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Nortel Communication Server 1000

Hospitality Features Fundamentals

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Contents

4

Background Terminal Command Summary   143

Contents   143

New in this release

Features

This are no new features introduced with this release.

Other

Revision history

May 2010

Standard 04.01. This document is up-issued to support Communication Server 1000 Release 7.0.

May 2009

Standard 03.01. This document is up-issued to support Communication Server 1000 Release 6.0.

December 2007

Standard 02.01. This document is up-issued for Communication Server 1000 Release 5.5.

June 2007

Standard 01.02. This document is up-issued to remove the Nortel Network confidential statement.

May 2007

Standard 01.01. This document is issued to support Communication Server 1000 Release 5.0. This document contains information previously contained in the following legacy document, now retired: *Hospitality Features: Description and Operation (553-3001-353)* (). No new content has been added for Communication Server 1000 Release 5.0. All references to Communication Server 1000 Release 4.5 are applicable to Communication Server 1000 Release 5.0.

August 2005

Standard 3.00. This document is up-issued to support Communication Server 1000 Release 4.5.

September 2004

Standard 2.00. This document is up-issued for Communication Server 1000 Release 4.0.

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:

- 553-2311-316 Background Terminal Facility Description
- 553-2691-100 Message Center Description and Operation
- 553-2701-101 Message Registration Description and Operation
- 553-2801-100 Buffer Interface/Protocol Converter Description
- 553-2801-101 Property Management System Interface Description

Introduction

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

Subject

This document provides:

- guidelines for hospitality and health care personnel who use Background Terminal (BGD) to enter, retrieve, and modify data

- description and operation information for the Message Center (MC)

- description and configuration information for Message Registration (MR)

- feature, message control, and installation and configuration information for the Property Management System Interface (PMSI)

Note on legacy products and releases

This NTP contains information about systems, components, and features that are compatible with Nortel Communication Server 1000 Release 5.5 software. For more information on legacy products and releases, click the **Technical Documentation** link under **Support & Training** on the Nortel home page:

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Applicable systems

This document applies to the following systems:

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Communication Server 1000E (CS 1000E)

- Meridian 1 PBX 11C Chassis (Meridian 1 PBX 11C Chassis)

- Meridian 1 PBX 11C Cabinet (Meridian 1 PBX 11C Cabinet)

- Meridian 1 PBX 61C

- Meridian 1 PBX 81C

  Note: When upgrading software, memory upgrades may be required on the Signaling Server, the Call Server, or both.

System migration

When particular Meridian 1systems are upgraded to run CS 1000 software and configured to include a Signaling Server, they become CS 1000 systems. Table 1 "Meridian 1 systems to CS 1000 systems" (page 10)lists each Meridian 1 system that supports an upgrade path to a CS 1000 system.

Table 1
Meridian 1 systems to CS 1000 systems

This Meridian 1 system...	Maps to this CS 1000M system
Meridian 1 PBX 11C Chassis	CS 1000E
Meridian 1 PBX 11C Cabinet	CS 1000E
Meridian 1 PBX 61C	CS 1000MSingle Group
Meridian 1 PBX 81C	CS 1000MMulti Group

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

- *Communication Server 1000M and Meridian 1 Small System Software Upgrade (NN43011-459)* ()

- *CS 1000M and Meridian 1 Large System Upgrades Overview (NN43021-458)* ()

- *Communication Server 1000E Upgrades (NN43041-458)* ()

Intended audience

This document is intended for individuals responsible for:

- Background Terminal (BGD) administration and maintenance for hospitality and health care systems

- Message Center (MC) administration

- Message Registration (MR) administration

- Property Management Systems Interface (PMSI) message control, installation, and configuration

Conventions

Terminology

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

- Communication Server 1000M (CS 1000M)

- Communication Server 1000E (CS 1000E)

- Meridian 1

The following systems are referred to generically as "Small System":

- Meridian 1 PBX 11C Chassis

- Meridian 1 PBX 11C Cabinet

The following systems are referred to generically as "Large System":

- Communication Server 1000M Single Group (CS 1000M SG)

- Communication Server 1000M Multi Group (CS 1000M MG)

- Meridian 1 PBX 61CCP PII, CP IV

- Meridian 1 PBX 81CCP PII, CP IV

Related information

This section lists information sources that relate to this document.

NTPs

The following NTPs are referenced in this document:

- *Meridian Link ISDN/AP General Guide (553-2901-100)* ()

- *Features and Services Fundamentals (NN43001-106)* ()

- *Software Input Output Administration (NN43001-611)* ()

- *Automatic Call Distribution Fundamentals (NN43001-551)* ()

- *Telephones and Consoles Fundamentals (NN43001-567)* ()

The following standards and recommendations are also referenced in this document:

- EIA Standard RS-232-C
  Interface between Data Terminal Equipment (DTE) and Data

Communication Equipment (DCE) employing serial binary data interchange

- CCITT Recommendation V.24
  List of definitions for interchange circuits between Data Terminal Equipment (DTE) and Data Circuit-terminating Equipment (DCT)

- ISO Standard 2110-1980
  Data Communication, 25-pin DTE/DCE interface connector and pin assignments

  Note: EIA RS-232-C and CCITT V.24 are equivalent standards.

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Overview

Contents

This section contains information on the following topics:

Background Terminal

Hospitality and health care personnel use Background Terminal (BGD) to enter, retrieve, and modify data associated with the following features:

- Automatic Wake Up (AWU)
- Room Status (RMS)
- Message Registration (MR)
- Call Party Name Display (CPND)

BGD helps monitor system operations by providing a visual display of information changes, hard copy backup, and traffic statistics.

BGD helps you manage your system by carrying out orders that you type in from a terminal keyboard. BGD also provides you with information to help you figure out how to operate your system to best meet your needs.

See "Background Terminal" (page 21) for various system and individual options available through BGD.

Background Terminal (BGD) package 99 must be equipped on the system. Package 99 requires that Controlled Class of Service (CCOS) package 81 and one or more of the following packages be equipped. Your application may also require some additional feature packages. Refer to *Features and Services Fundamentals (NN43001-106)* () for complete package requirements.

- Room Status (RMS) package 100

- Message Registration (MR) package 101

- Automatic Wake Up (AWU) package 102

- Property Management Systems Interface (PMSI) package 103

- Hospitality Screen Enhancement (HSE) package 208

- Maid ID (MAID) package 210

You can use the Background Terminal (BGD) to:

- Display message queue size. In response to customer requests, the system displays messages that reflect event changes for rooms associated with Automatic Wake Up, Message Registration, or Room Status. The queue size ranges from 20 to 255 messages and is defined in the system Configuration Record (LD 17). The default value is 20 messages, and the message length is six words.

  The messages are collected for customers who have Display Terminals. The actual messages are output only to the BGD that has been defined as a Display Terminal.

- Define name strings associated with Room Directory Numbers (DNs), and to print these names for specified rooms.

- Provide Call Number Information Messages (CNIMs) that provide calling and called DN information to BGD ports. This facilitates the automatic display of guest names or other DN-related information.

- Generate traffic reports. Wake Up and display message statistics are accumulated daily starting at midnight and stored in the system for a maximum of two days. When a Print Traffic command is issued, the report for the day is printed.

Background Terminal connection

As with the Property Management System (PMS), the BGD is connected to the system with an SDI port, and in many cases, both the BGD and PMSI link are configured into the system. This means that, for example,

when a craftsperson enters a Check In command from a BGD terminal, an updated Room Status message is displayed on the BGD and is also transmitted to the PMS.

Automatic Wake Up

Automatic Wake Up enables the system to place wake-up calls automatically. An attendant enters the wake-up information specified by the guest or the guest enters the wake-up information from their room telephone. At the appointed time, the system places the wake-up call. Upon answering, the guest hears a recorded wake-up announcement or a personal wake-up message.

If the call is unanswered after one to three attempts, or if it is blocked by heavy traffic or system malfunction, it is either returned to the attendant or disconnected, depending on the option selected in the software (LD 15).

You can use the BGD to enter a wake-up call request and to retrieve wake-up call information. You can find out the wake-up times that have been set for a guest's telephone or for a group of telephones.

A map or hour-by-hour (shown in five-minute increments) summary of a day's wake-up calls is also available. You can also get a continuous printout or display of any or all wake-up events as they occur.

For further information, refer to . For a complete description of Automatic Wake Up, refer to *Features and Services Fundamentals (NN43001-106)* ().

Message Center

Message Center allows an incoming trunk or internal call to be automatically routed to a Message Center if it is not answered at the original destination. Calls coming into a Message Center can be direct or indirect. The main functions of the Message Center are as follows:

- receive and take messages for calls forwarded to the Message Center
- convey messages to called telephones or consoles on request
- activate and deactivate Message Waiting Indication at users' telephones

Automatic and manual diagnostics are provided to clear all active Message Waiting Indications when required. The following types of Message Center operations are offered:

- Automatic Call Distribution (ACD)

- digital telephone

- attendant

Depending on the packages equipped, you can have any Message Center option or combination of options.

Message Registration

Message Registration (MR) is an optional software package that meters local calls over designated central office (CO) trunks and allows hotel management to monitor all completed local calls made from the hotel telephone system.

The MR feature counts Reverse Battery (RVB) pulses from outgoing loop start or ground start CO trunks. Each DN and trunk in your system can have a software meter assigned, which stores a "pulses received" count for calls made. Each meter is assigned to a Directory Number (DN) or trunk access code that requires metering. You can access these meters using your terminal.

Any pulses the system cannot assign to a particular DN or trunk meter are accumulated in the customer meter. This meter can be accessed using your terminal just as the others can, but it cannot be turned off.

The commands you need to retrieve, alter, or to print the contents of the meters in your system are explained in . Any reply to your Message Registration commands will identify the type of meter concerned: administration (ADMN) or guest room (ROOM) telephone, Attendant Console (ATTN), trunk (TRK), or the customer meter (CUST).

The Message Registration feature allows each customer within the system to keep an accurate record of CO calls for billing and administration purposes:

- Each DN of three or more digits, including the attendant DN, can be assigned a software meter. For multiple appearance DNs, one meter is assigned to meter all calls to the Prime DN (PDN). Stations with multiple DN keys have a meter allocated for each DN key.

- Meters can also be assigned to TIE trunk routes. A TIE route meter can be assigned to the route access code of each TIE route in the customer group. An access code for a metered route must be at least three digits long.

- Outgoing calls from guest room telephones are usually monitored for billing and other administrative purposes. Meters can also be assigned

to any administration telephones and trunks the hotel management wishes to monitor.

- The system automatically assigns one customer meter for each customer within the system. This customer meter is used to store pulses that cannot be added to particular DN or trunk meters assigned in the customer group.

Software meters are assigned in LD 10 and LD 11. Each meter number corresponds to the DN or trunk access code to which it is assigned. Meters can be either ON or OFF. When a meter is turned off, pulses received are not stored. The customer meter is always on and cannot be turned off. Meters can also be turned on or off individually or in groups, using a BGD.

You can turn meters on and off as required. You can also get a continuous printout or display of Message Registration changes as they occur.

Each software meter can store up to 32 766 pulse counts before automatically resetting to 0. When a meter is reset, a message is printed on the system maintenance terminal, the BGD, or both, indicating that a reset occurred. Overflow messages display information on meter contents for any DN or trunk access code requested:

- Station or trunk TN
- Station DN or the trunk-access code
- Trunk TN (outgoing CO trunk used for the call)
- Customer number for their station or trunk
- Meter count before reset (32766)

The message for a customer meter overflow appears as follows:

    CUST MTR xx OVF 32766

When equipped with the MR feature, the system is capable of the following provisions:

- Attendants are able to meter outgoing local calls over CO routes.
- Meter contents are accessible from digital telephones equipped with digit display and a Message Registration key/lamp pair.
- Meter contents are also accessible from BGDs.

The system uses Class of Service to distinguish between room phones and administrative phones. Room phones have Controlled COS Allowed (CCSA), while administrative phones have Controlled COS Denied (CCSD). Call charges and meter data provided to the attendants appear on the BGD and are classified into five categories:

ROOM	guest room DN (CCSA)
ADMN	administrative phones (CCSD)
ATTN	attendant consoles
TRK	outgoing CO trunks
CUST	customer DNs

Refer to *Features and Services Fundamentals (NN43001-106)* () for more information on Message Registration.

Flexible Direct Inward Dialing

Prior to the introduction of the Flexible Direct Inward Dialing (FDID) feature, hotels were required to purchase a large number of DID numbers that matched the number of hotel guest rooms. These DID DNs had to be coordinated with the local exchange and became permanent in the system.

The FDID feature allows hotels to assign a temporary DID number to a guest room using a Property Management System (PMS) or Background Terminal (BGD).

When a guest checks into a hotel and requests a direct line to their room, the request is entered in the PMS or BGD. A PMS message is then sent to the system to associate the FDID to the guest's room telephone.

When a guest checks out, a PMS message is sent to the system to cancel the FDID number associated with the guest's room telephone. The canceled FDID DN is then returned to the PMS system as an available DID and can be assigned to another guest. Incoming calls to a canceled FDID DN are rerouted to the Attendant DN.

Note: The range of available FDID DNs must be large enough so the same DN is not reassigned immediately.

Only incoming DID calls are affected by FDID. Outgoing calls and room-to-room calls are not affected.

Maid Identification

The Maid Identification, or Maid ID, feature makes it easier to keep track of which maids clean which rooms. Maid ID introduces a new keyword, MI, and a one- to four-digit Maid ID.

The MI keyword is used with the Background Terminal Set Status command when a room's cleaning status is changed. The Maid ID number, which accompanies the MI keyword, uniquely identifies a maid.

The following features allow the Maid ID to be entered as part of the room cleaning status:

- Background Terminal (BGD) Set Status command
- Room Key (RMK) operation
- Dial Access method
- Off-hook Detection, and
- Controlled Class of Service (CCOS) key operation.

For Off-hook Detection and CCOS key operation, the Maid ID always defaults to zero (0).

Property Management System Interface

The Property Management System Interface is an optional software package (package 103) that allows the system to interface directly with a customer-provided Property Management System (PMS) through a Serial Data Interface (SDI) port. This provides an effective means of information between the PMS and the system.

Note: A PMS typically consists of a computer, terminal(s), and software to perform billing and property management functions within the hotel/motel environment.

Both the PMS and the system have independent copies of the database. Therefore, when the system updates its database, the PMS must be informed so both databases are kept current.

Commands can be entered from a PMS associated with a terminal, a background terminal, or a telephone. If you issue a command from a telephone or a background terminal, the system will update its database and the new status will be sent to the PMS. However, if a command is entered from the PMS terminal, this command is sent to the system and the system updates its database accordingly.

To ensure that all your commands are received correctly, issue only single-room DN commands at one time. Room cleaning status changes initiated by the cleaning staff from guest room telephones are provided to the PMS from the system. These changes are initiated by Off Hook Detection, Dial Access, using a Room Status key (RMK), or by direct entry from the Background Terminal (BGD).

The BGD and NortelHospitality Messaging Server 400 (HMS 400) interact closely with the PMSI.

Hospitality Messaging Server 400

The Hospitality Messaging Server 400 consists of the system and the Meridian Mail Server (MMS). It uses the PMSI link (link between the PMS and the system) to automate processes, such as setting up mailboxes for hotel guests and creating group distribution lists. For example, a Check In message sent from the PMS will be used to set up a hotel guest's voice mailbox with a default greeting and new password.

The MMS is located between the system and the PMS in a NortelHospitality Integrated Voice Services system, and any command that is transmitted by the PMS is always intercepted and filtered by the MMS. Similarly, whenever a status message is sent by the system, this message will always pass through the MMS first, before it is passed to the PMS. For more information on Integrated Voice Services, refer to *Features and Services Fundamentals (NN43001-106)* ().

Background Terminal

Contents

This section contains information on the following topics:

Background Terminal system options

The following system options are available through the Background Terminal (BGD):

- Assign BGD terminal options, such as read only, read/write, and print only.

- Assign unique identification codes to terminals.

- Restrict terminal access to features.

- Direct printouts to specific terminals.

- Assign automatic daily routines.

- Allow or deny range entry for room DNs.

- Allow or deny the substitution of X in a room DN.

- Provide a confirmation message each time data is manually changed by entering a terminal command.

- Provide Automatic Wake Up traffic statistics, and display messages.

- Assign unique two-letter language identifiers for use with Multi-Language Automatic Wake Up.

Individual feature options

The following individual feature options are available through the BGD.

Automatic Wake Up

- Set automatic display of particular types of wake-up events as they happen.

- Set the activation time for secondary wake-up announcement.

Message Registration

- Set a unit cost figure to generate total call charges for metered calls.

- Set the automatic display option for particular DNs; on for some, off for others.

Room Status

- Set the ready-for-sale print criteria.

- Set the language ID for Automatic Wake Up messages.

- Set the time for automatic update of room cleaning status.

- Define automatic room status applied with check-in command.

- Set automatic display of room status changes from particular sources as they happen.

- Assign guest rooms to categories.

Call Party Name Display

- Set CPND name assignments for eligible DNs.

Accessing the Background Terminal

The BGD mode is automatically accessed; no login procedures are necessary. Use the LOGI password sequence for service change administration access, if configured.

After logging out of the Service Change Administration mode, the terminal reverts to its previous parameter settings in the Background mode. The Background command set is recognized again.

Note: After service change, the BGD terminal is ready for use. It has unrestricted access to the BGD features.

Commands

The BGD is command-oriented. In order to accomplish any task in a Background Terminal, a command must be entered. Command keywords define the action and the feature to which the action is to be directed. Only the first two characters of any command keyword need to be typed on a command line.

- Commands are terminated by pressing the return key <CR>.

- Time is entered and retrieved using the 24-hour clock.

- Entering **** stops the current activity.

Items shown in bold upper-case characters (**SE**, for example) are actual commands expected by the system, except for values in parenthesis. Items in parenthesis are default or optional values and need not be entered.

Items shown in non-bold lower-case characters represent variables. They indicate the form that information should take and are not typed in as they appear. For example, the range of directory numbers for a set of rooms is represented by "dn1 dn2."

Directory Number Expansion

Directory Number Expansion (DNXP) allows an internal DN to have up to seven digits. If this package is equipped, any BGD command, response, or display containing a DN field is expanded to accommodate up to seven digits.

User modifications

The customer or user may want to change certain system criteria or impose certain system and/or terminal restrictions by changing the BGD option settings. This customizes the BGD arrangement to suit the needs of the customer.

Configuring port and identification codes

All BGD TTYs are assigned Physical SDI Device Numbers associated with their assigned ports. The ports or terminals in your system each have a number to identify them, and they can also be assigned a two-letter port ID. In order to print something at a terminal other than the one at which you are typing, that terminal must have a port ID. The port ID can be two letters or a letter and a number; it cannot be completely numeric.

The following combinations of letters cannot be used because they are used in commands:

AU, FI, IS, LO, ME, OP, PO, PR, SE, ST, TR, WA

To assign a two-letter port ID to a terminal:

SEt OPtion IDentifier nn id <CR>

where

nn = port number
id = two-letter ID

To change the port ID of a terminal:

SEt OPtion ID oldname newname <CR>

Printing port information
To print port information, use the following print commands:

(PRint) POrt
This command prints the current setting for all terminals.

(PRint) OPtions
This command prints the current option setting for all terminals.

Configuring terminals

This section describes how to set which terminals will be allowed to perform which functions. You can impose the following types of restrictions:

- **Restrict terminal to a feature or features.** A terminal can be allowed to set Automatic Wake Up, Message Registration, Room Status, or Call Party Name Display only, or any combination of these features.

- **Restrict access to data.** A terminal can be allowed to either change values or just read information. A terminal can be assigned to print reports or to display messages. For just printing or display, you can use a printer that does not have a keyboard.

Restricting terminal features

To allow a particular terminal to set system features:

        SEt OPtion POrt portID item(s) (ON) <CR>

To deny a particular terminal permission to set system features:

        SEt OPtion POrt portID item(s) OFf <CR>

To see what all the terminals in your system are currently set to (see for a sample listing):

        (PRint) POrt <CR>

Operating parameters

You can use the following options in the listed commands:

- MEter
- OPtion
- STatus
- WAke
- Call Party Name Display

An OPtion terminal is one that can change the configuration and the options for the whole system. You must retain at least one terminal as the OPtion terminal.

Any combination of features is possible. For example, a terminal that can be used for both Room Status and Automatic Wake Up, but not for Message Registration, would be set to STatus WAke.

Restricting terminal access to data

To allow access to data:

    SEt OPtion POrt portID item(s) (ON) <CR>

To restrict access to data:

    SEt OPtion POrt portID item(s) OFf <CR>

To allow a terminal to read data but not change it:

    SEt OPtion POrt portID REad (ON) <CR>

To designate a terminal as a printer:

    SEt OPtion POrt portID PRint (ON) <CR>

To prevent a terminal from being able to change data:

    SEt OPtion POrt portID SEt OFf <CR>

Operating parameters

The choices you can use as items in the preceding commands are the following:

- SEt can change data

- REad allows read only, cannot change data

- DIsplay displays messages

- PRint prints reports requested at another terminal

Any combination of these is possible.

You can combine feature restriction and access restriction. When typing the command the feature comes first, the access second. For example

    SEt OPtion POrt portID WAke DIsplay (ON) <CR>

would assign to this terminal the job of displaying wake-up messages.

    SEt OPtion POrt portID MEter PRint (ON) <CR>

would assign this terminal to be the printer for the Message Registration feature.

> *Note 1:* You must have one OPtion terminal that can reset system options if required in the future.

Note 2: Only one terminal can have its restrictions changed in each command line. You may use either the terminal's number or two-letter port ID to identify it.

Note 3: You cannot turn options ON and OFf in the same command. ON or OFf always come at the end of the command.

Note 4: To set everything OFf for a particular terminal, type `SEt OPtion POrt portID OFf <CR>`

Table 2 "BGD Set command (to restrict or allow access to features examples)" (page 27) illustrates the Set command.

