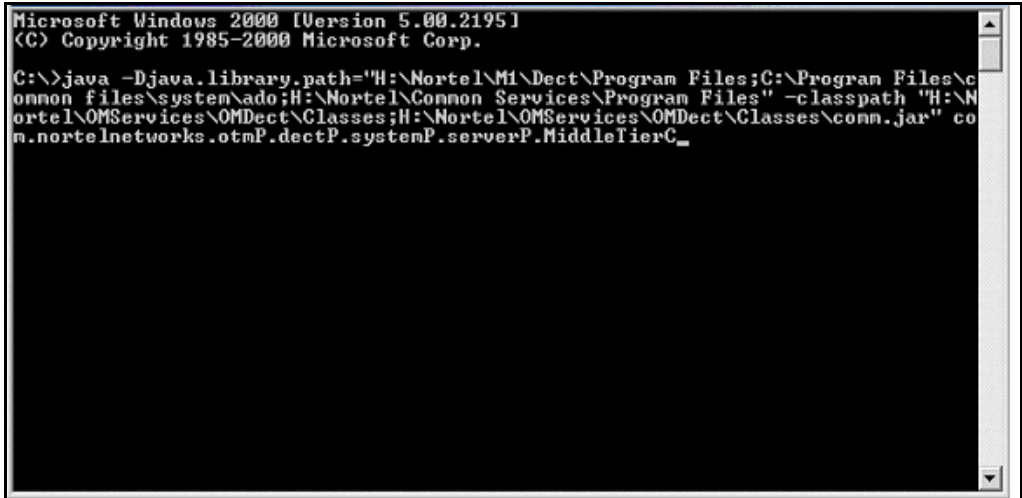
- 2 Copy the value of the key  
**HKEY\_LOCAL\_MACHINE\SOFTWARE\NorMat\SMP\OTMServices\DECT\Args**  
See [Figure 235](#) on [page 402](#).

**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**

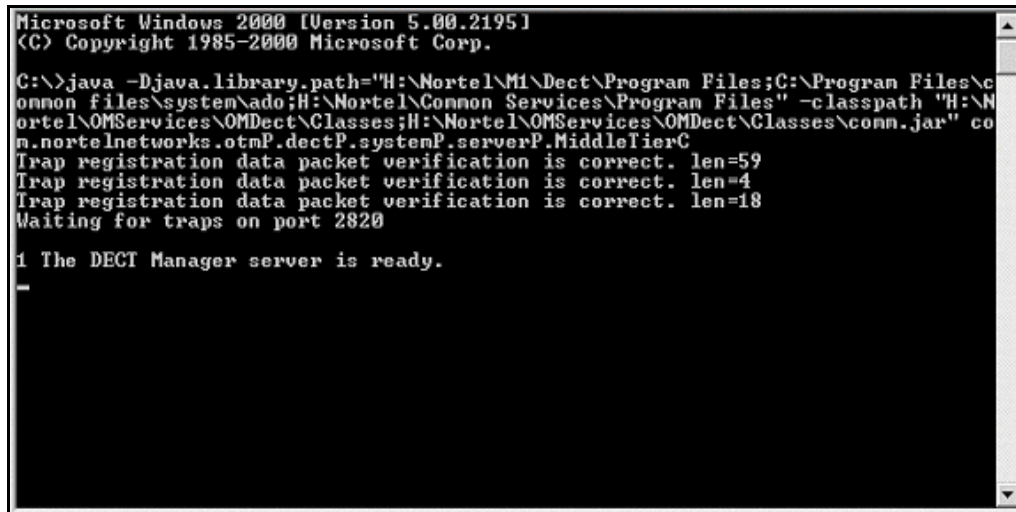


```
Microsoft Windows 2000 [Version 5.00.2195]
(C) Copyright 1985-2000 Microsoft Corp.

C:\>java -Djava.library.path='H:\Nortel\M1\Dect\Program Files;C:\Program Files\c
onnon files\system\ado;H:\Nortel\Connon 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_
```

- 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\c
ommon 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)	Card Density. Only valid value for IPE is 4D. Normal input is <CR>.
WRLS	YES	WiReLess analog Set – entry defaults to YES with no user input; value cannot be CHG'ed.
WTyp	DECT	Wireless TYPE – entry defaults to DECT with no user input; value cannot be CHG'ed.

**LD 10 – Add/Change DCS data block or data blocks. (Part 2 of 2)**

Prompt	Response	Description
MWUN	32	Maximum number of Wireless UNits – entry defaults to 32 with no user input – value cannot be CHG'ed.  Note: If MWUN = 32, CDEN automatically changes to 8D, and prints as an 8D unit.
DMC8	l s c c	Location of the actual DMC8. Assigns a TN to a DECT Mobility Card located on an IPE shelf or cabinet.
INDX	0. 509	DMC8 index to map the Virtual TN to a DMC8 TN.  Starting index on DMC8, each unit increments to the next available unit.
VSIT	(NO) YES	ViSITing DECT set. Determines the difference between a local handset and a visiting handset. VSIT available if the MSMN Package is unrestricted. YES = visiting DECT set. NO = local DECT set.
HMDN	x...x	HoMe Directory Number. Sets the DN as a valid MCDN network DN. NMDN available if VSIT = YES.

**LD 10 – Copy DCS data block or data blocks.**

Prompt	Response	Description
REQ:	CPY 1 – 32	CPY n = The generation of new units stop when the following occurs:  maximum index of 509 is reached on a single DMC8 or  VTNs on the system run out or  WRLS ISM limits reached.  All DCS must be on the same DMC8.
DMC8	I s c I	Location of the actual DMC8 to copy on an IPE shelf or cabinet.

**LD 10 – Remove DCS data block or data blocks.**

Prompt	Response	Description
REQ:	OUT 1-255	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.
DMC8	I s c I	Location of the actual DMC8 to out on an IPE shelf or cabinet.

## 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:

Windows access to the DECT application .....	412
Web-based browser access to the DECT application .....	415
DECT Systems window .....	420
Adding DECT systems .....	424
Deleting DECT systems .....	445
Configuring non-concentrated handsets .....	447
Configuring concentrated handsets on a PBX. ....	456
Retrieving subscription data for handsets .....	467
Enabling subscriptions .....	469
Activating the PIN on the handsets .....	471
Subscribing the C4010, C4010 Ex, C4020 handsets. ....	472
Subscribing the C4050 handset. ....	480
Working with handset subscriptions .....	484
Deleting TNs that are not on the switch .....	501
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

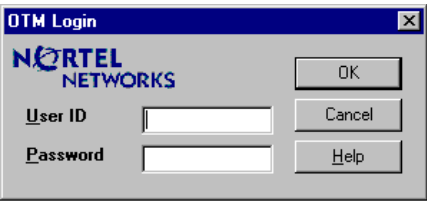
Keeping or removing non-operational base stations from OTM . . . . .	528
Resolving a subscription configuration mismatch . . . . .	529
User Access security . . . . .	531
Troubleshooting . . . . .	534

## 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

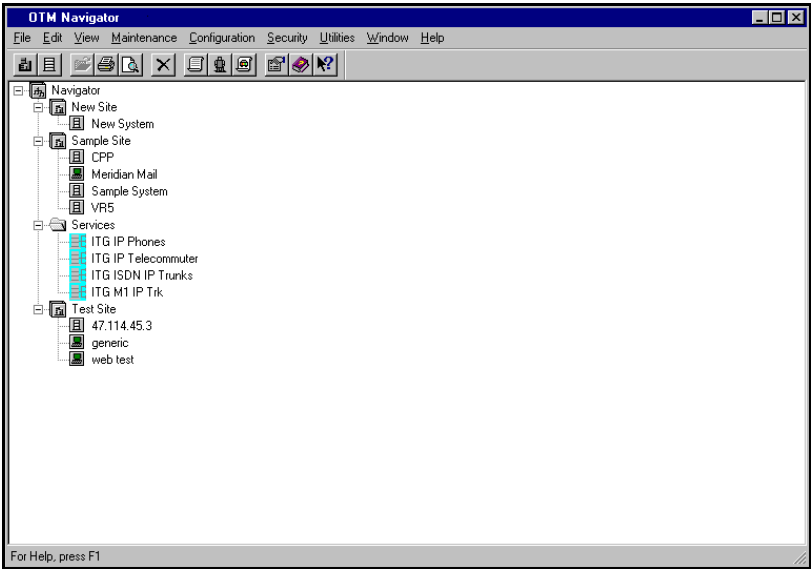
Step	Action
1	Access the OTM Login dialog box.
	Click on <b>Start&gt;Programs&gt;OTM</b> .
2	Login.
	Enter <b>User ID</b> , <b>Password</b> , and click <b>OK</b> .

END



## Selecting the PBX that supports DECT

**Figure 239**  
**OTM Navigator window**



Complete the following step.

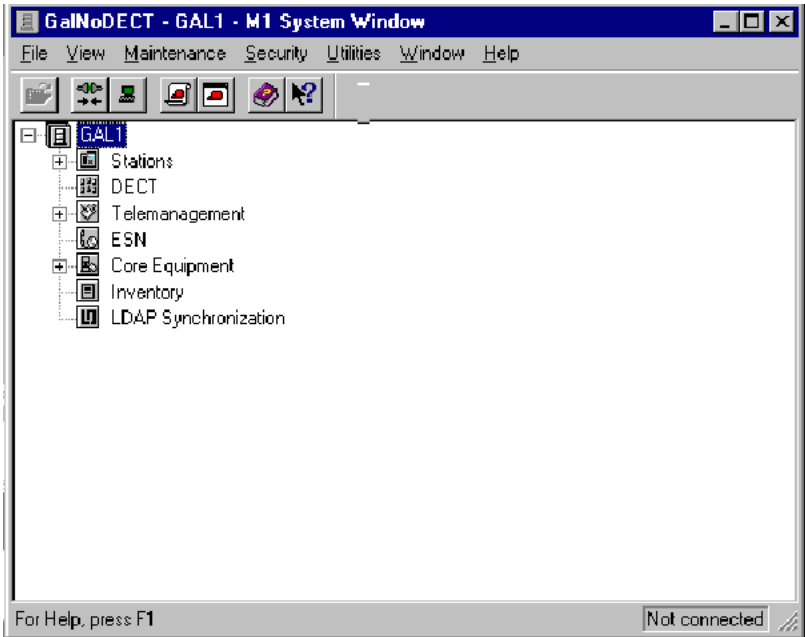
**Table 143**  
**Selecting the PBX that supports DECT**

Step	Action
1	Select the system. Double click on XXX (shown as <b>Sample System</b> in <a href="#">Figure 239</a> ).



## 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 <b>DECT</b> , or pull-down <b>File</b> menu and click <b>DECT</b> .

END

## 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**



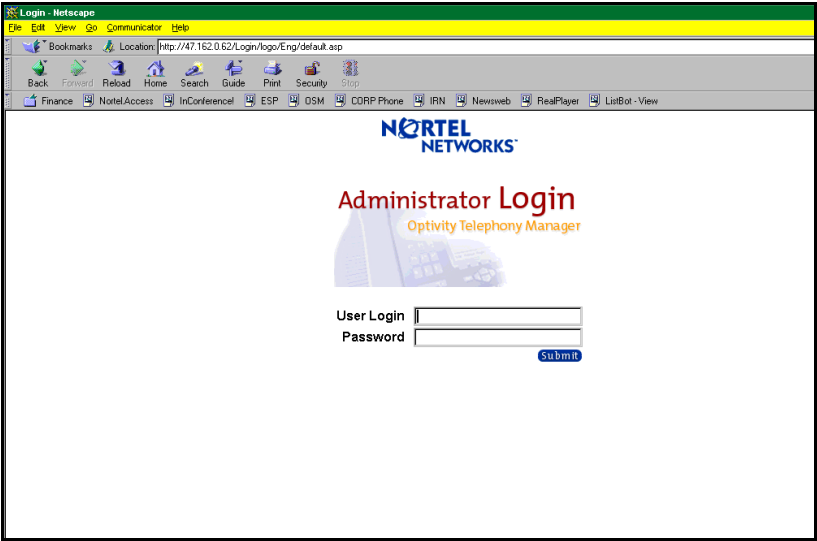
Complete the following steps.

**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 <b>http://&lt;otm_server_name&gt;/admin</b> or use the <b>ip_ address</b> .
	

## Web Administrator Login

Figure 242  
OTM web Administrator Login



Complete the following steps.

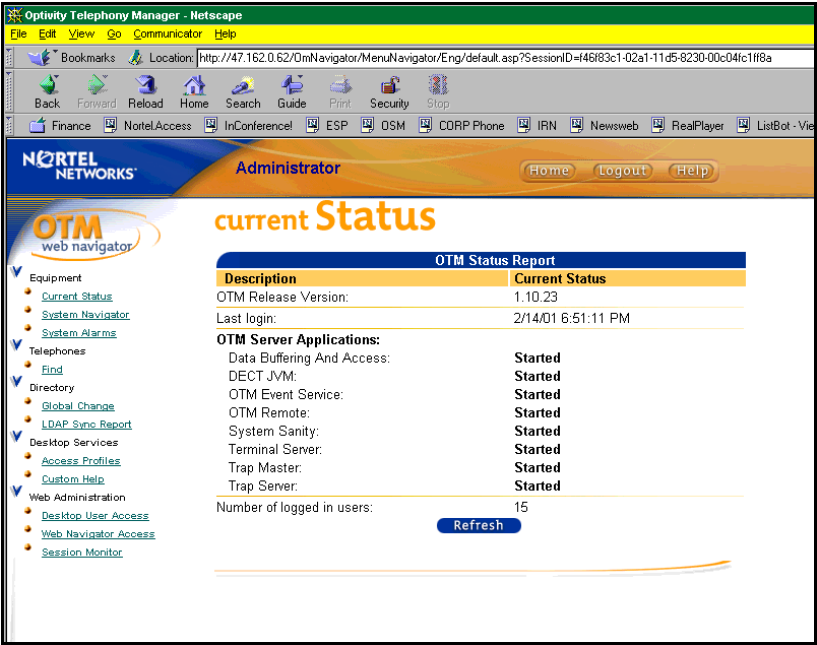
Table 146  
Opening the OTM web Administrator Login

Step	Action
1	Select the Administrator Login.
	Click on the applet launch logo.
2	Login.
	Enter <b>User Login</b> , <b>Password</b> , and click <b>Submit</b> .



Opening the Web current Status

**Figure 243**  
OTM web navigator current Status



Complete the following step.

**Table 147**  
Opening the current Status

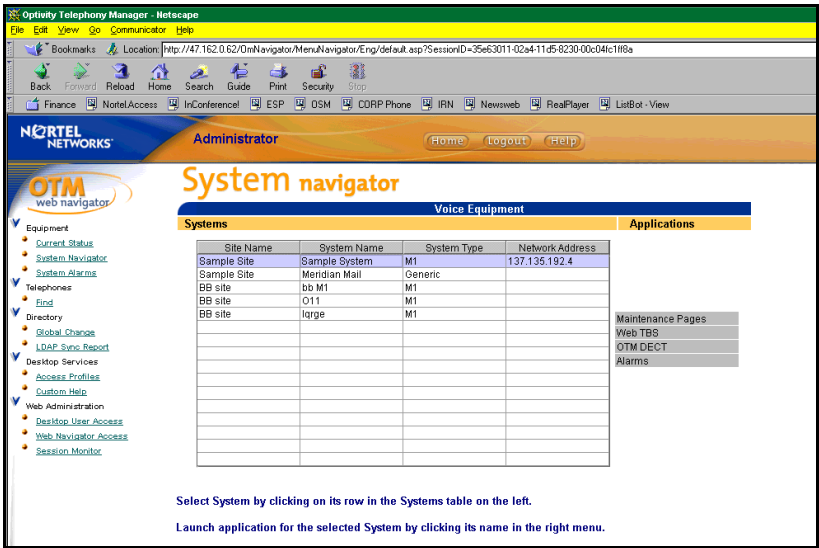
Step	Action
1	Open System Navigator screen.
	Click on <b>System Navigator</b> in the <b>Equipment</b> list on the left.

END

## 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**



Complete the following steps.

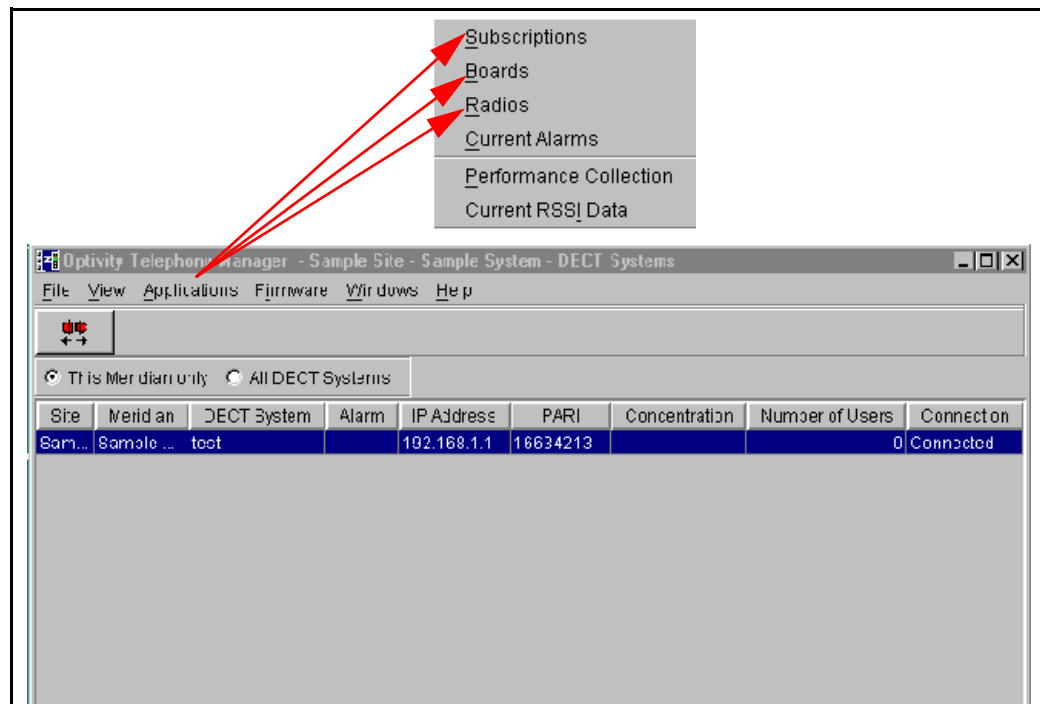
**Table 148**  
**Opening the web System navigator**

Step	Action
1	Select a DECT system. Highlight a system in the <b>Systems</b> list.
2	Open the DECT systems window. Click on <b>OTM DECT</b> in the grey box on the left.
	

## 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"> <li>• Subscriptions window</li> <li>• Boards (DMC) window</li> <li>• Radios (base station) window</li> </ul>
	Click on the appropriate entry in the <b>Applications</b> 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	<p>Perform one of the following actions from the DECT Systems window:</p> <ol style="list-style-type: none"><li>1 connect to a DECT system</li><li>2 disconnect from a DECT system</li><li>3 lock a connection to a DECT system</li><li>4 unlock a connection from a DECT system</li></ol>
	<p>From the <b>Applications</b> pull-down menu click on the following items, or click on the following icon:</p> <ol style="list-style-type: none"><li>1 <b>Connect</b> or  (green)</li><li>2 <b>Disconnect</b> or  (yellow)</li><li>3 <b>Lock</b> or  (red)</li><li>4 <b>Unlock</b> or  (yellow)</li></ol>

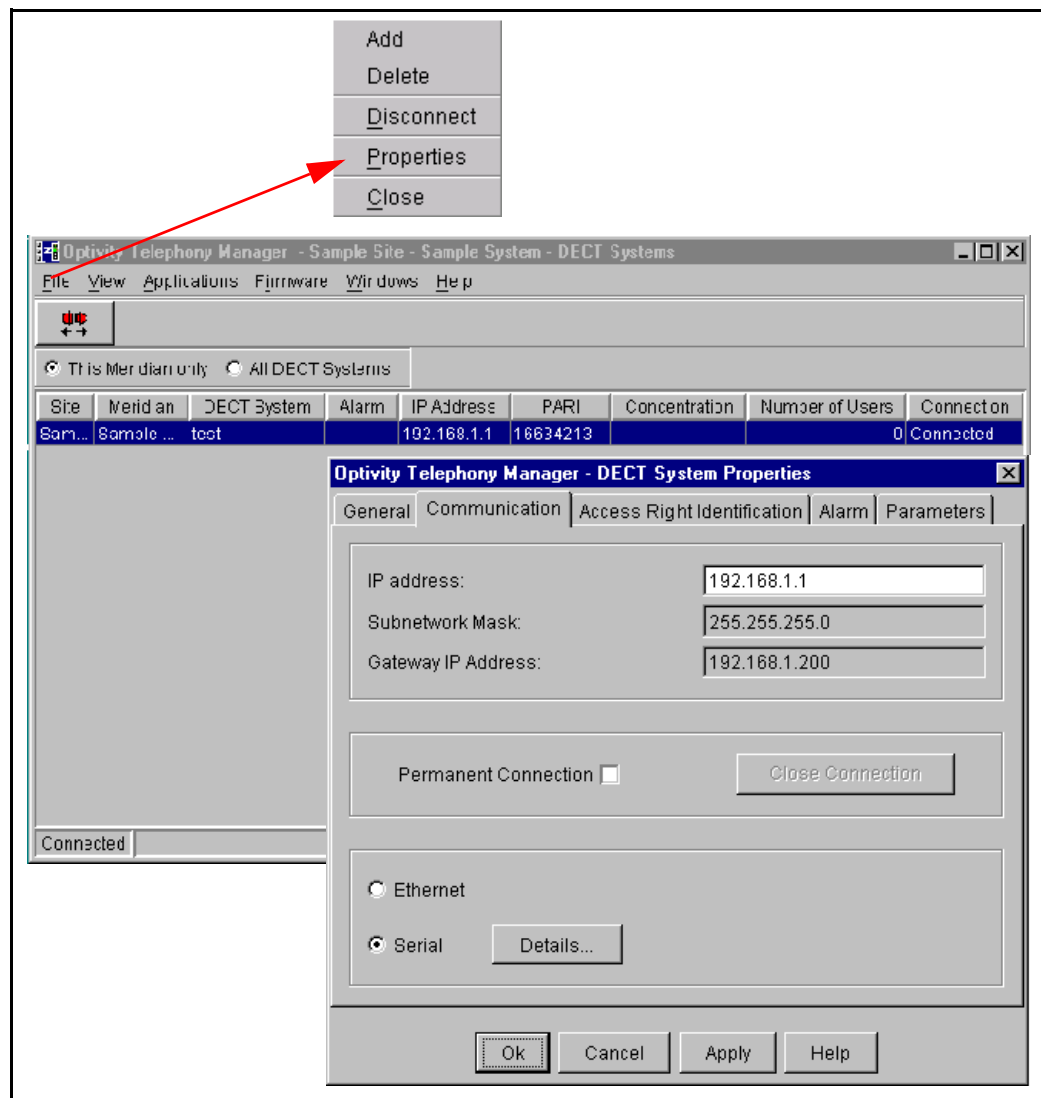


*Note:* While the Connection status is **Connecting** or **Disconnecting**, the Connect/Disconnect tool is disabled. The status bar shows the connection progress.

## 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 <b>Applications</b> pull-down menu, click on <b>Connect</b> or click on the  (green) icon.
3	Open the Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> .
4	Select Permanent Connection.
	Check the <b>Permanent Connection</b> box.
5	Accept the changes.
	Click on the <b>OK</b> 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

**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**

Complete the following steps.

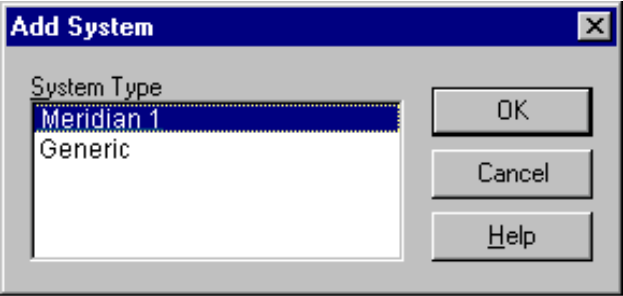
**Table 152**  
**Adding new site properties**

Step	Action
1	Open the New Site Properties window.
	In the OTM Windows Navigator, choose <b>Add Site</b> from the <b>Configuration</b> menu.
2	The <b>Site Name</b> appears in the Navigator tree. The Short Name is an abbreviated site name that displays in the Alarm Banner.
	Enter the <b>Site Name</b> and <b>Short Name</b> . <b>Note:</b> Bold fields in the dialog sheets indicate required information.
3	In the <b>Site Location</b> box.
	Enter the <b>Site Location</b> information.
4	In the <b>Contact Information</b> box.
	Enter the contact name and related information, and click <b>Apply</b> .
5	To add a new system to this site.
	Click <b>Add System</b> .
6	When the Site information is entered, click one of the following buttons to add the site to the Navigator tree.
	<b>OK</b> adds the site and closes the property sheet. <b>Apply</b> 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). <b>Cancel</b> closes the dialog box without adding the site.
	

# 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 <b>Add System</b> from the <b>Configuration</b> 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 <b>OK</b> .
<div>END</div>	



## Adding properties – General tab

**Figure 249**  
**New System Properties – General tab**

The screenshot shows a Windows-style dialog box titled "New System Properties". It has five tabs: "General", "Communications", "System Data", "Applications", and "Customers". The "General" tab is selected. The dialog contains the following fields and controls:

- System Name**: A text input field.
- Short Name**: A text input field.
- System Type**: A dropdown menu with "Meridian 1" selected.
- System Location**: A section containing:
  - Address**: A text input field with a checkbox labeled "Same as Site" to its right.
  - City**: A text input field.
  - State/Province**: A text input field.
  - Country**: A text input field.
  - Zip/Postal Code**: A text input field.
- Contact Information**: A section containing:
  - Name**: A text input field with a checkbox labeled "Same as Site" to its right.
  - Phone Number**: A text input field.
  - Job Title**: A text input field.
  - Comments**: A large text area.

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

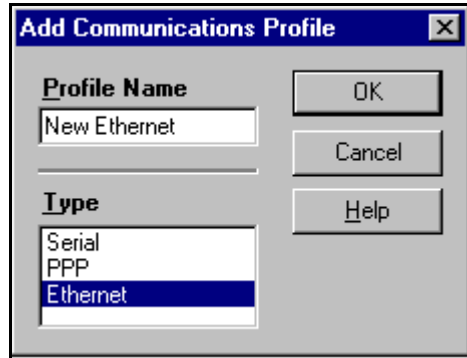
Complete the following steps.