Table 2
BGD Set command (to restrict or allow access to features examples)

Input	Comments
`SEt OPtion POrt portID WAke (ON) <CR>`	Allow this terminal to access Automatic Wake Up
`SEt OPtion POrt portID STatus OFf <CR>`	Restrict this terminal from accessing Room Status

Managing terminal restrictions

Use Procedure 1 "Managing terminal restrictions" (page 27) to manage terminal restrictions more easily.

Procedure 1
Managing terminal restrictions

Step	Action
1	Decide what you want each terminal to do.
2	Decide which terminal will be the OPtion terminal, retaining control over what the others can do.
3	Using this terminal, turn OFf everything on each of the others (see Note "4" (page 27) on "4" (page 27) .
4	Turn ON what you want.

--End--

Defining options for the Set command

The four options you can define for the Set command are the following:

- ALl

- X substitution

- RAnge

- COnfirm

You can choose to disallow the setting of all DNs to some value.

To disallow the setting of all DNs to some value:

    SEt OPtion ALl OFf <CR>

To disallow the use of X to represent all possible values 0–9 of a digit in a DN, so that groups of DNs which have some pattern may all be set to some value:

    SEt OPtion X OFf <CR>

    For example:

    A certain class of rooms ends with 6.
    12X6 will set 1206, 1216, 1226, 1236, and so on.

    All rooms on the 14th floor have DNs which start with 14.
    14XX will set 1400-1499 to some value.

To disallow a sequential range of DNs to be set to a value by giving the first and last numbers in the range:

    SEt OPtion RAnge OFf <CR>

Note: If the RAnge option is set off, ALl is also set off.

To disallow your input to be echoed or repeated on the line underneath for confirmation:

    SEt OPtion COnfirm OFf <CR>

To turn all options off:

    SEt OPtion OFf <CR>

To turn all options on:

    SEt OPtion ON <CR>

Operating parameters

More than one option can be entered on each command line. For example,

    SEt OPtion X COnfirm OFf <CR>

will turn off both X substitution and the confirmation echo.

OFf always comes at the end of the command. If an option is turned off and someone attempts to type a command using it, the message **COMMAND OFF** will appear.

To turn these options back on, simply use ON in place of OFf. For example, to turn the ALl option and the RAnge option back on:

    `SEt OPtion ALl RAnge ON <CR>`

To find out which options are set on and which are set off:

    `(PRint) OPtion <CR>`

In the chart that is printed as a response, look for the terms ALL, RANGE, CONFIRM, and X RANGE.

Printing system settings

You can use your terminal to print out the current BGD settings with this command:

    `(PRint) OPtion <CR>`

The options are:

- Set options—ALl, COnfirm, RAnge, X RAnge
- Guest room category names
- For sale definition
- Check-in/check-out definition
- Unit cost amount for metered calls
- Display control
- Time selection and cleaning status update methods
- Terminal IDs and functions
- MLWU language ID

Operating parameters

When your system first comes into service, some options are set ON, and others OFf.

Enter the Print command to find out how the options are set.

Table 3
BGD System options (printout example)

ALL	ON						
CONFIRM	OFF						
RANGE	ON						
X RANGE	ON						
CATEGORY	1: 1BED	2: 2BED	3: KTCH	4:	5:		
	6:	7:	8:	9:	10:		
	11:	12:	13:	14:	15:		
CHECK	CO DN	MW RE	TL WA	LA	VI		
DISPLAY	ME ST:	DE CC	DI RM	WA: AN	RE		
SALE	PA VA						
TIME	DETECT	OFF					
	DIAL	ON					
	RAN2	OFF					
	REQUEST	OFF					
LANG	0: EN	1: SP	2: GR	3: FR	4: JP	5: CH	
00 PORT 0	WA: SE	** DI	ME: SE	** **	OP: SE	** **	ST: SE

Printing terminal setting

You can print a list showing the number, name, and setting for each terminal.

To find out the ID and current setting of all terminals in your system:

```
(PRint) POrt <CR>
```

Example printout:

04 PORT HC WA: SE ** ** ME: ** ** ** OP: ** ** ** ST: ** ** **

Terminal 4, also called HC, is a SEt terminal for wake-up. Asterisks (*) mean that other functions are turned OFf for this terminal.

Within each feature, the order of functions is: SEt or REad, PRint, DIsplay.

To find out the Terminal Number and the port ID of the terminal you are currently using:

```
* <CR>
```

A reply example follows.

TTY 01 SCH MTC TRF BUG BGD CUST 03 AC 1236

On the left, the first item specifies the kind of device you are using (in this case, TTY for teletype). The number next to it is your Terminal Number (in this case, 01).

At the far right the last number is the time (12:36 in this case). Next to it is your port ID, if you have assigned one (in this case, AC).

Printing at other terminals

You can ask to have a report printed at a terminal other than the one where you type the command. Simply replace PRint in any print command with the two-letter port ID (a default port number in the ID field) where you want the printout. When you do this, the command is placed on your Automatic List for the few moments until printing occurs and then removed. This temporary command would appear as TEMP if you printed your list.

Table 4
Printing at another terminal (command examples)

```
ZZ MEter ALl <CR>
```
Print all meter values, now, at terminal ZZ.

```
AUtomatic 2130 ZZ MEter ALl <CR>
```
Print all meter values automatically at 9:30 each evening, at terminal ZZ.

Background Terminal displays

A terminal can display messages showing each change to the information stored as that change happens. For example, every time a wake-up call is answered, or every time a room status changes, it can be displayed. If your terminal is attached to a printer, it provides a traceable record of events.

You can choose to print some or all display messages for one, two, or all three features. Do the following for each feature:

- Assign a terminal to show the display messages.

- Decide what is to be displayed, and turn these displays on.

To see which displays are turned ON or OFF, type:

```
(PRint) OPtion <CR>
```

In the chart that prints, look at the line beginning with DISPLAY. An example of the chart is shown in .

Display format

Table 5 "BGD Display format (Maid ID, Multi-Language Wake Up, and VIP Wake Up)" (page 33), Table 6 "BGD Display values" (page 33), and Table 7 "BGD Display format parameters" (page 35) show the display format and the column parameters. Table 5 "BGD Display format (Maid ID, Multi-Language Wake Up, and VIP Wake Up)" (page 33) shows the format with Maid ID, Multi-Language Wake Up, and VIP Wake Up packages equipped.

The first line shows the source of the change, the DN and the status immediately prior to the change. The second line shows the new status. At the end of the second line is the time the change took place.

After sysload, blocks of asterisk (*) characters may be printed in the occupancy and cleaning fields (columns 1 and 2) to show they have not been assigned occupancy or cleaning status. If this happens, enter the missing information.

The second line of a display message may be replaced by a warning, as described below. These warnings will also appear in a confirmation message (see "Defining options for the Set command" (page 27)) in the same circumstances.

- **ERR: NO LAMP** An attempt was made to turn Message Waiting or Do Not Disturb condition on or off, and the room telephone has no lamp.

- **ERR: BAD LAMP** The lamp is not functioning properly.

- **ERR: NO SALE** Operations, such as check-in, were attempted on a room that is not for sale.

- **ERR: NOT VAC** A check-in was attempted for a room already occupied.

- **ERR: NOT OCC** A check-out was attempted for a room not occupied.

Without Multi Language Wake Up (MLWU), the display includes up to column 7 and the time (AT hh:mm) (up to 62 characters). With MLWU, the display includes up to column 8 and the time (AT hh:mm) (up to 72 characters total). With Maid ID, the display includes up to column 9 and ID information displays on the second line, just before column 1 and column 9. If Maid ID is not equipped, or if the ID is not defined, blanks fill the spaces.

Table 5 "BGD Display format (Maid ID, Multi-Language Wake Up, and VIP Wake Up)" (page 33) illustrates BGD display format.

Table 5
BGD Display format (Maid ID, Multi-Language Wake Up, and VIP Wake Up)

ST source	54 02	CO L1	CO L2	CO L3	CO L4	CO L5	CO L6	CO L7	CO L8	COL9
	xxx x	CO L1	CO L2	CO L3	CO L4	CO L5	CO L6	CO L7	CO L8	COL9 AT hh:mm

ST source = how the room status was changed (what method)

5402 = Room DN (with DN Expansion equipped this number can be up to 7 digits long)

xxxx = Maid ID (one to four characters, left justified with the DN, any unused portion is left blank) If Maid ID is not equipped, this is left blank. Output begins with Column 1.

Column 1 = vacant or occupied

Column 2 = cleaning status

Column 3 = telephone Class of Service

Column 4 = Message Waiting lamp

Column 5 = Do Not Disturb on

Column 6 = if ready for sale

Column 7 = category

Column 8 = language (if Multi-Language Wake Up is equipped)

Column 9 = VIP Wake Up (if equipped)

AT hh:mm = time the change occurred

Table 6 "BGD Display values" (page 33) illustrates BGD display values.

Table 6
BGD Display values

Item	Value
ST source	ST-COS (Check-in/check-out from a Class of Service key on a telephone) ST-DET (Off-hook detection of a room telephone) ST-DIAL (Dial access code from a room telephone) ST-RMK (RMK key on a digital telephone) ST-TERM (Terminal)
5402	Room DN (up to 7 digits with DN Expansion, up to 4 digits without DNXP)
xxxx	Maid ID number (1–4 digits)
Column 1	OCC (Occupied) VAC (Vacant) *** (no status yet)

Table 6
BGD Display values (cont'd.)

Item	Value
Column 2	REQD (cleaning requested) PROG (cleaning in progress) CLND (cleaned) PASS (cleaning passed) FAIL (cleaning failed) SKIP (cleaning skipped) NSAL (not for sale) **** (no status yet)
Column 3	UNR (unrestricted) CUN (conditionally unrestricted) CTD (conditionally toll restricted) TLD (toll denied) SRE (semi-restricted) FRE (fully restricted) FR1 (fully restricted 1) FR2 (fully restricted 2) CCOS (controlled class of service) EC1(enhanced controlled class of service 1) EC2 (Enhanced Controlled Class of Service 2)
Column 4	MWL indicates the message waiting lamp is on (blank if lamp is not on)
Column 5	DND if Do Not Disturb is on (blank if not on)
Column 6	SALE if room is for sale (blank if not)
Column 7	CAT: 1 CAT: 2 CAT: 3 . . . CAT: 14 CAT: 15 Blank if no category is assigned
Column 8	LANG: 0 or two-character mnemonic LANG: 1 or two-character mnemonic . . . LANG: 5 or two-character mnemonic Blank if default language (0) is assigned, or Multi-Language Wake Up is unequipped
Column 9	VIP if VIP Auto Wake Up is assigned (blank if not equipped or assigned)
AT hh:mm	Time of day the change occurred.

Table 7
BGD Display format parameters

Item	Length	Start position
ST source	up to 7 characters + one space (If fewer than 6 characters, the spaces fill before adding the space)	0
5402	Up to 7 digits (left justified) with DNXP with NO following space (If fewer than 7 digits, the spaces fill before adding the space)	8
	Without DNXP, up to 4 digits + 3 spaces (If less than 4 digits, the spaces are filled)	8
xxxx	1–4 digits (left justified) + 3–6 leading spaces into column 1 (for example, 1 digit has 6 spaces, 2 digits have 5 spaces)	
	15 spaces if Maid ID is not equipped, or there is no Maid ID.	8
Column 1	3 characters + one space	15
Column 2	4 characters + one space	19
Column 3	3 characters + one space for padding + one space to line up	24
Column 4	3 characters + one space (or 4 spaces)	29
Column 5	3 characters + one space (or 4 spaces)	33
Column 6	4 characters + one space (or 5 spaces)	37
Column 7	Up to 9 characters total	
	One-digit categories have 4 characters + one space + one space to line up with two digit category, + 2 digit + two spaces	
	Two-digit categories have 4 characters + one space + two digits + two spaces	
	If no category is assigned, 9 blank spaces are used	
Column 8	Up to 10 characters total (including the leading space) One leading space appears before the keyword LANG: begins Column 51 is where the leading space appears, column 52 is where the LANG actually begins	51
	Two-character language mnemonic format is one space to line up the column + 5 characters (LANG:) + one space + 2 character mnemonic + one space to line up with column 9	
	One-digit language identifier format is one space to line up the column + 5 characters (LANG:) + 1 digit language identifier + one space for padding + one space to line up with column 9.	
	If Multi-Language is not equipped, 10 blank spaces.	
Column 9	3 characters + one space 4 spaces if VIP is not equipped or not enabled.	61
AT	4 characters 2 leading spaces appear before keyword AT appears. 2 leading spaces + 2 characters	

Table 7
BGD Display format parameters (cont'd.)

Item	Length	Start position
	Actually begins at column 67 due to leading spaces	65
hh:mm	Total of 7 characters including leading spaces	
	2-digit hour time (12:55) has 2 leading spaces + 2 digits (hh) + one character (:) + two digits (mm)	71 (2-digit hour)
	1-digit hour time (1:15) has 3 leading spaces + digit (h) + one character(:) + two digits (mm)	72 (1-digit hour)

Displaying wake-up events

To assign a terminal for wake-up display:

SEt OPtion POrt portID WAke DIsplay (ON) <CR>

Wake up events that can be displayed as they happen are listed here.

ENTRY   The attendant (or guest) enters or cancels the wake-up request.

ANSWER   The wake-up call is made, and answered by the guest.

RETURN   The call is returned to the attendant.

To display wake-up events, the basic command structure is

SEt OPtion DIsplay event(s) (ON) <CR>

For example, to have a message displayed whenever a call is returned to the attendant:

SEt OPtion DIsplay REturn (ON) <CR>

You can choose more than one of these events in the same command. For example, to display calls entered and calls answered but not calls returned to the attendant:

SEt OPtion DIsplay ENtry ANswer (ON) <CR>

To display all three types of events:

SEt OPtion DIsplay WAke (ON) <CR>

To stop the display of wake-up calls being answered:

SEt OPtion DIsplay ANswer OFf <CR>

You can turn off more than one display at the same time. For example, to turn off the display of calls answered and calls being returned to the attendant:

> `SEt OPtion DIsplay ANswer REturn OFf <CR>`

Note: OFf always comes at the end of the command. You cannot turn displays ON and OFf in the same command.

A typical display message would look like this:

WAKE UP 5006 NONE ATTN ENTR TO 6:45 AT 16:00

The terms that may appear in the display message are:

ATTN ENTR	attendant entry
SET ENTR	guest entry
ATTN RETN	call returned to the attendant
TERM CHG	terminal change
CALL ANS	call answered by the guest
SYST BLKD	system blocking caused the attendant return
EQPD FAIL	a hardware failure caused the return
ATTN DEL	the attendant canceled a call
SET DEL	guest canceled a call
CHK DEL	a room status check-out command canceled a wake-up call
LNG(#) FAIL	recording for language number (#) failed or cannot be accessed
NONE	used instead of a time when there is no wake-up time scheduled
VAWU ANS	VIP wake-up call answered by guest
VAWU NOAN	VIP wake-up call not answered by guest
VAWU CANC	VIP wake-up call canceled by attendant

Displaying message registration events

Follow these steps to have meter changes displayed.

Step	Action
1	To assign a terminal for meter display:
	`SEt OPtion POrt portID MEter DIsplay (ON) <CR>`

2   The system DISPLAY option must be turned on to have any
meter changes displayed. To turn on the system meter display:

```
SEt OPtion DIsplay MEter (ON) <CR>
```

--End--

To turn it off again, just replace ON with OFf.

The meter for an individual DN must have its own display turned on as well
if you wish to display changes to it. This gives you the choice of turning
all meter displays on, or only those you require. To turn the display of a
particular meter or groups of meters on or off, refer to
.

A typical display message would look like this.

ROOM METER 1235 DISP 40 TO DISP 42 AT 16:00

The value of the meter for DN 1235 was changed from 40 to 42 at 4:00
pm.

Displaying room status events

To assign a terminal for room status display:

```
SEt OPtion POrt portID STtatus DIsplay (ON) <CR>
```

To turn on the display of room status changes:

```
SEt OPtion DIsplay STatus (ON) <CR>
```

To turn it off:

```
SEt OPtion DIsplay STatus OFf <CR>
```

Particular sources of input can be displayed or not displayed as required.
Command format is the same, using one or more of the following items in
place of STatus.

CCos	CONTROL COS key on a digital telephone or Attendant Console
Detect	off-hook detection of room telephone
DIal	Dial Access using room telephone
RMk	Room Status key on a digital telephone
TErminal	changes entered by typing at a terminal

Refer to "Setting automatic control of room cleaning status" (page 67) and "Setting check-in, check-out parameters" (page 70) for additional information.

To turn on one of the STATUS options:

SEt OPtion DIsplay item(s) (ON) <CR>

To turn any of these off, use OFf in place of ON.

> *Note:* ON or OFf always comes at the end. Items cannot be turned ON and OFf in the same line.

Automatic daily routines

You can store up to 12 commands on the Automatic job list for execution at a predesignated time. If you use the Automatic "CLeaning REquested" option (to change the cleaning status of all occupied rooms to REquest cleaning [RE] at a specified time), it occupies auto list entry number 12, so only 11 commands can be stored. Commands are added to the Automatic job list by specifying any valid command with the following syntax where "hhmm" is the 24-hour clock time when the command executes, and "command" is the job to be executed at hhmm.

AUtomatic hhmm command <CR>

> *Note:* The list entry number is assigned by the system.

For example, at 11:00 p.m. (2300h) create a printout of all Message Registration meters having non-zero values. Enter the following:

AU 2300 (PR) ME AL

> *Note:* The data specified in this example is printed at the Meter print port if one has been assigned or at the terminal entering the information. If you want the data to print to another terminal, enter a Port ID in the command field (for example, **AU 2300** Port id **ME AL**).

If the list is full (that is, contains 12 entries), you must delete one of the stored entries before another command can be added to the list. To delete an entry in the Automatic job list, use the following command. Note that "nn" is one of the entries in the Automatic list.

SE AU nn OF

To print the contents of the Automatic Job list, enter:

(PRint) AUtomatic

The output may appear like the following, where "AB" and "CD" are port IDs.

```
01 AUTO AT 9:00 AB PR WA 0 9999
02 AUTO AT 9:00 CD PR WA 0 9999
```

If two jobs are scheduled for the same time, the job with the lower entry number is processed first. If the first job is finished within the same hour, the second job starts immediately after the first one is done. If the first job finished in the next hour, the second job is not executed at all.

To print all the wake-up calls at 10:00 p.m. (2200h), enter the following command where "H1" and "H2" are the port IDs:

AUtomatic 2200 H1 H2 WAke ALl

To print the contents of the automatic list:

(PRint) AUtomatic <CR>

You will receive a copy of the contents of your Automatic job list. Each command in the list has a number in the range 1–12.

To remove a command from the Automatic list, print the list to find the number of the command you wish to remove, then use the following command to remove it:

SEt AUtomatic nn OFf <CR>

where

"nn" is the number of the item you wish to remove from the list.

Table 8
Generating automatic daily routines

AUtomatic 900 (PRint) STatus ALl <CR>
Add a command to the list. This command tells the system to print the status of all guest rooms at 9:00 (0900h) each morning.
AUtomatic 1730 (PRint) MEter 4201 4225 <CR>
Add a command to the list. This command tells the system to print all non-zero telephone meters from DN4201 to 4225 at 5:30 (1730h) each afternoon.
SEt AUtomatic 1 OFf <CR>
Remove item 1 from the list.
(PRint) AUtomatic <CR>
* 0–9999 represents ALl.

Table 8
Generating automatic daily routines (cont'd.)

Print the contents of the Automatic list. If it contained the two items above, it would look similar to this.								
01	AUTO	AT	9:00	AB	PR	ST	0*	9999*
02	AUTO	AT	17:30	CD	PR	ME	4201	4225
* 0–9999 represents ALI.								

Full Automatic list

If your list is full because of a temporary command, you will get a message TRY AGAIN. Simply wait a few minutes and type in your command again.

If your list already has 12 entries and you try to add another item (number 13), you will get a message LIST FULL. You must remove an item before you can add a new one. An automatic cleaning requested procedure (see "Setting automatic control of room cleaning status" (page 67)) always uses list entry 12 and is not shown as a list member. If so, your list is full with 11 entries.

Traffic data

The traffic printout shows system activity for a 24-hour period. It gives wake-up call statistics and display message statistics.

To request the traffic printout:

```
(PRint) TRaffic <CR>
```

To have it printed at another terminal, replace PRint with the port ID where you want it printed.

To have it printed at the same time every day, add this command to the automatic list Table 8 "Generating automatic daily routines" (page 40). The format for a traffic printout is shown in Table 9 "BGD Traffic printout format" (page 41).

Table 9
BGD Traffic printout format

System	DD(a)	TIME	0:00(b)			
WAKEUP	dd(a)	0000(c)	0000(d)	0000(e)	0000(f)	0000(g)
0000(h)	00.0(i)	00.0(j)	0000(k)	0000(l)		
DISP	TOT		0000(m)	0000(n)		
	PORT*(o)		0000(p)	0000(q)		
	Legend:					

Table 9
BGD Traffic printout format (cont'd.)

System	DD(a)	TIME	0:00(b)
a =	date		
b =	time		
c =	total number of wake-up calls (includes successful and failed calls)		
d =	total number of calls answered after one attempt		
e =	total number of calls answered after two attempts		
f =	total number of calls answered after three attempts		
g =	total number of calls returned to the attendant (unanswered or blocked)		
h =	number of times a full time interval caused an attendant entry failure		
i =	average call answer time in seconds		
j =	average call holding time in seconds		
k =	number of times the default AWU RAN routes are used due to language RAN route failure.		
l =	number of VAWU attempts that do not find an idle attendant. Maximum of 3 attempts per VAWU request.		
m =	total number of display messages		
n =	total number of display messages that failed on all ports. The display message handled on any BGD that failed on others is not included.		
o =	port ID or a terminal number		
p =	total number of display messages on the port		
q =	total number of display messages on the port that failed		

Optional display messages

A message can be printed to record each change made to Hotel/Motel feature data as it occurs. These optional display messages provide a traceable record of events. One or more terminals must be assigned to print these messages.