Table 154  
 Adding the properties – General

Step	Action
1	Select the <b>General</b> tab.
	Click the <b>System Properties – General</b> tab.
2	Program the <b>System Name</b> and <b>Short Name</b> (required fields), and other information as needed.
	Enter the <b>System Name</b> and <b>Short Name</b> .
3	<b>System Location</b> and <b>Contact Information</b> can be the same as site information.
	Click the <b>Same as Site</b> checkbox.
4	Accept changes.
	Click the <b>OK</b> button.
<div>END</div>	

## 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 <b>Sample Site</b> .
2	Choose the Properties dialog.
	Click on <b>Properties</b> from the <b>File</b> menu.
3	Open the <b>Add Communications Profile</b> dialog.
	Click on the <b>Communications</b> tab and click <b>Add</b> .
4	Select a communications type.

**Table 155**  
**Adding a new Communications Profile (Part 2 of 2)**

Step	Action
	Highlight <b>Ethernet</b> in the <b>Type</b> box.  <b>Note:</b> 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 <b>Profile Name</b> .
6	Accept the changes.
	Click <b>OK</b> .
<div>END</div>	

## Adding the System Data Properties

**Figure 251**  
**System Properties – System Data tab**

The screenshot shows a dialog box titled "Sample Site - Sample System - System Properties" with a close button (X) in the top right corner. The dialog has five tabs: "General", "Communications", "System Data" (selected), "Applications", and "Customers".

The "System Data" tab contains three sections:


- Machine Information:** Includes a "Machine" dropdown menu showing "61C 060E", a "Release" dropdown menu showing "25", an "Issue" text box with "25", a "System ID" text box, and a "Cutover Date" dropdown menu showing "2/11/2000".
- System Parameters:** Includes a "Maximum Speed Call Lists" text box with "100", a "Maximum ACD Agents" text box with "0", a checked checkbox for "MARF allowed", and a checked checkbox for "Multiple Loop DN".
- Packages:** A table with columns "Enabl...", "↑O...", "Code", and "Description". The table lists seven packages, all with checkmarks in the "Enabl..." column. To the right of the table are "Enable All" and "Disable All" buttons.

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

Enabl...	↑O...	Code	Description
✓		1	OPTF Extended PBX Features
✓		2	CUST Multi-Customer
✓		3	AIOD Auto. Inden. of Out. Dial
✓		4	CDR Call Detail Recording
✓		5	CTY CDR - TTY
✓		6	CLNK CDR - Mag. Tape
✓		7	RAN Recorded Announcements

Complete the following steps.

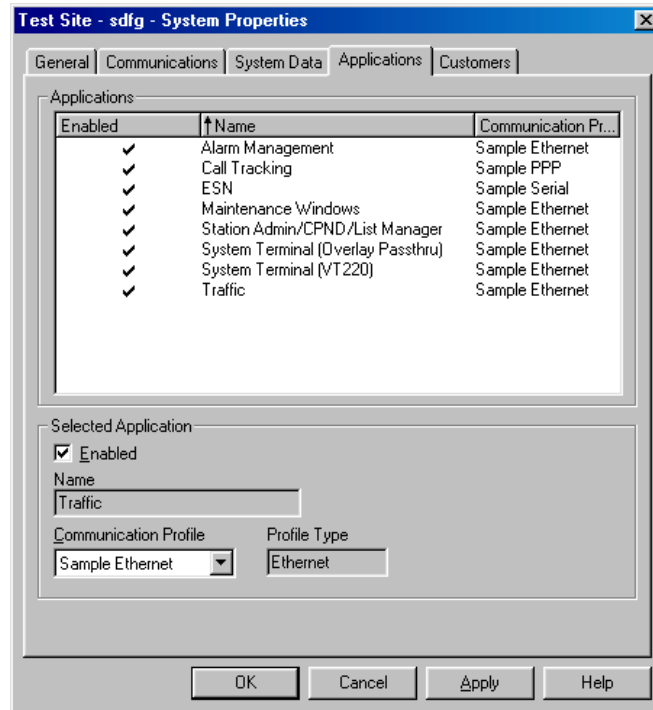
**Table 156**  
**Adding the System Data Properties**

Step	Action
1	Select the System Data tab.
	Click the <b>System Properties – System Data</b> tab.
2	Program the Machine Information.
	Enter the <b>Machine</b> type and <b>Release</b> version for the system.  <b>Note:</b> For example, for a Meridian 1 Option 61C CP PII running Release 25 software, enter <b>61C</b> in the Machine field and use the drop down box to select <b>25</b> 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	<b>Note:</b> This data can be copied directly from an installed switch by scheduling an upload with the <b>File</b> menu <b>Update System Data</b> command in the System window. <b>Update System Data</b> 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.
<div style="text-align: center;">  </div>	

## 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 <b>Applications</b> tab.
	Click the <b>System Properties – Applications Data</b> tab.
2	To enable an application.
	<ul style="list-style-type: none"> <li>• Select the application in the <b>Applications</b> box.</li> <li>• Select a <b>Communications Profile</b> from the drop-down list in the <b>Selected Application</b> box.</li> <li>• A checkmark appears next to the application and the <b>Enabled</b> box is also checked.</li> </ul>
3	To disable an application.
	<ul style="list-style-type: none"> <li>• Select the application in the <b>Applications</b> box.</li> <li>• In the <b>Selected Application</b> box, click the <b>Enabled</b> checkbox to remove the checkmark.</li> </ul>
	



## Adding the Customer Properties

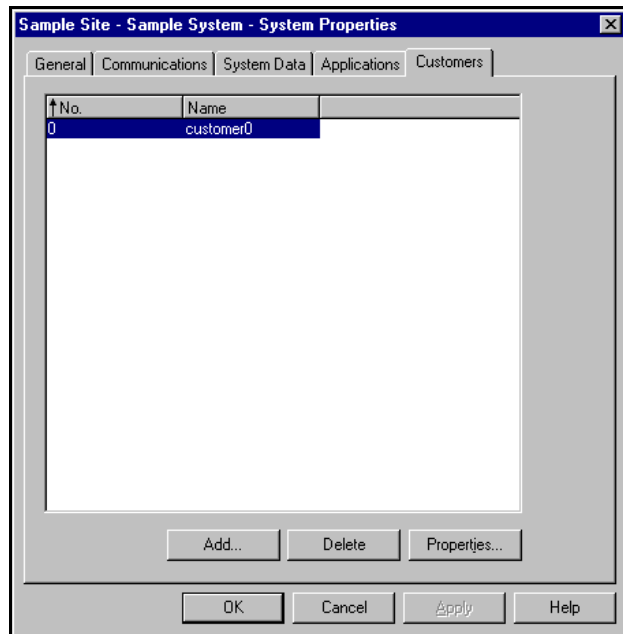
This tab lists the customers currently defined for this system. The following action can be performed:

- 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 <b>System Properties – Customers Data</b> tab.
2	Select a customer number.
	Click <b>OK</b> .
3	Update the PBX.
	Use LD 15 Customer Data Block.
<div>END</div>	

## Adding the Customer0 General Properties

**Figure 254**  
**Customer0 Properties – General**


The screenshot shows a Windows-style dialog box titled "Customer0 - [Customer 0] Properties". It has three tabs: "General", "Features", and "Numbering Plans", with "General" selected. The dialog contains several input fields:

- Customer Name:** A text box containing "Customer0".
- Number:** A text box containing "0".
- Directory Numbers:** A group box containing three empty text boxes stacked vertically.
- 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 "XXXXXXXX".

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

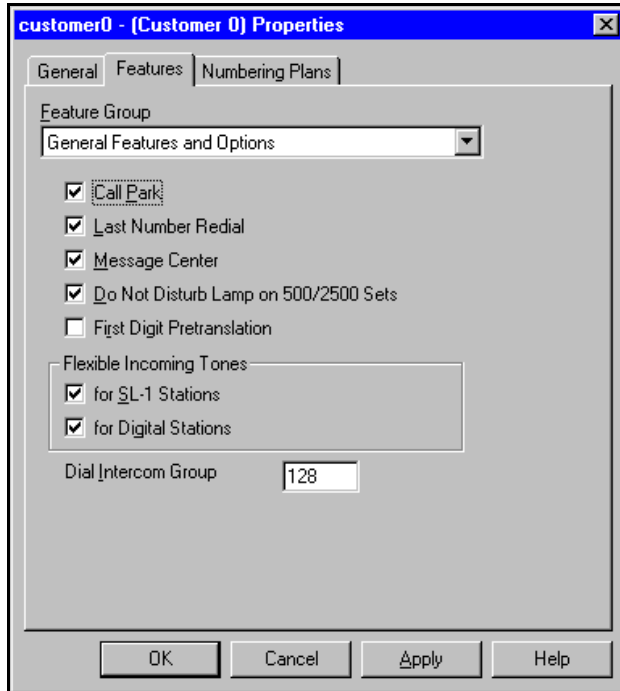
Complete the following steps.

**Table 159**  
**Adding the Customer0 General Properties**

Step	Action
1	Select the General tab.
	Click the <b>General</b> tab.
2	Program the Customer Name and Number.
	Enter the <b>Customer Name</b> and <b>Number</b> .
3	Program the Home Location Code.
	Enter the HOLC as defined in LD 90.
4	Program the <b>Scheduler System ID</b> , if using applications with scheduled activities, such as Station Administration/CPND, ESN, and Traffic.
5	Accept changes.
	Click <b>Apply</b> .
	

## 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 <b>Features</b> tab.
	Click the <b>Features</b> tab.
2	Program Features Group.
3	Accept changes.
	Click <b>Apply</b> .
<div>END</div>	

## Adding the Customer0 Numbering Plans Properties

**Figure 256**  
**Customer Properties – Numbering Plans**

**customer0 - [Customer 0] Properties**

General Features **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

**Range: from** 4000 **to** 4010


☒ Direct Inward Dial

**Exchange** 555

**Usage**

Complete the following steps.

**Table 161**  
**Adding the Customer0 Numbering Plans Properties**

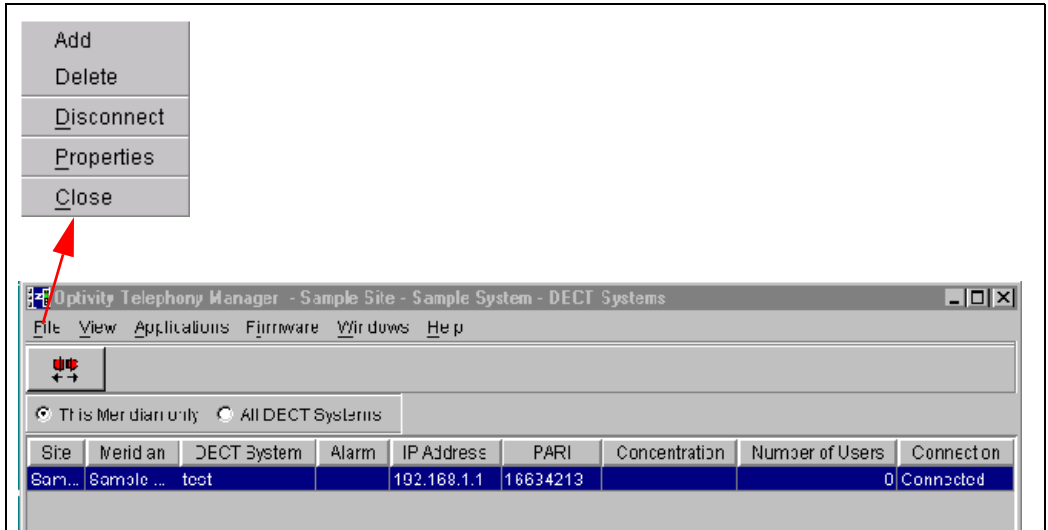
Step	Action
1	Select the <b>Numbering Plans</b> tab.
	Click the <b>Numbering Plans</b> tab.
2	<b>Program the customer information appropriate for the PBX.</b>
3	<b>Accept changes.</b>
	<p>Click one of the following buttons to save the information:</p> <ul style="list-style-type: none"> <li>• <b>OK</b> adds the customer and returns to the System properties sheet.</li> <li>• <b>Apply</b> adds the customer and leaves the Customer properties open so that other information can be added for this customer.</li> <li>• <b>Cancel</b> closes the dialog box without adding the customer.</li> </ul>
	

***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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .

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 <b>File</b> pull-down menu, click on <b>Delete</b> .
	

## Configuring non-concentrated handsets

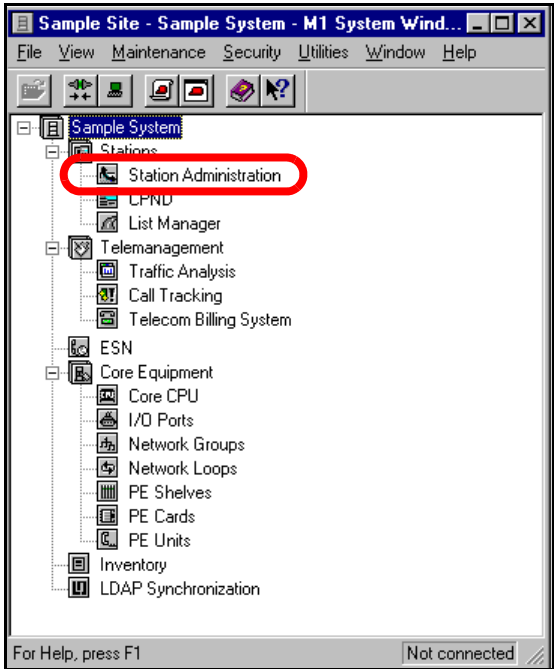
For information about System Administration, see *Option 11C Customer Controlled Backup and Restore (CCBR)* (553-3011-330).

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.

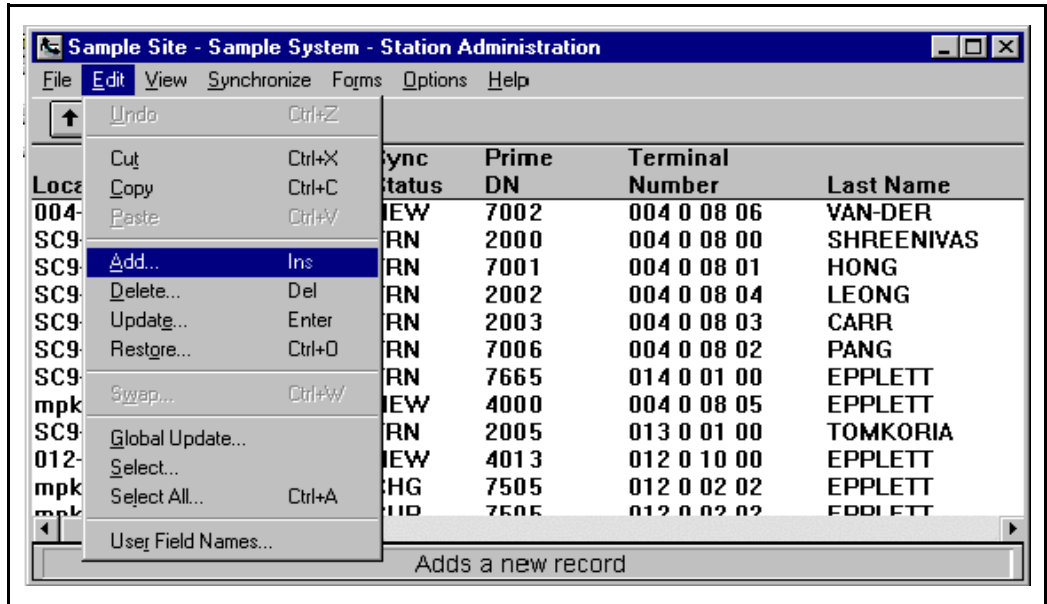
**Table 163**  
**Opening the Station Administration window**

Step	Action
1	Open the Station Administration window.
	Click on <b>Station Administration</b> 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 <b>Edit</b> pull-down menu, click on <b>Add</b> .



Adding 500 analog standard

Figure 260  
 Add Station window

Number of Stations to Add

1

Customer Number

0

Template	Instrument
2616Templ	2500 Digitone Standard
3904Templ	<b>500 Analog Standard</b>
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

OK

Cancel

Help

Complete the following step.

Table 165  
 Adding 500 analog standard

Step	Action
1	Add 500 analog standard.
	Highlight <b>500 Analog Standard</b> , and click on the <b>OK</b> button.

END

Accessing features

Figure 261  
500 dialog

Complete the following step.

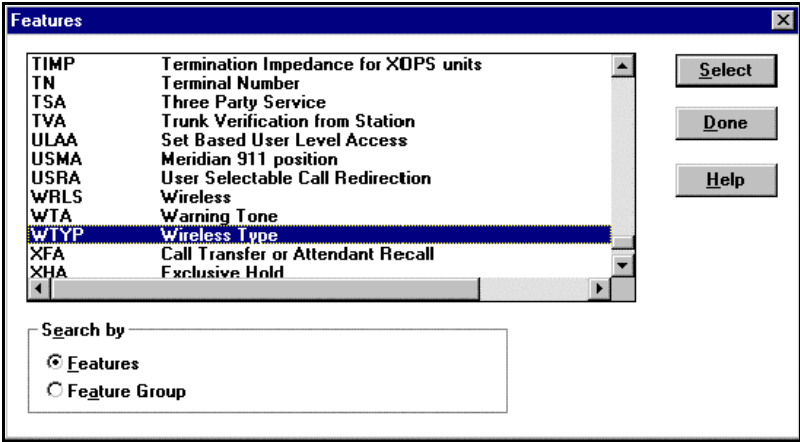
Table 166  
Accessing features

Step	Action
1	Access features. Click on the <b>Features</b> button.



Accessing wireless type

Figure 262  
 Features window



Complete the following step.

Table 167  
 Accessing wireless type

Step	Action
1	Access wireless type.
	Highlight <b>Wireless Type</b> , and click on the <b>Select</b> button.
<div>END</div>	




## Selecting wireless type

Figure 263  
Wireless window

The screenshot shows a window titled "Wireless" with a blue title bar. Inside, there are three pull-down menus: "Call Party Name Display (CNDA)" with "Denied" selected, "Wireless (WRLS)" with "Yes" selected, and "Wireless Type (WTYP)" with "Yes" selected. At the bottom of the window are three buttons: "OK", "Cancel", and "Help".

Complete the following step.

Table 168  
Selecting wireless type

Step	Action
1	Select wireless type.
	From the <b>Wireless Type (WTYP)</b> pull-down menu, click on <b>YES</b> .
	

Selecting DECT wireless set

Figure 264  
 Wireless window

Wireless

Call Party Name Display (CNDA)

Denied

Wireless (WRLS)

Yes

Wireless Type (WTYP)

DECT Wireless Set

DECT Wireless Set

Meridian Companion Mobility Opt

OK

Cancel

Help

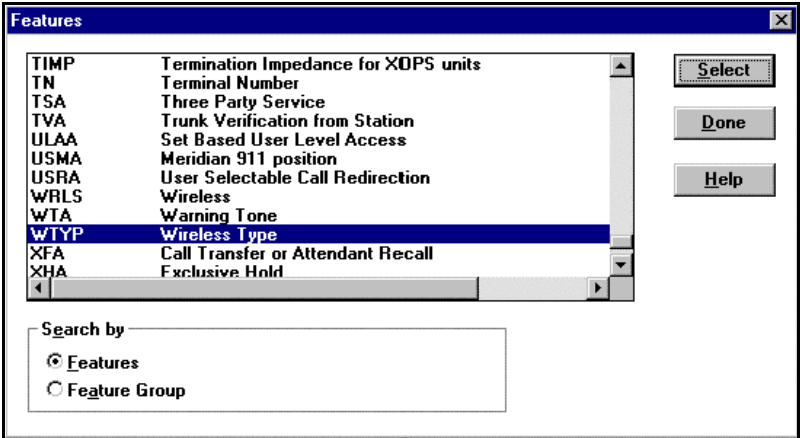
Complete the following step.

Table 169  
 Selecting DECT wireless set

Step	Action
1	Select DECT handset.
	From the <b>Wireless Type (WTYP)</b> pull-down menu, click on <b>DECT Wireless Set</b> , and click on the <b>OK</b> button.
<div>END</div>	

## Accepting changes

Figure 265  
Features window



Complete the following step.

Table 170  
Accepting changes

Step	Action
1	Accept changes.
	Click on the <b>Done</b> button.



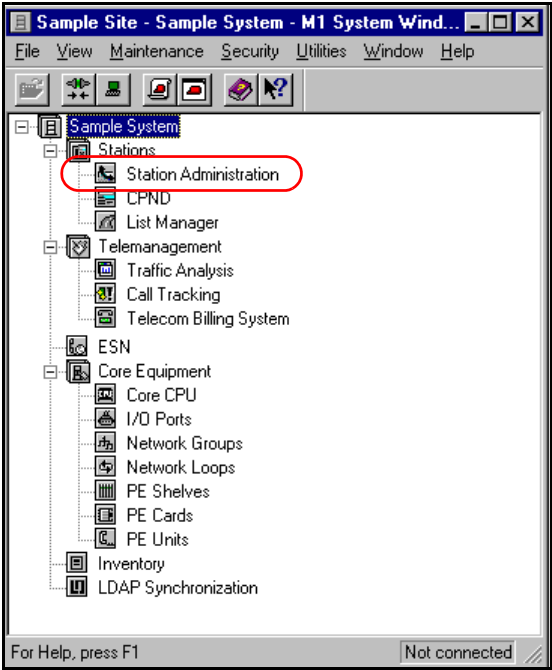
## Configuring concentrated handsets on a PBX

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.

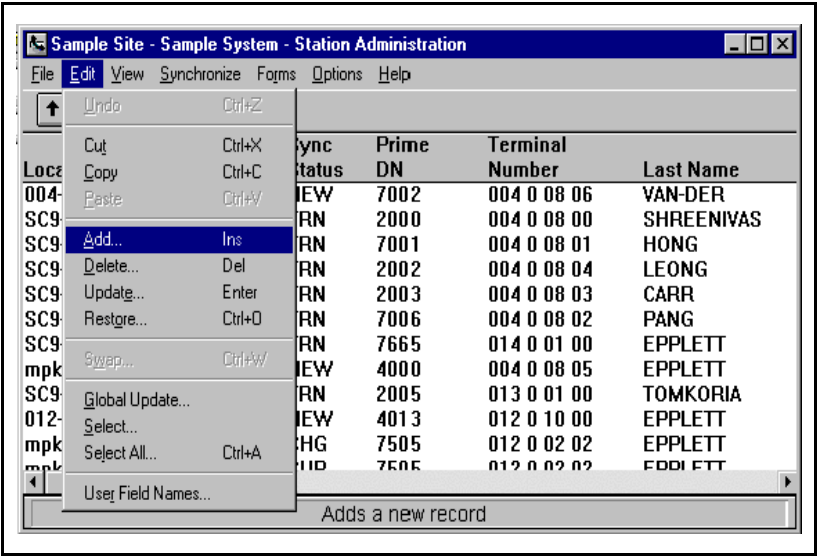
Table 171  
Opening the Station Administration window

Step	Action
1	Open the Station Administration window.
	Click on <b>Station Administration</b> 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 <b>Edit</b> pull-down menu, click on <b>Add</b> .

END

## Selecting Digital Cordless Set

Figure 268  
Add Station dialog

Add Station

Number of Stations to Add

1

Customer Number

0

Template

2616Templ  
3904Templ  
500Templ

Instrument

2500 Digitone Standard

500 Analog Standard

**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

OK

Cancel

Help

Complete the following step.

Table 173  
Selecting Digital Cordless Set

Step	Action
1	Select Digital Cordless Set.
	Highlight <b>DCS</b> , and click on the <b>OK</b> button.

END

Selecting features

Figure 269  
 DCS window

First Name

Directory

Last Name

Clear

Single Line Features

CFW

Forward

SCU

SpdCall User

SCC

SpdCall Cntl

SSU

Sys Speed

PHD

PermanentHld

Set

Clear

Speed Call List No.

Customer

0

OK

Location

Cancel

Department

Features

Virtual Terminal Number

Admin..

Directory Number

Validate

CLID Entry

Help

Hunt to

Complete the following step.

Table 174  
 Selecting features

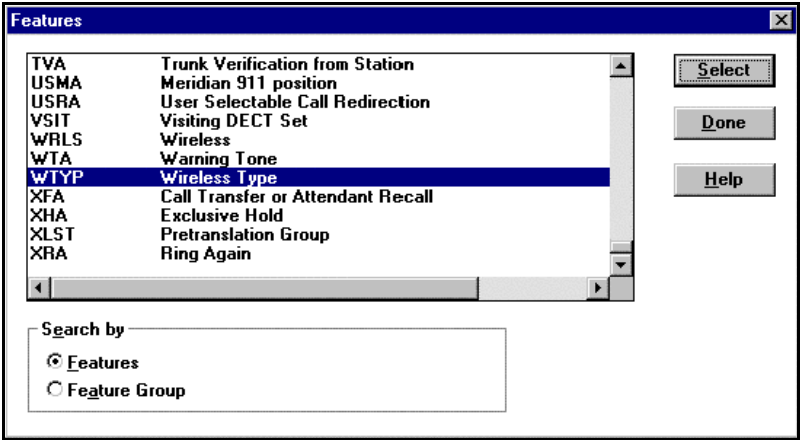
Step	Action
1	Select features. Click on the <b>Features</b> button.

END



## Selecting wireless type

Figure 270  
Features window



Complete the following step.

Table 175  
Selecting wireless type

Step	Action
1	Select wireless type. Highlight <b>WTYP</b> , and click the <b>Select</b> button.

END

Selecting Visit DECT Set or local calling

Figure 271  
 Wireless Visiting DECT Set

Wireless

Visiting DECT Set (VSIT)

No

Home Directory Number (HMDN)

Call Party Name Display (CNDA)

Denied

Wireless (WRLS)

Yes

Wireless Type (WTYP)

DECT Wireless Set

OK

Cancel

Help

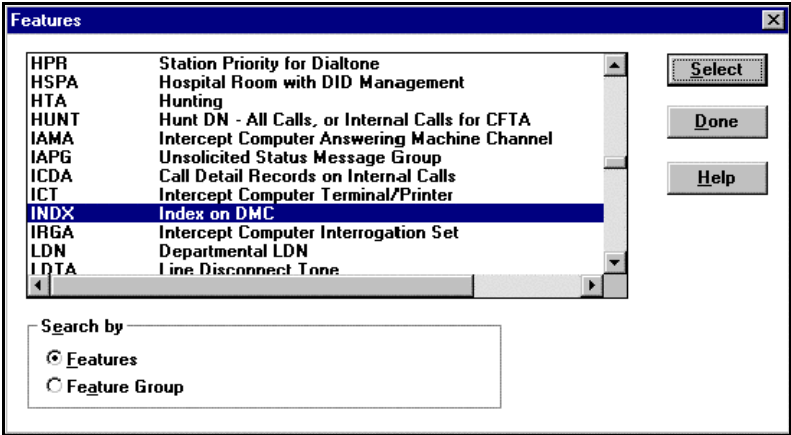
Complete the following steps.

Table 176  
 Selecting Visit or local

Step	Action
1	Select <b>Visit DECT Set</b> as <b>Yes</b> if this handset is visiting this PBX. Select <b>No</b> 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 <b>Visiting DECT Set (VSIT)</b> list, select <b>Yes</b> .
3	Select a Home DN.
	Enter a DN in the <b>Home Directory Number (HMDN)</b> box.
4	Configure for local calling only.
	From the <b>Visiting DECT Set (VSIT)</b> list, select <b>No</b> .
5	Accept changes.
	Click on the <b>OK</b> button.
<div>END</div>	

# Selecting an index

Figure 272  
Features window



Complete the following step.

Table 177  
Selecting an index

Step	Action
1	Select an index.
	Highlight <b>INDX</b> , and click on the <b>Select</b> button.



## Provisioning the hardware

**Figure 273**  
**Hardware Provisioning window**

Hardware Provisioning

DECT Mobility Controller (DMC)

Index on DMC (INDX)

Terminal Number (TN)

Card Density (CDEN)

Octal Density

Maximum Wireless Units (MWUN)

16

OK

Cancel

Help

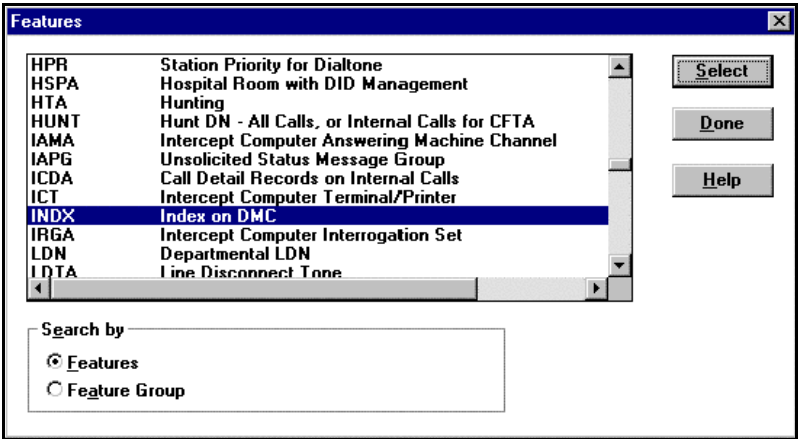
Complete the following steps.

**Table 178**  
**Provisioning hardware**

Step	Action
1	Select a DMC TN.
	Enter a TN in the <b>DECT Mobility Controller (DMC)</b> box.
2	Select an index.
	Enter an index in the <b>Index on DMC (INDX)</b> box. (Index range is 0 to 509.)
	<b>Note:</b> The Terminal Number (TN) is a virtual TN and selected by the PBX system.
	<b>Note:</b> Index 0-509 on PBX is seen as Index 1-510 in OTM.
3	Accept changes.
	Click on the <b>OK</b> button.
<div>END</div>	

## Accepting changes

Figure 274  
Features window



Complete the following step.

Table 179  
Accepting changes

Step	Action
1	Accept changes.
	Click on the <b>Done</b> button.



Single line features

Figure 275  
 500 window

500

First Name

Directory

Last Name

Clear

Single Line Features

CFW Forward

SCU SpdCall User

SCC SpdCall Cntl

SSU Sys Speed

PHD PermanentHld

Set

Clear

Redirection DN Length

Customer

0

Location

Department

Terminal Number

Directory Number

CLID Entry

Hunt to

OK

Cancel

Features

Admin..

Validate

Help

Complete the following step.

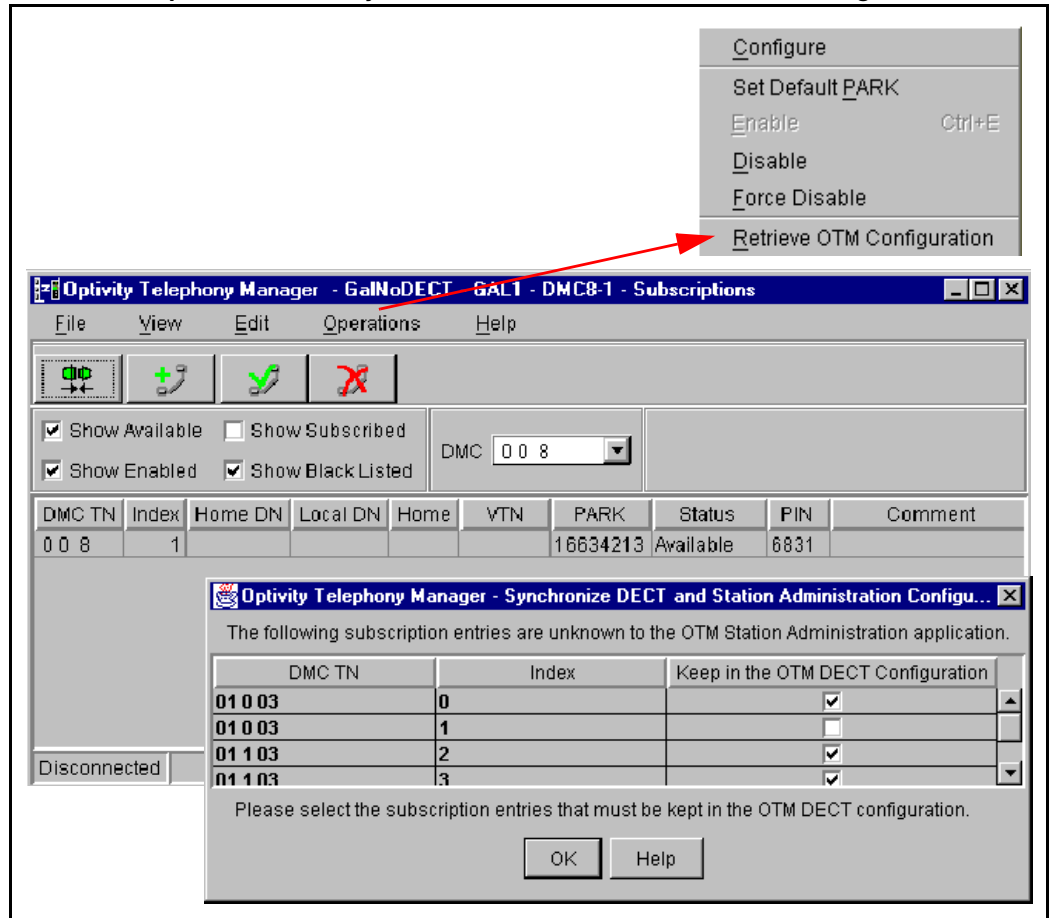
Table 180  
 Single Line Features

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).
<div>END</div>	

## Retrieving subscription data for handsets



Figure 276

DECT Subscriptions window, Synchronize DECT and Administration Config window



Complete the following steps.

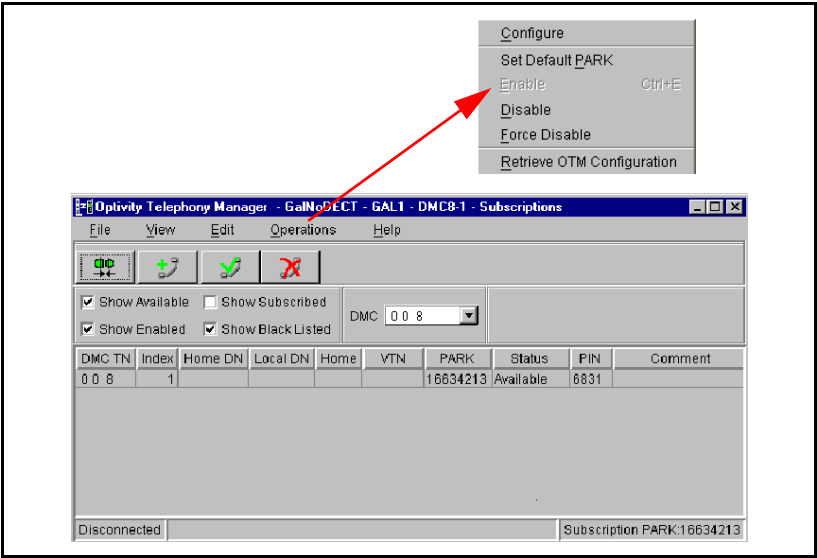
**Table 181**  
**Retrieving subscription data for handsets**

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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Retrieve the subscription configuration data from the OTM Station Administration database.
	In the Subscriptions window, click on the <b>Operations</b> pull-down menu, click on <b>Retrieve OTM Configuration</b> .
5	<b>Note:</b> At this point, all handsets configured on OTM Station Administration are shown in the Subscriptions window. Open the Configure DECT Subscription dialog.
	Click the <b>File</b> pull-down menu. Click <b>Add</b> or  .
	




# Enabling subscriptions

Figure 277  
Subscriptions window



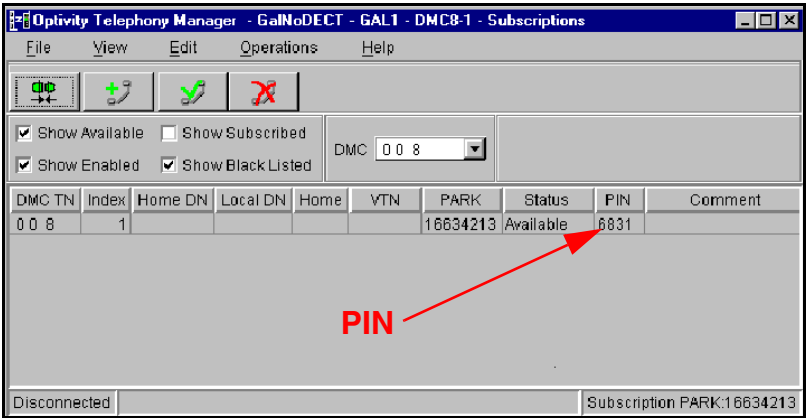
Complete the following steps for each handset:

Table 182  
 Enabling handsets

Step	Action
1	<b>Note:</b> 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 <b>Operations</b> pull-down menu. Click <b>Enable</b> or click on  .
<div>END</div>	


# Activating the PIN on the handsets

Figure 278  
Subscriptions window



Complete the following step:

Table 183  
Obtaining the PIN

Step	Action
1	<b>Note:</b> At this point, in the Subscriptions window, the PINs are shown and the Status is Enabled. Subscribe the C4010, C4010Ex, C4040, and C4050 handsets.
	See “Subscribing the C4010, C4010 Ex, C4020 handsets” on <a href="#">page 472</a> ,and “Subscribing the C4050 handset” on <a href="#">page 480</a> .
	

**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.

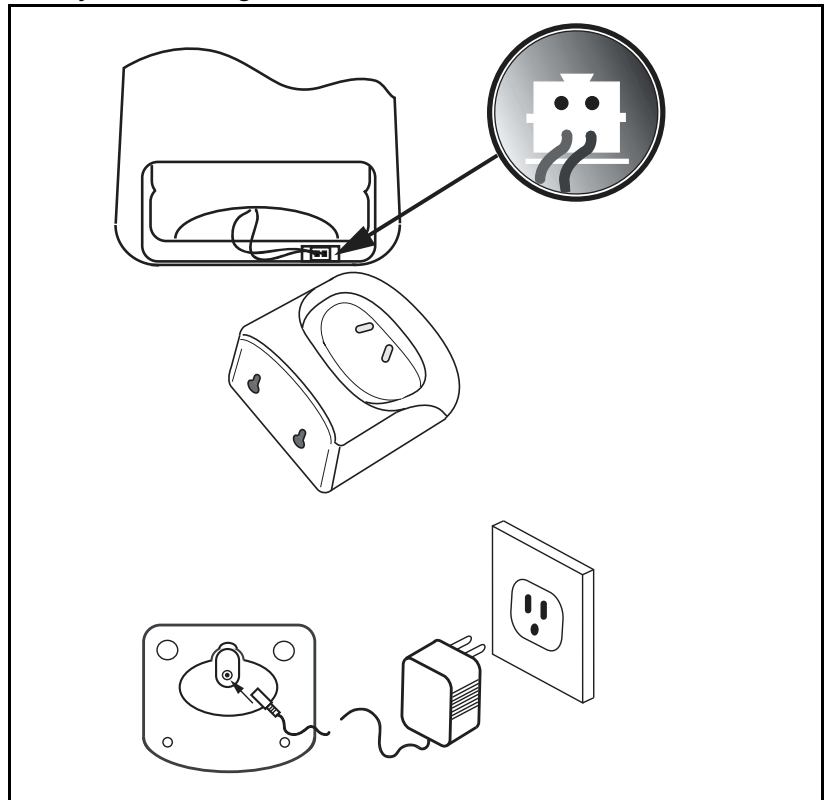


### **DANGER — Serious Injury**

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. <b>Note:</b> 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. <b>Note:</b> 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.
	<b>Note:</b> 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 <b>Declare base</b> .
	Press the <b>Declare base</b> key.
3	<b>Declare base number? 12345678.</b>
	Press the <b>Ok</b> key.
4	<b>Enter code</b> refers to the PIN code. <b>Note:</b> 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 <b>Erase</b> , or select the digit and enter a new digit.  Press the <b>Ok</b> key.
	



**Table 186**  
**Entering handset name and DN identity**

Step	Action
1	Select <b>Menu</b> .
	Press the <b>Menu</b> key.
2	Select <b>Handset name</b> .
	Dial 86.
3	Enter the <b>Handset name</b> 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 <b>3</b> key twice. To move to the next character, pause three seconds. To delete a character, press <b>Erase</b> , or select the digit and enter a new digit.  <b>Note:</b> Handset DNs are programed in LD 10, not in the DECT database.
4	Confirm the name and DN.
	Press <b>Ok</b> .
	

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](#)

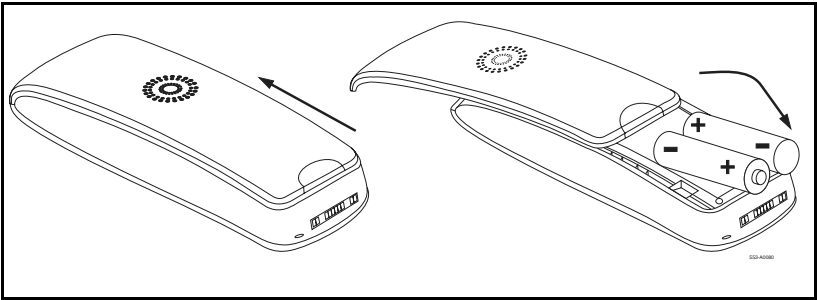
**Figure 281**  
**C4050 handset**



## 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. <b>Note:</b> 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.
	<b>Note:</b> The LED ring on the handset is green when the batteries are charging.
<div>END</div>	



**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 <b>Menu</b> .
2	Select System.
	Scroll to <b>System</b> . Press <b>OK</b> .
3	Select Subscription.
	Press <b>OK</b> .
4	Select Options.
	Scroll to <b>New</b> . Press <b>OK</b> .
5	Enter PARK if two DECT systems overlap.
	Press <b>OK</b> .
6	Enter the PIN code. <b>Note:</b> 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](#)

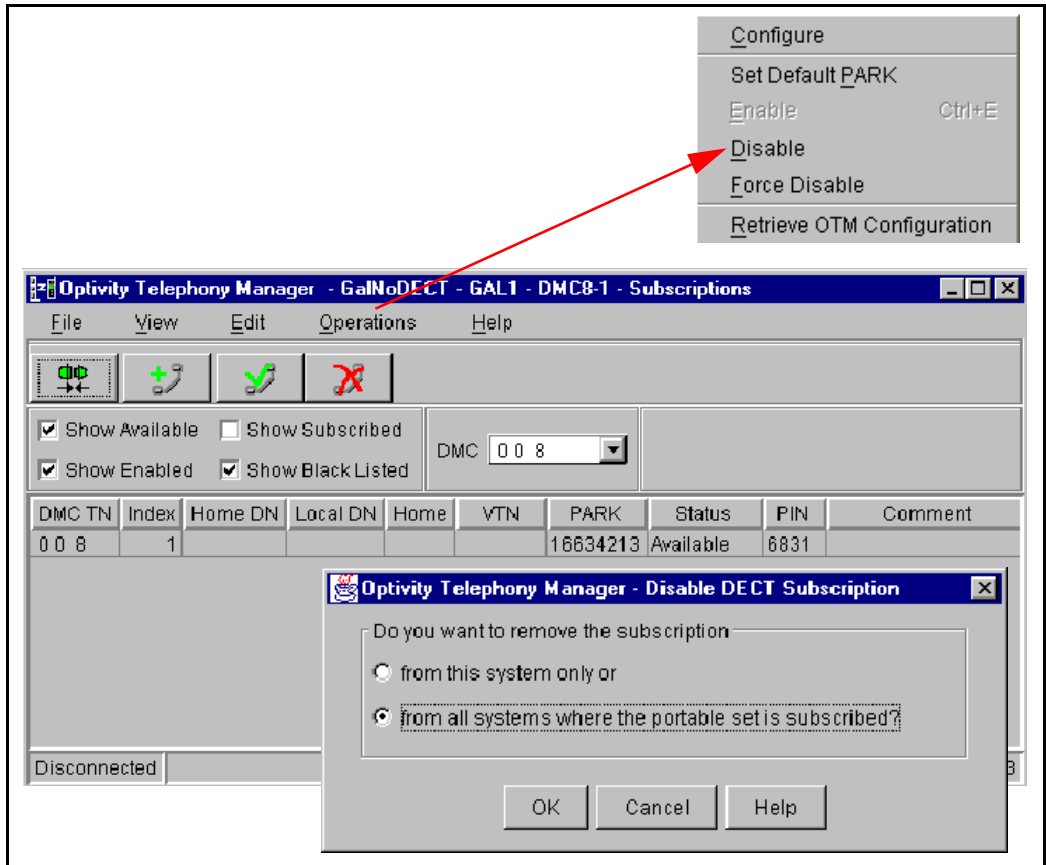


- 6 “Exporting a handset subscription” on [page 497](#)
- 7 “Force disabling a handset subscription” on [page 499](#)

## 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.

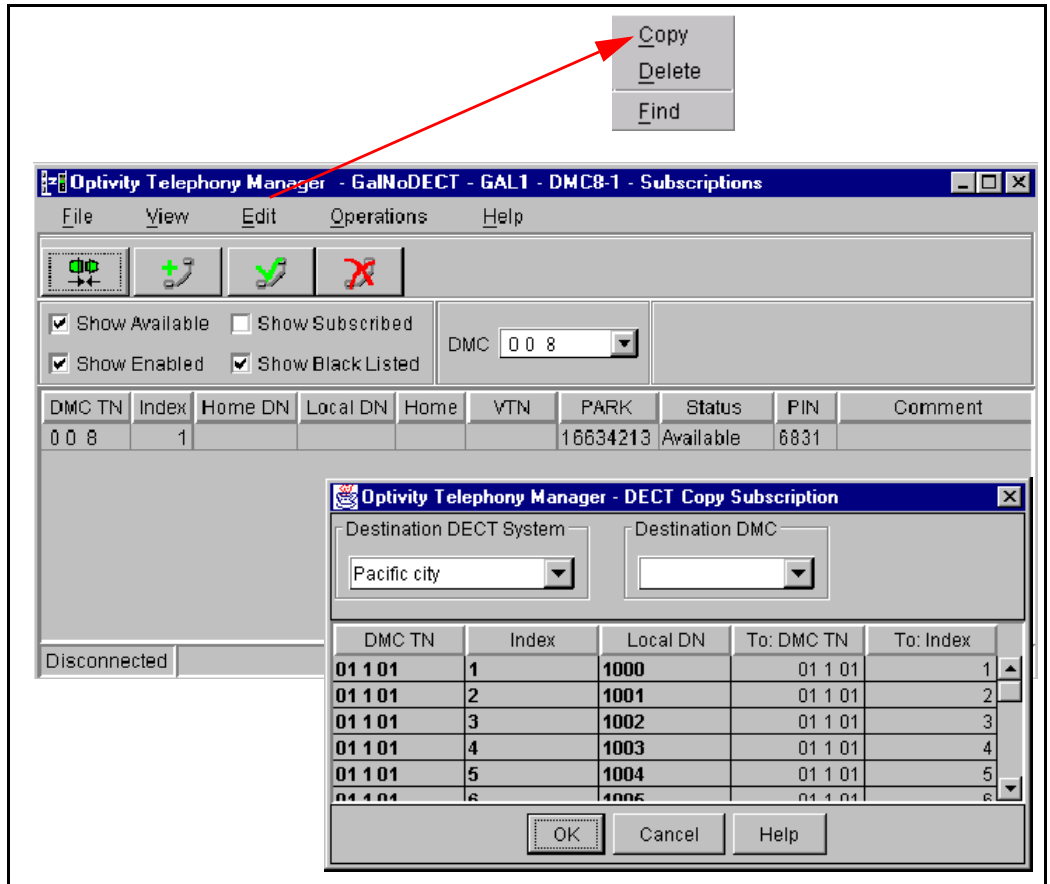
**Table 192**  
**Disabling handset subscription**

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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Select a handset subscription(s) for disabling. <b>Note:</b> A single handset, a list of handsets, or all handsets on a DMC can be selected.
	Highlight a <b>DMC TN</b> and an <b>Index</b> , or several <b>indexes</b> in the list.
5	Disable the handset subscription(s).
	From the <b>Operations</b> pull-down menu, click <b>Disable</b> .
6	Disable from this system only.
	Click <b>OK</b> .
7	Disable from all systems where the portable set is subscribed.
	Click <b>OK</b> .
	

## 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
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 <a href="#">page 420</a> .
5	Open the DECT Copy Subscription dialog.
	From the <b>Edit</b> pull-down menu, click on <b>Copy</b> .
6	Select a DECT system where the copied subscription will be put.
	Pull-down the <b>Destination DECT System</b> list and highlight a system name.
7	Select DMC on the DECT system where the copied subscription will be put.
	Pull-down the <b>Destination DMC</b> list and highlight a DMC.
8	Select a handset subscription(s) to copy.
	<b>Note:</b> Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a <b>DMC TN</b> and an <b>Index</b> (or more than one <b>index</b> ) in the list.

Table 193

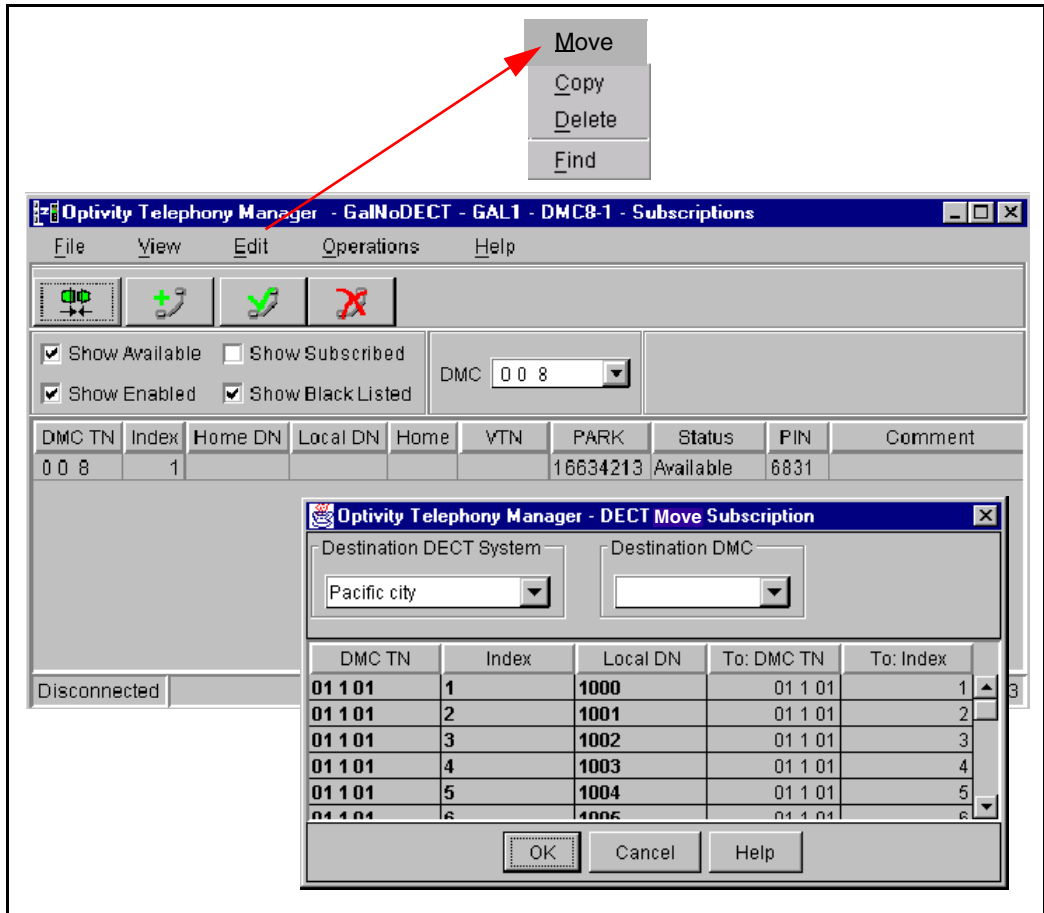
## Copying a handset subscription (Part 2 of 2)

Step	Action
9	Select a DMC or Index for the subscription(s).
	Highlight a <b>To: DMC TN</b> or a <b>To: Index</b> (or more than one <b>index</b> ) in the list.
10	Accept the changes.
	Click on the <b>OK</b> 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the DECT Move Subscription dialog.
	From the <b>Edit</b> pull-down menu, click on <b>Move</b> .
5	Select a DECT system where the moved subscription is to be put.
	Pull-down the <b>Destination DECT System</b> list and highlight a system name.
6	Select DMC on the DECT system where the moved subscription is to be put.
	Pull-down the <b>Destination DMC</b> list and highlight a DMC.
7	Select DMC on the DECT system the moved subscription is to be put.
	Pull-down the <b>Destination DMC</b> list and highlight a DMC.
8	Select a handset subscription(s) to move.
	<b>Note:</b> Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a <b>DMC TN</b> and an <b>Index</b> (or more than one <b>index</b> ) in the list.