The following is the command structure to set display options.

```
SE OP DI items ON/OFf
```

Choices for items to be displayed are as follows:

Automatic Wake Up items

AN   calls answered

EN   calls entered/deleted

RE   calls returned to attendant

WA   wake, which includes all three event types

Message Registration

To enable the display of meters in general, use ME for "item" in the command above. Individual meter display can then be turned on or off as required.

```
SE ME dn DI (ON), OFf
dn1 dn2
dnx
ALl
```

The last two words, DI ON/OFf, can be added to the end of a command that sets meter values.

Room Status Display

Choices can be changed in several ways.

CC   CCOS key on a telephone

DE   off-hook detection of room

DI   Dial Access using a room phone

RM   Room Status key (RMK) on a digital telephone

TE   a terminal

ST   status, which includes all five of these input sources

Display queue size

If the volume of display messages required is large, queue wrap-around may cause the loss of some messages. On the Traffic printout the number of display messages lost is shown. Increasing the display queue size (the default is 20 messages) is a service change operation in LD 17.

Call Number Information Messages

Call Number Information Messages are available, and if the terminating telephone has Call Number Information Allowed (CNIA) Class of Service, the system sends Call Initiation and Call Termination messages for calling and called DNs on a real-time basis to the BGD port.

Message formats sent to the BGD port are shown below:

- ST-CI xxx...x yyy...y

- ST-CT xxx...x yyy...y

Legend:

xxx...x = Calling DN

yyy...y = Called DN

Call Initiated

A Call Initiated (CI) message is sent when the terminating telephone has Call Number Information Allowed (CNIA) Class of Service and one of the following conditions occurs:

- The telephone handset is lifted and a number dialed.

- The call is reestablished from on-hold status.

- The telephone is the third party in a call transfer.

- The telephone terminates a forwarded call.

- The call is picked up by a station.

- The Call Waiting key on a CNIA telephone is pressed.

- The call is extended by an attendant.

Call Terminated

A Call Terminated (CT) message is sent when the terminating telephone has Call Number Information Allowed (CNIA) Class of Service and one of the following conditions occurs:

- Call termination to a non-CNIA telephone

- Call Forward No Answer (CFNA)

- Call Park

- Call Transfer from originating or terminating telephones

- Call Pickup received by the telephone

- Conference call

- Call On Hold

No messages are sent in the following cases:

- Dial Intercom calls

- Overridden calls

- Attendant calls

- CNIA-originated calls

- Automatic Wake Up calls

- Trunk calls

Operating parameters

Class of Service for CNIA is limited to 60 telephones and is assigned in LD 10 and LD 11. LD 20, LD 81, and LD 83 modify printing and counting, based on CNIA/CNID Class of Service. Refer to *Features and Services Fundamentals (NN43001-106)* () and *Software Input Output Administration (NN43001-611)* ().

A telephone that is assigned Virtual ACD Agent (VMA) Class of Service cannot be assigned CNIA Class of Service.

Co-located telephone and TTY equipment is needed to fully implement this feature.

Background Terminal setup, configuration, and maintenance

Contents

This section contains information on the following topics:

Serial Data Interface Ports

A Background Terminal (BGD) is connected to the system through a Serial Data Interface (SDI) port. The terminal type used as a BGD can be an ASCII serial terminal conforming to EIA standard RS-232-C or CCITT specification V.24.

A maximum of 16 SDI ports can be configured for all systems.

SDI ports configured for the following features cannot be used as BGDs:

- Automatic Call Distribution Package C (ACD-C) Load Management/Report Printer Terminal

- Auxiliary Processor Link-Integrated Messaging System/Integrated Voice Messaging System (APL-IMS/IVMS) Link

- CDR Tape Link

- Automatic Call Distribution Package D (ACD-D) Link

- Command Status Link (CSL)

- Property Management System Interface (PMSI)

Configuration parameters

A BGD can interact only with the rooms associated with a specified customer. Therefore, when configuring a BGD, you must specify which customer is associated with each BGD. If you define a physical SDI port with a two-character alphanumeric identifier, the tasks performed by the BGD will be assigned to it. If none are defined, the BGD can perform all functions associated with Automatic Wake Up, Message Registration, Room Status, and Call Party Name Display.

To configure the BGD terminals, enter the following parameters in LD 17. In addition, refer to .

Background display message queue size The number of entries in the queue can be set from 20 to 255. The default is 20 entries. Enter YES at the PARM prompt and the number of entries at the NDIS prompt. Queue size changes take effect only after the next initialization.

Device type and address A teletype (TTY) or video display terminal (VDT) device is defined for BGD input/output. Each device is assigned a physical device address (SDI port) ranging from 0 to 15. Enter TTY xx at the ADAN prompt, where xx is the device address.

Output use To define a TTY device as a Background Terminal, enter BGD at the USER prompt. In response to the CUST prompt, enter the customer (0 99) to whom the BGD is assigned. Terminals may also be allowed access to the overlay mode. However, the Background and overlay features will interact at terminals designated to operate in this dual mode by displaying each other's messages. In addition, the BGD can only be used for data input or retrieval in the mode for which it is accessed.

Refer to *Software Input Output Administration (NN43001-611)* () for complete details.

Table 10
LD 17: Configuring the BGD terminal.

Prompt	Response	Description
REQ	CHG	Modify existing data.
TYPE	CFN	Configuration data block.
ADAN	NEW aaa x CHG aaa x	Action Device and Number where aaa = type and x = port

Table 10
LD 17: Configuring the BGD terminal. (cont'd.)

Prompt	Response	Description
CTYP	aaaa DCHI MSPS SDI SDI2 SDI4 XSDI	Card type. Asynch port (even) on DCHI card. Misc/SDI/Peripheral Signaling card. Single port SDI card. Dual port SDI card. Four port SDI card. SDI paddle board.
GRP	0-4	Network group number for Large Multi group systems.
DNUM	0-15	Device number (same as ADAN number).
USER	BGD	Background Terminal interface.
CUST	xx	Customer number as defined in LD 15.
ADAN	<CR>, ****	Go to next prompt or exit overlay.

Defining terminal function

After configuring the BGDs, define the terminal function.

- Control
  These terminals enter, change, and retrieve data for the Automatic Wake Up (AWU), Message Registration (MR), Call Party Name Display (CPND), and Room Status (RMS) databases. They can also change options and control settings.

- Read Only
  These terminals display information only. They cannot enter or change any parameters for the associated features.

- Print
  These terminals are usually printers, for automatic printing of AWU, MR, and RMS reports at a specified time.

- DisplayThese terminals are usually input/output devices that record changes to AWU, MR, and RMS on an ongoing basis.

Diagnosing faults

LD 37 is used to diagnose faults with disk units, tape units, teletype (TTY), or Serial Data Interface (SDI) cards. It provides enable, disable, status, and test functions on these devices. Problems are indicated in Input/Output Diagnostic (IOD) messages.

Testing and maintaining the terminal

Use the commands in LD 37 to test and maintain BGDs. Refer to *Software Input Output Administration (NN43001-611)* () for complete details.

Table 11
LD 37: Testing and maintaining the BGD.

Command	Purpose
TTY x	Test TTY x. This sends a string of characters (ABC) followed by "READY FOR INPUT" to the terminal. Anything entered on the keyboard is echoed until END is entered.
STAT TTY x	Provides the status of TTY x (port nn).
ENL TTY x	Enables TTY x (port nn).
DIS TTY x	Disables TTY x (port nn).

Automatic Wake Up

Contents

This section contains information on the following topics:

Guest Entry of Auto Wake Up (GEWU)

A wake-up request can be entered by the attendant or craftsperson on the BGD, or by a guest on the room telephone (see Guest Automatic Wake Up in *Features and Services Fundamentals (NN43001-106)* ()).

When the guest programs or cancels the wake-up call using the Wake Up Key (WUK) or a Flexible Feature Code (FFC), a display message is sent to the Background Terminal. If the Display option for AWU is set, a display message is directed to the designated terminal. When a guest programs or cancels a wake-up request, a display wake-up message is available to room telephones that are equipped with a display.

Multi-Language Wake Up (MLWU)

A customer-definable language can be assigned to a room telephone at any time through the BGD or by a service change (LD 10 or LD 11). The language remains unchanged until the next language assignment. However, the customer may choose to clear the language at check-in and check-out times. The language assigned to a room DN is only stored with the primary appearances of the room DN.

If Automatic Wake Up is enabled, up to six language-specific Recorded Announcement (RAN) route pairs (both am and pm for each language) can be configured. The languages correspond to the RAN routes RAN1/RAN2, LA11/LA12, É, LA51/LA52 in LD 15. The only requirement is that Language 0, the default language routes RAN1 and RAN2, must be defined.

VIP Automatic Wake Up

VIP Automatic Wake Up (VAWU) is an enhancement to the AWU feature. VAWU allows rooms to be designated as VIP so that guests can be awakened by a personal telephone call from the attendant rather than the RAN wake-up. At the requested time, the attendant is notified of the VIP wake-up call.

A VIP room is one whose DN is assigned VIP designation.

Setting wake-up call times

You can use the BGD to set wake-up call times for a single DN or a group of DNs.

To set a wake-up call time for one DN:

    SEt WAke dn TIme hhmm <CR>

To set a wake-up call time for a consecutive group of DNs:

    SEt WAke dn1 dn2 TIme hhmm <CR>

To enter the next wake-up call, simply enter the DN and the time.

To delete a wake-up call:

    SEt WAke dn TIme OFf <CR>

To change the time of a wake-up call, simply type the command with the new time.

Operating parameters

You must use TIme in the command for either one DN or a group of DNs.

Use a 24-hour clock to give the time (hhmm). For example, type in 7:15 am as 715 and 2:30 pm as 1430.

You cannot make a wake-up call entry for the current five-minute period or for a time more than 23.5 hours in advance. If the time you type is not allowed, a message (AWU TIME?) giving the allowed time range appears.

Each five-minute interval of the day has room for 100 (or 500, depending on your system) wake-up calls. If the interval containing the time you typed is full, you will receive a message like the following, indicating the five-minute interval 7:00–7:04 is full.

WAKE UP 7:00 FULL 6:55 100 7:05 85 STOP ON 2314

6:55 100 7:05 85 shows the amount of room remaining in the intervals five minutes before and after 7:00. At 6:55, in this case, there are 100 spaces remaining and at 7:05 there are 85. You can choose one of these intervals.

STOP ON 2314 indicates the DN the system did not accept because of lack of space. If you entered a group of DNs, DN 2314 is the first of those that are still not recorded in the system.

Table 12
Using the Set command for Automatic Wake Up

Input (what you type)					
Response (what the terminal displays)					**Comments (what happens)**
`SEt WAke 1402 TIme 715`					Wake-up call for one DN
WAKE UP	1402	NONE	TO	7:15	DN 1402, will be called at 7:15 am. NONE shows there was no previous entry.
`SEt WAke 3405 3409 TIme 800`					Wake-up call for a group of DNs
WAKE UP	3405	NONE	TO	8:00	DNs 3405 to 3409 will be called at 8:00 am. Note that DN 3406 had a previous entry for 7:30, which has been changed to 8:00. The others had no previous entry (NONE).
WAKE UP	3406	7:30	TO	8:00	
WAKE UP	3407	NONE	TO	8:00	
`SEt WAke 23105 TIme 715`					Wake-up calls for a list of DNs

Table 12
Using the Set command for Automatic Wake Up (cont'd.)

Input (what you type)		
Response (what the terminal displays)		**Comments (what happens)**
17804	**700**	DN 23105 will be called at 7:15. DN 17804 will be called at 7:00. Since the next two entries are also for 7:00, you can leave the time out. DN 11018 will be called at 6:45. Note that this example shows only the input you type, as if the "confirm" option is turned off (see "Defining options for the Set command" (page 27)).
12642		
30441		
11018	**645**	

Setting time for a secondary wake-up announcement

You can set the time at which a second recorded wake-up announcement is activated.

> **SEt OPtion TIme RAn2 time1 time2 <CR>**

> If you do not enter a value for time2, then 00:00 (midnight) is assumed.

If the second time is earlier than the first, for example:

> **SEt OPtion TIme RAn2 2200 400 <CR>**

then the time of the second recorded announcement will run through midnight to the next morning.

To turn this time range off:

> **SEt OPtion TIme RAn2 OFf <CR>**

Setting language identifiers for wake-up announcements

You may assign a two-letter identifier to each of the six possible recorded languages used to make wake-up calls. The two-letter code is used to identify each language used to record the wake-up announcement. When setting a room's language status, use the language number (0–5) or the two-letter identifier. Language numbers do not change because they refer to the tape recorders that play the announcements.

To set the language identifier for a language number:

> **SEt OPtion LAnguage (language number) (id) <CR>**

where:

(language number)	0–5
(id)	any two-character code that does NOT correspond to a command (first character MUST be a letter)

To change the language identifier, repeat step 1 or:

```
SEt OPtion LAnguage (old id) (new id) <CR>
```

To clear the language identifier:

```
SEt OPtion LAnguage (language number or identifier) OFf <CR>
```

Table 13
Example of the Set command for the LAnguage option

Input	Comments
`SEt OPtion LAnguage 3 EN <CR>`	Language number 3 set to EN for ENglish.
`SEt OPtion LAnguage EN FR <CR>`	Whichever language number that was set to EN is changed to FR for FRench.
`SEt OPtion LAnguage 0 OFf <CR>`	Language number 0 no longer has an identifier.

Finding wake-up call times

You can use your terminal to find DNs that have wake-up call times set. The FInd command allows you to retrieve the wake-up call request for the lowest-numbered DN within the specified DN range with a wake-up call time set. To get the next DN in the range, type FInd.

To find one DN wake-up call time:

```
FInd WAke dn <CR>
```

To find the first DN wake-up call time in a group of consecutive DNs:

```
FInd WAke dn1 dn2 <CR>
```

To find the first DN wake-up call time in the whole system:

```
FInd WAke ALl <CR>
```

To find the next wake-up call time:

```
FInd <CR>
```

Operating parameters

If only one DN is entered, the FInd command will look for a DN with a wake-up call, starting with the DN requested and ending with the largest DN in the system. It will print the first one it finds.

If there are no wake-up calls set in the group requested, the message NO DATA FOUND is printed.

For a group of DNs, the second DN entered must be a higher number than the first.

A command containing FInd by itself is valid only immediately following another FInd command which produced non-zero results (any result other than NO DATA FOUND).

Table 14
Examples of the Find command for Automatic Wake Up

Input			
Response			Comments
`Find WAke 3040`			
WAKE UP	3040	7:00	One DN
`Find WAke 9001 9200`			
WAKE UP	9014	6:40	A group of consecutive DNs, 9014 is the first DN in the group which has requested a wake-up call.
`FInd WAke ALl`			
WAKE UP	1030	7:15	All DNs, DN 1030 is the first DN with a wake-up call time set.
`FInd`			
WAKE UP	2019	6:45	DN 2019 is the next one.
`FInd`			
NO DATA FOUND			There are no more DNs with wake-up call times set.

Printing wake-up call times

You can use your terminal to print the wake-up call time currently set for one or more guest rooms.

To print the setting for one DN:

> **(PRint) WAke dn <CR>**

To print the settings for a group of consecutive DNs:

> **(PRint) WAke dn1 dn2 <CR>**

To print the settings for all DNs:

```
(PRint) WAke ALl <CR>
```

Operating parameters

When retrieving the wake-up call times for a group of consecutive DNs or for all DNs, only the DNs within the group that have requested a wake-up call is included. If there were no DNs with wake-up calls in the range specified, the terminal prints NO DATA FOUND.

When specifying a group of DNs, the second DN entered must be a higher number than the first.

You can use X substitution in the DN. For example, `(PRint) WAke 12XX` prints DNs in the range 1200-1299 with wake-up call times set.

Typing four asterisks (****) stops a job that is currently in progress at your own terminal (for example, a long printout you realize you don't need).

Table 15
Examples of the Print command for Automatic Wake Up

Input			
Response			**Comments**
`(PRint) WAke 1279`			One DN
WAKE UP	1279	7:00	DN 1279 has a wake-up call set for 7:00 am
`(PRint) WAke 3700 3720`			A group of consecutive DNs
WAKE UP	3702	6:30	
WAKE UP	3709	7:00	
WAKE UP	3714	7:15	
WAKE UP	3718	6:30	
`(PRint) WAke ALl`			All DNs
WAKE UP	1003	7:00	
WAKE UP	1229	6:45	
WAKE UP	2005	6:30	
WAKE UP	4137	6:15	

Printing wake-up call map

A chart showing a count of all wake-up calls in each five-minute interval for every hour throughout the day is known as a wake-up call map. An example of a wake-up call map is shown in .

To print the wake-up call map:

```
(PRint) WAke MAp <CR>
```

To print the map at another terminal, put the two-character port ID of the terminal where you would like it printed, such as:

```
portID WAke MAp <CR>
```

Operating parameters

To automatically print this map every day at the same time, put this command in the automatic list. The map in Table 16 "Wake Up call map example" (page 58) shows a 24-hour day beginning at midnight. Each line is one hour in five-minute intervals. The number of calls in each five-minute period is shown. Date (23) and time printed are at the top.

Table 16
Wake Up call map example

```
(PRint) WAke MAp <CR>
WAKE UP      23    TIME  0:11
    0:00   000   000   000   000   000   000   000   000   000   000   000   000
    1:00   000   000   000   000   000   000   000   000   000   000   000   000
    2:00   000   000   000   000   000   000   000   000   000   000   000   000
    3:00   000   000   000   000   000   000   000   000   000   000   000   000
    4:00   000   000   000   000   000   000   000   000   000   000   000   000
    5:00   000   000   000   000   000   000   000   000   000   000   000   000
    6:00   002   000   000   001   000   000   001   000   000   000   000   000
    7:00   004   001   001   000   000   000   001   000   000   001   000   000
    8:00   000   000   000   000   000   000   000   000   000   000   000   000
    9:00   000   000   000   000   000   000   000   000   000   000   000   000
   10:00   000   000   000   000   000   000   000   000   000   000   000   000
   11:00   000   000   000   000   000   000   000   000   000   000   000   000
   12:00   001   000   000   000   000   000   000   000   000   000   000   000
   13:00   000   000   000   000   000   000   000   000   000   000   000   000
   14:00   000   000   000   000   000   000   000   000   000   000   000   000
   15:00   001   000   000   000   000   000   000   000   000   000   000   000
   16:00   000   000   000   000   000   000   000   000   000   000   000   000
   17:00   000   000   000   000   000   000   000   000   000   000   000   000
   18:00   001   000   000   000   000   000   000   000   000   000   000   000
   19:00   000   000   000   000   000   000   000   000   000   000   000   000
   20:00   000   000   000   000   000   000   000   000   000   000   000   000
```

Table 16
Wake Up call map example (cont'd.)

21:00	001	000	000	000	000	000	000	000	000	000	000	000
22:00	000	000	000	000	000	000	000	000	000	000	000	000
23:00	000	000	000	000	000	000	000	000	000	000	000	000

Room Status

Contents

This section contains information on the following topics:

Description

Room Status (RMS) sets conditions on rooms such as whether a room requires cleaning, or whether a room is occupied or vacant. Room Status is managed through the BGD.

All room telephones are required to have Controlled Class of Service Allowed (CCSA).

> *Note:* Digital telephones equipped with a Room Status key (RMK) and Digit Display can read and update the cleaning status of any guest room. This is not an option that needs to be set by terminal command. If such telephones exist, they have access.

Multi-Language Wake Up (MLWU) is included with the Room Status feature. MLWU allows up to six languages to be programmed on various RAN routes, to be played at a wake-up call request.

VIP Automatic Wake Up (VAWU) and Maid ID are two features that are implemented through RMS. VAWU makes it possible to designate rooms as VIP so that guests can be awakened by a personal telephone call from an attendant rather than the RAN wake-up. Maid ID makes it easier to keep track of which maids clean which rooms.

> *Note:* Refer to "Automatic Wake Up" (page 51) and in *Features and Services Fundamentals (NN43001-106)* () for more details concerning VAWU and Maid ID.

All occupied rooms can be automatically set to cleaning requested at the same time each day. Off-hook detection of cleaning status can also be set for all occupied rooms for the same time each day.

> *Note:* The Off-Hook Alarm Security feature takes precedence over the Off-Hook Detection feature. If a set is defined with the Alarm Security Allowed (ASCA) Class of Service, the Off-Hook Detection feature will not operate.

Rooms can be classified by category (1–15) to identify locations, price range, size, facilities, and so on. Each room can be in only one category.

Setting room status

You can use your terminal to change the status of guest room DNs to checked-in. This can be done for a single DN, a group of consecutive DNs, or all DNs. Use the abbreviations listed in Table 17 "Room status examples" (page 63) in place of "status" in these commands.

To set the room status of one DN:

SEt STatus dn status <CR>

To set room status of a group of consecutive DNs:

SEt STatus dn1 dn2 status <CR>

To set room status of all DNs:

SEt STatus ALl status <CR>

To set a second nonconsecutive DN to the same status, simply type the **DN** and **<CR>**. If you have a list of nonconsecutive DNs, you can repeat many times.