**Table 194**  
**Moving a handset subscription (Part 2 of 2)**

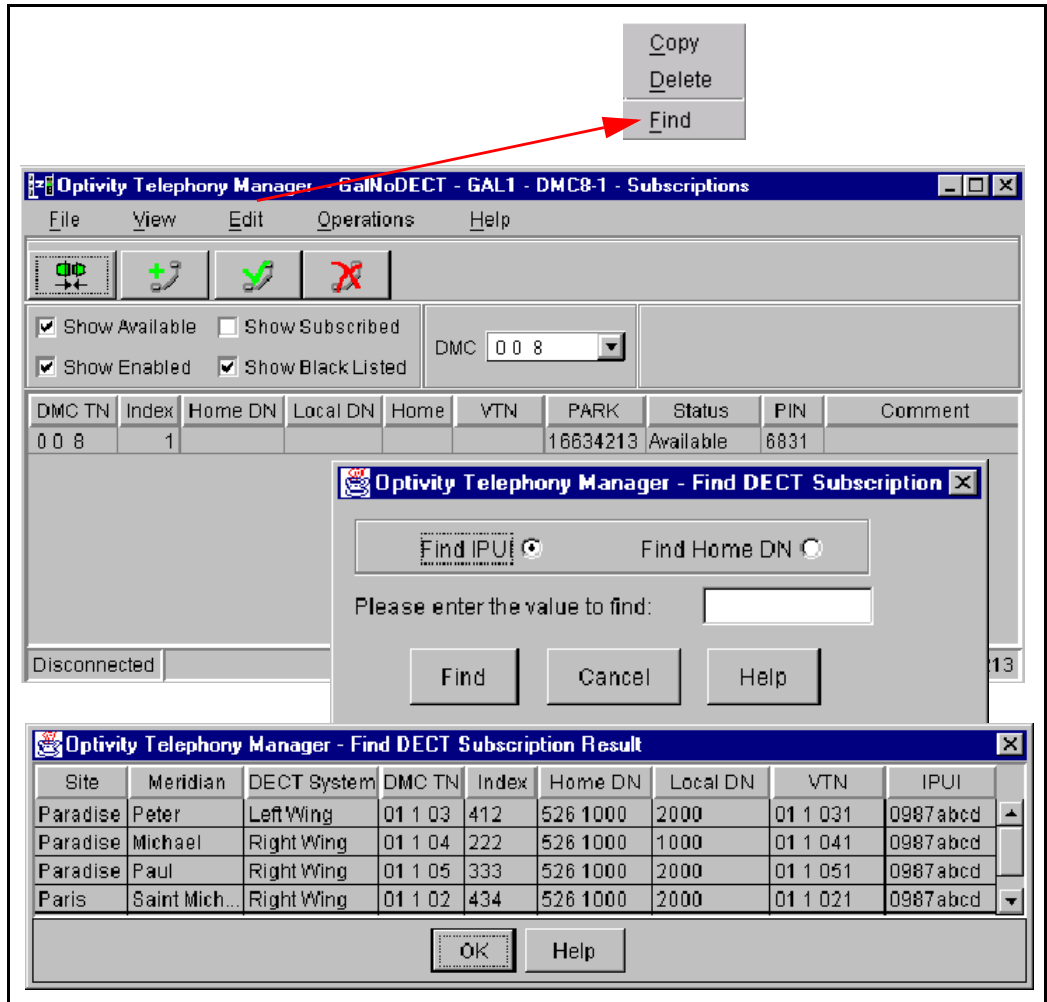
Step	Action
9	Select a DMC or Index for the subscription(s).
	Highlight a <b>To: DMC TN</b> or a <b>To: Index</b> (or more than one <b>index</b> ) in the list.
10	Accept the changes.
	Click <b>OK</b> .
<div>END</div>	



## 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**

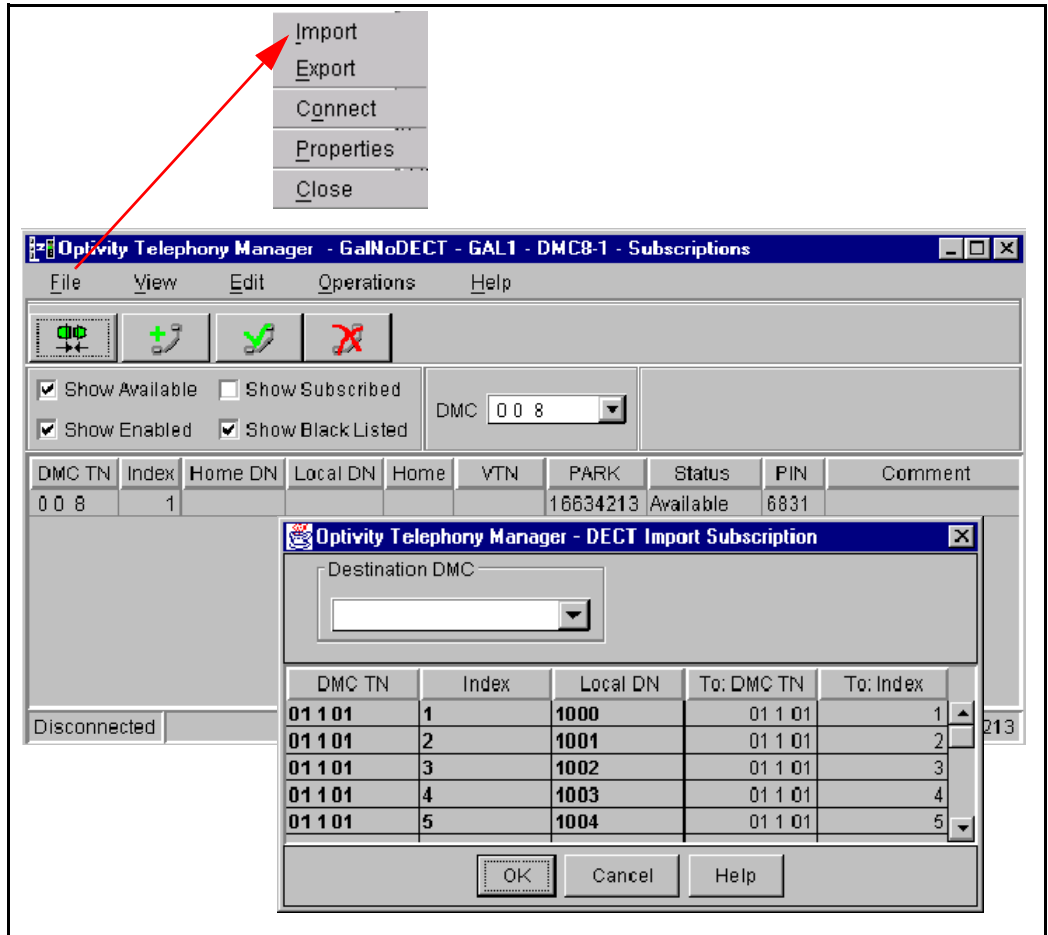
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Using a web-based navigator, open the Administrator login screen 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the Find DECT Subscription dialog.
	From the <b>Edit</b> pull-down menu, click on <b>Find</b> .
5	Select find criteria.
	Click on <b>Find IPUI</b> or <b>Find Home DN</b> , enter the value, and click on the <b>Find</b> 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**

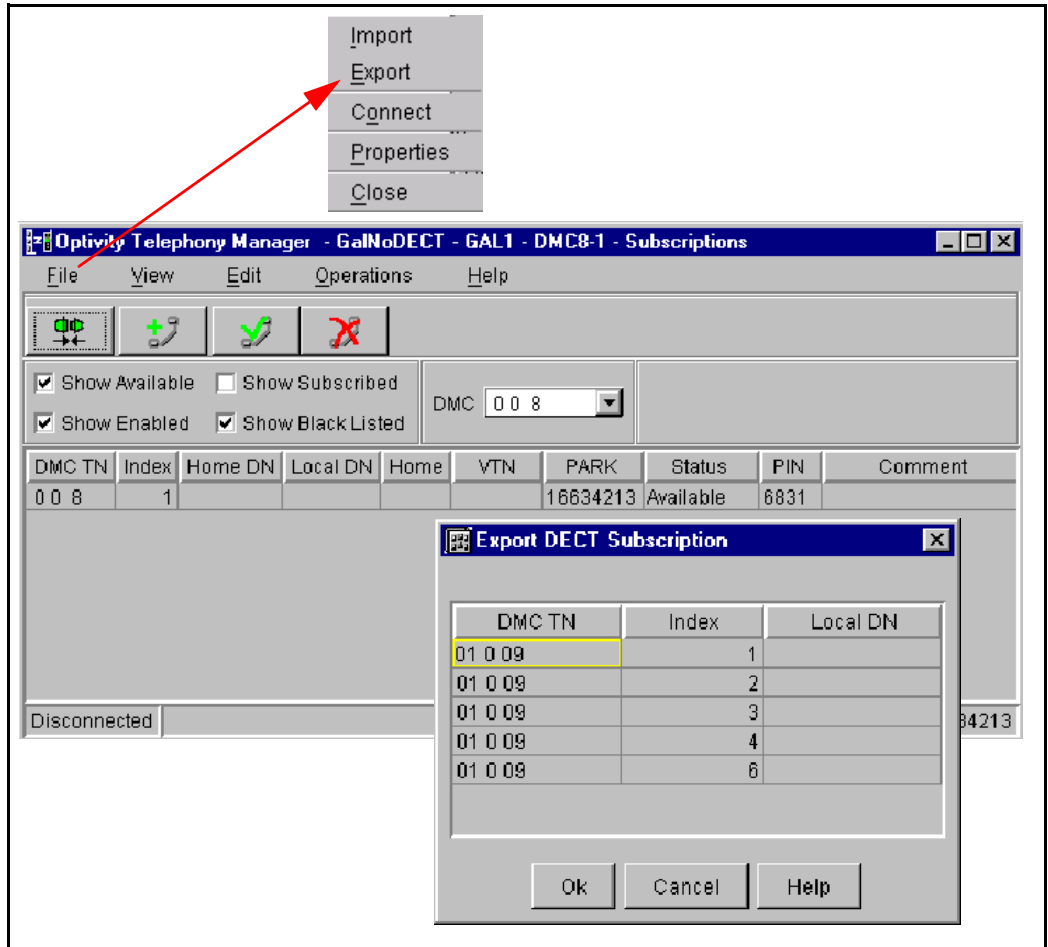
Step	Action
1	Access the DECT Application.
	Follow the instructions in “Windows access to the DECT application” on <a href="#">page 412</a> .
2	Using a web-based navigator, open the Administrator login screen and login. Select the System Navigator. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the DECT Import Subscription dialog.
	From the <b>File</b> pull-down menu, click on <b>Import</b> .
5	Select a DECT system where the imported subscription is to be put.
	Pull-down the <b>Destination DMC</b> list and highlight a DMC.
6	Select DMC to be imported.
	Pull-down the <b>Destination DMC</b> list and highlight a DMC.
7	Select a handset subscription(s) to import. <b>Note:</b> Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a <b>DMC TN</b> and an <b>Index</b> , or several <b>indexes</b> in the list.
8	Select a DMC or Index for the subscription(s).
	Highlight a <b>To: DMC TN</b> or a <b>To: Index</b> , or several <b>To: indexes</b> in the list.
9	Accept the changes.
	Click <b>OK</b> .



## 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**

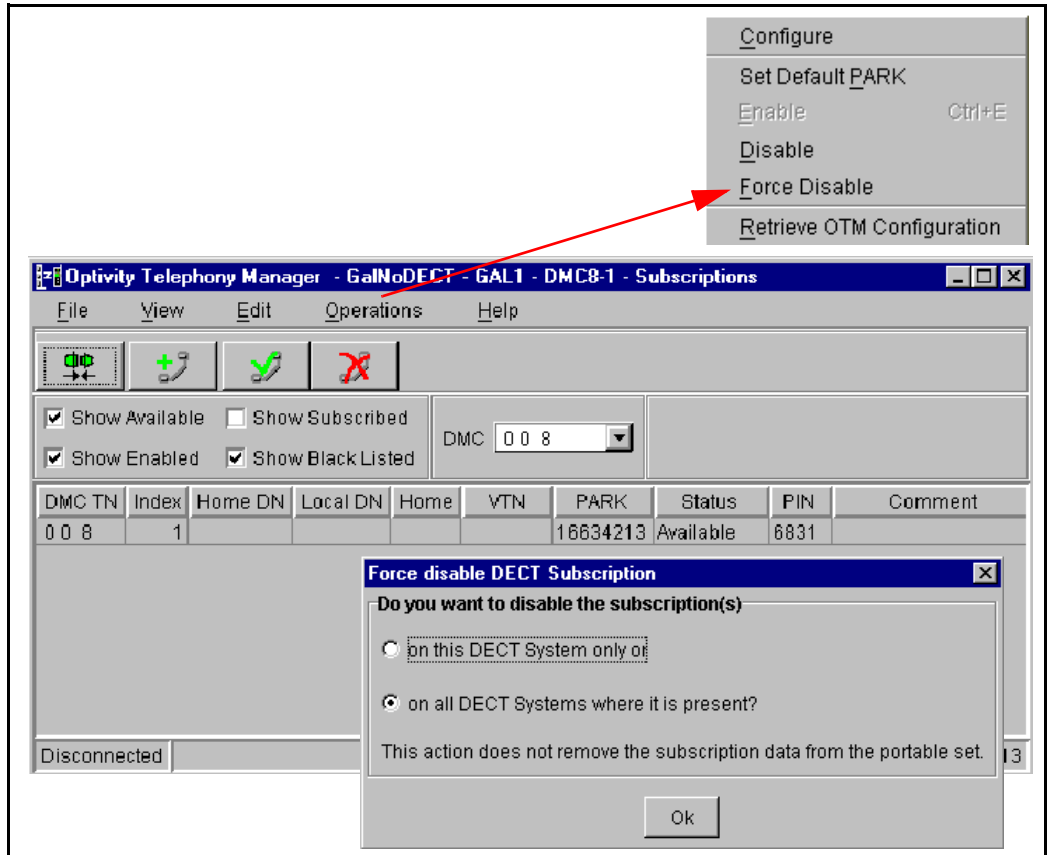
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Using a web-based navigator, open the Administrator login screen 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the Export DECT Subscription dialog.
	From the <b>Find</b> pull-down menu, click on <b>Export</b> .
5	Select a handset subscription(s) to export. <b>Note:</b> A single handset, a list of handsets, or all handsets on a DMC can be selected.
	Highlight a <b>DMC TN</b> and an <b>Index</b> , or several <b>indexes</b> in the list.
6	Select a DMC or Index for the subscription(s).
	Highlight a <b>To: DMC TN</b> or a <b>To: Index</b> , or several <b>To: indexes</b> in the list.
7	Accept the changes.
	Click on the <b>OK</b> 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the Force Disable DECT Subscription dialog.
	From the <b>Operations</b> pull-down menu, click on <b>Force Disable</b> .
5	Select a handset subscription(s) for Force Disabling. <b>Note:</b> Select a single handset, a list of handsets, or all handsets on a DMC.
	Highlight a <b>DMC TN</b> and an <b>Index</b> (or more than one index) in the list.
6	Disable the handset subscription(s).
	From the <b>Operations</b> pull-down menu, click on <b>Force Disable</b> .
7	Disable from this system only.
	Click on <b>OK</b> button.
8	Disable from all systems where the portable set is subscribed.
	Click <b>OK</b> .
	



## 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

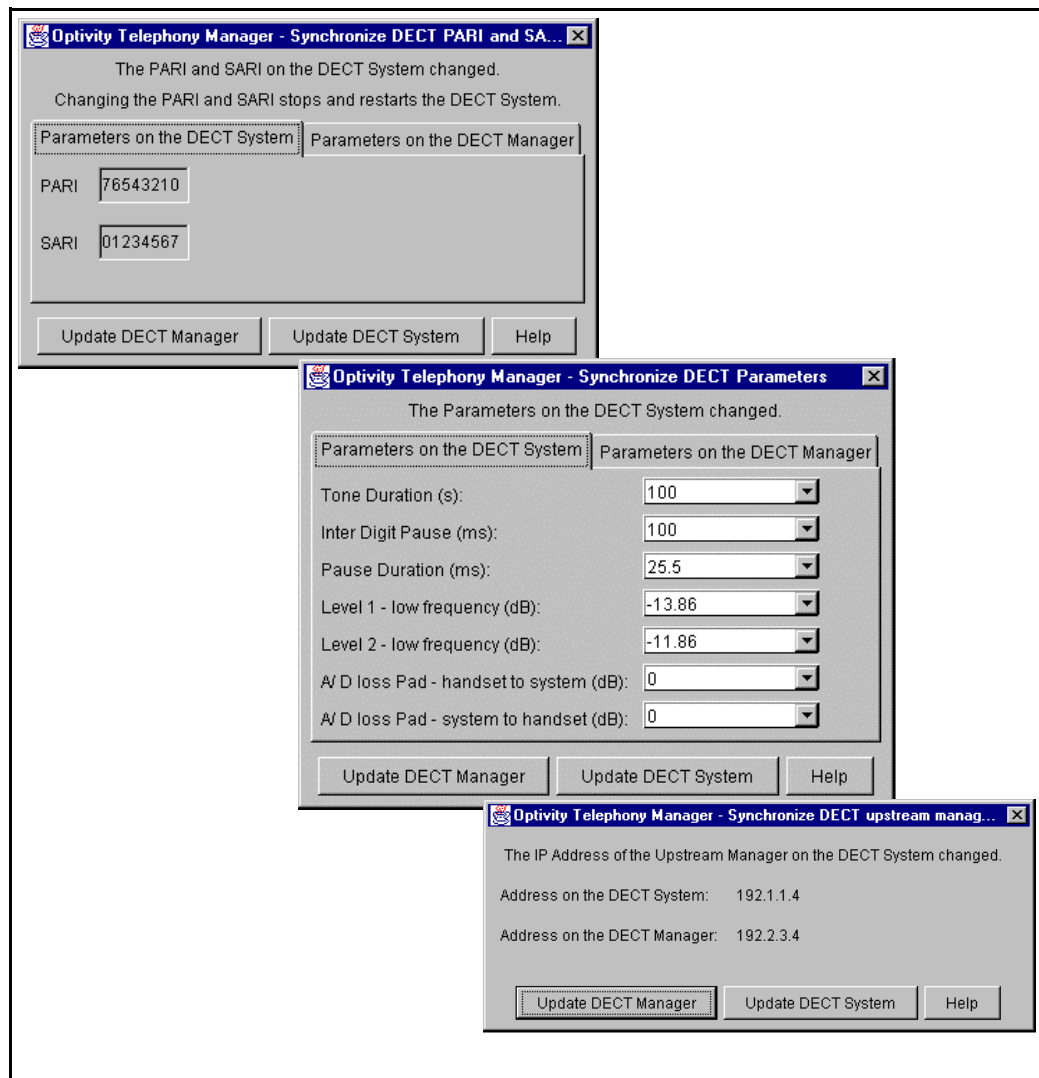
**Table 199**  
**Removing configured sets**

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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the Subscriptions window.
	Follow the instructions on <a href="#">page 420</a> .
4	Open the DECT Move Subscription dialog.
	From the <b>Edit</b> pull-down menu, click <b>Global update</b> .
5	Select the sync status <b>SSTAT</b> .
	Set <b>Old value</b> to the current status. Set <b>New value</b> to <b>NEW</b> .
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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Select a DECT system.
	Highlight a DECT system from the list.
4	Connect to a DECT system.
	From the <b>Applications</b> pull-down menu, click on <b>Connect</b> or click on the  (green) icon.
5	If any of the dialogs in Figure 291 on <a href="#">page 504</a> appear, it is necessary to decide to update either the DECT manager or the DECT system.
	Click on either the <b>Update DECT Manager</b> button, or <b>Update DECT System</b> button.
	

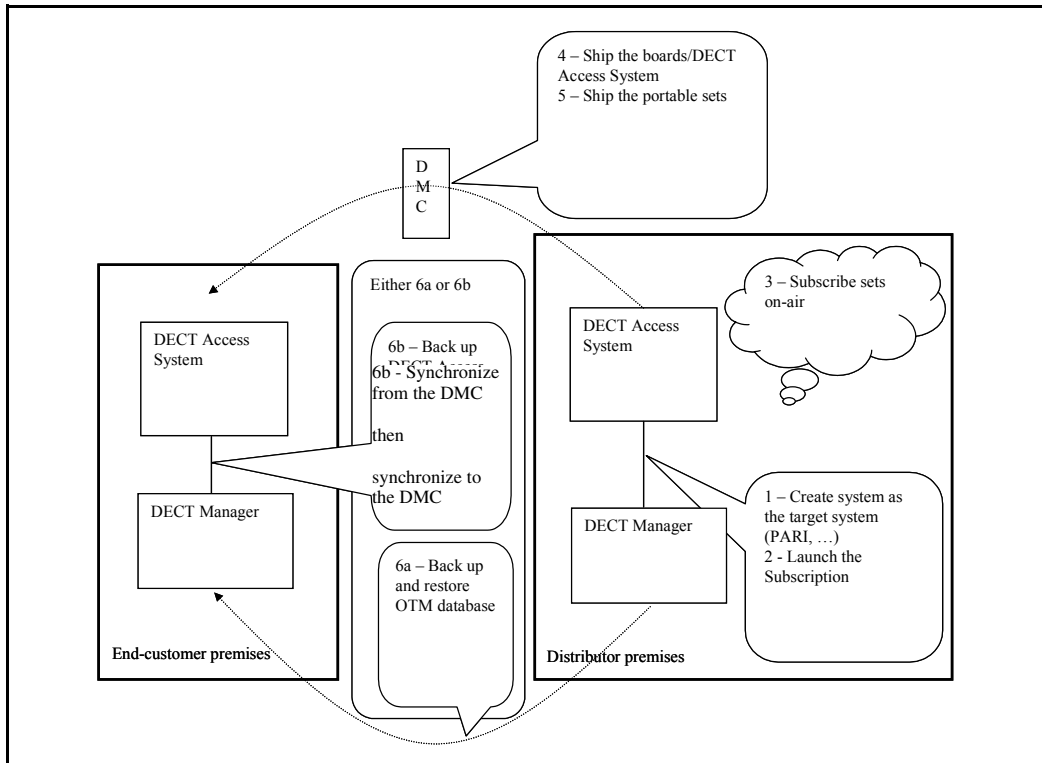
## Provisioning a DECT system remotely

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



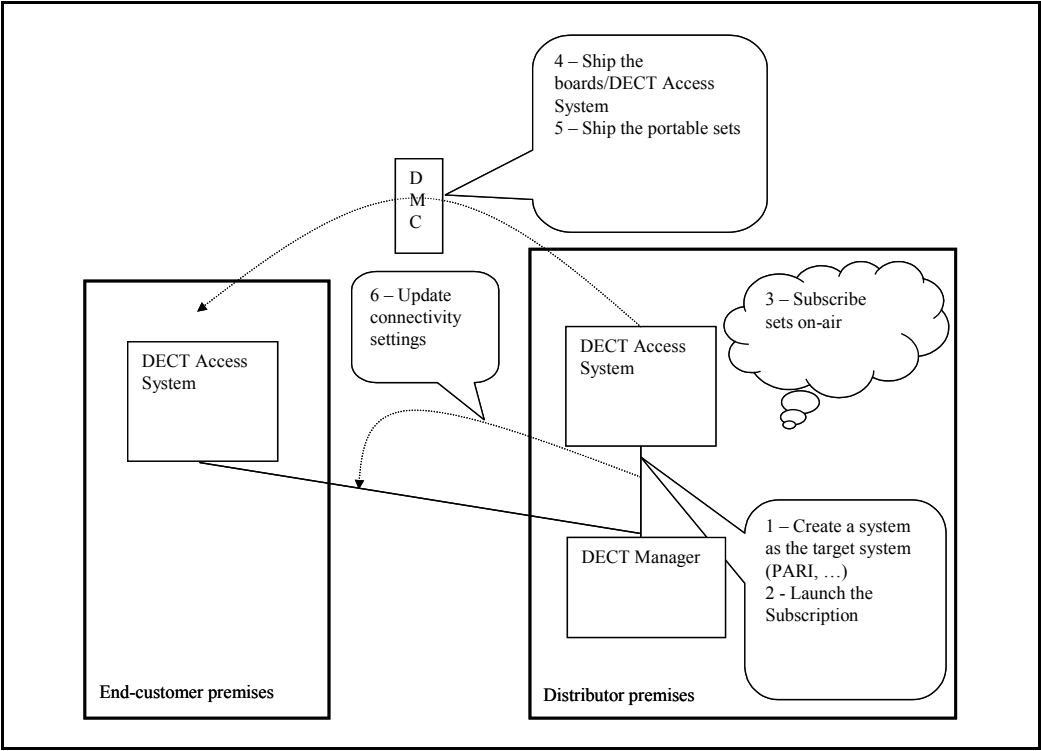
Complete the following step.

**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 <a href="#">page 504</a> .
	

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**

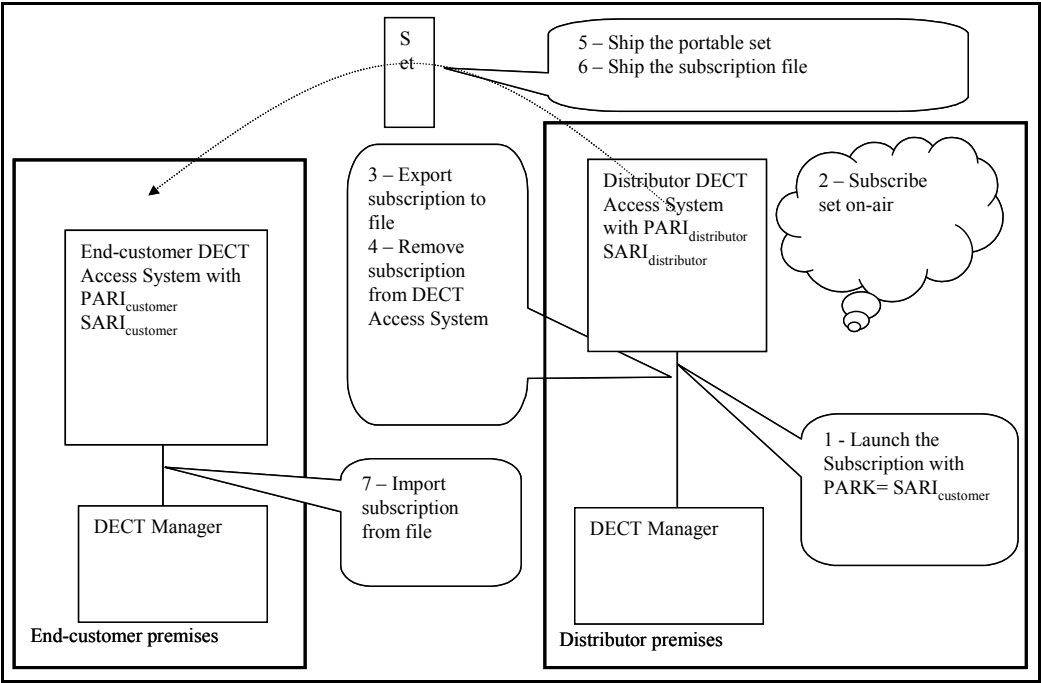
Step	Action
1	Remotely provision a customer site.
	Follow steps 1 to 6 shown in Figure 292 on <a href="#">page 506</a> .
	