To set the language of one DN:

`SEt STatus dn LAnguage number or ID <CR>`

Table 17
Room status examples

Guest Registration and	CH (IN)	check-in
Occupancy	CH OU	check-out
	OC	occupied
	VA	vacant
Cleaning Status	RE	cleaning requested
(includes Maid ID)	PR	cleaning in progress
	CL	cleaned
	PA	cleaning passed inspection
	FA	cleaning failed inspection
	SK	cleaning skipped
Sale Status	SA	ready for sale
	NS	not for sale
Other Status Information	CO	Controlled Class of Service (CCOS)
	CO OF	System Class of Service (SCOS)
	E1	Enhanced Controlled Class of Service 1
	E2	Enhanced Controlled Class of Service 2
	MW	Message Waiting Lamp
	DN	Do Not Disturb
	CA	category (see Assign Guest Room Categories)
	LA	language for Automatic Wake Up
	VI	VIP status for Automatic Wake Up
	TL	telephone check

Table 18
Using the Set command for Room Status

Input	Comments
	One DN:
`SEt STatus 1203 CHeck(IN) <CR>`	checked-in
`SEt STatus 0904 CHeck OUt <CR>`	checked-out
`SEt STatus 1427 OCcupied <CR>`	occupied
`SEt STatus 2218 VAcant <CR>`	vacant
`SEt STatus 4442 REquested <CR>`	cleaning requested
`SEt STatus 4443 CLeaned MI 14 <CR>`	cleaned by maid with ID number 14
`SEt STatus 1243 SAle <CR>`	ready for sale
`SEt STatus 2234 COntrol <CR>`	Controlled Class of Service
`SEt STatus 2236 COntrol OFf <CR>`	System Class of Service
`SEt STatus 1208 LAnguage 2 <CR>`	language number 2
`SEt STatus 1209 LAnguage SP <CR>`	language Spanish
`SEt STatus 1405 VIp <CR>`	VIP (personal wake-up call)

Table 18
Using the Set command for Room Status (cont'd.)

Input	Comments

`SEt STatus 3322 CHeck OUt <CR>`
`3328 <CR>`
`3342 <CR>`
`3563 <CR>`
`4788 <CR>`
	A group of nonconsecutive DNs all checked out.

`SEt STatus 4402 4408 COntrol <CR>`	A group of consecutive DNs using inclusive DN range.
`SEt STatus 22XX SKipped <CR>`	A group of consecutive DNs using X substitution (2200 to 2299).
`SEt STatus ALl PRogress <CR>`	All DNs cleaning in progress.

Operating parameters

When checking in a group of consecutive DNs, the second DN entered must be a higher number than the first.

After setting the status of one or more guest room DNs, a confirmation message may be displayed or printed. If the "confirm" option is off, the updated status is not automatically displayed or printed (see "Defining options for the Set command" (page 27)).

You may not be able to use the SET command with all DNs, with a group of consecutive DNs, or with X substitution, if any of these options are turned off (see "Defining options for the Set command" (page 27)).

Languages are numbered from 0–5. Two-letter identifiers may be set using the SEt OPtion command (see "Setting language identifiers for wake-up announcements" (page 54)).

Set VIP status to ensure that an important guest receives a personal wake-up greeting from the attendant.

Guest registration and occupancy parameters

Rooms must meet sale criteria to be able to be checked-in; that is, they must have the status VAcant and PAssed inspection.

The occupancy status of a room is automatically changed to OCcupied when you set the status to CHecked-IN, or to VAcant when you set the status to CHecked-OUt. Manually setting any other room status of a DN does not affect the current settings of other aspects of room status, such as guest room telephone Class of Service or cleaning status.

The check-in (CH IN) and check-out (CH OU) commands can also be set to perform other tasks automatically (see "Setting check-in, check-out parameters" (page 70)). You can also enter any of this information manually.

The CHecked-IN status is not indicated in a status printout. Checked-in status is inferred from the OCcupied status.

The CHecked-OUt status is not indicated in a status printout. Checked-out status is inferred from the VAcant status.

Cleaning status parameters

If automatic cleaning hours are set, the status of any occupied guest room will be changed to cleaning REquested at the specified time (see "Setting automatic control of room cleaning status" (page 67)).

If automatic detection hours are set, the status of any occupied guest room is automatically updated to cleaning in PRogress, then CLeaned by the cleaning staff using the room telephone in the appropriate manner (see "Setting automatic control of room cleaning status" (page 67)).

If you use Maid IDs, you can append the Maid ID to a room's cleaning status from the BGD, or the maid can send it from the guest room telephone when the cleaning status is changed.

The Maid ID is a one- to four-digit number that should be unique for each member of the cleaning staff. The Maid ID appears only on Room Status Display messages, so you must have display messages for room status turned on at one of your terminals to keep a record of the Maid ID.

To include the Maid ID in a room status Set command:

SEt STatus dn status MI xxxx <CR>

where xxxx is the one- to four-digit Maid ID number.

> *Note:* The Maid ID can only be included with a SEt command that changes a room's cleaning status.

Class of Service

By changing a telephone's Class of Service, you can restrict guests from making certain types of calls. There are four levels of restrictions available:

- SCOS (CO OF) (Specified as CO OF in commands.)

- CCOS (Specified as CO in commands.)

- E1

- E2

System Class of Service (SCOS) is the basic default level and usually has the fewest restrictions.

Controlled Class of Service (CCOS) is used to restrict the type of calls a guest can make from the telephone.

Enhanced Controlled Class of Service (E1 and E2) simply adds two more levels of restrictions to increase the flexibility of your system.

For example, a telephone with SCOS is allowed to make toll and Central Office calls as well as room-to-room calls, while a telephone placed in CCOS can only make room-to-room calls. Toll and Central Office calls are not allowed.

Your Class of Service restrictions may vary from this example. Check with your System Administrator if you are not sure of your Class of Service restrictions.

Setting ready-for-sale criteria

A Room Status SEt command using SAle will always change the status of the room(s) you specify to VAcant and PAssed. But you may wish to make the PRint and FInd commands less strict, so that more rooms are designated as available for sale in the printout.

The possible criteria you can add are:

> REquested
> PRogress
> CLeaned
> FAiled
> SKipped
> OCcupied

To set ready-for-sale criteria:

SEt OPtion SAle state(s) (ON) <CR>

To turn off, use OFf instead of ON. You can use any states you require in the command. ON or OFf must come at the end of the command. You cannot turn items on and off in the same line.

> *Note:* If you do not include any states in the command, all six items will be turned on or off. For example, **SEt OPtion SAle ON <CR>** will set all six items in the list on. (ON is not optional in this case.)

To see what ready-for-sale criteria are currently set (look for SALE in the reply):

```
(PRint) OPtion <CR>
```

For example, you wish to include rooms with cleaning in PRogress or CLeaned status in the rooms for sale printout:

```
SEt OPtion SAle PRogress CLeaned (ON) <CR>
```

Then when you use the command **`PRint STatus ALl SAle <CR>,`** the reply will include all rooms that have status PRogress and CLeaned, as well as VAcant and PAssed. The command **`SEt STatus 1205 SAle`** will still change the status of that room to VAcant and PAssed.

Setting automatic control of room cleaning status

Room cleaning status can be updated in two ways: automatically or by code entry from the room telephone. The status of all occupied rooms can be automatically changed to cleaning REquested every day at a particular time. Between the hours that you specify, cleaning staff can use the room telephone to signal that the room is being cleaned. When the room telephone handset is picked up and left off hook, the cleaning status will be changed to cleaning in PRogress. When the handset is replaced, the room's status will be changed to CLeaned (no Maid ID is sent). See "Setting cleaning status from room telephone" (page 68) for other methods the cleaning staff can use to change a room's cleaning status.

To set the off hook detection period and the automatic change of status to cleaning REquested:

```
SEt OPtion TIme Detect hour1 hour2 <CR>
```

At hour1, all occupied rooms will be set to cleaning REquested. Between hour1 and hour2, cleaning status changes are detected from room telephones.

Note: Use a 24-hour clock. Hour2 must be greater than hour1. If no hour2 is typed, midnight will be assumed.

To set the automatic change of occupied rooms to cleaning REquested:

```
SEt OPtion TIme REquest hour1 <CR>
```

To cancel off hook detection:

```
SEt OPtion TIme Detect OFf <CR>
```

Note: This cancels off hook detection only. It does not affect the automatic change of cleaning status to cleaning REquested at the hour1 that was originally entered.

To turn off the automatic change of cleaning status of all occupied rooms to cleaning REquested:

`SEt OPtion TIme REquest OFf <CR>`

To find out which times, if any, are currently set (look for TIME DETECT and REQUEST in the reply):

`(PRint) OPtion <CR>`

Setting cleaning status from room telephone

In addition to off-hook detection, there are two ways the cleaning status of a room can be changed by the cleaning staff: dial access and key access.

Dial access

Cleaning staff can update the status of a room by dialing a Special Prefix (SPRE) code from the room telephone. The SPRE code is a one- or two-digit code provided by your system administrator. To allow this, type:

`SEt OPtion TIme DIal (ON) <CR>`

To disallow, use OFf in place of ON.

To change a room's cleaning status from the room telephone:

Step	Action
1	Lift the handset and dial SPRE + 86, or Flexible Feature Code (FFC RMST).
2	Using the dial pad, enter the one-digit cleaning code as follows: 1 = cleaning requested 2 = cleaning in progress 3 = room cleaned 4 = passed inspection 5 = failed inspection 6 = cleaning skipped 7 = not for sale If you hear a regular dial tone, you are finished. If you hear a special tone, the system is asking for the Maid ID. To enter the Maid ID: **a** Dial * followed by the one- to four-digit Maid ID number. If you make a mistake, press * and reenter the Maid ID. **b** Dial #.
3	Hang up when the room is cleaned.

Note 1: The Maid ID is recorded only in Room Status display messages. If no Maid ID is entered, the BGD has no record of the maid.

Note 2: A room telephone can change only its own status. To change the status of other rooms, you must use a Room Status key on the telephone.

--End--

Key access

Your system may have telephones equipped with a Room Status key (RMK). These can update the cleaning status of other rooms. You cannot turn this option on and off, but you can choose whether or not to have such changes displayed (see).

To use RMK:

Step	Action
1	Press the RMK and dial the Directory Number of the room to be changed.
2	Using the dial pad, enter the one-digit cleaning code as follows:

1 = cleaning requested
2 = cleaning in progress
3 = room cleaned
4 = passed inspection
5 = failed inspection
6 = cleaning skipped
7 = not for sale

| **3** | To enter the Maid ID (if required): |

a Dial * followed by the one- to four-digit maid ID number. If you make a mistake, press * and reenter the maid ID.

b Press the RMK key to end the procedure.

Note: The maid ID is recorded only in Room Status display messages. If no maid ID is entered, the BGD has no record of the maid.

--End--

Setting check-in, check-out parameters

You can set options to allow the check-in and check-out commands to perform a number of operations automatically.

The following options are associated with the Room Status feature.:

COntrol	System Class of Service upon check-in, Controlled Class of Service upon check-out
E1 / E2	Enhanced Controlled Class of Service (1 or 2) upon check-in, Controlled Class of Service Restriction level upon check-out
DNd	Automatic cancellation of Do-Not-Disturb upon check-out
LAnguage	Reset language to zero (0) upon check-out
MWI	Message Waiting lamp turned off upon check-out
REquest	Automatic cleaning request upon check-out
SL1	Allow use of digital telephone Controlled Class of Service (CCOS) key for check-in and -out
TL	Verify set is connected (BAD LAMP message is printed if a set checked with the TL command is disconnected)
WAke	Cancellation of Automatic Wake Up calls upon check-out
VIp	Remove VIP status upon check-out

Use the abbreviations listed above instead of "item" in the following commands:

To set check-in, check-out parameters:

`SEt OPtion CHeck item (ON) <CR>`

To set more than one option at the same time:

`SEt OPtion CHeck item (ON) <CR>`

To remove a check-in/check-out status option:

`SEt OPtion CHeck item OFf <CR>`

Operating parameters

ON or OFf always comes at the end of the command. Items cannot be set on and off in the same command.

Once you have activated automatic Class of Service control, the telephone Class of Service of a guest room DN is automatically set to SCOS when the guest is checked in with the CH command. Guest check-out automatically sets the Class of Service back to CCOS. Guest room DN Class of Service can also be set manually from the terminal.

Assigning guest room categories

Guest rooms can be classified by category to identify location, price range, facilities, and so on. A room can be assigned only one category. Each category is given a number in the range 1–15 (0 indicates no category) and can also be given a four-letter name. The name or number can then be used in requesting printouts of rooms with particular features. For example, **(PRint) STatus ALl VAcant KTCH <CR>** could be used to provide a list of all vacant rooms with kitchen facilities.

To set a room to a particular category number:

SEt STatus dn CAtegory n <CR>

  where

  n is a number in the range 1–15.

To set a group of rooms to a category number (consecutive group):

SEt STatus dn1 dn2 CAtegory n <CR>

To set a group of rooms to a category number (X substitution):

SEt STatus dnx CAtegory n <CR>

To give a category a four-letter name:

SEt OPtion CAtegory n name <CR>

  where

  n is the category number, and name is the category name (1 to 4 letters).

To change the name:

SEt OPtion CAtegory oldname newname <CR>

To remove a category name without replacing it with a new name, use zero as the new name:

SEt OPtion CAtegory name 0 <CR>

Finding current room status

You can use your terminal to find the current status of guest rooms. The FIND command allows you to retrieve one DN at a time. If you include a particular status in your command, you can search for DNs with the status you have named. After you have retrieved one DN by typing the full command, you can find the next one simply by typing FInd.

To find the status of one DN:

```
FInd STatus dn <CR>
```

To find the status of the first DN in a group of consecutive DNs:

```
FInd STatus dn1 dn2 <CR>
```

To find the status of the first DN in the whole system:

```
Find STatus ALl <CR>
```

You may add a status condition at the end of any of the commands above. For a group of consecutive DNs, the command would be:

```
FInd STatus dn1 dn2 status.
```

Then only DNs with the status you name will be retrieved.

To find the next DN, type:

```
FInd <CR>
```

See for examples of the Find command.

Operating parameters

If you enter a FInd command with only one DN in it and you do not name any status condition, that DN's status will be printed.

If you enter only one DN and you name a status, the FInd command will begin looking for a DN with that status, starting at the DN entered and ending with the largest DN in the system. It will print the first one it finds.

For a group of DNs, the second DN entered must be a higher number than the first.

If there is no DN in the range you specify with the status you name, the message NO DATA FOUND is printed.

FInd by itself is valid only immediately after a FInd command which produced non-zero results (any result other than NO DATA FOUND).

Table 19
Using the Find command for Room Status

FInd STatus 1143 <CR>							
STATUS	1143	OCC	REQD	UNR		CAT: 5	LANG: 0
One DN							
FInd STatus 2401 2403 <CR>							
STATUS	2401	OCC	REQD	UNR	L	CAT:	LANG: 0

Table 19
Using the Find command for Room Status (cont'd.)

A range of DNs.									
FInd <CR>									
STATUS	2402	VAC	PASS	COS	W		CAT:	LANG: 0	
FInd <CR>									
STATUS	2403	VAC	CLND	COS	L	SALE	CAT:	LANG: 0	
FInd STatus 3200 3205 VAcant <CR>									
STATUS	3200	VAC	REQD	COS			CAT:	LANG: 0	
A group of consecutive DNs—find vacant rooms. 3200 is the first vacant room in the group.									
FInd <CR>									
STATUS	3201	VAC	PASS	COS		SALE	CAT:	LANG: 0	VIP
3201 is the next vacant room. It is also a VIP room.									
FInd <CR>									
STATUS	3204	VAC	CLND	COS		SALE	CAT:	LANG: 0	
3204 is the next vacant room.									
FInd <CR>									
NO DATA FOUND									
There are no other vacant rooms in this group.									

Printing current room status

You can use your terminal to print the status of a guest room DN. This can be done for a single DN, a group of consecutive DNs, or all DNs. If you include a particular status in your command, the output shows only those rooms with the status requested. If you do not include any status in your command, the status of all requested rooms is printed.

For one DN:

(PRint) STatus dn <CR>

For a group of consecutive DNs:

(PRint) STatus dn1 dn2 status <CR>

For all DNs:

(PRint) STatus ALl status <CR>

See Table 20 "Using the Print command for Room Status" (page 75) for examples of the Print command.

Operating parameters

You can specify any of the following status indications:

SA	ready for sale
NS	not for sale
OC	occupied
VA	vacant
RE	cleaning requested
PR	cleaning in progress
CL	cleaned
PA	passed inspection
FA	failed inspection
SK	cleaning skipped
CO	Controlled Class of Service
CO OF	System Class of Service
E1	Enhanced Controlled Class of Service 1
E2	Enhanced Controlled Class of Service 2
DN	Do Not Disturb
DN OF	Do Not Disturb off
MW	Message Waiting Lamp on
MW OF	Message Waiting Lamp off
CA n	category (either number or name)
LA n	language number
LA id	language identifier
VIp	VIP (personal wake-up call)
TL	telephone check

You can use X substitution. For example 120X refers to DNs 1200 to 1209.

When you set a DN to SAle, it is always set to VAcant and PAssed. However, when you print rooms with SAle status, you may get rooms in other conditions as well, because the criteria for printing rooms available for sale can be altered.

Typing four asterisks (****) stops a job currently in progress at your own terminal.

After some system problems, blocks of asterisk (*) characters may be printed in the occupancy and cleaning fields to show they are no longer valid. If this happens, enter the missing status information.

Table 20
Using the Print command for Room Status

```
(PRint) STatus 1206 <CR>

STATUS  1206  VAC  CLND  COS              SALE  CAT:  LANG: 0   VIP   AT 12:00

One DN—the current status of DN 1206 is printed.

(PRint) STatus 1200 1233 SA <CR>

STATUS  1202  VAC  PASS  COS              SALE  CAT:  LANG: 0         AT 2:30

STATUS  1207  VAC  CLND  COS              SALE  CAT:  LANG: 0         AT 10:06

STATUS  1214  VAC  PASS  COS              SALE  CAT:  LANG: 0         AT 1:45

A group of consecutive DNs with SALE status—all those with SALE status are printed.
(PRint) STatus 8000 8004 <CR>

STATUS  8000  VAC  NSAL  COS                    CAT:  LANG: 0         AT 12:00

STATUS  8001  OCC  CLND  UNR  MWL               CAT:  LANG: 0         AT 12:02

STATUS  8002  OCC  SKIP  FRE        DND         CAT:  LANG: 0         AT 4:10

STATUS  8003  OCC  REQD  UNR  MWL               CAT:  LANG: 0         AT 2:20

STATUS  8004  VAC  PROG  COS                    CAT:  LANG: 0         AT 12:09

A group of consecutive DNs—the current status of all DNs in the group is printed.

(PRint) STatus ALl VA <CR>

STATUS  1106  VAC  PASS  COS              SALE  CAT:  LANG: 0         AT 5:36

STATUS  2214  VAC  NSAL  COS                    CAT:  LANG: 0         AT 1:08

All DNs—all DNs with VACANT status are printed.

(PRint) STatus ALl <CR>

STATUS  1001  VAC  PASS  COS              SALE  CAT:  LANG: 0         AT 2:50

STATUS  1002  OCC  REQD  UNR  MWL               CAT:  LANG: 0         AT 11:01

All DNs are printed.
```

Message Registration

Contents

This section contains information on the following topics:

Description

When equipped with the Message Registration (MR) feature, the system is capable of the following provisions:

- Attendants are able to meter outgoing local calls over CO routes.

- Meter contents are accessible from digital telephones equipped with digit display and a Message Registration key/lamp pair.

- Meter contents are also accessible from Background Terminals (BGD).

Operating parameters

The MR package must be supported by a BGD with Controlled Class of Service Allowed (CCSA). The feature is not supported by attendant administration.

MR is mutually exclusive with Coordinated Dialing Plans (CDPs), and Centralized Attendant Services (CAS).

One-digit or two-digit DNs or access codes cannot be metered.

Feature interactions

Multiple Appearance Directory Numbers

Multiple Appearance DNs are charged on the meter assigned to the Prime DN (PDN). Data calls are charged to the originating telephone. Maintenance tests on metered trunks do not affect the metered values.

Call Transfer

Only the party originating the Call Transfer is metered.

Call Forward

On calls where the Call Forward feature is used, the last party to forward the call is metered. This applies to cases where a CO call originates from a Call Forward station, and to cases where an established CO call is transferred to a station that is forwarded to another internal station.

Conference

Only the party originating the Conference Call is metered.

Trunk-to-trunk calls

Metering of trunk-to-trunk calls using an outgoing CO trunk is not supported if the trunk access code is a one-digit or two-digit access code. Otherwise, a meter corresponding to the trunk access code of the metered trunk route is incremented. Only three-digit and four-digit codes are supported for DNs or trunk access codes.

Attendants

For attendant-originated calls to CO trunks, the attendant meter is incremented. When the call is extended, the attendant is metered until a telephone within the system is added to the conference. When the attendant uses a loop key, the call is metered to the Room DN connected through that key; otherwise, the attendant meter is incremented.

Feature packaging

This feature is included in base System Software.

Feature implementation

Each CO route must be declared as metered or nonmetered in LD16, trunk route data block. Calls should not be allowed to overflow from metered to nonmetered routes.

A software meter must be assigned in the Customer Numbering Plan to each DN or trunk access code for which metering is desired.

Feature operation

No specific operating procedures are required to use this feature.

Reverse Battery operation

When the CO trunk returns a Reverse Battery (RVB) signal, only one pulse is received for each outgoing call. This pulse is passed to the software meter for storage. The meter is incremented once for each metered local call regardless of duration. Reversals received within 2 seconds of digit outpulsing completion are ignored.

Background Terminal command summary

The following four MR options can be set from a BGD:

AL1	Value set for all Room DNs in the customer data block
X	Represents all possible values for a digit in a DN, so that nonsequential DN groups can all be set to the same value
RAnge	Sequential range of DNs can be set by entering the first and last DNs for the group
COnfirm	Response to the SEt command for verification

The general command format for the BGD appears as follows:

SEt OPtion <opt> ON
SEt OPtion <opt> OFF

<opt> = any combination of AL1, X, RA, and CO

All of the commands for the BGD/MR can be turned on or off with the following commands:

SEt OPtion ON
SEt OPtion OFF

MR commands are described in Table 22 "MR set commands" (page 81). The following examples demonstrate some MR operations.

Setting room meters

When setting room meters for a group of consecutive DNs, the second DN entered must be greater than the first DN entered. The value set for each meter must be between 0 and 32766. The confirm option must be set to get a response for input commands.

Selecting a single DN

Enter the following command to set meter 1246 to a value of 9:

SE ME 1246 VA 9

If the global COnfirm command is switched on, the following response appears (if the meter had previously been switched off):

ME 1246 OFF TO 9

Enter the following command to set meter 1246 to a value of 0 (either ZEro or VAlue 0):

SE ME 1246 ZE or SE ME 1246 VA 0

Enter the following command to switch meter 1246 off:

SE ME 1246 OFF

Once a meter has been set, a series of command lines consisting of only DN and meter values can be entered as shown in Table 21 "MR commands" (page 80).

Table 21
MR commands

Command Line	Typical Response
SE ME 1246 VA 10	METER 1246 OFF TO 10
1248	METER 1248 OFF TO 10
1257 20	METER 1257 9 TO 20
1259 0	METER 1259 64 TO ZERO

This mode stays in effect until a nonnumeric entry is typed.

Note: In a list, the number 0 is used, instead of ZE.

The customer meter can be accessed using similar commands, but it cannot be turned off as other meters can. CUstomer can be added to the end of a command accessing other meters, as shown in the following commands:

SE ME CU VA 9

(PR) ME CU

(PR) ME 1200 1205 CU

Selecting Multiple Appearance DNs

To set meters 1240 to 1249 to a value 9 using the inclusive range (dn1 dn2) method, enter:

SE ME 1240 1249 VA 9

To set meters 1240 to 1249 to a value of 9 using the "X substitution" method, enter:

SE ME 124X VA 9

To set all meters to a value of 9, enter:

SE ME AL VA 9

Table 22 "MR set commands" (page 81) summarizes the MR set commands.

Table 22
MR set commands

Command line					
(AU hhmm)	(PR)	MEter	dn	VAlue	nnnnn (SEt command only)
	FInd		dn1 dn2	ZEro	
	SEt		dnX	ON	
	"port ID"		ALl	OFf	
			CUstomer		
				DIsplay	(ON)
					OFf
				ALl	(see Note)
Note: In all conditions including zero; but not after SEt command.					

Metering

Metering is applied on a route basis. When setting up a customer for the feature, CO routes that are to be metered should only have access to routes that are metered. Calls should not be allowed to overflow to a nonmetered route. The BGD and the digital telephones can show the accumulated number of calls for each DN meter assigned.

Access to meters

Meters are accessed from a standard data terminal (TTY) or a Display Telephone equipped with a Message Registration key/lamp pair. The TTY must be defined in the configuration record as a BGD. The BGD can be used exclusively for meter access to the two background features Automatic Wake Up (AWU) and room status information (RMS), or it can be shared with other functions:

- Erase the pulse count units stored on a meter.

- Change the pulse count units stored on a meter.

- Search for nonzero meters (TTY only).

- Read the pulse count units stored on a meter.

- Print the pulse count units stored on meters (TTY only).

   Note: Access to the customer's meter is allowed from the BGD only.

Setting meters to a given value

You can use your terminal to set meters in your system to any given value. You can use meter values to figure total call charges for metered calls. You can set meter values for a single DN, a group of consecutive DNs, or all DNs.

To set the meter for one DN:

SEt MEter dn VAlue n <CR>

To set the meters for a group of consecutive DNs:

SEt MEter dn1 dn2 (VAlue) n <CR>

To set the meters for all DNs:

SEt MEter ALl (VAlue) n <CR>

To enter the next meter change you want to make, you can type in the DN and the value you want. Just enter dn n **<CR>**.

To change the value of the Customer meter:

SEt MEter CUstomer (VAlue) n <CR>

See Table 23 "Using the Set command for Message Registration" (page 83) for examples of using the Set command for Message Registration.

Operating parameters

When setting the meters for a group of consecutive DNs, the second DN entered must be a higher number than the first and can be in the range 0–32766.

You can use X substitution (see "Defining options for the Set command" (page 27)). For example, **SEt MEter 32X VAlue 1** sets all meters 320–329 to the value 1.

The response shown in the examples appears only if the COnfirm option is on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt all DNs at once if the ALl option is not on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt a group of consecutive DNs if the RAnge option is not on (see "Defining options for the Set command" (page 27)).

Using DN and VAlue only to enter a list of meter changes, as in Step 3, is valid only immediately following a SEt MEter command.

VAlue is required for one DN but is optional in other cases.

Table 23
Using the Set command for Message Registration

Input Response			Comments
SEt MEter 1535 VAlue 1			Meter for one DN
ROOM METER	1535 7 TO 1		DN 1535 was set to 7 but is now set to one.
SEt MEter 1500 1504 (VAlue) 1			Meters for a group of consecutive DNs
ROOM METER	1500 DISP ZERO TO DISP	1	
ROOM METER	1501 DISP 1 TO DISP	1	DN 1501 was set to one and is unchanged.
ROOM METER	1502 DISP ZERO TO DISP	1	
ROOM METER	1503 DISP ZERO TO DISP	1	
ROOM METER	1504 DISP 6 TO DISP	1	DN 1504 was set to 6 but is now set to one.
SEt MEter ALl (VAlue) 1			Meters for all DNs
ROOM METER	1000 ZERO TO 1		
ROOM METER	1001 2 TO 1		
ROOM METER	1002 ZERO TO 1		
SEt MEter 1206 VAlue 2			Meters for a list of DNs

Table 23
Using the Set command for Message Registration (cont'd.)

Input Response		Comments
1308	**3**	Meters for a list of DNs—DN 1308 is going to be set to three, and DN 1596 to two. Since DN 1823 and DN 1906 have no value typed beside them, the last value input, two, is used. If the meter value you want for the next line is the same, you can leave it out. So DN 1823 and 1906 is also set to two. Since the meter value desired for DN 1972 is different, it must be entered. When entering values in a list like this, use 0 rather than ZEro (see last line). Note that this example shows only the input you type, as if the confirm option is turned off (see "Defining options for the Set command" (page 27)).
1596	**2**	
1823		
1906		
1972	**1**	
1986	**0**	

Erasing meters (set to zero)

You can use your terminal to set meters in your system to zero. You can do this for a single DN, a group of consecutive DNs, or all DNs.

To set the meter for one DN to zero:

`SEt MEter dn ZEro <CR>`

To set the meters for a group of consecutive DNs to zero:

`SEt MEter dn1 dn2 ZEro <CR>`

To set the meters for all DNs to zero:

`SEt MEter ALl ZEro <CR>`

To set the Customer meter to zero:

`SEt MEter CUstomer ZEro <CR>`

To set other meters to zero, add the Customer meter to the end of a command:

`SEt MEter 1206 ZEro CUstomer ZEro <CR>`

See for examples of using the Set command to erase meters.

Operating parameters

You can use X substitution (see "Defining options for the Set command" (page 27)).

You may not be able to SEt all DNs at once if the ALI option is not on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt a group of consecutive DNs if the RAnge option is not on (see "Defining options for the Set command" (page 27)).

All meters specified in the command are printed out, even if they were already set at zero.

When erasing the meters for a group of DNs, the second DN entered must be a higher number than the first.

The response shown in Table 24 "Using the Set command to erase meters" (page 85) appears only if the COnfirm option is on (see "Defining options for the Set command" (page 27)).

VAlue 0 can be used instead of ZEro if you wish.

Table 24
Using the Set command to erase meters

Input Response					Comments
`SEt MEter 1432 ZEro <CR>`					Meter for one DN
ROOM METER	1432	DISP	3	TO DISP ZERO	DN 1432 was set to 3 but is now set to zero.
`SEt MEter 1400 1410 ZEro <CR>`					
ROOM METER	1400	DISP	2	TO DISP ZERO	DN 1401 was set to 2 but is now set to zero. The others were set to 1 but are now set to zero.
ROOM METER	1401	DISP	1	TO DISP ZERO	
ROOM METER	1402	DISP	1	TO DISP ZERO	
•					
•					
ROOM METER	1410	1		TO ZERO	
`SEt MEter ALl ZEro <CR>`					Meter for all DNs
ATTN METER	1000	ZERO	TO ZERO		DN 1000 was set to 0 and is unchanged.
ROOM METER	1002	1	TO ZERO		DN 1001 was set to 1 but is now set to zero.
•					

Table 24
Using the Set command to erase meters (cont'd.)

Input Response				Comments
•				
ROOM METER	1005	3	TO ZERO	DN 1005 was set to 3 but is now set to zero.
ROOM METER	1006	10	TO ZERO	DN 1006 was set to 10 but is now set to zero.

Turning meters on and off

You can use your terminal to turn a meter or a group of meters on or off.

To turn off the meter for one DN:

SEt MEter dn OFf <CR>

To turn off the meter for a group of consecutive DNs:

SEt MEter dn1 dn2 OFf <CR>

To turn off meters for all DNs:

SEt MEter ALl OFf <CR>

To turn a meter back on:

SEt MEter dn ON <CR>

See Table 25 "Using the Set command to turn meters on or off" (page 87) for examples of using the Set command to turn meters on or off.

Operating parameters

When turning the meters for a group of consecutive DNs on or off, the second DN entered must be a higher number than the first.

You can use X substitution if it is allowed (see "Defining options for the Set command" (page 27)). For example, **SEt MEter 2X1 OFf turns off** 201, 211, 221, 231, and so on.

The response shown in the first example in Table 25 "Using the Set command to turn meters on or off" (page 87) appears only if the COnfirm option is on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt all DNs at once if the ALl option is not on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt a group of consecutive DNs if the RAnge option is not on (see "Defining options for the Set command" (page 27)).

The CUstomer meter cannot be turned off.

Table 25
Using the Set command to turn meters on or off

Input Response	Comments
`SEt MEter 10579 OFf <CR>`	Meter for one DN
ROOM METER 1059 DISP 14 TO OFF	DN 1059 will now be turned off.
`SEt MEter 4706 ON <CR>`	DN 4706 will now be turned on.
`SEt MEter 3001 3501 OFf <CR>`	Meters for a group of consecutive DNs DN 3001 to 3501 will now have their meters turned off.
`SEt MEter ALl OFf <CR>`	Meters for all DNs All DNs will now have their meters turned off.

Turning individual meter display on and off

Individual meters can have their display turned on or off, so it is possible to display the meter value for a particular DN whenever a change occurs, and later turn off the display for that DN if no longer required.

Note: In order to display any meter changes at all, the system display option must be on.

To turn on the display for one DN:

`SEt MEter dn DIsplay (ON) <CR>`

To turn on the display for a group of consecutive DNs:

`SEt MEter dn1 dn2 DIsplay (ON) <CR>`

To turn on meter display for all DNs:

`SEt MEter ALl DIsplay (ON) <CR>`

To turn on display for the Customer meter:

`SEt MEter CUstomer DIsplay (ON) <CR>`

To turn off display of meter changes, use OFf instead of ON.

See Table 26 "Using the Set command to turn display of meters on or off" (page 88) for examples of using the Set command to turn the display of meters on or off.

Operating parameters

For a group of consecutive DNs, the second DN entered must be a higher number than the first.

You may not be able to SEt all DNs at once if the ALI option is not on (see "Defining options for the Set command" (page 27)).

You may not be able to SEt a group of consecutive DNs if the RAnge option is not on (see "Defining options for the Set command" (page 27)).

You can use X substitution if it is allowed (see "Defining options for the Set command" (page 27)). For example, `SEt MEter X01 DIsplay OFf` will turn off meter display for DN 1001, 2001, 3001, 4001, É 9001.

You can combine this command with setting a meter value by putting DIsplay ON, or OFf, at the end. For example, `SEt MEter 1023 VAlue 10 DIsplay OFf` will set the value of DN 1023's meter to 10 and turn off the display of meter changes for DN 1023. Do not combine it with turning a meter on or off.

Table 26
Using the Set command to turn display of meters on or off

`SEt MEter 2703 DIsplay (ON) <CR>`	Meter for one DN—display turned on for DN 2703.
`SEt MEter 5001 5035 DIsplay OFf <CR>`	Meters for a group of consecutive DNs—display turned off for DN 5001 to 5035.
`SEt MEter ALl DIsplay (ON) <CR>`	Meters for all DNs—display turned on for all DNs.

Finding non-zero meters

You can use your terminal to search for meters in your system that have a reading greater than zero. Only the first non-zero meter encountered in the range you specify is printed out. To get the next one, you simply type FInd again.

To find the meter value for one DN:

`FInd MEter dn <CR>`

To find the first non-zero meter value for a group of consecutive DNs:

`FInd MEter dn1 dn2 <CR>`

To find the first non-zero meter value for all DNs:

`FInd MEter ALl <CR>`

To find the next non-zero meter:

`FInd <CR>`

See Table 27 "Using the Find command to find non-zero meters" (page 89) for examples of using the Find command to find non-zero meters.

Operating parameters

If only one meter is requested, and its value is zero, the first higher numbered DN with a non-zero meter will be printed.

When searching a group of meters, the second DN entered must be higher than the first.

If there are no non-zero meters in the group, the terminal prints NO DATA FOUND.

A command containing FInd all by itself is valid only immediately following another FInd command that resulted in a non-zero meter (any result other than NO DATA FOUND).

Table 27
Using the Find command to find non-zero meters

Input Response				Comments
`FInd MEter     3004 <CR>`				Meter for one DN
ADMN METER	3004	DISP	8	DN 3004 has a non-zero meter.
`FInd MEter     9001    9025 <CR>`				Meters for a group of consecutive DNs
ROOM METER	9015		23	DN 9015 is the first DN in the group with a non-zero meter.
`FInd MEter ALl <CR>`				Meters for all DNs
ROOM METER	1003	DISP	13	DN 1003 is the first DN with a non-zero meter.
`FInd <CR>`				
ROOM METER	4035		6	DN 4035 is the next DN with a non-zero meter.
`FInd <CR>`				
NO DATA FOUND				There are no more non-zero meters.

Printing meter values

You can use your terminal to print the contents of meters in your system. This can be done for a single DN, a group of consecutive DNs, or all DNs.

To print the meter contents for one DN:

`(PRint) MEter dn <CR>`

To print the meter contents for a group of consecutive DNs:

```
(PRint) MEter dn1 dn2 <CR>
```

To read the meters for all DNs:

```
(PRint) MEter ALl <CR>
```

To print the Customer meter value:

```
(PRint) MEter CUstomer <CR>
```

To print other meters, add CUstomer to the end of a command, for
example:

```
(PRint) MEter ALl CUstomer <CR>
(PRint) MEter 7301 7350 CUstomer <CR>
```

See Table 28 "Using the Print command to print meter values" (page
91) for examples of using the Print command to print meter values.

Operating parameters
When reading the meters for a group of consecutive DNs, the second DN
entered must be a higher number than the first.

Any DN in the group that has not been assigned a meter, or has a meter
reading of zero, will not be printed. But if you asked for only one meter,
and it was turned off or had a value of zero, it will be printed.

You can use X substitution (see "Defining options for the Set command"
(page 27)). For example

```
(PRint) MEter 73XX <CR>
```

will print meters 7300-7399.

Typing four asterisks (****) stops a job currently in progress at your
terminal.

You can specify a condition at the end of the PRINT command. Only
meters in the condition you name will be printed. The conditions are:

OFf	meters that are turned off
ZEro	meters with a reading of zero
ALl	meters in all conditions, including zero value, and turned off (normally these are not printed)
DIsplay ON	meters with their display turned on
DIsplay OFf	meters with their display turned off

For one meter:

```
(PRint) MEter dn condition <CR>
```

For a consecutive group of meters:

`(PRint) MEter dn1 dn2 condition <CR>`

For all meters:

`(PRint) MEter ALl condition <CR>`

Table 28
Using the Print command to print meter values

Input Response				Comments
`(PRint) MEter 9036 <CR>`				Meter for one DN
ROOM METER	9036		3	The current meter value of DN 9036 is 3.
`(PRint) MEter 1400 1420 <CR>`				Meters for a group of consecutive DNs
ROOM METER	1402	DISP	1	The current meter value of DN 1402 is 1.
ROOM METER	1408	DISP	3	The current meter value of DN 1408 is 3.
ROOM METER	1412	DISP	6	The current meter value of DN 1412 is 6.
ROOM METER	1418	DISP	2	The current meter value of DN 1418 is 2.
`(PRint) MEter ALl <CR>`				Meters for all DNs
ADMN METER	1006	DISP	3	The current meter value of DN 1006 is 3.
				DN 1006 is an administration (ADMN) telephone. The rest are guest room (ROOM) telephones.
ROOM METER	1018		10	The current meter value of DN 1018 is 10.
ROOM METER	1021	DISP	2	The current meter value of DN 1021 is 2.
ROOM METER	1026		1	The current meter value of DN 1026 is 1.
`(PRint) MEter 383 <CR>`				A trunk meter
TRK METER	383		17	383 is a trunk (TRK). Its current meter value 17.
`(PRint) MEter ALl OFf <CR>`				All meters that are turned off.
ROOM METER	1206	OFF		
ROOM METER	1343	OFF		
ADMN METER	8946	OFF		
`(PRint) MEter CUstomer <CR>`				The Customer meter. The current value is 4832.
CUST METER		DISP	4832	Display is on.

Maid Identification

Contents

This section contains information on the following topics:

Description

The Maid Identification (Maid ID) feature makes it easier to keep track of which maids clean which rooms. Maid ID uses the keyword MI and a one-to four-digit Maid ID.

Operating parameters

Modular Terminal firmware and the Hospitality Screen Enhancement (HSE) package 208 are needed to support the special Maid ID screens. They are not required to support the feature itself.

For Off-hook Detection, Line Lockout (LLT) must be defined as overflow tone in LD 15. Any other lockout definition prohibits Maid ID use with Off-hook Detection.

Feature interactions

Maid ID alters dial access for Room Status (RMS). After entering a valid cleaning status, instead of hearing dial tone or Flexible Feature Code (FFC) confirmation tone, the maid hears a special interrupted dial tone, prompting for the Maid ID. The maid can then enter the Maid ID followed by the octothorpe (#), or can hang up.

Feature packaging

The Maid Identification (MAID) feature requires the following packages:

- Maid Identification (MAID) package 210

- Controlled Class of Service (CCOS) package 81

- Background Terminal Facility (BGD) package 99, and

- Room Status (RMS) package 100.

Optional packages include the following:

- Property Management System Interface (PMSI) package 103

- Flexible Feature Codes (FFC) package 139

- Hospitality Screen Enhancements (HSE) package 208.

Feature implementation

Maid ID does not require any additional Service Change implementation. If the feature package is equipped, implement Maid ID using a Background Terminal (BGD) or Property Management System Interface (PMSI). Maid ID can be entered along with room cleaning status in the Background Terminal (BGD) or Property Management System (PMS). For further information about Maid ID implementation, see "Property Management System Interface" (page 19), "Background Terminal" (page 21), and "Room Status" (page 61).

Feature Operation
Room Key operation

To use Room Key (RMK):

Step	Action
1	Press **RMK** once. The indicator flashes.
2	Dial the Directory Number (DN) of the room for which the cleaning status is being changed. The indicator lights steadily.
3	Enter a cleaning status code, 1 through 7 as follows: 1 = cleaning requested 2 = cleaning in progress 3 = room cleaned 4 = room passed inspection 5 = room failed inspection 6 = cleaning skipped 7 = not for sale

4   Press the asterisk (*). This sets the display to accept the Maid ID. The asterisk does not show on the display. Each time the asterisk (*) is entered, the display clears.

When Hospitality Screen Enhancements (HSE) is equipped, and Meridian Modular telephones are used, the display looks like this:

> xxx...x Enter Maid ID

> xxx...x = Room DN

5   Enter the Maid ID.

With HSE, a cursor marks the beginning position for the Maid ID. The Maid ID shows on the display. Correct the Maid ID by pressing the asterisk (*) to clear the incorrect Maid ID and to reset the display. Enter the correct Maid ID.

6   Press **RMK** again to complete the operation. The RMK indicator goes off.

--End--

Dial Access method

This method uses either Special Prefix (SPRE) codes or Flexible Feature Codes (FFCs).

Special Prefix (SPRE)

To enter Room Status (RMS) using SPRE codes:

Step	Action
1	Lift the handset.
2	Dial SPRE+86.
3	Enter a cleaning status code, 1 through 7, as follows:

1 = cleaning requested
2 = cleaning in progress
3 = room cleaned
4 = room passed inspection
5 = room failed inspection
6 = cleaning skipped
7 = not for sale

Special interrupted dial tone is heard, prompting for the Maid ID.

> *Note:* If steps 4, 5, and 6 are skipped, the system sets the Maid ID to zero (0).

4 Press the asterisk (*). This sets the display to accept the Maid ID. The asterisk (*) does not show on the display.

5 Enter the Maid ID. The digits are shown on the display, if equipped. If you enter an incorrect Maid ID, press the asterisk (*), and reenter the Maid ID.

6 Press the octothorpe (#) to end Maid ID entry. The octothorpe (#) does not appear on the display.

7 Hang up the handset.

--End--

Flexible Feature Codes (FFCs)
To enter Room Status using Flexible Feature Codes:

Step	Action

1 Lift the handset.

2 Enter the RMST FCC.

3 Enter a cleaning status code, 1 through 7, as follows:

1 = cleaning requested
2 = cleaning in progress
3 = room cleaned
4 = room passed inspection
5 = room failed inspection
6 = cleaning skipped
7 = not for sale

A special interrupted dial tone prompts for the Maid ID number.

Note : If steps 4, 5, and 6 are skipped, the system sets the Maid ID to zero (0).

4 Press the asterisk (*). This sets the display to accept the Maid ID; it does not show on the display.

5 Enter the Maid ID. The digits appear on the display. If you enter an incorrect Maid ID, press the asterisk (*), and reenter the Maid ID.

6 Press the octothorpe (#) to end Maid ID entry. The octothorpe (#) does not appear on the display.

7 Respond to the tone:

a If the FCC confirmation tone was configured, you hear the FCC confirmation tone. Hang up or press **Rls**.

b If the FCC confirmation tone was not configured, you will hear a dial tone. Make a call, hang up, or press **Rls**.

--End--

Flexible Direct Inward Dialing

Contents

This section contains information on the following topics:

Description

The Flexible Direct Inward Dialing (FDID) feature allows hotels to assign a temporary DID number to a guest room using a Property Management System (PMS) or Background Terminal (BGD).