## 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.

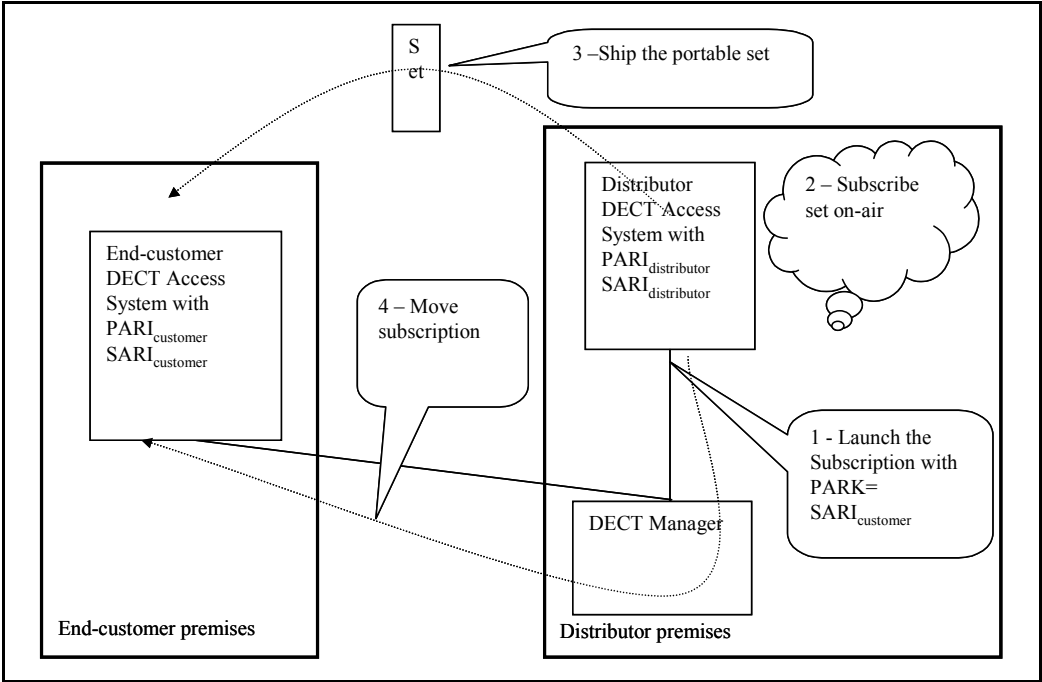
**Table 203**  
Updating IP address on OTM

Step	Action
1	Remotely provision a customer site.
	Follow steps 1 to 7 shown in <a href="#">Figure 293</a> .
<div>END</div>	



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 <a href="#">Figure 294</a> .



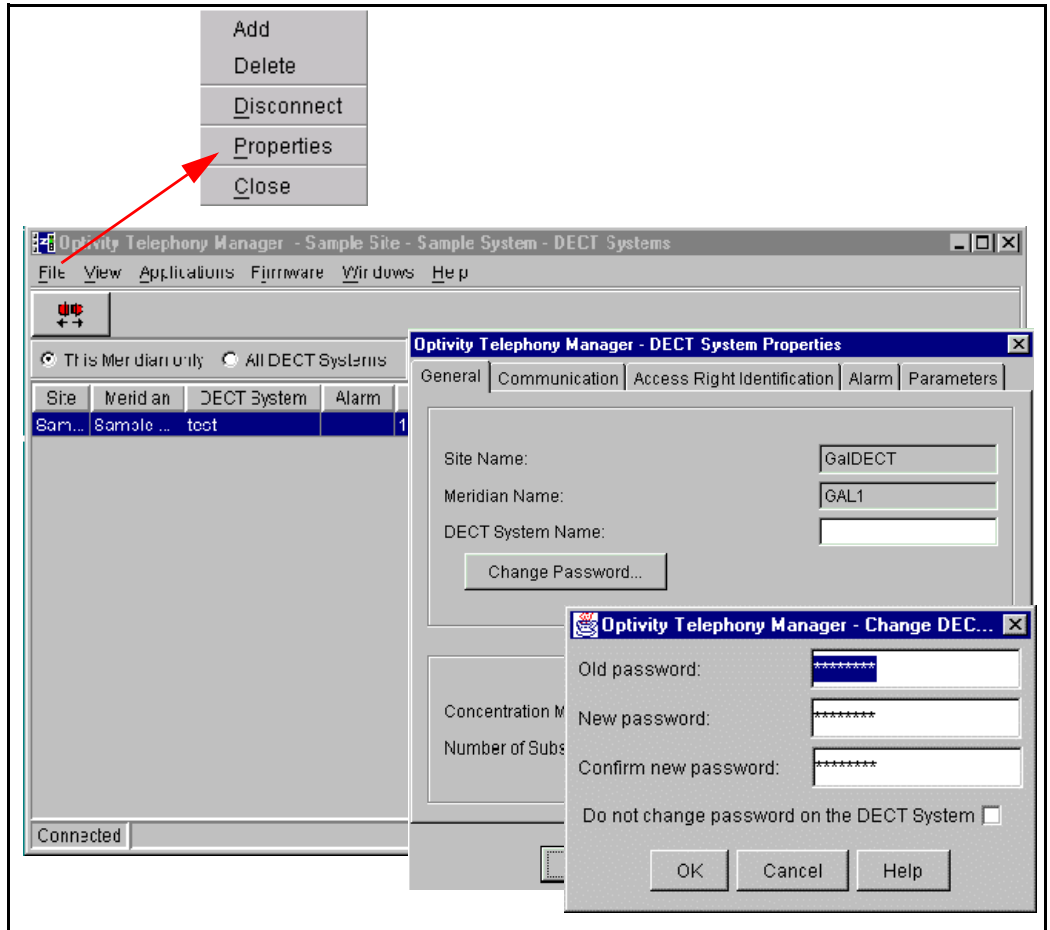
## Modifying system properties

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.

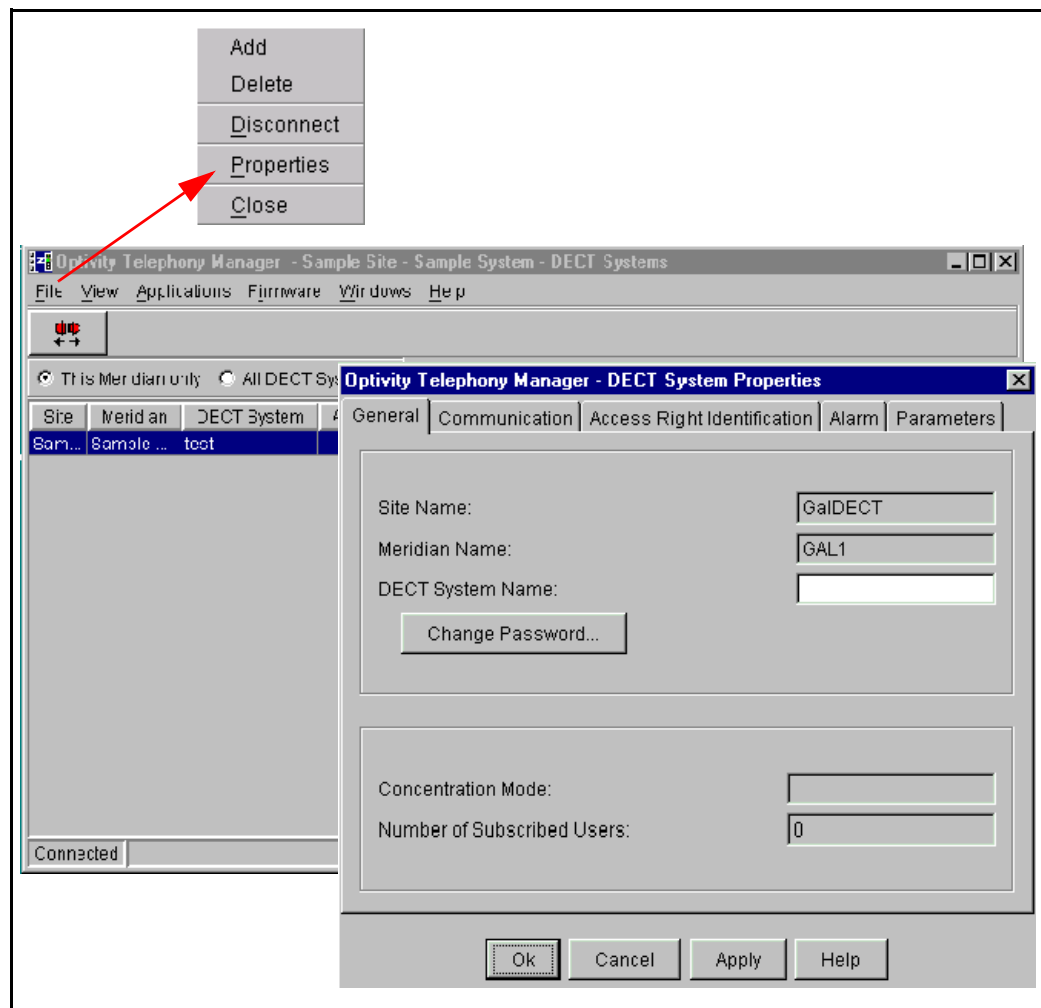
**Table 205**  
**Changing passwords**

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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> , and click on the <b>General</b> tab.
4	Select Change Password.
	Click on the <b>Change Password</b> button.
5	Change the password.
	Enter the <b>Old Password</b> , enter the <b>New Password</b> , confirm the <b>New Password</b> , and click <b>OK</b> .
<div>END</div>	

## 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**

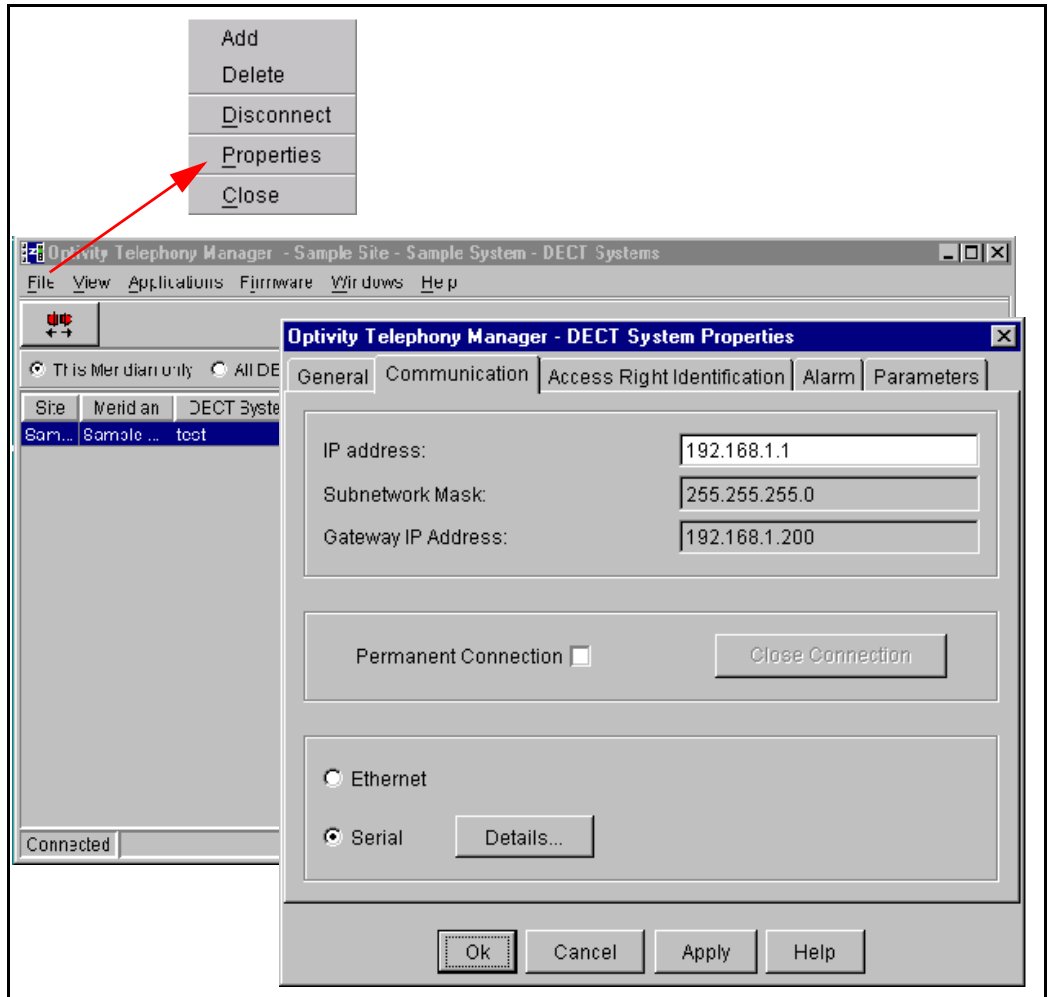
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Using a web-based navigator, open the Administrator login screen 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> , and click on the <b>General</b> tab.
4	Change the DECT system name.
	Enter the new name in the <b>DECT System Name</b> 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**

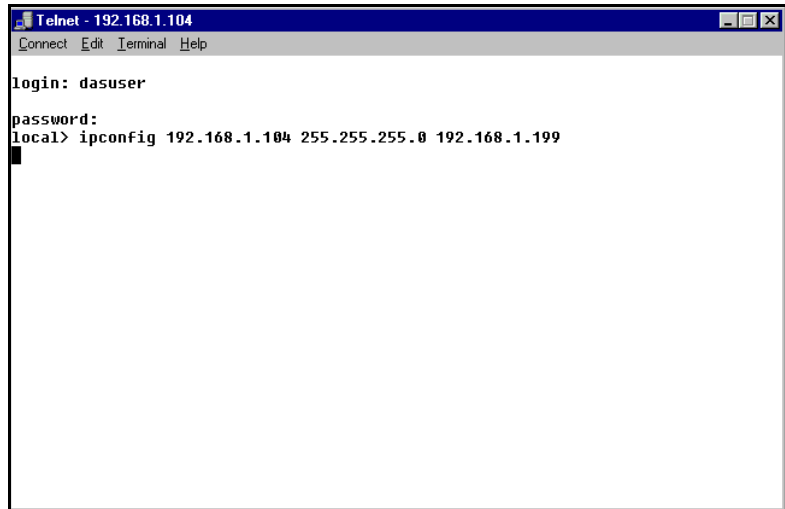
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Using a web-based navigator, open the Administrator login screen 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> , and click on the <b>Communication</b> tab.
4	Select Ethernet.
	Click on the <b>Ethernet</b> radio button.
5	Accept the changes.
	Click <b>OK</b> .
	



## 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**



Complete the following steps.

Table 208  
 Changing the IP address on DECT system DMC8 Relay card

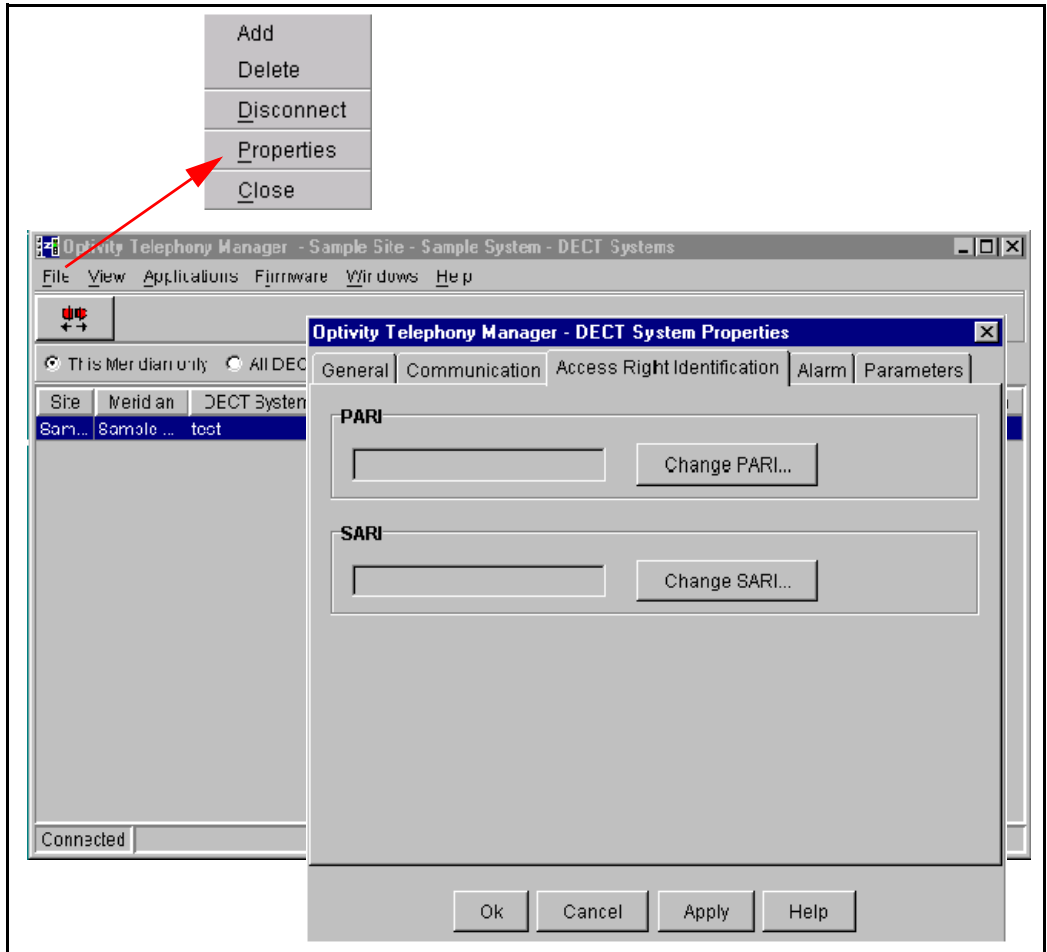
Step	Action
1	Open the Telnet dialog.
	Click on <b>Start&gt;Accessories&gt;Telnet</b> .
2	Enter user name and password.
	Type user name <b>dasuser</b> and password <b>dasuser</b> .
3	When the connection prompt <b>local</b> appears, change the DMC8 Relay card address.
	Enter the following command:  <b>ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz</b>  <b>xxx.xxx.xxx.xxx</b> = new IP address of the DMC8 Relay card.  <b>yyy.yyy.yyy.yyy</b> = subnet mask, usually <b>255.255.255.0</b>  <b>zzz.zzz.zzz.zzz</b> = IP address if this is the gateway for the network.  <b>Note:</b> Set <b>zzz.zzz.zzz.zzz</b> to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OTM server, set <b>zzz.zzz.zzz.zzz</b> to the IP address of the interface, which is on the same network as the DMC8 Relay card.
	

## 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**

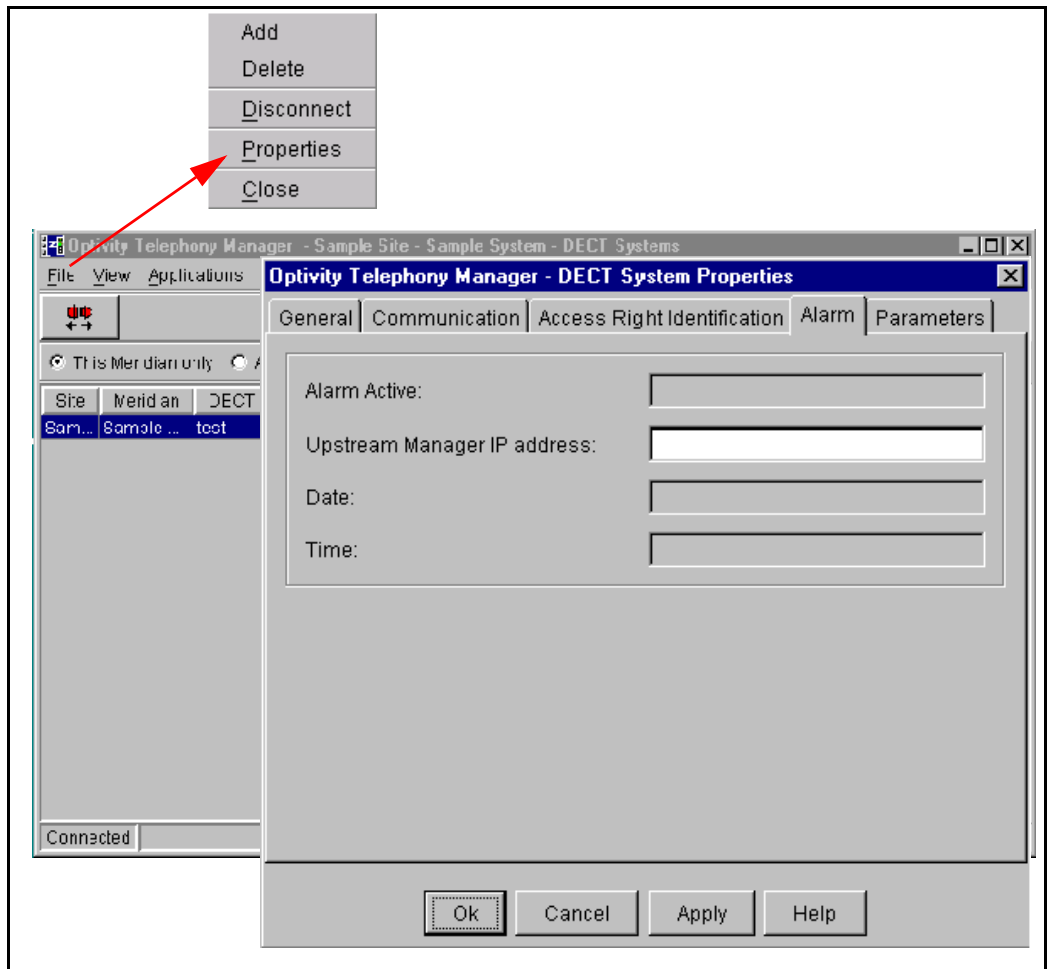
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Using a web-based navigator, open the Administrator login screen 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> , and click on the <b>Access Right Identification</b> tab.
4	Change the PARI or SARI.
	Enter the <b>PARI</b> or <b>SARI</b> .
5	Accept the changes.
	Click on the <b>OK</b> 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> . Click the <b>Alarm</b> tab.
4	Change the Upstream Manager IP address.
	Enter the <b>Upstream Manager IP address</b> .
5	Accept the changes.
	Click on the <b>OK</b> button.
	

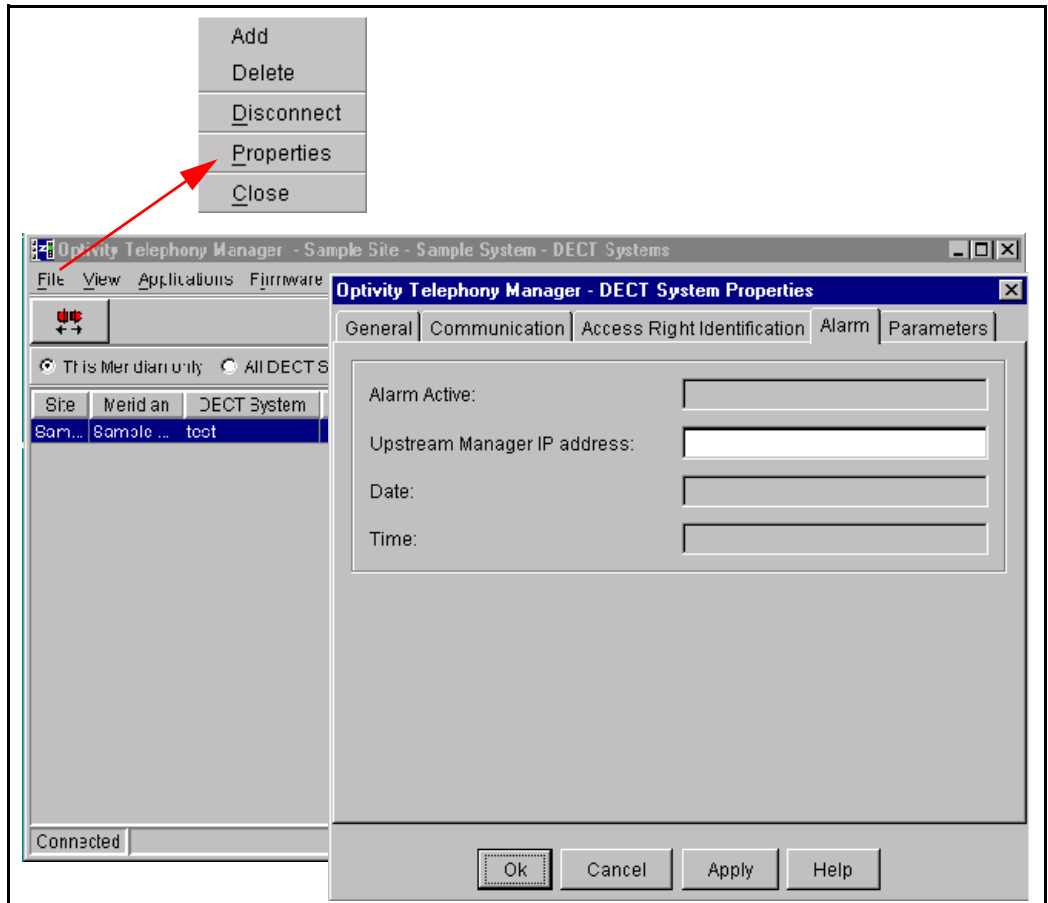
## Changing the time and date

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, <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Connect to a DECT system.
	From the <b>Applications</b> pull-down menu click on <b>Connect</b> or  (green).
4	Open the DECT Systems Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> . Click the <b>Alarm</b> tab.
5	Change the time and date.
	Enter the <b>Date</b> and <b>Time</b> .
6	Accept the changes.
	Click the <b>OK</b> button.