Operating parameters

If a system has both the PMS and BGD, use the PMS to assign or cancel FDIDs to ensure the database between the system and the PMS is updated properly. Norteldoes not recommend using the BGD to assign or cancel FDID DNs if a PMS is present due to the following operating parameters:

- When a FDID number is cancelled, the FDID is returned to an unused pool of numbers to be managed by the PMS system. If a Background Terminal is used, these FDID number have to be managed manually.

- DID assignment and DID cancellation messages sent from the BGD are not echoed to the PMS. Since the PMS is not aware of such changes, its database may be out-of-synch with the system. Therefore,

Nortelrecommends that the new DID assignment/cancellation messages not be done using the BGD if a PMS system is present.

- The PMS drives the database resynchronization between the PMS and system database. Messages are sent from the PMS to the system to update the system database. If the system database is updated more frequently than the PMS database, use the Room Status Print command on the BGD to print the list of room DNs that associate with the FDID DNs. Corresponding changes can then be made to the PMS database.

If a PMS is present, software changes are required by the PMS.

A room telephone is defined with Controlled Class of Service Allowed (CCSA). The following telephones are supported as room telephones:

- analog (500/2500-type) telephones

- digital telephones

ACD telephones are not supported as room telephones. Flexible Direct Inward Dialing is not supported on telephones with DTA (data terminal allowed) Class of Service.

Feature interactions
Call Redirection
All Call Redirections by the room DN will apply to the associated DID DN. If the DID DN is forwarded to voice mail, then the external call to the room telephone is forwarded to voice mail.

Hospitality Management
The FDID feature simultaneously exists with the Hospitality Management (HOSP) feature but cannot share the same Incoming DID Digit Conversion (IDC) table.

Room Status
The FDID feature modifies the print format to include the FDID DN for each room DN. Refer to the *Software Input Output Administration (NN43001-611)* () for print commands.

Feature packaging
This feature is packaged as Flexible Direct Inward Dialing (FDID) package 362. It requires the following packages:

- New Flexible Code Restriction (NFCR) package 49

- Controlled Class of Service (CCOS) package 81

- Background Terminal (BGD) package 99

- Incoming DID Digit Conversion (IDC) package 113

A system supporting PMS requires the Property Management System Interface (PMSI) package 103 which requires:

- Controlled Class of Service (CCOS) package 81

- Background terminal (BGD) package 99

- Room Status (RMS) package 100

Feature implementation
Task summary list
The following is a summary of the tasks in this section:

Table 29
LD 15: Configure maximum number of incoming digits.

Prompt	Response	Description
REQ:	NEW CHG	Add new data. Change existing data.
TYPE:	FCR	New Flexible Code Restriction.
CUST		Customer number.
	0-99	Range for Large Systemand CS 1000Esystem
	0-31	Range for Small System, CS 1000S system, Media Gateway 1000B, and Media Gateway 1000T
...	...	
IDCA	YES	Incoming DID Digit Conversion allowed. (NO) Incoming DID Digit Conversion denied is the default.
- DCMX	1-255	Maximum number of IDC conversion tables.

Table 30
LD 49: Create a table to convert incoming DID digits.

Prompt	Response	Description
REQ	NEW CHG	Add new data. Change existing data.

Table 30
LD 49: Create a table to convert incoming DID digits. (cont'd.)

Prompt	Response	Description
TYPE	IDC	Incoming Digit Conversion.
CUST	xx	Customer number as defined in LD 15.
DCNO	1-254	Digit Conversion Tree number (IDC tree number). *Note:* Number 0 is not allowed for IDC tree number.
FDID	YES	Flexible DID IDC tree. (NO) is the default.
IDGT	0-9999 0-9999	Incoming Digits (DN or range of DNs to be converted).

Table 31
LD 16: Enable digit conversion for required DID trunk routes.

Prompt	Response	Description
REQ	CHG	Change existing data.
TYPE	RDB	Route Data Block.
CUST	xx	Customer number as defined in LD 15.
ROUT		Route number of DID route.
	0-511	Range for Large System and CS 1000E system
	0-127	Range for Small System, CS 1000S system, Media Gateway 1000B, and Media Gateway 1000T
...	...	
IDC	YES	Incoming DID Digit Conversion allowed. (NO) Incoming DID Digit Conversion denied is the default.
- DCNO	(0)-254	Day IDC tree number as defined in LD 49.
- NDNO	(0)-254	Night IDC tree number as defined in LD 49.

Feature operation

Printing FDID DN settings

You can use your BGD to print out the status of a guest room DN with these settings:

For one DN:

PRint STatus <room DN> FD

For a group of consecutive DNs:

PRint STatus <room DN1> <room DN2> FD

For all DNs:

```
PRint STatus ALl FD
```

PMS messages sent to the system

Flexible Direct Inward Dialing (FDID) contains the following list of
messages sent by the PMS to the system:

- To assign a temporary DN to the room telephone:
  ```
  SE ST <room DN> FD <did DN>
  ```

  where SE = SEt, ST = STatus, FD <did DN> =
  DID Assignment message.

- To cancel a temporary DN from the room telephone:
  ```
  SE ST <room DN> FD OFf
  ```

  where SE = SEt, ST = STatus, <room DN> = A single room DN, FD
  OF= DID Cancellation message.

- To cancel temporary multiple DNs to room telephones:
  ```
  SE ST <room DN1> <room DN2> FD OFf
  ```

  where SE = SEt, ST = STatus, <room DN1> <room DN2> = A range
  of room DNs

- To cancel temporary multiple DNs from the room telephones:
  ```
  SE ST AL FD OFf
  ```

  where SE = SEt, ST = STatus, AL = AL1 room DNs, FD OFf = DID
  Cancelation.

  Note 1: An unassigned DID DN trunk call is directed to the
  Attendant DN.

  Note 2: The FDID feature does not support the FIND command.

Message Center incoming calls

Contents

This section contains information on the following topics:

Direct message calls

The Message Center can be accessed by a direct message call, which can take any of the following forms:

- An attendant extends a call to the Message Center.

- An analog (500/2500-type) telephone dials the Message Center DN.

- A digital telephone accesses the Message Center.

Indirect message calls

A call can be routed to the Message Center if it is not answered at the original terminating telephone. This indirect call can take any of the following forms:

- A non-Direct Inward Dial call encounters a no-answer condition so that Call Forward No Answer (CFNA) is invoked, routing it to the Message Center.

- A Direct Inward Dial (DID) call encounters CFNA or Call Forward Busy (CFB) and is routed to the Message Center.

- The Message Center Directory Number (MC DN) must be programmed as the Flexible Call Forward No Answer DN (FDN) of the called telephone to route unanswered calls. However, the MC DN can be specified as the Hunt number to provide Hunting functionality to the Message Center.

Operation

A Message Center can be organized in one of three ways:

- Automatic Call Distribution (ACD)

- digital telephone

- attendant

Message Center packaging

If an ACD Message Center is not required, the customer must order only the Message Center package. However, if an ACD Message Center is required, the appropriate ACD package should be ordered in addition to Message Center. An option for the ACD Message Center is the Integrated Messaging System (IMS).

An ACD package is required if an Attendant Message Center is accessed by an MSG CENTER ICI key. This is required for the Phantom ACD DN associated with the MSG CENTER ICI key. Refer to *Automatic Call Distribution Fundamentals (NN43001-551)* (). -

Automatic Call Distribution (ACD) Message Center

A special aspect of ACD is defined for optional use with Message Center. Each telephone assigned to the ACD-type Message Center is equipped with an ACD in-calls key/lamp pair. One Message Indication and one Message Cancellation key/lamp pair must also be equipped if Message Waiting Indication and control are required. Calls redirected to the Message Center are queued in order of arrival and distributed to answering positions in the same way ACD calls are distributed.

If all assigned positions are in the Make Busy mode, redirected calls and message retrieval calls are forwarded to the night number specified for the Message Center ACD DN. This DN can be the attendant, another Message Center, or an outside number. Up to 240 Message Center ACD DNs can be assigned per customer.

ACD Agent Position Increase
The software supports up to 1200 positions on Large Systems.

If the appropriate ACD packages are equipped, an ACD Message Center can support a full complement of ACD features. See *Automatic Call Distribution Fundamentals (NN43001-551)* ().

When an indirect message call is presented to a Message Center operator's telephone, the MSG IN-CALLS key flashes, and both the calling DN and called DN are displayed. If the call originated from a trunk, the route and member number of the trunk display instead of the calling DN.

To answer the call, press the MSG IN-CALLS key. You can now take a message or release as required.

If the caller wants to leave a message, take down the required information, then pass it on to the called party. Press the MSG INDIC key to notify the called party that there is a message waiting.

Press the RLS key to release the call. You rejoin the ACD queue when the Message Center call is released.

When a Message Center call comes in and the called DN displays, the MSG INDIC lamp at the operator's telephone reflects the status of the called telephone's Message Waiting lamp as follows. If Audible Message Waiting (AMW) is equipped in place of the lamp, interrupted dial tone indicates the called party's status:

- Steadily lit: If the operator's MSG INDIC lamp is steadily lit, the Message Waiting Indication at the called telephone is inactive.

- Fast flashing (60 ipm): If the operator's MSG INDIC lamp is fast flashing, then the Message Waiting Indication at the called telephone is active.

- Slow flashing (30 ipm): If the operator's MSG INDIC lamp is slow flashing, the Message Waiting lamp at the called telephone is disabled or not equipped. This state does not occur if Message Waiting Indication is by interrupted dial tone.

Telephone Message Center

The telephone's Message Center has one or more display telephones sharing a DN designated the Message Center DN. An incoming call to the Message Center is presented to all Message Center telephones at once. The first operator to press the flashing MC DN key is connected to the call. If all operators are busy, incoming message calls get the treatment as specified.

When you press the flashing MC DN key, you are immediately connected to the caller. The display shows the originating DN (or trunk route and member number) and terminating DN. If CPND is equipped, the names are displayed.

When a Message Center call comes in and the called DN displays, the MSG INDIC lamp at the operator's telephone reflects the status of the called telephone's Message Waiting lamp as follows. If Audible Message Waiting (AMW) is equipped in place of the lamp, interrupted dial tone indicates the called party's status:

- Steadily lit: If the operator's MSG INDIC lamp is steadily lit, the Message Waiting indication at the called telephone is inactive.

- Fast flashing (60 ipm): If the operator's MSG INDIC lamp is fast flashing, then the Message Waiting Indication at the called telephone is active.

- Slow flashing (30 ipm): If the operator's MSG INDIC lamp is slow flashing, the Message Waiting lamp at the called telephone is disabled or not equipped. This state does not occur if Message Waiting Indication is by interrupted dial tone.

When an indirect message call is presented to a Message Center operator's telephone, the MSG IN-CALLS key flashes, and both the calling DN and called DN are displayed. If the call originated from a trunk, the route and member number of the trunk display instead of the calling DN.

To answer the call, press the MSG IN-CALLS key. You can now take a message or release as required.

If the caller wants to leave a message, take down the required information and pass it on to the called party. Press the MSG INDIC key to notify the called party that they have a message waiting.

Press the RLS key to release the call. You return to normal telephone operations until the next Message Center call appears.

All telephones have Message Waiting capability, and any digital telephone can function as a Message Center. The DN used for message taking should be the prime DN if Message Waiting lamp Indication and Cancellation are desired. Calls are redirected to the telephone-type Message Center using message forwarding. Since this is a normal DN, calls are not queued.

A telephone with Message Waiting may be equipped with a key/lamp pair that notifies you when a message is waiting. When this key is pressed, you are connected with the Message Center.

Analog (500/2500-type) telephones with Message Waiting Allowed Class of Service may be equipped with a neon lamp for visual indication. These telephones must dial-access the Message Center.

A telephone without a Message Waiting lamp, except the M2317, can be informed that a message is waiting by Audible Message Waiting (AMW) (Prime DNs and Single Appearance DNs only). A special Message Waiting tone is heard each time you go off hook until the Message Waiting Indication is canceled by the Message Center operator. Calls can be originated and received with the tone activated.

Each telephone with a Message Waiting Allowed Class of Service is assigned to a specific Message Center. Unanswered calls are automatically routed to that Message Center. There is no upper limit to the number of telephones that can be assigned to any Message Center.

Attendant Message Center

An attendant Message Center has up to 15 attendant consoles in a system handling messages, in addition to their normal functions as attendants. Incoming message calls can access an attendant Message Center in one of two ways: a phantom Message Center DN or normal attendant access.

Phantom Message Center DN

This method requires the presence of the ACD package in the system. The ACD DN for this feature has no agents assigned to it. Any message calls coming into it are automatically transferred to the attendant and appear on a MSG CENTER Incoming Call Indicator (ICI) key. The Message Center DN established in this way is thus a phantom Message Center DN.

When a message call appears at an attendant console through a Message Center DN, the MSG CENTER ICI lamp flashes, and the display shows the originating DN (or trunk route and member number) and terminating DN. If Call Party Name Display (CPND) is equipped, the names are shown instead of the DNs.

When a Message Center call comes in and the called DN displays, the MSG INDIC lamp at the operator's telephone reflects the status of the called telephone's Message Waiting lamp as follows. If Audible Message Waiting (AMW) is equipped in place of the lamp, interrupted dial tone indicates the called party's status:

- Steadily lit: If the operator's MSG INDIC lamp is steadily lit, the Message Waiting Indication at the called telephone is inactive.

- Fast flashing (60 ipm): If the operator's MSG INDIC lamp is fast flashing, then the Message Waiting Indication at the called telephone is active.

- Slow flashing (30 ipm): If the operator's MSG INDIC lamp is slow flashing, the Message Waiting lamp at the called telephone is disabled or not equipped. This state does not occur if Message Waiting Indication is by interrupted dial tone.

When you press a free LPK key or the flashing MSG CENTER ICI key, you automatically connect to the incoming call. If the caller wants to leave a message, take down the required information and pass it on to the called party. Press the MSG INDIC key to notify the called party that they have a message waiting.

Press the RLS key to release the call. You return to normal telephone operations until the next Message Center call appears.

Normal attendant access
If a phantom Message Center DN has not been established on an attendant console ICI key, the attendant must determine verbally that this is a message call. In this case, the MSG INDIC lamp does not show the state of the called party's Message Waiting Indication. After the call is released, the attendant can provide Message Waiting Indication by directly accessing the called party's telephone.

Message retrieval calls
All telephones have Message Waiting capability, and any digital telephone can function as a Message Center. The DN used for message taking should be the prime DN if Message Waiting lamp Indication and Cancellation are desired. Calls are redirected to the telephone-type Message Center using Message Forwarding. Since this is a normal DN, calls are not queued.

A telephone with Message Waiting may be equipped with a key/lamp pair that notifies you when a message is waiting. When this key is pressed, you are connected with the Message Center.

Analog (500/2500-type) telephones with Message Waiting Allowed Class of Service may be equipped with a neon lamp for visual indication. These telephones must dial-access the Message Center.

A telephone without a Message Waiting lamp can be informed that a message is waiting by Audible Message Waiting (AMW) (Prime DNs and Single Appearance DNs only). A special Message Waiting tone is heard each time you go off-hook until the Message Waiting Indication is canceled by the Message Center operator. Calls can be originated and received with the tone activated.

Message indication at a called telephone can take the following forms:

- **Digital telephones with a key/lamp pair.** The lamp associated with the MSG WAITING key indicates that a message is waiting at the Message Center.

- **Analog (500/2500-type) telephones with a Message Waiting lamp.** A Message Waiting lamp on the telephone indicates that a message is waiting at the Message Center.

- **Telephones without a Message Waiting lamp.** Message Waiting Indication can be provided as an option by AMW (a 120 ipm interrupted dial tone) instead of a Message Waiting lamp, or key/lamp pair when the user goes off hook at the telephone. A faulty Message Waiting lamp does not result in Message Waiting Indication by interrupted dial tone; in this case, it is up to the user to call the Message Center to see if there is a message. Telephones equipped with neither Message Waiting lamps nor AMW have no visual indication that a message is waiting. It is up to the user to call the Message Center to see if a message is waiting.

Regardless of whether message indication is by lamp or AMW, the user can still make calls and operate features normally. The Message Indication remains active until canceled by a Message Center operator or by the system during a night routine.

Placing a message retrieval call
Digital telephones
The user goes off hook and presses the MESSAGE WAITING key. The digit display shows the Message Center DN. The Message Center answers and gives the user the message, then extinguishes the user's Message Indication lamp. The user then goes on hook. The user can also access the Message Center by going off hook and pressing the MESSAGE WAITING key even if the associated lamp is not flashing.

If message indication is by AMW, the user goes off hook and dials the Message Center DN. The Message Center operator cancels the AMW in the same way as a Message Waiting lamp.

Analog (500/2500-type) telephones
Whether or not a message indication lamp is provided with the telephone, the user goes off hook and dials the Message Center DN. The Message Center answers and gives the user the message, then extinguishes the user's Message Indication lamp. If message indication was provided by interrupted dial tone, this is canceled by the Message Center operator in the same way as a Message Waiting lamp. The user then goes on hook.

Answering a message retrieval call
ACD Message Center
The message retrieval call is presented on the MSG IN-CALLS key of a Message Center telephone, and the digit display shows the DN of the calling telephone. The MSG CANC lamp reflects the state of the caller's Message Waiting indication as follows:

- Steadily lit: The Message Waiting Indication at the calling telephone is inactive.

- Fast flashing (60 ipm): The Message Waiting Indication at the calling telephone is active.

- Slow flashing (30 ipm): The Message Waiting lamp at the calling telephone is either disabled or not equipped. This state does not occur if Message Waiting Indication is by interrupted dial tone.

To answer the call, the Message Center operator presses the MSG IN-CALLS key. If the Message Center is equipped with Call Forcing, the call is answered automatically. The operator gives the caller the message. If the MSG CANC lamp is flashing, the operator presses the MSG CANC key to deactivate the caller's Message Waiting Indication. The operator then presses the RLS key to release the call.

DN Message Center
The message retrieval call is presented on the MC DN key of a Message Center telephone. The Message Center operator answers the call by pressing the MC DN key. The digit display shows the calling DN, and the MSG CANC lamp indicates the state of the calling telephone's message Waiting Indication in the same way as for an ACD-type Message Center. The procedures for deactivating a Message Waiting Indicator (MWI) in a DN Message Center are the same as for deactivating an MWI in an ACD-type Message Center.

Attendant Message Center

The presentation of a direct message call to an attendant console depends on whether a Phantom Message Center DN has been assigned to an ICI key (Phantom Message Center DN), or the user must dial the attendant as in a normal attendant call (Normal Attendant Access).

The Phantom Message Center ACD DN is assigned to overflow to the MSG CENTER ICI key on the attendant console. When a direct Message Center call comes into the console, the MSG CENTER ICI key flashes. To answer the call, the Message Center operator presses the MSG CENTER ICI key or a free LPK key. The procedures for deactivating a Message Waiting Indicator (MWI) in an Attendant Message Center are the same as for deactivating an MWI in an ACD-type Message Center.

With Normal Attendant Access, the attendant must determine verbally that this is a message retrieval call. During the call, the MSG CANC key does not show the state of the user's Message Waiting lamp. After the call is released, the attendant must deactivate Message Waiting Indication directly.

Direct Message Waiting lamp control

The Message Center operator must directly access a telephone to activate or deactivate Message Waiting Indication in the following cases:

- The telephone is calling an Attendant Message Center by direct access.

- The telephone is not currently in contact with the Message Center.

The Message Center operator must first release or place on hold all calls; in an ACD-type Message Center, the NOT READY key must be activated. The operator then decides whether the telephone's Message Waiting Indication is to be activated or canceled.

Query and/or activate

The operator presses the MSG INDIC key, and the associated lamp lights. The operator then dials the DN; no Ringback is heard, but the state of the MSG INDIC lamp reflects the state of the user's Message Waiting lamp (or interrupted dial tone) as follows:

- Steadily lit: The user's Message Waiting Indication is inactive.

- Fast flashing (60 ipm): The user's Message Waiting Indication is active.

- Slow Flashing (30 ipm): The user's Message Waiting lamp is either disabled or not equipped. This state does not occur if Message Waiting Indication is by interrupted dial tone.

Here, the operator can change the state of the user's Message Waiting Indication from inactive to active with the MSG INDIC key. The connection is released when the Message Center operator uses the RLS key.

Query and/or deactivate
The operator presses the MSG CANC key, and the associated lamp lights. The operator then dials the DN. No Ringback is heard, but the state of the MSG CANC lamp reflects the state of the user's Message Waiting Indication in the same way as the MSG INDIC lamp previously described.

At this point, the operator can change the state of the user's Message Waiting Indication from active to inactive by pressing the MSG CANC key, or the indication can be left as it is. The connection is released when the Message Center operator presses the RLS key.

Network Message Service
Centralized Message Centers are provided for all switches in ISDN Primary Rate Access or ISDN Signaling Link (ISL) networks. Network Message Service (NMS) functions allow access to Message Centers (MC) across a network while remaining transparent to the user. The application is referred to as the Network Message Service—Message Center (NMS-MC).

Three types of Message Centers are supported:

- ACD-type Message Centers

- DN-type Message Centers

- attendant console Message Centers

Feature interactions
ACD Message Center
The operation of ACD Message Center telephones is basically the same as an ACD system with incoming call queues and available agent queues. The ACD Message Center cannot operate in combination with an Attendant Message Center. However, if all telephones are in the Make Busy mode (not logged in), Message Center calls can be routed to the attendants who can then function as the Message Center. Queue overflow features are allowed for a Message Center ACD DN in the same way as any other ACD system with the properly equipped package. Other ACD features such as RAN, music, and so on, operate as for a normal ACD system with the appropriate packages.

A Message Center operator cannot originate calls on the MSG IN-CALLS key; therefore, originating features are not applicable on this key. Separate DN keys must be provided for these functions.

DN Message Center
The Message Center DN must be the prime DN; otherwise, all normal features can be assigned to this DN.

Attendant Message Center
Once a call is extended to an ACD Message Center by an attendant, it is released completely from attendant operation, and Recall, Camp-On, and so on, cannot be activated. For calls extended to a DN Message Center, normal attendant functions, such as Recall and Camp-On, can be used. Other attendant functions operate normally.

Call Forward (All Calls)
Call Forward should be denied at telephones serving as the Message Center. On a telephone basis, Call Forward takes precedence over the Message Center. If a call is forwarded to another telephone, activation of Message Waiting depends on whether or not the second telephone has Message Waiting Allowed.

If the system is equipped, Call Forward Message Waiting dialtone can be provided to analog (500/2500-type) telephones as an indication that Call Forward All Calls is active and a message is waiting at the message center.

Call Forward (Internal Calls)
The Message Center treats Internal CFW in the same way as Call Forward All Calls (CFAC).

If the system is equipped, Call Forward Message Waiting dial tone can be provided to analog (500/2500-type) telephones as an indication that Call Forward, Internal Calls is active and a message is waiting at the Message Center.

Call Forward Busy
Call Forward Busy (CFB) should be denied on telephones serving as the Message Center. An option is provided to allow DID calls to a busy telephone to be routed to the Message Center. If this option is selected by the customer, Message Waiting takes precedence over the customer-defined path for CFB.

Call Forward No Answer
Call Forward No Answer (CFNA) should be denied at telephones serving as the Message Center. On a telephone user basis, Message Waiting takes precedence over the customer-defined path of CFNA.

The capability to light and extinguish Message Waiting lamps can be used with CFNA to simulate a Multiple Message Center. Any telephone equipped with message lamps, but without Message Waiting Allowed class of service, can use CFNA to specified DNs on the telephones equipped with MSG INDIC and MSG CANC key/lamp pairs.

These telephones have the capability to light or extinguish Message Waiting lamps by manually entering the DN of the telephone for which a message was taken. Call processing is the normal call processing for CFNA, not the Message Center call processing. When a call is forwarded, the MSG INDIC lamp does not light, since this is not true Message Center operation.

Call Transfer/Conference from analog (500/2500-type) telephones
Message Waiting interrupted dial tone is not provided when the user flashes the switchback to activate Call Transfer or Conference. The normal dial tone for this purpose is provided.

Flexible CFNA to any DN
Flexible CFNA to any DN forwards unanswered calls to a predesignated CFNA DN. All telephones with Message Waiting Allowed have the CFNA DN assigned to the Message Center regardless of whether Flexible CFNA has been selected by the customer or whether CFNA is allowed or denied for the telephone.

Hunting
Hunting should be denied at telephones serving as the Message Center. On a user basis, Hunting takes precedence over Message Waiting. However, Message Waiting can be activated after Hunting, provided the hunted telephone is Message Waiting Allowed and does not answer the call. If desired, the MC DN can be specified as the hunt number.

Listed Directory Number
A Message Center can be assigned to a Listed Directory Number (LDN) and behaves in a similar manner to an Attendant Message Center. The calls come in on an LDN ICI instead of the MSG CENTER ICI, and direct message calls do not activate the MSG CANC key. The operator must access the user telephone directly to cancel that telephone's Message Indication.

Ring Again for analog (500/2500-type) telephones
Message Waiting interrupted dial tone is not provided when the user flashes the switchback to activate Ring Again. For this purpose, the normal dial tone is provided.

User Selectable Call Redirection

User Selectable Call Redirection (USCR) allows the user to perform the following two tasks:

- To assign the four redirection DNs from the telephone. These DNs include the CFNA DN and the external CFNA DN (if it exists).

- To change the way the number of ringing cycles are defined for Flexible Call Forward No Answer (CFNA). One of three options can now be selected from the telephone.

This feature does not support ISDN Basic Rate Interface (BRI).

Feature packaging

The Network Message Service (NMS) package 175 requires the Message Center (MC) package 46.

NMS requires all the packages necessary to support Integrated Services Digital Network (ISDN), with ISDN Network Services (NTWK) package 148 as a minimum.

Network Message Services in the Meridian Mail environment require the following packages:

- Originating switch

  — End-to-End Signaling (EES) package 10

- Terminating switch

  — End-to-End Signaling (EES) package 10

  — Integrated Message Services (IMS) package 35

  — Command Status Link (CSL) package 77

Message Centers in the ACD environment require the ACD packaged options:

- Basic Automatic Call Distribution (BACD) package 40)

- Automatic Call Distribution, Package A (ACDA) package 45

- Automatic Call Distribution, Package B (ACDB) package 41

- Automatic Call Distribution, Package C (ACDC) package 42

The user network must be equipped with either the Uniform Dialing Plan (UDP) or the Coordinated Dialing Plan (CDP).

NMS does not support Public Numbering Plans or Multiple Message Center interworking.

Feature implementation

For a complete description of the steps to operate and implement Network Message Services, refer to *Meridian Link ISDN/AP General Guide (553-2901-100)* (). Also refer to *Software Input Output Administration (NN43001-611)* () for a complete description of the prompts and responses available.

Feature operation

No specific operating procedures are required to use this feature.

Message Waiting Indication interworking

Centralized message service is available on a DMS-100 (Centrex) and can be directly accessed from the system using Message Waiting Indication (MWI) Interworking software functionality. MWI Interworking allows either one of the two configurations listed below:

- The system hosts the Message Center and serves both system and DMS-100 users in the same customer group or corporate network.

  This configuration enables system users and public network callers to leave messages for subscribers on a Message Center connected to the DMS-100. The Meridian Message Center then initiates a facility message to turn on the Message Waiting Indicator at the subscriber's station. The subscriber can then retrieve the messages, and the Message Waiting Indicators will automatically turn off (accomplished using a facility message initiated from the host switch to the remote switch where the subscriber resides) when retrieval is complete.

- The DMS-100 system hosts the Message Center and serves both system and DMS-100 users in the same customer group.

  This configuration enables system private or public network callers to leave messages for subscribers on the Message Center connected to the DMS-100 system. This configuration then functions in the same way as the system host configuration.

  Note: The connections between the switches must be ISDN.

Feature packaging

MWI Interworking requires the following for each node:

- Originating node (the node that has Message Center users)

  — End-to-End Signaling (EES) package 10

  — Message Waiting Center (MWC) package 46

  — Integrated Services Digital Network (ISDN) package 145

  — Primary Rate Access (CO) (PRA) package 146 or ISDN Signaling Link (ISL) package 147

— Advanced ISDN Network Services (NTWK) package 148

— Network Message Services (NMS) package 175

— Message Waiting Indication Interworking with DMS (MWI) package 219. This package is required if the feature is interworking with a DMS-100, SL-100, or DMS-250 switch.

Note: DMS-100 and SL-100 switches must be running BCS 36 or later.

- Host node (the node that hosts the Message Center)

  — End-to-End Signaling (EES) package 10

  — Integrated Message Services (IMS) package 35

  — Basic Automatic Call Distribution (BACD) package 40

  — Automatic Call Distribution, Package A (ACDA) package 45

  — Message Waiting Center (MWC) package 46

  — Command Status Link (CSL) package 77

  — Integrated Services Digital Network (ISDN) package 145

  — Primary Rate Access (CO) (PRA) package 146 or ISDN Signaling Link (ISL) package 147

  — Advanced ISDN Network Services (NTWK) package 148

  — Network Message Services (NMS) package 175

  — Message Waiting Indication Interworking with DMS (MWI) package 219. This package is required if the feature is interworking with a DMS-100, SL-100, or DMS-250 switch.

- Tandem node(s) (the node(s) that do not have Message Center users)

  — Integrated Services Digital Network (ISDN) package 145

  — Primary Rate Access (CO) (PRA) package 146 or ISDN Signaling Link (ISL) package 147

  — Advanced ISDN Network Services (NTWK) package 148

  — Message Waiting Indication Interworking with DMS (MWI) package 219. This package is required if the feature is interworking with a DMS-100, SL-100, or DMS-250 switch.

Note: The Meridian Message Center supports a private network and must be equipped with either the Uniform Dialing Plan (UDP) or the Coordinated Dialing Plan (CDP). The DMS-100 supports both a public and private Message Center and can be equipped with a third-party Message Center vendor, such as OCTEL.

For detailed information on this feature, refer to *Meridian Link ISDN/AP General Guide (553-2901-100)* ().

Feature implementation

There are no specific implementation procedures for this feature.

Feature operation

No specific operating procedures are required to use this feature.

Message Center requirements

Contents

This section contains information on the following topics:

Equipment requirements

User telephones

Message Center is supported on proprietary digital telephones, with either an individual Message Waiting Indicator, or a Message Waiting key/lamp pair, or both.

Message Center is also supported on analog (500/2500-type) telephones, with or without a Message Waiting lamp. For those telephones equipped with a Message Waiting lamp, the Message Center operator can cause the lamp to flash to indicate that a message is waiting. For those telephones not equipped with a Message Waiting lamp, Audible Message Waiting can be provided. When the user goes off-hook, he or she hears an interrupted dial tone (120 ipm). The user can then dial the Message Center DN and collect the message.

Refer to *Telephones and Consoles Fundamentals (NN43001-567)* () for a list of available telephones.

Message Center telephones

The following types of telephones are suitable for use as Message Center telephones:

- digital telephones with a minimum 16-digit display
- attendant consoles with display

Digital telephones

ACD Message Center — Nortelrecommends digital telephones with a minimum 16-digit display for use in an ACD-type Message Center.The telephones must be equipped with MSG IN-CALLS, MSG INDIC, MSG CANC, and NOT READY keys, in addition to other keys as required.

See *Telephones and Consoles Fundamentals (NN43001-567)* () for more information on the digital telephones. ACD features are described in *Automatic Call Distribution Fundamentals (NN43001-551)* ().

DN Message Center — The same digital and ACD telephones used for an ACD Message Center can also be used for a DN-type Message Center. The telephone must be equipped with an MC DN key instead of an MSG IN-CALLS key. The MSG INDIC, MSG CANC, and NOT READY keys are also required.

Attendant consoles

Attendant console(s) can be equipped with a MSG CENTER ICI key to facilitate the control of a message indication at user telephones (although this is not required, since Message Waiting Indication can be performed by direct access), as well as the MSG INDIC and MSG CANC keys.

Network Message Services

For a complete list of telephones and consoles supported by Network Message Services, refer to *Telephones and Consoles Fundamentals (NN43001-567)* ().

MWI interworking

MWI interworking requires the following equipment:

- Message Center for system

  — CallPilot

  — Meridian Mail

- Centrex switches

  — DMS-100 (requires BCS 36 for interworking)

  — DMS-250

  — SL-100 (requires BCS 36)

- Local or remote switch

  — End-to-End in-band Signaling

- Call Forward All Calls, Call Forward No Answer, Call Forward Busy, and Hunting connections from Message Center subscriber to Message Center on another switch

  — Primary Rate Interface/ISDN Signaling Link (PRI/ISL)

Maintenance

Maintenance diagnostic programs are provided by the software to control and test the Message Center services. Message Waiting lamps and set indicators can be tested on a system basis. Refer to *Software Input Output Administration (NN43001-611)* () for more information.

LD 32: Network and Peripheral Equipment Replacement Diagnostic

This diagnostic can be used to test the neon Message Waiting lamp on analog (500/2500-type) telephones. It can also be used to print out a list of any defective lamps. The telephones with Message Waiting key/lamp pairs are not included in this test.

LD 61: Message Waiting Lamp Reset (MWL)

This program can be set to run automatically as part of the Daily Routines (DROL) or can be run manually from a peripheral input device. LD 61 is used to reset the lamp and status for all telephones within the system. When run manually, the command G starts the program.

The program does not reset lamp status unless all Message Center telephones are out-of-service, as under Night Service conditions.

Group Code Support

Contents

This section contains information on the following topics:

Description

Group Code Support is introduced in HMS 400 Release 2.0. It allows you to easily set wake up calls for specific groups, such as Tour groups, and form temporary distribution lists for hotel promotions and announcements. Group codes are five digits in length (10000 - 99999). A distribution list is automatically created based on the group code during check-in.

Use a Group code for:

- Custom welcome messages
- Distribution list messages
- Group auto-wake up messages

  Note: This covers the link between HMS 400 2.0 and the Property Management System. The packets are not passed to the CS1000.

For PMSI related commands, see "Group Code, Class of Service Code and VIP Code" (page 135).

Itemized Minibar Posting

Contents

This section contains information on the following topics:

Description

In HMS 400 Release 2.0, you can select either Total or Itemized Minibar Posting. The Itemized Minibar Posting option breaks down each item entered by the maid into individual packets and sends the data to the PMS interface.

For PMSI related commands, see .

Property Management System Interface

Contents

This section contains information on the following topics:

Messages from the Property Management System to the system
Types of messages

The following types of messages are sent from the Property Management System (PMS) to the system:

- Temporary DID Assignment commands

- Temporary DID Cancellation commands

- Temporary Multiple DID Assignment commands

- Temporary Multiple DID Cancellation commands

- Check In/Check Out commands

- Activating/Deactivating Telephone Restriction commands

- Activating/Deactivating Message Waiting lamp commands

- Activating/Deactivating Do Not Disturb feature commands

- Call Party Name Display commands

- Multiple Language Wake Up commands

PMS messages sent to the system
Flexible Direct Inward Dialing messages

Flexible Direct Inward Dialing (FDID) allows hotels to temporarily assign a DN to a guest room by using a Background Terminal (BGD) or the PMS. FDID allows the system to assign and cancel the temporary room DN's.

The section "Flexible Direct Inward Dialing" (page 99) contains a list of messages sent by the PMS to the system. Refer to "PMS messages sent to the system" (page 103).

Room Status messages

Table 32 "Room status commands" (page 130) lists messages formatted and sent by the PMS to the system. Each message is expected to have the appropriate protocol appended.

If Directory Number Expansion Package (7 Digit) (DNXP) package 150 is equipped, a DN–related field in a Room Status command and response is expanded to accommodate up to 7 digits. VIP status and Maid ID have been added to the SE command. The MI keyword, with the Maid ID, can be appended to a cleaning status command if the Maid ID package is equipped.

Table 32
Room status commands

SEt	STatus	DN	CHeck (IN)
SEt	STatus	DN	CHeck OUt
SEt	STatus	DN	OCcupied
SEt	STatus	DN	VAcant
SEt	STatus	DN	SAle
SEt	STatus	DN	NS (Not for Sale)
SEt	STatus	DN	REquest (cleaning)
SEt	STatus	DN	PRogress (cleaning in)
SEt	STatus	DN	CLeaned
SEt	STatus	DN	PAssed
SEt	STatus	DN	FAiled
Note: DN represents the Room Directory Number. Uppercase letters are the minimum input required to execute the command.			

Table 32
Room status commands (cont'd.)

SEt	STatus	DN	SKipped
SEt	STatus	DN	COntrolled (ON)
SEt	STatus	DN	COntrolled OFf
SEt	STatus	DN	COntrolled (ON)/OFf
SEt	STatus	DN	E1 (ON)/OFf
SEt	STatus	DN	E2 (ON)/OFf
SEt	STatus	DN	REquest MI nnnn
SEt	STatus	DN	VIp(ON)/OFf
SEt	STatus	DN	LA O
SEt	STatus	DN	LA EN

Note: DN represents the Room Directory Number. Uppercase letters are the minimum input required to execute the command.

Message Waiting and Do Not Disturb status

The telephone Message Waiting lamp is normally controlled by the Message Center attendant. Do Not Disturb (DND) is controlled from an Attendant Console. With PMSI enabled, it is possible to turn these lamp conditions ON or OFF using the PMS computer.

At the physical link layer, the PMS computer functions as a TTY and is connected to the switch by means of a switch serial data interface (SDI) port. In the switch, each character received from the PMSI data link is treated as if it were entered from a TTY, and each character transmitted to the PMS computer is handled the same way as character output to a TTY.

The command processor interprets only the first two letters of each command word typed in. These letters are shown in uppercase, while the rest of the commands, including input parameters, are shown in lowercase. Parentheses indicate a keyword that is optional (or a variable that is a default).

The exact commands listed here are expected to have the appropriate protocol appended.

Message Waiting:
SEt STatus DN MW (ON)
SEt STatus DN MW OFf

Do Not Disturb:
SEt STatus DN DNd (ON)
SEt STatus DN DNd OFf

For PMSI, all new and existing commands are supported. In addition, the new parameter, LAnguage, added to the OPtion, STatus, and CPnd commands, is also recognized by the PMSI.

Note: Only single Room Status commands should be sent from the PMS to the system.

Automatic control
The PMS can request the system to automatically change the room status of all occupied rooms to "REquested" every day at a specific time by sending the following message, where "hour1" is the time in 24-hour format:

SEt OPtion TIme REquested hour1

To cancel the automatic status change, the following message is sent:

SEt OPtion TIme REquest OFf

Off Hook Detection
The PMS can specify a time when the cleaning staff can use the room phone to signal that the room has been cleaned. The room phone handset is lifted and left off hook to signal "cleaning in PRogress." When the handset is replaced, cleaning status is updated to "CLeaned."

Off Hook Detection sends the default Maid ID number of zero (0) to the PMS if the Maid ID package is equipped. See *Features and Services Fundamentals (NN43001-106)* ().

The option is set using the following command, where "t1" is the start time for the Off Hook Detection plan, and "t2" is the end time for the Off Hook Detection plan:

SEt OPtion TIme Detect t1 t2

Note: End time (t2) must be greater than the start time (t1). If the end time is not entered, t2 defaults to midnight, 2400.

Dial Access
The Dial Access option is an enhancement of the Off Hook Detection method for updating RMS data, and expands the list of RMS commands to seven. To set the PMS for Dial Access, use the following command:

SEt OPtion TIme DIal (ON)

To disable Dial Access, use the command:

SEt OPtion TIme DIal OFf

Dial Access is supported only by room phones with Controlled Class of Service Allowed (CCSA) and is limited to changing the status of its own room. Also, Dial Access requires the use of SPRE numbers that precede special access codes for RMS functions. Table 33 "SPRE dialing commands" (page 133) shows the necessary SPRE dialing commands.

Table 33
SPRE dialing commands

off hook	SPRE# 861	on hook (REquested)
off hook	SPRE# 862	on hook (in PRogress)
off hook	SPRE# 863	on hook (CLeaned)
off hook	SPRE# 864	on hook (PAssed)
off hook	SPRE# 865	on hook (FAiled)
off hook	SPRE# 866	on hook (SKipped)
off hook	SPRE# 867	on hook (No Sale)
off hook	SPRE# 86X*nnnn#	on hook (Status) Maid ID

Note 1: The X in 86X for Maid ID must be 1–7.

Note 2: The characters 8, 9, 0, #, and * are reserved for special functions and are not allowed as input for SPRE code commands.

Call Party Name Display name change

The PMS computer can change a Call Party Name Display (CPND) "name" associated with a given DN. To execute the change, use the following commands:

```
SEt CPnd dn "guest name" xpln LAnguage # room status
```

Legend

dn	=	station set DN
"guest name"	=	CPND name for the DN
xpln	=	Expected Name Length
#	=	language assignment for the room
room status	=	RMS coded indicator (checked in or out)

The CPND name must be enclosed in double quotes and cannot contain an asterisk (*), colon (:), or carriage return (<CR>). You must define the CPND data block in LD 95 before implementing the SEt CPnd command.

The first SEt CPND command defines the CPND name and the expected length. If the XPLN field is not specified, then it defaults to the actual size of the name string or the default length (DFLN) defined in LD 95, whichever is larger.

Refer to *Features and Services Fundamentals (NN43001-106)* () to configure and enable CPND.

Call Number Information messages

If the terminating telephone has Call Number Information Allowed (CNIA) Class of Service, the system sends Call Initiation and Call Disconnection messages for calling and called DNs on a real-time basis to the Background Terminal (BGD) and PMSI ports.

Class of service for CNIA is limited to 60 sets and is assigned in LD 10 and LD 11. Refer to Norteltechnical publication *Features and Services Fundamentals (NN43001-106)* () and *Software Input Output Administration (NN43001-611)* ().

> *Note:* A set that is assigned Virtual ACD Agent (VMA) class of service cannot be assigned CNIA class of service.

Message formats sent to the BGD port and PMSI ports are shown below, where "XXXX" is the calling DN, and "YYYY" is the called DN:

ST-CI XXXX YYYY

ST-CT XXXX YYYY

> *Note:* The calling or called DN can have up to 7 digits if equipped with the DNXP package.

When equipped with the DNXP package, the Originating DN and Terminating DN fields in Call Initiated and Call Terminated messages are expanded from 6 bytes to 7 bytes.

Call Initiated (CI) A Call Initiated message is sent when the terminating set has Call Number Information Allowed (CNIA) Class of Service and one of the following conditions occurs:

- The telephone goes off hook and a number is dialed.
- The call is reestablished from On-Hold status.
- The telephone is the third party in a Call Transfer.
- The set terminates a Forwarded Call.
- The call is picked up by a station.
- The Call Waiting key on a CNIA set is pressed.
- The call is extended by an attendant.

Call Terminated (CT) A Call Terminated message is sent when the terminating set has Call Number Information Allowed (CNIA) Class of Service and one of the following conditions occurs:

- Call termination to a non-CNIA set

- Call Forward No Answer (CFNA)

- Call Park

- Call Transfer from originating or terminating sets

- Call Pickup received by the set

- Conference call

- Call On Hold

No messages are sent for the following call types:

- Dial Intercom calls

- overridden calls

- attendant calls

- CNIA-originated calls

- Automatic Wake Up calls

- trunk calls

Group Code, Class of Service Code and VIP Code

The following packets with the Group Code, COS and VIP Code parameters are added to the basic messages sent from PMS to HMS 400 Release 2.0:

Table 34
Group Code, COS and VIP Code parameters

`SE CP <dn> "<cpnd-name>" [<xpln>] GC` `<groupcode> COS <Class of Service>`	Assign CPND, Group Code and Class of Service
`SE ST <dn> LA <lang> GC <groupcode>` `COS <Class of Service>`	Assign language (MLWU), Group Code and Class of Service

`SE CP <dn> "<cpnd-name>" [<xpln>] LA`
`<lang> GC <groupcode> COS <Class of`
`Service>`
	Assign CPND, Language (MLWU), Group Code and Class of Service

`SE ST GC <groupcode> CH OU`	Check out an entire group by Group Code
`SE WA GC <groupcode> TI <Wakeup Time>`	Set Wakeup Time for an entire group by Group Code
`SE CP "<group-name>" GC <groupcode>`	Assign Group Name

`SE ST <dn> [<xpln>] VI <VIP Code>`	Assign VIP Code
`SE ST <dn> [<xpln>] VI OF`	Remove VIP Code

Note 1: The current Check In packets are still supported. The standard check-in packet must precede the new packets shown above.