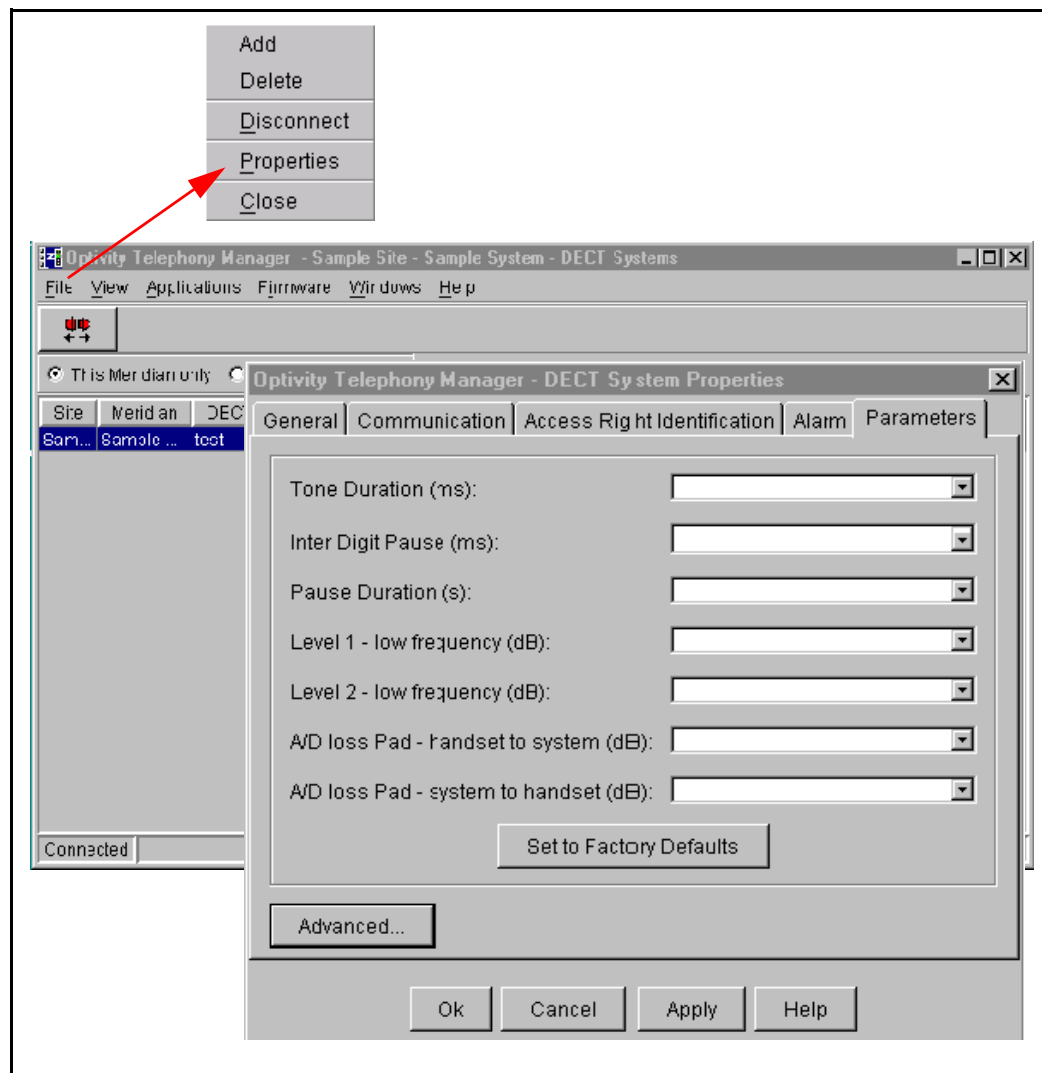




## Changing parameters

Figure 302

DECT Systems window and DECT System Properties – Parameters tab



Complete the following steps.

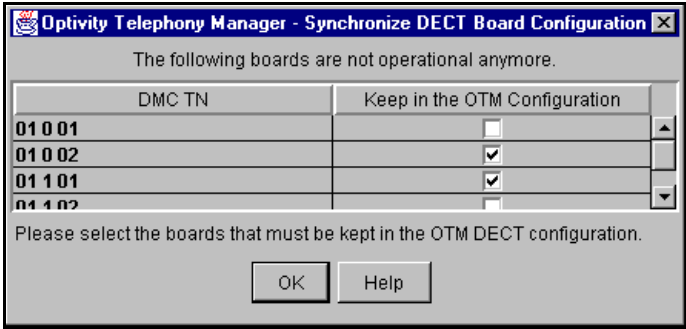
**Table 212**  
**Changing parameters**

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, <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DECT System Properties dialog.
	From the <b>File</b> pull-down menu, click on <b>Properties</b> . Click the <b>Parameters</b> tab.
4	Change the parameters.
	From the appropriate pull-down menus, highlight the parameter time/level.
5	Accept the changes.
	Click the <b>OK</b> button.
<div>END</div>	

# 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.

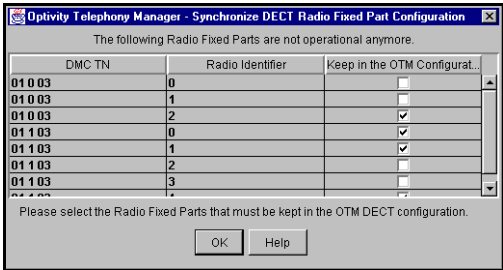
**Table 213**  
**Keeping or removing non-operational DMC8 cards from OTM**

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 <b>OK</b> button.
<div>END</div>	

# 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**

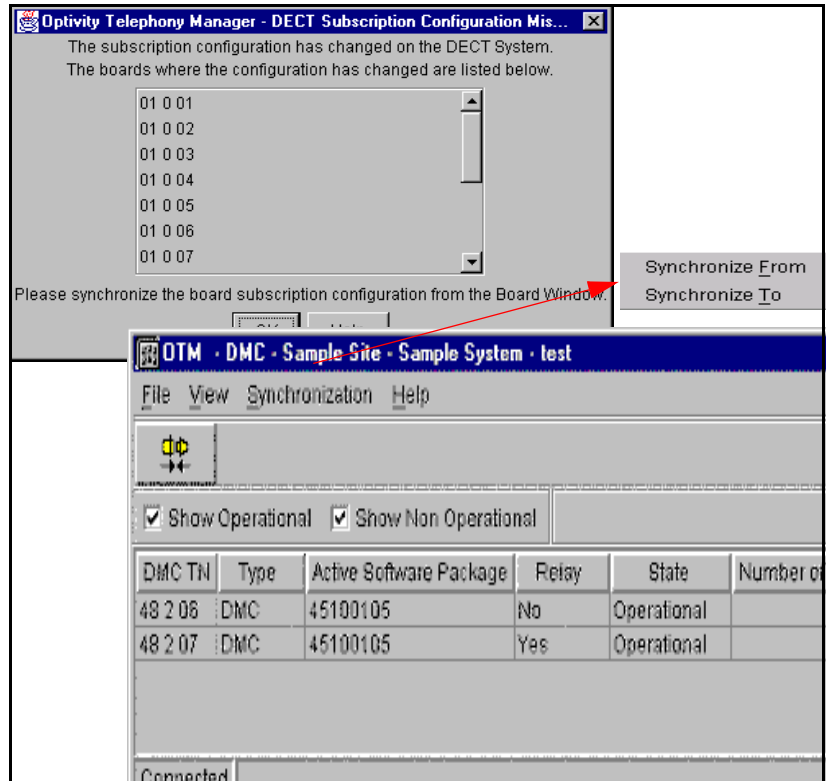
Step	Action
1	To keep base stations,
	Delete the check mark from the appropriate box.
2	To remove base stations,
	Put a check mark in the appropriate box.
3	Accept the changes.
	Click the <b>OK</b> button.

END

## 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
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 <a href="#">page 415</a> to <a href="#">page 419</a> .
3	Open the DMC window.
	Follow the instructions on, <a href="#">page 420</a> .
4	Store DMC changes from the DECT system in the OTM server,
	In the <b>Synchronization</b> pull-down menu, click on <b>Synchronize From</b> .
5	Make OTM server changes to the DMCs in the DECT system,
	In the <b>Synchronization</b> pull-down menu, click on <b>Synchronize To</b> .
	

## 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**

**Web Navigator Access Security Setup**

**Group Access Permissions** **Users**

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"/>

Username:


**Save**

1. 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.

2. Click on Save to save changes to the Group's Access Permissions.

Complete the following steps.

**Table 216**  
**Accessing security – web-based navigator**

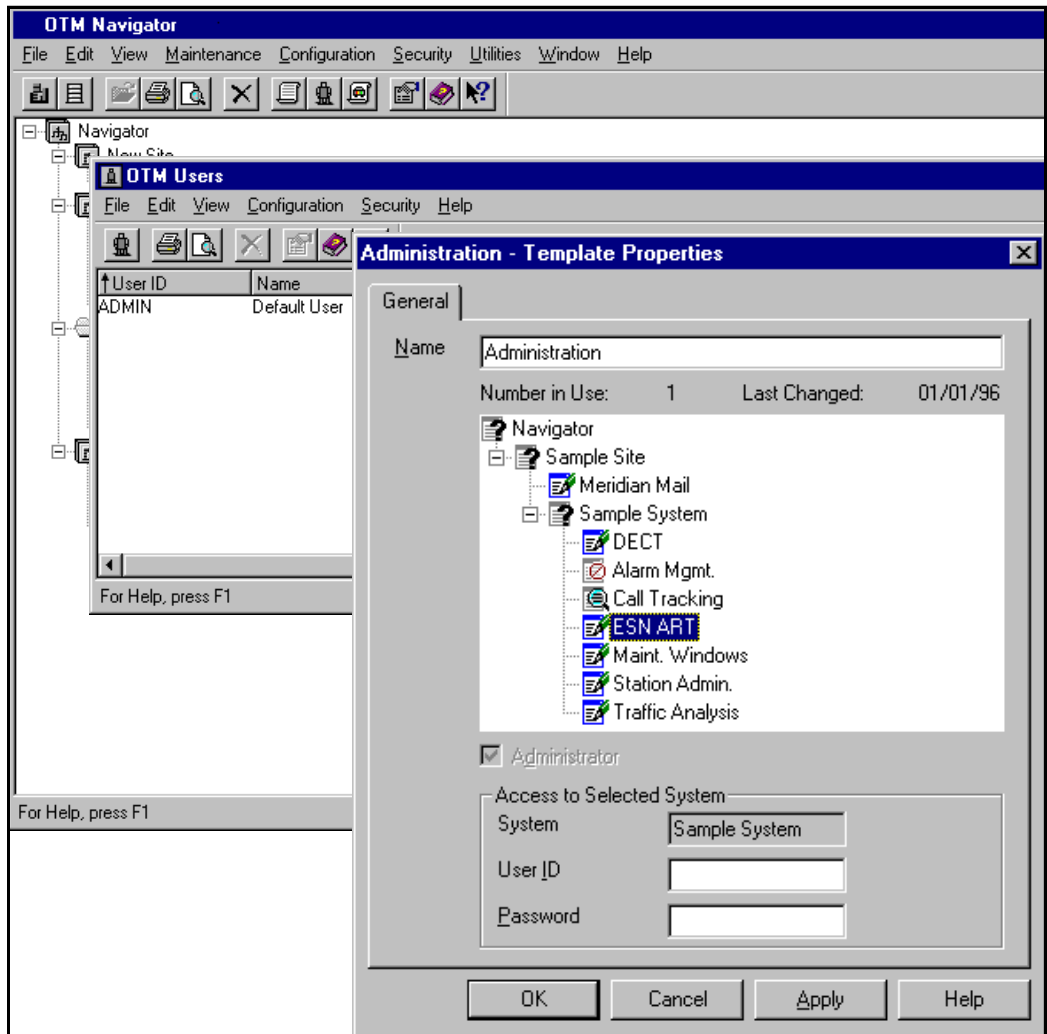
Step	Action
1	Using Windows, login to OTM. Select the system that supports DECT. Launch the DECT application. Open the DECT Systems window.
	Follow the instructions on <a href="#">page 415</a> to <a href="#">page 419</a> .
2	Select Web Navigator Access.
	Click on <b>Web Navigator Access</b> .
3	Follow 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 <a href="#">page 412</a> .
2	Open the OTM Users window.
	From the <b>Security</b> pull-down menu, click on <b>OTM Users</b> .
3	Open the Template Properties.
	From the <b>Configuration</b> pull-down menu, click on <b>User Templates</b> .
4	Select the appropriate access level for the user group.
	Click the left mouse button on the icon to change the access, as follows: <div> <div> – Read and write access</div> <div> – Read only access*</div> <div> – No access</div> </div> <p><b>Note:</b> * Choosing read only access allows read and write access.</p>
<div></div>	

## 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

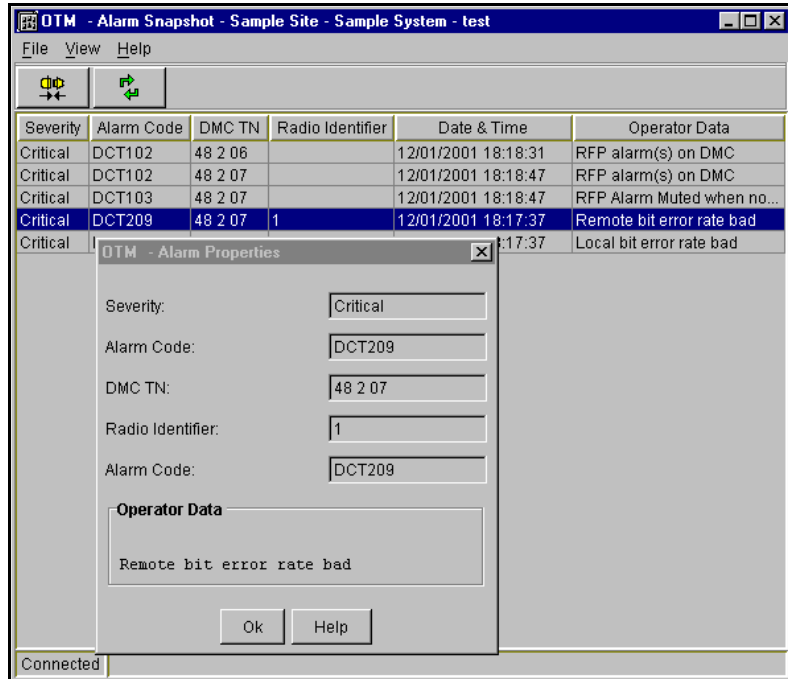
## Alarm Code maintenance actions

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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Refresh the Alarm Snapshot window.
	Click on the  icon.
3	Examine the alarm code, and take the appropriate maintenance action.
	See <a href="#">Table 220 on page 547</a> .
	

**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.
<b>Note:</b> 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.		
<b>Presence of an alarm</b>		
DCT101	No alarms. (DCT101 only displayed in the Alarm browsers).	Information only, no action needed.
DCT102	<ol style="list-style-type: none"> <li>1 DCT102 displayed in the Alarm browsers is an alarm on a DMC8.</li> <li>2 DCT102 displayed in the Alarm Snapshot is an alarm on a base station.</li> </ol>	<ol style="list-style-type: none"> <li>1 Open the Alarm Snapshot window for alarm details and perform the corresponding maintenance actions.</li> <li>2 Look for one or more DCT202 to DCT215 alarms in the Alarm Snapshot window, and perform the corresponding maintenance actions.</li> </ol>
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. ( <b>DCT105</b> only displayed in the Alarm Snapshot window.)	Perform the DCT402 to DCT407 maintenance action.
<b>Base station alarms</b>		
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"> <li>1 the base station</li> <li>2 the base station's DMC8 card(s)</li> <li>3 a cable problem between the base station and a DMC8 card.</li> </ol>	Disconnect the base station for 30 seconds.  <ol style="list-style-type: none"> <li>1 Replace the base station.</li> <li>2 Replace the base station's DMC8.</li> <li>3 Check the faceplate cabling.</li> </ol>
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)**

<b>Alarm code</b>	<b>Alarm description</b>	<b>Maintenance action</b>
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.
<b>Faceplate cable alarms</b>		
DCT301	No faceplate cable alarm. (DCT301 only displayed in the Alarm browsers.)	Information only, no action needed.

**Table 219**  
**Alarms (Part 4 of 6)**

<b>Alarm code</b>	<b>Alarm description</b>	<b>Maintenance action</b>
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)**

<b>Alarm code</b>	<b>Alarm description</b>	<b>Maintenance action</b>
<b>Software alarms</b>		
DCT401	The DMC8 card is working; however, there is a subscription database corruption.	In the Boards window, <b>Synchronize From</b> the DMC8, then <b>Synchronize To</b> 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"><li>• the DMC8 card is placed in the wrong card slot position</li><li>• the DMC8 card will not come into service</li></ul>	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.

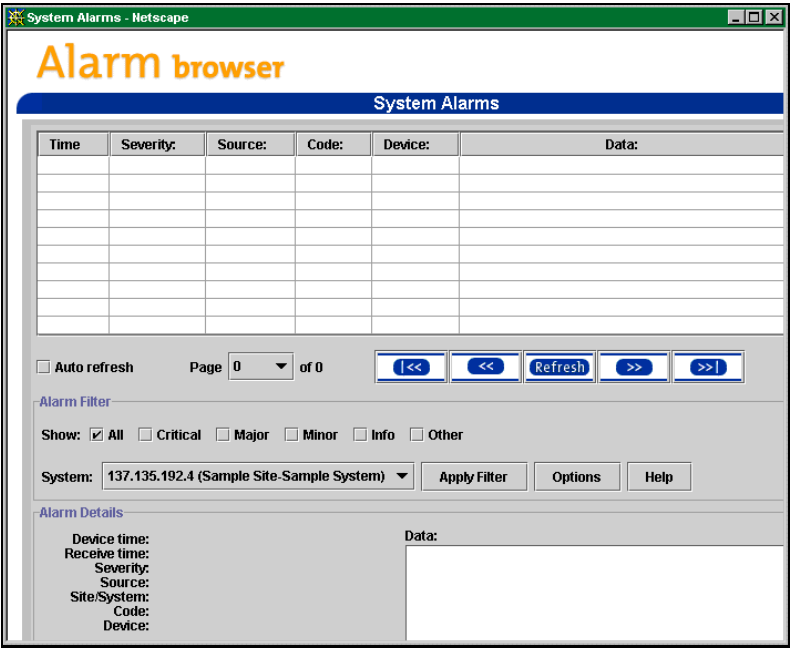
**Table 219**  
**Alarms (Part 6 of 6)**

<b>Alarm code</b>	<b>Alarm description</b>	<b>Maintenance action</b>
DCT404	<p>(DCT404 only displayed in the Alarm browsers.) One of the following events occurred:</p> <ul style="list-style-type: none"> <li>the power was turned on</li> <li>the DMC8 was inserted into the shelf backplane</li> <li>a software exception restarted the DMC8</li> </ul>	If this alarm was caused by a software exception, examine the alarm browsers for details.
<b>Radio Fixed Part alarm muted</b>		
DCT501	Alarms are muted in the RFP window, however the base station does not have any intrinsic alarms.	Use the RFP window to <b>Cancel Mute Alarms</b> .
<b>Backplane controller unit</b>		
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.

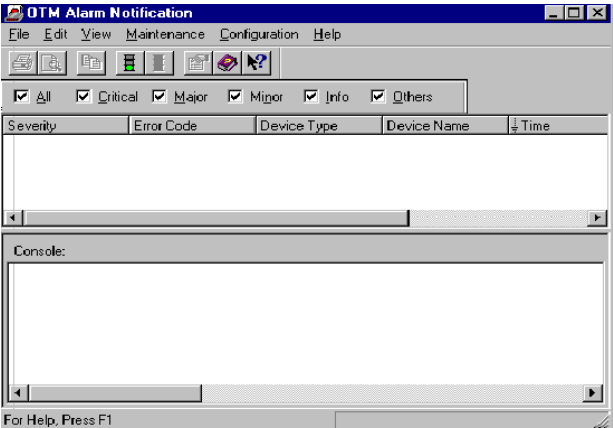
**Table 220**  
**Alarm Code maintenance actions**

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 <a href="#">page 415</a> to <a href="#">page 419</a> .
2	Examine the code, and take the appropriate maintenance action.
	See <a href="#">Table 219 on page 540</a> .
	

## 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, <a href="#">page 415</a> to <a href="#">page 419</a> .
2	Examine the Message ID, and take the appropriate maintenance action.
	See <a href="#">Table 219</a> on <a href="#">page 540</a> .
<div>END</div>	



## 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 <a href="#">page 415</a> to <a href="#">page 419</a> .
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"> <li>not programmed</li> <li>disabled</li> <li>has faults</li> </ol>	<ol style="list-style-type: none"> <li>Program the card. See <a href="#">page 529</a>.</li> <li>Re-enable the card. Use LD 32 ENLC I s c.</li> <li>Replace the card. See <a href="#">page 553</a>.</li> </ol>
Flashes three times	Card is doing a self test.	Wait.
Off	<ol style="list-style-type: none"> <li>The card is in service if the yellow LED is off and the green LED is on.</li> <li>The card has no power if all LEDs are off.</li> </ol>	<ol style="list-style-type: none"> <li>No action.</li> <li>Restore power.</li> </ol>

**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"> <li>• software download in progress</li> <li>• software distribution in progress</li> <li>• subscription or configuration data is saving to the flash ROM</li> </ul>	Wait.  Do not remove the card, removal corrupts the flashROM data.
Off	Fast flash††	Card is synchronizing to the faceplate cable bus.	Wait.
<b>Legend for LED action:</b> † 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†	<b>1</b> Card has no PARI, or has an incomplete PARI. <b>2</b> Card has detected an error.	<b>1</b> Contact the technical support group. <b>2</b> Replace the card. See <a href="#">page 553</a> .
Off	On	Card is in service.	No action required.
Slow flash†	Slow flash†	Simultaneous occurrence of: <ul style="list-style-type: none"> <li>card has no PARI, or incomplete PARI and</li> <li>either software distribution is in progress or subscription or configuration data is saving to the flashROM</li> </ul>	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:

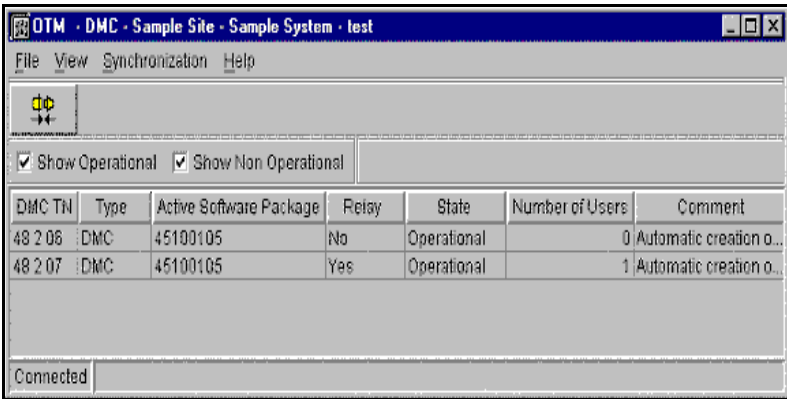
- Any calls passing through the separated part of the faceplate bus are dropped.
- Handsets configured on a DMC in the separated half cannot make or receive calls through a base station in the other half.

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.

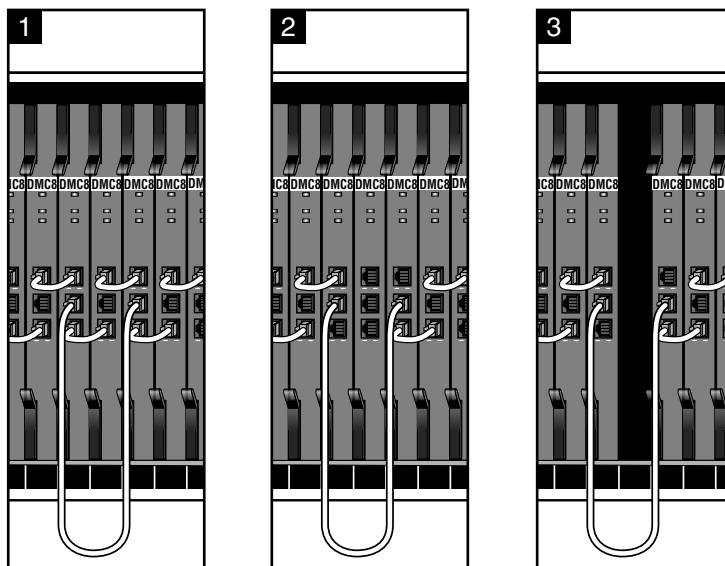
**Table 226**

**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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select the DMC8 card.
	Highlight the DMC8 card in the list.
3	Save the DMC8 data on the OTM.
	From the <b>Synchronization</b> pull-down menu, click on <b>Synchronize From</b> .
	

## Removing a faulty DMC8 card

**Figure 313**  
**DMC8 card removal**




553-8227.EPS



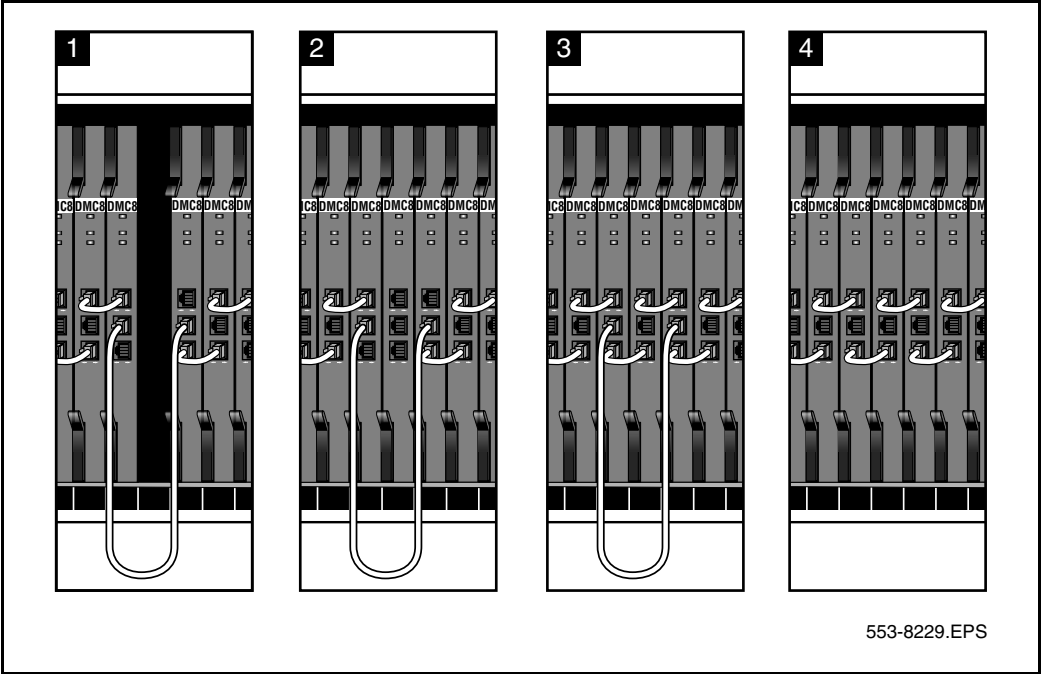
Complete the following steps.

**Table 227**  
**Removing a faulty DMC8 card**

Step	Action
1	Connect the maintenance bypass cable.
	Plug the maintenance bypass cable into the <b>Maint</b> 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



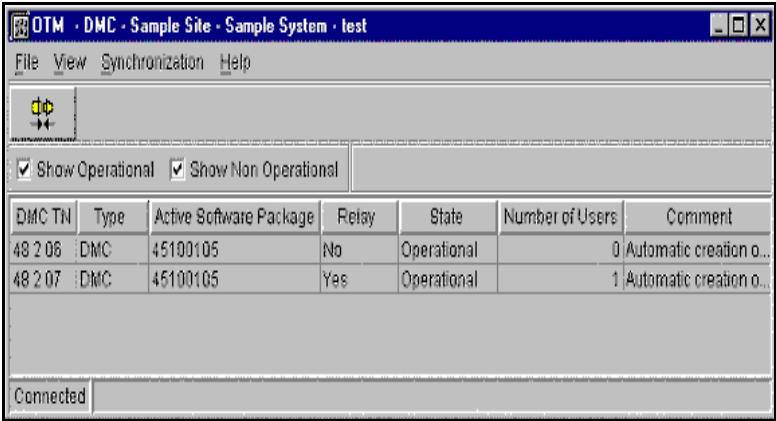
Complete the following steps.

**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 <b>Maint</b> 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.

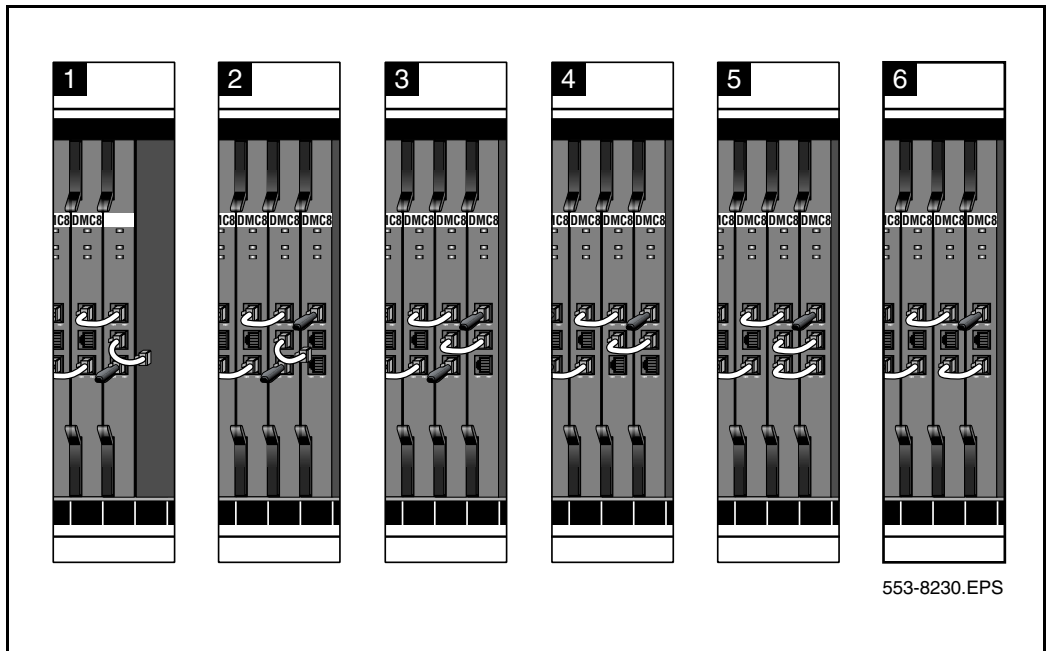
Table 229  
 Restoring subscription data to the serviceable DMC8 card

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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select the DMC8.
	Highlight the DMC8 in the list.
	Save the DMC8 data on the OTM.
	From the <b>Synchronization</b> pull-down menu, click on <b>Synchronize To</b> .
<div>END</div>	

*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.

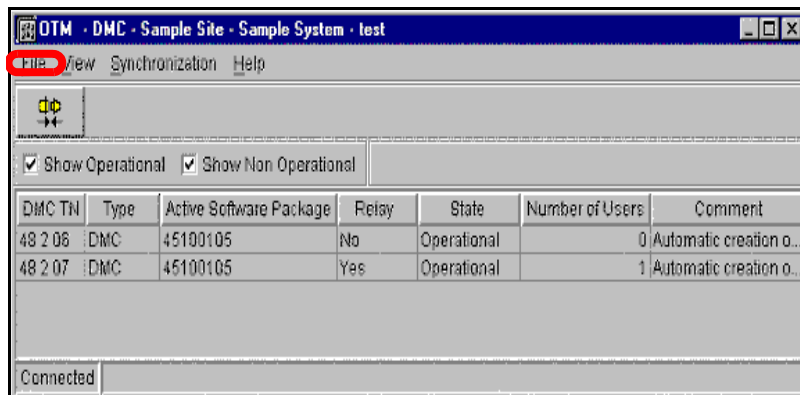
**Table 230**  
**Adding a DMC8 card to a DECT system**

Step	Action
1	Connect the bypass cable.
	Plug the bypass cable into the <b>Maint</b> 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 <b>Maint</b> 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 <b>Maint</b> port of the existing DMC8 card and the added DMC8 card.
7	Add the DMC8 card to the database.
	Use the procedure on <a href="#">page 560</a> .




## 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 <b>File</b> pull-down menu, click on <b>Clear</b> .
	

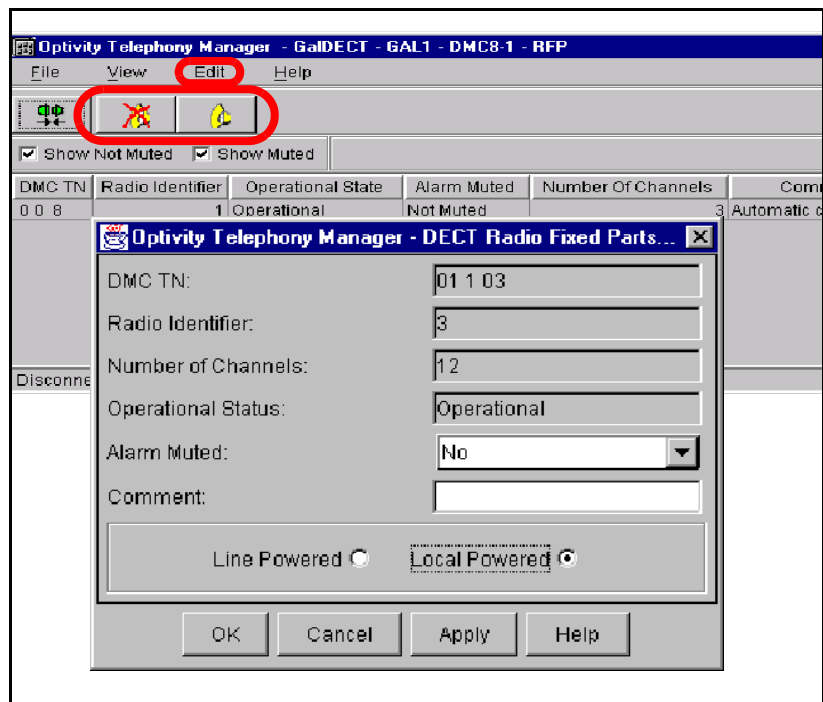
## Removing and re-installing a base station for maintenance

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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select the DMC8 to mute.
	Highlight the DMC8 in the list.
3	Mute the alarms.
	From the <b>File</b> pull-down menu, click on <b>Mute Alarms</b> , or click on the  icon.
	

## Canceling mute alarms on a base station

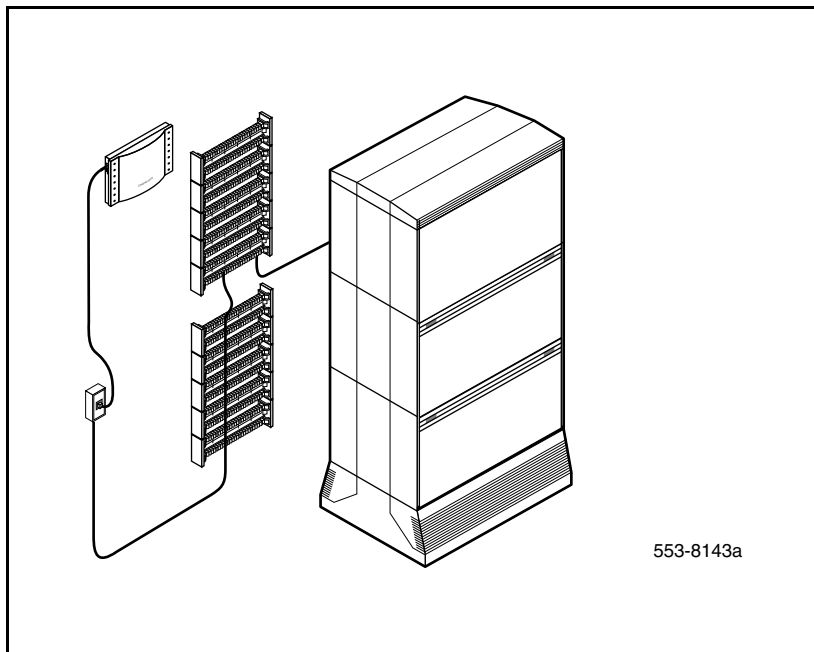
Complete the following steps.

**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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select the DMC8 to cancel mute alarms.
	Highlight the DMC8 in the list.
3	Cancel mute alarms.
	From the <b>File</b> pull-down menu, click on <b>Cancel Mute Alarms</b> , or click on the  icon.
<div>END</div>	

## 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.

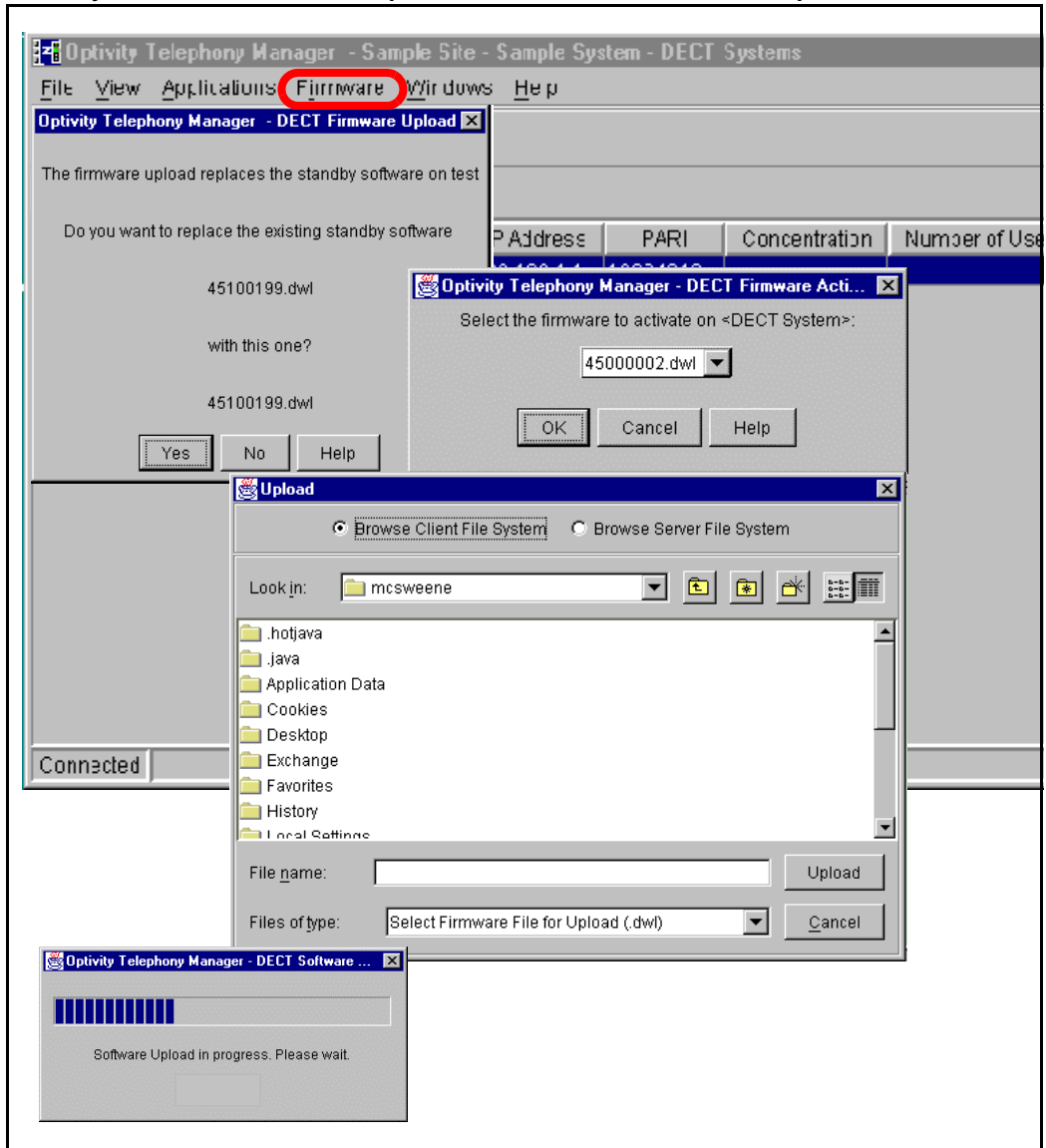
**Table 234**  
**Disconnecting/reinstalling a base station**

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.

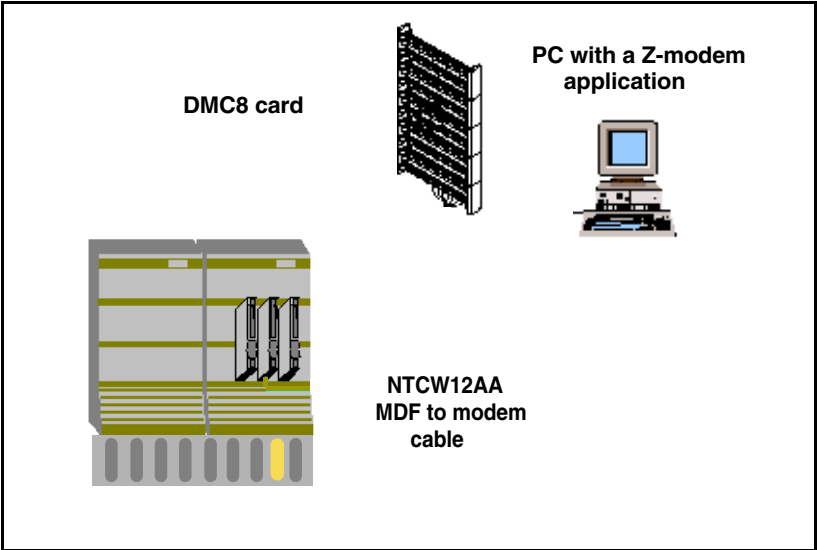
**Table 235**  
**Uploading and activating firmware**

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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Open the Firmware upload dialog.
	Select the <b>Firmware</b> pull-down menu, and click on <b>Upload</b> .
	

## 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 <a href="#">Table 237 on page 572</a> 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.
	<b>Start &gt; Programs &gt; Accessories &gt; HyperTerminal.</b>
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

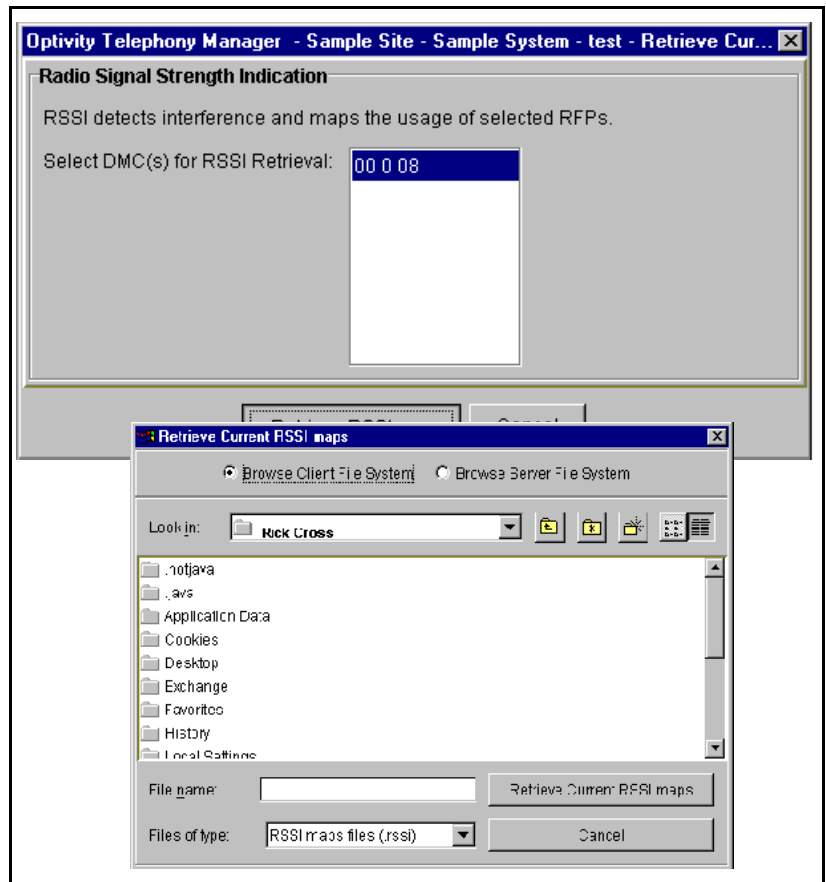


## Retrieving current RSSI data

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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select a DMC8 card or cards for RSSI information retrieval.
	Scroll and highlight a TN in the <b>Select DMC(s) for RSSI Retrieval:</b> box.
3	Retrieve the RSSI data.
	Click on the <b>Retrieve RSSI now</b> 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 :

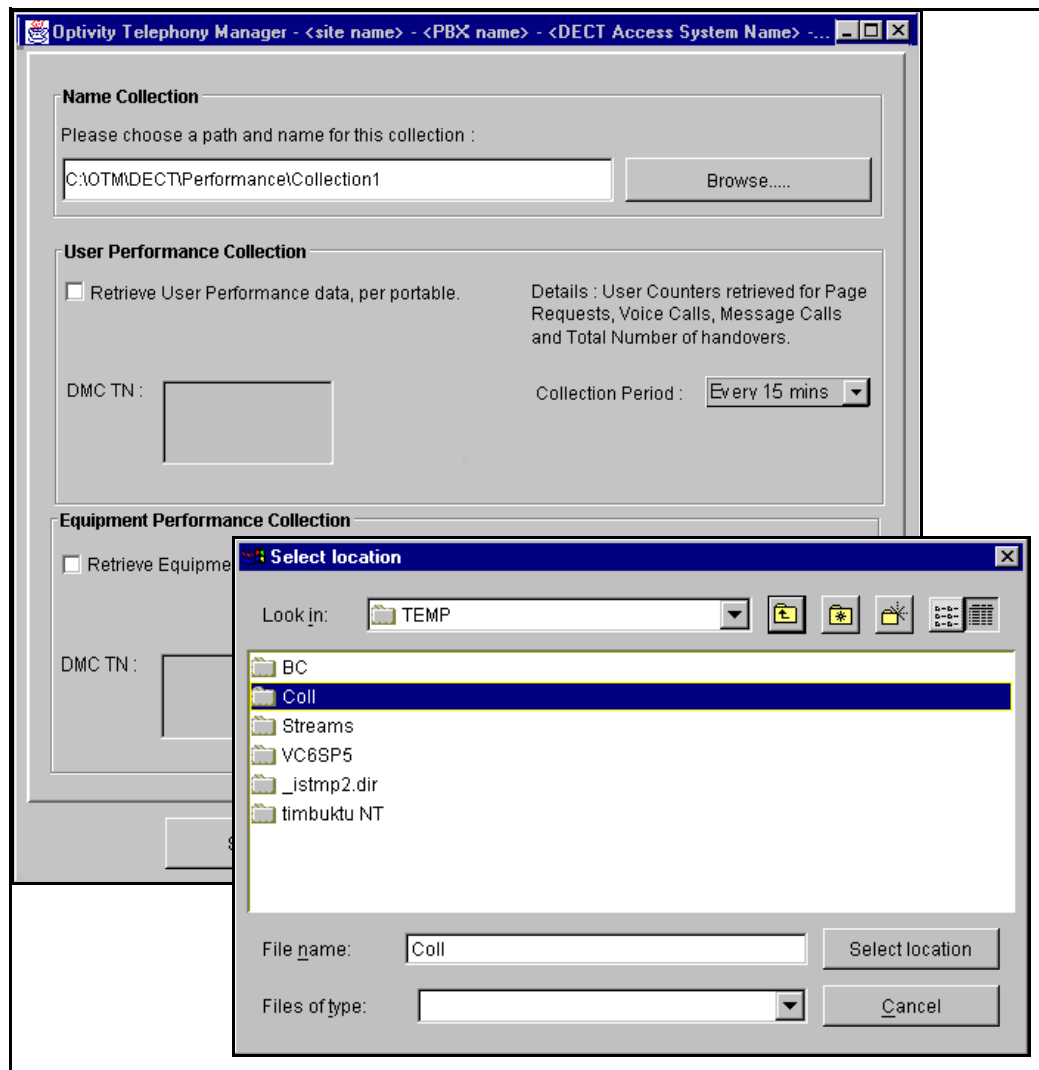
[illegible]

**RFP 2 :**

F0FFF0F0F0FFF0FFF4F0F0FF0FFF0F0F0FFF0FF8F0F0FFF0FF0F0F0F0FFF3F0F0F0FFF0F0FFF0FFF0F0F0  
FFF0F0F0F0F0FFF0F0F0F0FFF0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0FFF0F0

## 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 <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select a collection name.
	Enter a name or browse for a collection name.
3	Select the check box <b>User Performance Collection</b> or <b>Equipment Performance Collection</b> , or both.
	Click on the check box.
4	Select a collection period.  <b>Note:</b> The User Performance Collection period and the Equipment Performance Collection period are independent of each other.
	Highlight a time from the <b>Collection Period</b> box.
5	Select a DMC8 card.
	Highlight a TN from the <b>DMC TN</b> box.

**Table 239**  
**Collecting performance data: User Performance, Equipment Performance (Part 2 of 2)**

Step	Action
6	Start the collection.
	Click the <b>Start</b> button.
7	Stop the collection.
	Click the <b>Stop</b> button.
<div>END</div>	

**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. <b>See Radio Head Errors section below.</b>
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
<b>Radio Head Errors</b>	
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**

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 "Parameters" tab is selected. Inside the dialog, there are seven input fields, each with a dropdown arrow, representing different parameters: "Tone Duration (ms)", "Inter Digit Pause (ms)", "Pause Duration (s)", "Level 1 - low frequency (dB)", "Level 2 - low frequency (dB)", "A/D loss Pad - handset to system (dB)", and "A/D loss Pad - system to handset (dB)". Below these fields is a button labeled "Set to Factory Defaults". At the bottom left of the dialog is a button labeled "Advanced...". At the bottom right are four buttons: "Ok", "Cancel", "Apply", and "Help".

Parameter	Value
Tone Duration (ms):	[Dropdown]
Inter Digit Pause (ms):	[Dropdown]
Pause Duration (s):	[Dropdown]
Level 1 - low frequency (dB):	[Dropdown]
Level 2 - low frequency (dB):	[Dropdown]
A/D loss Pad - handset to system (dB):	[Dropdown]
A/D loss Pad - system to handset (dB):	[Dropdown]


Set to Factory Defaults

Advanced...

Ok Cancel Apply Help

Complete the following steps.

**Table 244**  
**Setting parameters**

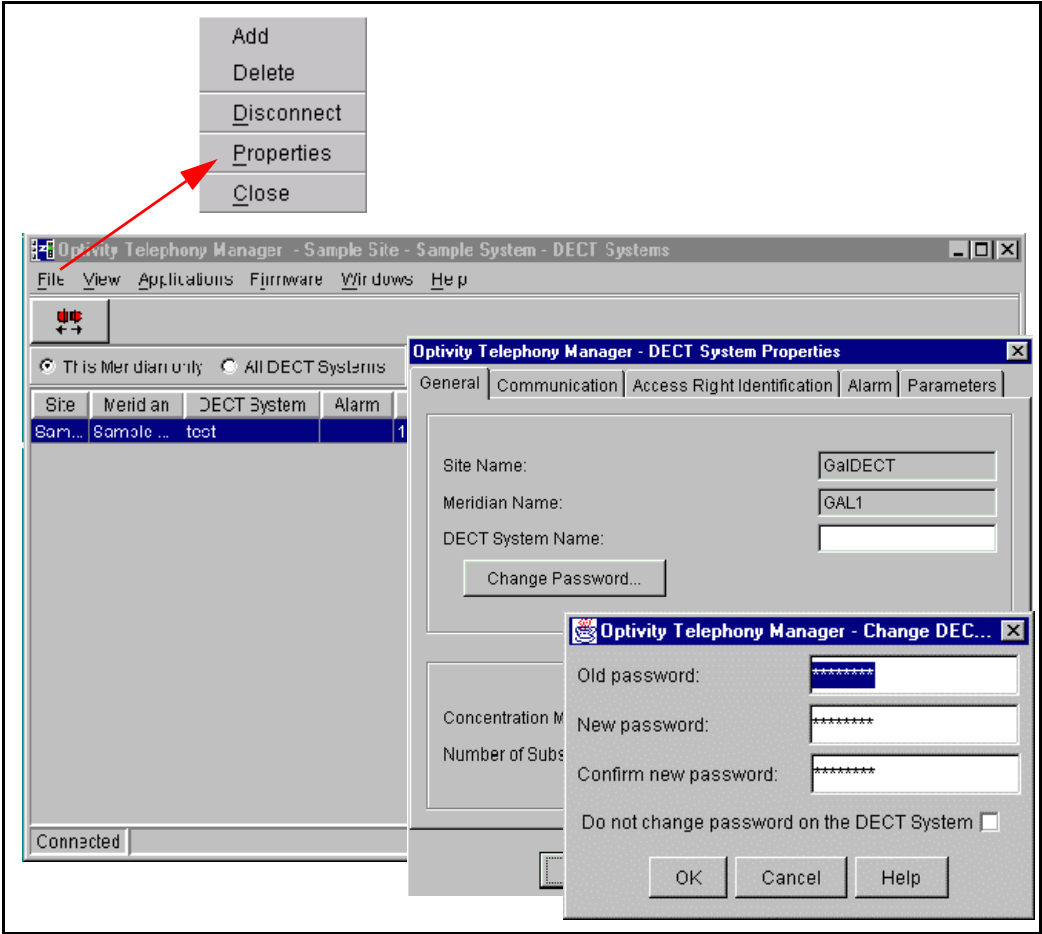
Step	Action
1	Using Windows, login to OTM. Select the system that supports the DECT system, Launch the DECT application. Open the DECT Systems window. Open the Properties dialog, and click on the Parameters tab.
	Follow the instructions on <a href="#">page 412</a> to <a href="#">page 421</a> .
2	Select the parameter.
	Select a pull-down menu item, and click <b>Apply</b> .
	