Note 2: Use the current Check Out packets to check out individual rooms only, as there is a Group Check out packet available.

Note 3: Group code must be a five digit numeric code (10000-99999). If the Hotel PMS requires a code less than five digits for group code, HMS will automatically append 0s at the end of the code to form five digits.

Note 4: COS and VIP Codes must be in the range of 1-20 only. VIP Code is changed to VI ON before sending to the PBX.

Note 5: With the exception of VI ON, Group Code and COS code information are not sent to the PBX.

Note 6: The <cpnd-name> assigned on check-in only on primary key (key 0) and subsequent information update packets are used solely to identify the room. To assign a name to the entire group, send the new Group Name Assignment packet last. The cpnd for the secondary key cannot be set from the HMS or PMS application for the VoIP/SIP lines set.

Itemized Minibar

The following Minibar records are defined in HMS400 Release 2.0:

Minibar String (Total amount only):

`[STX]MB <DN><Subtotal><Tax1><Tax2><Tax3><Total><Date><Time>[ETX][BCC]`

Minibar String (Itemized):

`[STX]MB <DN><Item Code>"<Description>"<Quantity><Unit Price><Subtotal><Tax1><Tax2><Tax3><Total><Date><Time>[ETX][BCC]`

DN = Extension Number (maximum 7 digits)

Item Code = Minibar Item or Article number (maximum 2 digits)

Description = Minibar Item Description/Name (maximum 15 alphanumeric characters)

Quantity = Quantity of item posted (maximum 2 digits)

Unit Price = Price of Minibar item posted (maximum 10 digits, no decimal point)

Subtotal = Quantity x Unit Price (9999999999)

Tax1 - 3 = Up to 3 types of taxes may be applied (9999999999)

Total = Subtotal + Tax1 + Tax2 + Tax3 (9999999999)

Date = Date of posting (YYYYMMDD)

Time = Time of posting (HHMM)

> **Example:**
>
> [STX]MB 71000 02 "Coca Cola" 01 0000000500 0000000500 0000000050 0000000100 0000000000 0000000650 200601131038[ETX][BCC]
>
> 0000000650 = $6.50 - this is total price for first item
>
> [STX]MB 71000 03 "Mineral Water" 02 0000001000 0000002000 0000000 200 0000000400 0000000000 0000002600 200601131039[ETX][BCC]
>
> 0000002600 = $26.00 - this is total price for second item.
>
> The total Minibar charge for this room will be $32.50.

Note 1: All spaces shown are actual spaces included in the string.

Note 2: Use either the Total or Itemized format. You can configure the format using the Web Configuration Module.

Note 3: HMS sends the same number of records as the items being posted. For example, if 5 items of varying quantities are posted, 5 records are sent to the Hotel PMS.

Messages from the system to the PMS
Types of messages

The following types of messages are sent from system to the PMS:

- Cleaning-status changes as dialed by maids from hotel guest rooms

- Cleaning-status changes as entered on background terminals or special telephones (maid-inspector update)

- Cleaning-status changes that are caused by automatic update commands that could be programmed on the system

- Call Number Information Messages

- Error messages that are caused by invalid PMS commands
- Polling messages

System messages sent to the PMS

Table 35 "System messages sent to PMS" (page 138) lists the system messages sent to the PMS.

Table 35
System messages sent to PMS

Message formats	Type of message
ST <dn> RE	Cleaning status (cleaning requested)
ST <dn> PR	Cleaning status (cleaning in progress)
ST <dn> CL	Cleaning status (room cleaned)
ST <dn> PA	Cleaning status (passed inspection)
ST <dn> FA	Cleaning status (failed inspection)
ST <dn> SK	Cleaning status (cleaning skipped)
ST <dn> NS	Cleaning status (note for sale)
ST-CI <dn1> <dn2>	Call initiation
ST-CT <dn1> <dn2>	Call termination
ST PO	Polling message

Message control and protocols

The envelope used for messages between the system and the PMS is ASCII-encoded control characters <STX>, <ETX> <ACK>, and <NAK> given in Table 36 "PMSI Message control" (page 139). In addition, each message block is terminated with a <BCC> character. The <BCC> is used to maintain message integrity and is an "exclusive or" of all bytes following the <STX>, including the <ETX>.

The general message format is listed below:

STX (message body) ETX BCC

The <BCC> follows the <ETX> character in the transmission, and the receiver immediately verifies the message. If the <BCC> is correct, the receiver responds with an <ACK>. If the <BCC> does not match, the receiver responds with <NAK>.

Table 36
PMSI Message control

Character	Hex code	Definition
STX	02	Start of Text: Message body follows.
ETX	03	End of Text: End of message body.
BCC		Block Check Character
ACK	06	ACKnowledge: Affirmative response from the receiver to the sender. If BCC is used, ACK also indicates BCC check matches.
NAK	15	Not Acknowledged: Negative response from the receiver to the sender of a block of data received with errors; requires retransmission.

Message protocols

Software protocols supply a method of flow control across the data link. The PMS computer is given priority, and the responsibilities of the system and the PMS have been defined.

System protocol

The following sections list the transmitting and receiving requirements for the system protocol:

- The system must calculate a <BCC> for each message, and transmit the <BCC> as a terminating character.

  — When the system transmits a message to the PMS, it waits for a specified interval (defined on a system basis) for the PMS to respond before sending the next message.

- When the system receives a message from the PMS, a <BCC> for the characters received after the <STX> and including the <ETX> is calculated and compared with the received <BCC>. If the two <BCC> values match, an <ACK> is sent to the PMS. If the values do not match, a <NAK> is sent to the PMS.

- The <ACK> or <NAK>, sent back to the PMS, follows any message that is currently being transmitted by the system, such as a room cleaning status message.

PMS protocols

The PMS can operate using three slightly different protocols:

- PMS1 — The first PMS protocol is the standard interface and default value.

- Format 2 (Format B) — The second PMS protocol requires a carriage return (<CR>) to recognize the input message.

- Format 3 (Format C) — The third PMS protocol allows for any updated RMS message sent to be followed by the old room status whenever a room DN checks in or checks out.

For all three protocols, Nortelrecommends that the PMS adheres to the following protocol requirements:

- The PMS must calculate a <BCC> for each message and transmit the <BCC> as a terminating character.

  — All messages transmitted by the PMS should be "single room" commands. The PMS may run into timing and flow-control problems if you use "multiple room" commands.

- After transmitting a message, the PMS must wait for the system to acknowledge receipt of the message within a predefined period of time.

  — Nortelrecommends the period of time for the message acknowledgment timer be 2 seconds.

  If the PMS receives an <ACK> from the system before the acknowledgment timer expires, the PMS can transmit the next message immediately. That is, the PMS does not have to wait for the acknowledgment timer to expire before transmitting the next message.

  If the PMS receives a <NAK> from the system before the acknowledgment timer expires, the PMS can retransmit the same message immediately. That is, the PMS does not have to wait for the acknowledgment timer to expire before retransmitting the next message.

  After three retransmission attempts, however, the PMS should take the following actions:

— Flag the problem to hotel personnel so that the usual corrective action can be taken.

> *Note:* The usual corrective action for most problems would involve the determination of the exact cause of failure, the correction of the problem, and a database swap to resynchronize the system.

— Store the message in an error file, and then send the next message.

If the PMS does not receive an <ACK> or <NAK> from the system before the acknowledgment timer expires, the PMS should assume that the message was lost and should retransmit the same message. The PMS should continue to retransmit the same message until the system acknowledges receipt of that message.

The PMS should queue all other messages for the system. If the PMS queue fills up, messages may be lost and a database swap will be required to recover the lost messages. If PMSI messages are lost, the PMS should flag the problem for the hotel personnel.

> *Note:* Some vendors using the PMS protocol may want to follow an earlier strategy of allowing only three transmission attempts, after which the message is stored in a PMS error file and the next message is transmitted. The new strategy described above is designed to facilitate recovery from short-link outages.

— The PMS should send an <ACK> or <NAK> upon receiving a message from the system.

 – Nortelstrongly recommends that the PMS send <ACK> and <NAK> responses because the system has the capability to retransmit messages.

 – In addition to message retransmission, polling functionality tests the status of the PMSI link. The polling message may not be recognized by the PMS. However, Nortelstrongly that the PMS treat the polling message as a standard I/O message by responding with an <ACK> upon receiving the message in its correct form.

 > *Note:* It is required that <ACK> and <NAK> characters be sent only between message packets. That is, if the PMS is in the middle of sending a message to the system, it must finish sending the complete message before sending an <ACK> or <NAK> back to the system.

- When the PMS receives a message from the system, Nortel recommends that the <BCC> of the messages received be checked internally by the PMS and an <ACK> or <NAK> be sent back to the system.

- Nortel recommends that any error detected be stored in an error file.

  Note: The PMS must not send any error response to the system about a received message, such as "Invalid command" or "Syntax error".

Appendix
Background Terminal Command Summary

Contents

This appendix contains the following command tables:

Automatic Wake Up

Command	Action
`(PRint) WAke dn`	Print wake-up call time for one DN.
`(PRint) WAke dn1 dn2`	Print wake-up call times for a consecutive group of DNs.
`(PRint) WAke ALl`	Print wake-up call times for all DNs.
`FInd WAke dn1 dn2`	Find the first DN in a consecutive group with a call time set.
`FI`	Find the next DN. (Follows the previous command.)
`SEt WAke dn TIme hhmm`	Set wake-up call time for one DN.
`SEt WAke dn1 dn2 TIme hhmm`	Set wake-up call times for a consecutive group of DNs.
`SEt WAke dn TIme OFf`	Cancel one wake-up call.

Message Registration

Command	Action
`(PRint) MEter dn`	Print meter value for one DN.
`(PRint) MEter dn1 dn2`	Print meter values for a consecutive group of DNs.
`(PRint) MEter ALl`	Print meter values for all DNs.
`(PRint) MEter ALl condition`	Print meter values for all DNs in the given condition, for example ZEro.
`(PRint) MEter dn1 dn2 CUstomer`	Print meter values for a consecutive group of DNs and the customer meter.
`FInd MEter ALl`	Find the first DN in the whole system with a non-zero meter.
`FI`	Find the next DN. (Follows the previous command.)
`SEt MEter dn ZEro`	Set one meter to zero.
`SEt MEter ALl ZEro`	Set all meters to zero.
`SEt MEter CUstomer ZEro`	Set the Customer meter to zero.
`SEt MEter dn VAlue n`	Set one meter to the value given.
`SEt MEter dn1 dn2 VAlue n DIsplay ON/OFf`	Set a consecutive group of meters to value given (with display on or display off).
`SEt MEter dn ON/OFf`	Turn a meter for one DN on or off.
`SEt MEter ALl ON/OFf`	Turn all meters on or off.

Room Status

* Maid ID can be appended to these commands. Use the keyword MI followed by the one- to four-digit Maid ID number. For example:

`SEt STatus 1205 CLeaned MI 14 <CR>`

changes the cleaning status of room with DN 1205 to cleaned, by maid
with ID number 14.

Command	Action
`(PRint) STatus dn`	Print the current status of one DN.
`(PRint) STatus dn1 dn2`	Print the current status of a consecutive group of DNs.
`(PRint) STatus dn1 dn2 status`	Print all the DNs in the group that are in the specified status.
`(PRint) STatus ALl`	Print the current status of all DNs.
`(PRint) STatus ALl status`	Print all DNs that are in the specified status.
`FInd STatus dn1 dn2 status`	Find the first DN in a consecutive group with the given status.
`FI`	Find the next one. (Follows the previous command.)
`SEt STatus dn CHeck (IN)`	Check in one DN.
`SEt STatus dn1 dn2 CHeck (IN)`	Check in a consecutive group of DNs.
`SEt STatus ALl CHeck (IN)`	Check in all DNs.
`SEt STatus dn CHeck OUt`	Check out one DN.
`SEt STatus dn MI nnnnCHeck (IN)/OUt`	Check in/out one DN by Maid ID number
`SEt STatus dn1 dn2 CHeck OUt`	Check out a consecutive group of DNs.
`SEt STatus ALl CHeck OUt`	Check out all DNs.
`SEt STatus dn OCcupied`	Set one DN to occupied.
`SEt STatus dn1 dn2 OCcupied`	Set a consecutive group of DNs to occupied.
`SEt STatus ALl OCcupied`	Set all DNs to occupied.
`SEt STatus dn VAcant`	Set one DN to vacant.
`SEt STatus dn1 dn2 VAcant`	Set a consecutive group of DNs to vacant.
`SEt STatus ALl VAcant`	Set all DNs to vacant.
`SEt STatus dn SAle`	Set one DN to ready for sale.
`SEt STatus dn1 dn2 SAle`	Set a consecutive group of DNs to ready for sale.
`SEt STatus ALl SAle`	Set all DNs to ready for sale.
`SEt STatus dn NS`	Set one DN to not for sale.
`SEt STatus dn1 dn2 NS`	Set a consecutive group of DNs to not for sale.
`SEt STatus ALl NS`	Set all DNs to not for sale.
*SEt STatus dn REquested	Set one DN to cleaning requested.
`*SEt STatus dn REquested MI nnnn`	Set one DN to cleaning requested by Maid ID nnnn.
`*SEt STatus dn1 dn2 REquested`	Set a consecutive group of DNs to cleaning requested.

Command	Action
`*SEt STatus ALl REquested`	Set all DNs to cleaning requested.
`*SEt STatus dn PRogress`	Set one DN to cleaning in progress.
`*SEt STatus dn1 dn2 PRogress`	Set a consecutive group of DNs to cleaning in progress.
`*SEt STatus ALl PRogress`	Set all DNs to cleaning in progress.
`*SEt STatus dn CLeaned`	Set one DN to cleaned.
`*SEt STatus dn1 dn2 CLeaned`	Set a consecutive group of DNs to cleaned.
`*SEt STatus ALl CLeaned`	Set all DNs to cleaned.
`*SEt STatus dn PAssed`	Set one DN to passed inspection.
`*SEt STatus dn1 dn2 PAssed`	Set a consecutive group of DNs to passed inspection.
`*SEt STatus ALl PAssed`	Set all DNs to passed inspection.
`*SEt STatus dn FAiled`	Set one DN to failed inspection.
`*SEt STatus dn1 dn2 FAiled`	Set a consecutive group of DNs to failed inspection.
`*SEt STatus ALl FAiled`	Set all DNs to failed inspection.
`*SEt STatus dn SKipped`	Set one DN to cleaning skipped.
`*SEt STatus dn1 dn2 SKipped`	Set a consecutive group of DNs to cleaning skipped.
`*SEt STatus ALl SKipped`	Set all DNs to cleaning skipped.
`SEt STatus dn COntrolled`	Set one DN to Controlled Class of Service.
`SEt STatus dn1 dn2 COntrolled`	Set a consecutive group of DNs to Controlled Class of Service.
`SEt STatus ALl COntrolled`	Set all DNs to Controlled Class of Service.
`SEt STatus dn COntrolled OFf`	Set one DN to System Class of Service.
`SEt STatus dn1 dn2 COntrolled OFf`	Set a consecutive group of DNs to System Class of Service.
`SEt STatus ALl COntrolled OFf`	Set all DNs to System Class of Service.
`SEt STatus dn E1`	Set one DN to Enhanced Controlled Class of Service level 1.
`SEt STatus dn1 dn2 E1`	Set a consecutive group of DNs to Enhanced Controlled Class of Service level 1.
`SEt STatus ALl E1`	Set all DNs to Enhanced Controlled Class of Service level 1.
`SEt STatus dn E1 OFf`	Set one DN to System Class of Service.
`SEt STatus dn1 dn2 E1 OFf`	Set a consecutive group of DNs to System Class of Service.
`SEt STatus ALl E1 OFf`	Set all DNs to System Class of Service.
`SEt STatus dn E2`	Set one DN to Enhanced Controlled Class of Service level 2.

Command	Action
`SEt STatus dn1 dn2 E2`	Set a consecutive group of DNs to Enhanced Controlled Class of Service level 2.
`SEt STatus ALl E2`	Set all DNs to Enhanced Controlled Class of Service level 2.
`SEt STatus dn E2 OFf`	Set one DN to System Class of Service.
`SEt STatus dn1 dn2 E2 OFf`	Set a consecutive group of DNs to System Class of Service.
`SEt STatus ALl E2 OFf`	Set all DNs to System Class of Service.
`SEt STatus dn LAnguage (no. or ID)`	Set one DN to the language number or ID.
`SEt STatus dn1 dn2 LAnguage (no.  or ID)`	Set a consecutive group of DNs to the language number or ID.
`SEt STatus ALl LAnguage (no. or ID)`	Set all DNs to the language number or ID.
`SEt STatus dn VIp <CR>`	Set one DN to VIP status.
`SEt STatus dn1 dn2 VIp <CR>`	Set a consecutive group of DNs to VIP status.
`SEt STatus ALl VIp <CR>`	Set all DNs to VIP status (not recommended).

Call Party Name Display

Command	Action
`SEt CPnd dn 'name' LA (no.  or ID) CH (IN)`	Set Room for Call Party Name Display (including the language number or ID) at check-in.
`SEt CPnd dn CH OU`	Set Room to remove Call Party Name Display at check-out.
`(PRint) CPnd dn`	Print out the CPnd name for one or more rooms.

Administration

Command	Action
`(PRint) POrt`	Print current settings of terminals.
`(PRint) OPtion`	Print current option settings.
`(PRint) TRaffic`	Print the contents of the traffic file.
`(PRint) WAke MAp`	Print the wake-up call map.
`SEt OPtion ID aa bb`	Change terminal name from port number or old port ID aa to new portID bb.
`SEt OPtion LAnguage (language no.)  (id)`	Set two-letter language ID for each language number (0–5).
`SEt OPtion UNit cccc ATtendant (ON)`	Set a unit cost figure to give total call charges, and have them displayed at Attendant Console.

Automatic List

Command	Action
`AUtomatic hhmm command`	Place the command in the Automatic List and have it executed at time hhmm each day.
(PRint) AUtomatic	Print the contents of the Automatic List.
SEt AUtomatic n OFf	Delete command n from the Automatic List (where n is a list entry number from 1 to 12).

Options for the Set command

Command	Action
`SEt OPtion COnfirm (ON)/OFf`	Allow/disallow confirm messages for SET command.
`SEt OPtion X (ON)/OFf`	Allow/disallow X substitution for SET command.
`SEt OPtion RAnge (ON)/OFf`	Allow/disallow range entries (dn1 dn2) for SET command.
`SEt OPtion ALl (ON)/OFf`	Allow/disallow all DNs to be used in the SET command.

Terminal functions

Command	Action
`SEt OPtion POrt portID feature(s) (ON)/OFf`	Set which of the four features this terminal is used for (WAke, MEter, STatus, OPtion).
`SEt OPtion POrt portID function(s) (ON)/OFf`	Set which functions this terminal is able to perform (SEt, REad, DIsplay, PRint).
`SEt OPtion POrt feature(s) function(s) (ON)/OFF`	Set the feature and function for this terminal (WAke DIsplay, MEter PRint).

Turning display messages on or off

Command	Action
`SEt OPtion DIsplay item(s) (ON)/OFf`	Set which features you want to have display messages printed for. Choices are: WAke or ANswer, ENtry, REturn; MEter; STatus or CCos key, RMk, DIal, Detect, TErminal.
`SEt OPtion TIme Detect t1 t2`	Set off-hook detection time and also time occupied rooms are set to cleaning requested.
`SEt OPtion TIme Detect OFf`	Turn off hook detection, only.
`SEt OPtion TIme REquest t1`	Set time occupied rooms are set to cleaning requested.
`SEt OPtion TIme REquest OFf`	Turn off automatic setting of occupied rooms to cleaning requested.
`SEt OPtion TIme DIal (ON)/OFf`	Allow/disallow Dial Access to cleaning- status.

Recorded Announcement

Command	Action
`SEt OPtion TIme RAn2 t1 t2`	Set time of secondary recorded announcement.
`SEt OPtion TIme RAn2 OFf`	Turn off use of secondary recorded announcement.

Check-in, Check-out criteria

Command	Action
SEt OPtion CHeck items (ON)/OFf	Turn the automatic setting of any of the following items on or off: COntrolled change telephone Class of Service on check-in/out E1 Enhanced Controlled Class of Service level 1 on check-in/out E2 Enhanced Controlled Class of Service level 2 on check-in/out REquest change room to cleaning requested on check-out MWI cancel Message Waiting lamp on check-in/out DNd cancel Do Not Disturb on check-in/out WAke cancel wake-up call on check-in/out LAnguage set language to 0 at check-in/out SL1 check-in or out using a CONTROL CLS key on an SL-1 telephone TL check if the set is disconnected on check-in/out.

For Sale Print criteria

Command	Action
`SEt OPtion SAle items (ON)/OFf`	Set the criteria for a 'rooms ready for sale' printout. In addition to VAcant and PAssed, which are always included, you can add any of the following: REquested PRogress CLeaned FAiled SKipped OCcupied.

Guest Room category

Command	Action
`SEt STatus dn CAtegory n`	Set one DN to be in a particular category (range 1-15).

Command	Action
`SEt STatus dnx CAtegory n`	Set a group of DNs to be in a particular category, using X substitution.
`SEt OPtion CAtegory n name`	Give a category a name (up to 4 letters).