## 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 <a href="#">page 412</a> to <a href="#">page 414</a> .
2	Select password change.
	Click on <b>Change Password</b> .
3	Change to the factory default password. <b>Note:</b> The default is case sensitive.
	Type <b>Arsenal</b> in the <b>New password</b> box.
4	Confirm the password.
	Type <b>Arsenal</b> in the <b>Confirm new password</b> 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 <b>Applications</b> pull-down menu click on <b>Connect</b> 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.

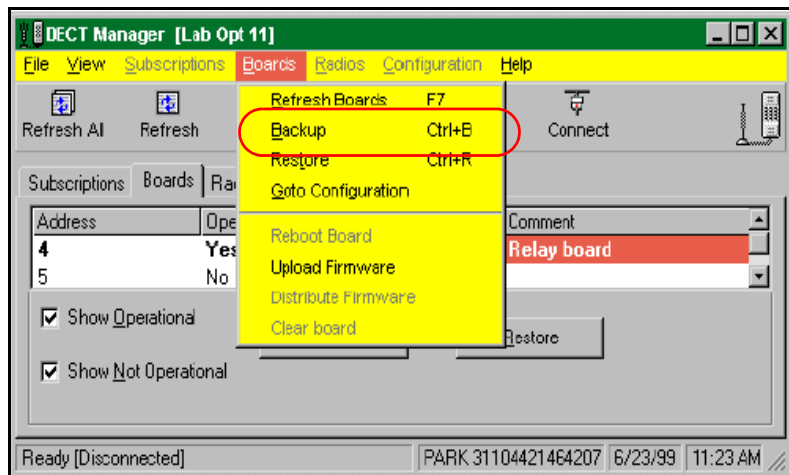
A Mixed DECT system must be managed by an OTM. In a Mixed DECT system, a DMC8/DMC8-E must be the relay card.

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**



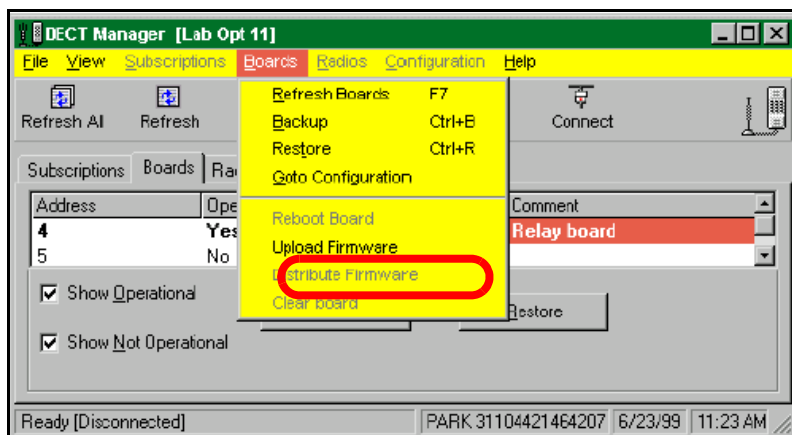
Complete the following steps.

**Table 246**  
**Backup the DMC data with Windows Manager**

Step	Action
1	Launch the Windows Manager program.
	Double click on the <b>DECT-Manager</b> icon.
2	Select the Companion system.
	Highlight the system and click on the <b>OK</b> 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 <b>Backup</b> button.
6	Close the connection to the relay card.
	From the toolbar, click on the <b>Connect</b> icon.
	


## Uploading OTM supporting firmware to the DMC4 Relay card

**Figure 328**  
**DECT Manager window**



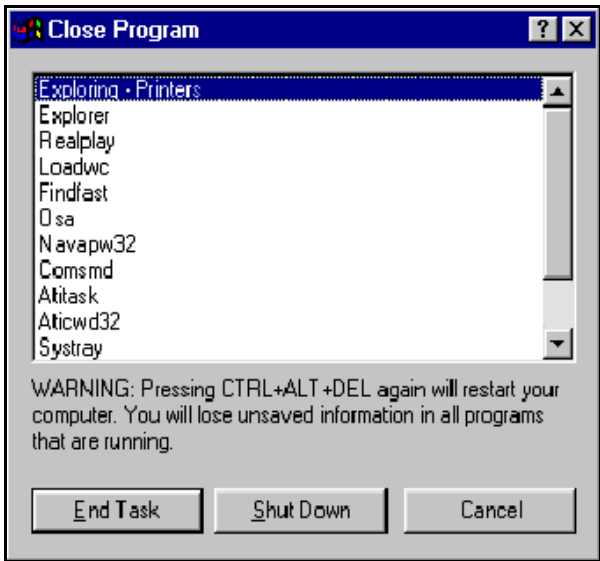
Complete the following steps.

**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 <b>OK</b> 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 <b>Boards</b> pull-down menu, click on <b>Upload firmware</b> .
	

## 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 <b>Ctrl + Alt + Delete</b> keys.
2	Disable the Windows Manager.
	Select <b>DECT Manager</b> and press the <b>End Task</b> button.
<div>END</div>	

## Changing the DMC4 Relay card default IP address

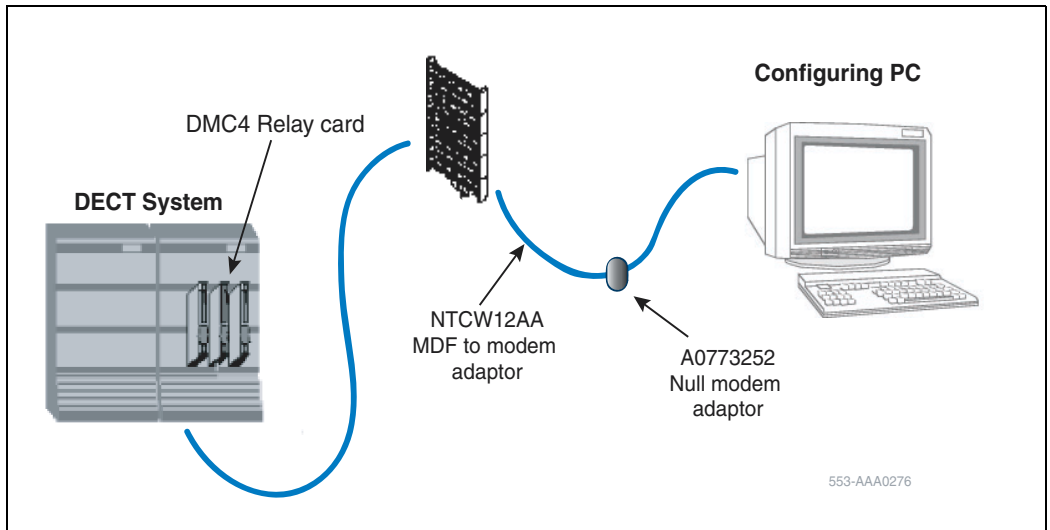
### Connect the DMC4 Relay card to a configuring PC



#### **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**

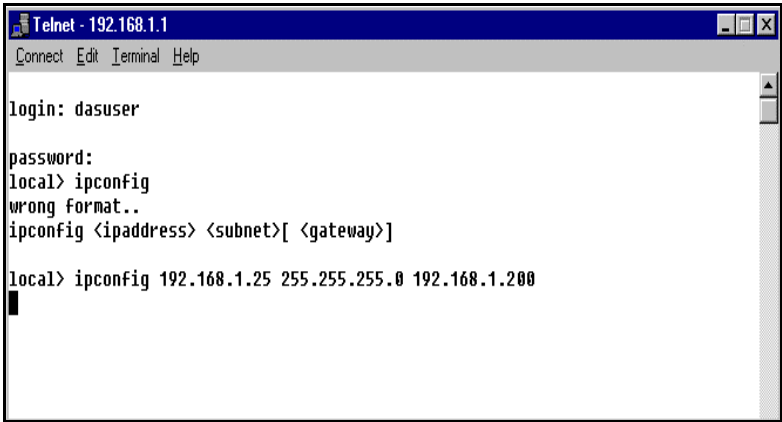
Step	Action
1	Connect the NTCW12AA cable to the Configuring PC.
	Insert the NTCW12AA cable into the A0773252 Null Modem Adaptor and connect to the Configuring PC.

END

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.**





Complete the following steps.

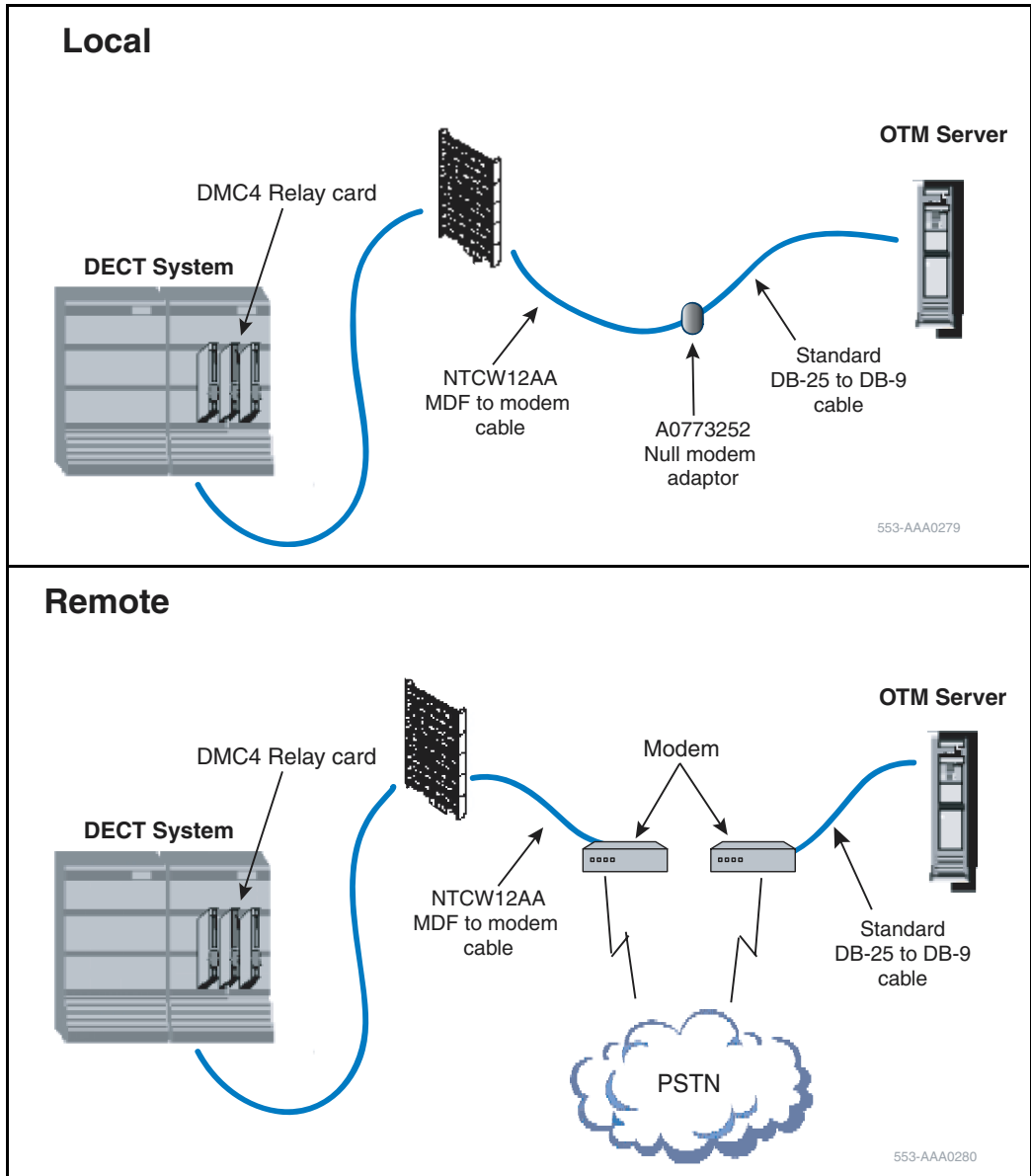
**Table 250**  
**Reset the Relay DMC4 IP address to the LAN IP address**

Step	Action
1	Open the Telnet dialog.
	Click on Start>Accessories>Telnet.
2	Enter user name and password.
	Type user name <b>dasuser</b> and password <b>dasuser</b> .
3	When the connection prompt <b>local</b> appears, change the Relay DMC4 card address.
	<p>Enter the following command:</p> <p><b>ipconfig xxx.xxx.xxx.xxx yyy.yyy.yyy.yyy zzz.zzz.zzz.zzz</b></p> <p><b>xxx.xxx.xxx.xxx</b> = new IP address of the Relay DMC4 card.</p> <p><b>yyy.yyy.yyy.yyy</b> = subnet mask, usually <b>255.255.255.0</b></p> <p><b>zzz.zzz.zzz.zzz</b> = IP address if this is the gateway for the network.</p> <p><b>Note:</b> <b>zzz.zzz.zzz.zzz</b> should be set to the IP address of the OTM server Ethernet interface. If there are two Ethernet interfaces on the OT server, <b>zzz.zzz.zzz.zzz</b> 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.

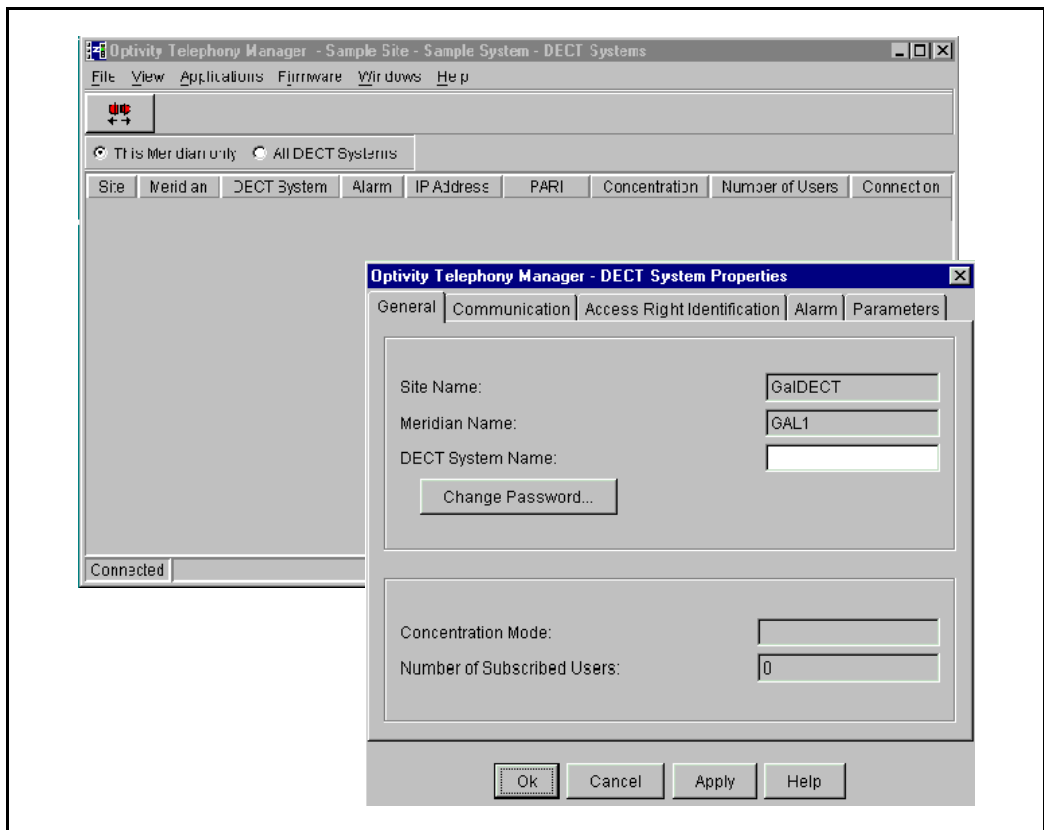
**Table 251**  
**Connect the DMC4 Relay to the OTM server**

Step	Action
1	Connect the OTM server to the DMC4 Relay card.
	Refer to “Adding a V.24 serial connection” on <a href="#">page 348</a> .
	

## 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**

<b>Step</b>	<b>Action</b>
<b>1</b>	Open the DECT System Properties dialog.
	Pull down <b>File&gt;Add</b> .
<b>2</b>	Enter the DECT system name.
	Type the system name in the <b>DECT System Name</b> box.
<b>3</b>	Accept the changes.
	Click on the <b>Apply</b> button.
	

## Setting the DECT system IP address to match the DMC4 Relay card


**Figure 334**  
**System Properties – Communication**

The screenshot shows a Windows-style dialog box titled "Optivity Telephony Manager - DECT System Properties". It has five tabs: "General", "Communication", "Access Right Identification", "Alarm", and "Parameters". The "Communication" tab is selected. Inside the dialog, there are three text input fields labeled "IP address:", "Subnetwork Mask:", and "Gateway IP Address:". Below these fields is a section with a "Permanent Connection" checkbox (which is unchecked) and a "Close Connection" button. Further down, there are two radio buttons: "Ethernet" (which is selected) and "Serial". Next to the "Serial" radio button is a "Details..." button. At the bottom of the dialog are four buttons: "Ok", "Cancel", "Apply", and "Help".

Complete the following steps.

**Table 253**

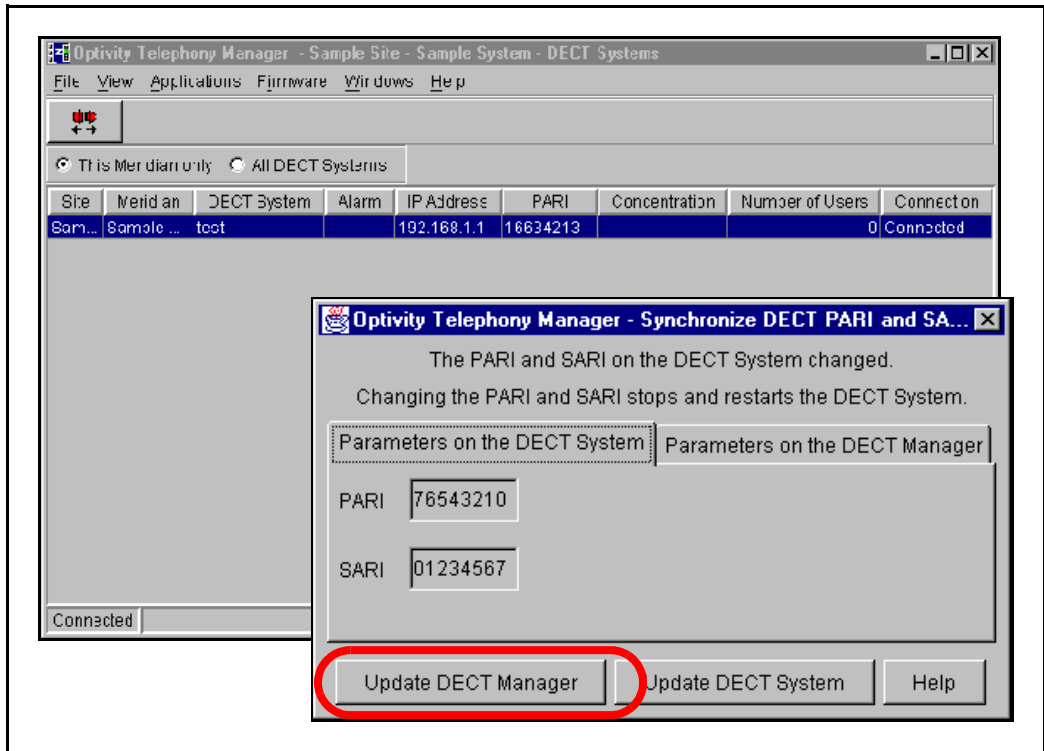
**Set the IP address of the DMC4 Relay card in the manager**

Step	Action
1	Open the Communications dialog.
	Click on the <b>Communications</b> tab.
2	Enter the IP address.
	Type the IP address that was entered in <a href="#">Table 250 on page 597</a> .
3	Select <b>Serial</b> .
	Click on <b>Serial</b> radio button, and go to “Adding a V.24 serial connection” on <a href="#">page 348</a> .
4	Accept the changes.
	Click on the <b>OK</b> button.
	<b>Note:</b> 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





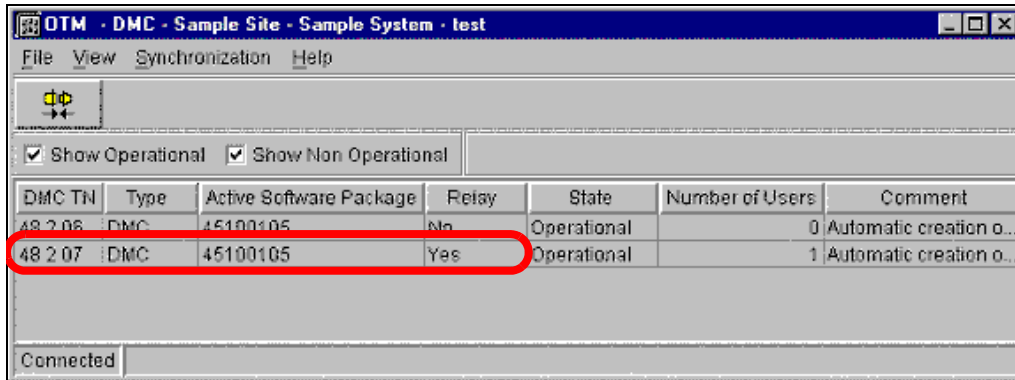
Complete the following steps.

**Table 254**  
**Synchronize data with the DECT system**

Step	Action
1	If the toolbar icon is <b>red</b> , indicating the DECT system connection is enabled, disconnect from the DECT system.
	Double click on the icon, or use <b>File&gt;Disconnect</b> . Go to step 3.
2	If the toolbar icon is <b>green</b> .
	Go to step 3.
3	Re-connect to the DECT system.
	Double click on the red icon, or use <b>File&gt;Connect</b> .
4	Store the DECT system data in the OTM Manager database.
	Click on the <b>Update DECT Manager</b> button on all synchronization dialogs.
	


## Confirming the active software package on the DMC4 Relay card

**Figure 336**  
DMC window and DECT Board properties dialog



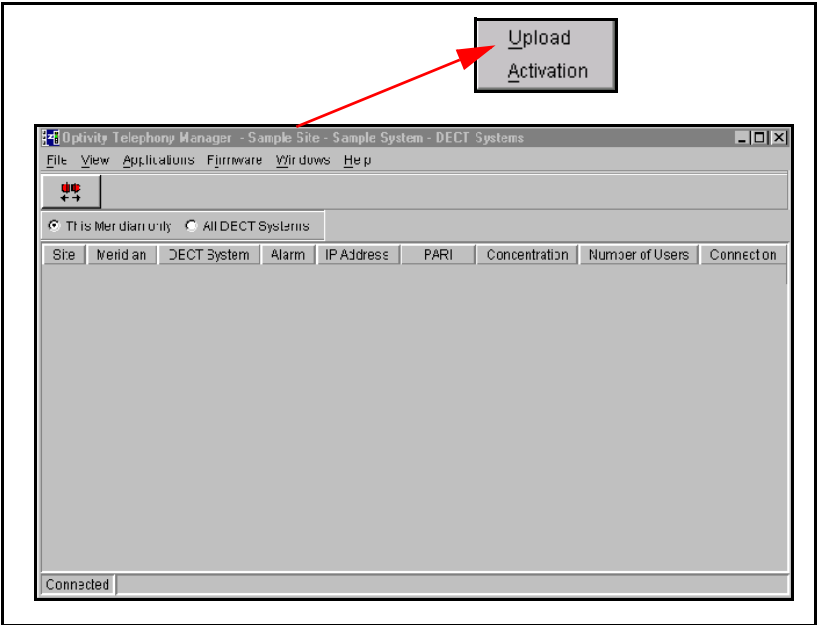
Complete the following steps.

**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 <a href="#">page 592</a> .
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 <a href="#">page 592</a> to all DMC4s.
	From the <b>Firmware</b> pull-down menu, click on <b>Activate</b> .

END

Monitoring the firmware activation

Figure 338  
DMC window

DMC TN	Type	Active Software Package	Reply	State	Number of Users	Comment
48206	DMC	45100105	No	Operational	0	Automatic creation o...
48207	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 <a href="#">page 592</a> .
<div>END</div>	

---

## Appendix B: Performance Collection file samples

---

### Equipment Performance Collection file sample

```

<?xml version="1.0"?>
<file>
<header>
<systeminfo PARI="44446666"/>
<boardinfo boardnumber="24"/>
<package package_id="45100105"/>
</header>
<data>
<boardstat>
<dateandtime>2001,1,12,18,17,37,0</dateandtime>
<counters>0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0</counters>
</boardstat>
<rfpinfo>
<rfpstat rfp="1">
<dateandtime>2001,1,24,19,50,9,0</dateandtime>
<counters>1,0,0,0,8,420,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0</
counters>
</rfpstat>
<rfpstat rfp="2">
<dateandtime>2001,1,24,19,50,13,0</dateandtime>
<counters>1,0,0,0,8,420,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0</
counters>
</rfpstat>
<rfpstat rfp="3">
<dateandtime>2001,1,24,19,50,13,0</dateandtime>

```

[illegible]

```
</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>0,0,0,0,0,0,0,0,0,0,0,0,0,0,255</counters>  
    </ppstat>  
  </data>  
</file>
```







Meridian 1, Succession 1000,  
Succession 1000M

## **DECT**

### **Description, Planning, Installation, and Operation**

Copyright © 2003 Nortel Networks

All Rights Reserved

Information is subject to change without notice. Nortel Networks reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of Industry Canada. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

SL-1, Meridian 1, and Succession are trademarks of Nortel Networks.

Publication number: 553-3001-370

Document release: Standard 1.00

Date: October 2003

